

## ΠΑΡΑΡΤΗΜΑ ΙΙ (SB)

### Κεφάλαιο 5

#### 2 ΜΕΡΟΣ

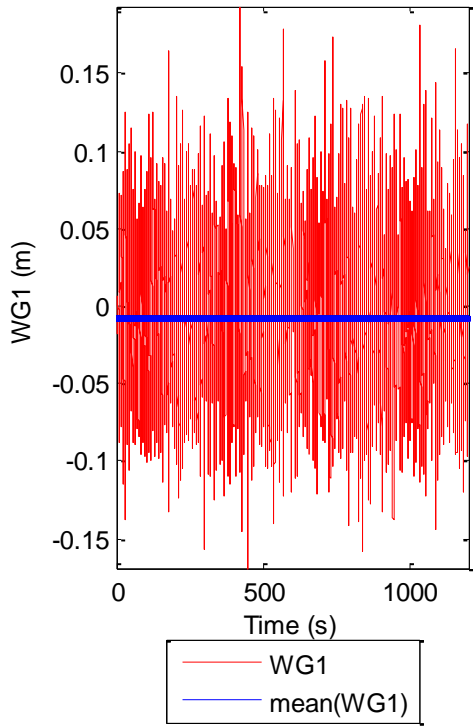
##### Ανάλυση πειράματος SB

Παραθέτουμε σε γραφήματα τις χρονοσειρές από τα δεδομένα για κάθε όργανο μέτρησης με την αντίστοιχη μέση τιμή, έπεται η παρουσίαση του Ιστογράμματος και των γραφημάτων κανονικότητας (για κάθε χρονοσειρά) και ο πίνακας με τα στατιστικά δεδομένα, όπως τον συντελεστή κύρτωσης, τον συντελεστή ασυμμετρίας καθώς και του στατιστικού μη παραμετρικού ελέγχου για την κανονικότητα των δεδομένων από κάθε χρονοσειρά. Στο επόμενο βήμα θα εξεταστεί (μέσω γραφημάτων) η αυτοσυνδιακύμανση της κάθε χρονοσειράς και θα παρουσιάσουμε τα αντίστοιχα φάσματα. Στη συνέχεια θα παραθέσουμε σε σχήματα τις τιμές για το σημαντικό ύψος για διάφορα ποσοστά, και τα ιστογράμματα με τα αντίστοιχα γραφήματα για την κανονικότητα, την κατανομή Rayleigh και την κατανομή Weibull, για το ύψος κύματος, που προκύπτει σαν διαφορά διαδοχικών ελαχίστων και μεγίστων τιμών από κάθε χρονοσειρά. Τέλος παρουσιάζουμε τα διαγράμματα διάταξης και τα μητρώα των MKN αδιάστατων συντελεστών για τα 11 όργανα που μετρούν το ύψος κύματος (WG), για τις 6 δυνάμεις και ροπές στη βάση της Α/Γ, των τεσσάρων δυνάμεων και ροπών στο Ρότορα της Α/Γ, καθώς επίσης και των τριών δυνάμεων στις γραμμές αγκύρωσης και των έξι μετατοπίσεων και περιστροφών στη βάση της Α/Γ (και για τιμές του K 100 και 1000).

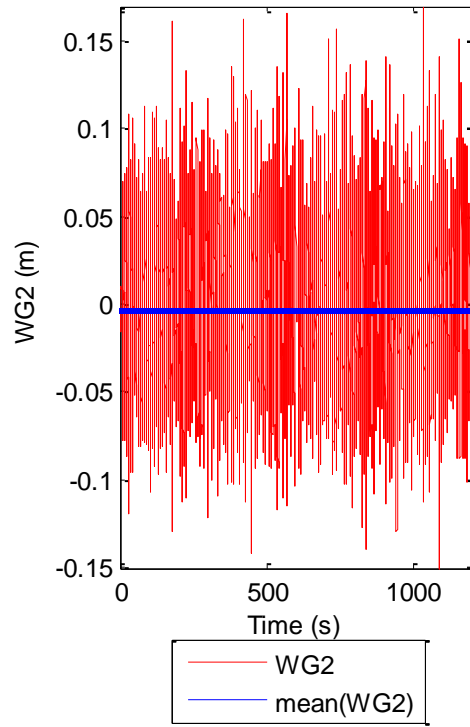
##### 2.1 Παρουσίαση χρονοσειρών (C5) T1385+T1386\_1.6\_0.1\_SB\_0\_NR

Πίνακας 2.1.1	Χαρακτηριστικά Πειράματος
Τύπος μοντέλου	SB
Ύψος κύματος (m)	0.100
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	0
Περιστροφή η μη του Ρότορα	Χωρίς περιστροφή

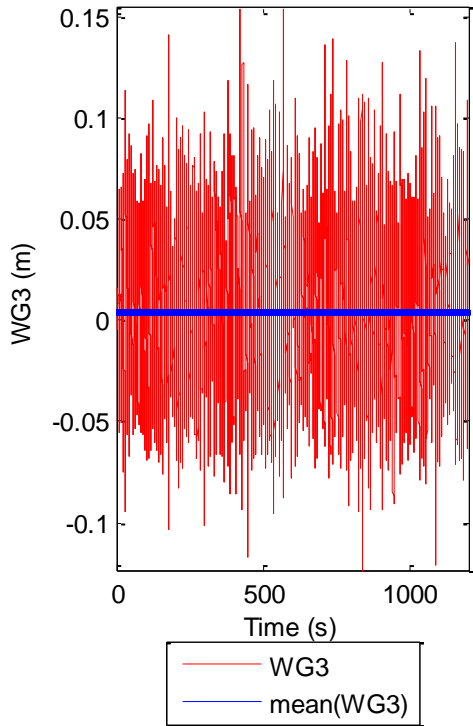
(1) Time History of WG1



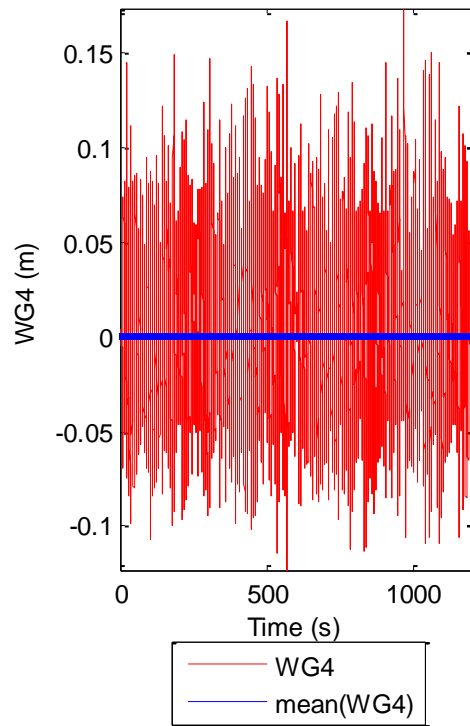
(2) Time History of WG2



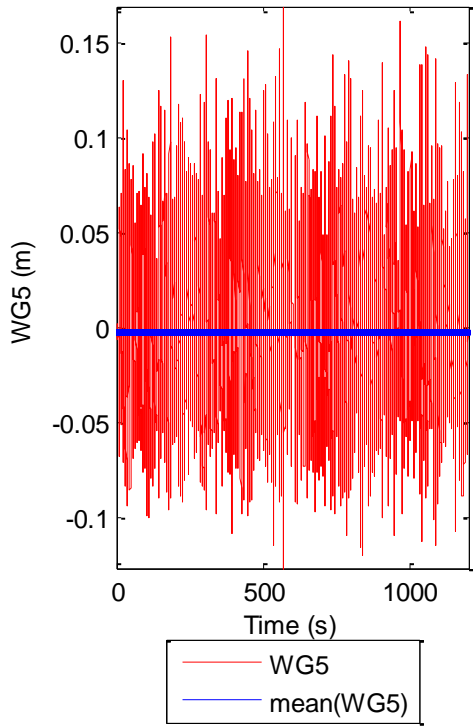
(3) Time History of WG3



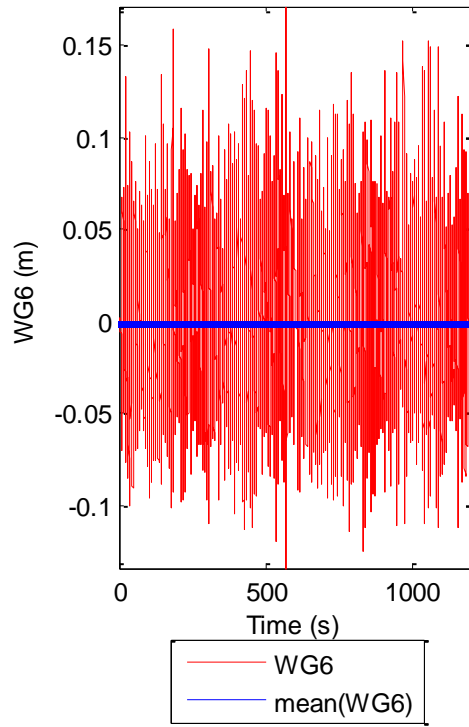
(4) Time History of WG4



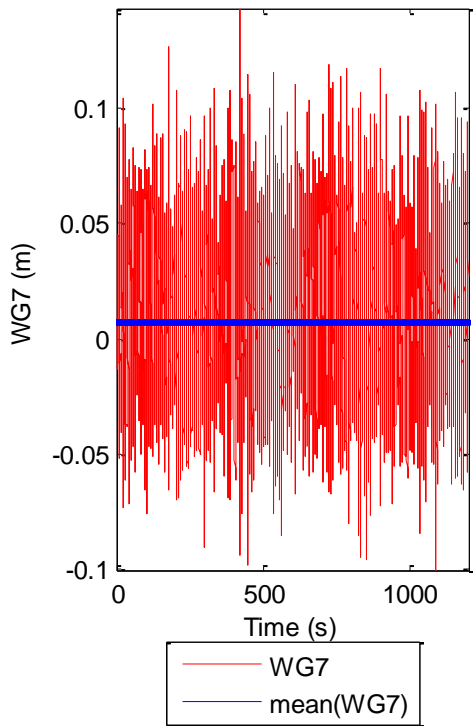
(5) Time History of WG5



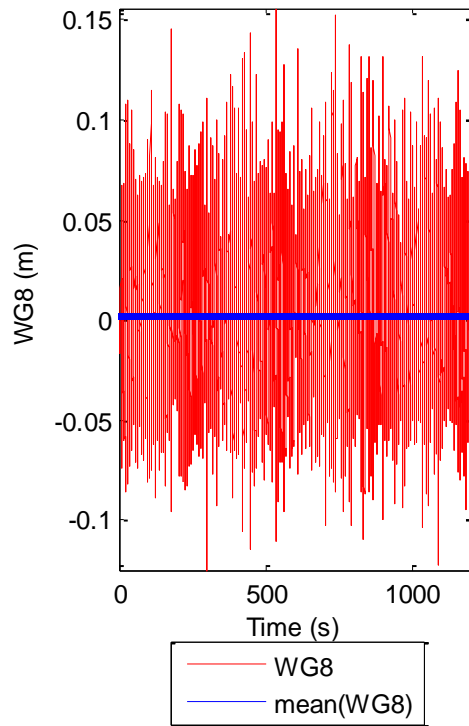
(6) Time History of WG6

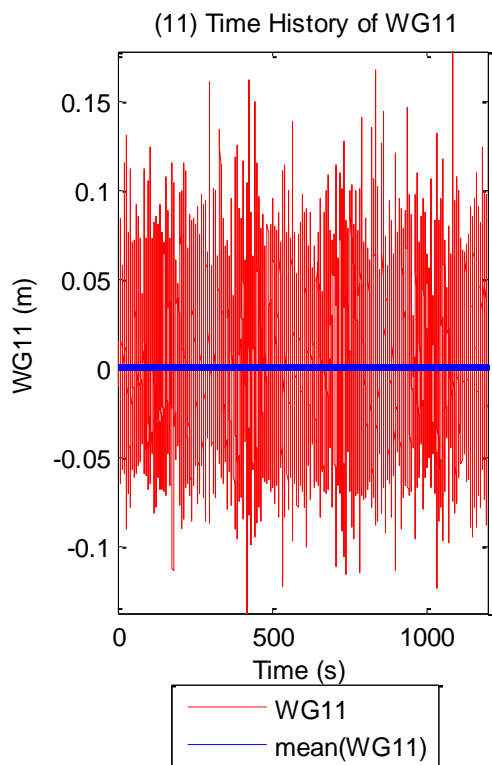
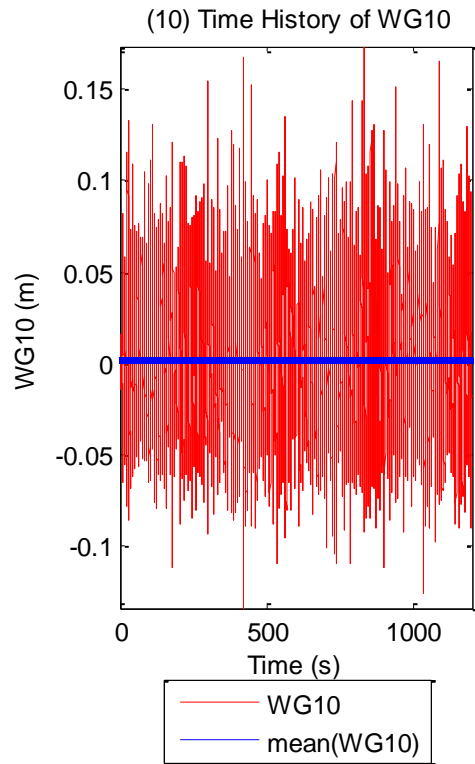
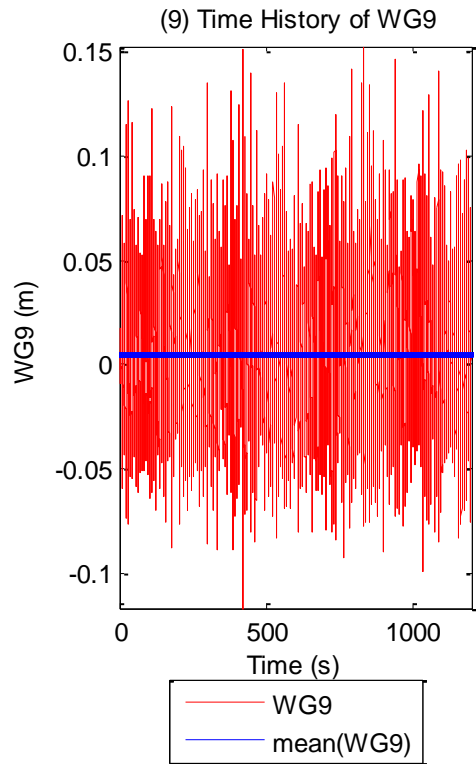


(7) Time History of WG7



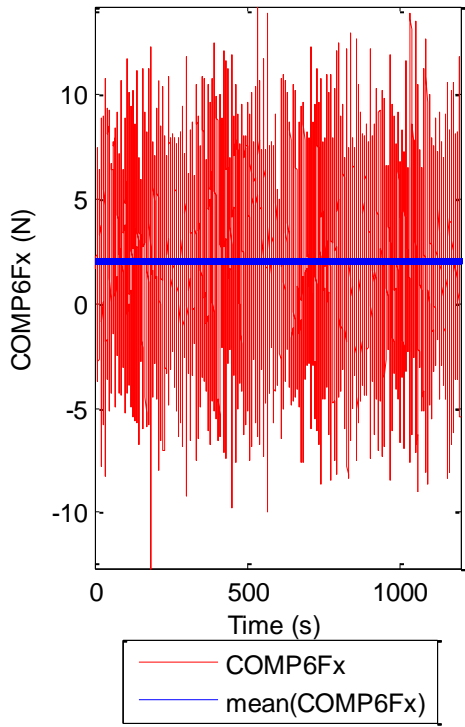
(8) Time History of WG8



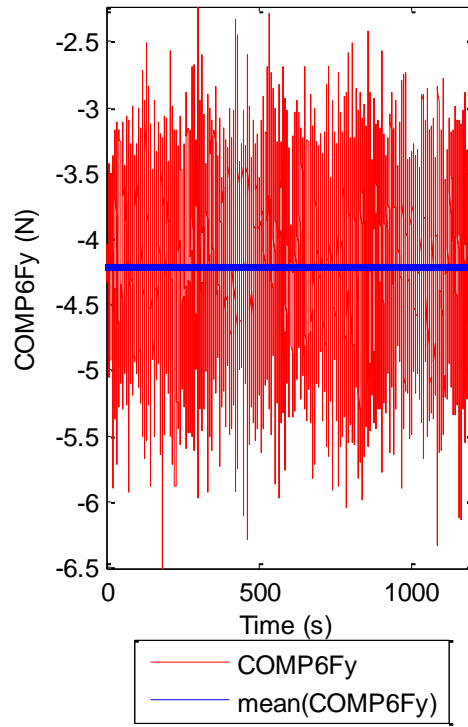


**Σχήματα 2.1.1.1 (1-6)** Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

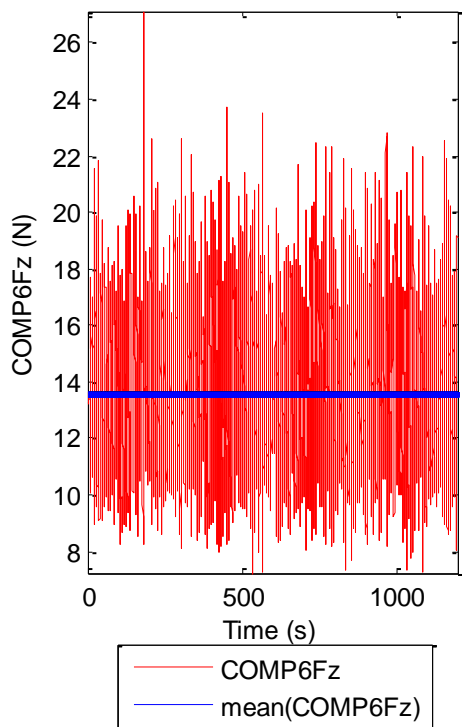
(1) Time History of COMP6Fx



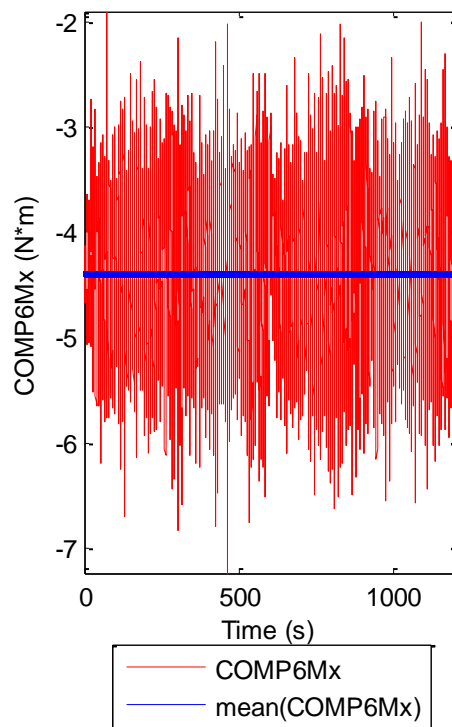
(2) Time History of COMP6Fy

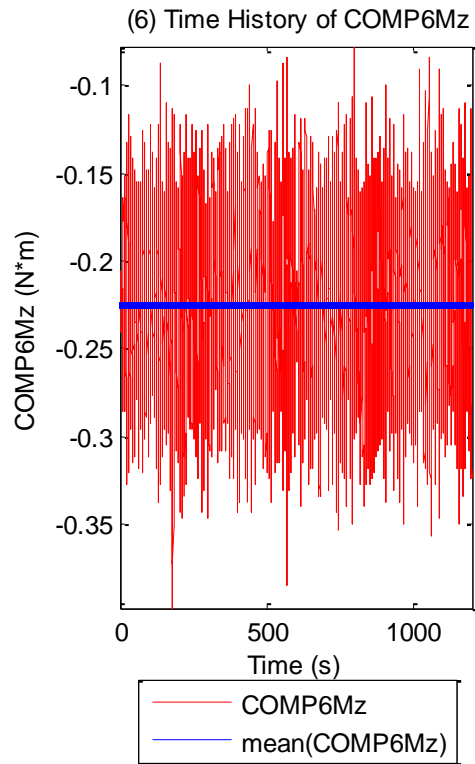
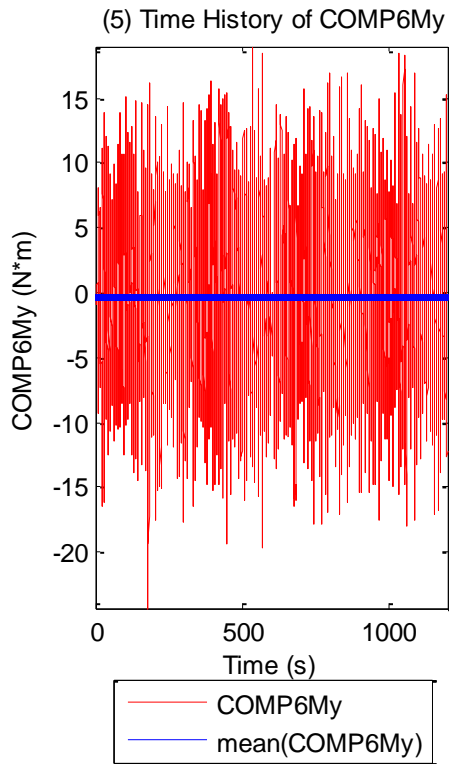


(3) Time History of COMP6Fz

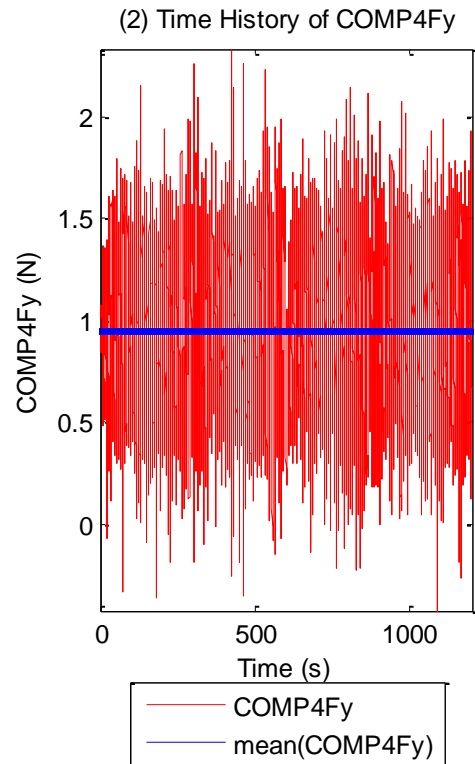
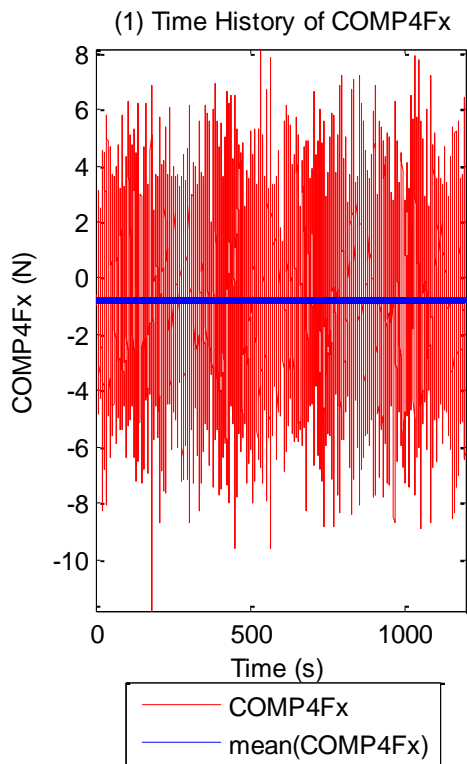


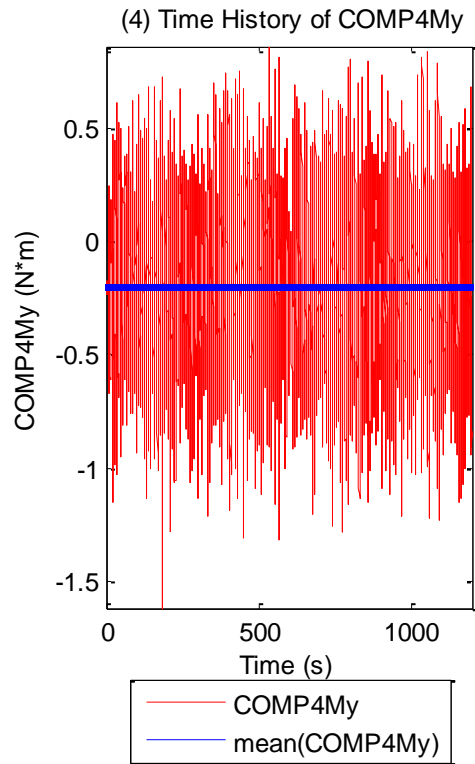
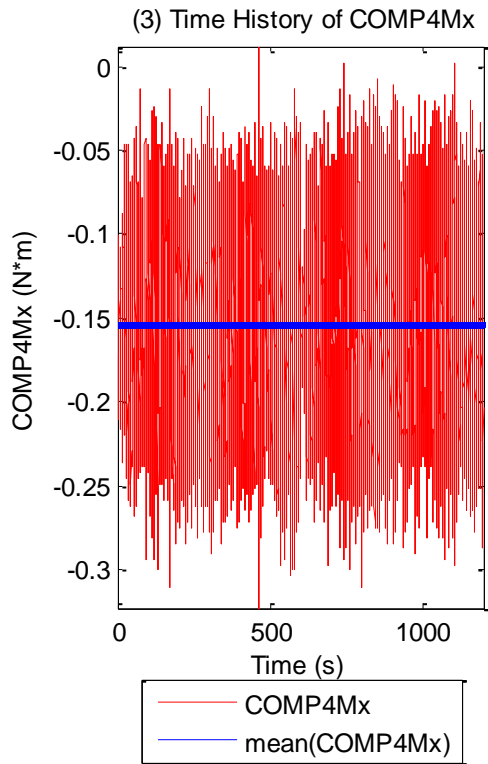
(4) Time History of COMP6Mx



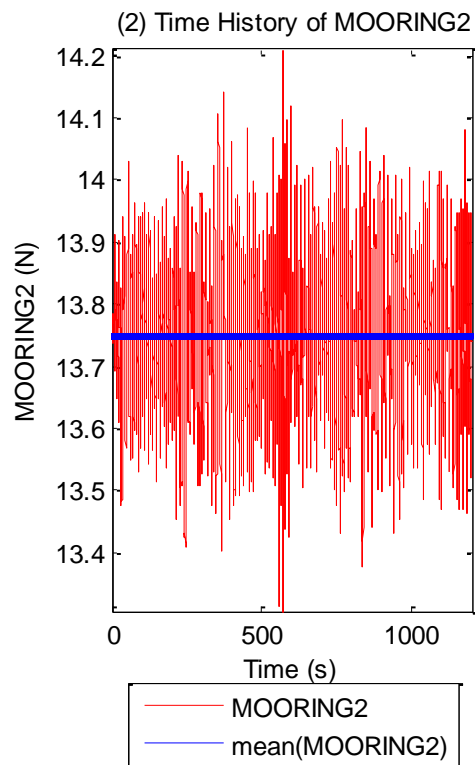
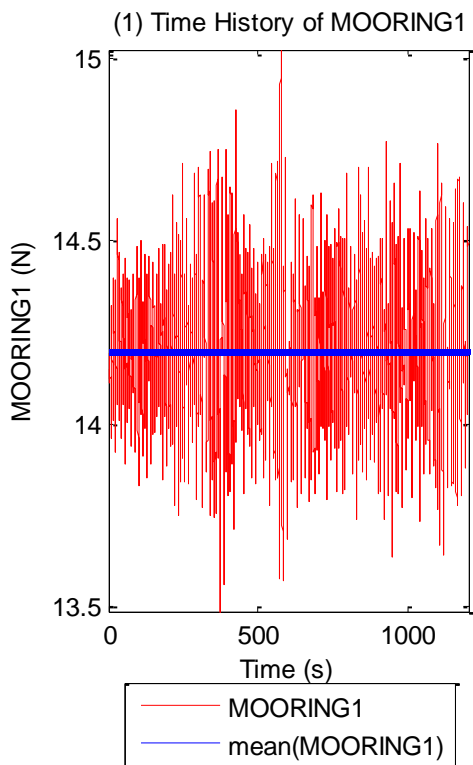


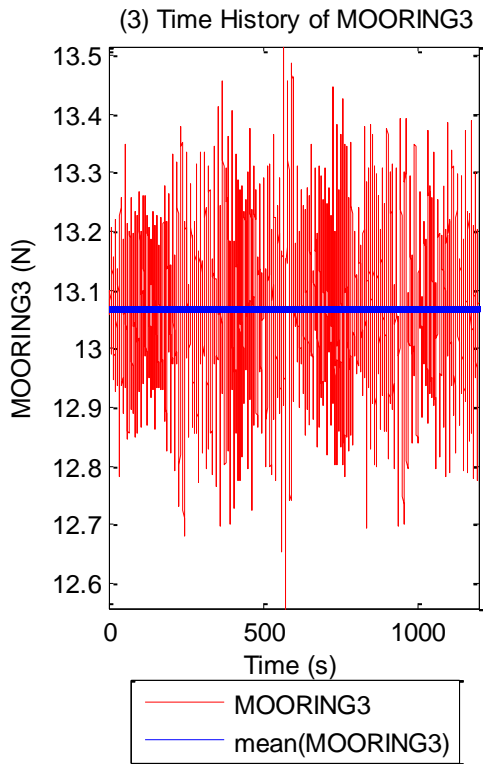
**Σχήματα 2.1.1.2** Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



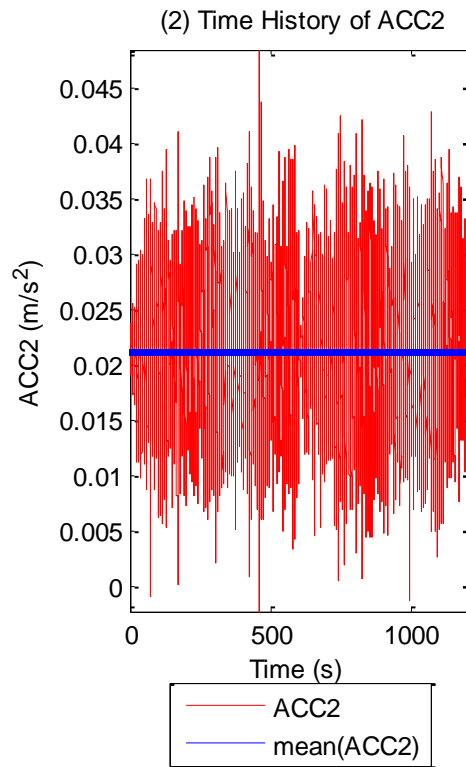
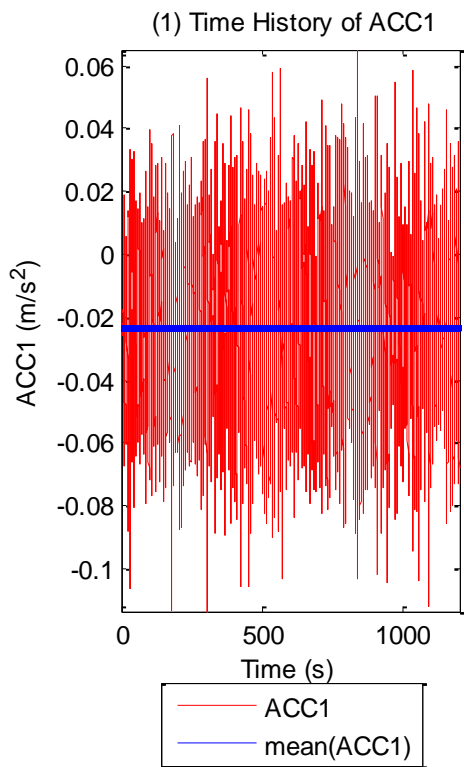


**Σχήματα 2.1.1.3** Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)

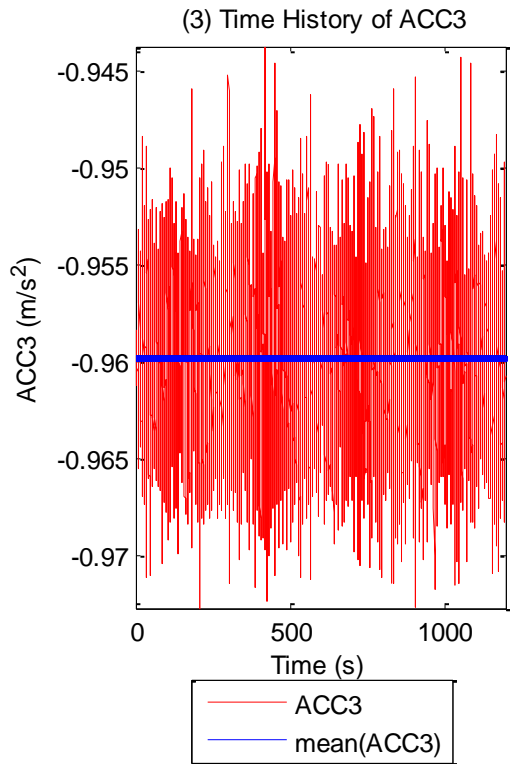




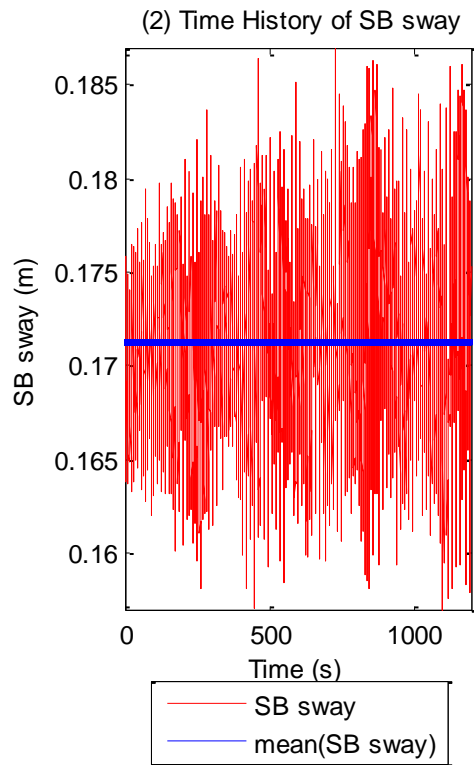
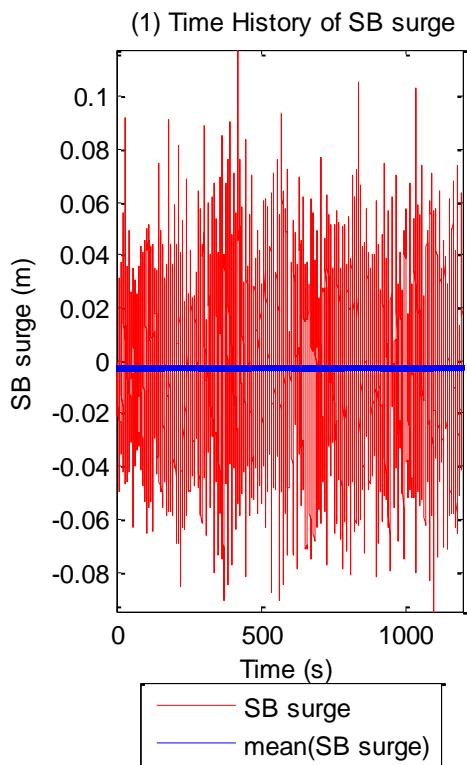
**Σχήματα 2.1.1.4** Χρονοσειρές για τις δυνάμεις στις τρεί; γραμμές αγκύρωσης (1-3) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές

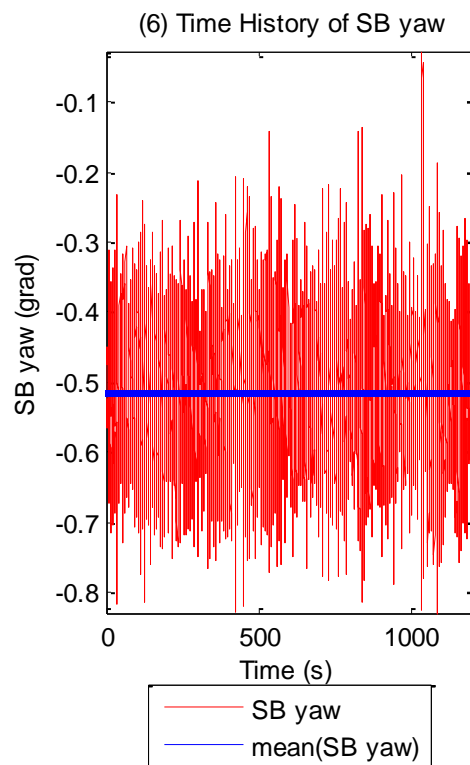
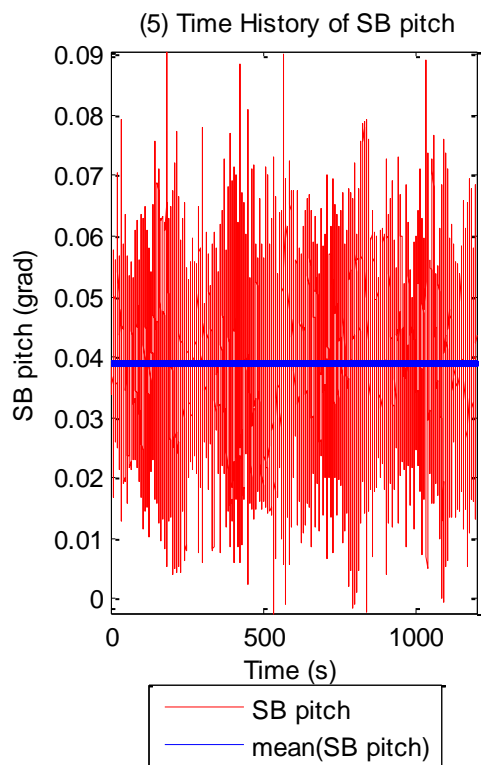
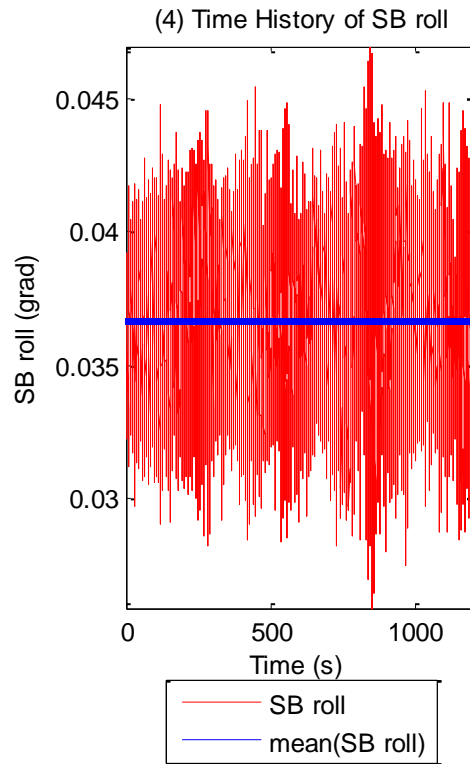
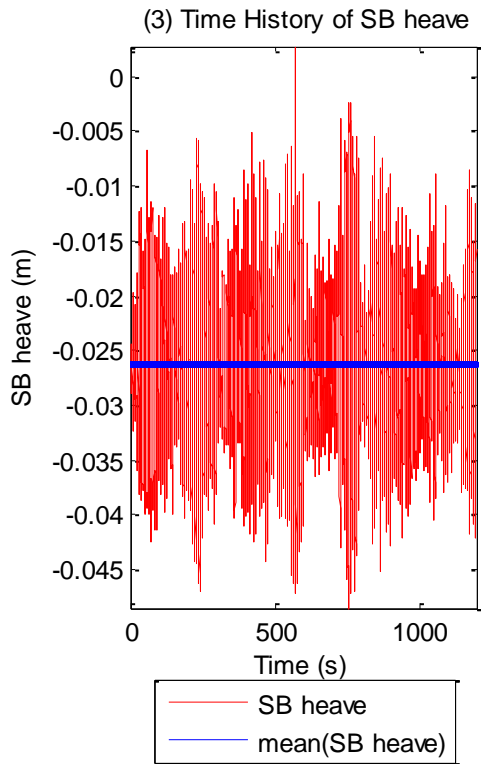






**Σχήματα 2.1.1.5 (1-3)** Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3





**Σχήματα 2.1.1.6** Χρονοσειρές για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

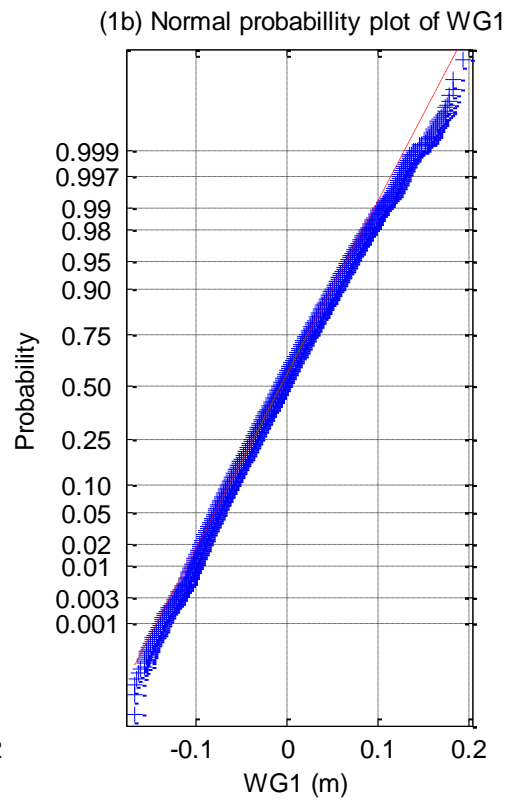
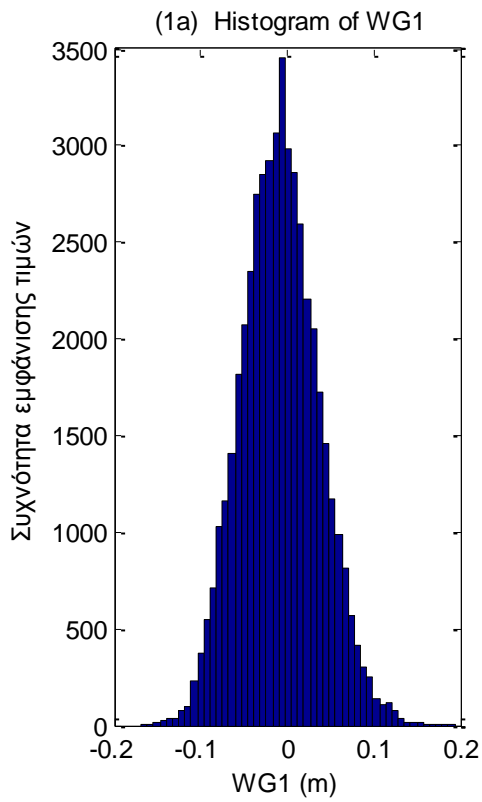
<b>Πίνακας 2.1.2</b>					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H <sub>rms</sub>
Wg1 (m)	-0.0081	0.0447	-0.1690	0.1934	0.1234
Wg2 (m)	-0.0031	0.0411	-0.1504	0.1699	0.1136
Wg3 (m)	0.0038	0.0339	-0.1233	0.1540	0.0932
Wg4 (m)	0.0009	0.0378	-0.1229	0.1730	0.1045
Wg5 (m)	-0.0016	0.0382	-0.1262	0.1691	0.1057
Wg6 (m)	-0.0015	0.0384	-0.1337	0.1710	0.1065
Wg7 (m)	0.0079	0.0306	-0.1002	0.1435	0.0857
Wg8 (m)	0.0018	0.0362	-0.1247	0.1558	0.1004
Wg9 (m)	0.0046	0.0328	-0.1168	0.1524	0.0922
Wg10 (m)	0.0017	0.0366	-0.1338	0.1733	0.1026
Wg11 (m)	0.0012	0.0375	-0.1370	0.1780	0.1042
6comp_Fx (N)	2.0655	3.3774	-12.6783	14.2524	9.2187
6comp_Fy(N)	-4.2176	0.5100	-6.5065	-2.2315	1.3593
6comp_Fz (N)	13.5640	2.2999	7.2390	27.1151	6.1439
6comp_Mx (N*m)	-4.3938	0.6221	-7.2332	-1.9038	1.6728
6comp_My (N*m)	-0.3282	5.3805	-24.2909	18.9622	14.1404
6comp_Mz (N*m)	-0.2245	0.0371	-0.3979	-0.0776	0.0796
4comp_Fx (N)	-0.7362	2.4836	-11.8155	8.1568	5.8887
4comp_Fy (N)	0.9494	0.3273	-0.4207	2.3304	0.8466
4comp_Mx (N*m)	-0.1538	0.0496	-0.3230	0.0120	0.1294

4comp_My (N*m)	-0.2007	0.3032	-1.6145	0.8569	0.7679
Mooring_1 (N)	14.2003	0.1842	13.4884	15.0224	0.2745
Mooring_2 (N)	13.7513	0.1112	13.3058	14.2098	0.1636
Mooring_3 (N)	13.0679	0.1207	12.5573	13.5159	0.1687
Acc_1 (G)	-0.0232	0.0235	-0.1135	0.0651	0.0576
Acc_2 (G)	0.0213	0.0054	-0.0023	0.0485	0.0147
Acc_3 (G)	-0.9599	0.0038	-0.9727	-0.9438	0.0090
SB_x (m)	-0.0025	0.0286	-0.0949	0.1178	0.0529
SB_y (m)	0.1714	0.0044	0.1569	0.1869	0.0059
SB_z (m)	-0.0262	0.0069	-0.0485	0.0028	0.0076
SB_roll (grad)	0.0366	0.0025	0.0259	0.0469	0.0042
SB_pitch (grad)	0.0391	0.0128	-0.0024	0.0906	0.0171
SB_yaw (grad)	-0.5138	0.0905	-0.8287	-0.0279	0.1357

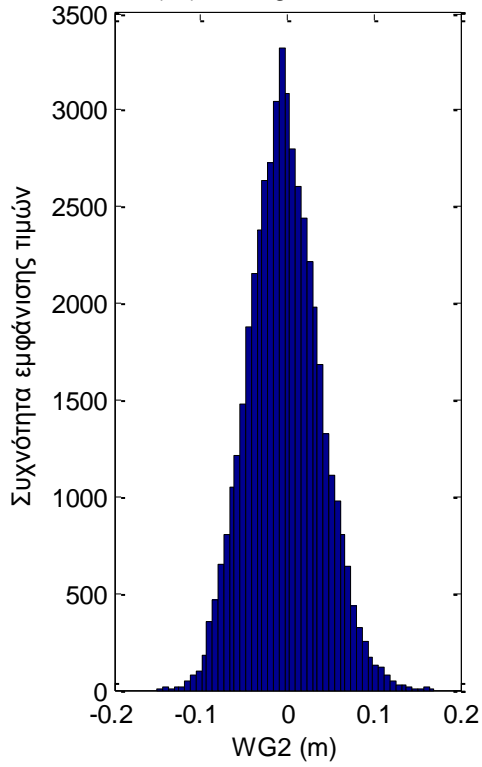
<b>Πίνακας 2.1.3</b>				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1664	3.0811	1	1
Wg2 (m)	0.1671	3.1012	1	1
Wg3 (m)	0.1727	3.1843	1	1
Wg4 (m)	0.2334	3.2287	1	1
Wg5 (m)	0.2508	3.2572	1	1

Wg6 (m)	0.2142	3.2278	1	1
Wg7 (m)	0.1682	3.1277	1	1
Wg8 (m)	0.2053	3.1601	1	1
Wg9 (m)	0.2147	3.1859	1	1
Wg10 (m)	0.1891	3.1503	1	1
Wg11 (m)	0.1912	3.1341	1	1
6comp_Fx (N)	-0.0162	3.0966	1	1
6comp_Fy(N)	-0.1121	3.2208	1	1
6comp_Fz (N)	0.4969	3.5050	1	1
6comp_Mx (N*m)	-0.0218	3.2610	1	1
6comp_My (N*m)	-0.0177	3.1106	1	1
6comp_Mz (N*m)	-0.0339	3.1287	1	1
4comp_Fx (N)	-0.0193	3.1117	1	1
4comp_Fy (N)	-0.0215	3.2691	1	1
4comp_Mx (N*m)	0.0252	2.4276	1	1
4comp_My (N*m)	-0.0406	3.1520	1	1
Mooring_1 (N)	0.0740	3.1544	1	1
Mooring_2 (N)	0.0241	3.1877	1	1
Mooring_3 (N)	0.0078	3.0993	1	1
Acc_1 (G)	-0.0022	3.0870	1	1
Acc_2 (G)	0.0424	3.3441	1	1
Acc_3 (G)	0.1481	3.1753	1	1
SB_x (m)	0.0726	2.9932	1	1
SB_y (m)	0.1395	2.8535	1	1

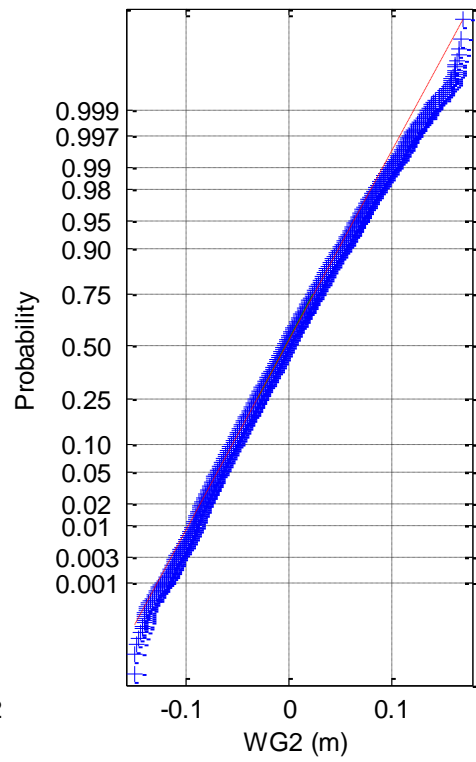
SB_z (m)	0.0906	2.9616	1	1
SB_roll (grad)	0.0071	3.1373	1	1
SB_pitch (grad)	0.0485	3.0710	1	1
SB_yaw (grad)	0.1105	3.1717	1	1



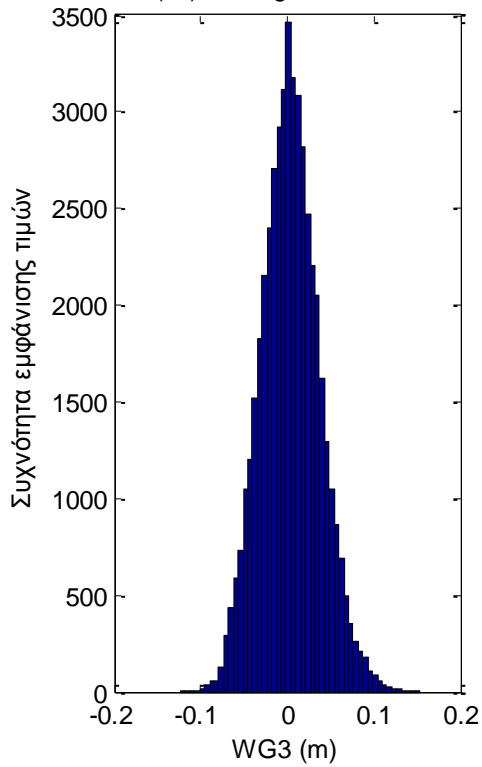
(2a) Histogram of WG2



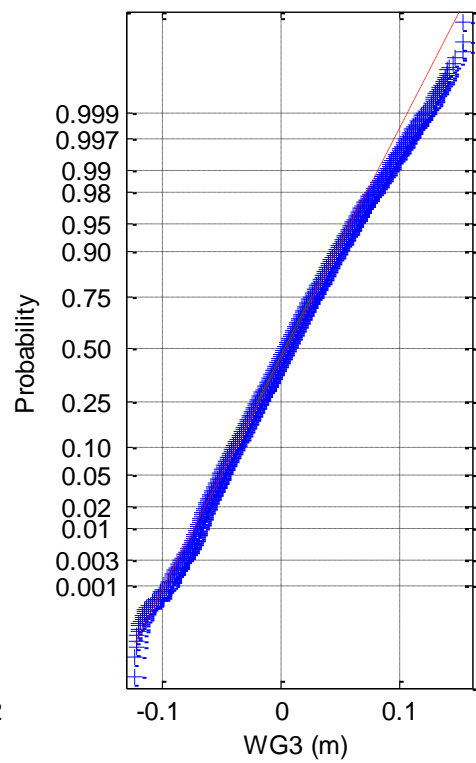
(2b) Normal probability plot of WG2



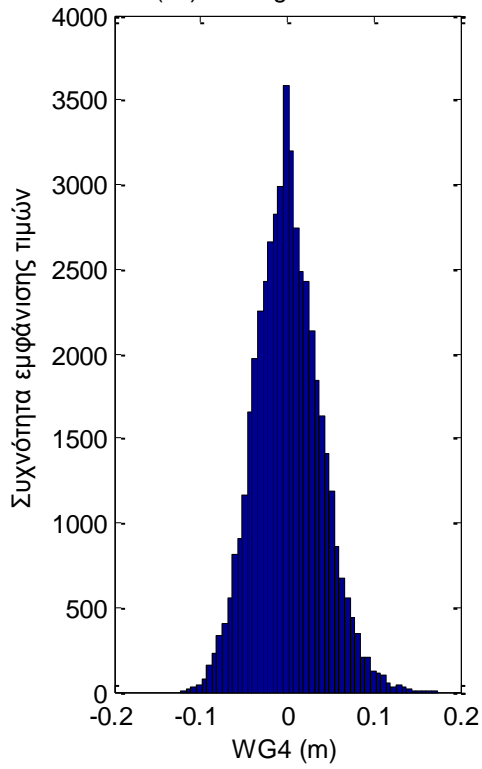
(3a) Histogram of WG3



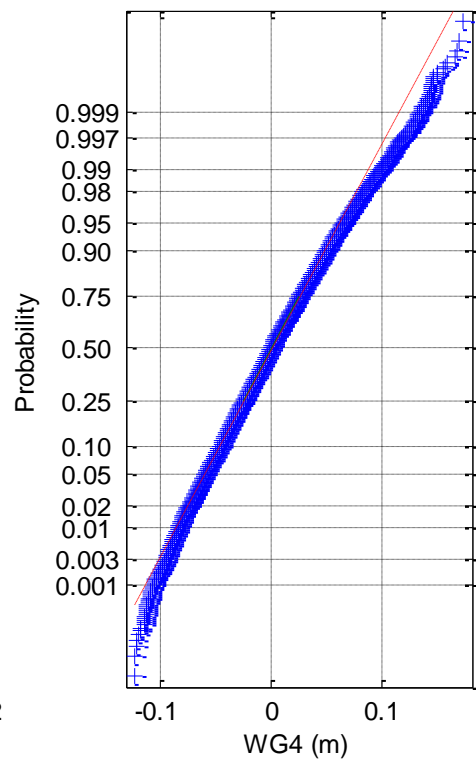
(3b) Normal probability plot of WG3



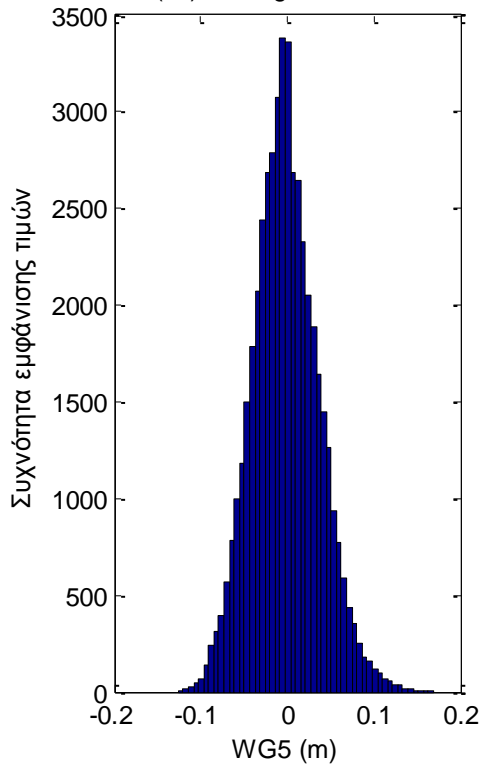
(4a) Histogram of WG4



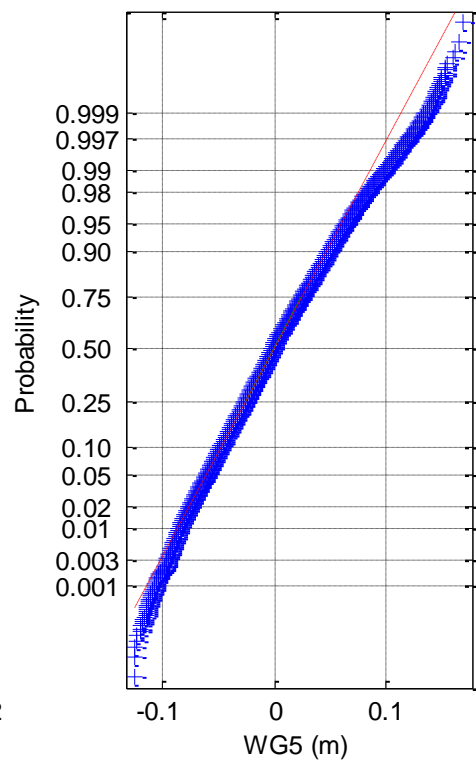
(4b) Normal probability plot of WG4



(5a) Histogram of WG5

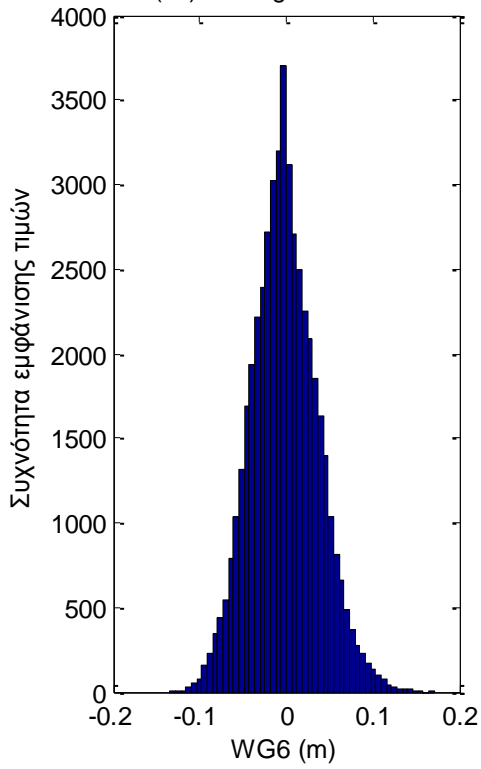


(5b) Normal probability plot of WG5

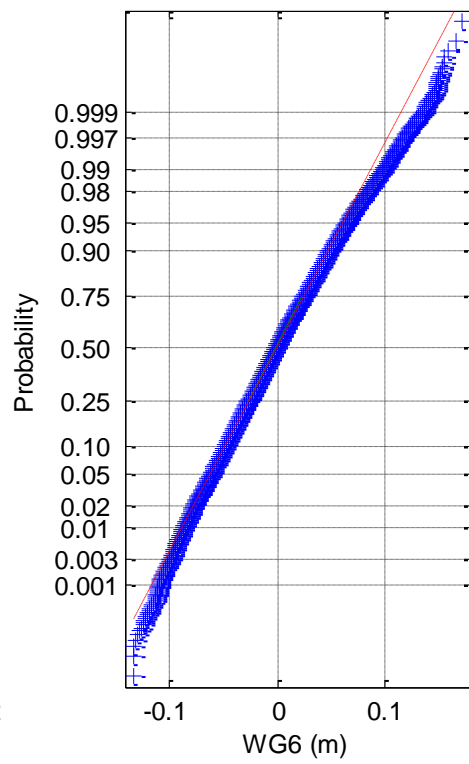




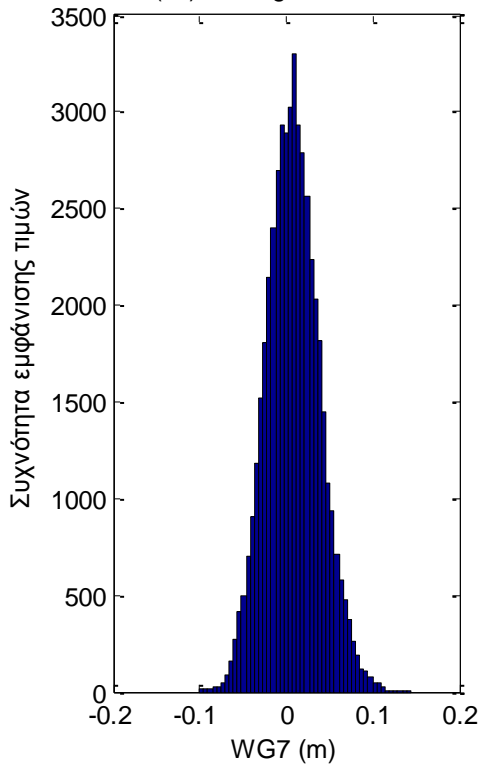
(6a) Histogram of WG6



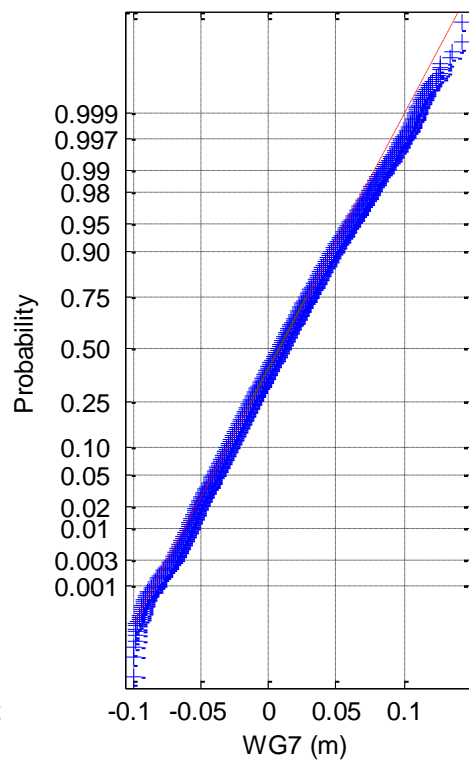
(6b) Normal probability plot of WG6



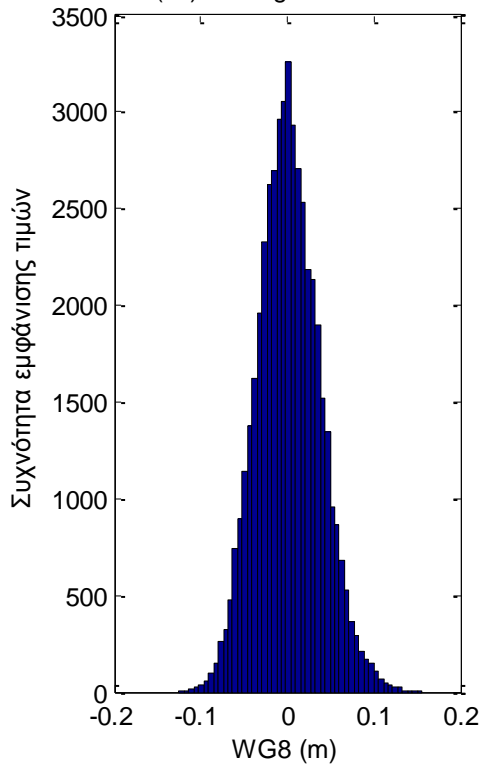
(7a) Histogram of WG7



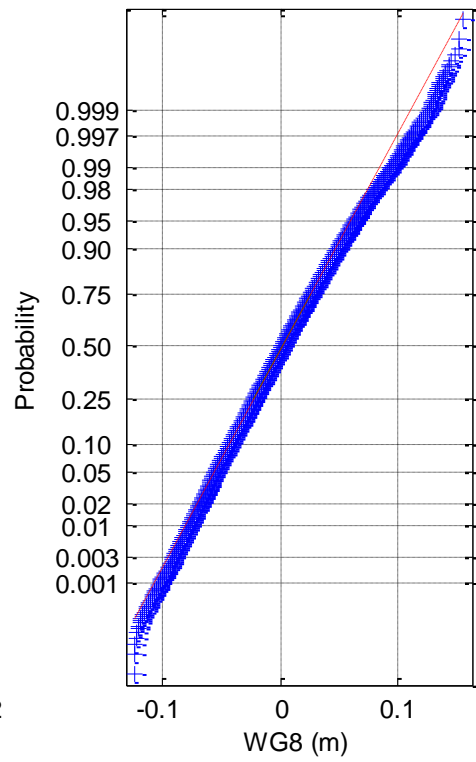
(7b) Normal probability plot of WG7



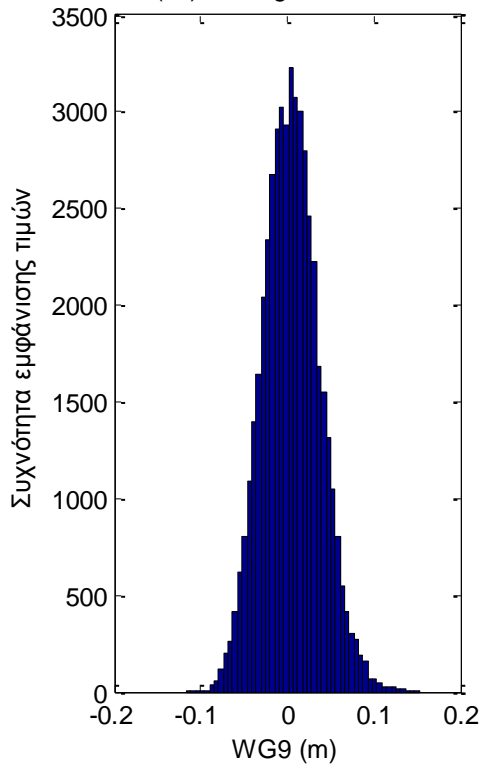
(8a) Histogram of WG8



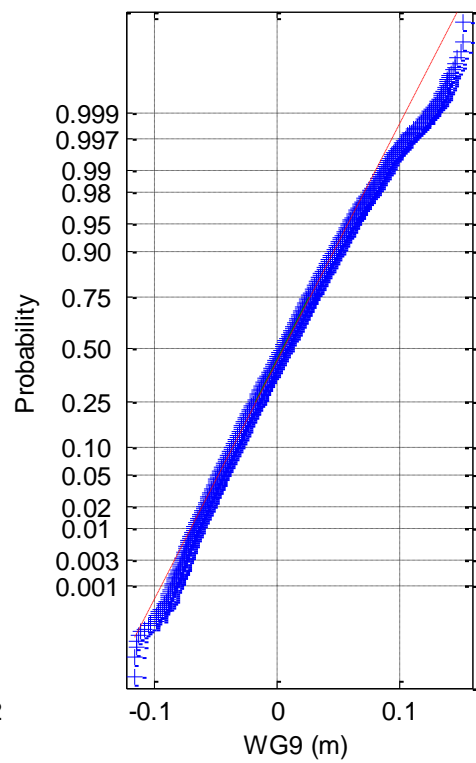
(8b) Normal probability plot of WG8

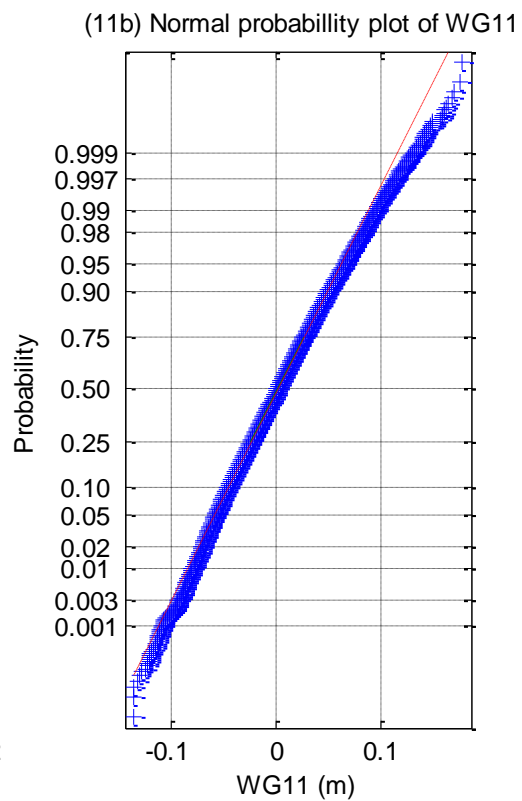
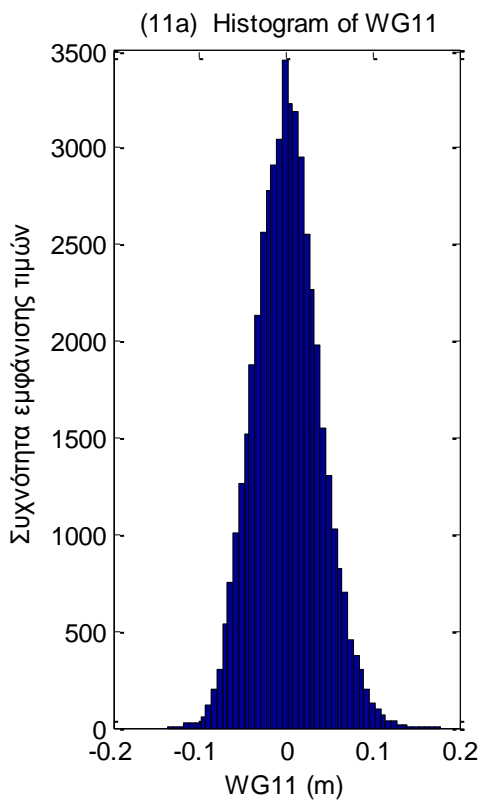
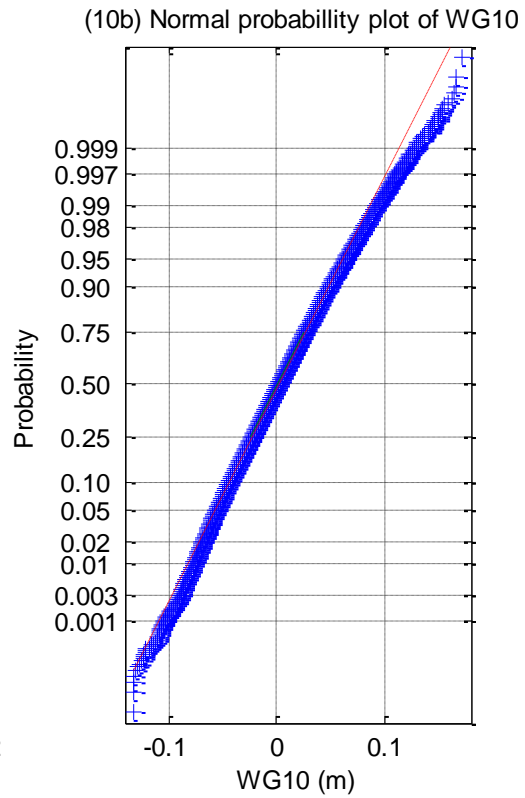
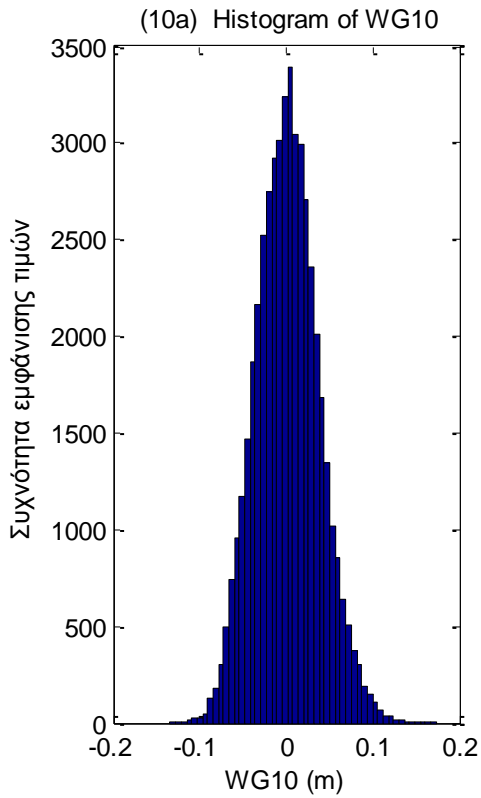


(9a) Histogram of WG9

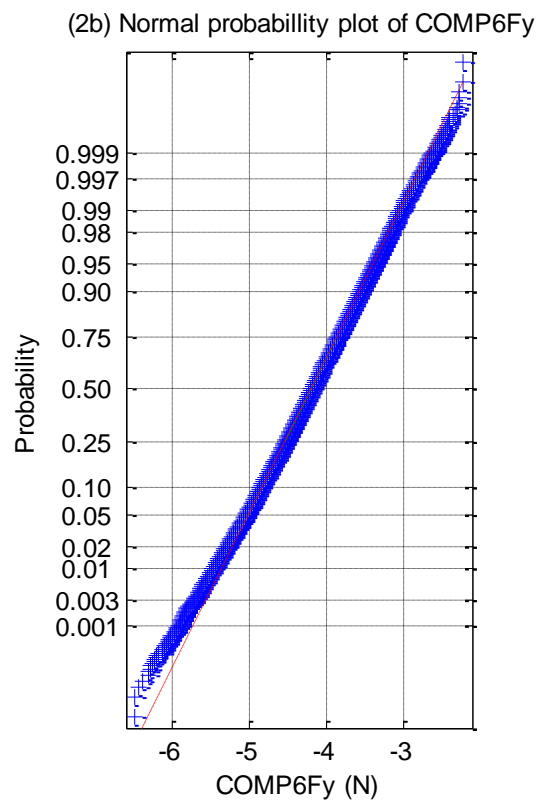
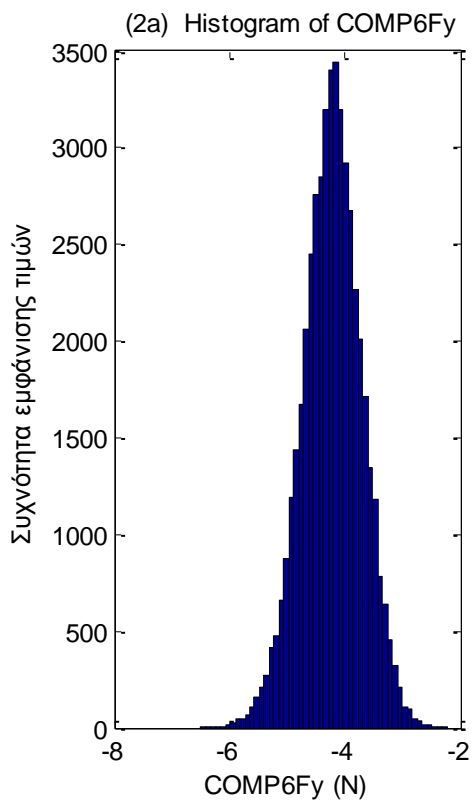
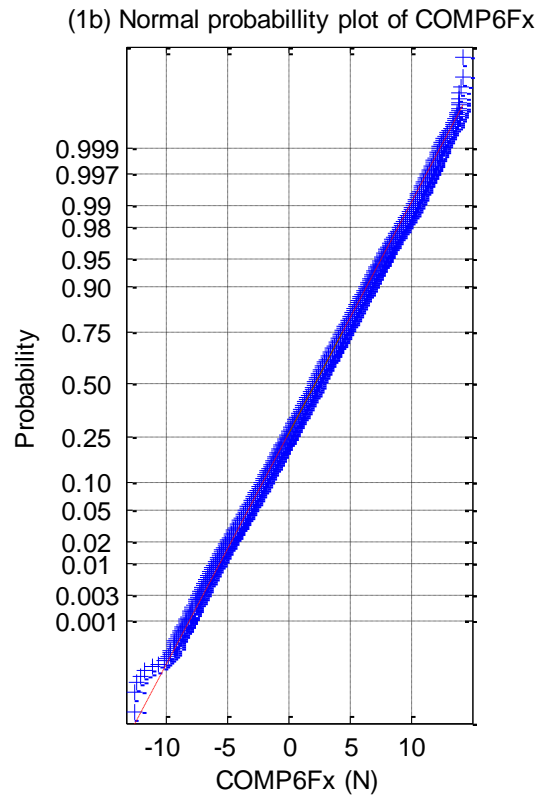
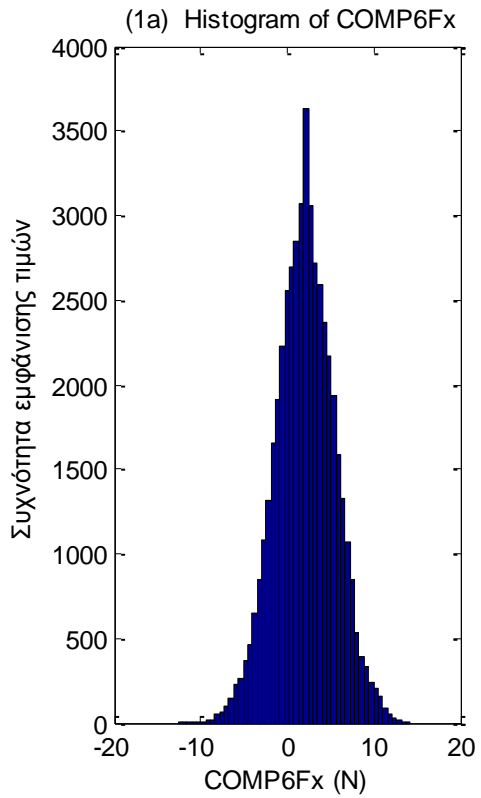


(9b) Normal probability plot of WG9

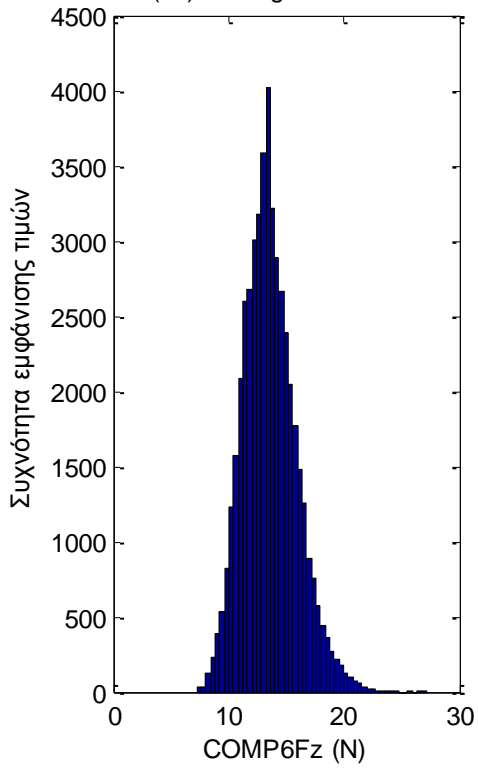




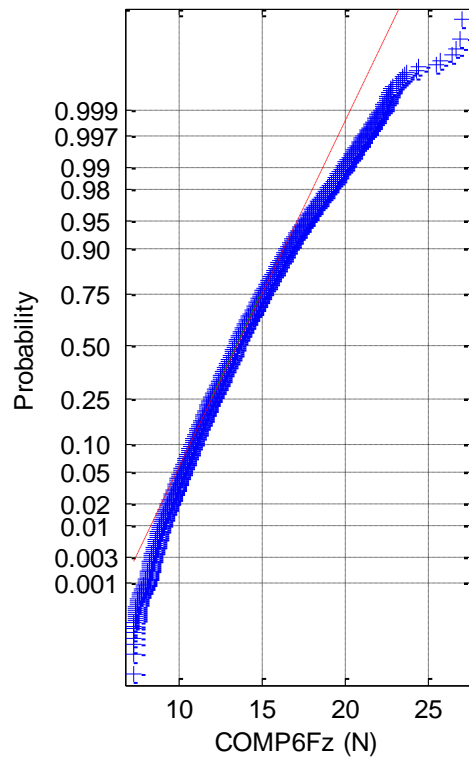
**Σχήματα 2.1.2.1 (1-11)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος



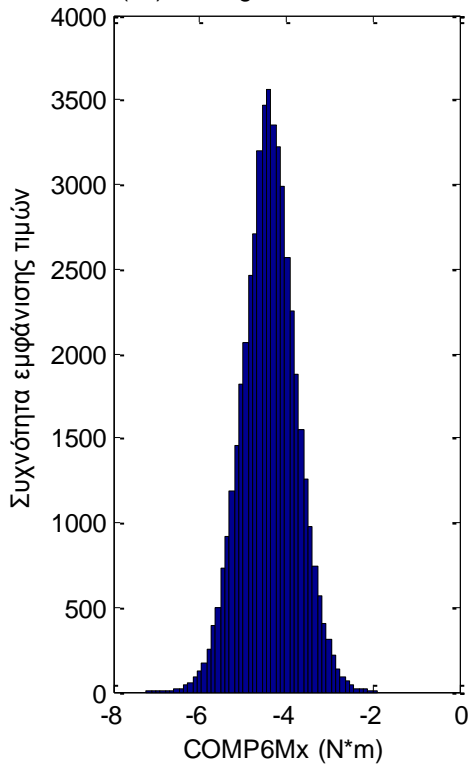
(3a) Histogram of COMP6Fz



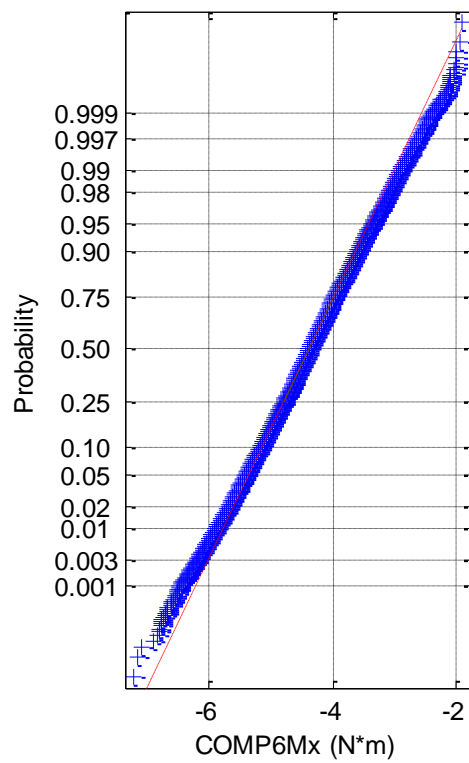
(3b) Normal probability plot of COMP6Fz

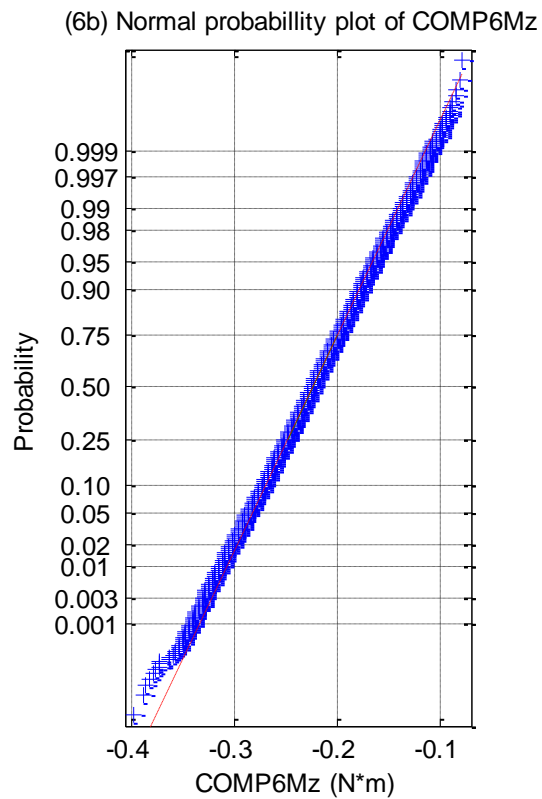
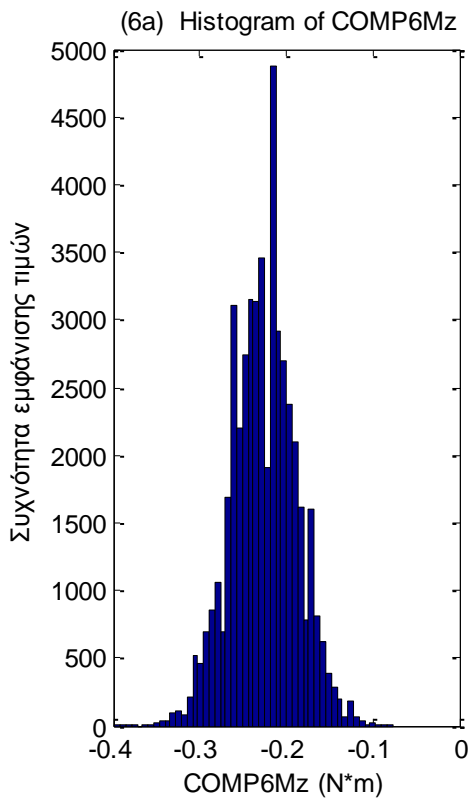
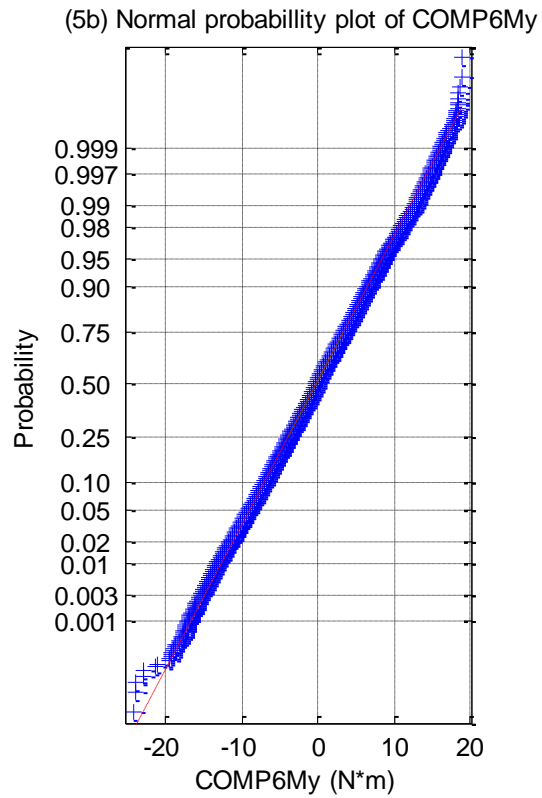
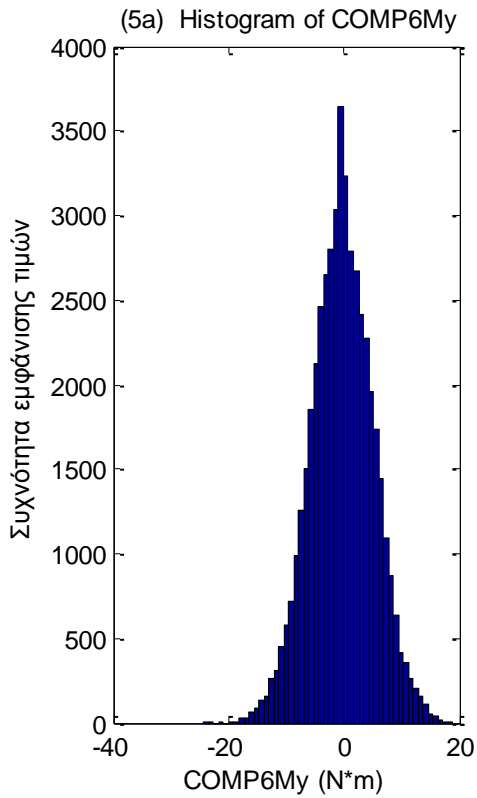


(4a) Histogram of COMP6Mx

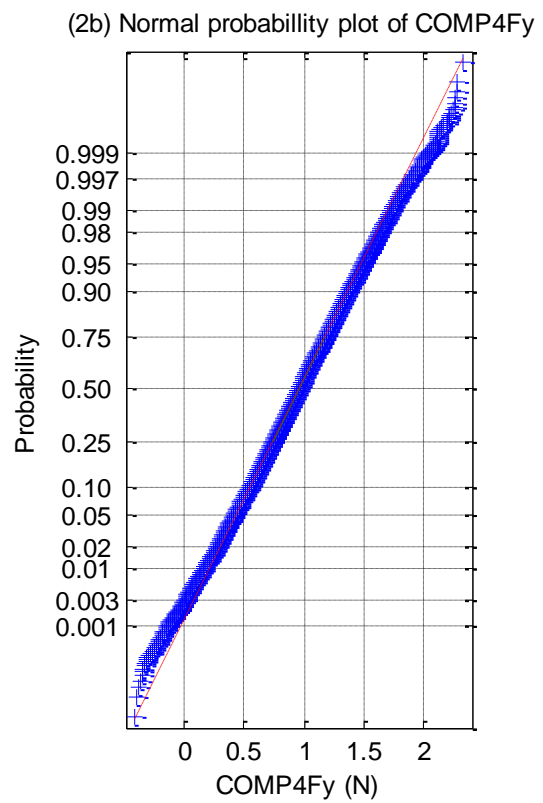
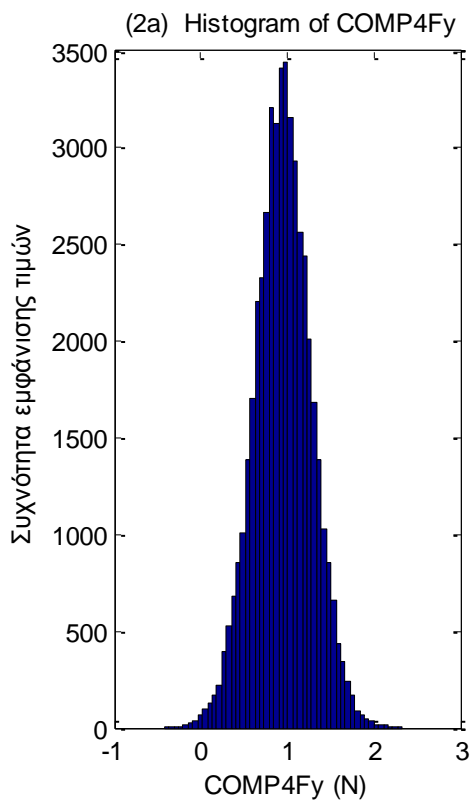
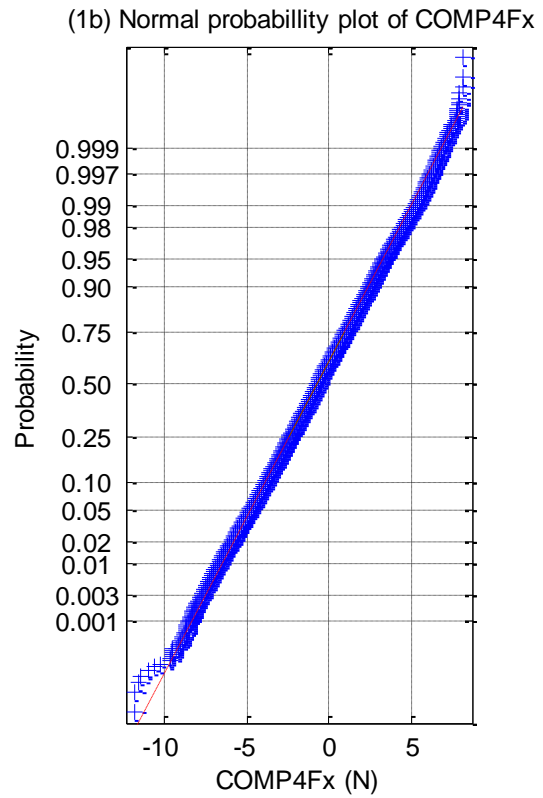
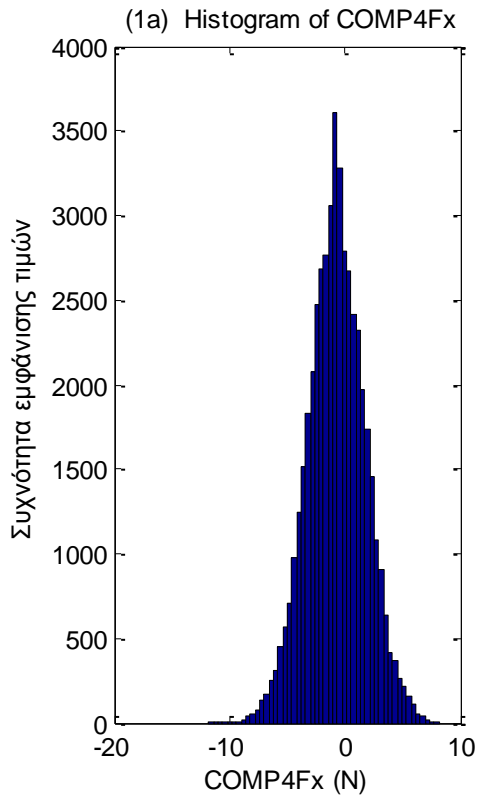


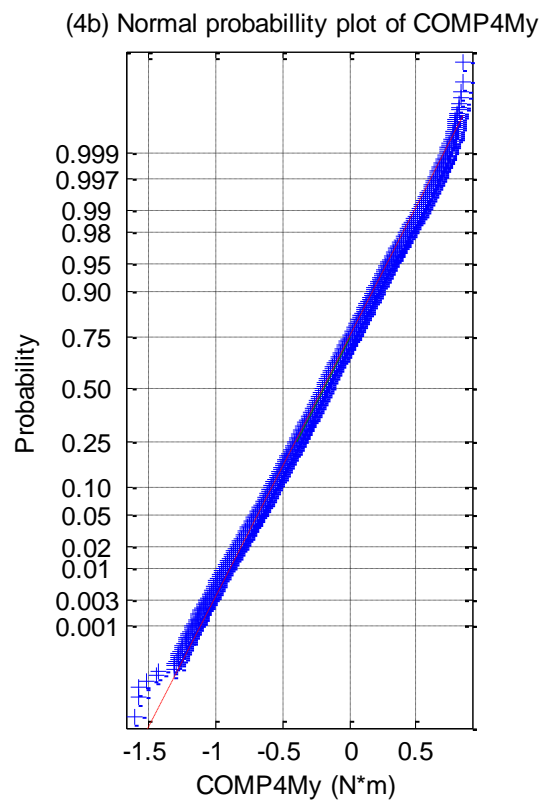
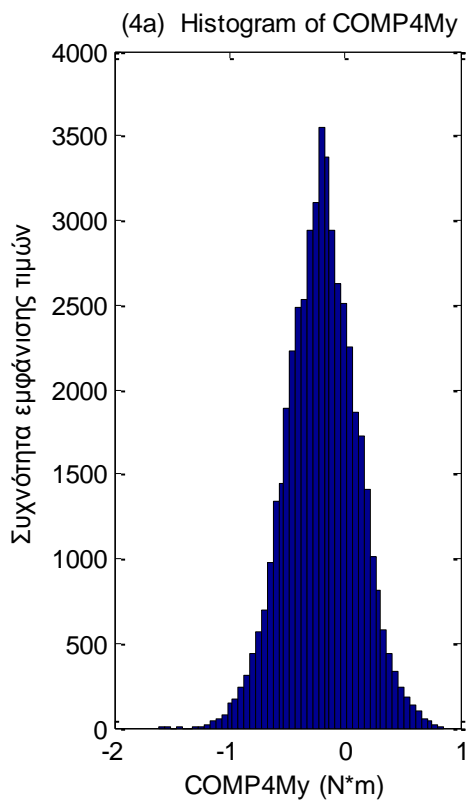
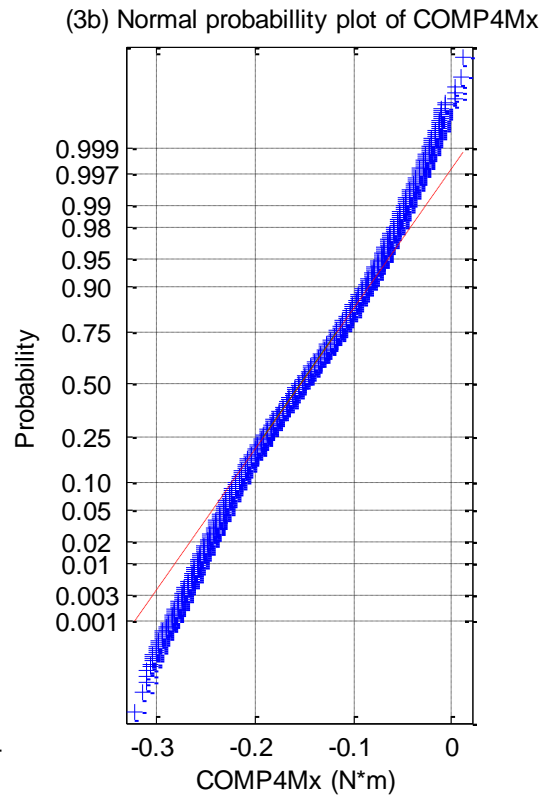
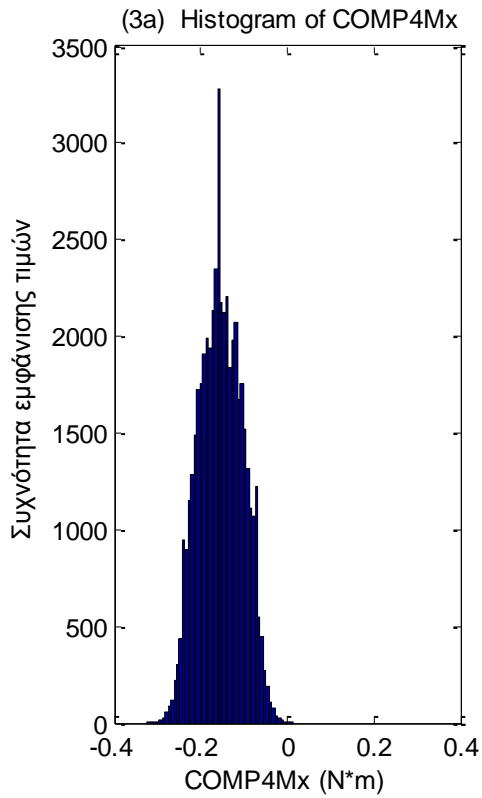
(4b) Normal probability plot of COMP6Mx





**Σχήματα 2.1.2.2** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

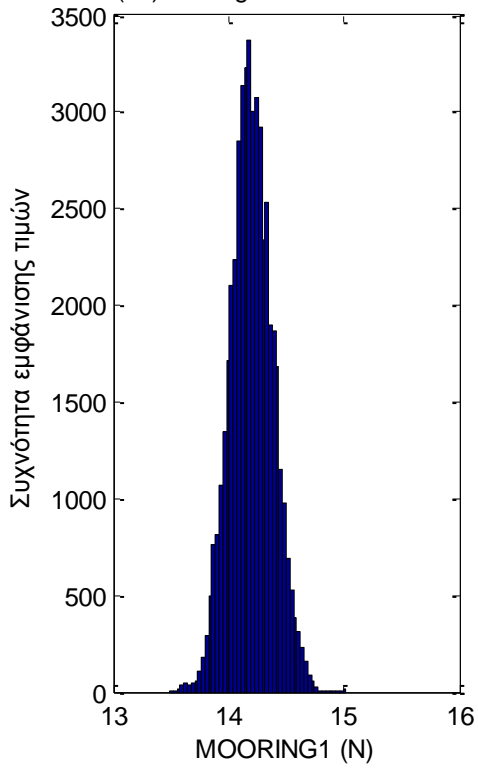




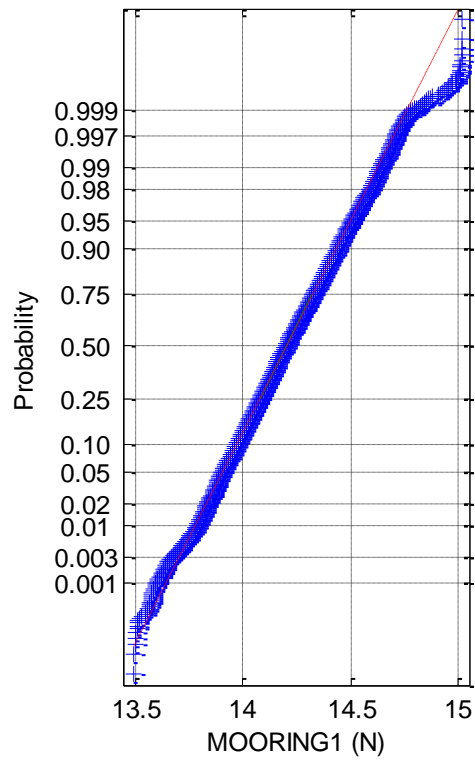
**Σχήματα 2.1.2.3** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



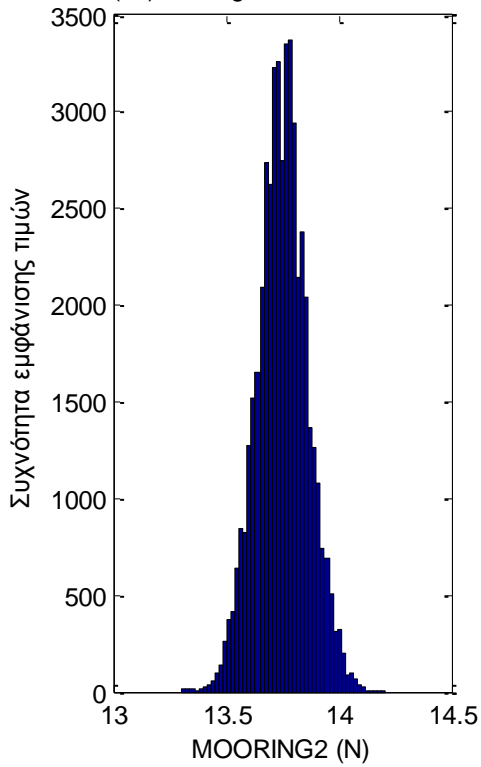
(1a) Histogram of MOORING1



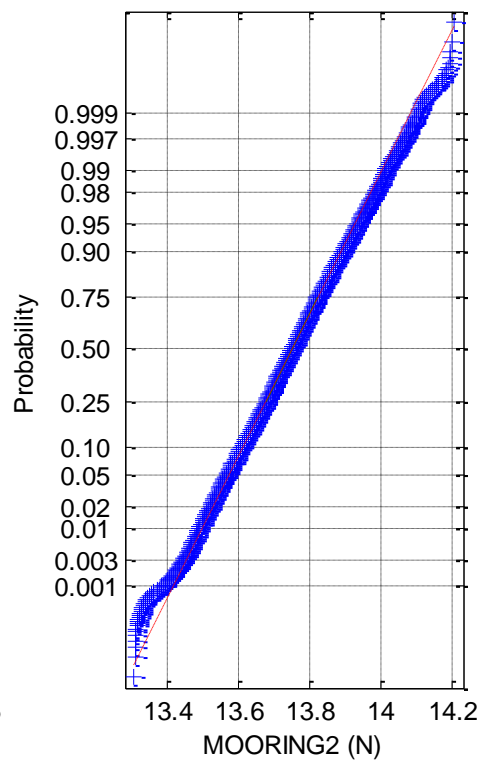
(1b) Normal probability plot of MOORING1

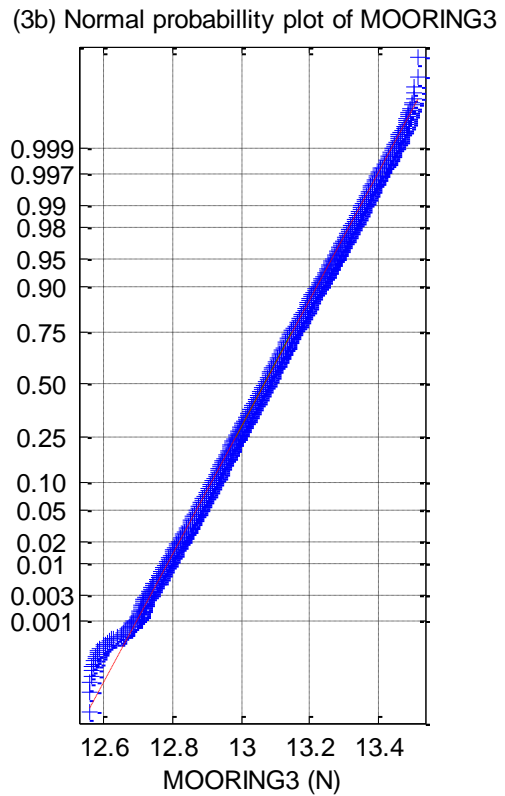
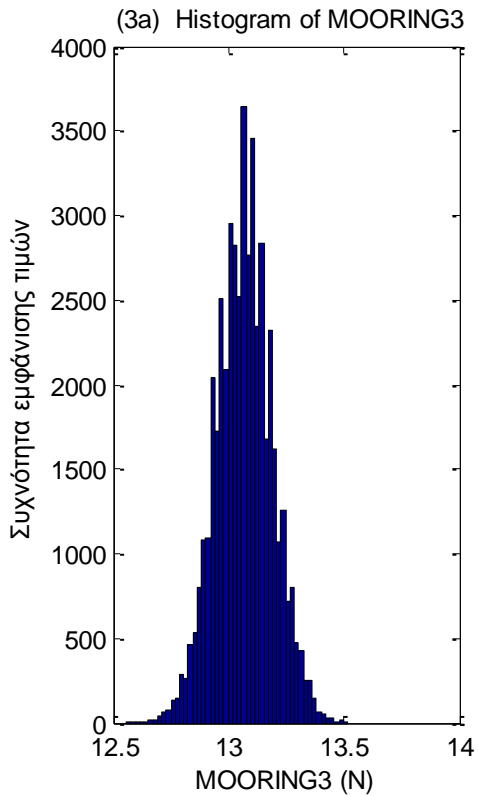


(2a) Histogram of MOORING2

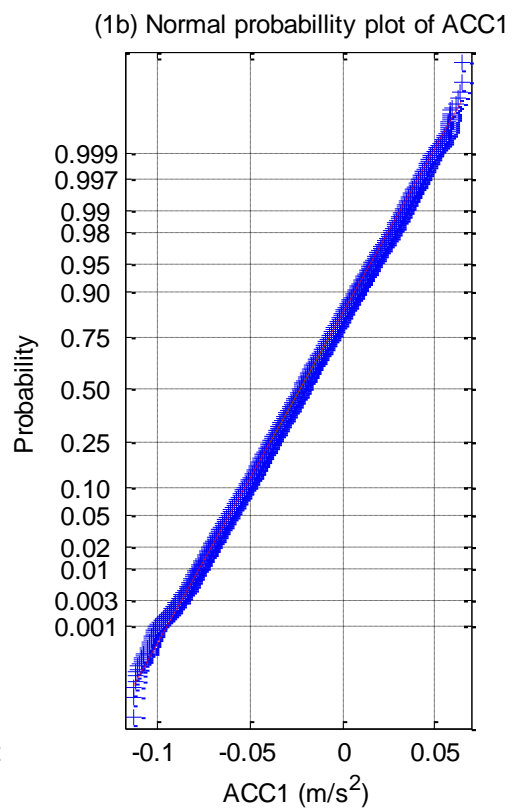
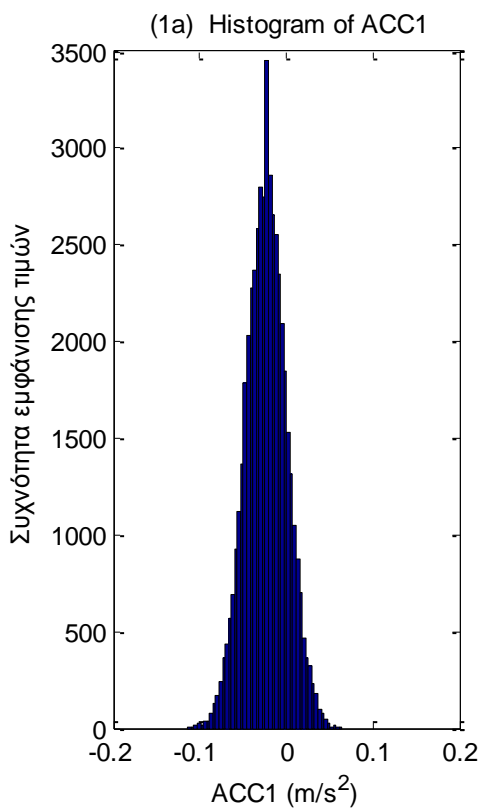


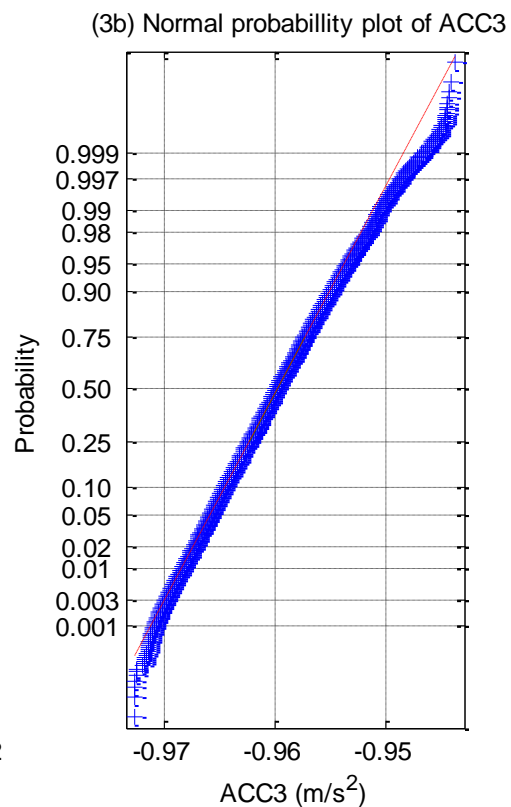
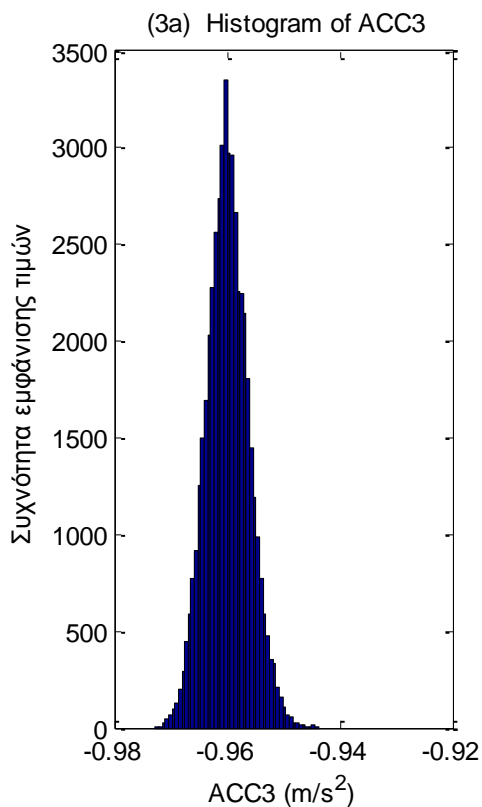
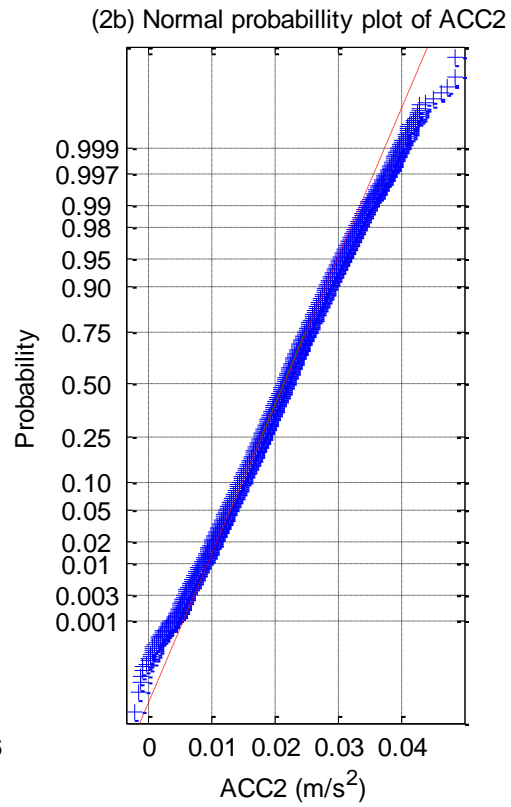
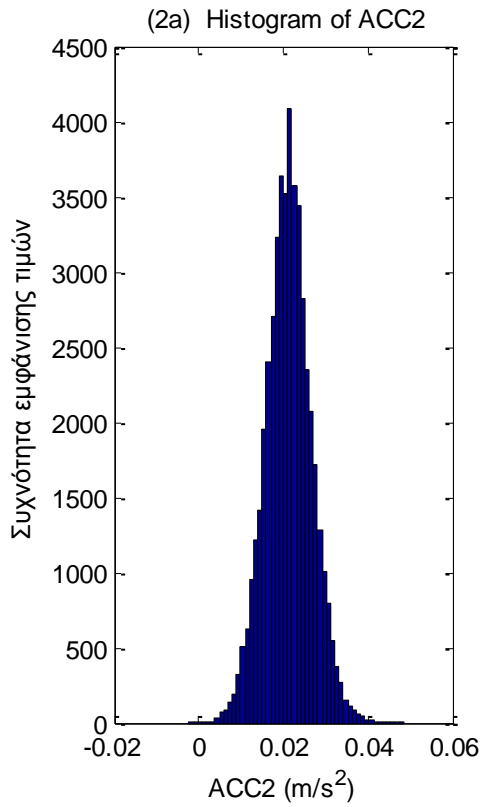
(2b) Normal probability plot of MOORING2



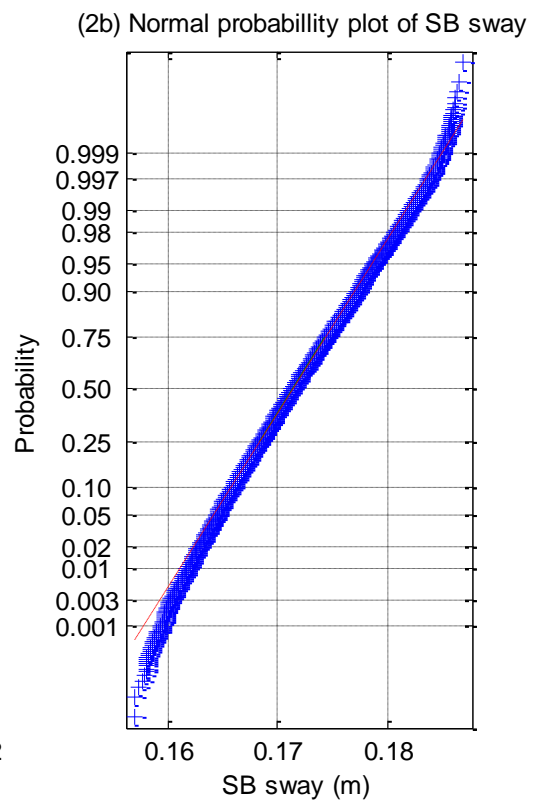
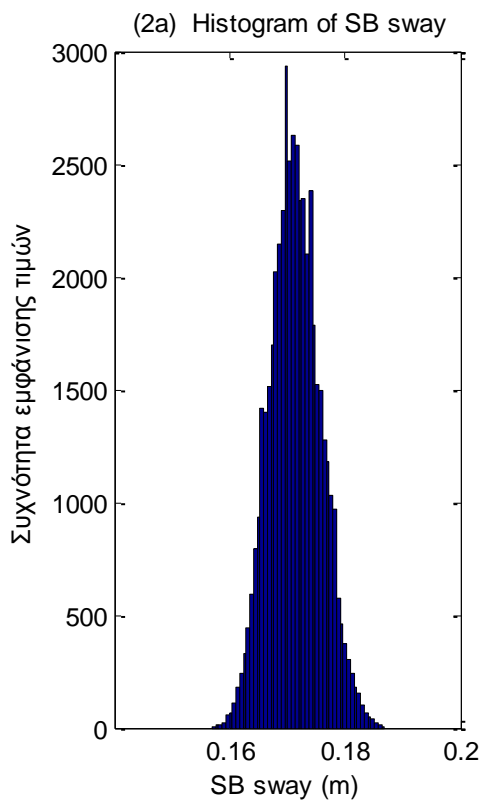
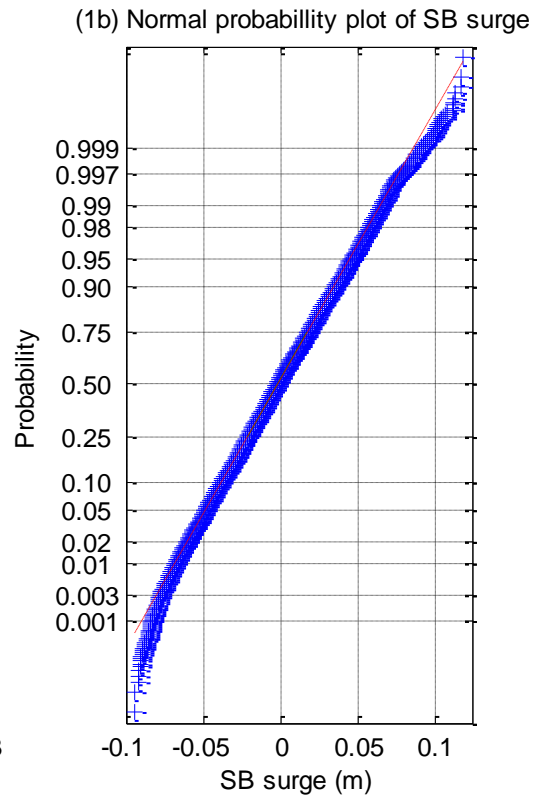
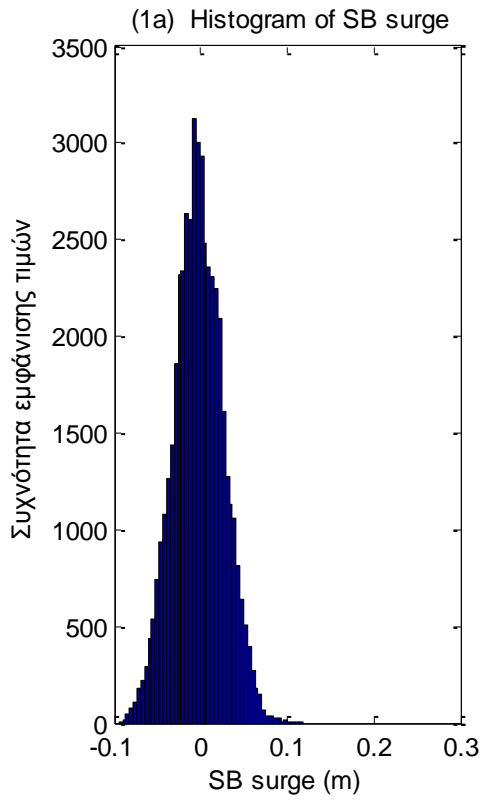


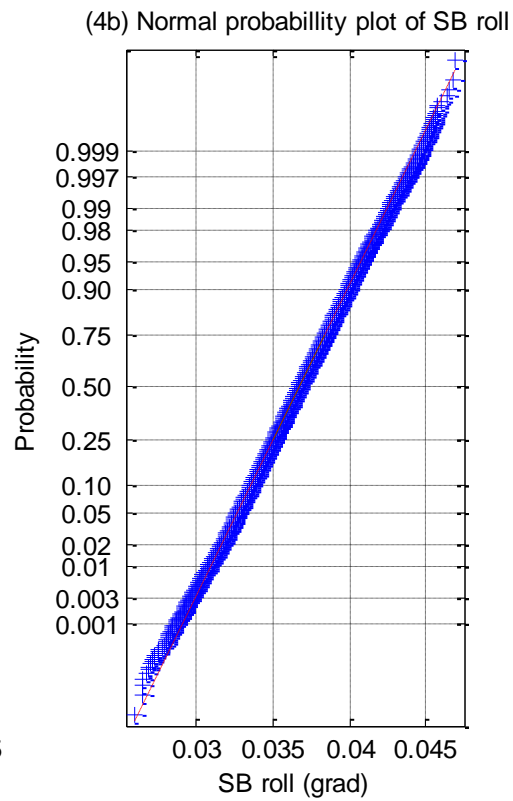
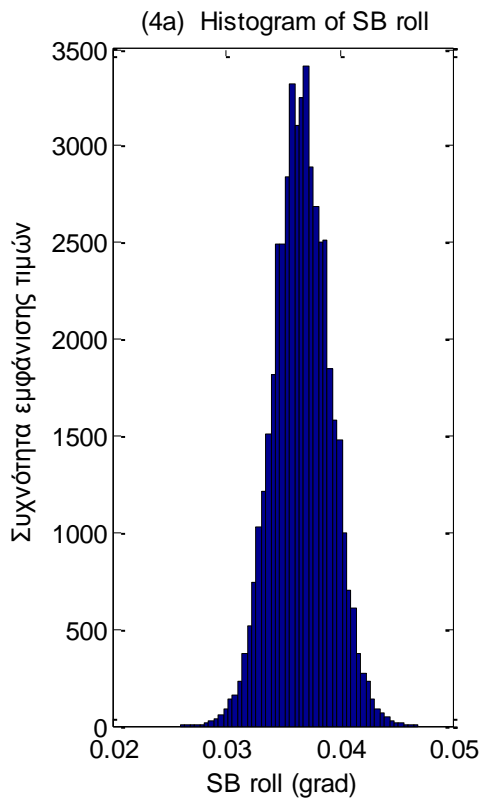
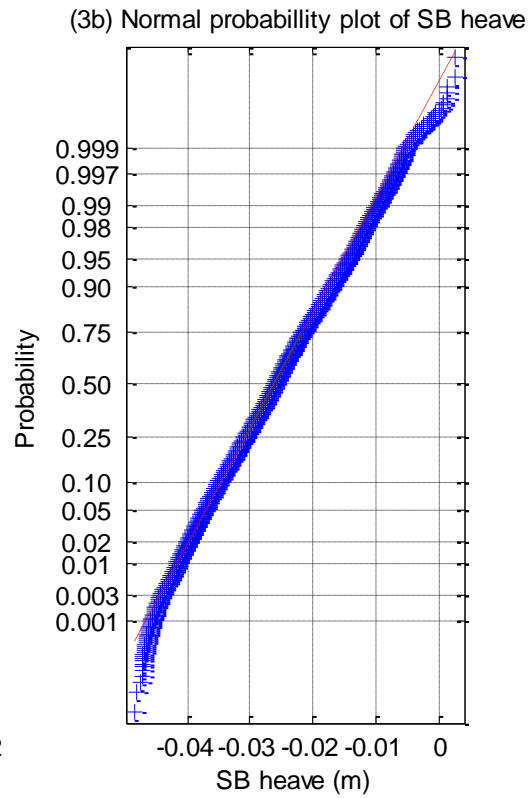
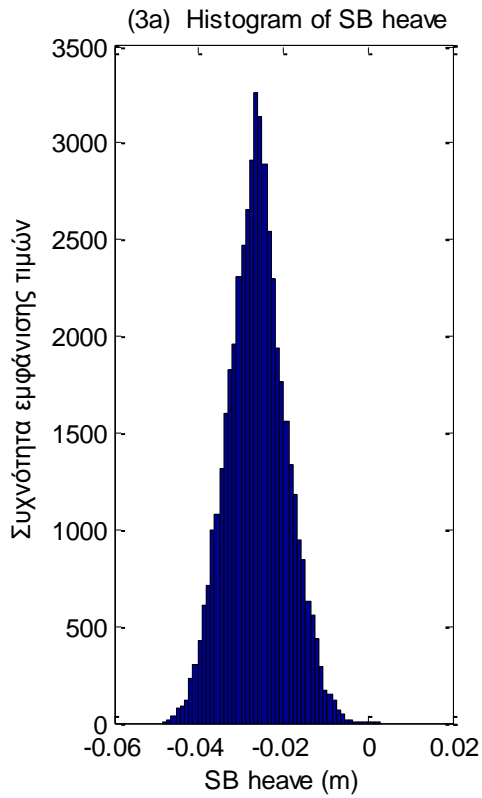
**Σχήματα 2.1.2.4 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

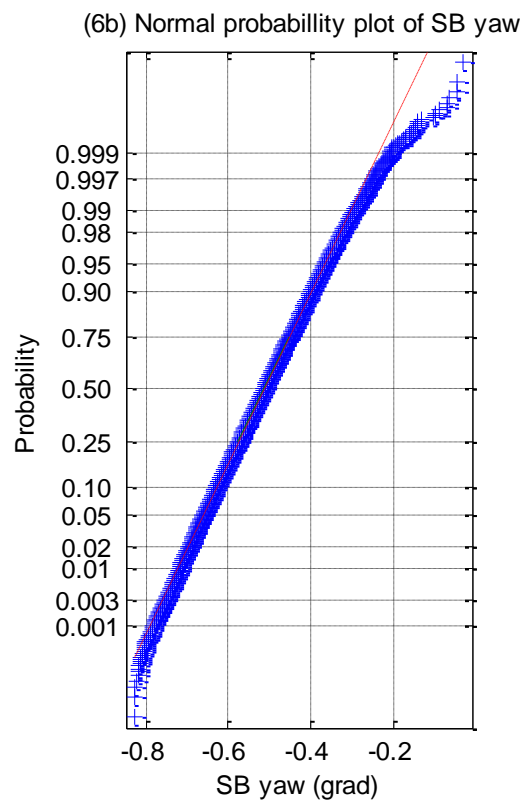
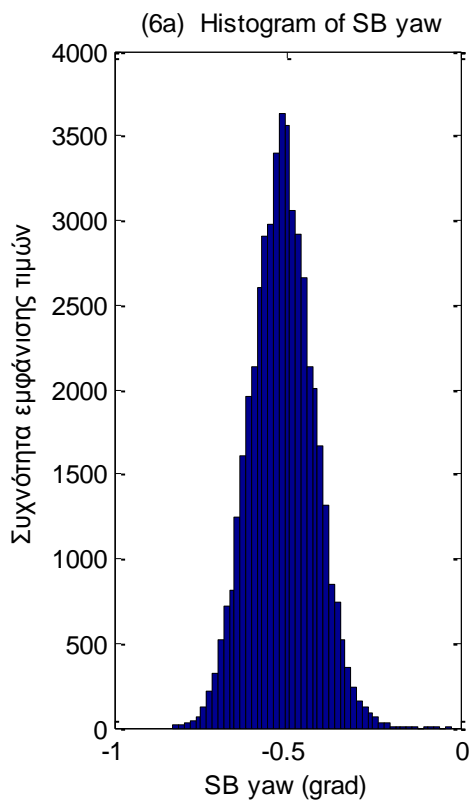
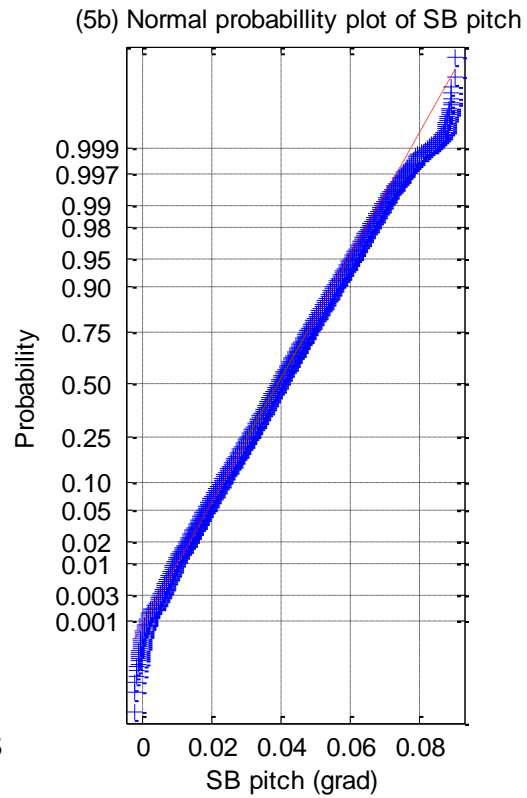
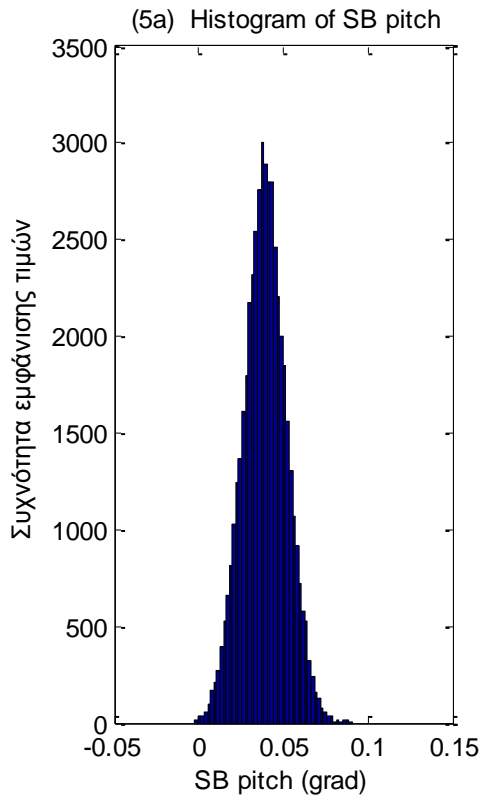




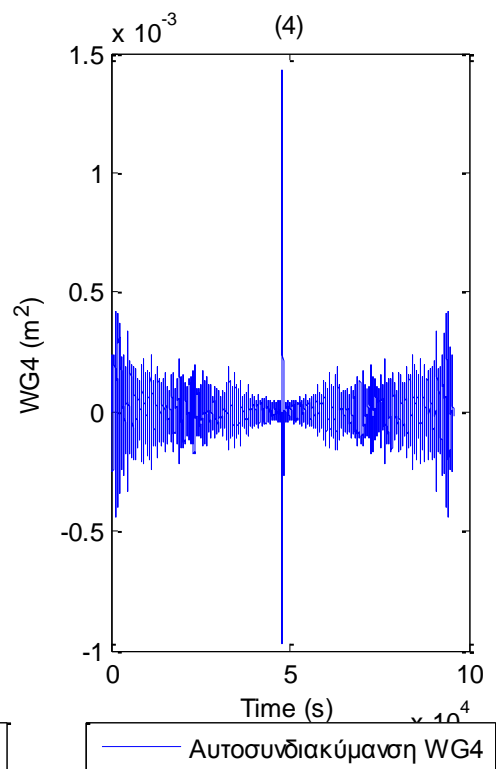
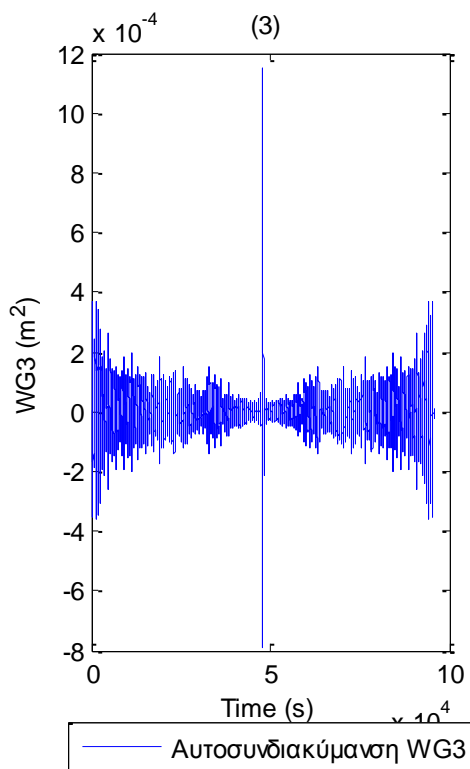
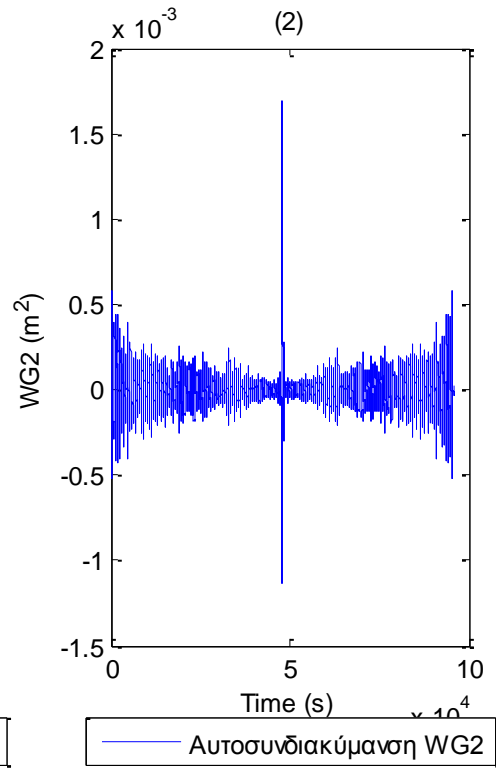
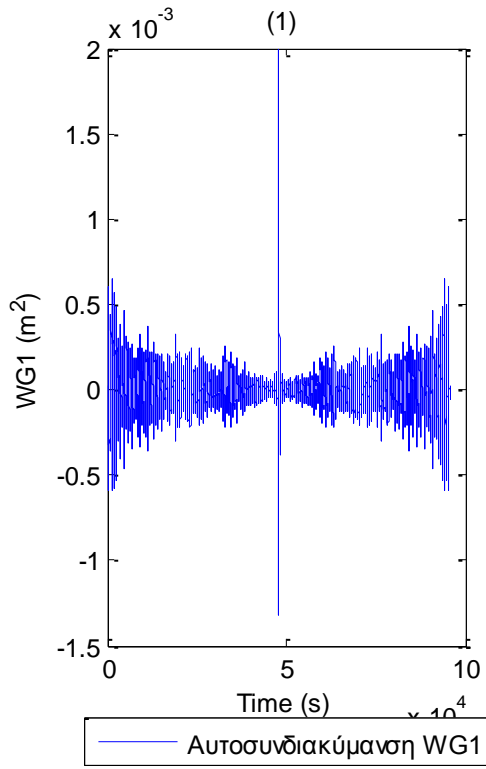
**Σχήματα 2.1.2.5 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

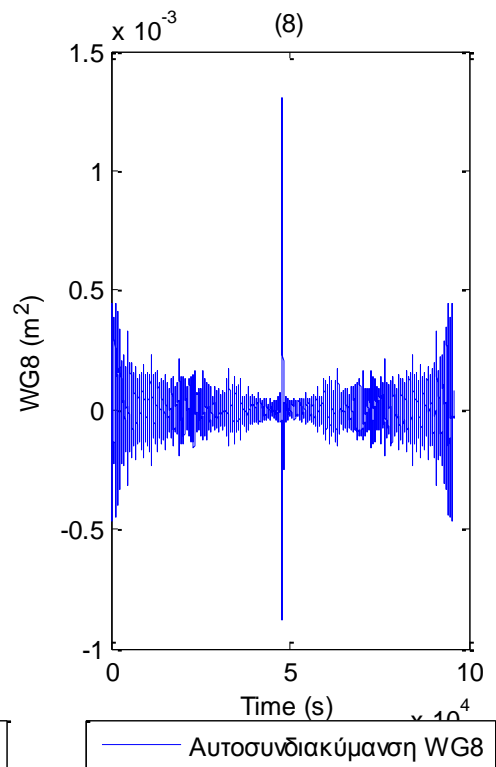
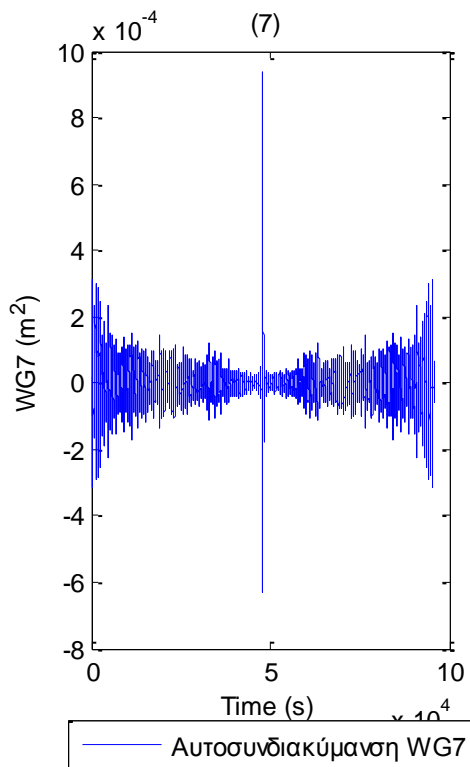
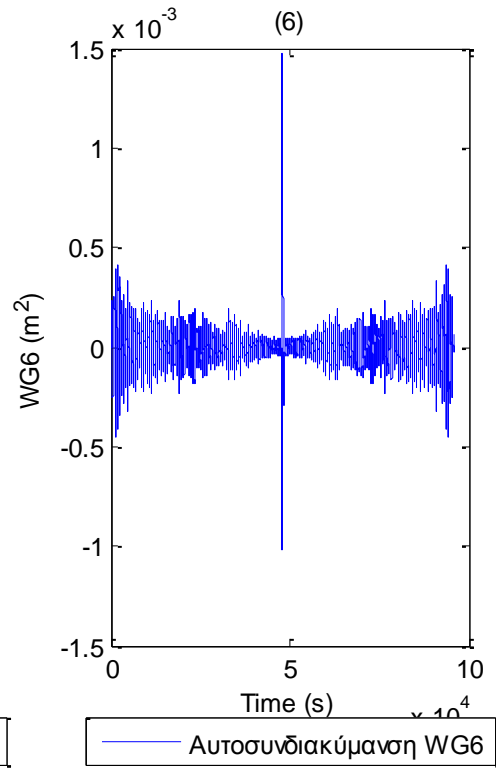
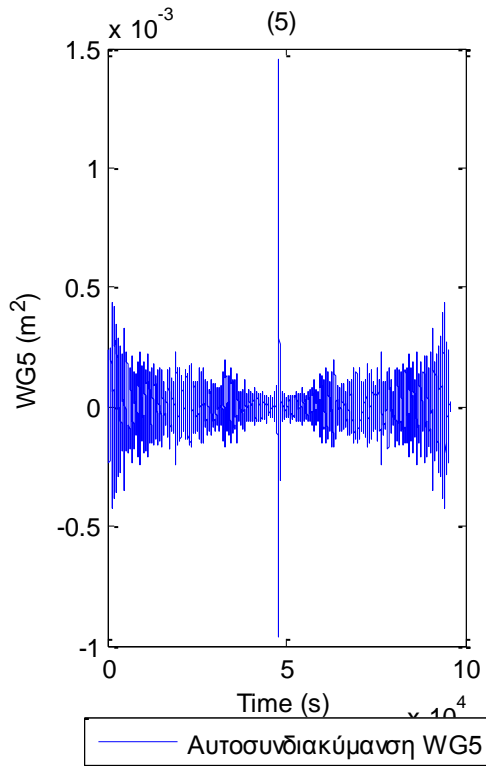




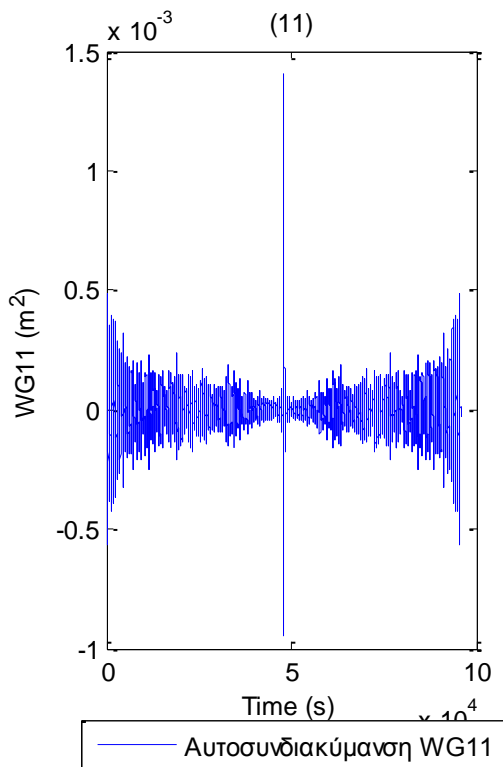
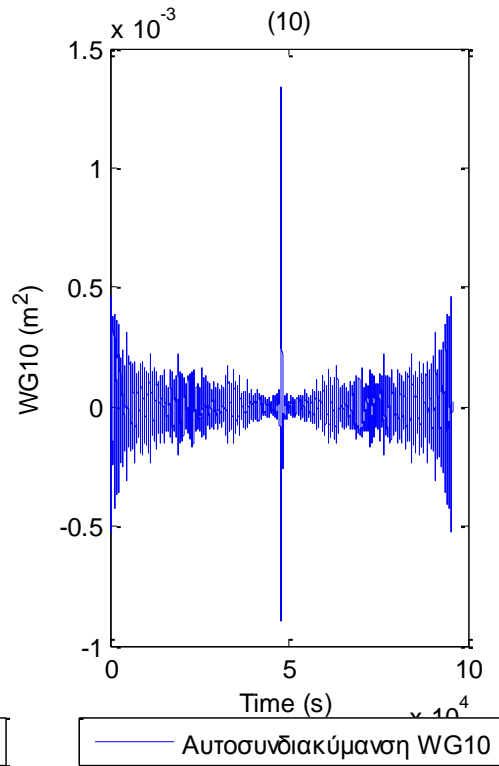
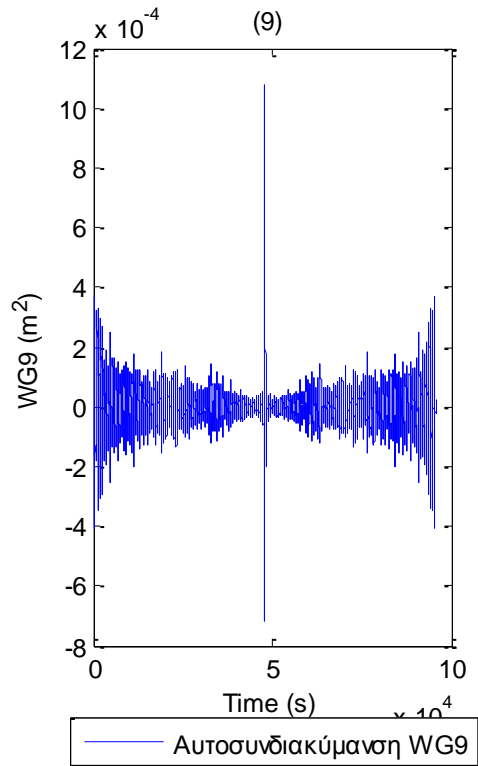


**Σχήματα 2.1.2.6** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

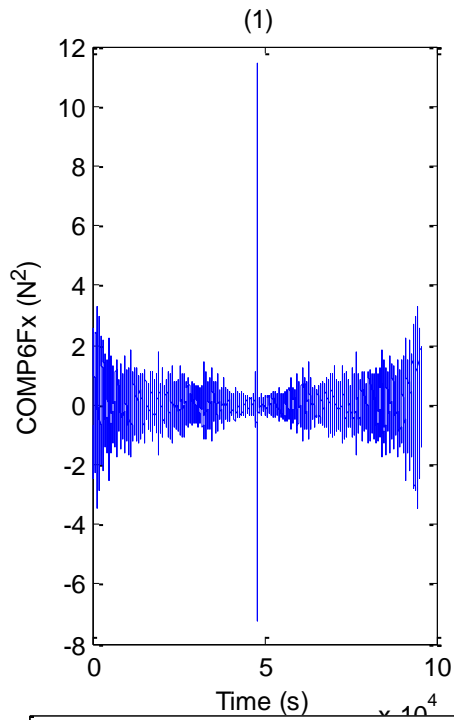




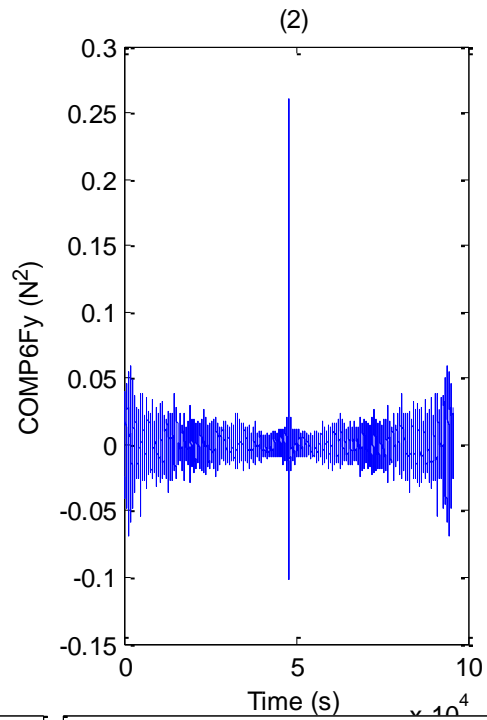




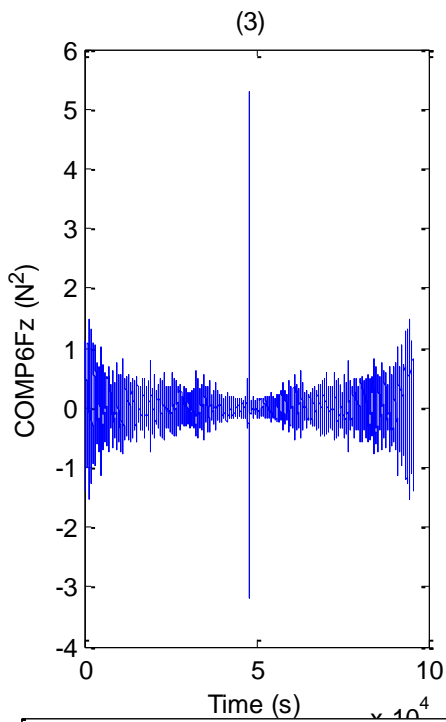
**Σχήματα 2.1.3.1 (1-11)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



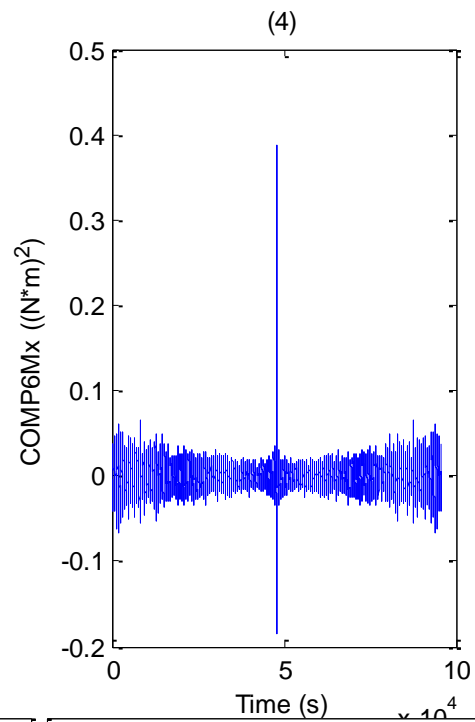
— Αυτοσυνδιακύμανση COMP6Fx



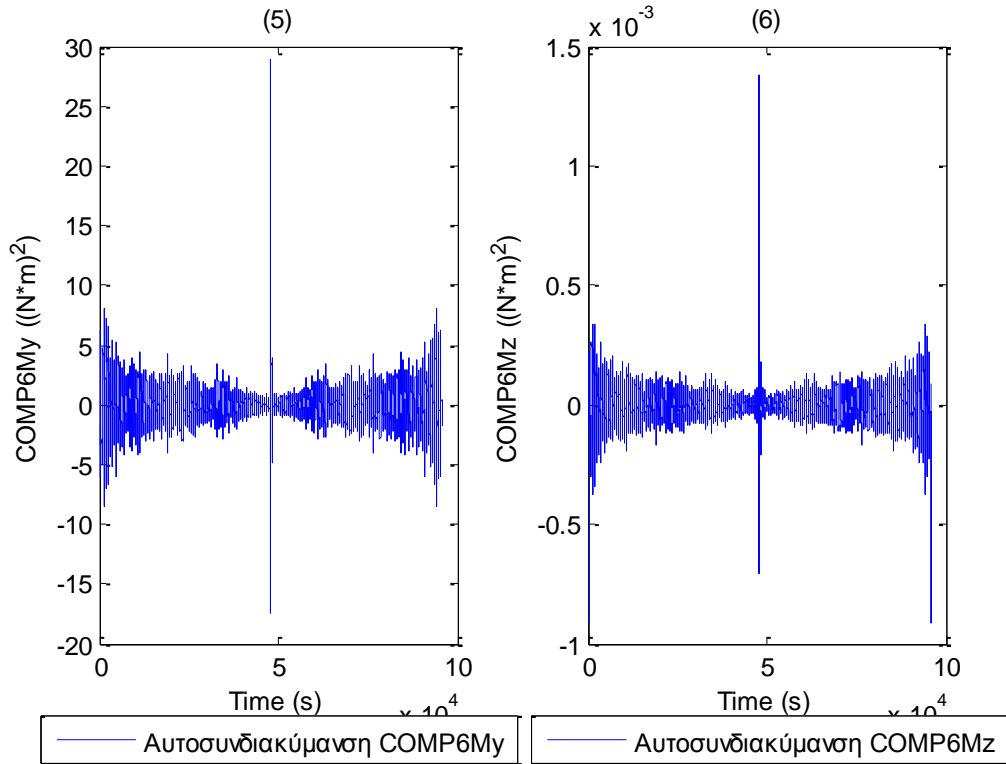
— Αυτοσυνδιακύμανση COMP6Fy



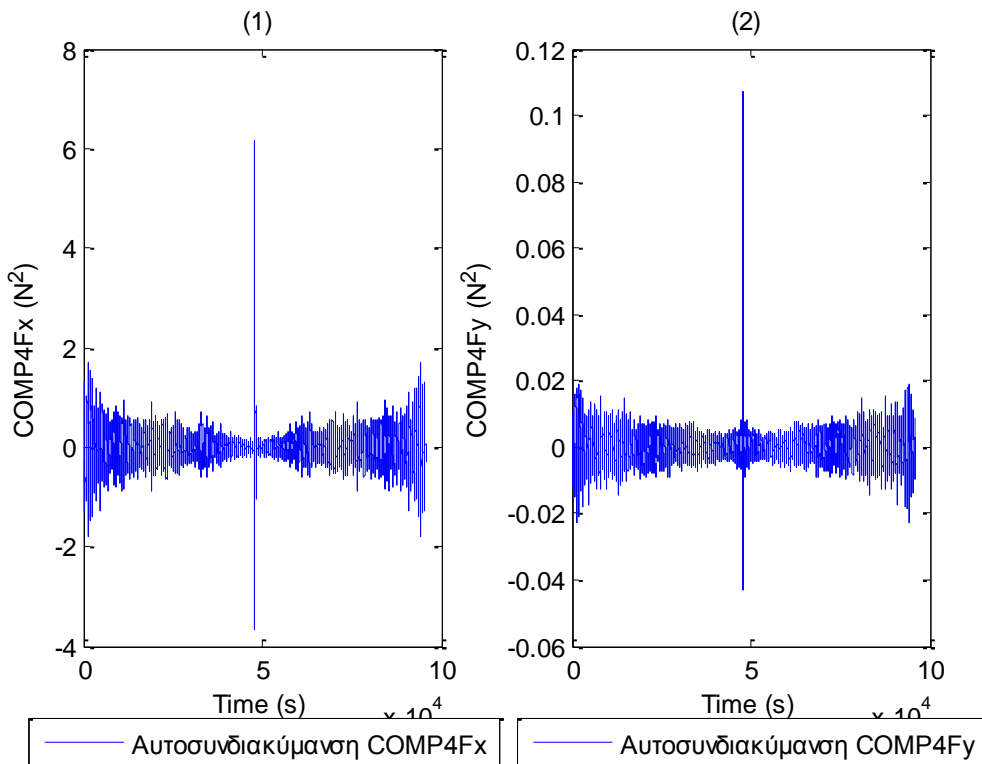
— Αυτοσυνδιακύμανση COMP6Fz

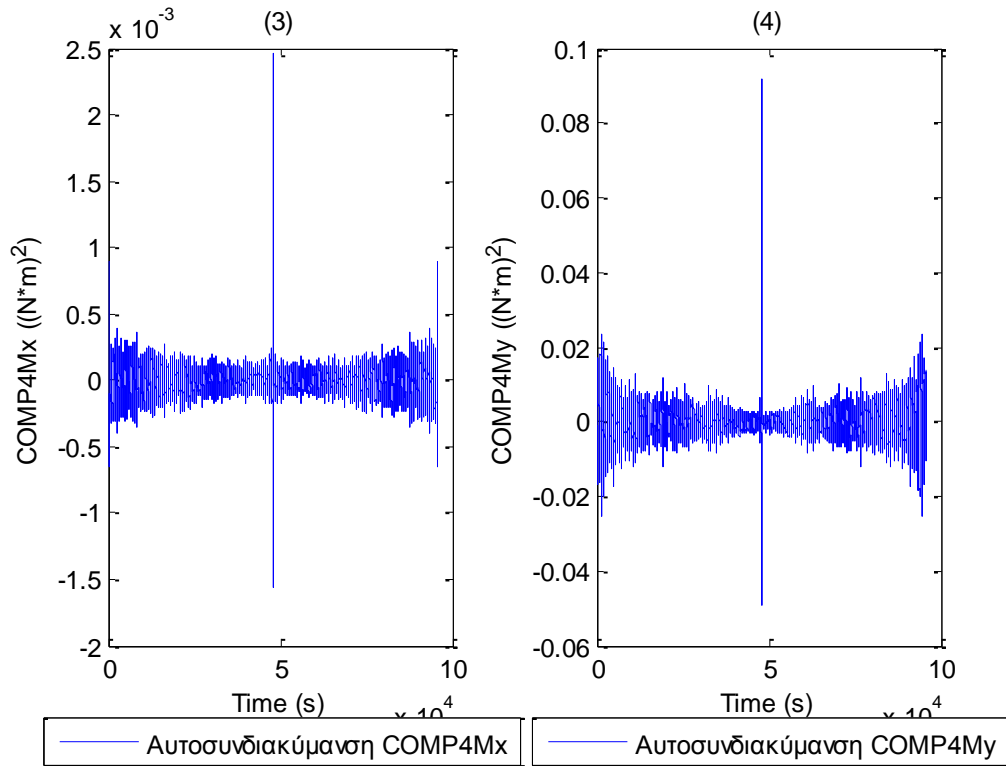


— Αυτοσυνδιακύμανση COMP6Mx

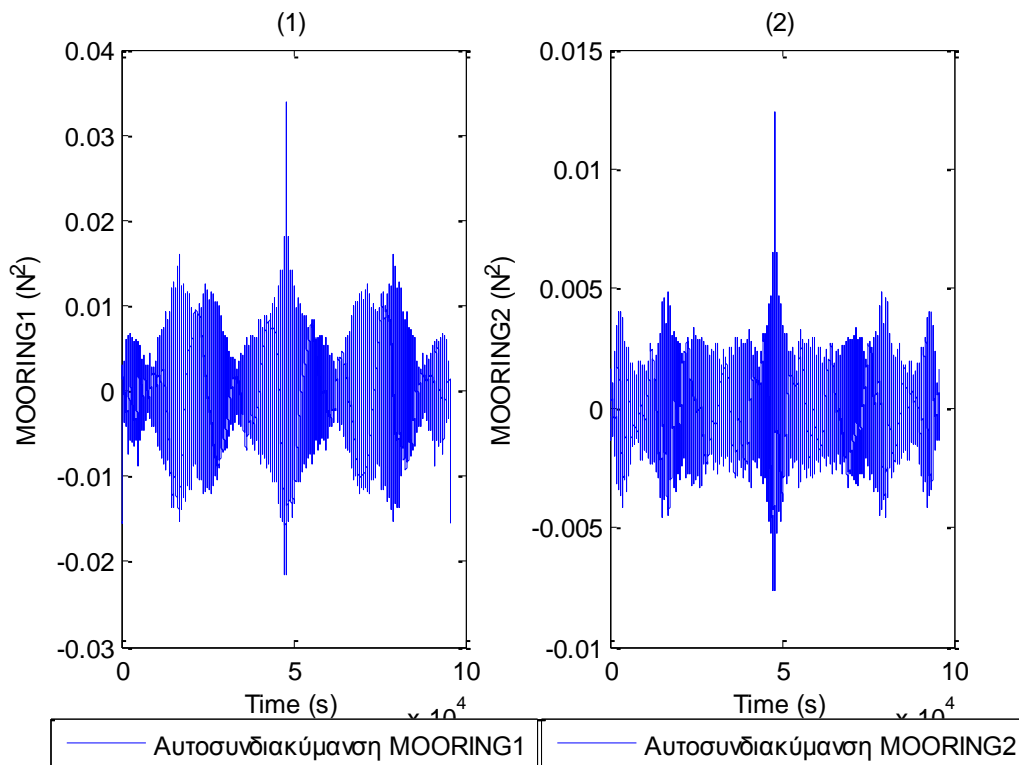


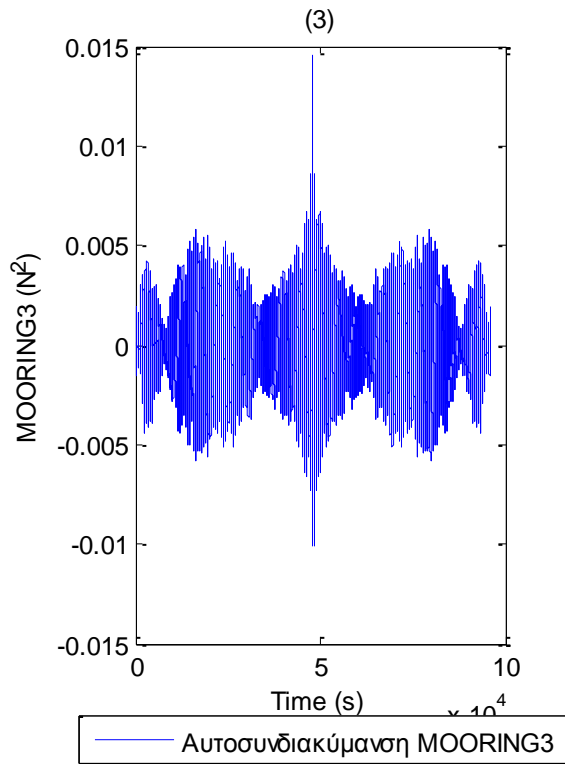
**Σχήματα 2.1.3.2** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



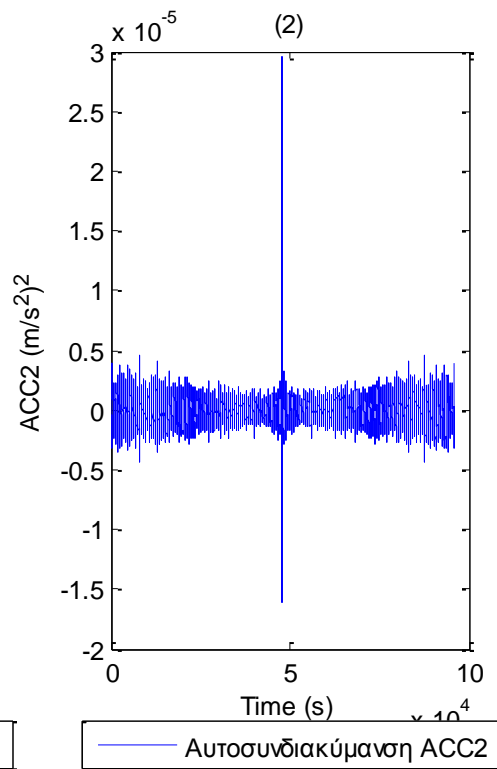
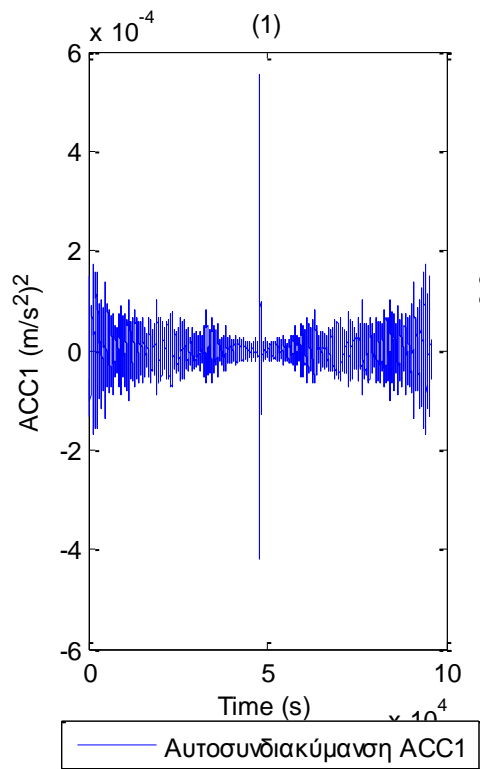


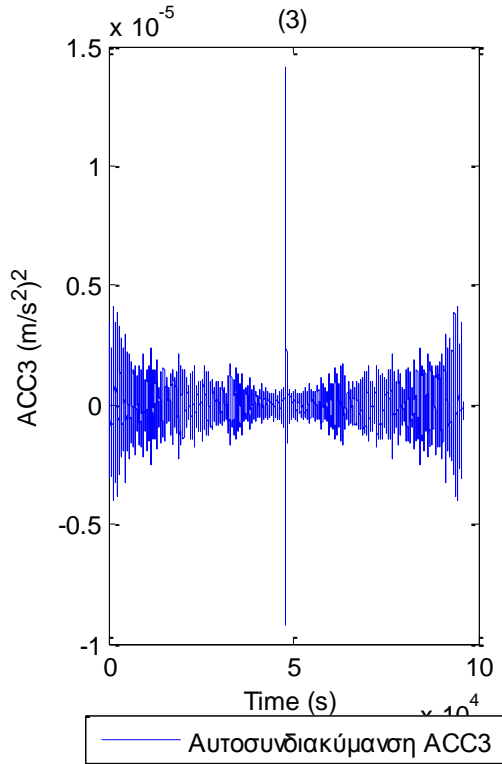
**Σχήματα 2.1.3.3** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



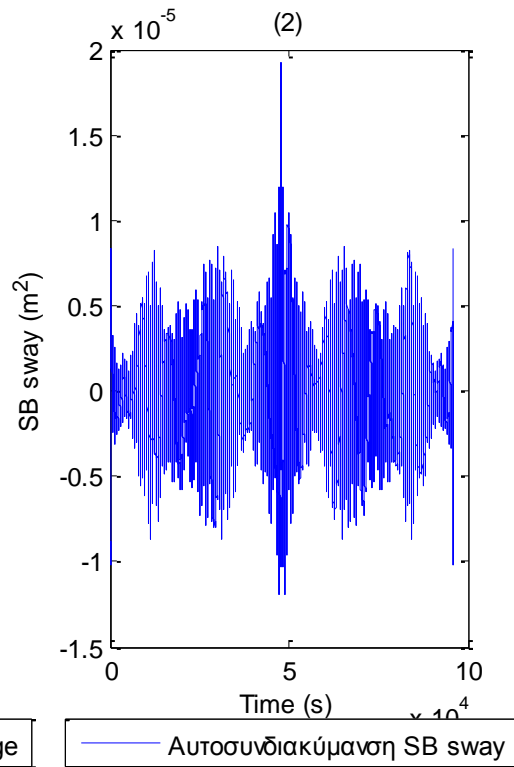
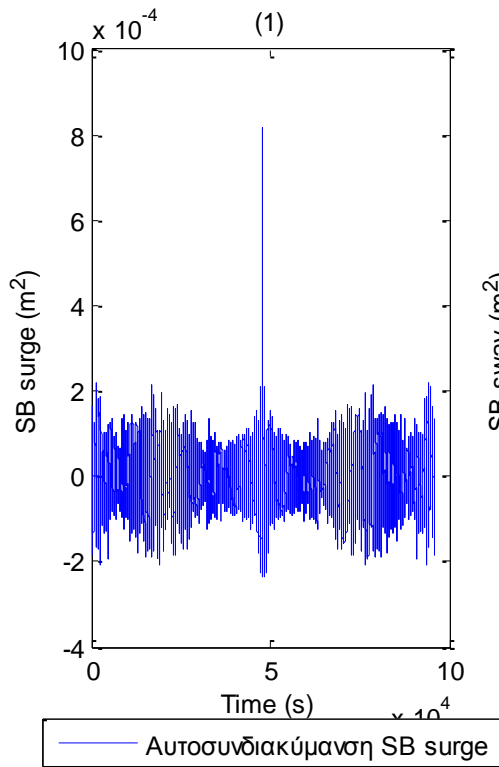


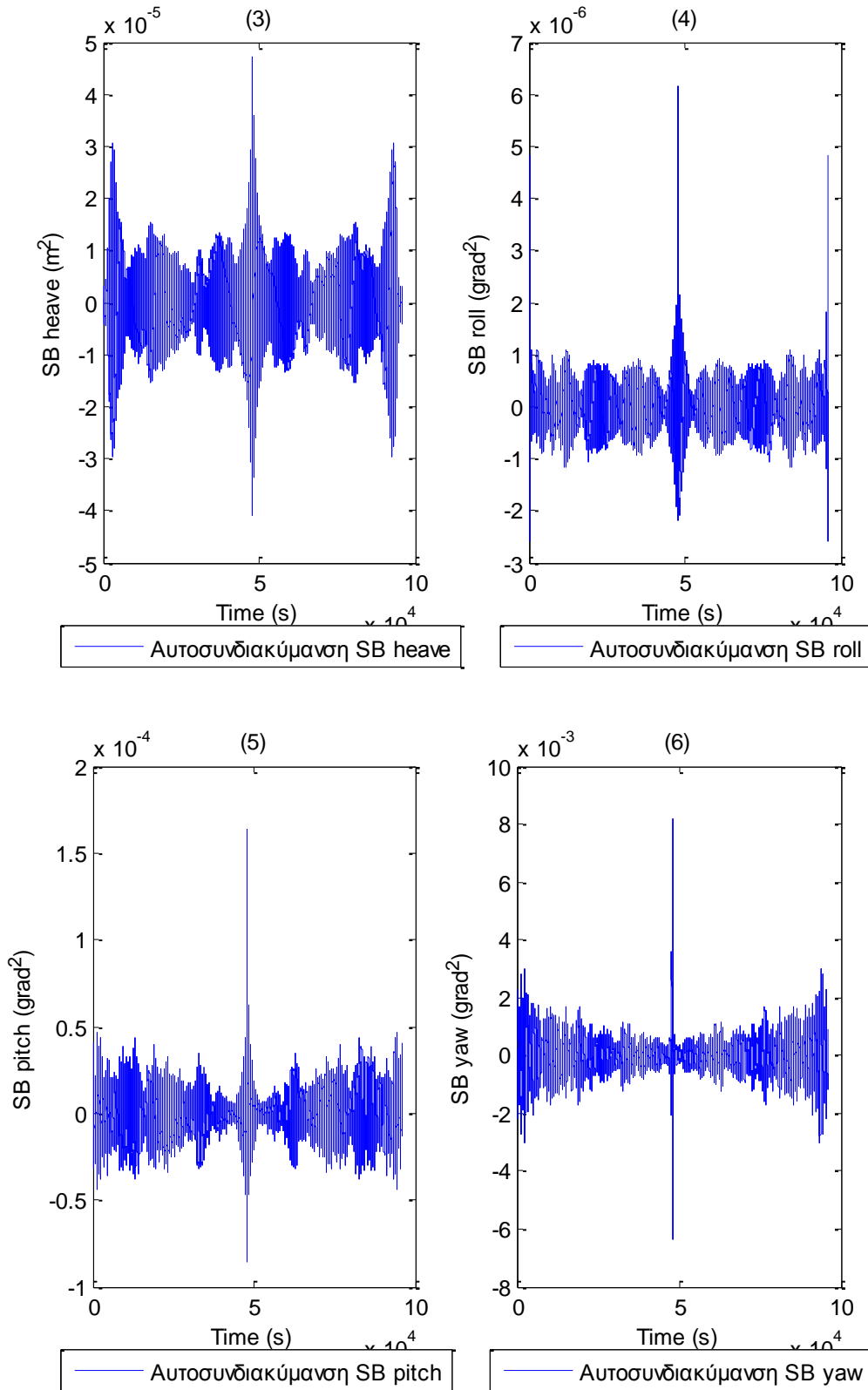
**Σχήματα 2.1.3.4 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



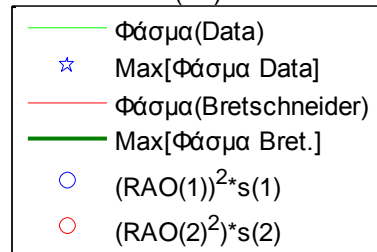
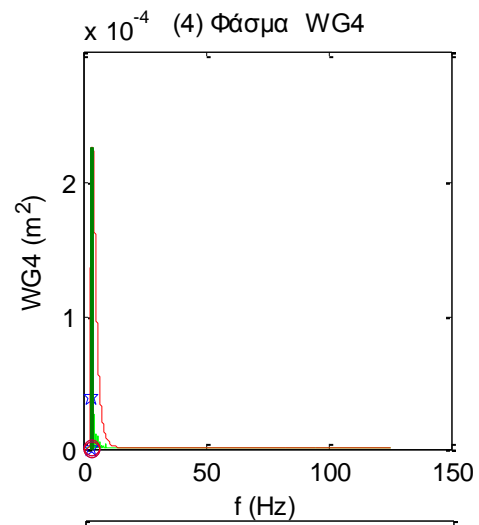
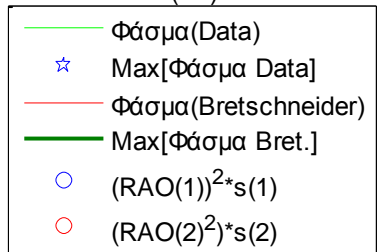
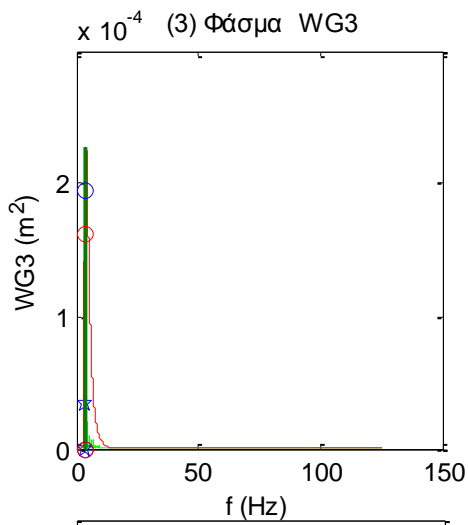
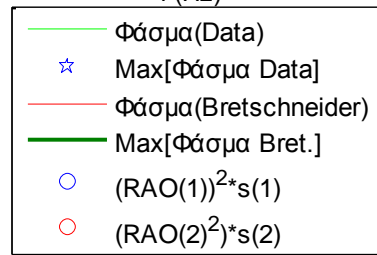
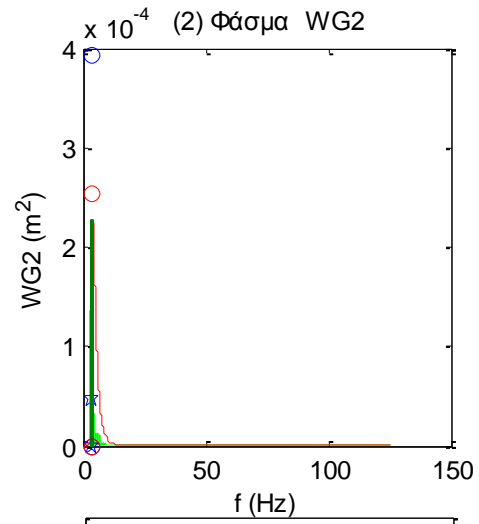
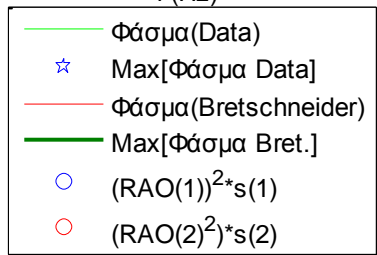
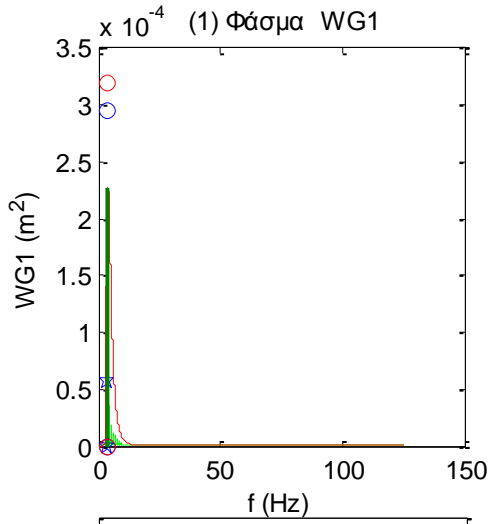


**Σχήματα 2.1.3.5 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

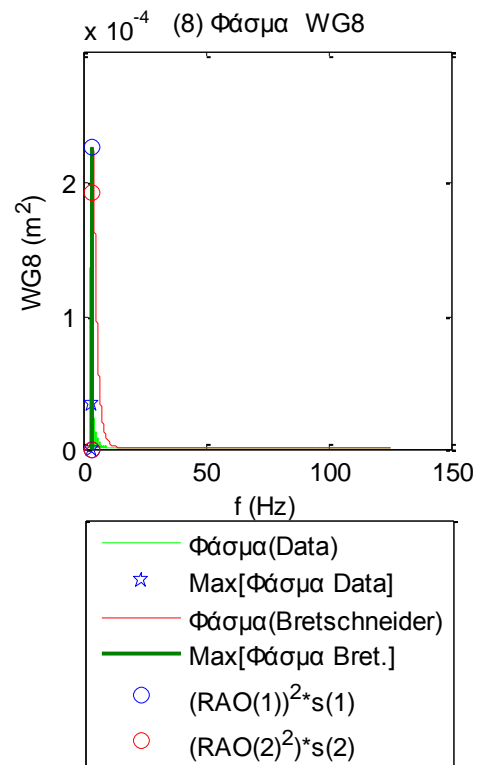
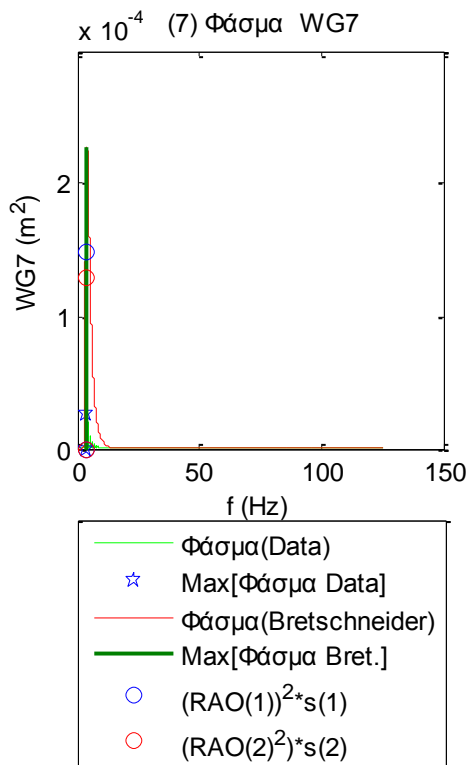
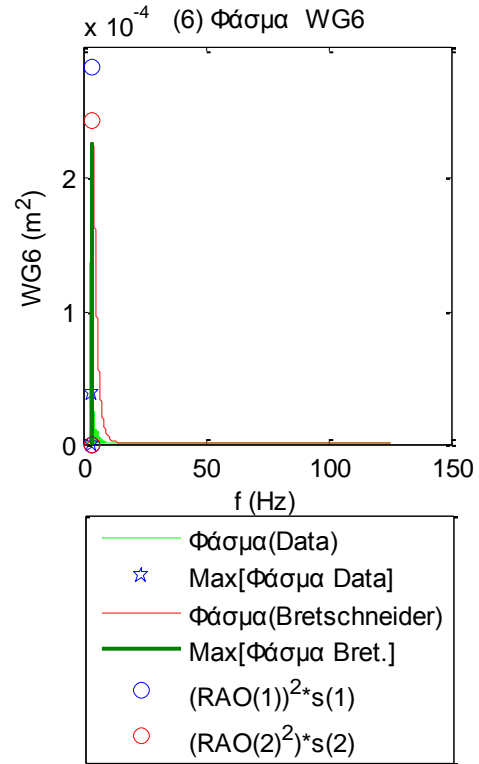
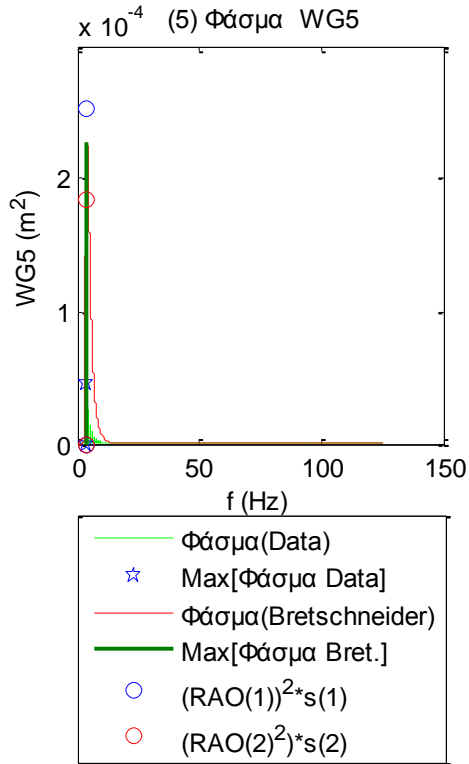


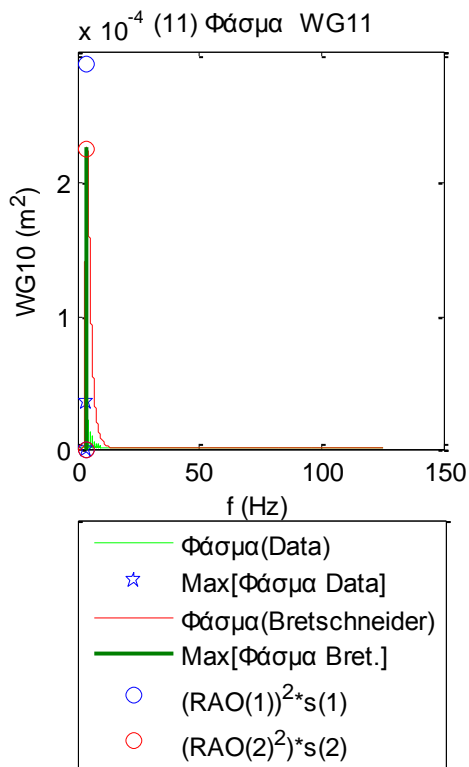
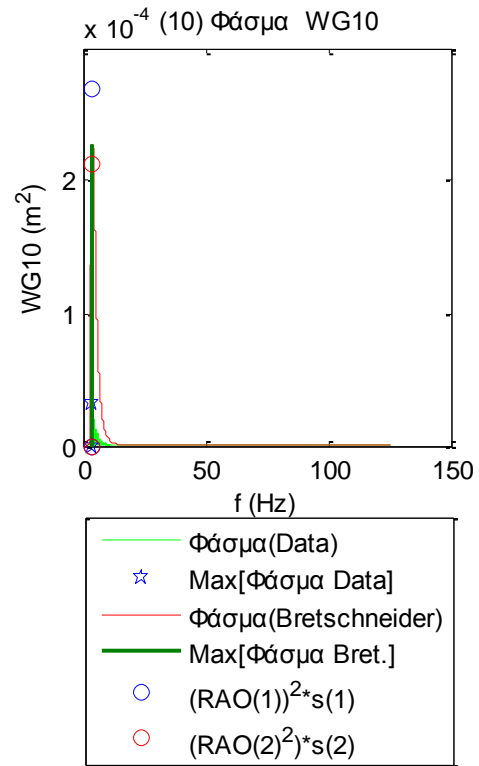
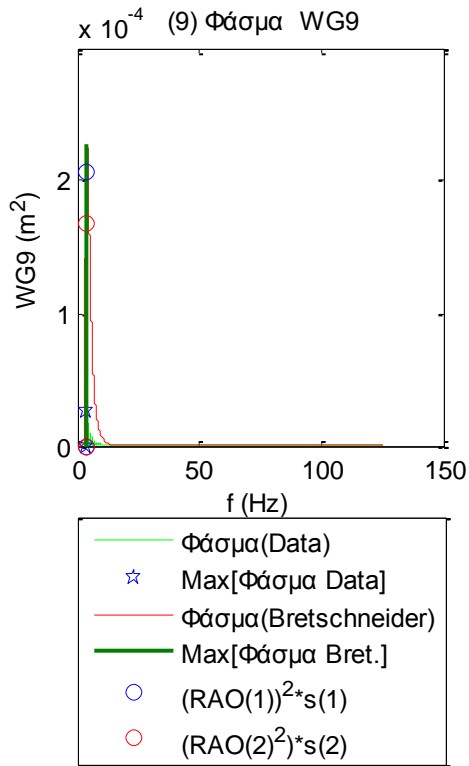


**Σχήματα 2.1.3.6** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

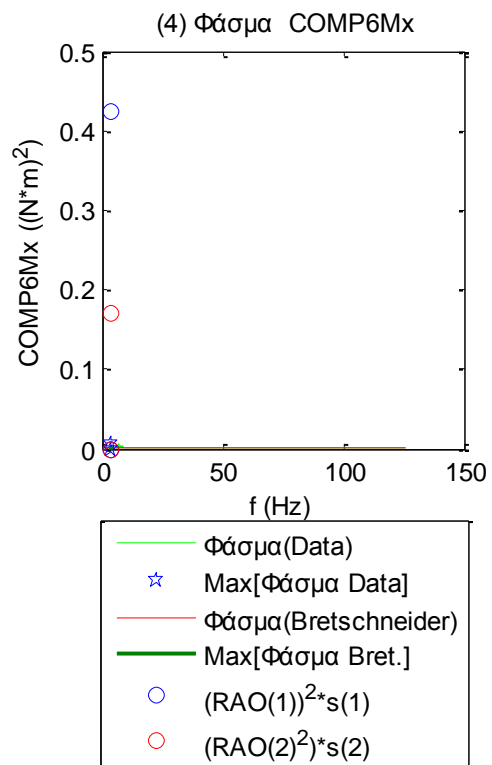
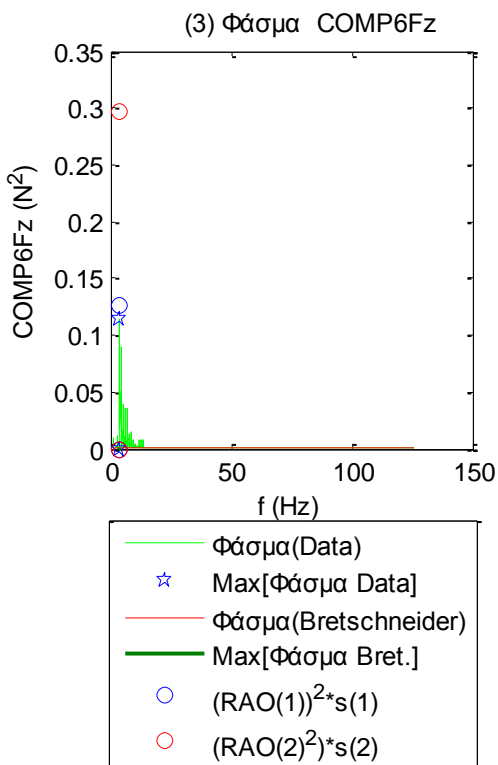
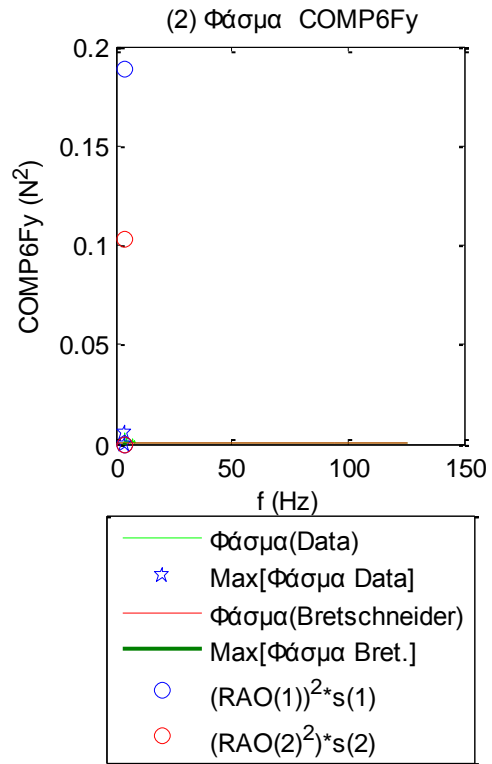
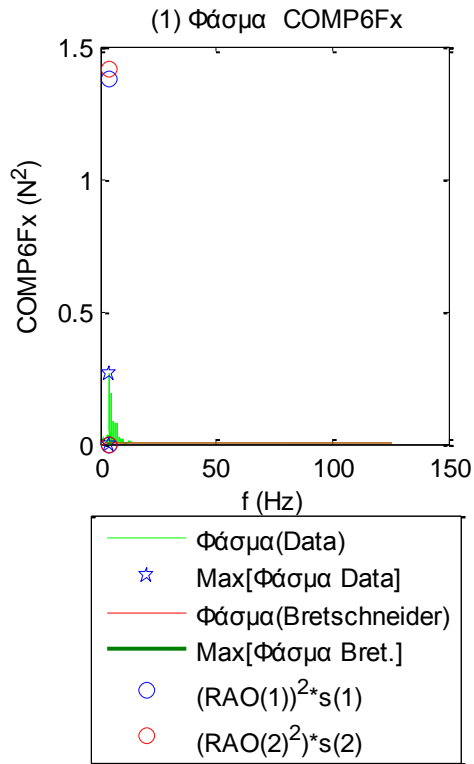


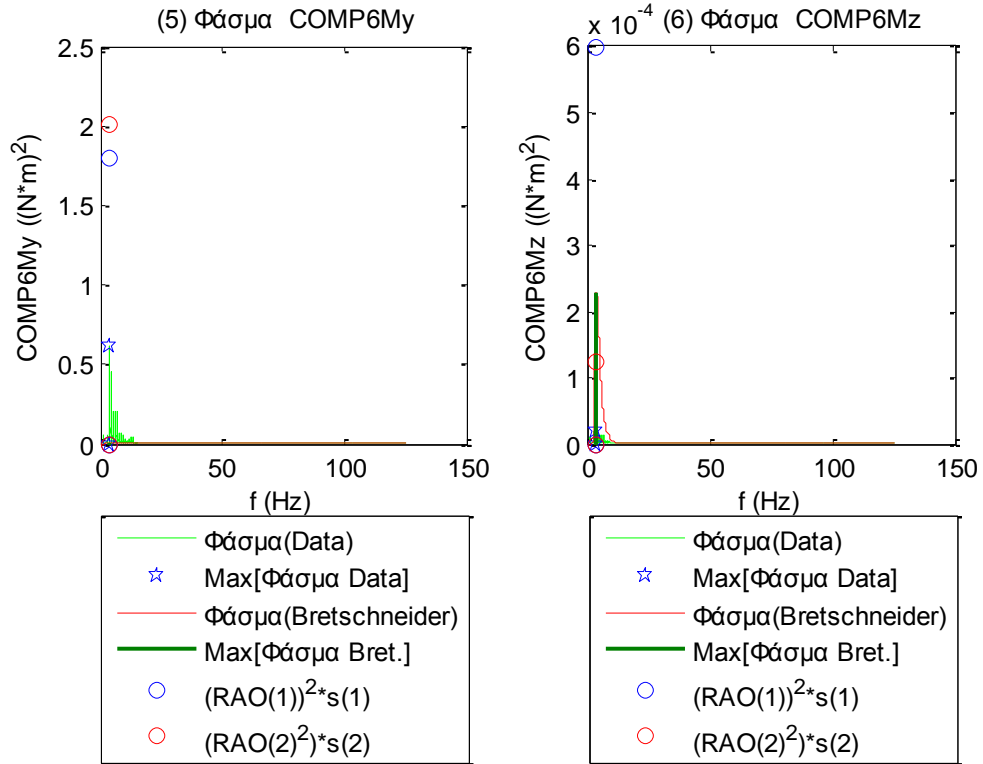




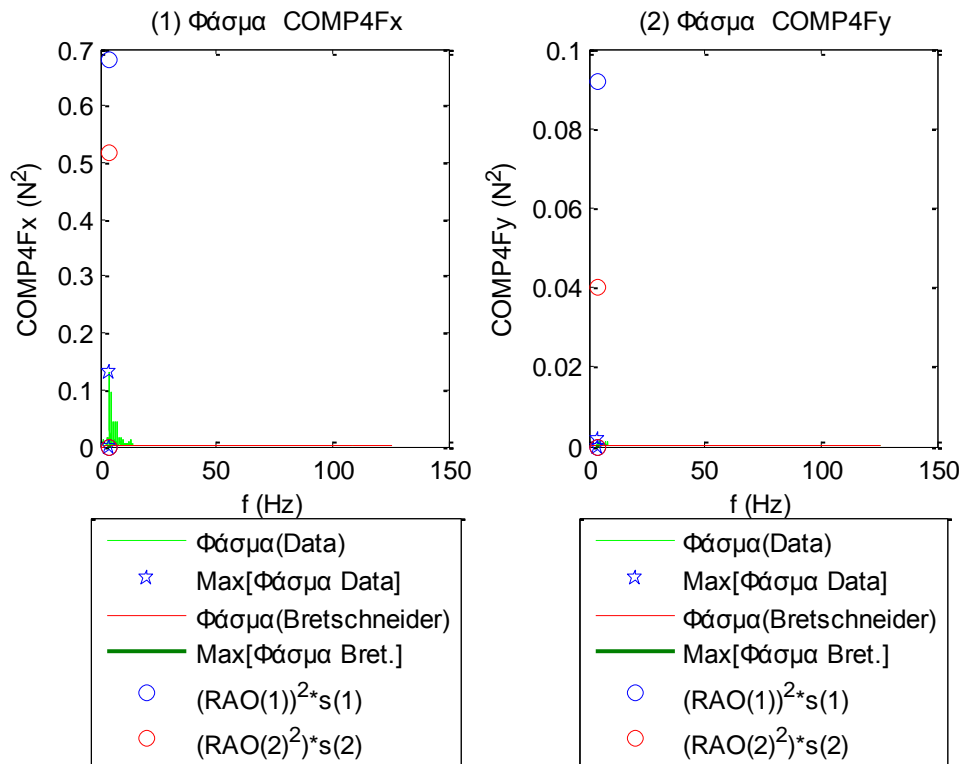


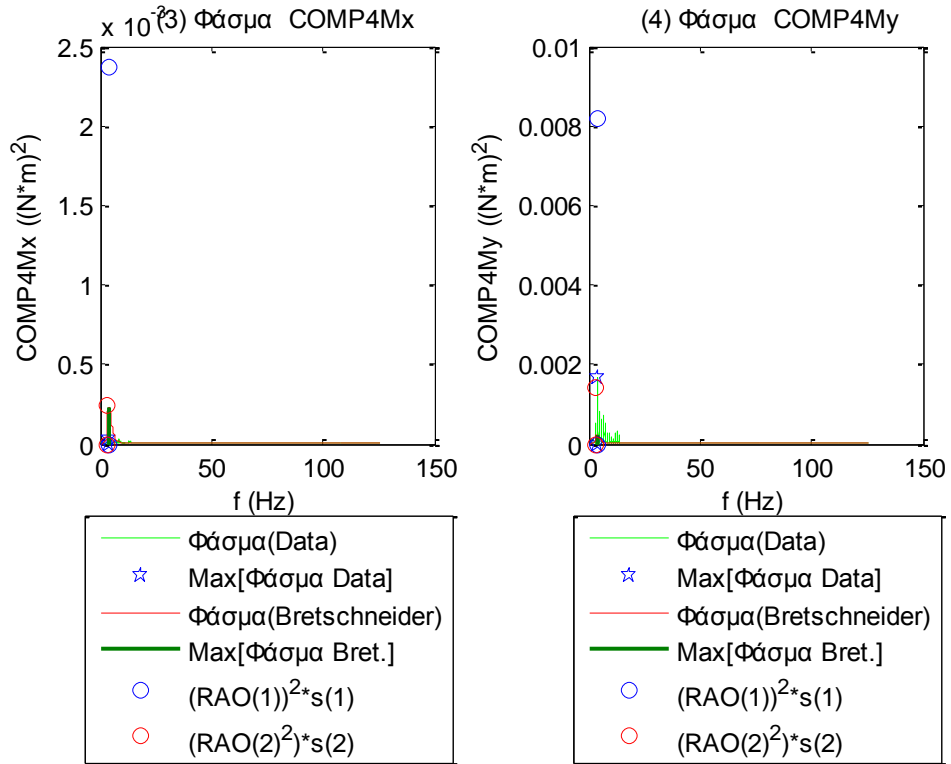
Σχήματα 2.1.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος



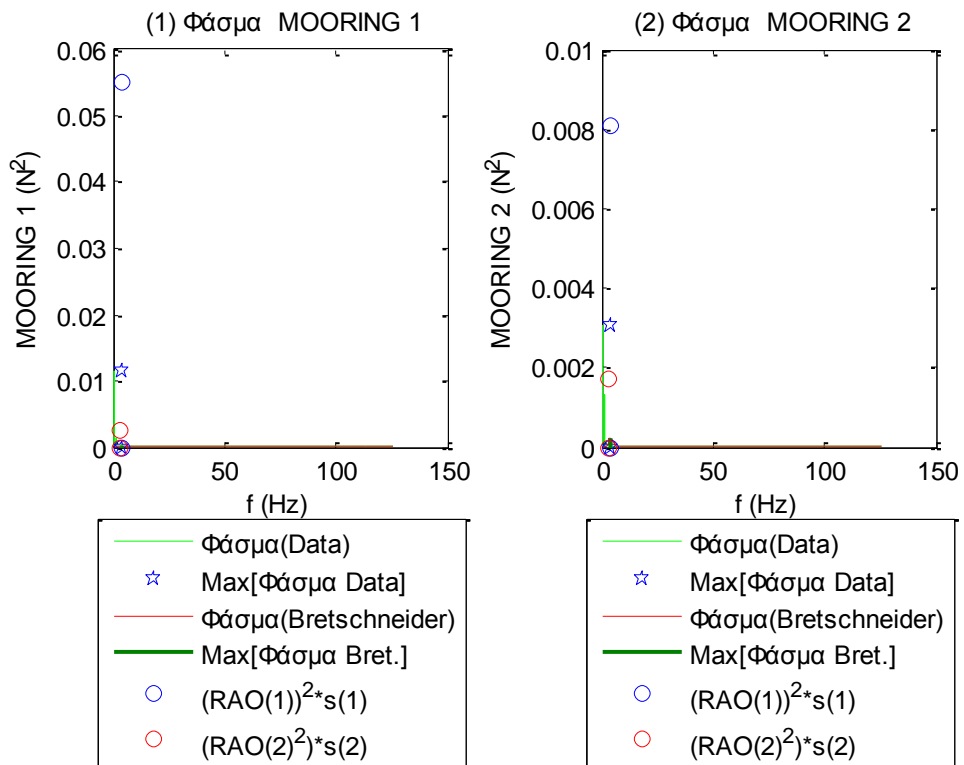


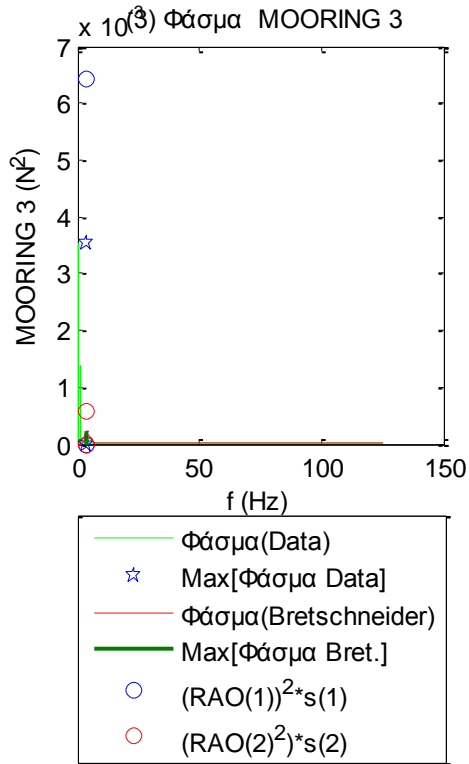
**Σχήματα 2.1.4.2** Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



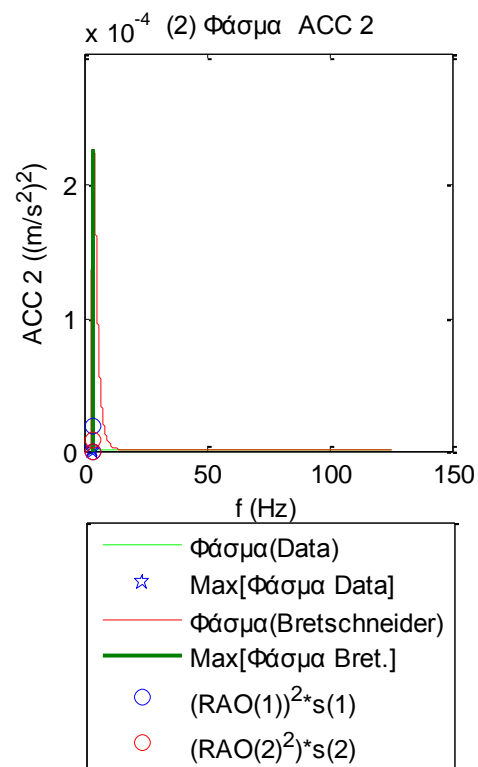
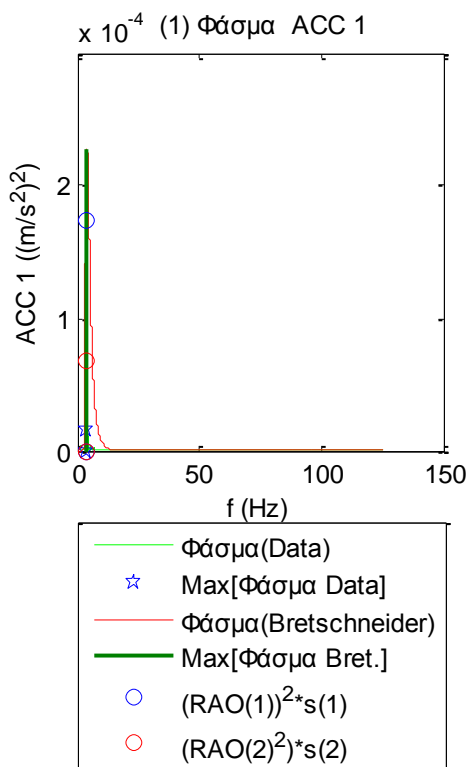


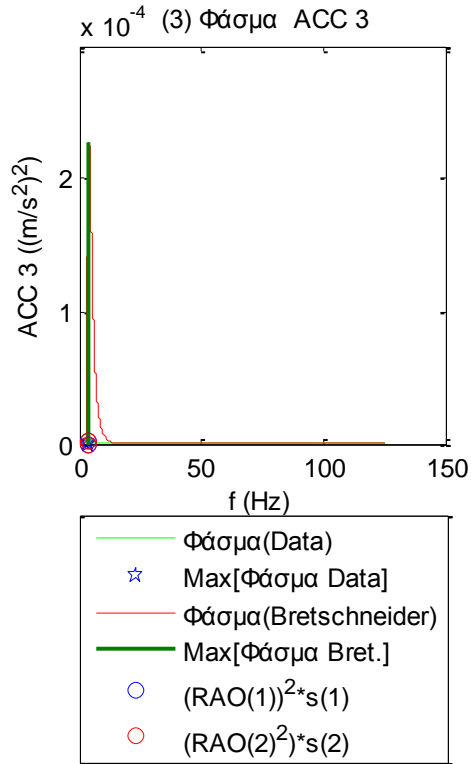
**Σχήματα 2.1.4.3** Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



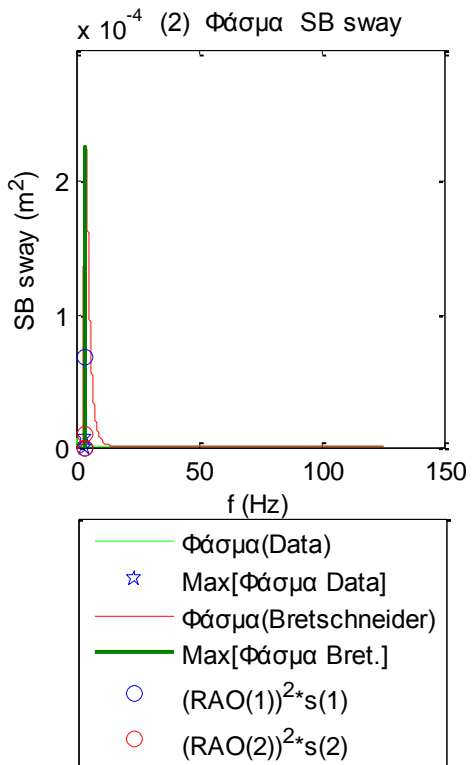
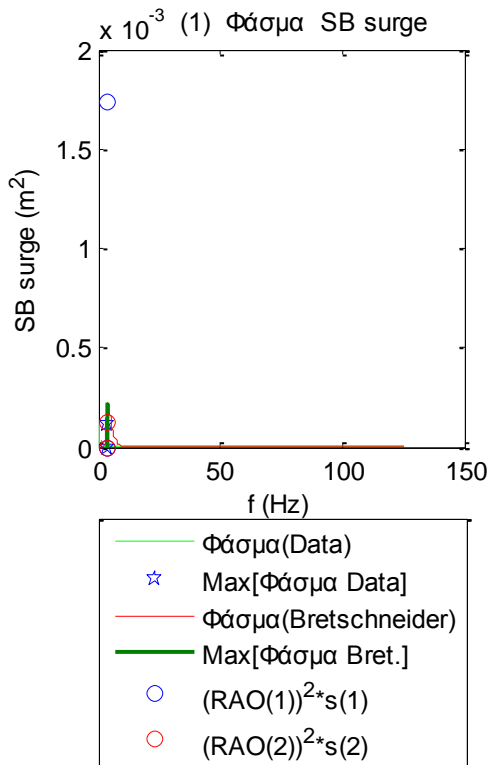


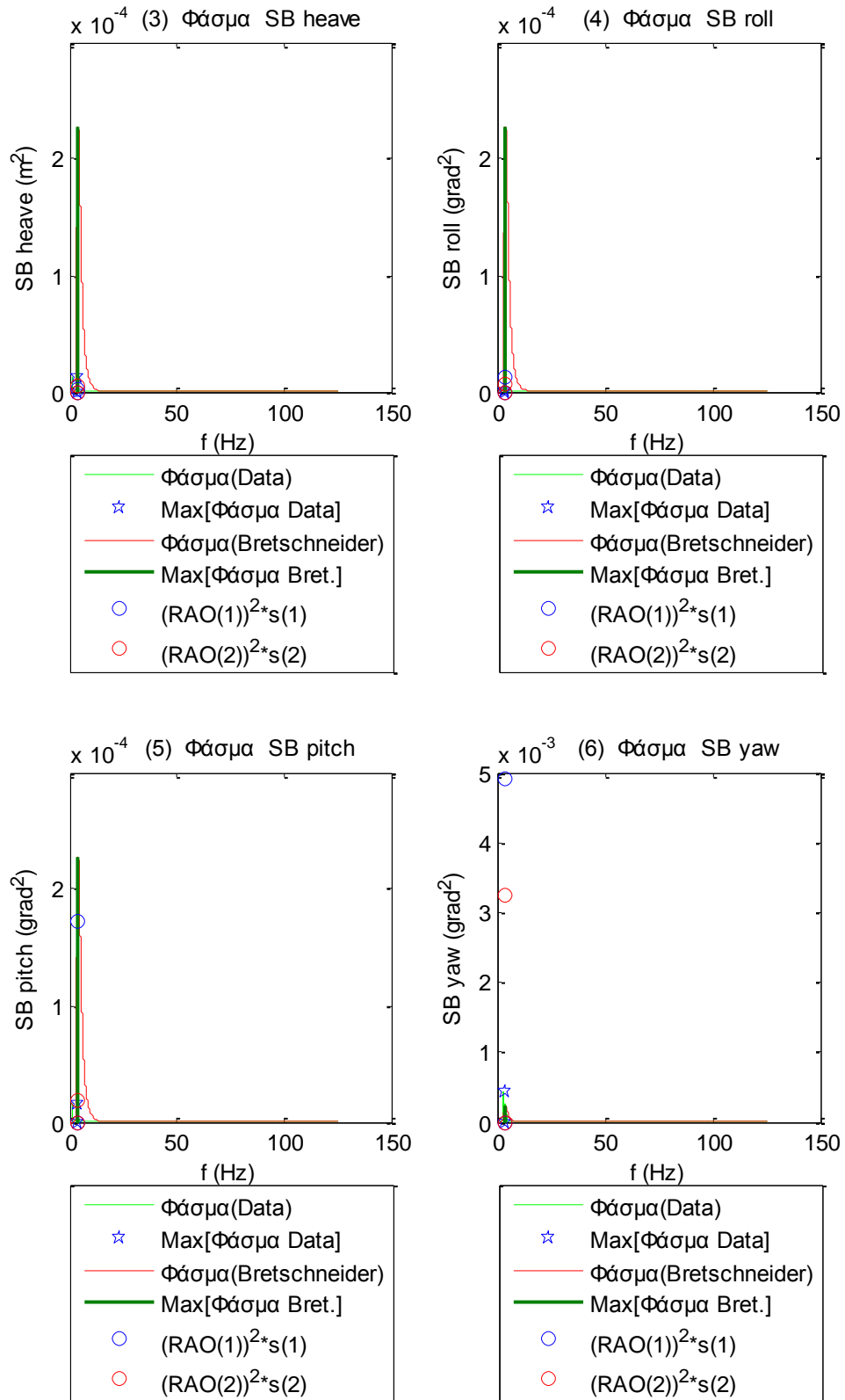
Σχήματα 2.1.4.4 (1-3) Φάσματα για τις δυνάμεις στις τρεις γραμμές αγκύρωσης





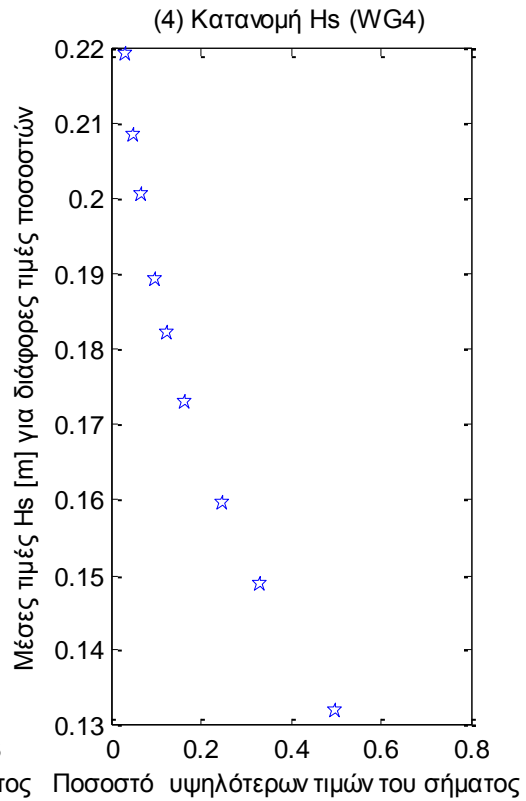
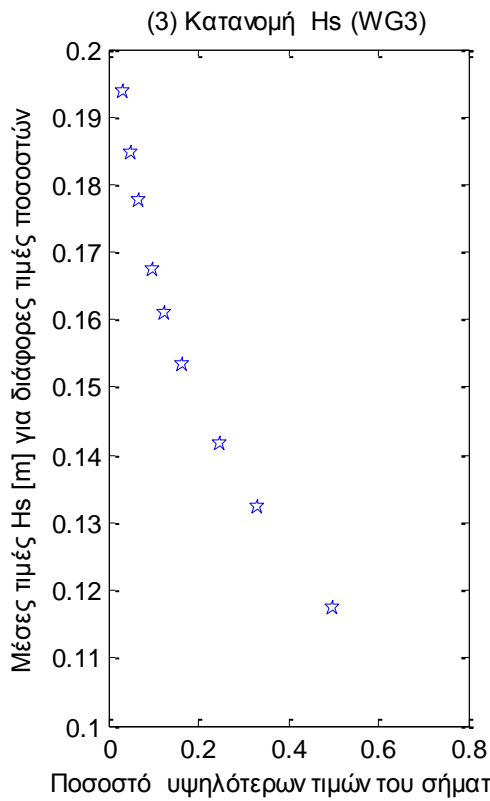
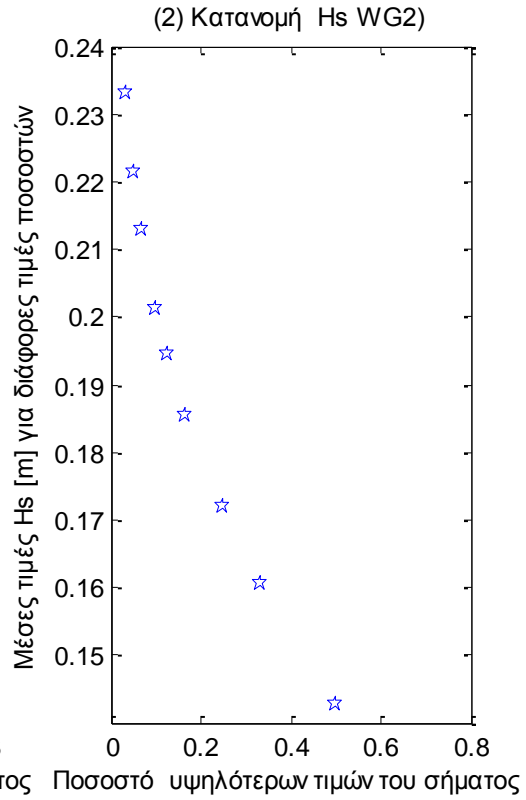
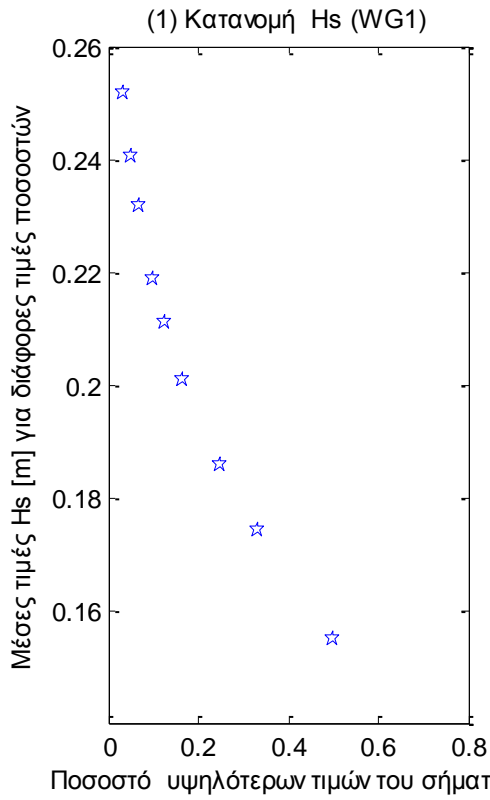
**Σχήματα 2.1.4.5 (1-3)** Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

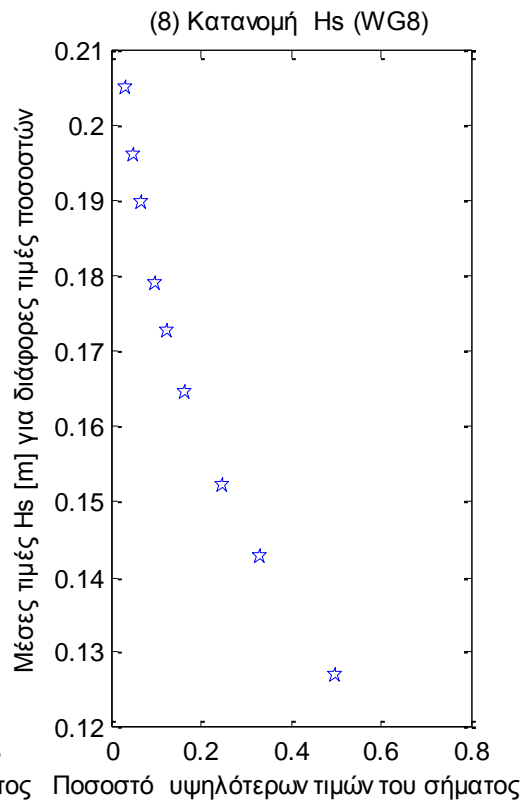
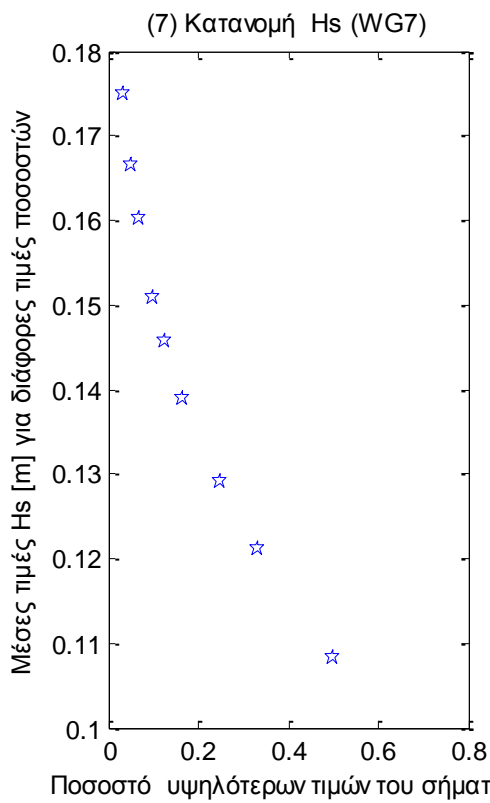
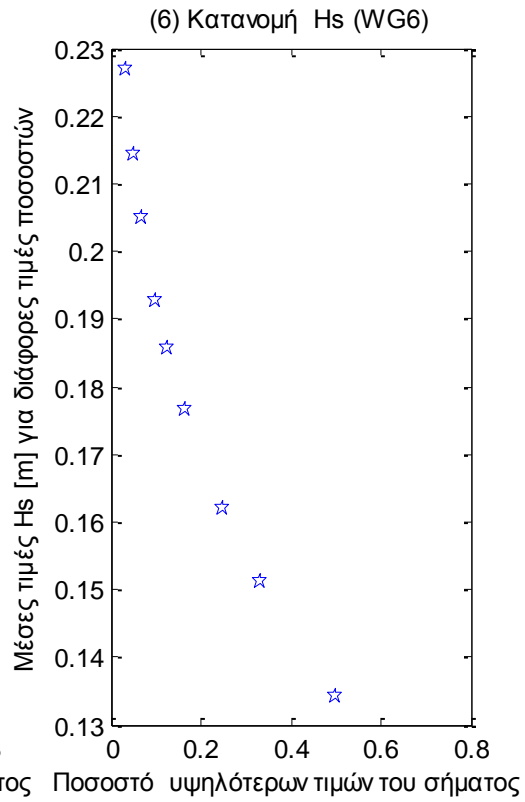
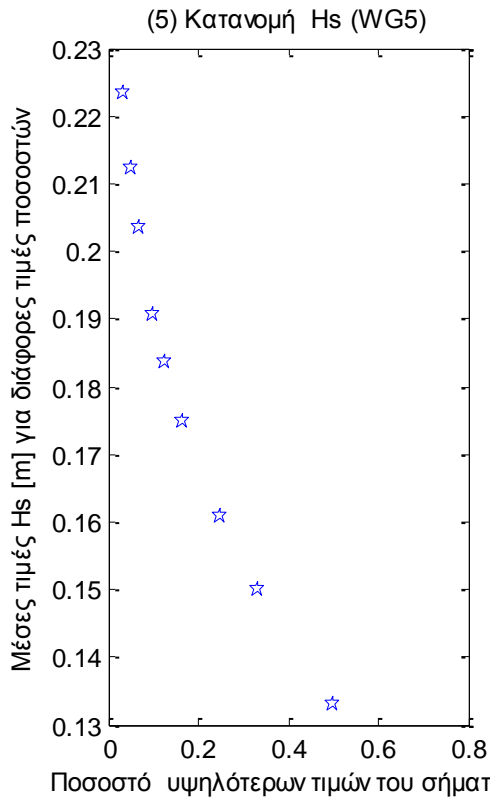


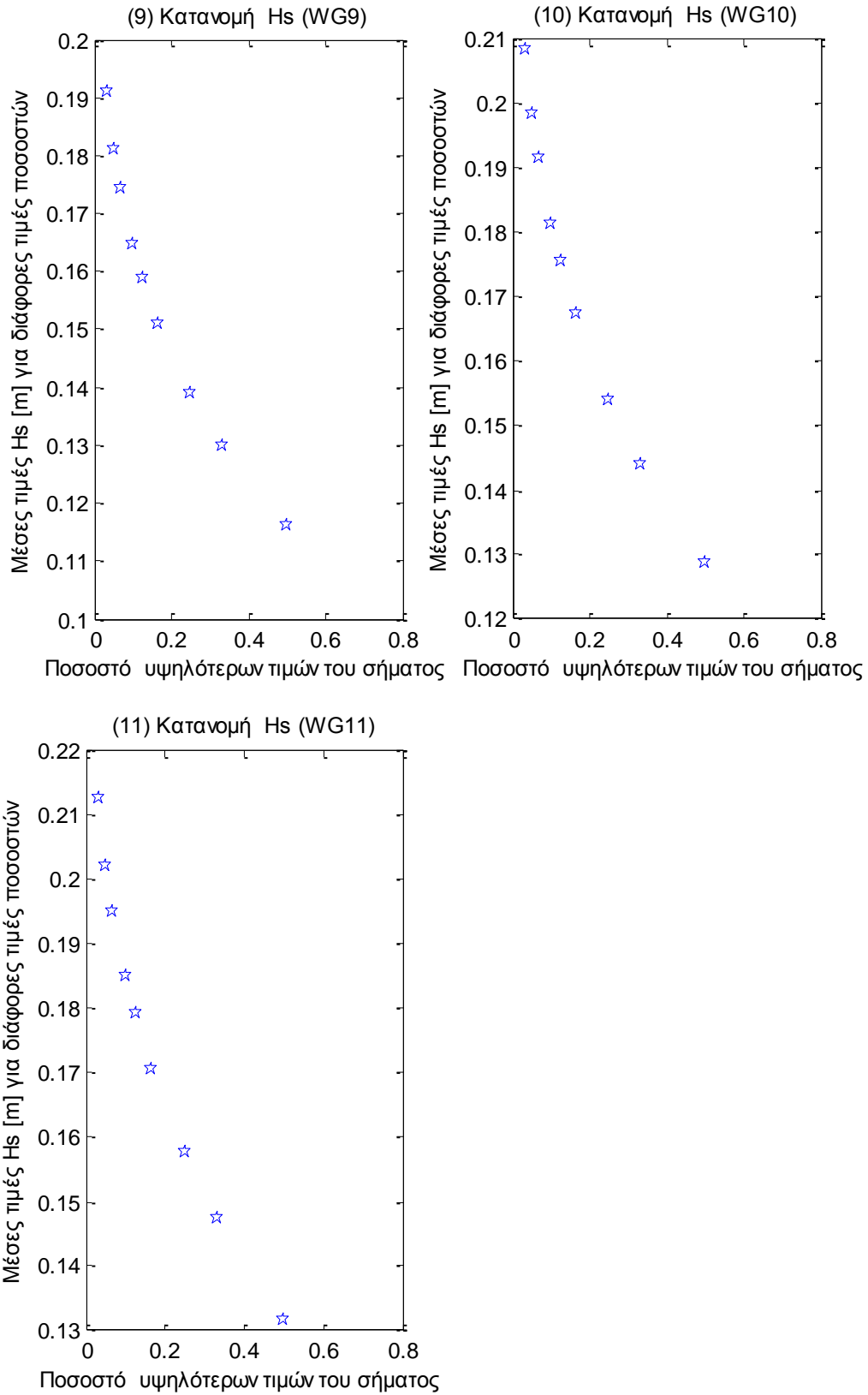


**Σχήματα 2.1.4.6** Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

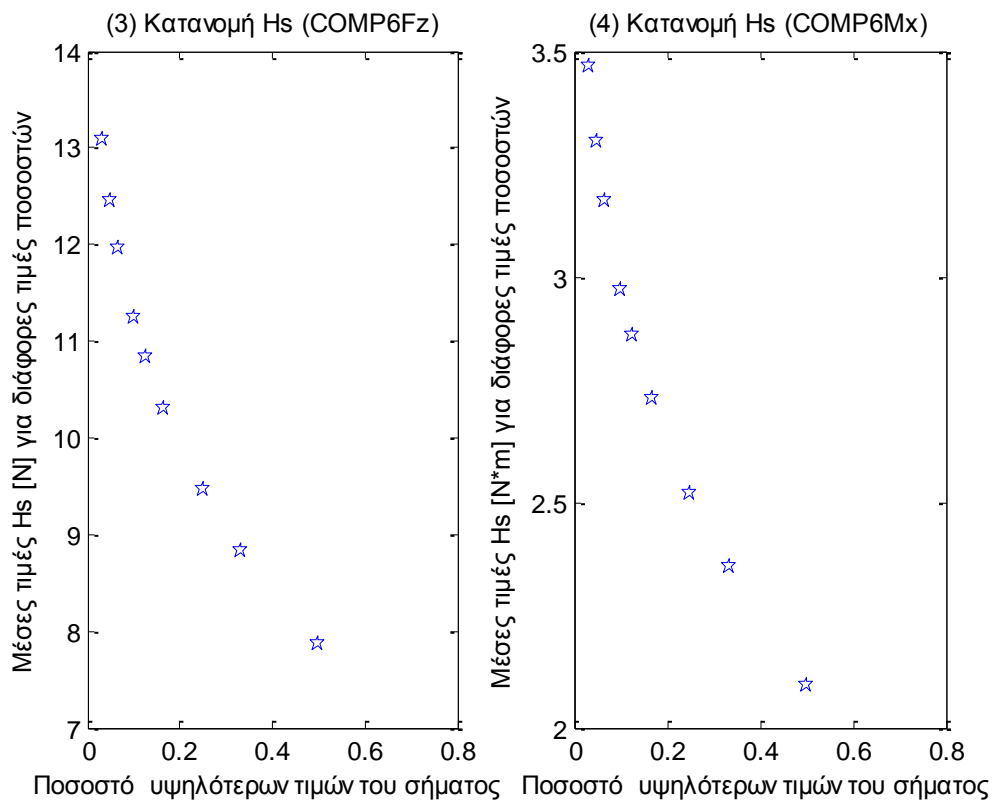
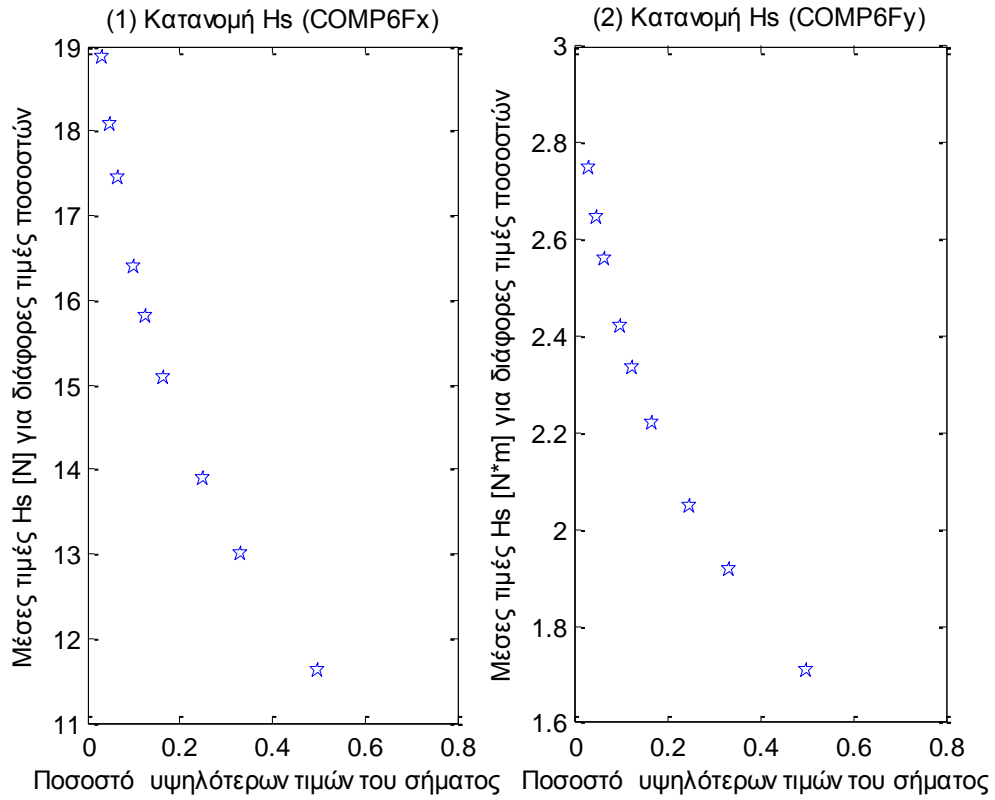


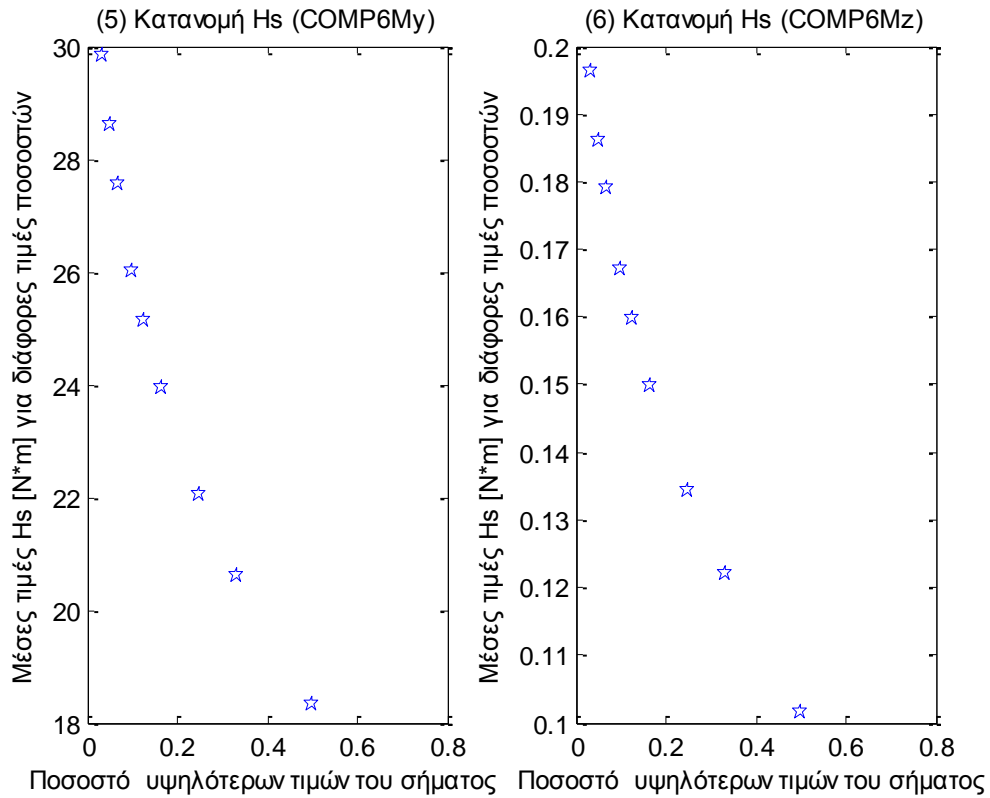




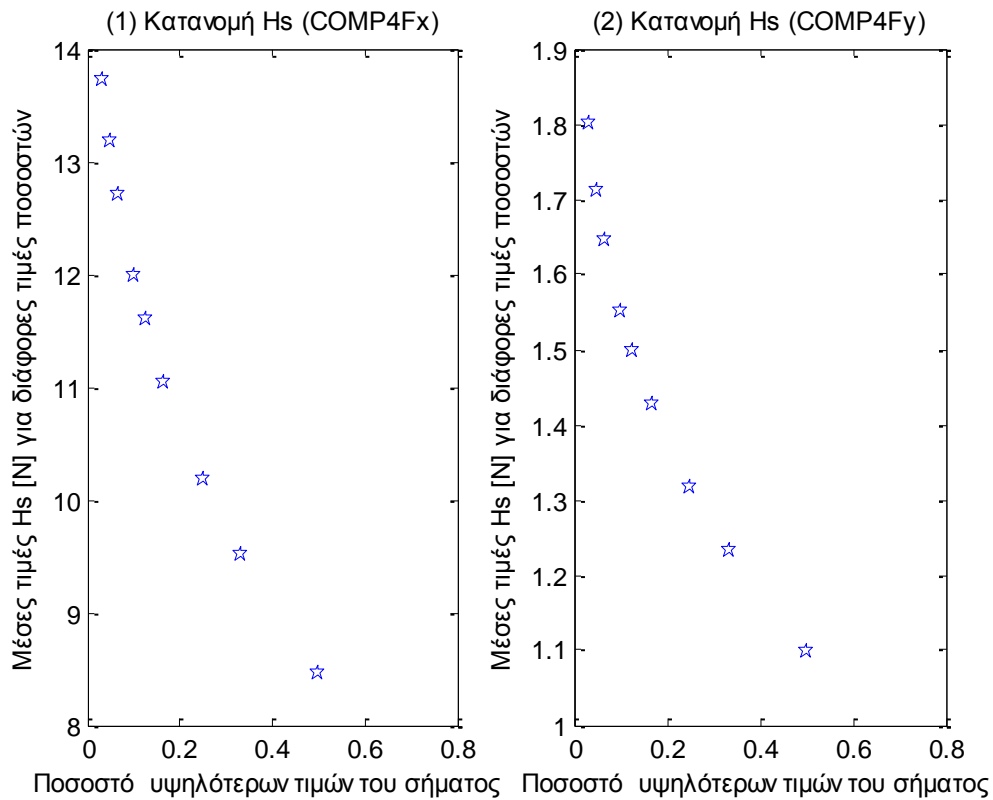


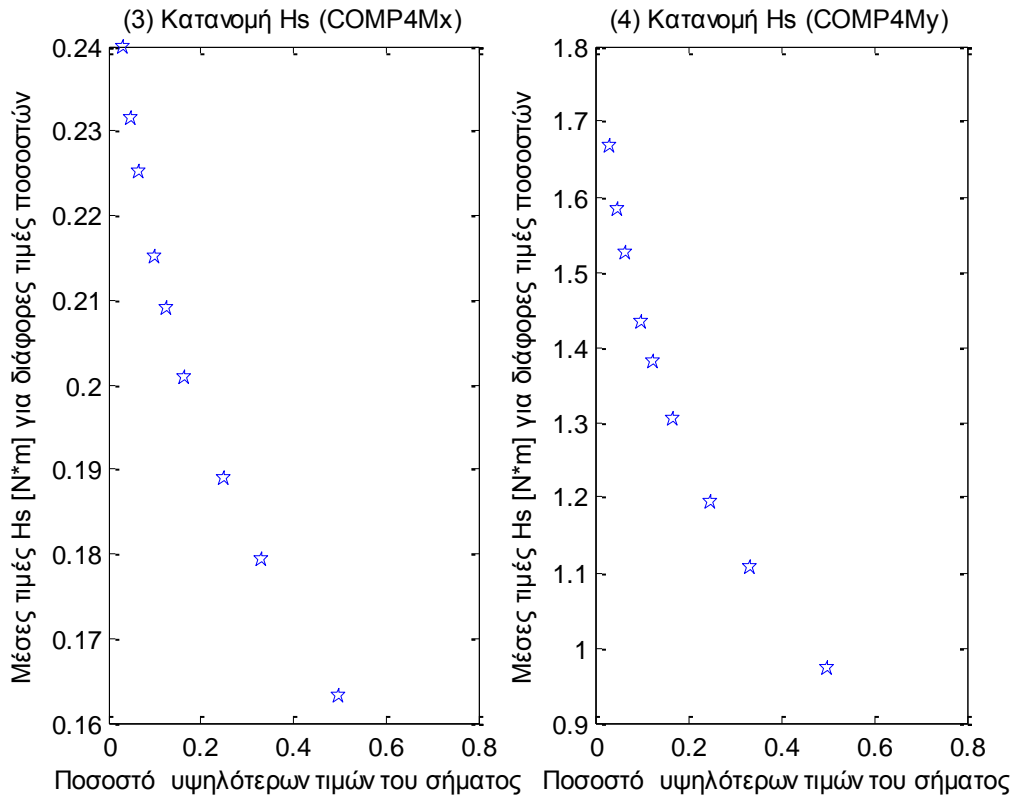
**Σχήματα 2.1.5.1 (1-11)** Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



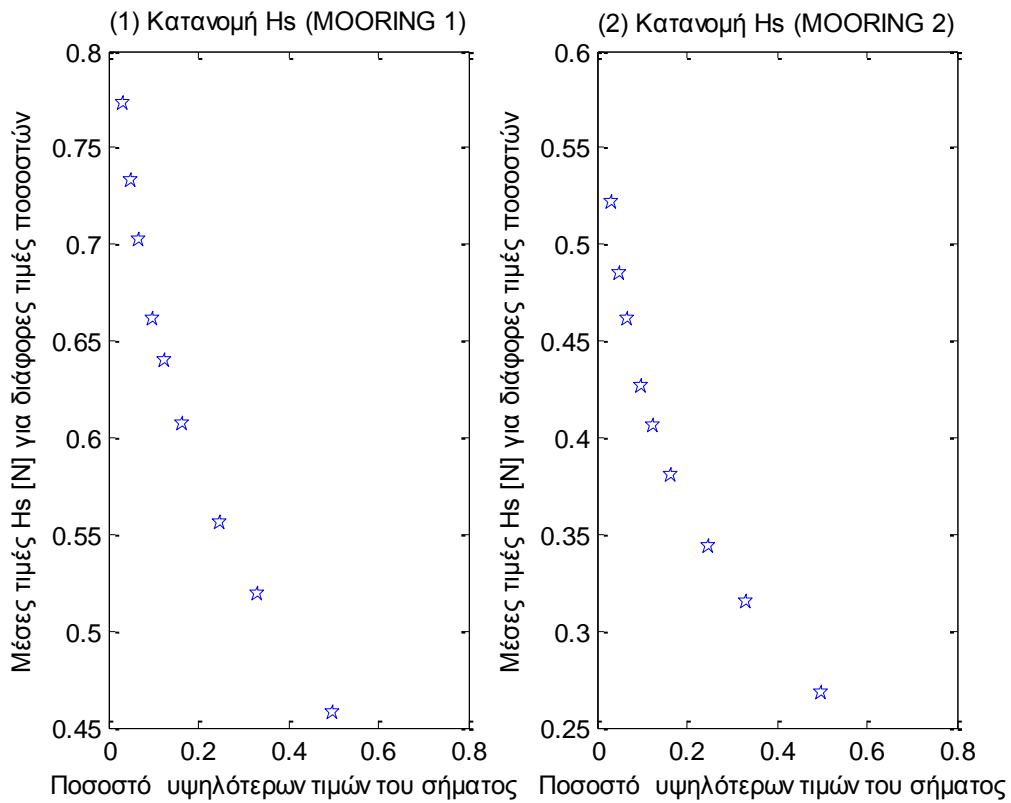


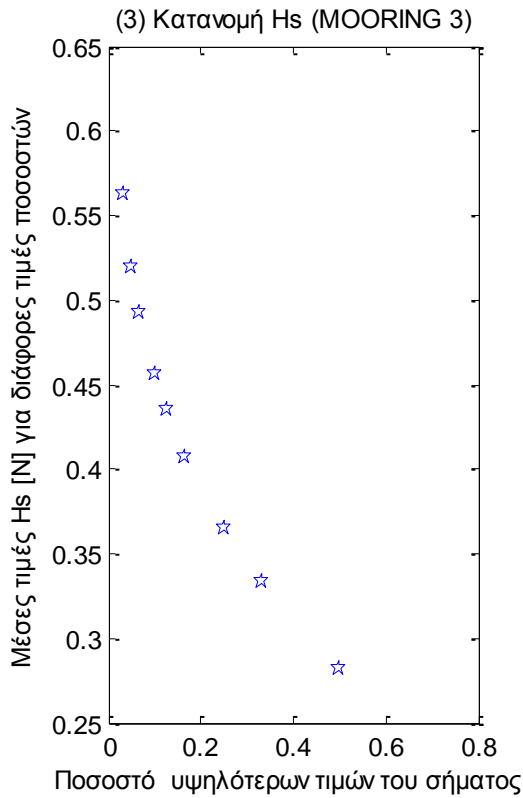
**Σχήματα 2.1.5.2** Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



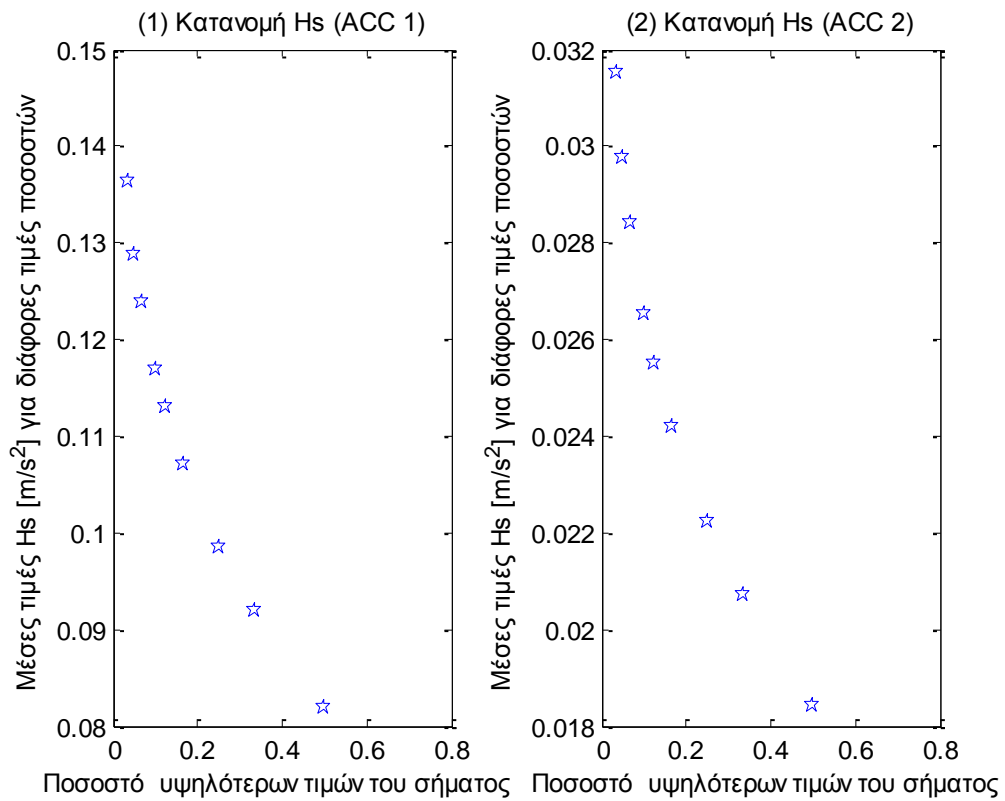


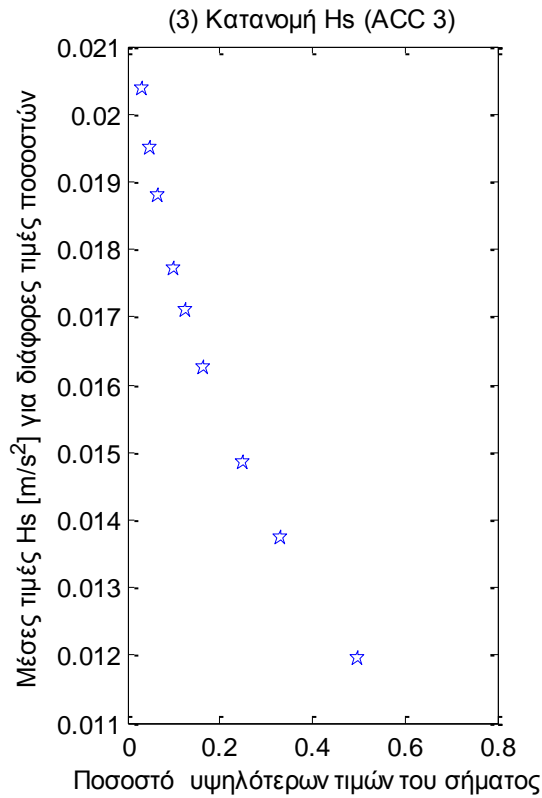
**Σχήματα 2.1.5.3** Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



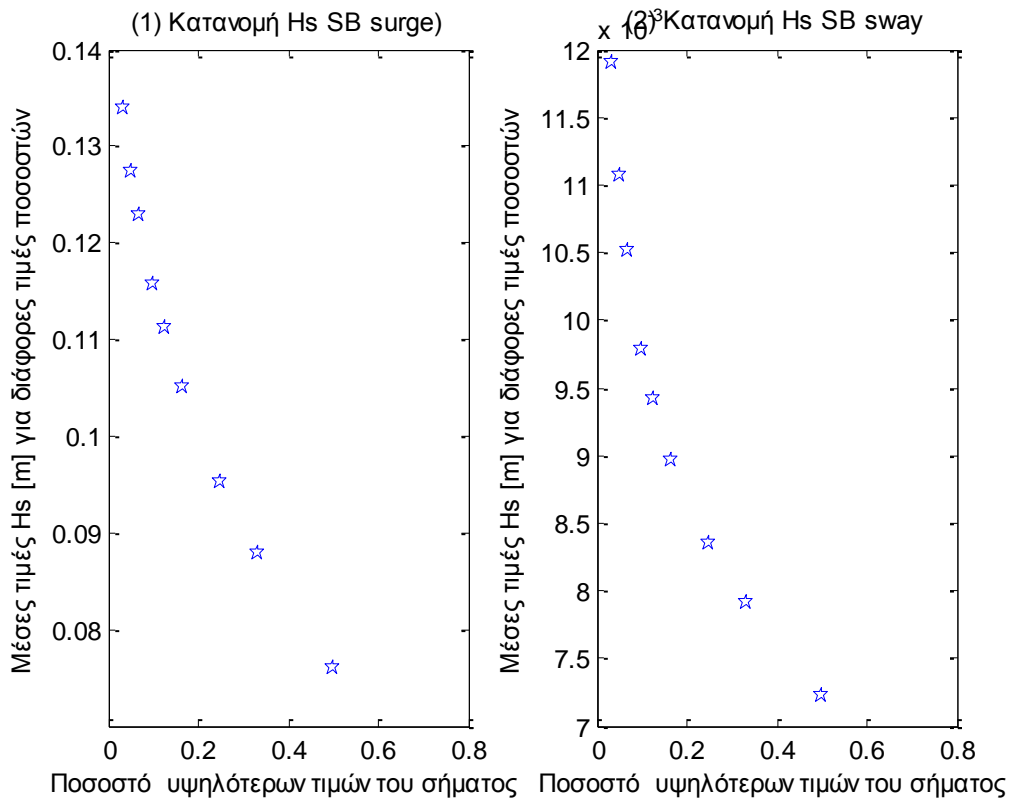


**Σχήματα 2.1.5.4 (1-4)** Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

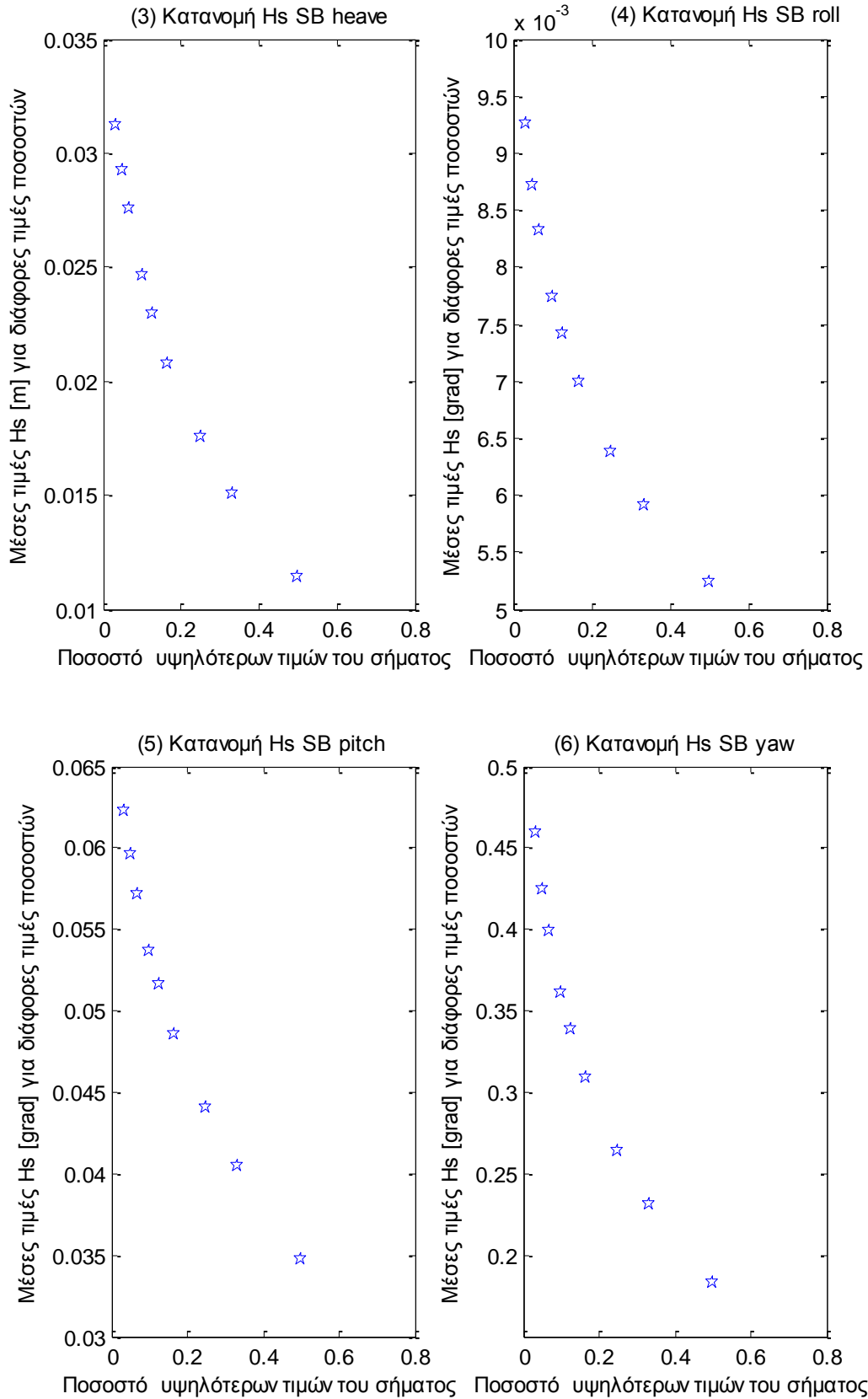




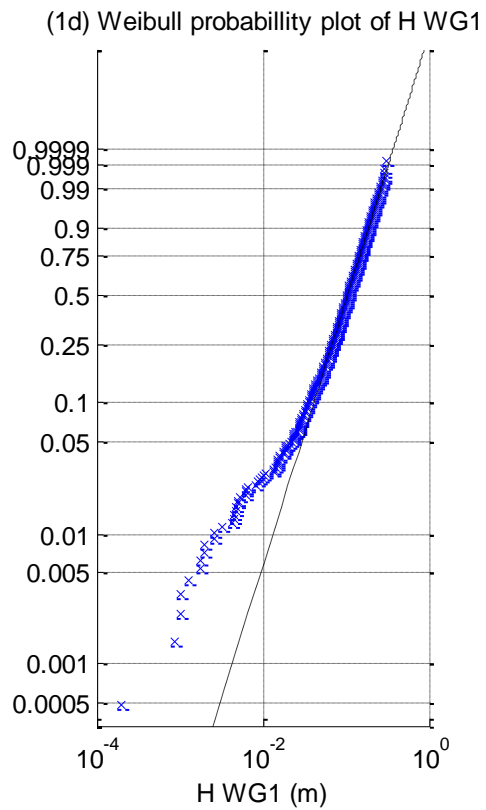
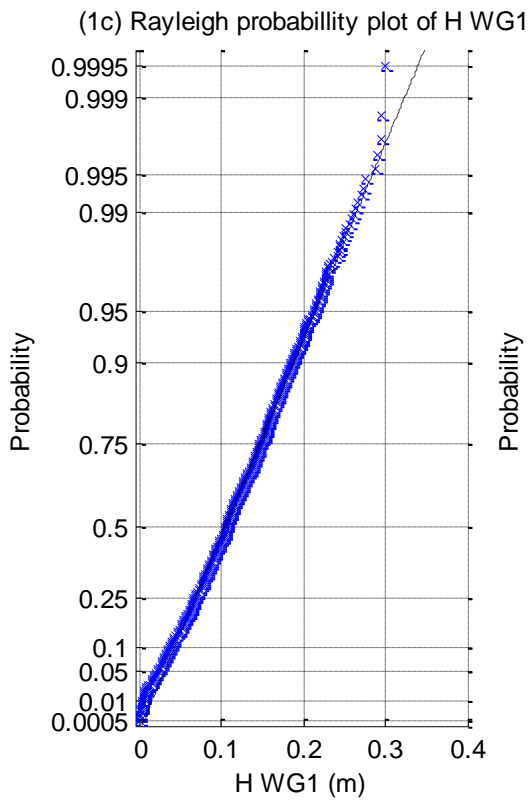
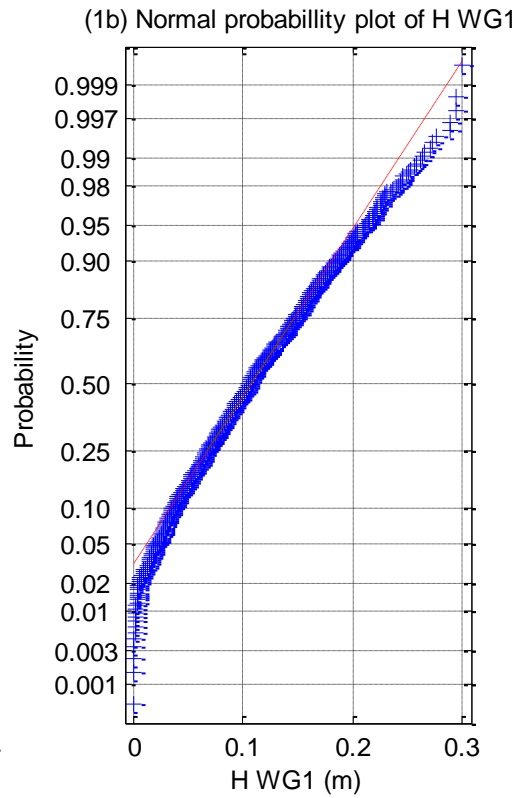
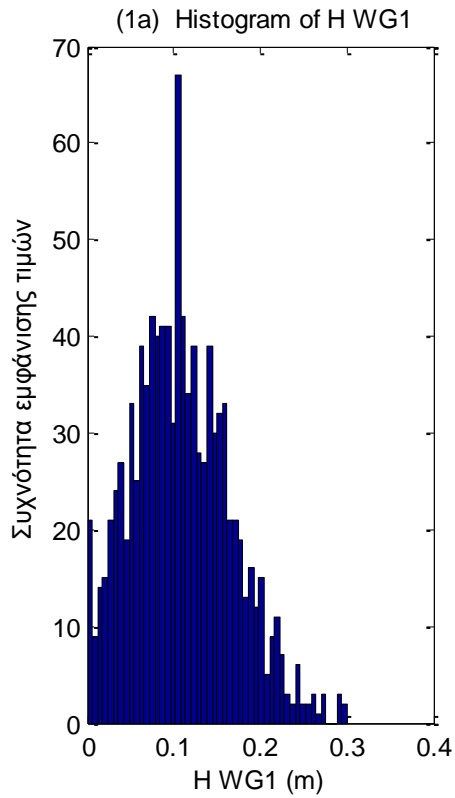
**Σχήματα 2.1.5.5 (1-3)** Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

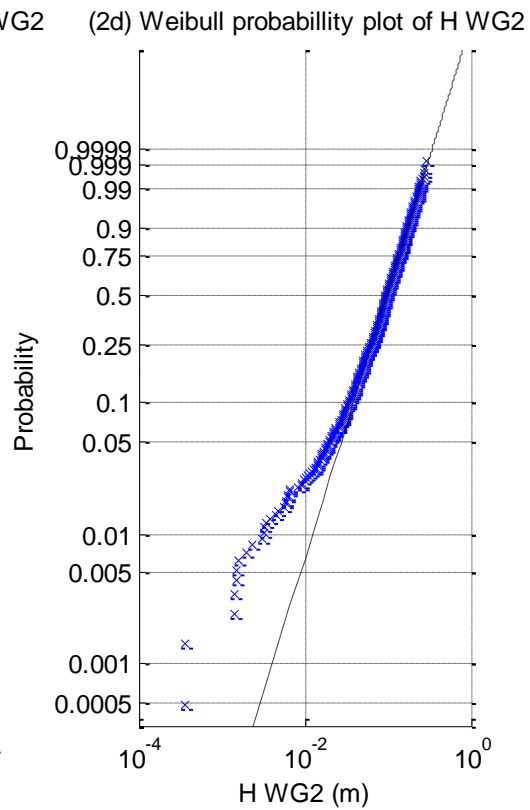
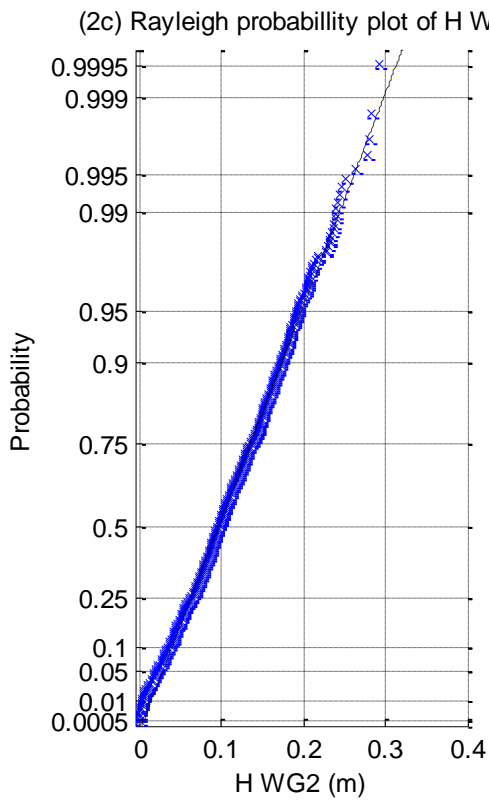
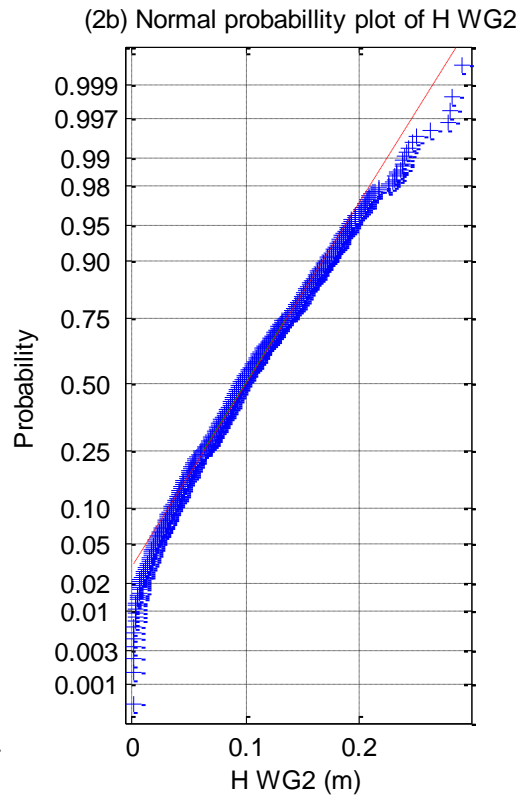
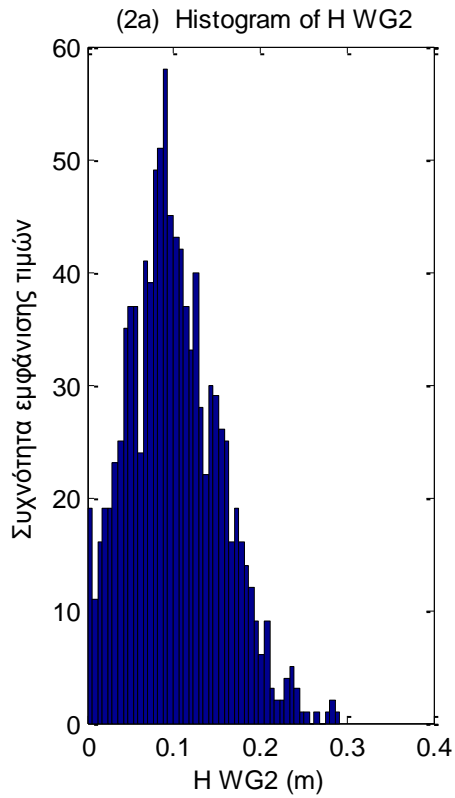


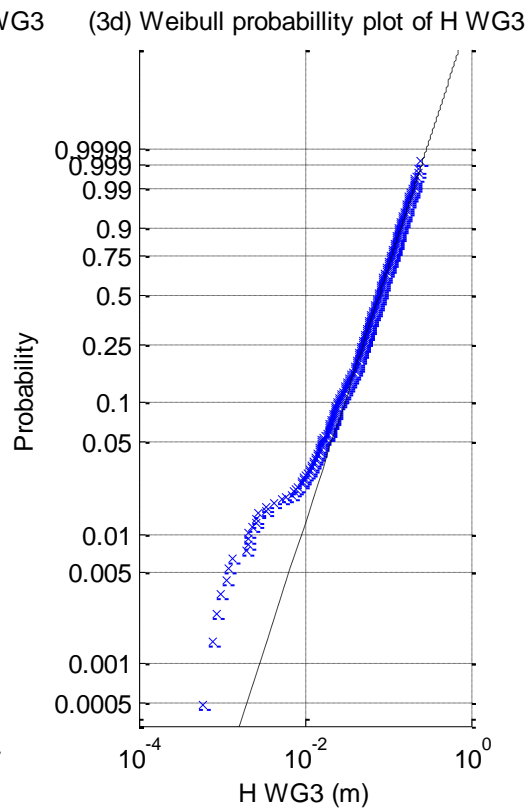
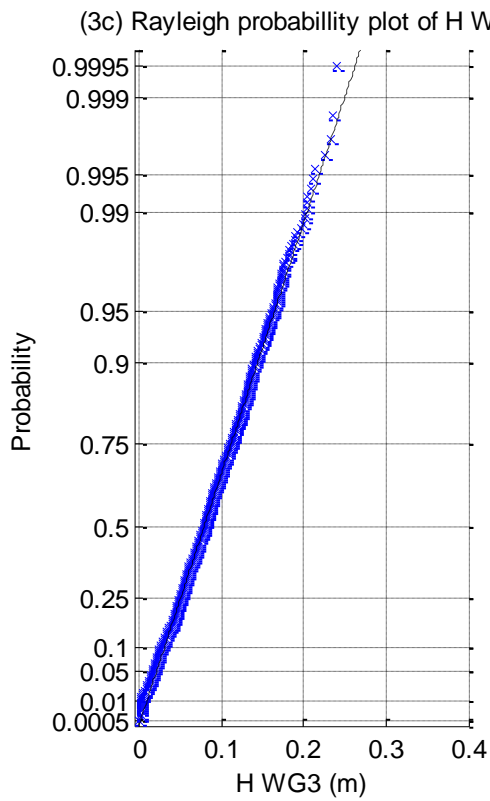
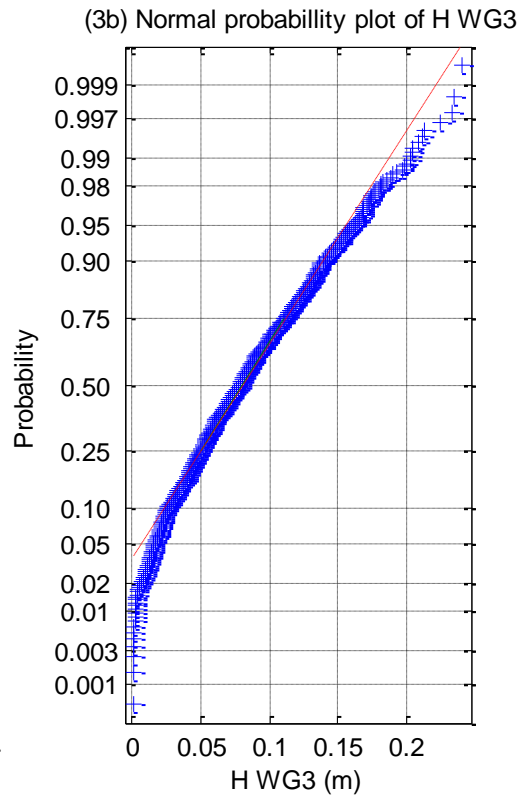
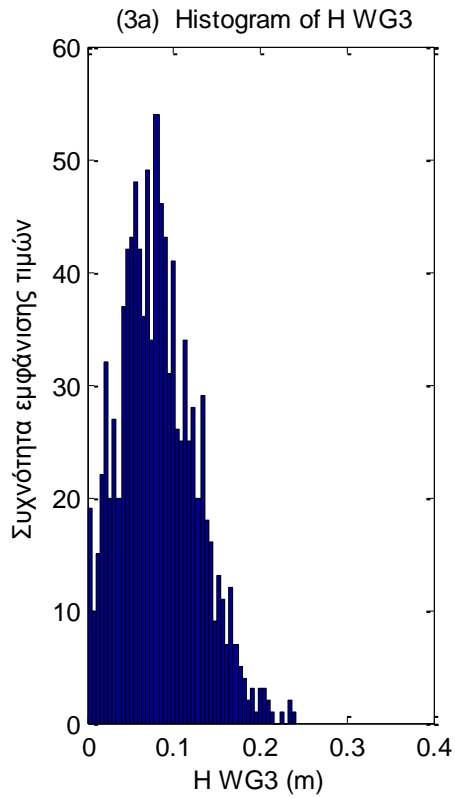


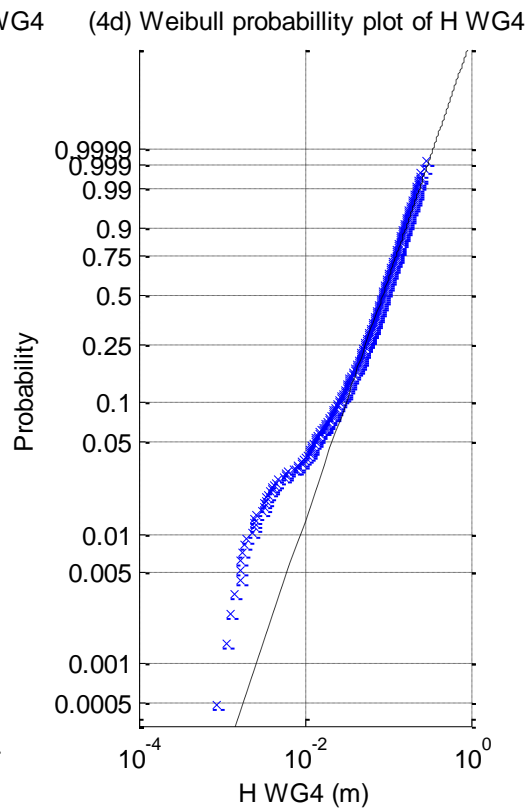
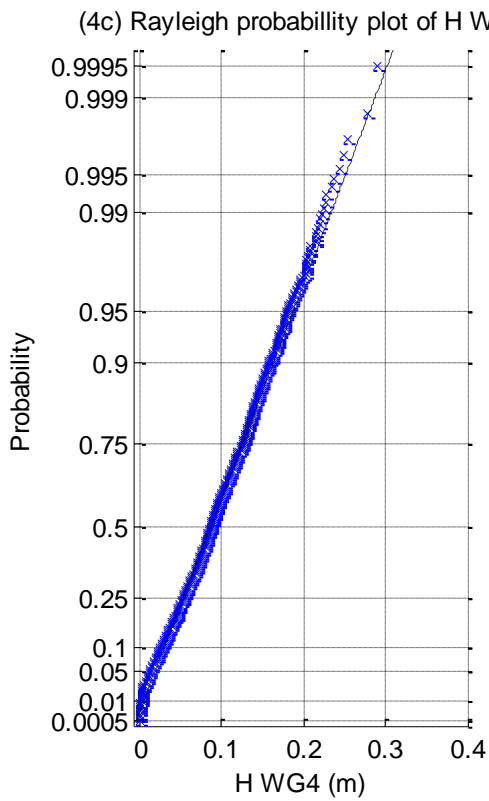
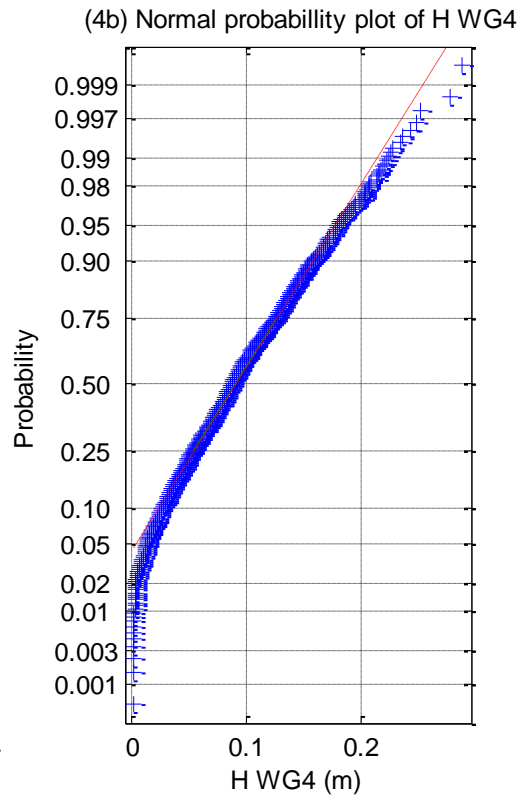
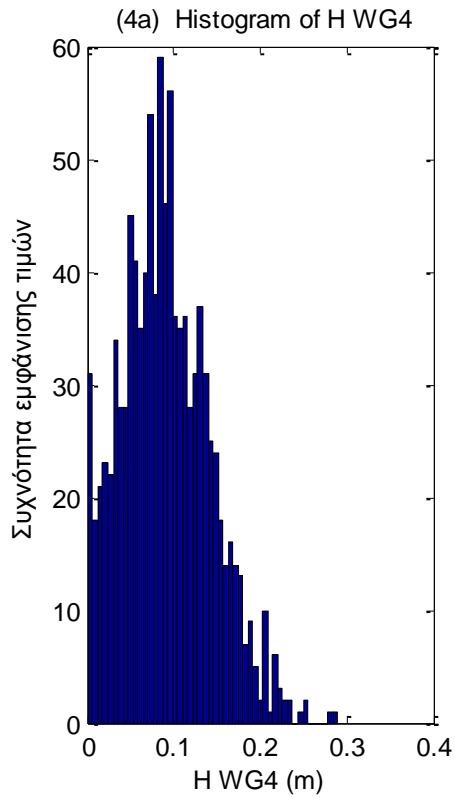


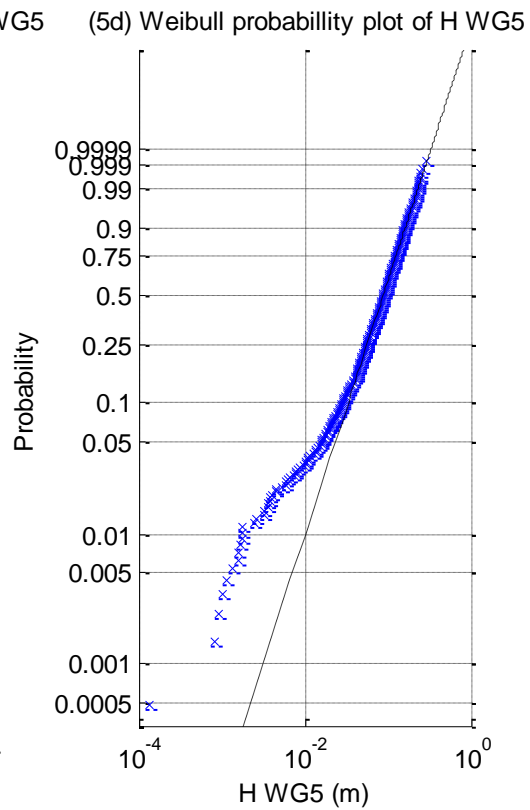
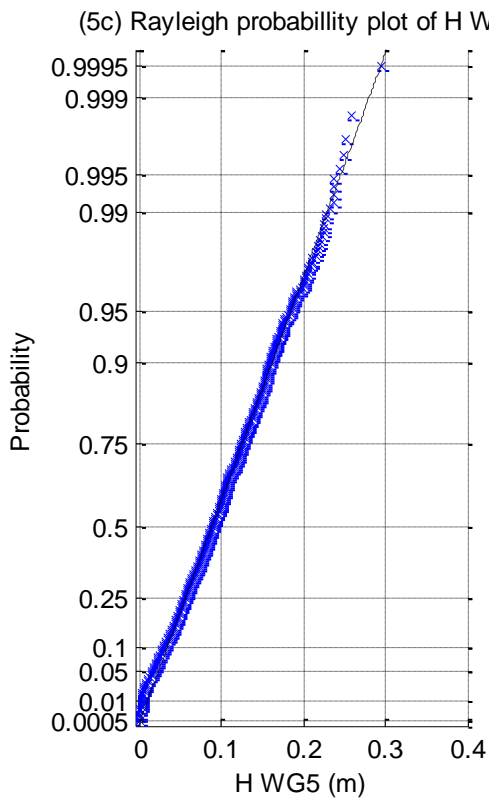
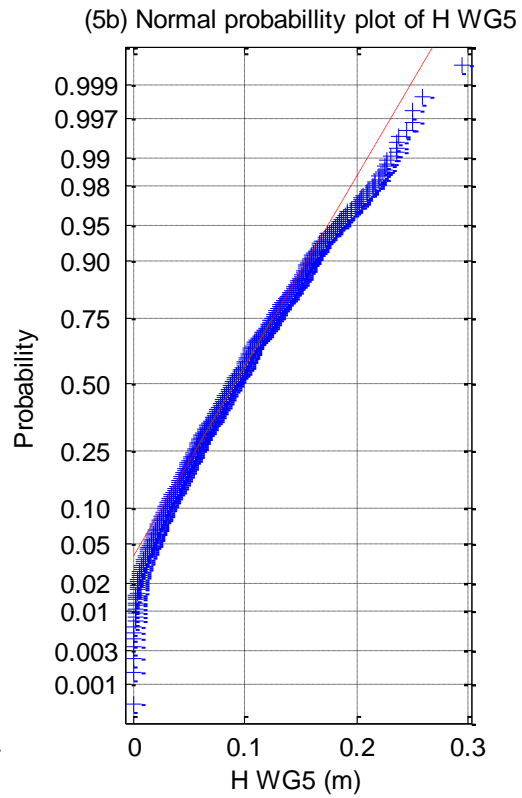
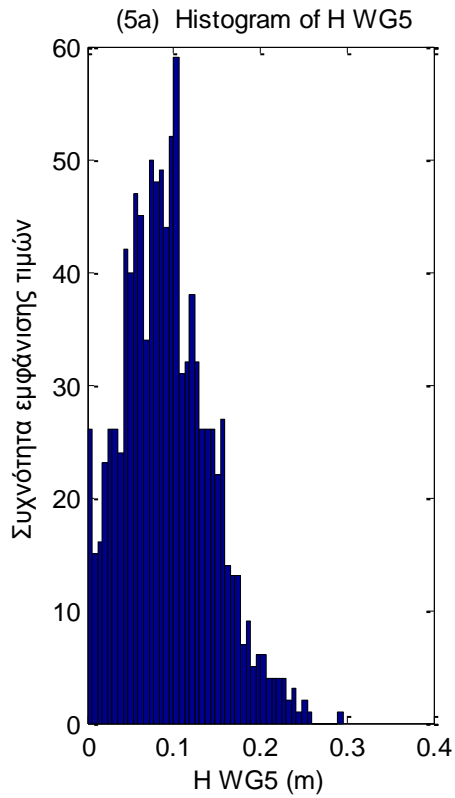
**Σχήματα 2.1.5.6** Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

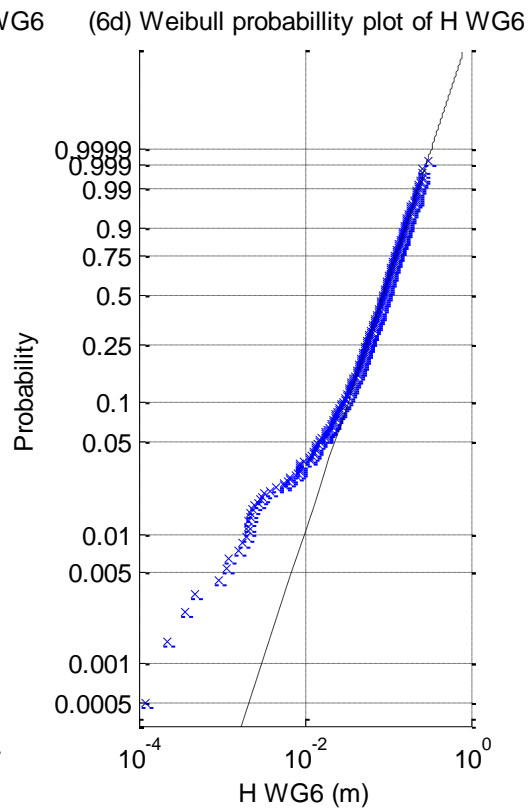
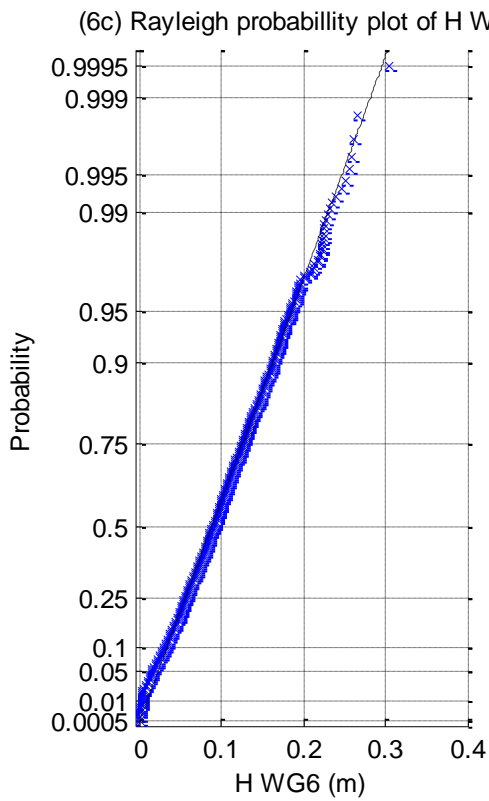
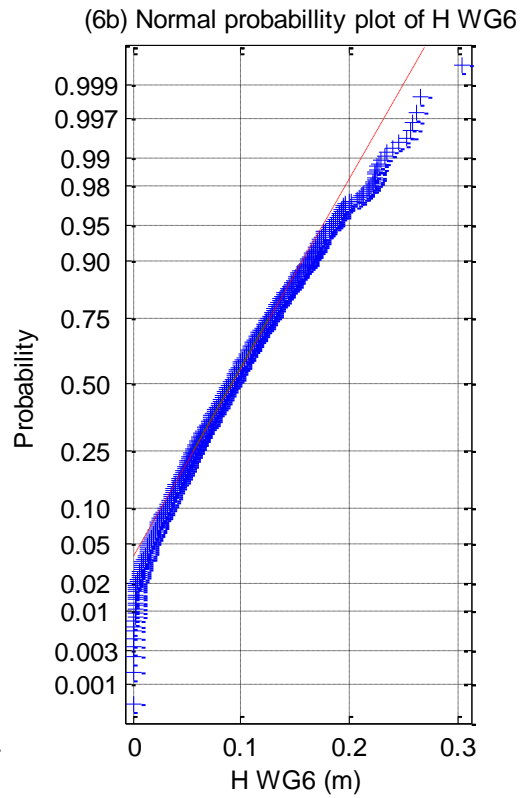
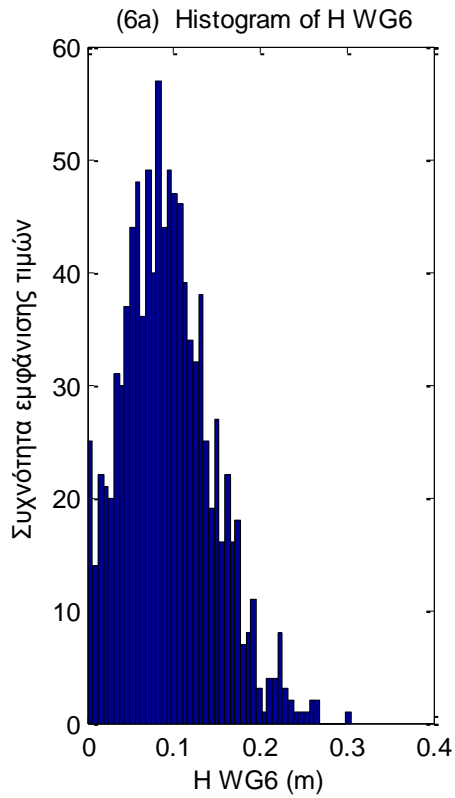


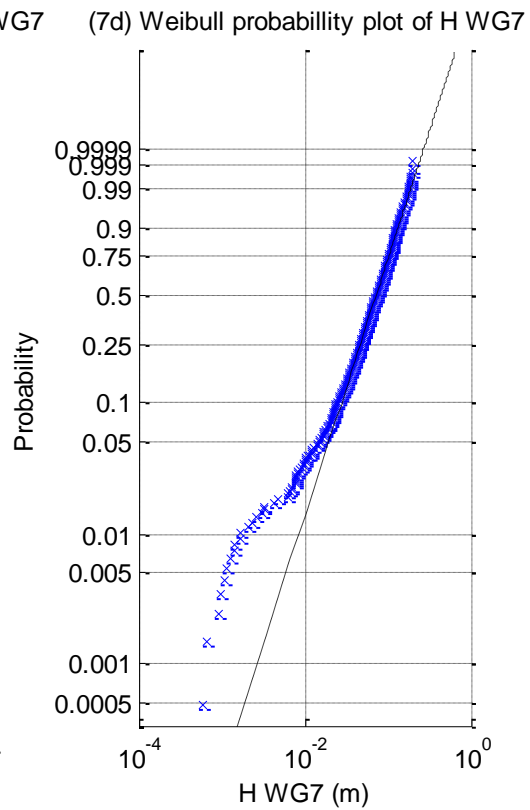
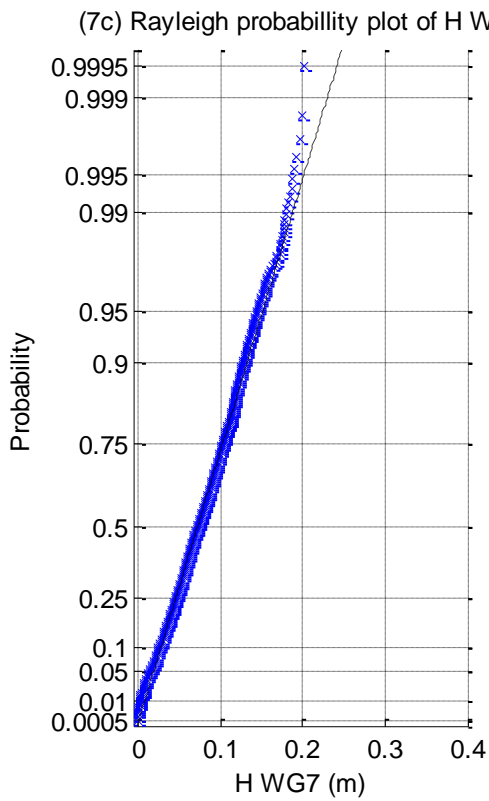
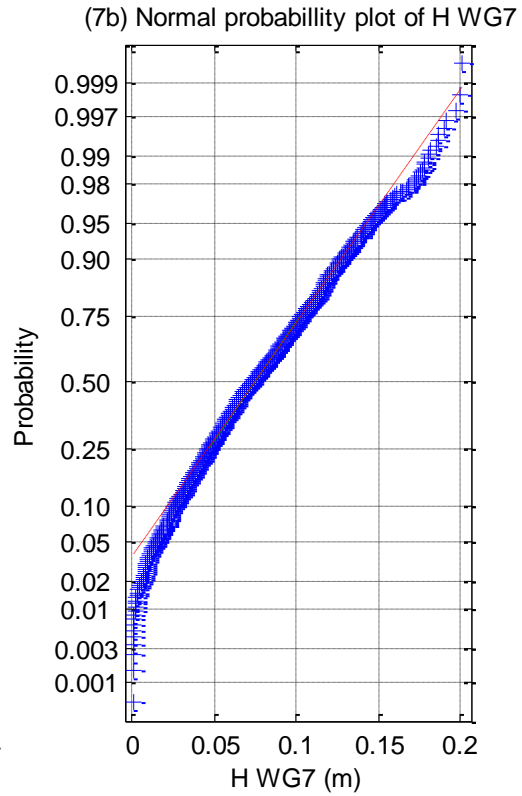
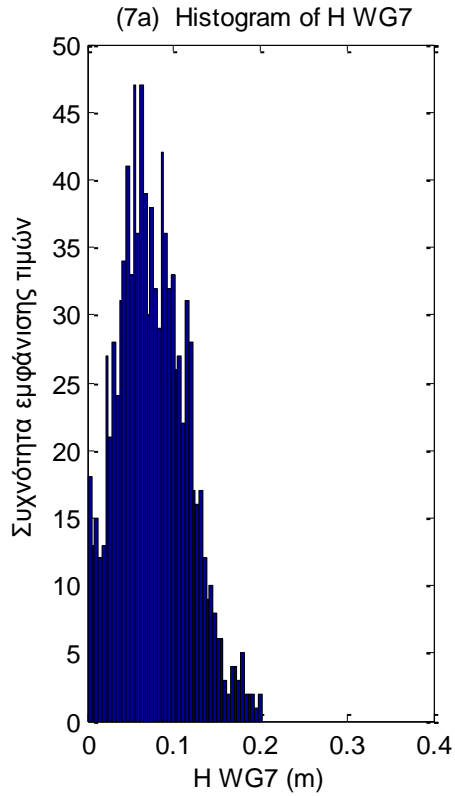




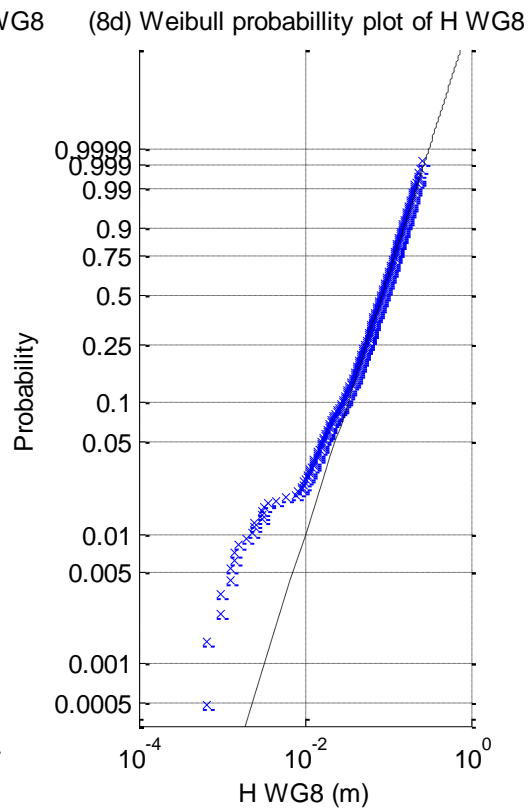
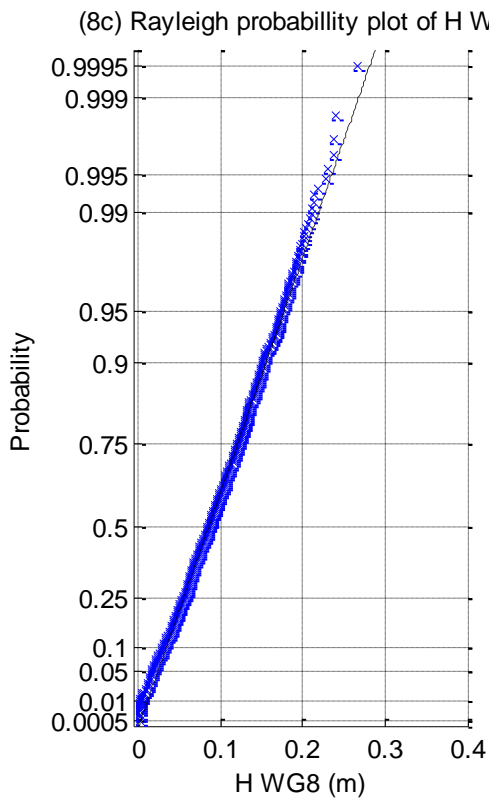
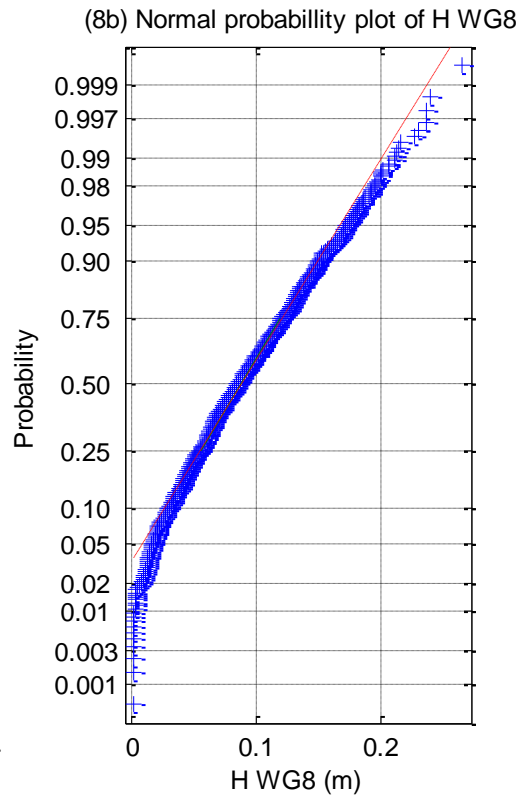
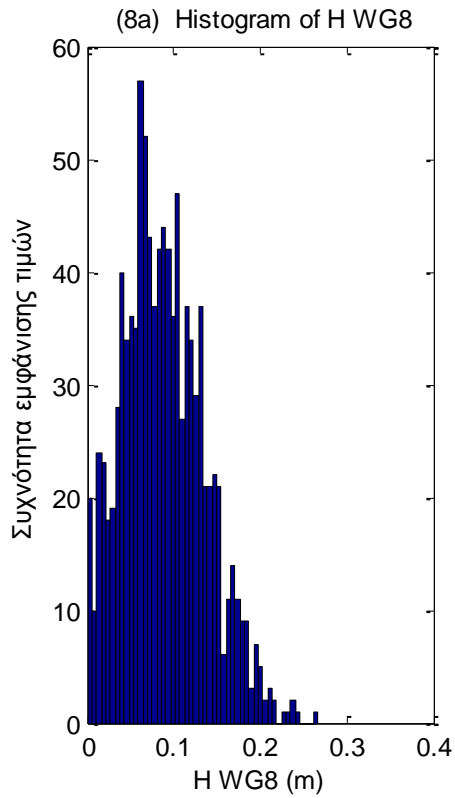


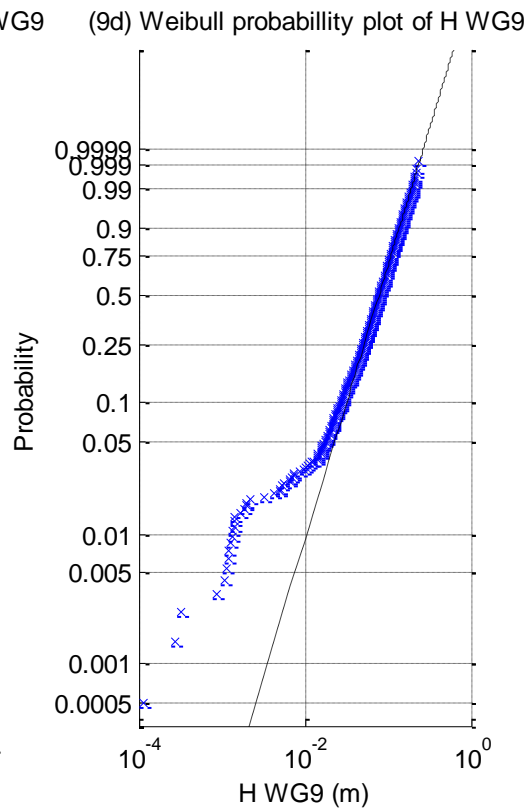
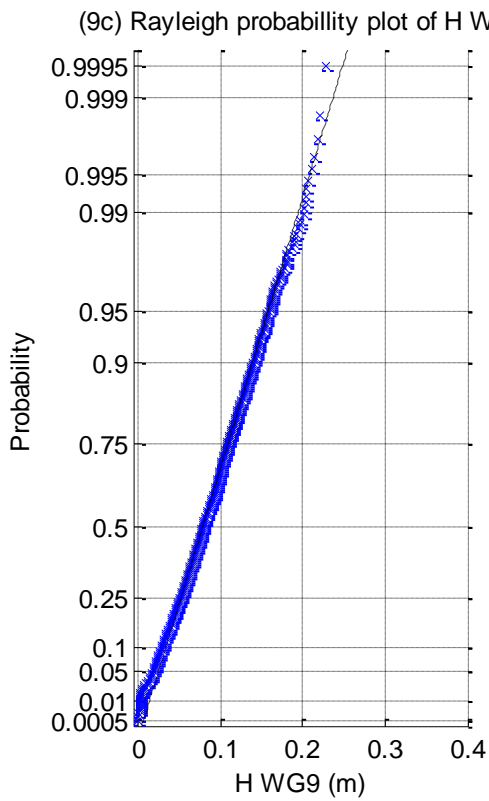
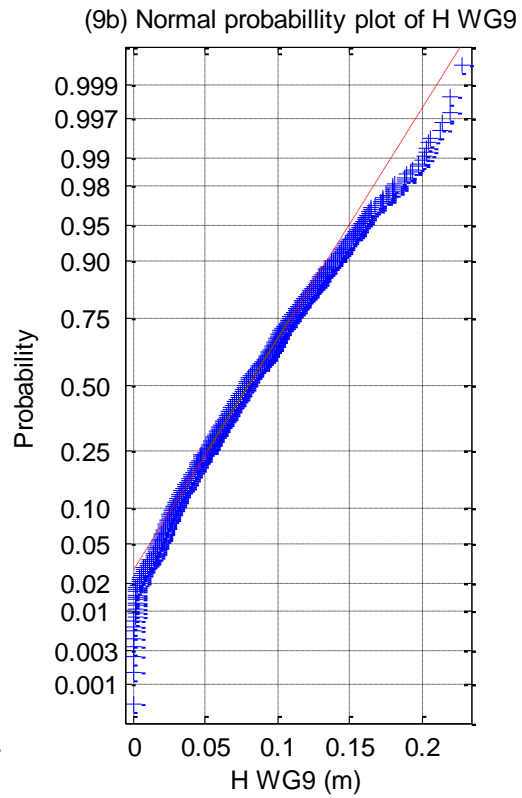
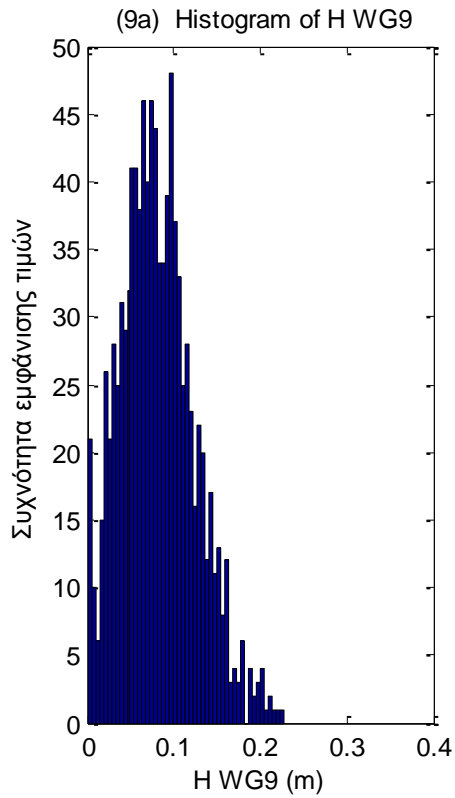


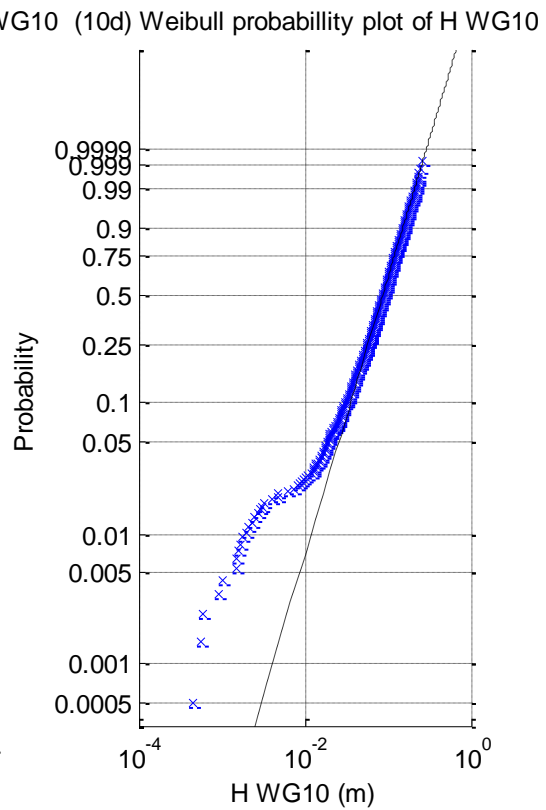
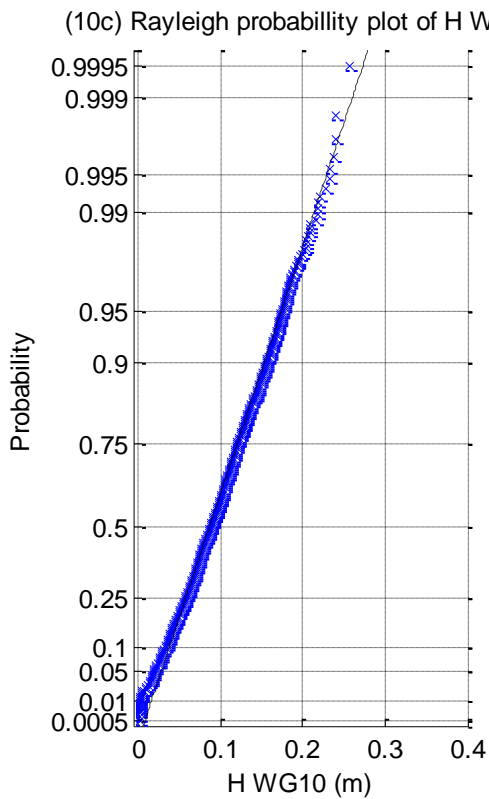
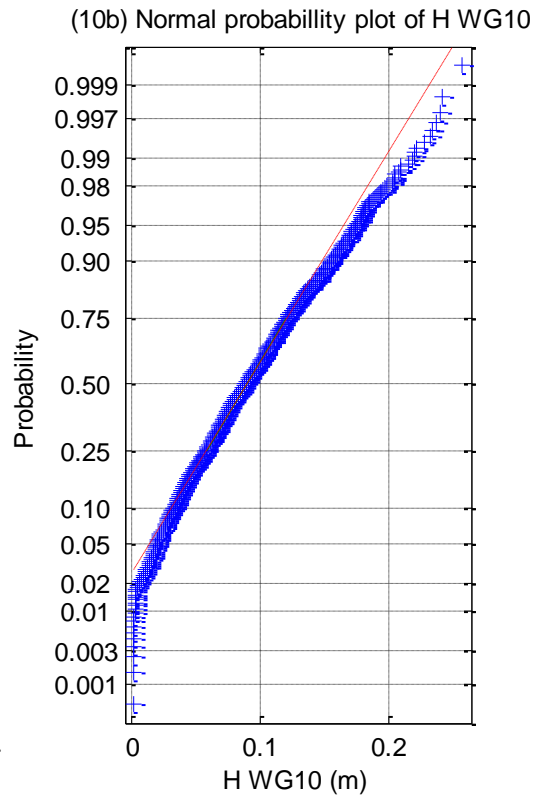
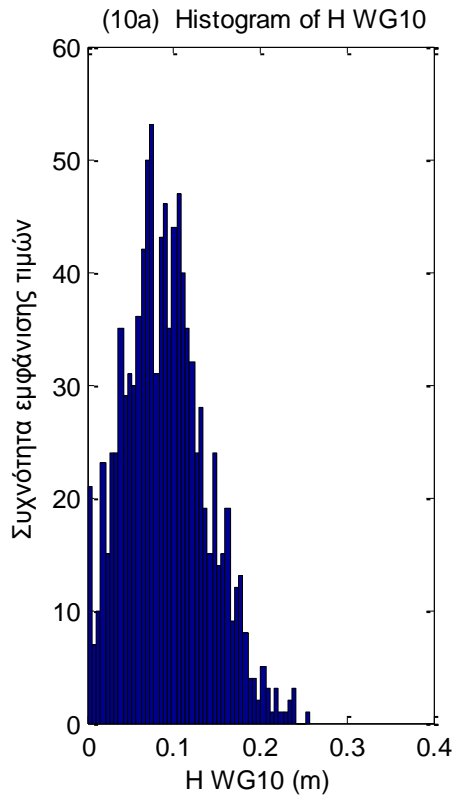


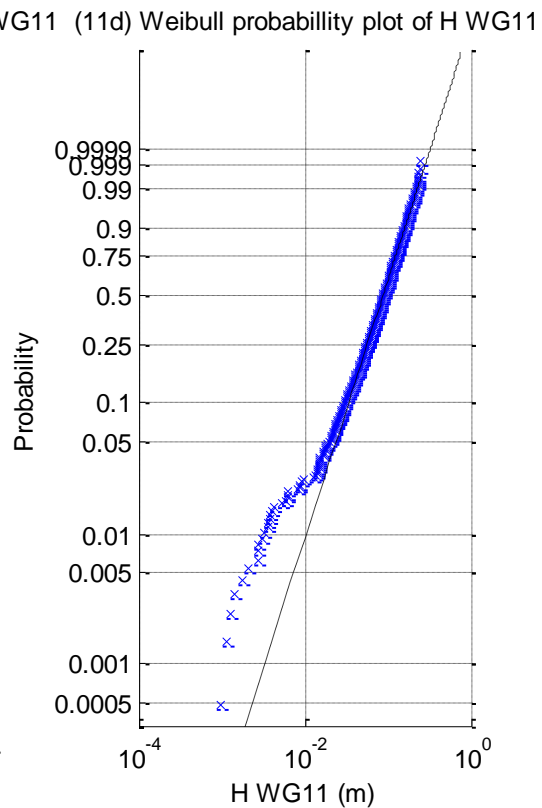
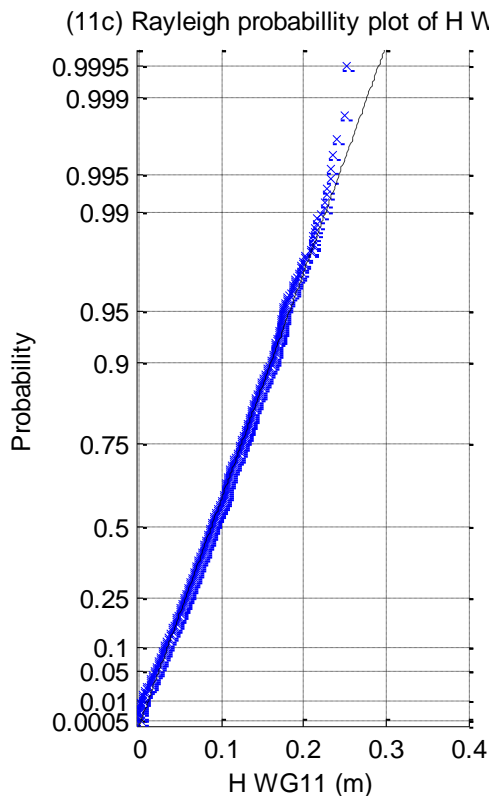
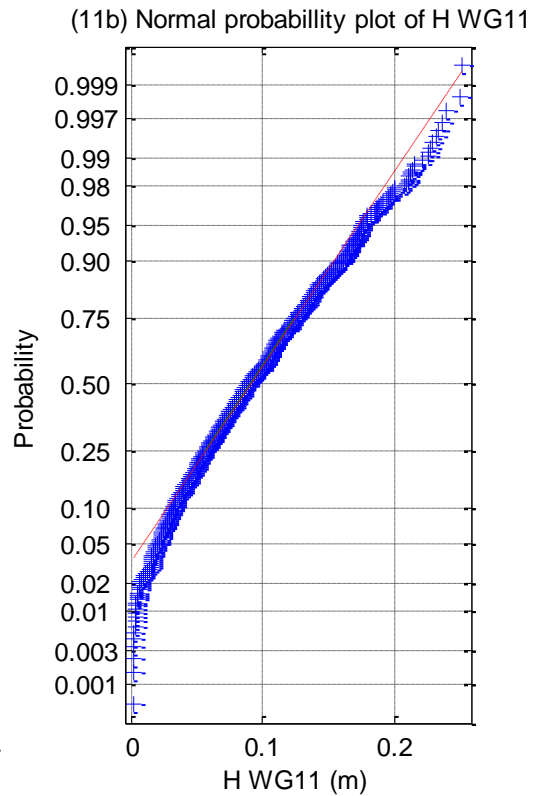
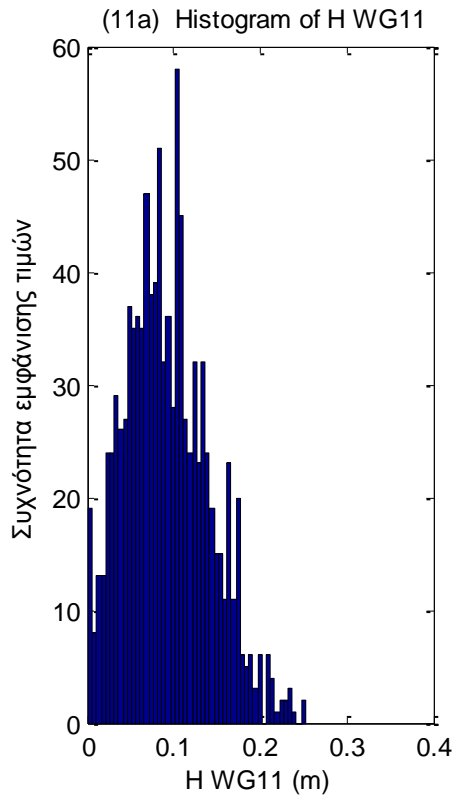




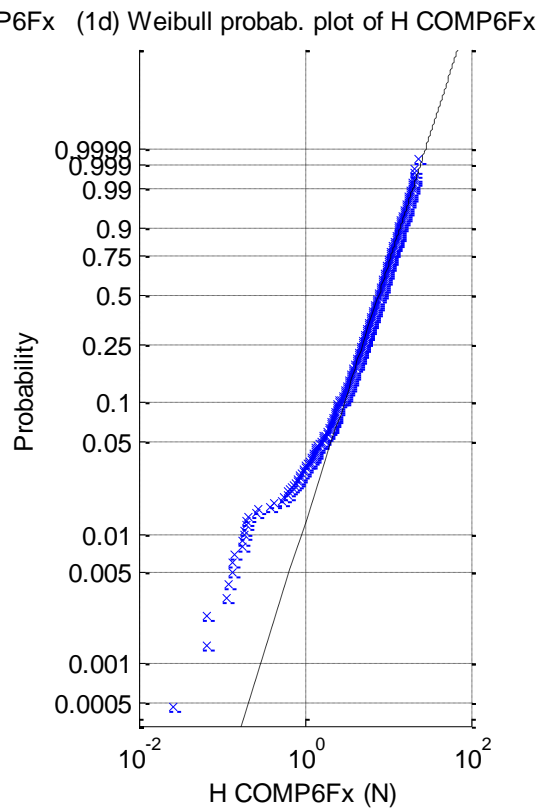
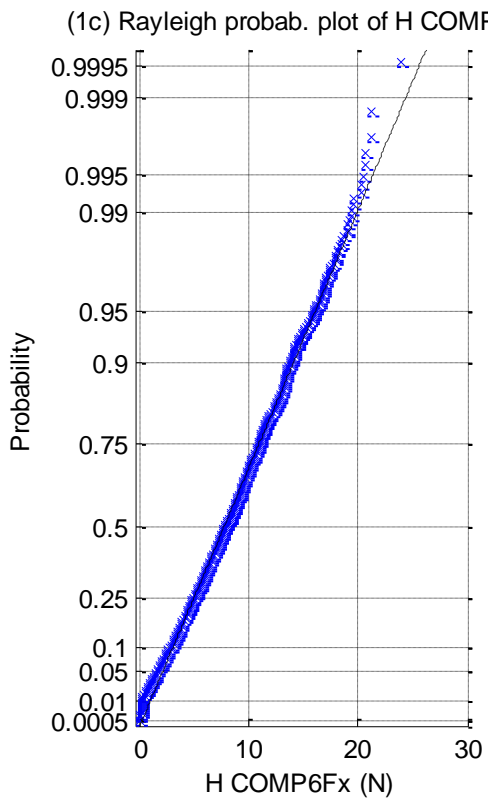
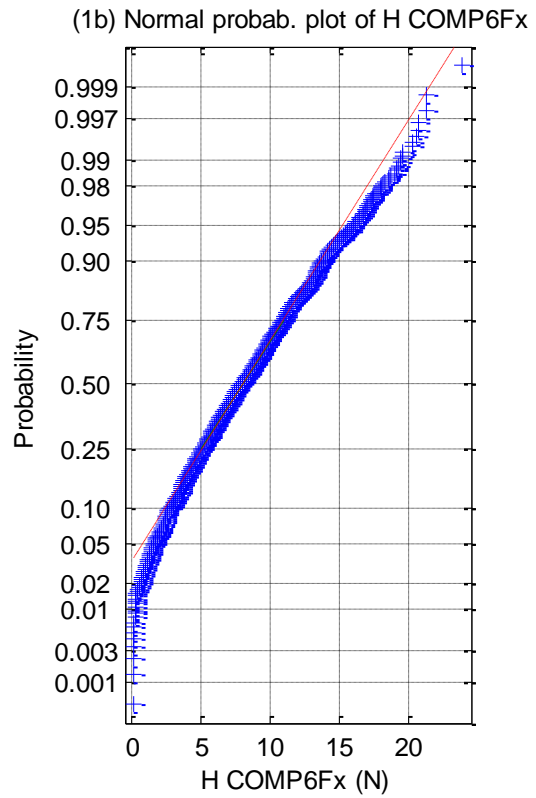
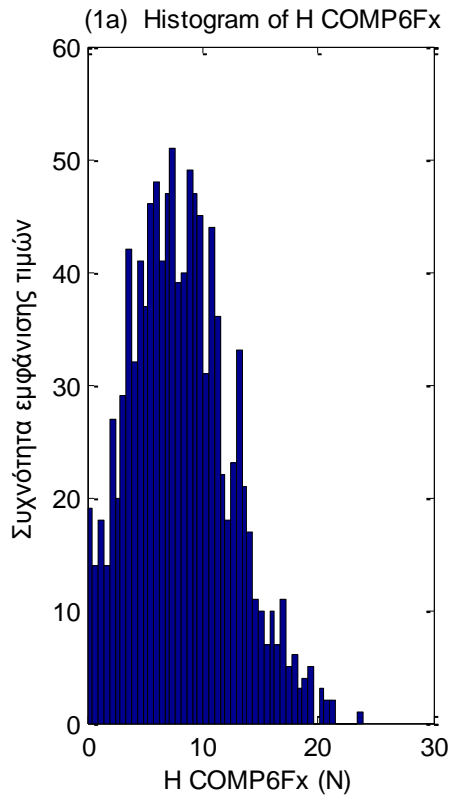


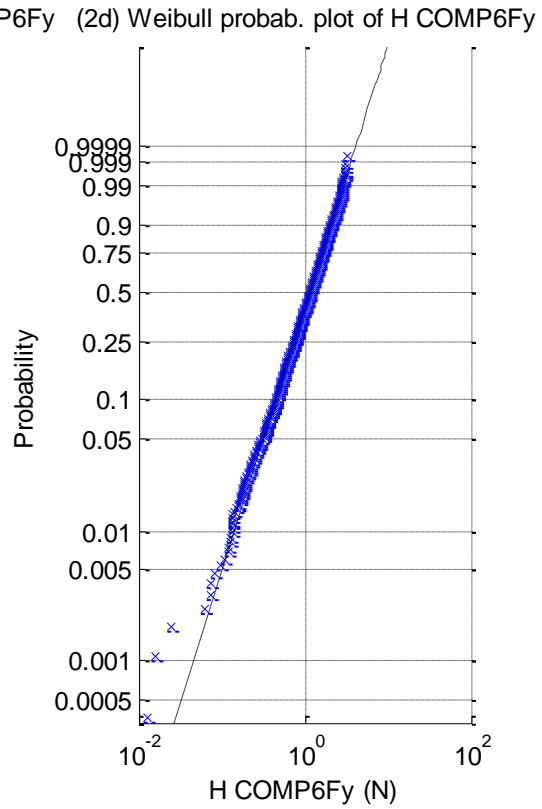
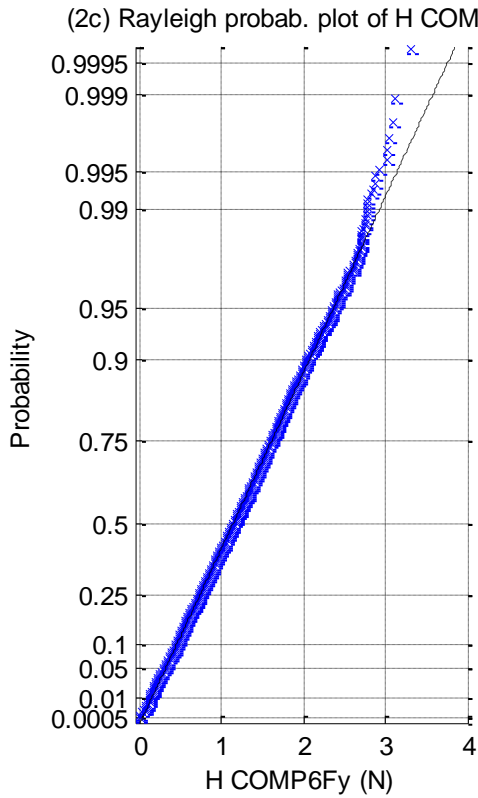
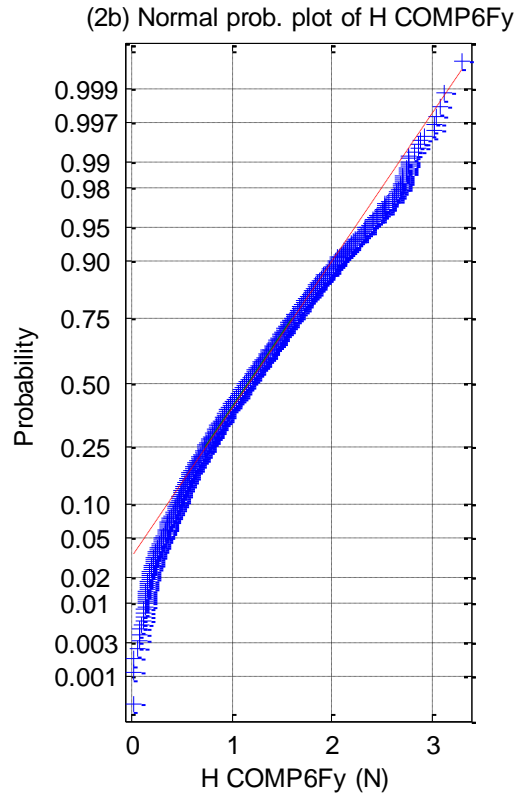
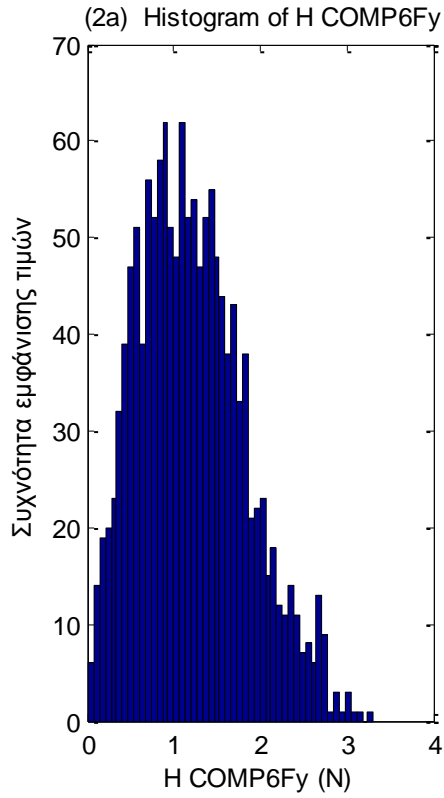


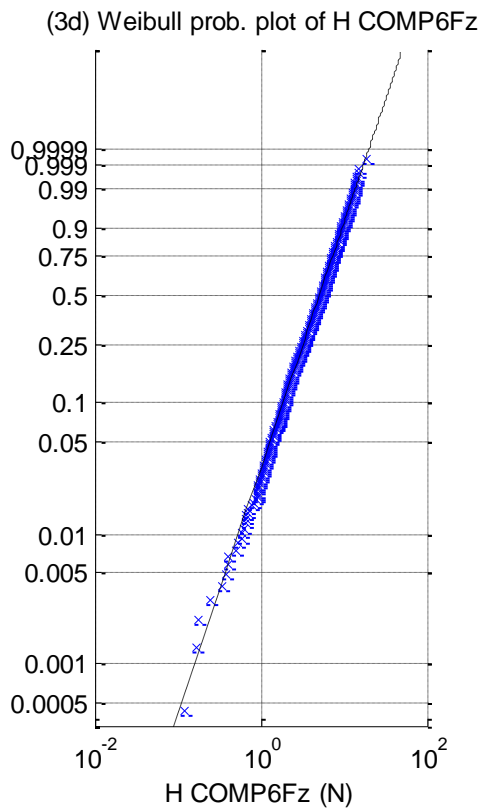
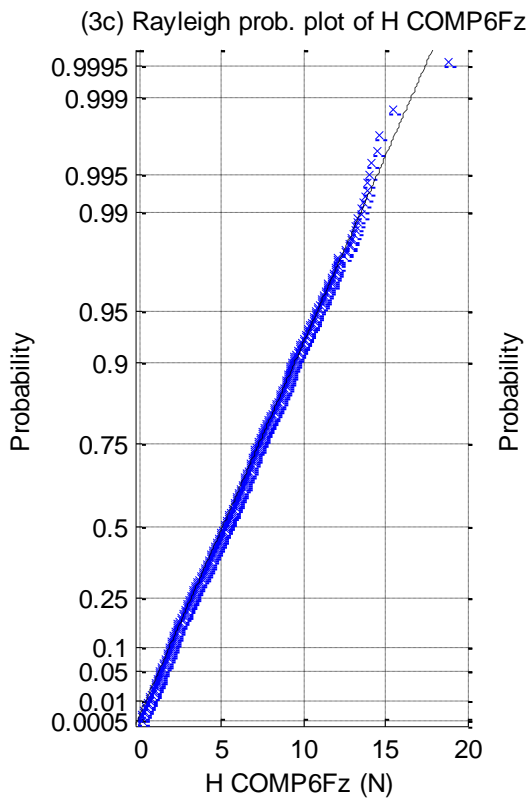
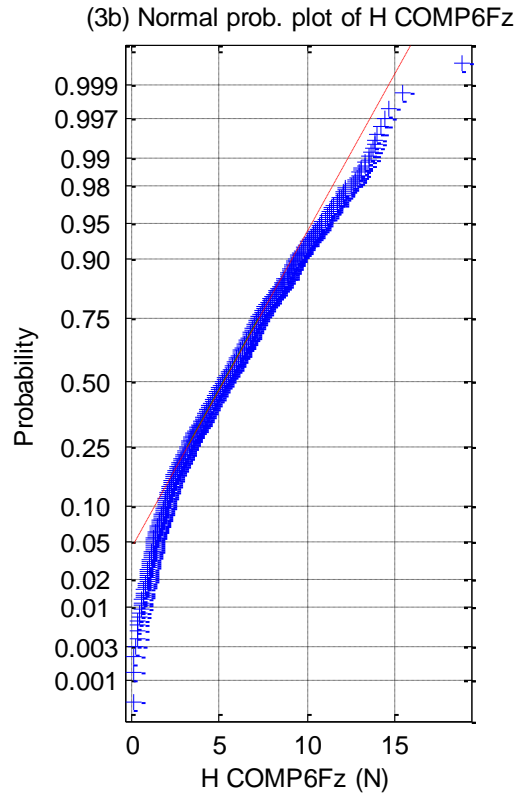
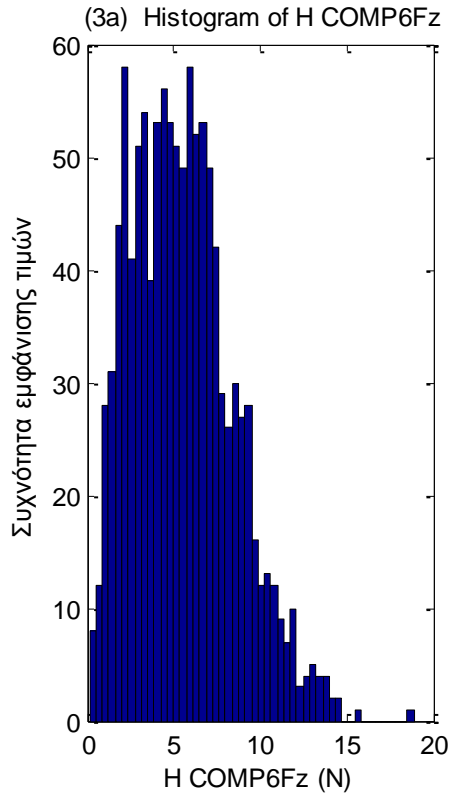


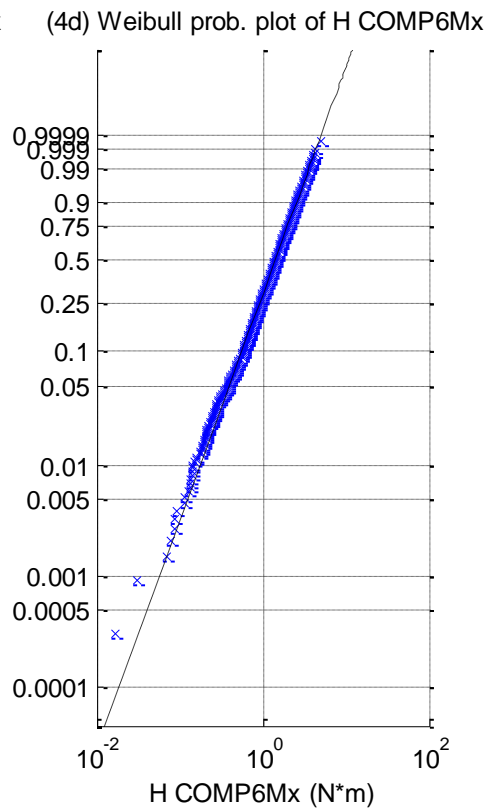
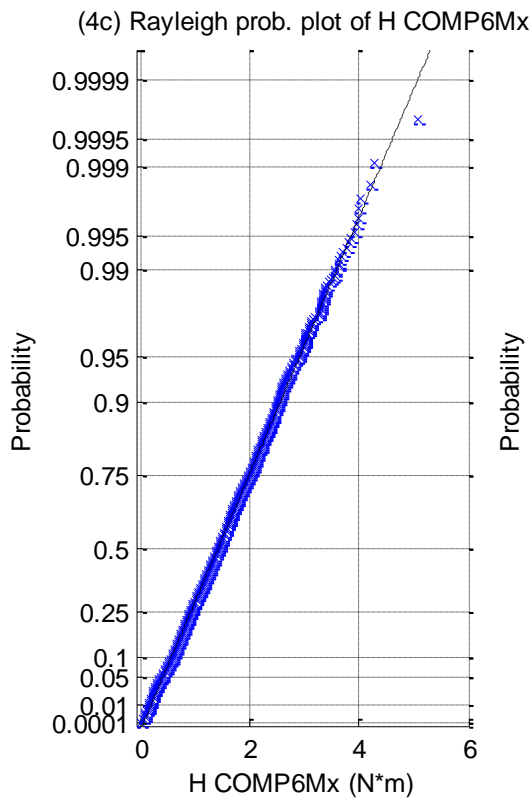
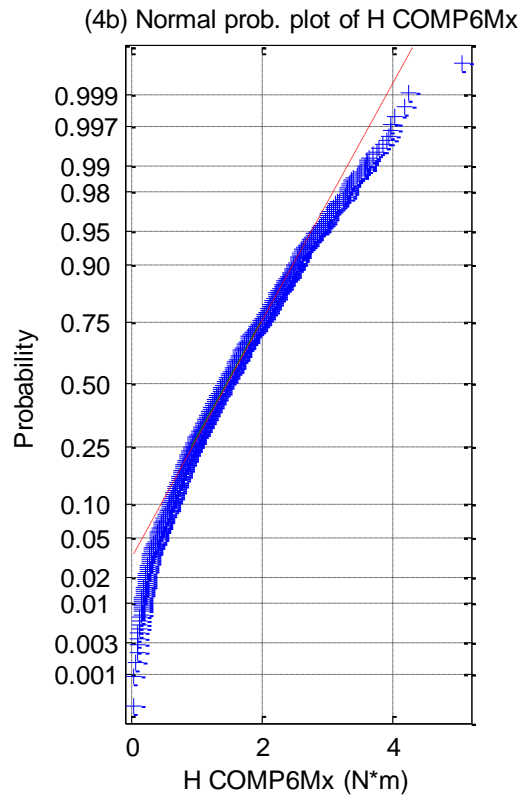
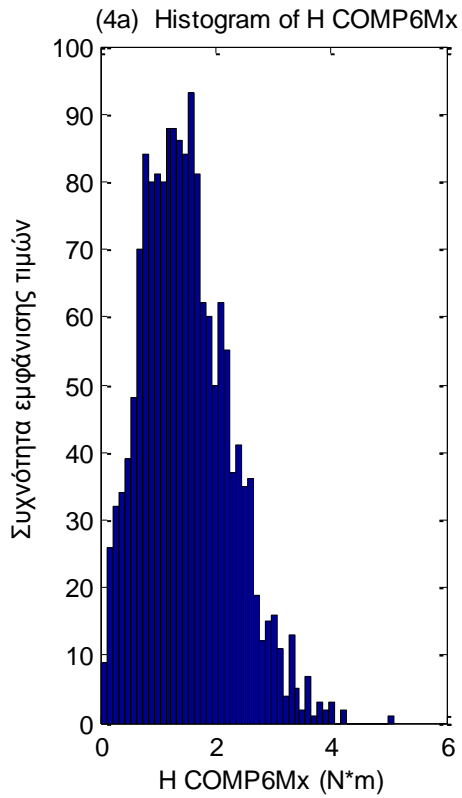


**Σχήματα 2.1.6.1 (1-11)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος

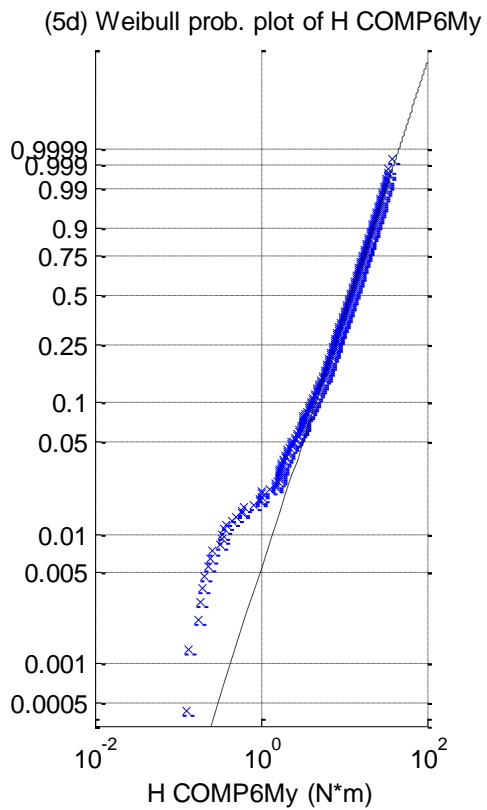
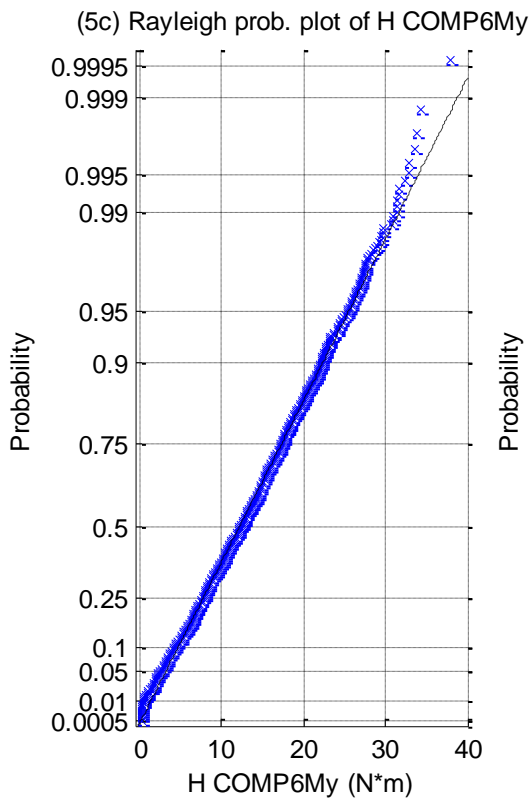
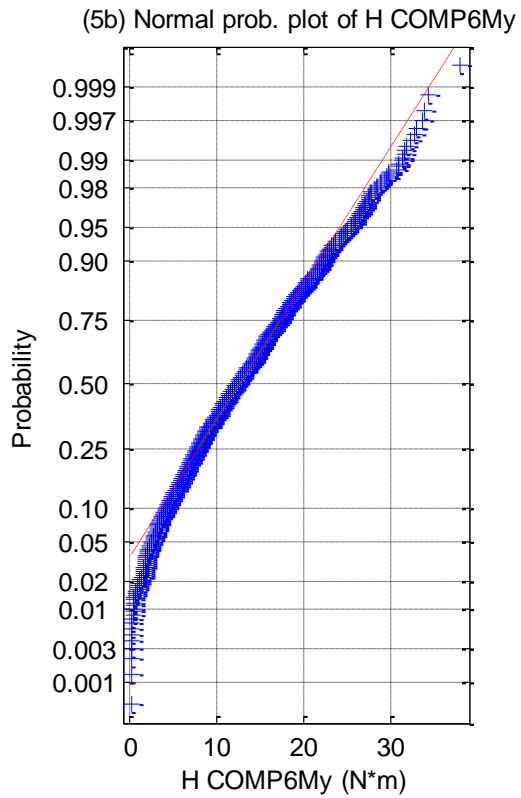
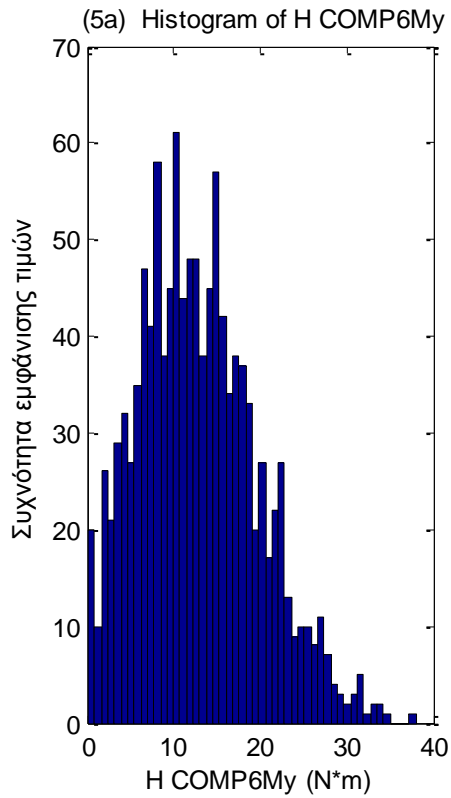


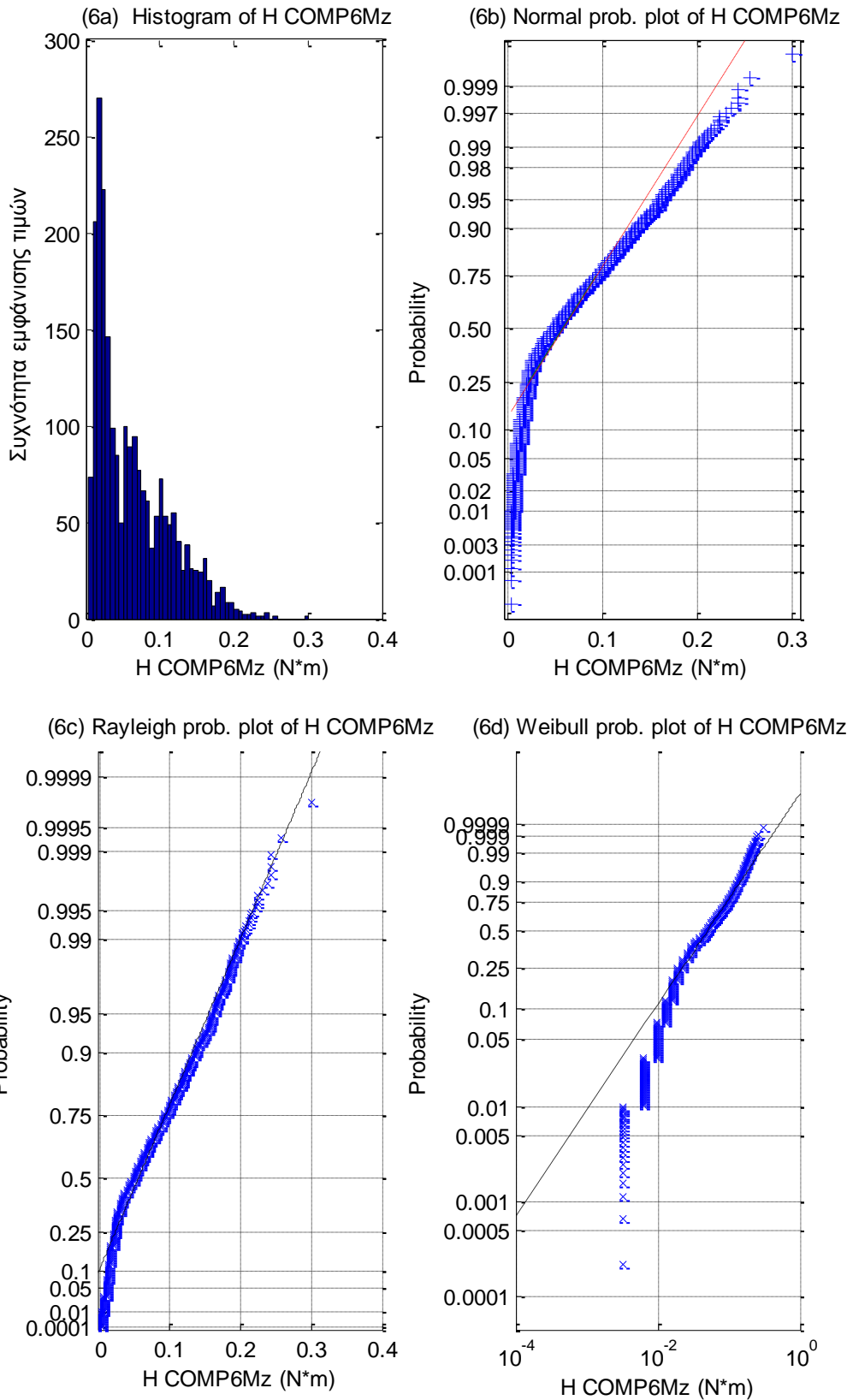




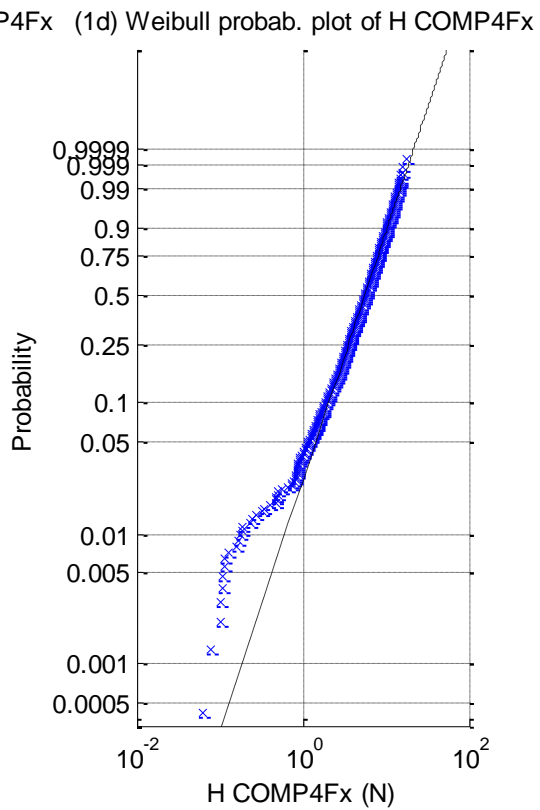
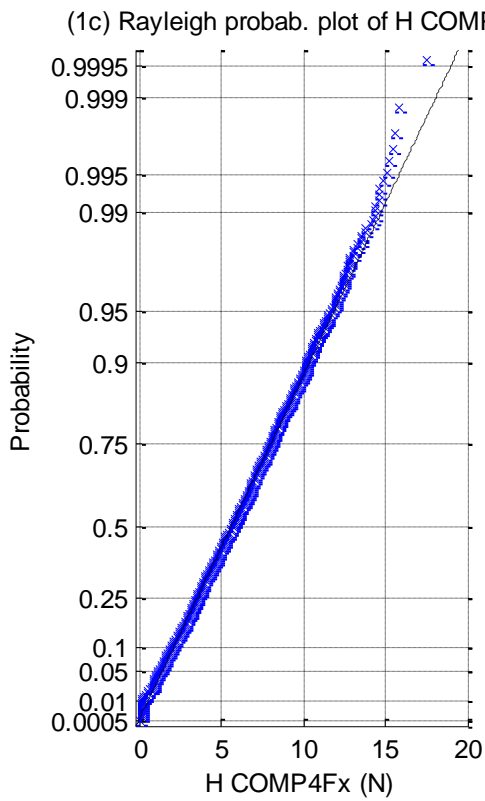
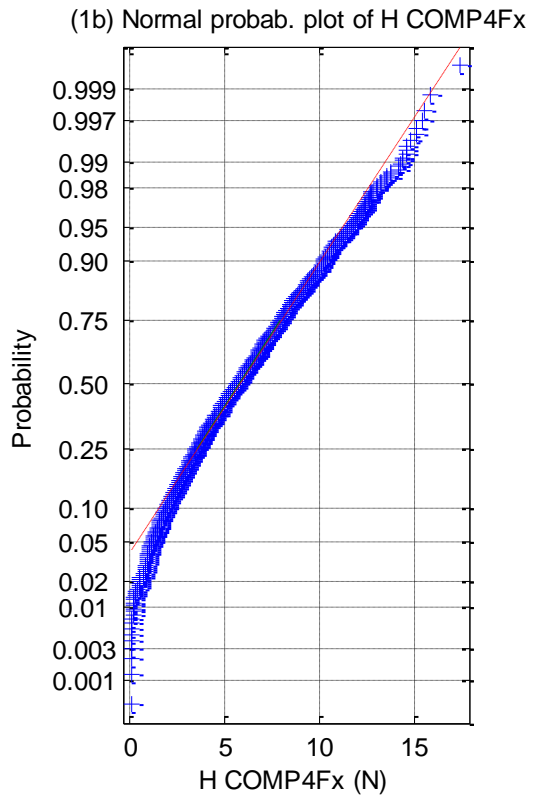
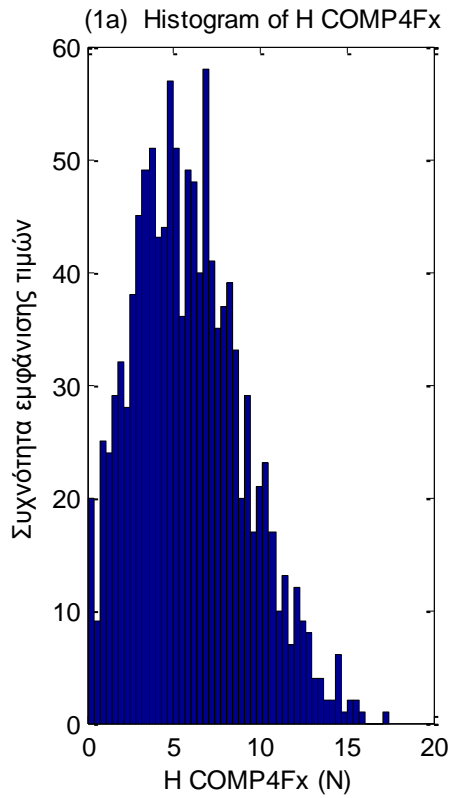


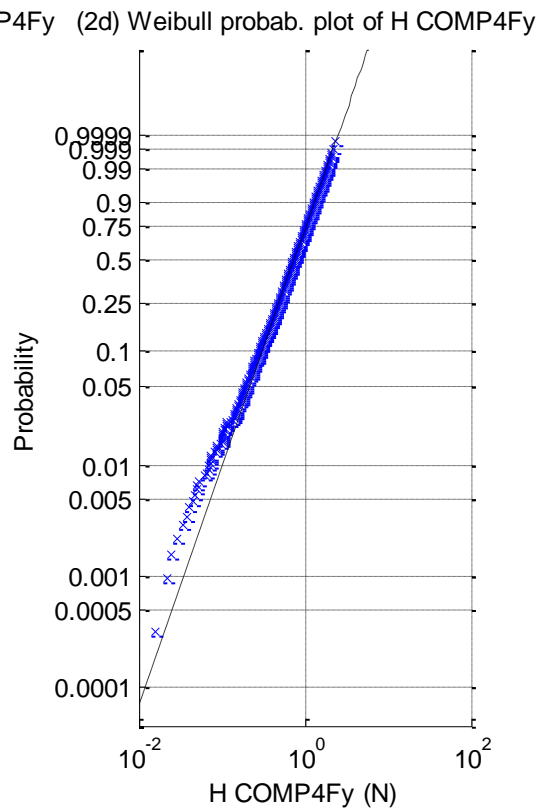
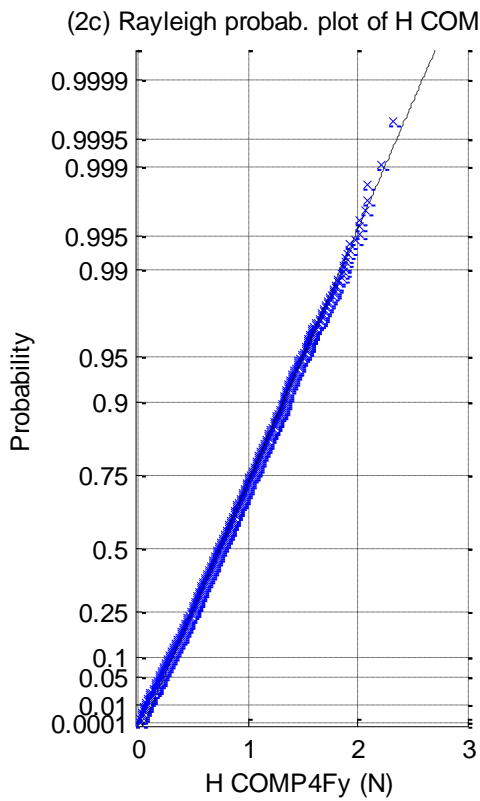
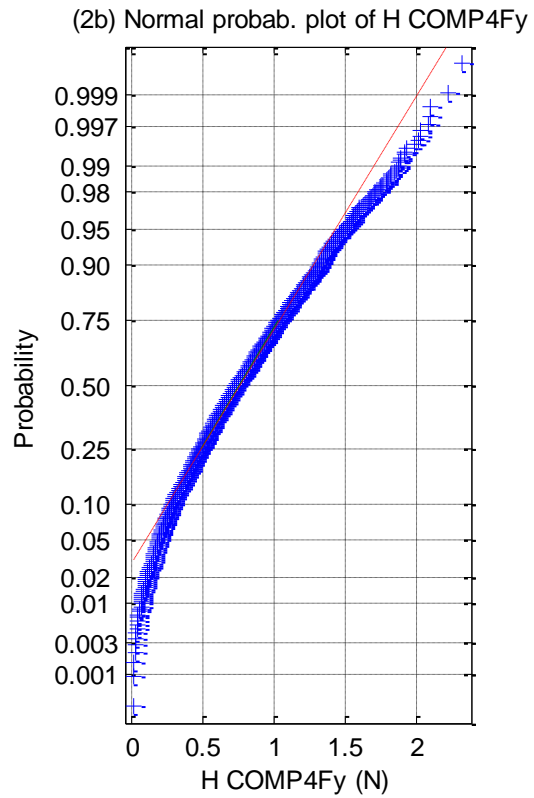
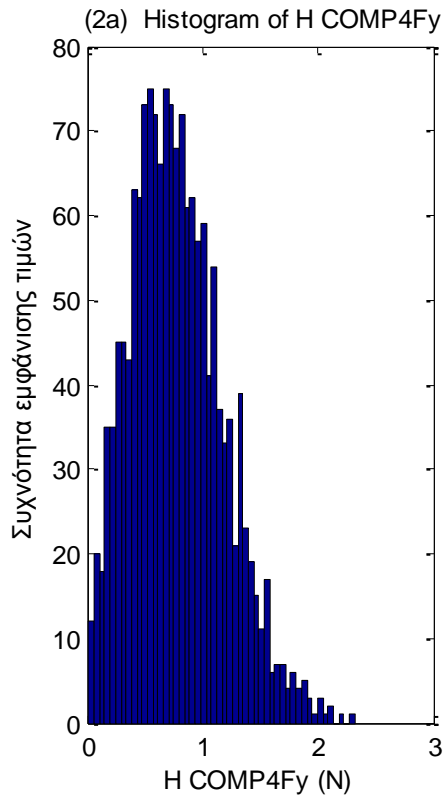


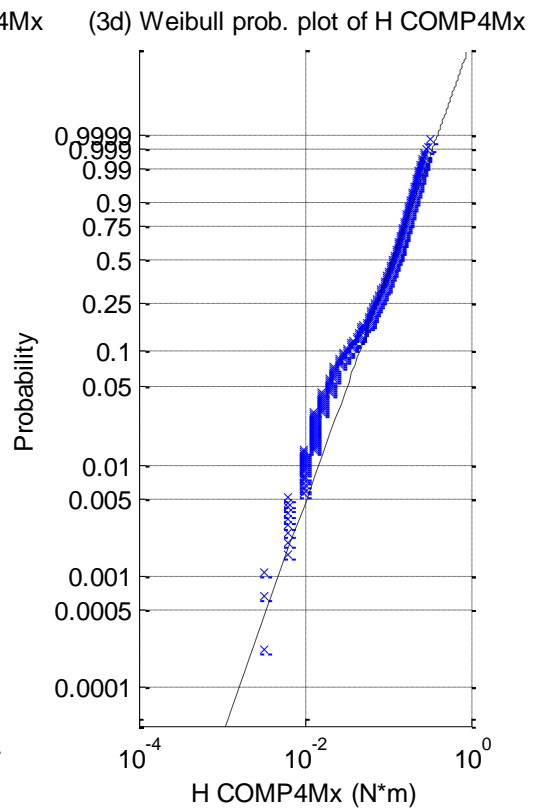
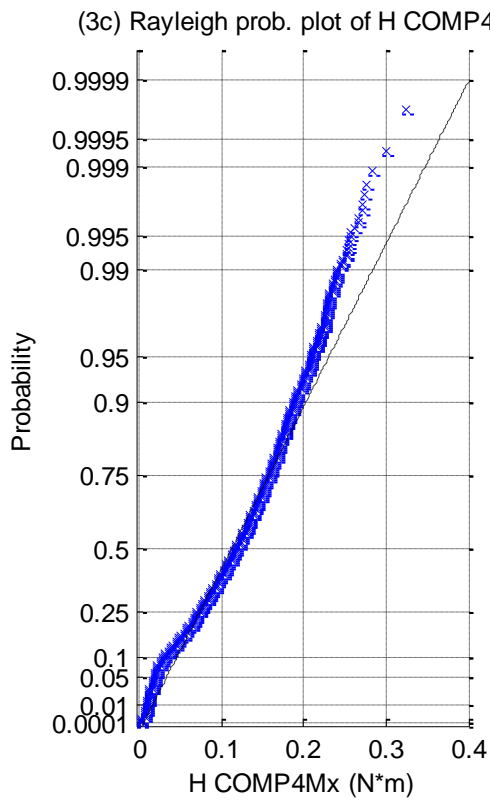
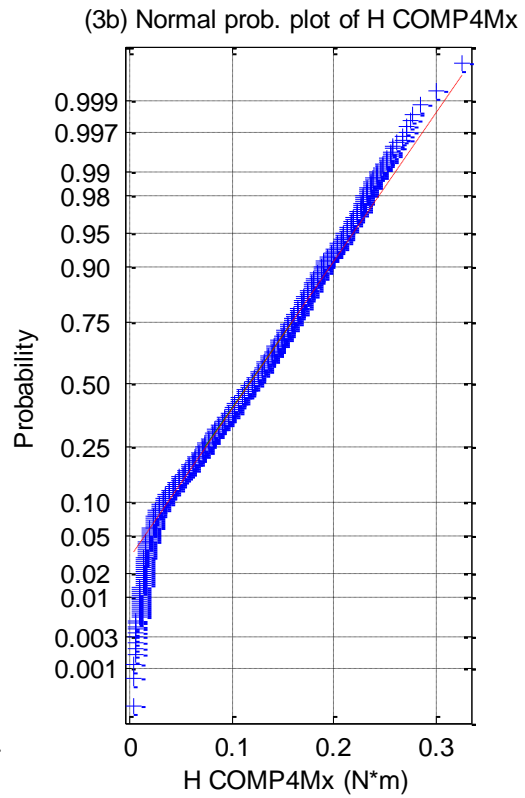
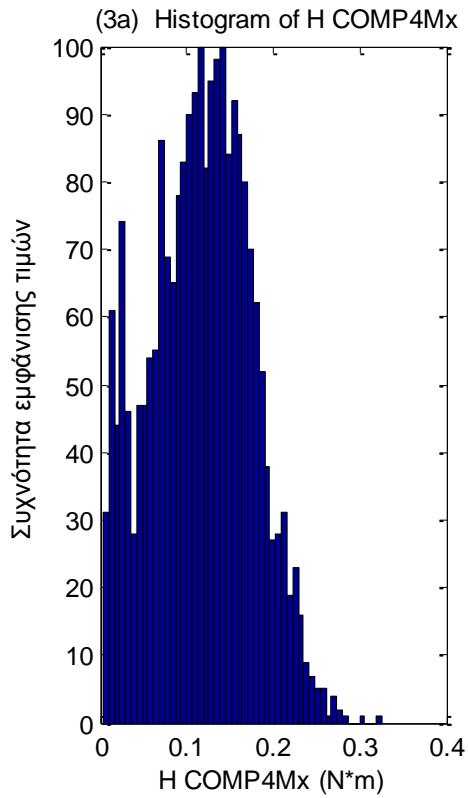


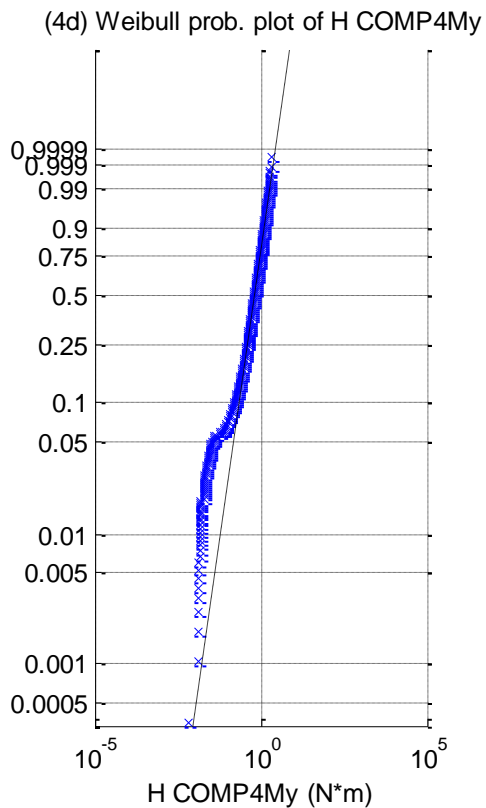
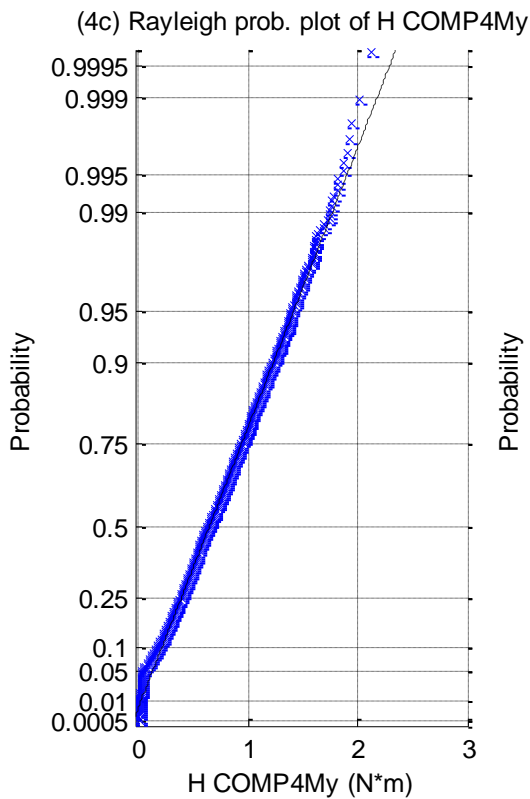
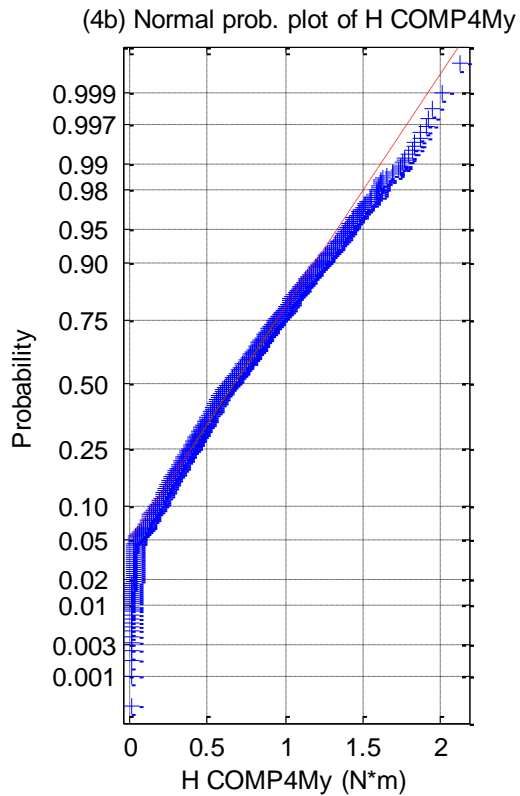
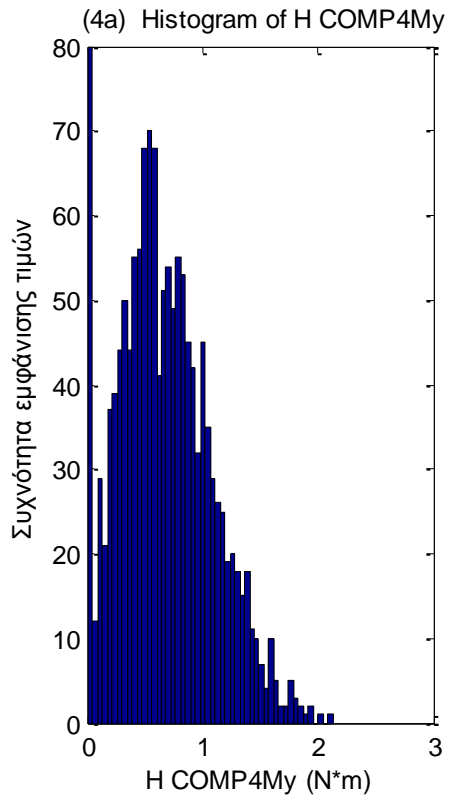


**Σχήματα 2.1.6.2 (1-6)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

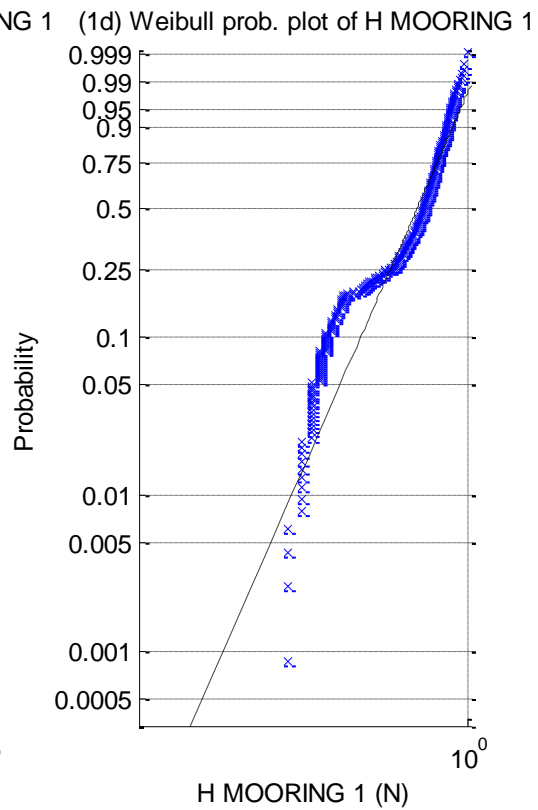
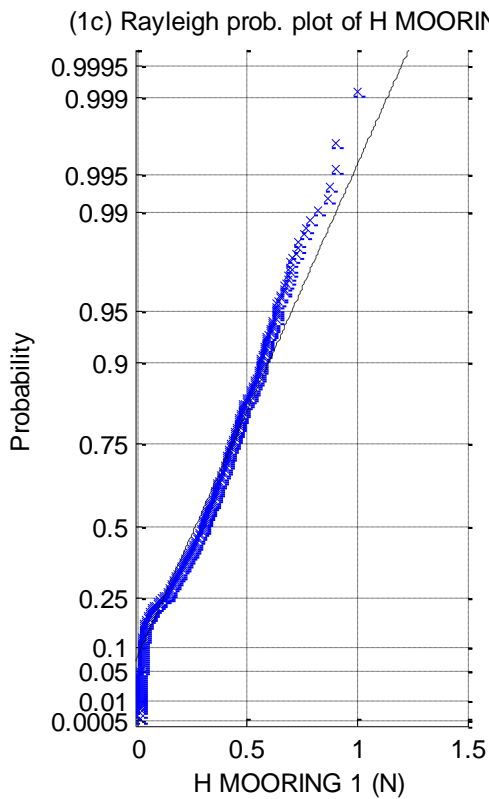
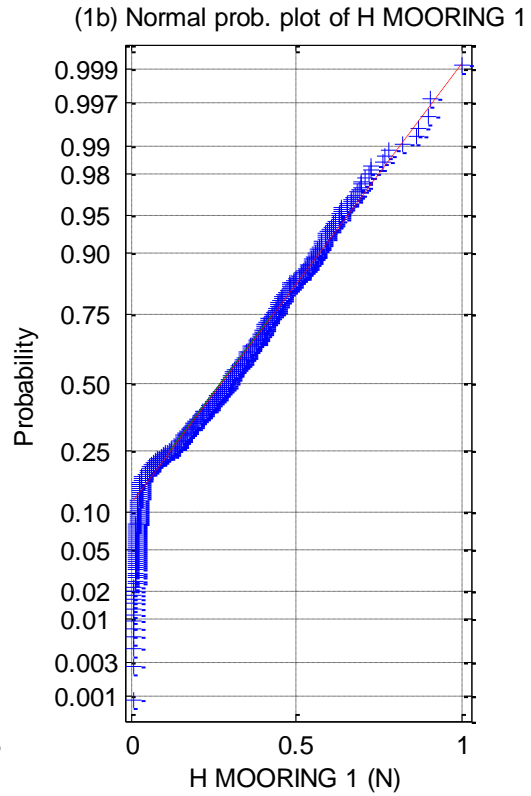
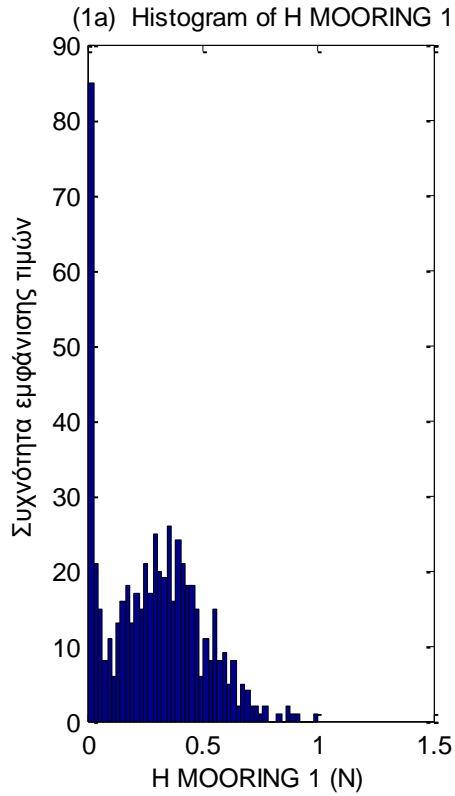


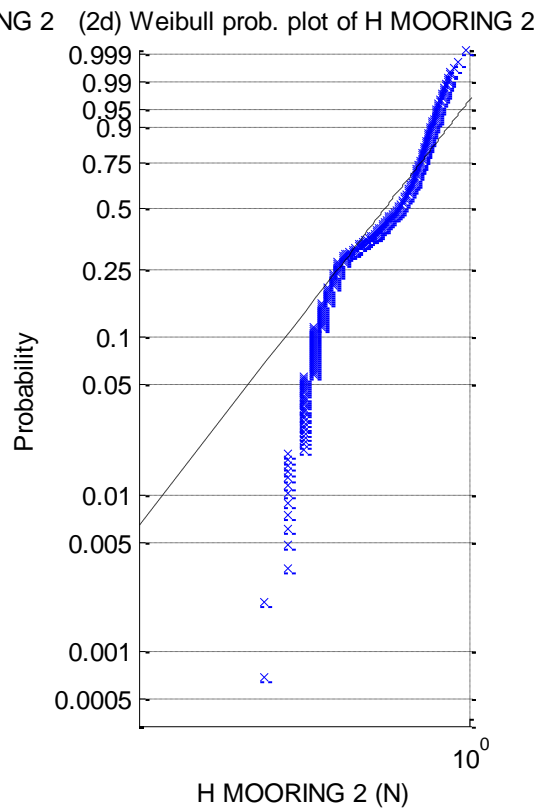
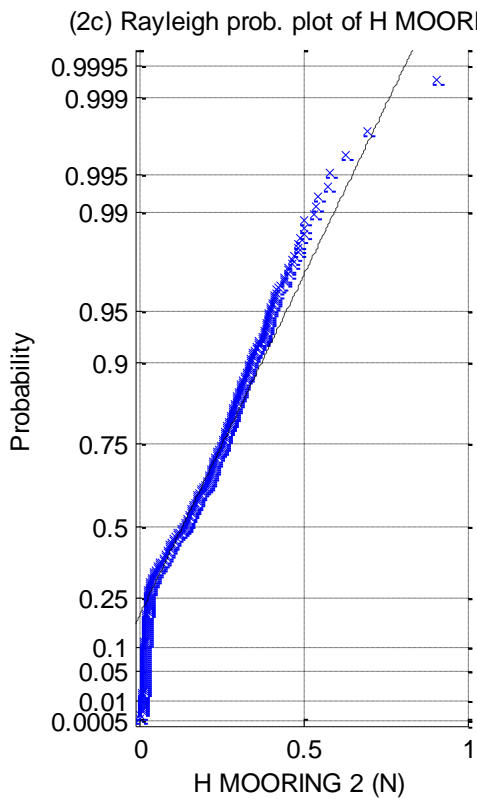
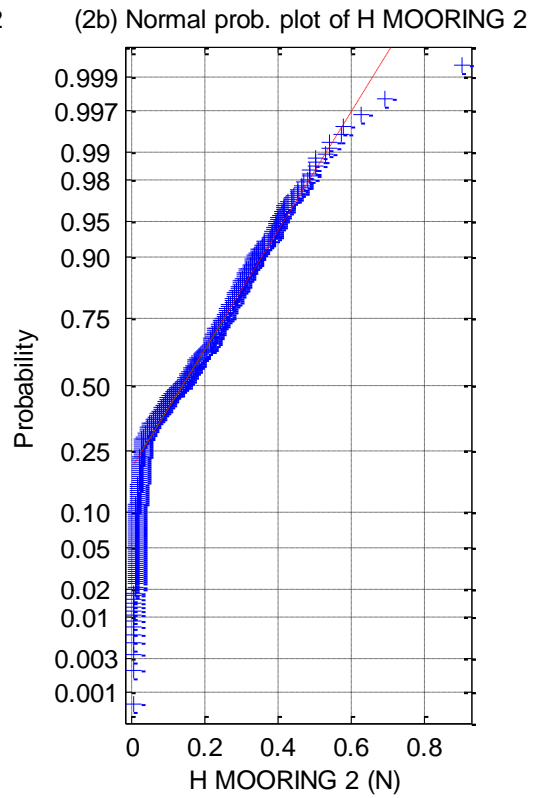
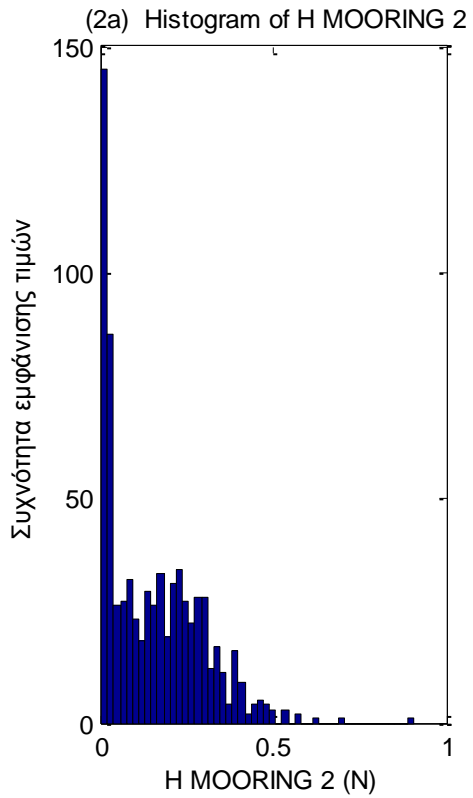




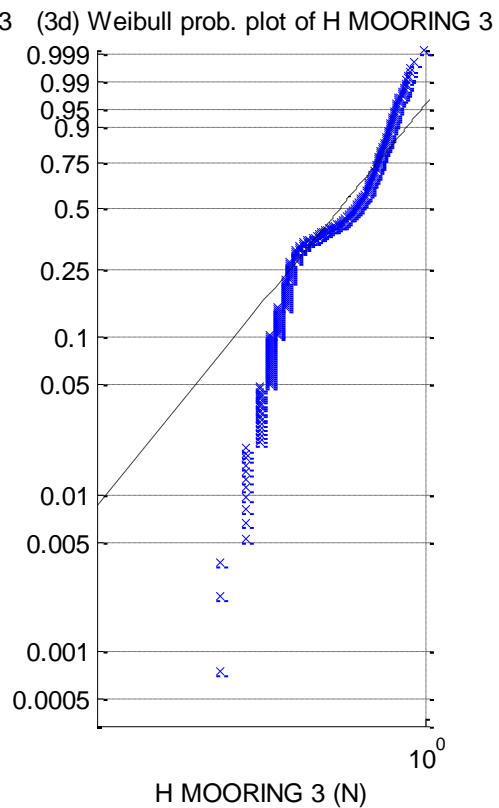
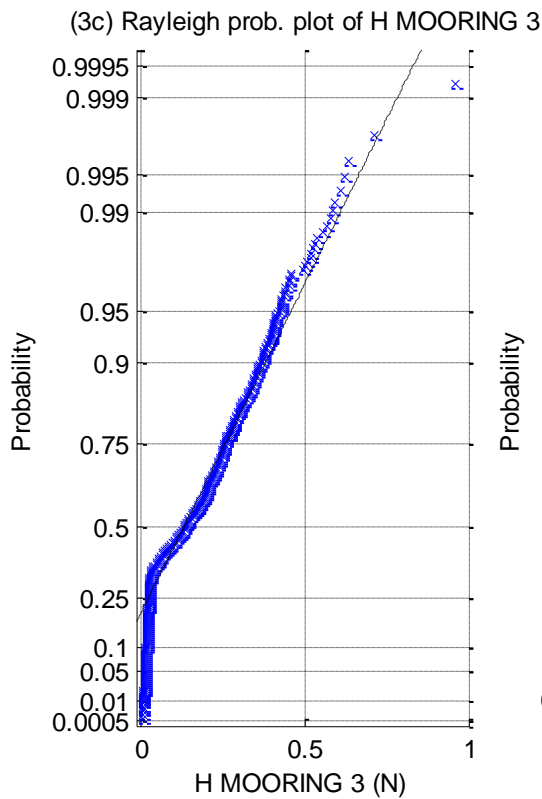
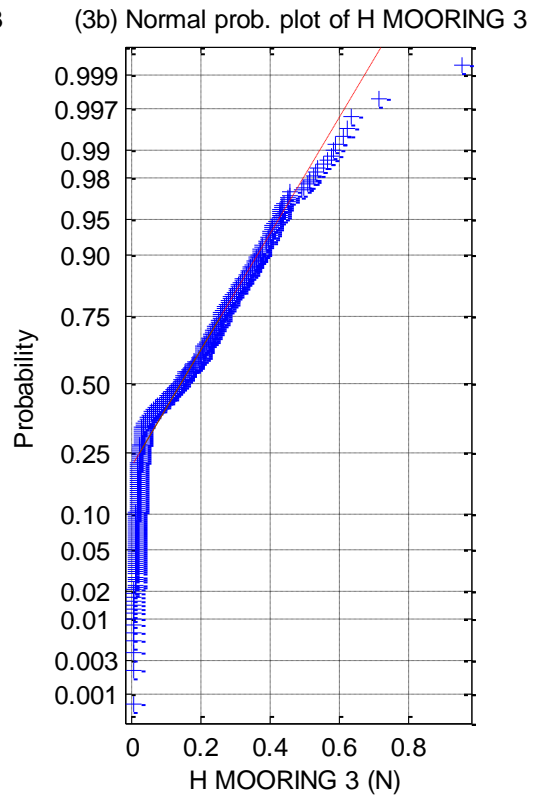
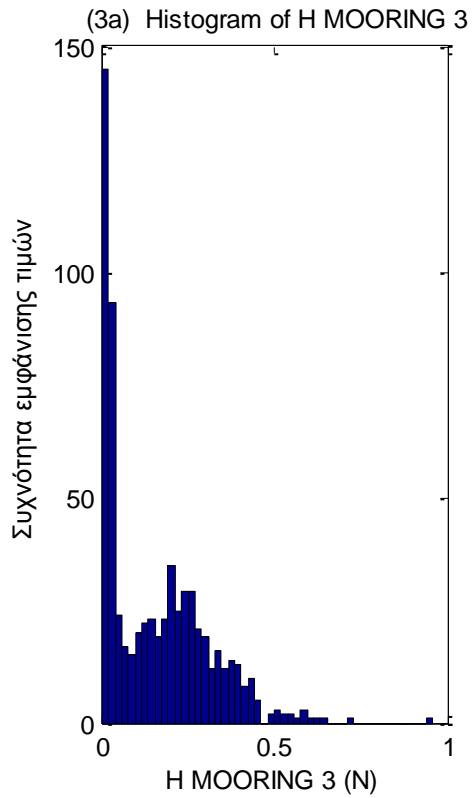


**Σχήματα 2.1.6.3 (1-4)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch

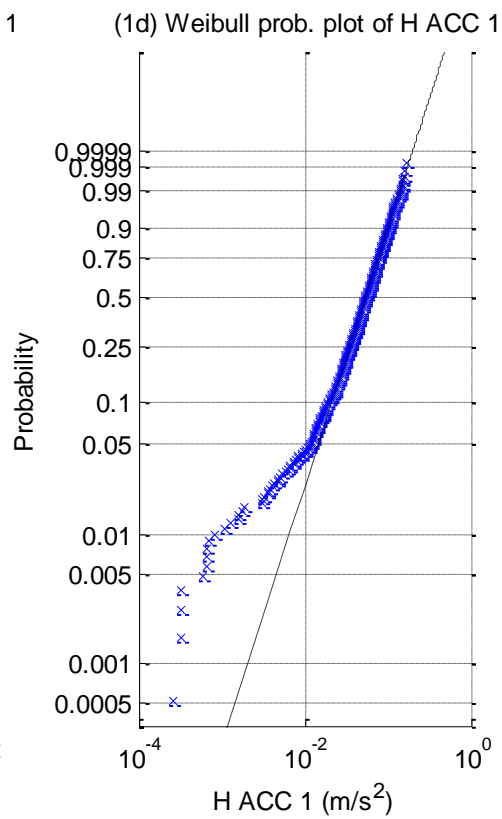
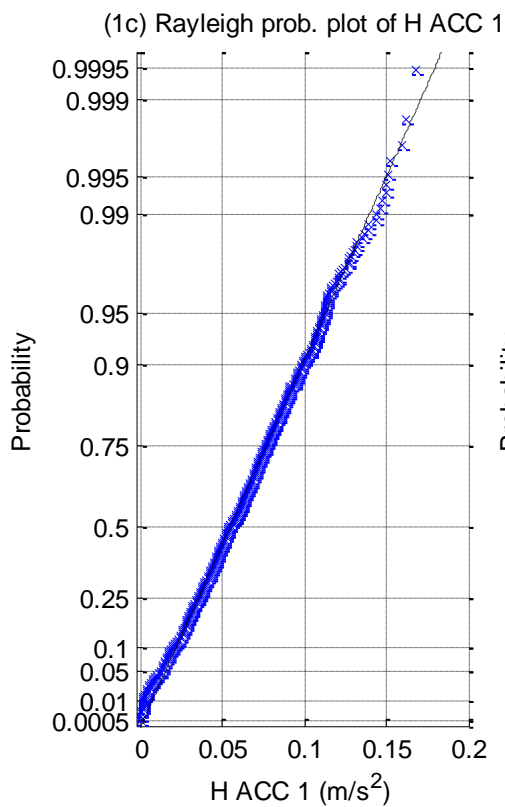
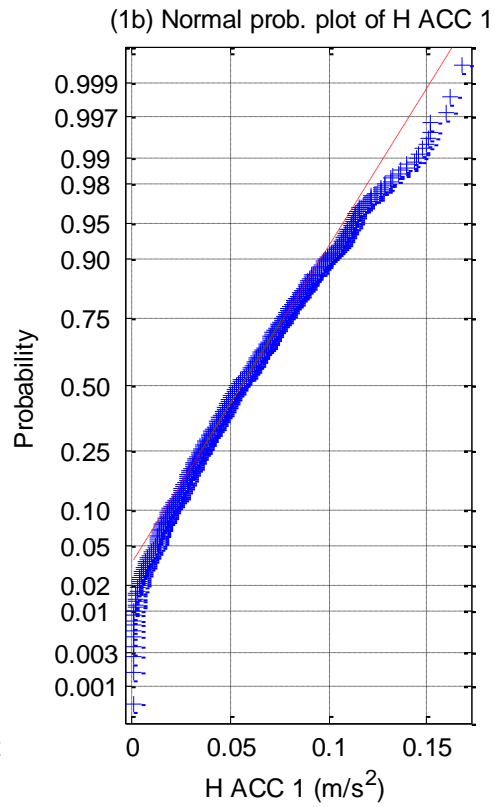
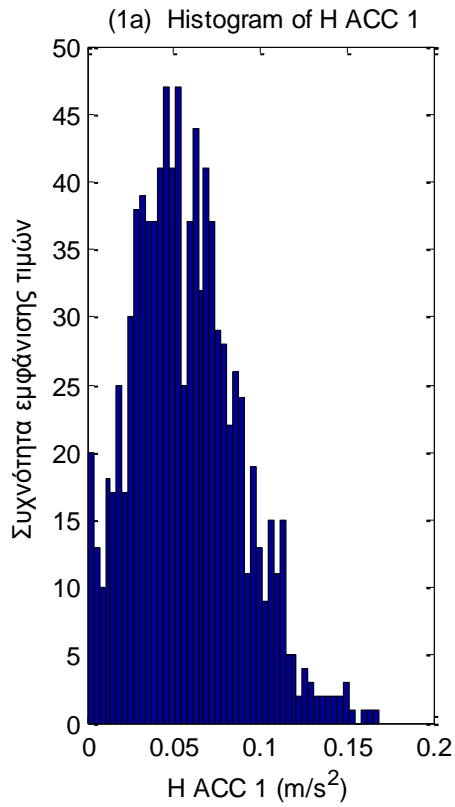


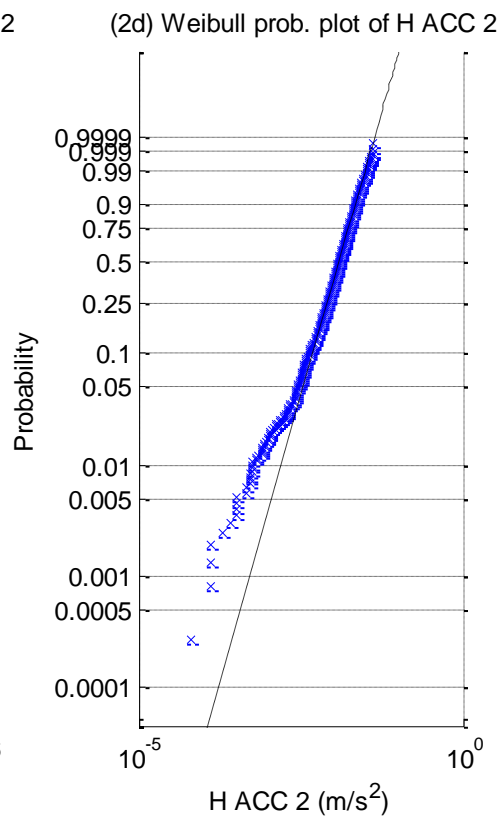
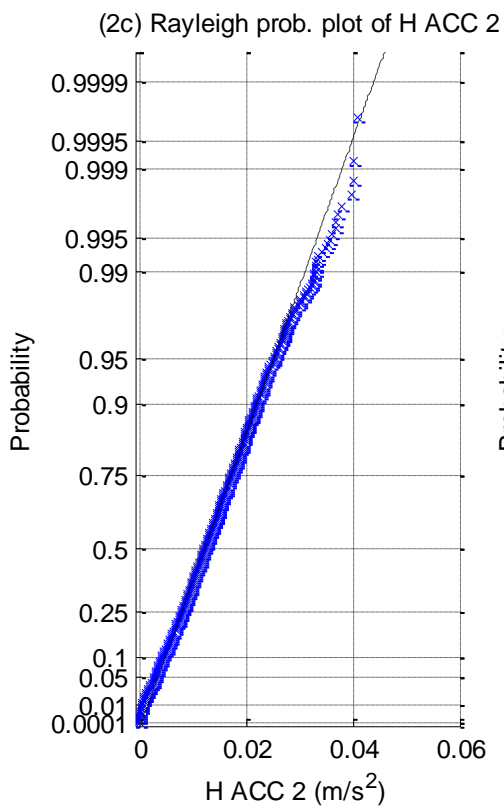
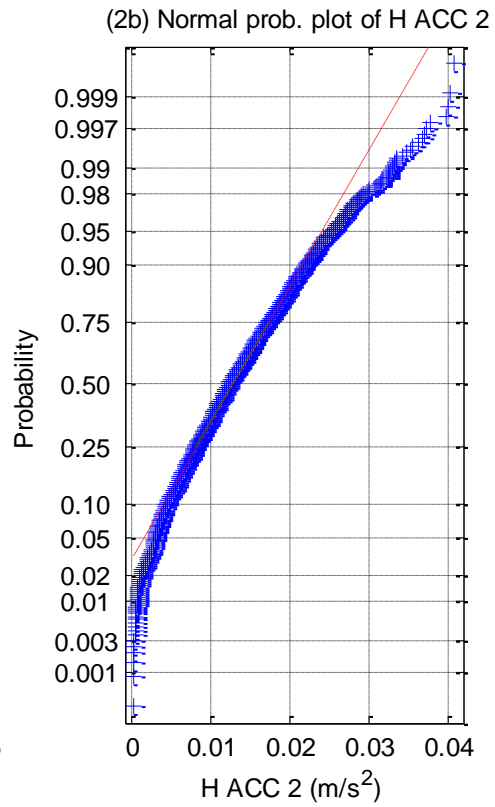
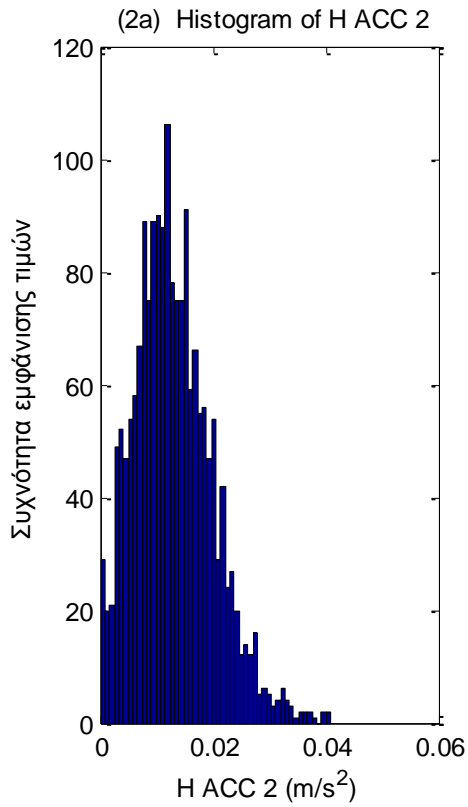


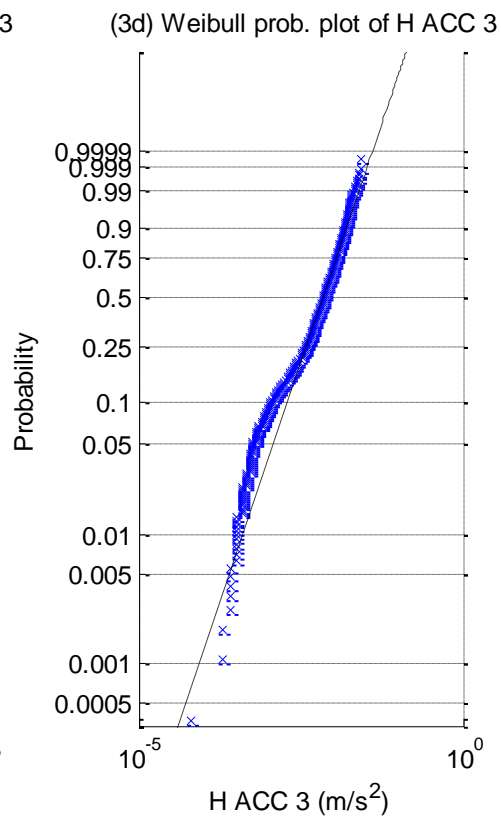
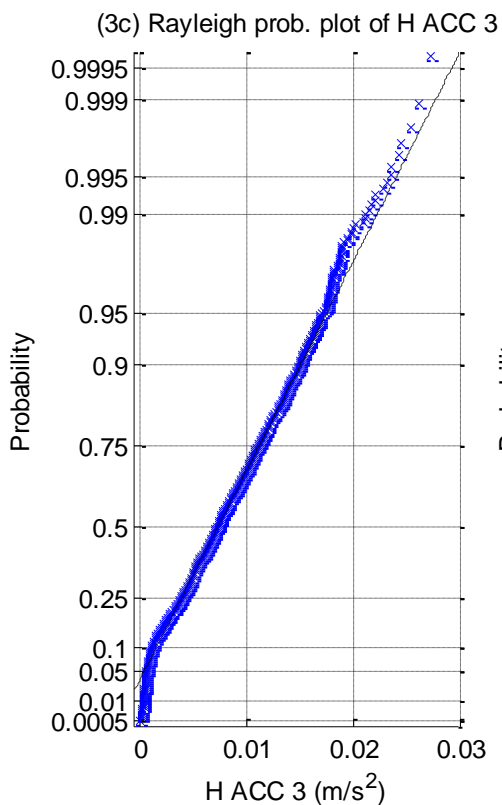
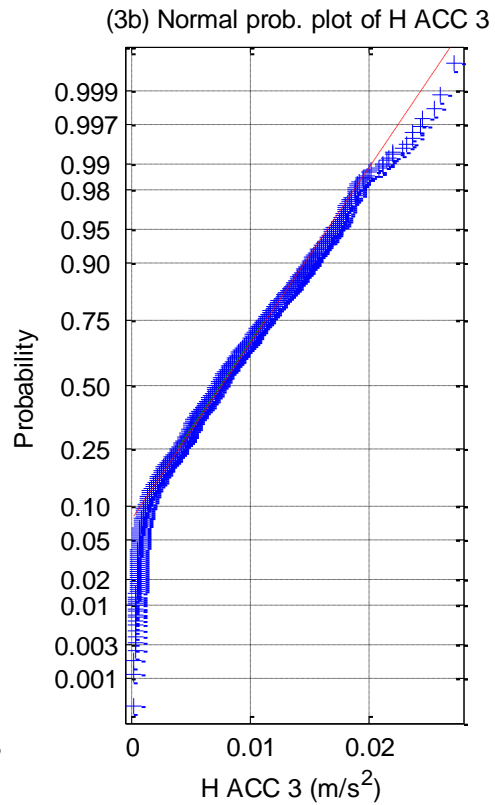
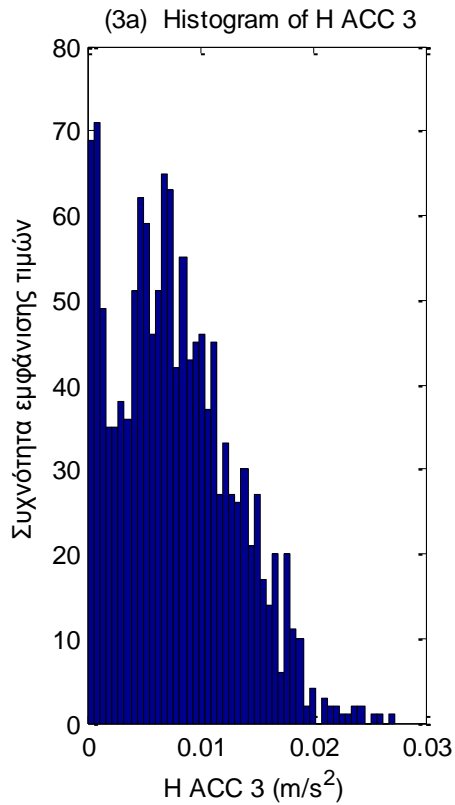




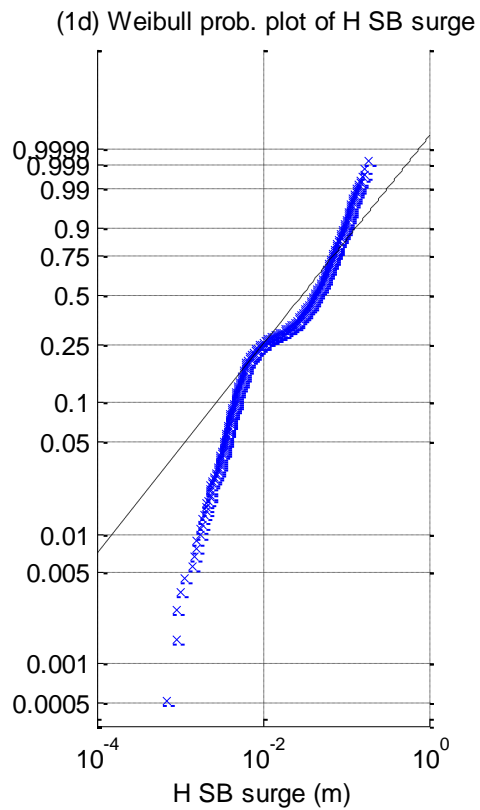
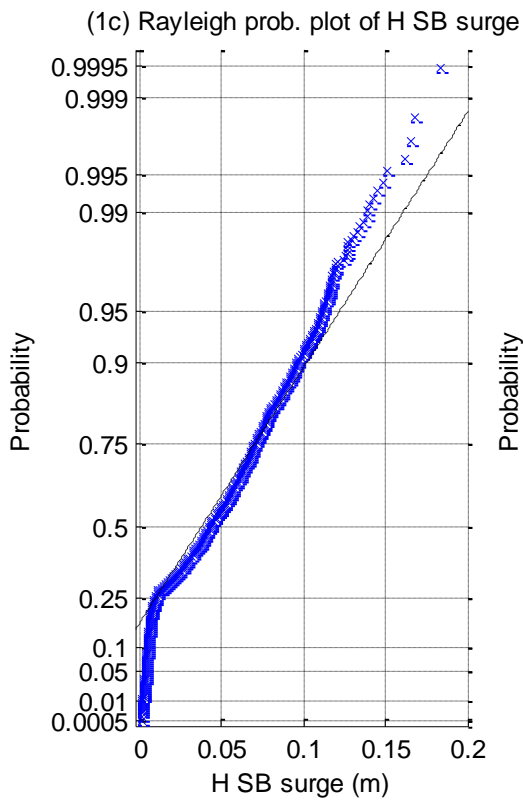
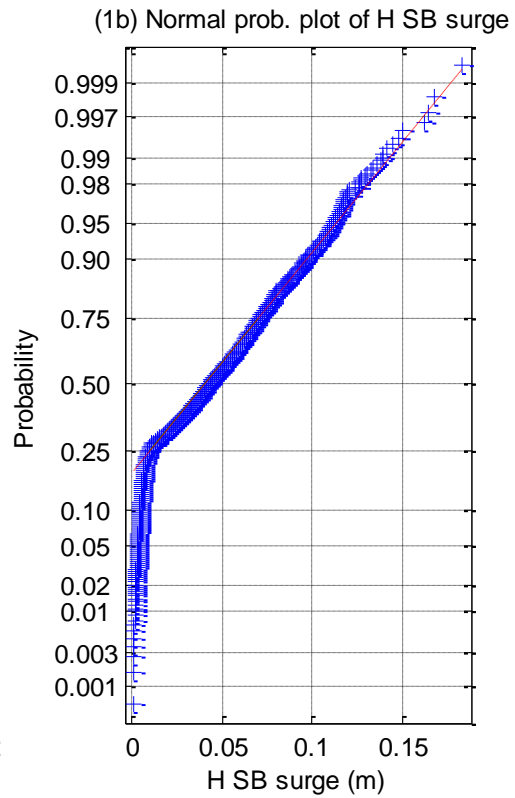
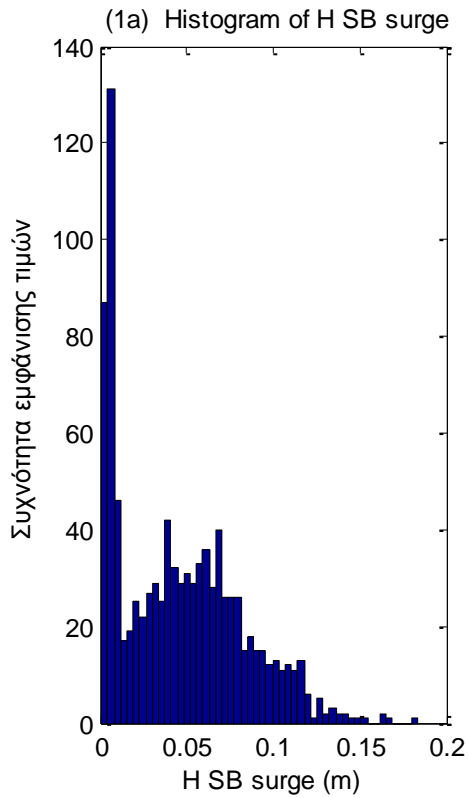
**Σχήματα 2.1.6.4 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

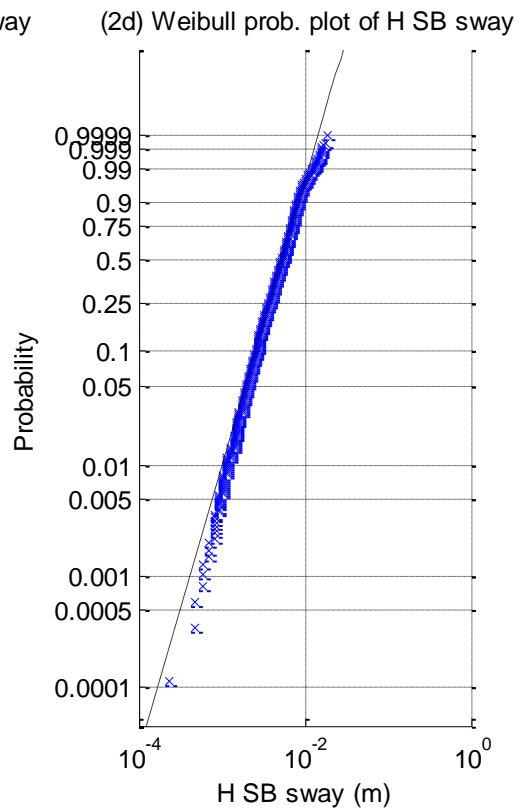
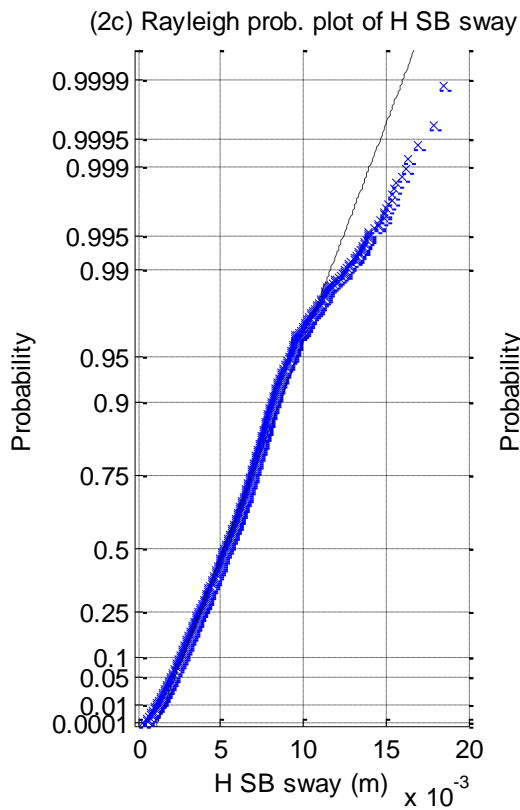
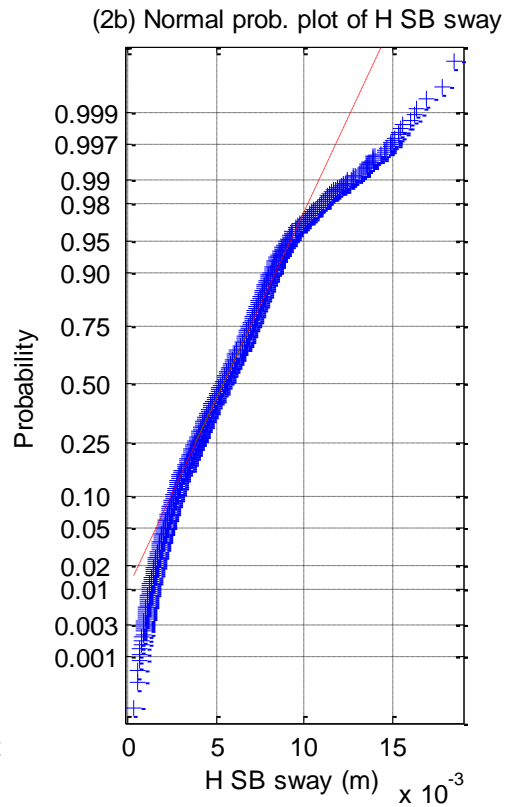
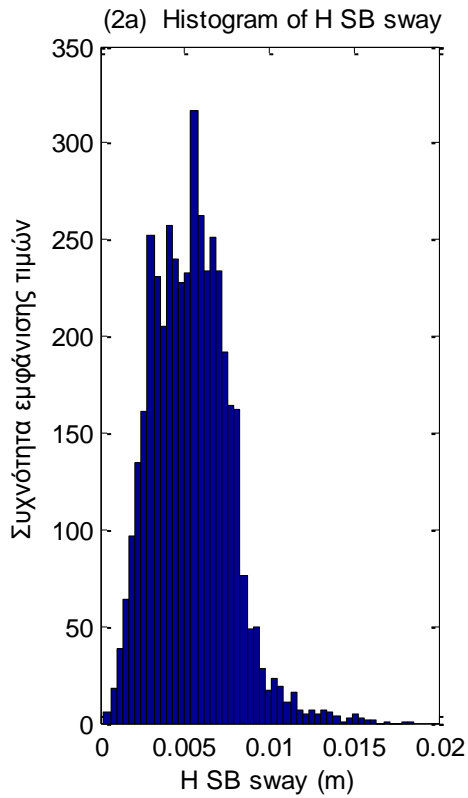


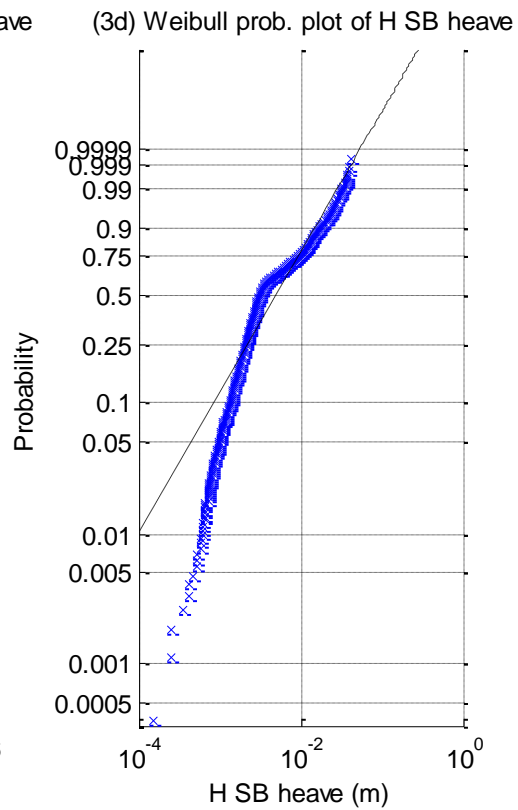
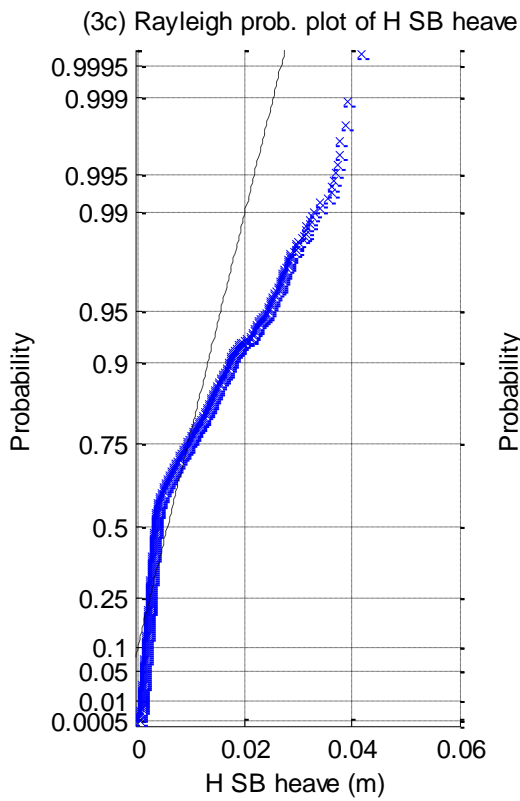
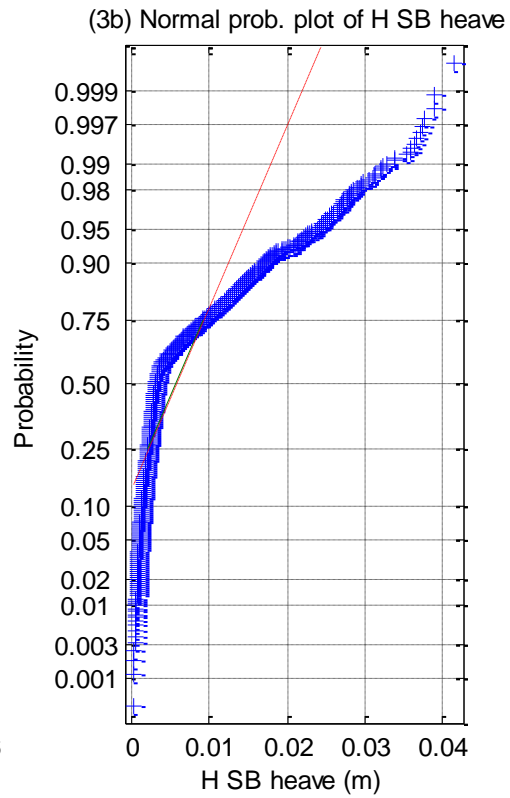
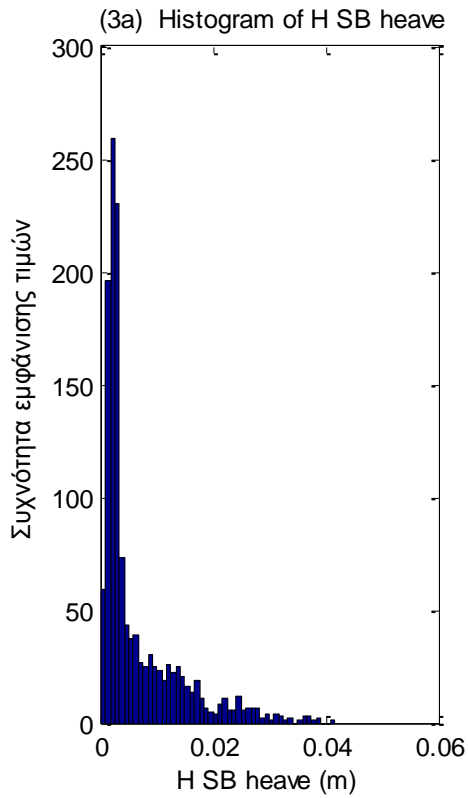


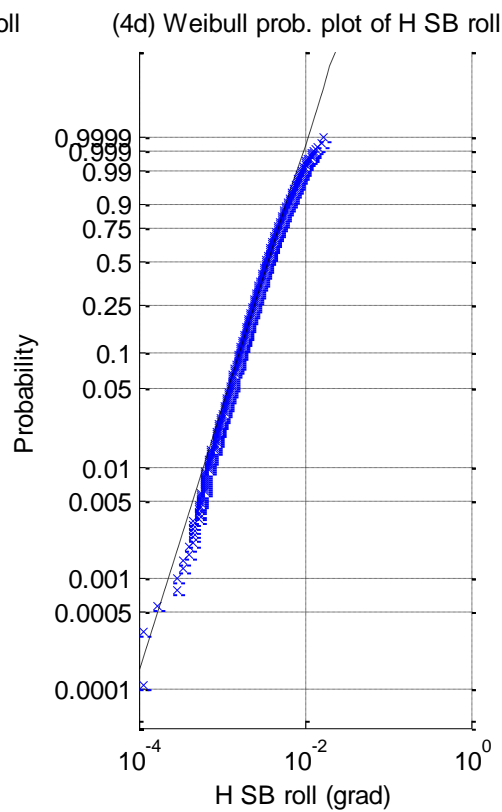
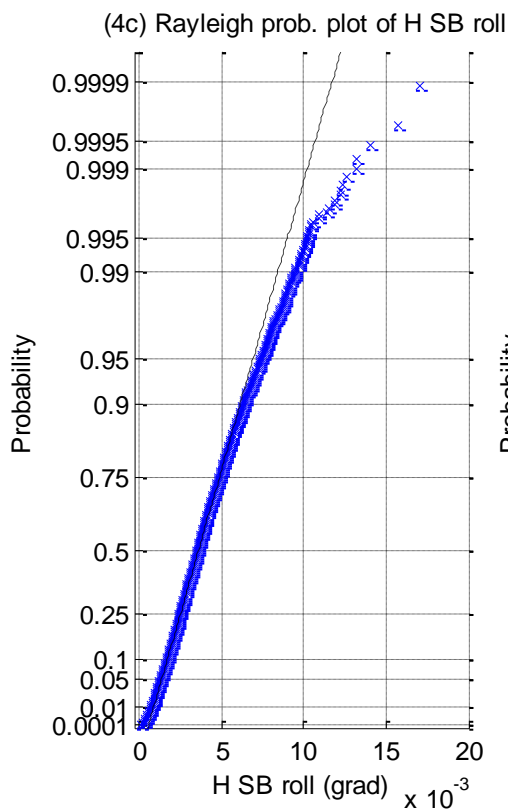
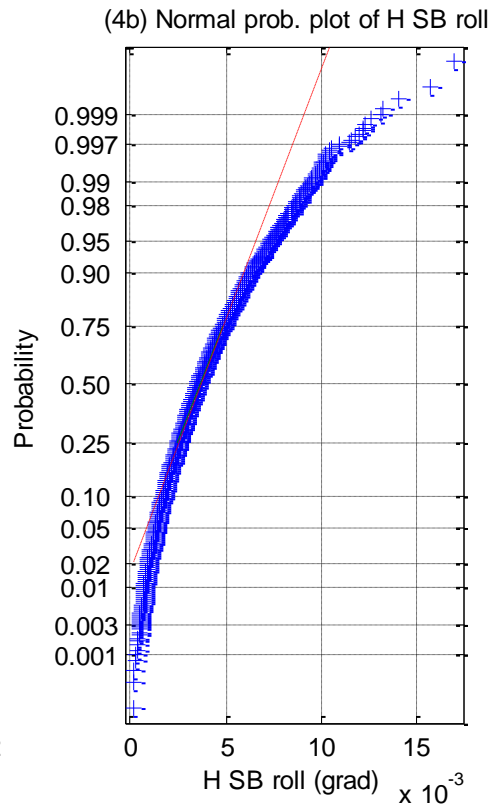
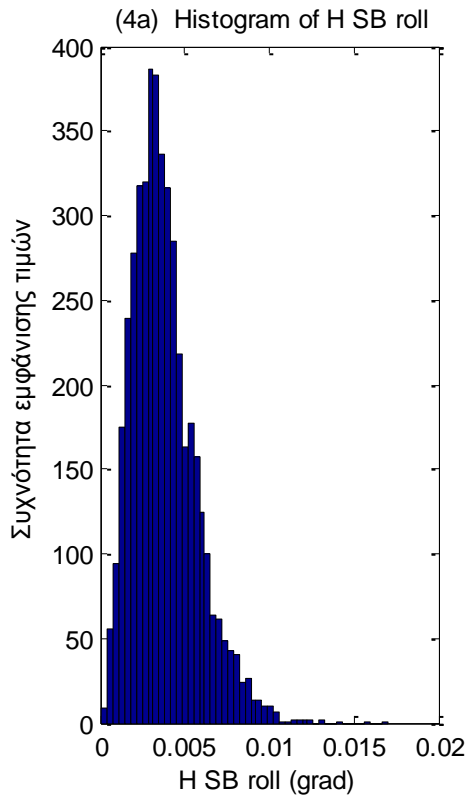


**Σχήματα 2.1.6.5 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης

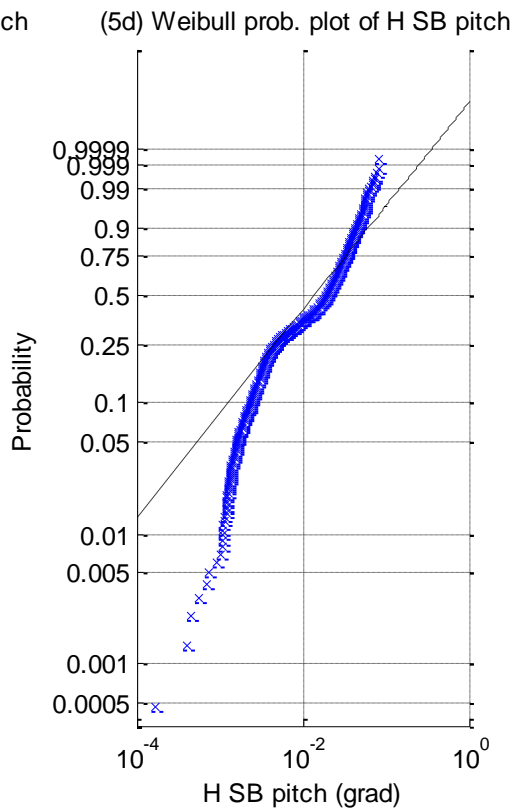
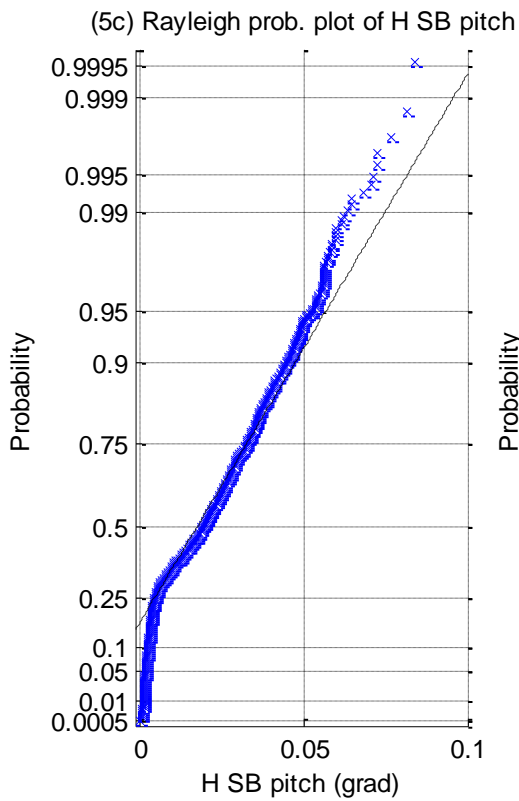
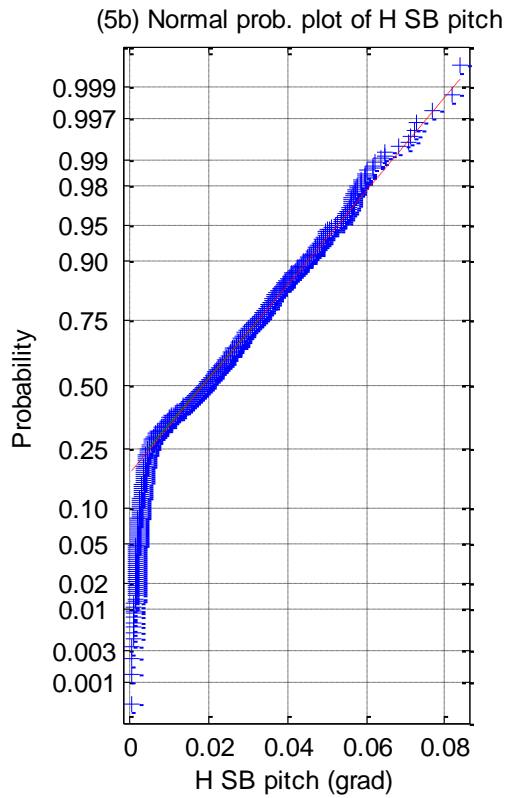
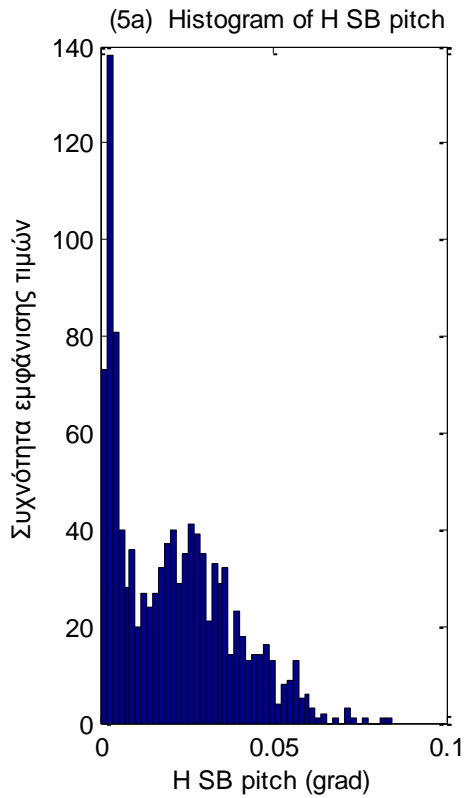


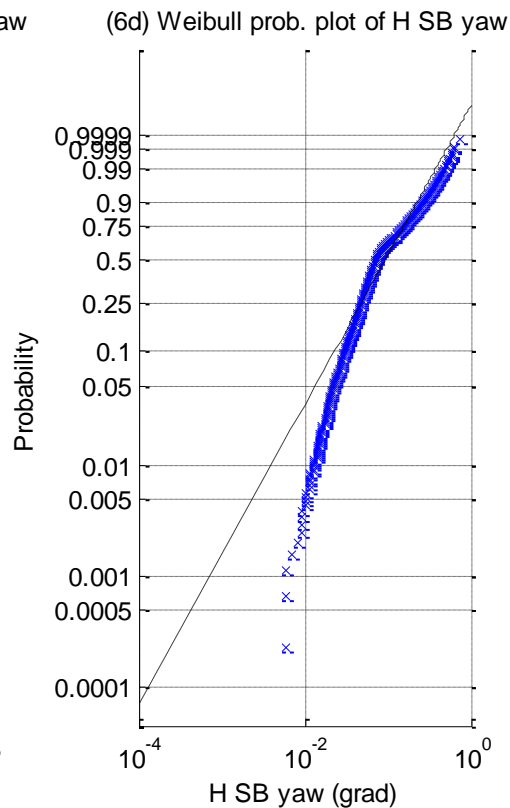
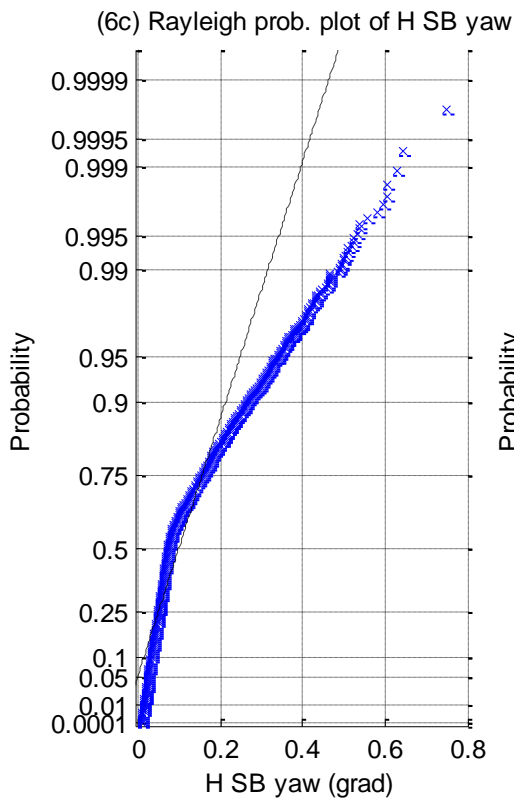
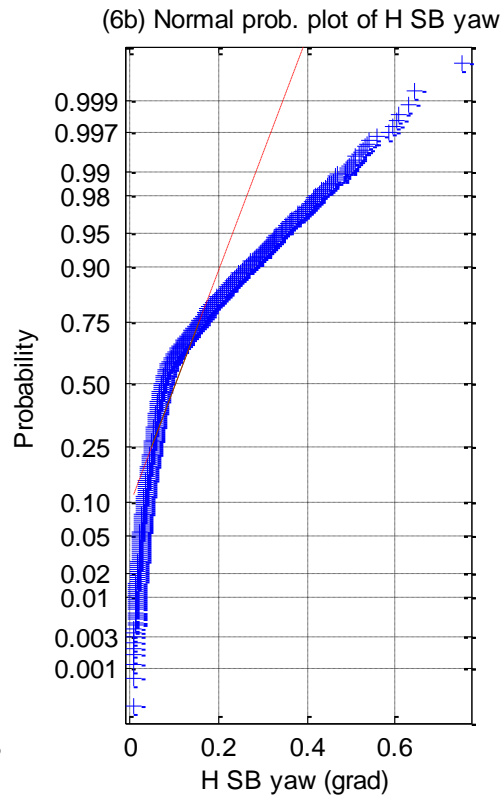
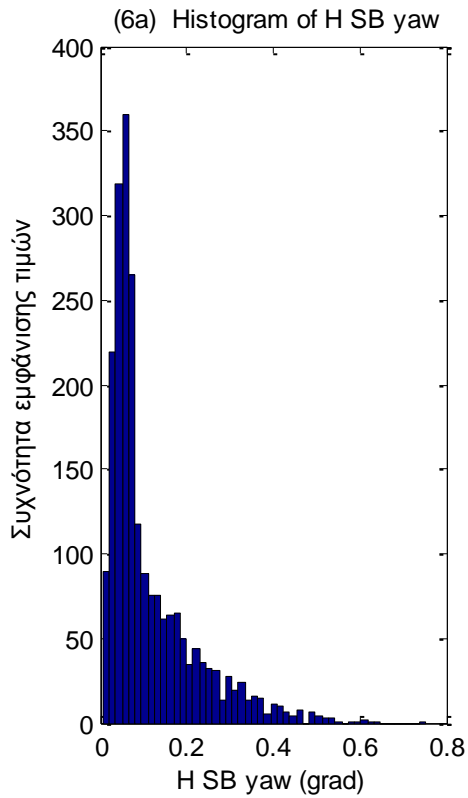






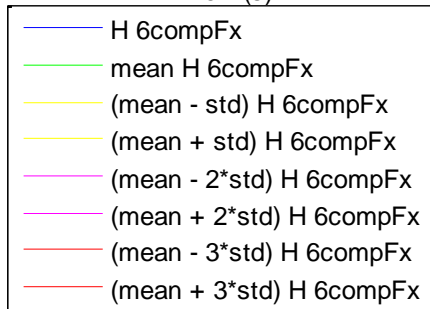
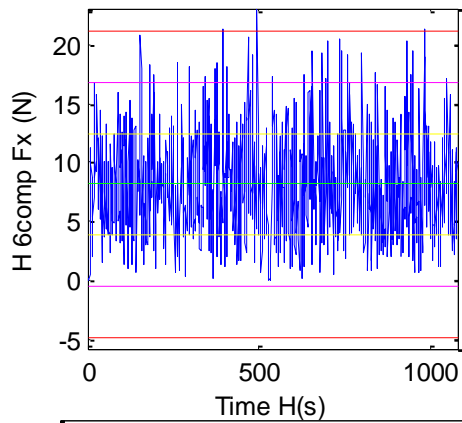




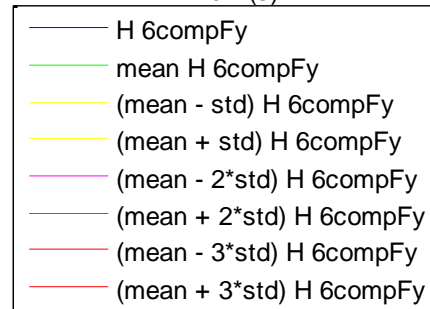
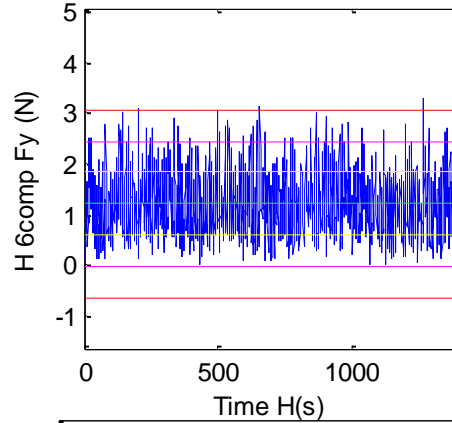


**Σχήματα 2.1.6.6 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

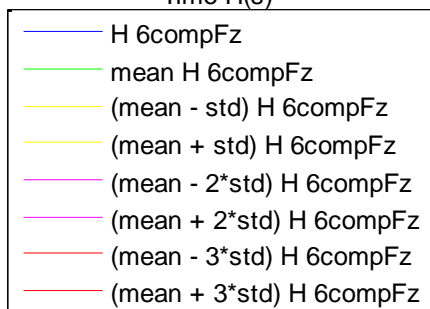
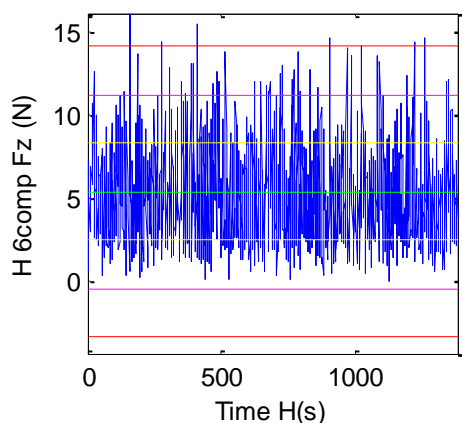
1) Time History of H 6comp Fx



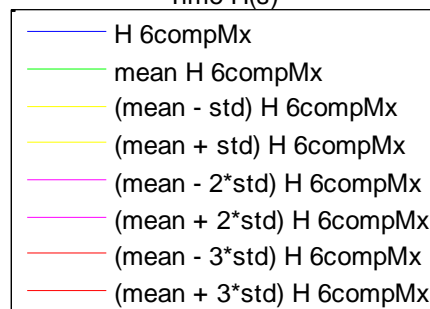
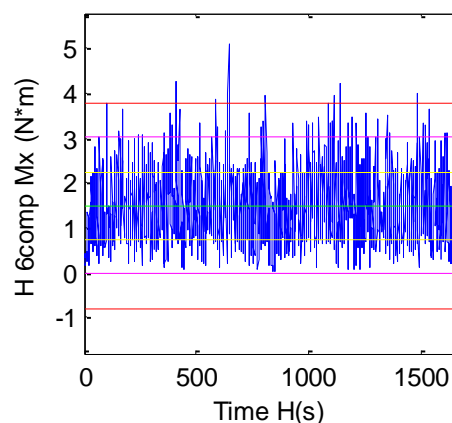
2) Time History of H 6comp Fy

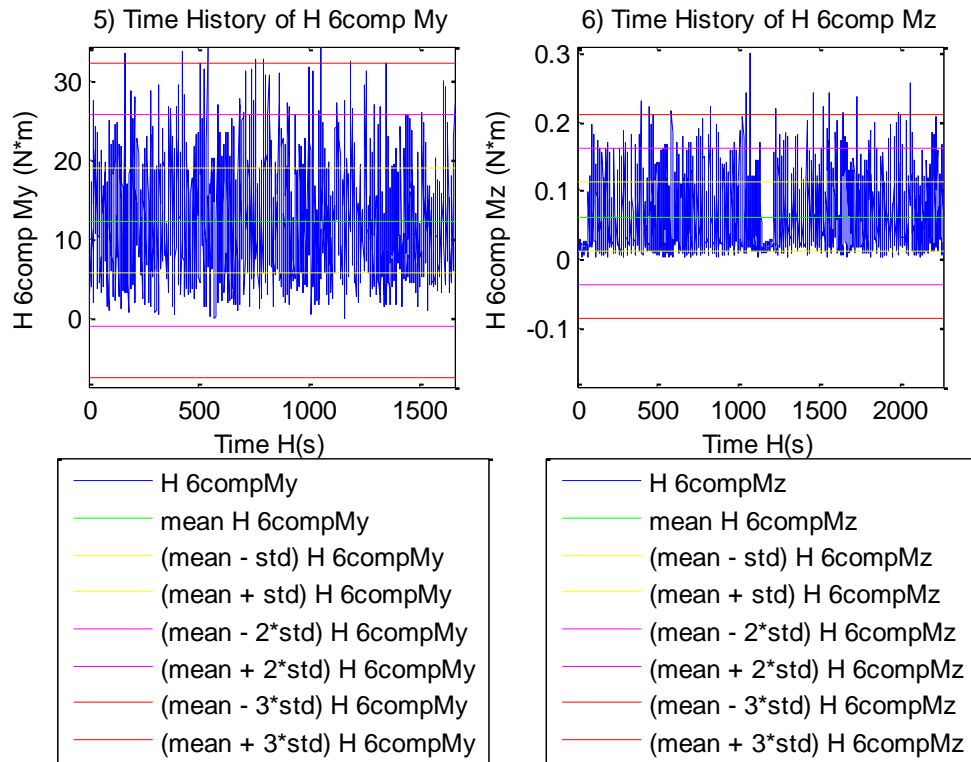


3) Time History of H 6comp Fz

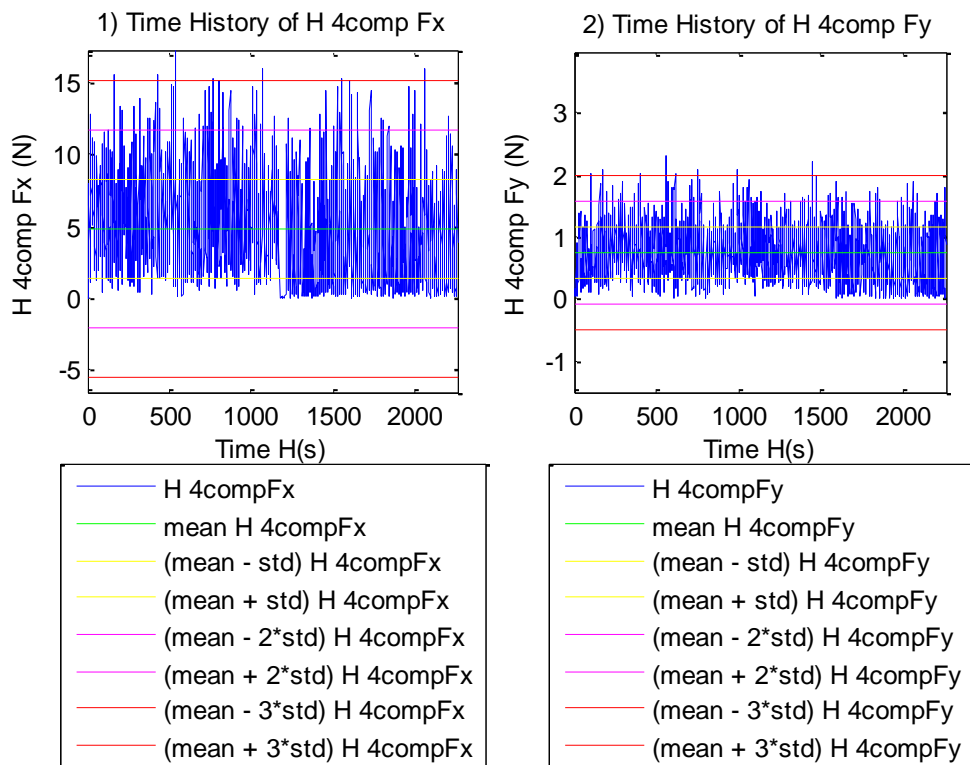


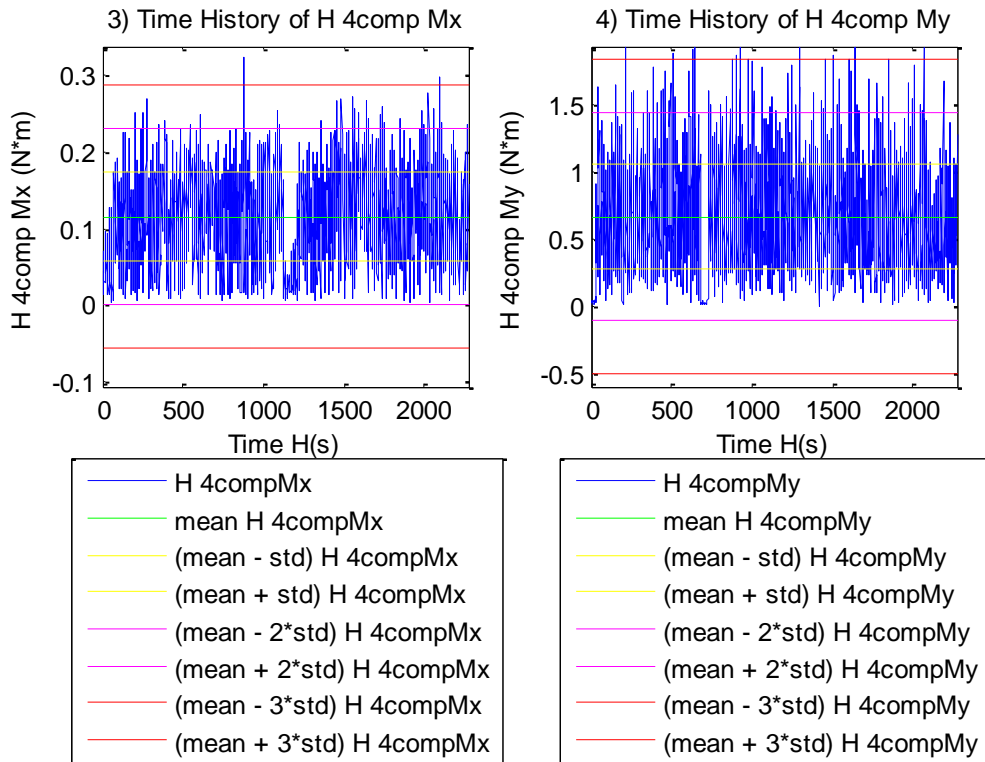
4) Time History of H 6comp Mx



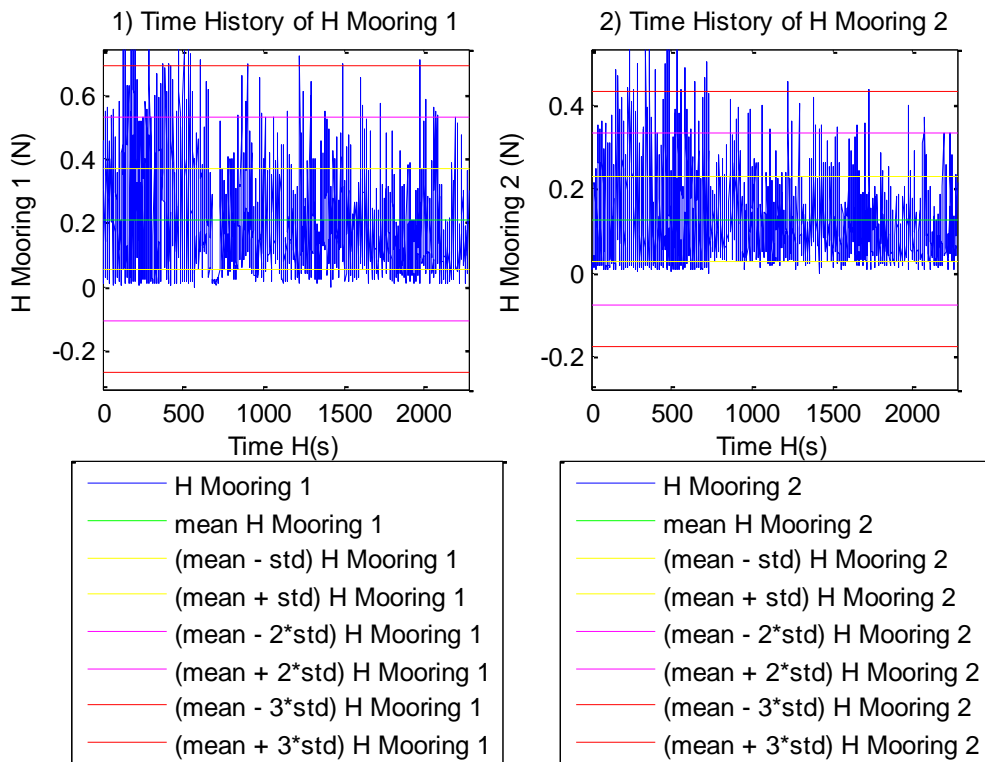


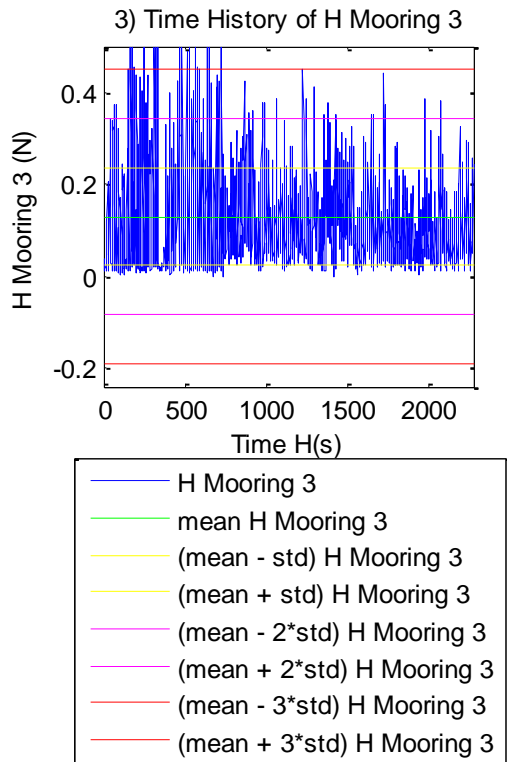
**Σχήματα 2.1.7.1 (1-6)** Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



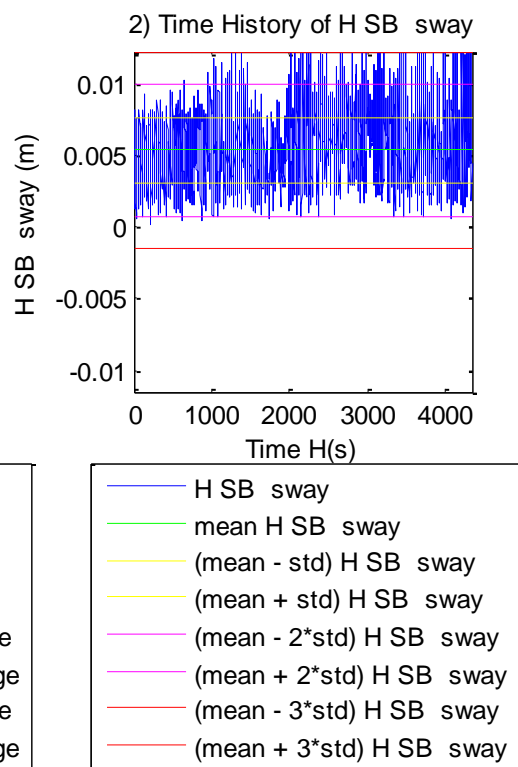
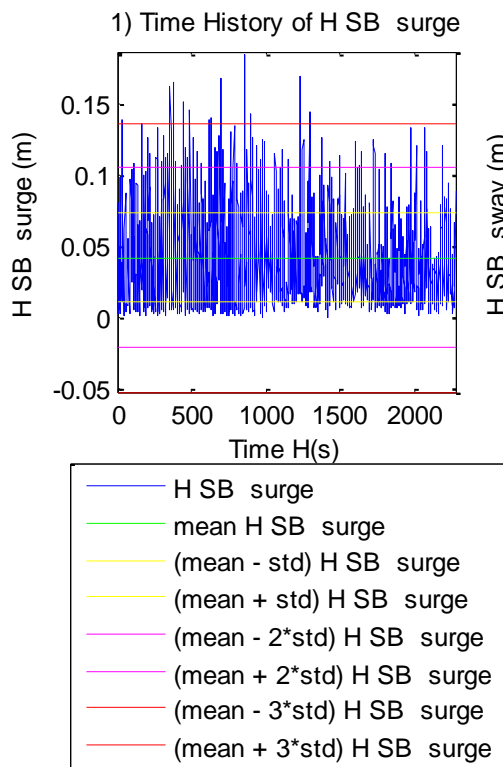


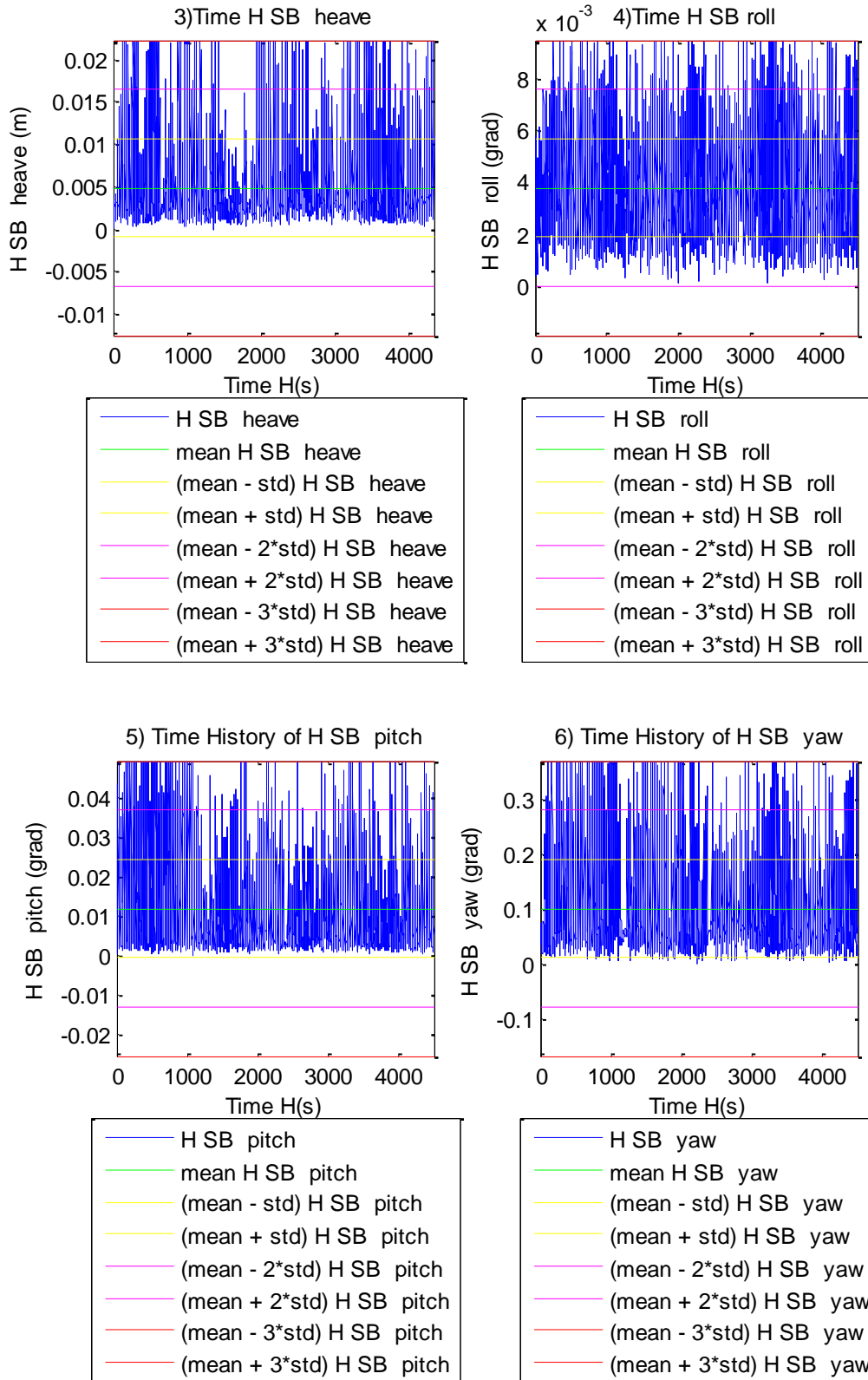
**Σχήματα 2.1.7.2 (1-4)** Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch





**Σχήματα 2.1.7.3 (1-3)** Διαγράμματα διάταξης του H για τις τρεις δυνάμεις στις τρεις γραμμές αγκύρωσης της Α/Γ





**Σχήματα 2.1.7.4 (1-6)** Διαγράμματα διάταξης του H για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=100**

4.2447	3.9684	3.7920	1.0200	1.0218	1.0135	1.7920	1.8427	1.8775	1.3165	1.1686
3.5581	3.8745	3.3226	0.8904	0.8769	0.9020	1.9261	1.8498	1.9136	1.4904	1.3815
4.1224	3.9565	4.6232	1.1029	1.1007	1.0646	1.5449	1.5853	1.6388	1.1559	1.0451
1.1201	1.0621	1.2420	4.5969	4.4016	4.3671	0.9493	0.9457	0.9147	1.1084	1.0449
1.0707	1.0361	1.1575	4.3180	4.5429	4.2121	0.9525	0.9738	0.8874	1.0103	1.0097
1.1678	1.0789	1.2084	4.2034	4.1021	4.5008	1.0517	0.9227	0.8351	0.9887	1.0735
1.3746	1.7252	1.1955	0.9395	0.9211	0.8439	4.4587	1.9640	1.0998	0.8430	1.0687
1.9503	2.0019	1.8088	0.9887	1.0866	0.9901	1.8456	4.4729	2.1850	1.0854	0.7842
1.6359	1.7162	1.4206	1.0186	1.0385	0.9533	0.9622	1.9066	4.8184	2.8627	1.8646
1.3383	1.2907	1.3427	1.2093	1.1332	1.2178	1.1586	1.1891	2.7116	4.6026	3.9213
1.2009	1.1730	1.2266	1.1427	1.0787	1.2930	1.3423	1.0200	2.0038	3.9239	4.5488

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=1000**

3.2869	3.0226	2.9644	0.9526	1.0339	0.9710	1.4725	1.5678	1.4894	1.1910	1.1274
2.8256	3.1073	2.4722	0.9232	0.9729	0.9475	1.5487	1.5632	1.5215	1.2095	1.1673
3.1924	2.8259	3.5224	0.9861	1.0188	1.0063	1.2911	1.4604	1.3745	1.1488	1.1067
1.0569	1.0086	1.0837	3.5131	3.3888	3.3715	0.9485	0.8998	1.0506	1.1819	1.1440
1.0647	1.0159	1.0803	3.3609	3.4895	3.3117	0.9667	0.9377	1.0222	1.1450	1.1055
1.0672	1.0262	1.0919	3.3369	3.3033	3.4739	0.9794	0.8994	1.0022	1.1547	1.1497
1.3360	1.4387	1.1006	0.8686	0.8776	0.8566	3.5194	1.7192	0.9493	1.0076	1.1307
1.6242	1.4438	1.5339	0.8725	0.8930	0.8606	1.6039	3.4923	1.7397	1.0752	0.9750
1.5100	1.4638	1.4530	0.9483	0.9521	0.9823	1.0186	1.8761	3.5078	2.3293	1.7767
1.2760	1.2142	1.3114	1.1670	1.1560	1.1505	1.0868	1.1462	2.2870	3.4416	3.0902
1.1249	1.1043	1.1642	1.1736	1.1735	1.1654	1.1577	1.0491	1.7305	3.0906	3.4270

**Μητρώα MKN για τις έξι δυνάμεις και ροπές  $\mathbf{bcomp}$  [ Fx, Fy, Fz, Mx, My, Mz] για K=100**

3.9516	2.2849	2.7268	1.9075	3.2902	2.5221
0.8135	1.4198	1.3467	0.6449	1.1652	1.2853
0.6617	1.5570	1.6601	0.8275	1.3272	1.6029
1.0603	0.5800	0.7420	1.4814	0.8498	0.8233



3.9297	3.5608	4.1084	1.5999	4.2356	3.8841
0.6051	1.3997	1.5034	0.8351	1.2066	1.5389

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz]  
για K=1000**

3.2527	1.5129	1.9490	1.6215	2.7401	1.7720
0.8168	1.3106	1.2460	0.7414	1.0697	1.2137
0.6861	1.3860	1.4839	0.8734	1.1503	1.4382
1.0907	0.6891	0.8384	1.3537	0.9336	0.8730
3.0622	2.6362	3.1772	1.2840	3.4168	2.9804
0.6543	1.2822	1.3754	0.8828	1.0662	1.4081

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=100**

4.2402	1.7577	1.0551	4.1917
0.3054	2.1636	1.8061	0.2747
0.8969	1.5431	1.8753	0.9195
4.0316	1.1856	1.0397	4.1042

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=1000**

3.3923	1.2853	0.9231	3.3158
0.5904	1.8471	1.6029	0.4691
0.9185	1.4533	1.6992	0.9326
3.1810	0.8413	0.8697	3.2787

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=100**

1.0443	0.9783	0.9815
0.9901	1.0265	1.0249
0.9874	1.0281	1.0292

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2, 3] για K=1000**

1.0321	0.9865	0.9846
0.9916	1.0200	1.0186
0.9895	1.0208	1.0225

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=100**

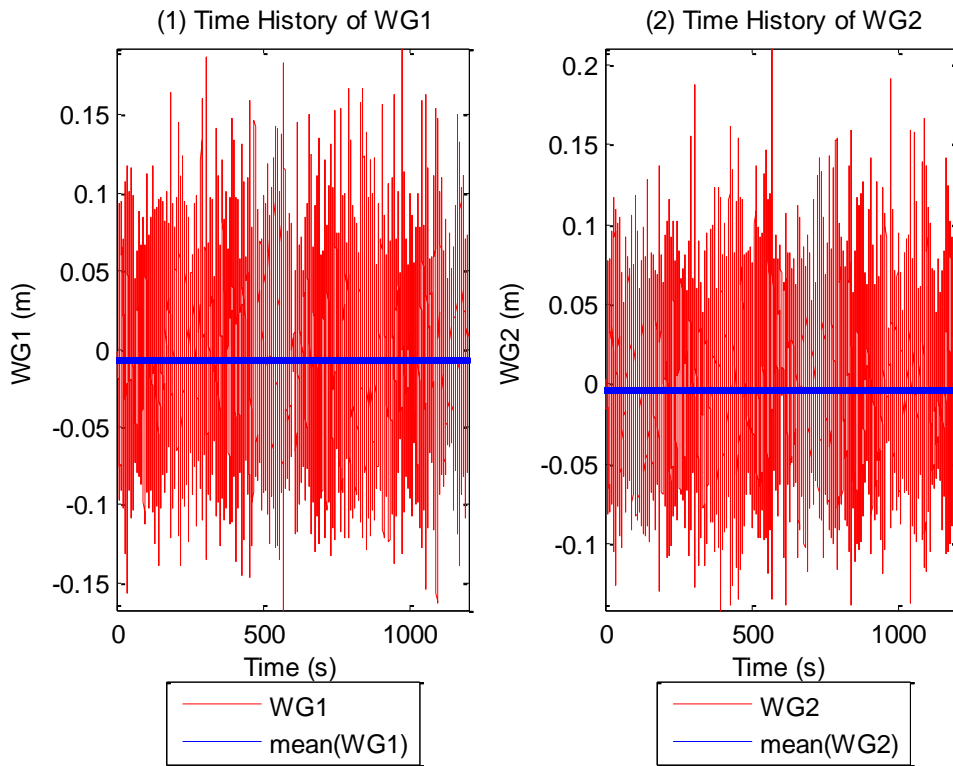
4.1324	1.0244	1.1085	0.9074	3.7778	2.9703
1.0024	1.0791	0.9944	0.9737	1.0010	1.0009
0.9773	0.7699	1.7496	1.0044	0.9401	0.9380
0.9249	0.9395	1.0455	1.2206	0.9082	0.8934
1.6867	1.1025	1.1400	0.8728	2.1215	1.8260
1.2790	1.0720	1.0662	0.8018	1.4107	1.5299

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000**

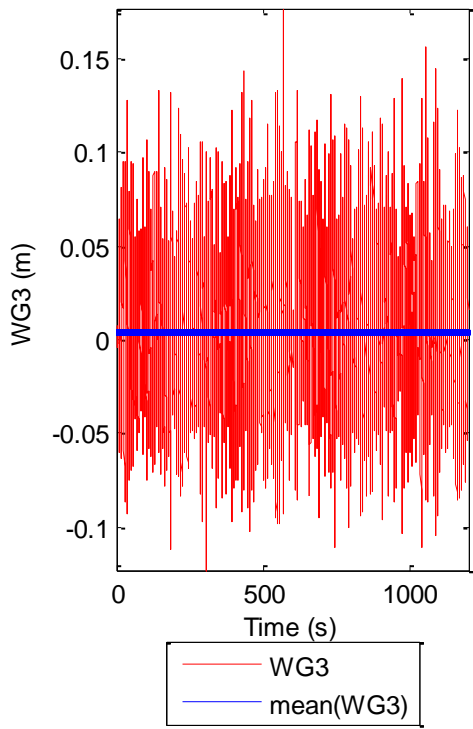
3.2875	1.0969	1.1141	1.0446	2.5602	2.0652
1.0023	1.0632	0.9976	0.9837	0.9984	1.0006
0.9946	0.8482	1.6037	0.9862	0.9875	0.9646
0.9950	0.9517	1.0053	1.1663	0.9439	0.9228
0.9531	0.9756	1.0510	0.8514	1.8063	1.5493
0.9846	1.0135	1.0313	0.8458	1.2868	1.4104

## 2.2 Παρουσίαση χρονοσειρών (C6) T1397+T1399\_1.6\_0.1\_SB\_20\_NR

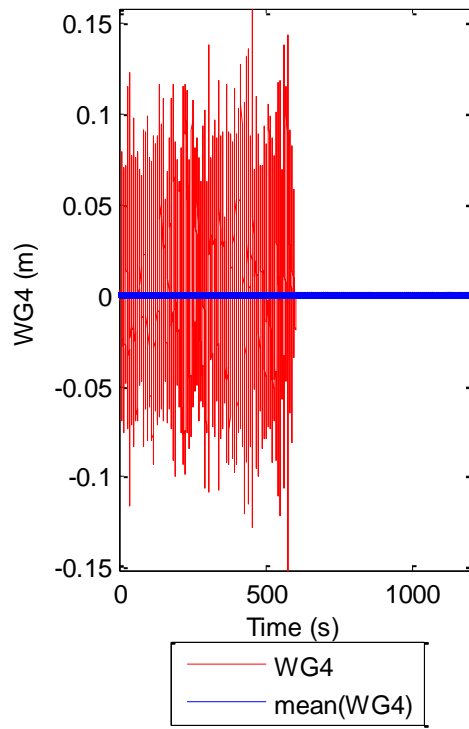
Πίνακας 2.2.1		Χαρακτηριστικά Πειράματος
Τύπος μοντέλου		SB
Ύψος κύματος (m)		0.100
Περίοδος κύματος (s)		1.6
Τύπος κύματος		IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)		20
Περιστροφή η μη του Ρότορα		Χωρίς περιστροφή



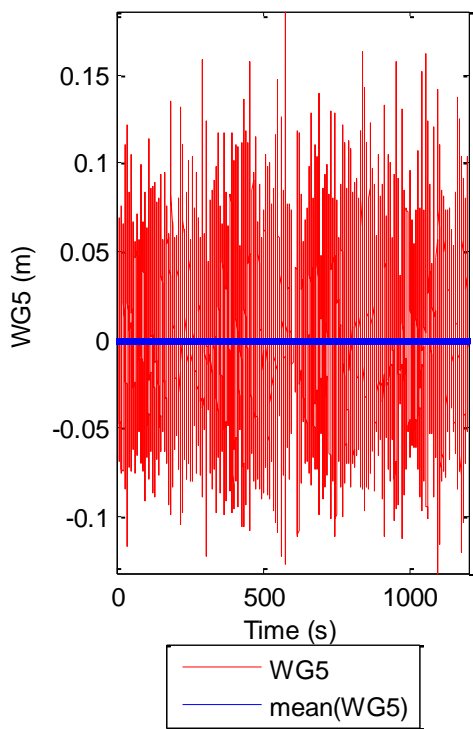
(3) Time History of WG3



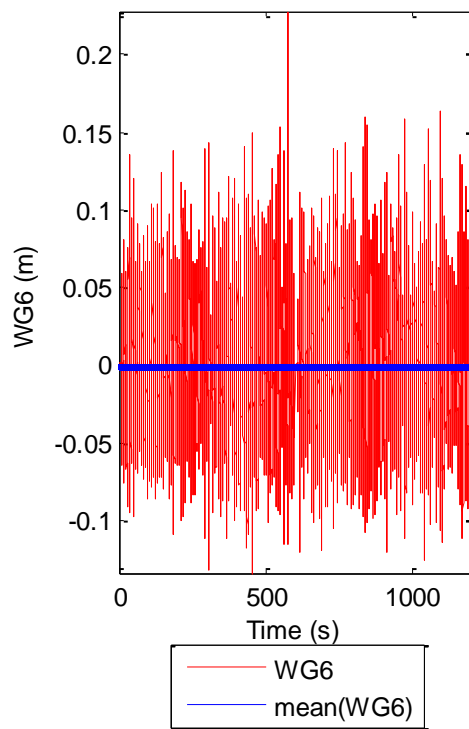
(4) Time History of WG4



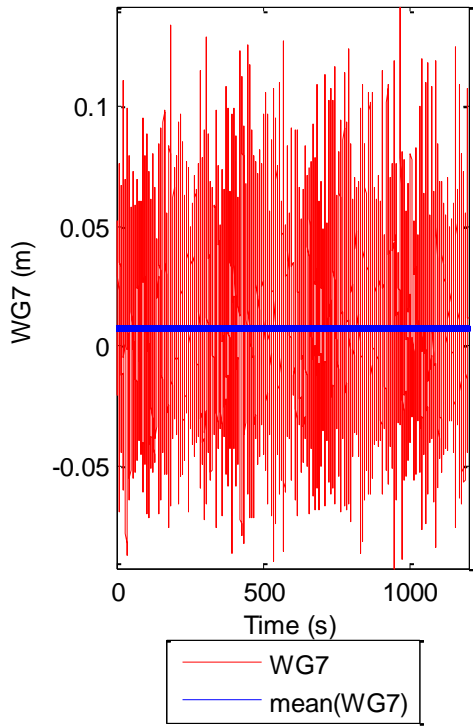
(5) Time History of WG5



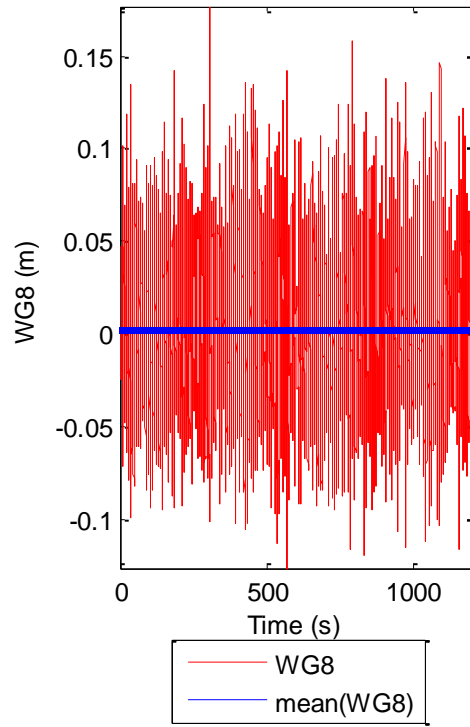
(6) Time History of WG6



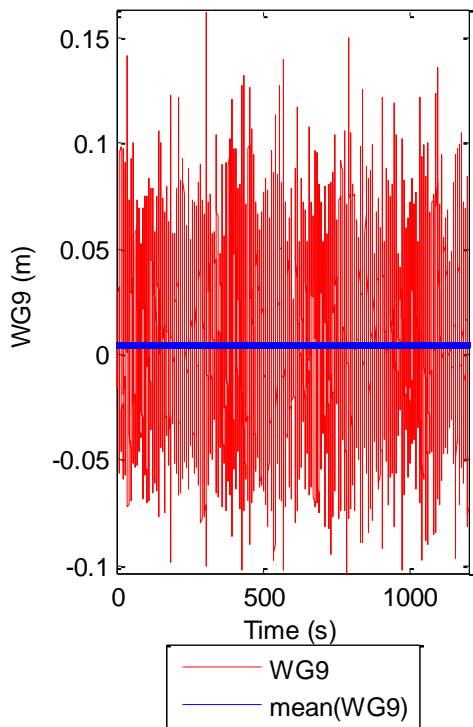
(7) Time History of WG7



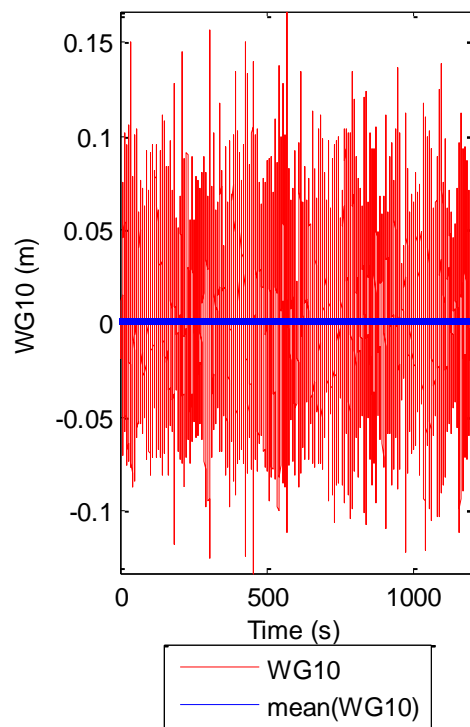
(8) Time History of WG8

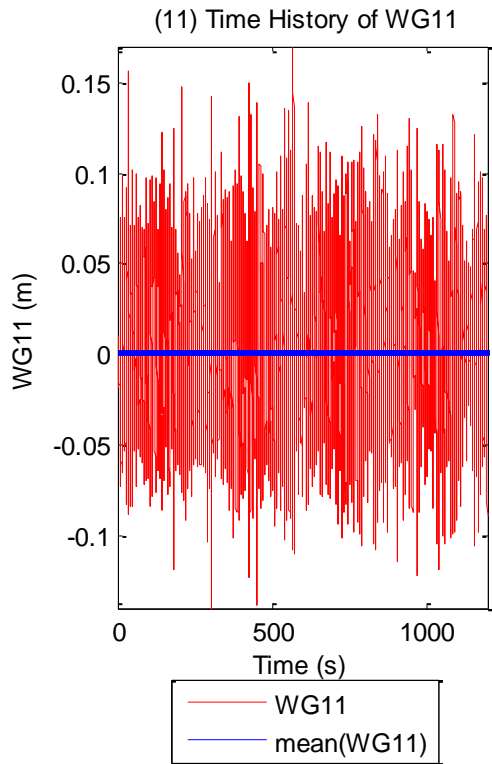


(9) Time History of WG9

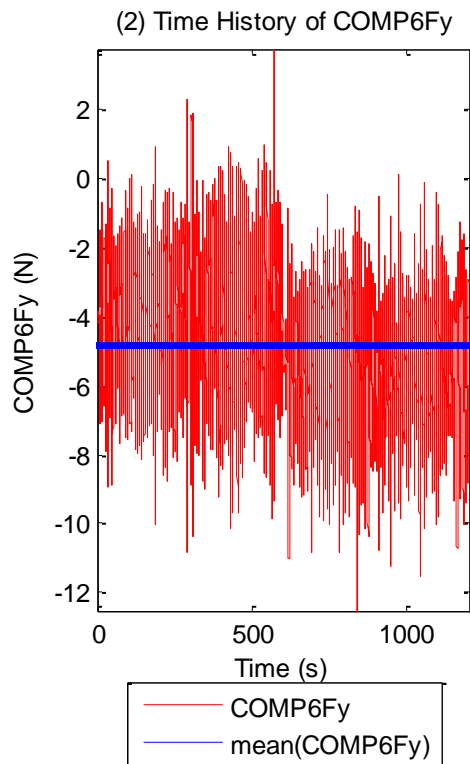
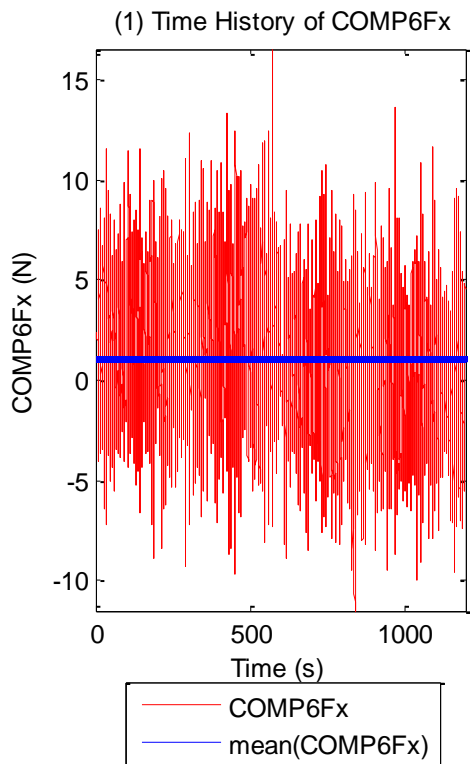


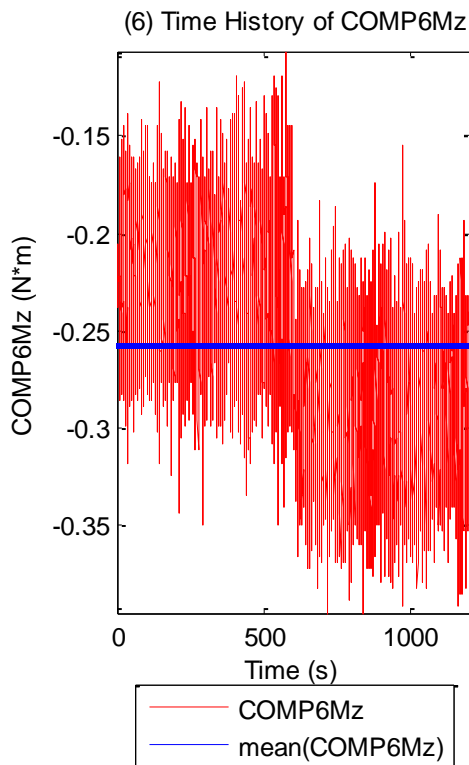
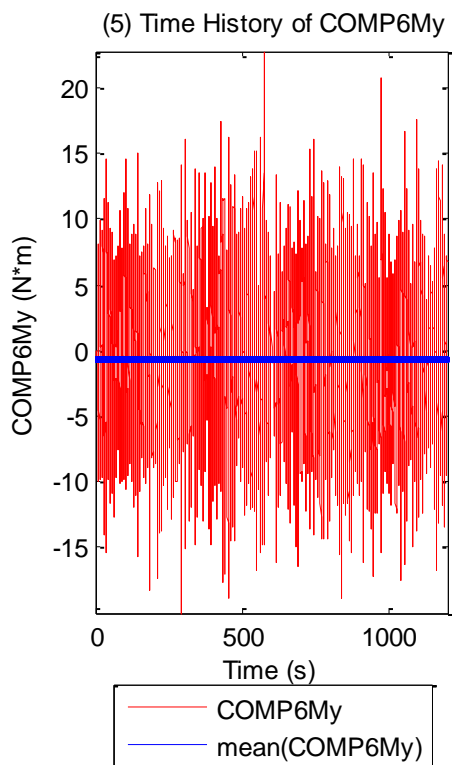
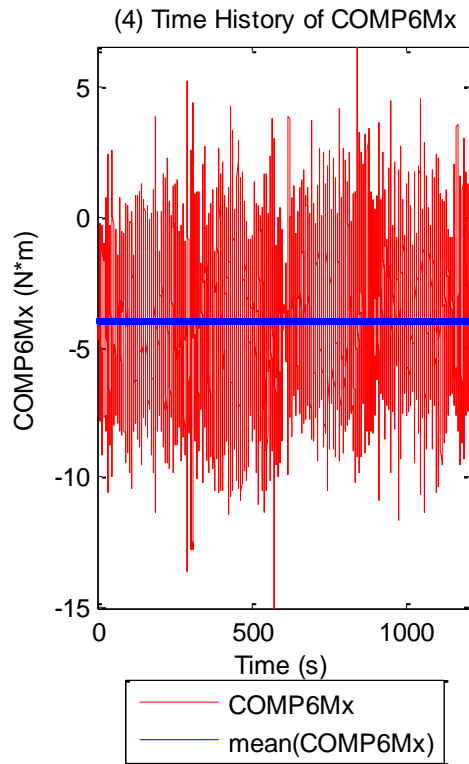
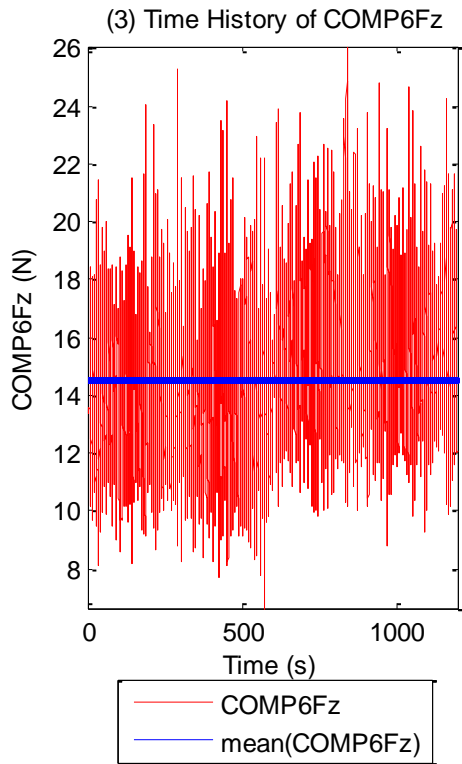
(10) Time History of WG10



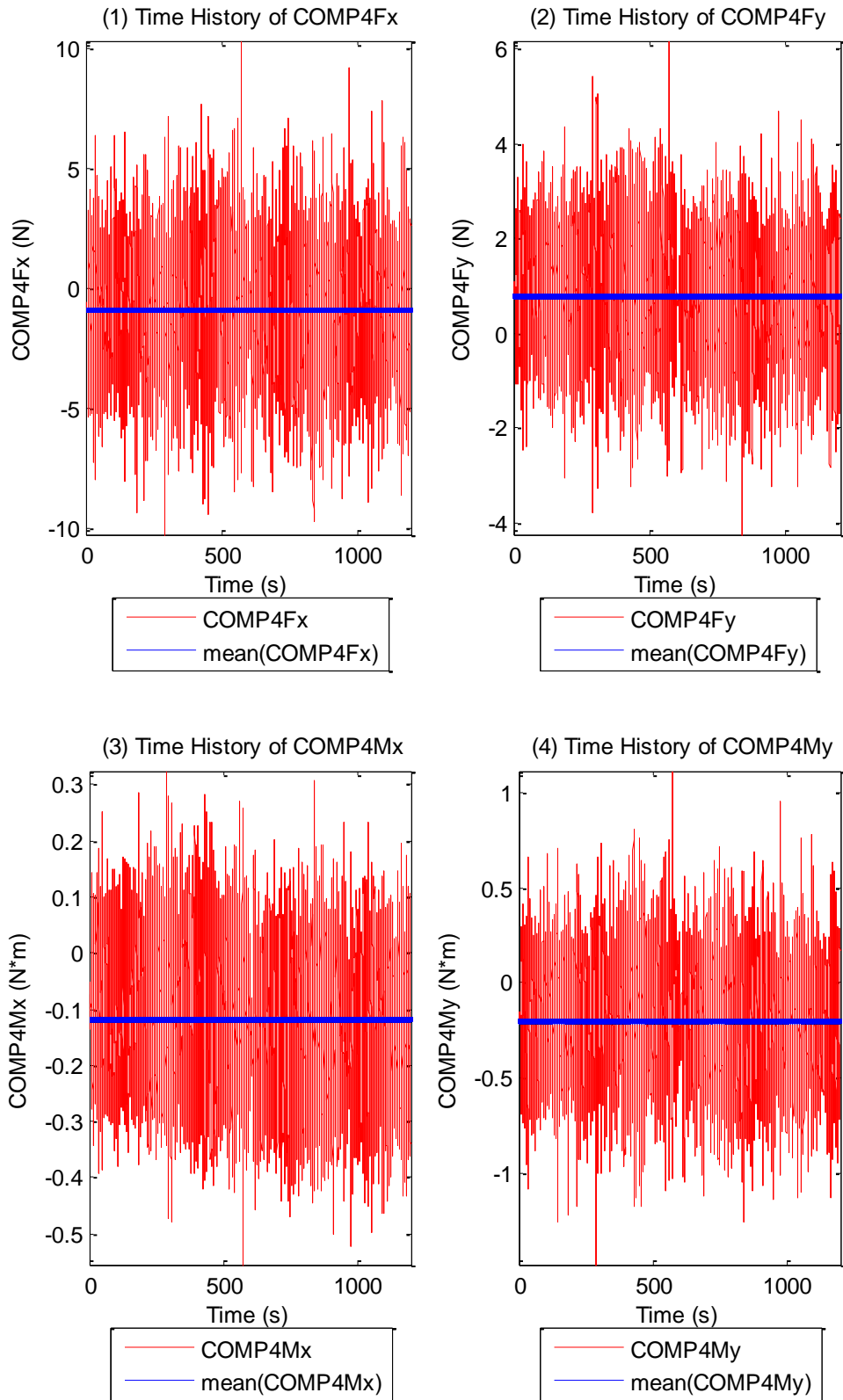


**Σχήματα 2.2.1.1 (1-6)** Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές



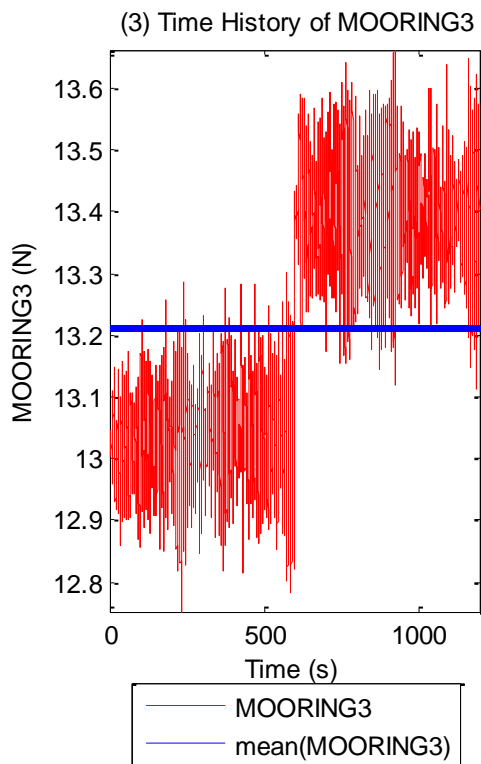
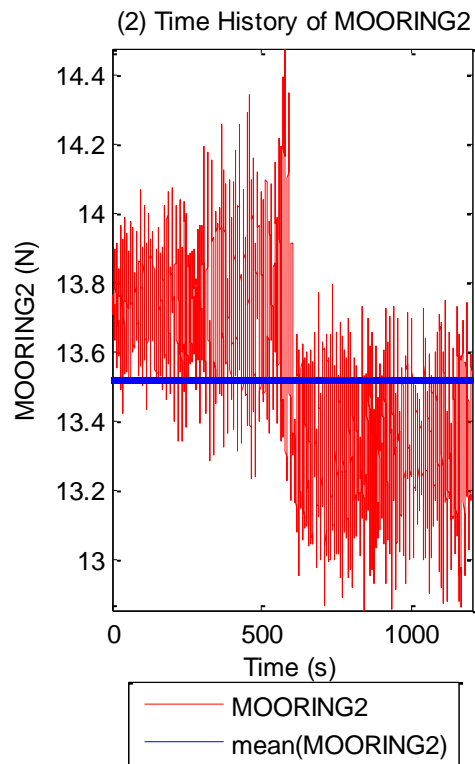
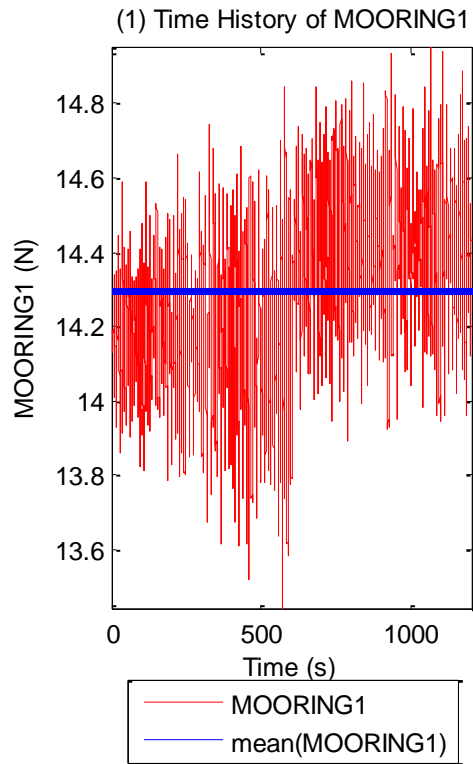


**Σχήματα 2.2.1.2** Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

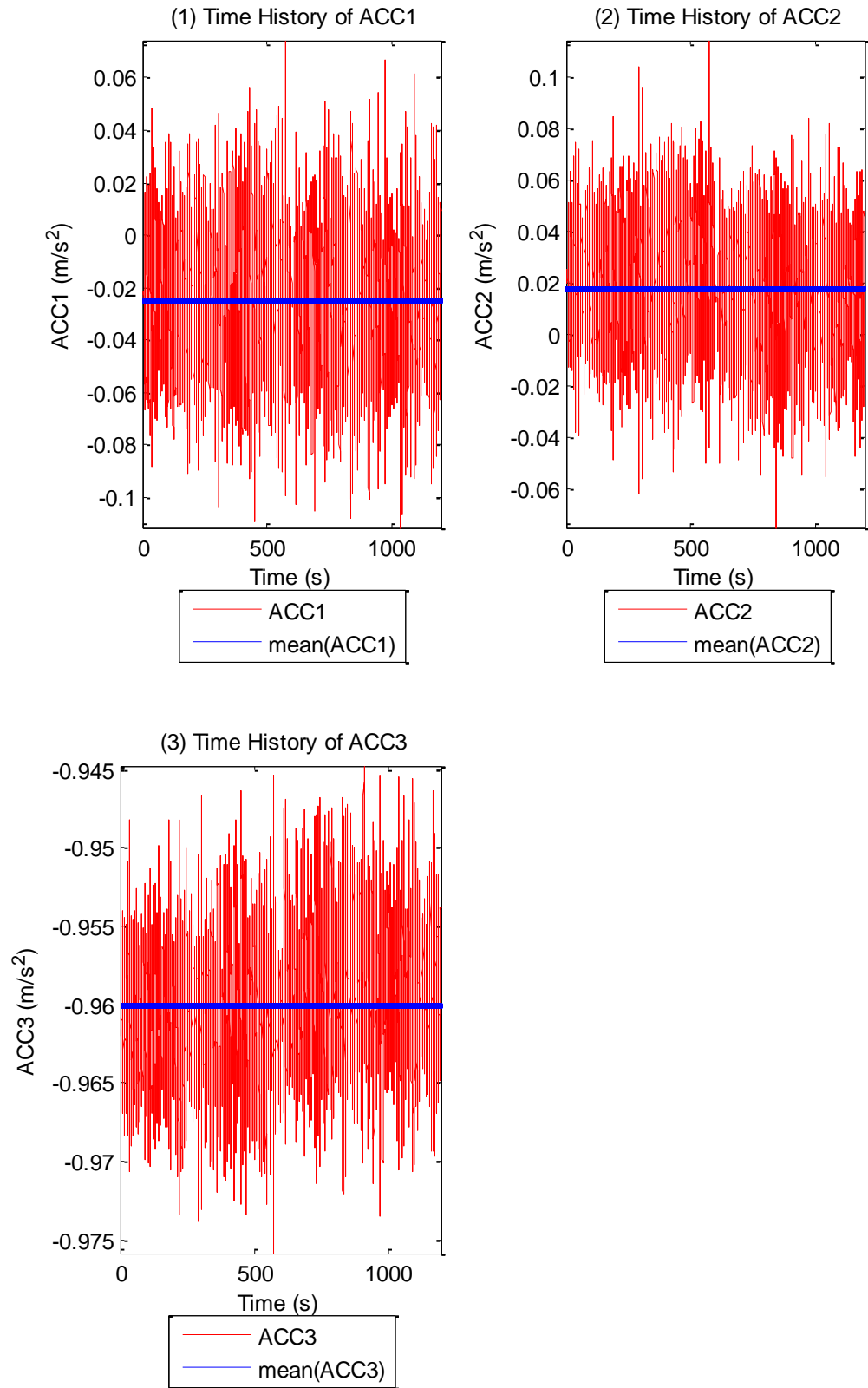


**Σχήματα 2.2.1.3** Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



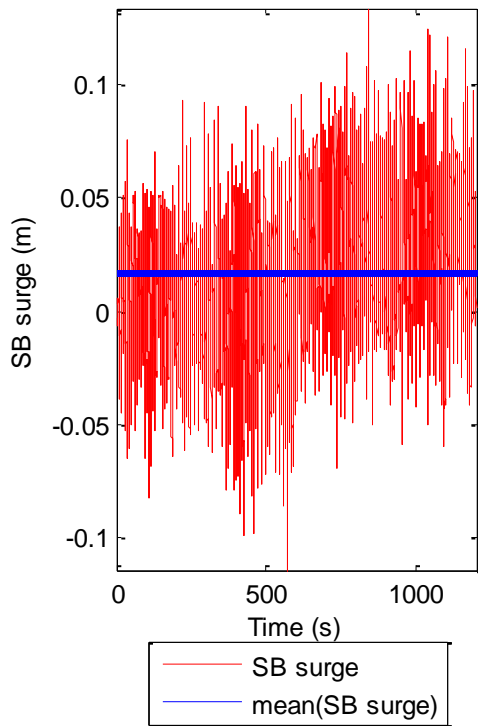


**Σχήματα 2.2.1.4** Χρονοσειρές για τις δυνάμεις στις τρεις γραμμές αγκύρωσης (1-3) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές

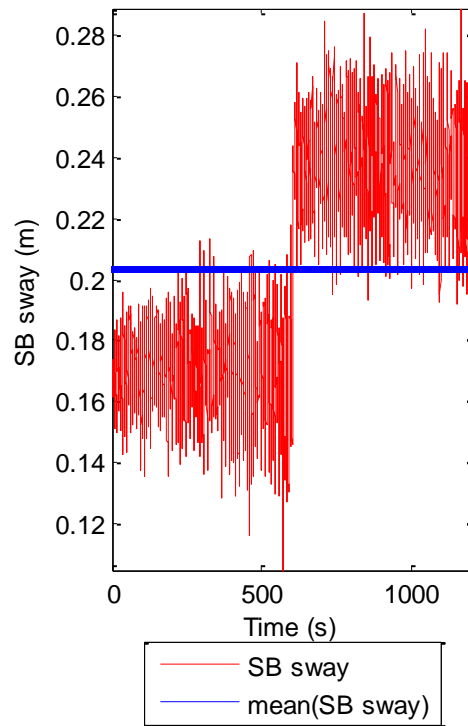


**Σχήματα 2.2.1.5 (1-3)** Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

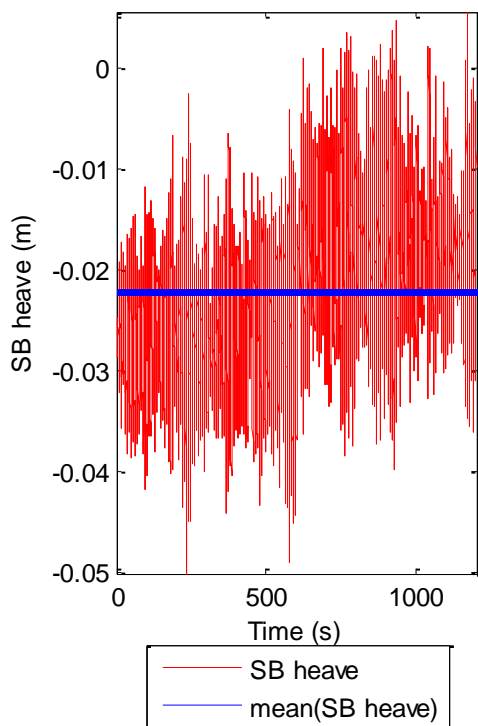
(1) Time History of SB surge



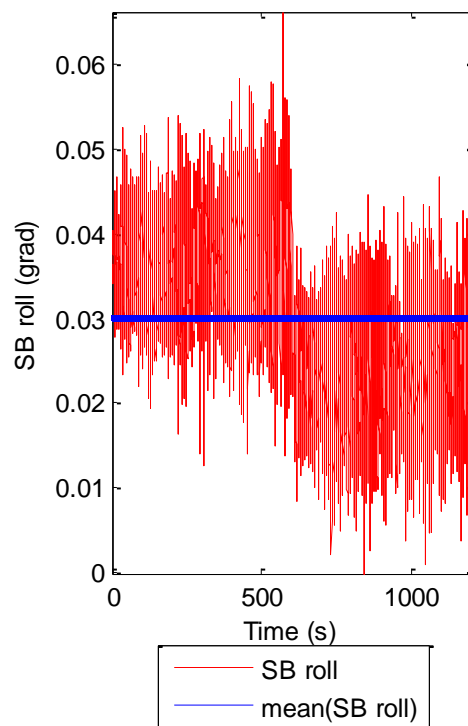
(2) Time History of SB sway

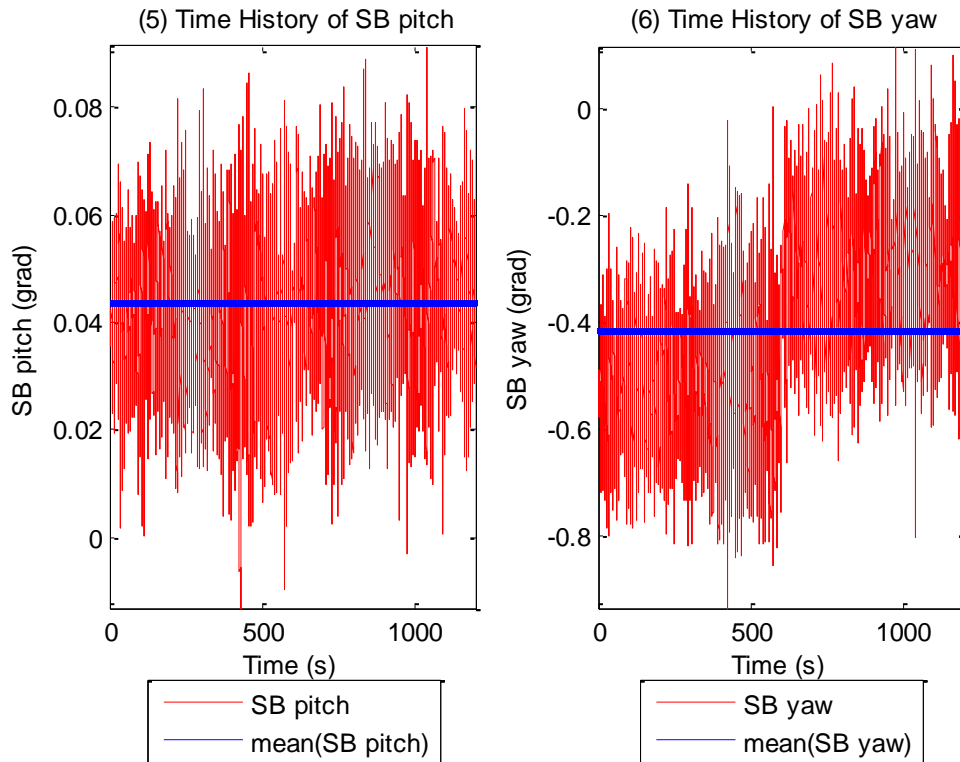


(3) Time History of SB heave



(4) Time History of SB roll





**Σχήματα 2.2.1.6** Χρονοσειρές για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

<b>Πίνακας 2.2.2</b>					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	$H_{rms}$
Wg1 (m)	-0.0074	0.0479	-0.1674	0.1929	0.1331
Wg2 (m)	-0.0025	0.0436	-0.1412	0.2105	0.1208
Wg3 (m)	0.0042	0.0367	-0.1229	0.1769	0.1029
Wg4 (m)	0.0014	0.0290	-0.1514	0.1587	0.0692
Wg5 (m)	-0.0008	0.0408	-0.1323	0.1862	0.1040
Wg6 (m)	-0.0006	0.0414	-0.1339	0.2279	0.1056
Wg7 (m)	0.0079	0.0319	-0.0926	0.1420	0.0813
Wg8 (m)	0.0018	0.0380	-0.1267	0.1767	0.0962

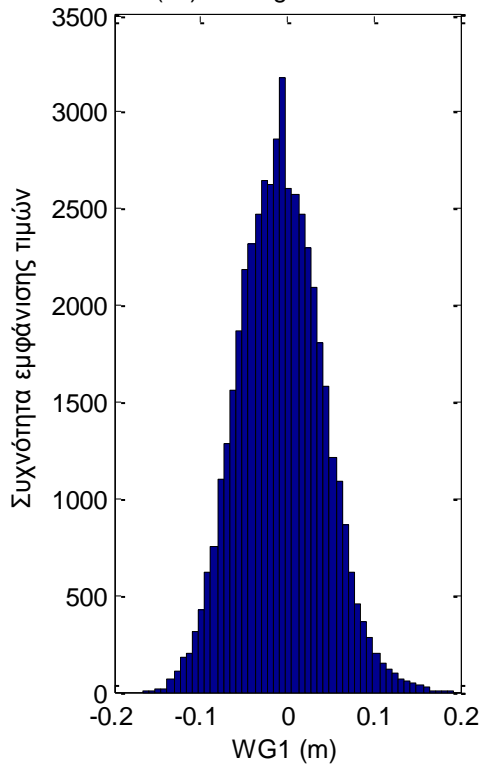
Wg9 (m)	0.0050	0.0345	-0.1036	0.1628	0.0874
Wg10 (m)	0.0015	0.0385	-0.1331	0.1665	0.0974
Wg11 (m)	0.0014	0.0395	-0.1394	0.1697	0.0996
6comp_Fx (N)	1.0727	3.3327	-11.5195	16.5447	8.2111
6comp_Fy(N)	-4.8185	1.8064	-12.5300	3.7574	4.3395
6comp_Fz (N)	14.5160	2.4314	6.6383	26.0516	5.9589
6comp_Mx (N*m)	-3.9635	2.3592	-15.0523	6.5836	6.1179
6comp_My (N*m)	-0.5602	5.1551	-19.9992	22.8116	13.4382
6comp_Mz (N*m)	-0.2571	0.0451	-0.3947	-0.1065	0.0750
4comp_Fx (N)	-0.8523	2.4490	-10.2593	10.2941	5.9850
4comp_Fy (N)	0.7871	1.1328	-4.2533	6.1661	2.7974
4comp_Mx (N*m)	-0.1182	0.1164	-0.5549	0.3244	0.2996
4comp_My (N*m)	-0.1943	0.2844	-1.4790	1.1123	0.7249
Mooring_1 (N)	14.2963	0.2121	13.4374	14.9490	0.3157
Mooring_2 (N)	13.5210	0.2707	12.8539	14.4771	0.2775
Mooring_3 (N)	13.2118	0.1968	12.7522	13.6628	0.1740
Acc_1 (G)	-0.0250	0.0238	-0.1114	0.0743	0.0603
Acc_2 (G)	0.0180	0.0204	-0.0749	0.1143	0.0515
Acc_3 (G)	-0.9600	0.0041	-0.9759	-0.9447	0.0100
SB_x (m)	0.0170	0.0324	-0.1146	0.1339	0.0584
SB_y (m)	0.2036	0.0368	0.1048	0.2887	0.0297

SB_z (m)	-0.0222	0.0080	-0.0501	0.0056	0.0110
SB_roll (grad)	0.0302	0.0091	-0.0002	0.0663	0.0128
SB_pitch (grad)	0.0436	0.0130	-0.0131	0.0914	0.0248
SB_yaw (grad)	-0.4134	0.1568	-0.9372	0.1180	0.2415

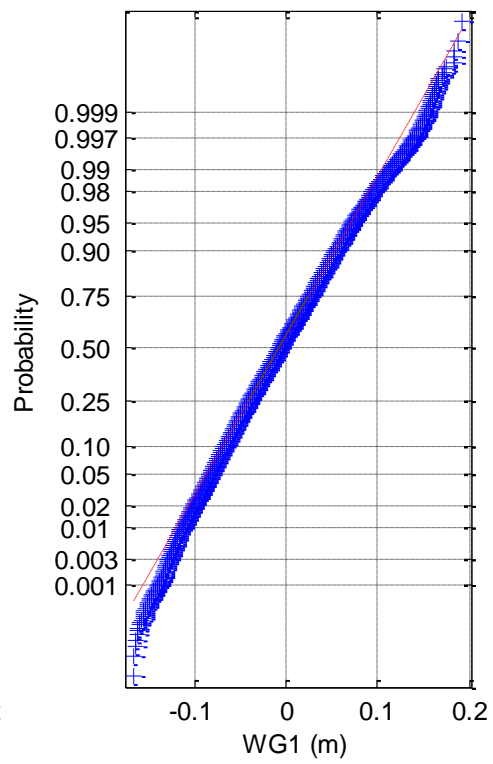
<b>Πίνακας 2.2.3</b>				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1678	3.0599	1	1
Wg2 (m)	0.2037	3.1776	1	1
Wg3 (m)	0.1691	3.1423	1	1
Wg4 (m)	0.1482	6.0868	1	1
Wg5 (m)	0.2035	3.0958	1	1
Wg6 (m)	0.2096	3.1715	1	1
Wg7 (m)	0.2176	3.1394	1	1
Wg8 (m)	0.1843	3.1537	1	1
Wg9 (m)	0.1487	3.1051	1	1
Wg10 (m)	0.1376	3.1197	1	1
Wg11 (m)	0.1396	3.0770	1	1
6comp_Fx (N)	0.0848	3.0779	1	1
6comp_Fy(N)	-0.0057	3.1494	1	1
6comp_Fz (N)	0.4417	3.4235	1	1
6comp_Mx (N*m)	0.0477	3.1963	1	1

6comp_My (N*m)	0.0016	3.1559	1	1
6comp_Mz (N*m)	0.0196	2.3506	1	1
4comp_Fx (N)	-0.0022	3.1603	1	1
4comp_Fy (N)	-0.0539	3.2232	1	1
4comp_Mx (N*m)	0.0457	2.7222	1	1
4comp_My (N*m)	-0.0242	3.2079	1	1
Mooring_1 (N)	-0.2150	2.9537	1	1
Mooring_2 (N)	0.1242	2.2995	1	1
Mooring_3 (N)	0.0329	1.6033	1	1
Acc_1 (G)	0.0264	3.0837	1	1
Acc_2 (G)	-0.0508	3.2233	1	1
Acc_3 (G)	0.1604	3.0918	1	1
SB_x (m)	-0.0987	2.9463	1	1
SB_y (m)	0.0081	1.5168	1	1
SB_z (m)	0.1599	2.9008	1	1
SB_roll (grad)	-0.0263	2.4442	1	1
SB_pitch (grad)	-0.0429	3.0788	1	1
SB_yaw (grad)	0.0460	2.4887	1	1

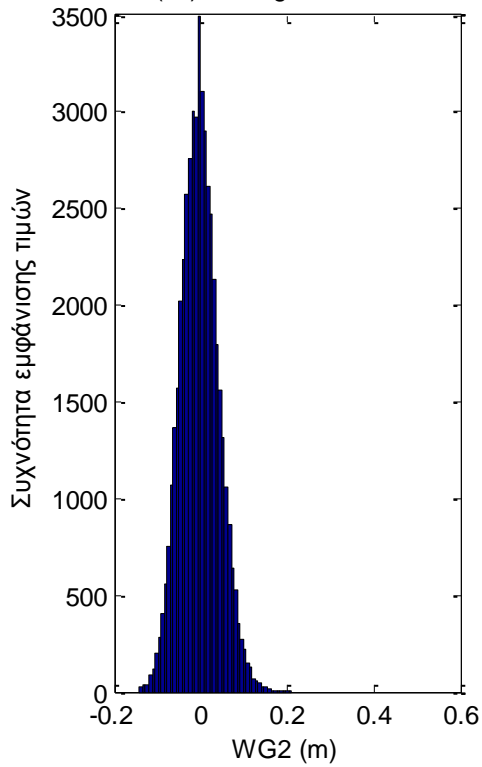
(1a) Histogram of WG1



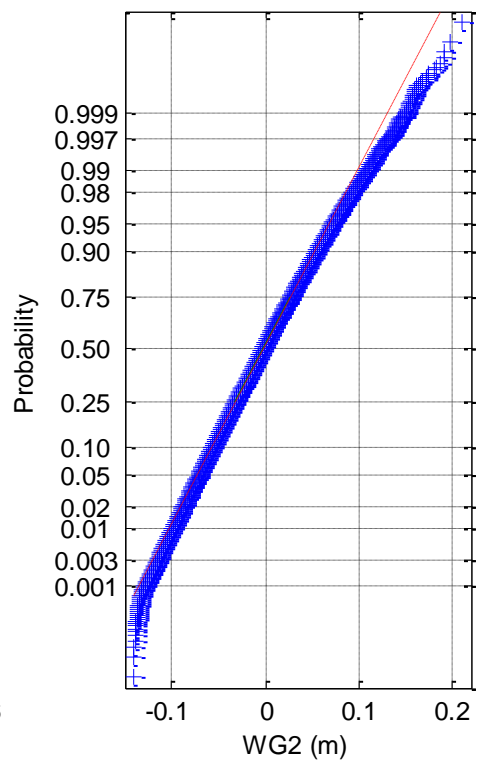
(1b) Normal probability plot of WG1



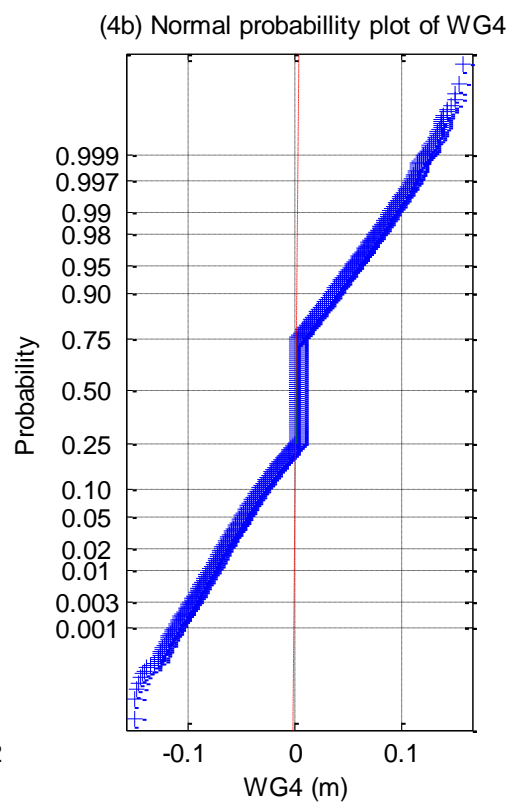
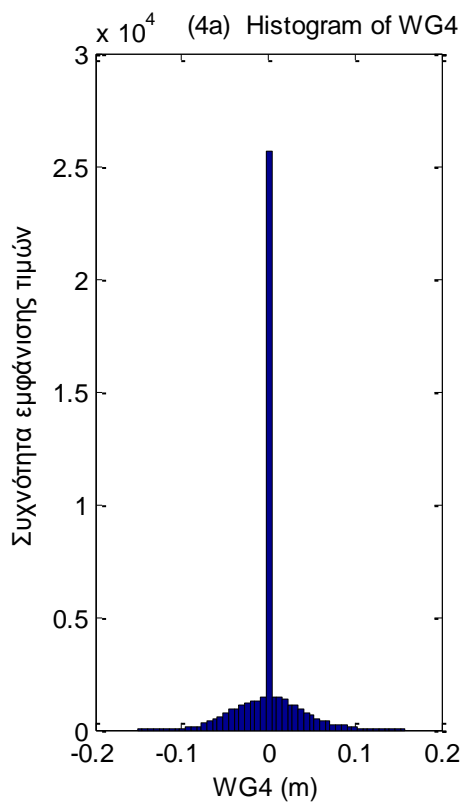
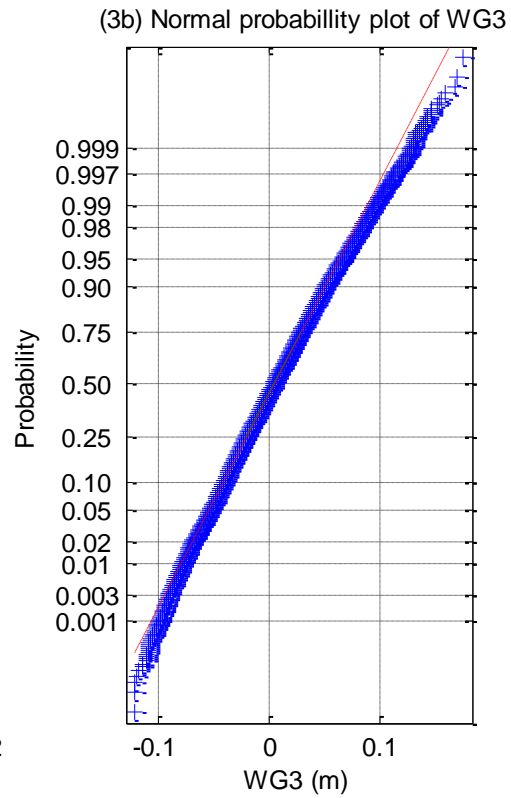
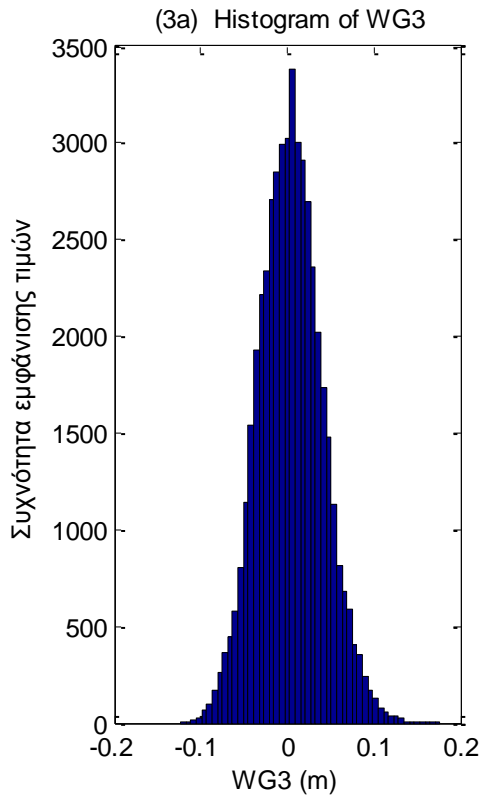
(2a) Histogram of WG2



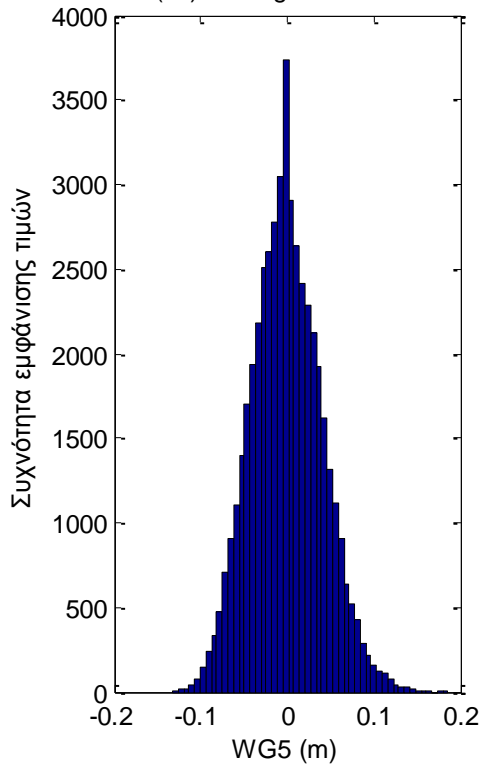
(2b) Normal probability plot of WG2



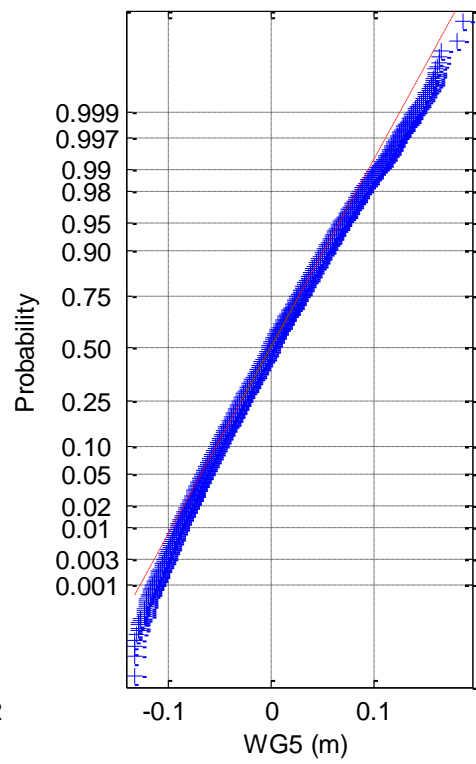




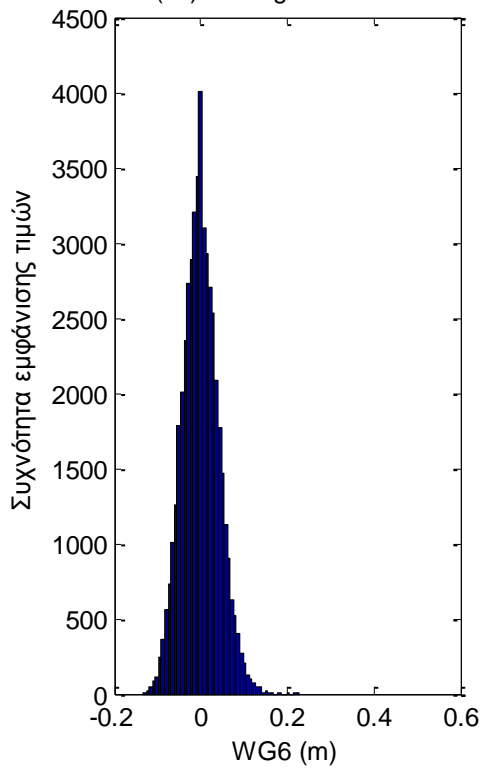
(5a) Histogram of WG5



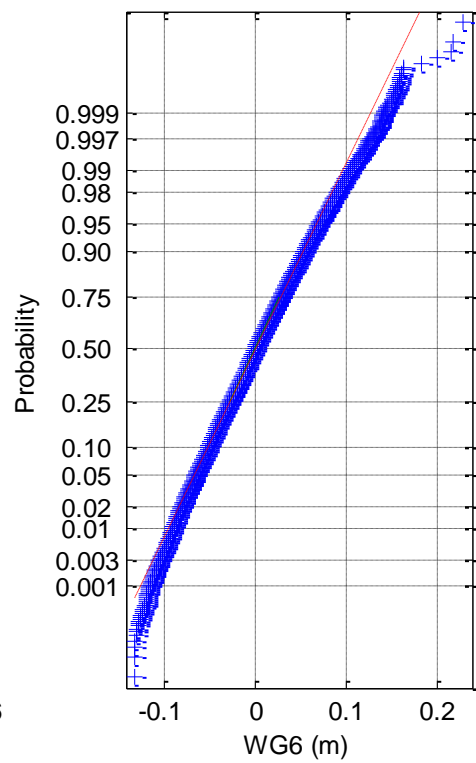
(5b) Normal probability plot of WG5



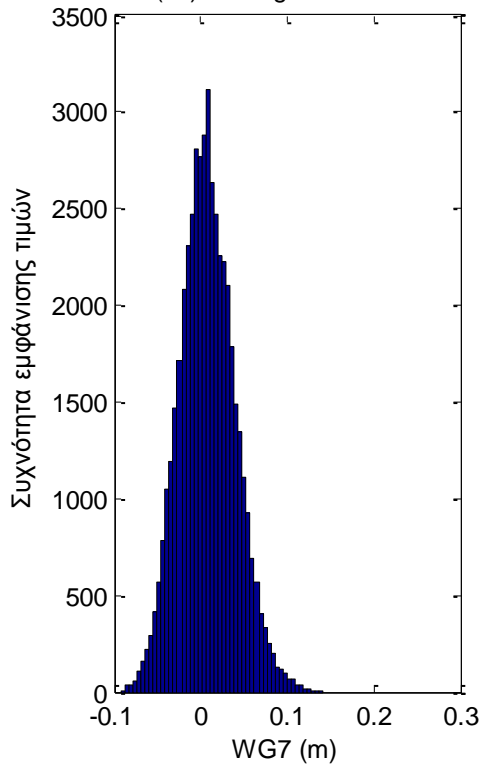
(6a) Histogram of WG6



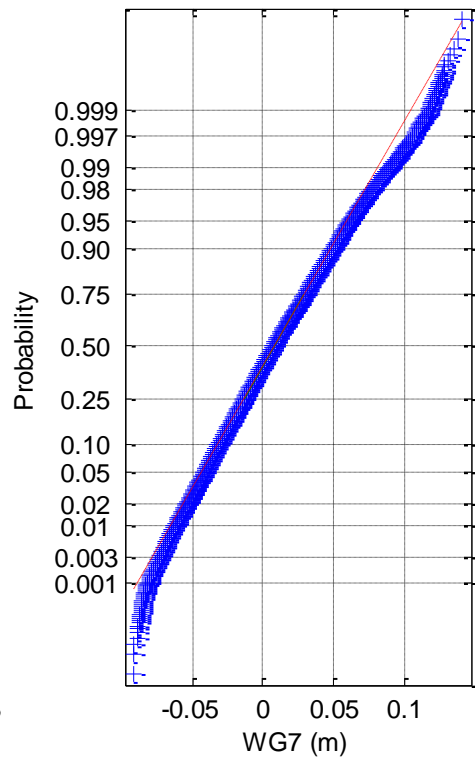
(6b) Normal probability plot of WG6



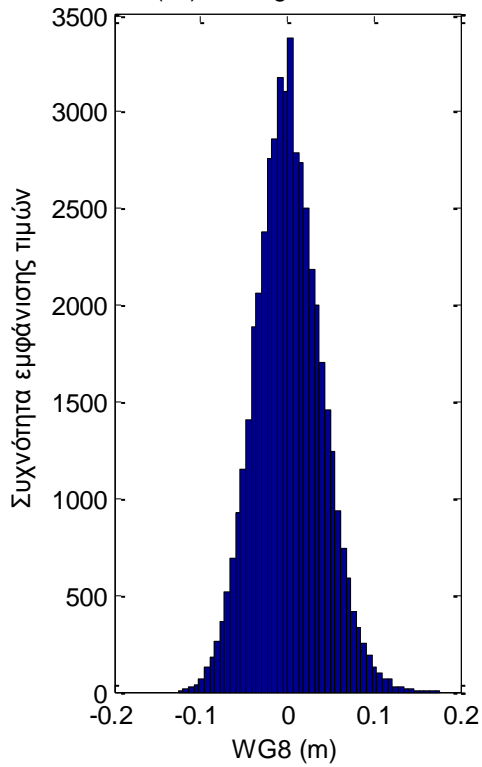
(7a) Histogram of WG7



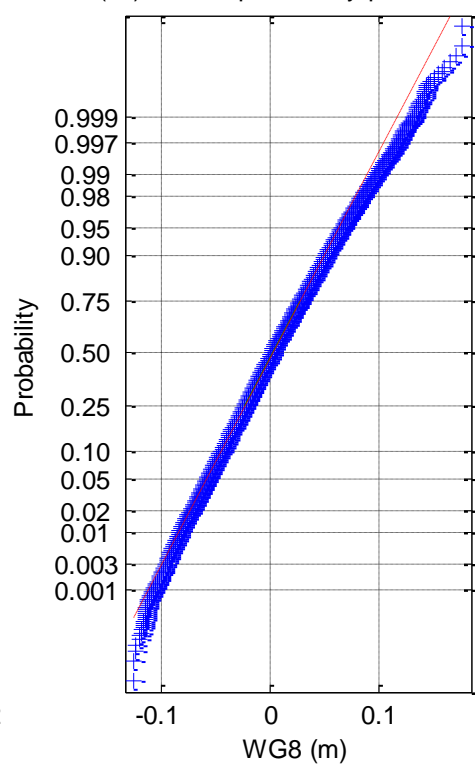
(7b) Normal probability plot of WG7



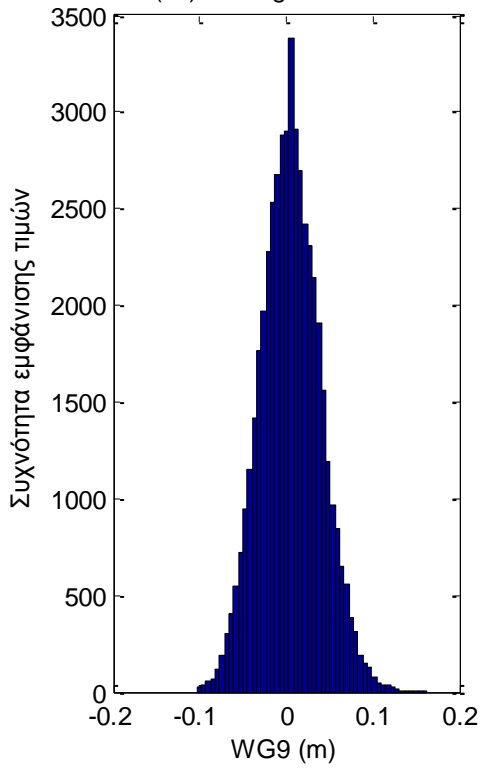
(8a) Histogram of WG8



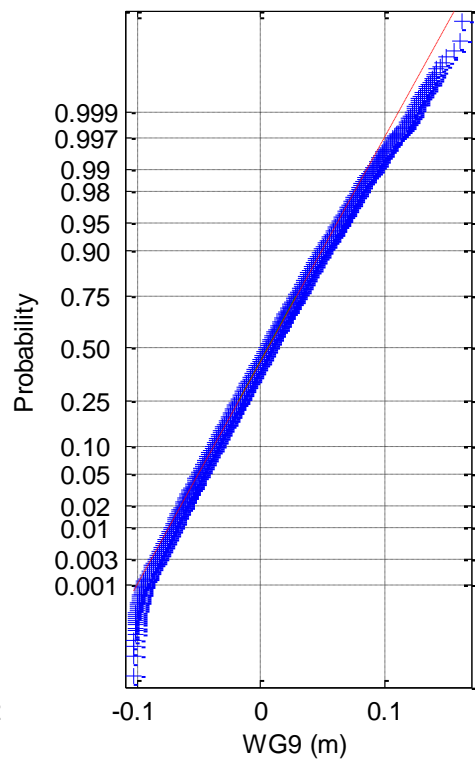
(8b) Normal probability plot of WG8



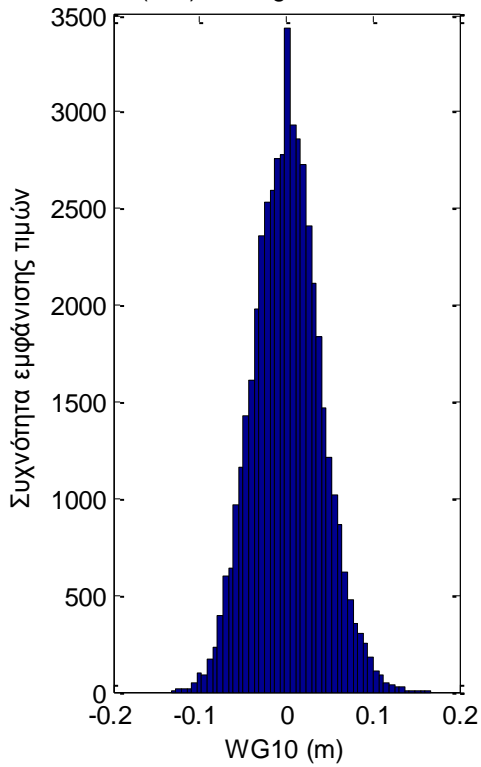
(9a) Histogram of WG9



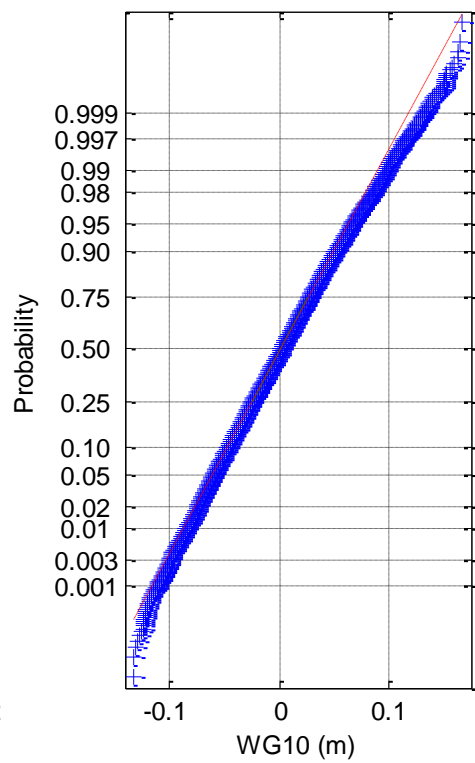
(9b) Normal probability plot of WG9

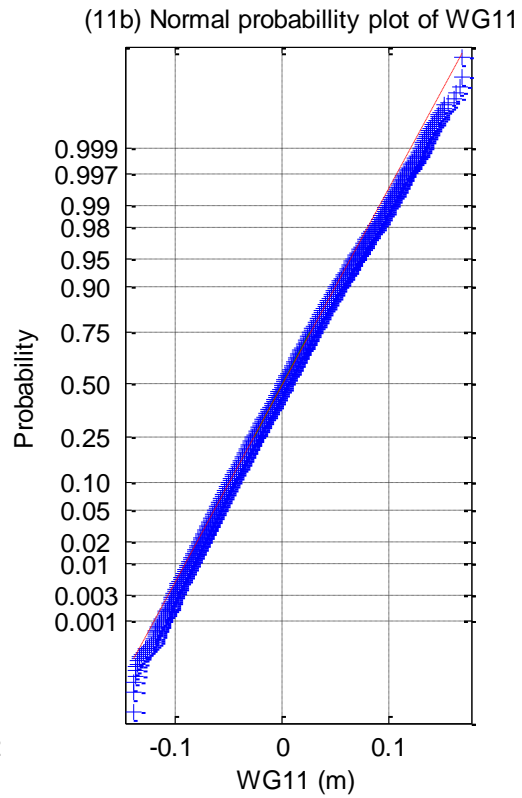
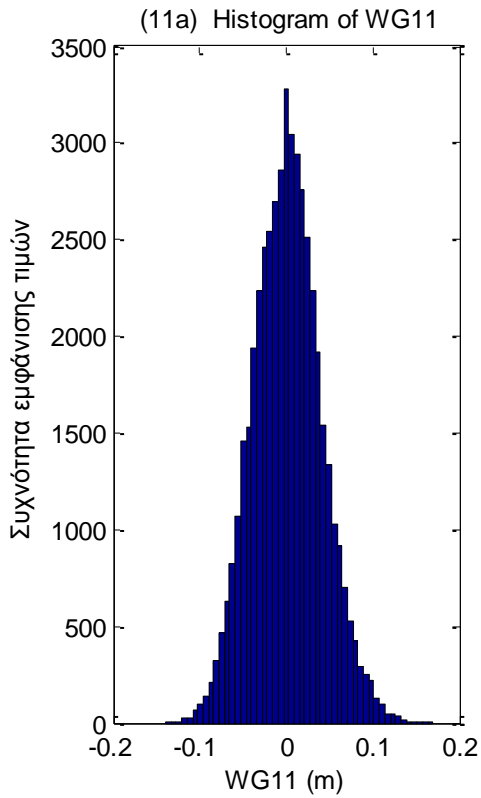


(10a) Histogram of WG10

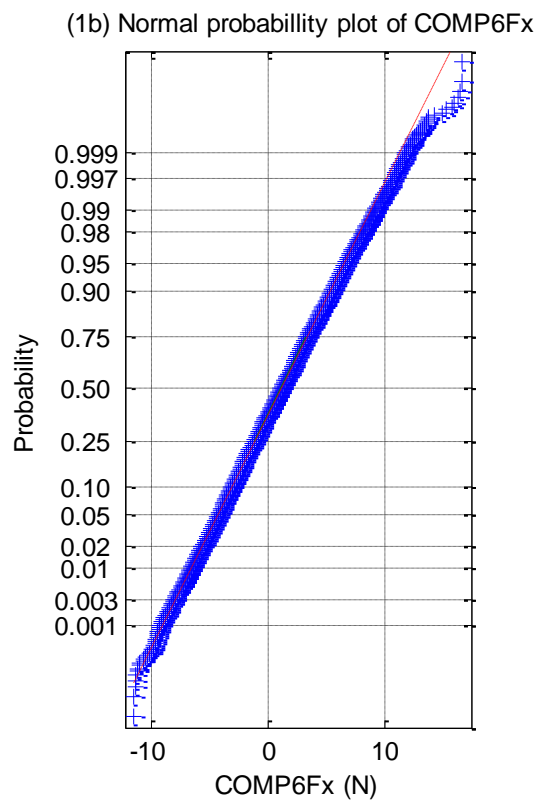
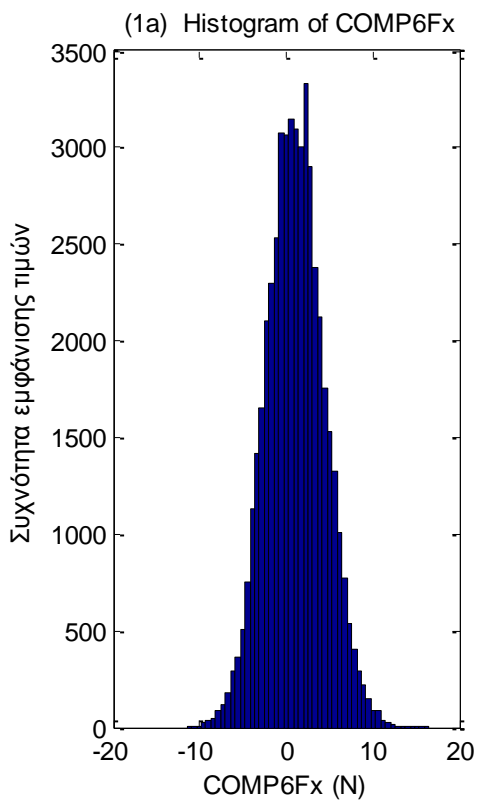


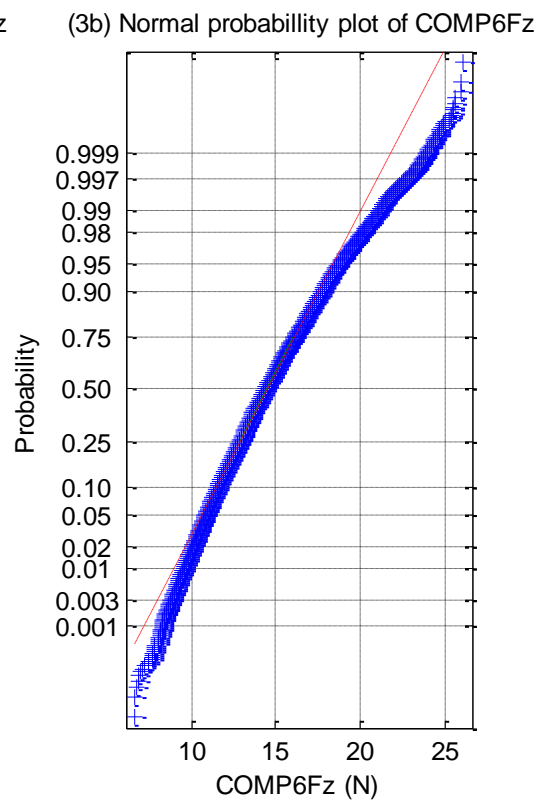
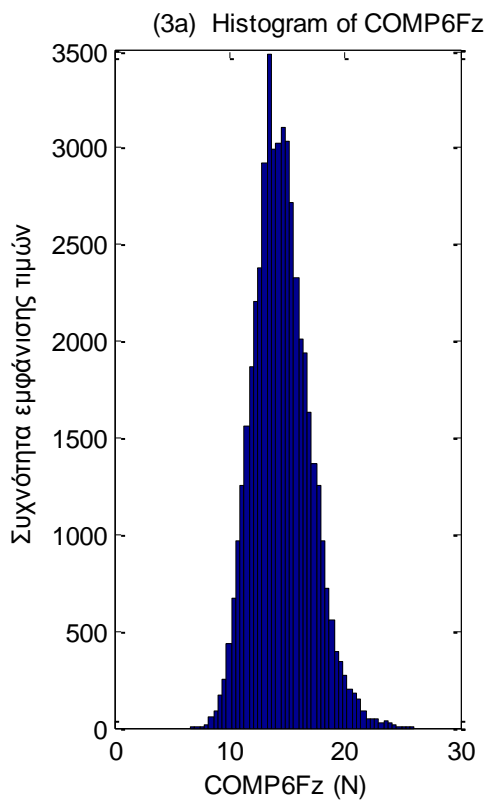
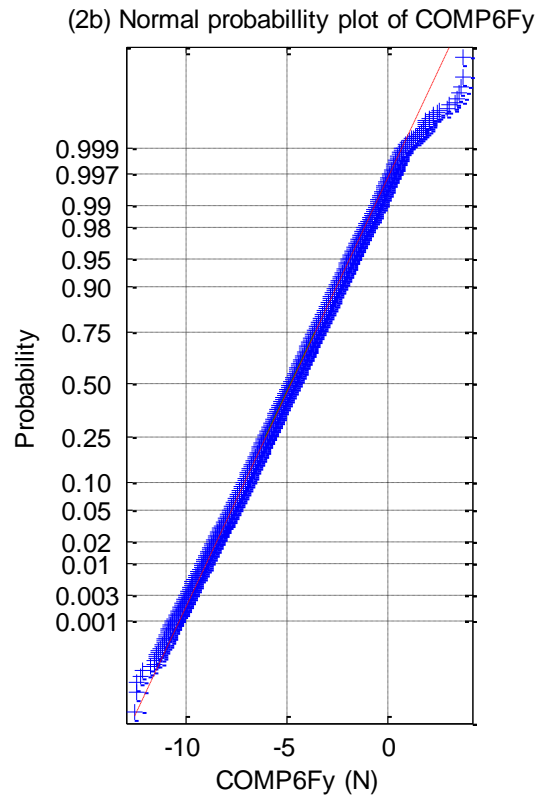
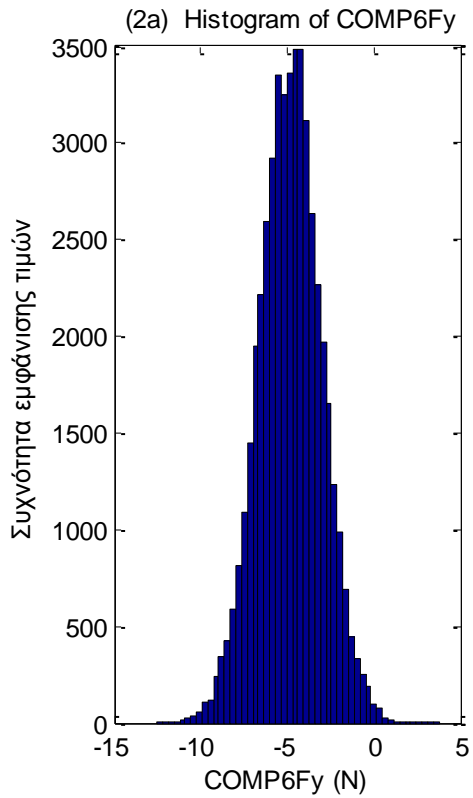
(10b) Normal probability plot of WG10

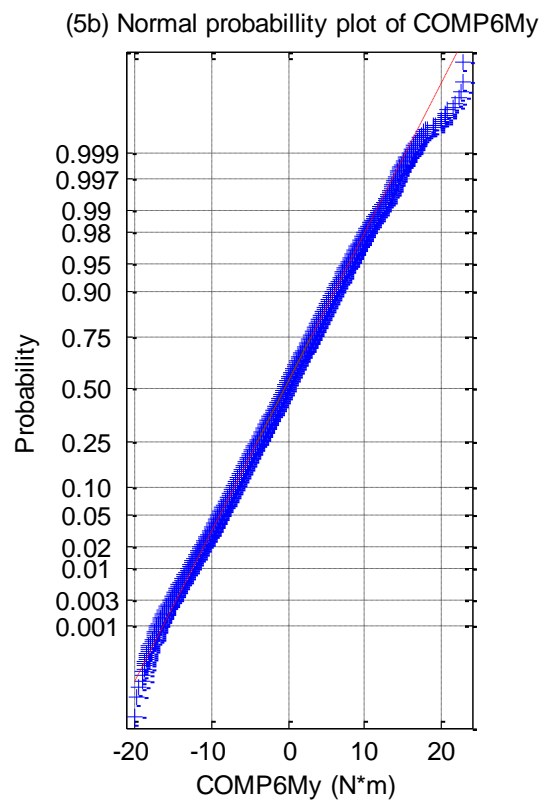
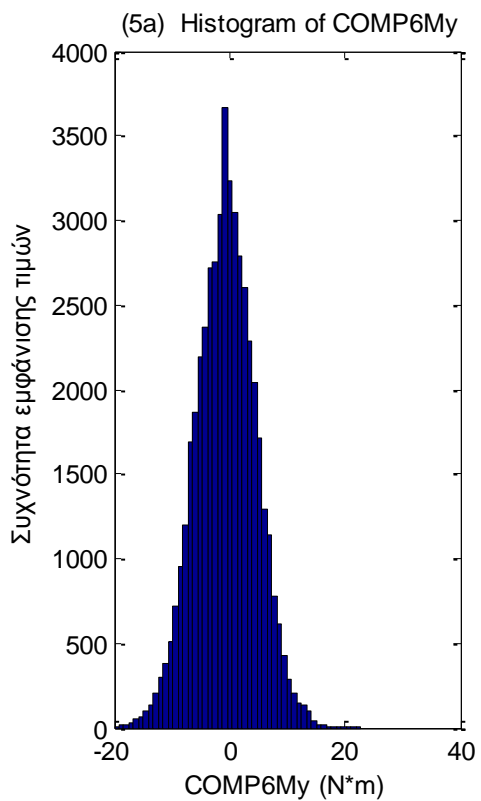
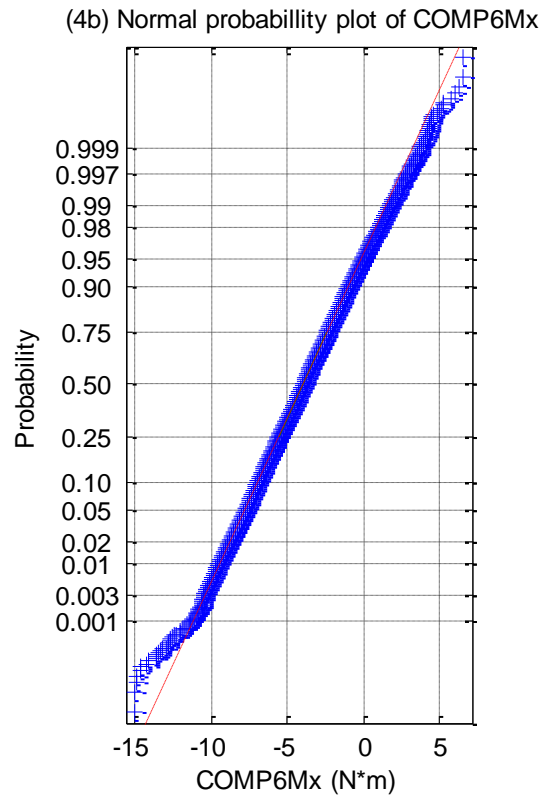
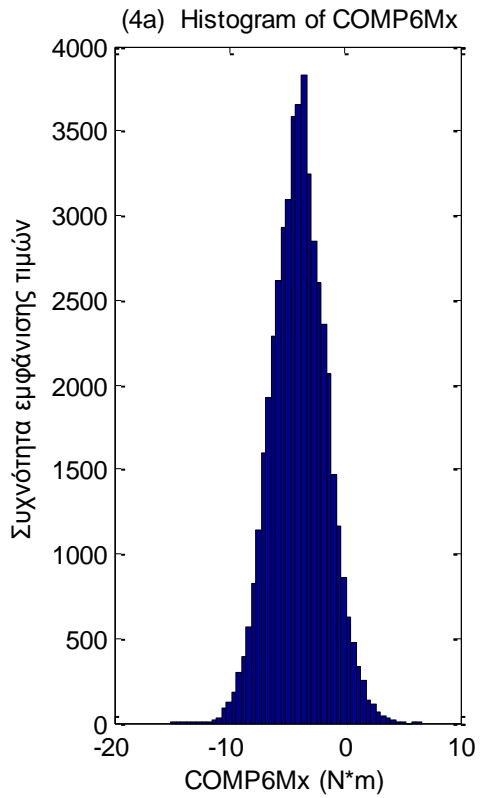


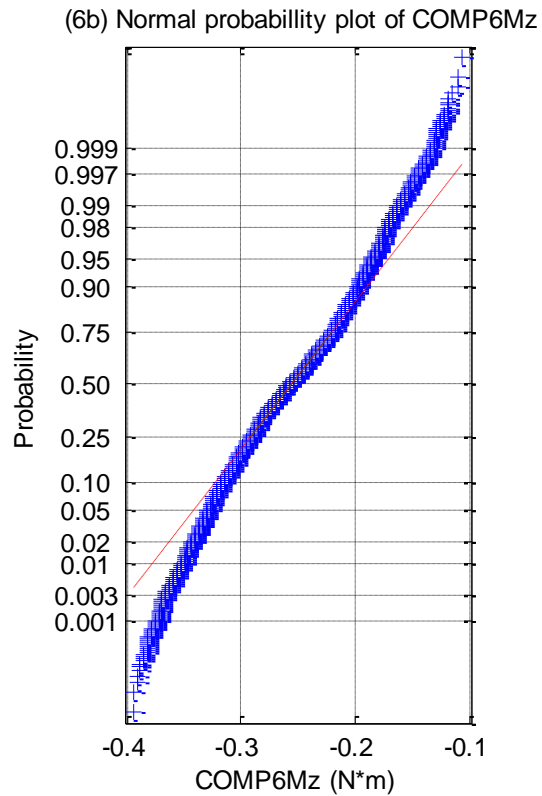
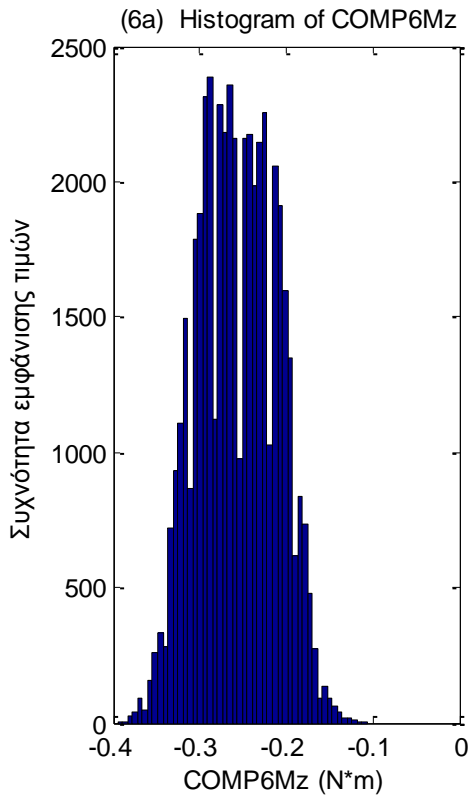


**Σχήματα 2.2.2.1 (1-11)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

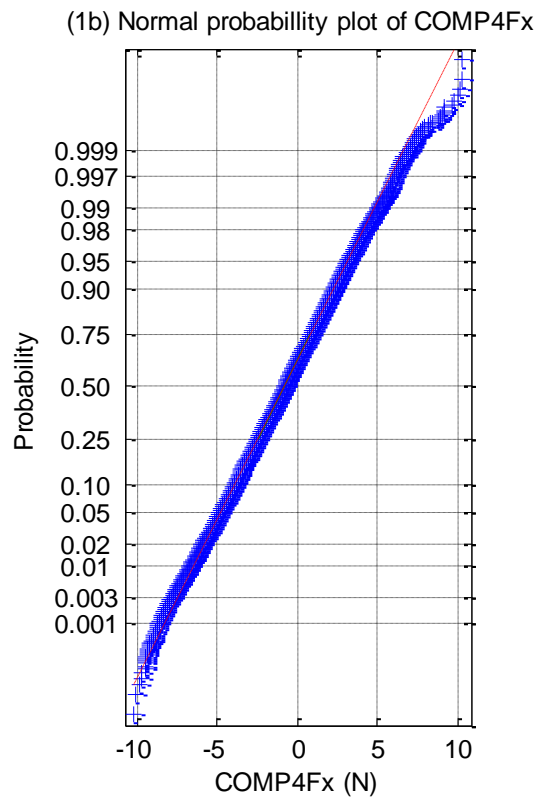
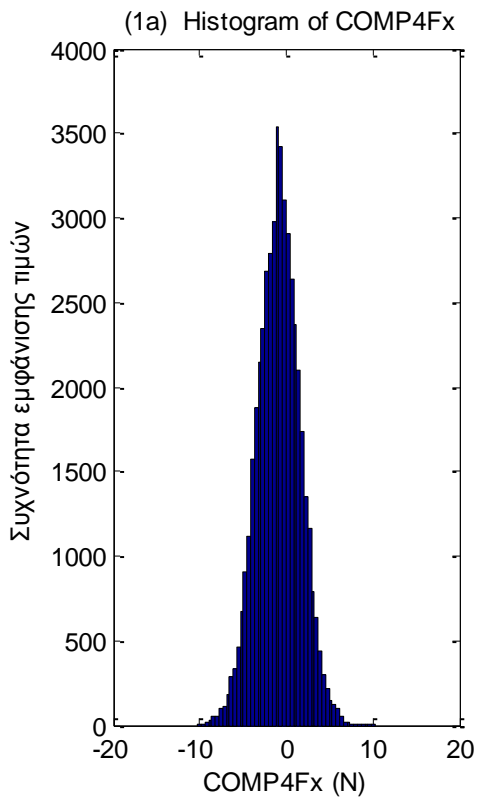




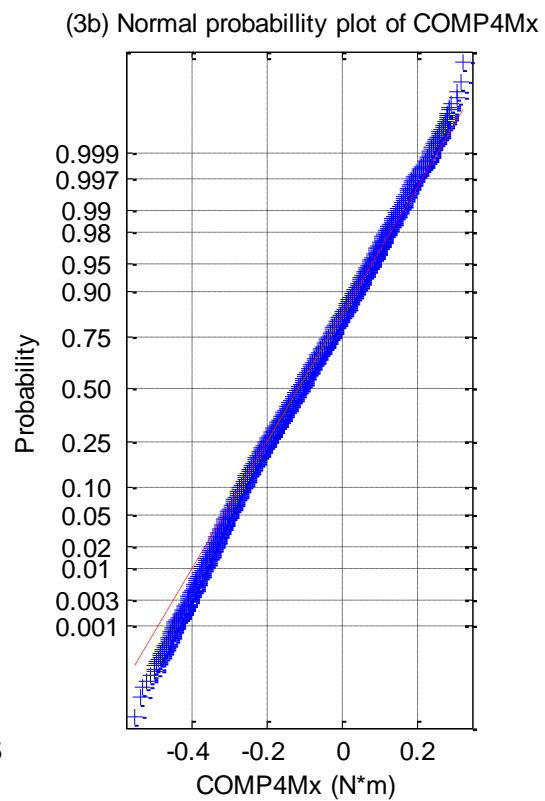
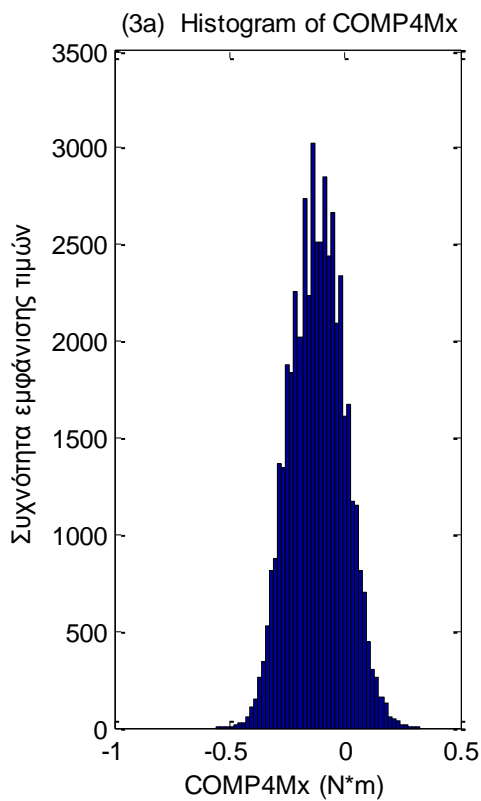
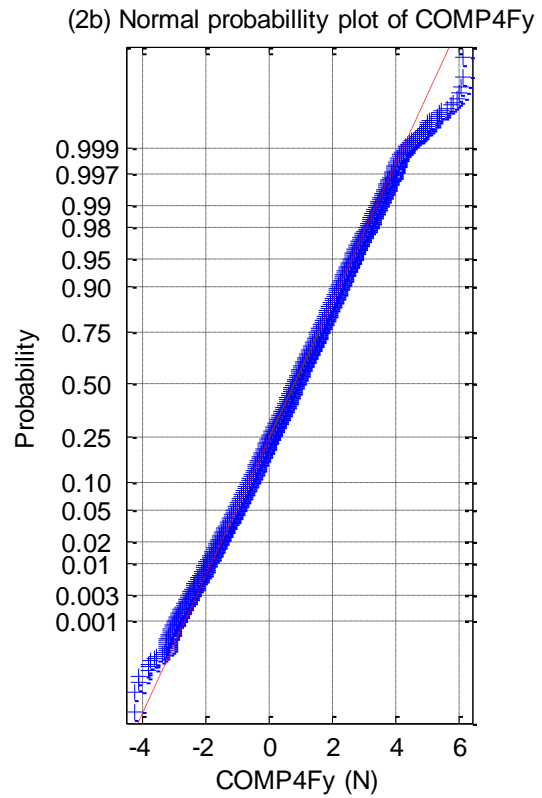
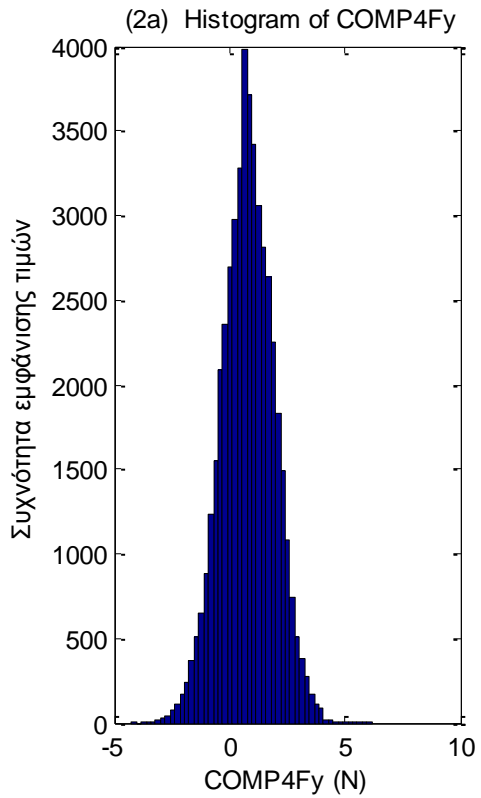


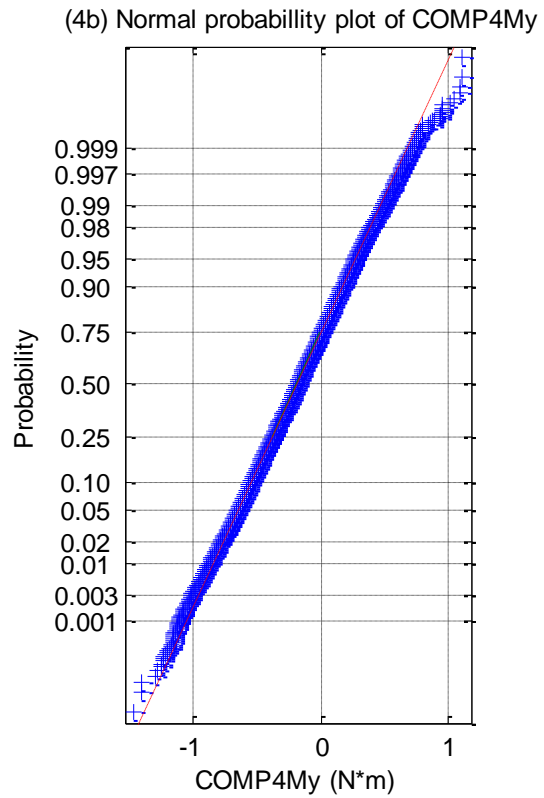
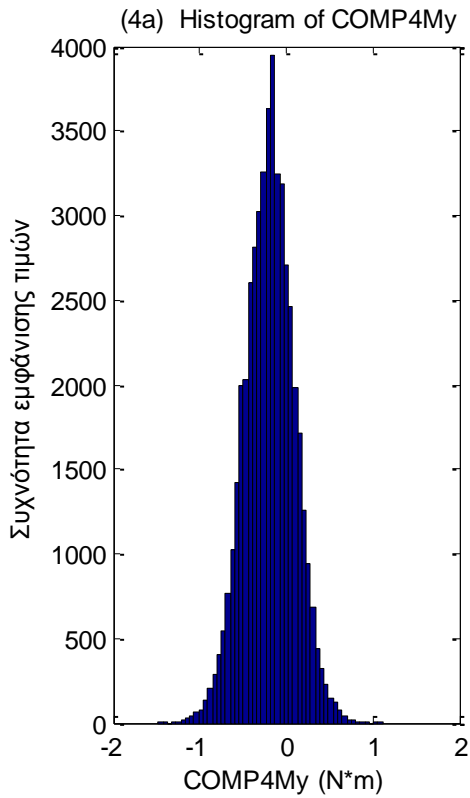


**Σχήματα 2.2.2.2** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

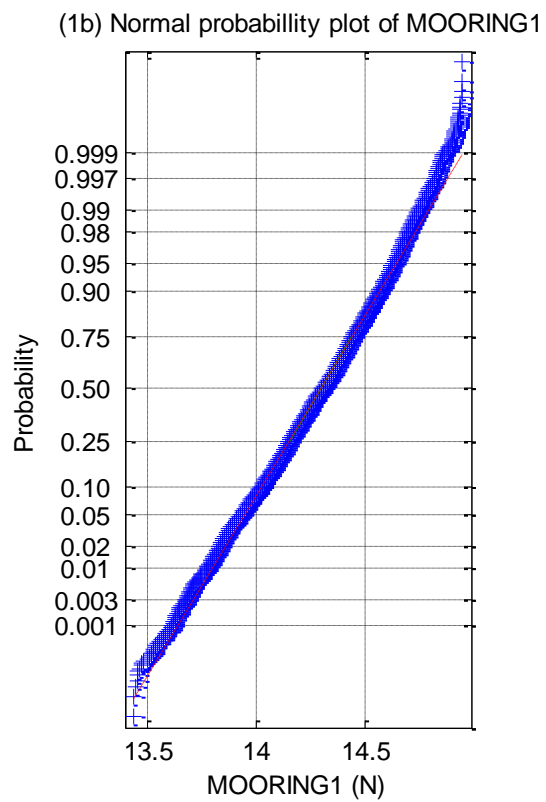
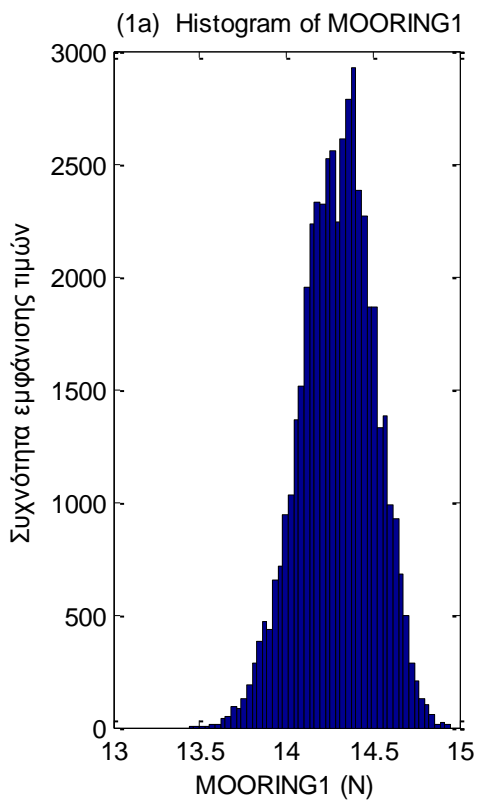


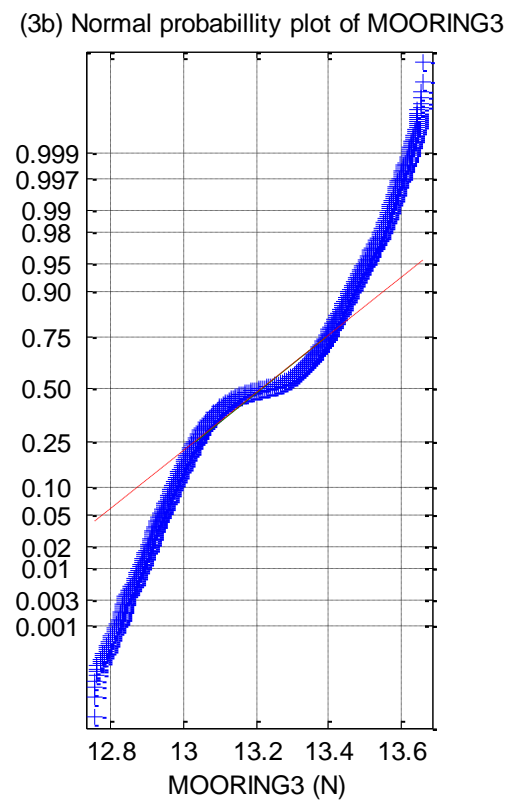
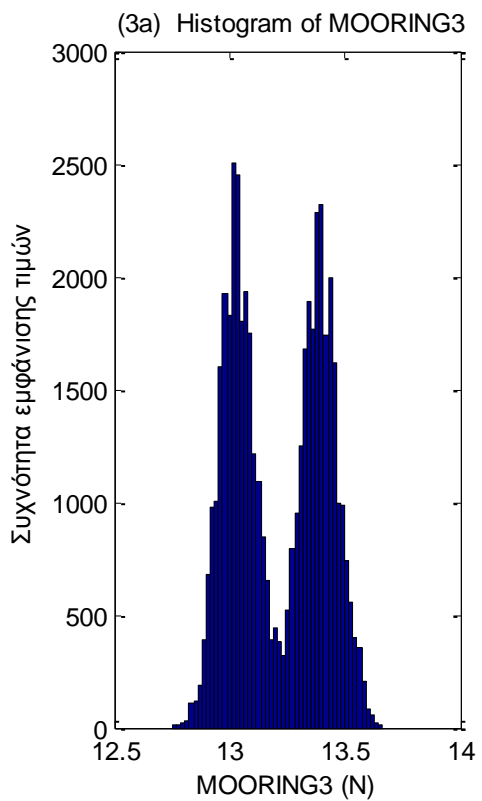
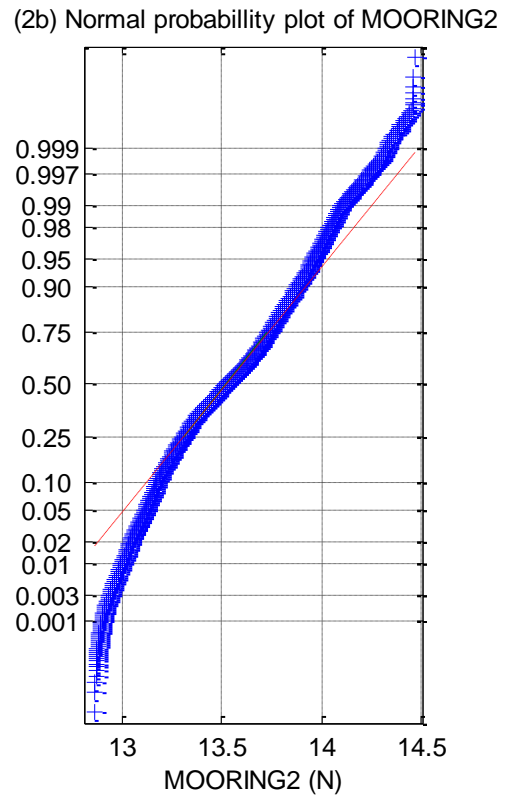
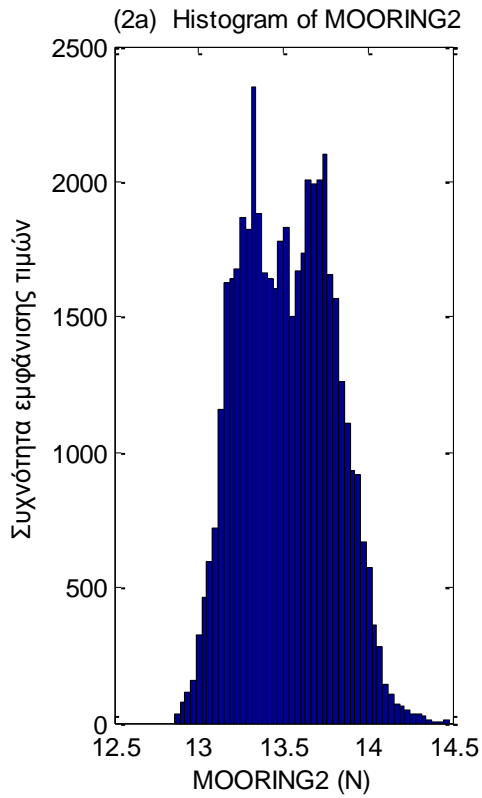




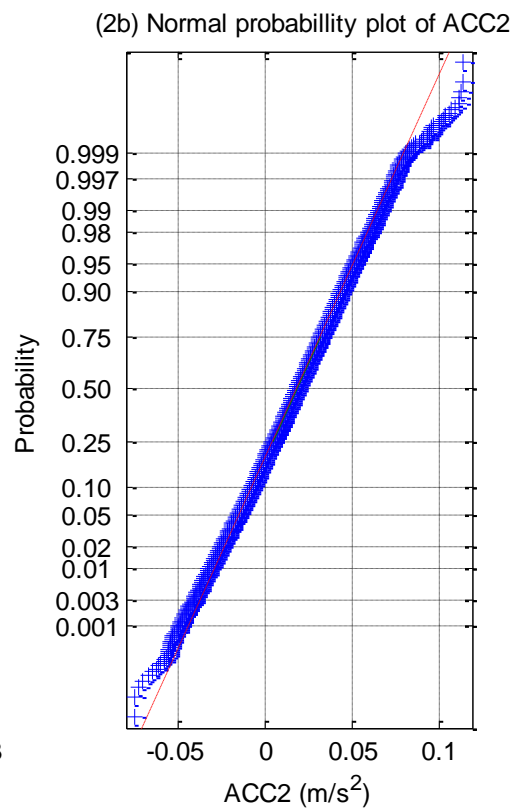
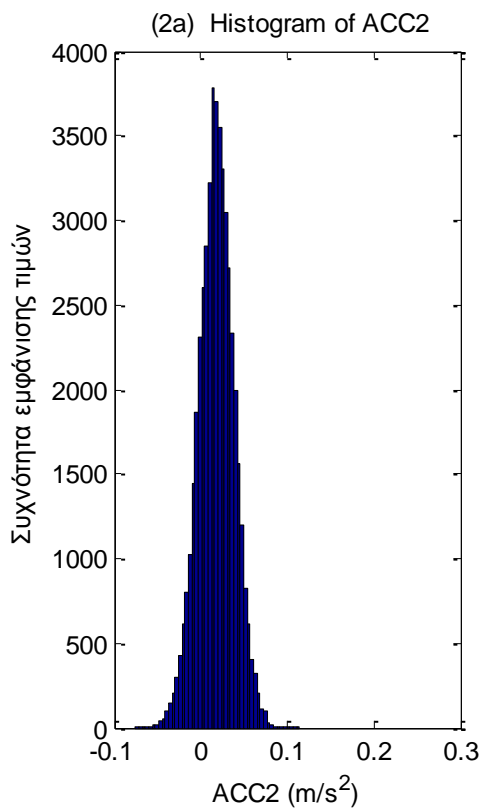
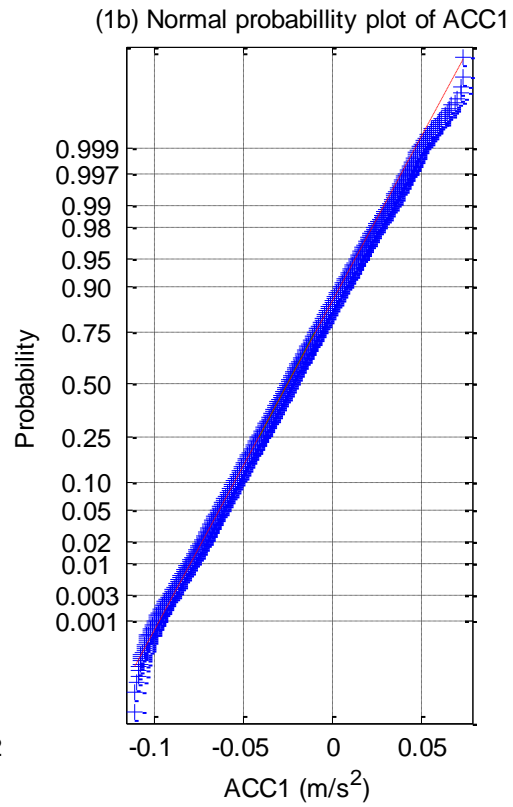
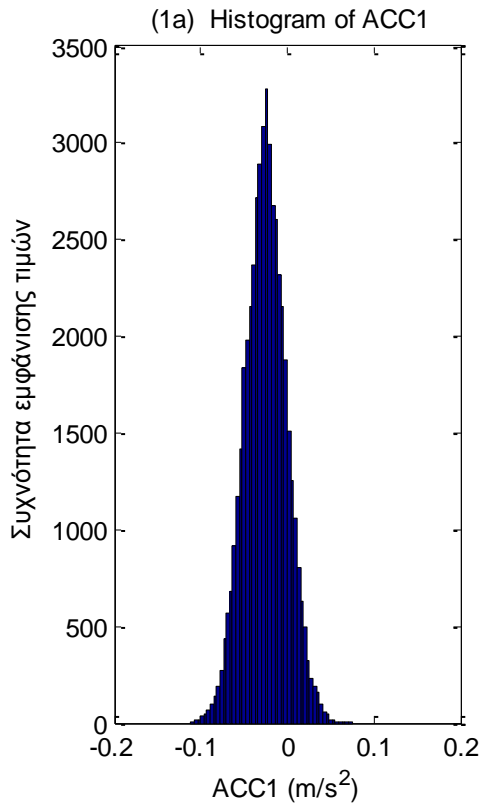


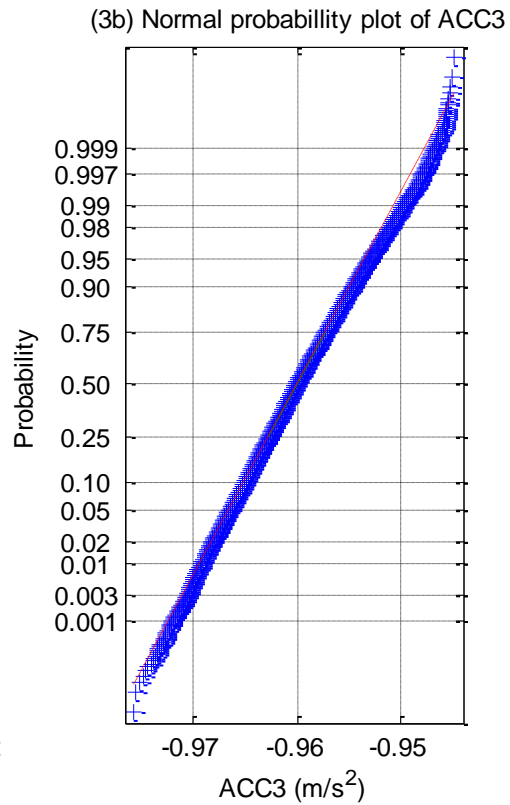
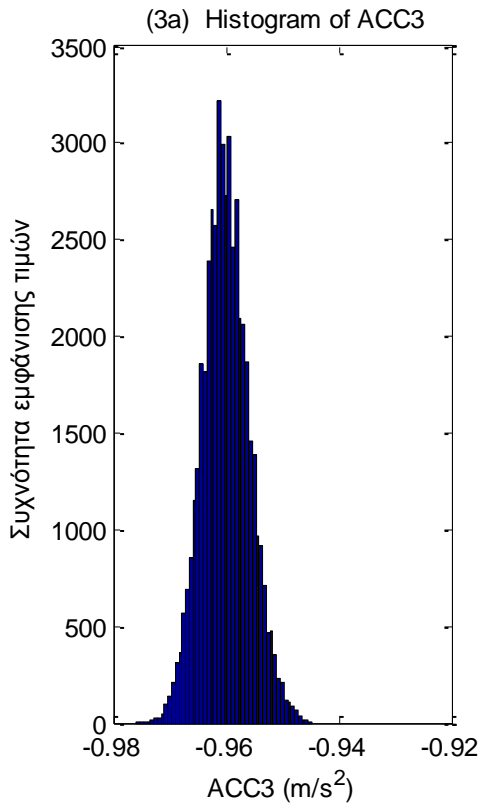
**Σχήματα 2.2.2.3** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



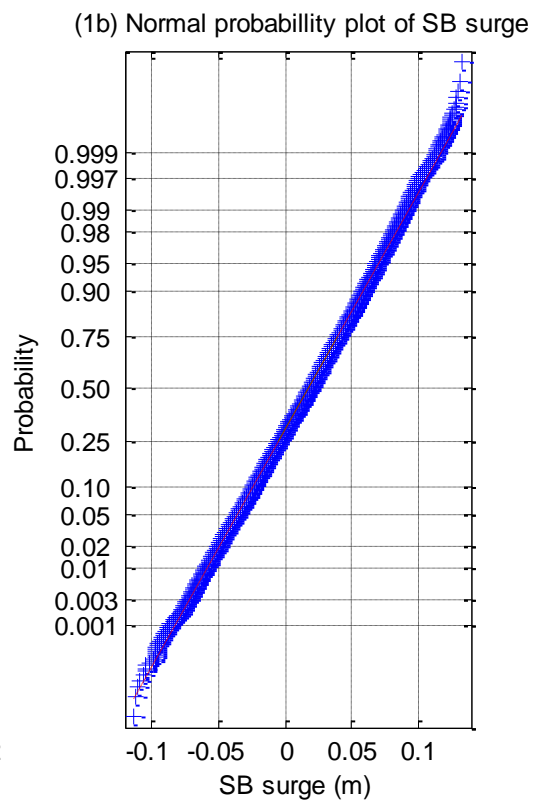
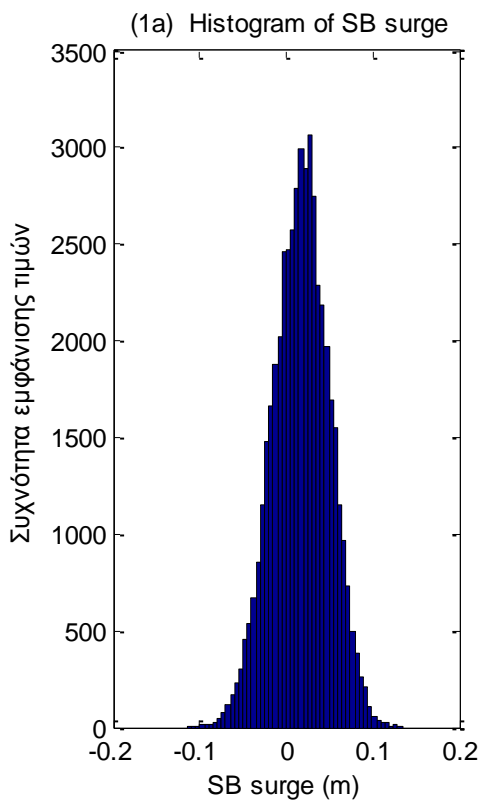


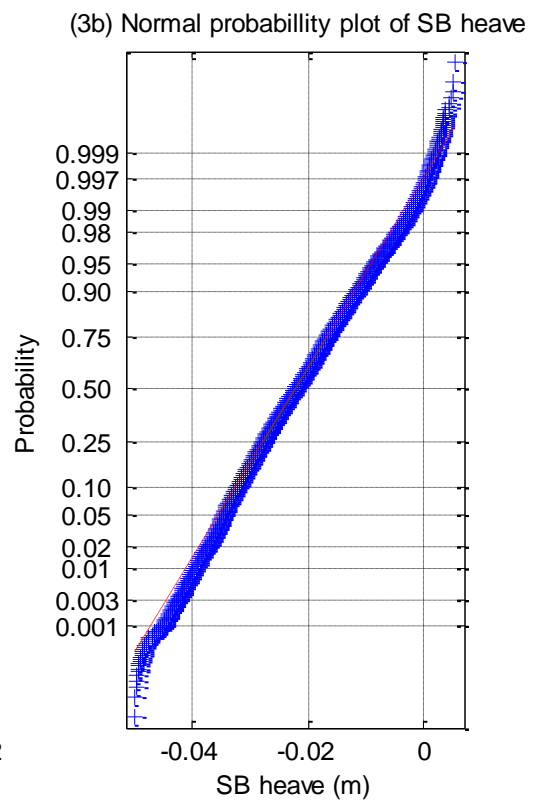
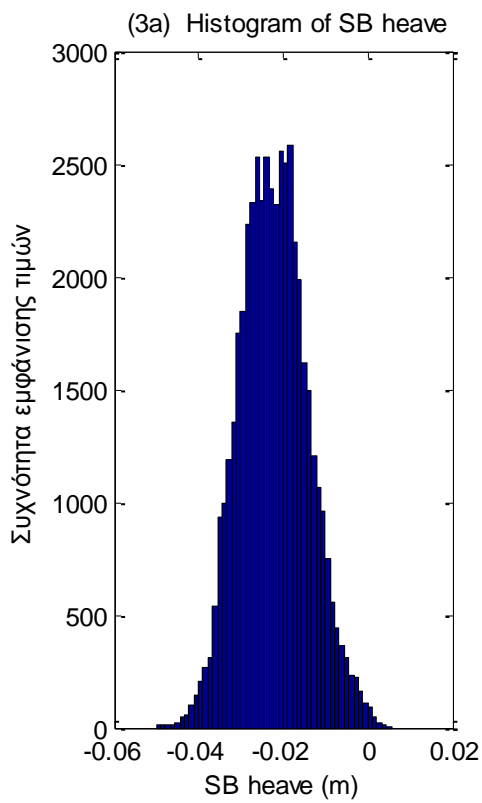
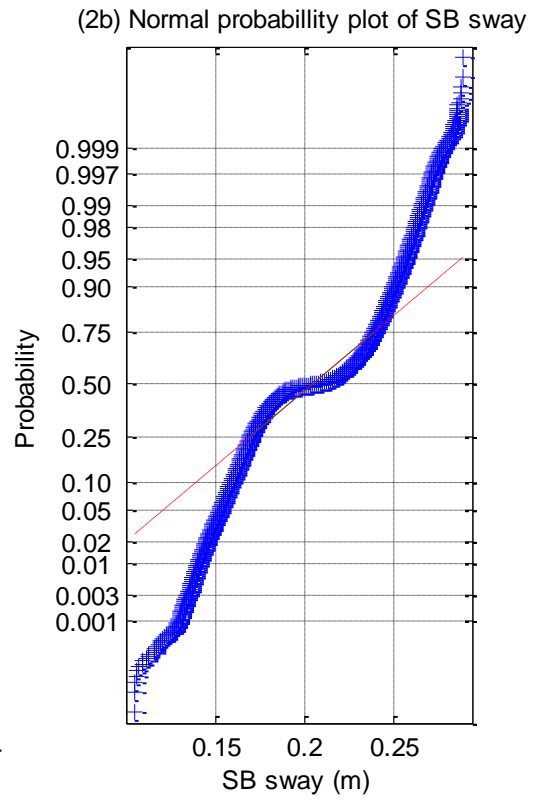
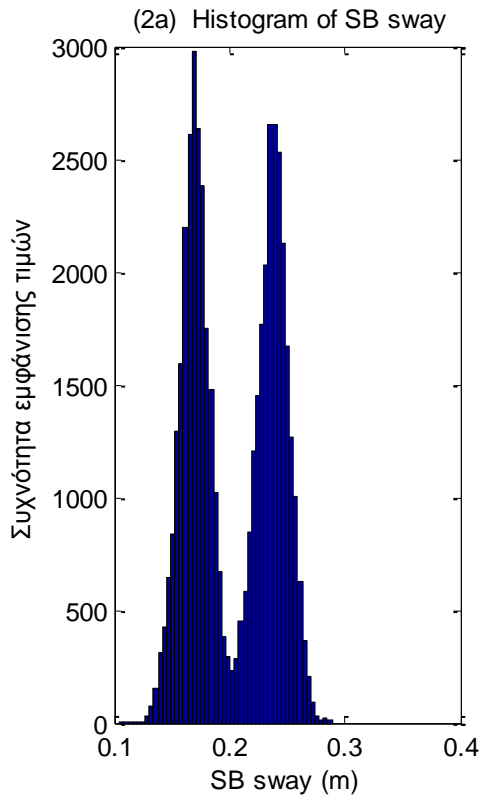
**Σχήματα 2.2.2.4 (1-3)** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



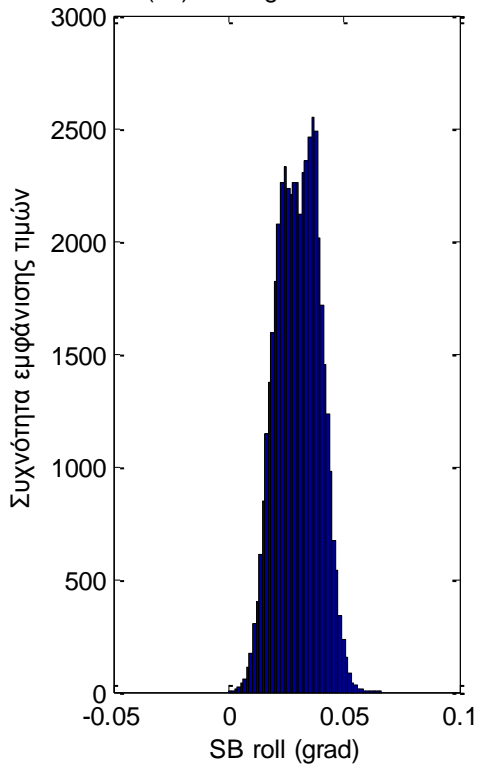


**Σχήματα 2.2.2.5 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

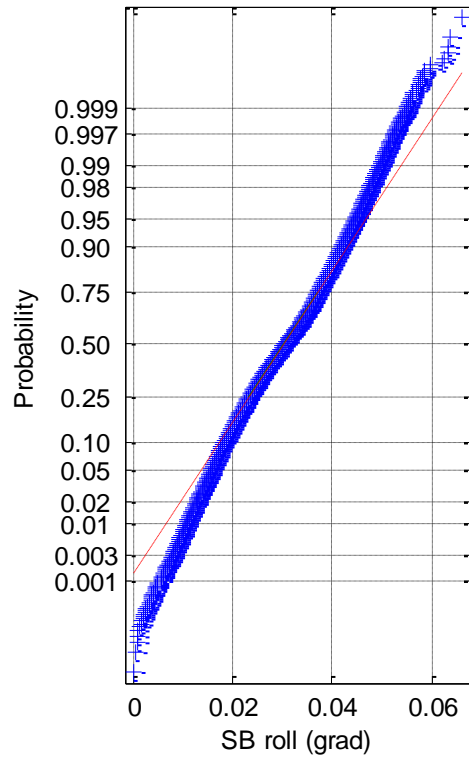




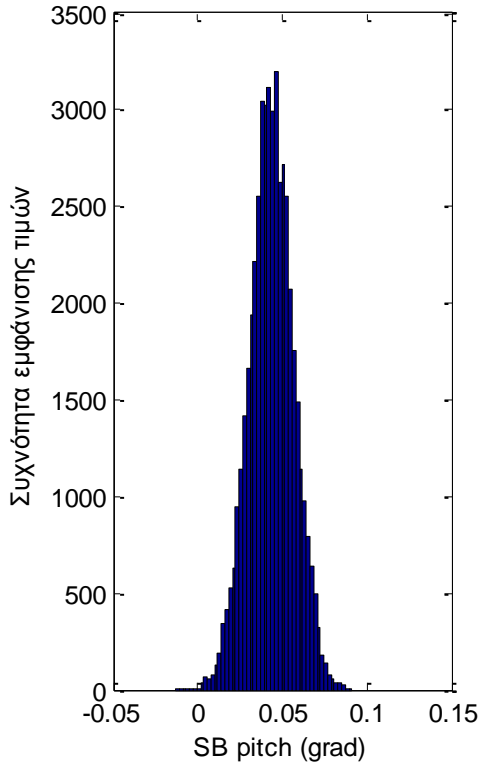
(4a) Histogram of SB roll



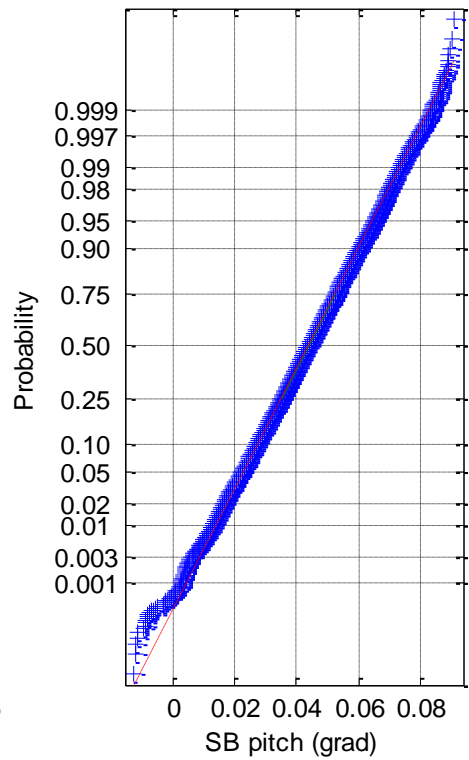
(4b) Normal probability plot of SB roll

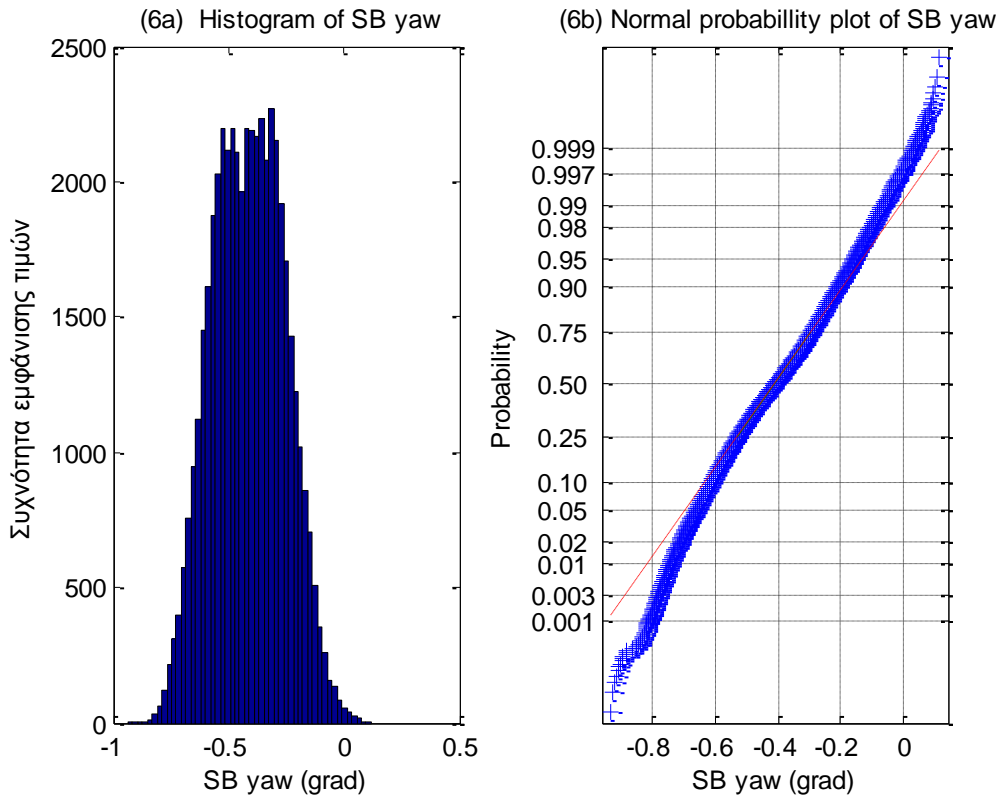


(5a) Histogram of SB pitch

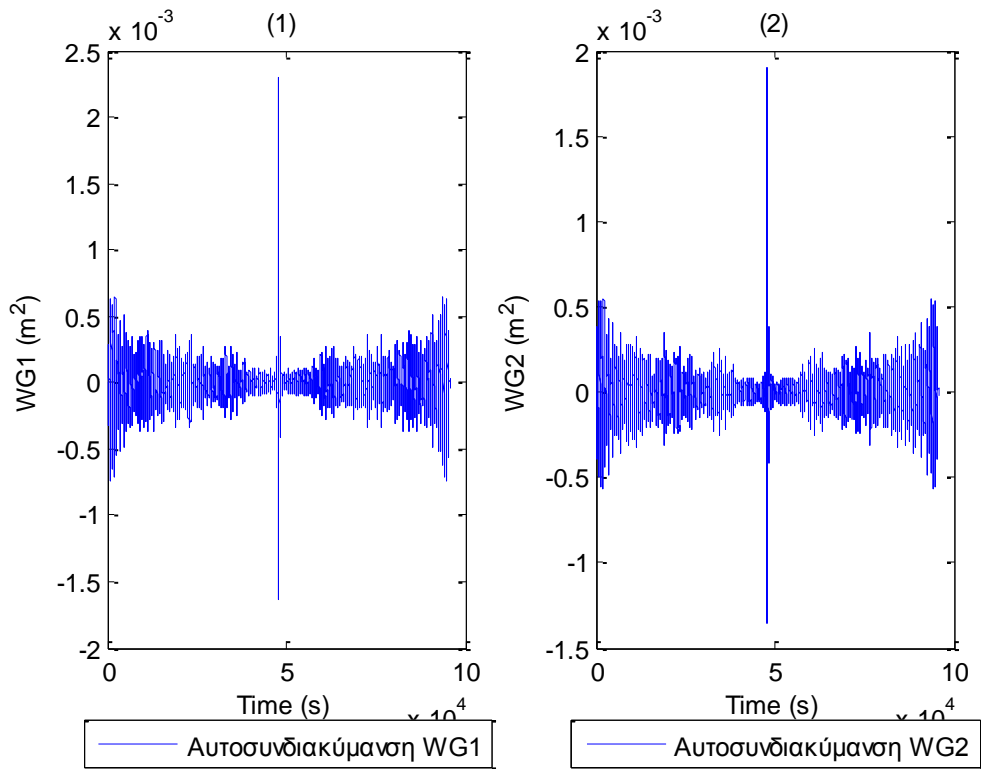


(5b) Normal probability plot of SB pitch

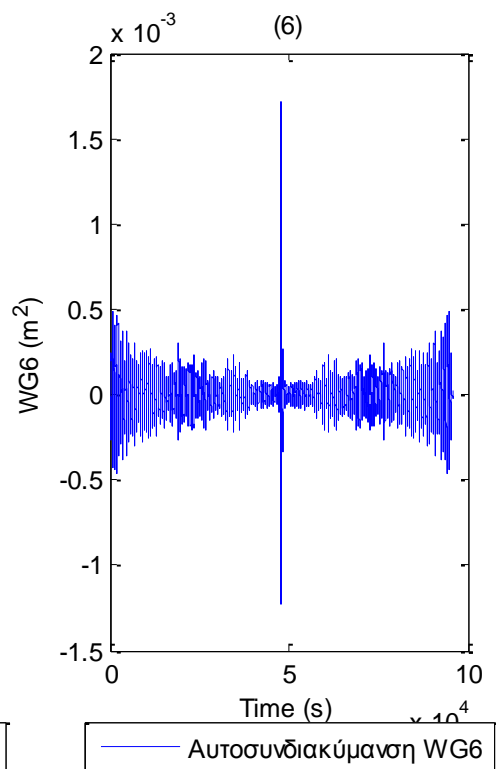
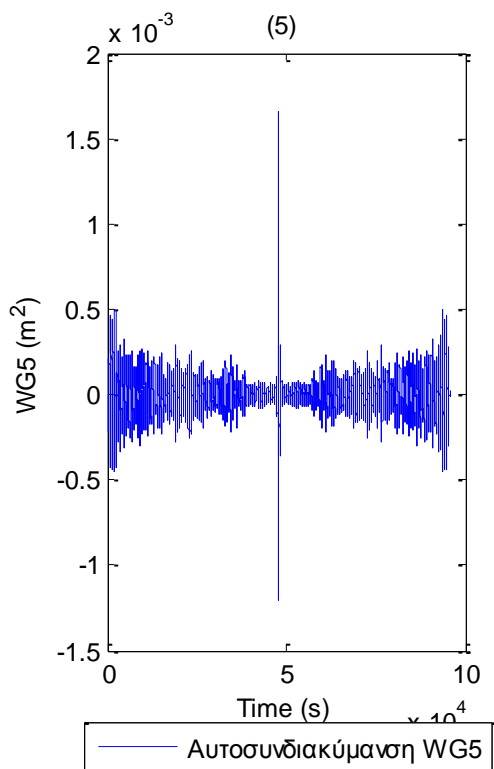
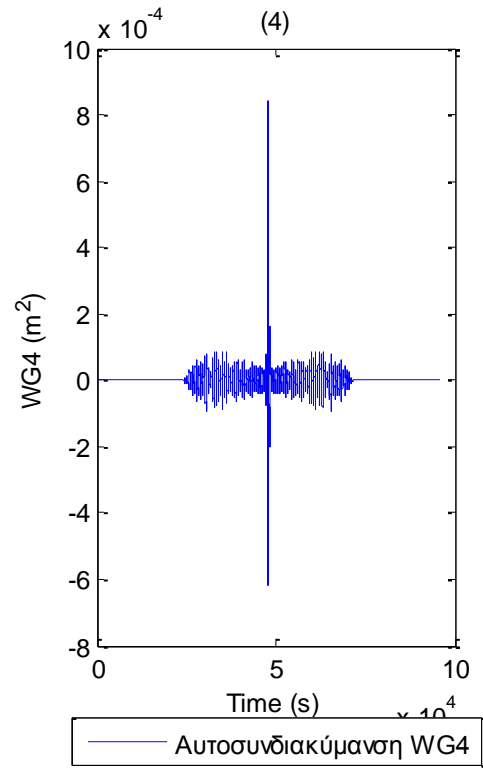
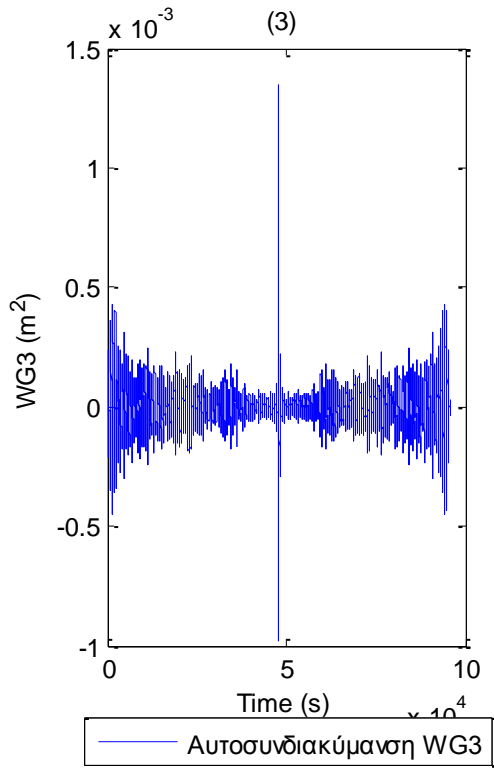


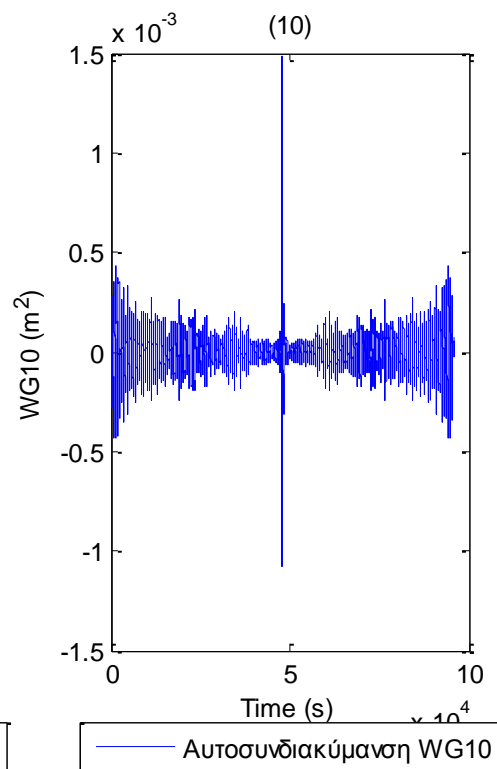
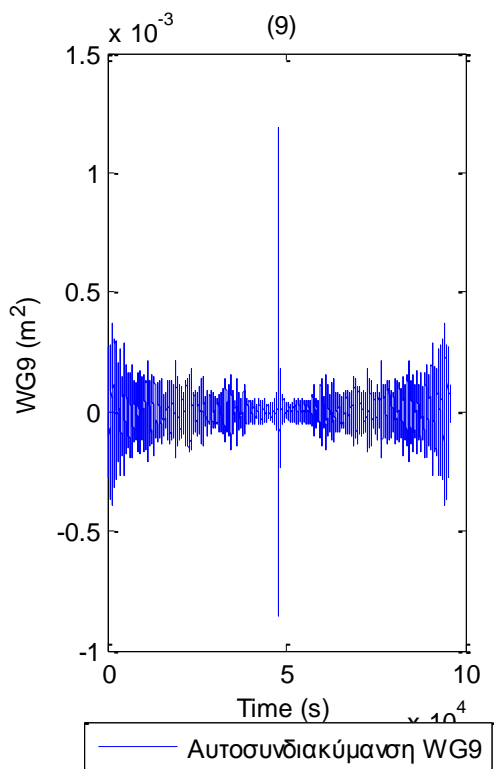
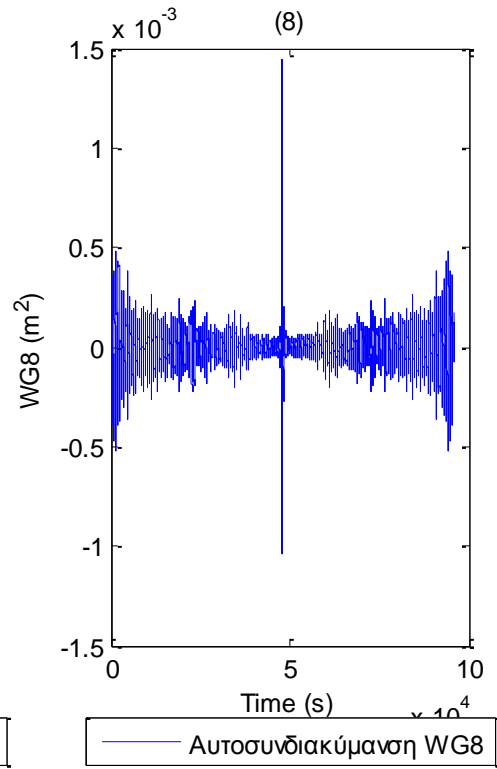
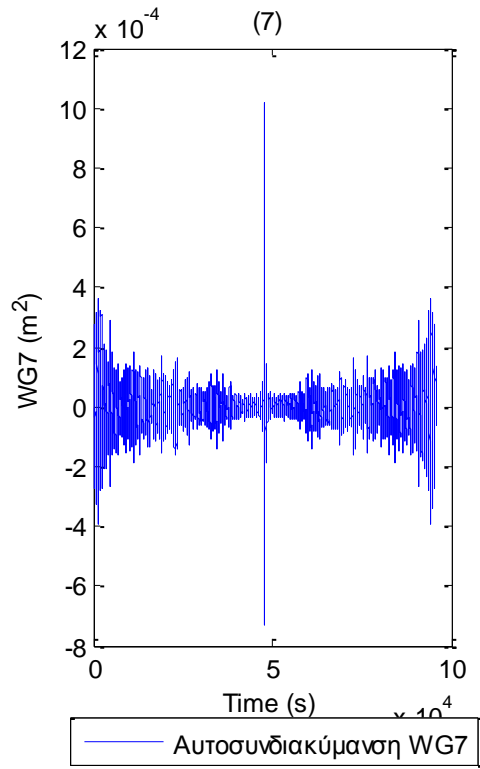


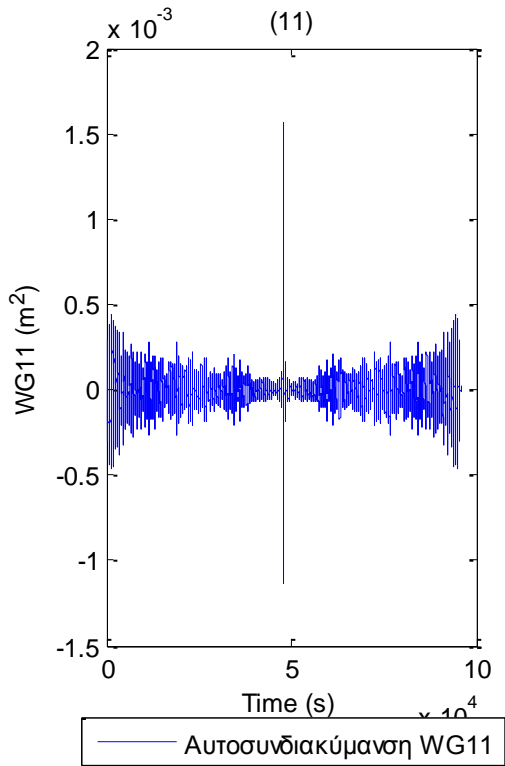
**Σχήματα 2.2.2.6** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



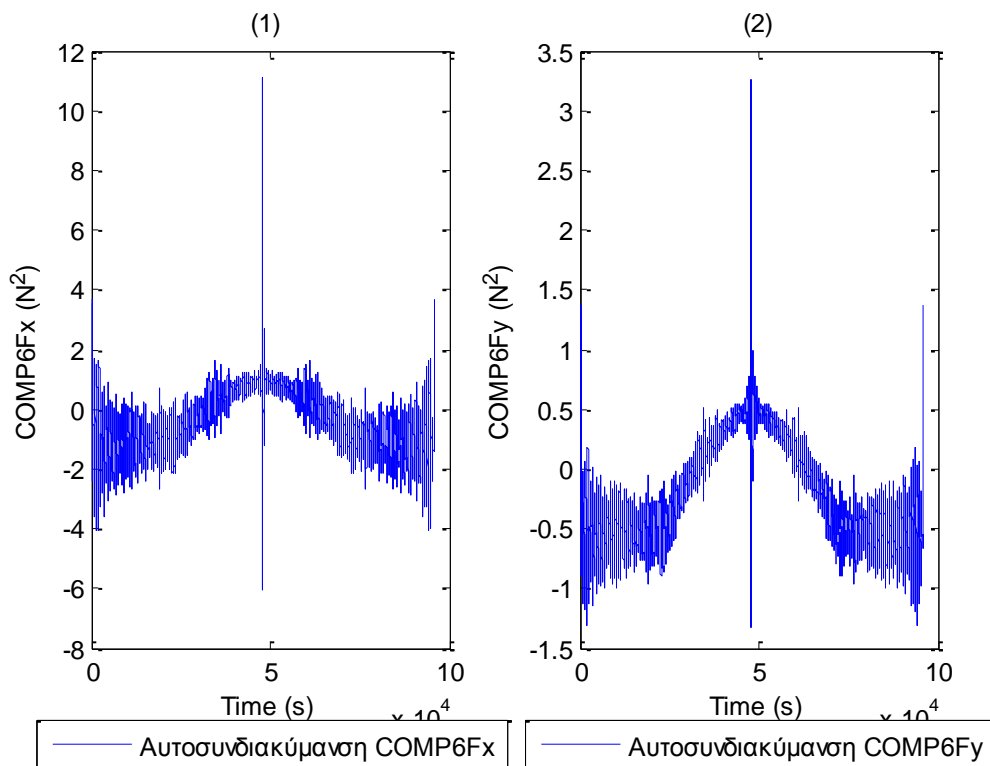


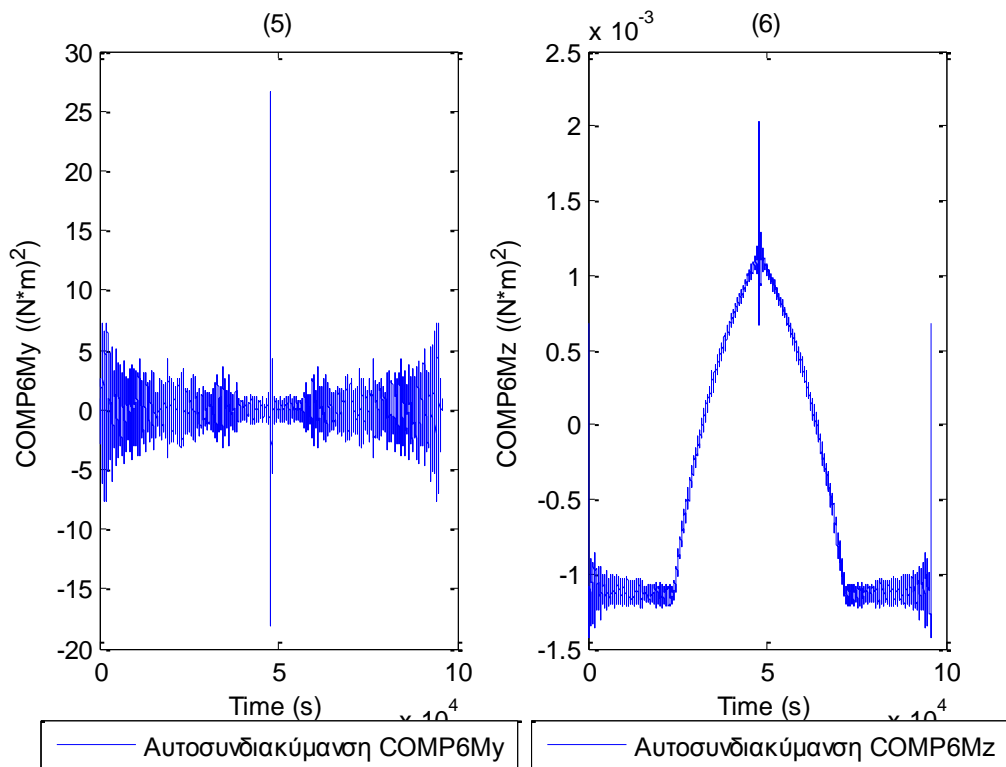
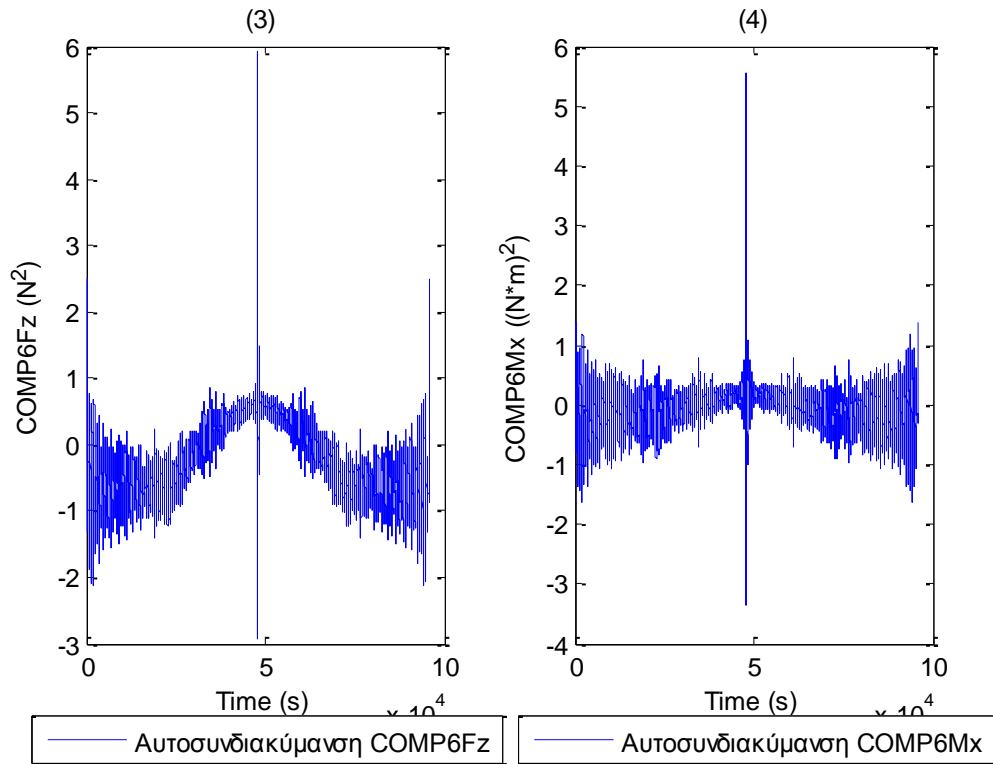




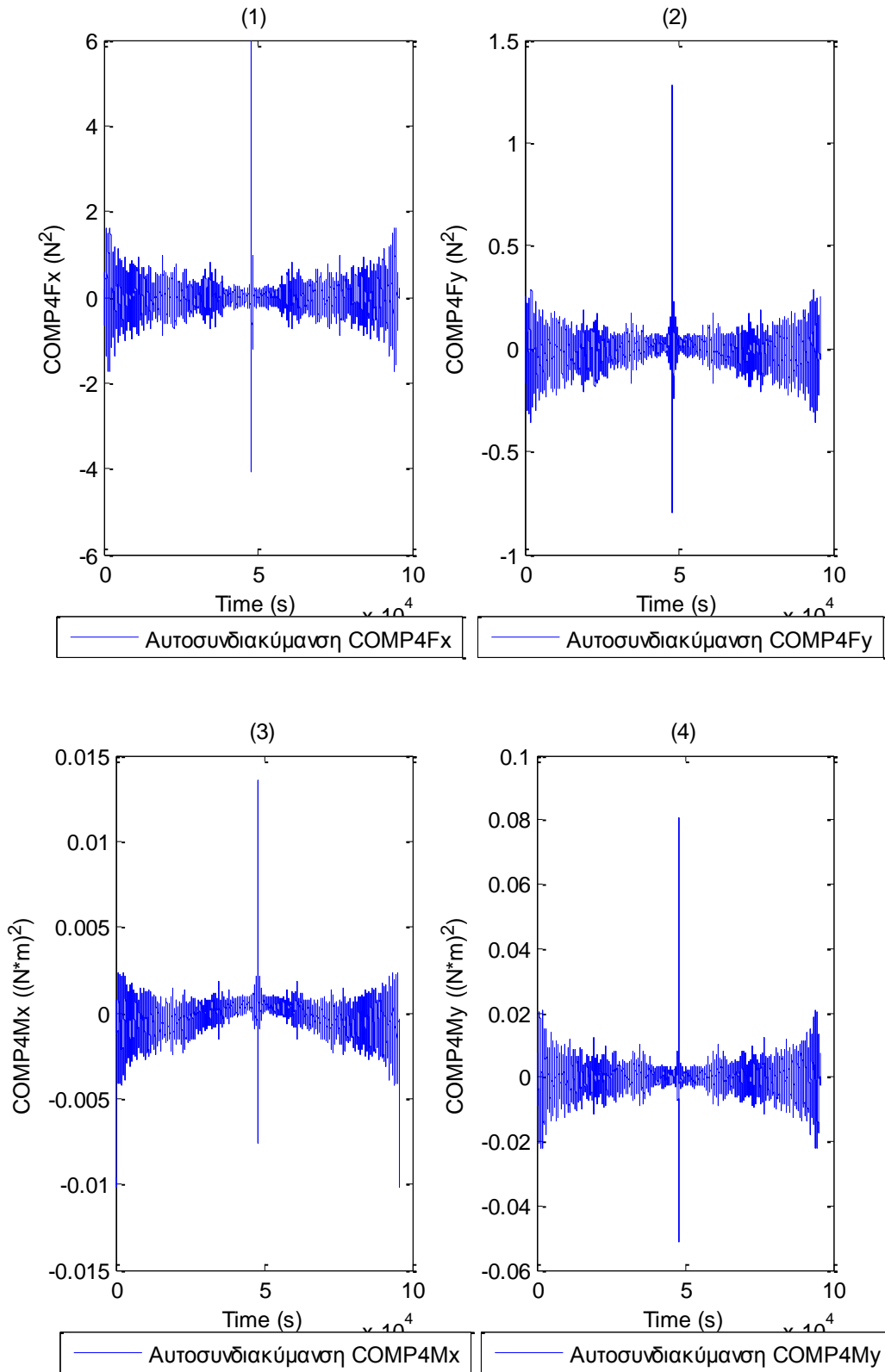


**Σχήματα 2.2.3.1 (1-11)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος

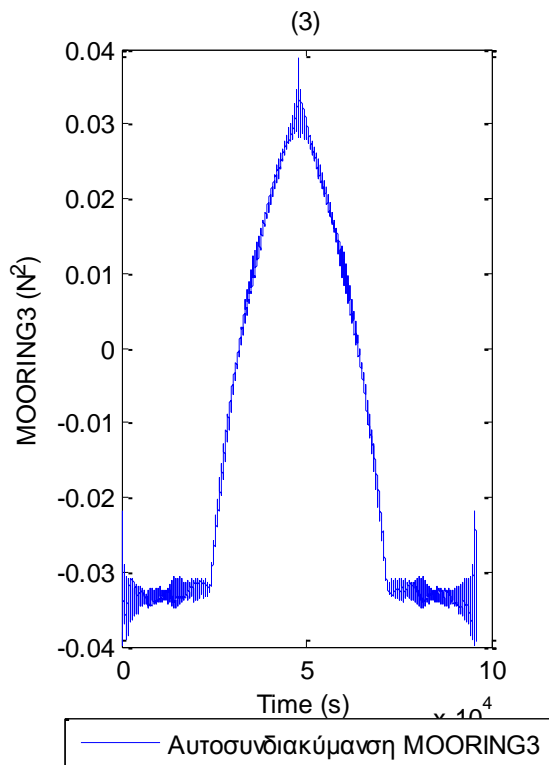
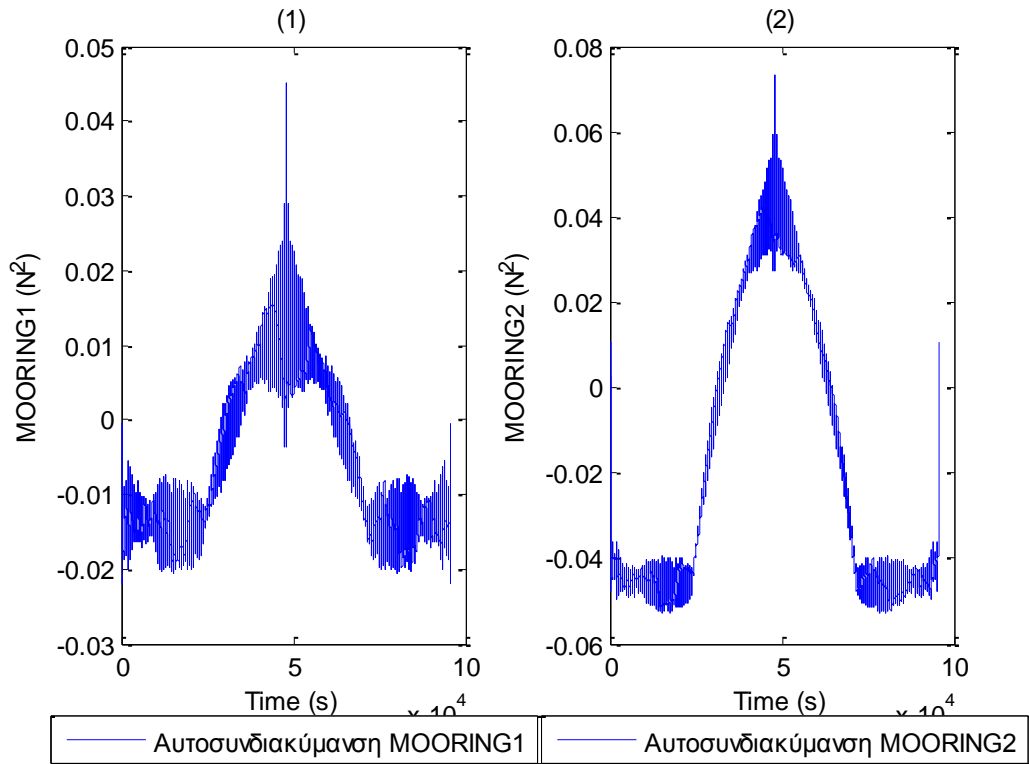




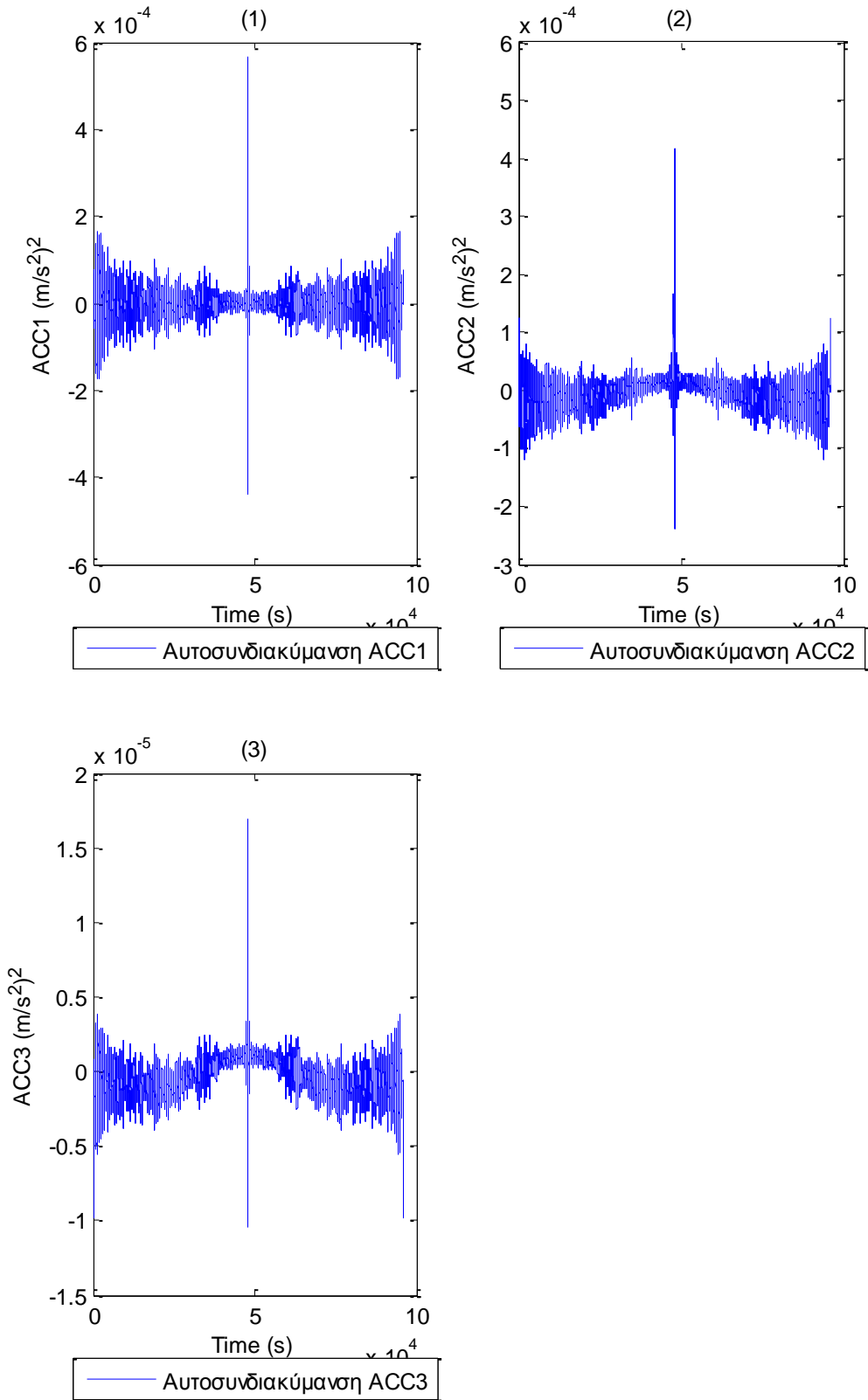
**Σχήματα 2.2.3.2** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



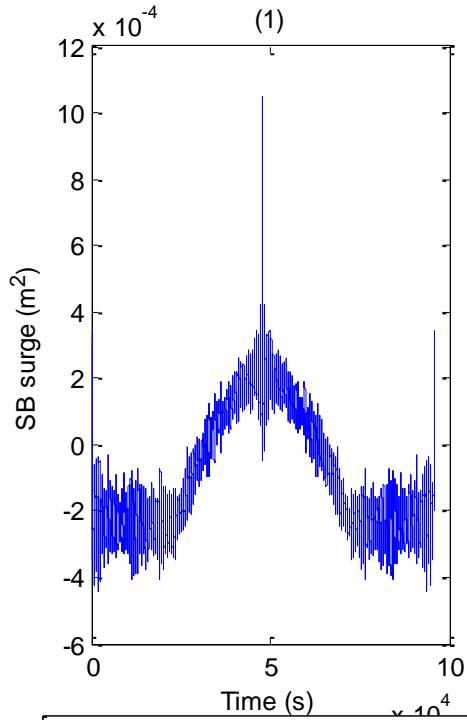
**Σχήματα 2.2.3.3** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



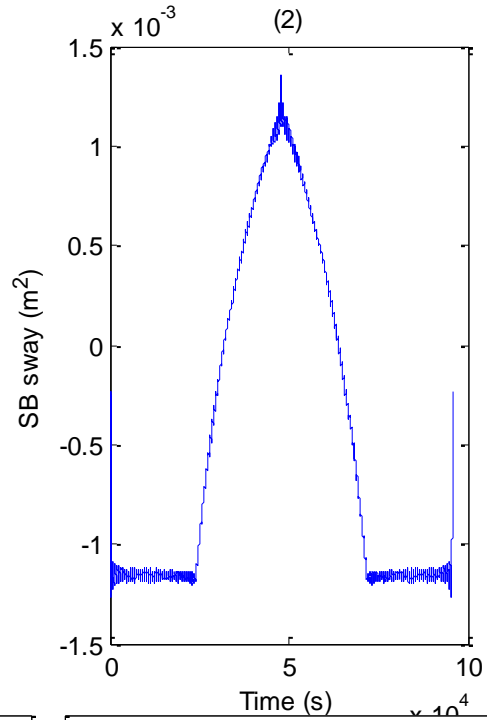
**Σχήματα 2.2.3.4 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



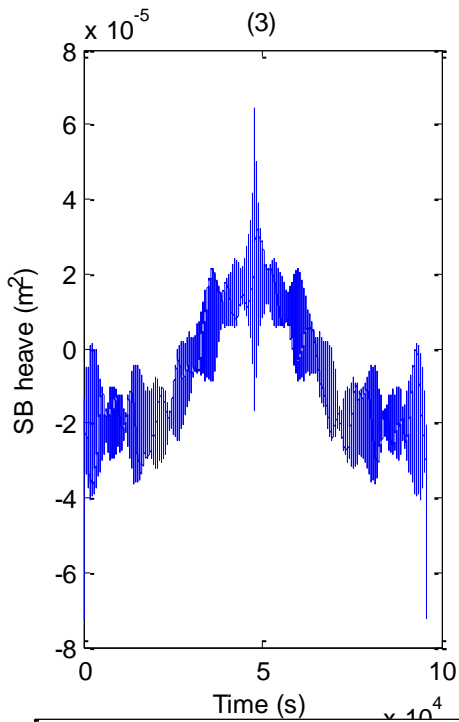
**Σχήματα 2.2.3.5 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



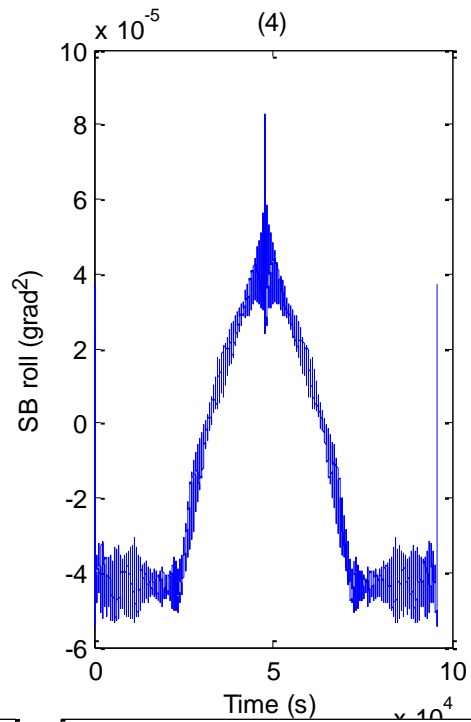
— Αυτοσυνδιακύμανση SB surge



— Αυτοσυνδιακύμανση SB sway

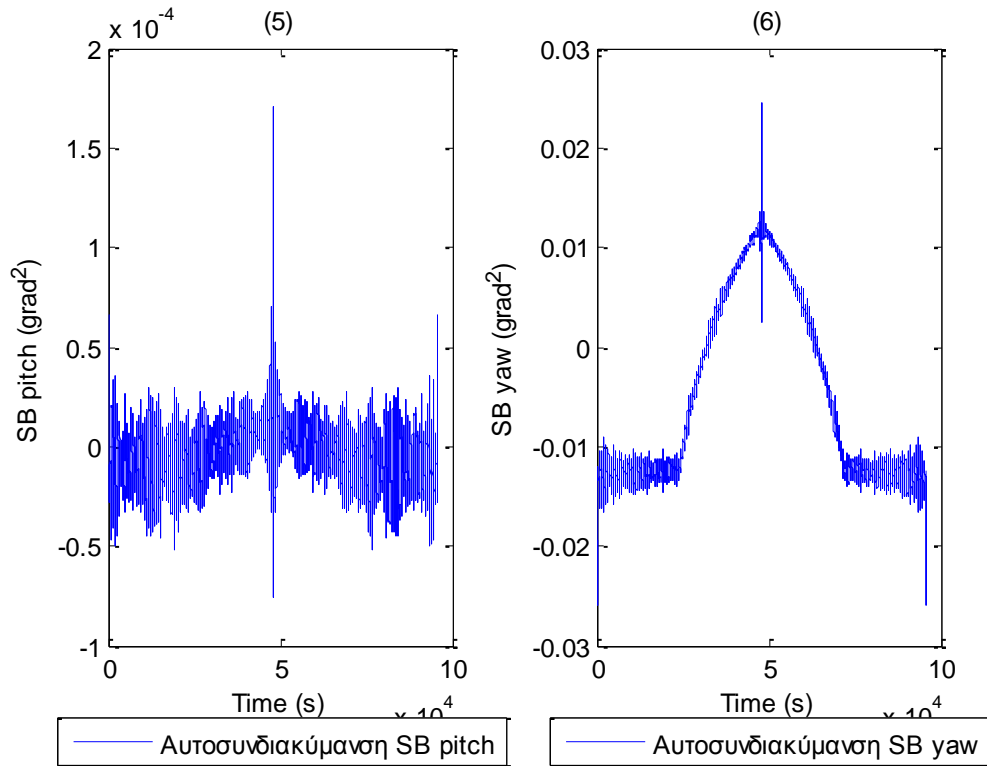


— Αυτοσυνδιακύμανση SB heave

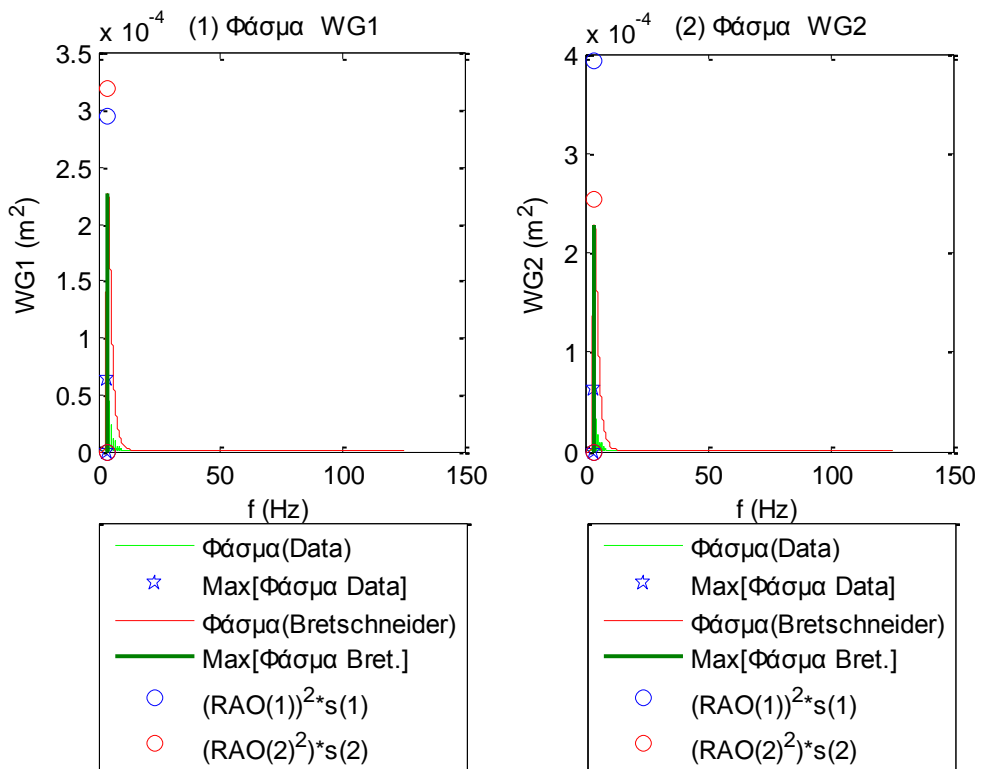


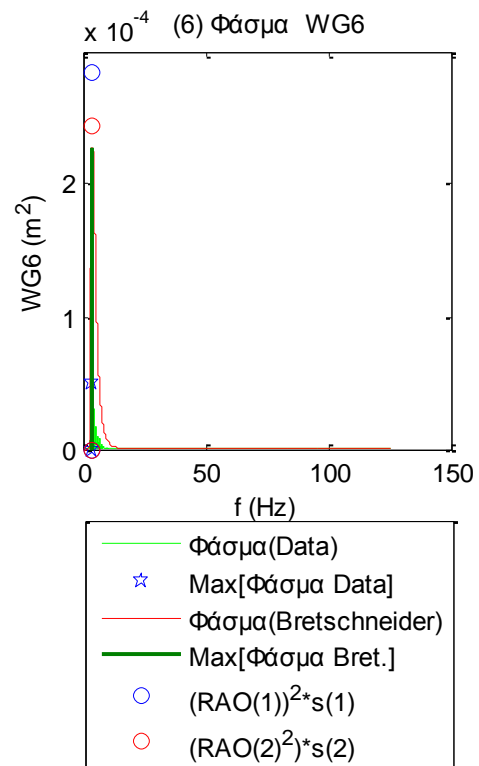
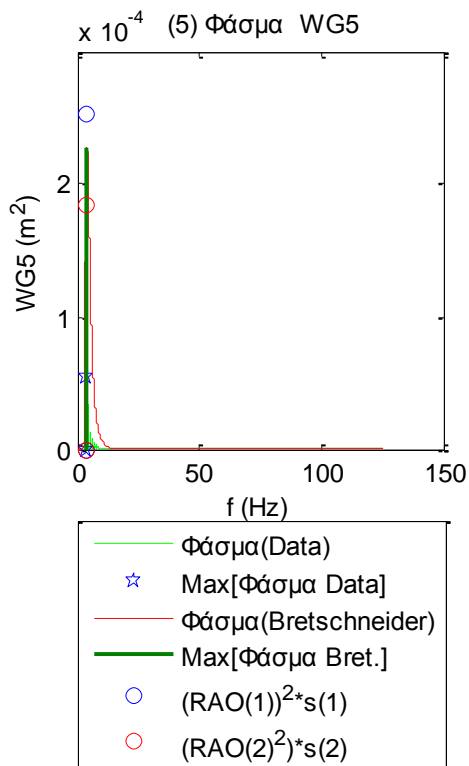
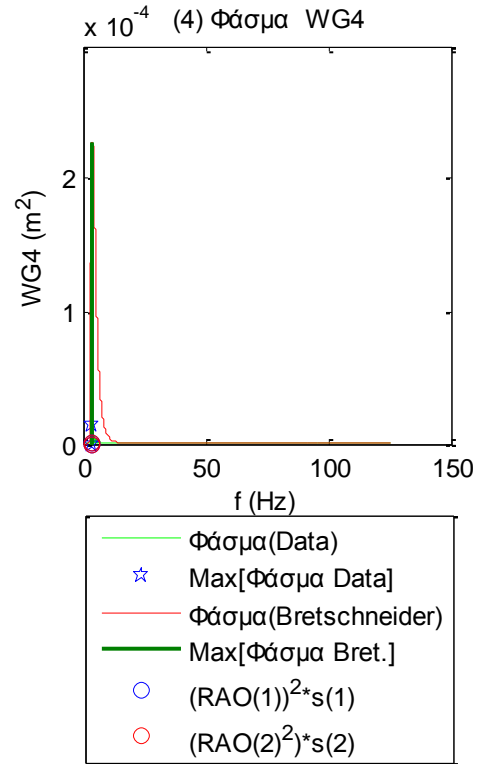
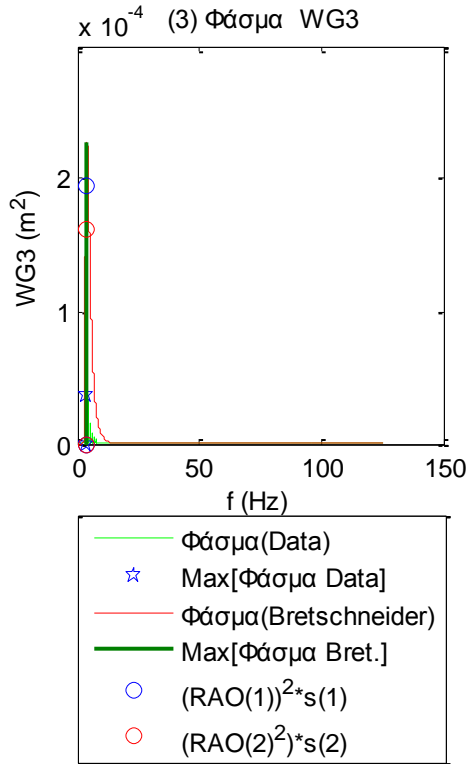
— Αυτοσυνδιακύμανση SB roll

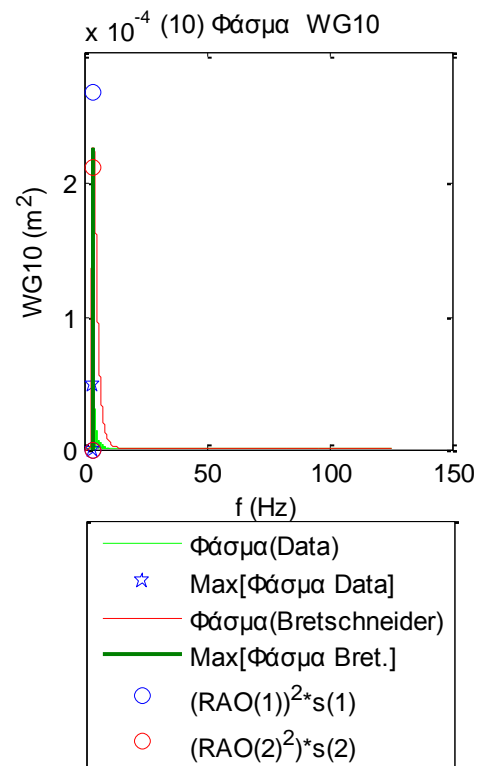
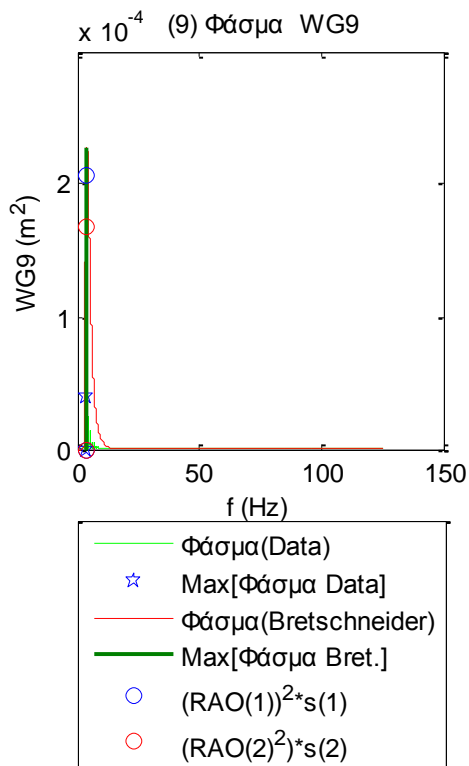
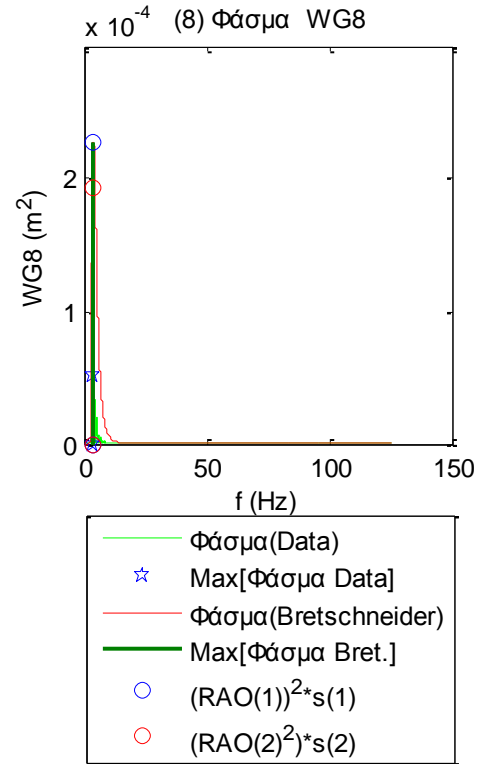
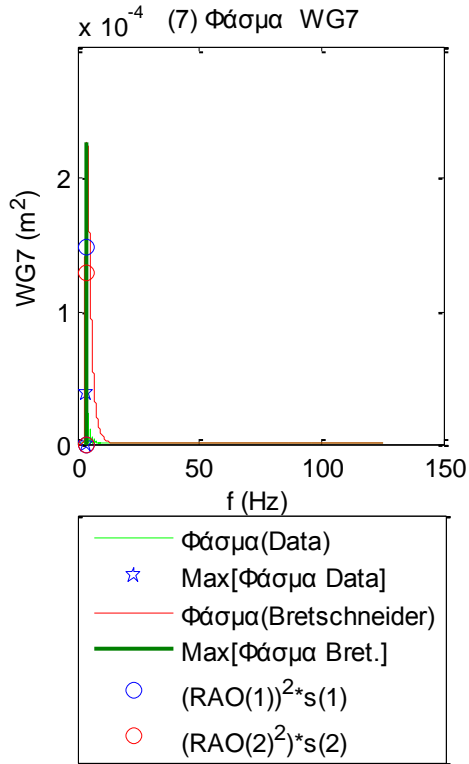


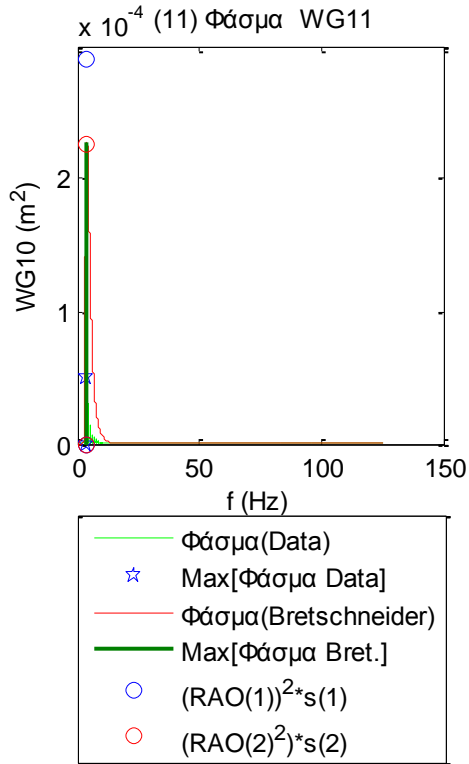


**Σχήματα 2.2.3.6** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

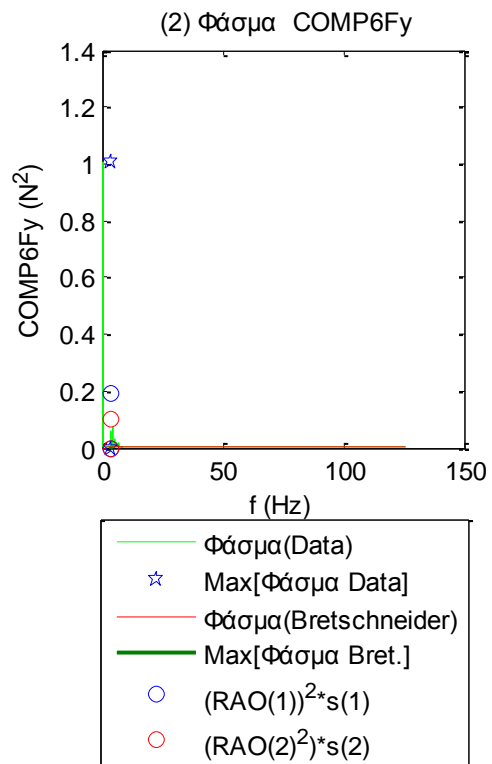
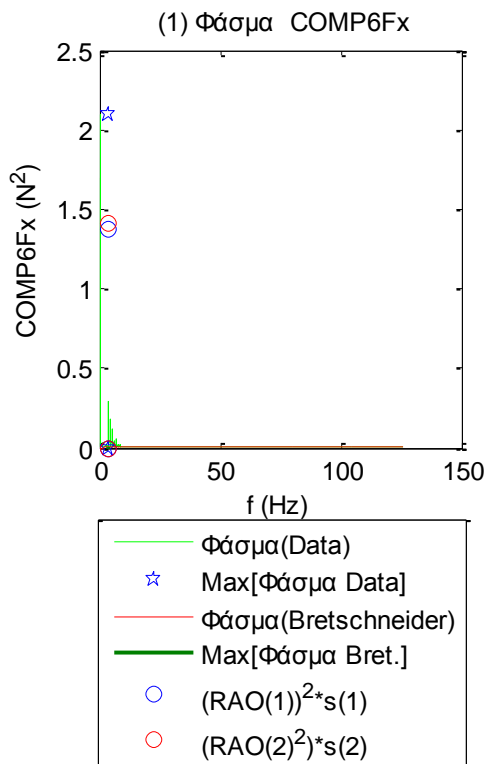


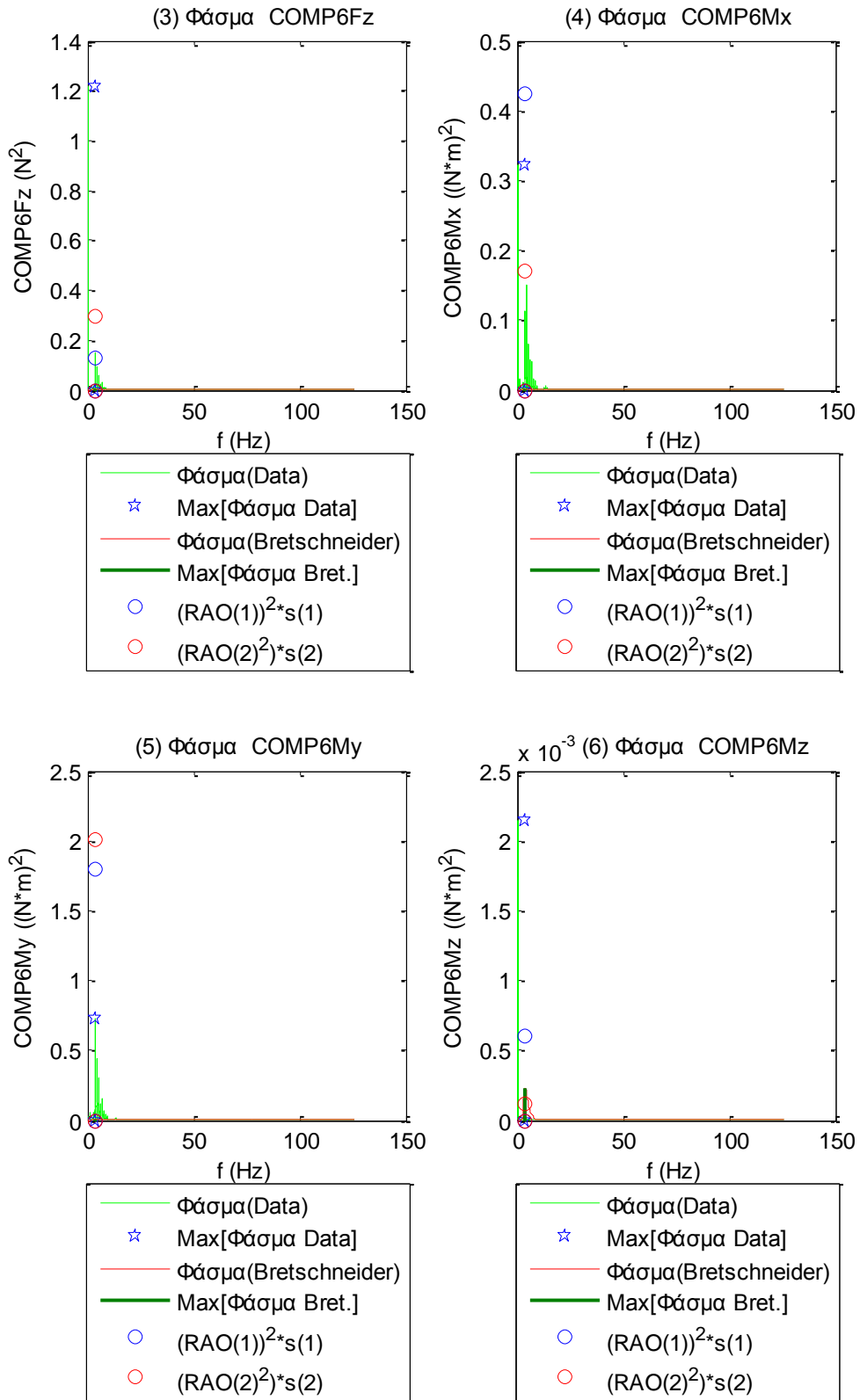




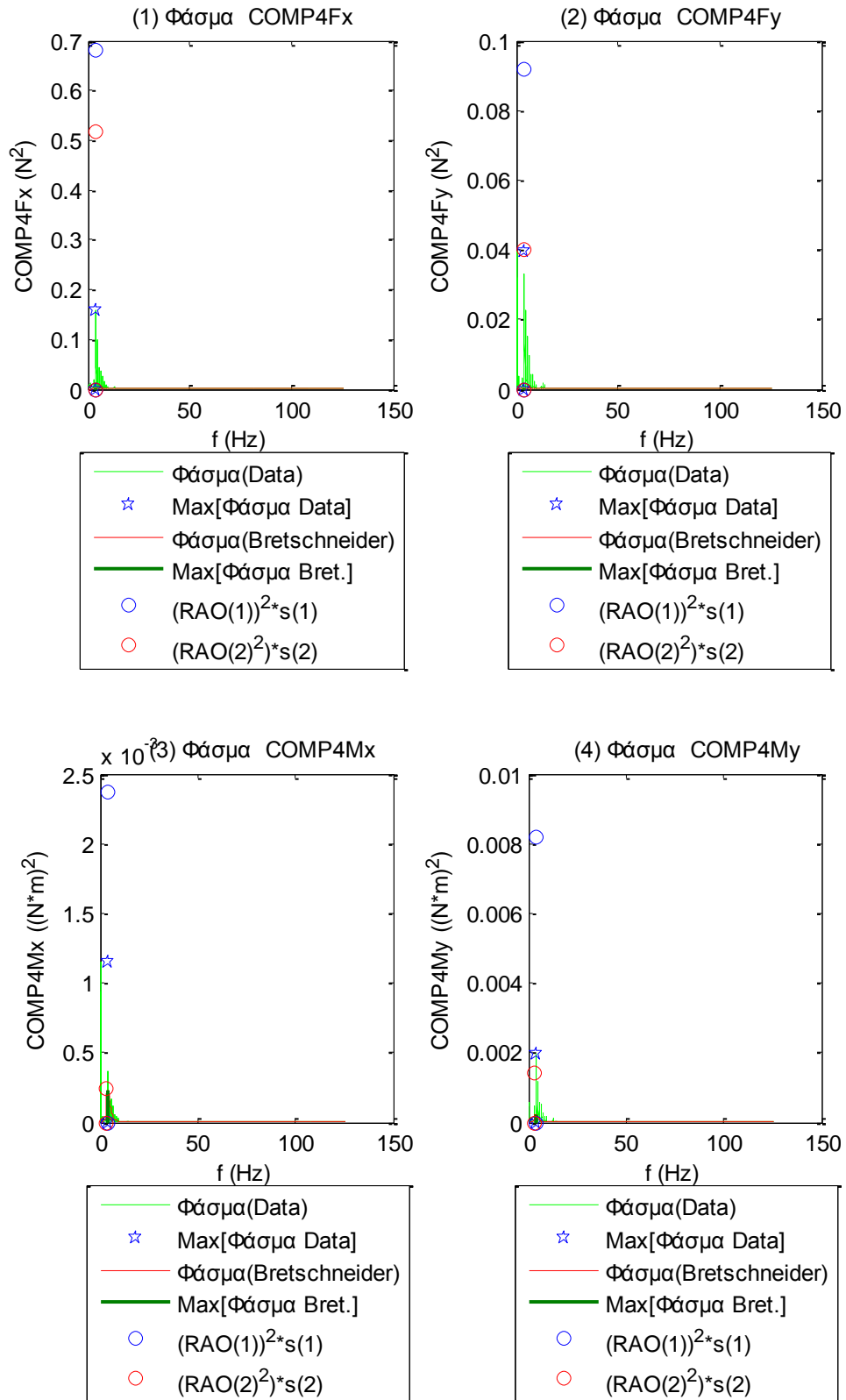


**Σχήματα 2.2.4.1 (1-11)** Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος

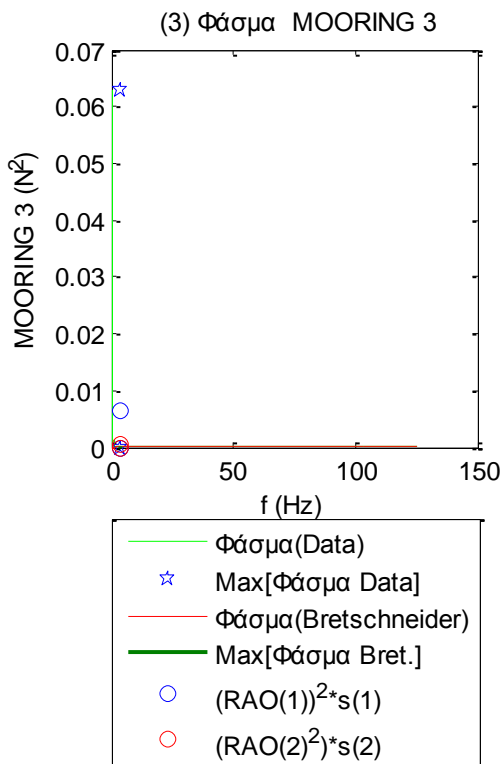
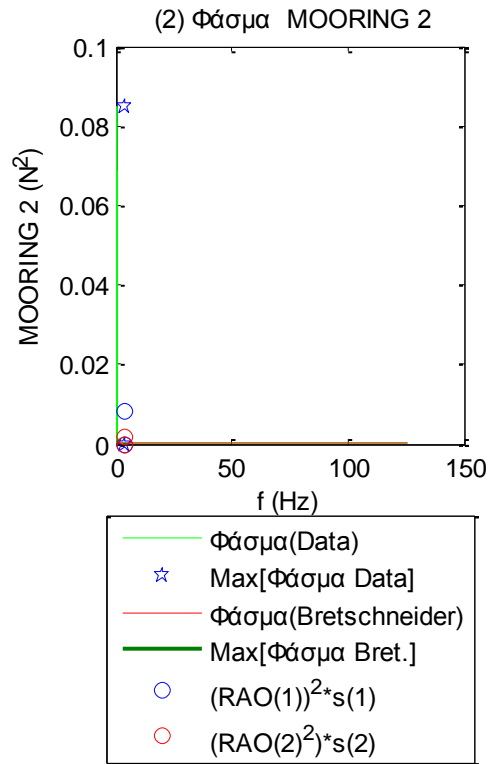
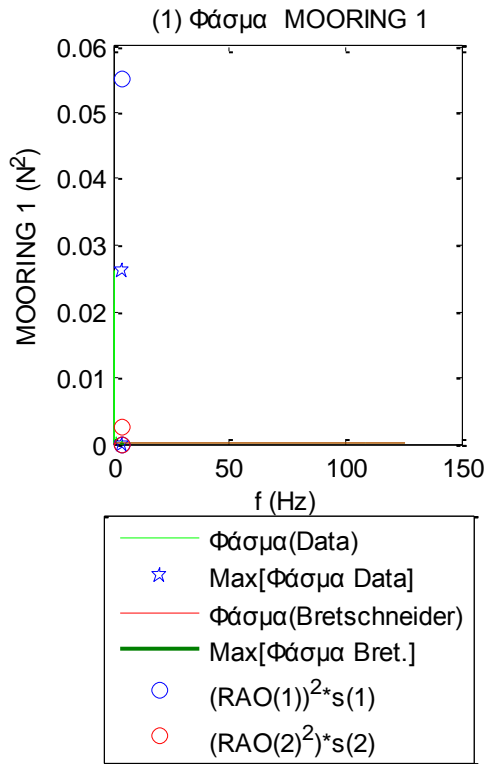




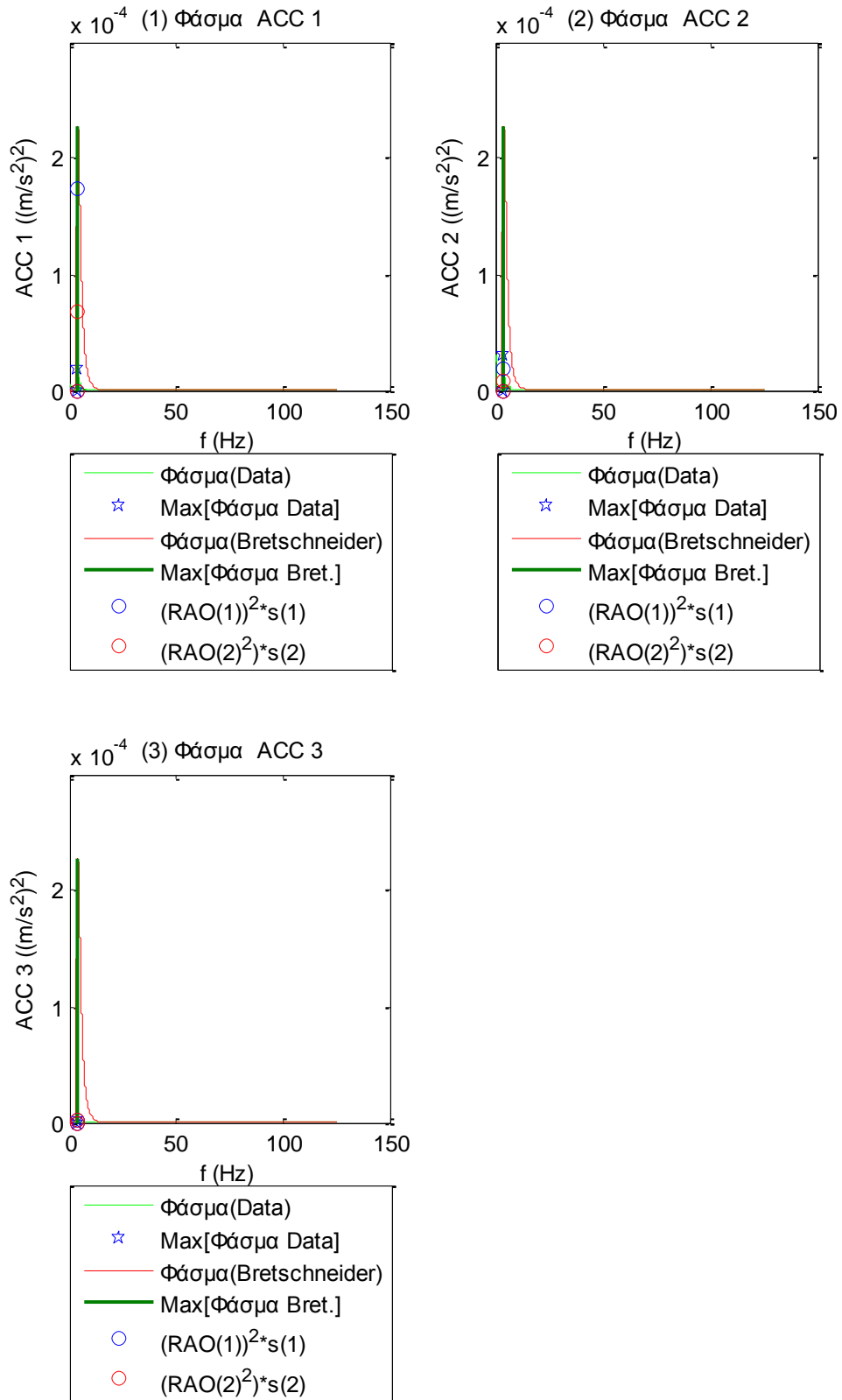
**Σχήματα 2.2.4.2** Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



Σχήματα 2.2.4.3 Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

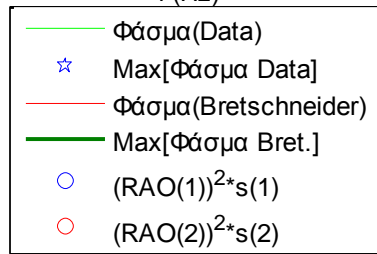
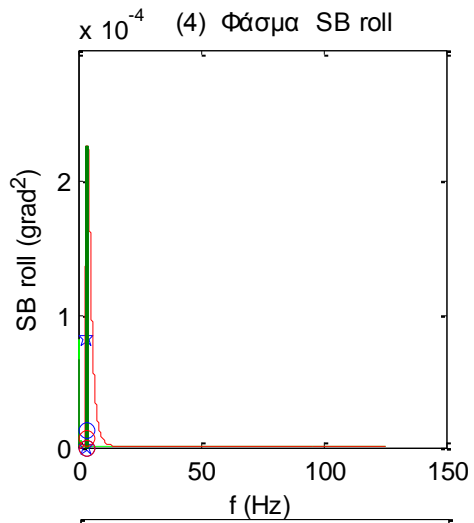
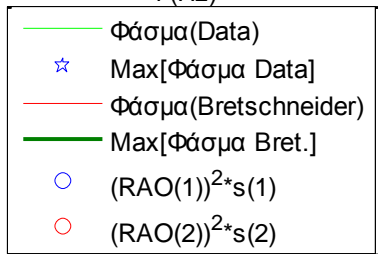
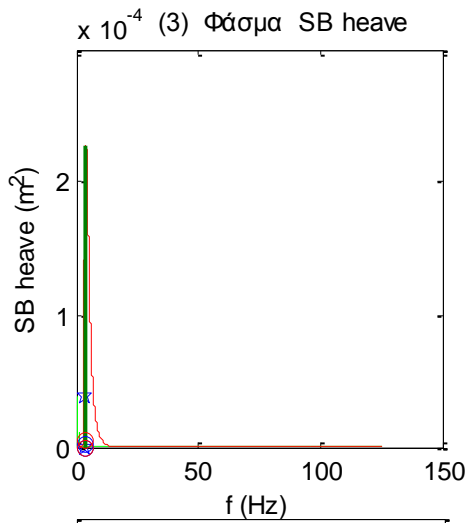
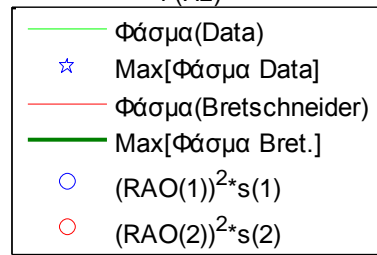
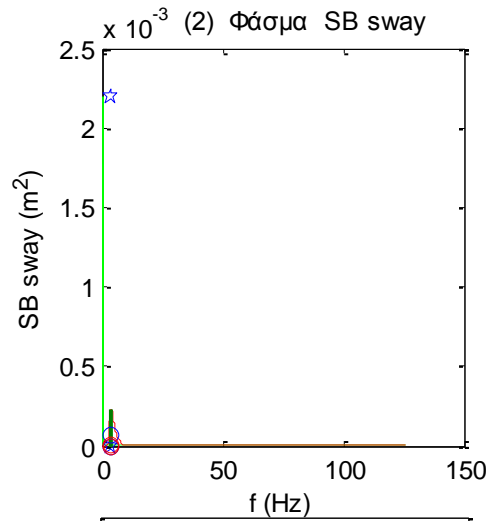
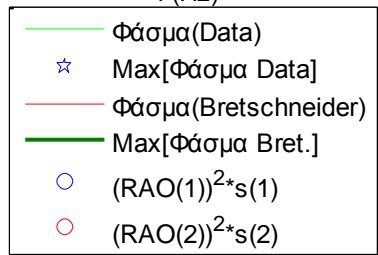
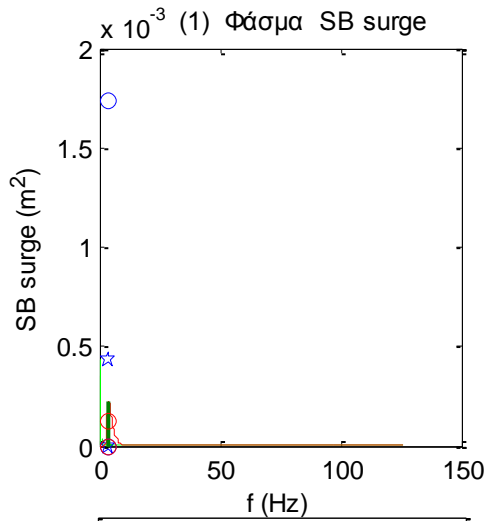


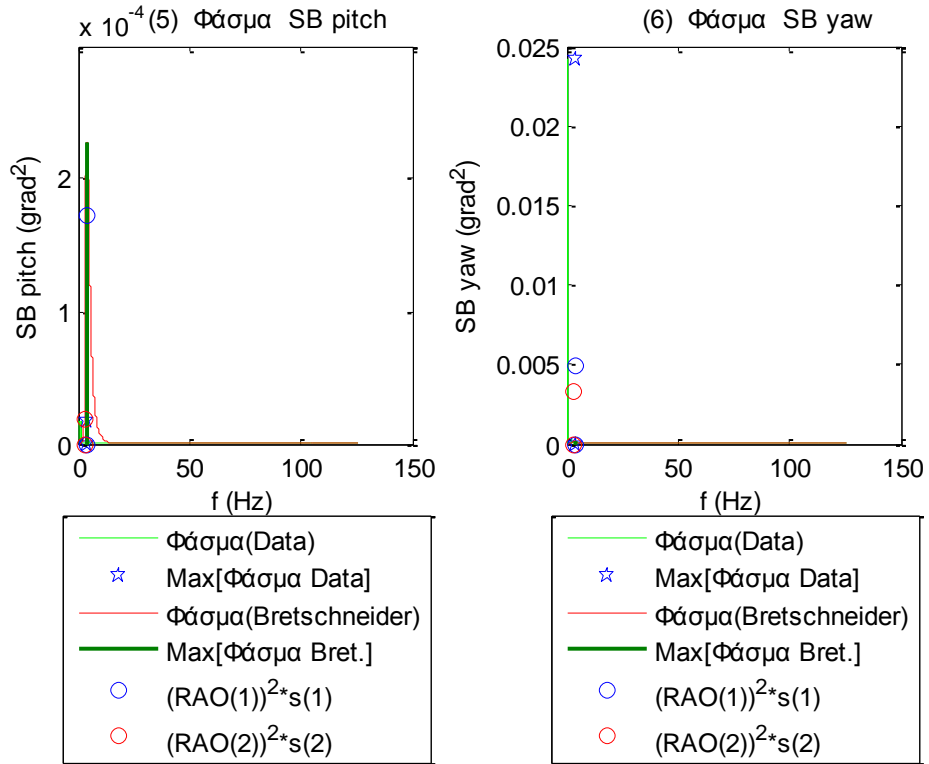
Σχήματα 2.2.4.4 (1-3) Φάσματα για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



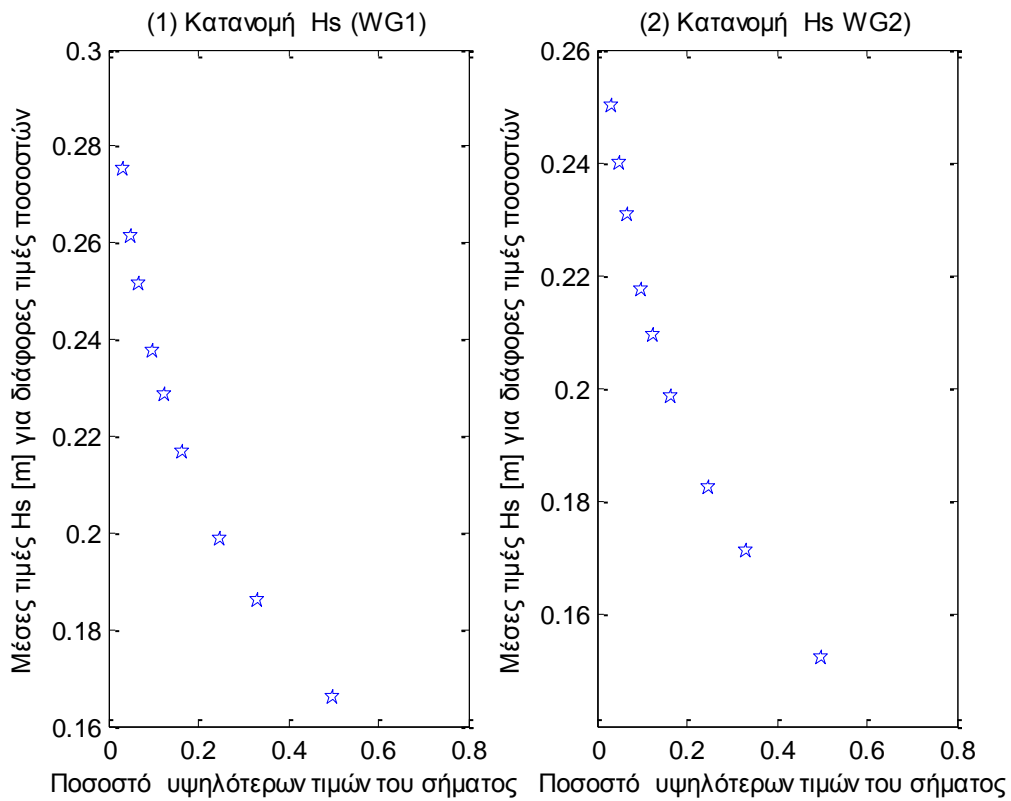
**Σχήματα 2.2.4.5 (1-3)** Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

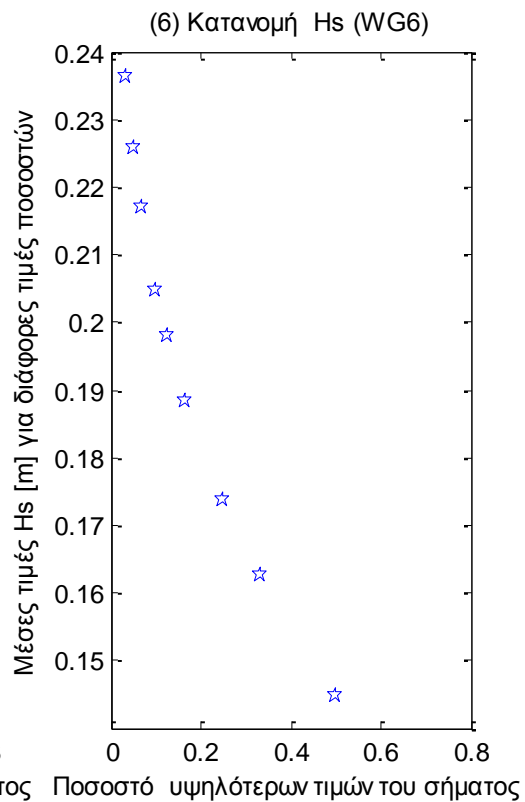
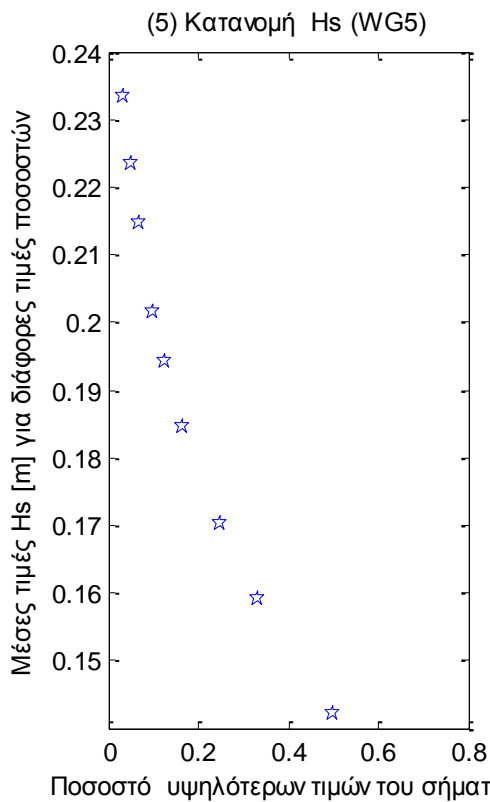
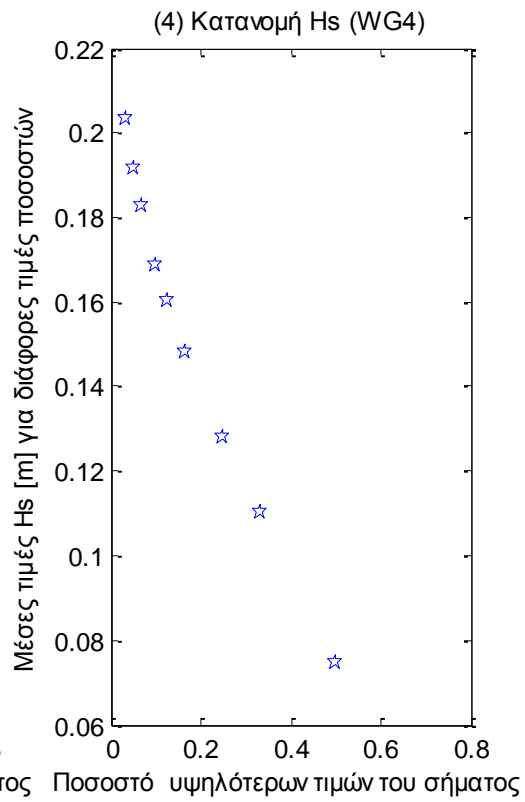
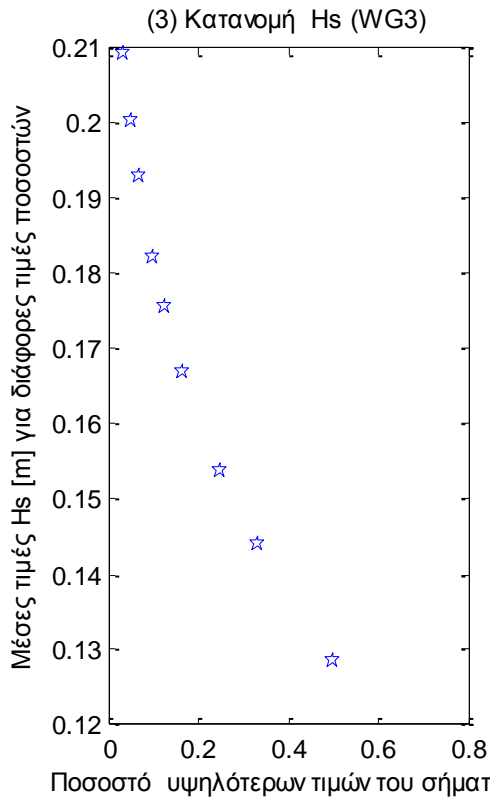


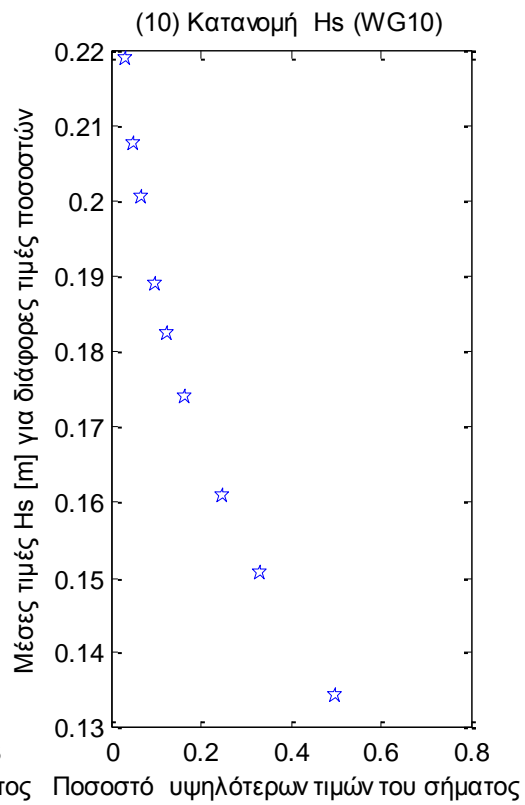
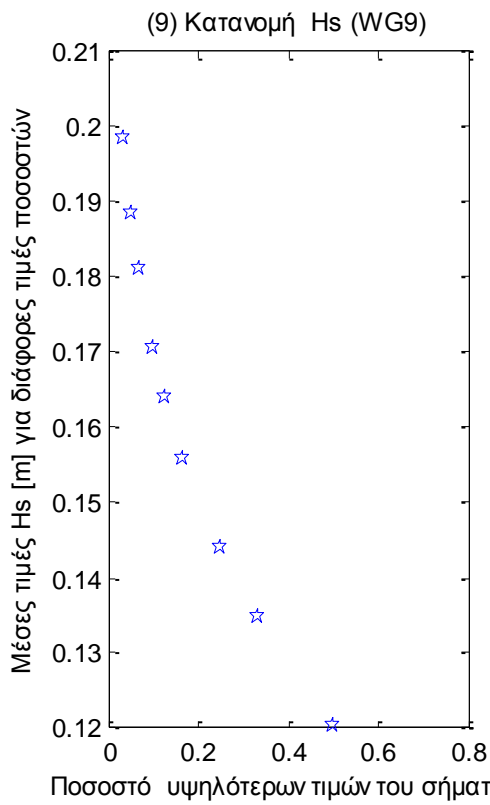
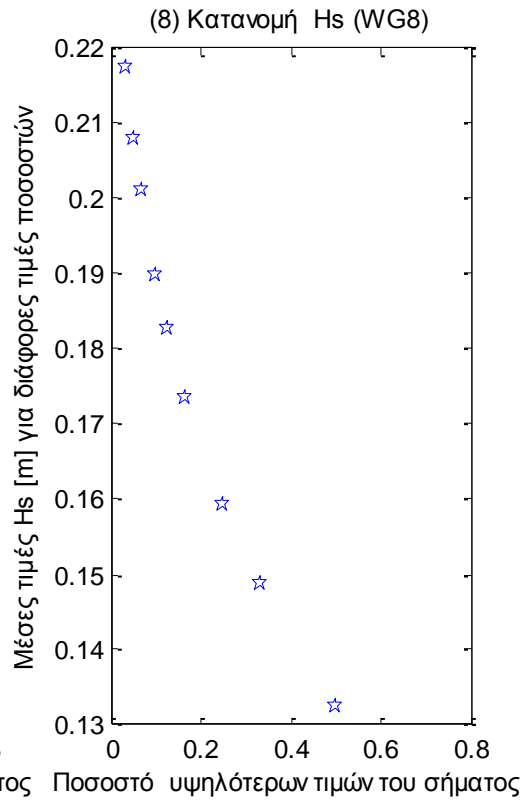
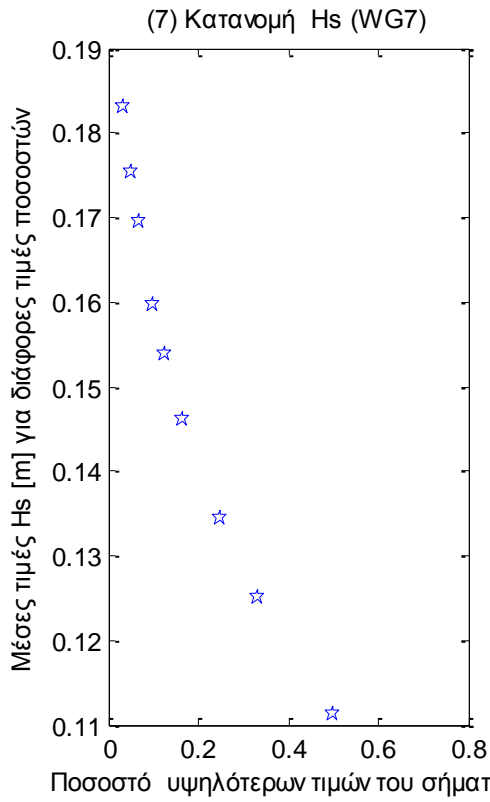


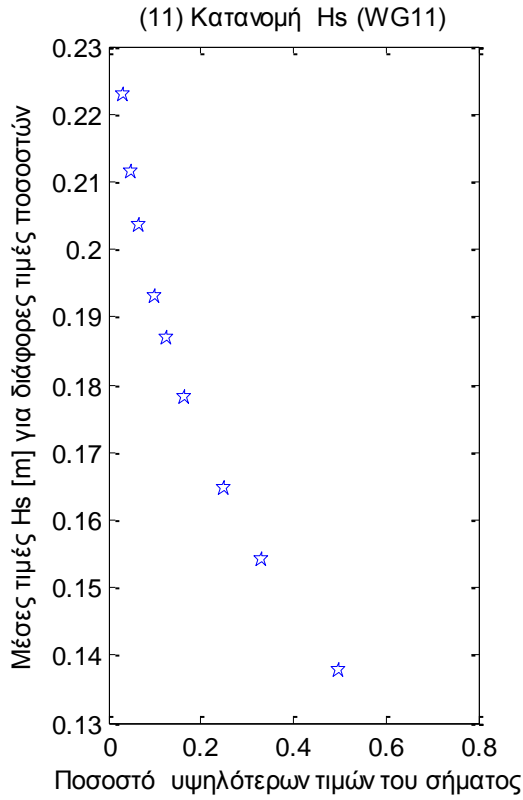


**Σχήματα 2.2.4.6** Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

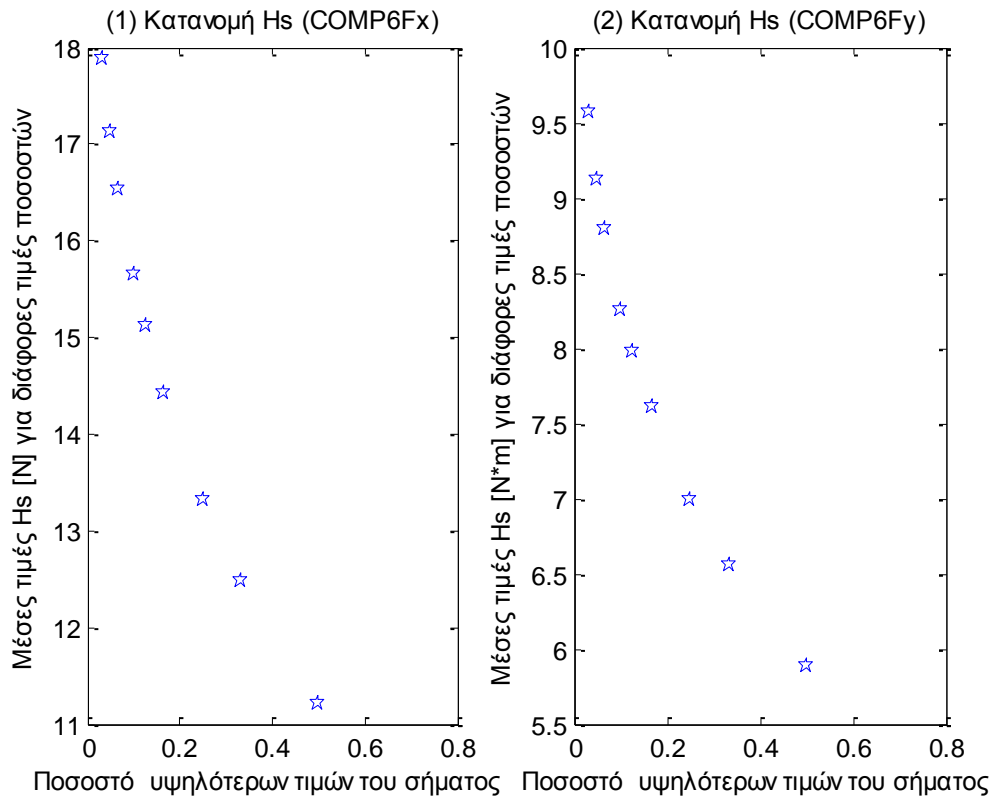


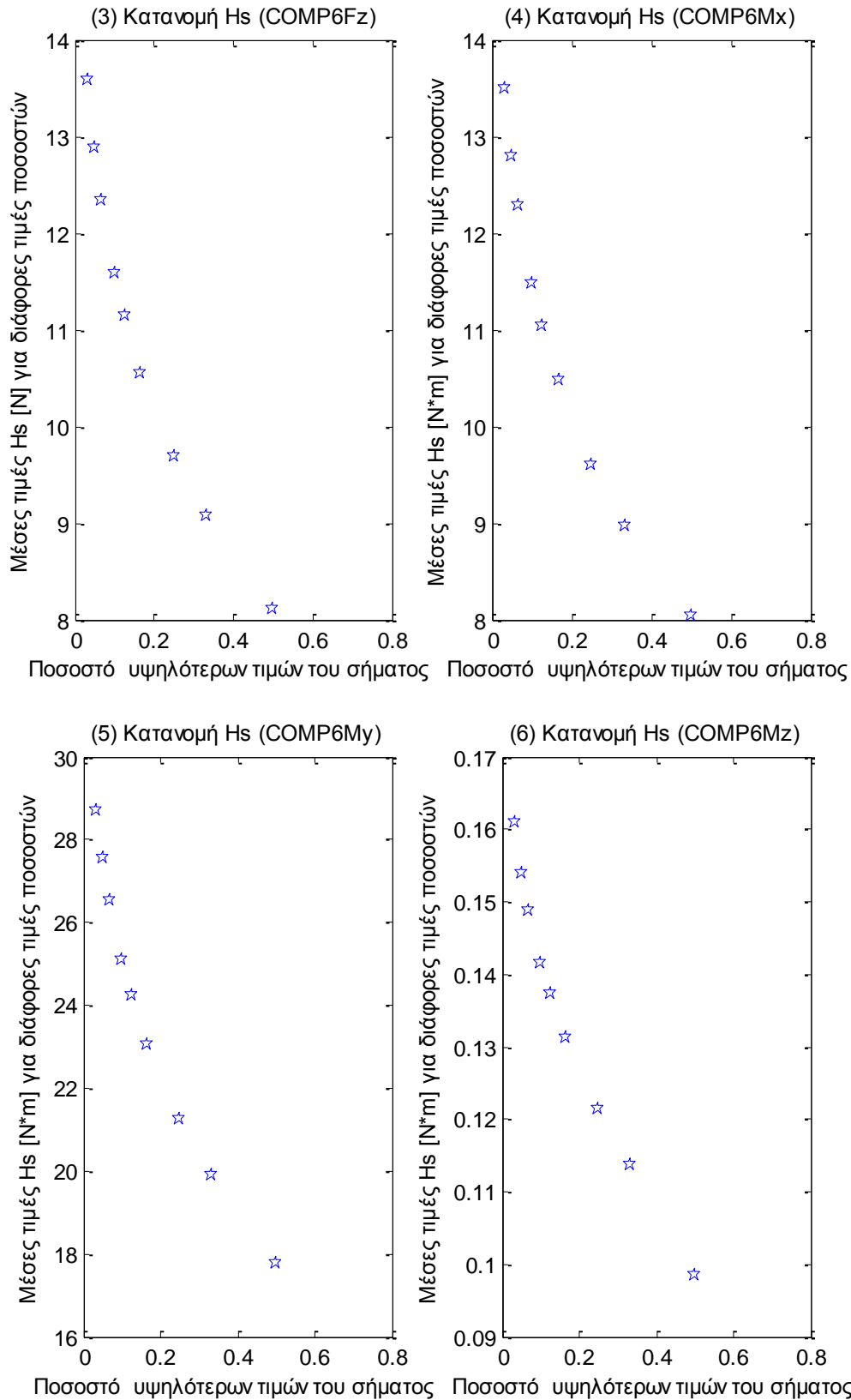




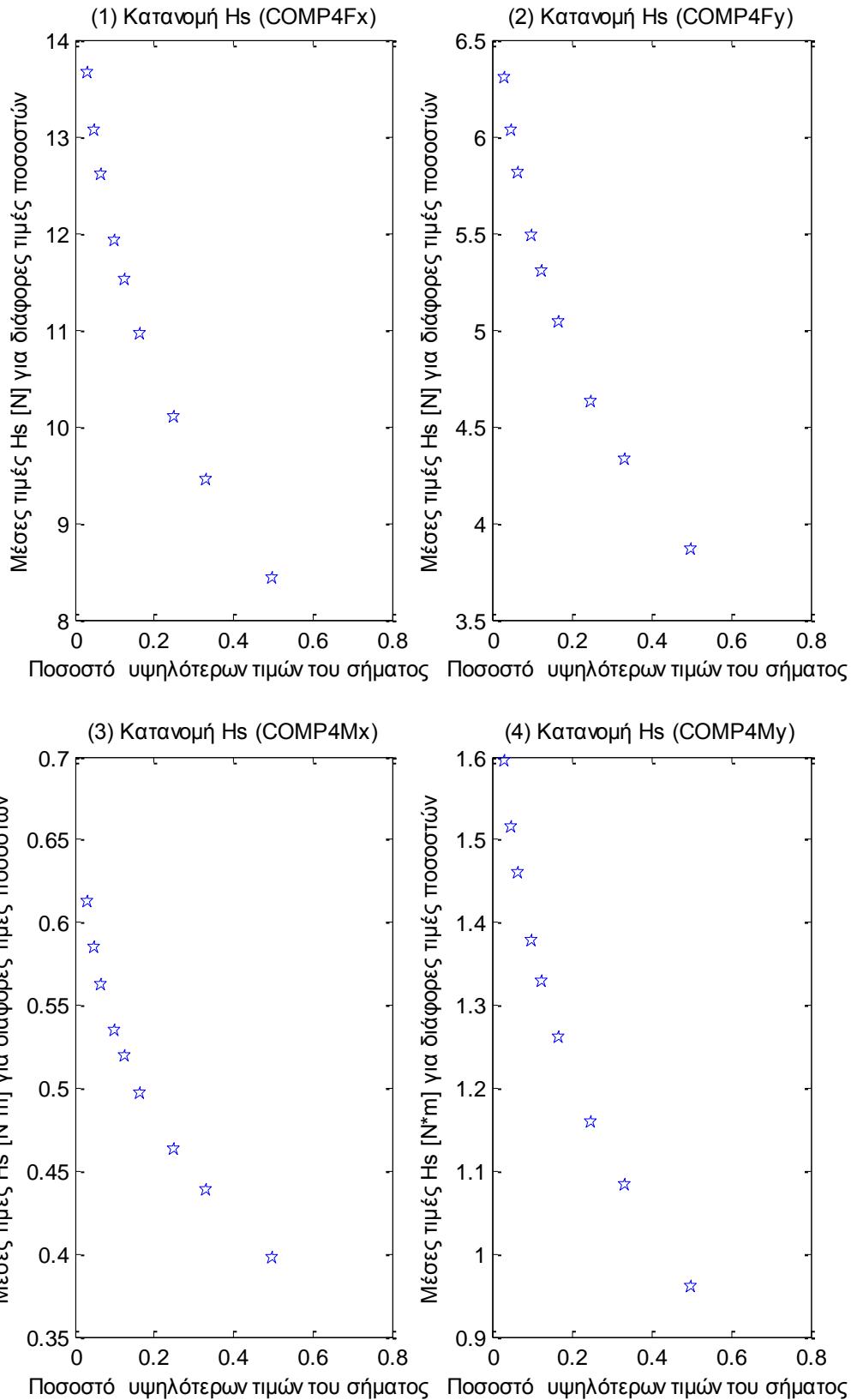


**Σχήματα 2.2.5.1 (1-11)** Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος

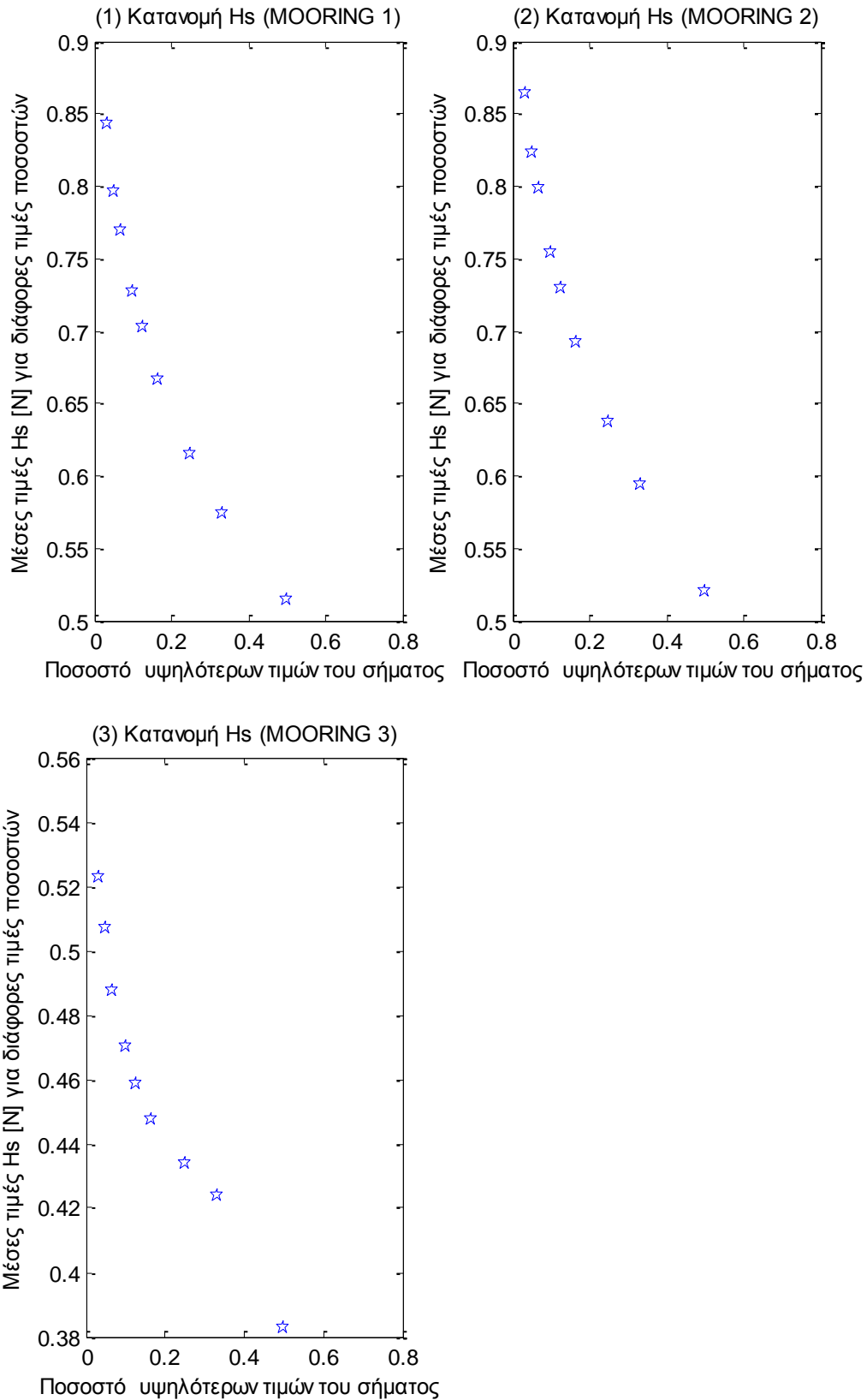




**Σχήματα 2.2.5.2** Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

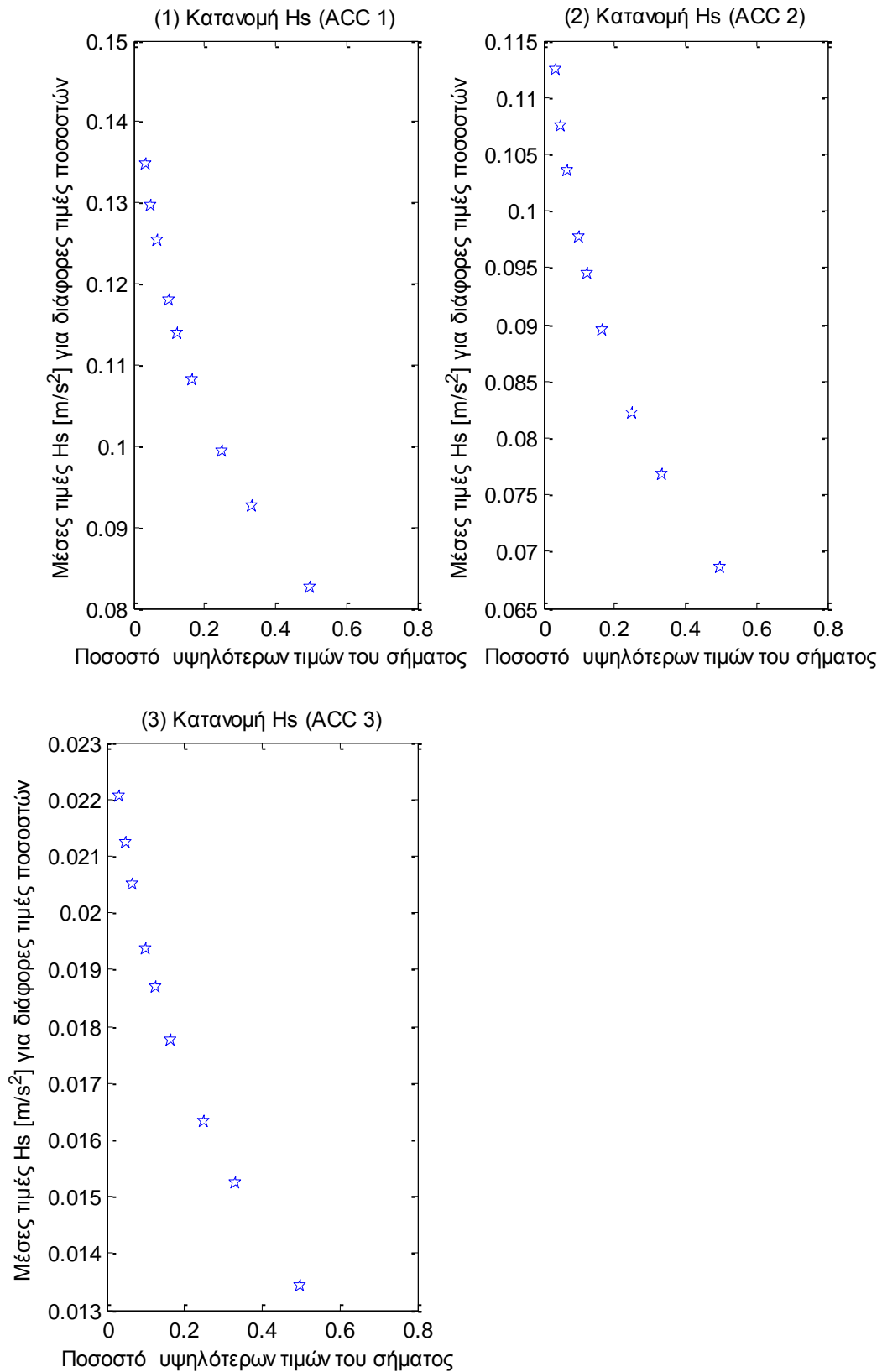


**Σχήματα 2.2.5.3** Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

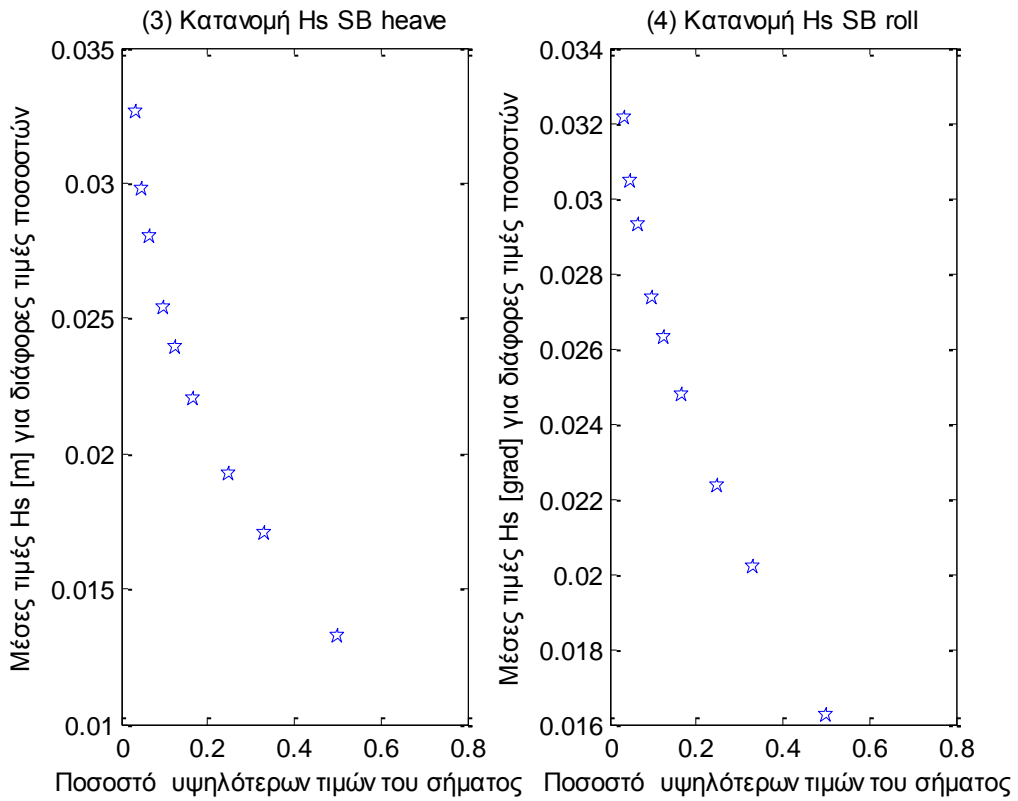
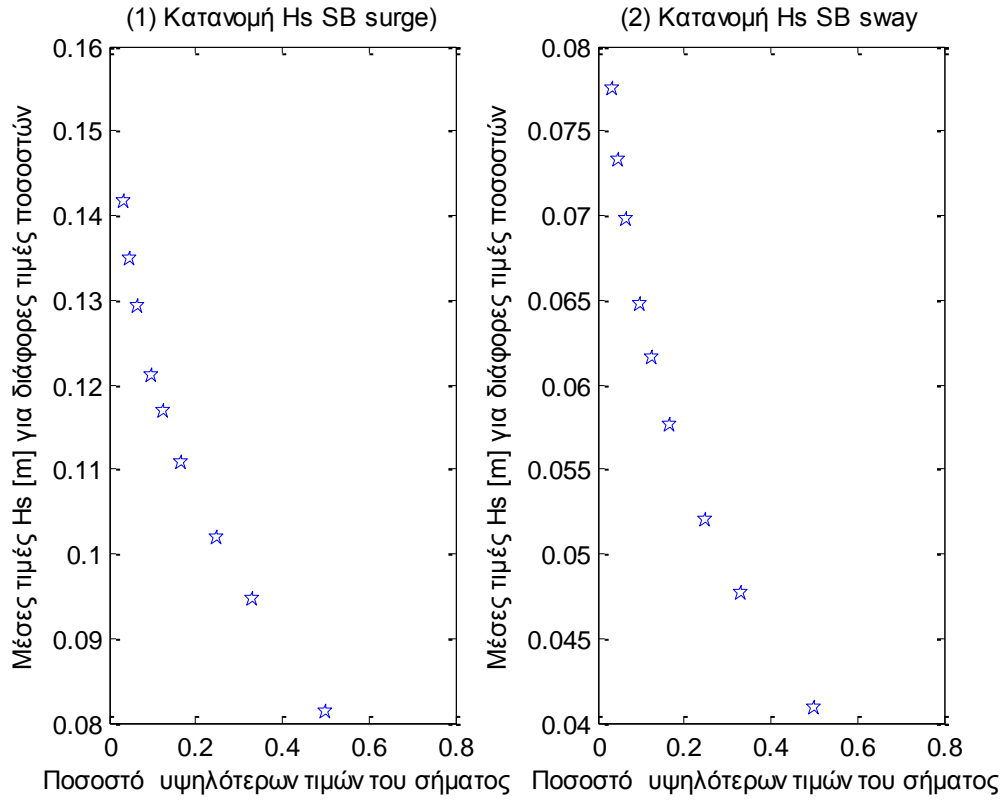


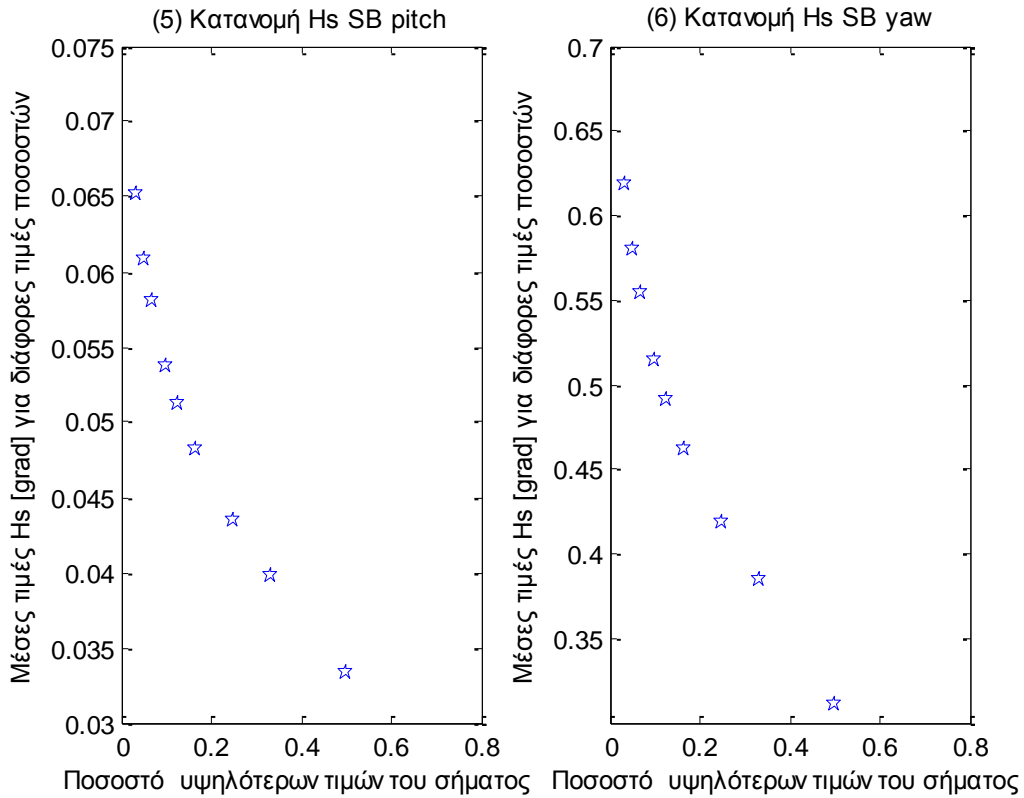
**Σχήματα 2.2.5.4 (1-4)** Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης



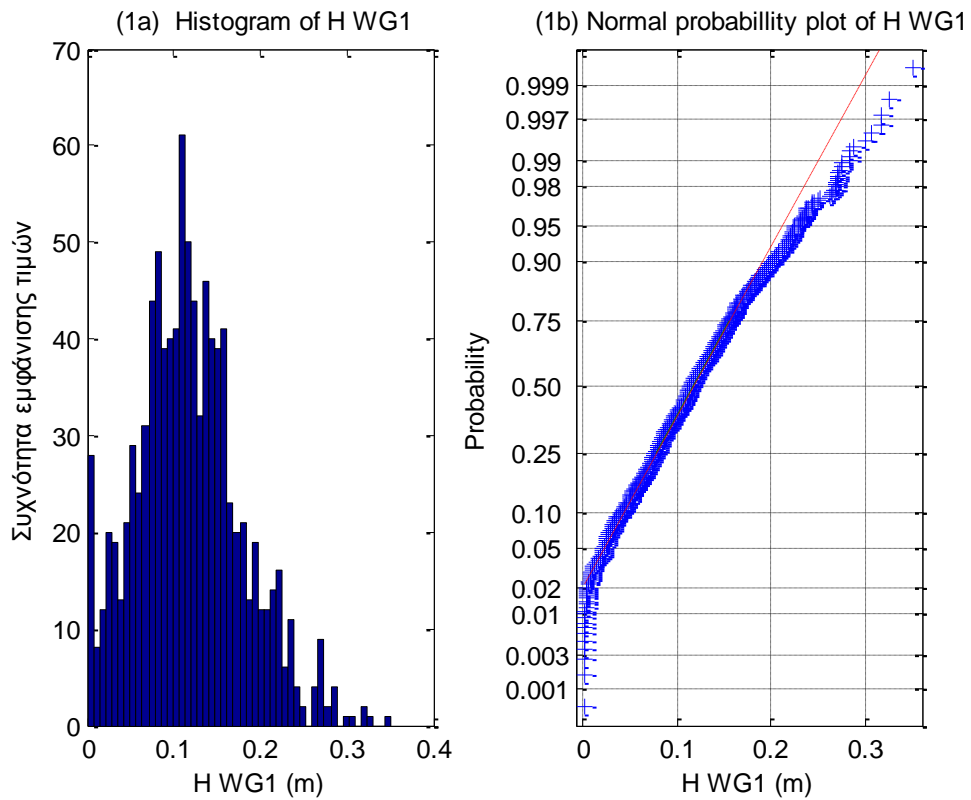


**Σχήματα 2.2.5.5 (1-3)** Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

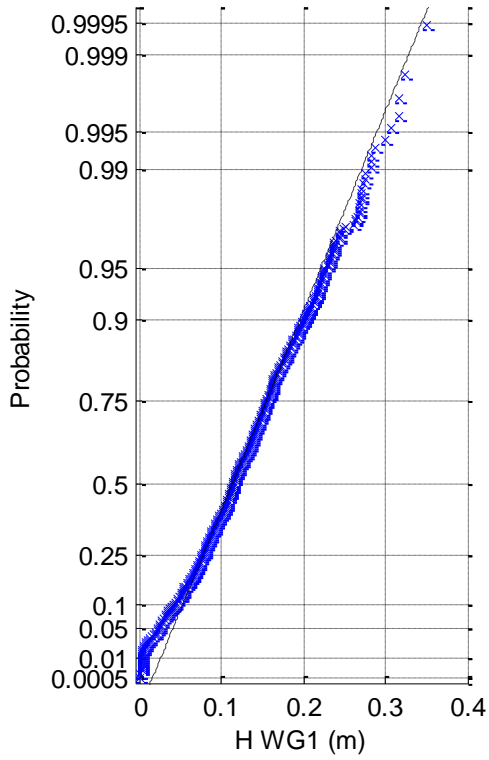




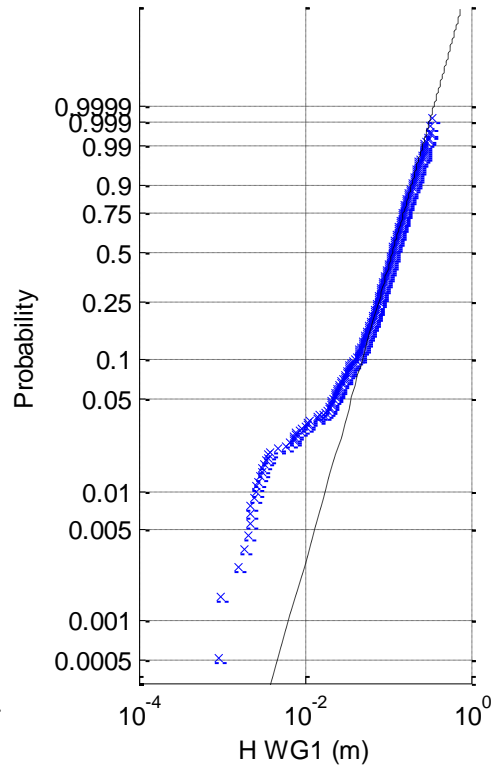
**Σχήματα 2.2.5.6** Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



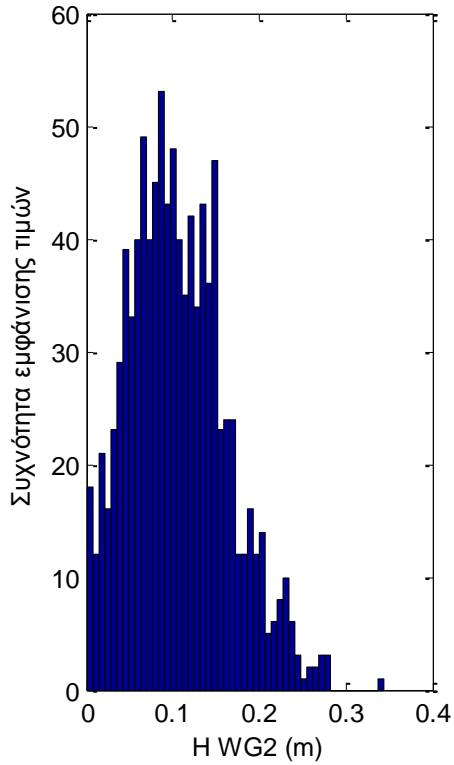
(1c) Rayleigh probability plot of H WG1



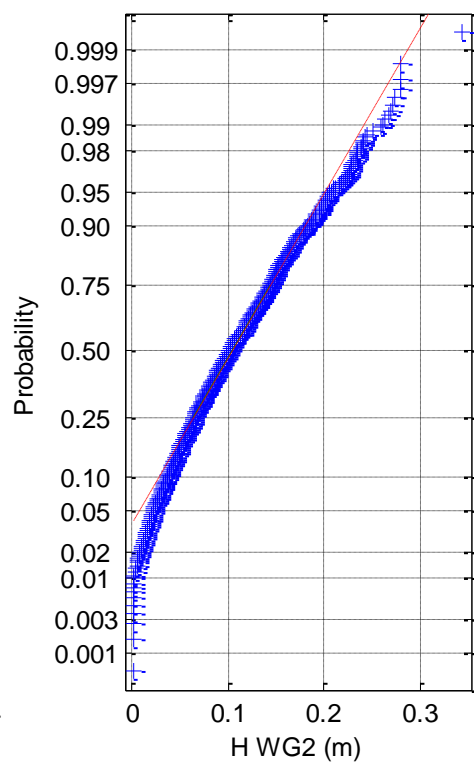
(1d) Weibull probability plot of H WG1



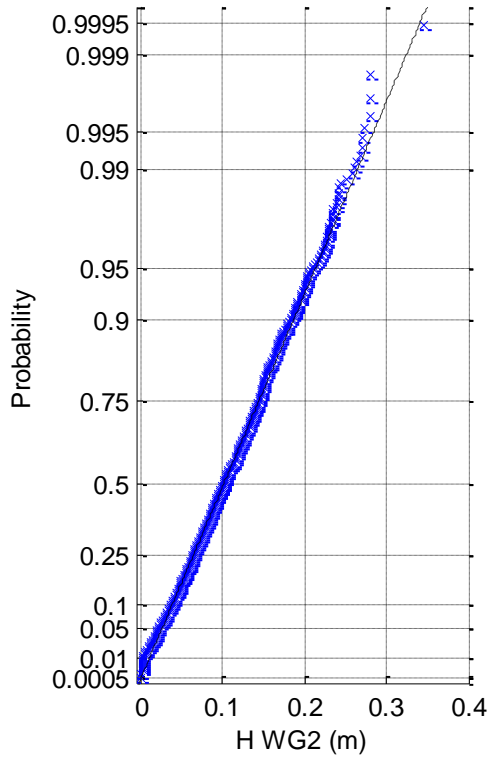
(2a) Histogram of H WG2



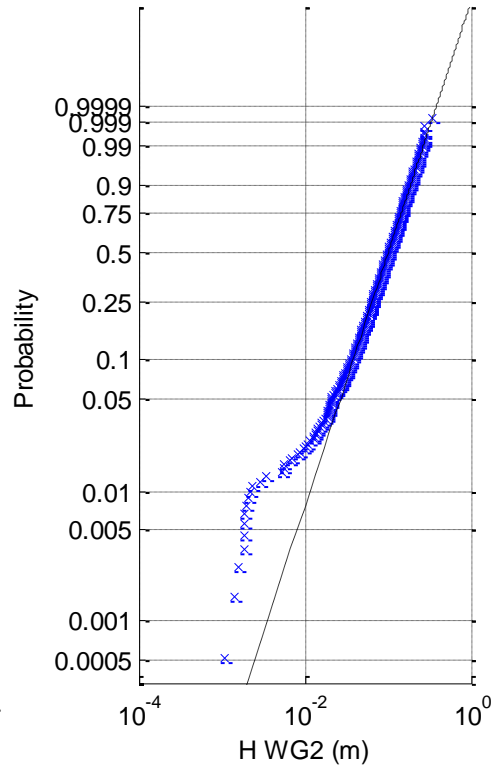
(2b) Normal probability plot of H WG2



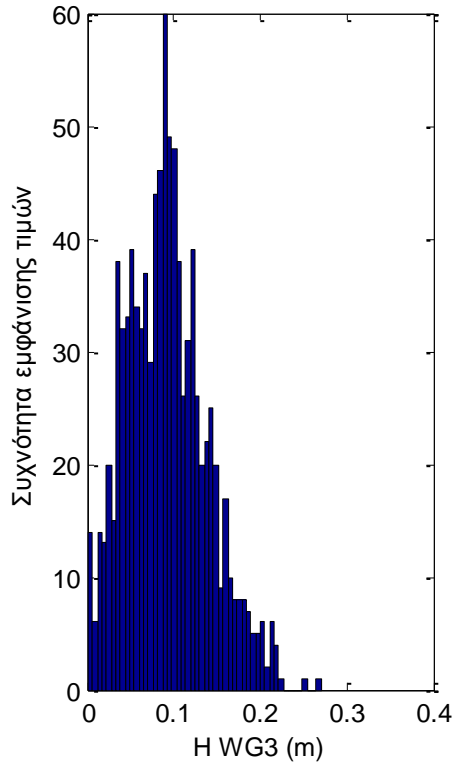
(2c) Rayleigh probability plot of H WG2



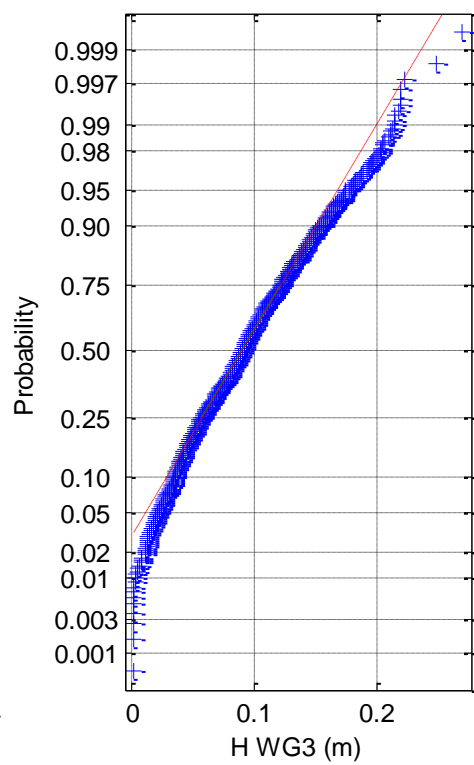
(2d) Weibull probability plot of H WG2



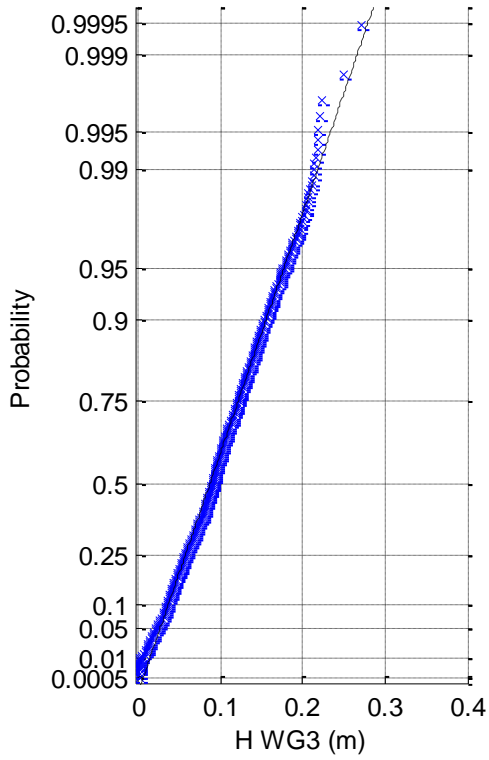
(3a) Histogram of H WG3



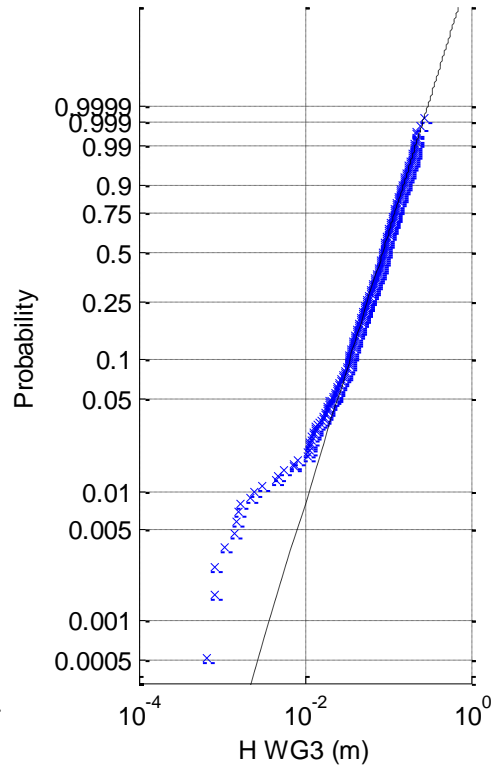
(3b) Normal probability plot of H WG3



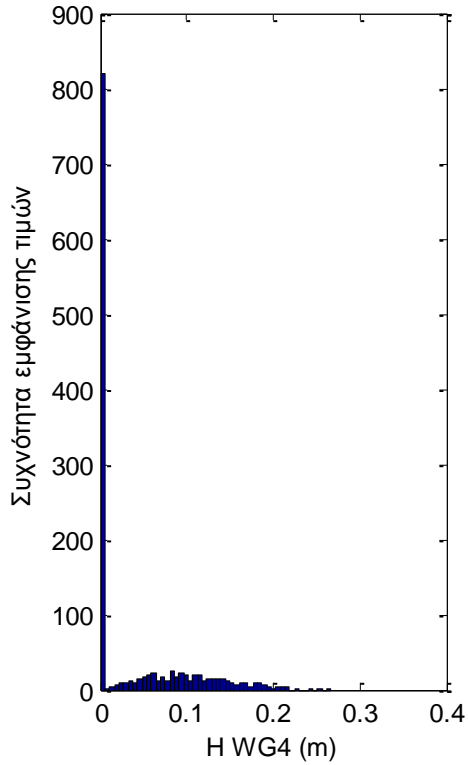
(3c) Rayleigh probability plot of H WG3



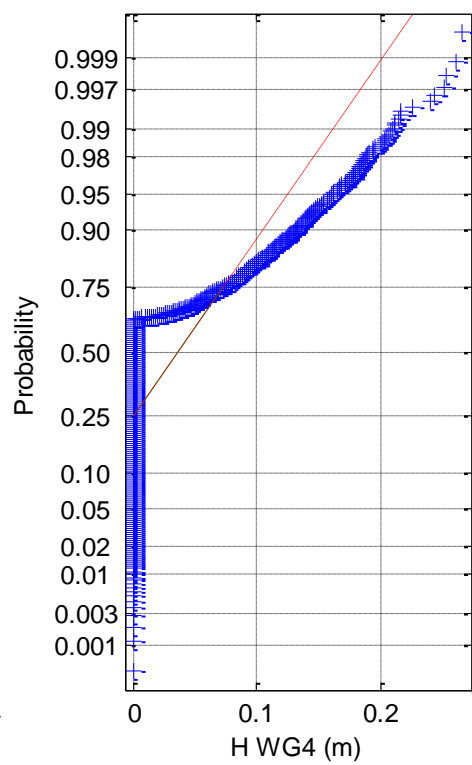
(3d) Weibull probability plot of H WG3



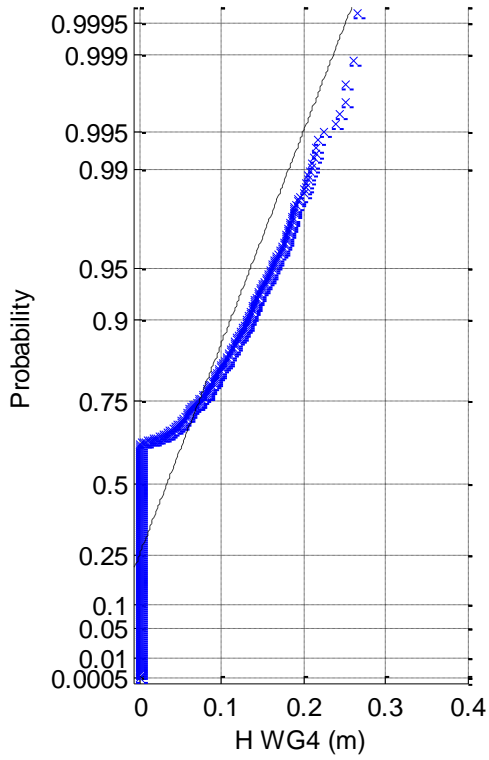
(4a) Histogram of H WG4



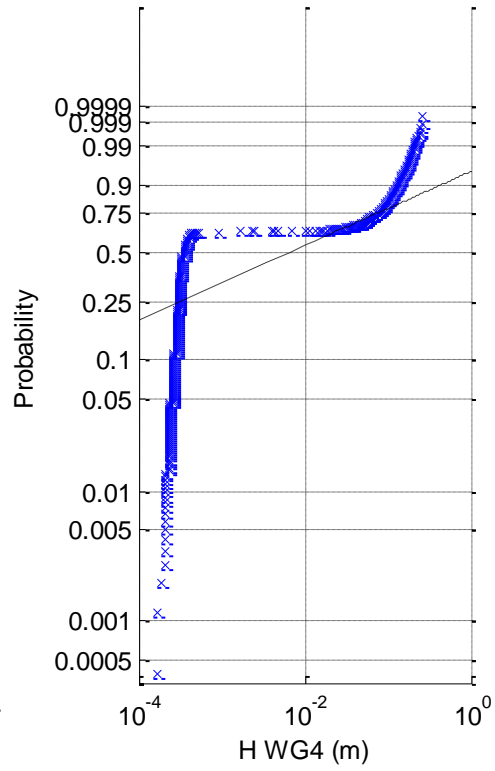
(4b) Normal probability plot of H WG4



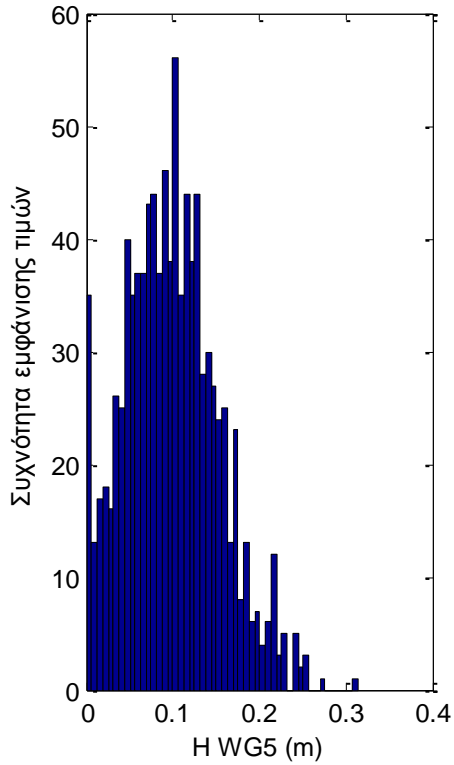
(4c) Rayleigh probability plot of H WG4



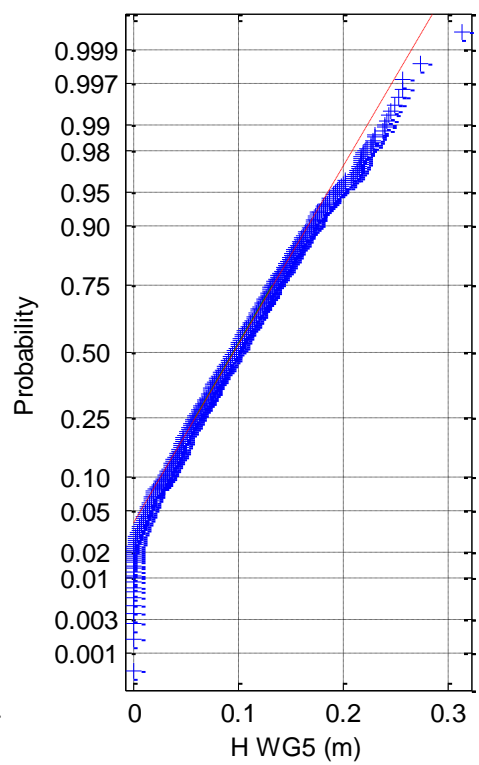
(4d) Weibull probability plot of H WG4



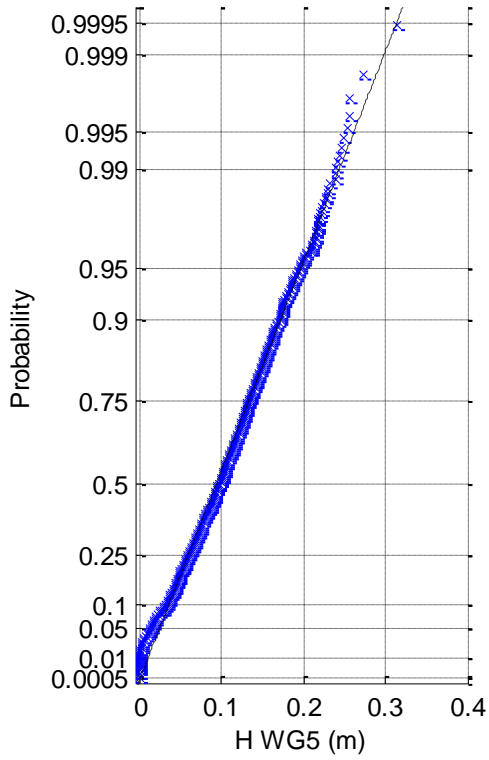
(5a) Histogram of H WG5



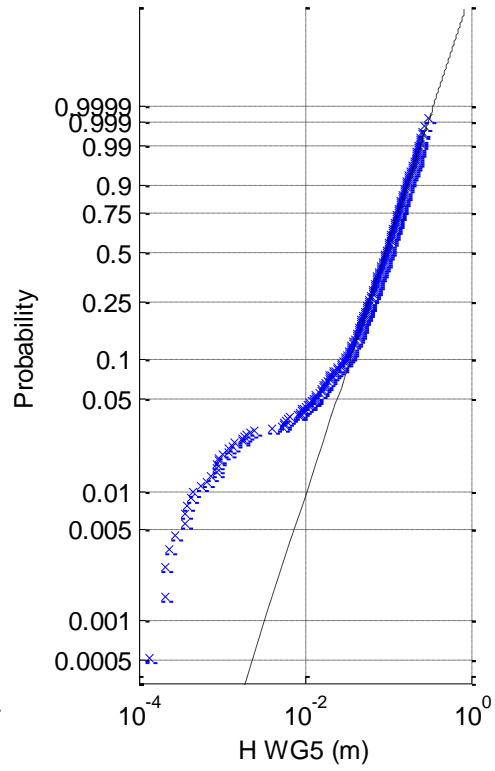
(5b) Normal probability plot of H WG5



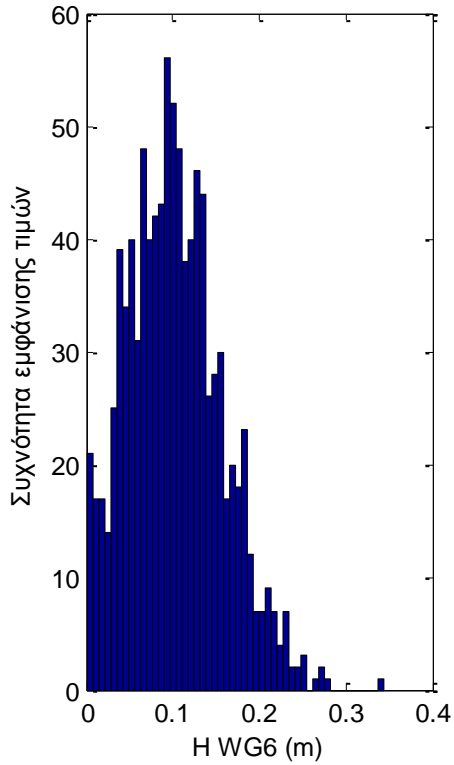
(5c) Rayleigh probability plot of H WG5



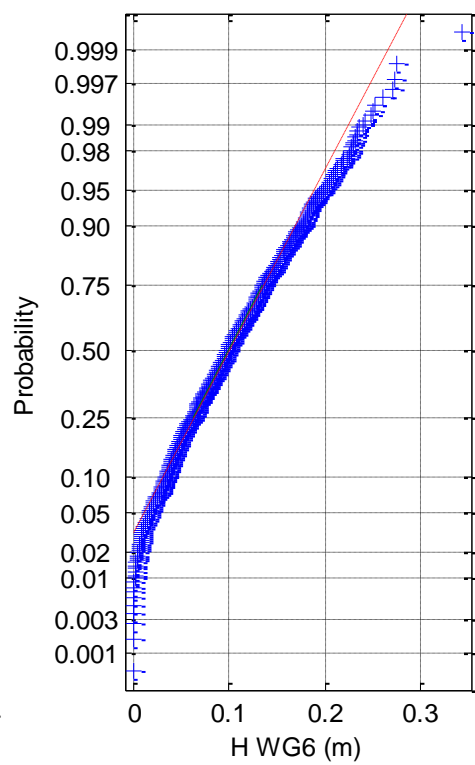
(5d) Weibull probability plot of H WG5



(6a) Histogram of H WG6

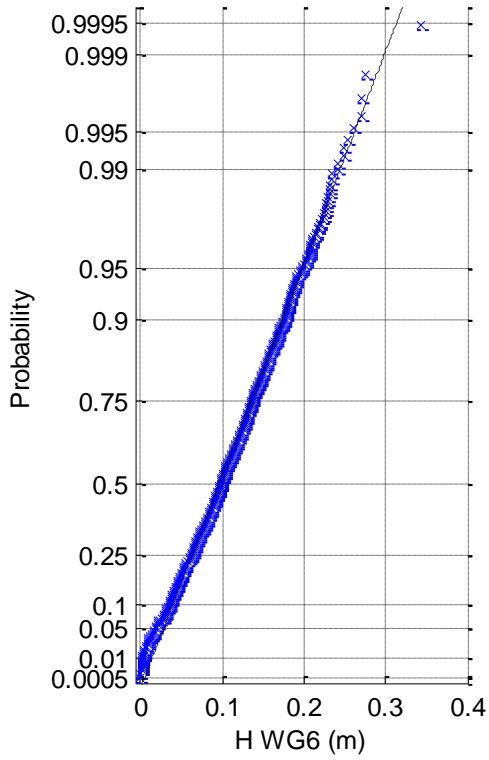


(6b) Normal probability plot of H WG6

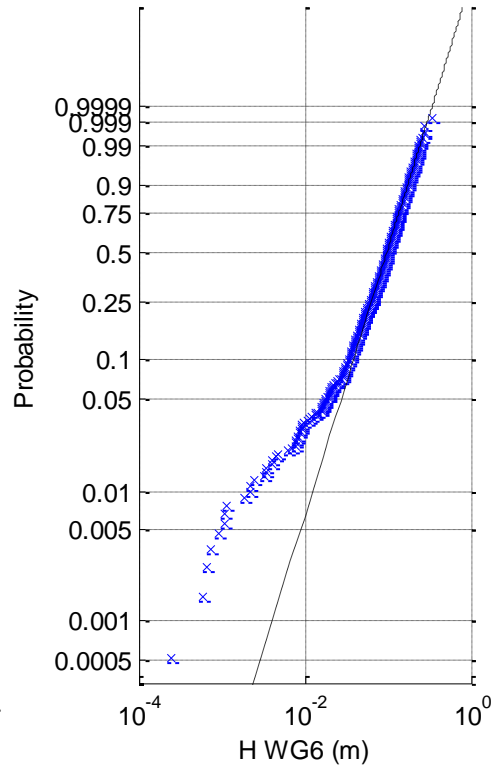




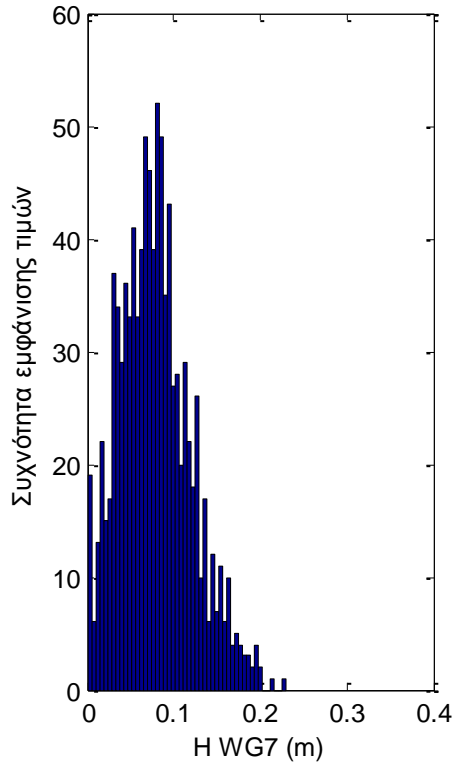
(6c) Rayleigh probability plot of H WG6



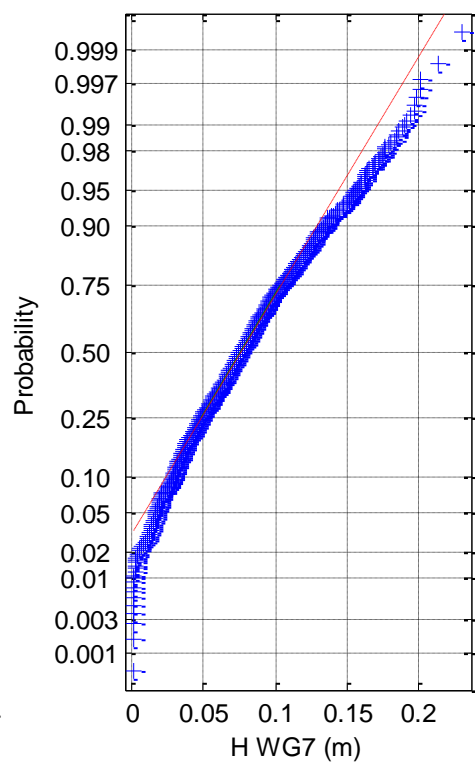
(6d) Weibull probability plot of H WG6



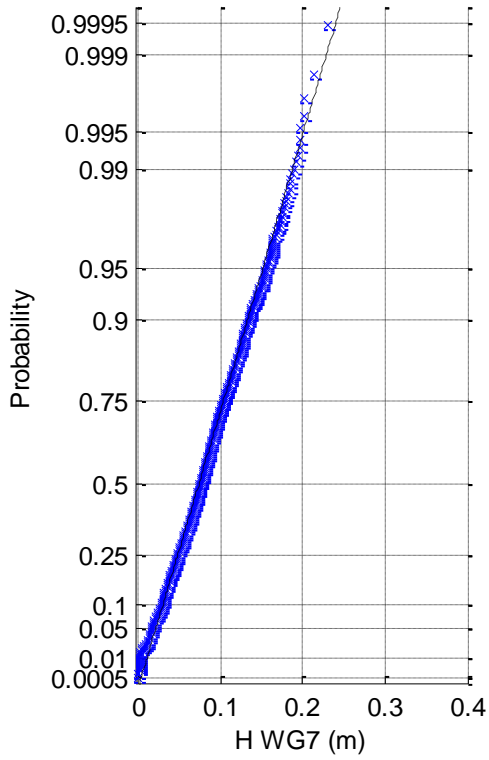
(7a) Histogram of H WG7



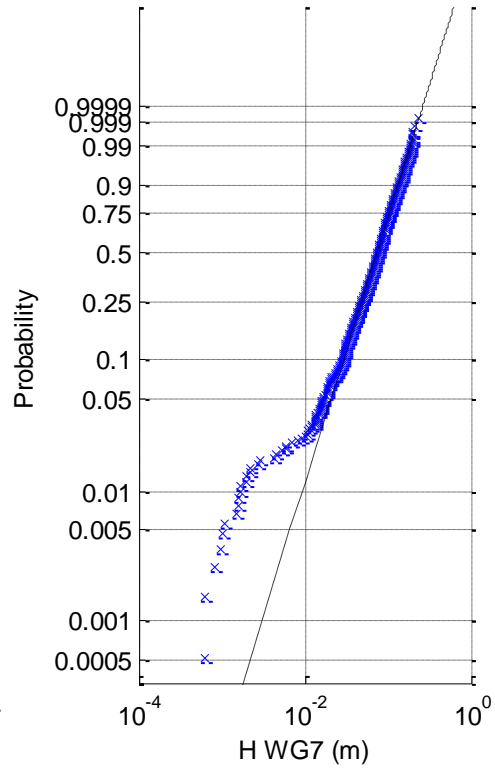
(7b) Normal probability plot of H WG7



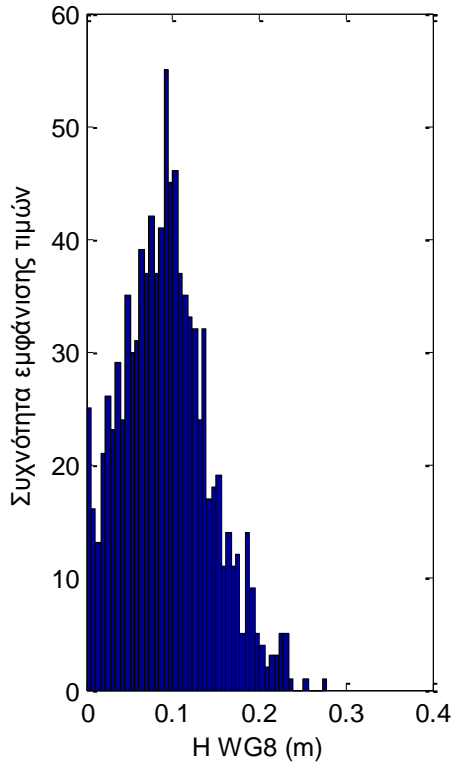
(7c) Rayleigh probability plot of H WG7



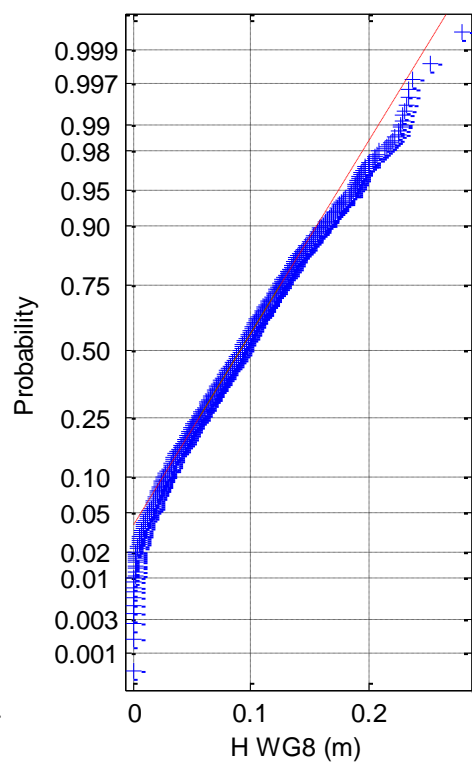
(7d) Weibull probability plot of H WG7



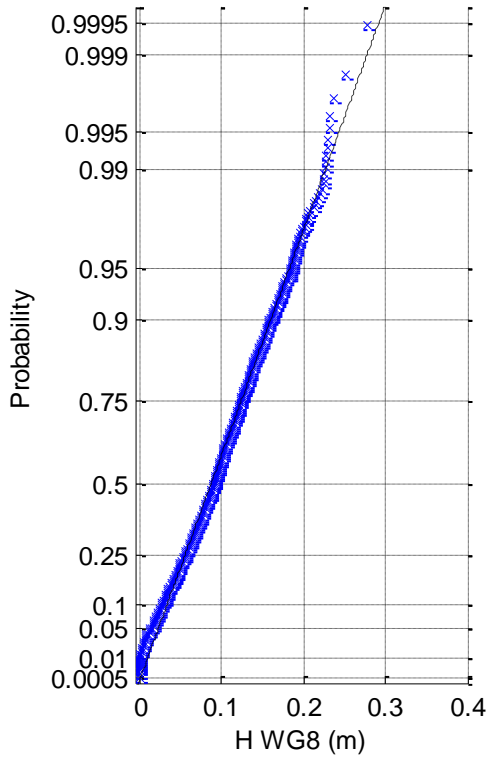
(8a) Histogram of H WG8



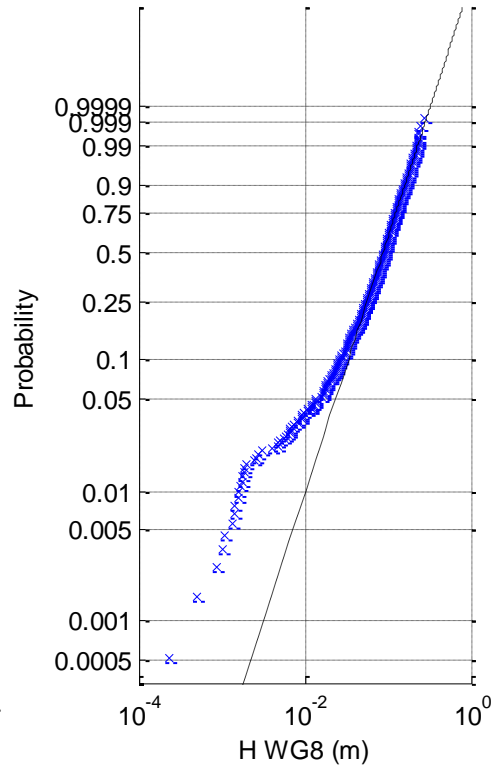
(8b) Normal probability plot of H WG8



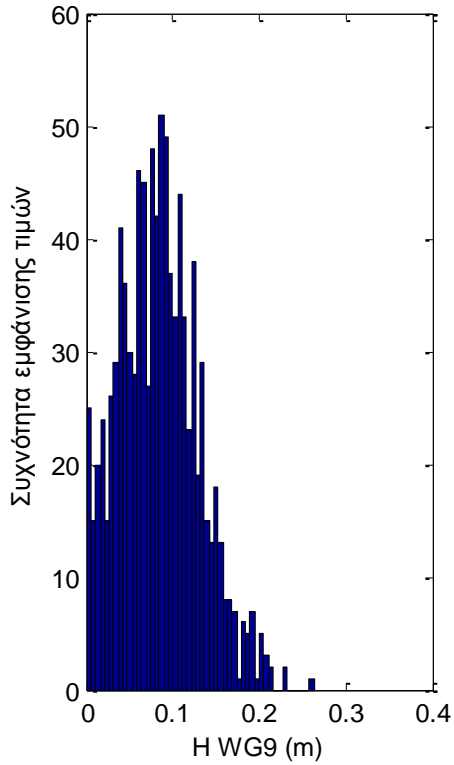
(8c) Rayleigh probability plot of H WG8



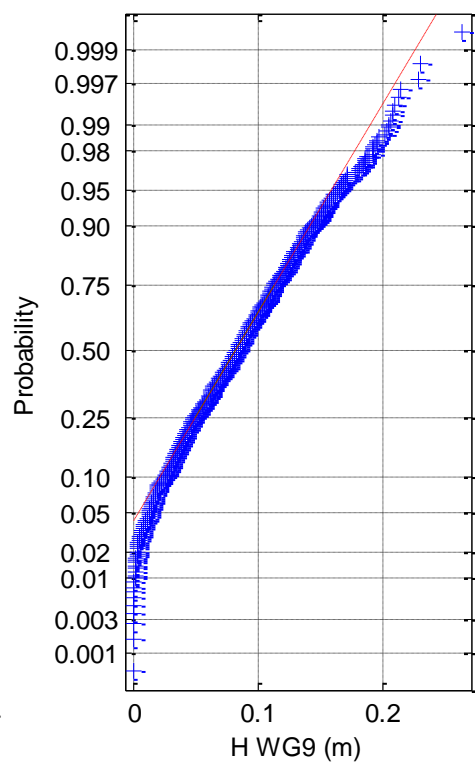
(8d) Weibull probability plot of H WG8



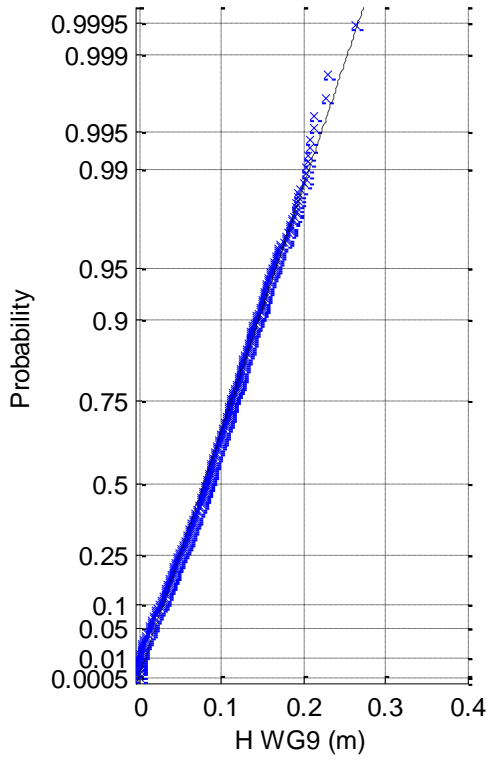
(9a) Histogram of H WG9



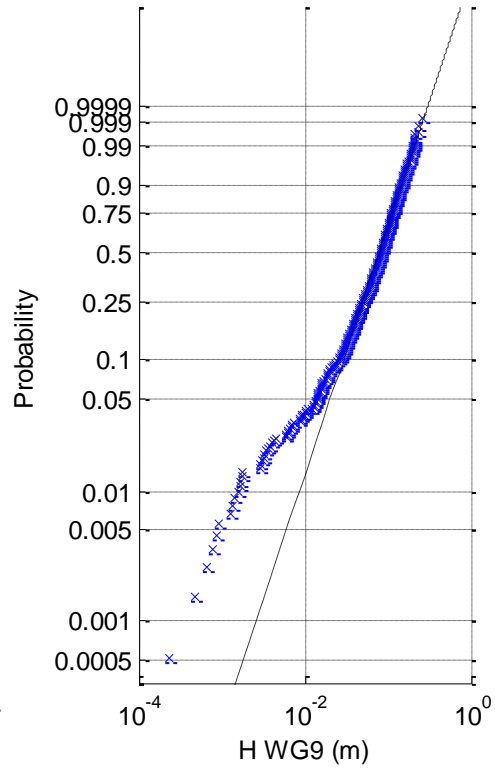
(9b) Normal probability plot of H WG9



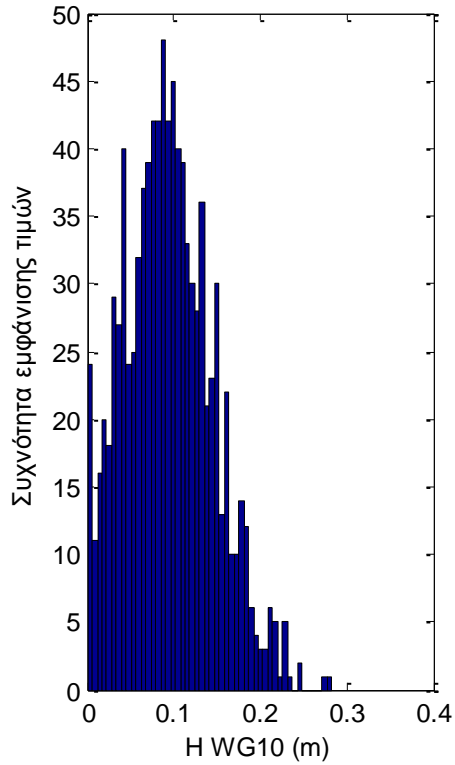
(9c) Rayleigh probability plot of H WG9



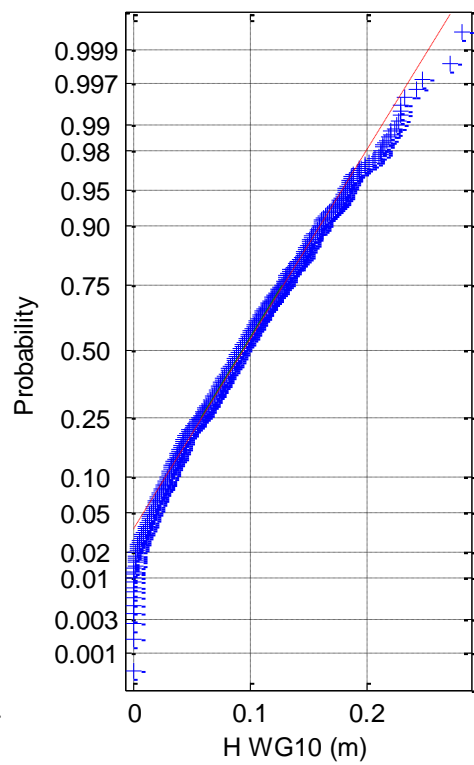
(9d) Weibull probability plot of H WG9



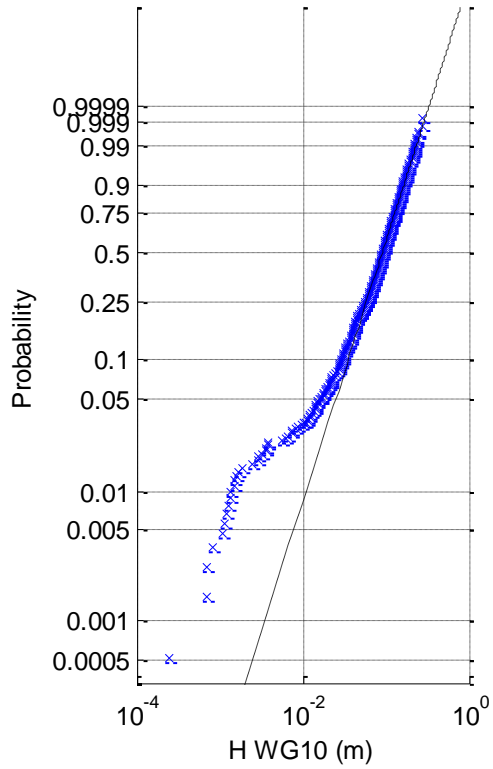
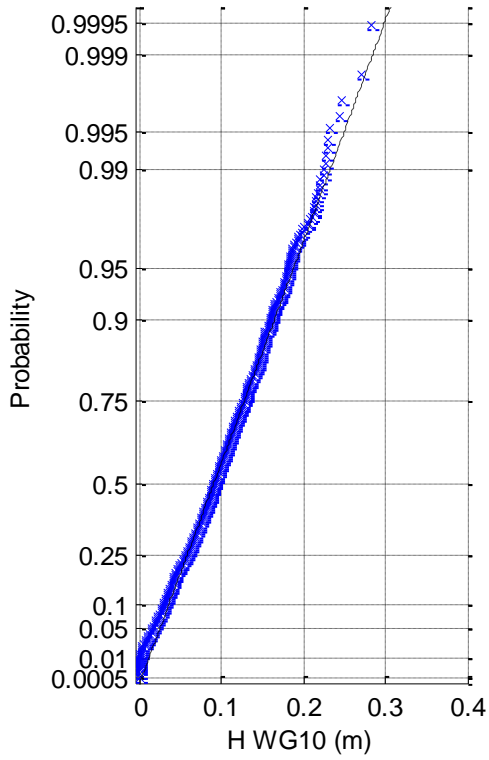
(10a) Histogram of H WG10



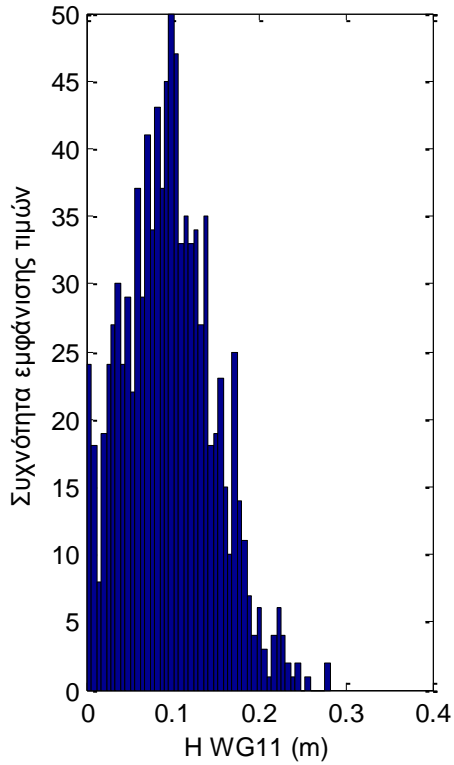
(10b) Normal probability plot of H WG10



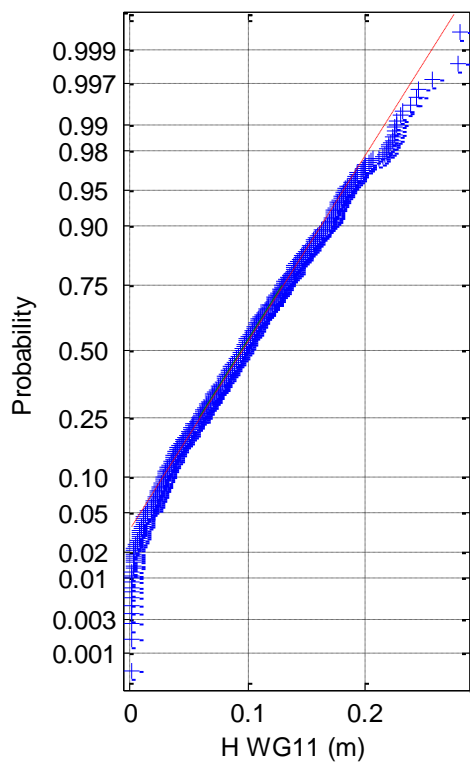
(10c) Rayleigh probability plot of H WG10 (10d) Weibull probability plot of H WG10

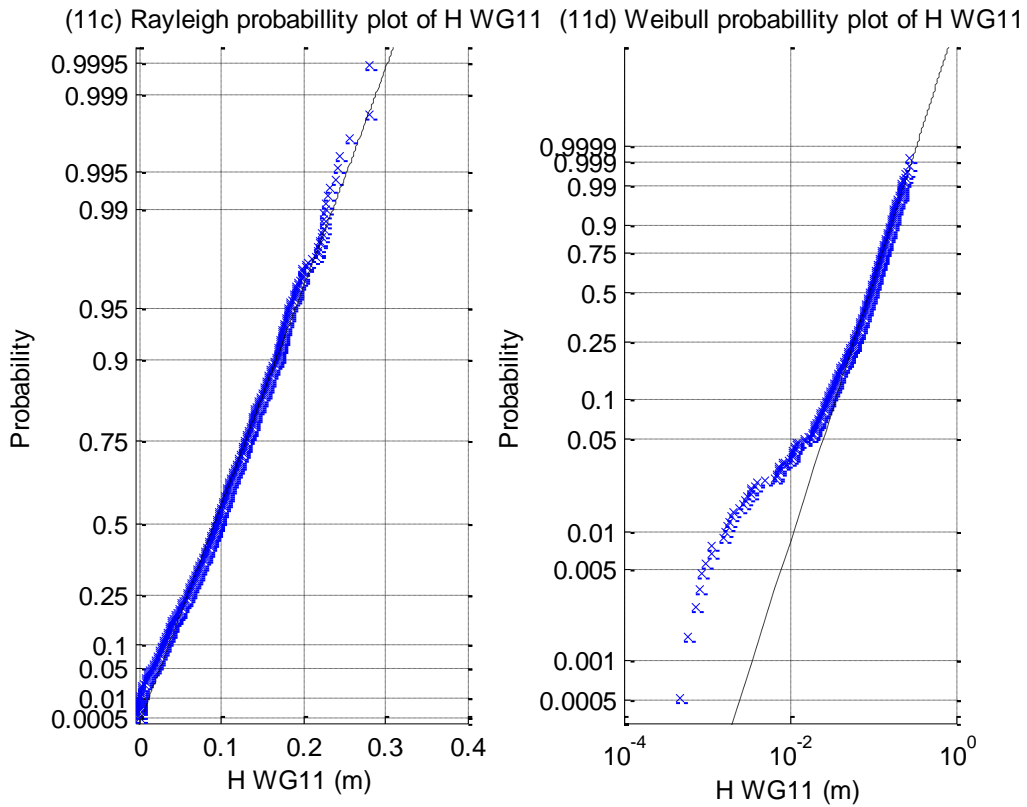


(11a) Histogram of H WG11

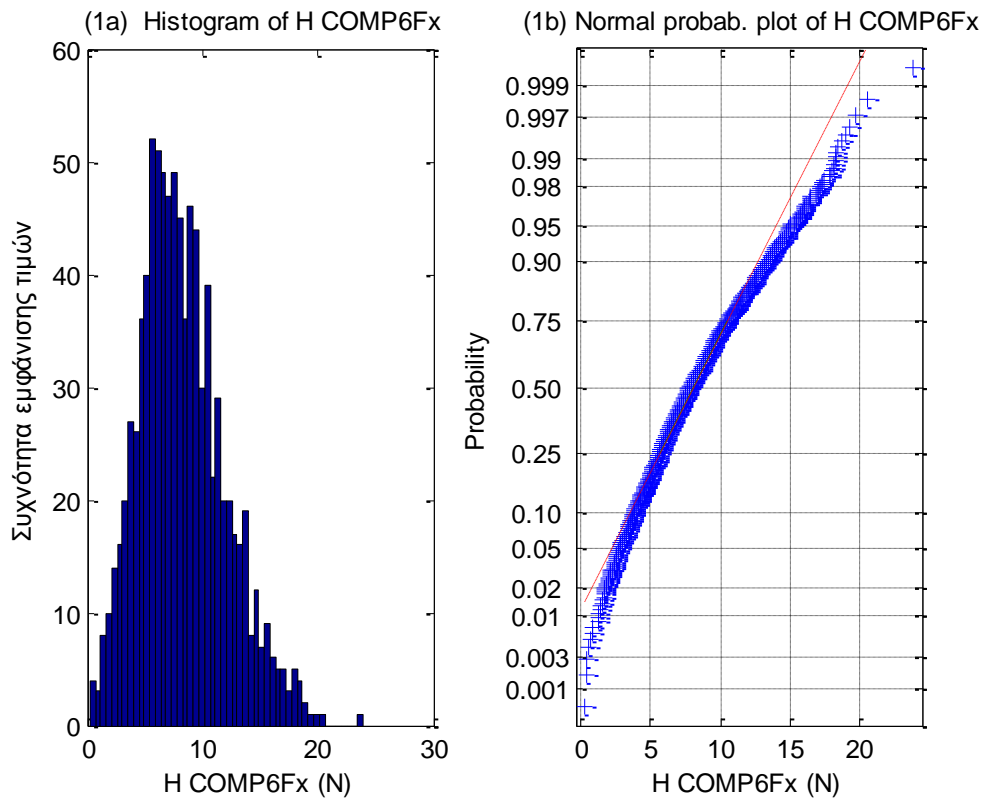


(11b) Normal probability plot of H WG11

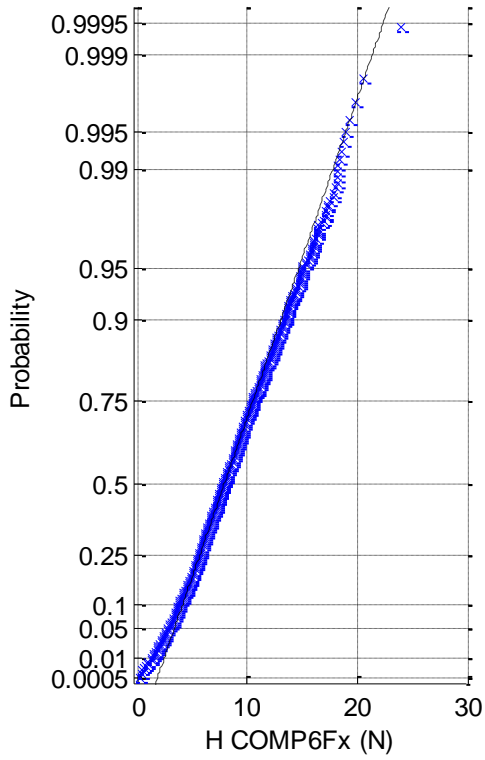




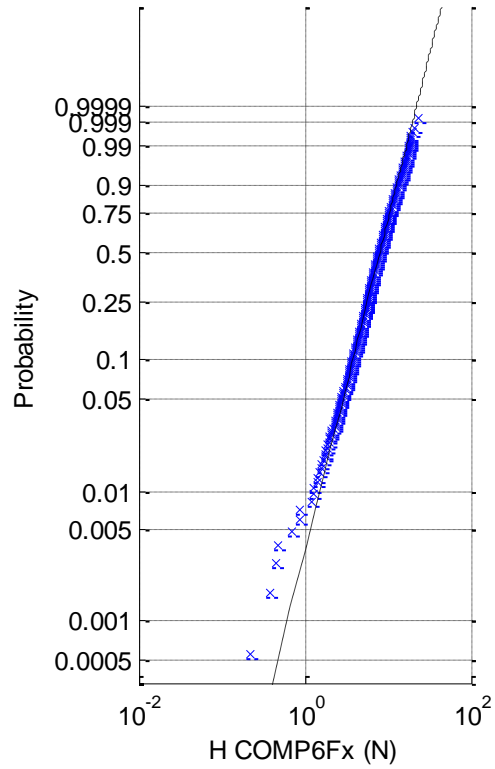
**Σχήματα 2.2.6.1 (1-11)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος



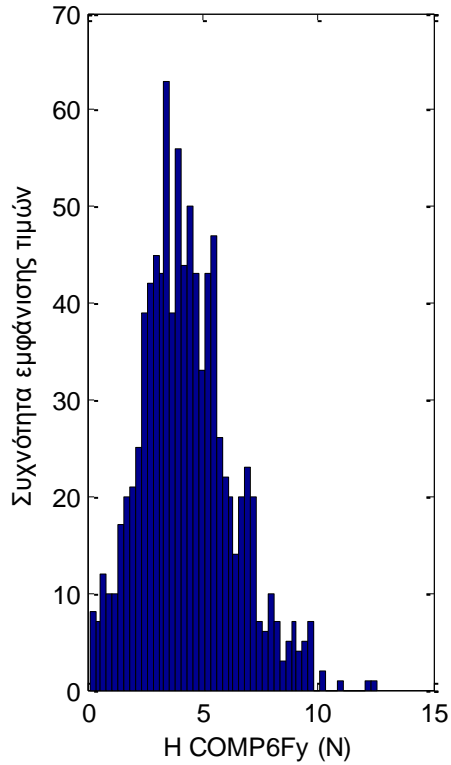
(1c) Rayleigh probab. plot of H COMP6Fx



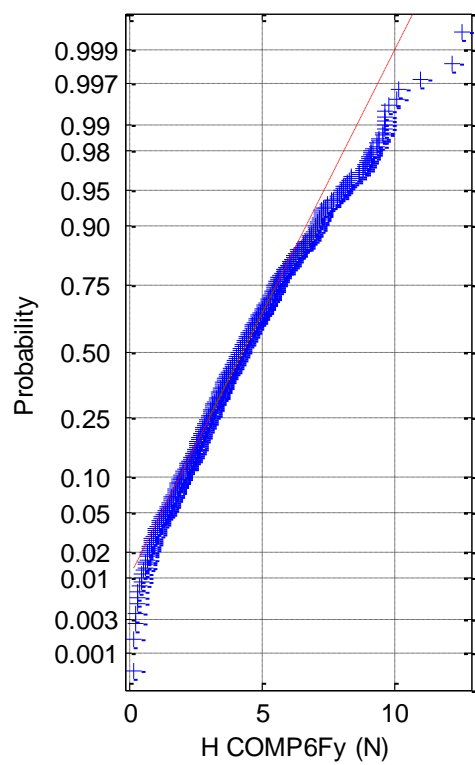
(1d) Weibull probab. plot of H COMP6Fx



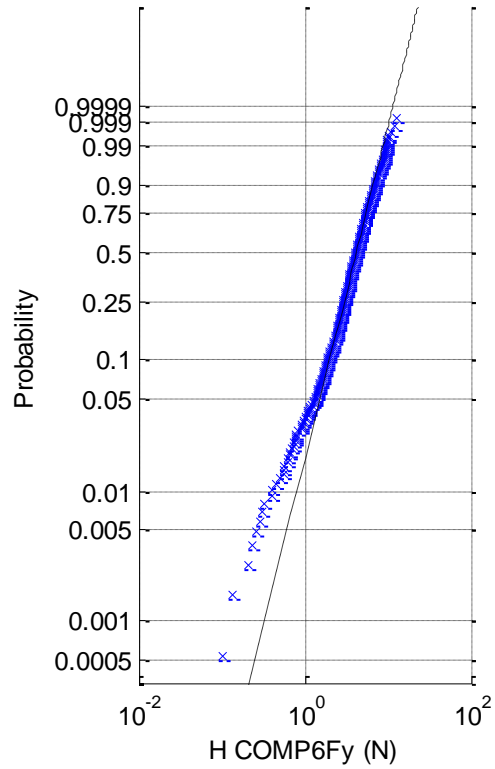
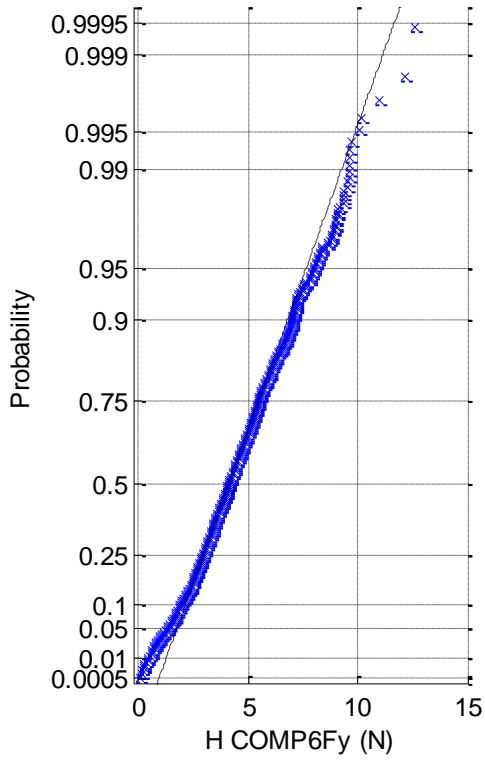
(2a) Histogram of H COMP6Fy



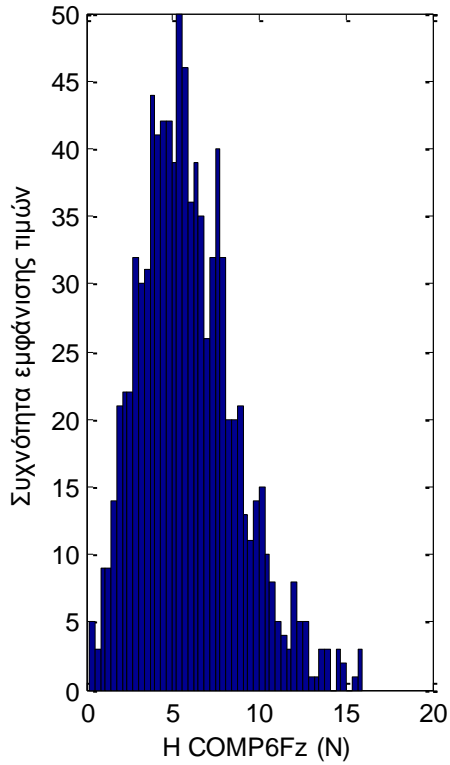
(2b) Normal probab. plot of H COMP6Fy



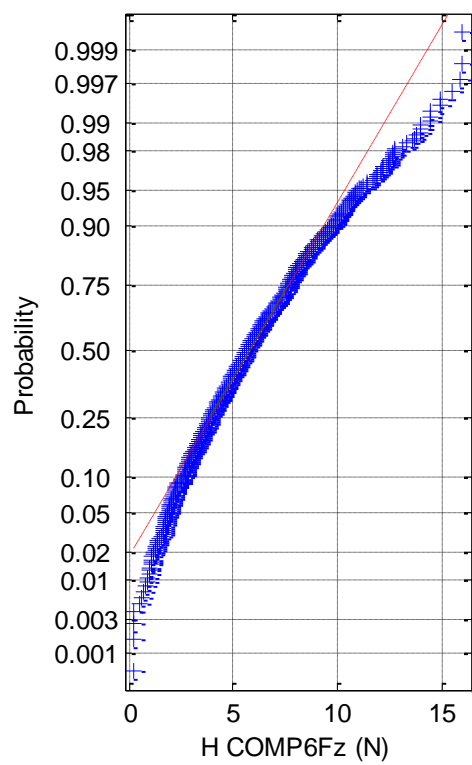
(2c) Rayleigh probab. plot of H COMP6Fy (2d) Weibull probab. plot of H COMP6Fy



(3a) Histogram of H COMP6Fz

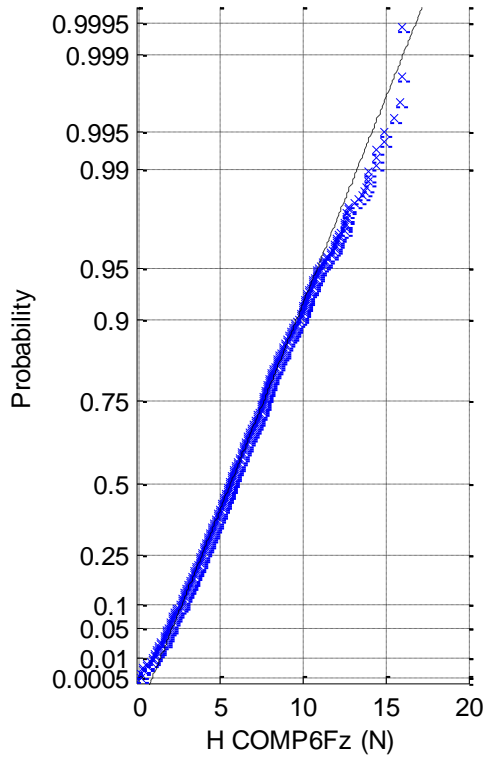


(3b) Normal probab. plot of H COMP6Fz

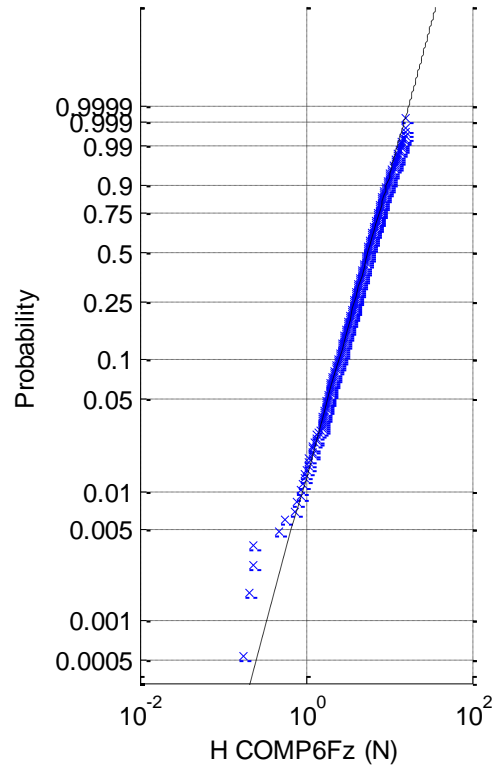




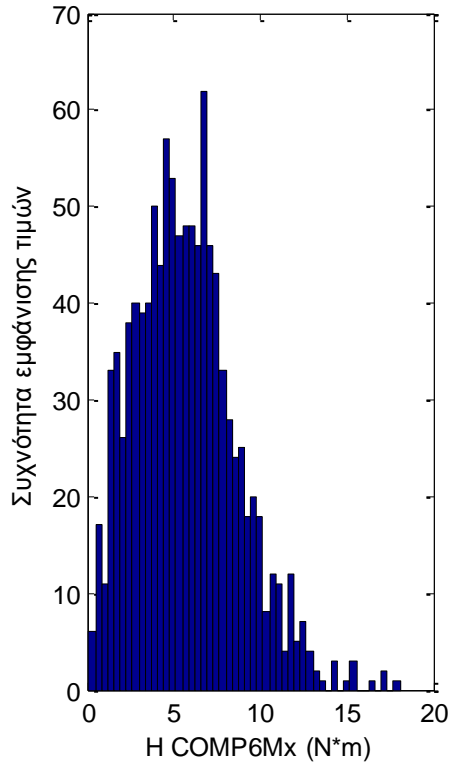
(3c) Rayleigh prob. plot of H COMP6Fz



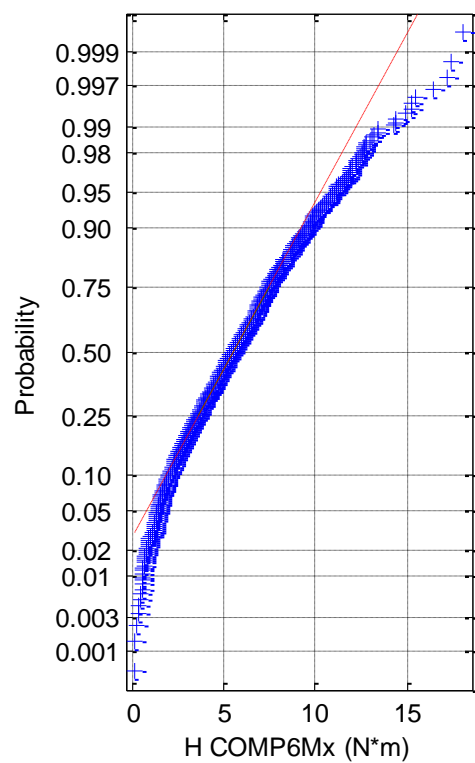
(3d) Weibull prob. plot of H COMP6Fz



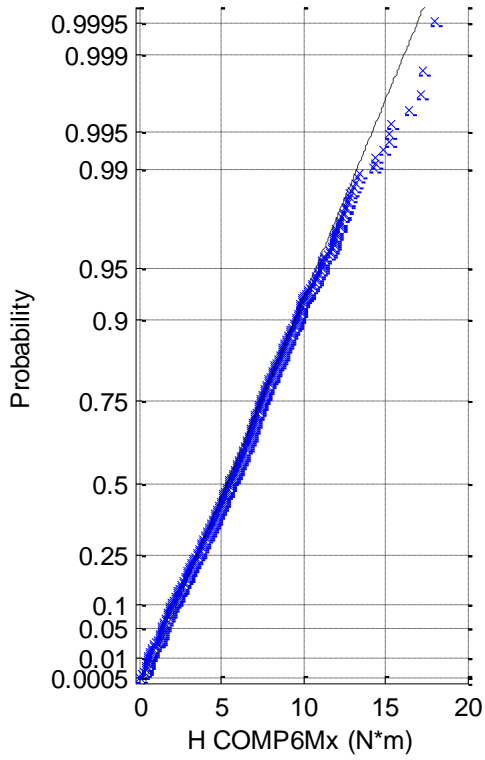
(4a) Histogram of H COMP6Mx



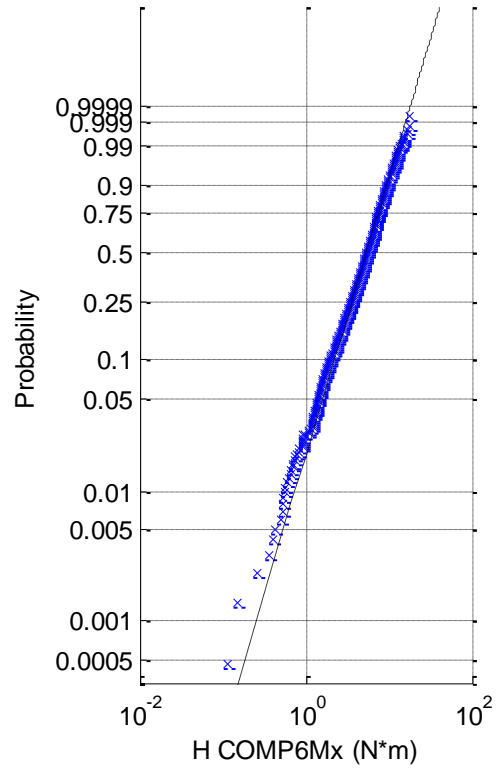
(4b) Normal prob. plot of H COMP6Mx



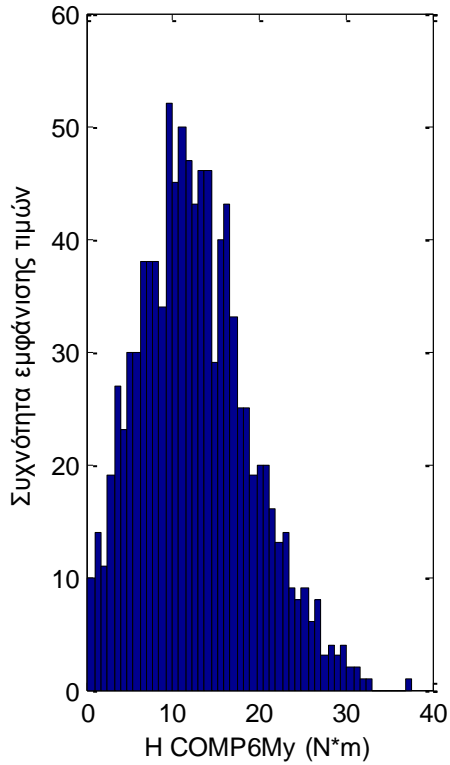
(4c) Rayleigh prob. plot of H COMP6Mx



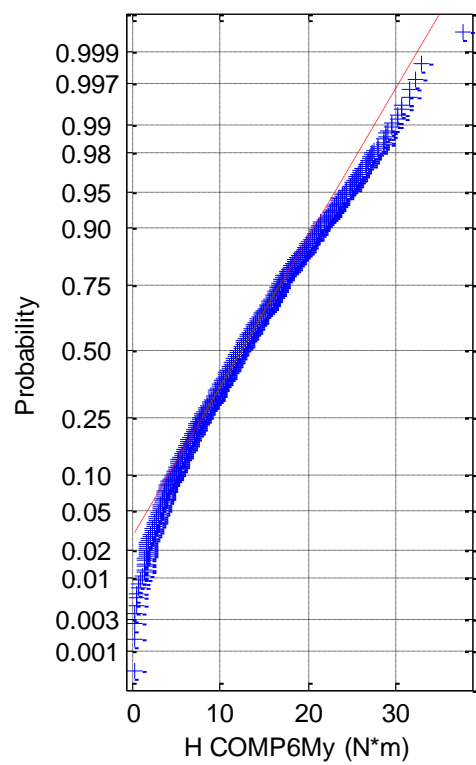
(4d) Weibull prob. plot of H COMP6Mx



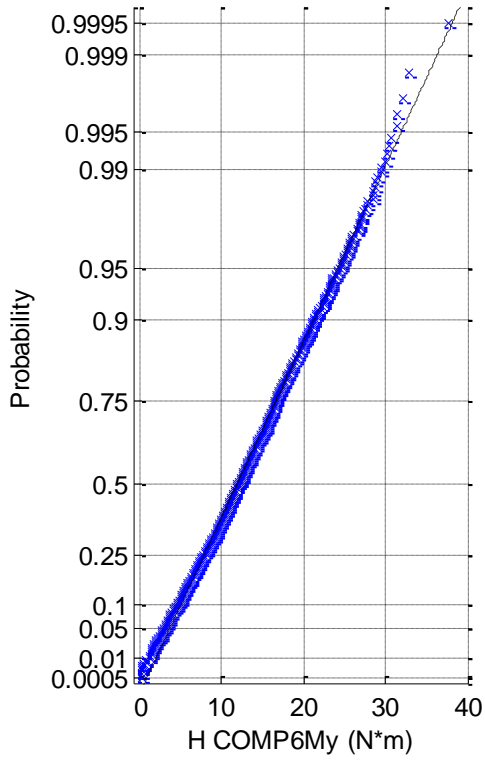
(5a) Histogram of H COMP6My



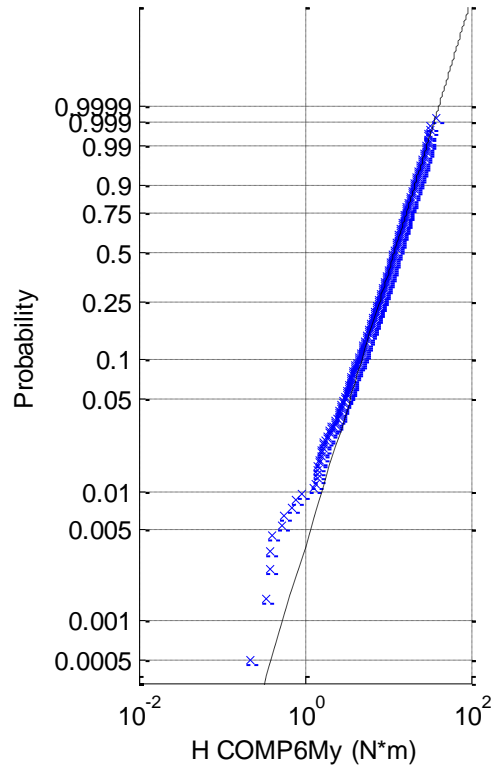
(5b) Normal prob. plot of H COMP6My



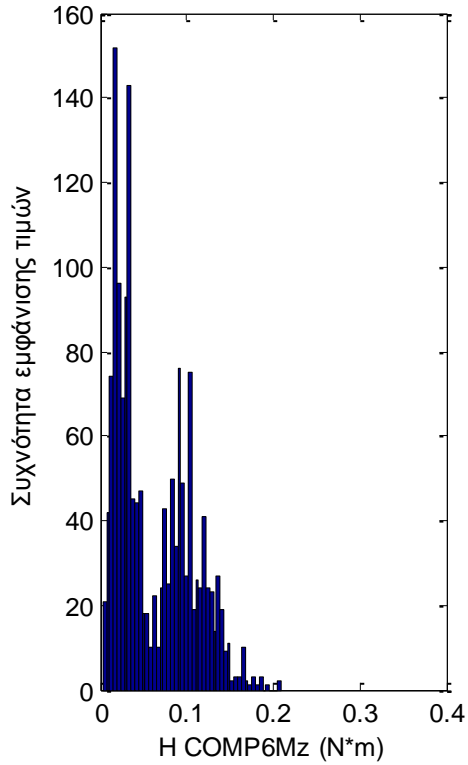
(5c) Rayleigh prob. plot of H COMP6My



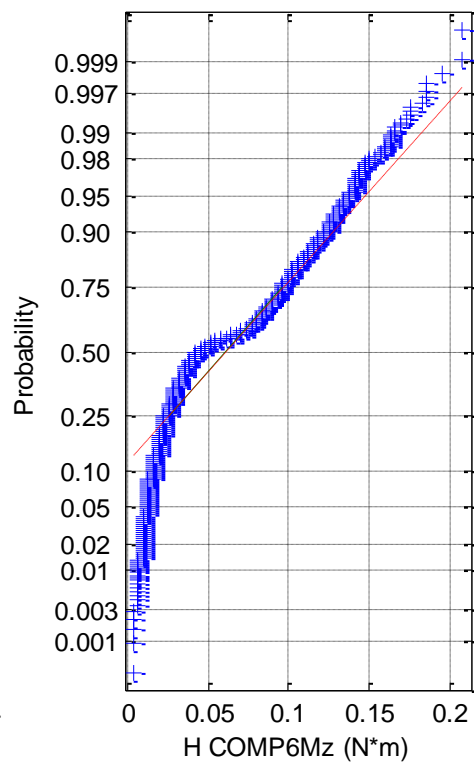
(5d) Weibull prob. plot of H COMP6My

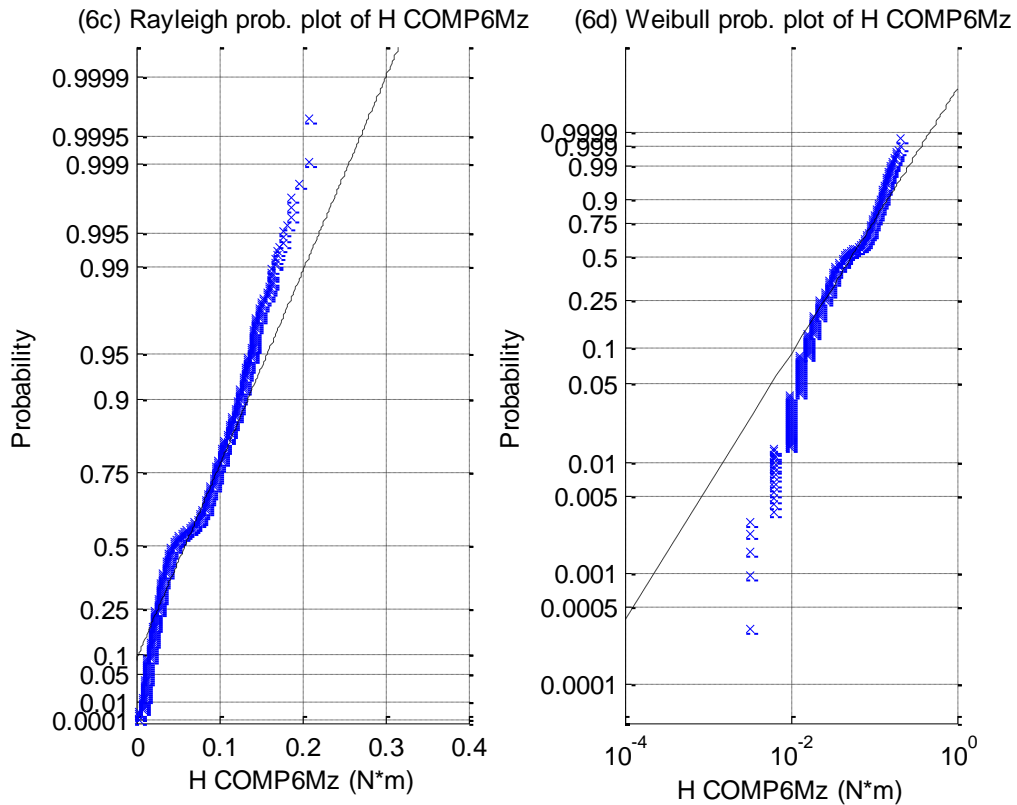


(6a) Histogram of H COMP6Mz

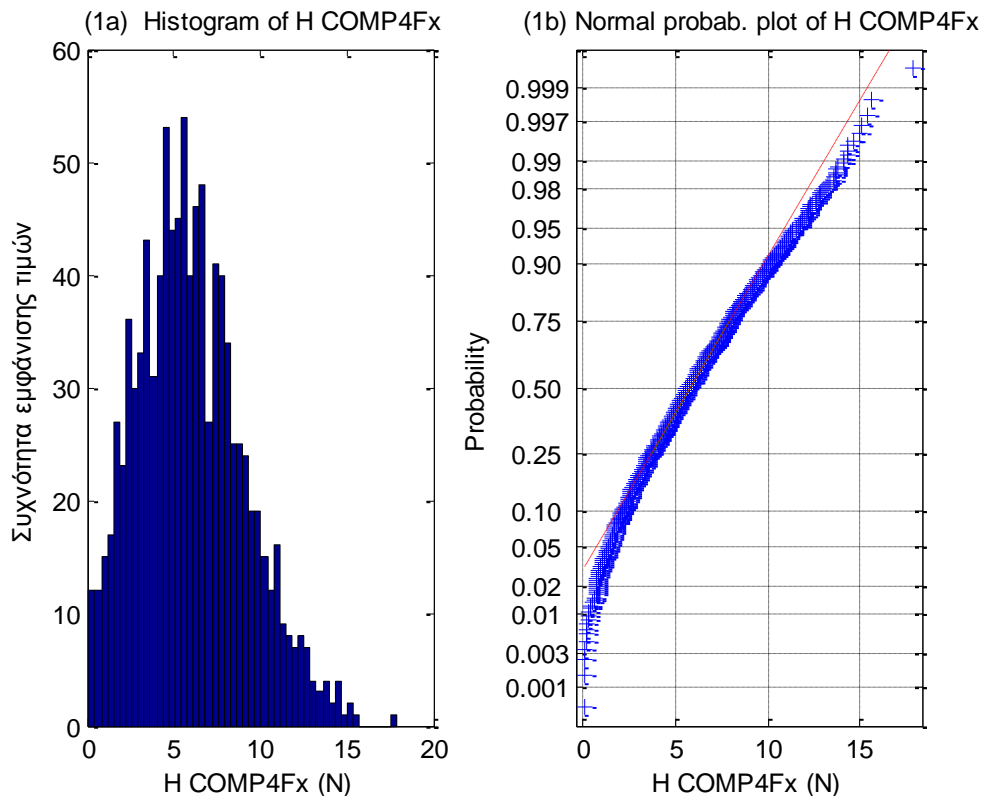


(6b) Normal prob. plot of H COMP6Mz

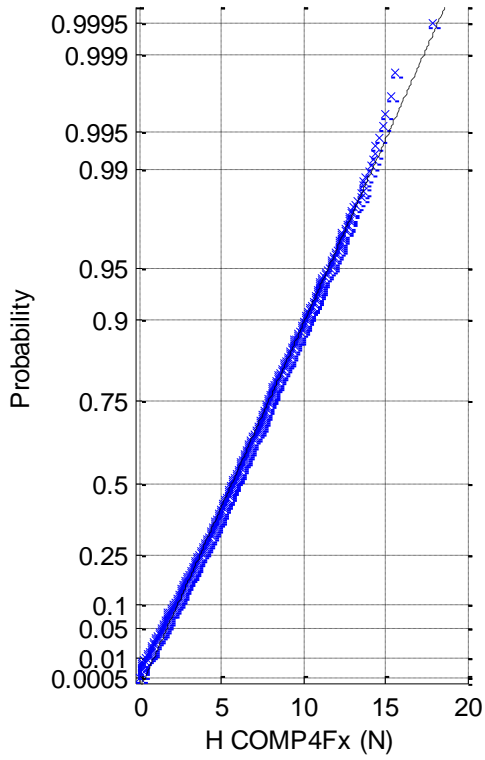




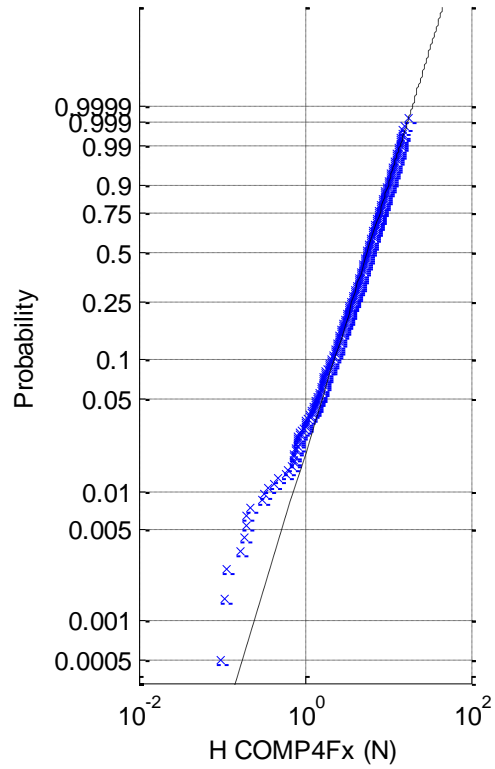
**Σχήματα 2.2.6.2 (1-6)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



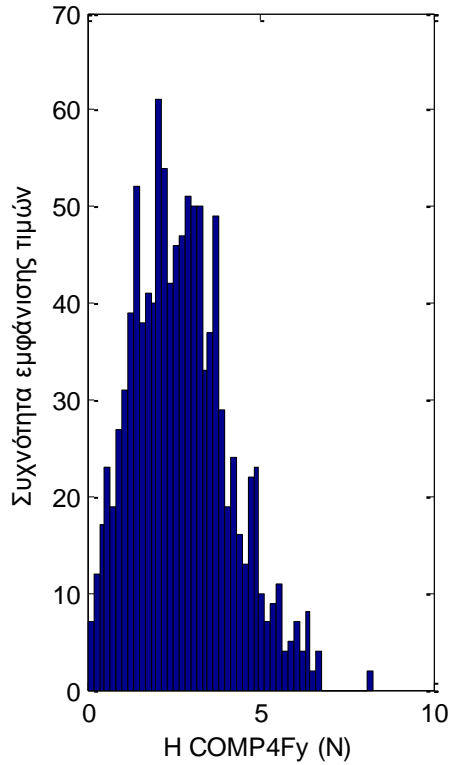
(1c) Rayleigh probab. plot of H COMP4Fx



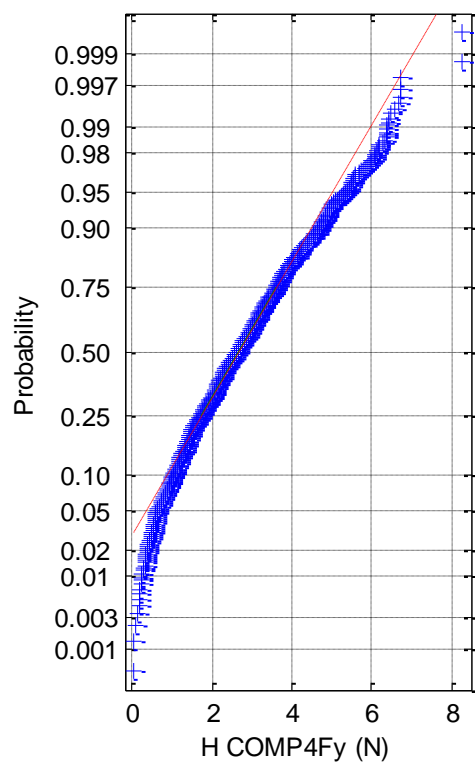
(1d) Weibull probab. plot of H COMP4Fx



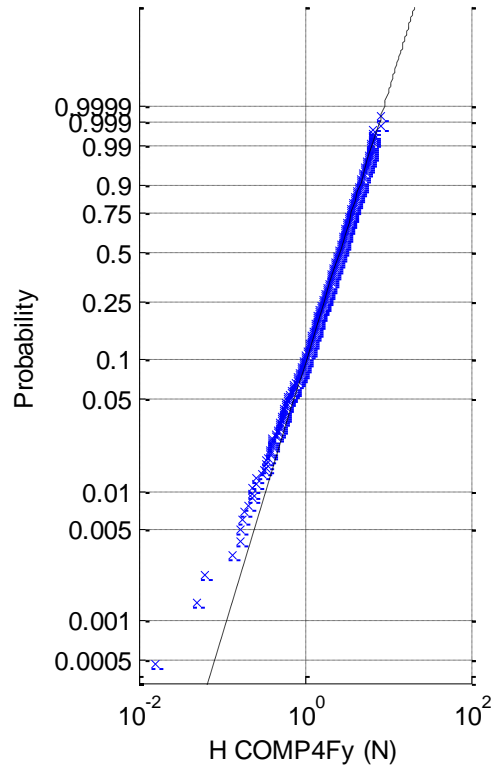
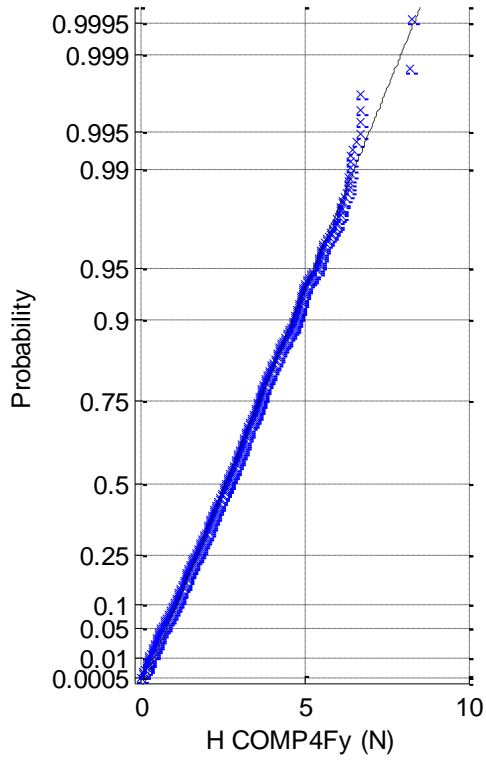
(2a) Histogram of H COMP4Fy



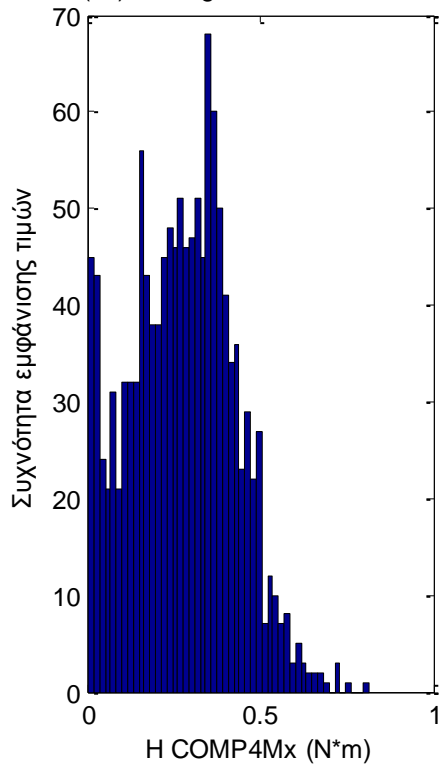
(2b) Normal probab. plot of H COMP4Fy



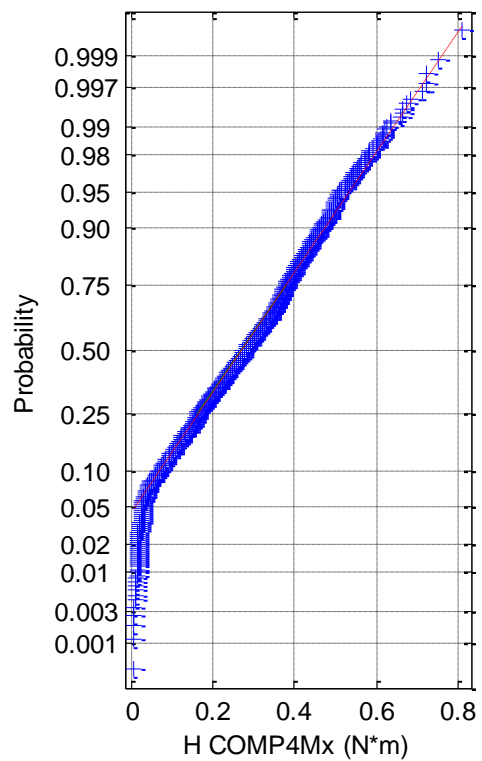
(2c) Rayleigh probab. plot of H COMP4Fy (2d) Weibull probab. plot of H COMP4Fy



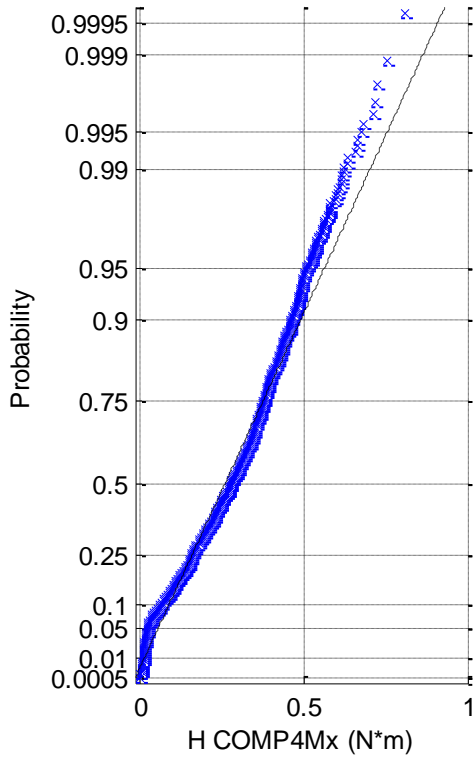
(3a) Histogram of H COMP4Mx



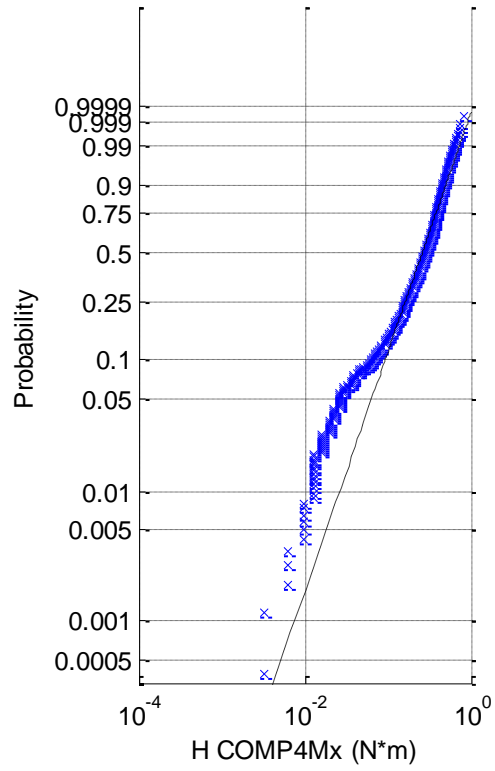
(3b) Normal probab. plot of H COMP4Mx



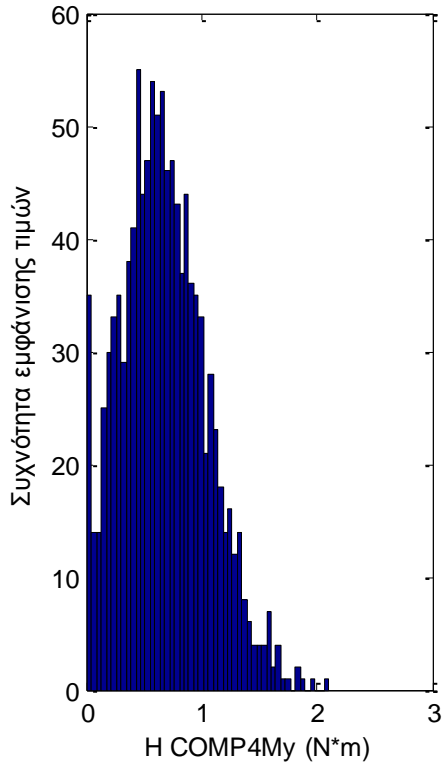
(3c) Rayleigh prob. plot of H COMP4Mx



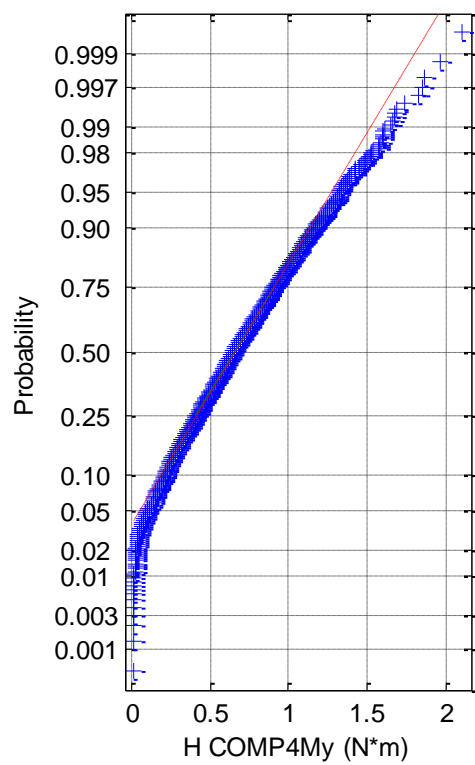
(3d) Weibull prob. plot of H COMP4Mx

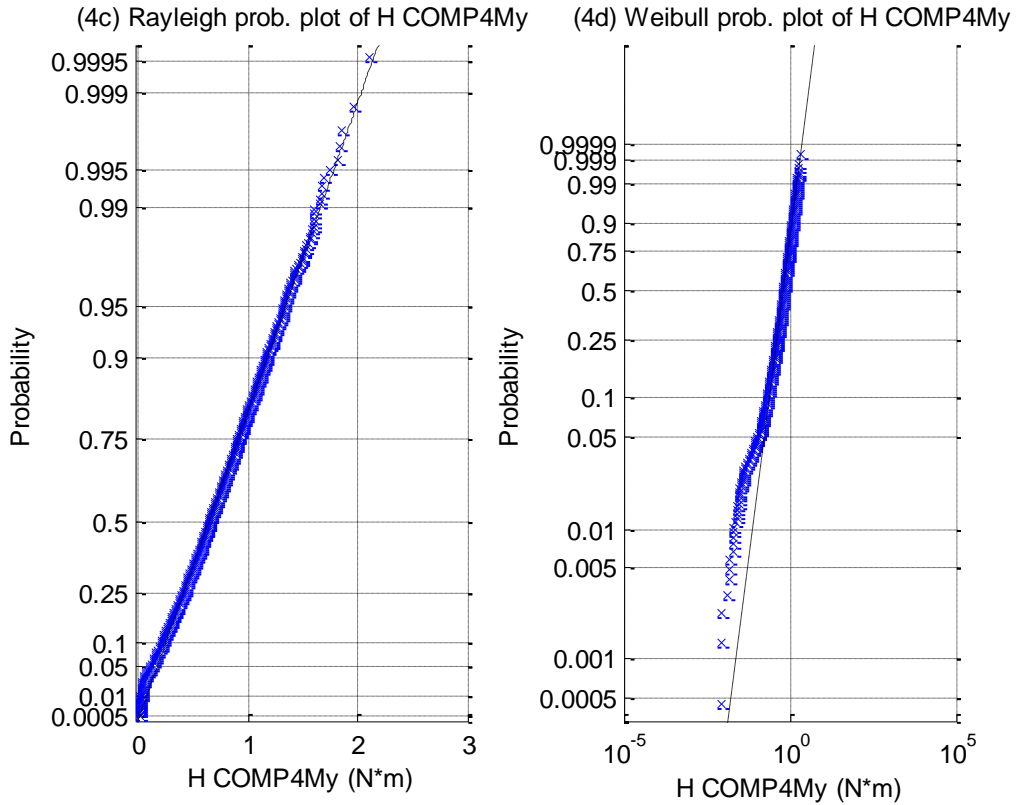


(4a) Histogram of H COMP4My

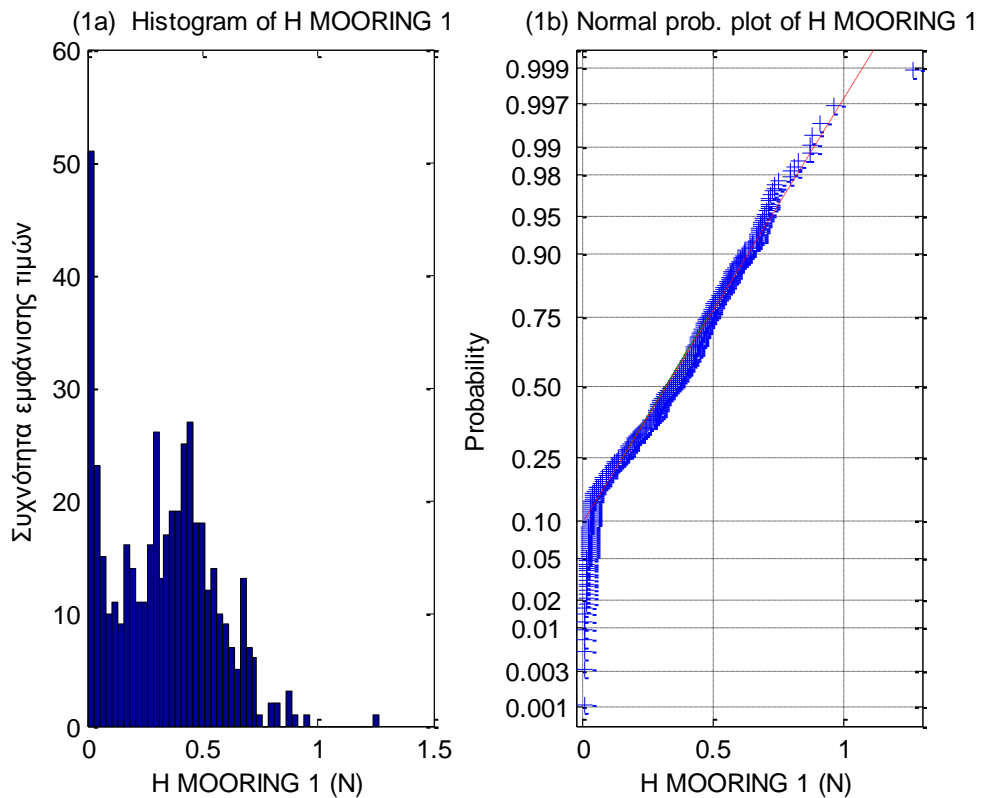


(4b) Normal prob. plot of H COMP4My



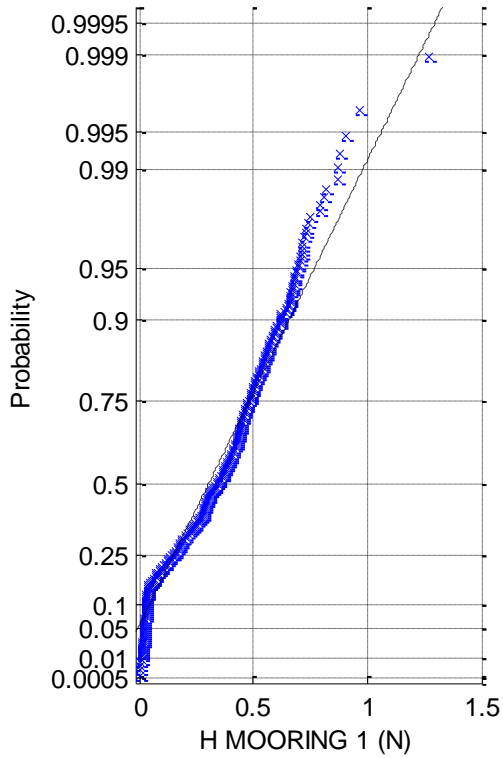


**Σχήματα 2.2.6.3 (1-4)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch

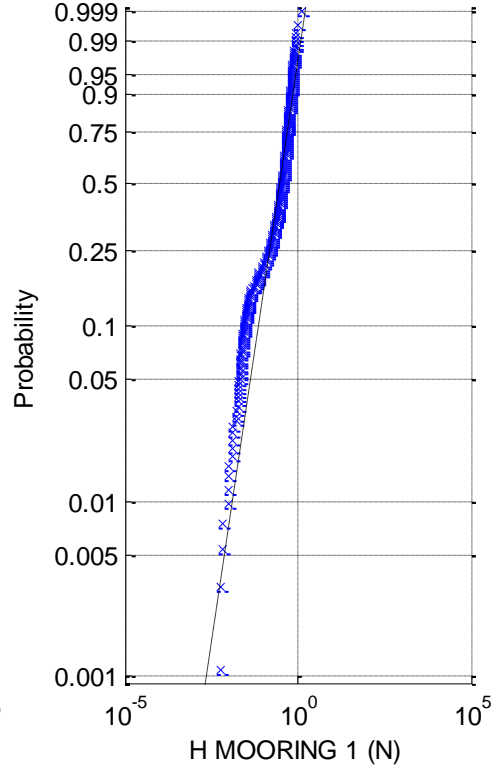




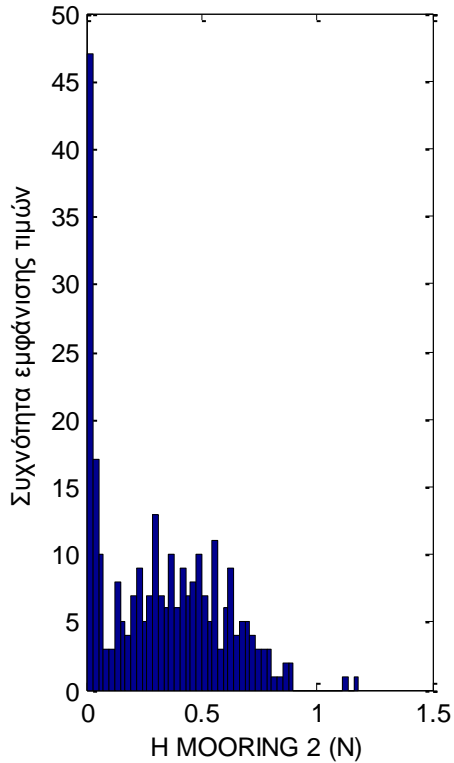
(1c) Rayleigh prob. plot of H MOORING 1



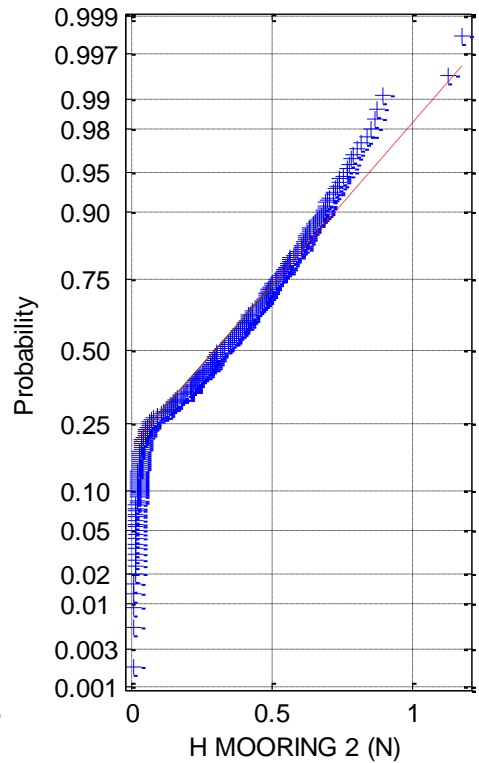
(1d) Weibull prob. plot of H MOORING 1



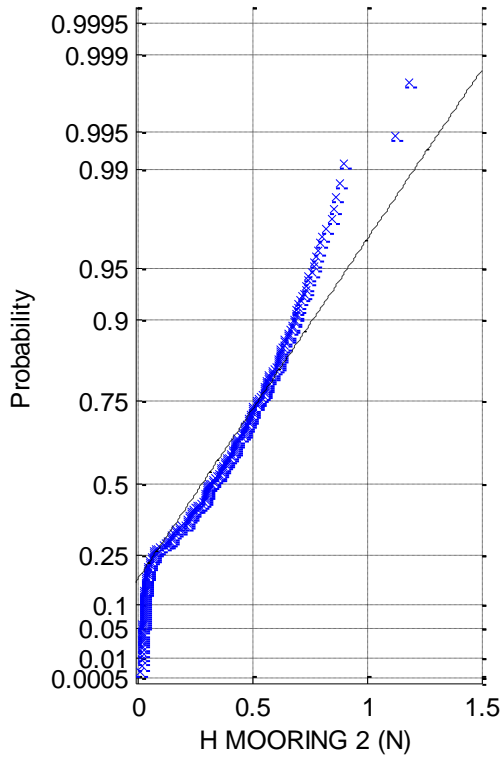
(2a) Histogram of H MOORING 2



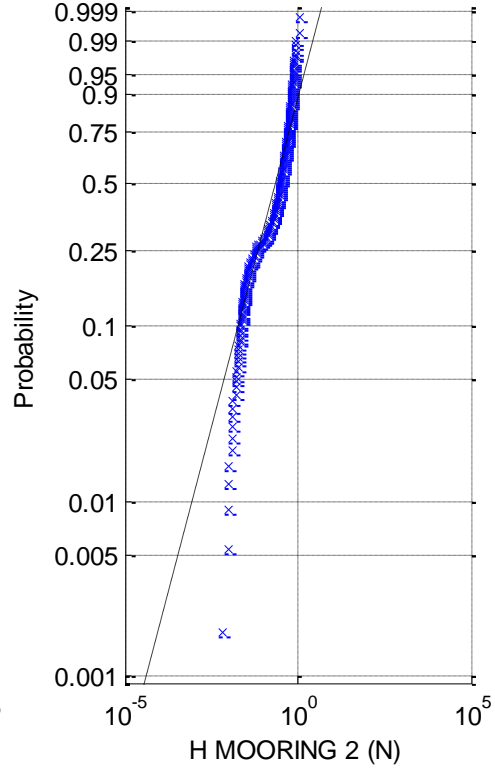
(2b) Normal prob. plot of H MOORING 2



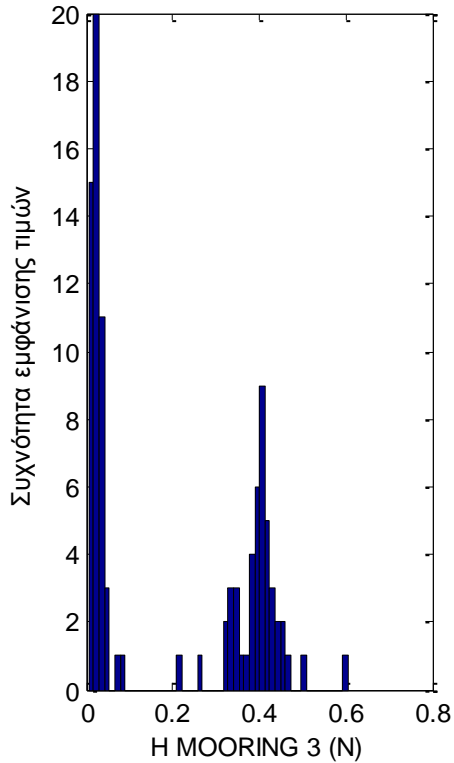
(2c) Rayleigh prob. plot of H MOORING 2



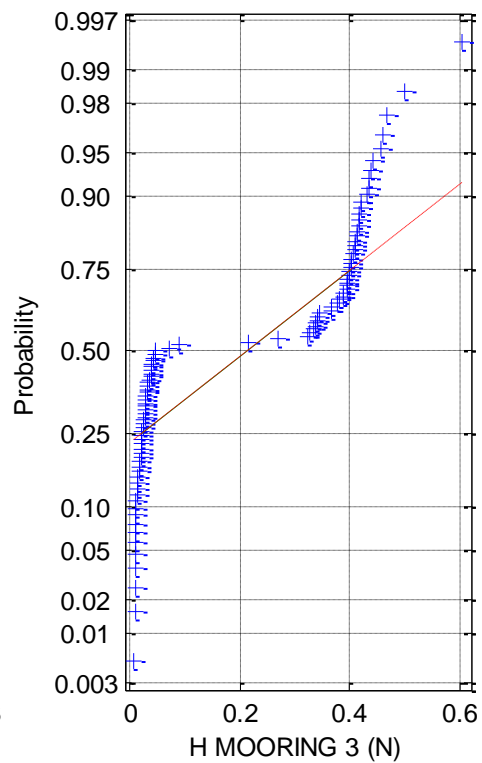
(2d) Weibull prob. plot of H MOORING 2

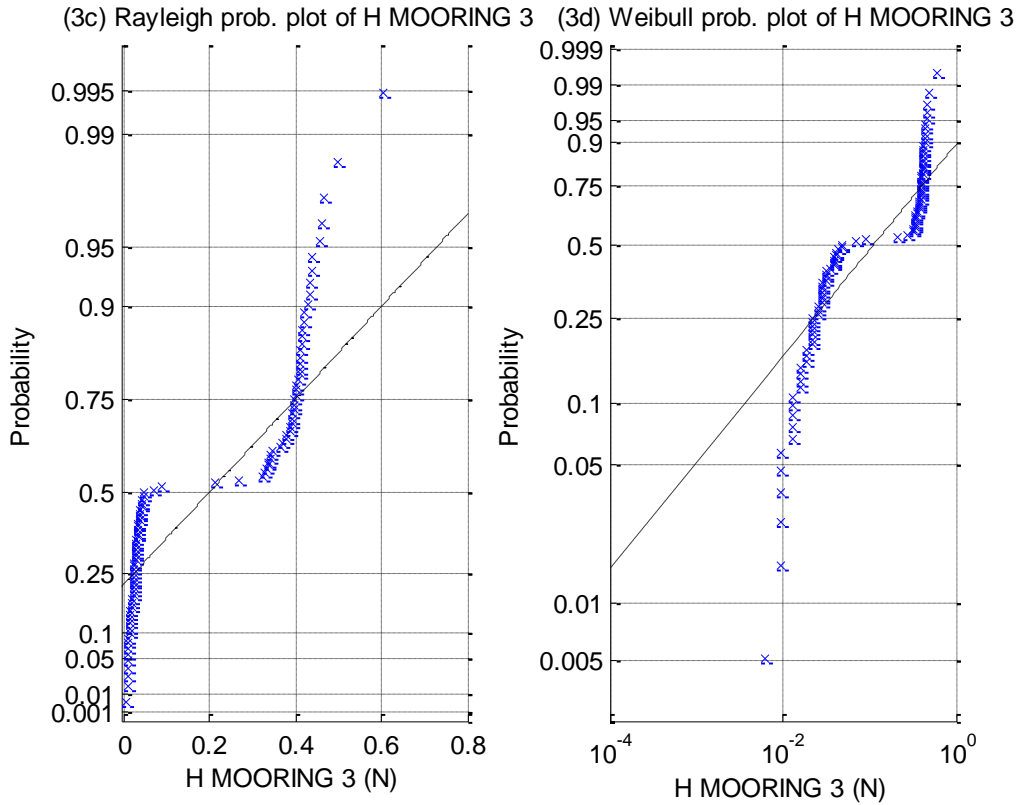


(3a) Histogram of H MOORING 3

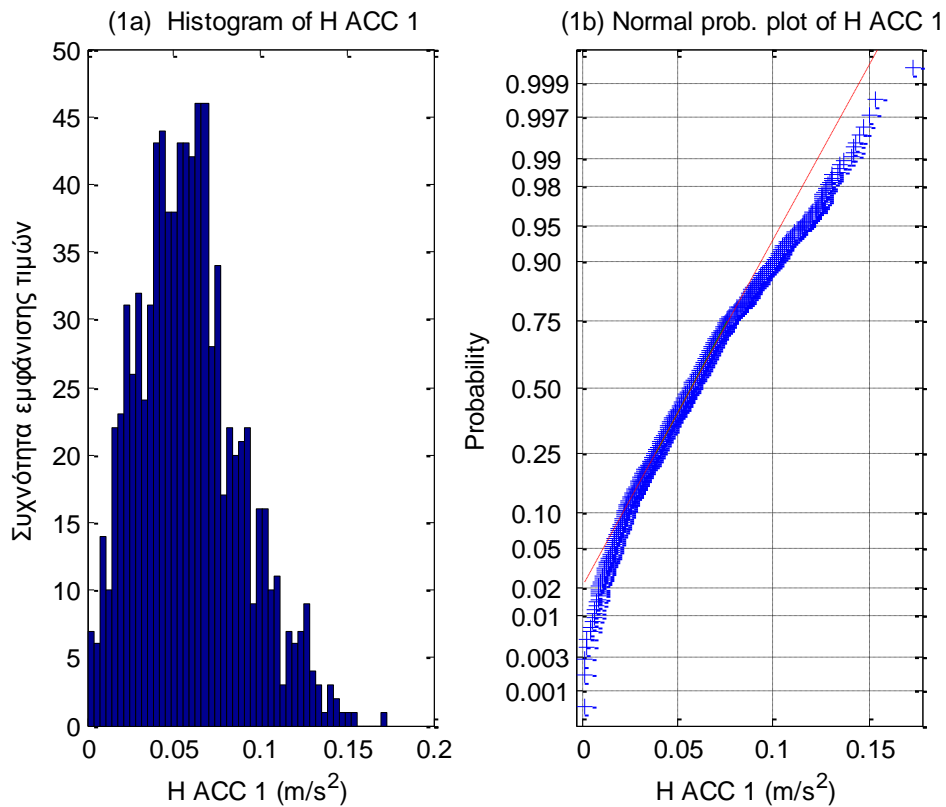


(3b) Normal prob. plot of H MOORING 3

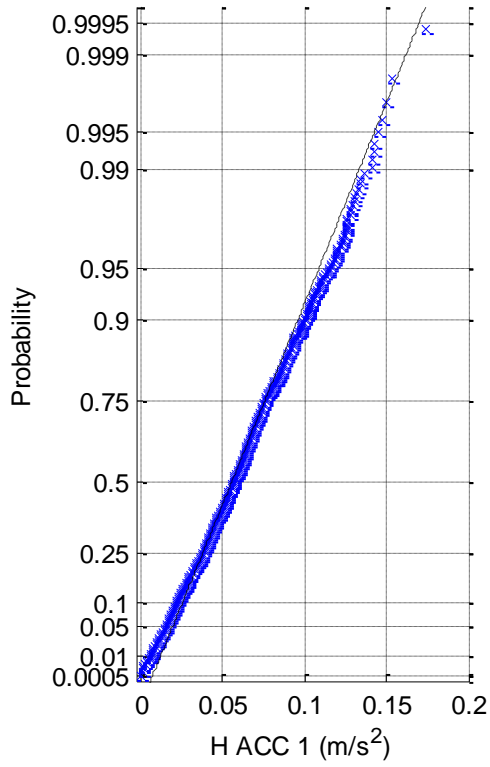




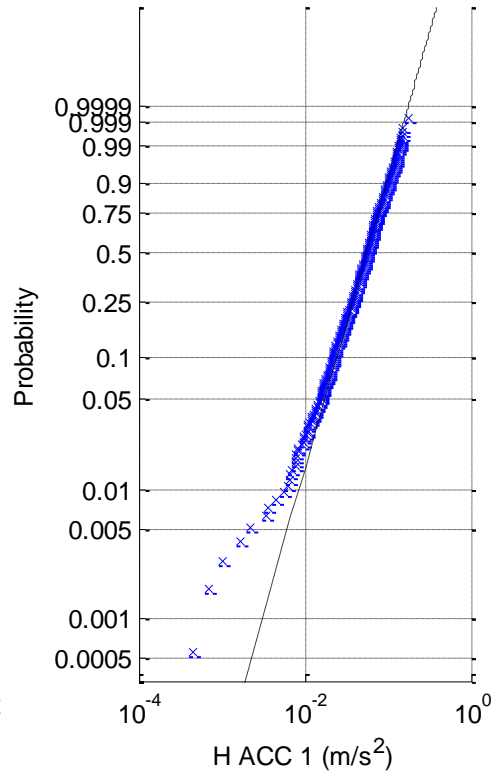
**Σχήματα 2.2.6.4 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



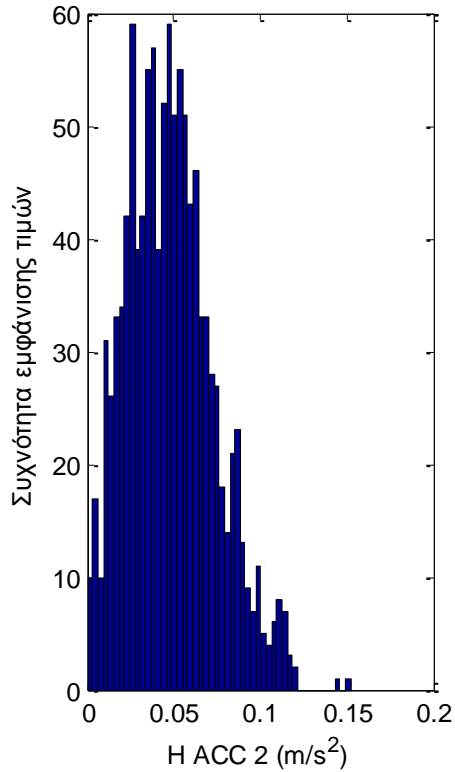
(1c) Rayleigh prob. plot of H ACC 1



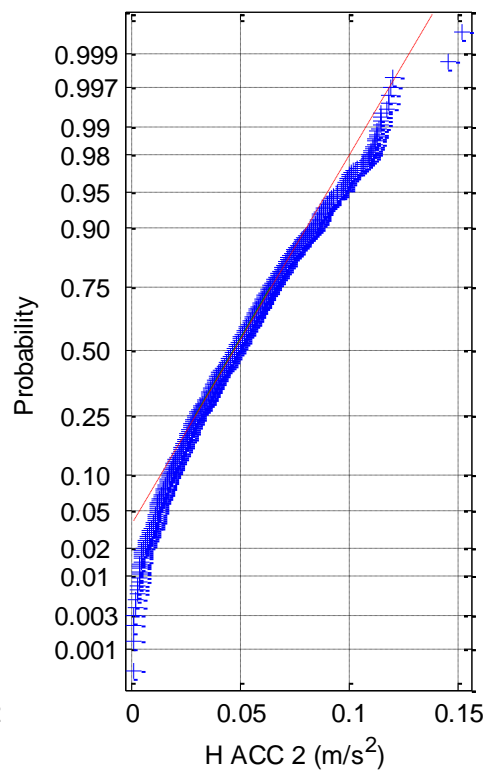
(1d) Weibull prob. plot of H ACC 1



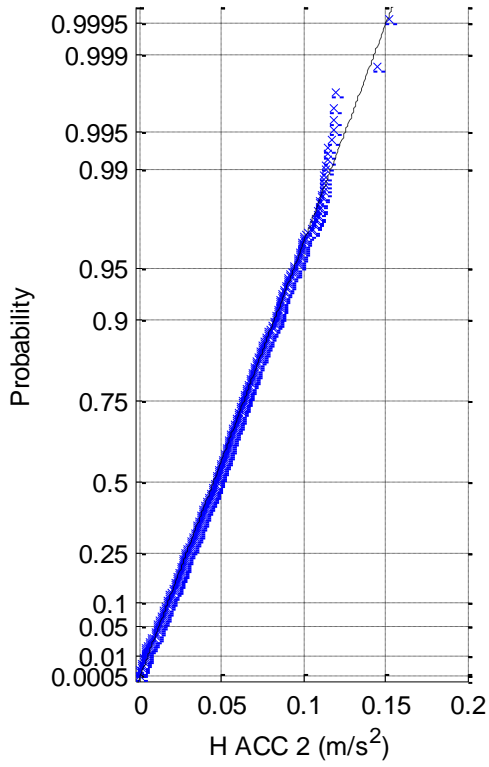
(2a) Histogram of H ACC 2



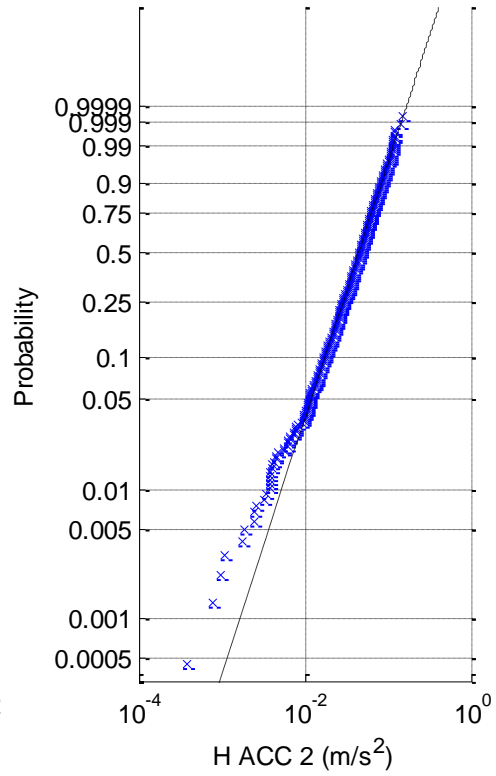
(2b) Normal prob. plot of H ACC 2



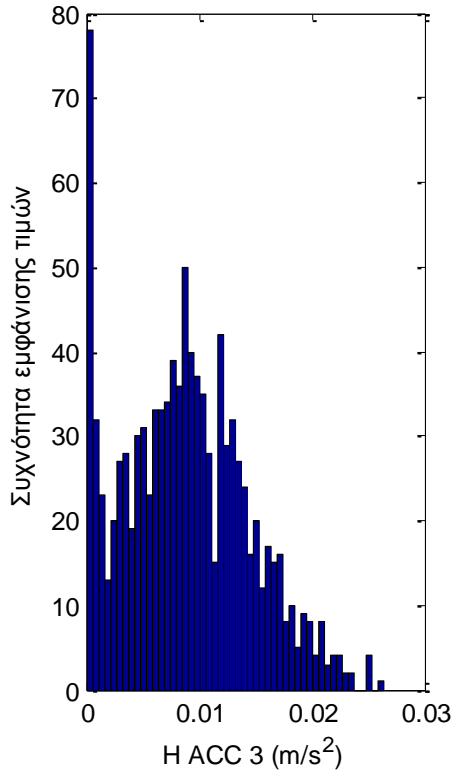
(2c) Rayleigh prob. plot of H ACC 2



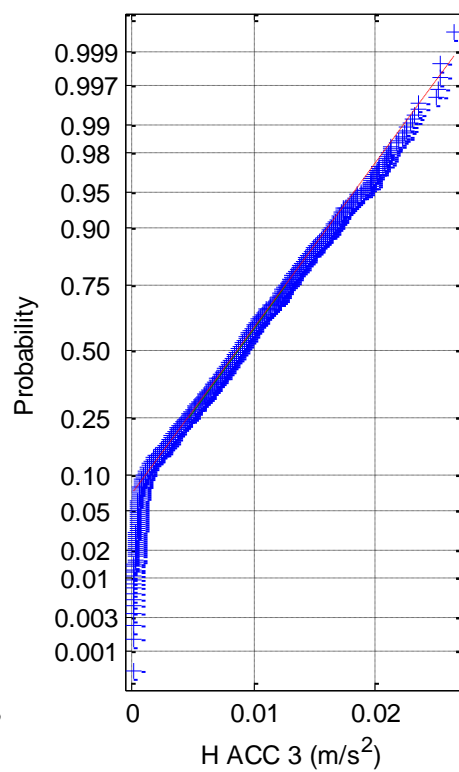
(2d) Weibull prob. plot of H ACC 2

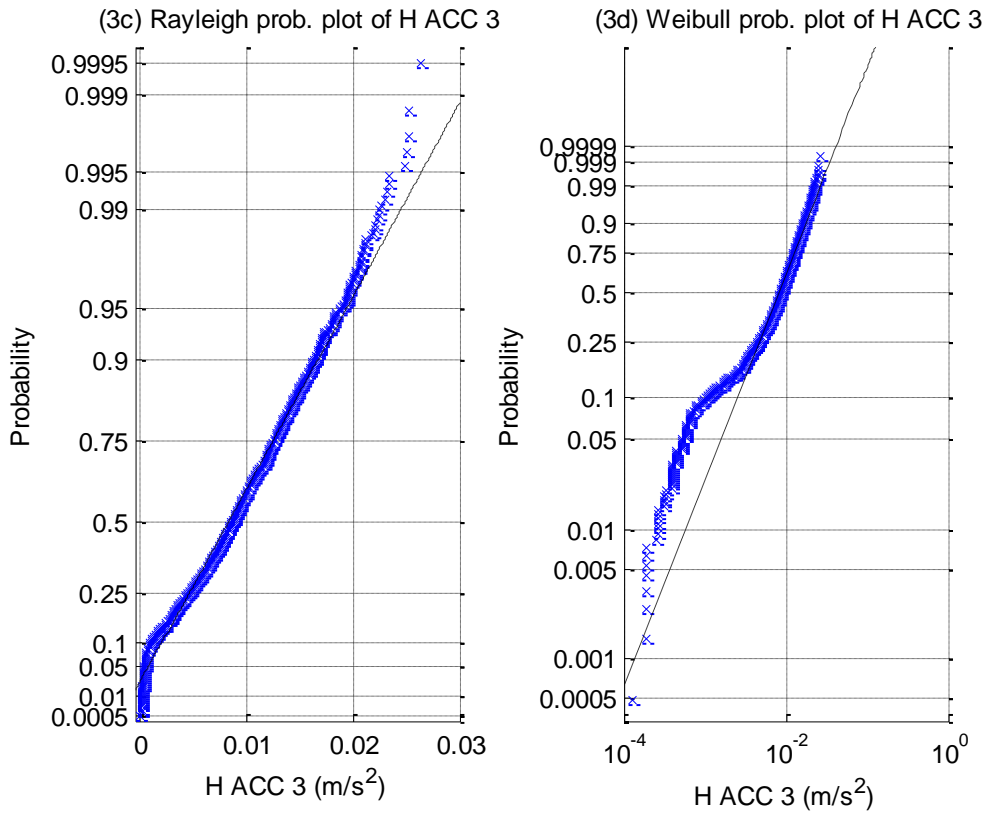


(3a) Histogram of H ACC 3

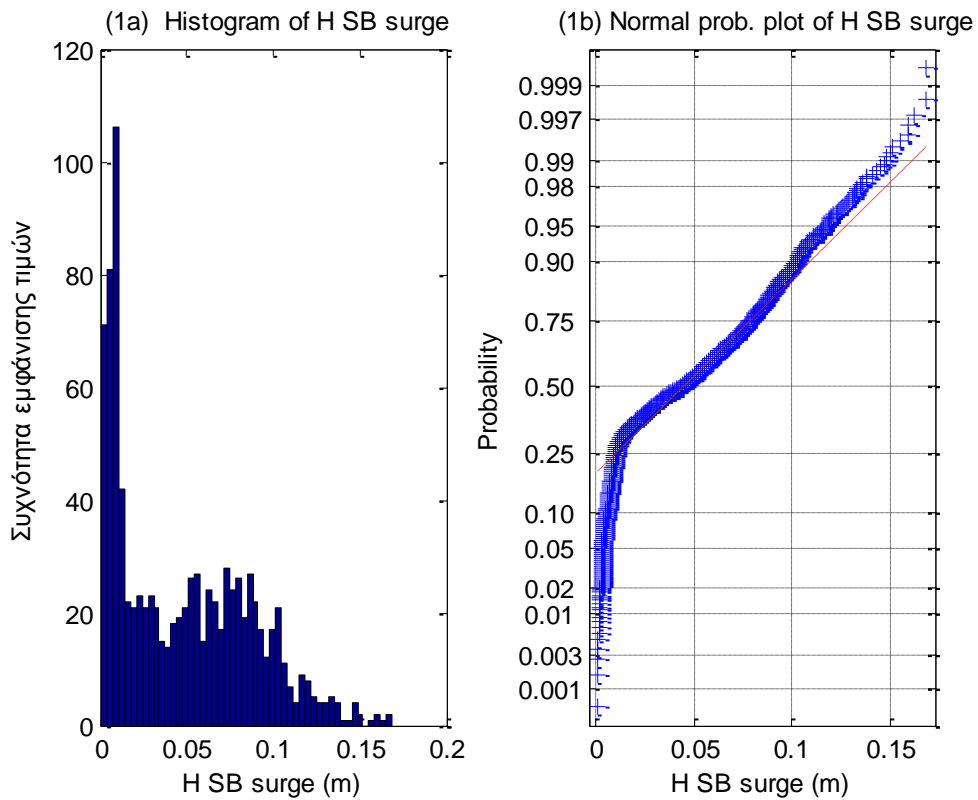


(3b) Normal prob. plot of H ACC 3

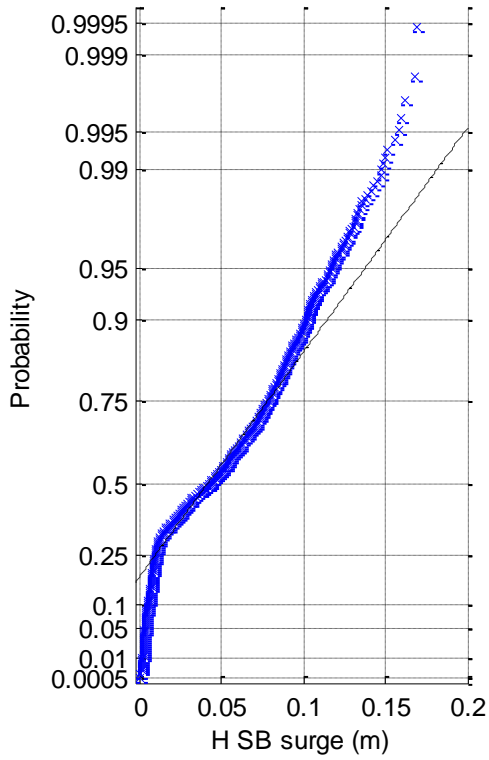




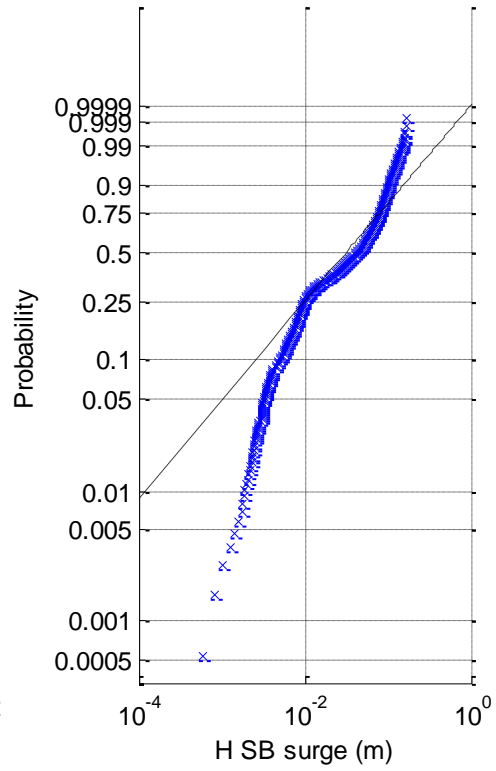
**Σχήματα 2.2.6.5 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



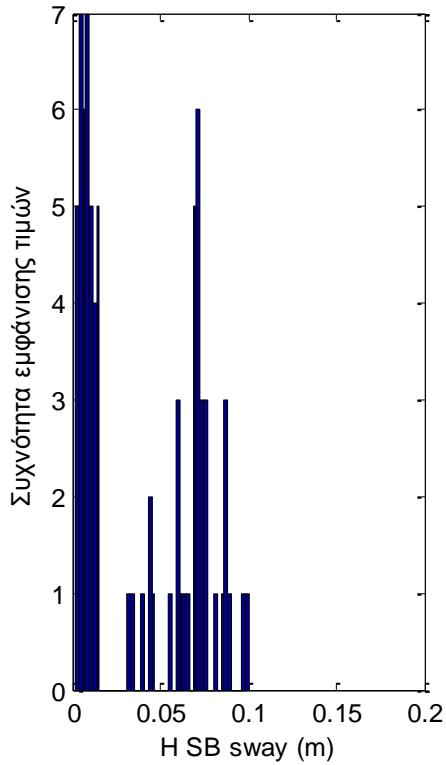
(1c) Rayleigh prob. plot of H SB surge



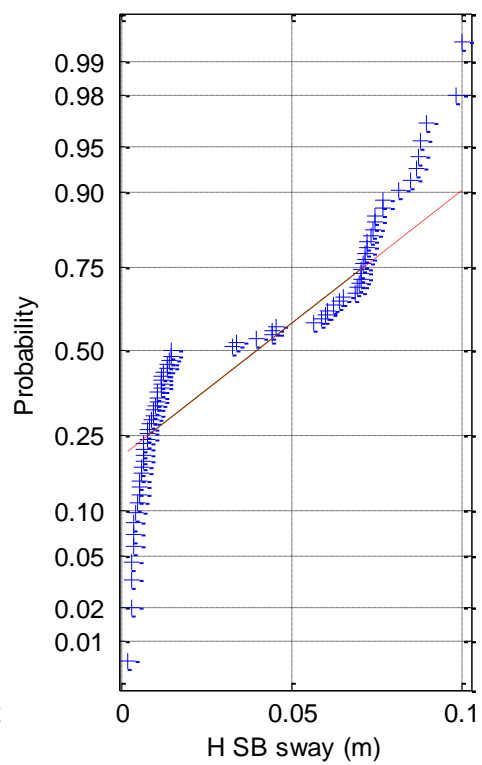
(1d) Weibull prob. plot of H SB surge



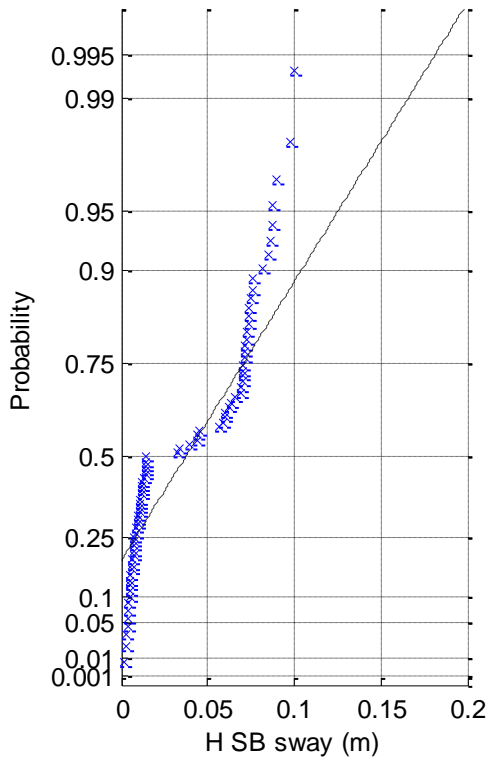
(2a) Histogram of H SB sway



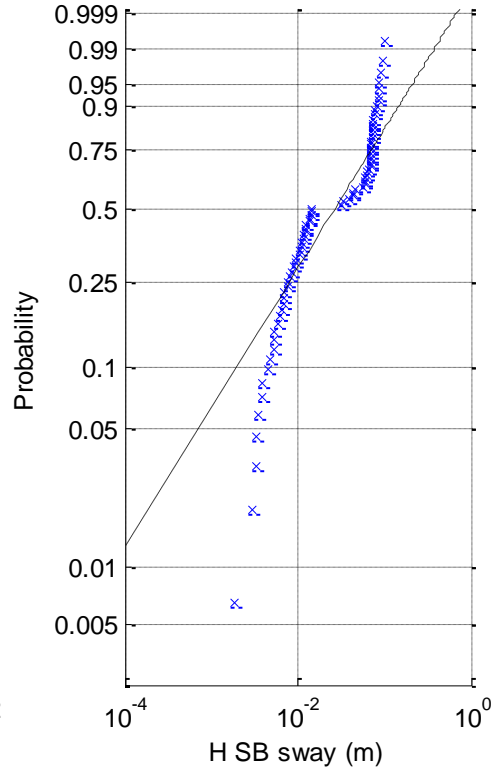
(2b) Normal prob. plot of H SB sway



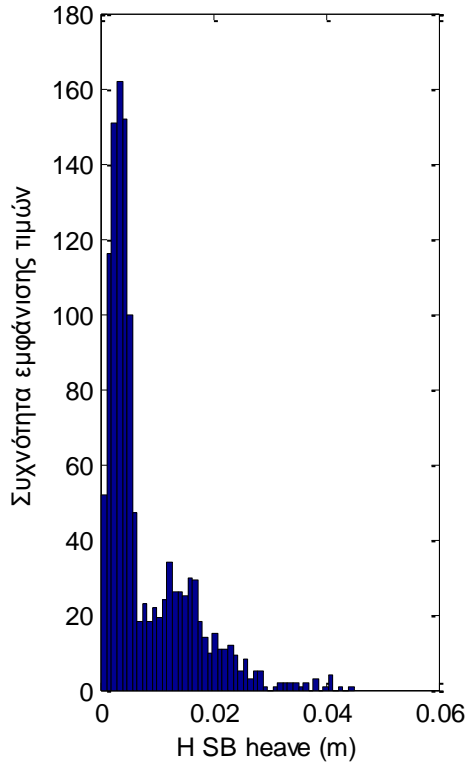
(2c) Rayleigh prob. plot of H SB sway



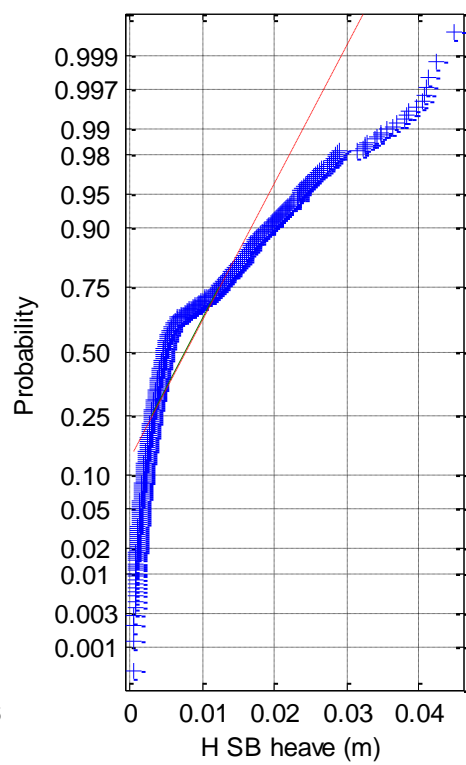
(2d) Weibull prob. plot of H SB sway



(3a) Histogram of H SB heave

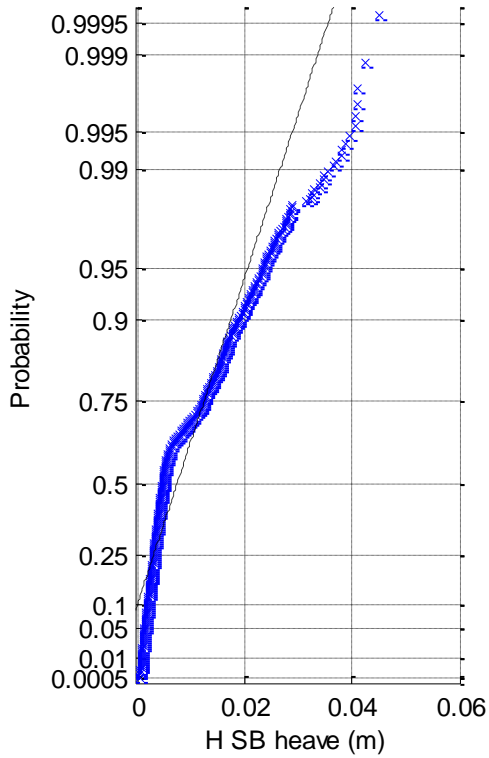


(3b) Normal prob. plot of H SB heave

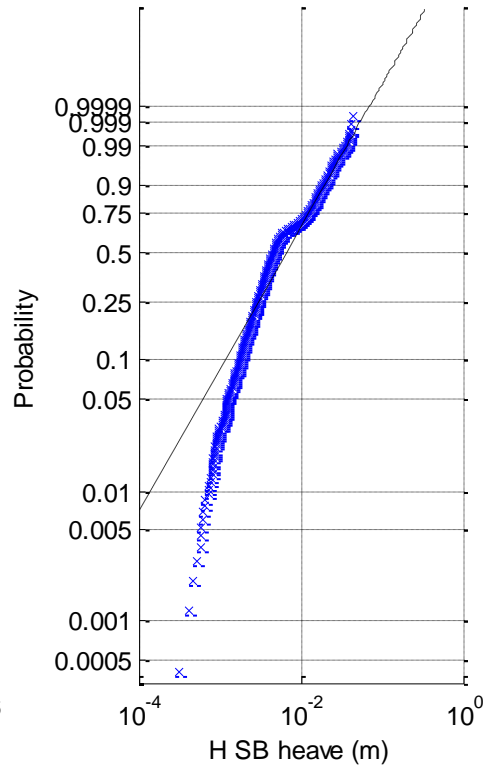




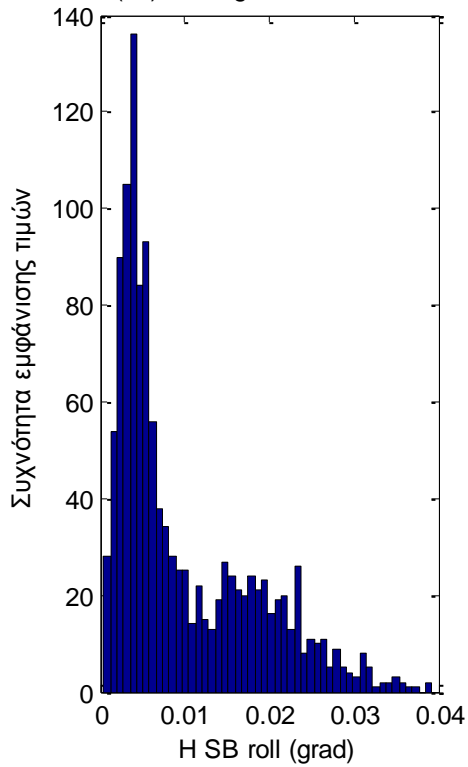
(3c) Rayleigh prob. plot of H SB heave



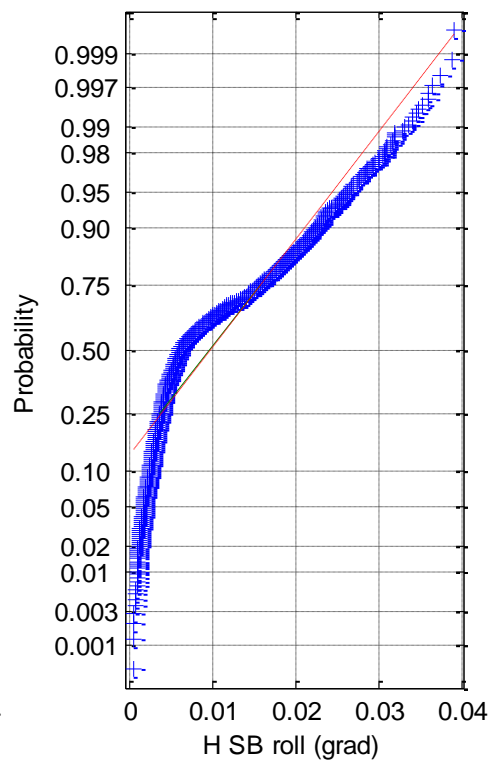
(3d) Weibull prob. plot of H SB heave



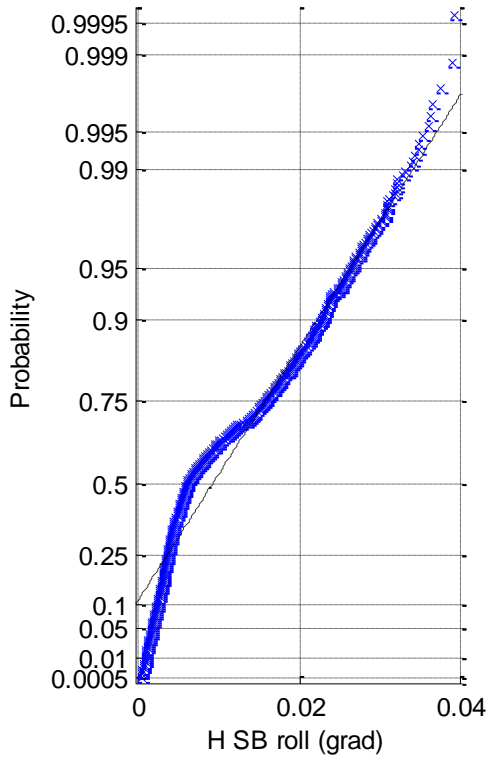
(4a) Histogram of H SB roll



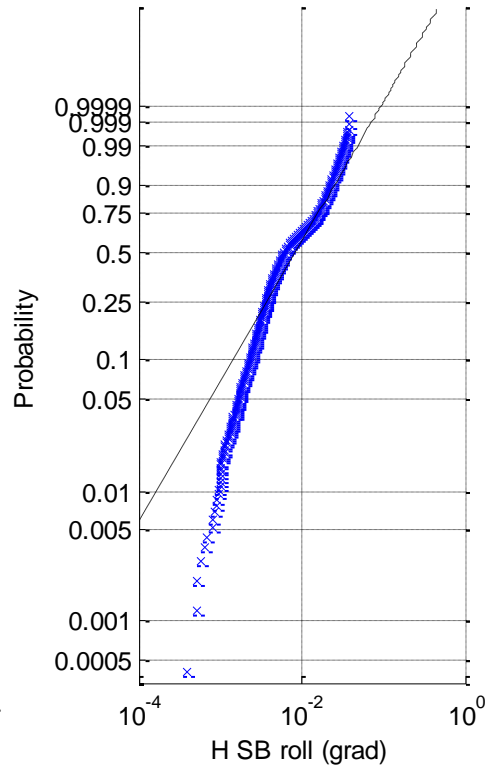
(4b) Normal prob. plot of H SB roll



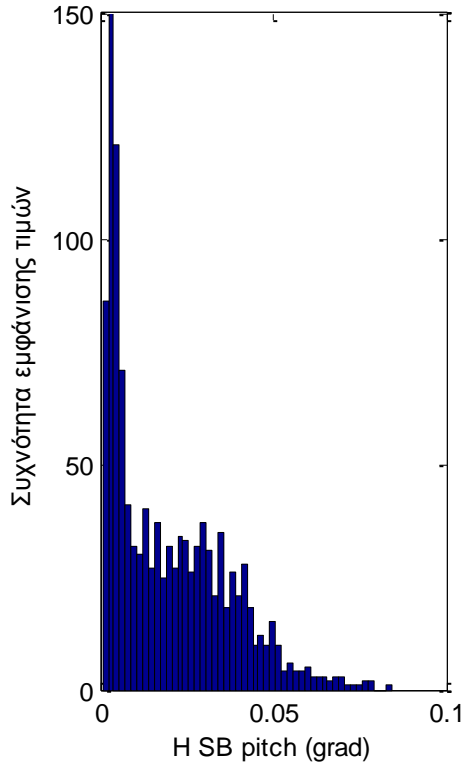
(4c) Rayleigh prob. plot of H SB roll



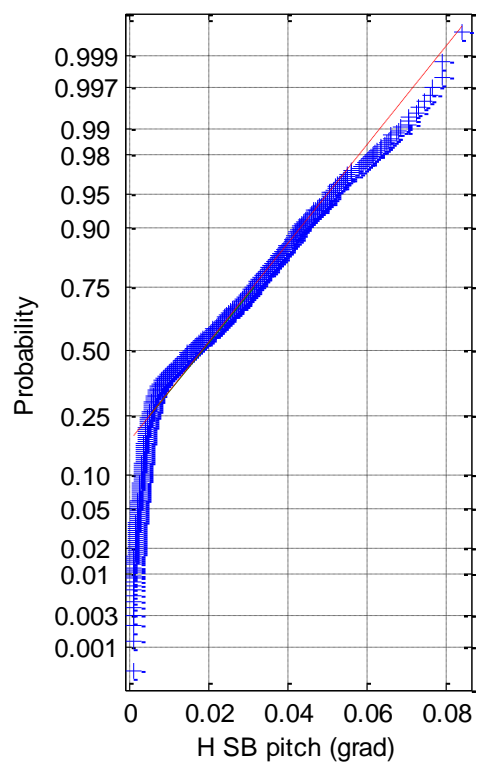
(4d) Weibull prob. plot of H SB roll



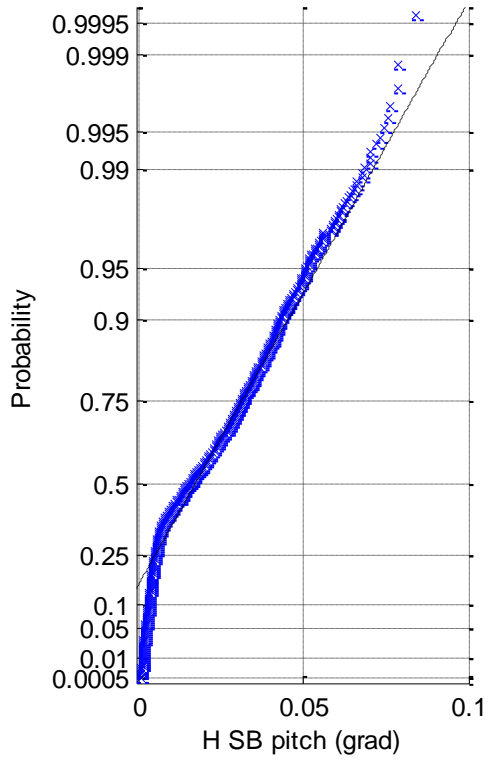
(5a) Histogram of H SB pitch



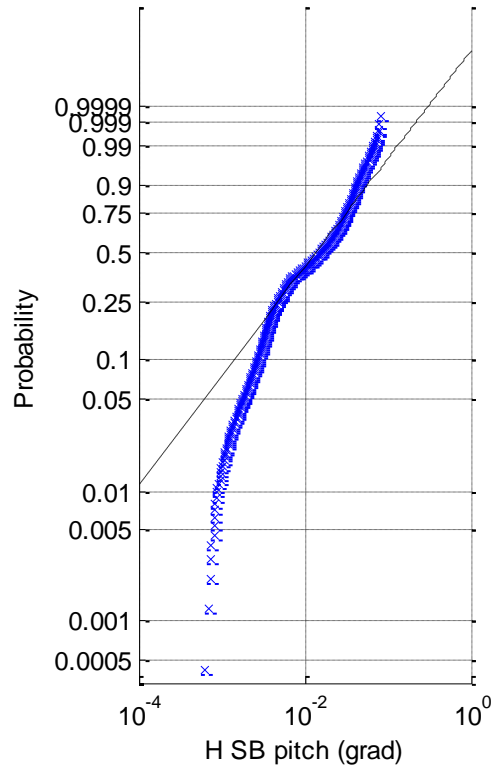
(5b) Normal prob. plot of H SB pitch



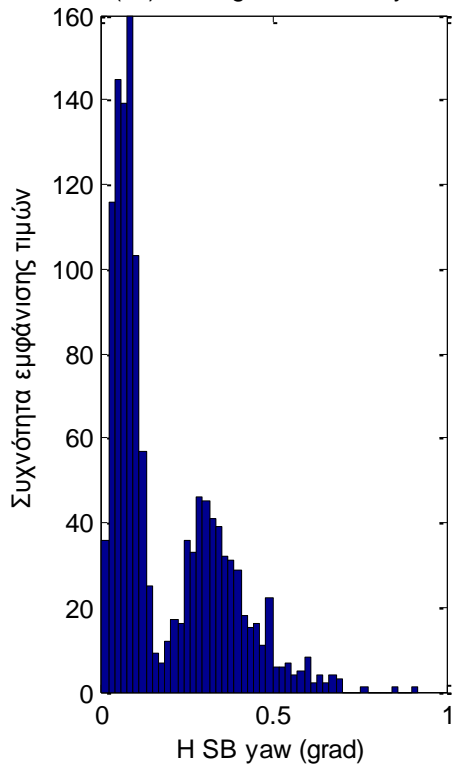
(5c) Rayleigh prob. plot of H SB pitch



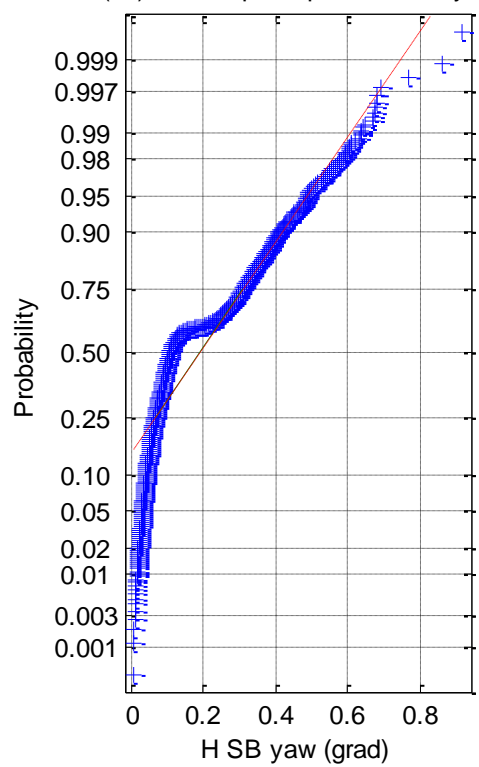
(5d) Weibull prob. plot of H SB pitch

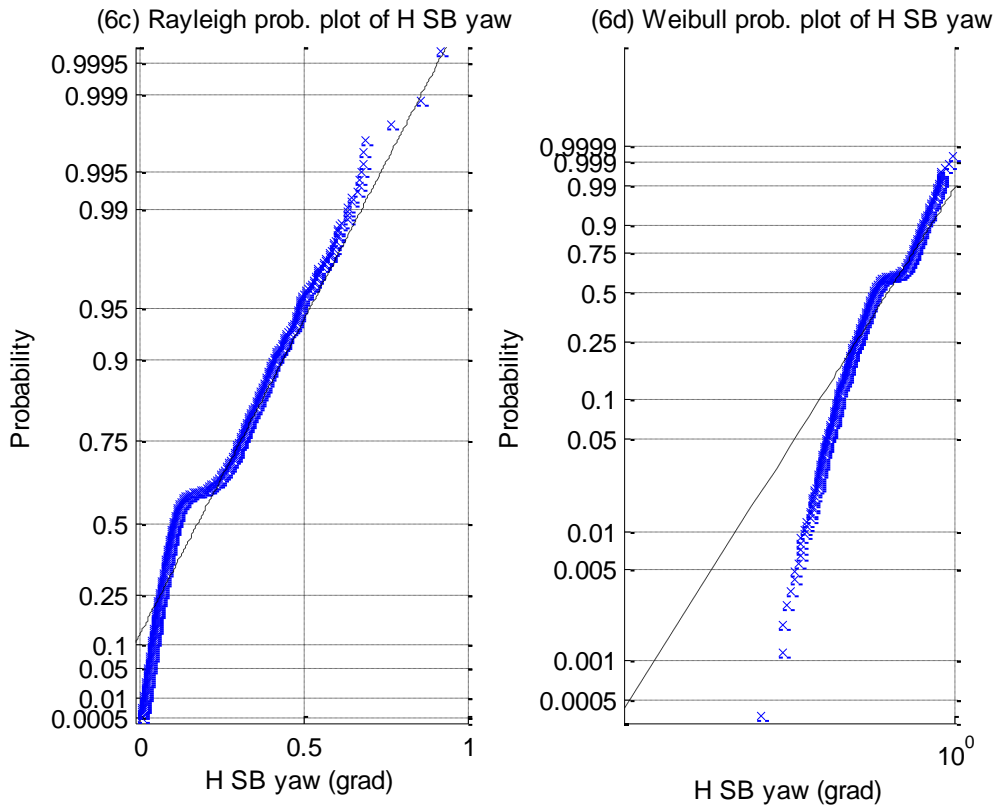


(6a) Histogram of H SB yaw

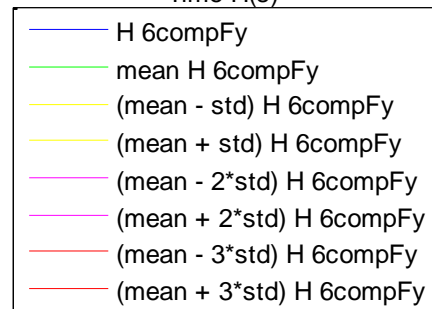
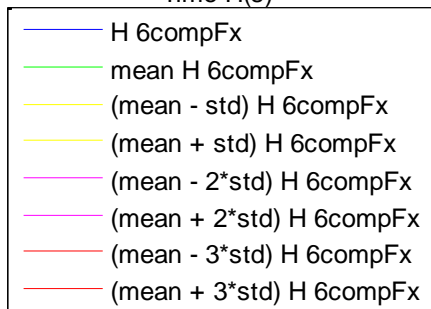
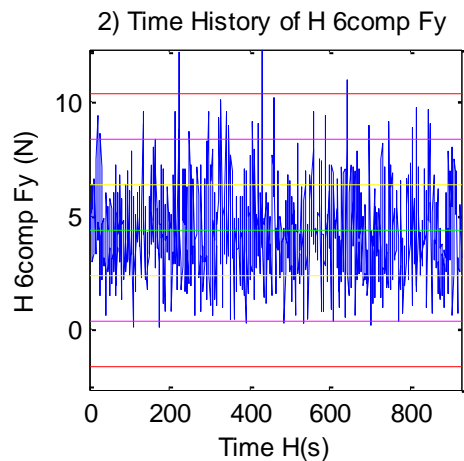
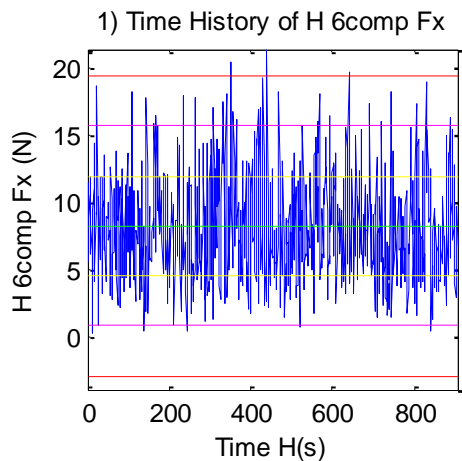


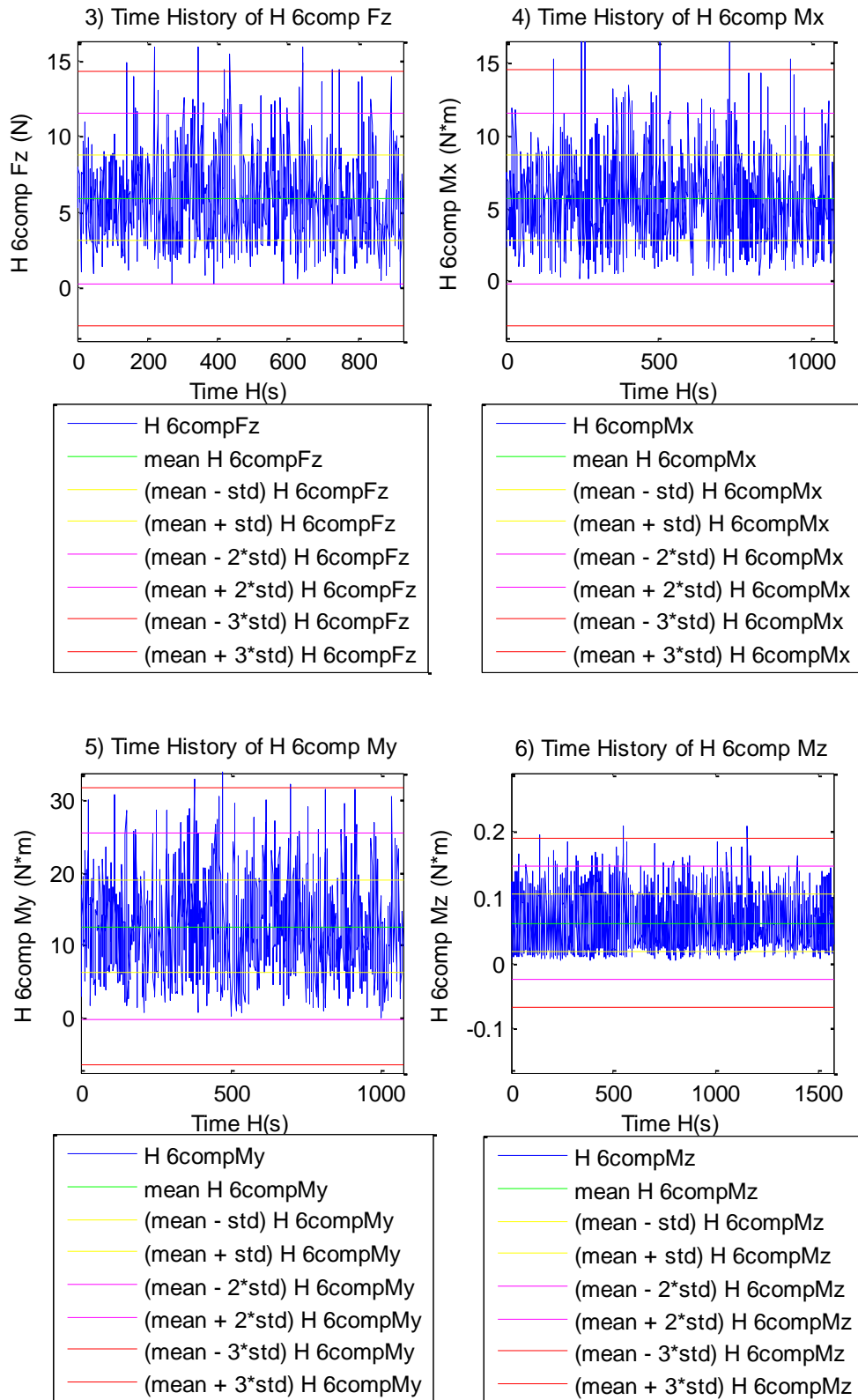
(6b) Normal prob. plot of H SB yaw



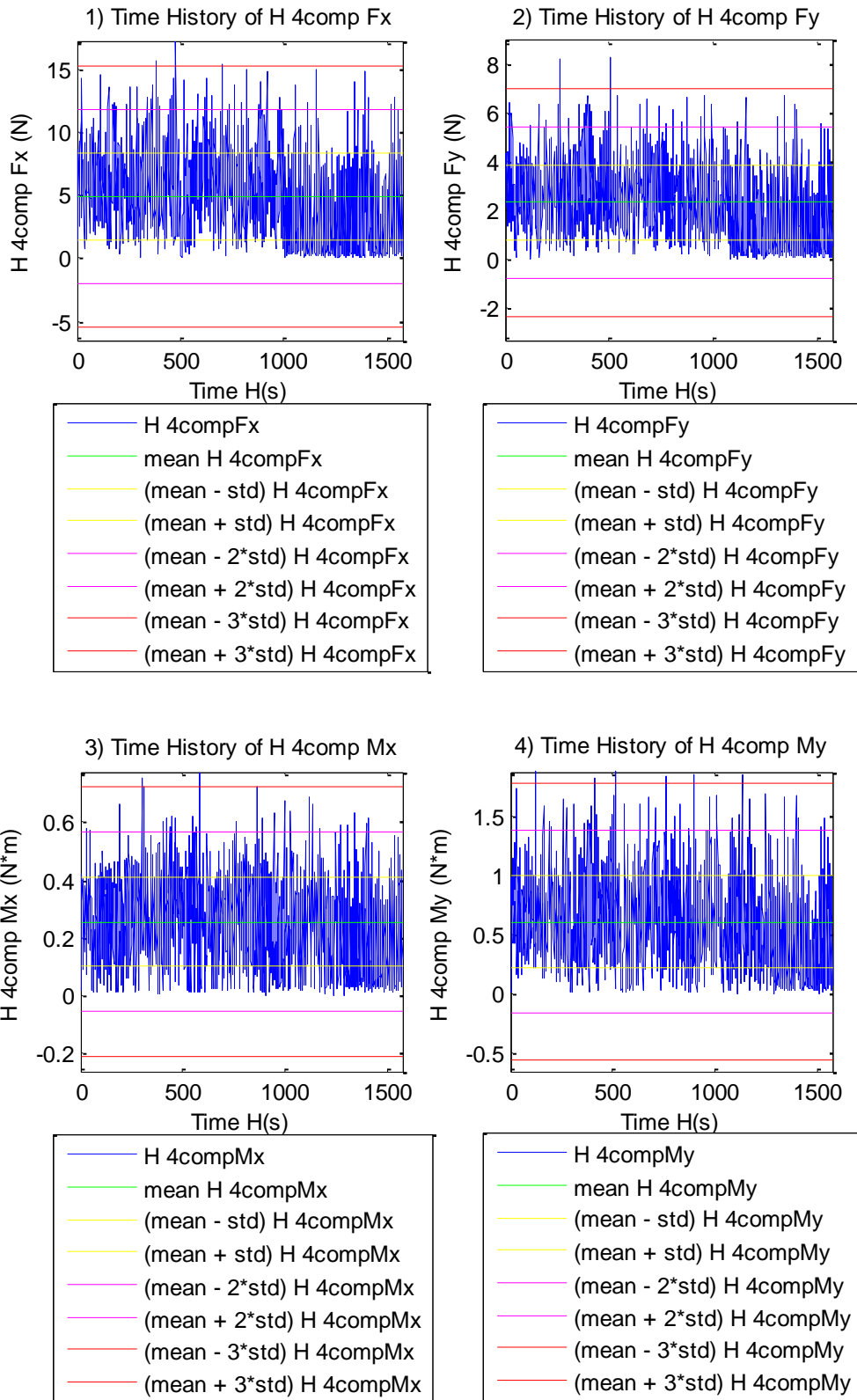


**Σχήματα 2.2.6.6 (1-6)** α) Ιστογράμματα , β) γραφήματα ελέγχου κανονικότητας, γ) έλεγχος κατανομής Rayleigh και δ) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

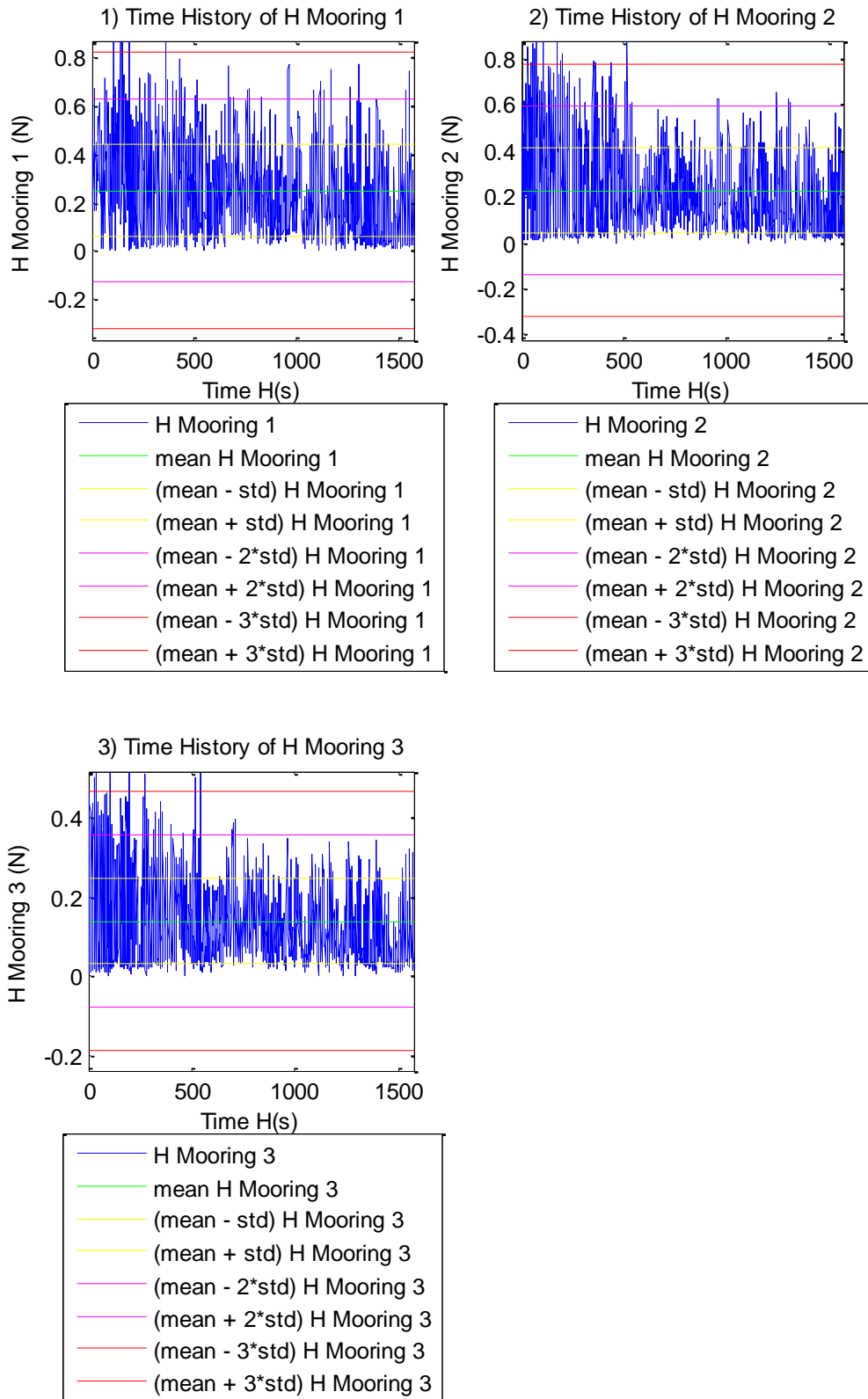




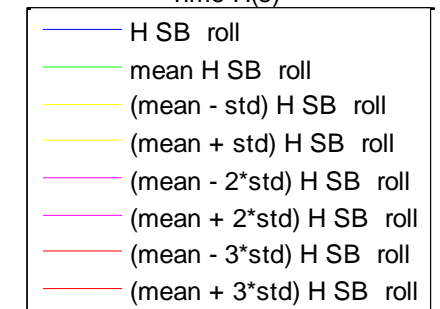
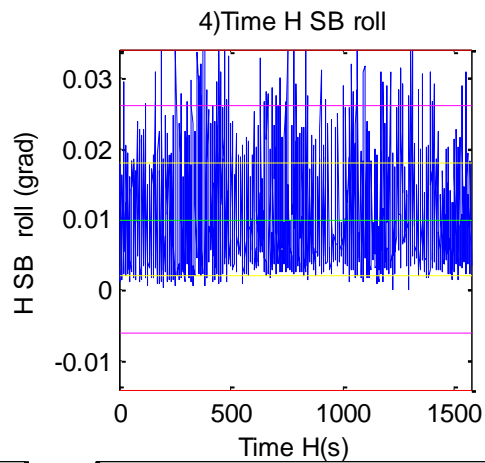
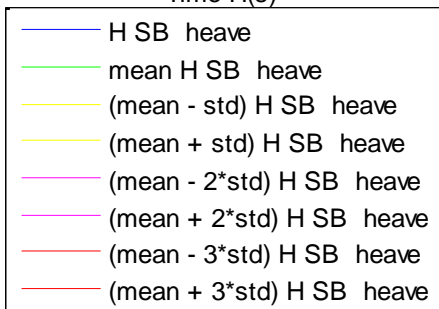
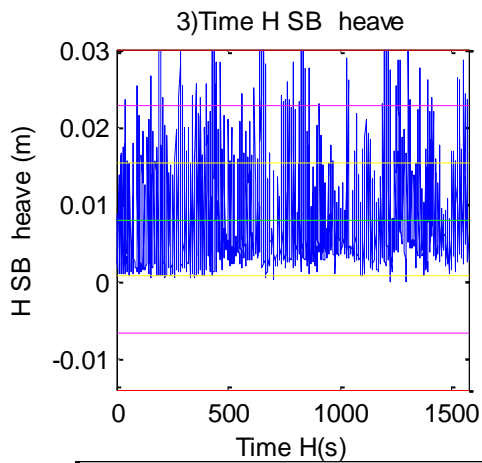
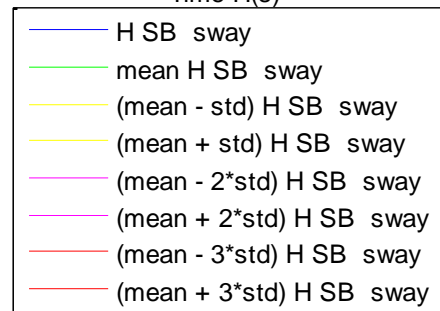
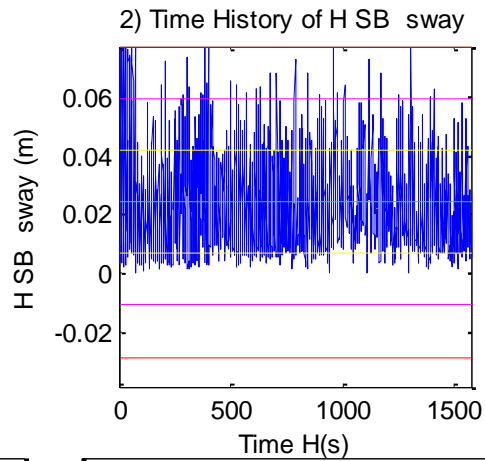
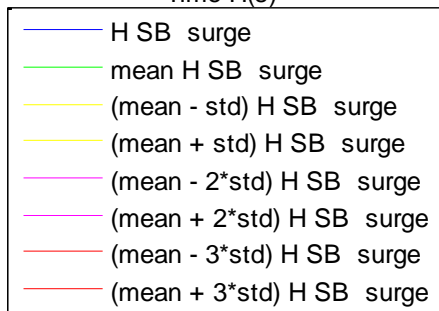
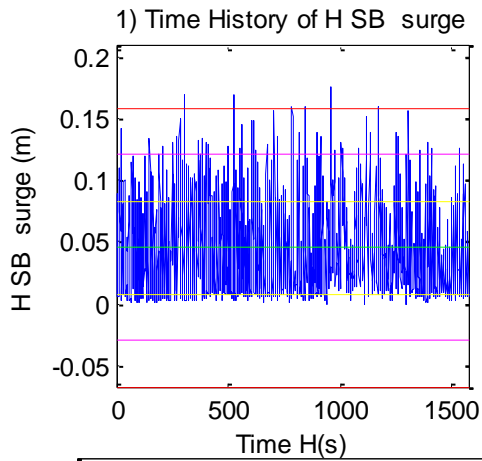
**Σχήματα 2.2.7.1 (1-6)** Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



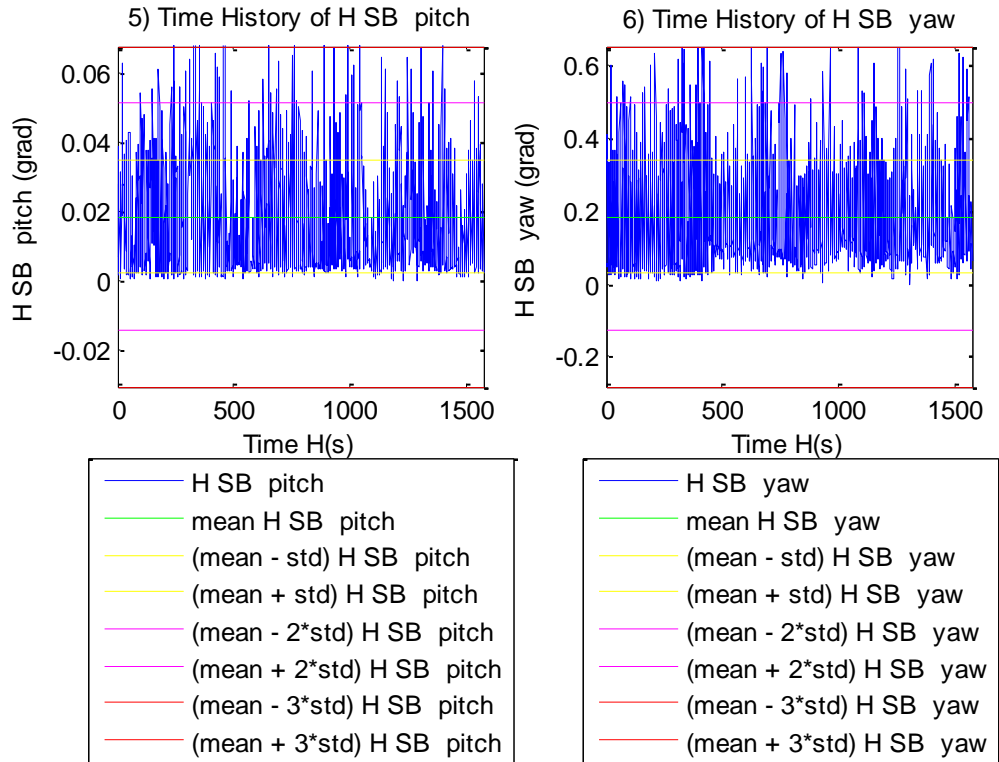
**Σχήματα 2.2.7.2 (1-4)** Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch



**Σχήματα 2.2.7.3 (1-3)** Διαγράμματα διάταξης του H για τις τρεις δυνάμεις στις τρεις γραμμές αγκύρωσης της A/Γ







**Σχήματα 2.2.7.4 (1-6)** Διαγράμματα διάταξης του H για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=100**

4.0880	1.5514	1.4088	1.1869	0.8857	1.9260	1.4151	2.0261	1.6707	1.6708	1.5610
1.2166	3.8698	0.8754	1.3943	1.2224	1.5598	2.1579	2.0533	1.6027	1.1695	1.0396
1.2507	1.3613	4.5052	0.9376	1.1916	0.9808	1.7398	1.0771	1.2070	1.8051	2.3647
1.0007	1.3028	0.8277	7.5981	1.2137	0.7615	0.5554	0.9044	1.1216	1.5456	1.8420
1.3758	1.1788	1.5031	1.3160	4.3840	1.0624	0.9382	0.9355	1.1963	1.1947	1.2565
1.7875	1.2607	0.9778	1.2395	0.9919	4.4610	0.9638	1.1355	1.4088	1.3203	1.3209
1.1435	1.9565	1.2332	1.0262	0.8296	1.1147	4.5797	2.1406	0.9103	0.7953	0.9771
1.7045	1.9628	0.9795	0.8979	0.7627	1.5511	1.9455	4.4515	2.3864	1.2690	1.0537
1.8656	1.6523	0.8596	0.9290	1.0704	1.4693	0.9008	2.5862	4.5407	3.3258	2.4357
1.8283	0.9746	1.4352	0.6388	0.9484	1.2346	1.0063	1.3730	3.1424	4.4175	4.0960
1.8257	0.8232	2.0270	0.6422	0.8950	1.1700	1.1891	1.1748	2.3548	3.9139	4.3141

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=1000**

3.3122	1.4605	1.1633	0.9919	1.1179	1.5715	1.3019	1.5422	1.6091	1.5190	1.4808
1.3596	3.1664	1.1007	1.0825	0.9552	1.2350	1.6909	1.5449	1.4395	1.2130	1.1464
1.1439	1.3022	3.4611	1.1004	1.1541	0.9944	1.3825	1.1782	1.0882	1.5185	1.9652
1.0814	1.0436	0.9345	5.8613	1.3011	1.1278	0.7572	0.8056	0.8536	0.8923	0.9211
1.1651	1.0388	1.1608	1.2763	3.3998	1.2319	1.0048	1.0034	0.9501	1.0161	1.0613
1.5930	1.2086	0.9999	1.1422	1.2093	3.4317	0.9910	1.0254	1.1343	1.2325	1.2158
1.2760	1.6525	1.2428	0.9364	0.8509	0.9838	3.5686	1.8985	0.9991	0.9475	1.0729
1.5333	1.5875	1.1231	0.8836	0.9794	1.1464	1.8091	3.4654	2.0914	1.2439	1.0638
1.5815	1.3579	1.0784	0.8775	1.0798	1.1645	0.9884	2.1389	3.4500	2.7069	2.1684
1.5183	1.0938	1.5005	0.9100	1.1503	1.1378	1.0014	1.2322	2.6967	3.4251	3.2347
1.4616	1.0204	1.8939	0.9477	1.1655	1.1139	1.0989	1.0579	2.1496	3.2159	3.4003

**Μητρώα MKN για τις έξι δυνάμεις και ροπές bcomp [ Fx, Fy, Fz, Mx, My, Mz] για K=100**

4.3865	3.1158	3.3205	3.9413	3.8111	2.5204
0.3271	2.2199	2.1552	0.2328	1.5351	1.8561
0.6604	1.6157	1.6564	0.6179	1.3136	1.4958
2.5467	0.9259	0.8240	2.8872	1.4994	0.4707
3.9996	3.8093	4.0945	3.4782	4.3915	3.1617
0.6330	1.3575	1.3609	0.6689	1.0978	1.4614

**Μητρώα MKN για τις έξι δυνάμεις και ροπές bcomp [ Fx, Fy, Fz, Mx, My, Mz] για K=1000**

3.4159	2.2715	2.4274	3.0817	3.0314	1.8397
0.4171	1.9206	1.8667	0.1625	1.2406	1.6645
0.7717	1.4400	1.4719	0.6903	1.1692	1.3583
2.1004	0.4492	0.3977	2.3747	1.2200	0.3753
3.0606	2.9335	3.1618	2.5878	3.4521	2.3930
0.7680	1.2783	1.2867	0.7359	1.0493	1.3760

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=100**

4.3263	3.1788	2.9731	4.2614
2.8210	4.0726	3.7285	2.5618
1.6890	3.0420	3.3051	1.3880
4.0292	2.3921	2.1542	4.1104

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=1000**

3.4098	2.3004	1.9449	3.3594
1.9696	3.1716	2.8989	1.7009
1.1275	2.5363	2.7656	0.8579
3.2161	1.6407	1.2850	3.2781

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=100**

1.0407	0.9602	1.0170
0.9684	1.0609	0.9971
1.0167	0.9967	1.0313

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=1000**

1.0323	0.9693	1.0137
0.9733	1.0452	0.9967
1.0157	0.9933	1.0273

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway,  
Heave, Roll, Pitch, Yaw] για K=100**

3.8864	3.2899	0.8090	2.3209	3.4626	1.5802
1.2927	1.3662	0.8343	0.6629	1.2045	0.9259
0.9038	0.7804	2.0692	1.2112	0.9727	1.1281
0.4192	0.3010	1.1797	1.8473	0.4067	0.7741

1.7957 1.6463 1.0487 0.2225 1.9335 1.5249  
 1.2748 1.1392 1.2394 0.6252 1.5605 1.9973

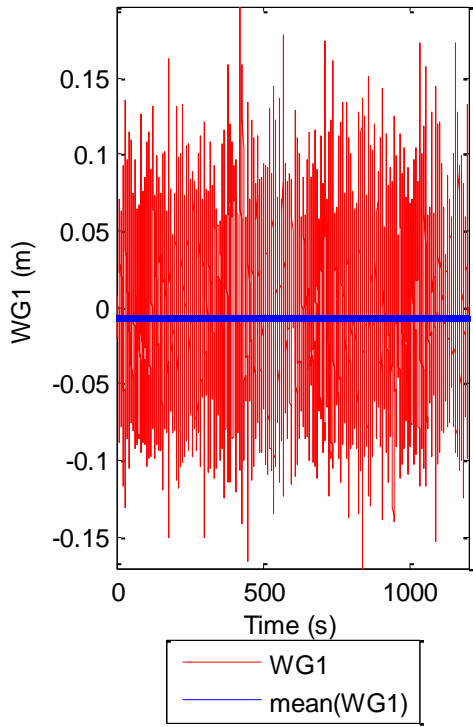
**Μητρώα ΜΚΝ για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000**

3.1180 2.6557 0.9610 1.6220 2.7471 1.4523  
 1.2147 1.3090 0.8345 0.7183 1.1684 0.9054  
 0.8875 0.7352 1.8130 1.1579 0.9270 1.1782  
 0.5874 0.4537 1.1978 1.6602 0.5336 0.9281  
 1.5273 1.4526 0.9604 0.3793 1.7089 1.3708  
 1.1351 1.0253 1.2832 0.8441 1.3201 1.8190

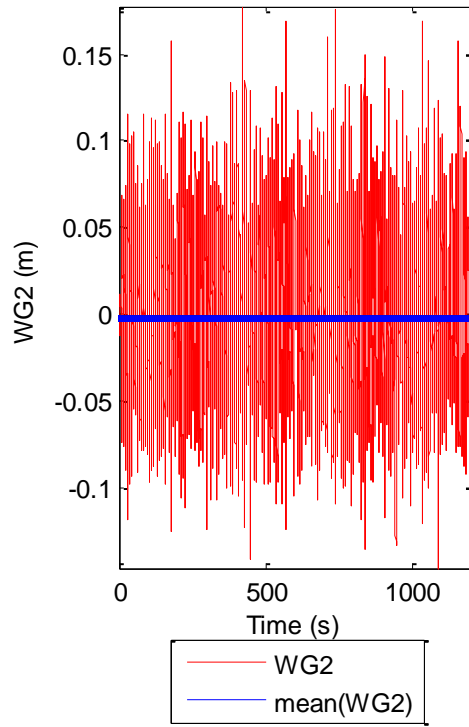
**2.3 Παρουσίαση χρονοσειρών (C7) T1419+T1421\_1.6\_0.1\_SB\_0\_R**

<b>Πίνακας 2.3.1</b>	<b>Χαρακτηριστικά Πειράματος</b>
Τύπος μοντέλου	SB
Ύψος κύματος (m)	0.100
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	0
Περιστροφή η μη του Ρότορα	Περιστροφή

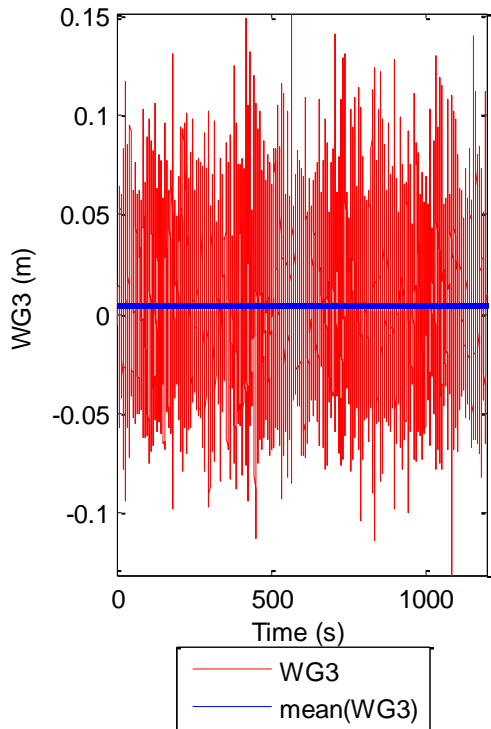
(1) Time History of WG1



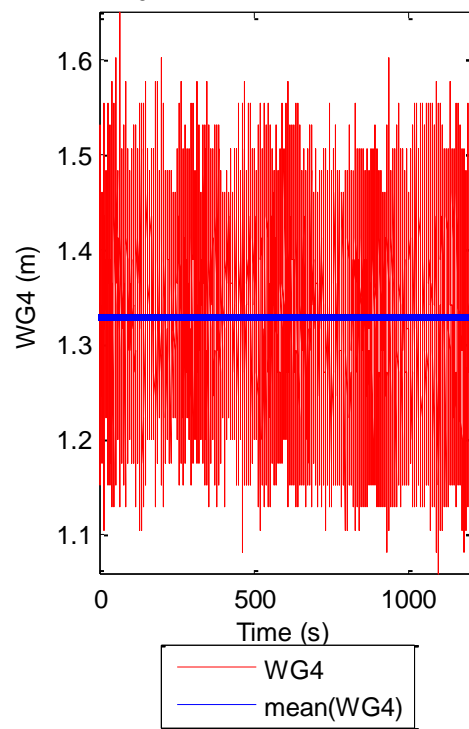
(2) Time History of WG2



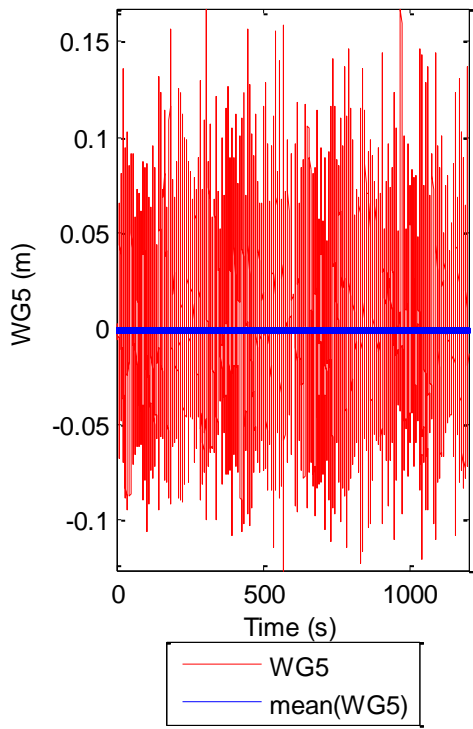
(3) Time History of WG3



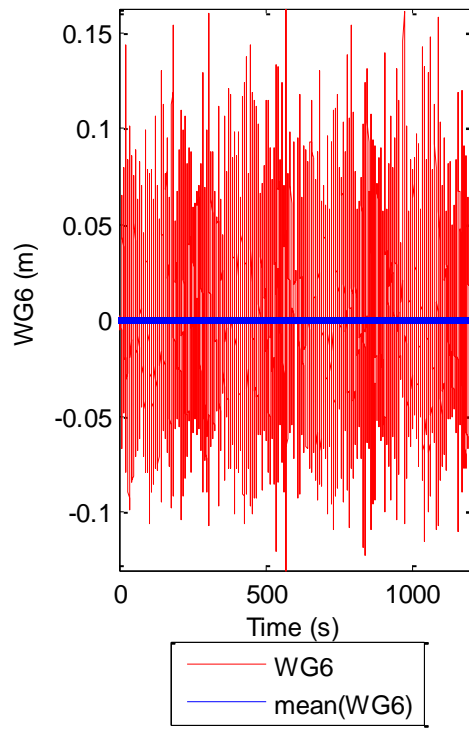
$\times 10^{-3}$  (4) Time History of WG4



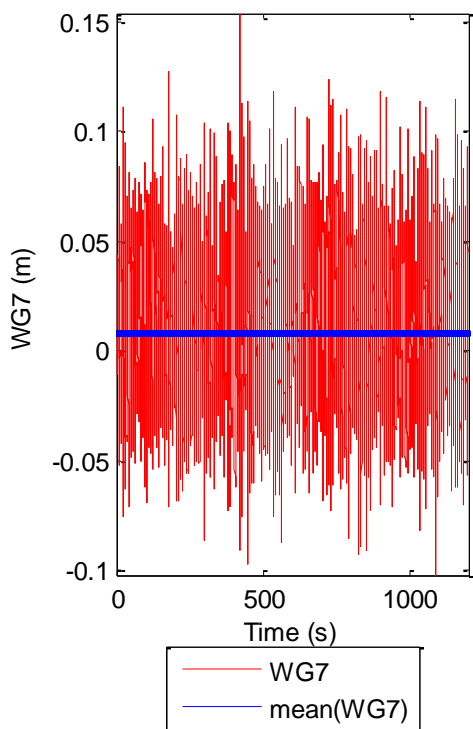
(5) Time History of WG5



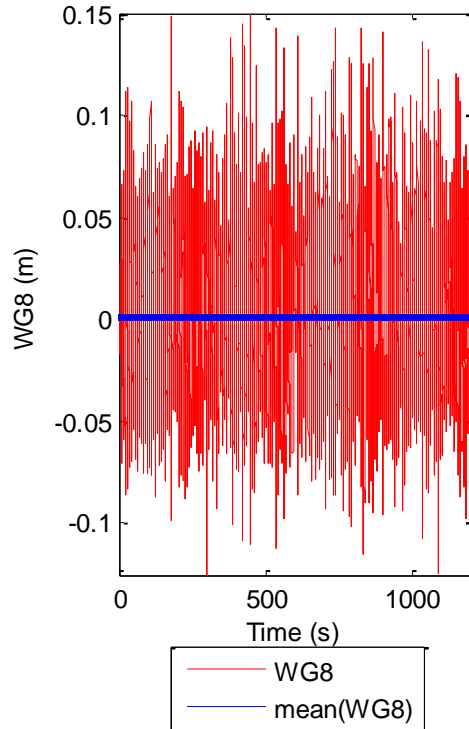
(6) Time History of WG6

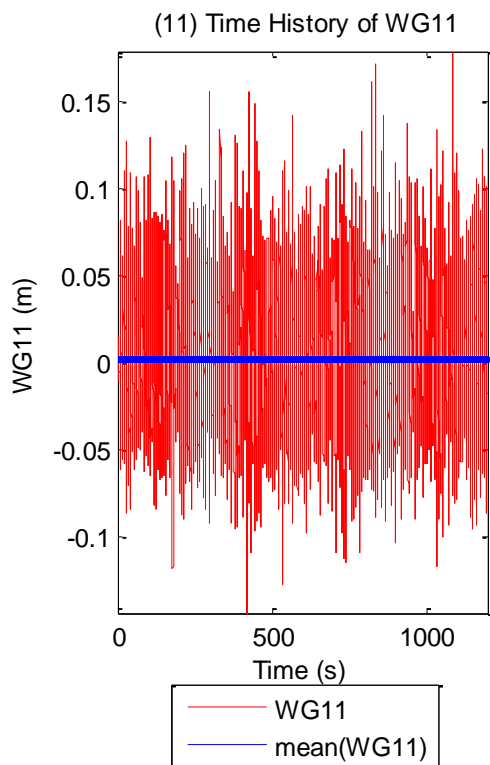
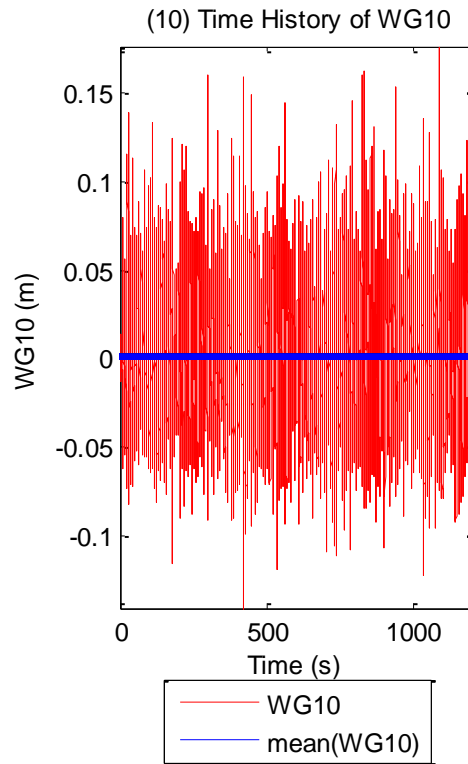
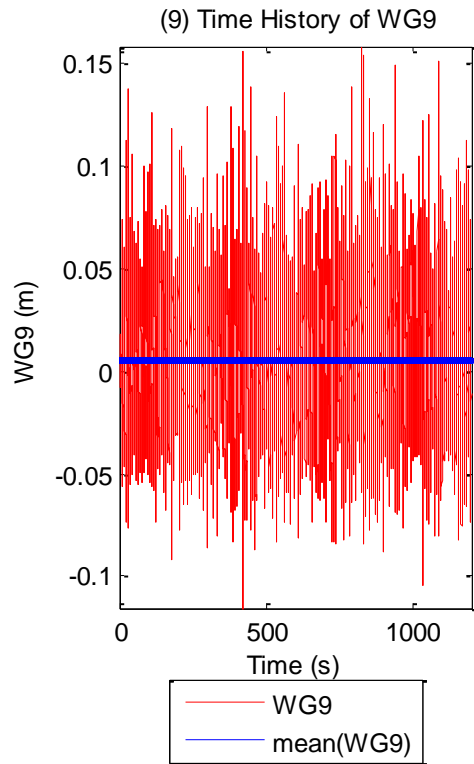


(7) Time History of WG7



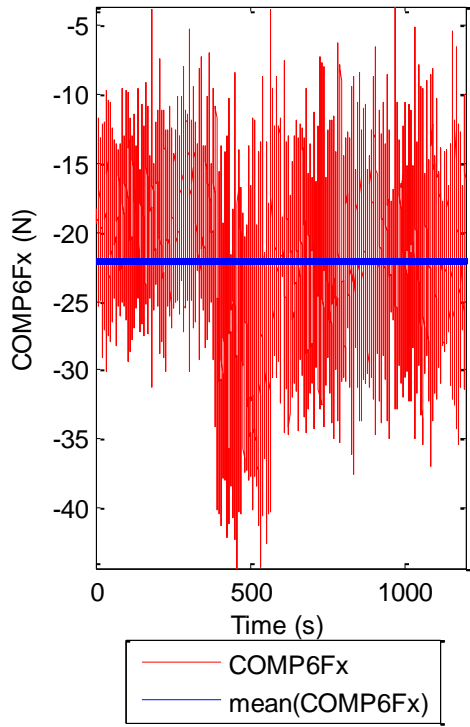
(8) Time History of WG8



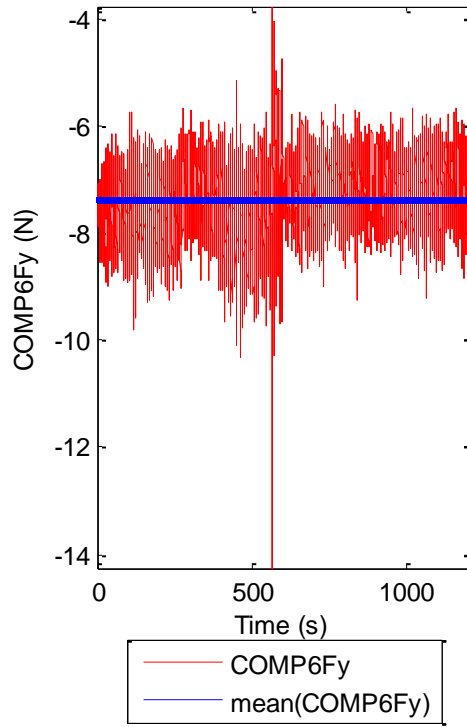


**Σχήματα 2.3.1.1 (1-6)** Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

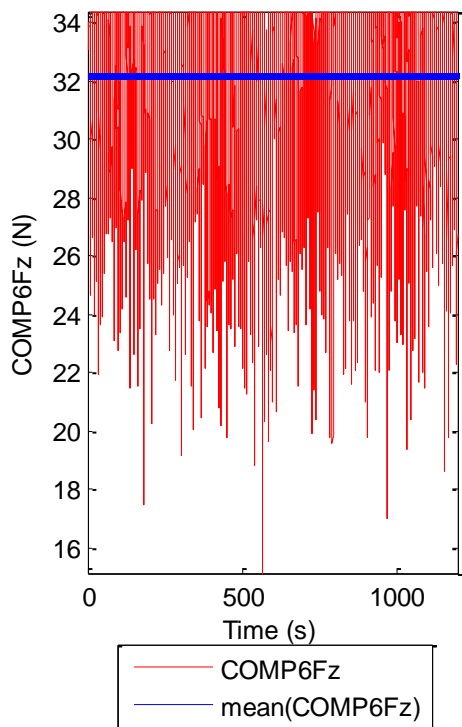
(1) Time History of COMP6Fx



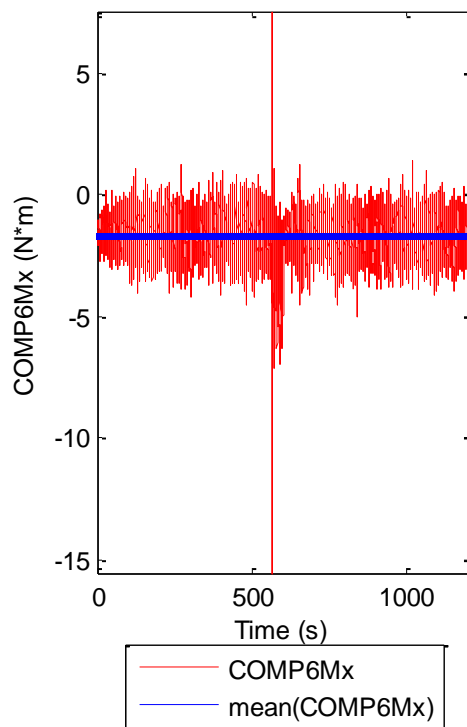
(2) Time History of COMP6Fy



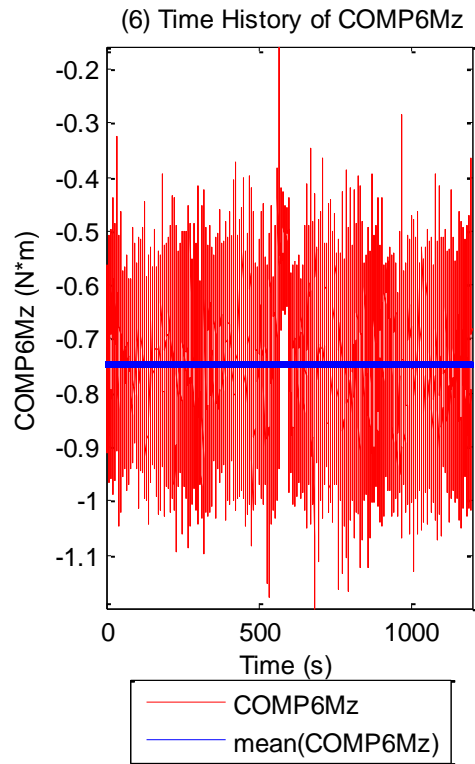
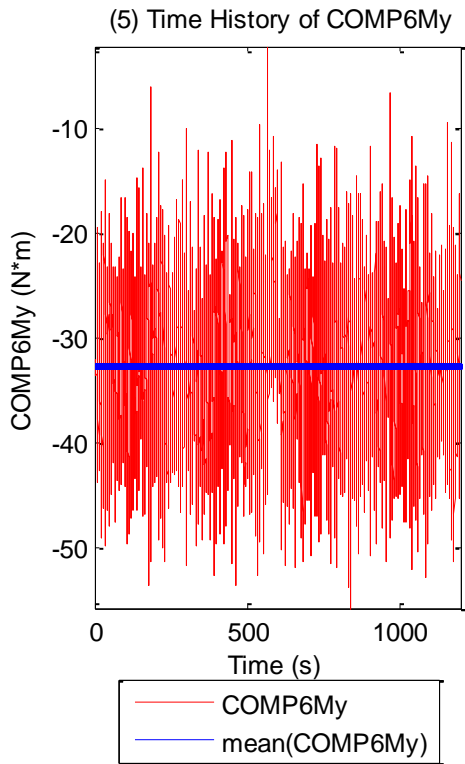
(3) Time History of COMP6Fz



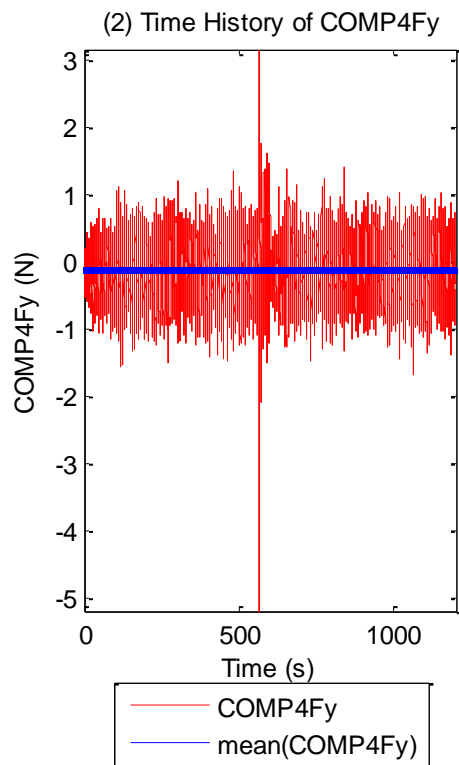
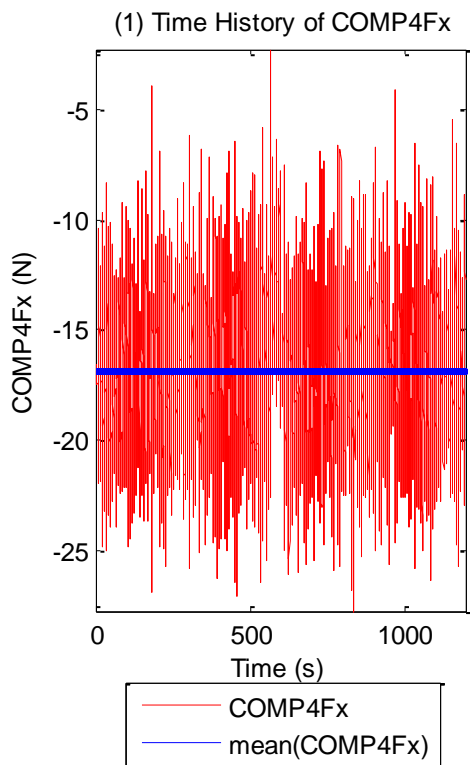
(4) Time History of COMP6Mx

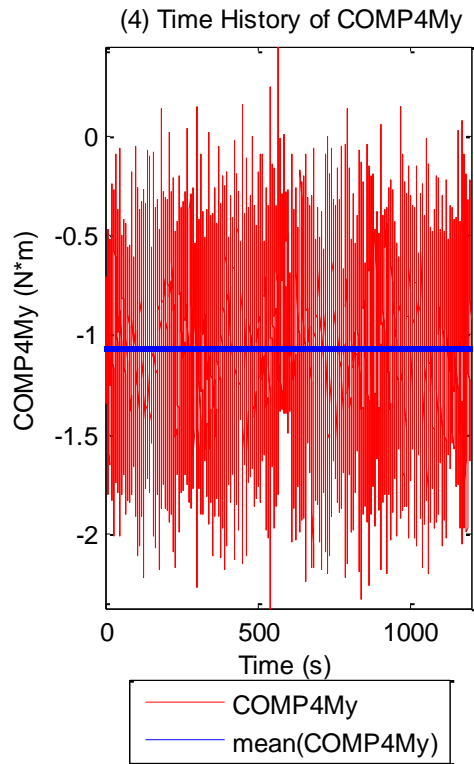
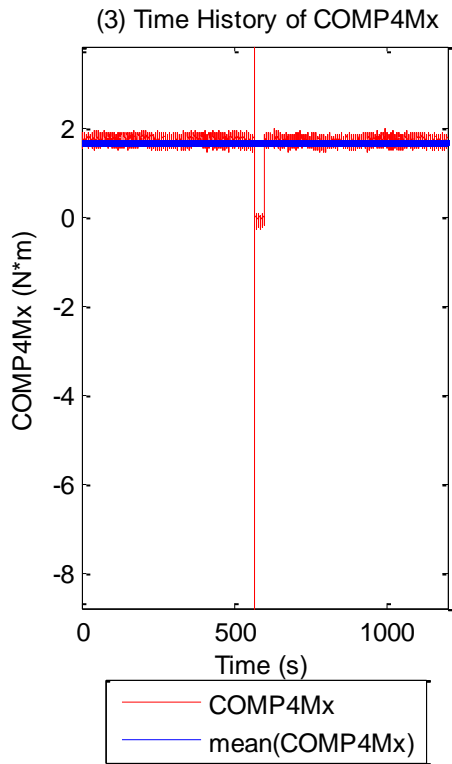




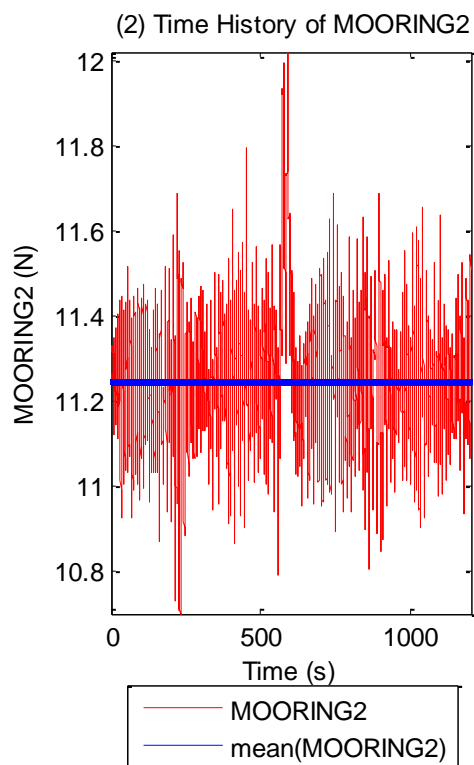
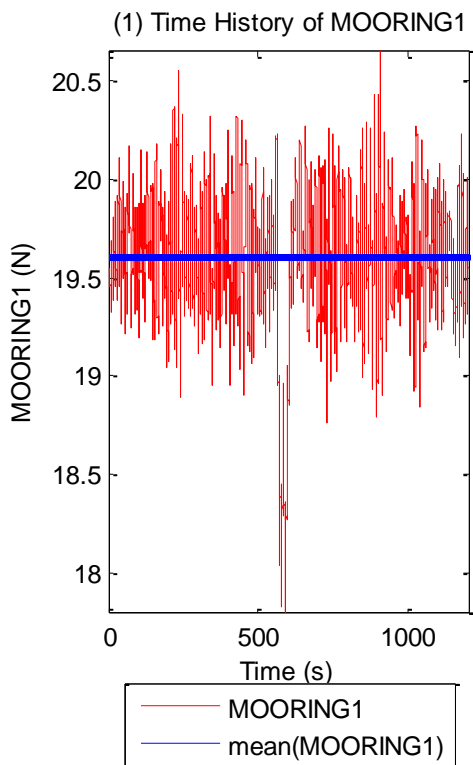


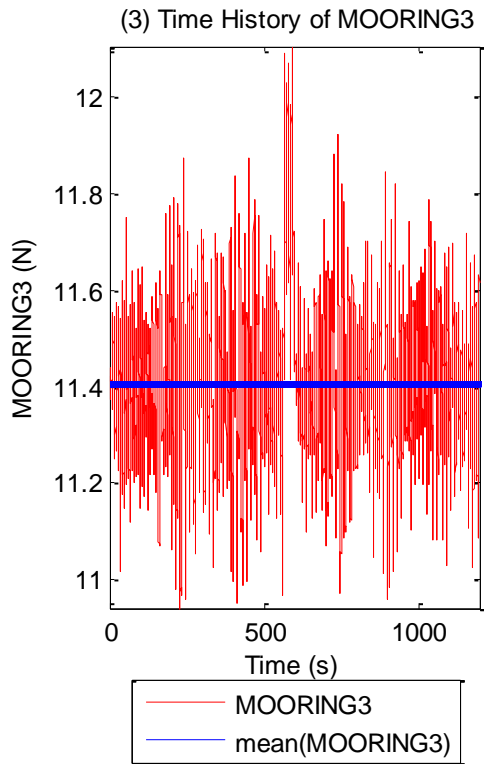
**Σχήματα 2.3.1.2** Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



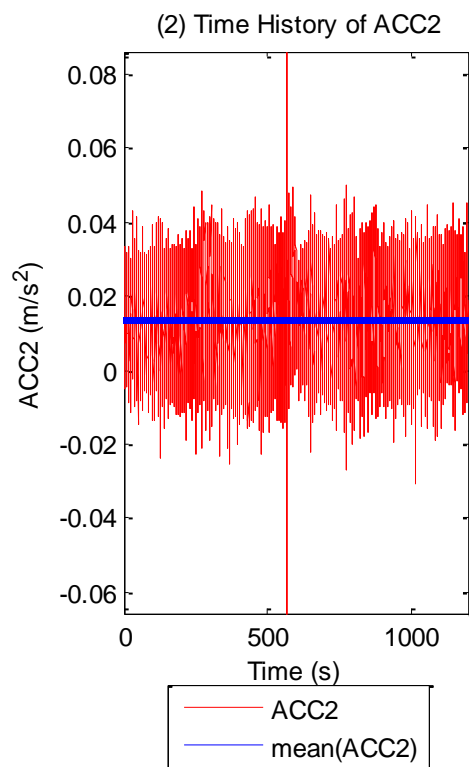
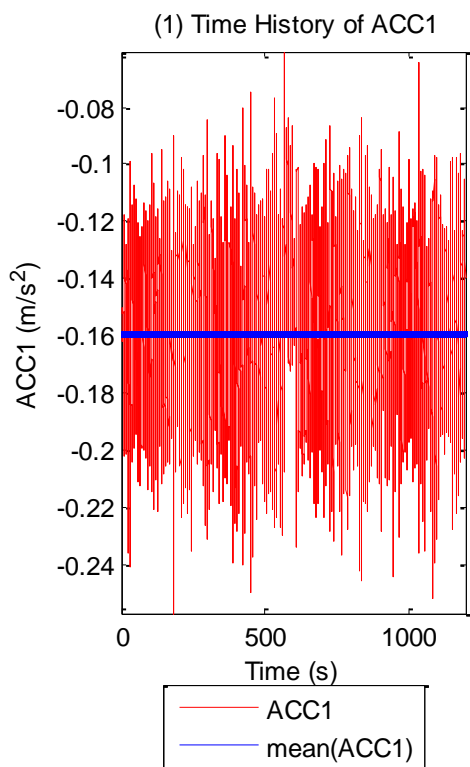


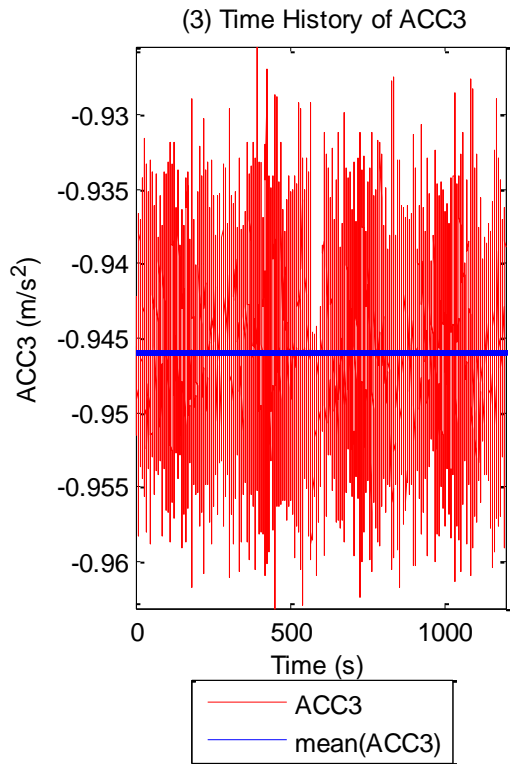
**Σχήματα 2.3.1.3** Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



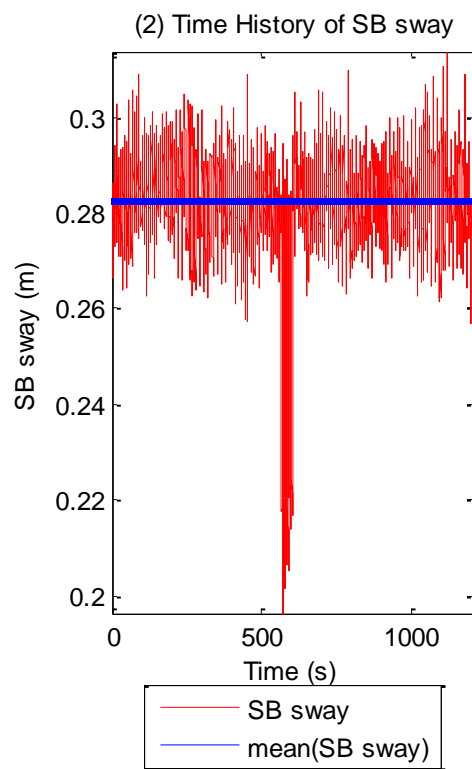
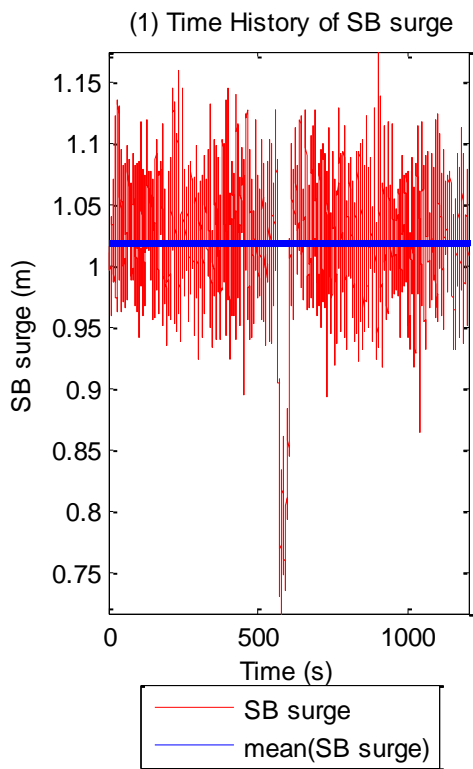


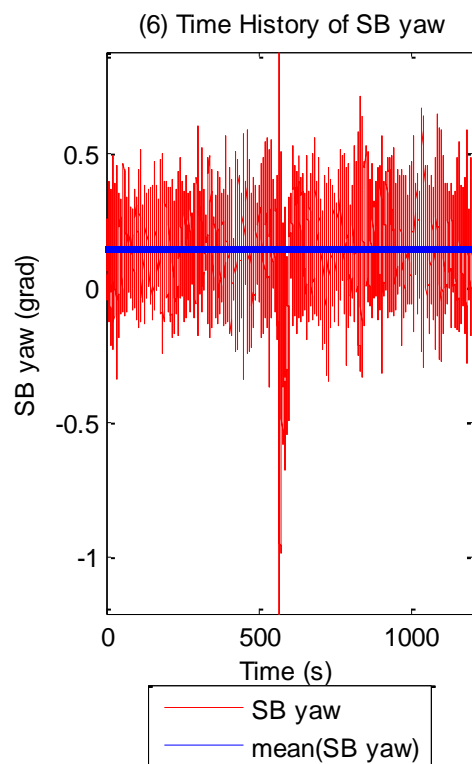
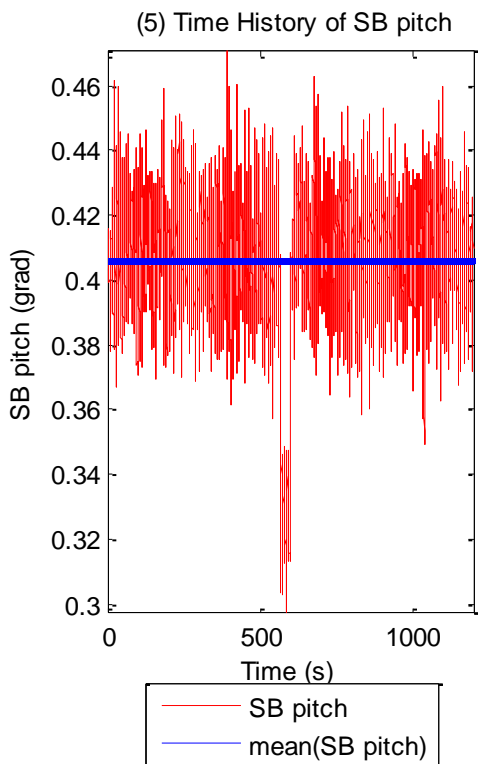
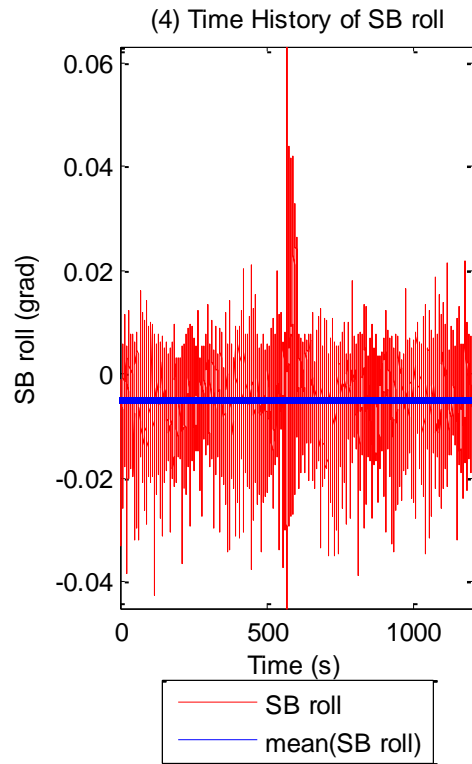
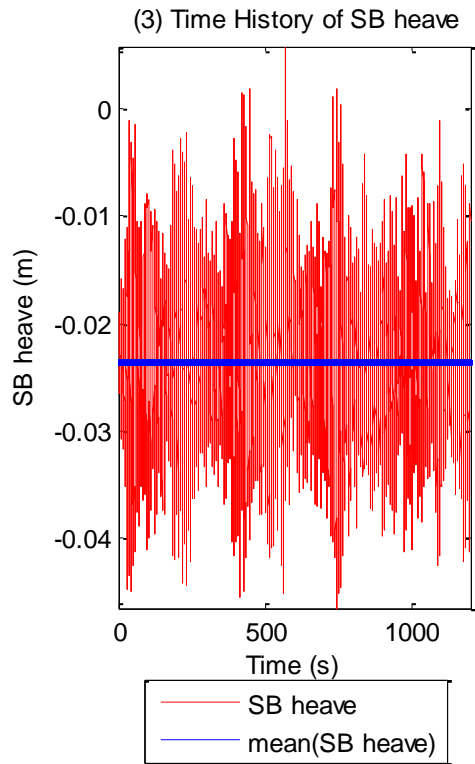
**Σχήματα 2.3.1.4** Χρονοσειρές για τις δυνάμεις στις τρεις γραμμές αγκύρωσης (1-3) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές





**Σχήματα 2.3.1.5 (1-3)** Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3





**Σχήματα 2.3.1.6** Χρονοσειρές για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

<b>Πίνακας 2.3.2</b>					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H <sub>rms</sub>
Wg1 (m)	-0.0066	0.0451	-0.1703	0.1967	0.1250
Wg2 (m)	-0.0019	0.0415	-0.1468	0.1776	0.1150
Wg3 (m)	0.0044	0.0343	-0.1312	0.1512	0.0947
Wg4 (m)	0.0013	0.0001	0.0011	0.0016	0.0002
Wg5 (m)	-0.0002	0.0387	-0.1259	0.1672	0.0379
Wg6 (m)	0.0000	0.0389	-0.1305	0.1629	0.0378
Wg7 (m)	0.0080	0.0309	-0.1023	0.1542	0.0303
Wg8 (m)	0.0018	0.0364	-0.1253	0.1503	0.0358
Wg9 (m)	0.0055	0.0328	-0.1154	0.1577	0.0327
Wg10 (m)	0.0015	0.0367	-0.1406	0.1760	0.0363
Wg11 (m)	0.0019	0.0376	-0.1435	0.1784	0.0372
6comp_Fx (N)	-22.1091	5.3990	-44.3782	-3.5857	4.5388
6comp_Fy(N)	-7.3599	0.5896	-14.2564	-3.7783	0.6699
6comp_Fz (N)	32.1715	2.8852	15.1226	34.3768	3.2130
6comp_Mx (N*m)	-1.6908	0.8634	-15.5543	7.5473	1.0801
6comp_My (N*m)	-32.6785	5.9773	-55.7404	-2.1240	7.0966
6comp_Mz (N*m)	-0.7466	0.1015	-1.1986	-0.1577	0.2002
4comp_Fx (N)	-16.8722	2.9119	-27.7576	-2.2628	3.6901
4comp_Fy (N)	-0.1273	0.3846	-5.1988	3.1683	0.5964
4comp_Mx (N*m)	1.6677	0.3482	-8.7679	3.8318	0.2055

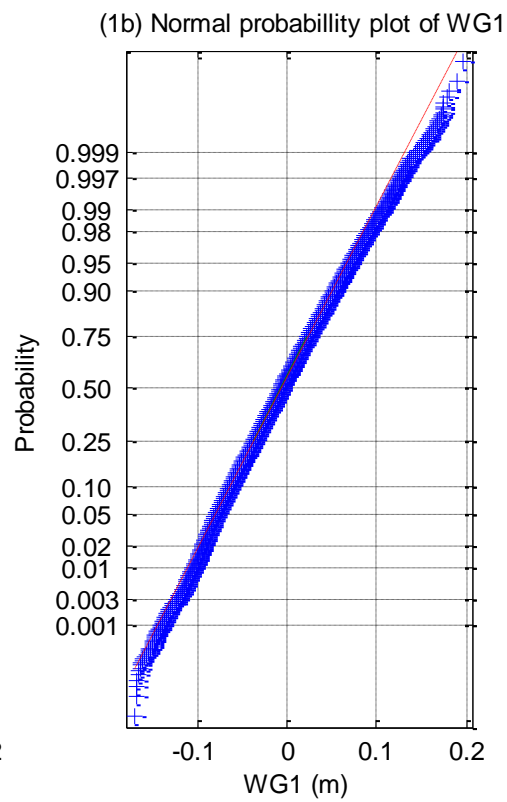
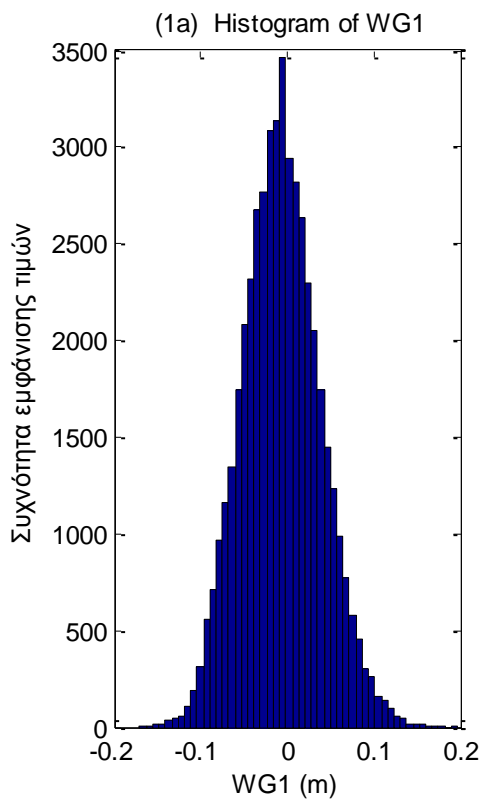
4comp_My (N*m)	-1.0625	0.3115	-2.3711	0.4471	0.4933
Mooring_1 (N)	19.6060	0.3294	17.7905	20.6509	0.1389
Mooring_2 (N)	11.2459	0.1487	10.6990	12.0199	0.0798
Mooring_3 (N)	11.4070	0.1551	10.9405	12.1068	0.0812
Acc_1 (G)	-0.1591	0.0253	-0.2573	-0.0605	0.0305
Acc_2 (G)	0.0134	0.0093	-0.0657	0.0861	0.0184
Acc_3 (G)	-0.9459	0.0045	-0.9631	-0.9254	0.0064
SB_x (m)	1.0202	0.0522	0.7178	1.1749	0.0292
SB_y (m)	0.2824	0.0104	0.1964	0.3137	0.0083
SB_z (m)	-0.0235	0.0070	-0.0465	0.0058	0.0059
SB_roll (grad)	-0.0047	0.0066	-0.0450	0.0631	0.0079
SB_pitch (grad)	0.4059	0.0199	0.2971	0.4704	0.0134
SB_yaw (grad)	0.1481	0.1501	-1.2104	0.8768	0.1516

<b>Πίνακας 2.3.3</b>				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1661	3.0816	1	1
Wg2 (m)	0.1662	3.1067	1	1
Wg3 (m)	0.1692	3.1425	1	1
Wg4 (m)	0.0592	2.6744	1	1
Wg5 (m)	0.2219	3.2430	1	1

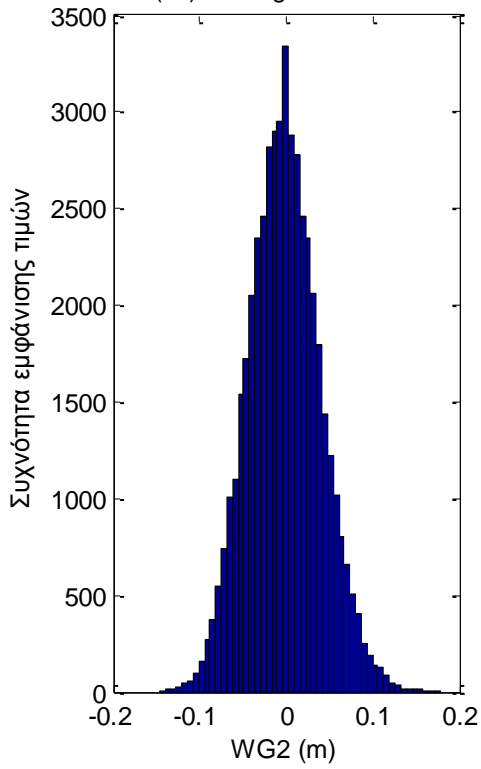
Wg6 (m)	0.2061	3.2119	1	1
Wg7 (m)	0.1754	3.1309	1	1
Wg8 (m)	0.1959	3.1750	1	1
Wg9 (m)	0.2111	3.1909	1	1
Wg10 (m)	0.1786	3.1805	1	1
Wg11 (m)	0.1811	3.1692	1	1
6comp_Fx (N)	-0.5221	3.5073	1	1
6comp_Fy(N)	-0.4059	5.4665	1	1
6comp_Fz (N)	-1.4389	4.7128	1	1
6comp_Mx (N*m)	-1.3146	16.1407	1	1
6comp_My (N*m)	0.1561	3.5484	1	1
6comp_Mz (N*m)	0.1655	3.4629	1	1
4comp_Fx (N)	0.1653	3.4204	1	1
4comp_Fy (N)	0.0431	6.4515	1	1
4comp_Mx (N*m)	-9.4457	175.4835	1	1
4comp_My (N*m)	-0.0048	3.5427	1	1
Mooring_1 (N)	-1.4170	8.3766	1	1
Mooring_2 (N)	0.7769	5.5471	1	1
Mooring_3 (N)	0.4400	4.1220	1	1
Acc_1 (G)	-0.0342	2.8451	1	1
Acc_2 (G)	0.0497	3.8449	1	1
Acc_3 (G)	0.0890	3.3340	1	1
SB_x (m)	-2.0513	11.0001	1	1
SB_y (m)	-3.1430	21.3196	1	1



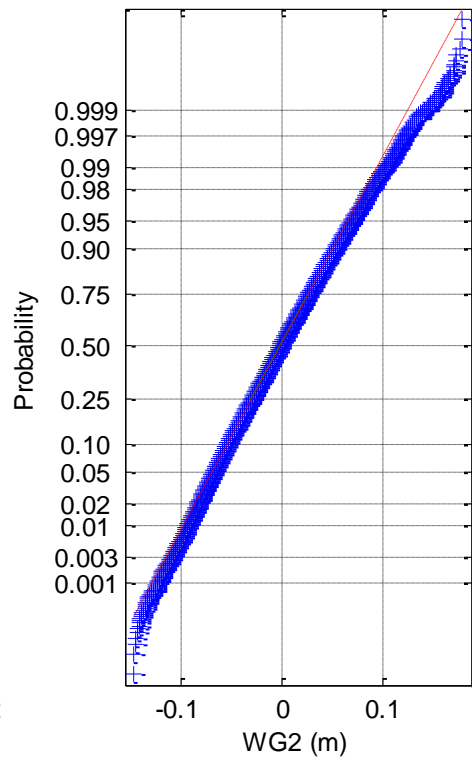
SB_z (m)	0.1562	3.1602	1	1
SB_roll (grad)	1.4534	14.1137	1	1
SB_pitch (grad)	-1.5036	8.1484	1	1
SB_yaw (grad)	-1.1555	9.6786	1	1



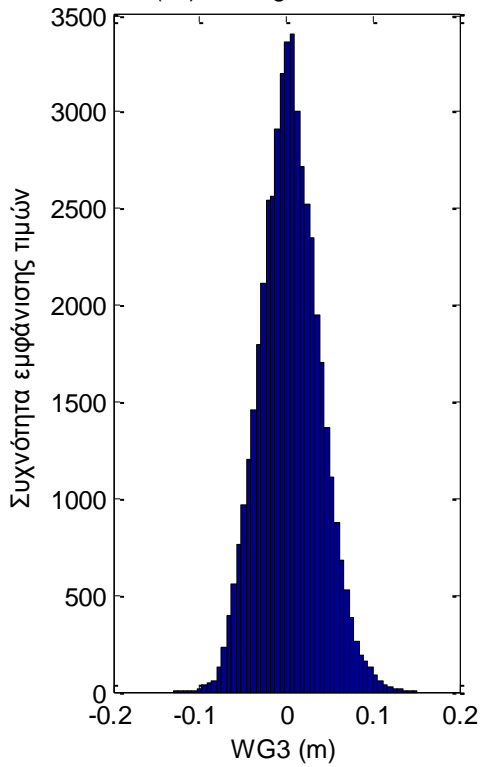
(2a) Histogram of WG2



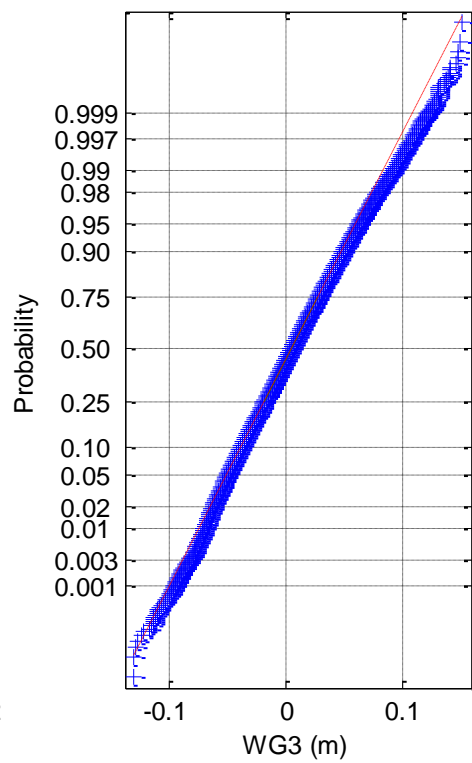
(2b) Normal probability plot of WG2



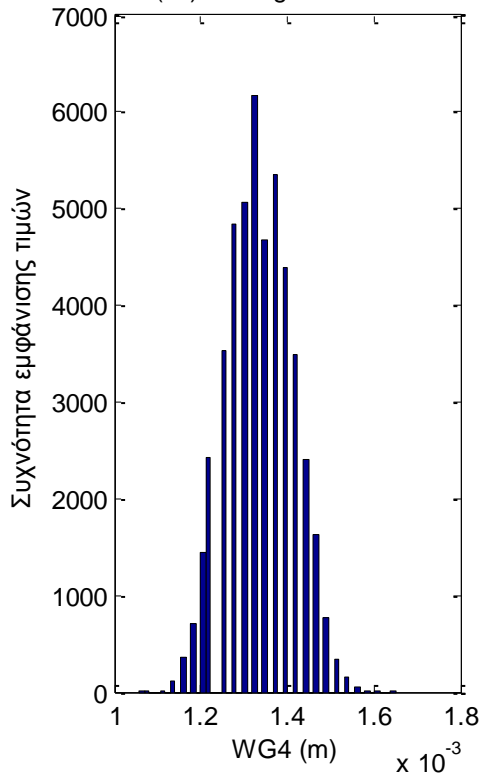
(3a) Histogram of WG3



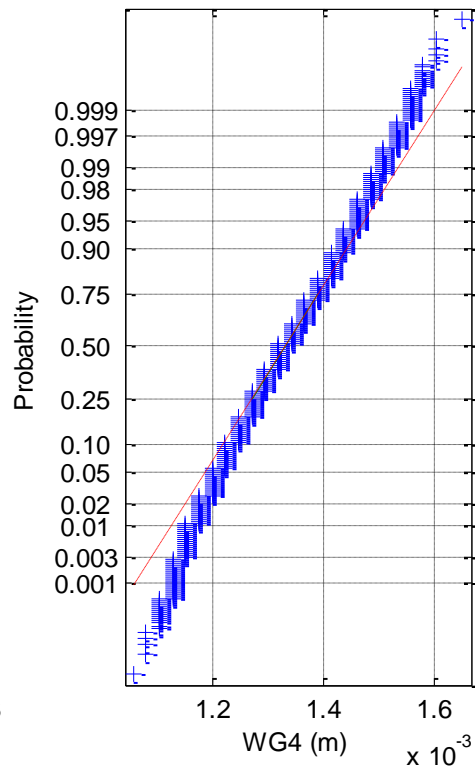
(3b) Normal probability plot of WG3



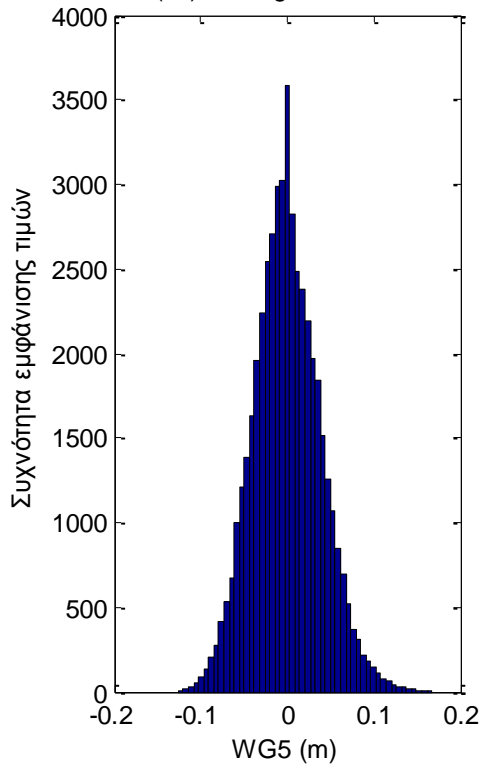
(4a) Histogram of WG4



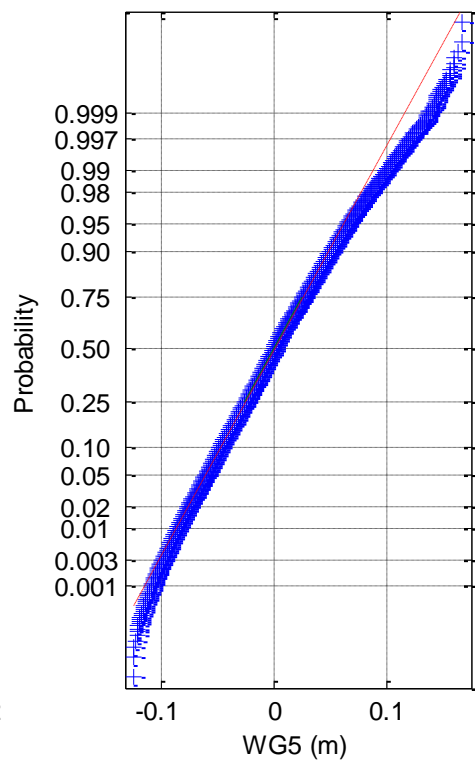
(4b) Normal probability plot of WG4



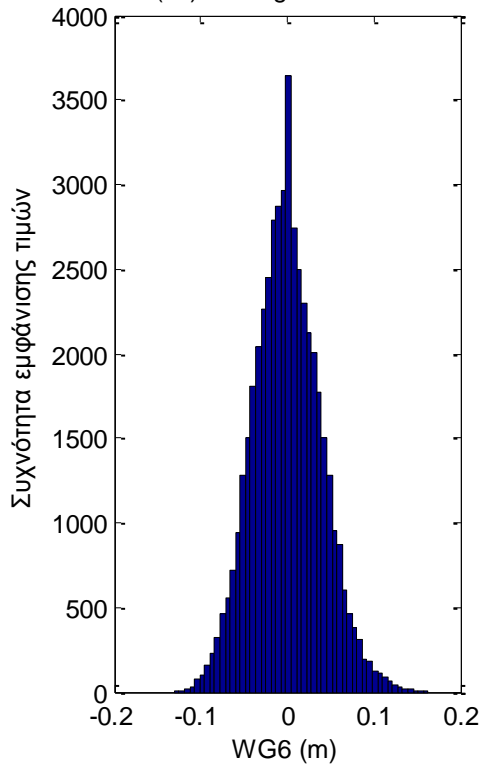
(5a) Histogram of WG5



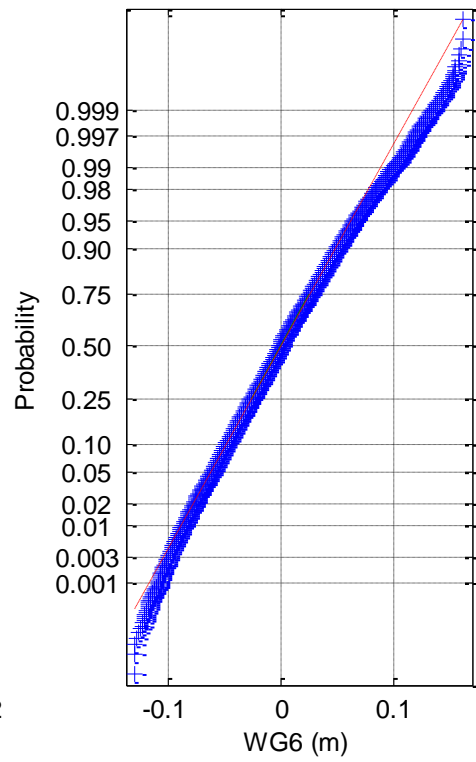
(5b) Normal probability plot of WG5



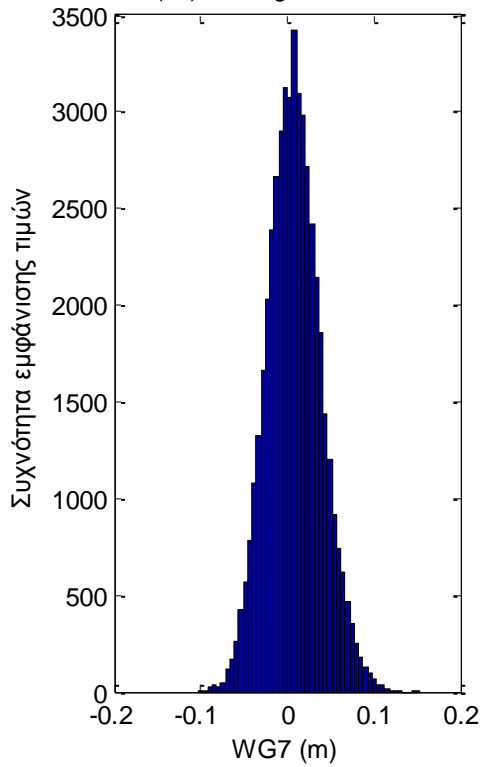
(6a) Histogram of WG6



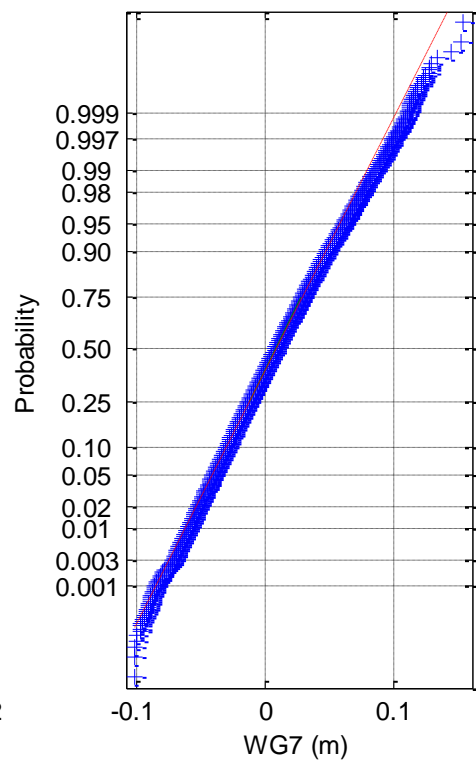
(6b) Normal probability plot of WG6



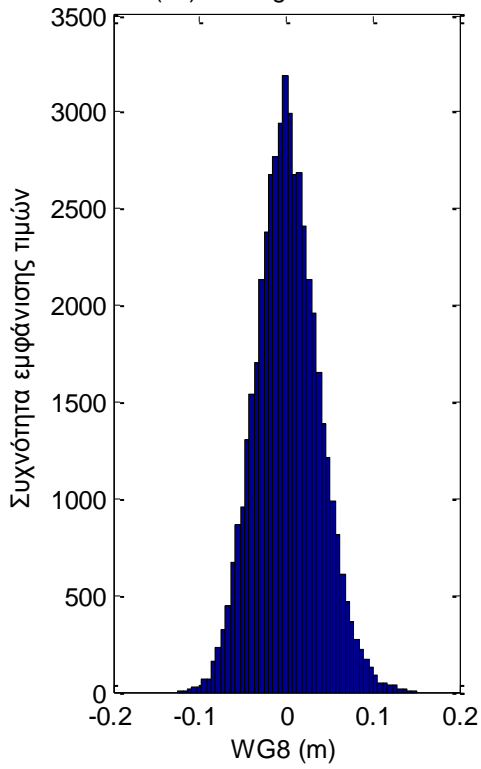
(7a) Histogram of WG7



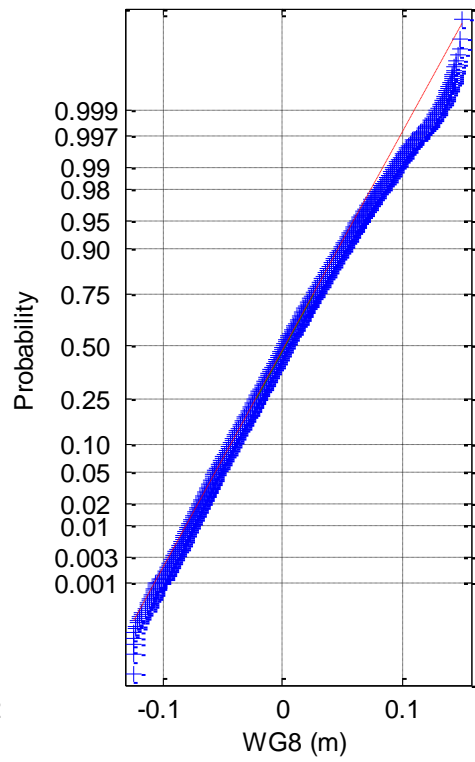
(7b) Normal probability plot of WG7



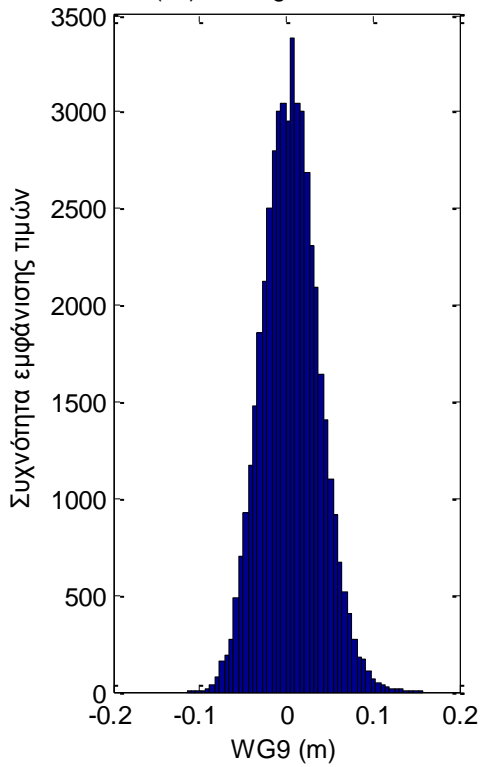
(8a) Histogram of WG8



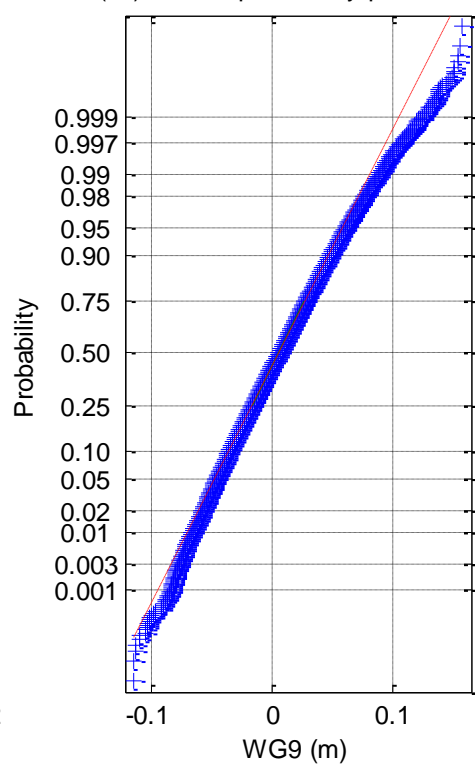
(8b) Normal probability plot of WG8

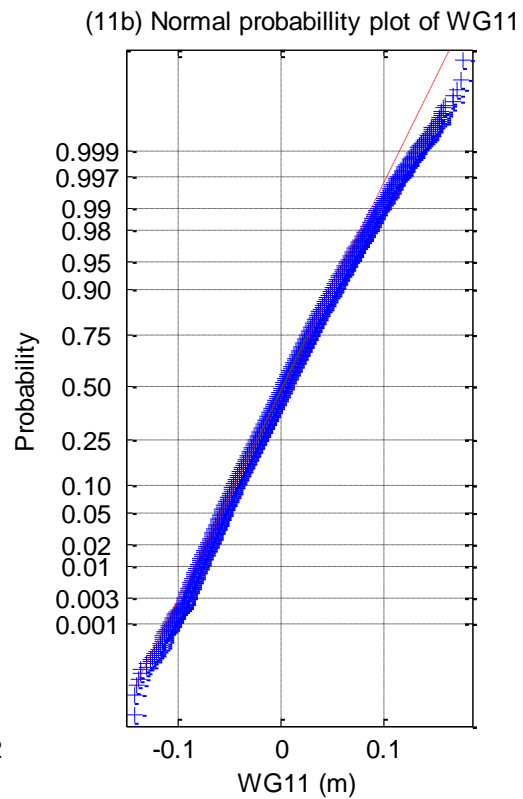
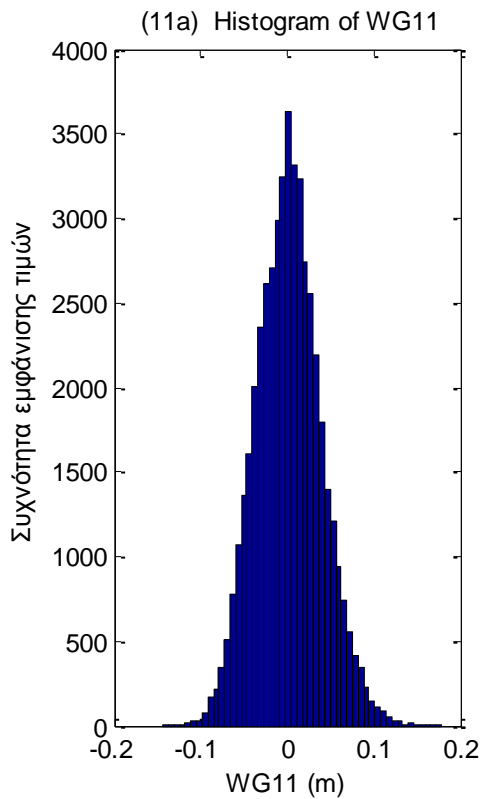
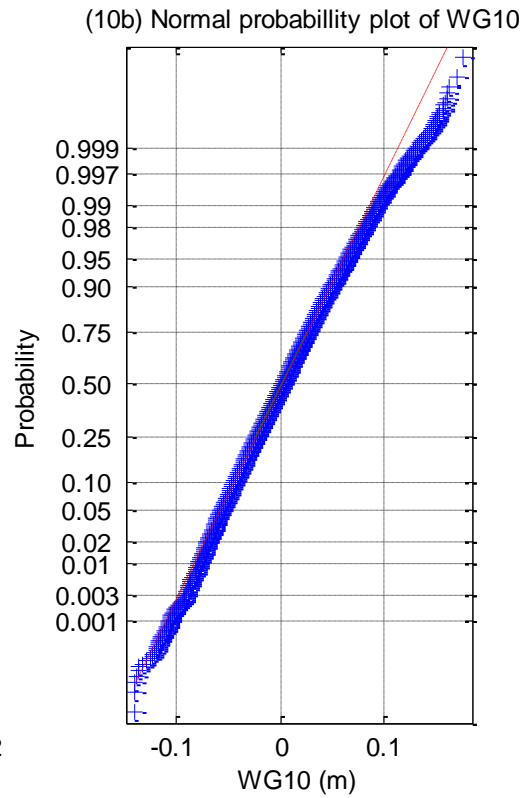
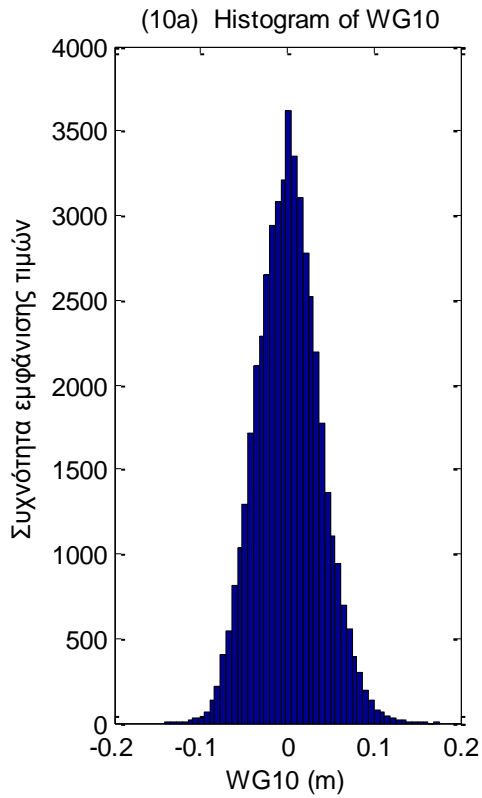


(9a) Histogram of WG9

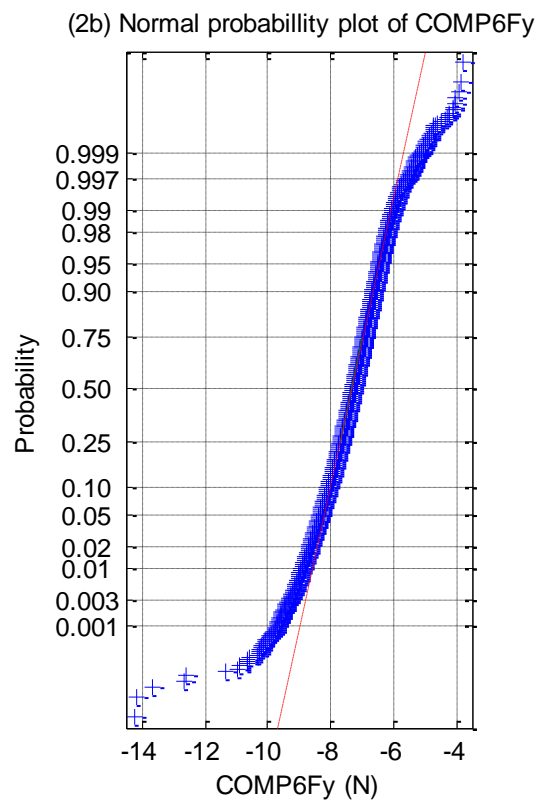
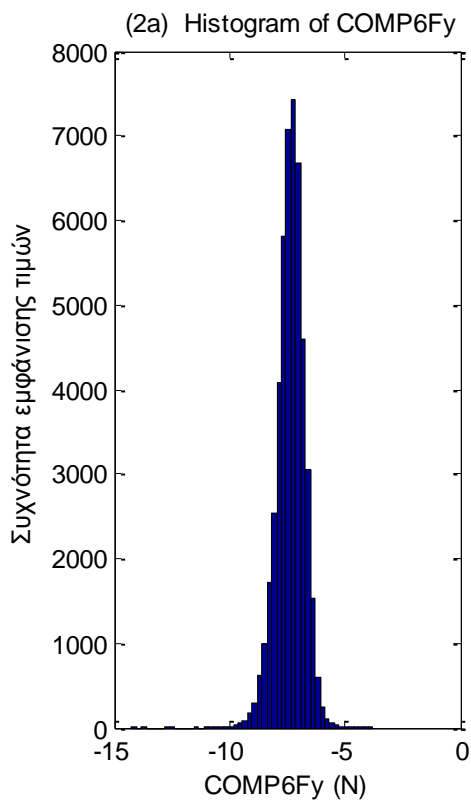
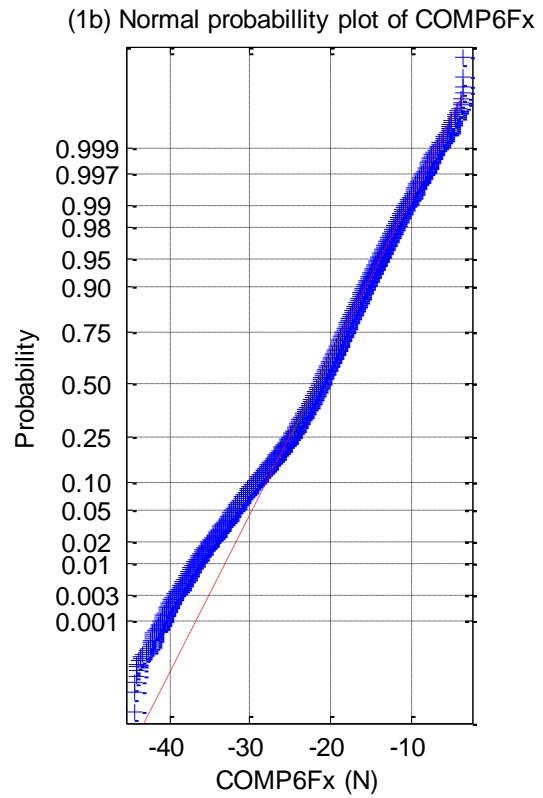
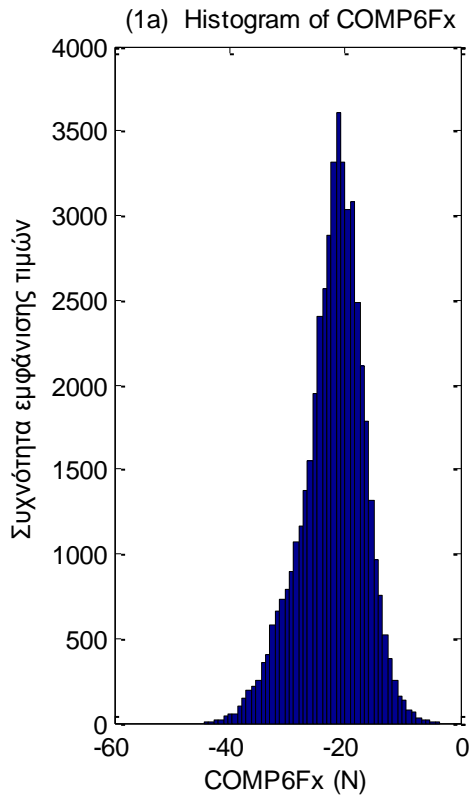


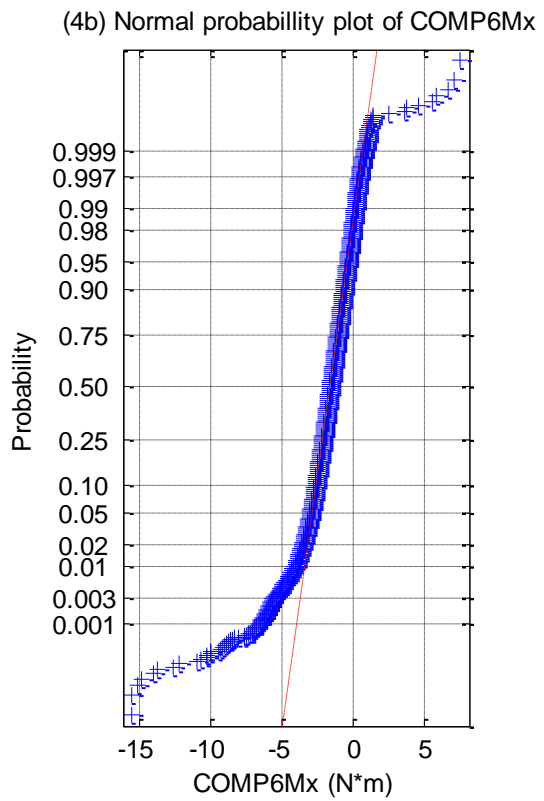
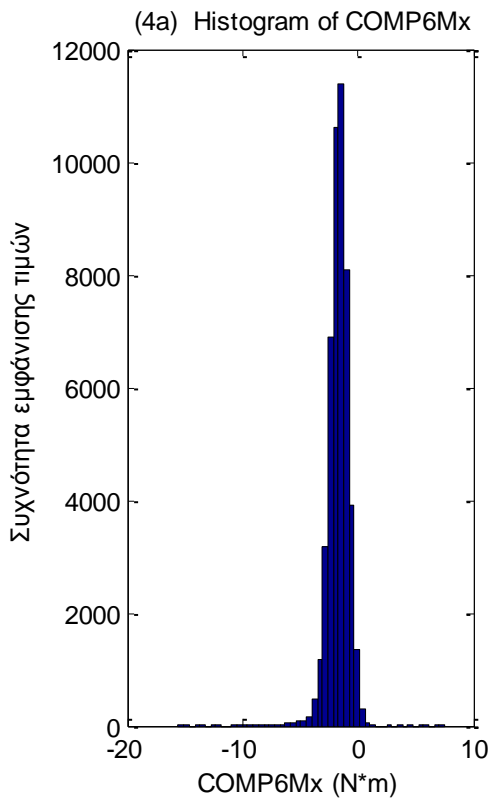
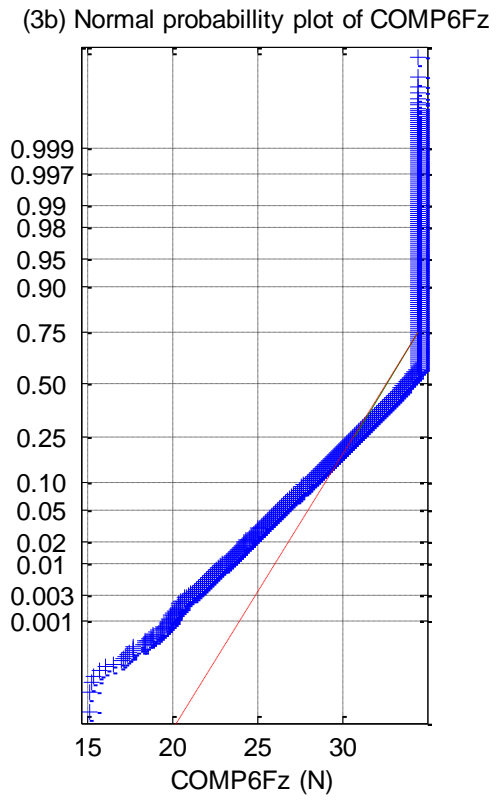
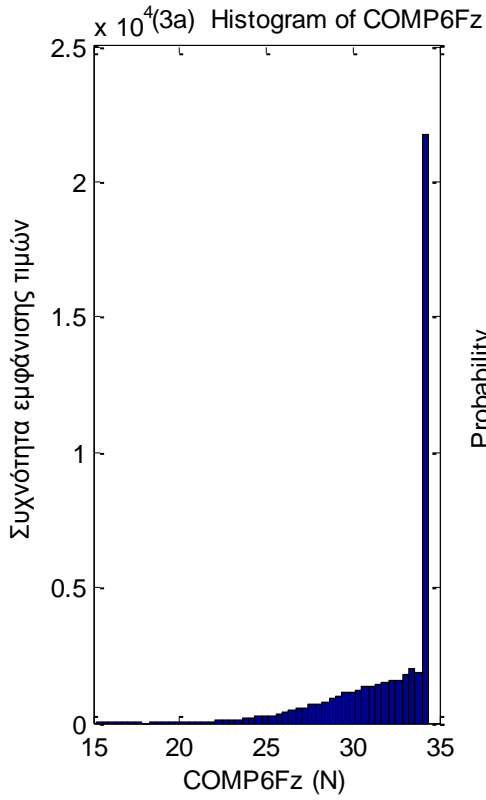
(9b) Normal probability plot of WG9



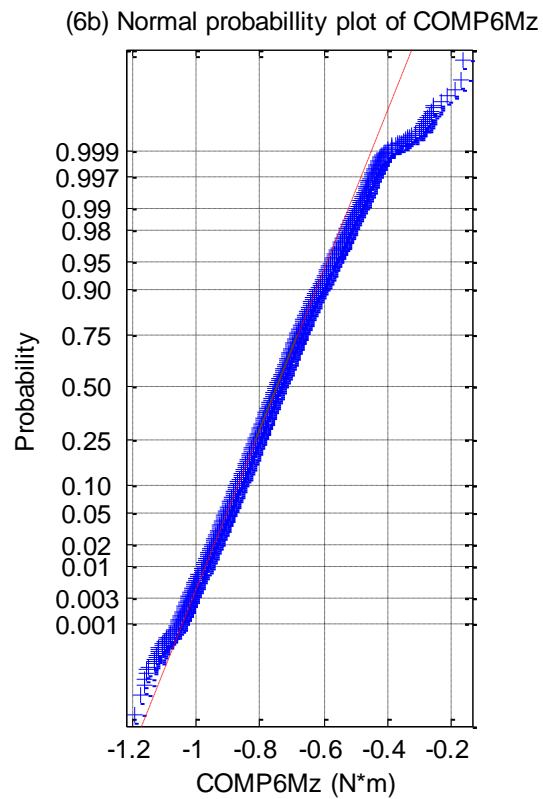
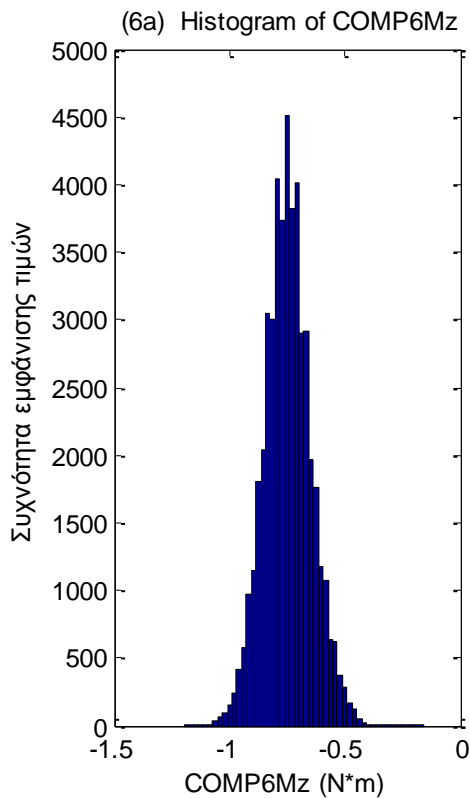
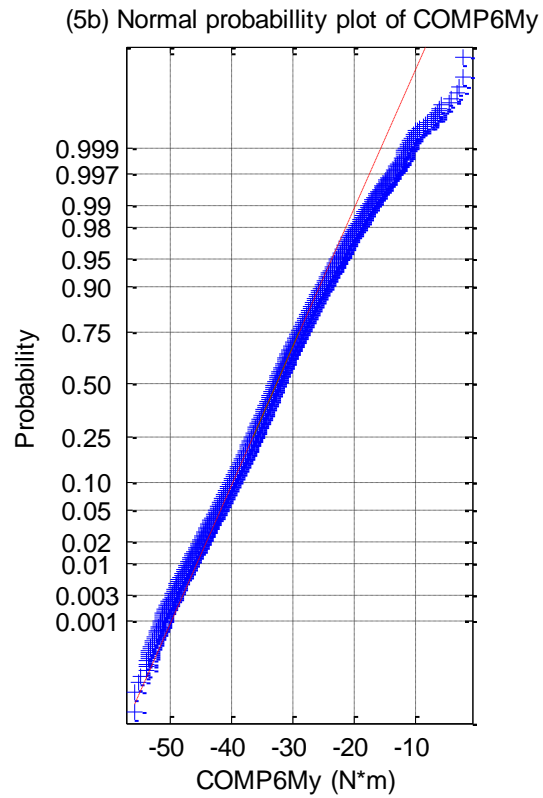
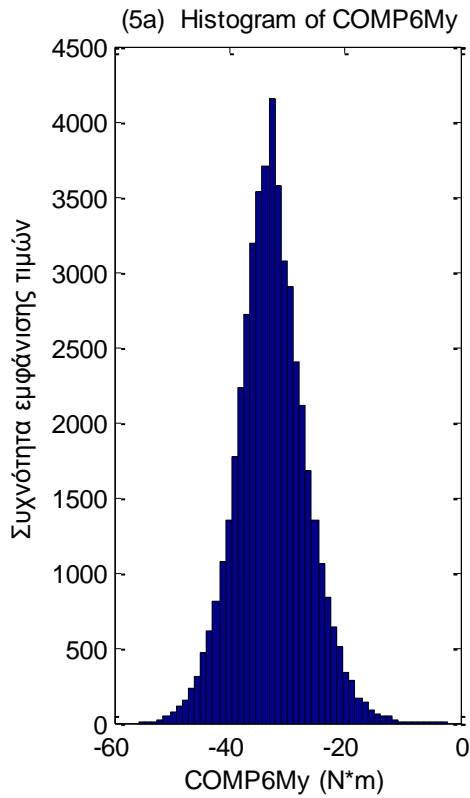


**Σχήματα 2.3.2.1 (1-11)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

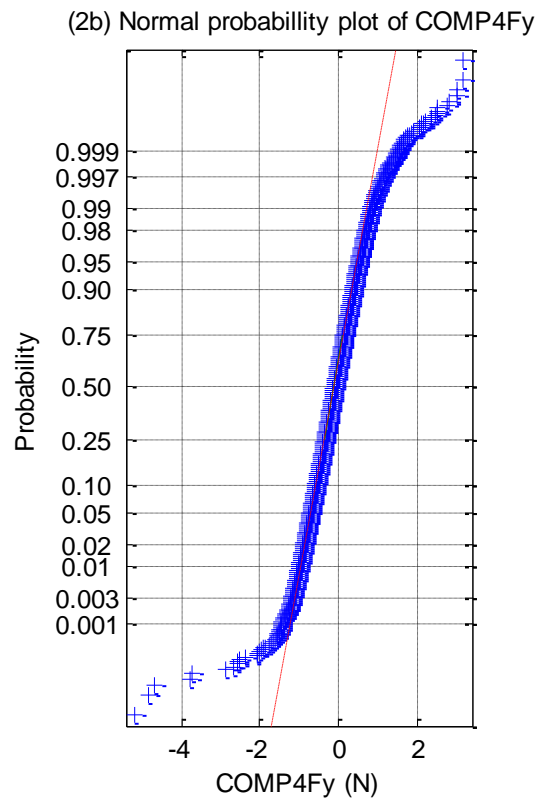
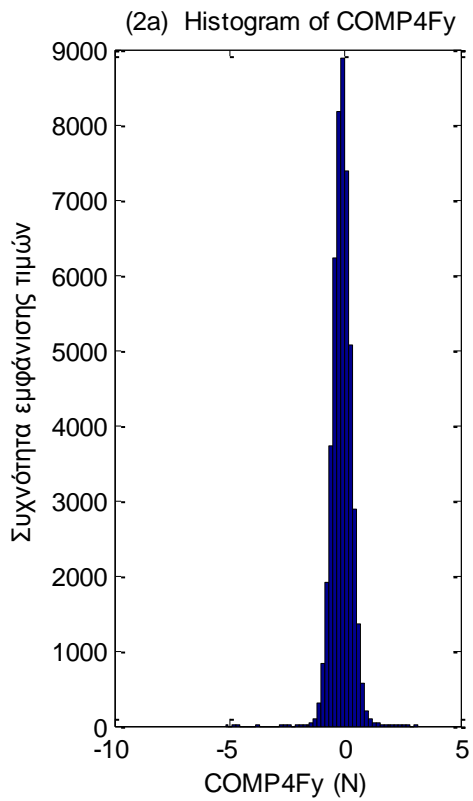
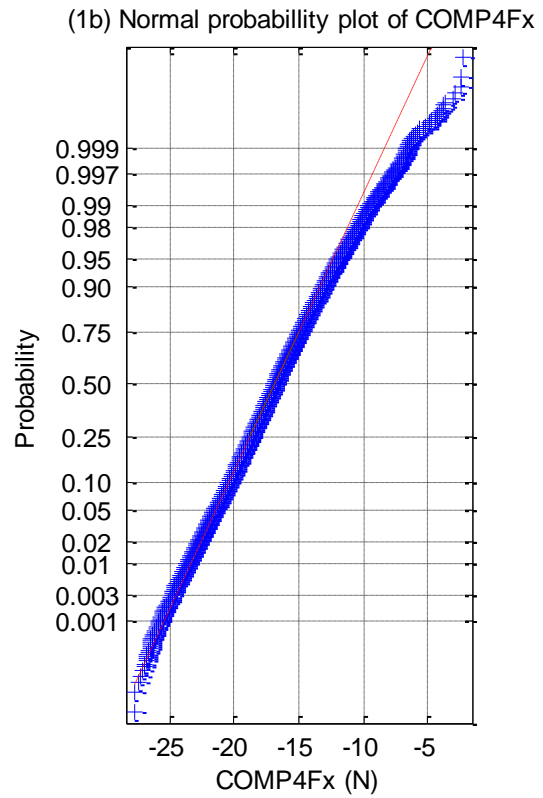
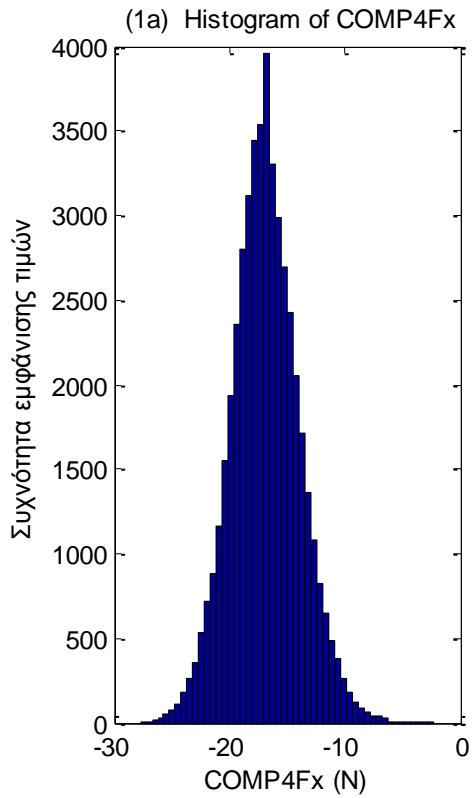


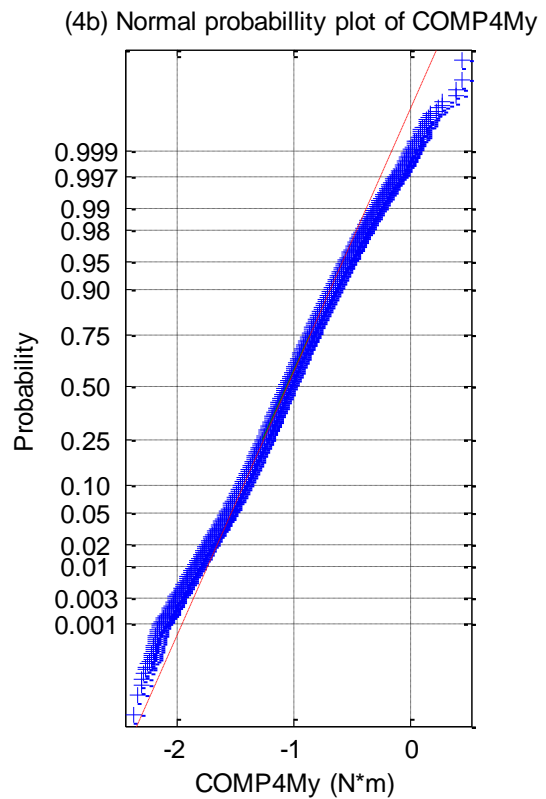
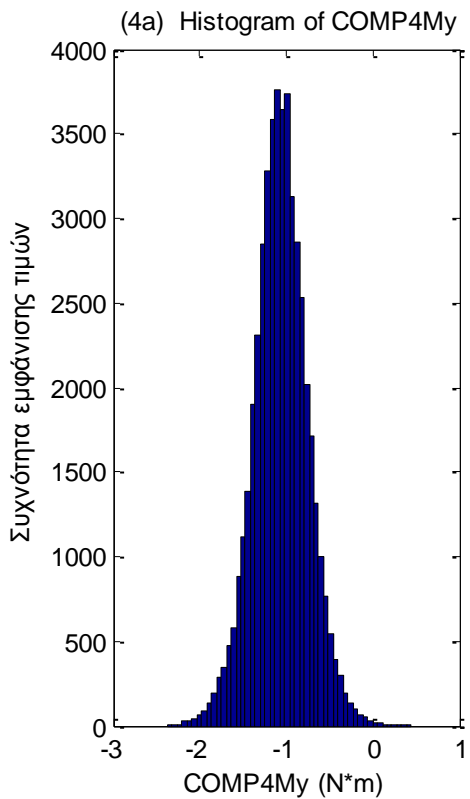
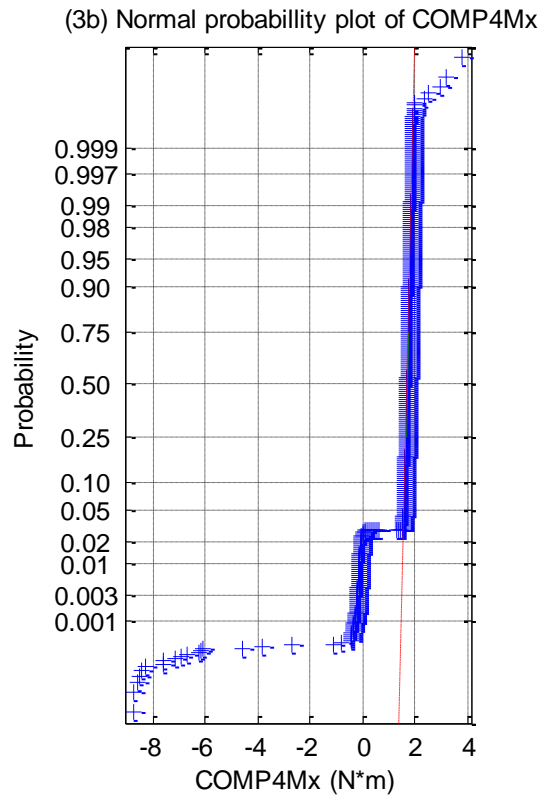
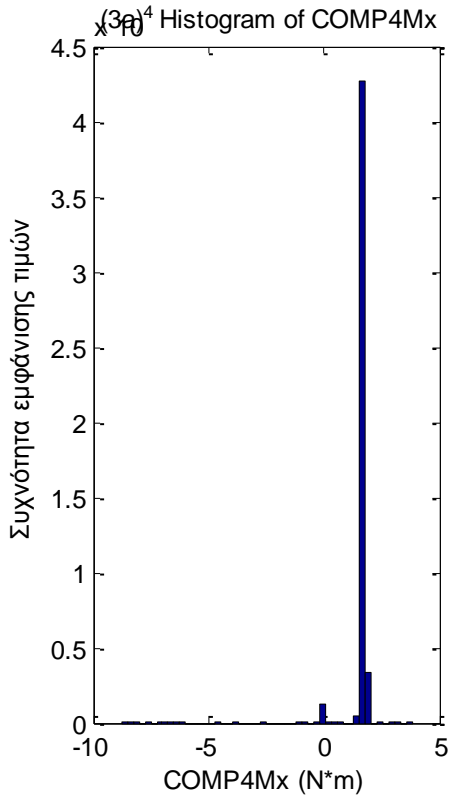




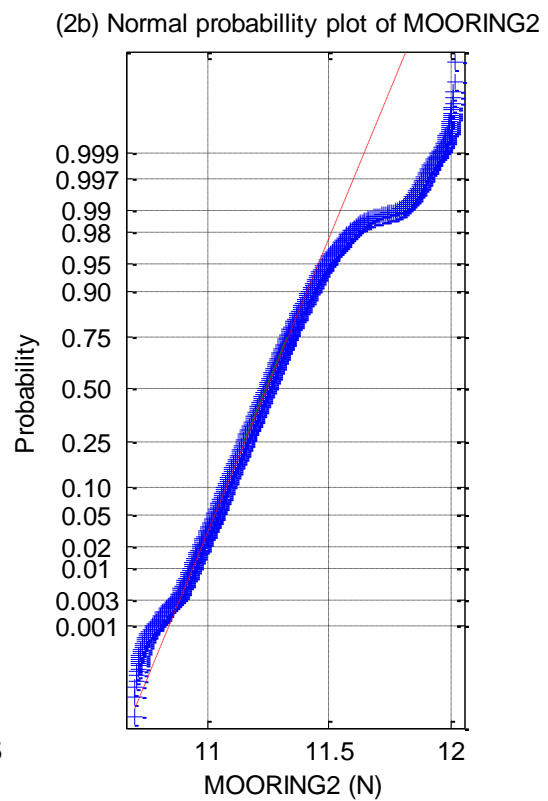
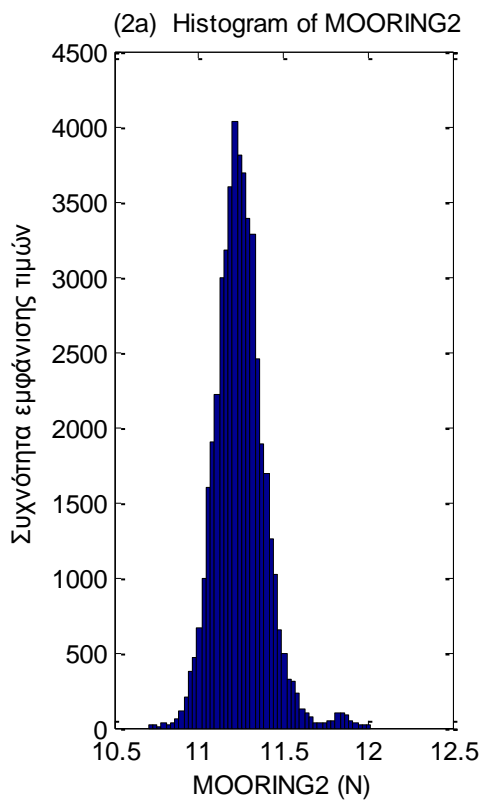
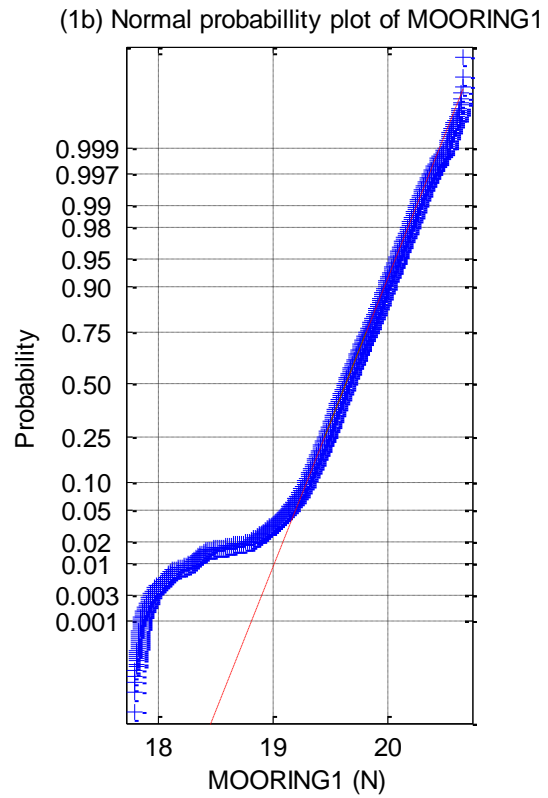
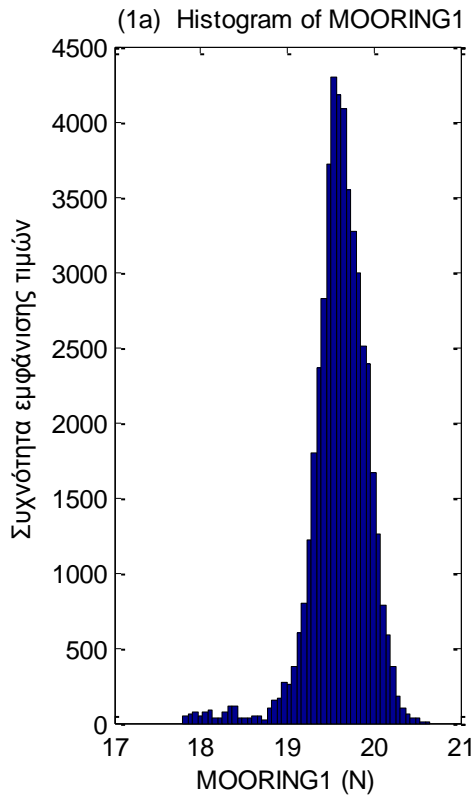


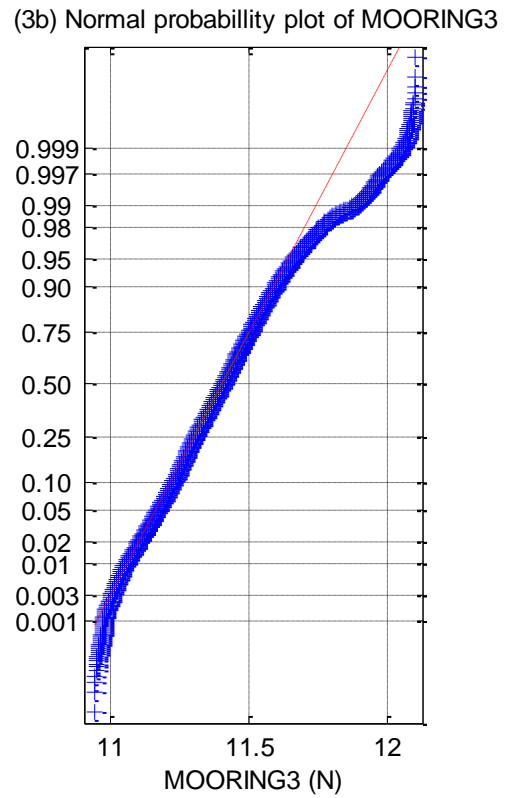
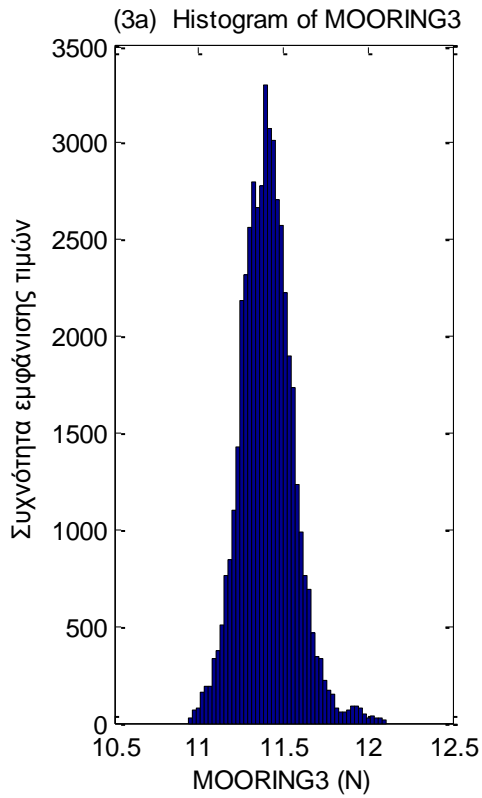
**Σχήματα 2.3.2.2** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



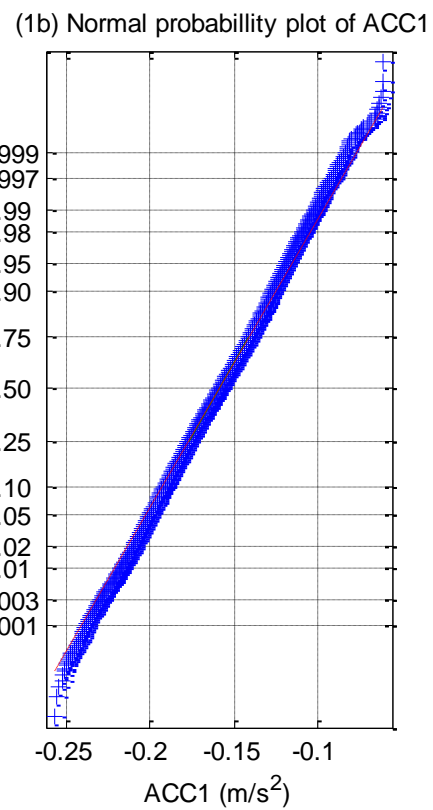
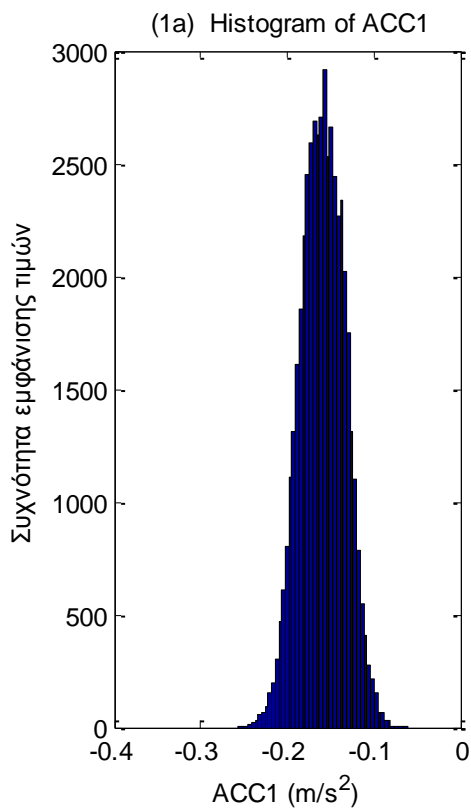


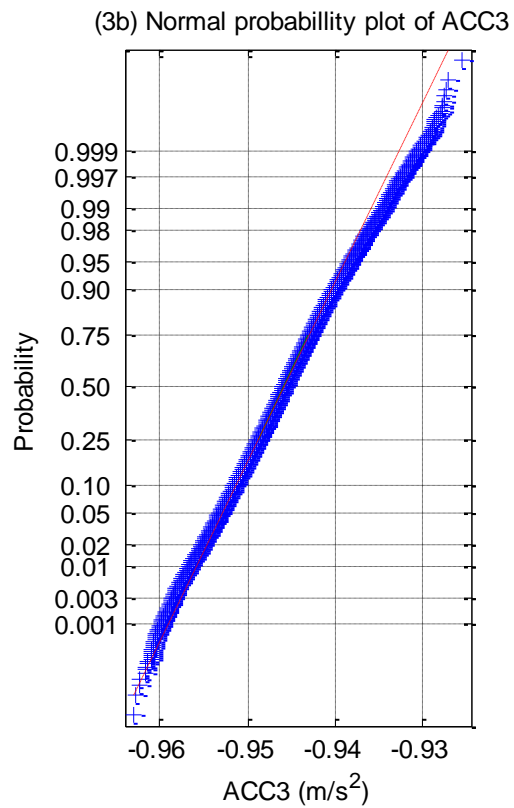
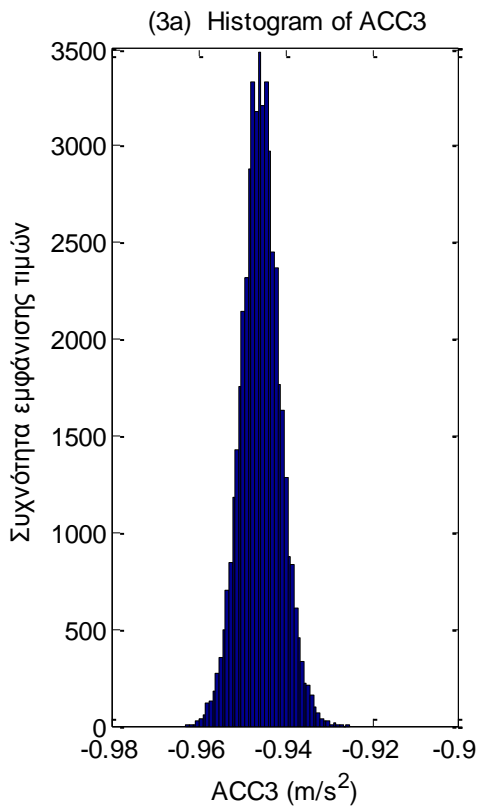
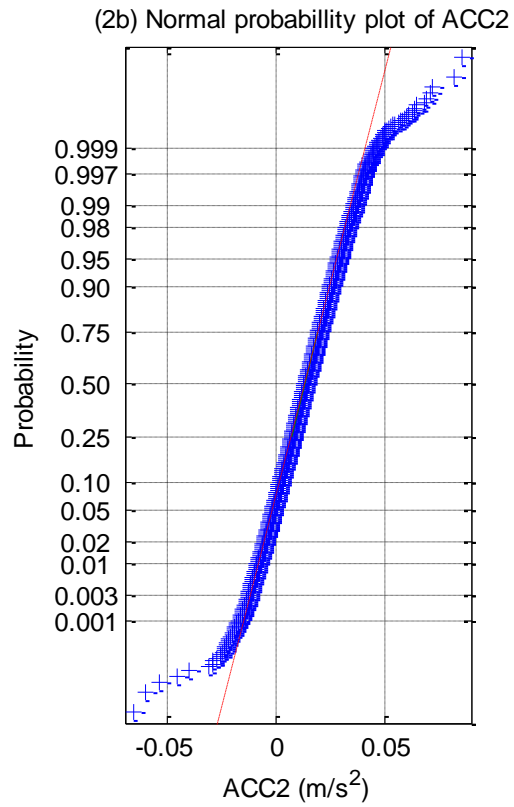
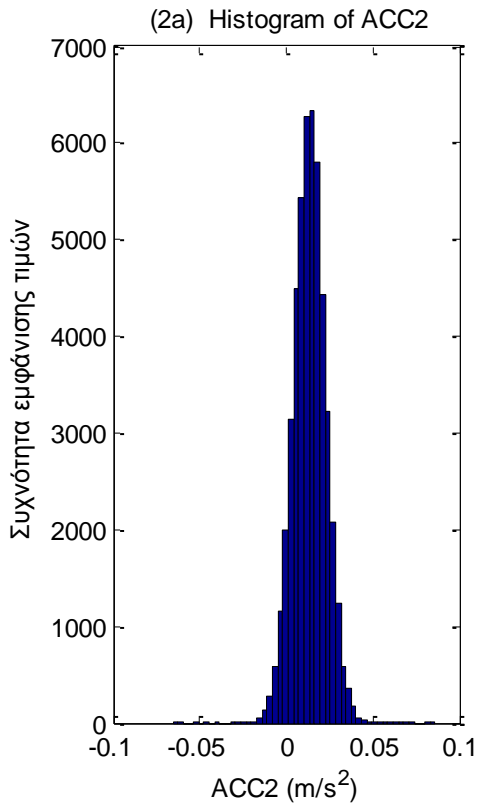
**Σχήματα 2.3.2.3** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



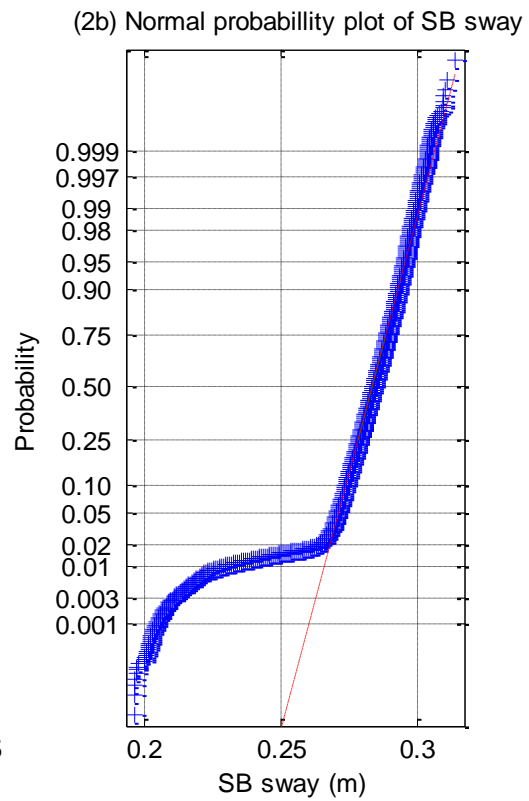
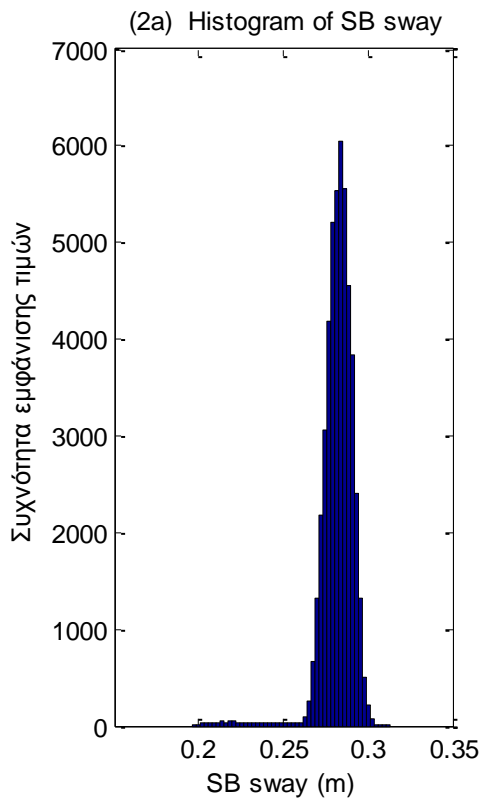
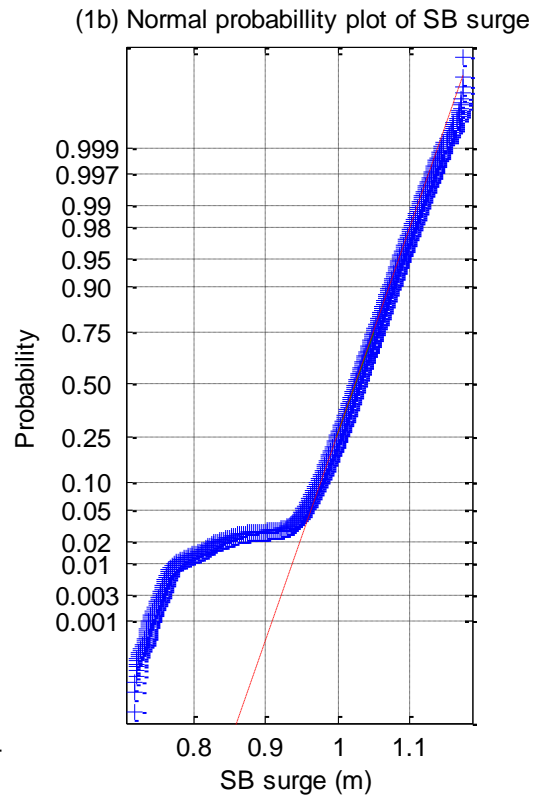
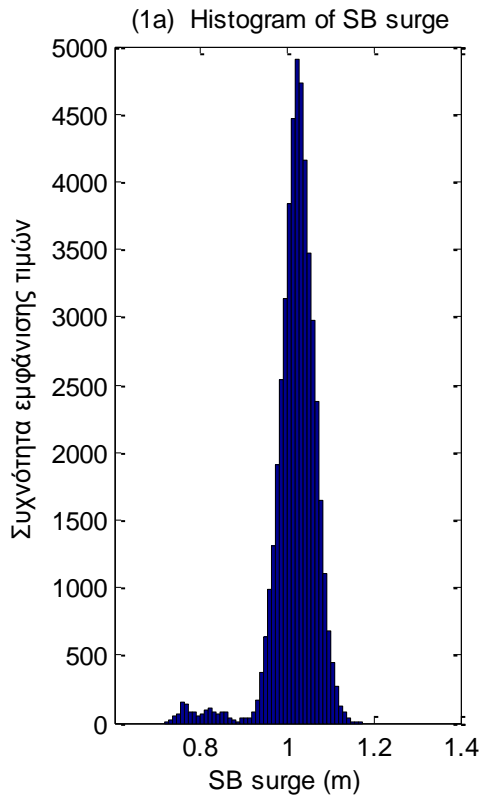


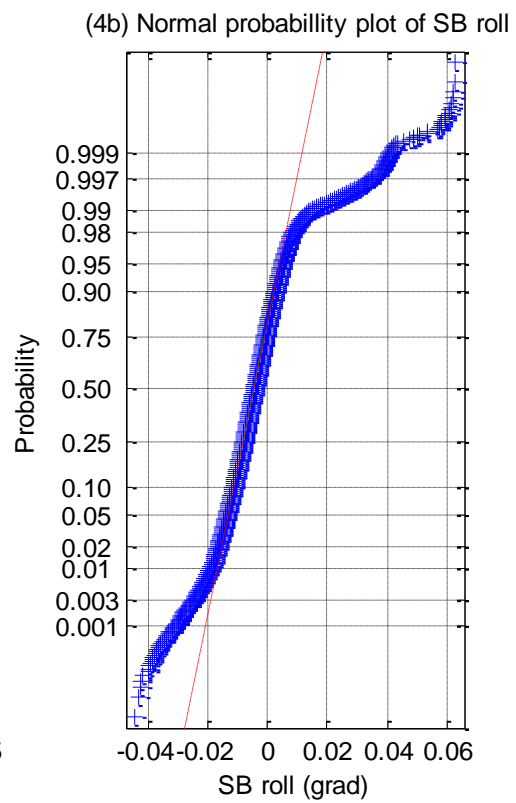
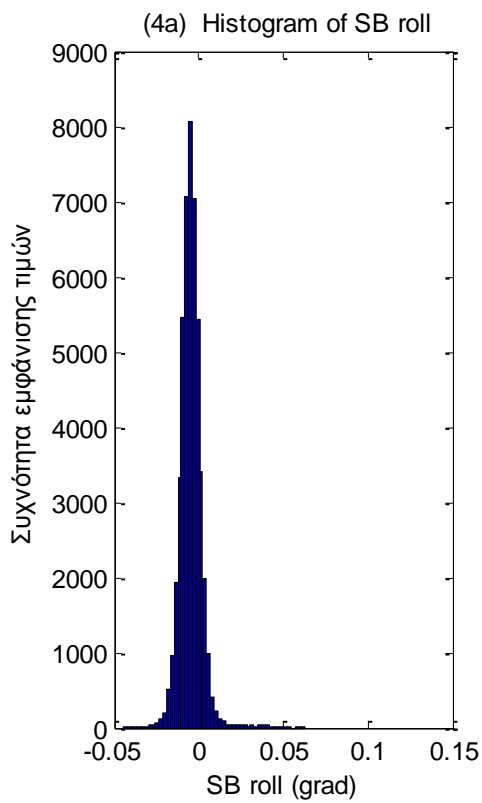
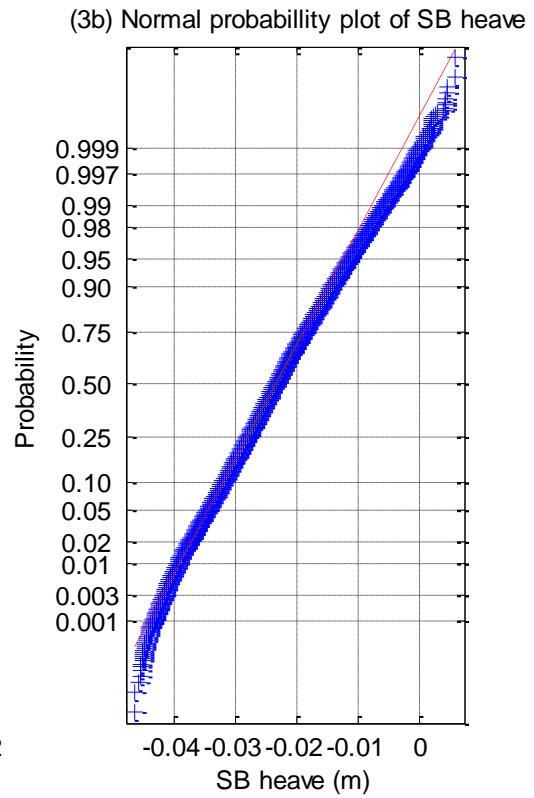
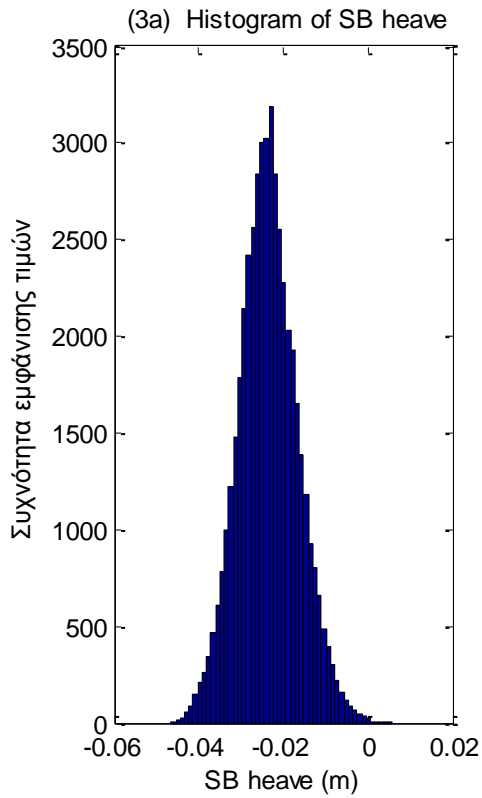
**Σχήματα 2.3.2.4 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



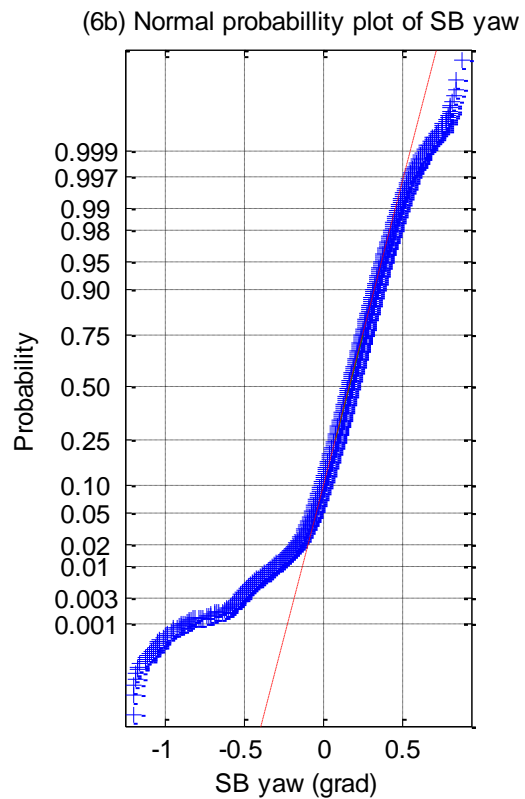
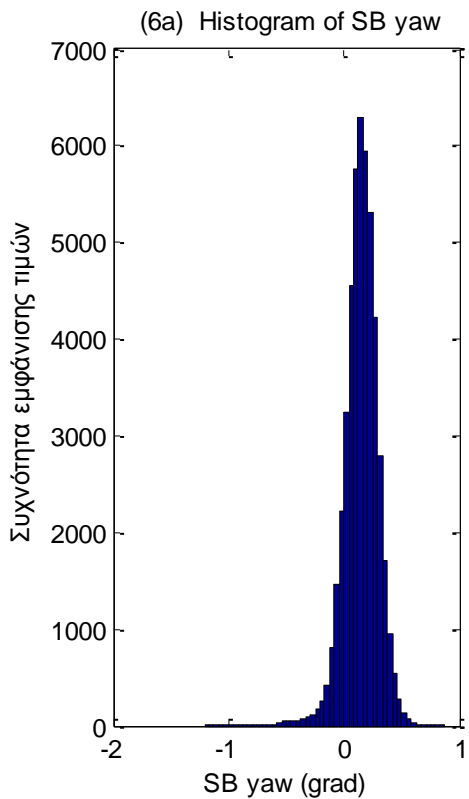
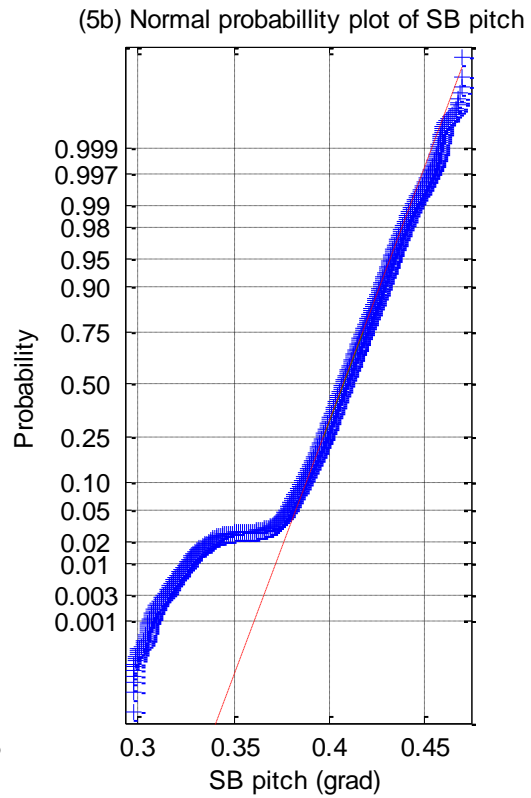
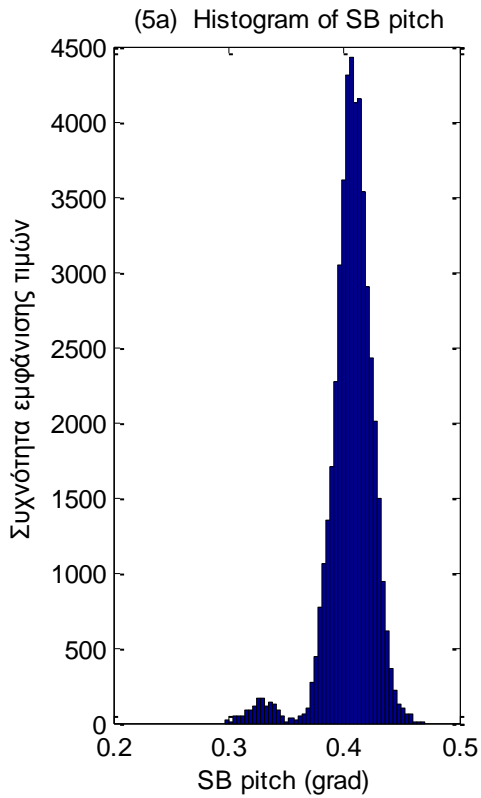


**Σχήματα 2.3.2.5 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

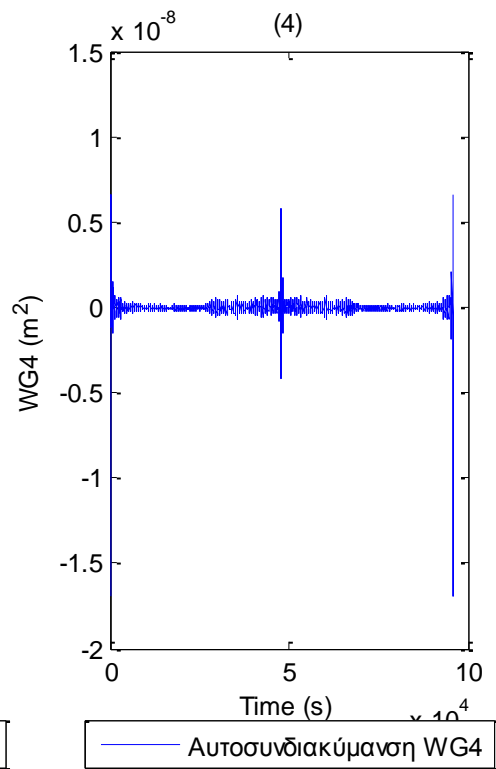
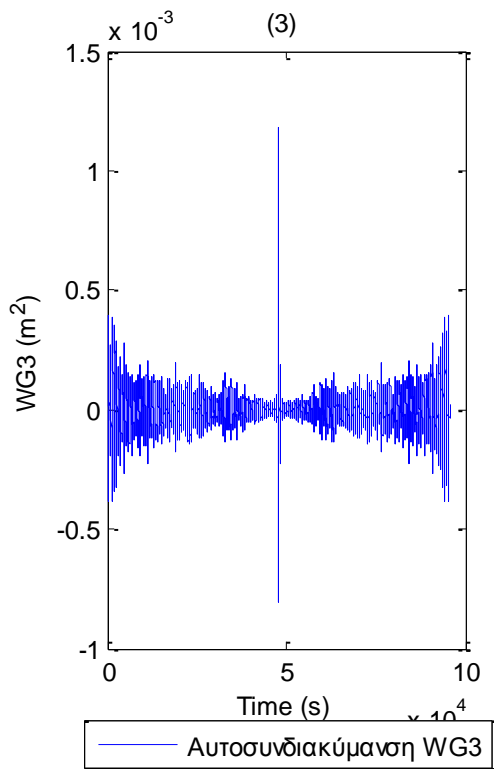
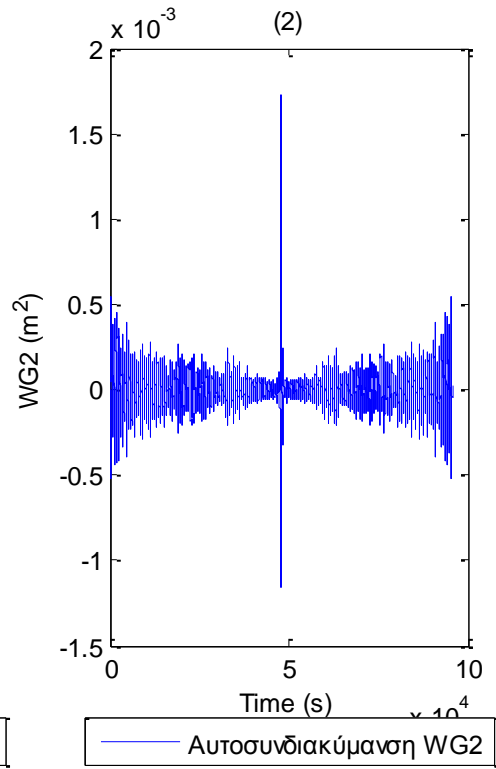
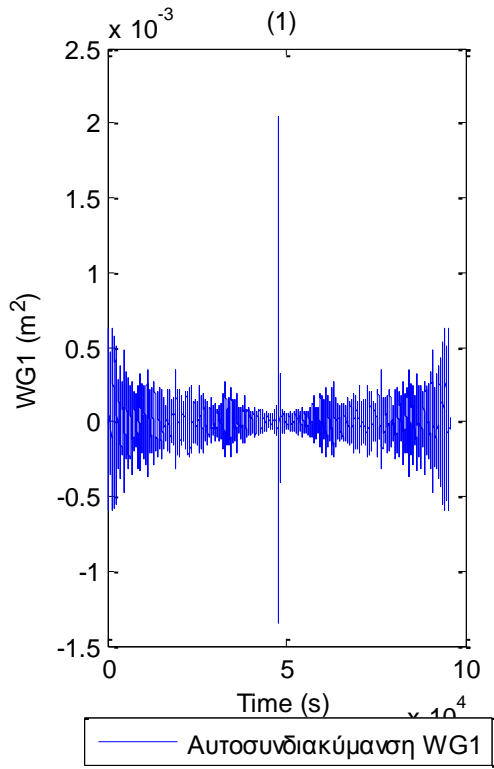


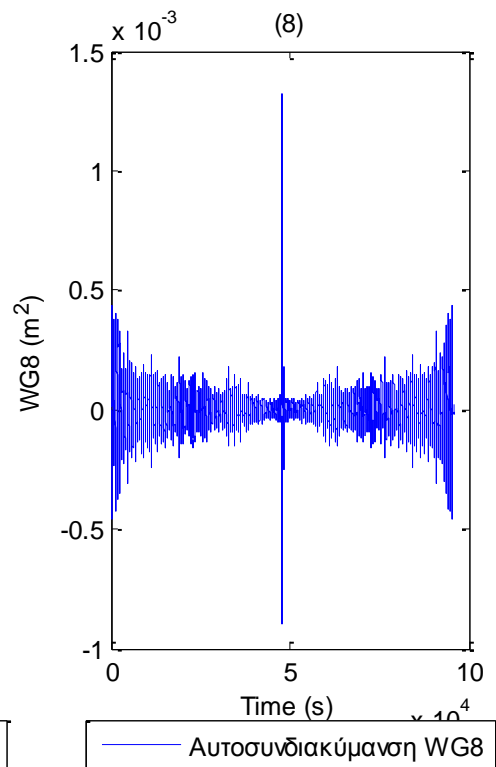
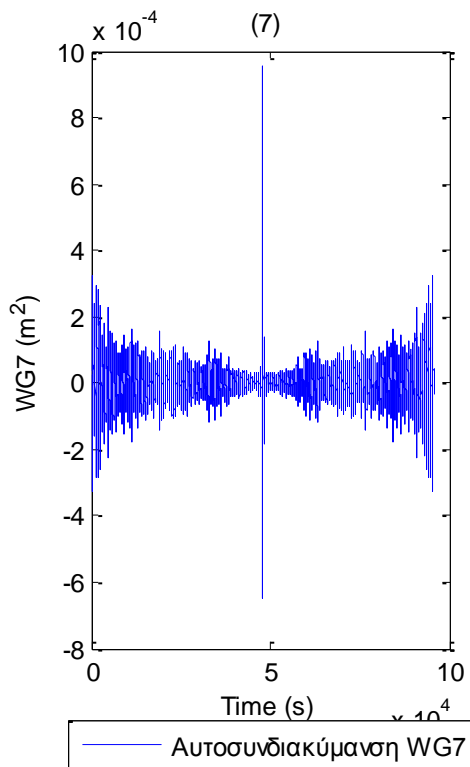
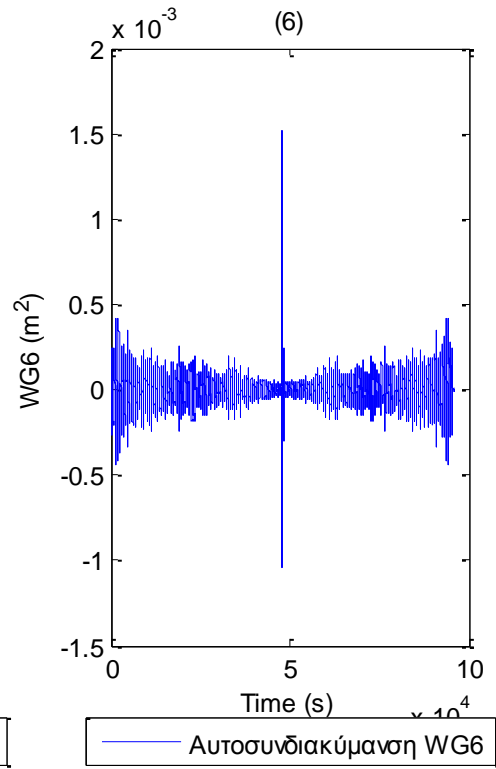
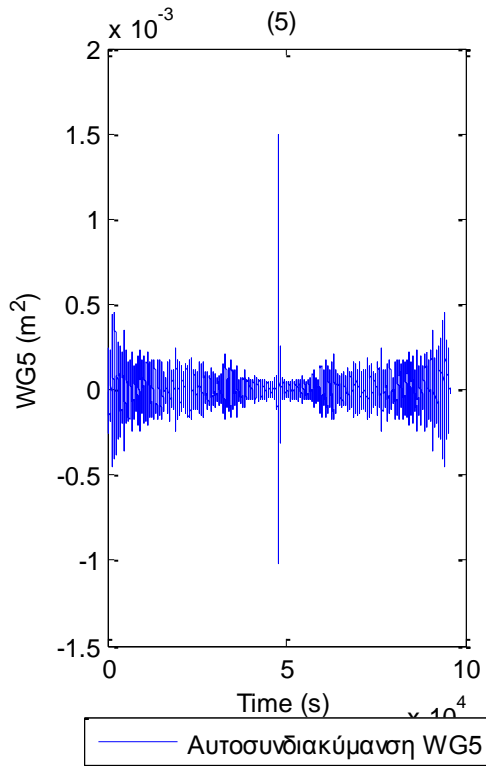


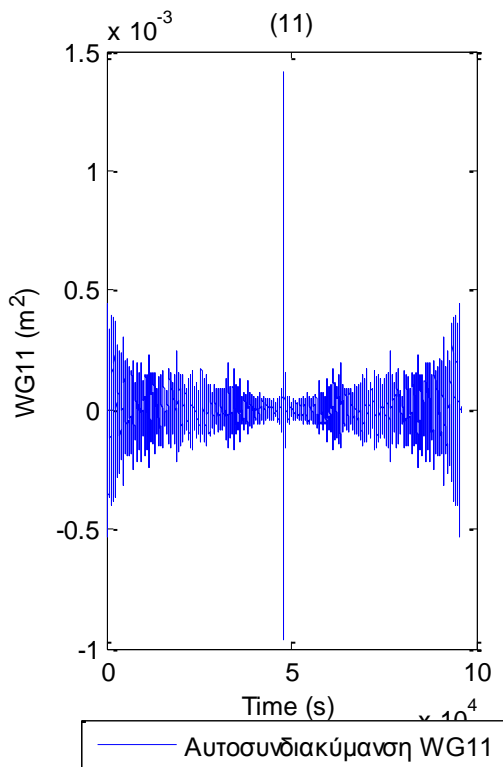
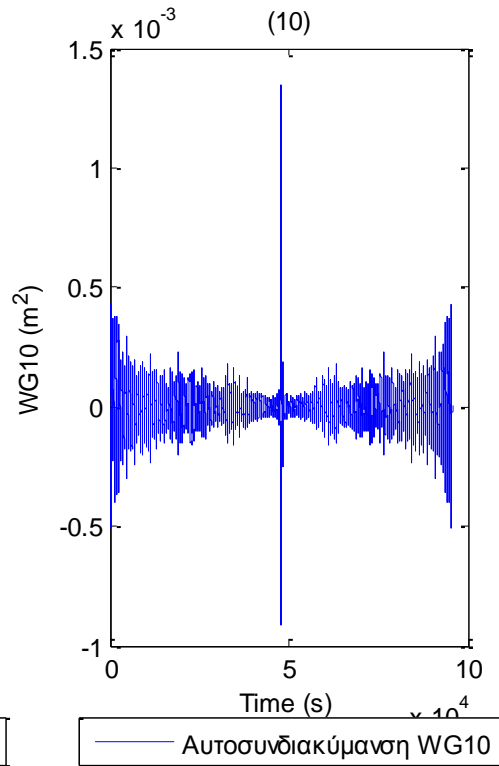
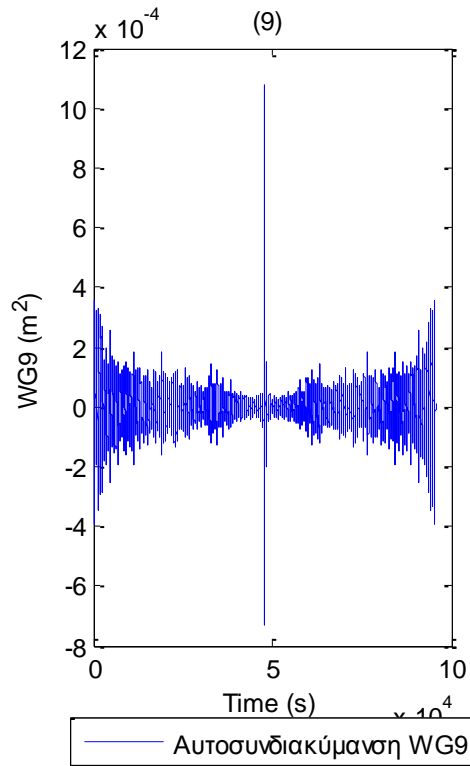




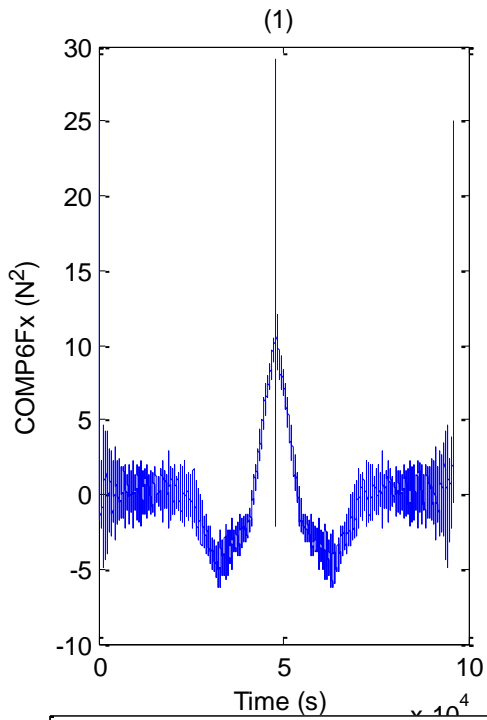
**Σχήματα 2.3.2.6** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



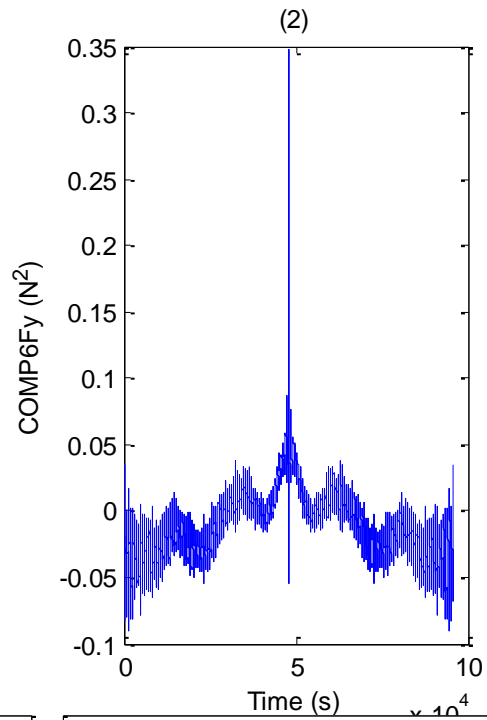




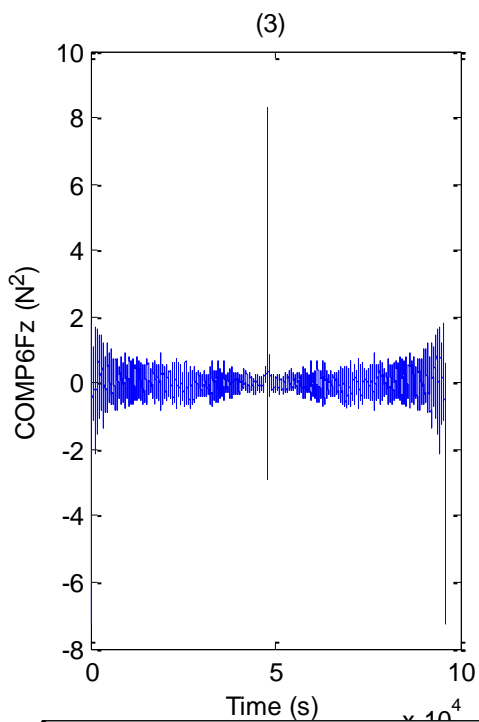
**Σχήματα 2.3.3.1 (1-11)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



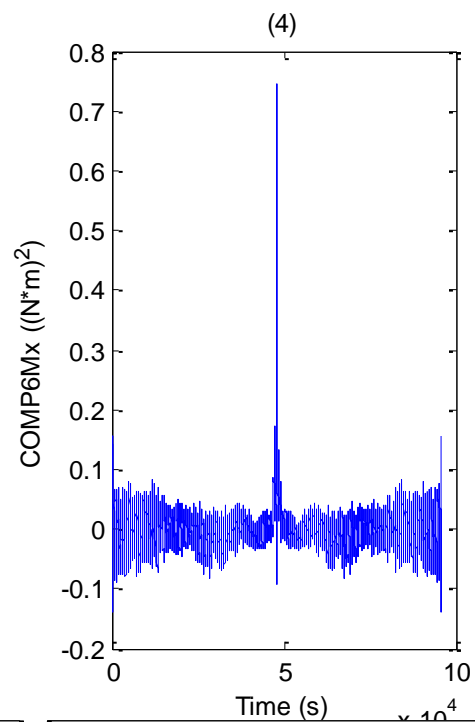
— Αυτοσυνδιακύμανση COMP6Fx



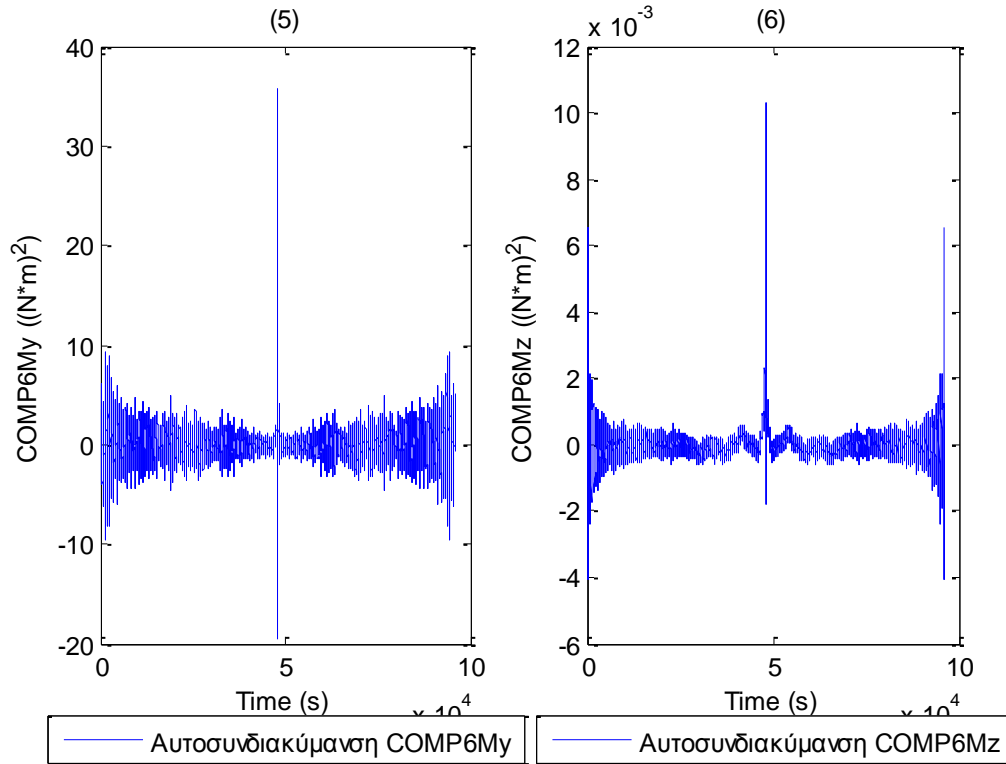
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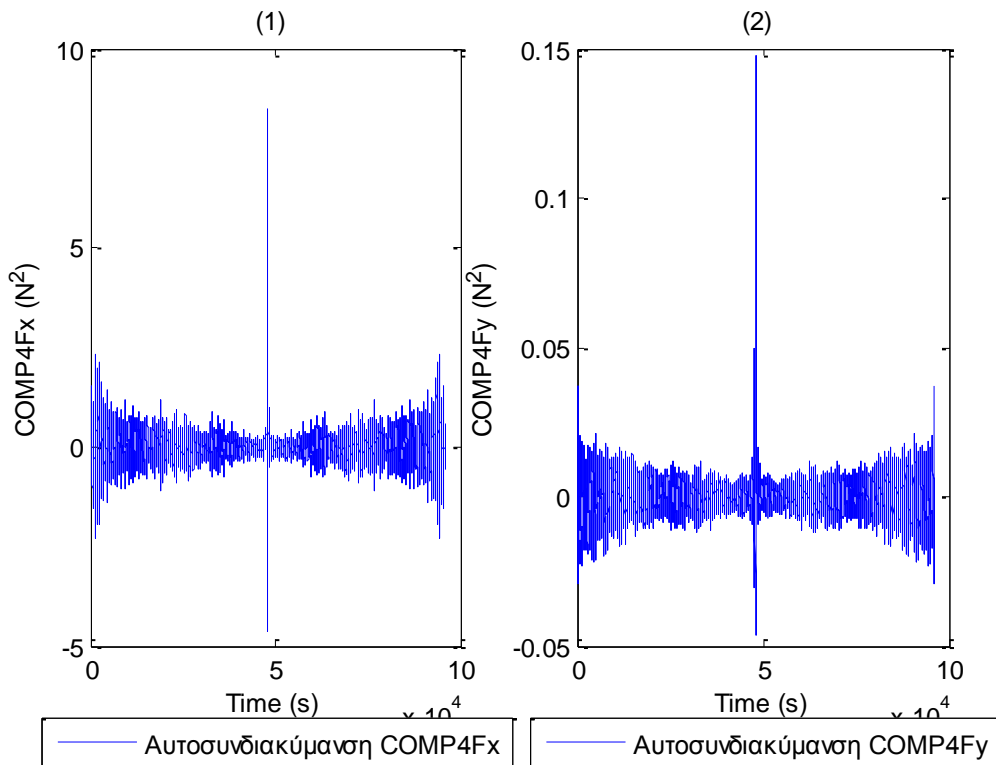
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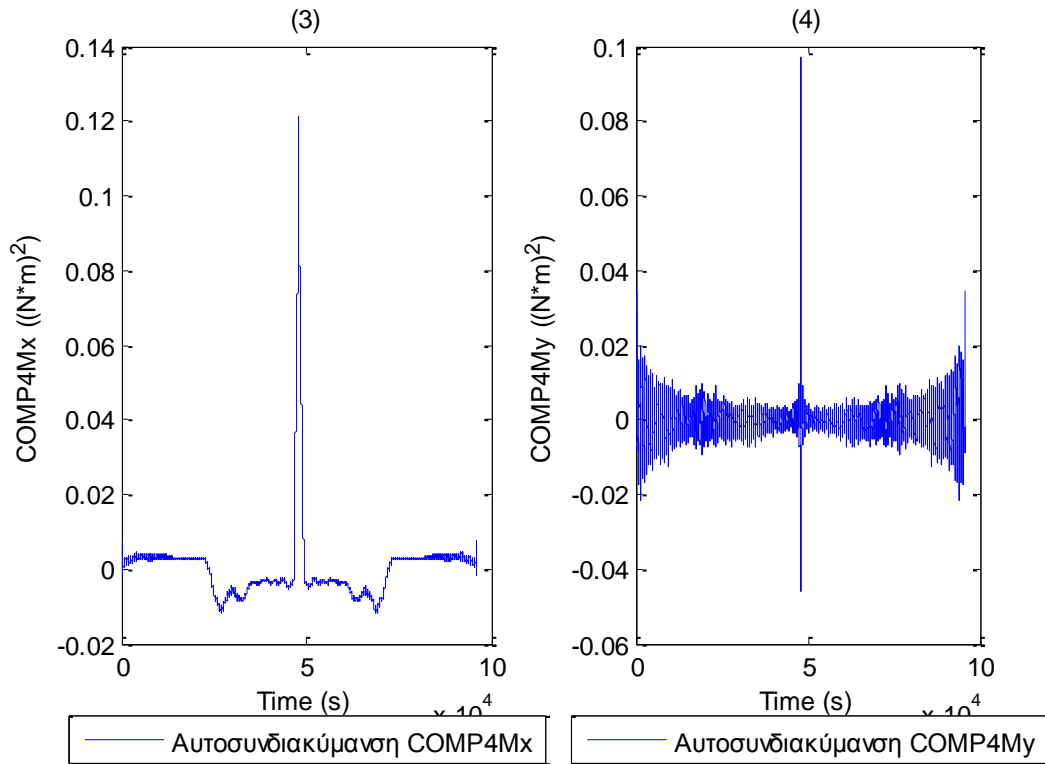


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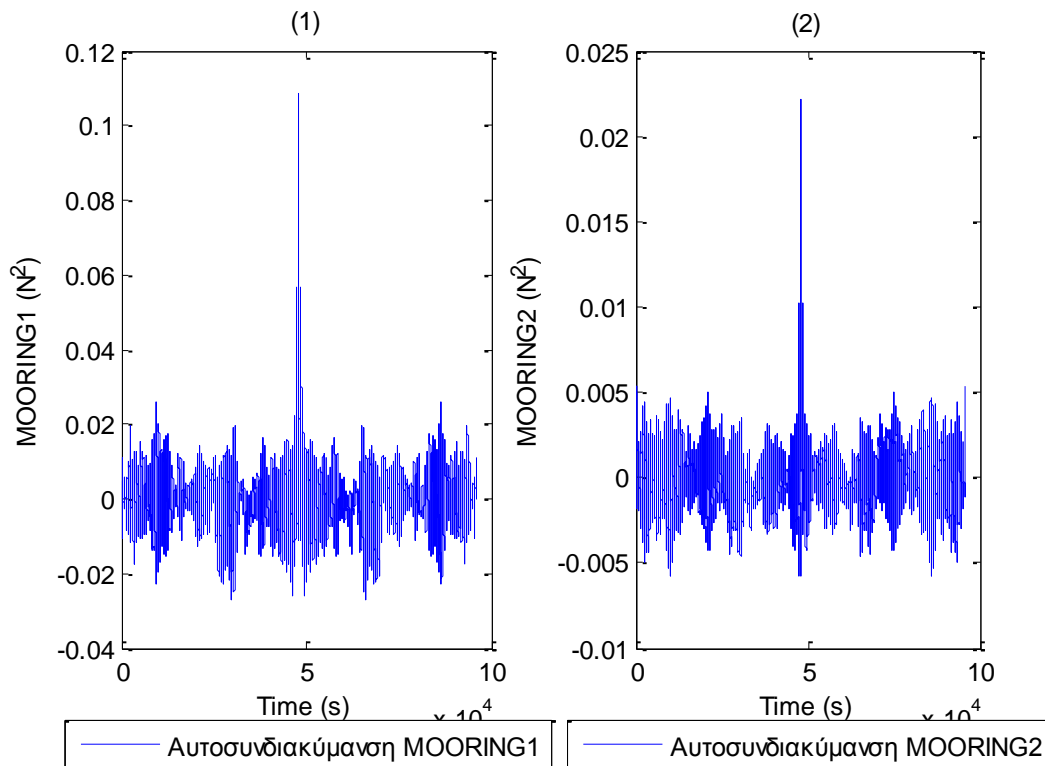


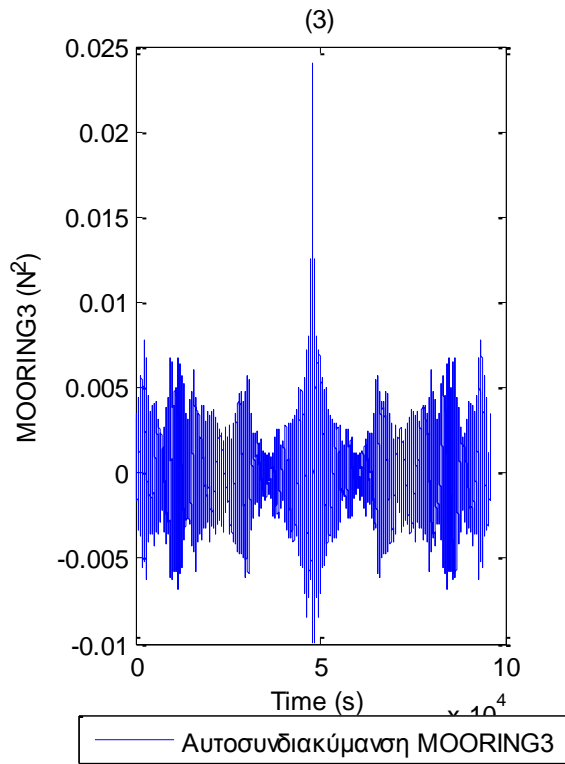
**Σχήματα 2.3.3.2** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



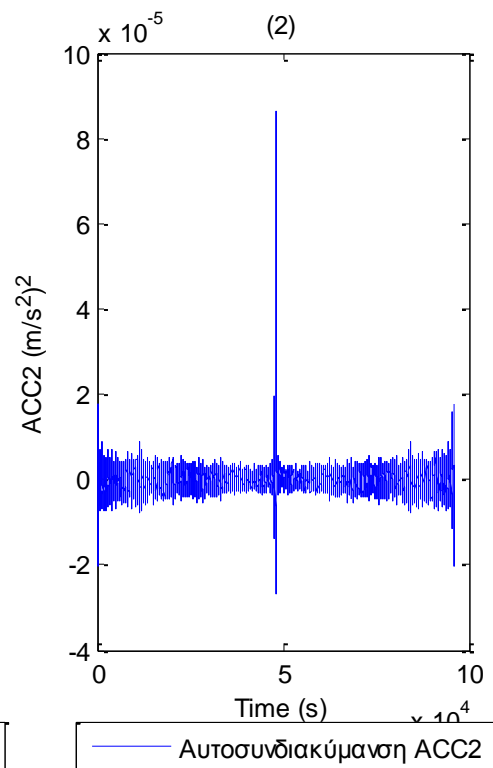
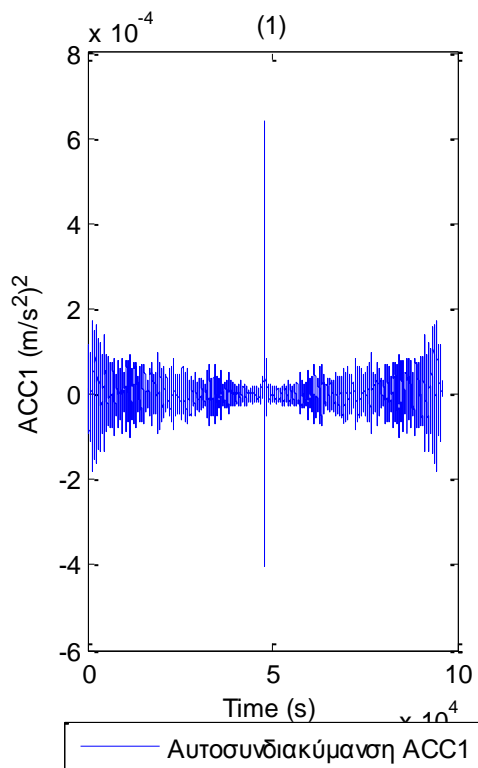


**Σχήματα 2.3.3.3** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

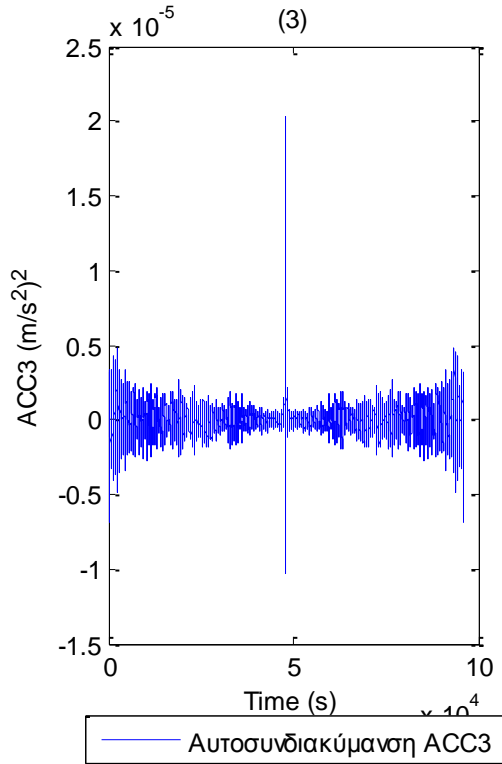




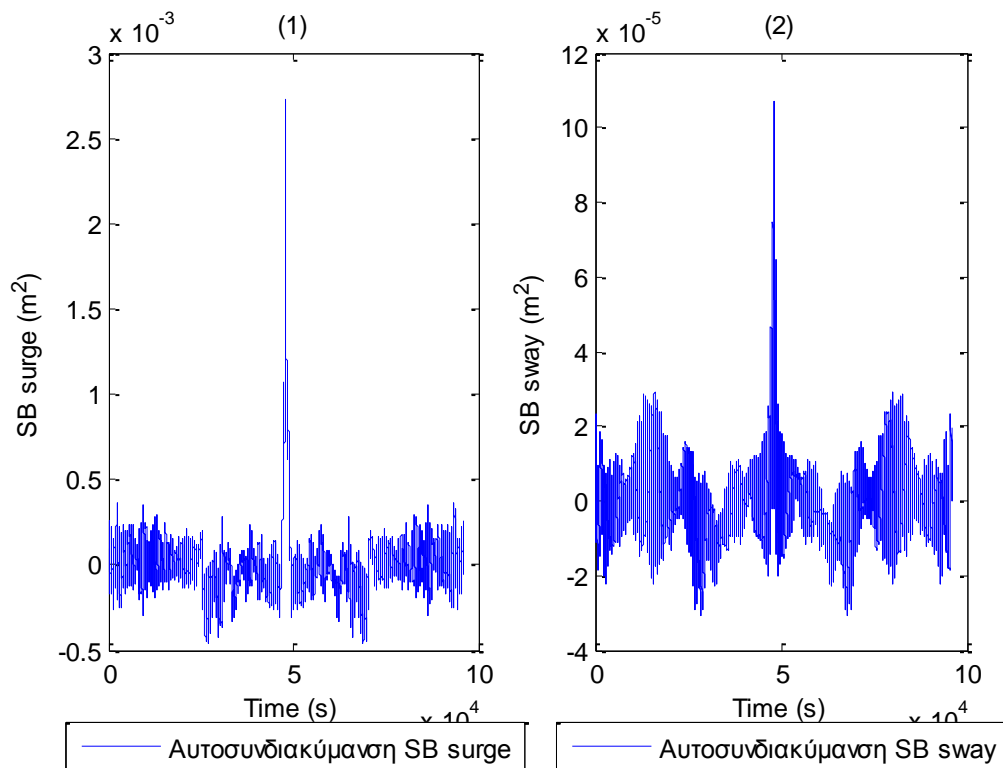
**Σχήματα 2.3.3.4 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

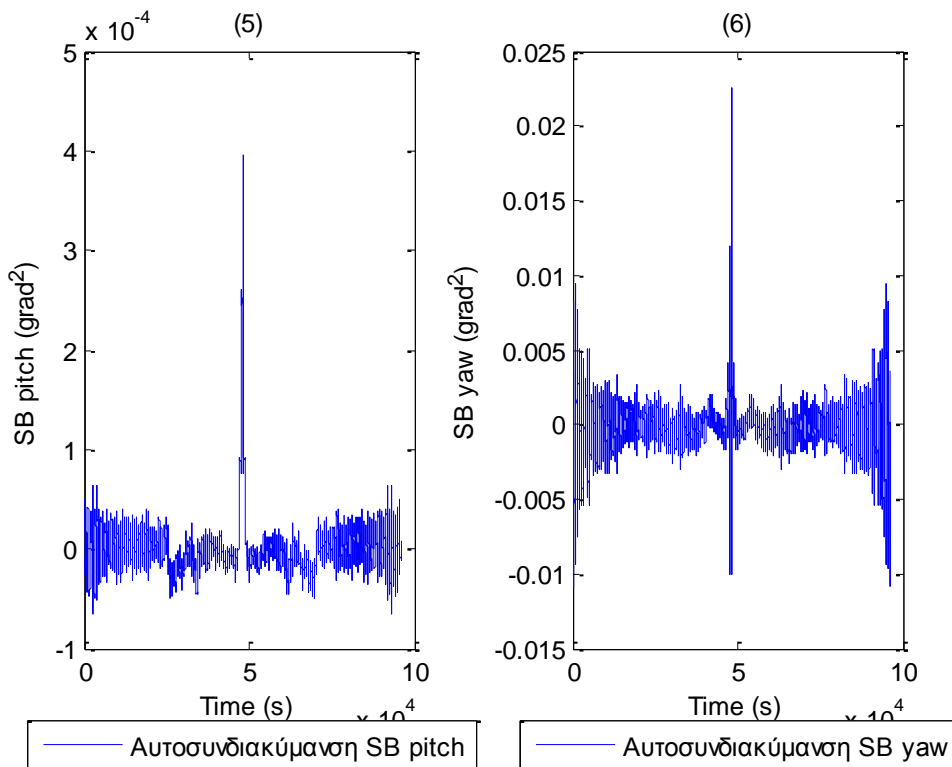
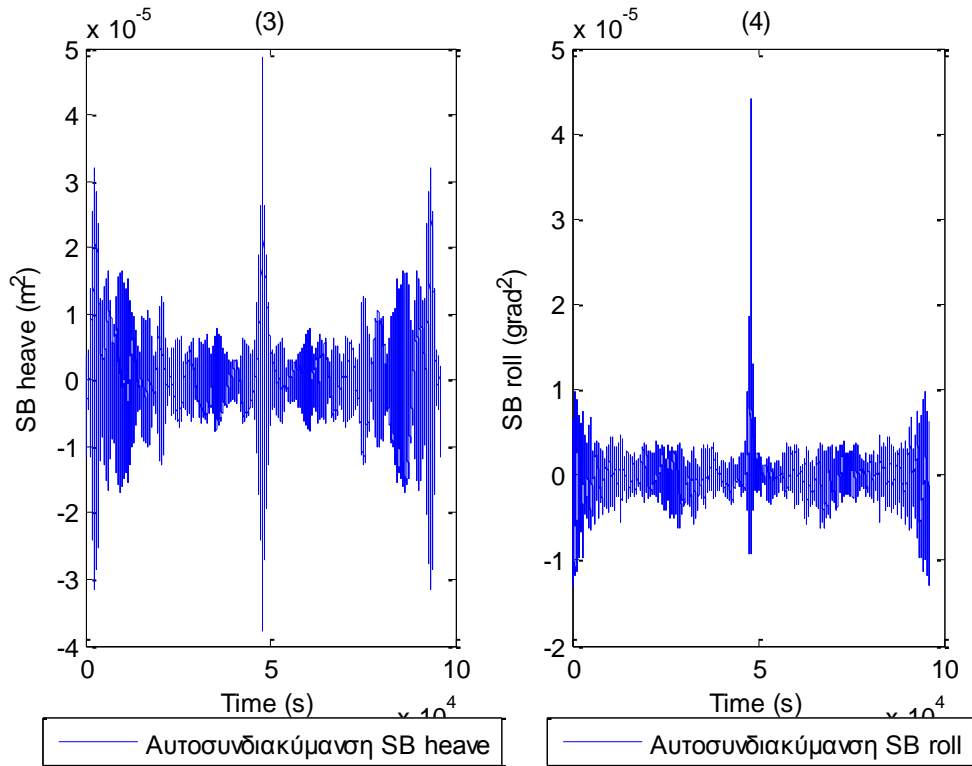




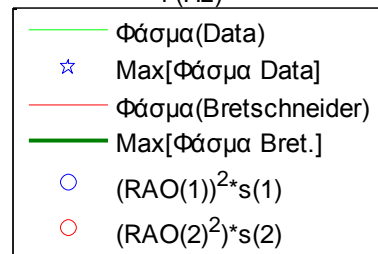
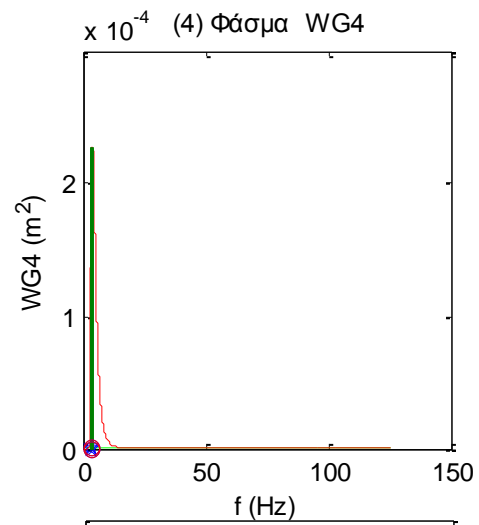
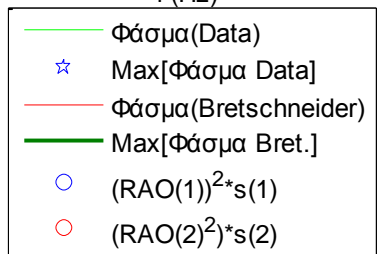
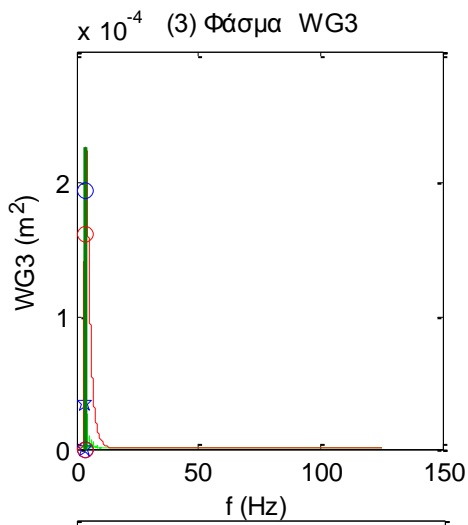
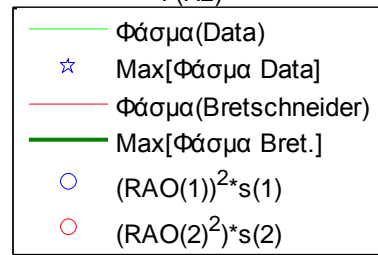
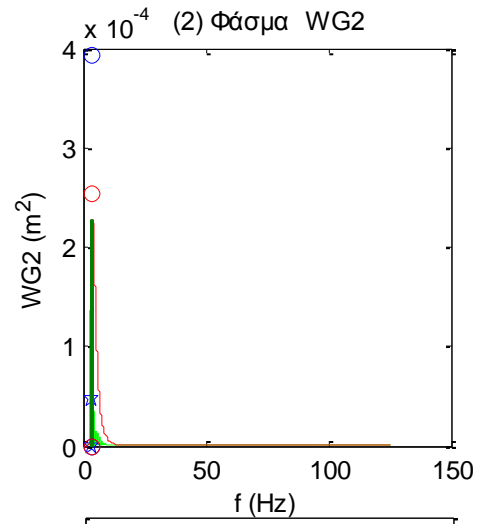
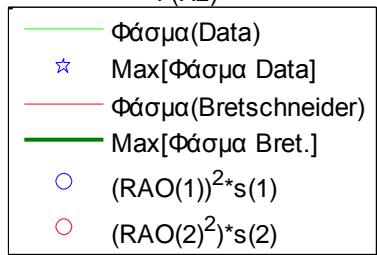
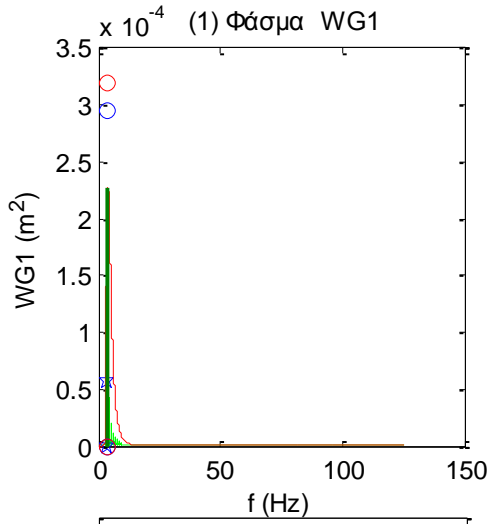


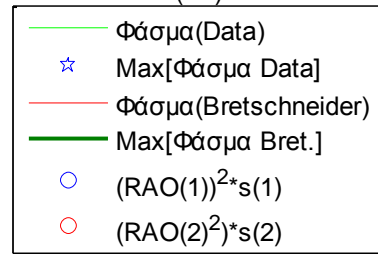
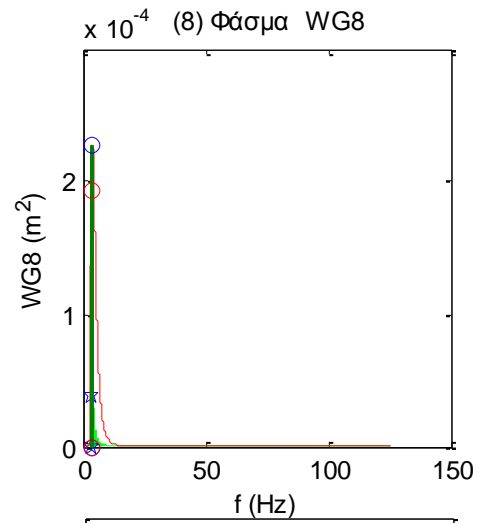
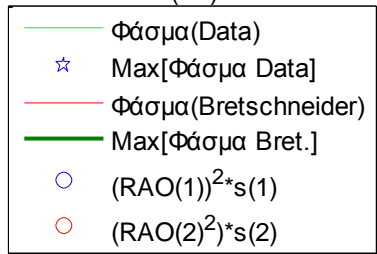
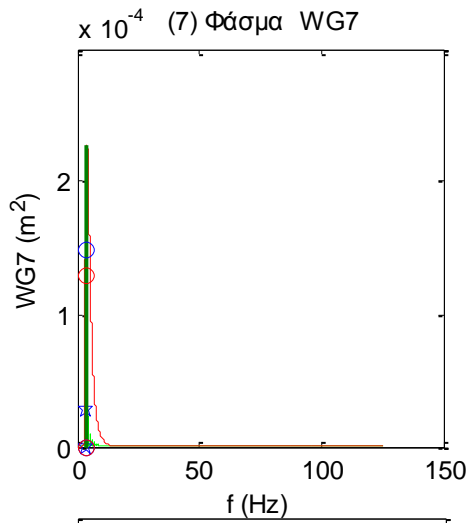
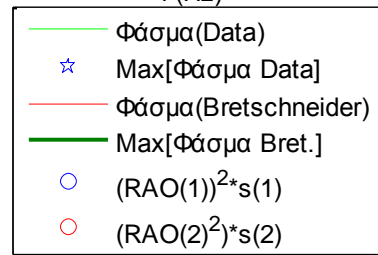
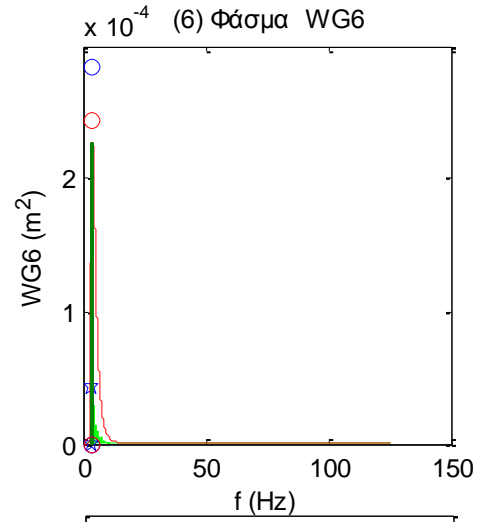
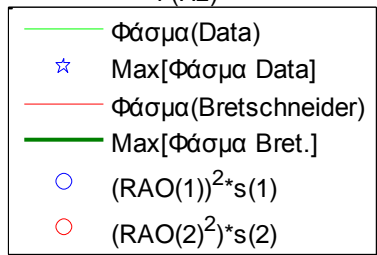
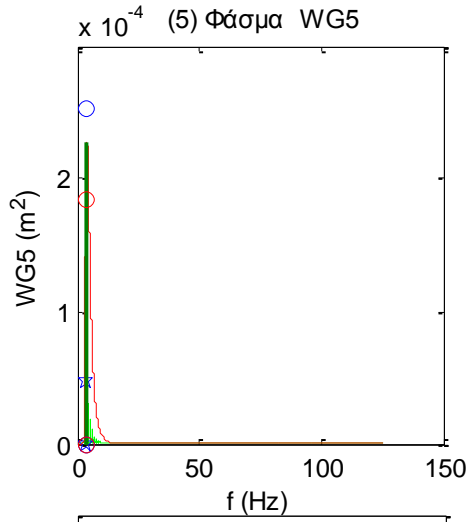
**Σχήματα 2.3.3.5 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

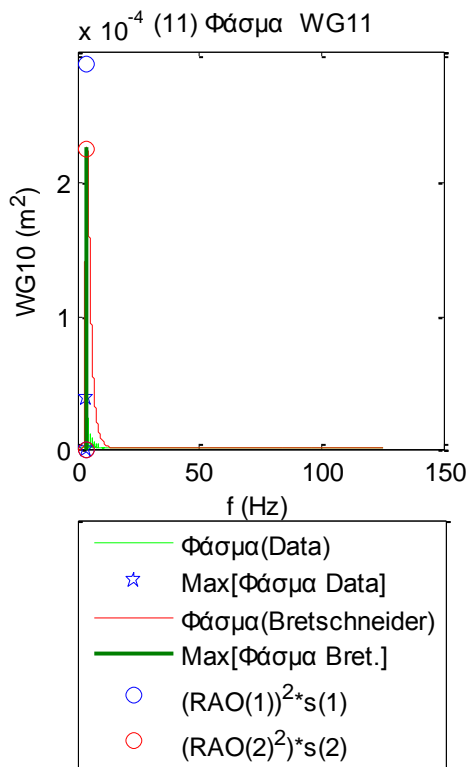
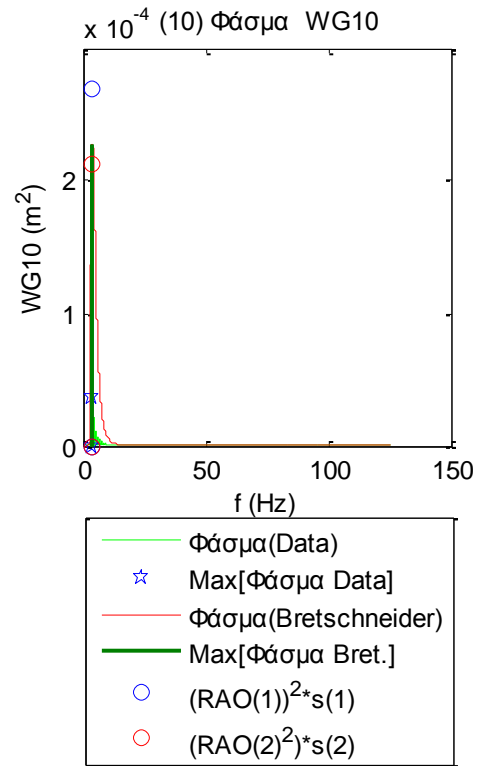
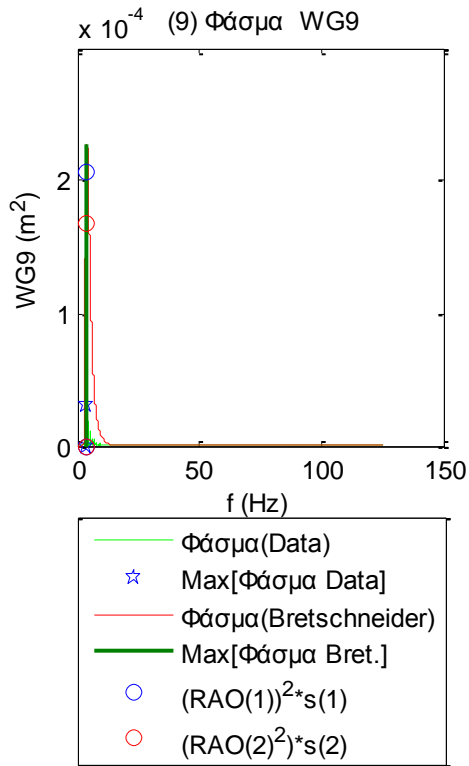




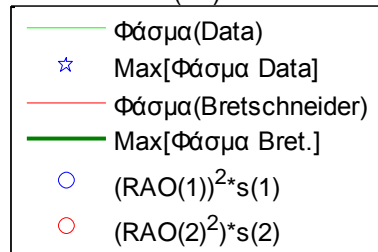
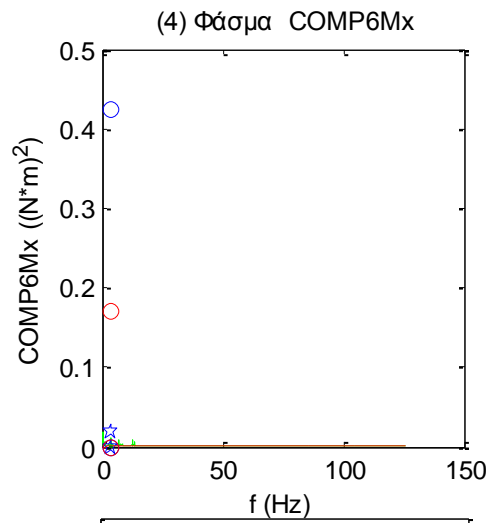
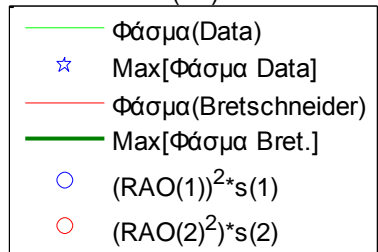
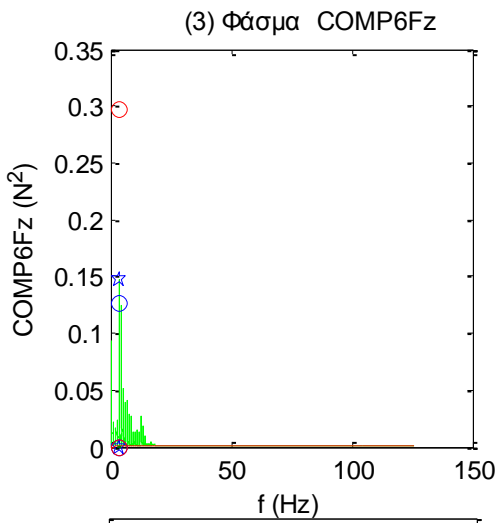
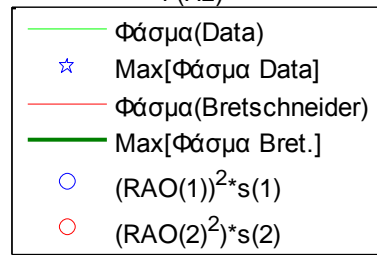
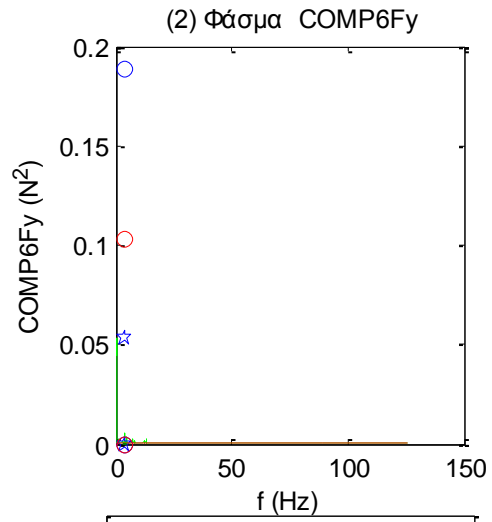
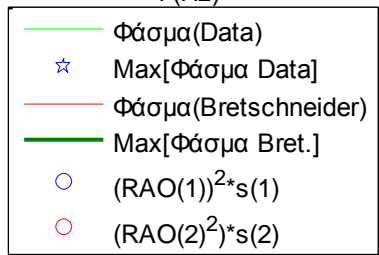
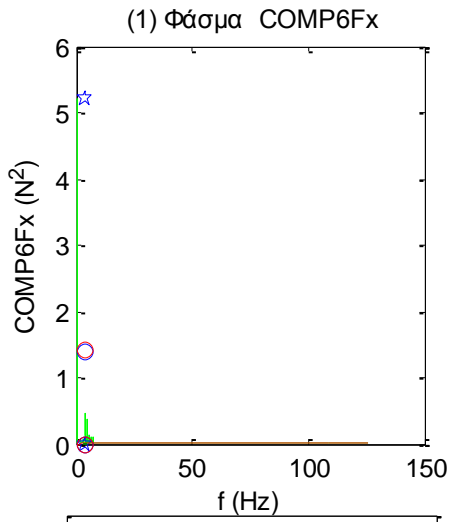
**Σχήματα 2.3.3.6** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

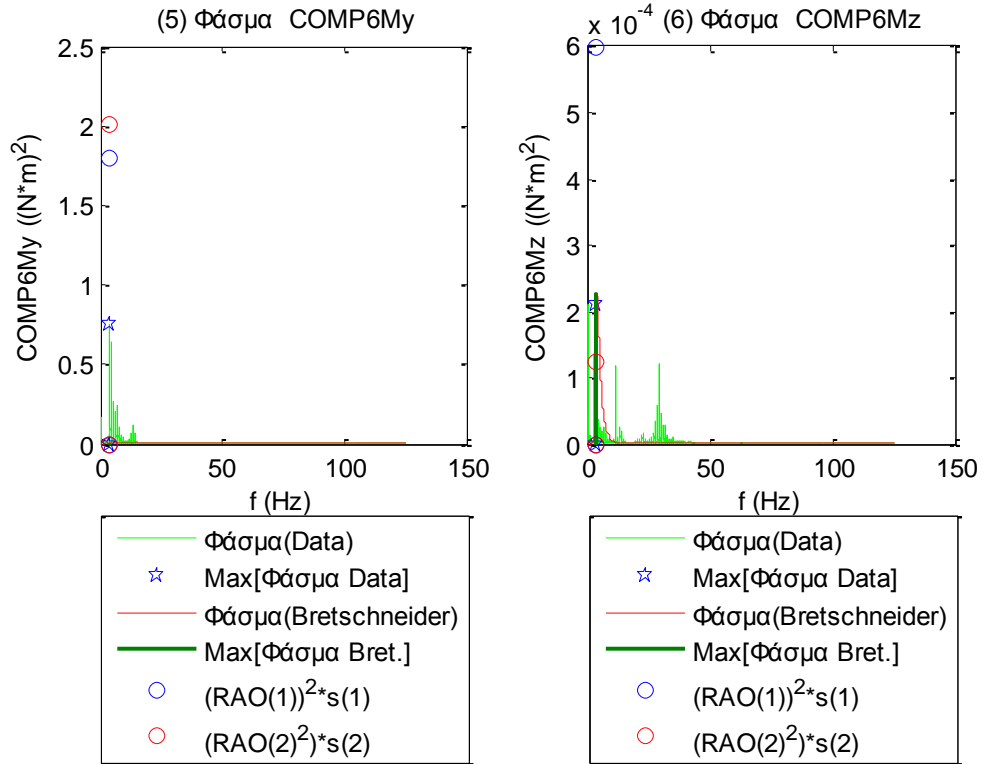




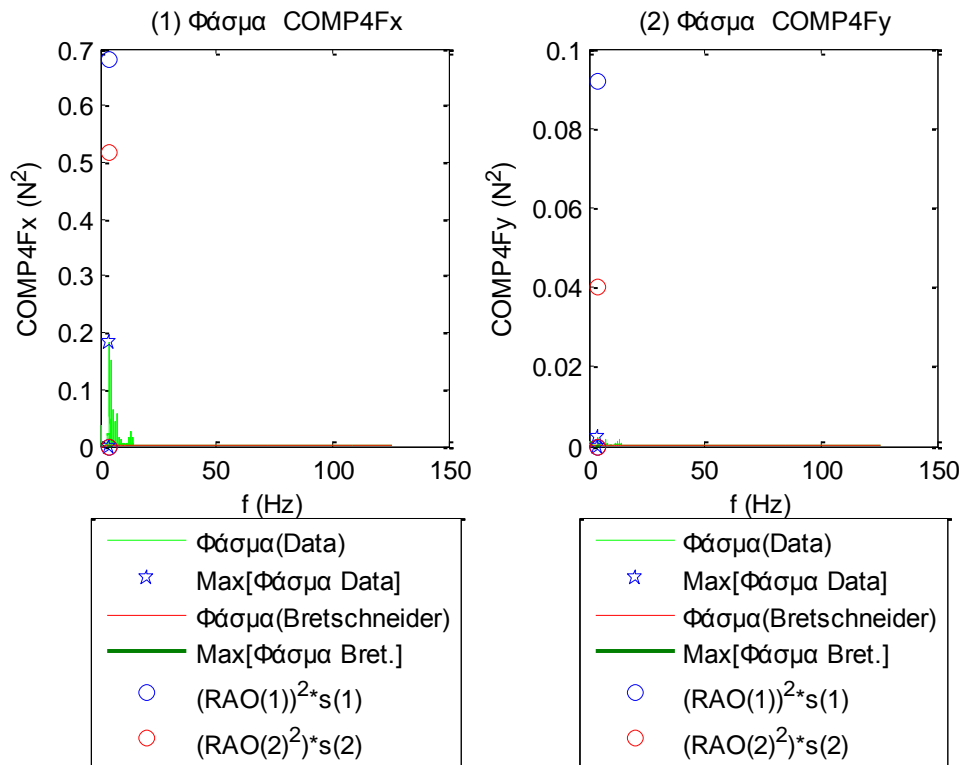


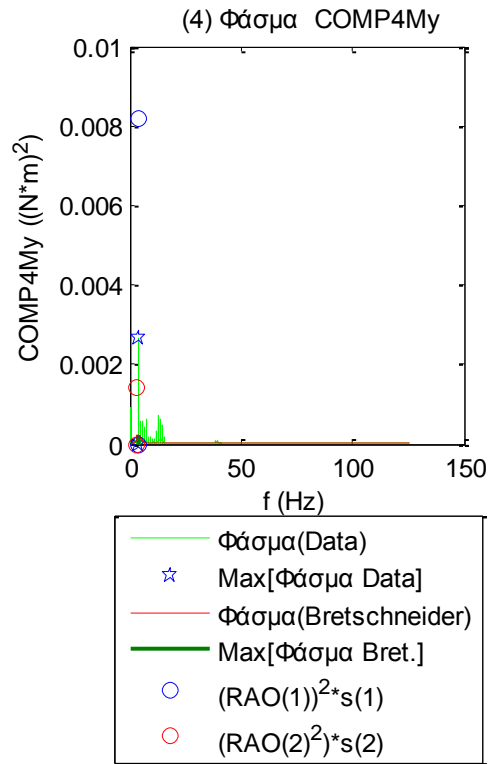
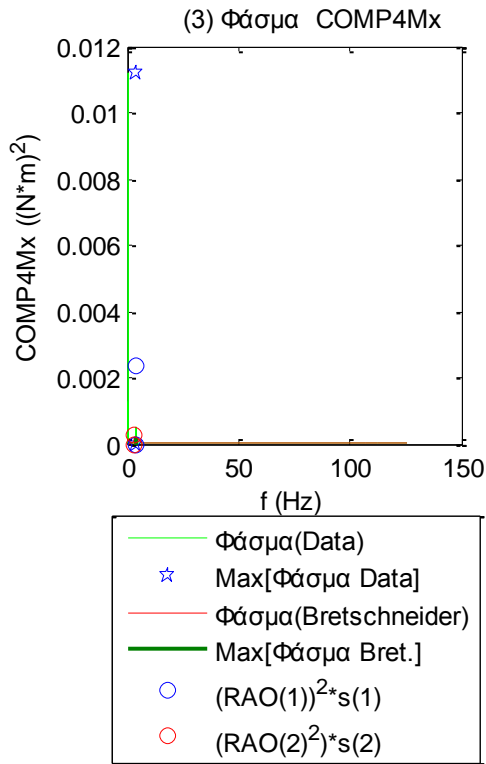
Σχήματα 2.3.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος



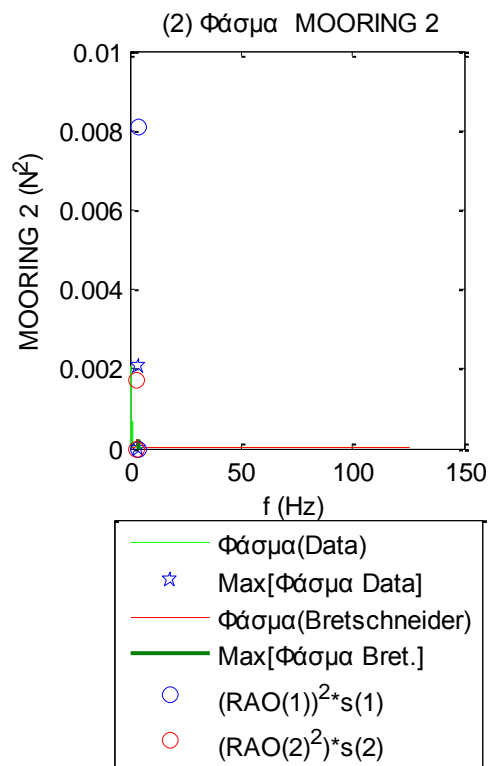
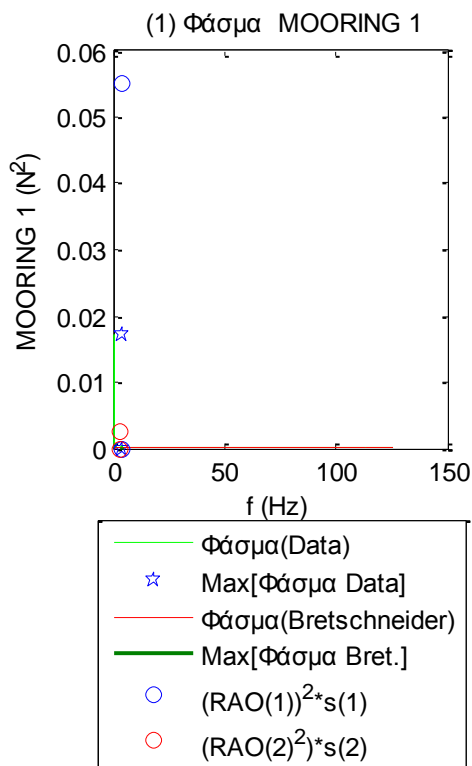


**Σχήματα 2.3.4.2** Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

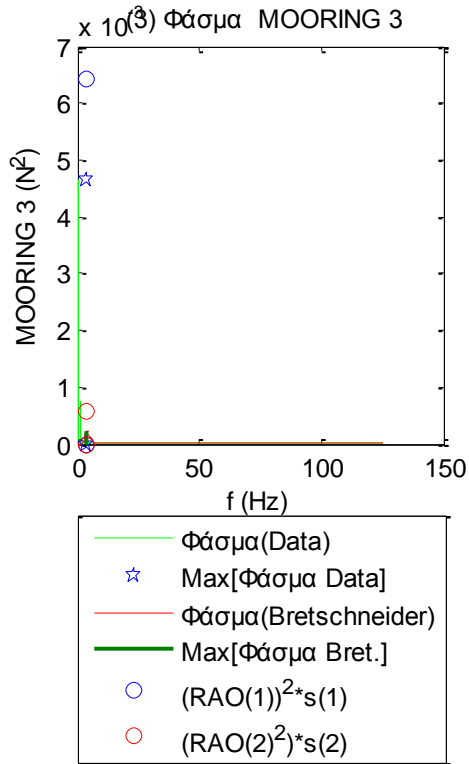




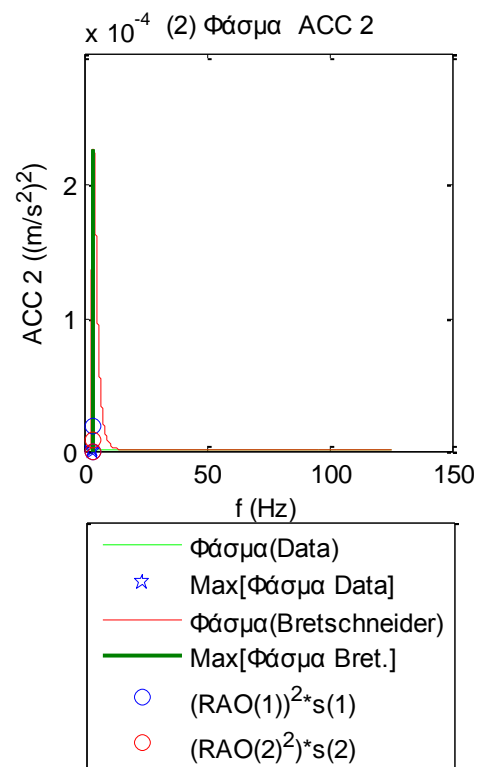
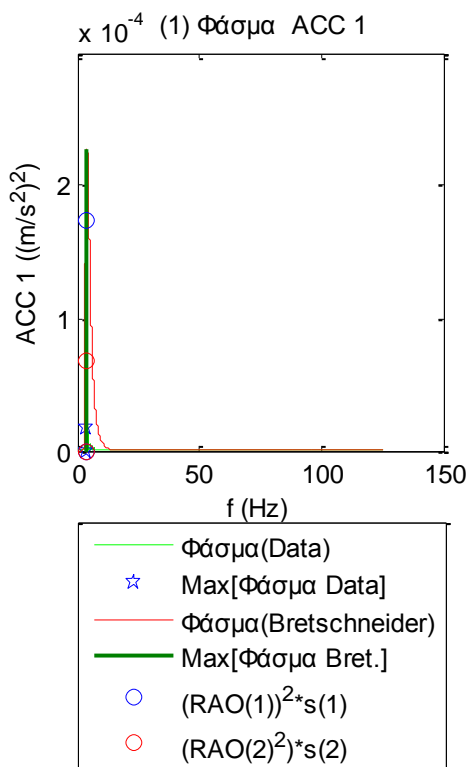
**Σχήματα 2.3.4.3** Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

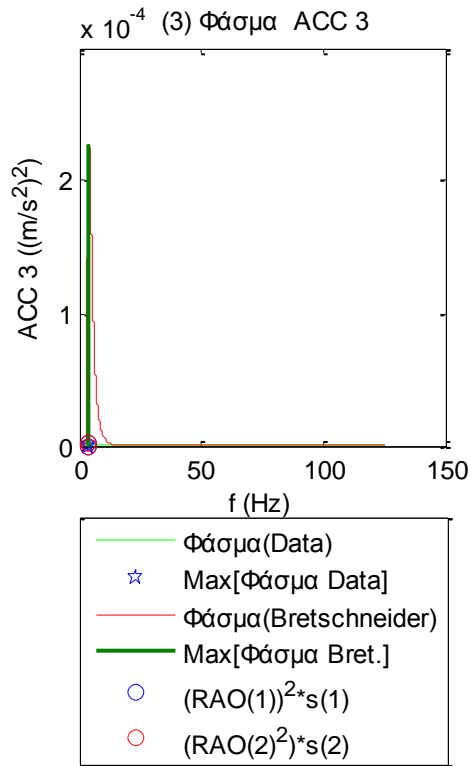




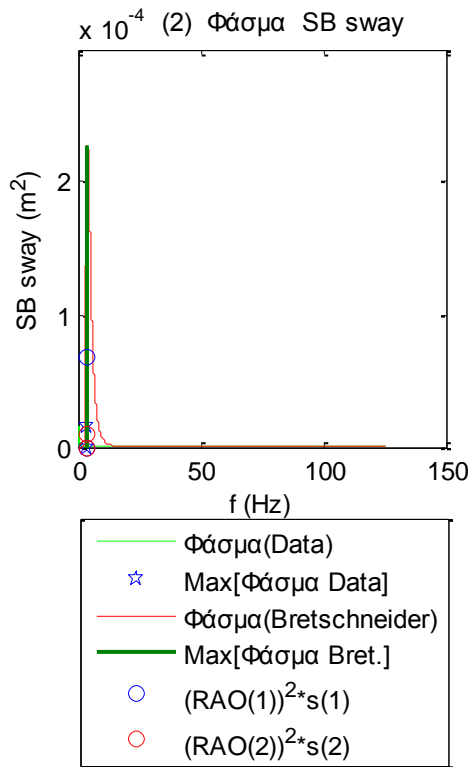
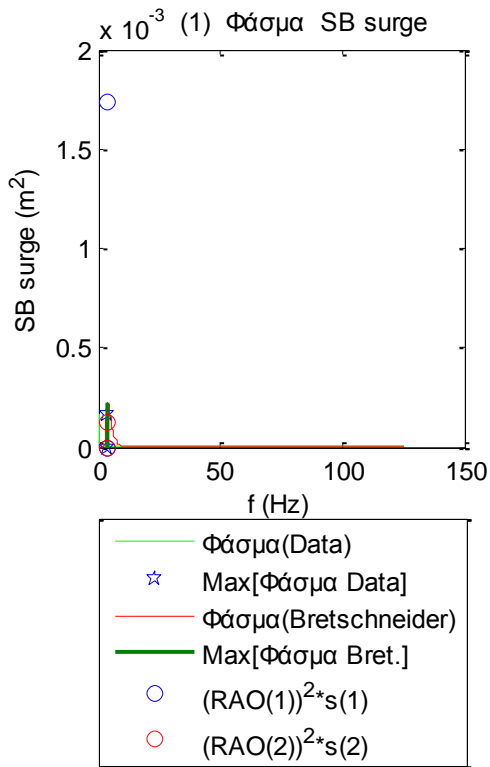


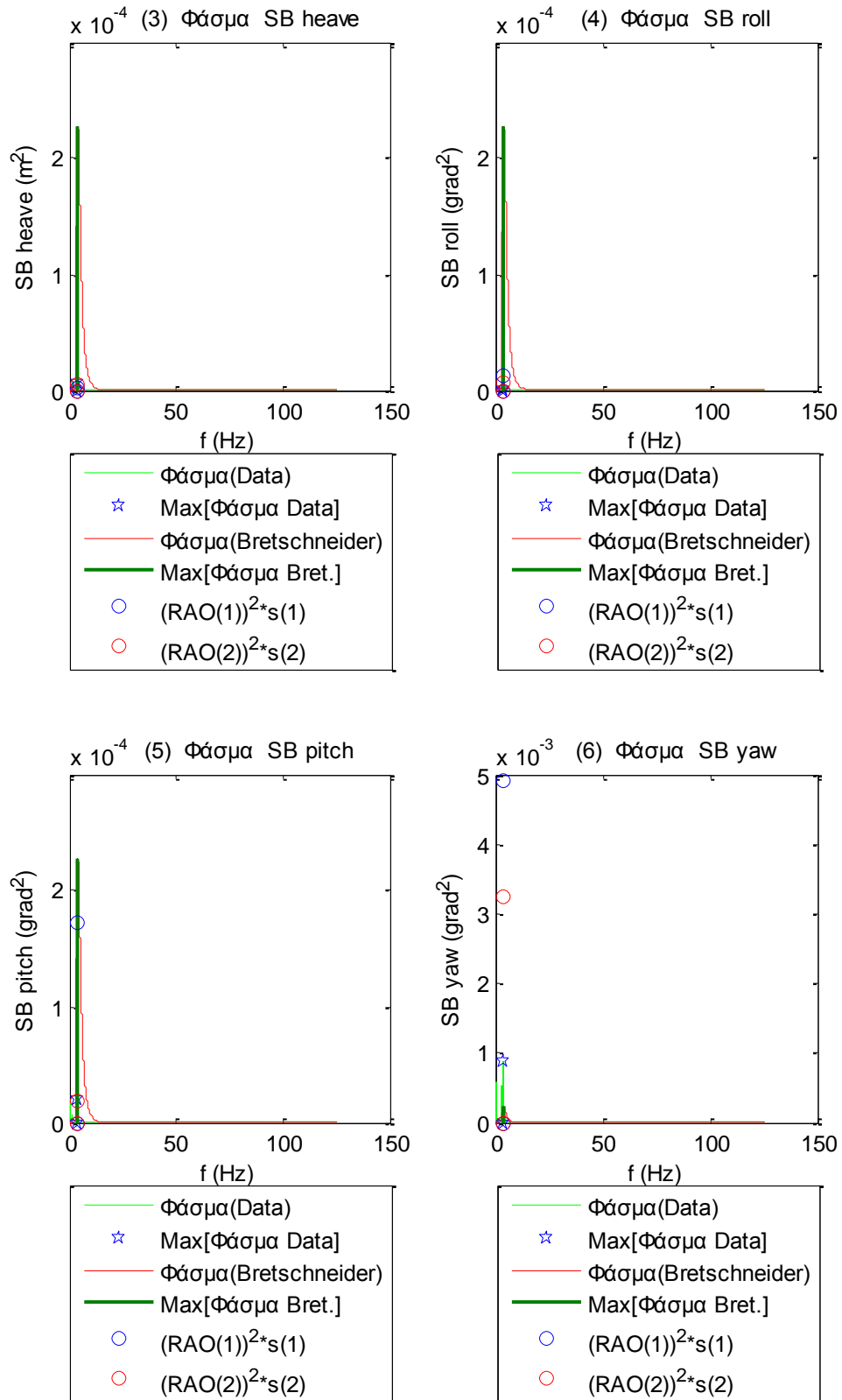
Σχήματα 2.3.4.4 (1-3) Φάσματα για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



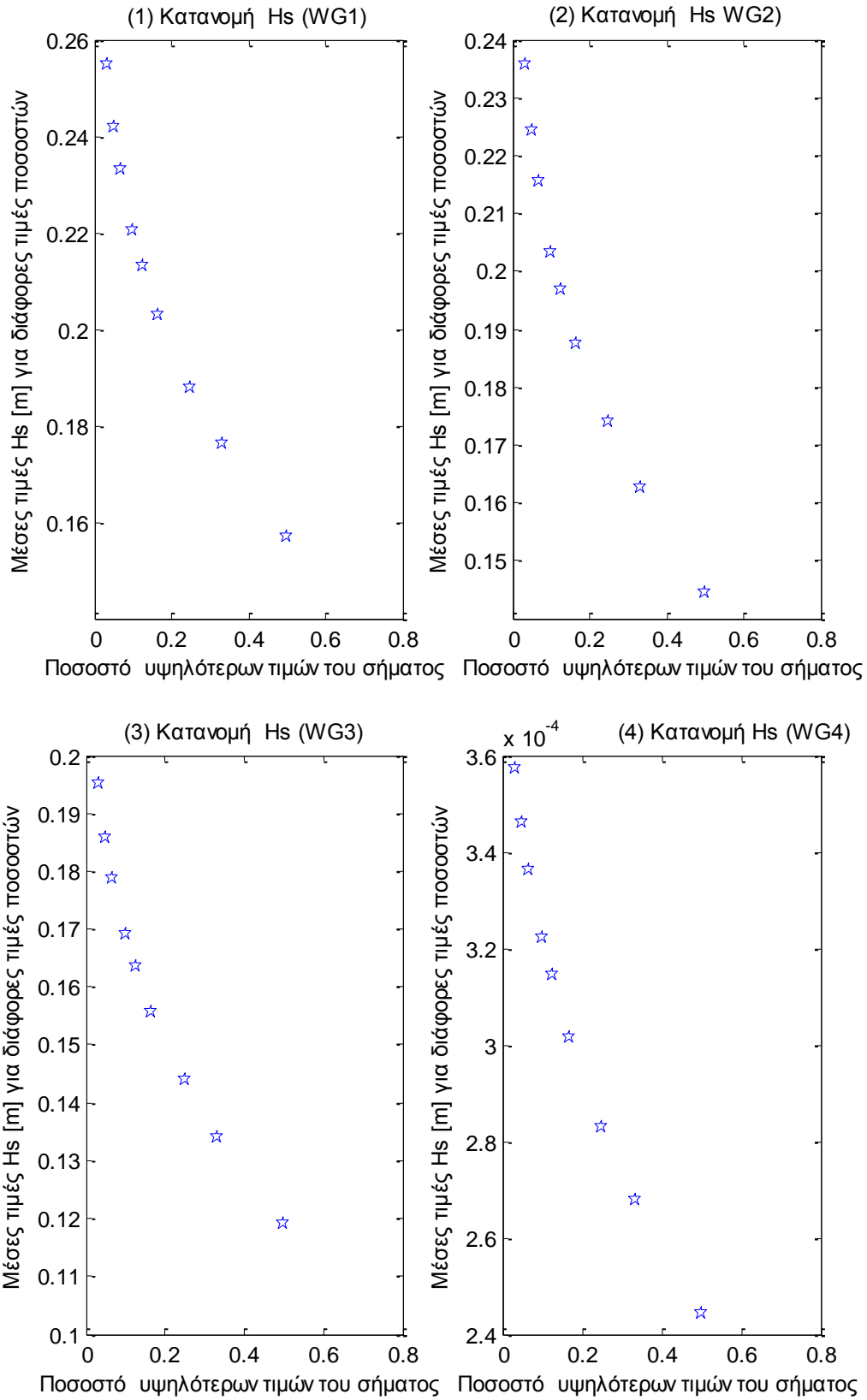


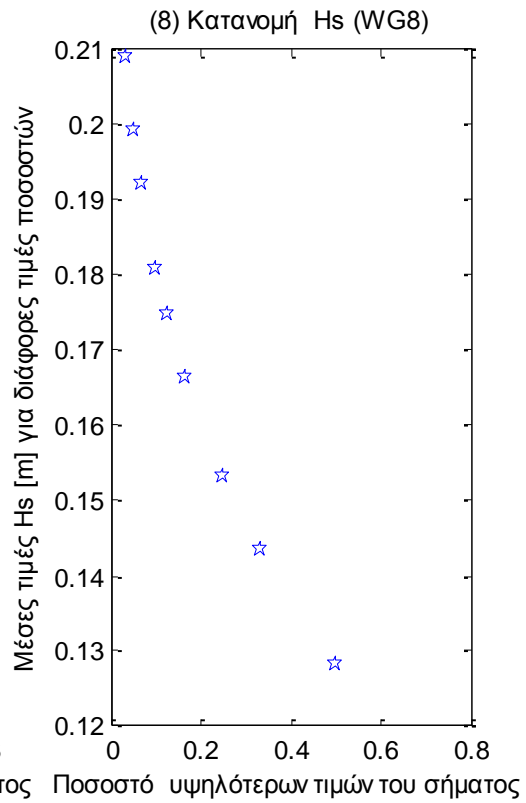
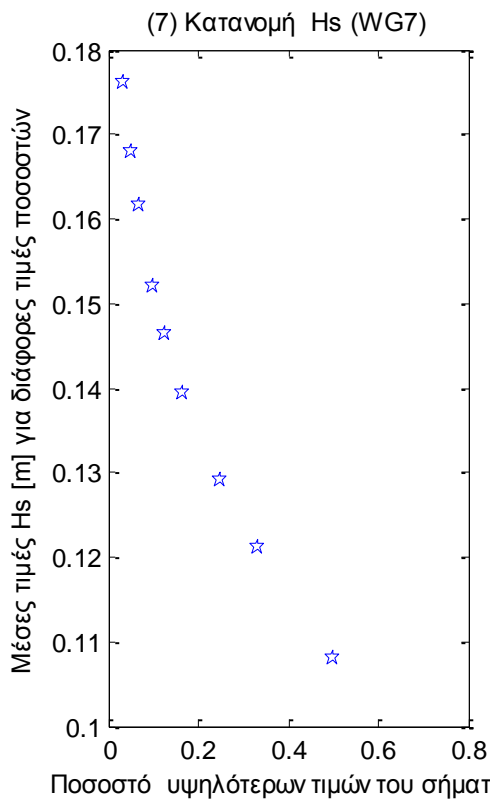
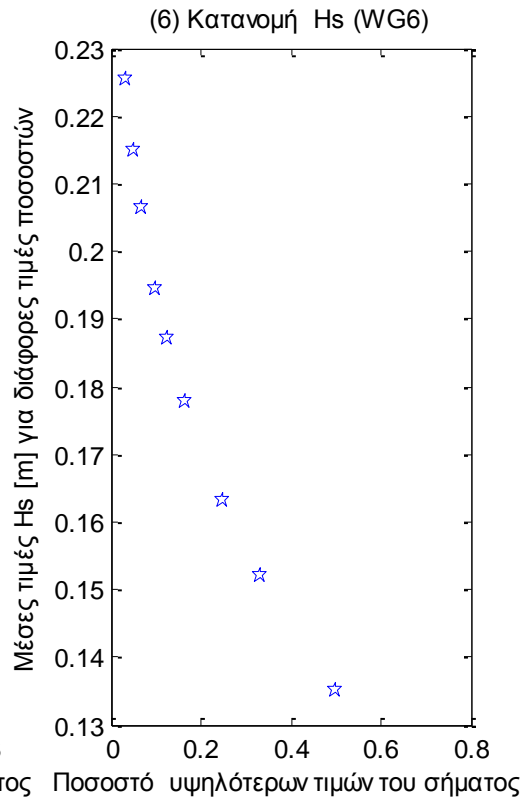
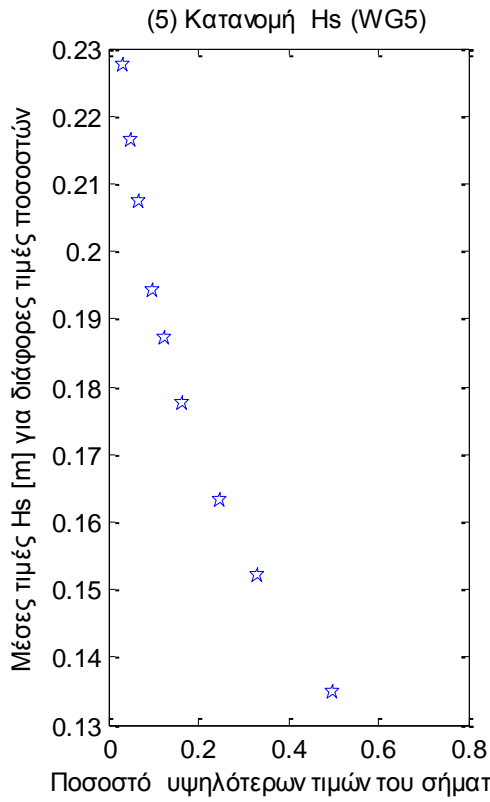
**Σχήματα 2.3.4.5 (1-3)** Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

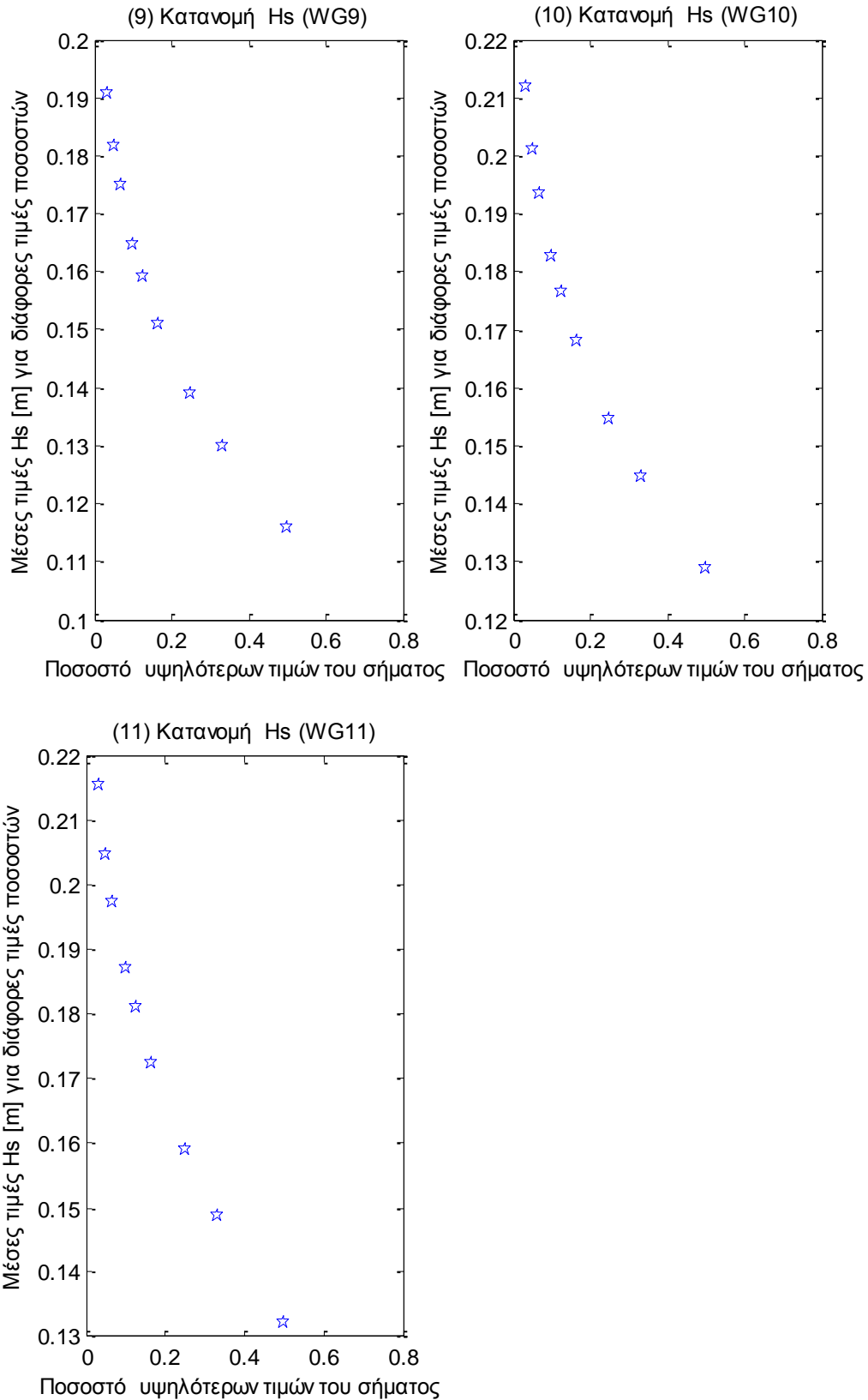




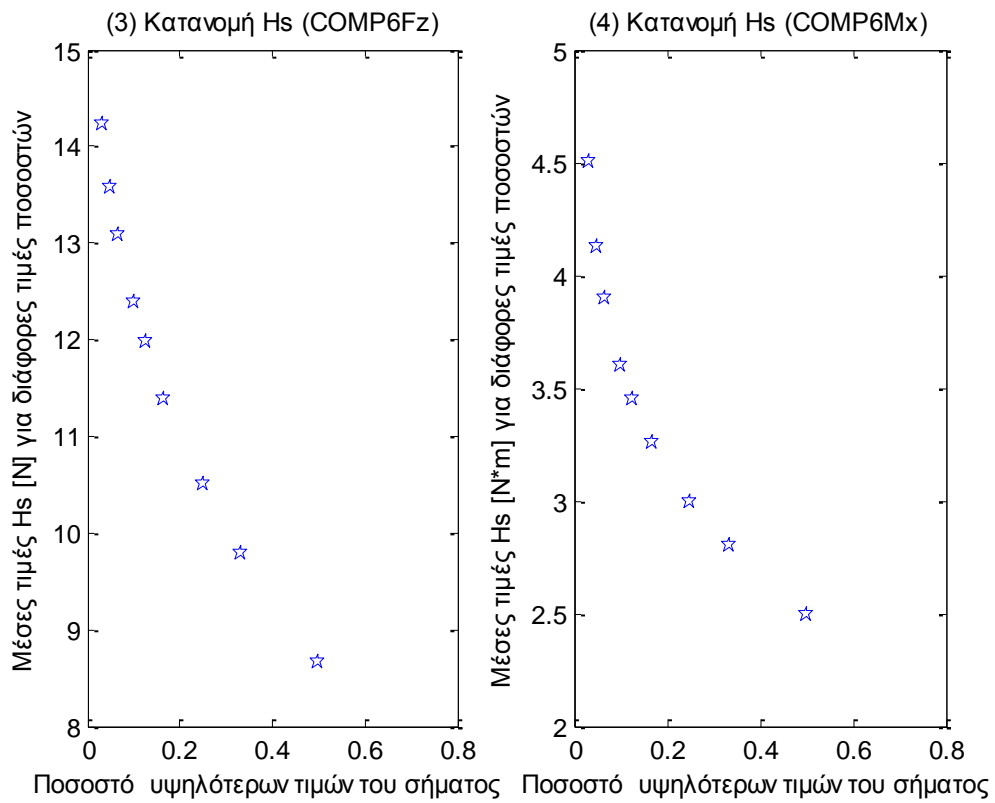
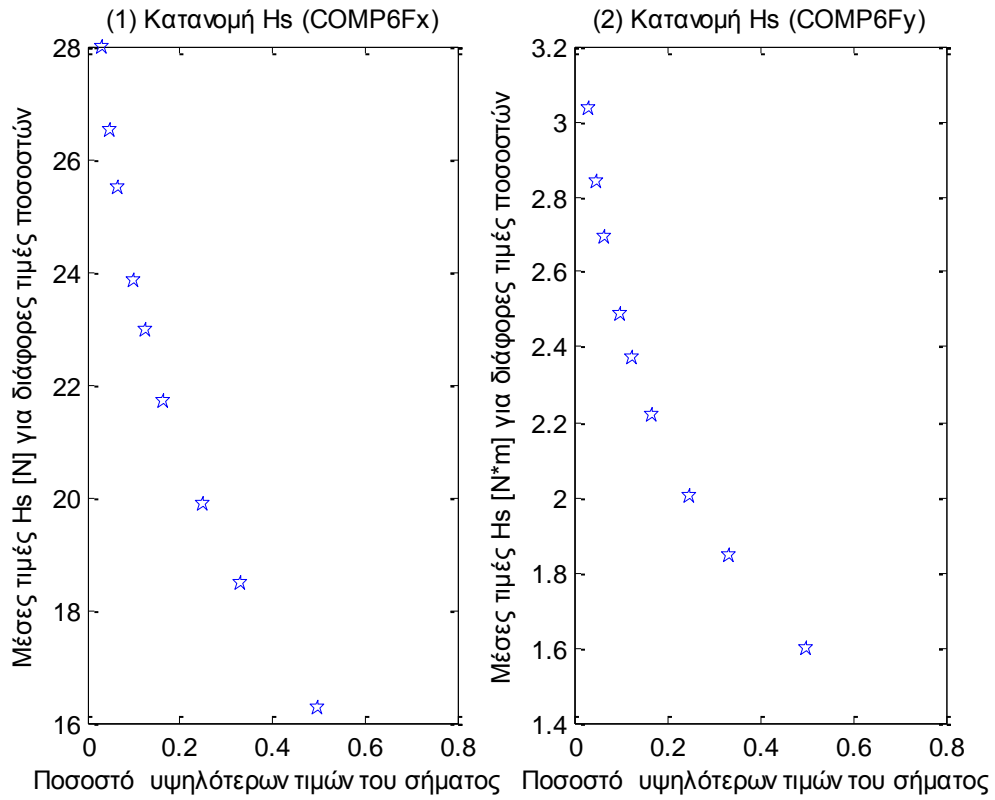
**Σχήματα 2.3.4.6** Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

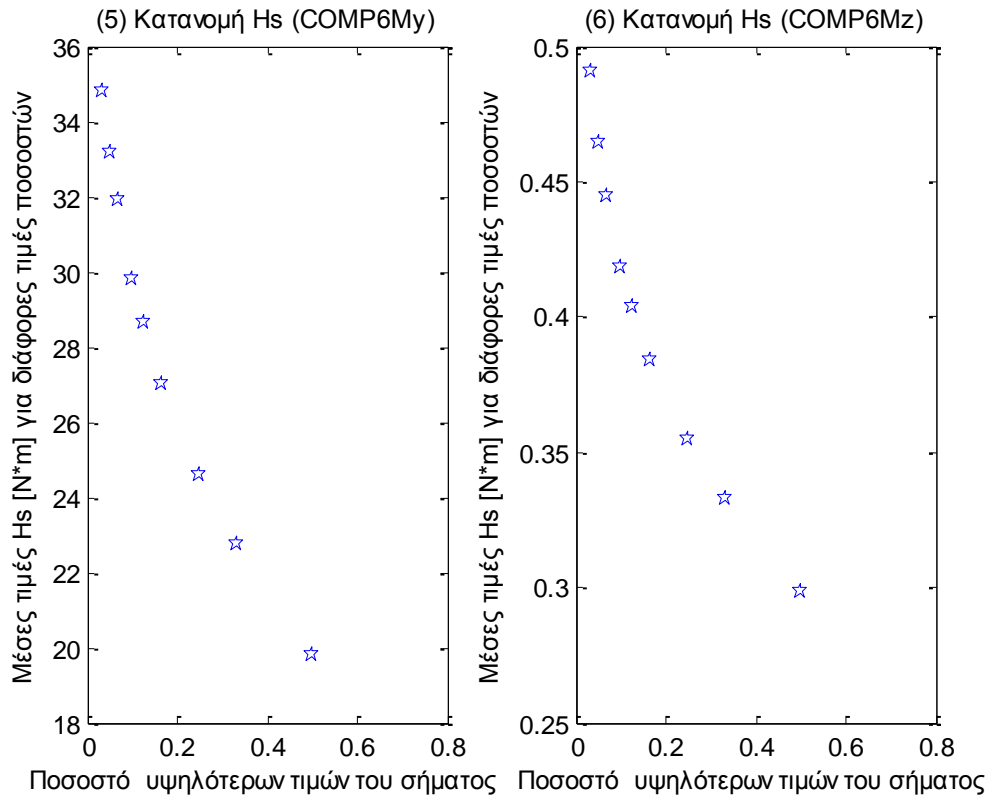




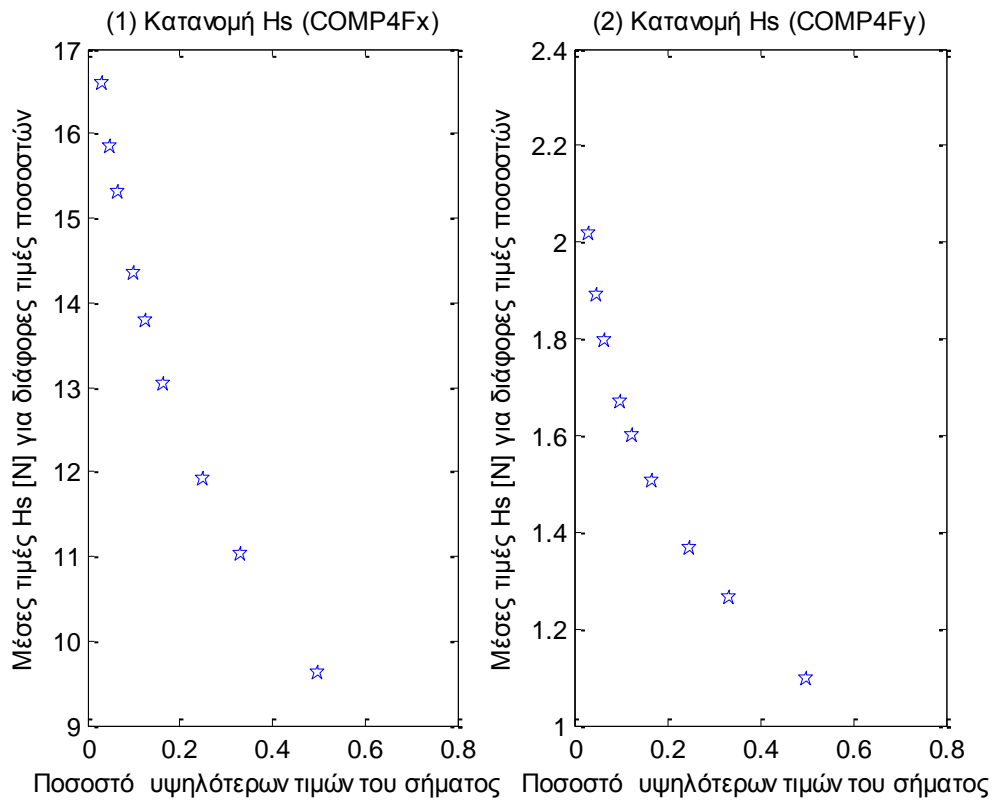


**Σχήματα 2.3.5.1 (1-11)** Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος

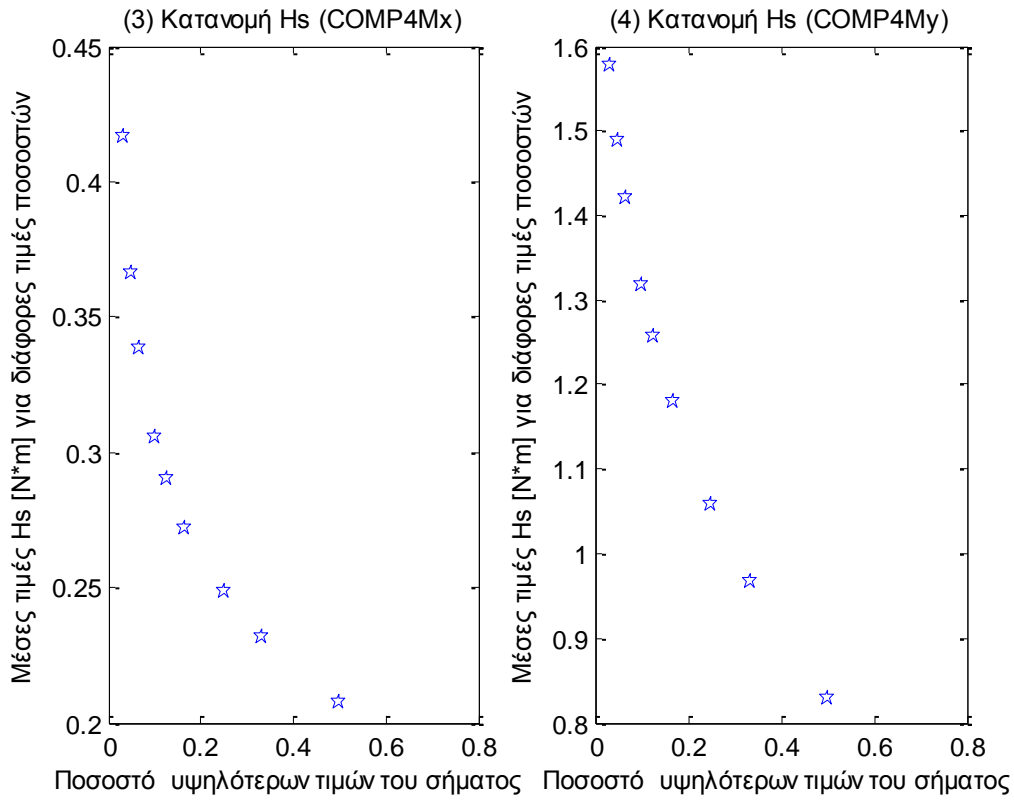




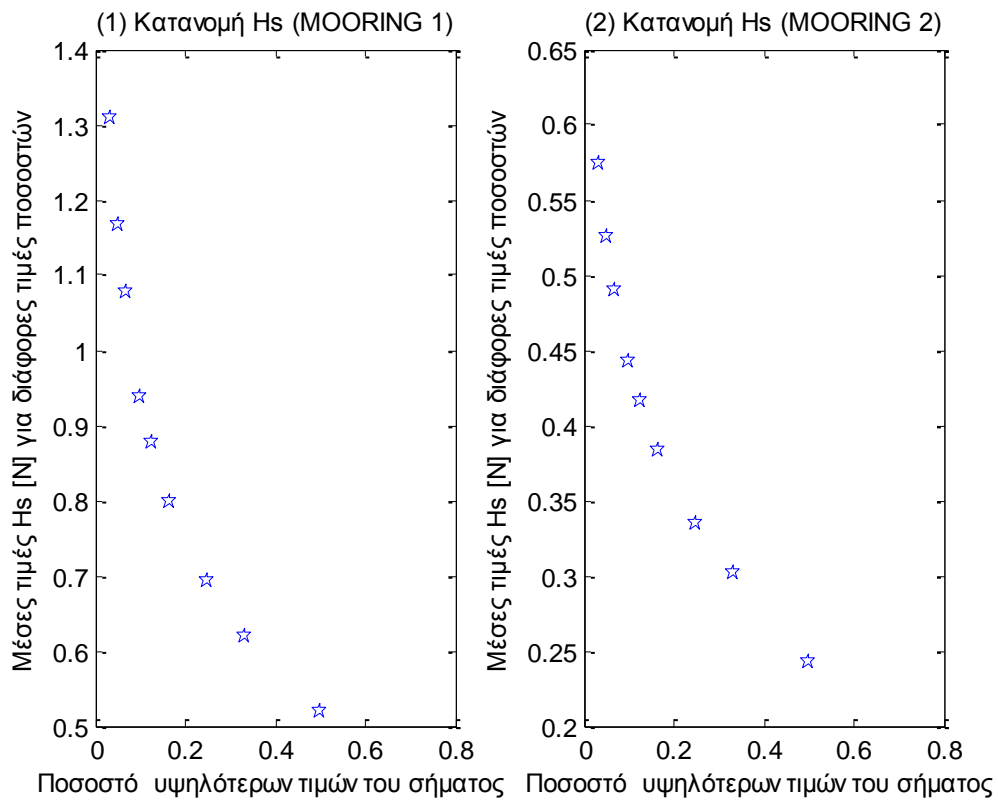
**Σχήματα 2.3.5.2** Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

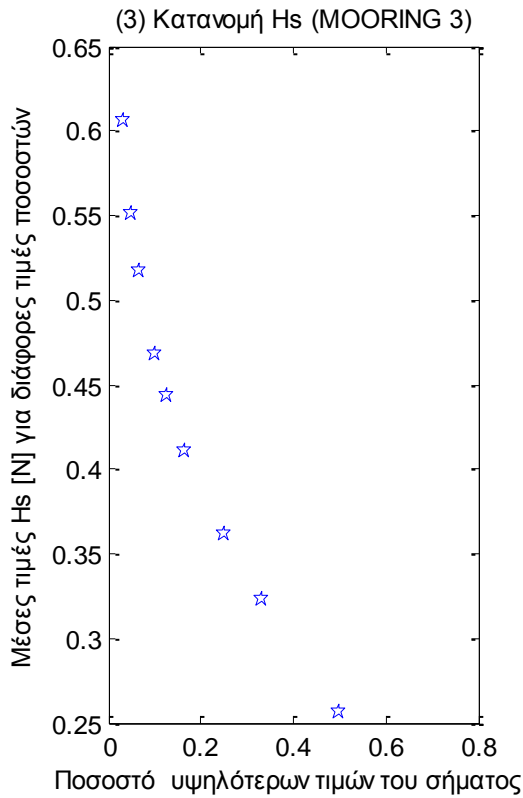




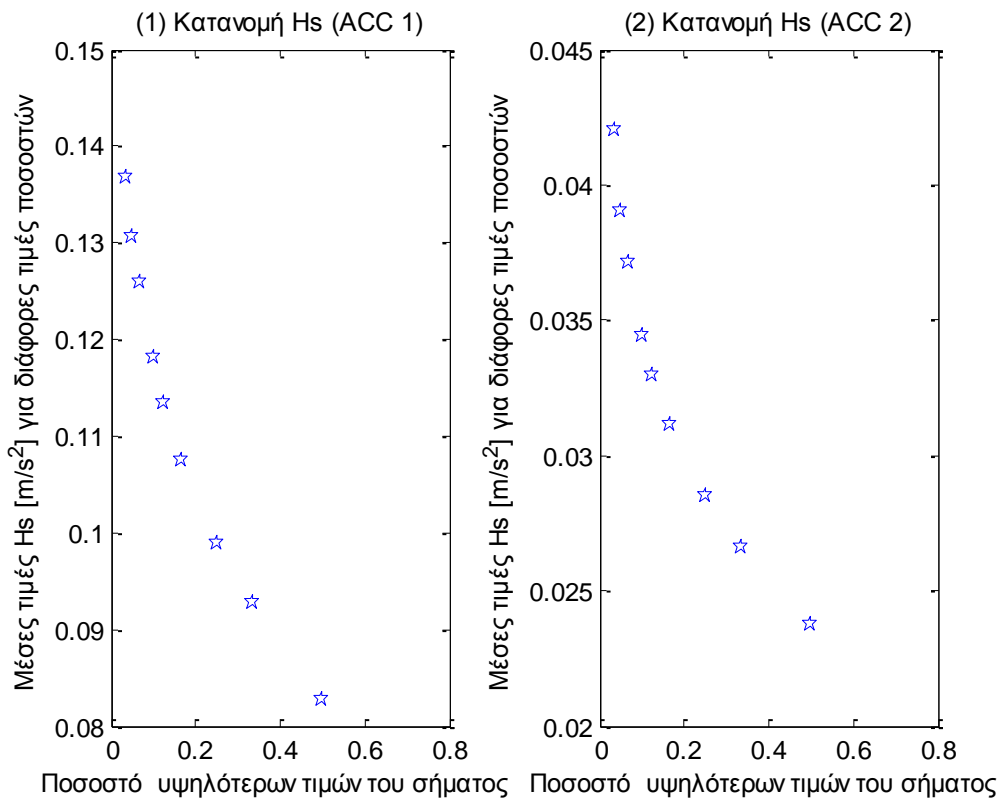


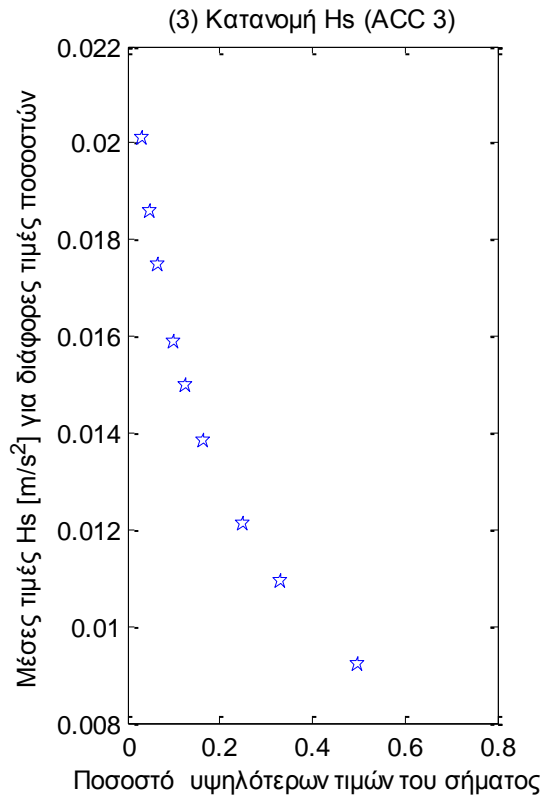
**Σχήματα 2.3.5.3** Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



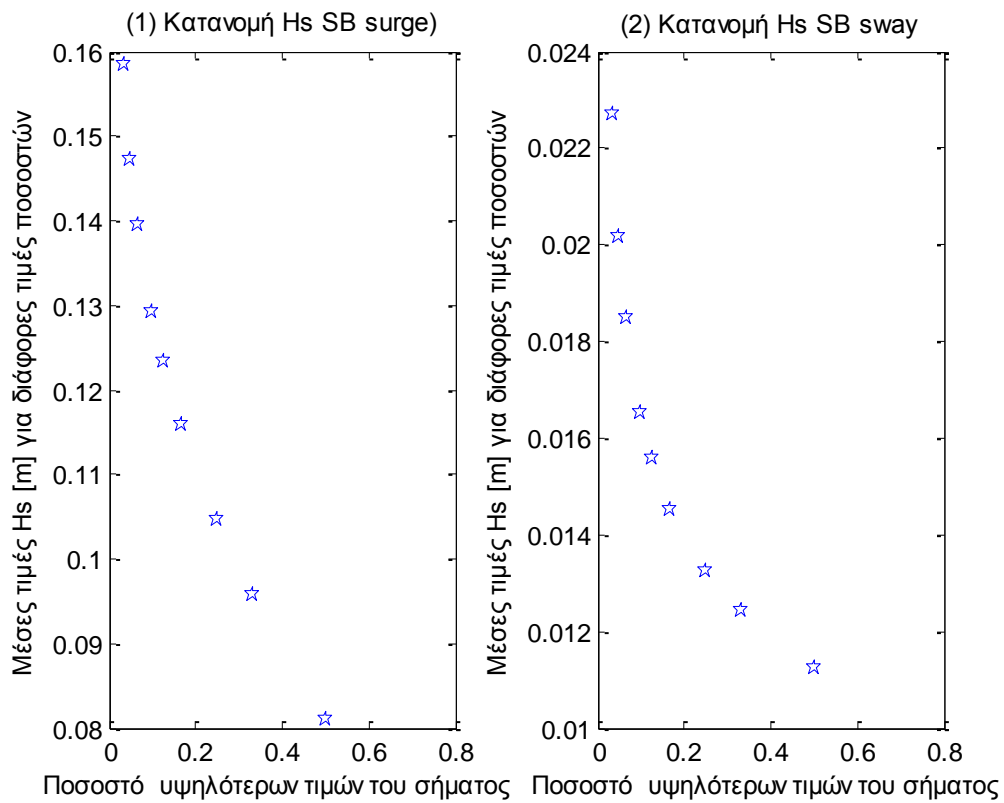


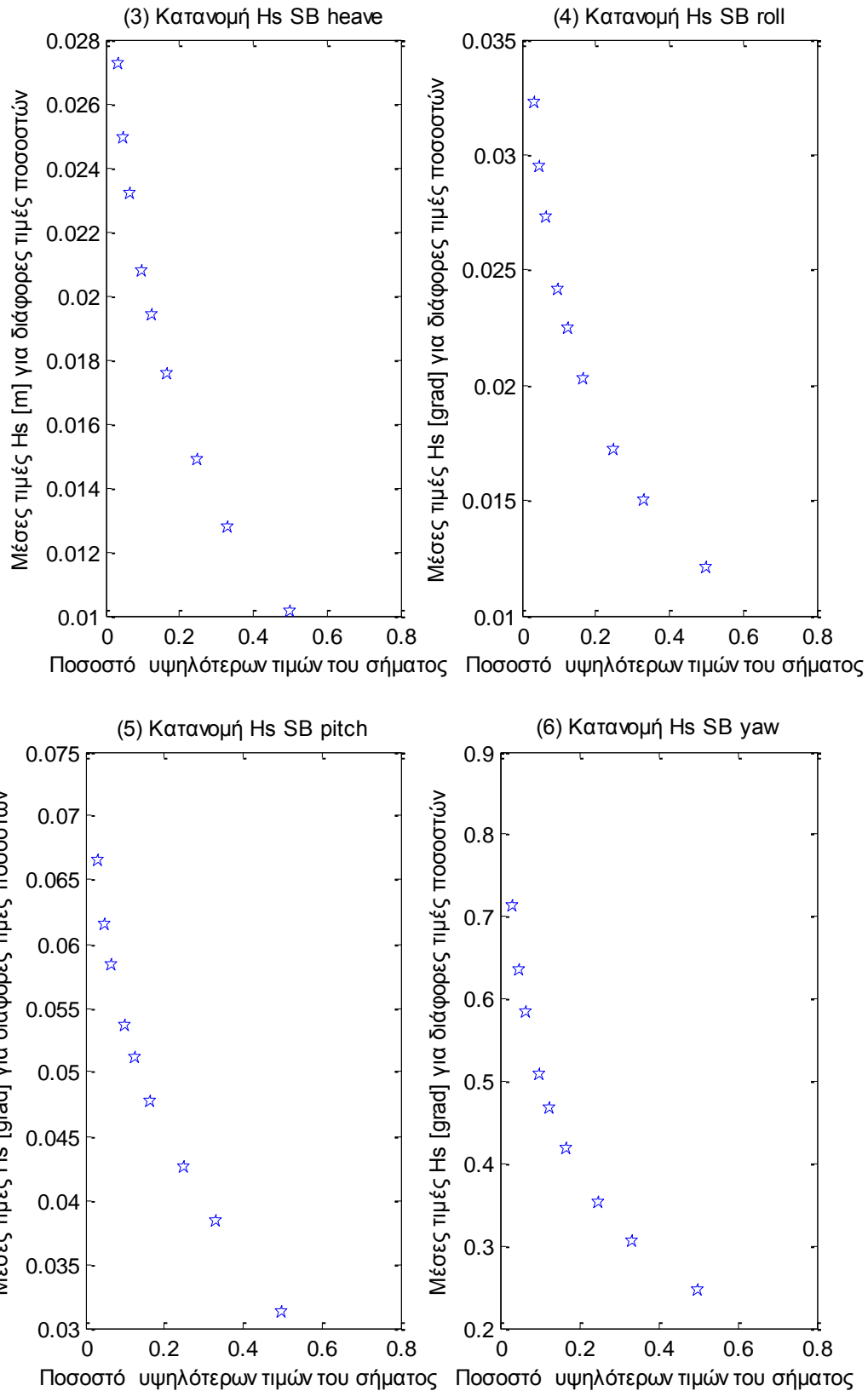
**Σχήματα 2.3.5.4 (1-4)** Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης



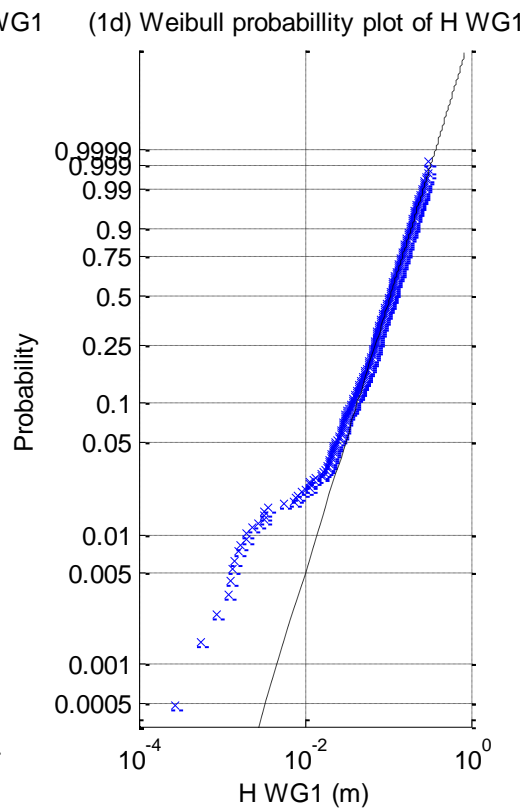
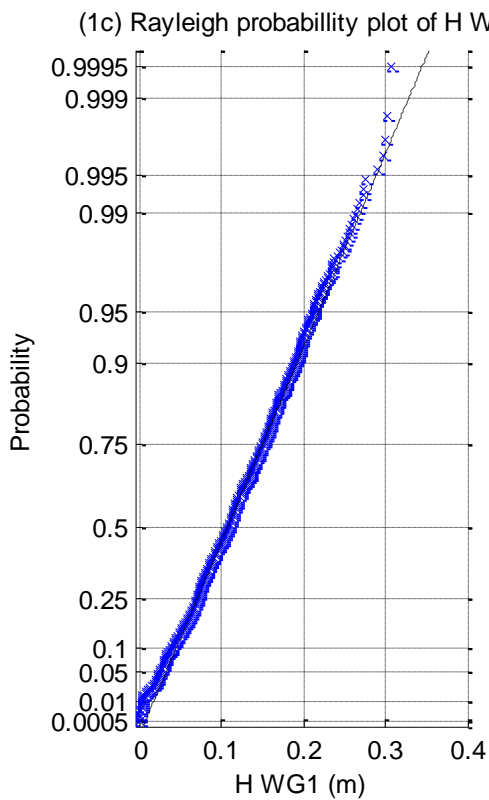
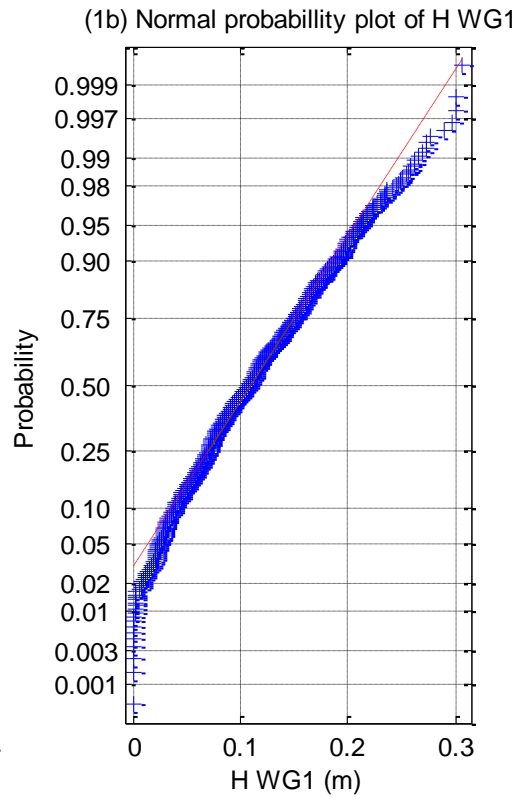
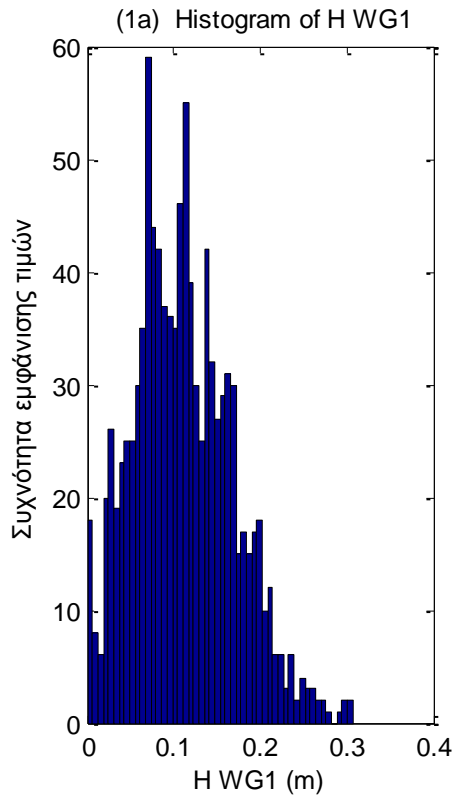


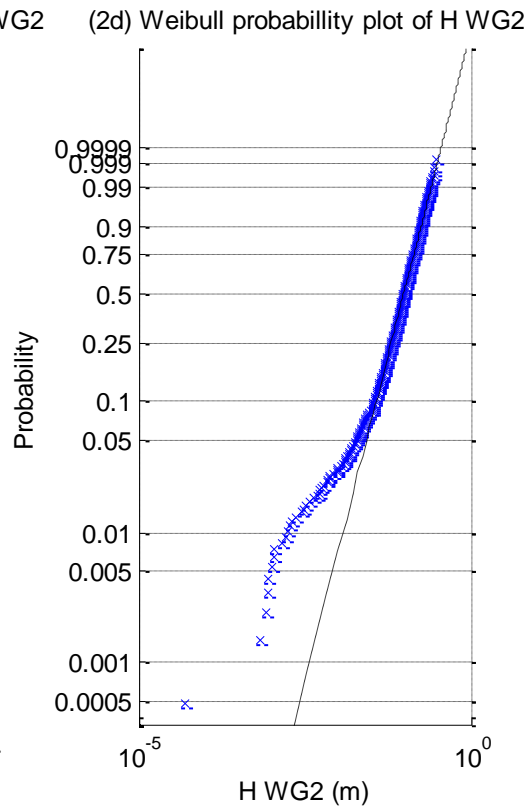
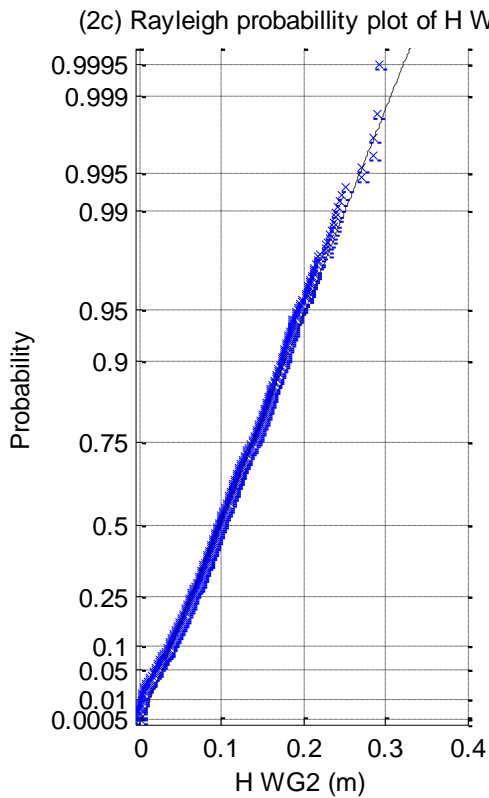
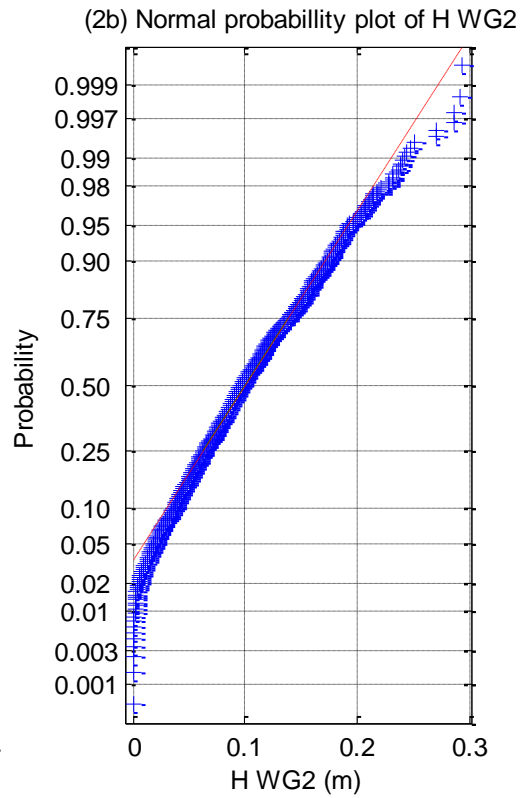
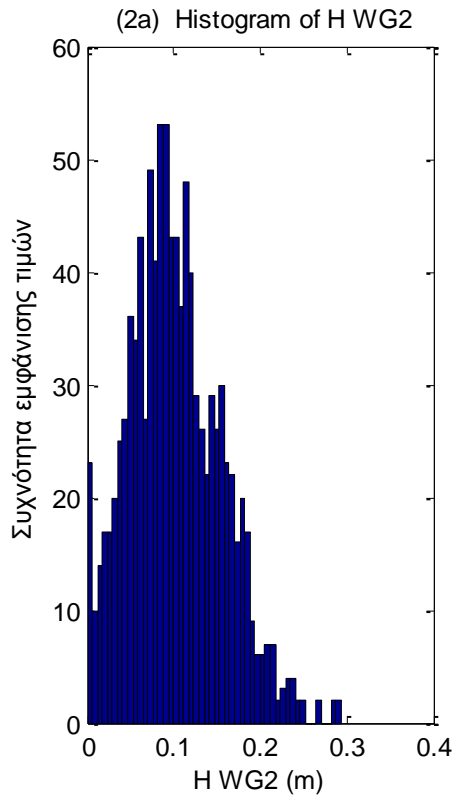
**Σχήματα 2.3.5.5 (1-3)** Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

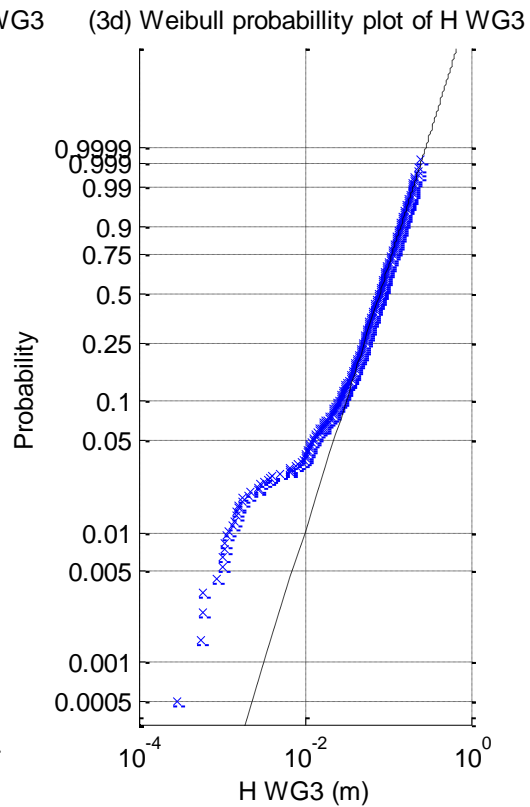
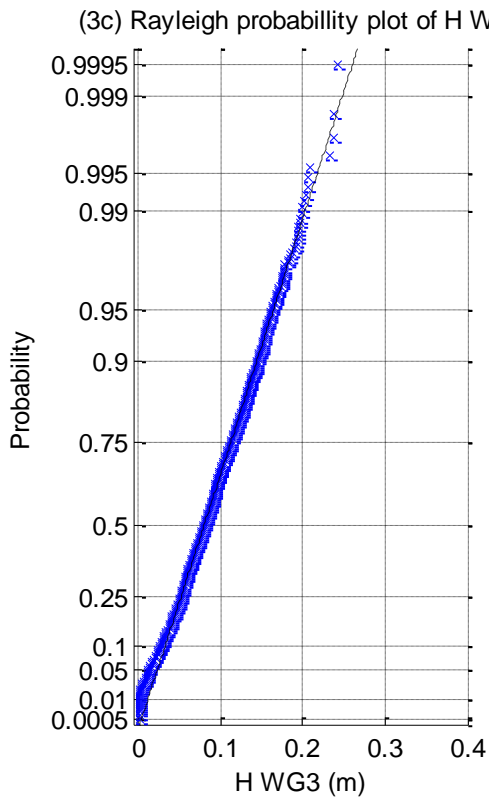
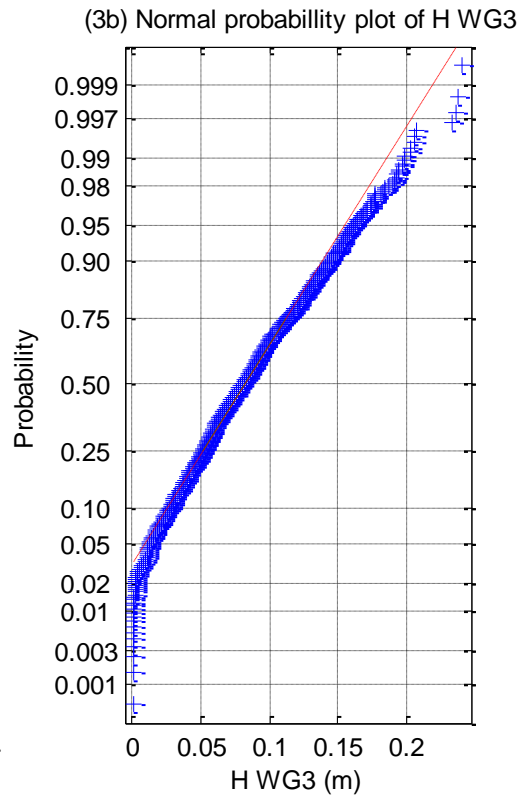
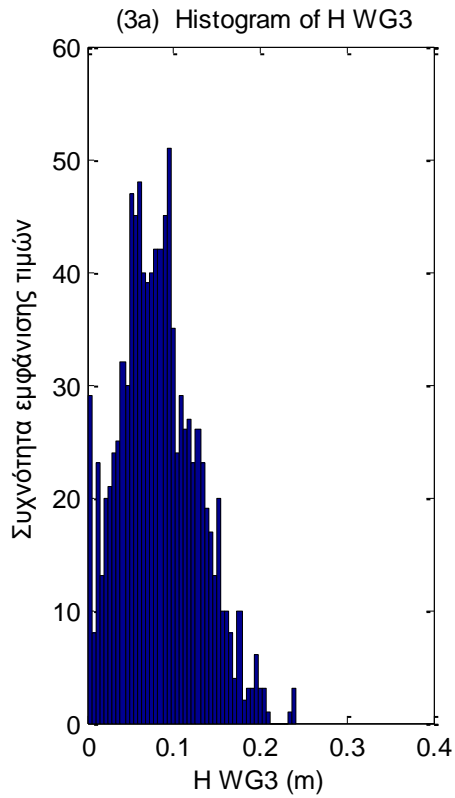


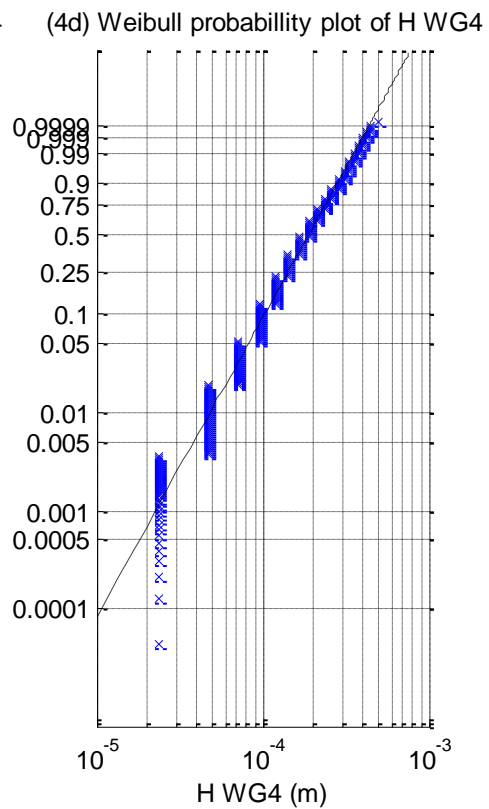
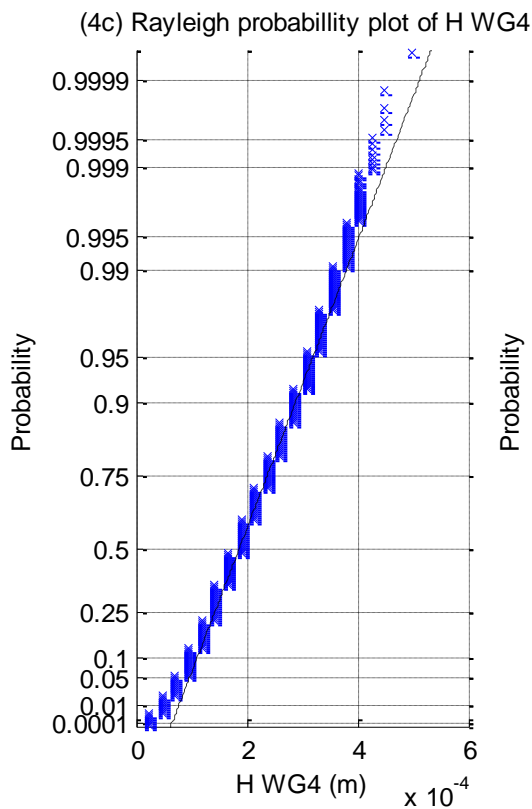
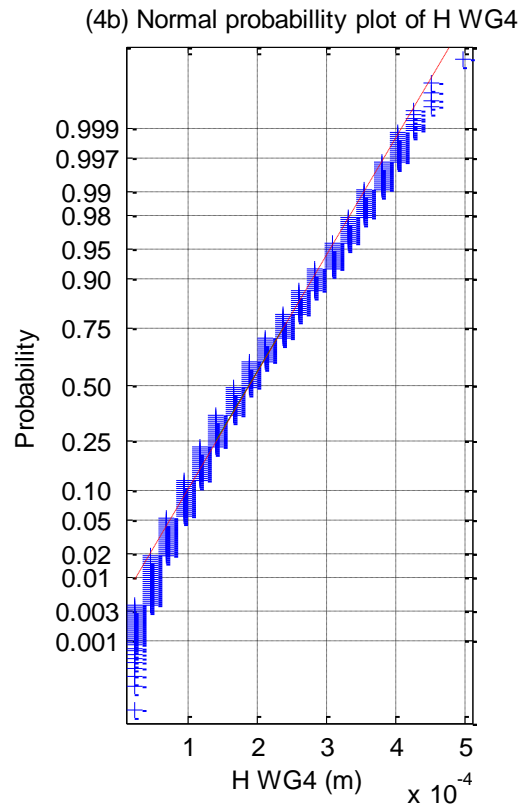
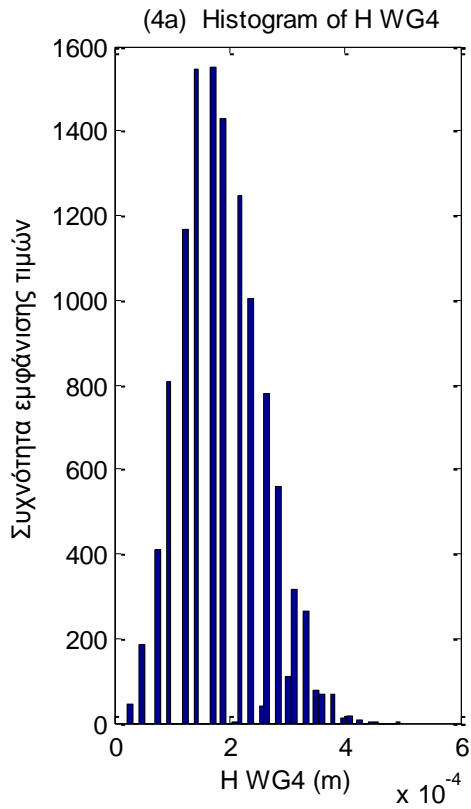


**Σχήματα 2.3.5.6** Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

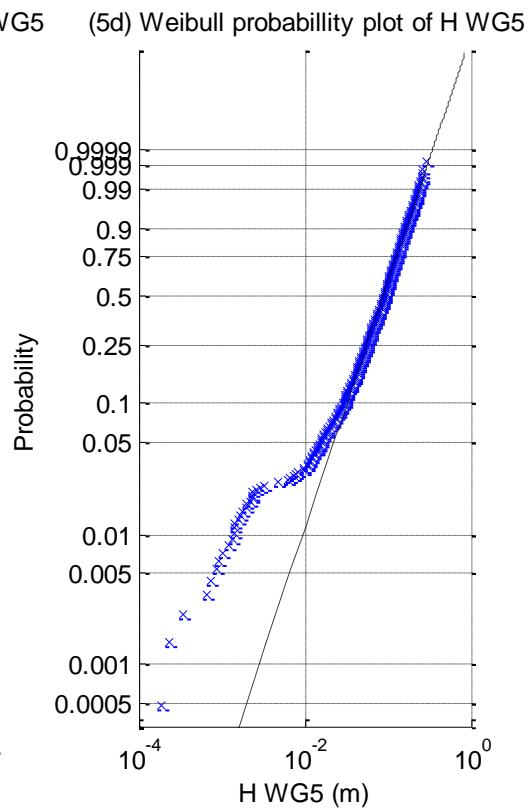
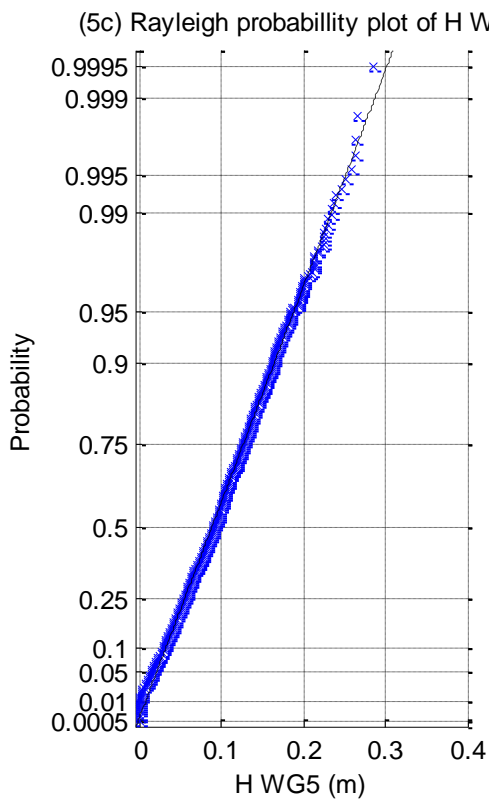
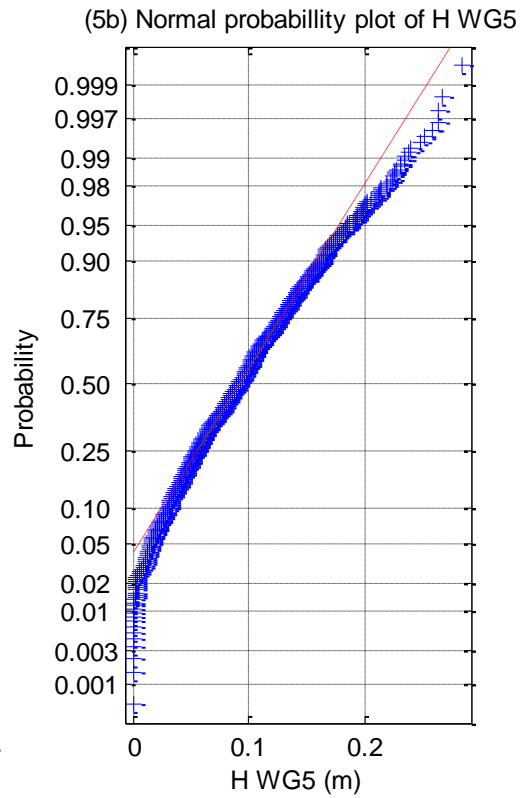
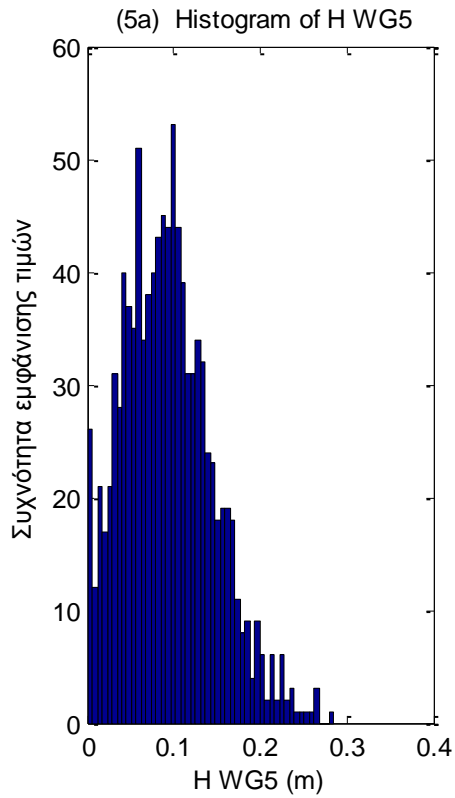


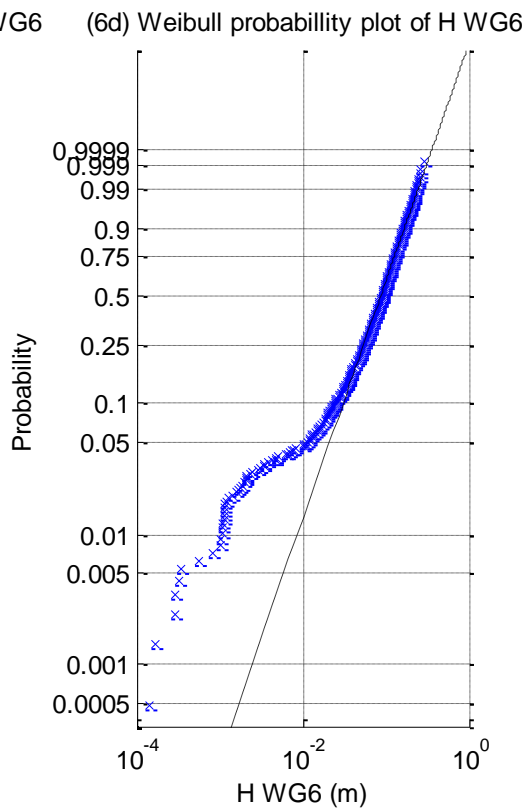
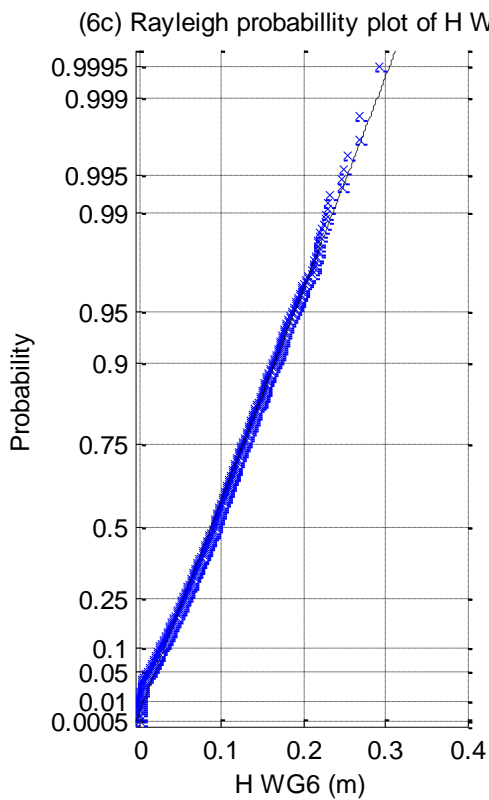
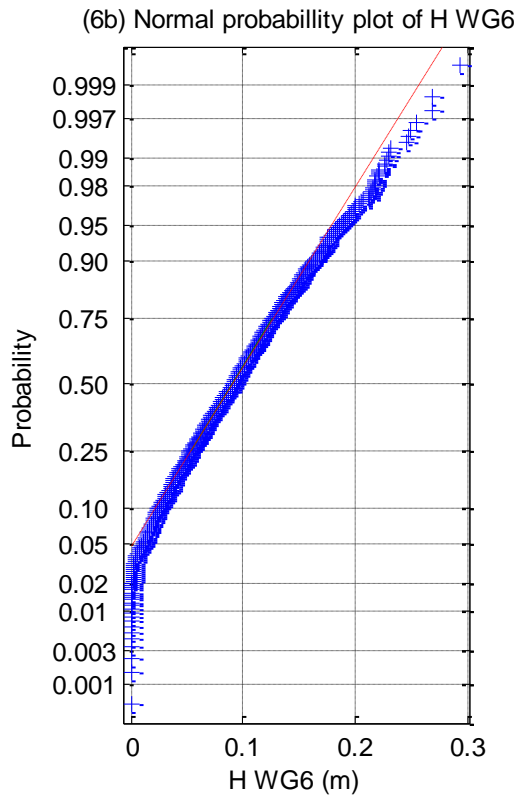
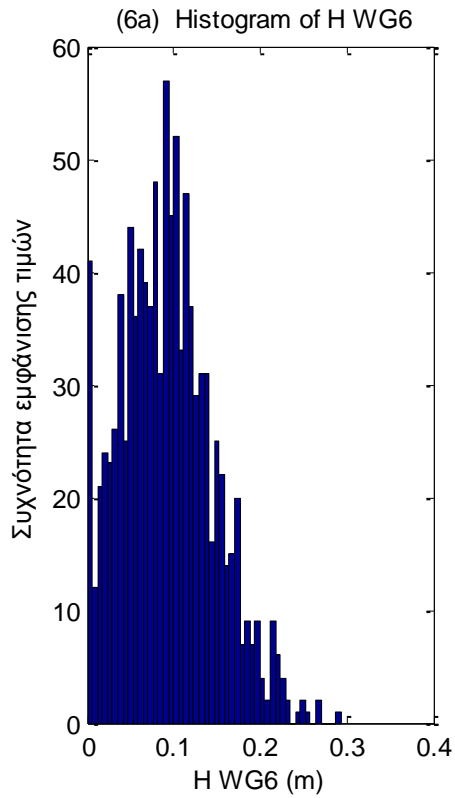


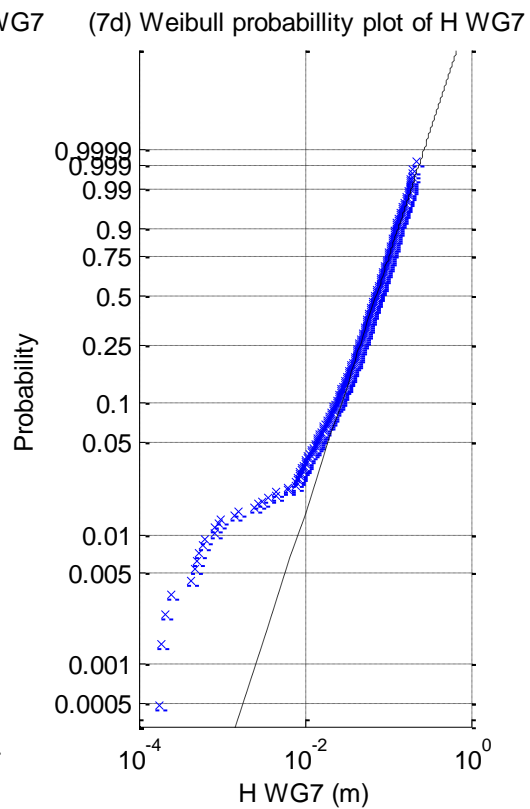
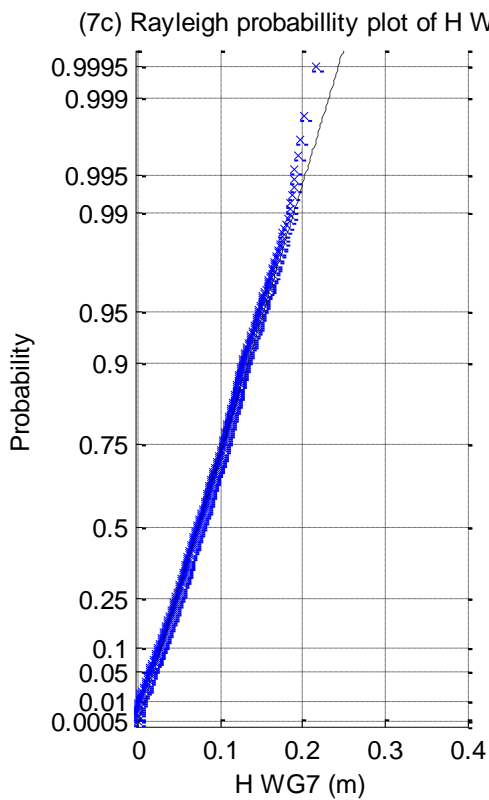
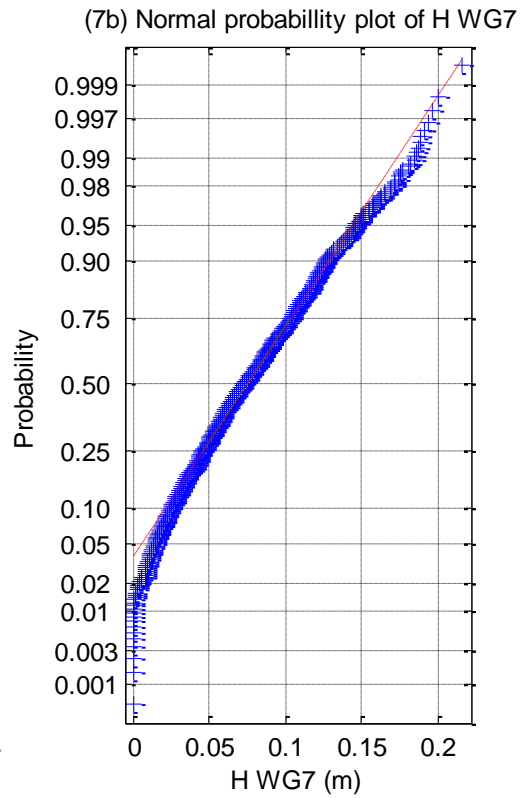
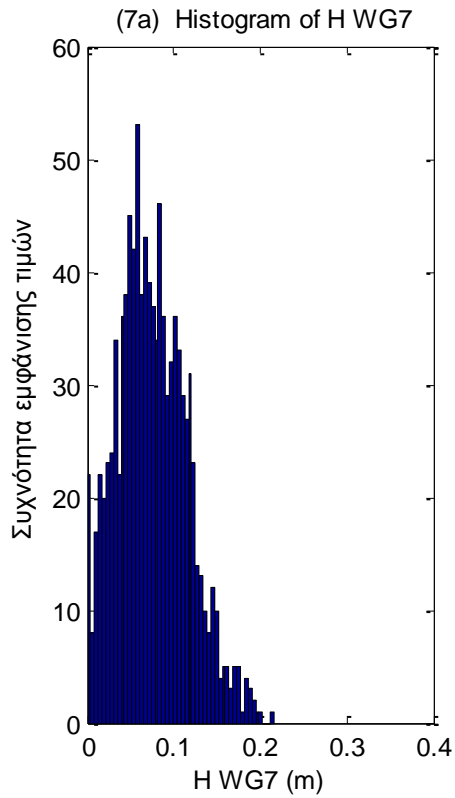


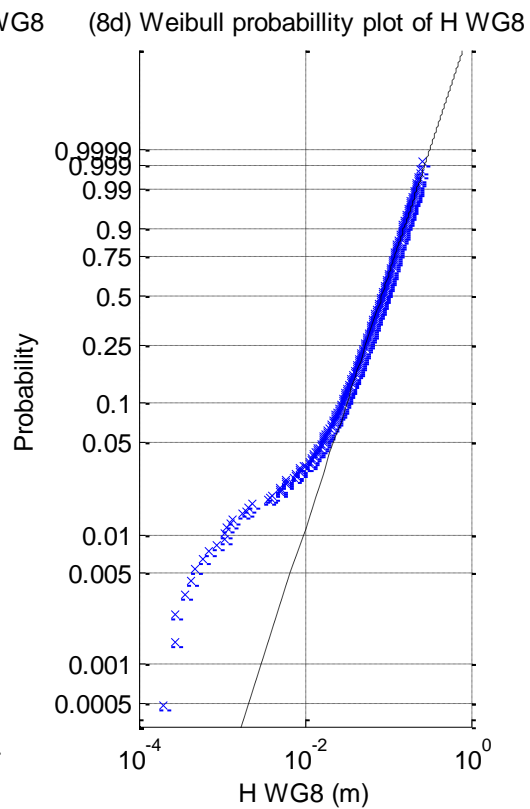
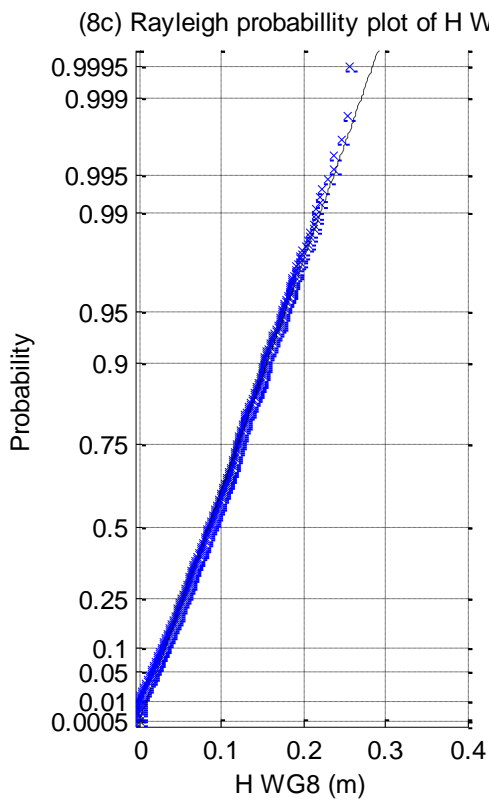
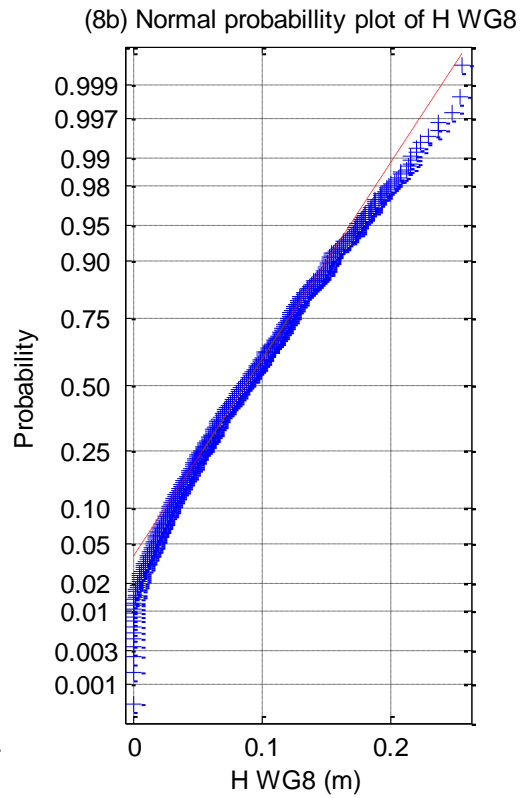
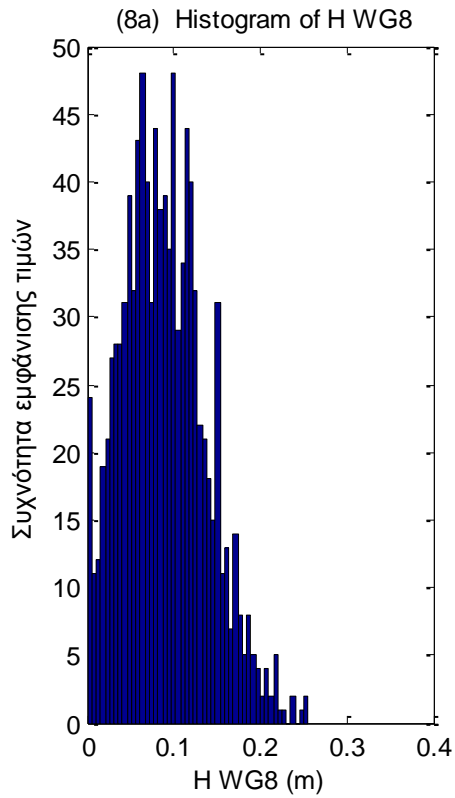


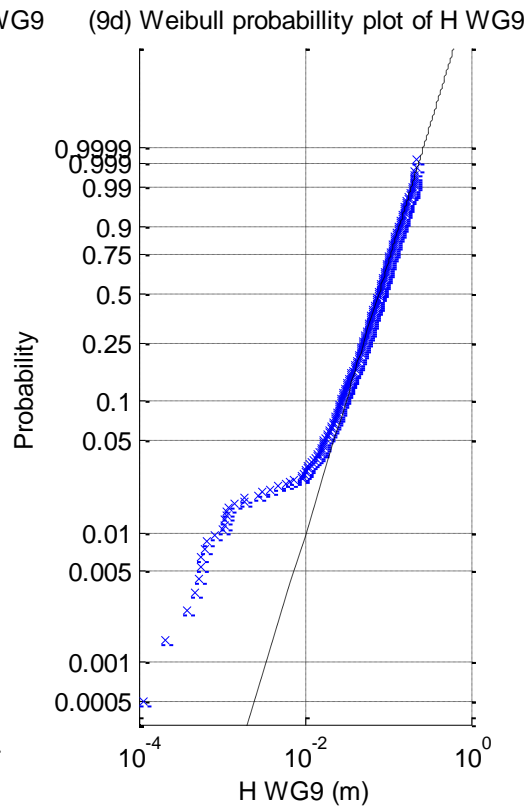
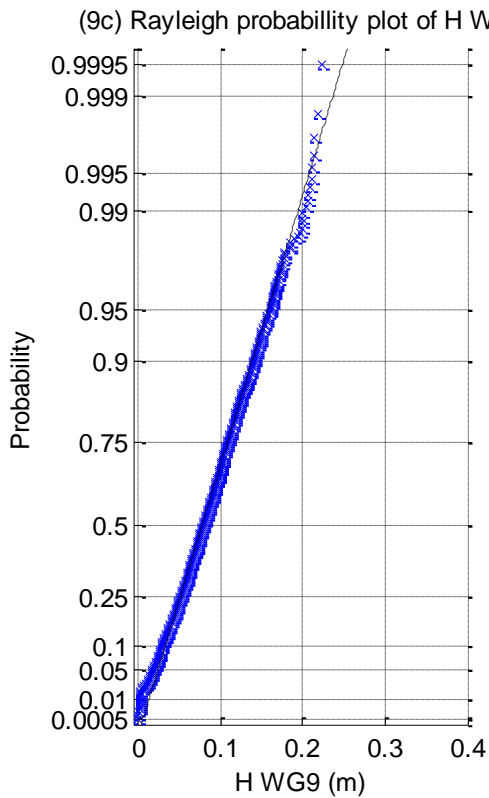
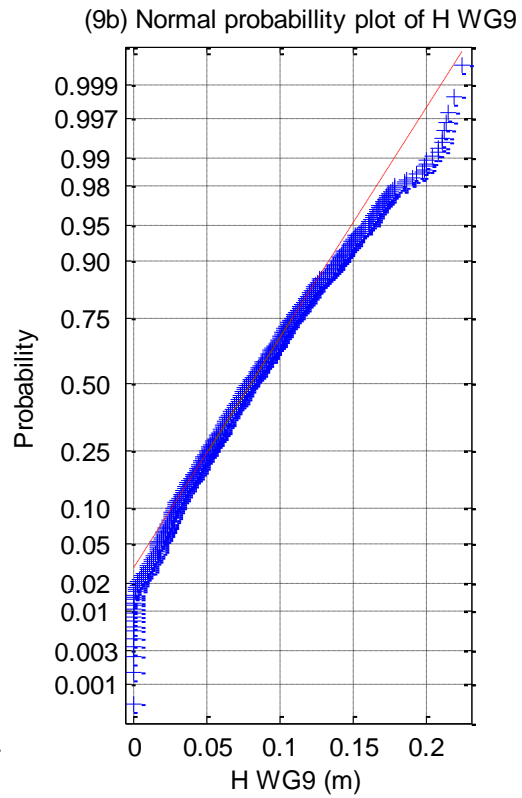
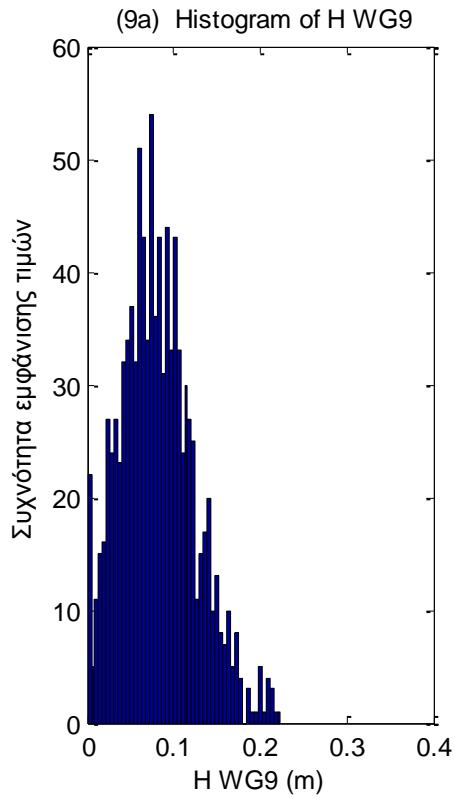


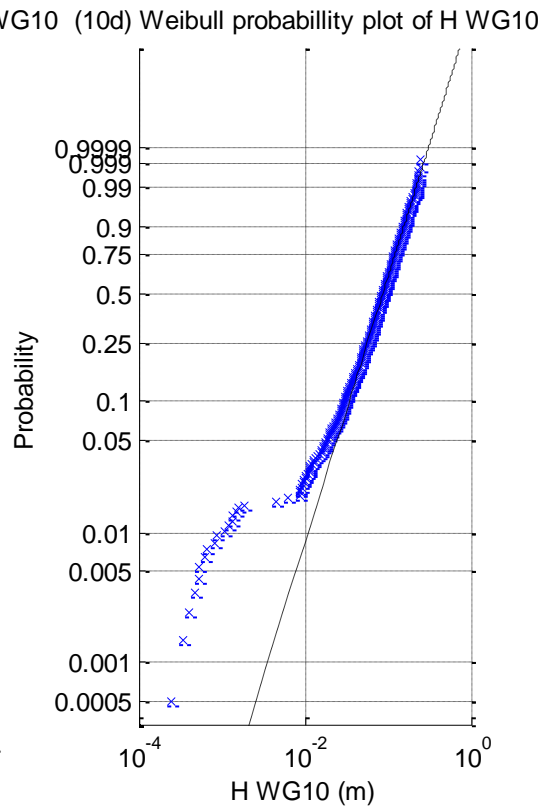
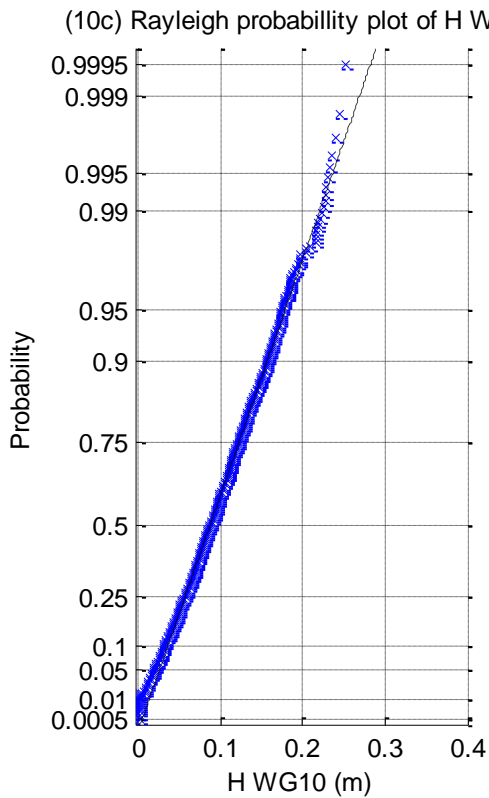
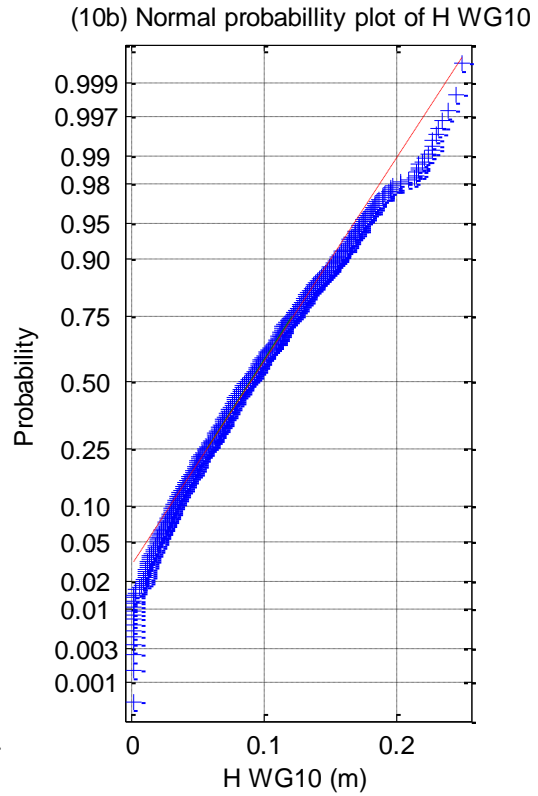
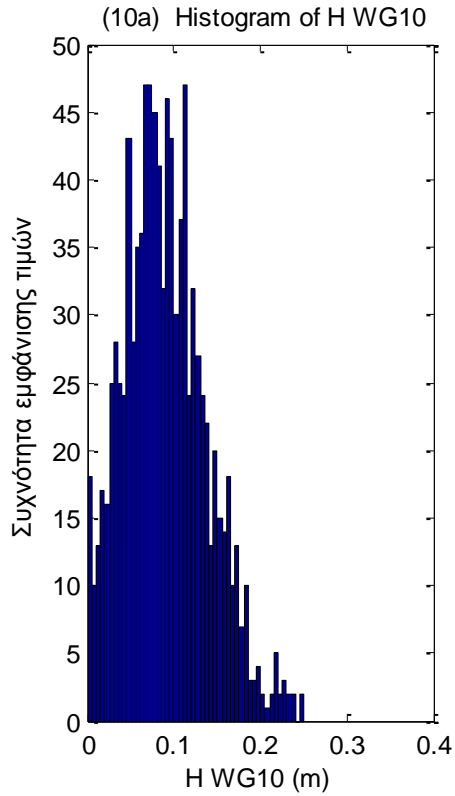


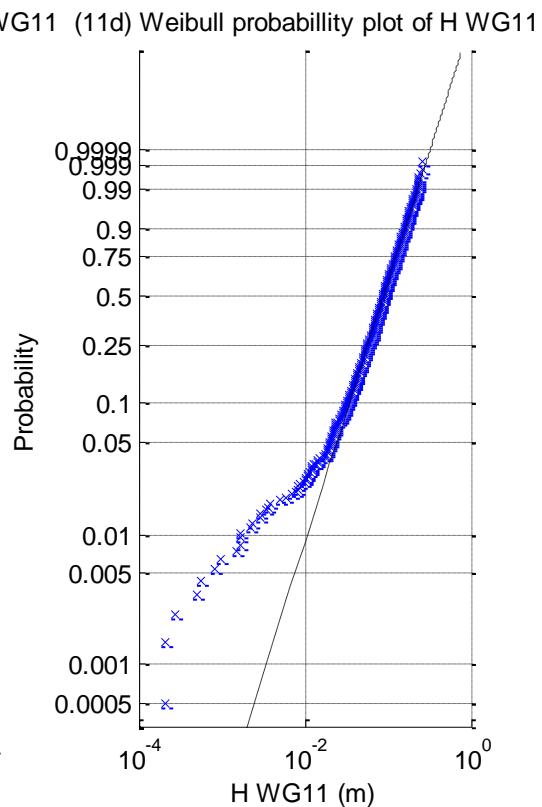
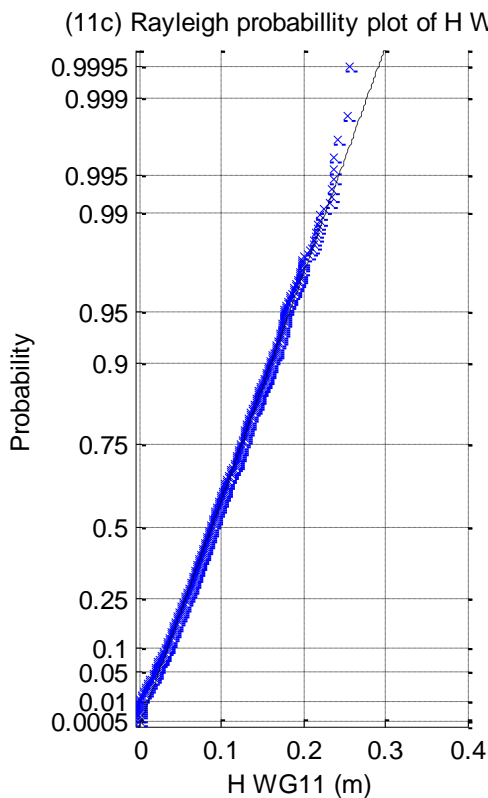
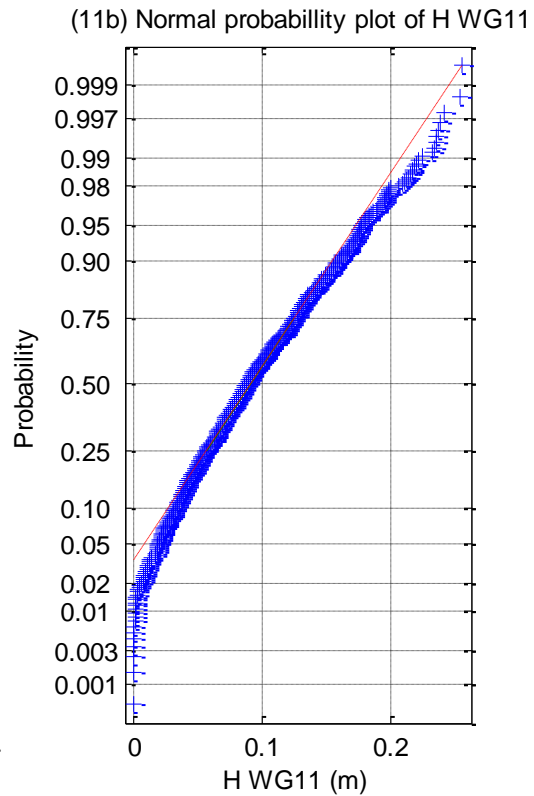
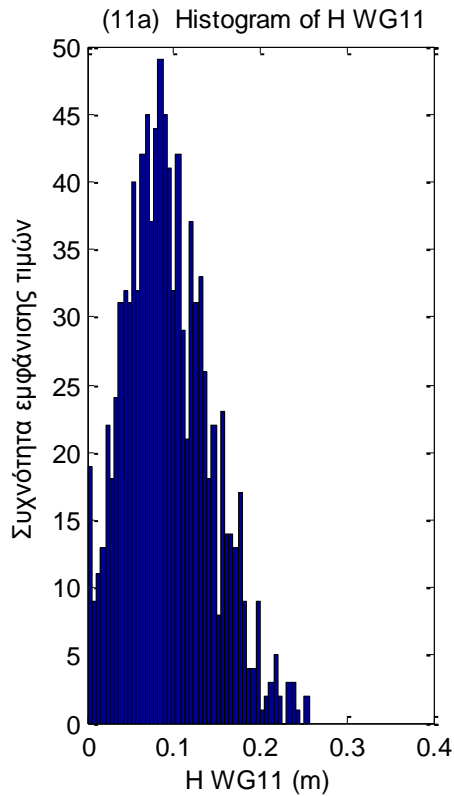




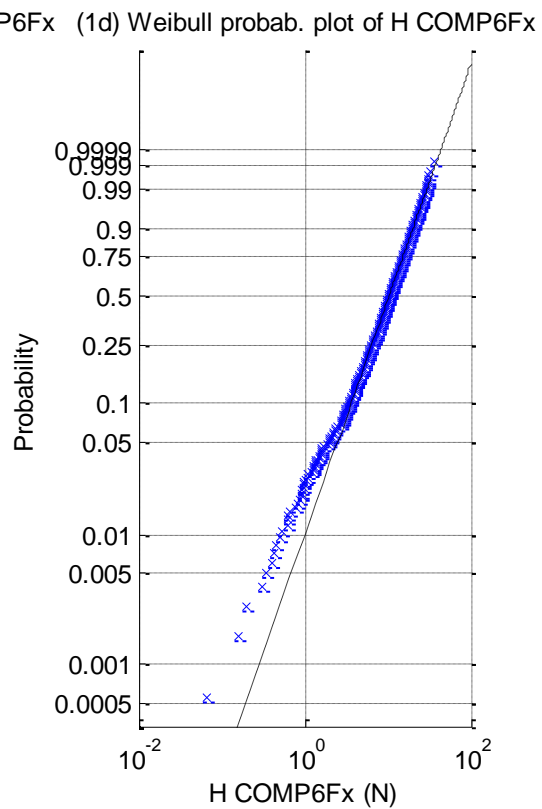
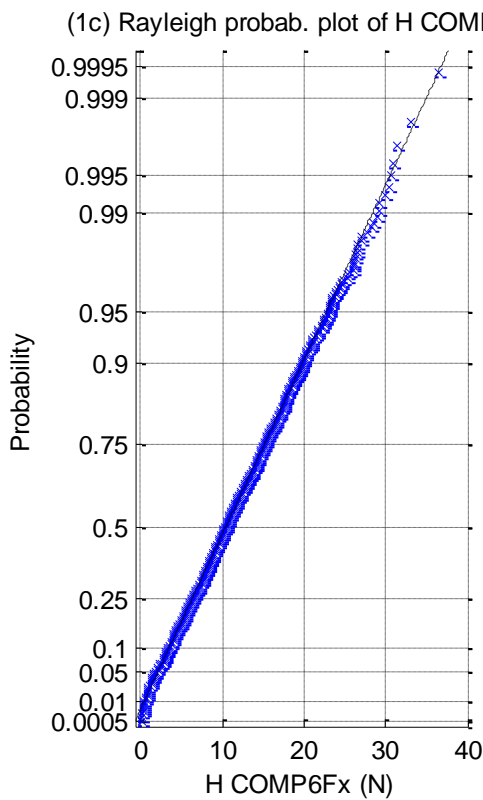
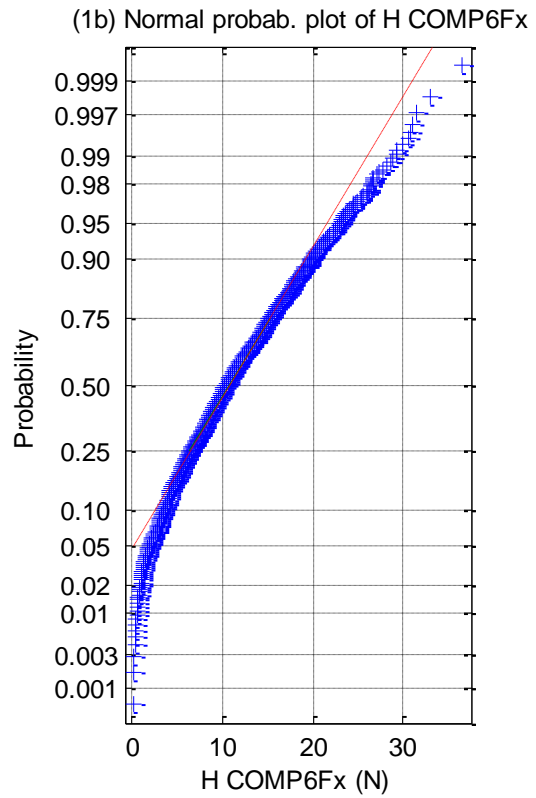
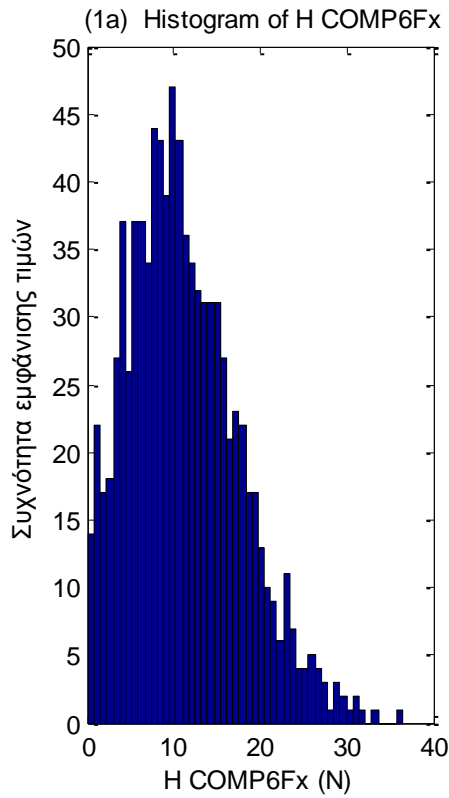




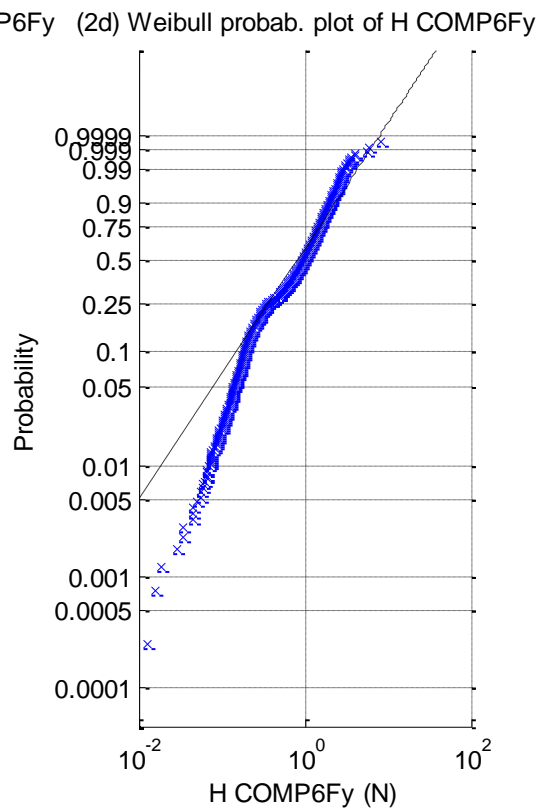
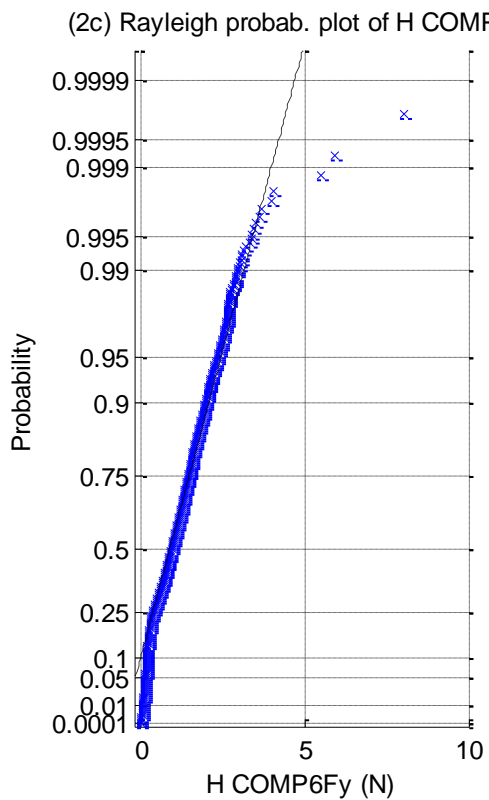
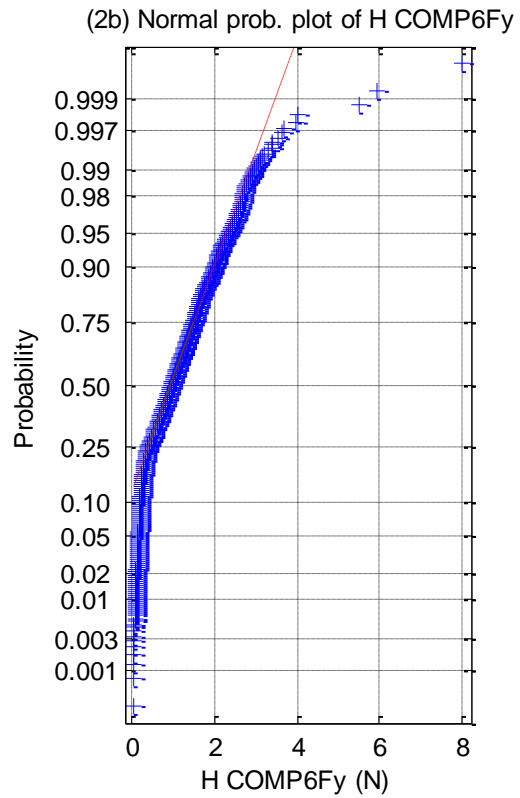
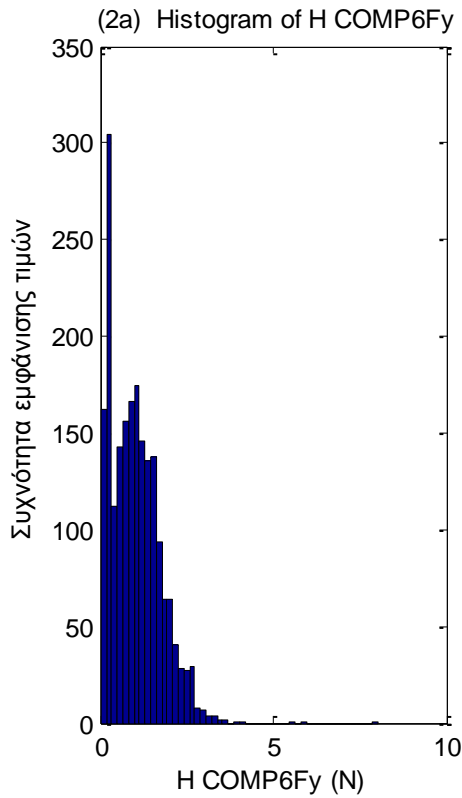


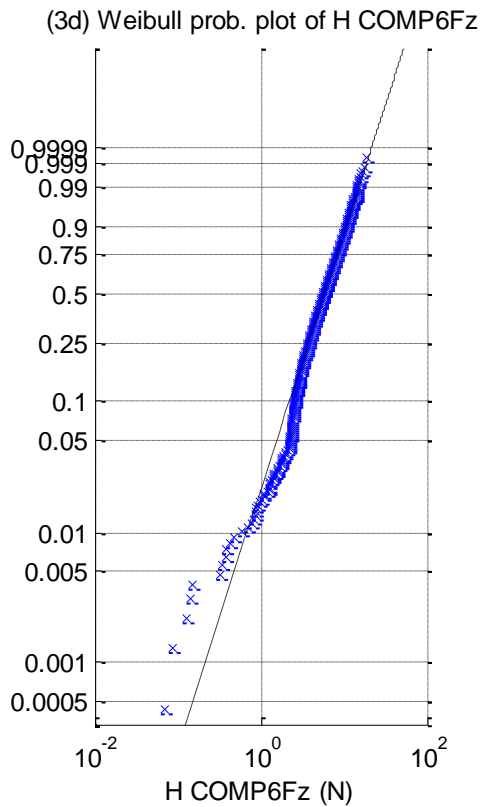
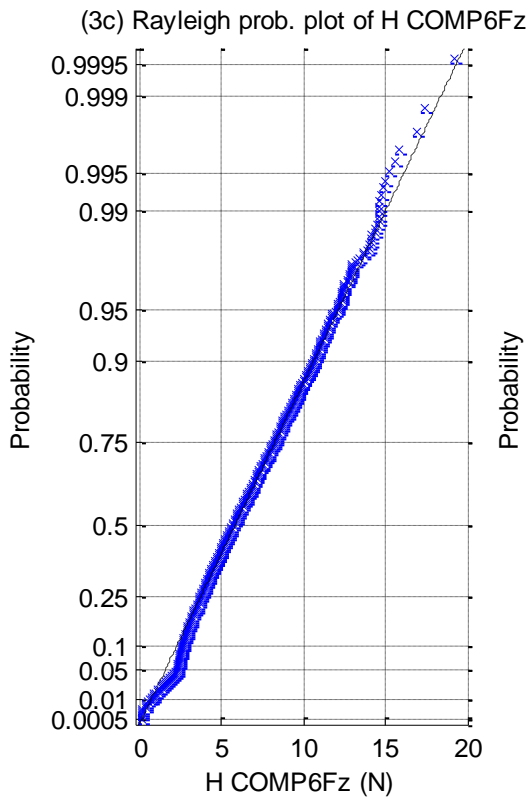
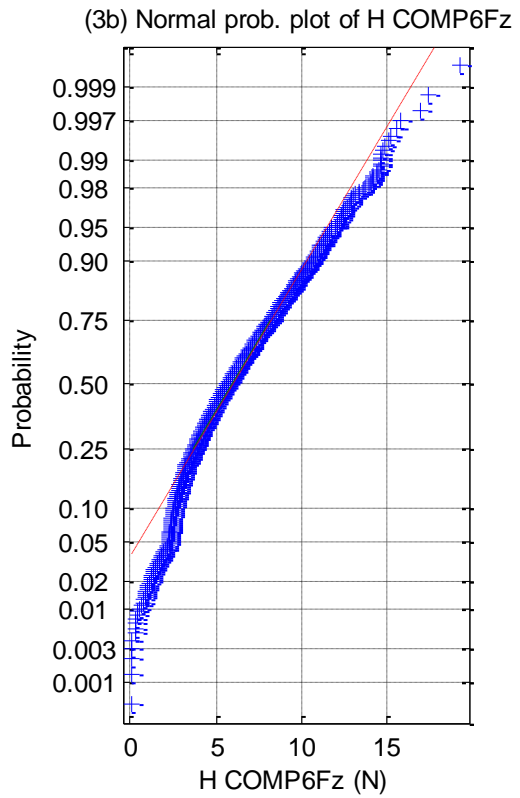
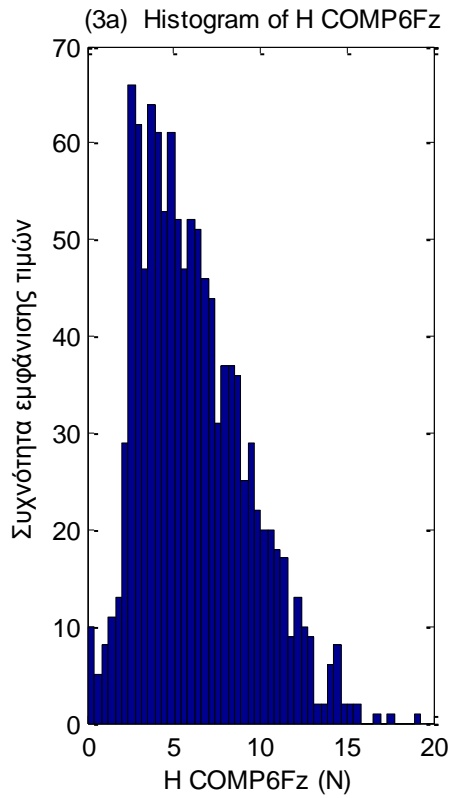


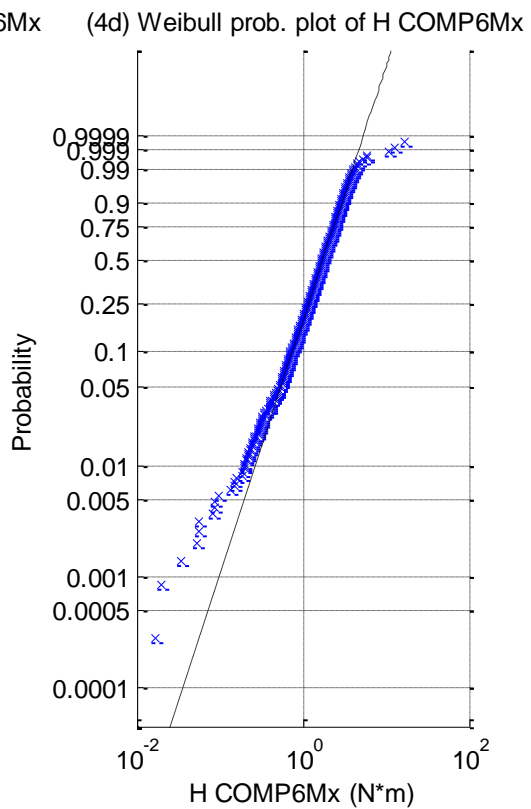
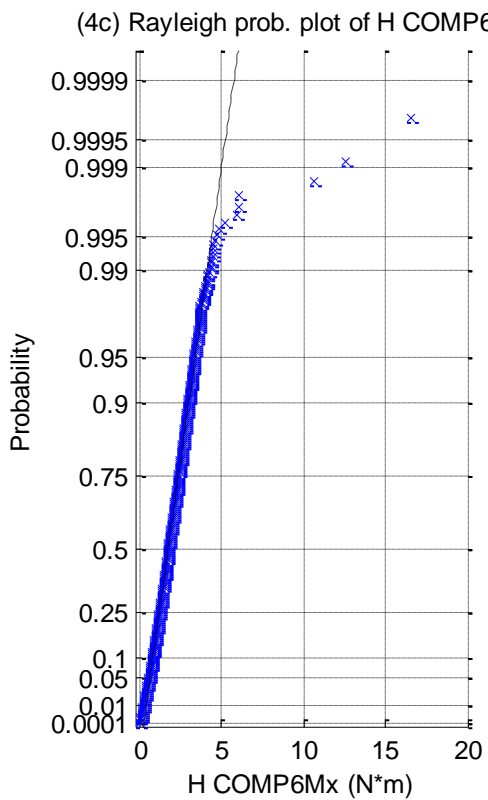
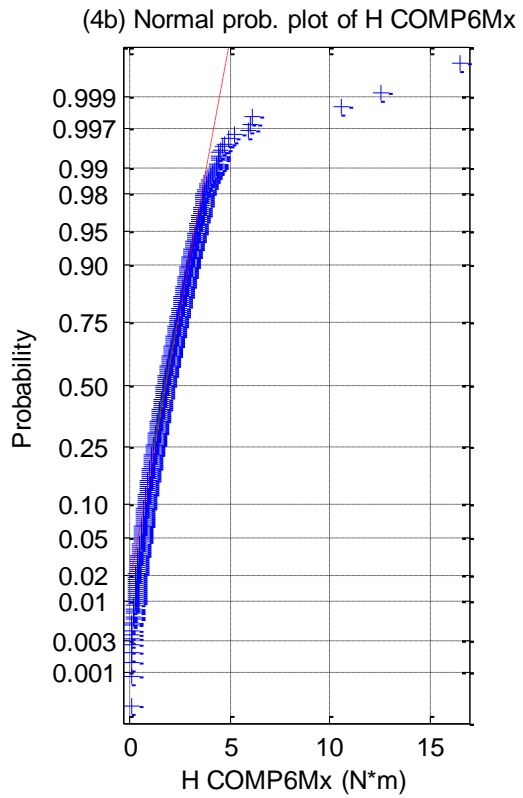
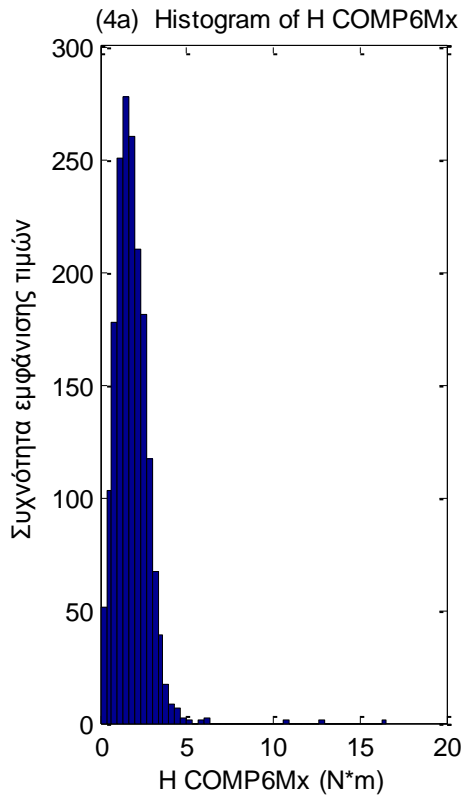
**Σχήματα 2.3.6.1 (1-11)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος

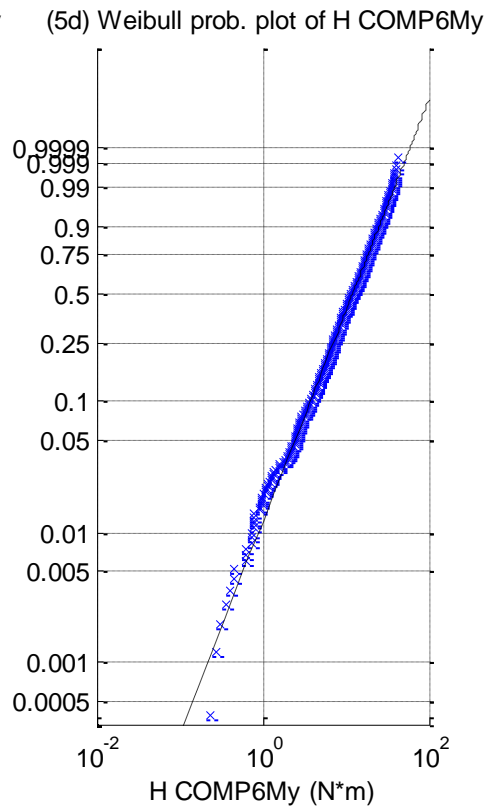
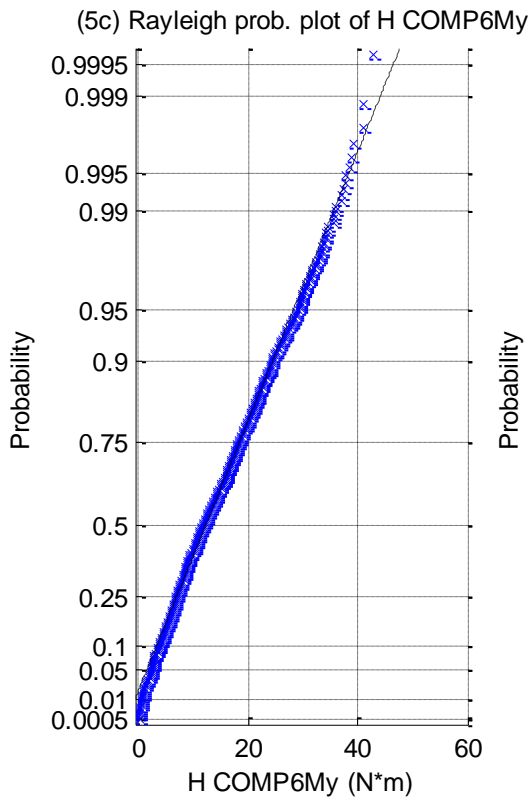
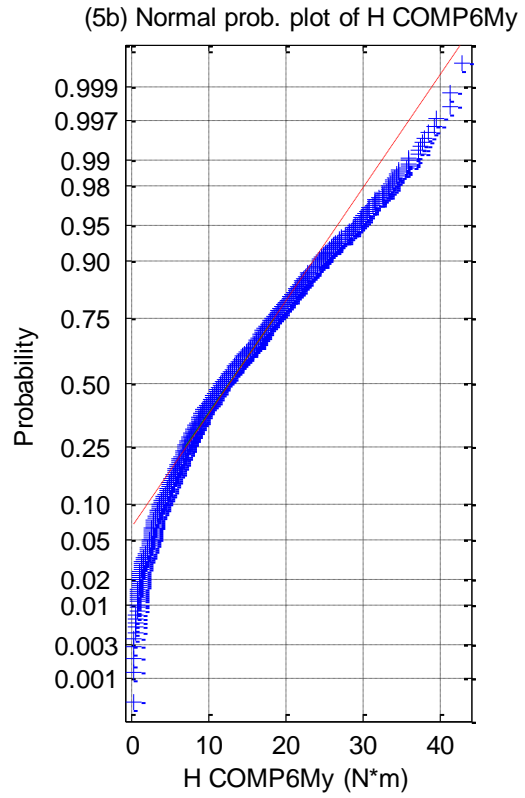
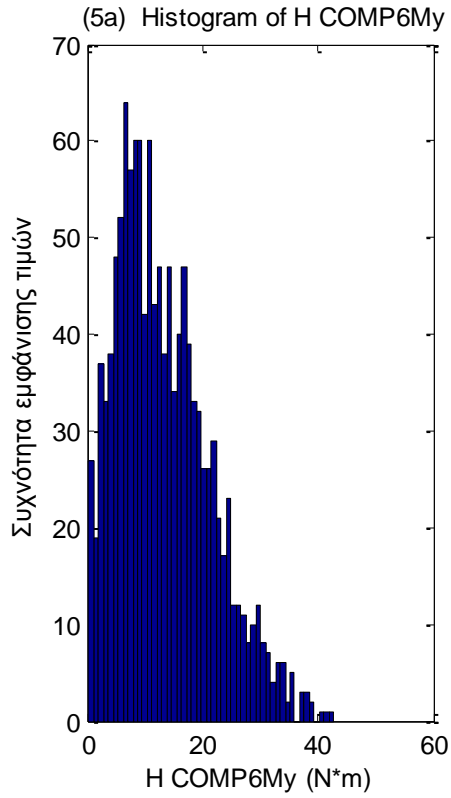


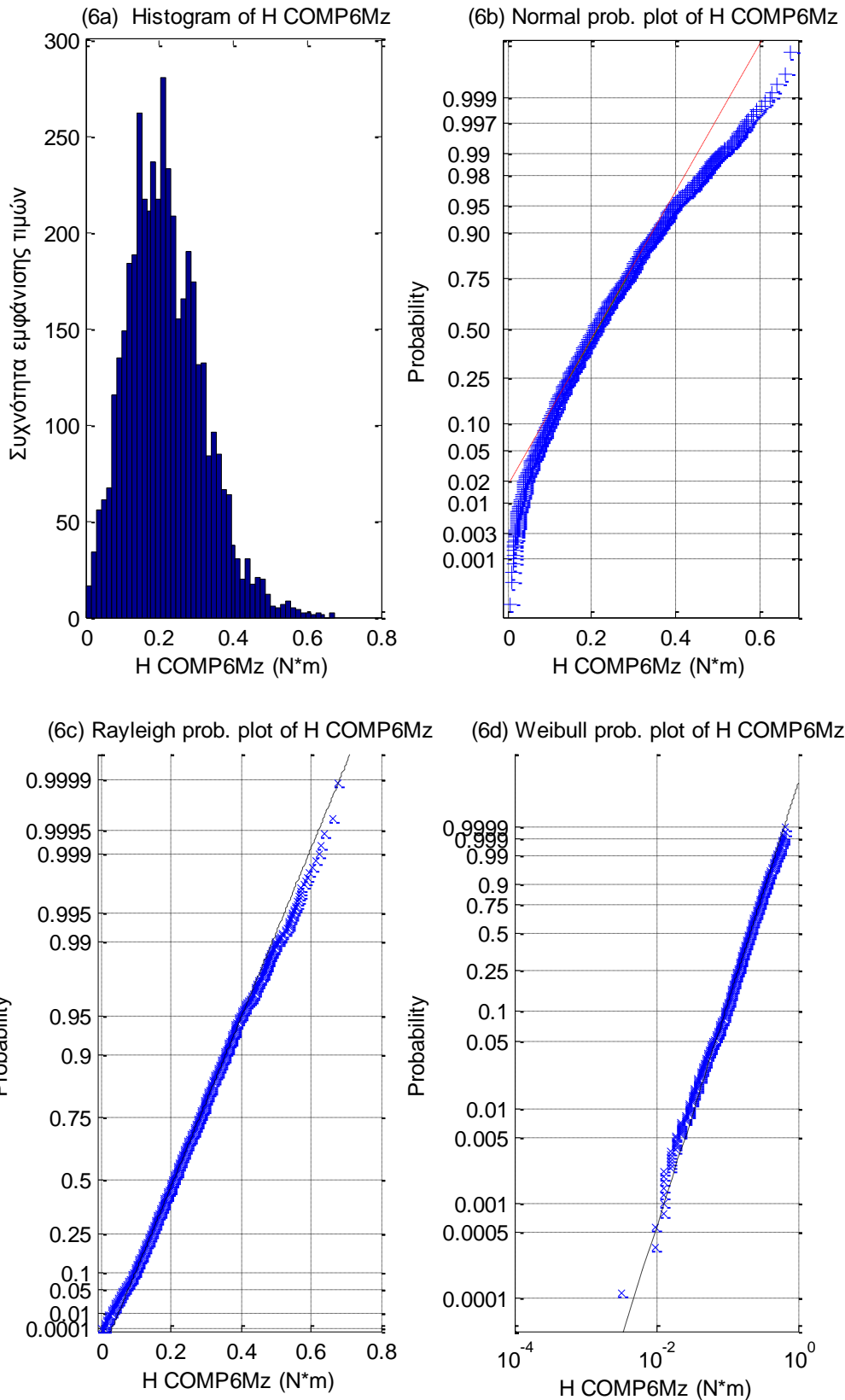




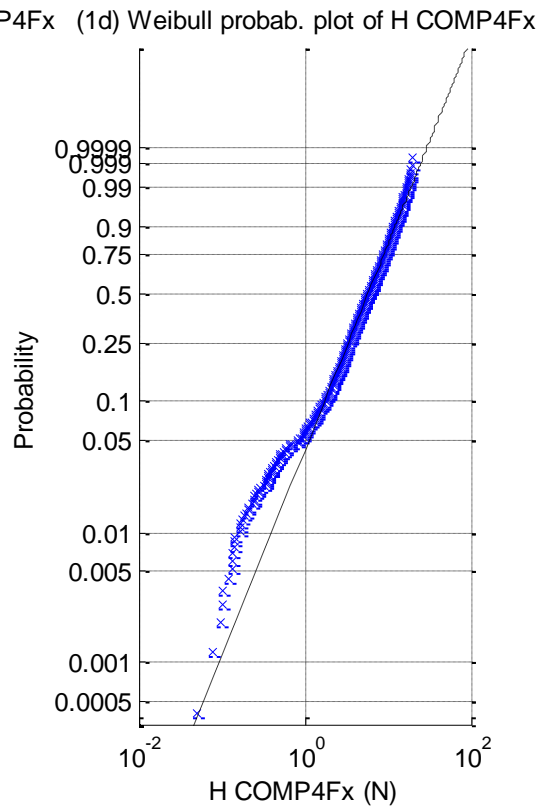
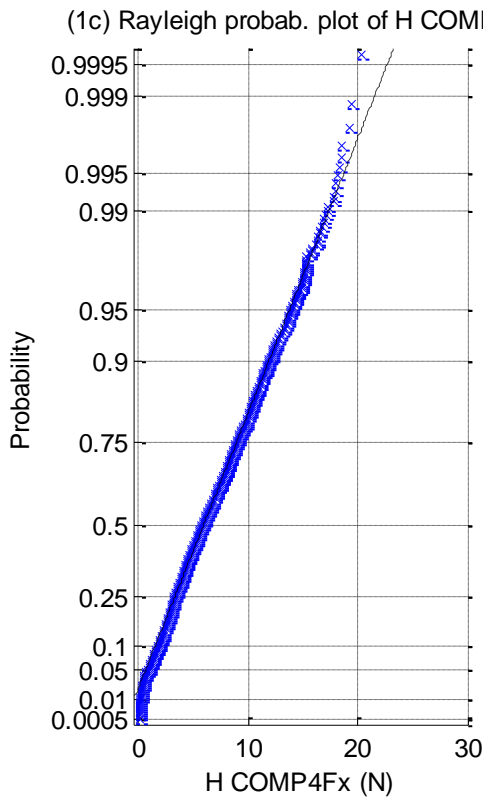
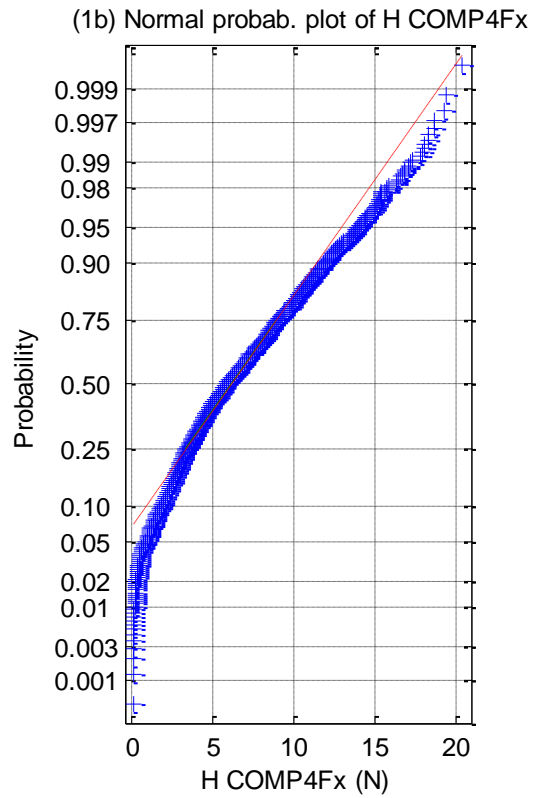
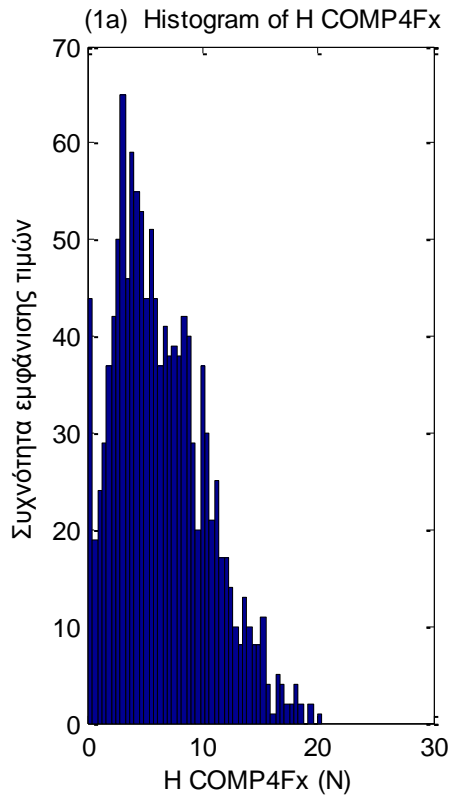


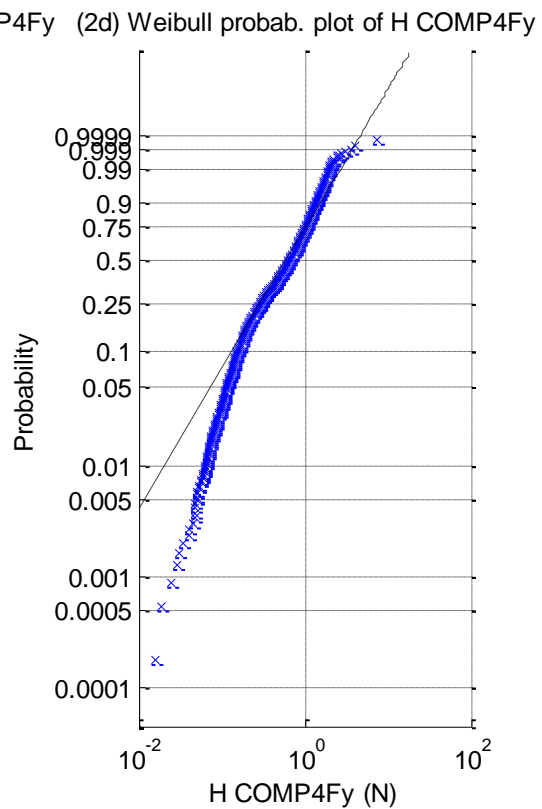
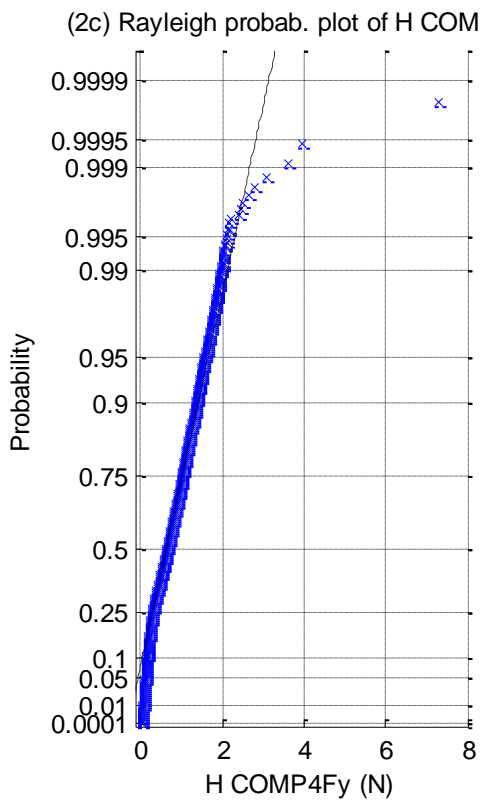
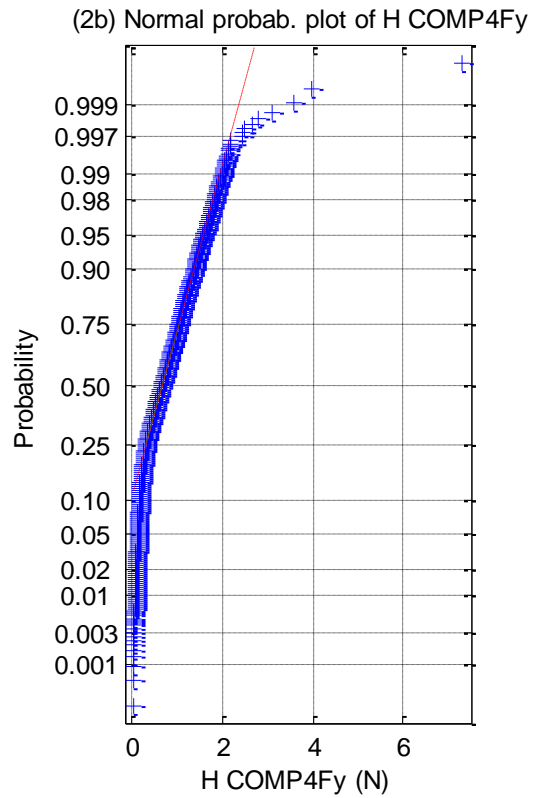
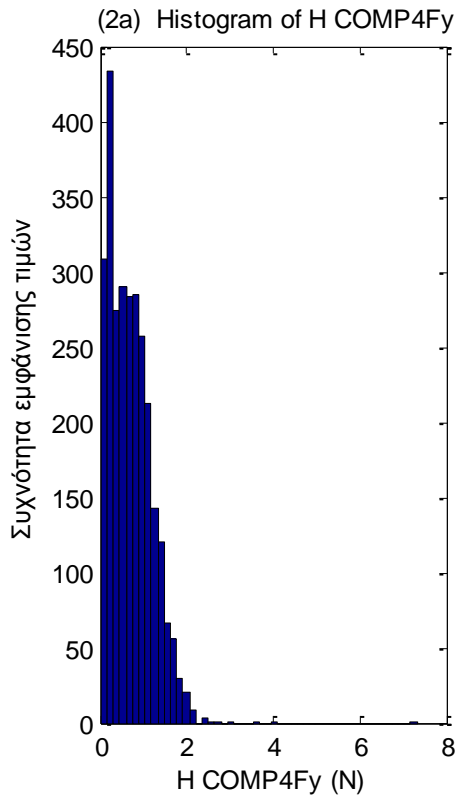


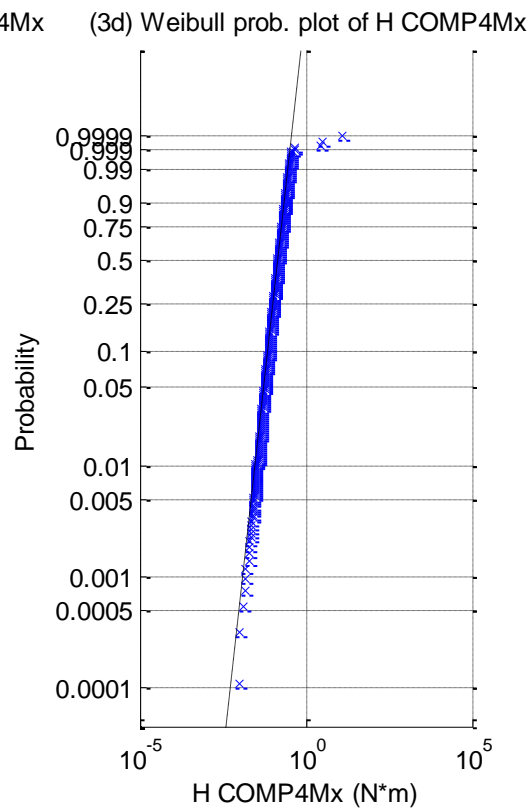
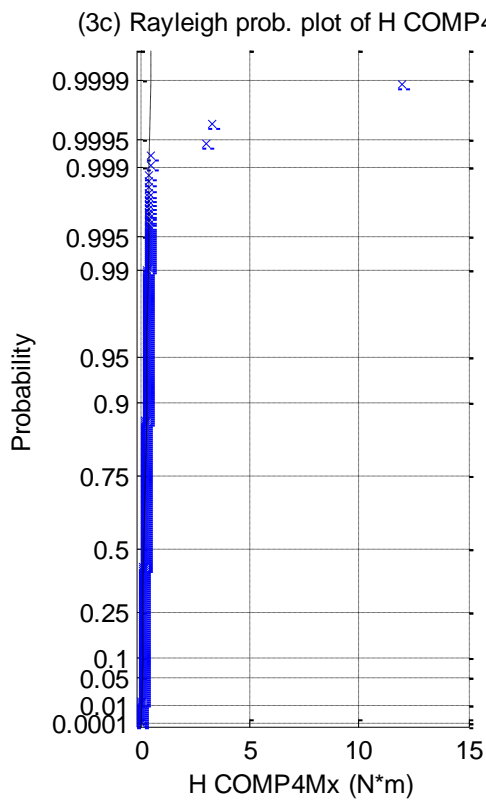
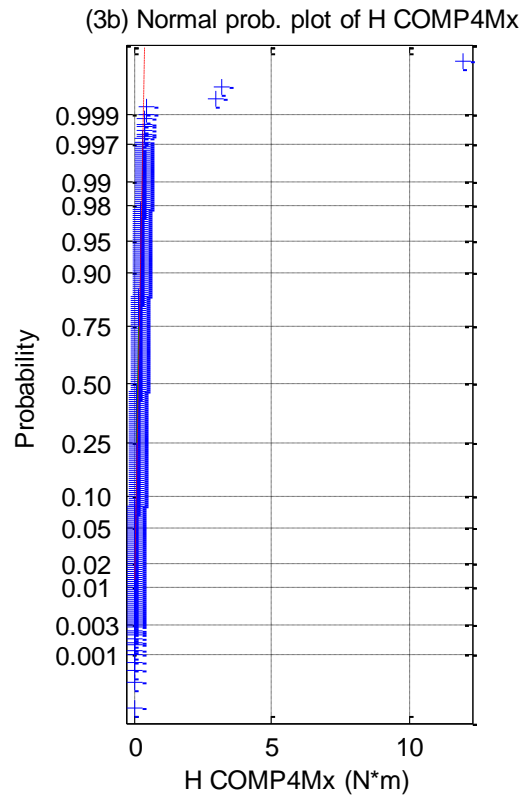
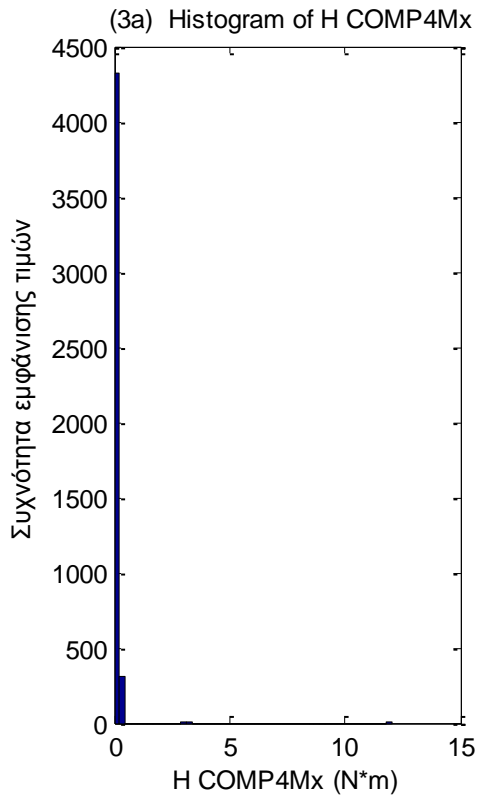




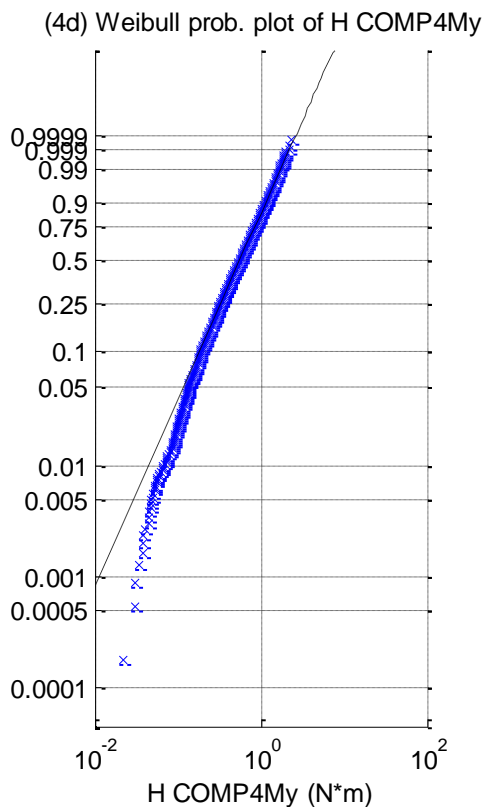
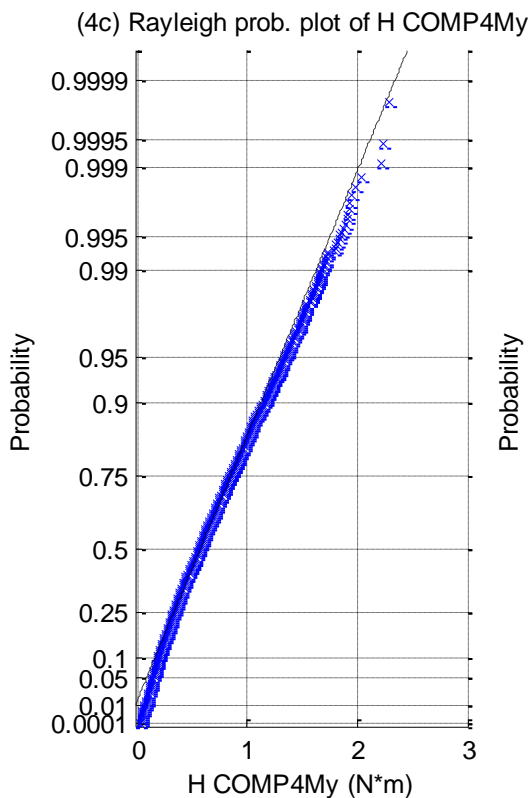
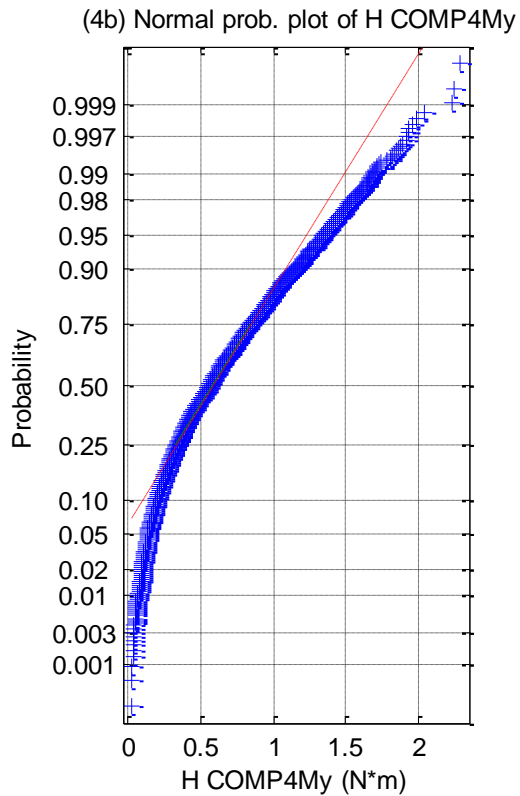
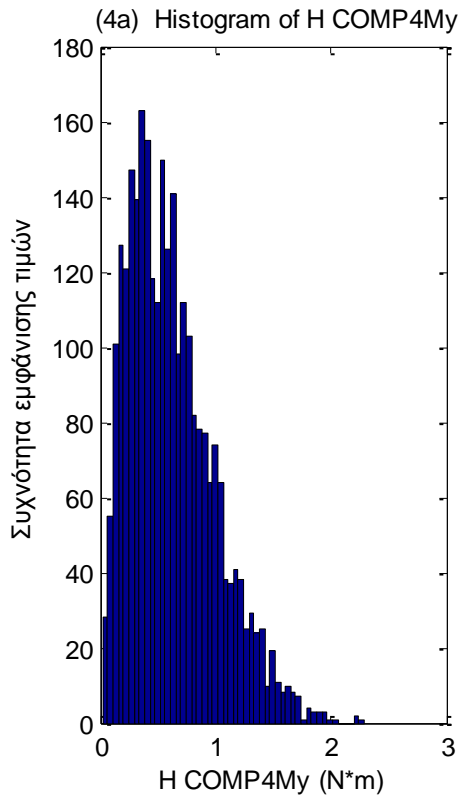
**Σχήματα 2.3.6.2 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



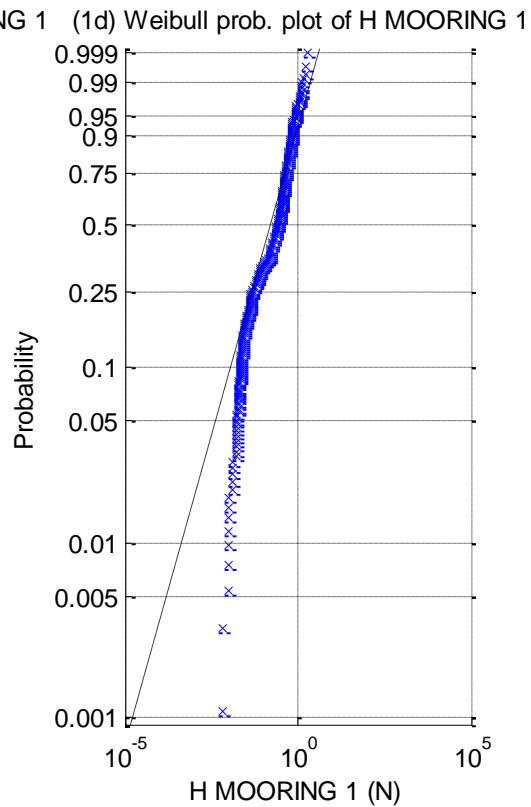
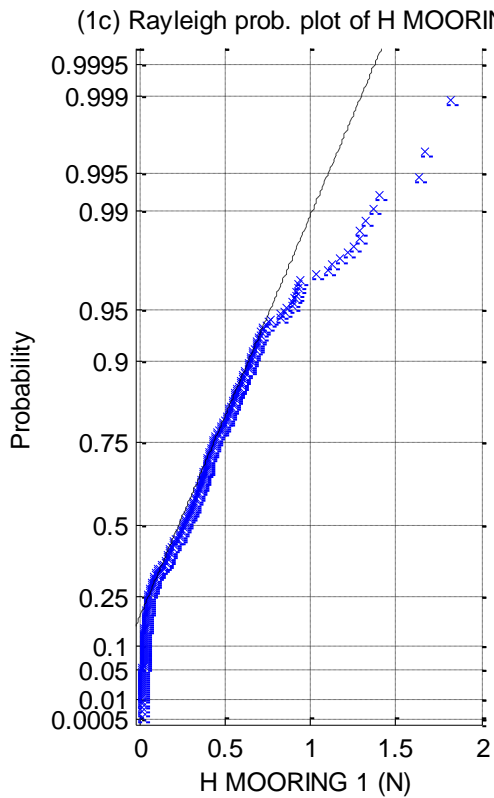
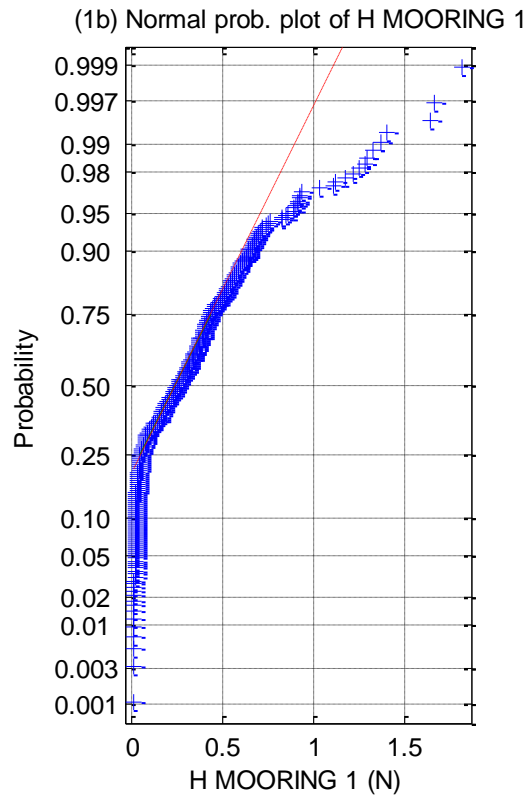
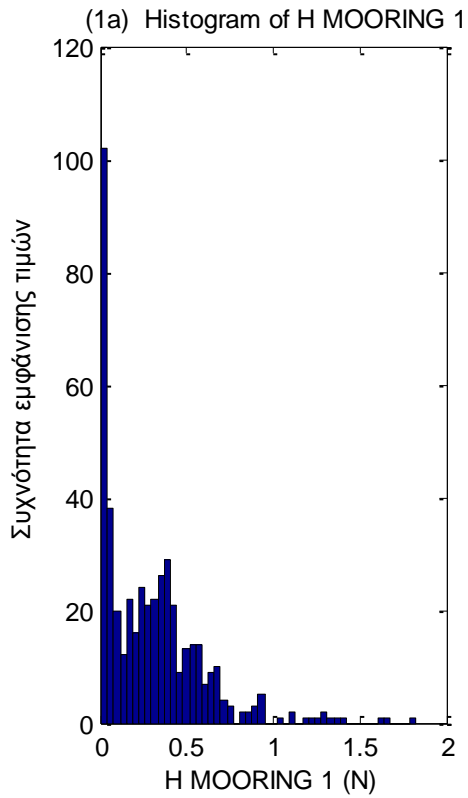




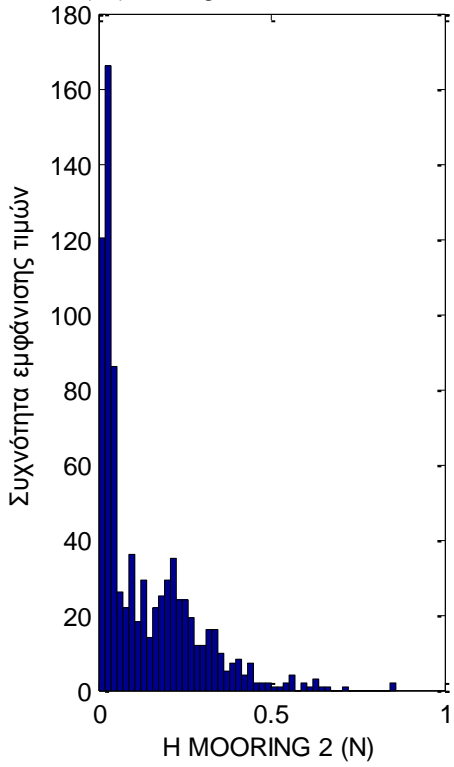




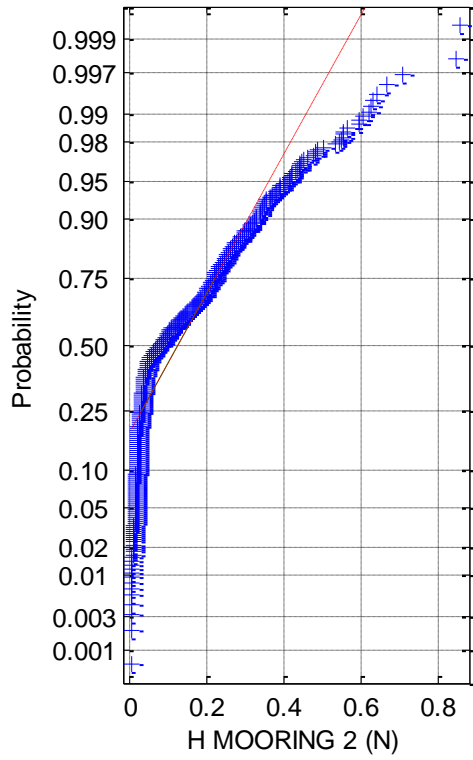
**Σχήματα 2.3.6.3 (1-4)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



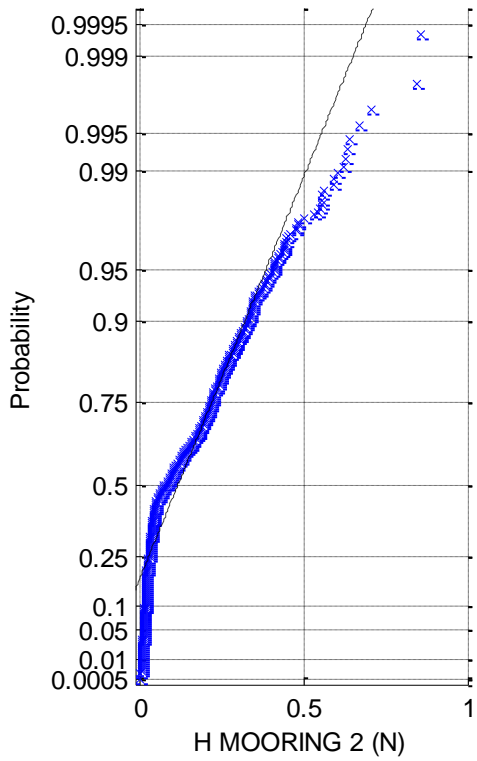
(2a) Histogram of H MOORING 2



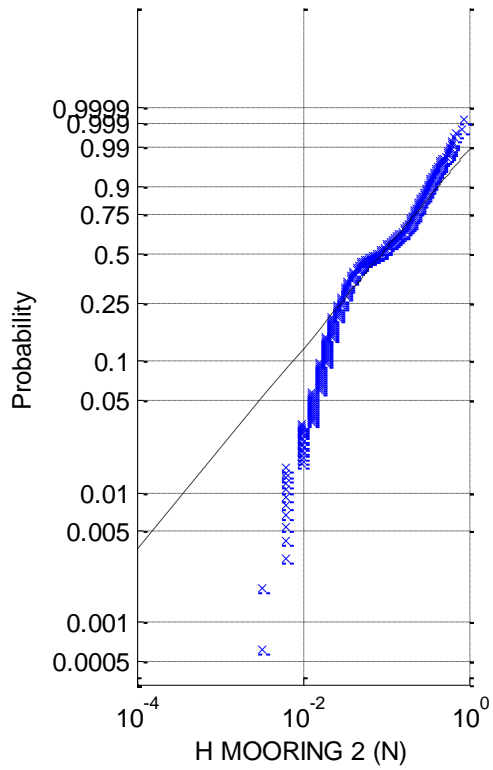
(2b) Normal prob. plot of H MOORING 2

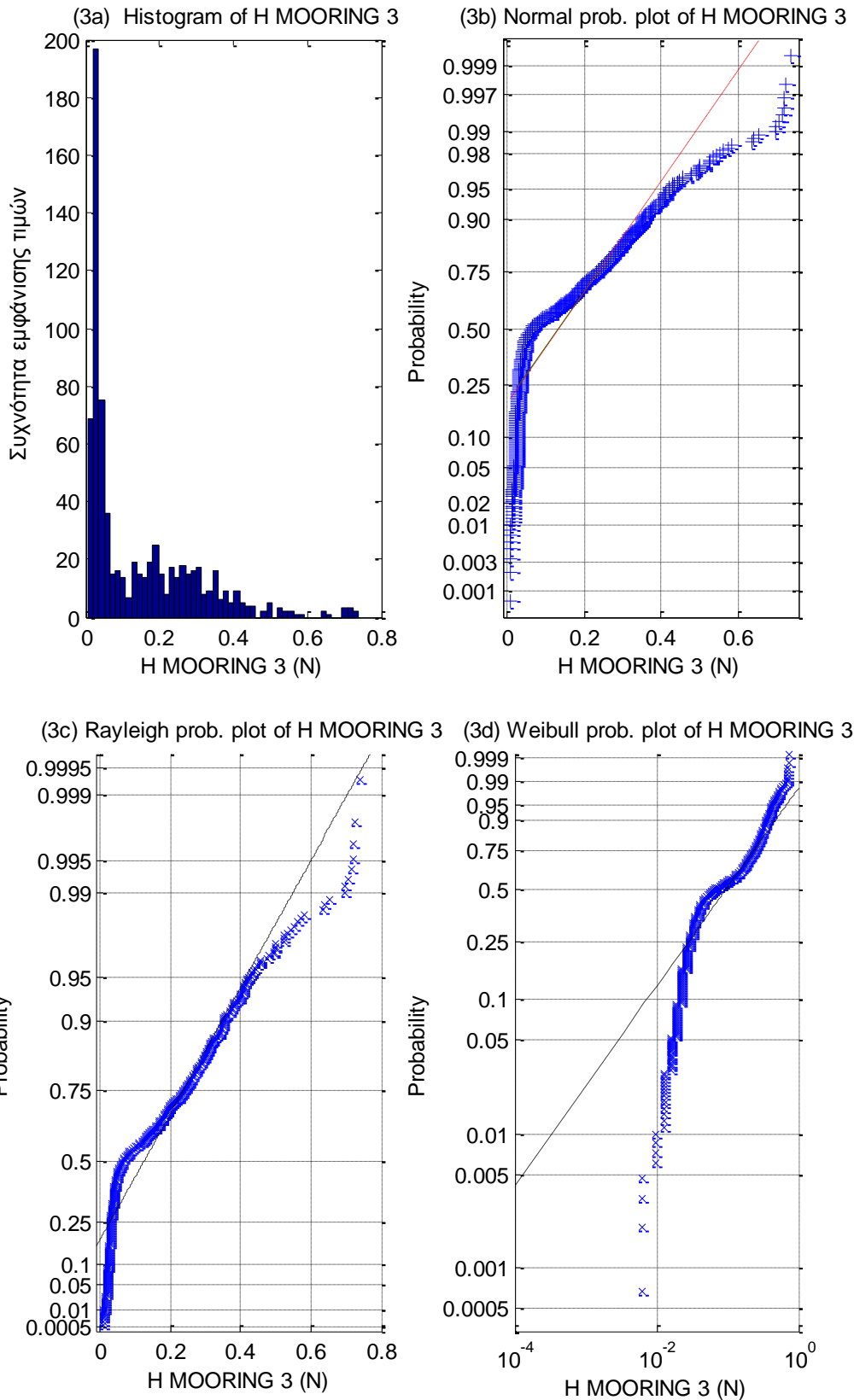


(2c) Rayleigh prob. plot of H MOORING 2

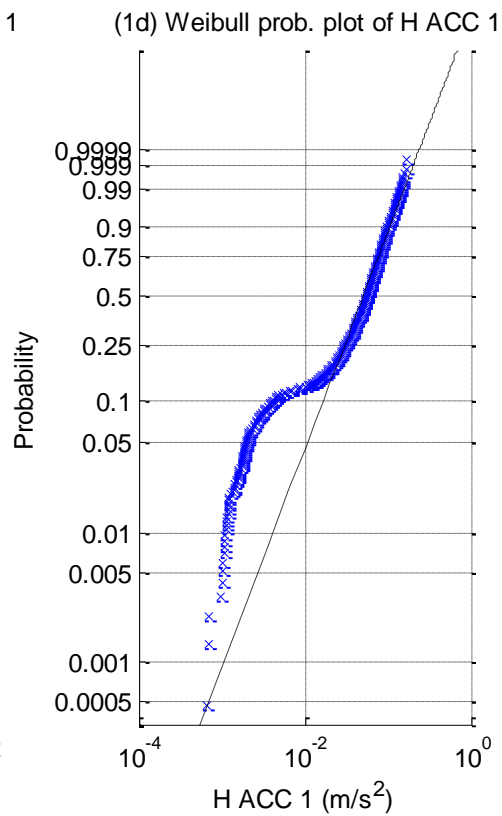
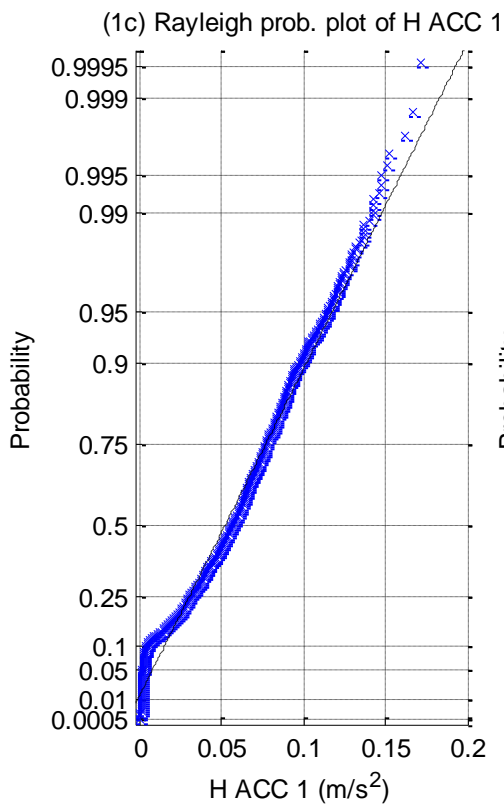
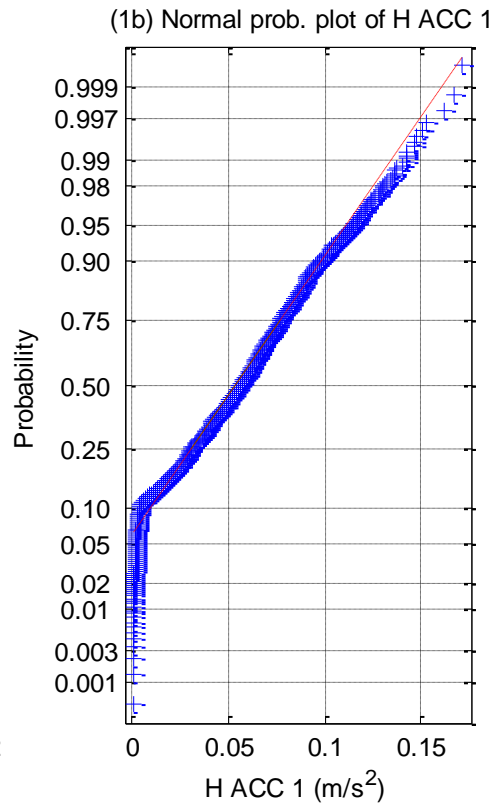
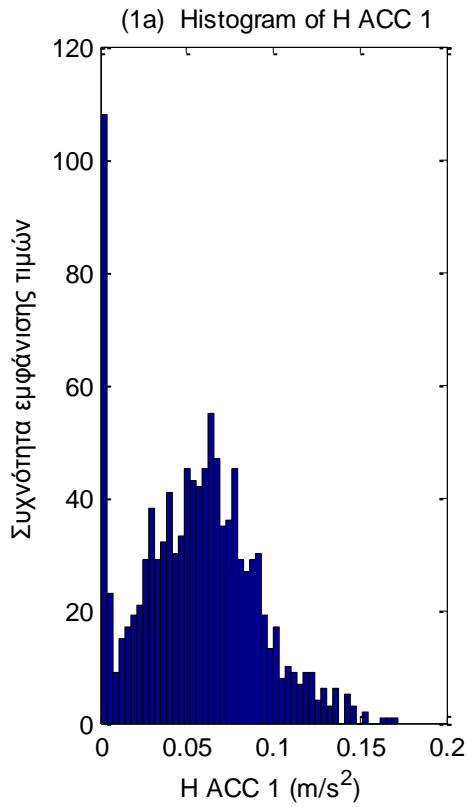


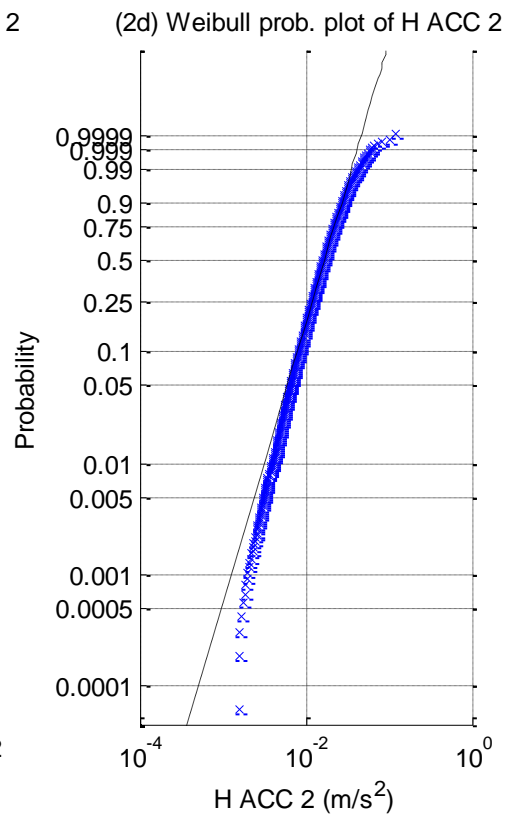
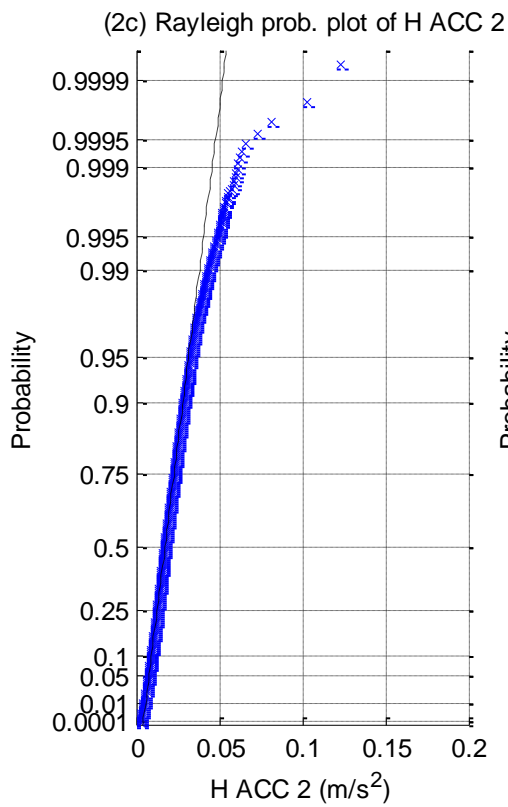
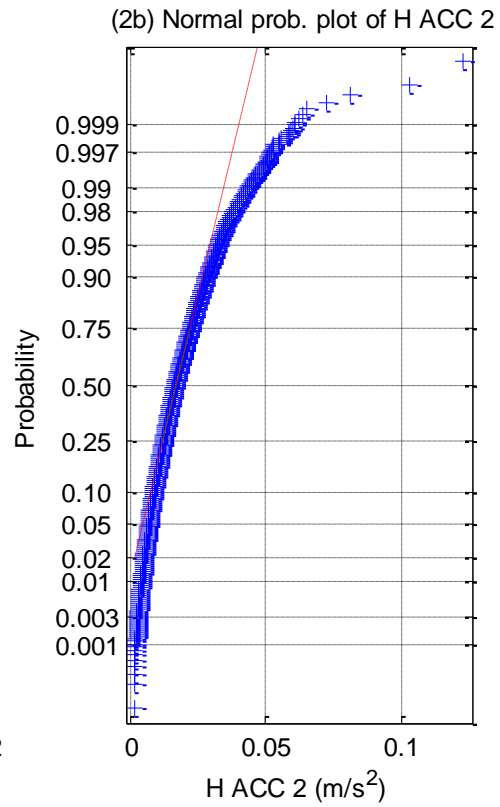
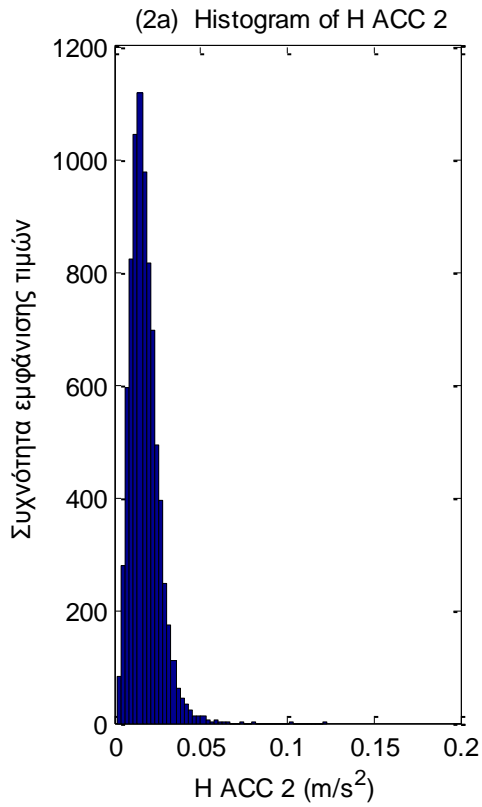
(2d) Weibull prob. plot of H MOORING 2

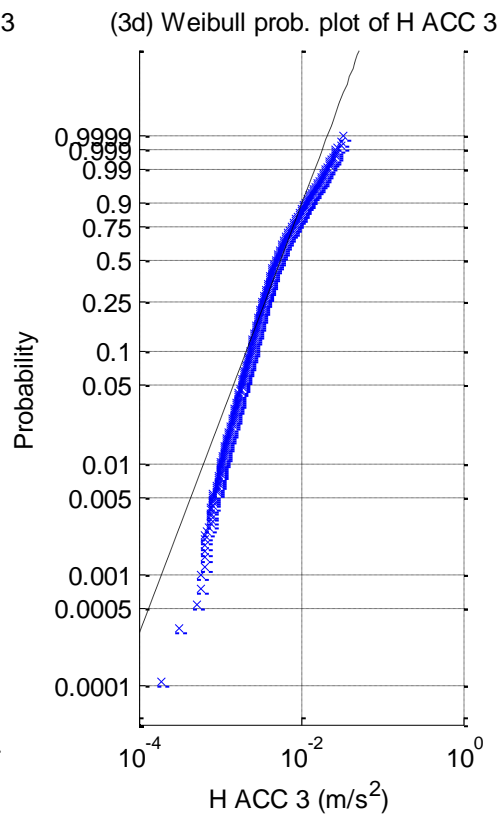
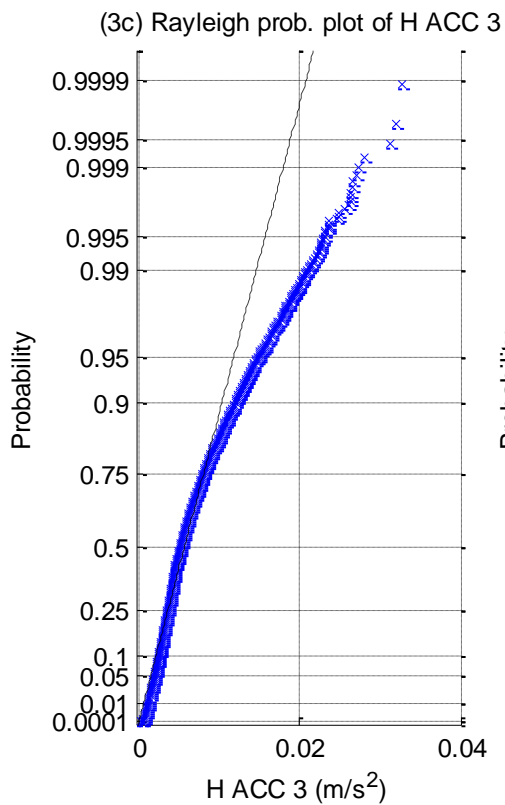
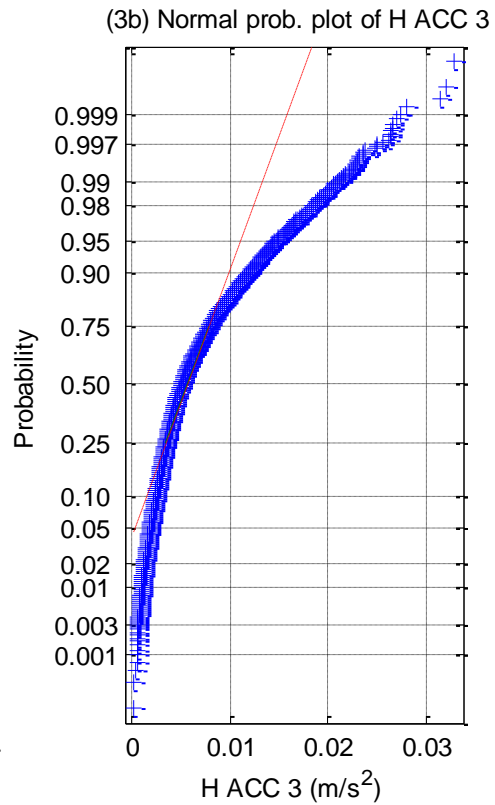
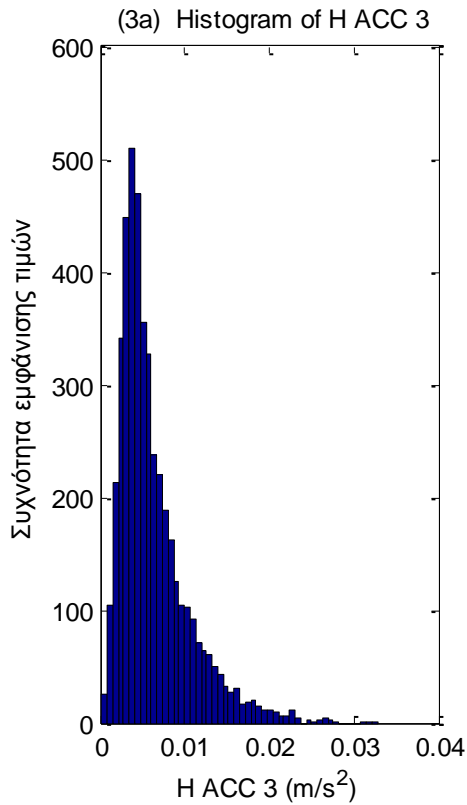




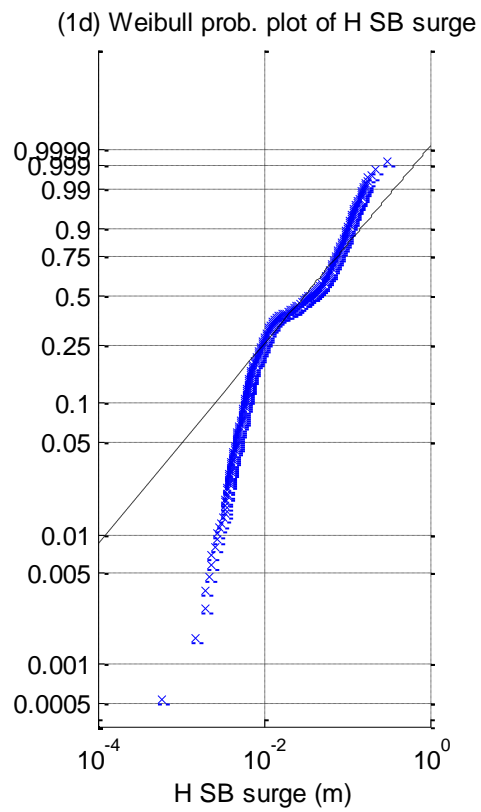
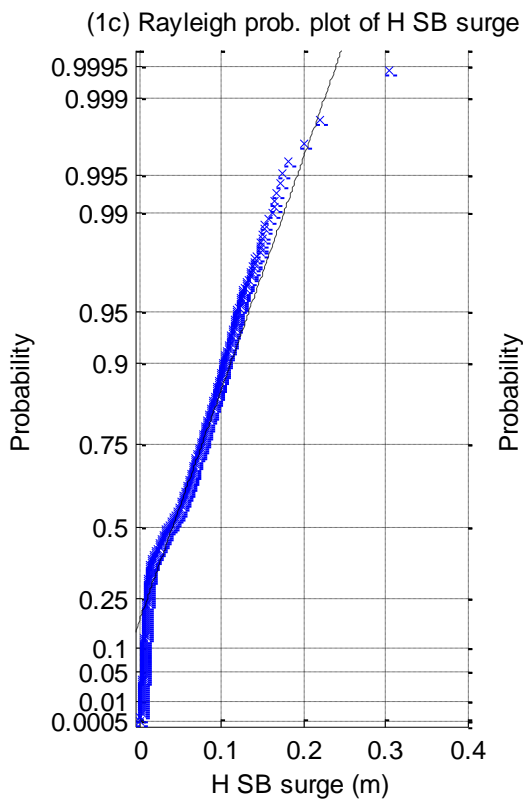
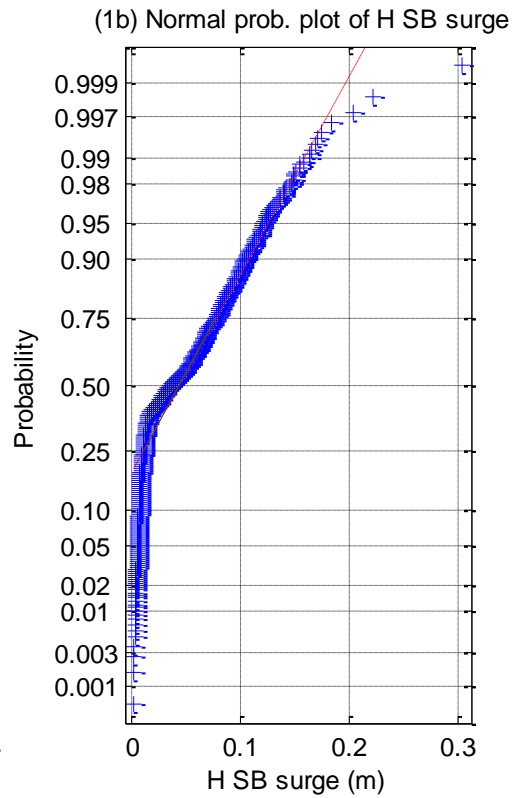
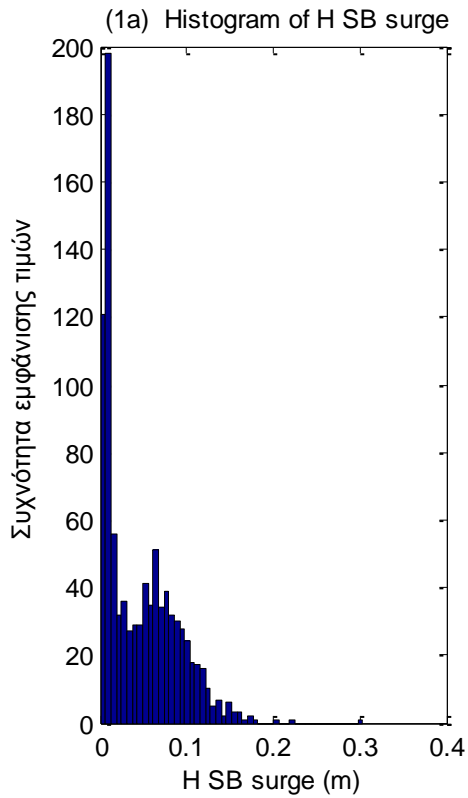
**Σχήματα 2.3.6.4 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



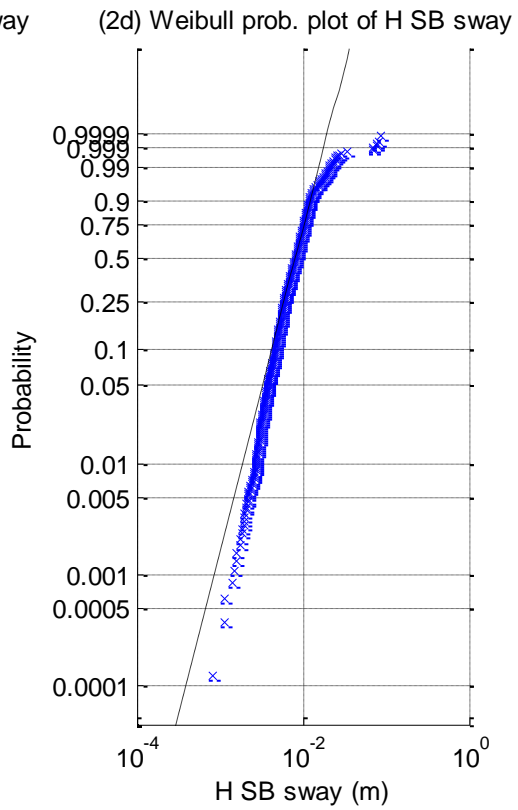
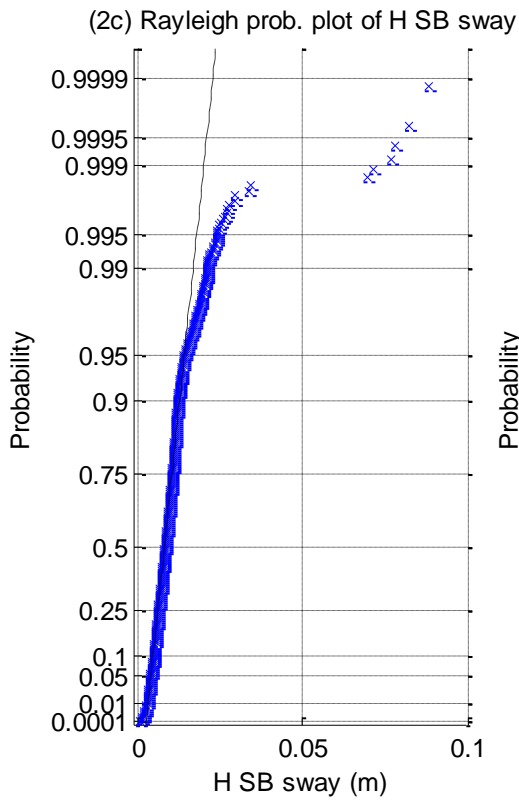
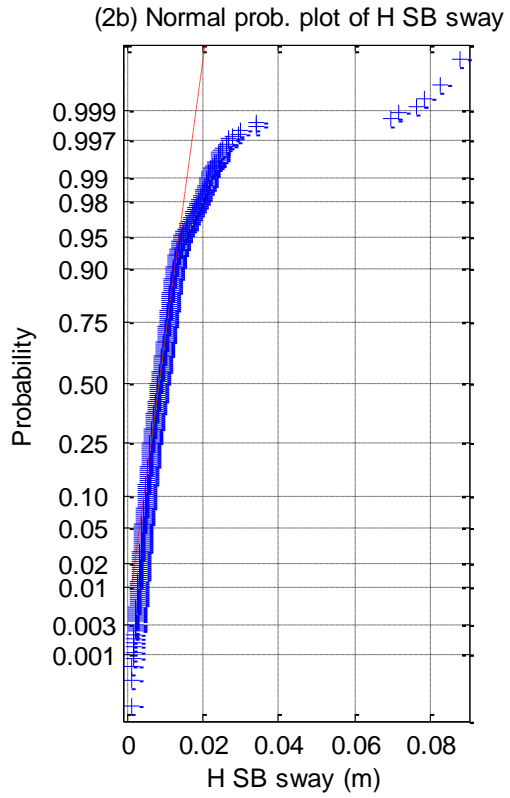
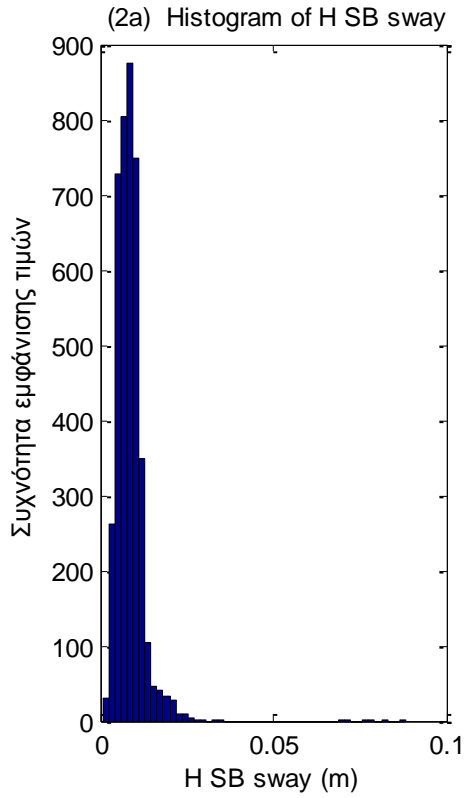


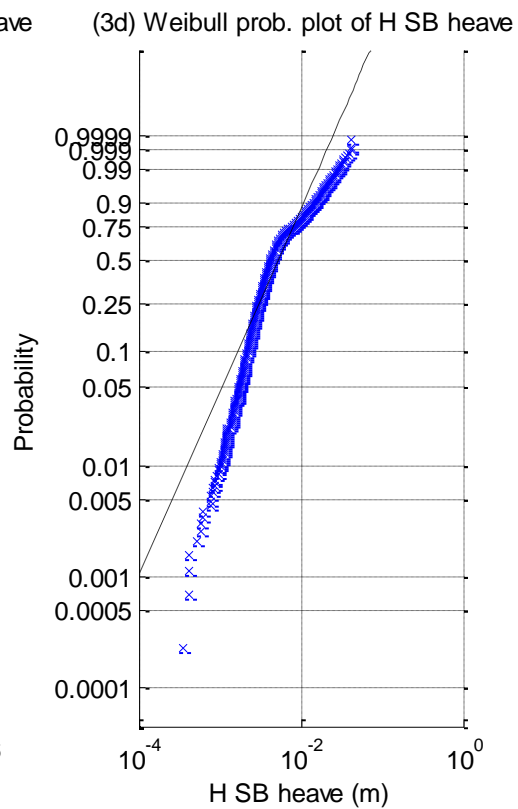
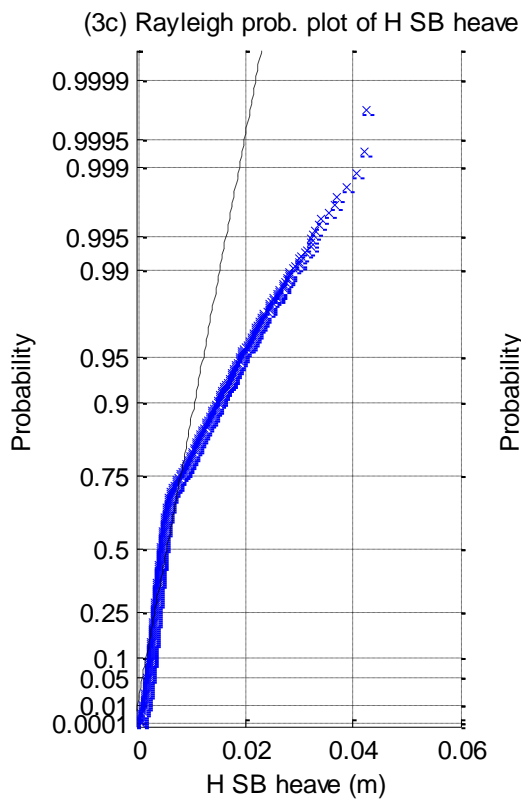
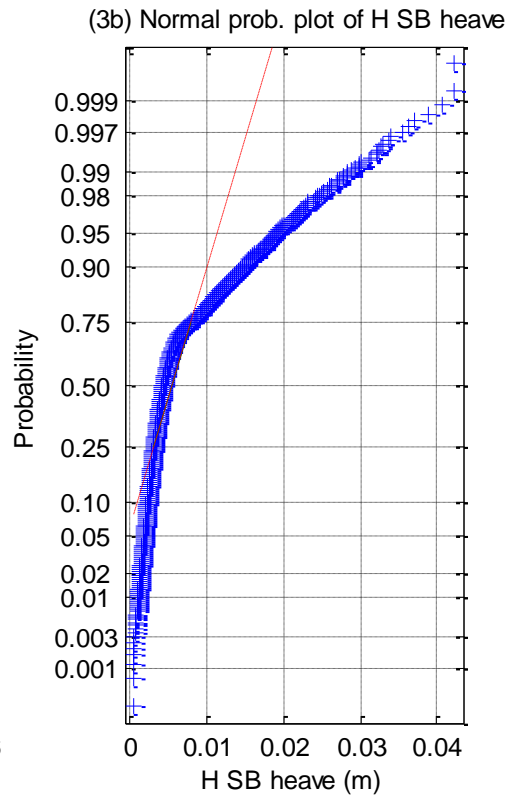
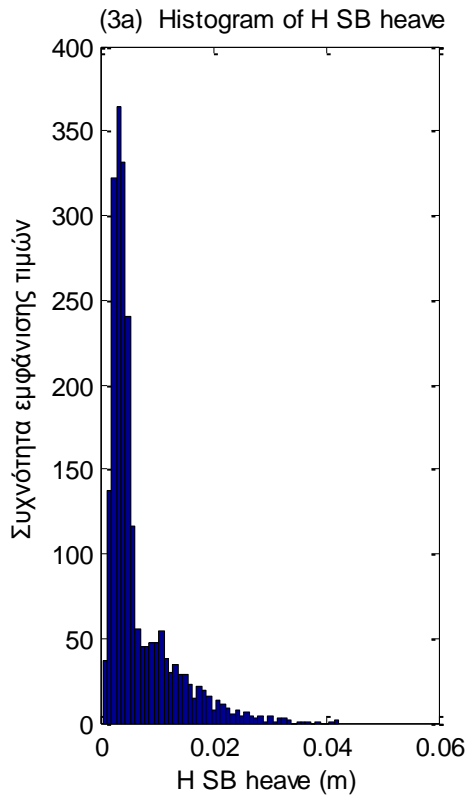


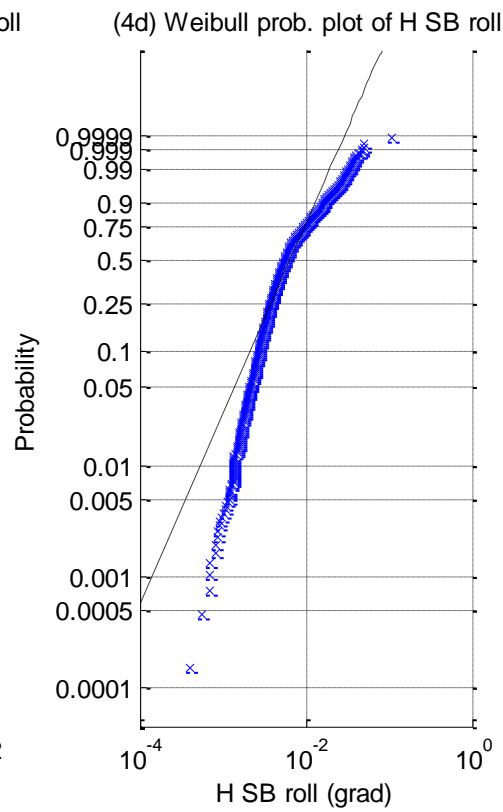
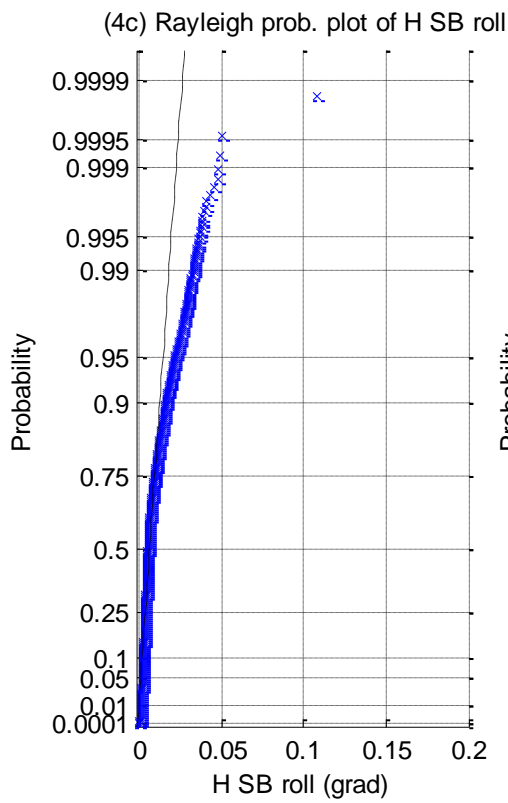
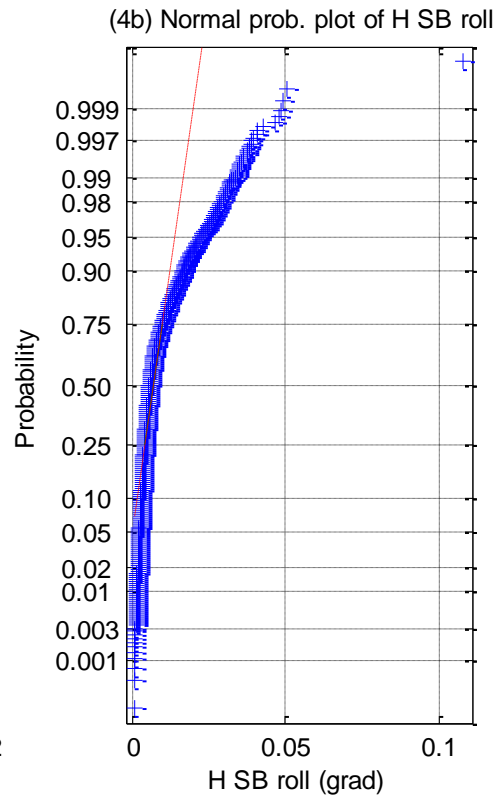
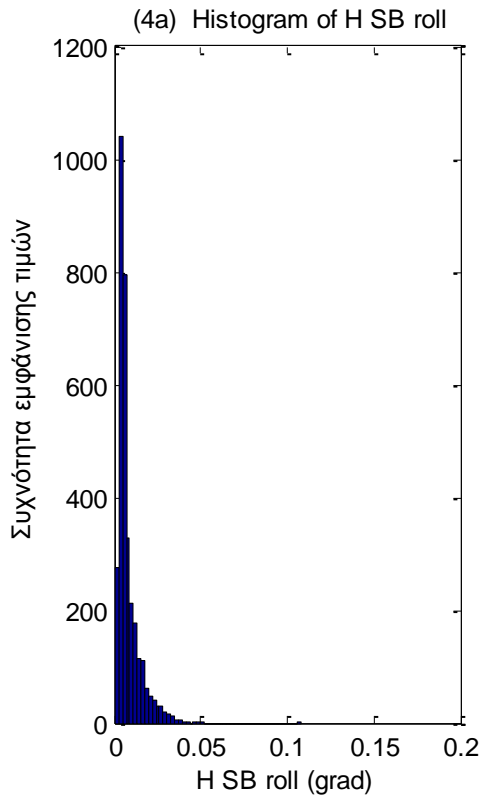
**Σχήματα 2.3.6.5 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης

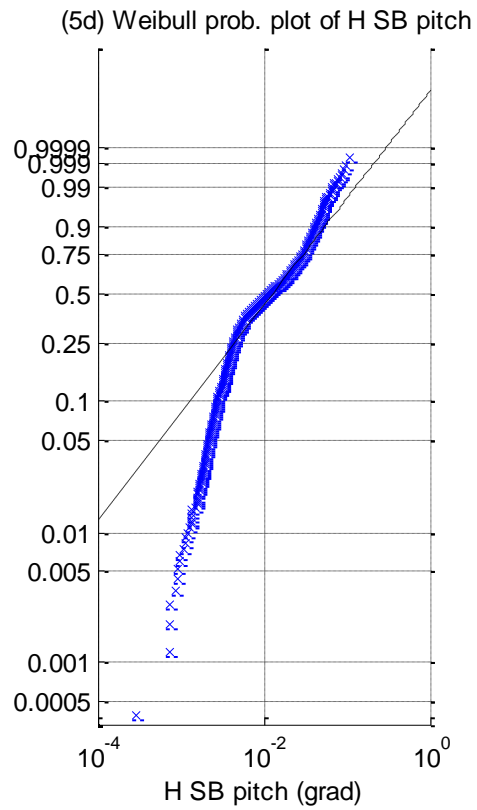
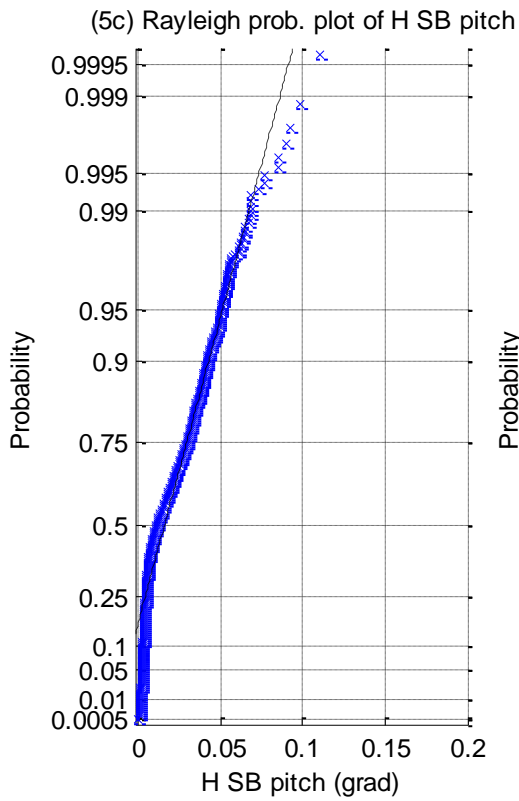
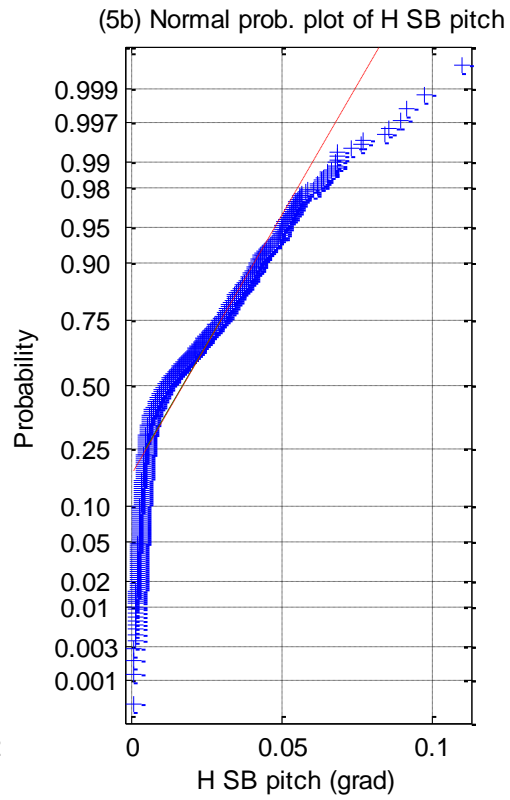
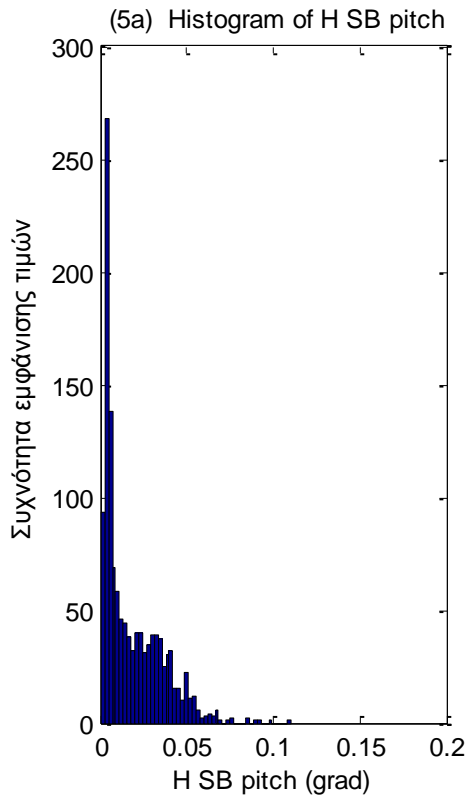


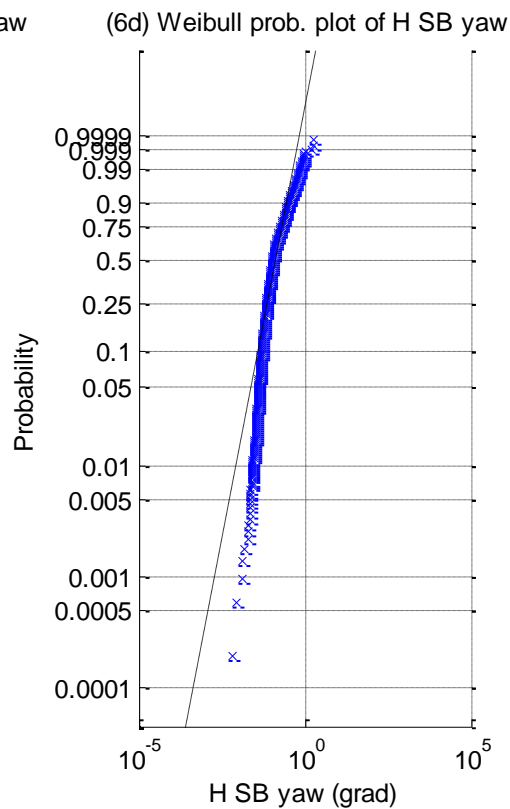
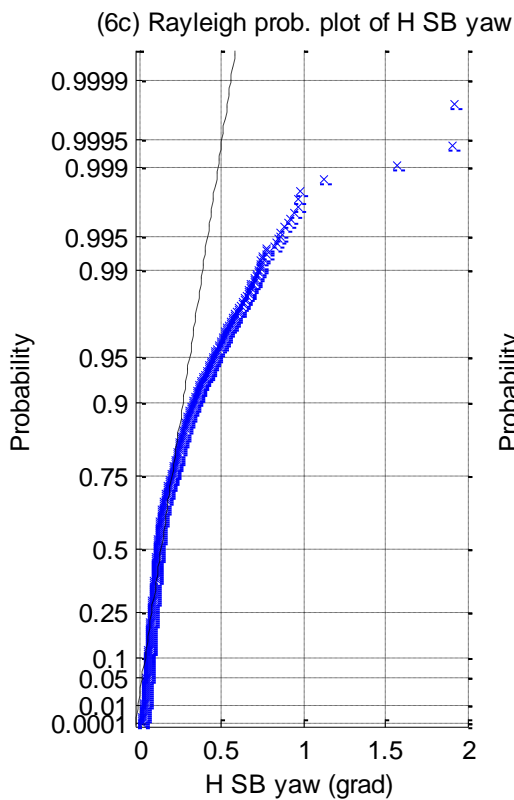
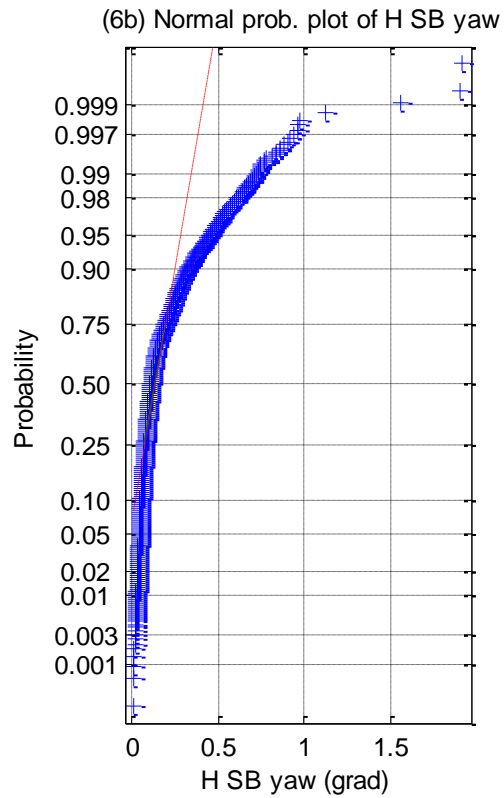
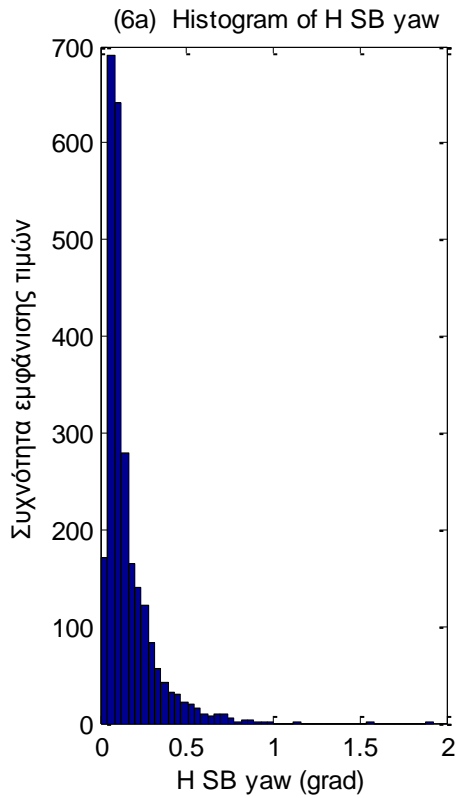






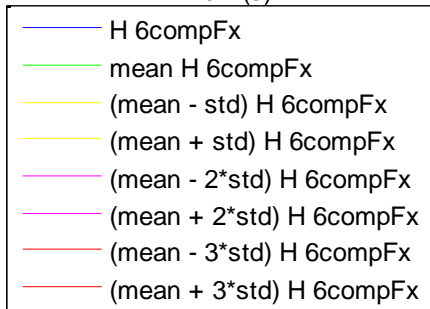
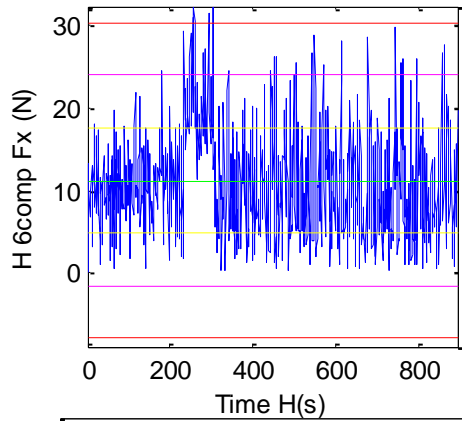




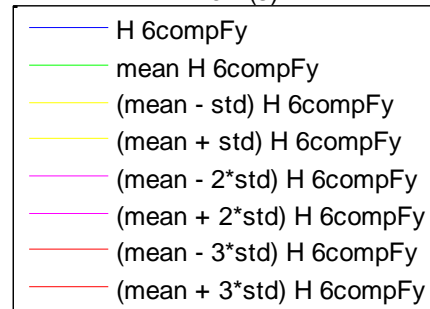
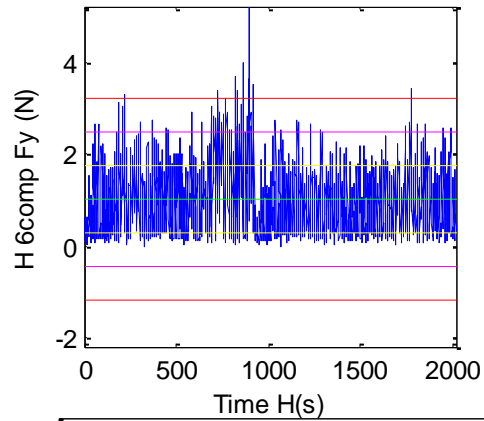


**Σχήματα 2.3.6.6 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

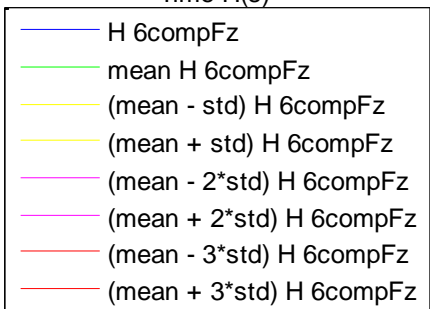
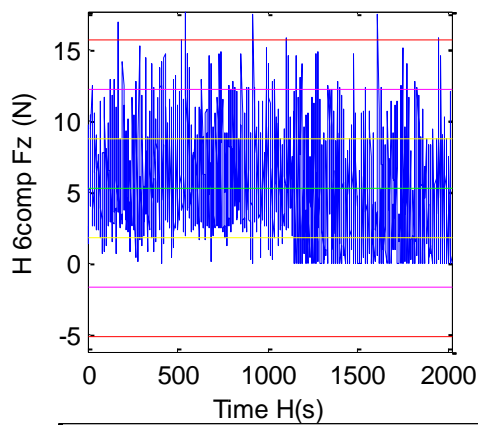
1) Time History of H 6comp Fx



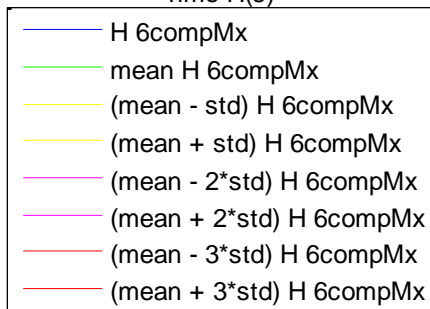
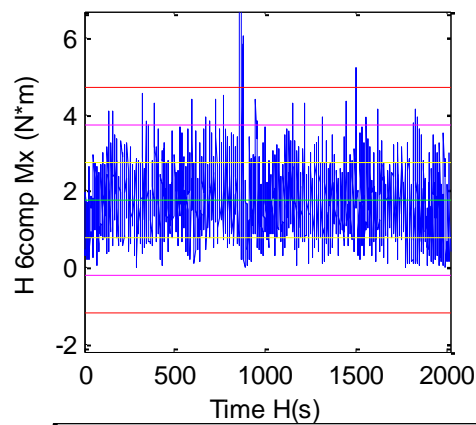
2) Time History of H 6comp Fy

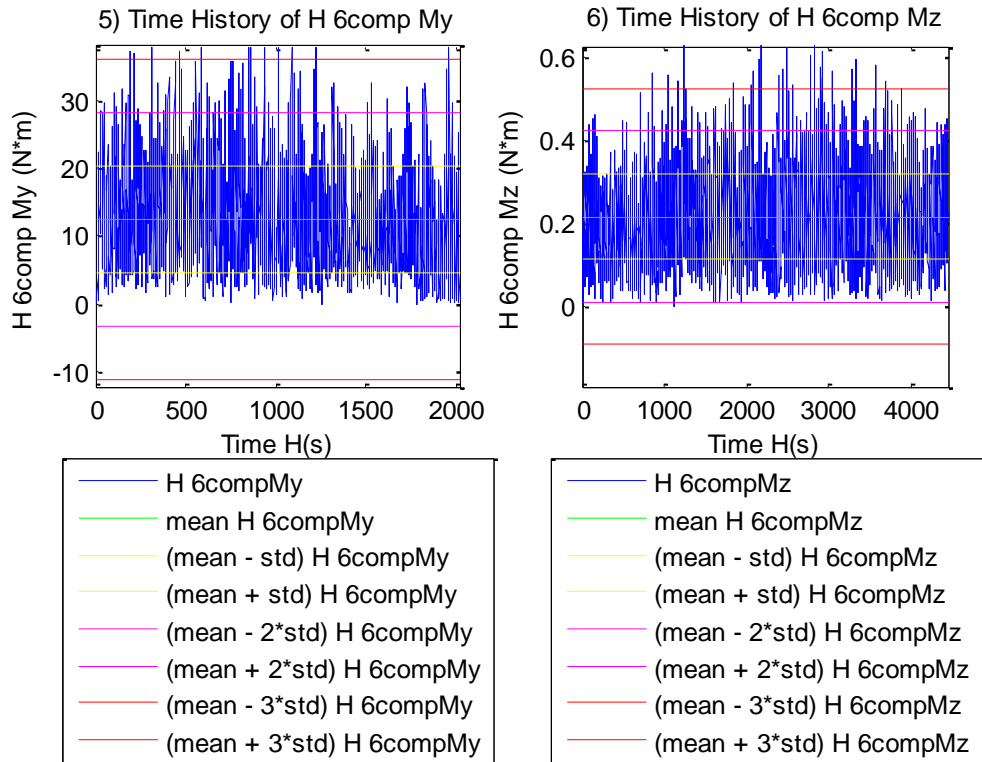


3) Time History of H 6comp Fz

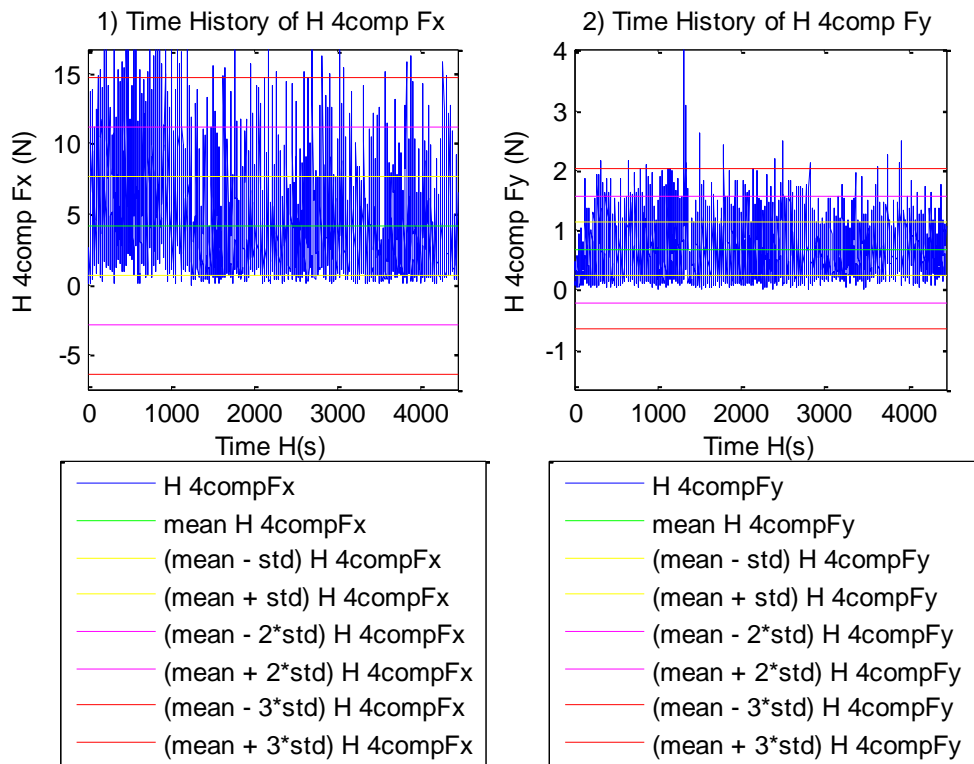


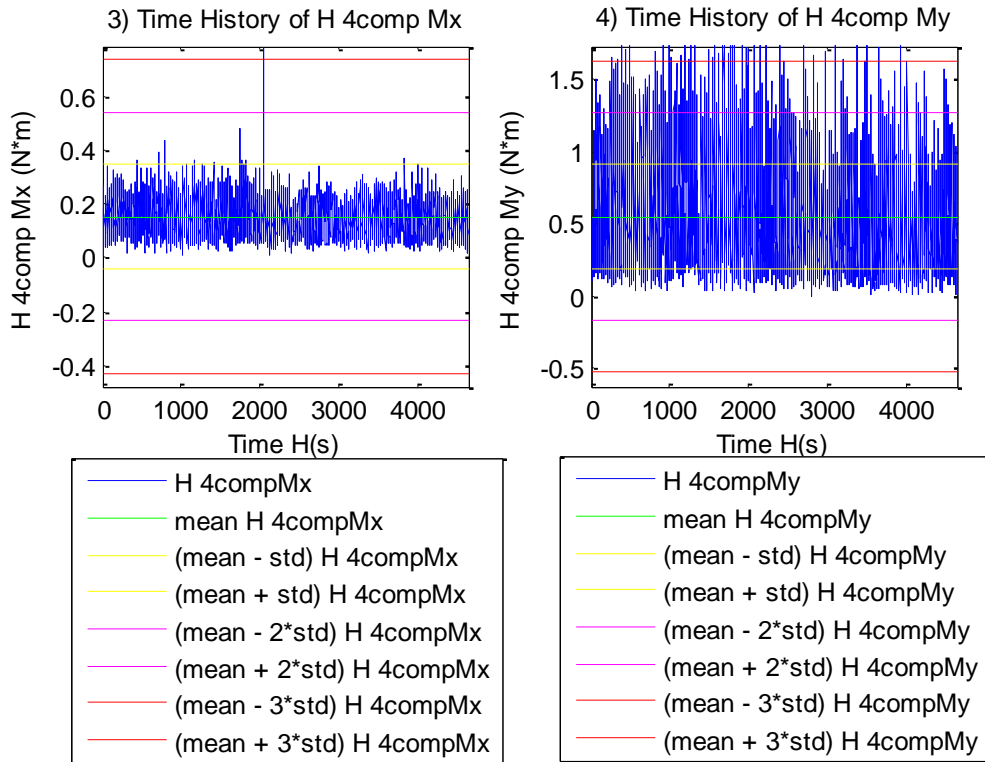
4) Time History of H 6comp Mx



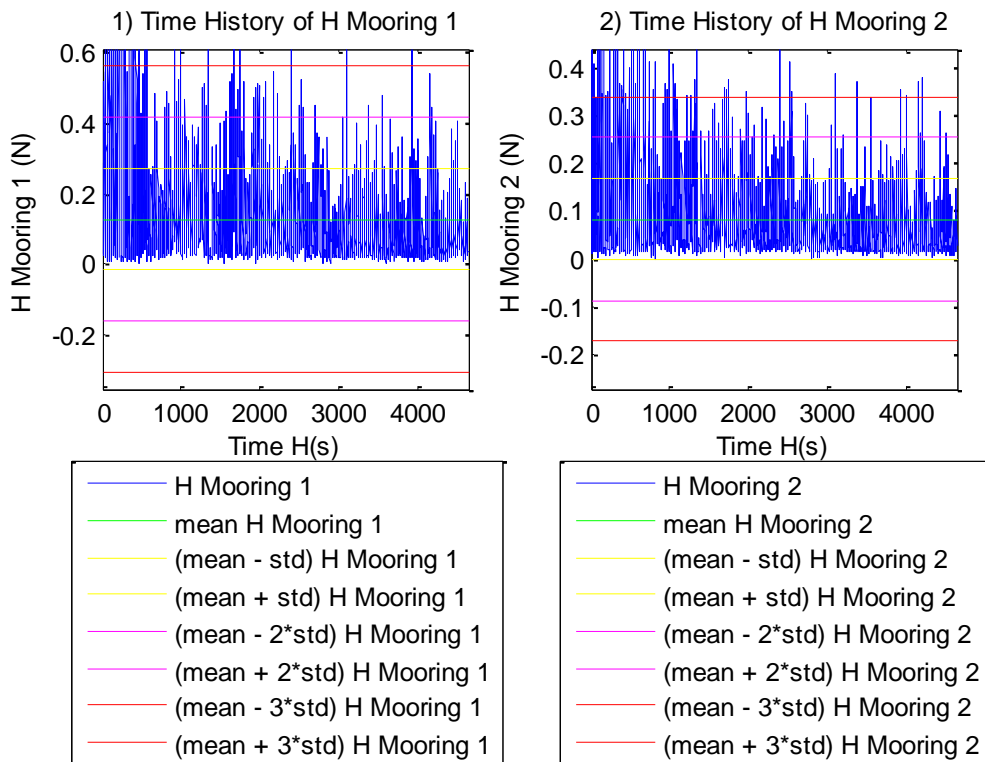


**Σχήματα 2.3.7.1 (1-6)** Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

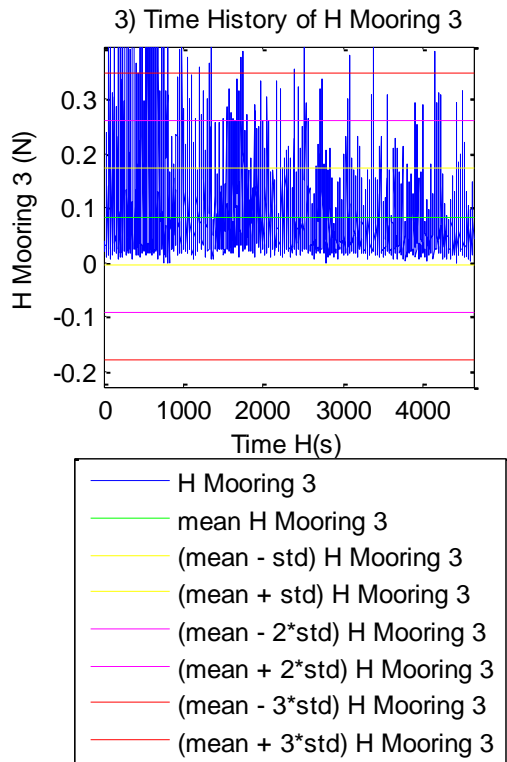




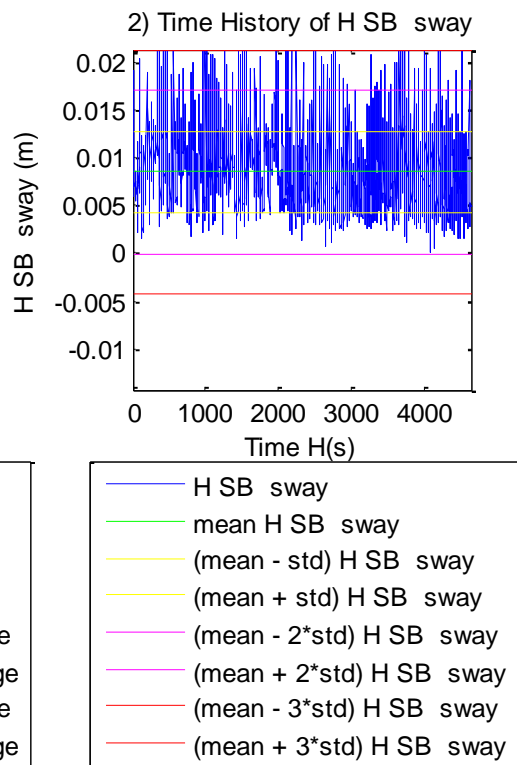
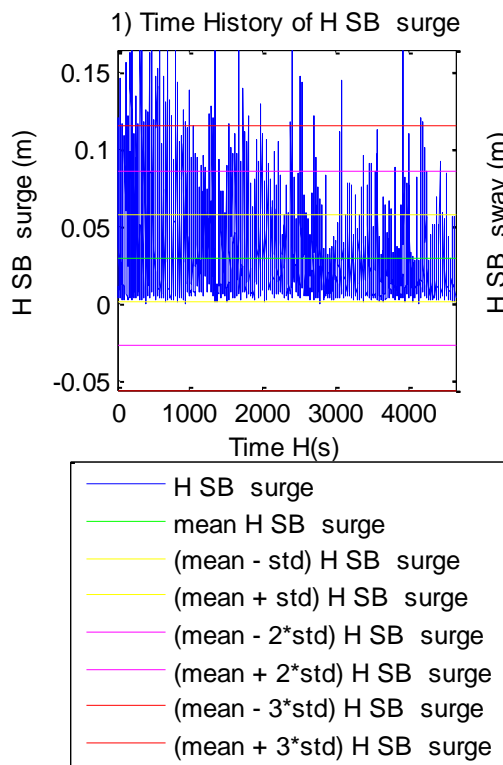
**Σχήματα 2.3.7.2 (1-4)** Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch

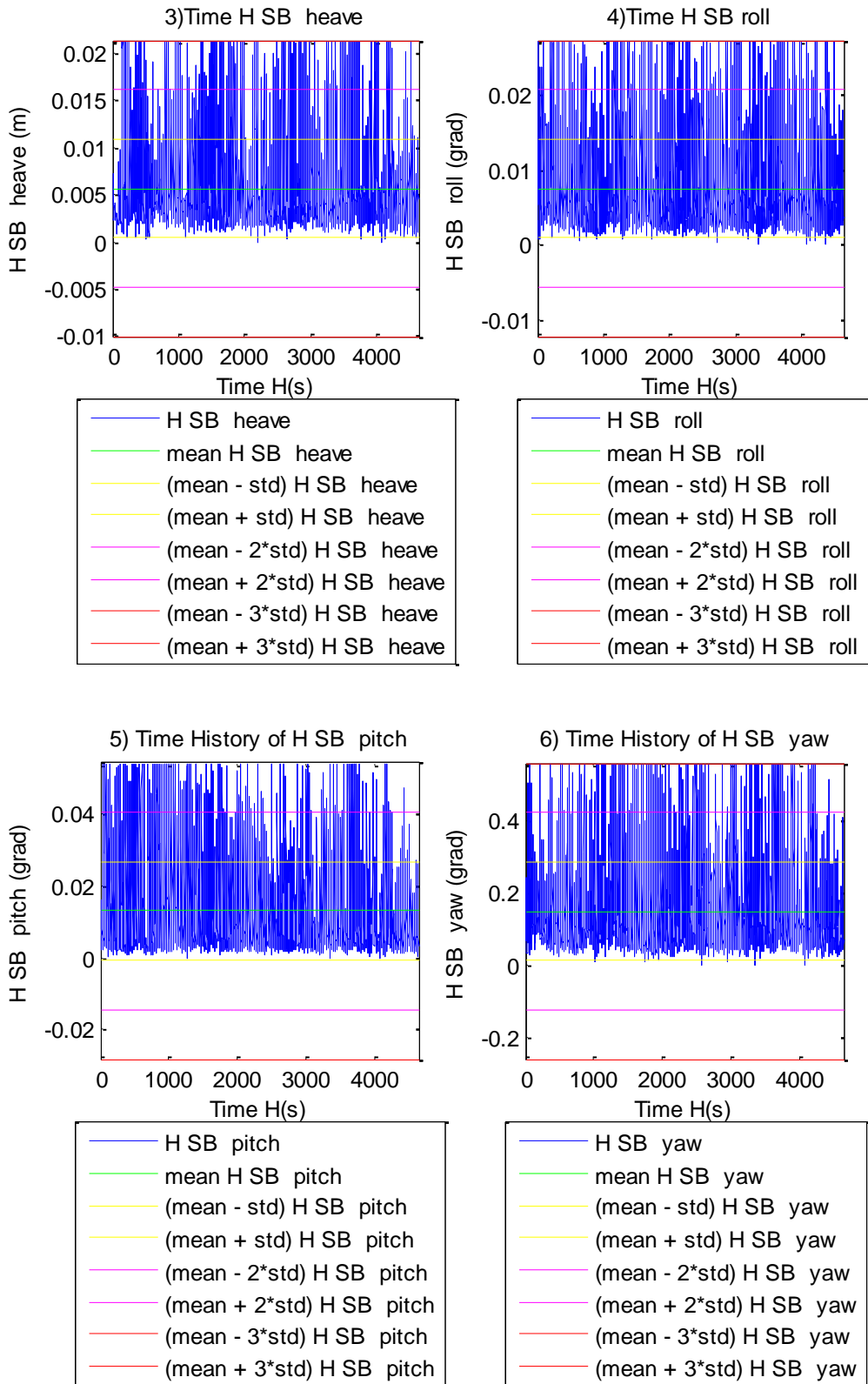






**Σχήματα 2.3.7.3 (1-3)** Διαγράμματα διάταξης του H για τις τρεις δυνάμεις στις τρεις γραμμές αγκύρωσης της Α/Γ





**Σχήματα 2.3.7.4 (1-6)** Διαγράμματα διάταξης του H για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=100**

4.2783	4.0269	3.8826	1.1095	1.0292	0.9020	1.8622	1.7895	1.6996	1.3095	1.0788
3.6566	3.9335	3.3589	1.0037	0.7776	0.8261	2.0418	1.8584	1.8092	1.4491	1.2946
4.1320	3.9295	4.5516	1.1854	1.1871	1.0186	1.6194	1.5486	1.4273	1.0873	1.0302
1.0281	1.0137	1.0286	1.1695	0.9993	0.9950	0.9939	0.9961	0.9998	0.9979	0.9977
1.1074	1.0746	1.1027	0.8841	4.5790	4.2971	1.0319	0.8712	0.9456	0.9118	0.9317
1.1710	1.1575	1.1667	0.9055	4.2707	4.4947	1.0974	0.8308	0.9507	1.0004	0.9959
1.3889	1.6227	1.2249	0.9306	0.8939	0.8462	4.4805	2.0129	1.1102	0.9111	1.0619
1.9276	2.1330	1.6257	0.8652	1.0264	0.9883	1.7699	4.5538	2.2168	1.1143	0.7820
1.6863	1.7260	1.3544	1.0261	1.0409	1.0229	0.9818	1.9877	4.8123	2.9838	2.0585
1.3860	1.1908	1.3094	1.1033	1.0154	1.2009	1.1056	1.2129	2.7398	4.6650	3.9697
1.2318	1.0730	1.2186	1.0408	1.0003	1.2111	1.3219	0.9996	1.9742	3.9413	4.6097

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=1000**

3.3027	3.0377	3.0481	1.1163	0.9744	0.9436	1.4392	1.5342	1.4418	1.1904	1.1076
2.8542	3.1453	2.5303	1.0696	0.9204	0.9093	1.5265	1.5631	1.4925	1.2077	1.1554
3.2381	2.8552	3.5077	1.1448	1.0297	1.0182	1.2558	1.4498	1.2998	1.1422	1.0689
1.0081	1.0023	1.0148	1.1315	0.9971	0.9985	0.9991	0.9985	0.9976	0.9984	0.9969
1.0707	0.9789	1.1136	0.9726	3.5126	3.3965	0.9497	0.9145	1.0128	1.0968	1.0842
1.0839	1.0202	1.1134	0.9862	3.3942	3.5007	0.9568	0.8885	1.0088	1.1171	1.0907
1.2543	1.4051	1.0491	1.0308	0.8492	0.8532	3.5226	1.7152	0.9277	1.0473	1.1722
1.5720	1.4199	1.5122	1.0232	0.8629	0.8612	1.5588	3.4858	1.7470	1.0713	0.9929
1.4794	1.4999	1.4260	0.9821	0.9576	0.9832	0.9981	1.8450	3.5182	2.3922	1.7862
1.3064	1.2249	1.3242	1.0188	1.0924	1.1229	1.0857	1.1367	2.3492	3.4552	3.1058
1.1508	1.1269	1.1746	1.0291	1.1355	1.1699	1.1704	1.0359	1.7704	3.1131	3.4573

**Μητρώα MKN για τις έξι δυνάμεις και ροπές  $\mathbf{bcomp}$  [ Fx, Fy, Fz, Mx, My, Mz] για K=100**

1.8723	1.5147	0.9842	1.1728	1.6085	1.2349
1.2295	1.3615	1.0612	0.8001	1.1337	1.0317
1.0685	1.0507	1.0685	0.9305	1.0685	1.0458
0.8743	0.6521	0.9153	4.4901	0.9594	0.9595

1.4646	1.2076	1.1472	0.8756	1.5808	1.1770
1.1005	0.8914	0.9943	0.7621	1.1458	1.4392

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz]  
για K=1000**

1.6865	1.4564	0.9971	1.0608	1.4826	1.1578
1.1550	1.2271	1.0571	0.8756	1.1017	1.0230
1.0685	1.0575	1.0685	0.9326	1.0685	1.0368
1.0567	0.4465	0.9214	2.6768	1.0104	0.9806
1.3006	1.2062	1.1562	0.8876	1.4478	1.1307
1.0693	1.0249	1.0103	0.8186	1.1106	1.3247

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=100**

1.5370	0.9463	0.8703	1.4545
1.5274	6.3195	2.8217	1.8571
1.0058	0.6383	1.6818	1.0159
1.8526	1.0085	0.8575	2.0109

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=1000**

1.4135	1.0098	0.9105	1.3577
1.2537	3.7390	1.8885	1.3890
1.0064	0.8638	1.1737	1.0064
1.6255	1.0780	0.8916	1.7591

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=100**

1.0454	0.9235	0.9280
0.9781	1.0628	1.0619
0.9752	1.0558	1.0568

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2, 3] για K=1000**

1.0337	0.9418	0.9443
0.9813	1.0449	1.0431
0.9822	1.0399	1.0414

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=100**

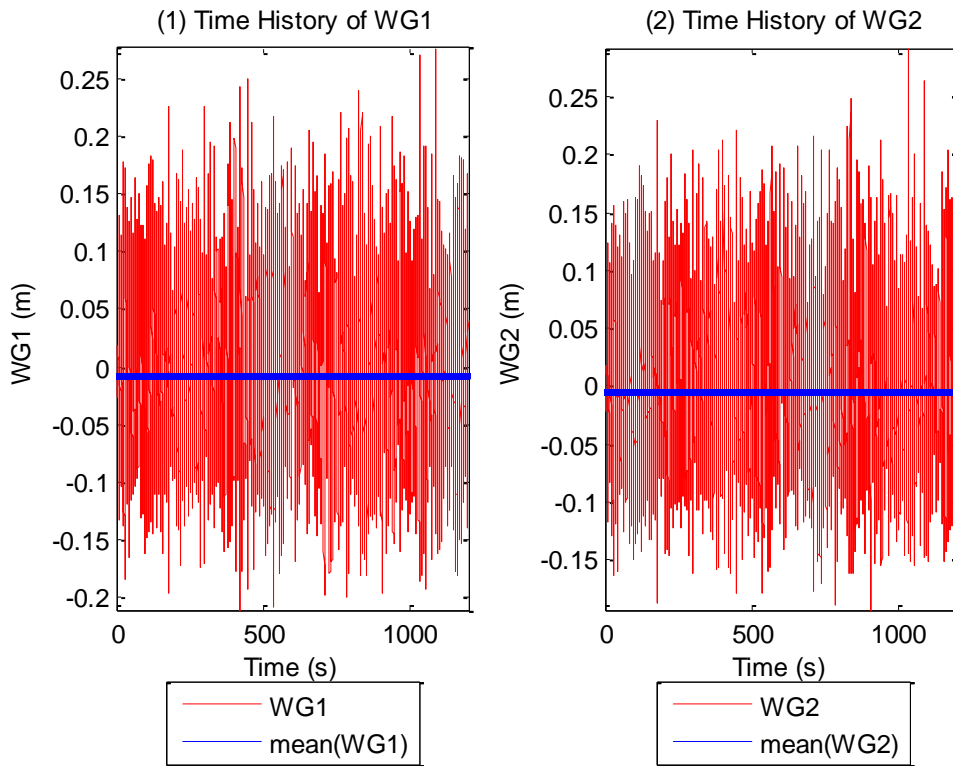
1.1256	0.9920	1.0369	0.8175	1.1003	0.8540
0.9976	1.0766	0.9902	0.7721	1.0110	0.8596
1.2455	0.9917	1.8588	0.8940	1.1150	0.8384
1.5389	1.0156	0.8086	7.0821	1.8577	4.4417
1.1021	0.9917	1.0330	0.8352	1.1305	0.8582
0.4921	1.0805	0.8902	2.1852	0.4134	5.1906

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000**

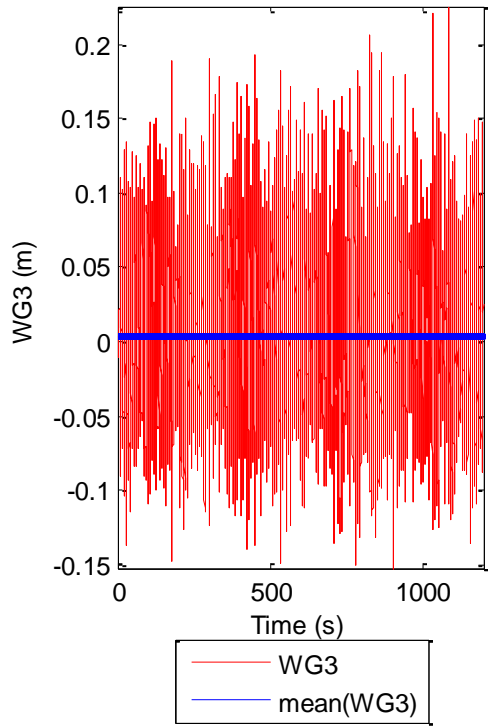
1.0944	1.0038	1.0220	0.9050	1.0762	0.9164
1.0023	1.0594	0.9945	0.9076	1.0067	0.9588
1.1198	1.0122	1.6947	0.8382	1.1121	0.9744
1.4945	1.0515	0.8668	4.1853	1.5586	1.7954
1.0790	1.0088	1.0174	0.9244	1.0979	0.9278
0.5839	0.9967	0.9144	1.4885	0.6619	3.1071

## 2.4 Παρουσίαση χρονοσειρών (C10) T1387+T1388\_1.6\_0.15\_SB\_0\_NR

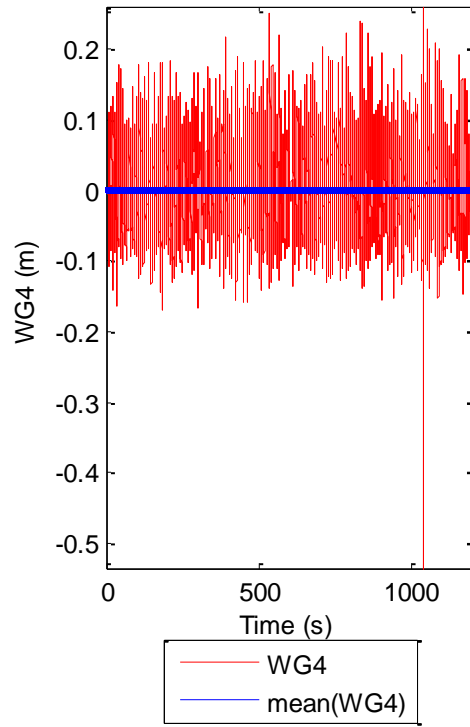
Πίνακας 2.4.1		Χαρακτηριστικά Πειράματος
Τύπος μοντέλου		SB
Ύψος κύματος (m)		0.150
Περίοδος κύματος (s)		1.6
Τύπος κύματος		IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)		0
Περιστροφή η μη του Ρότορα		Χωρίς Περιστροφή



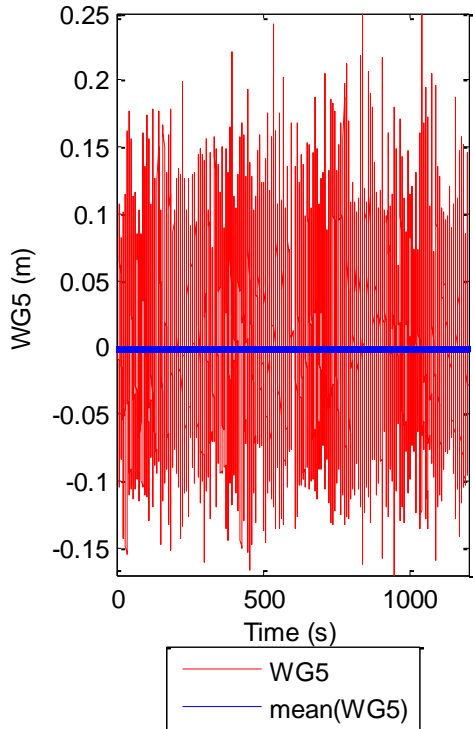
(3) Time History of WG3



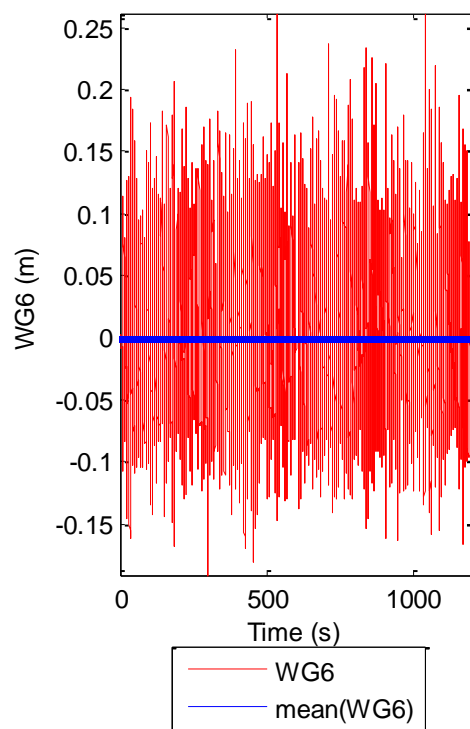
(4) Time History of WG4



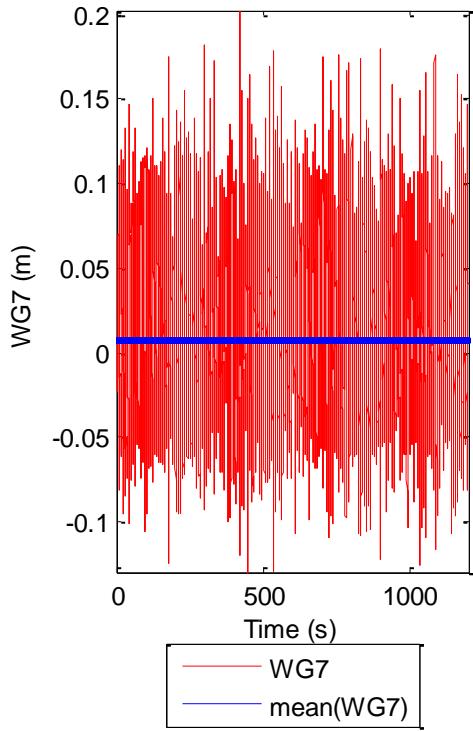
(5) Time History of WG5



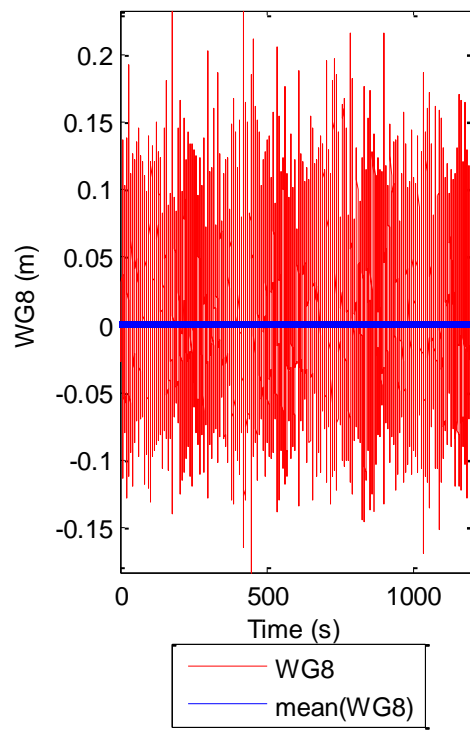
(6) Time History of WG6



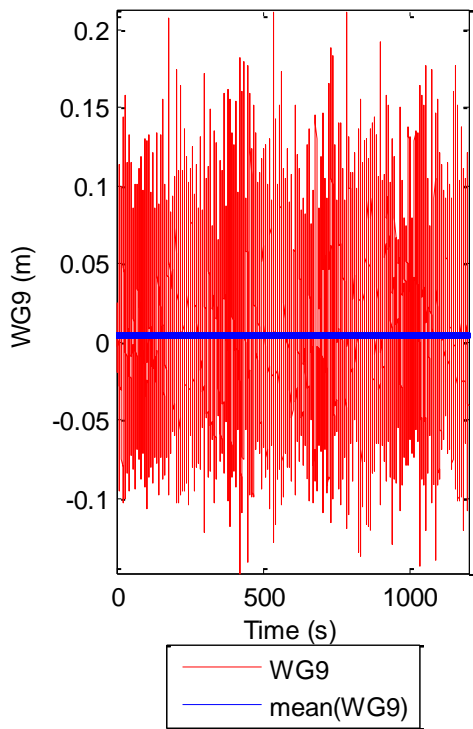
(7) Time History of WG7



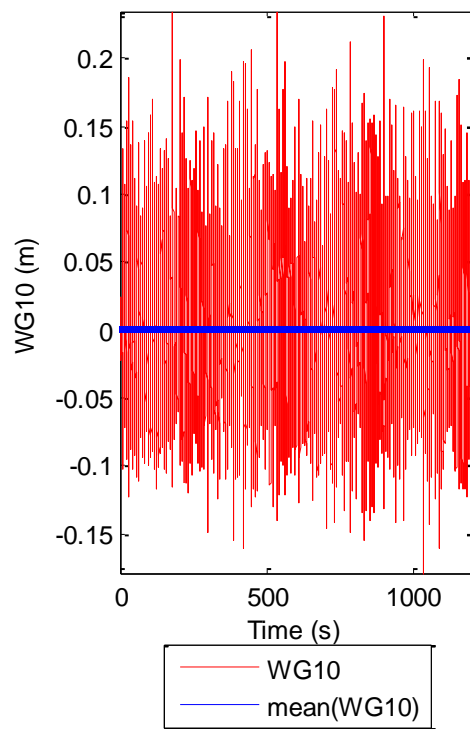
(8) Time History of WG8



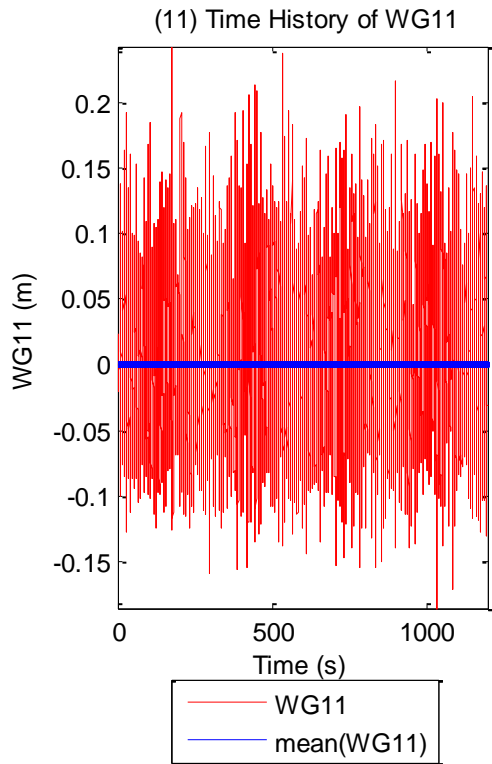
(9) Time History of WG9



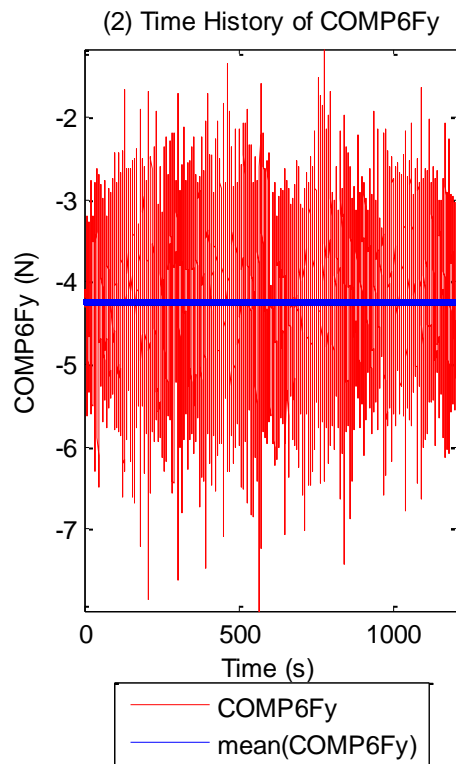
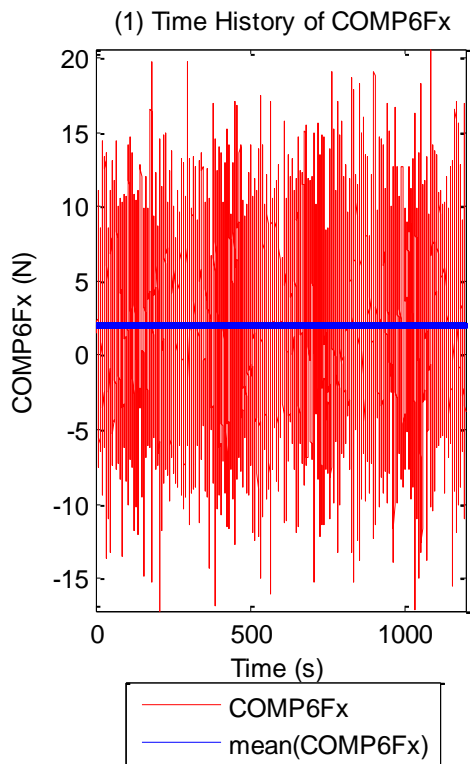
(10) Time History of WG10

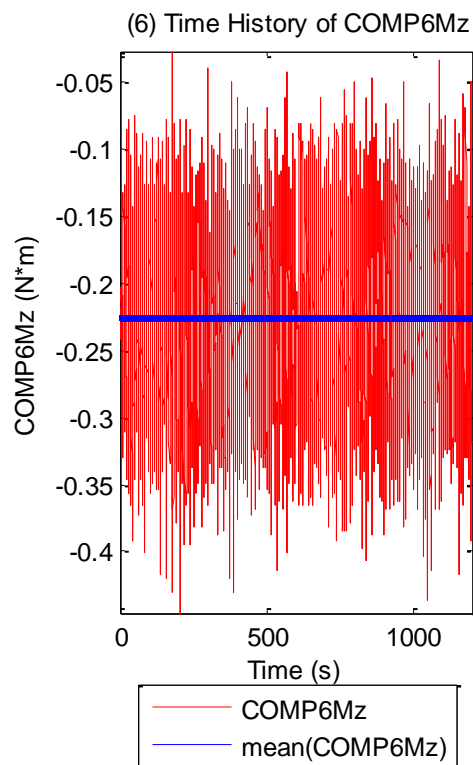
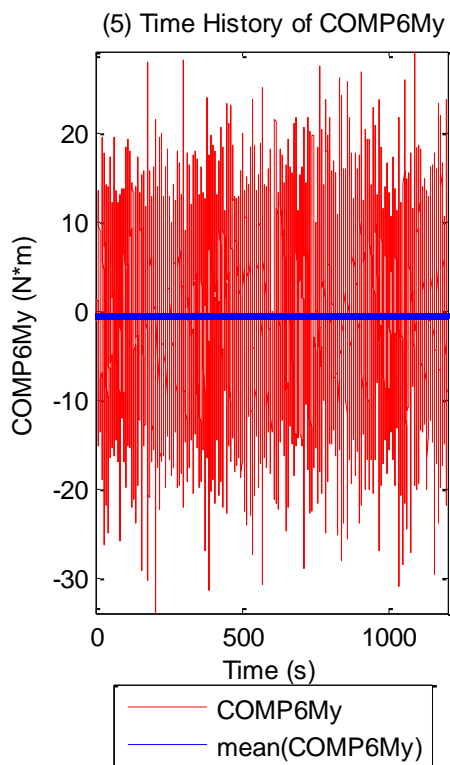
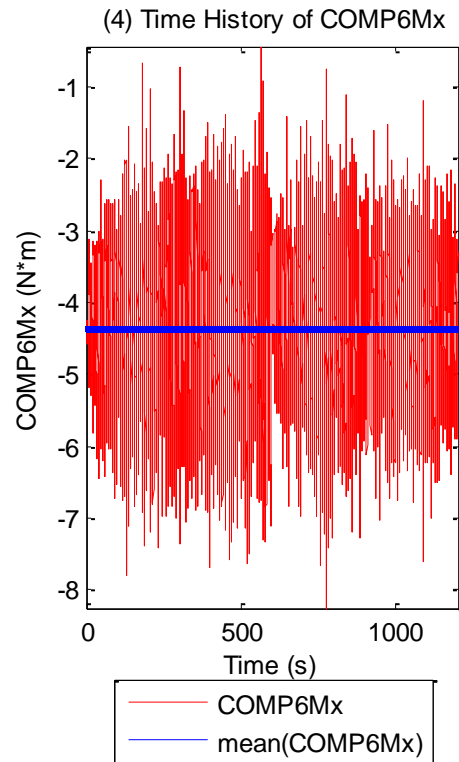
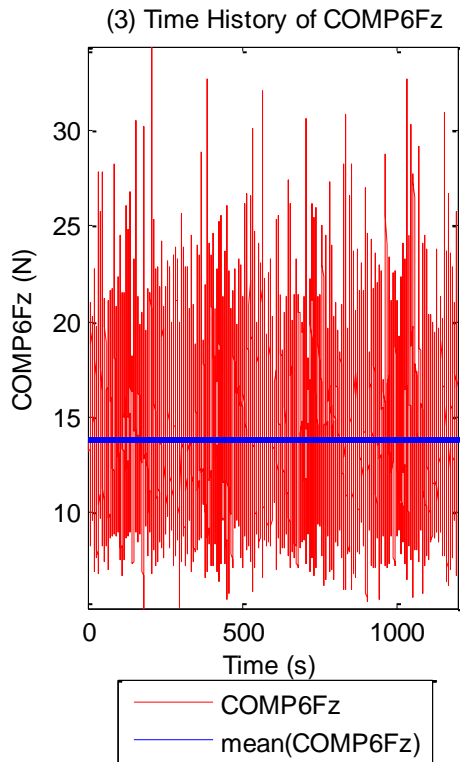




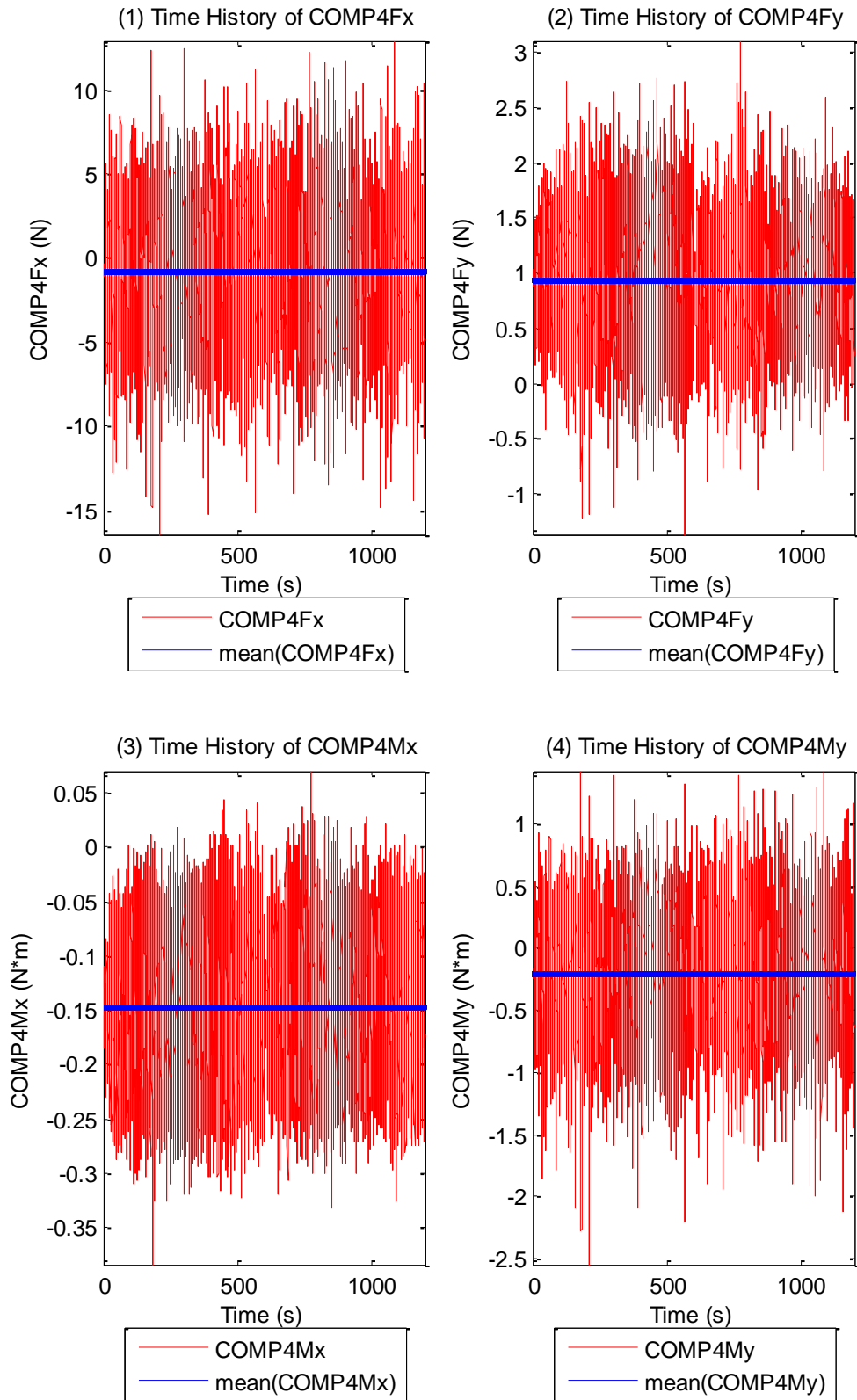


**Σχήματα 2.4.1.1 (1-6)** Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

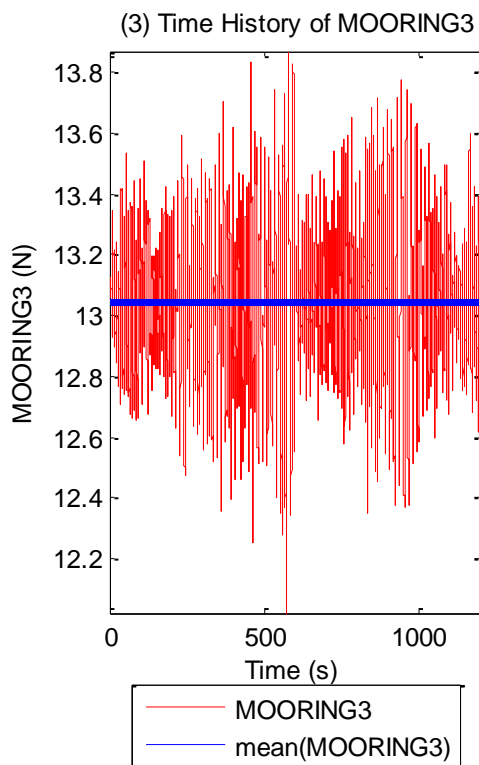
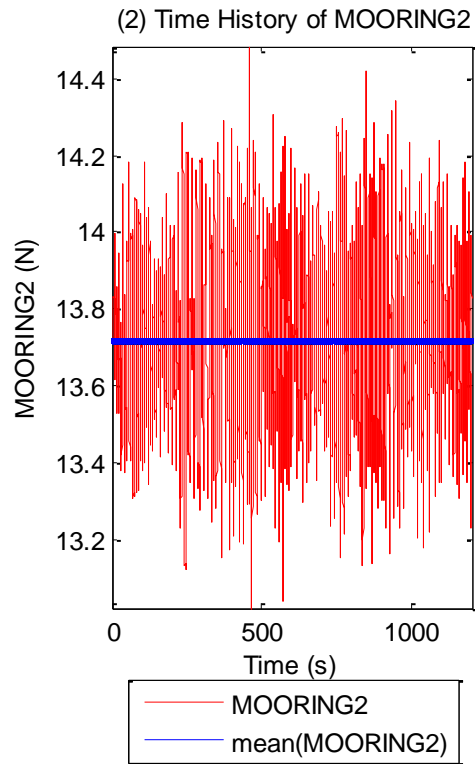
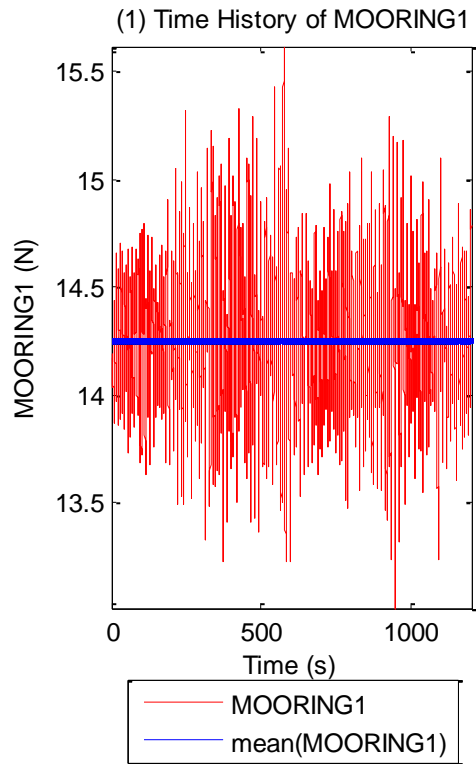




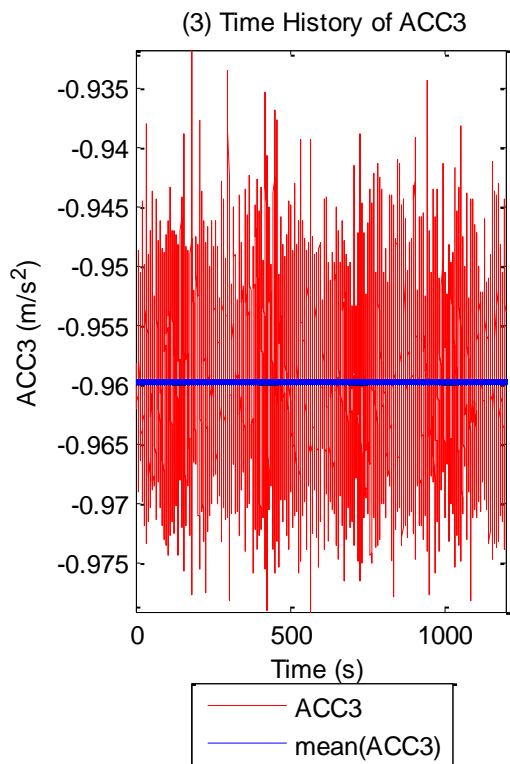
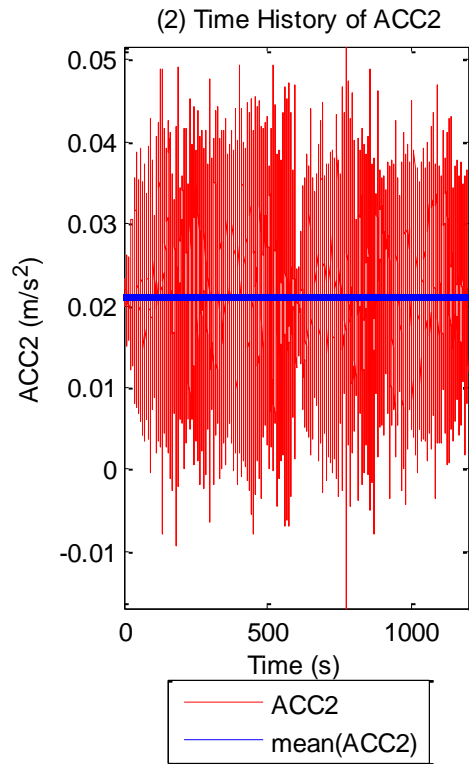
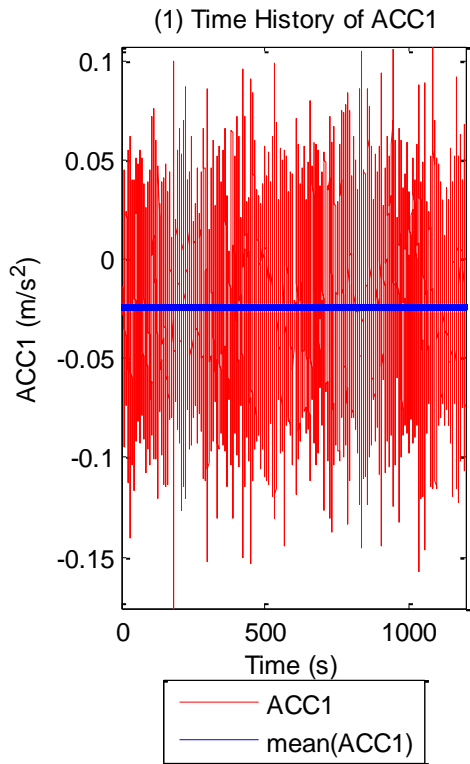
**Σχήματα 2.4.1.2** Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



**Σχήματα 2.4.1.3** Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)

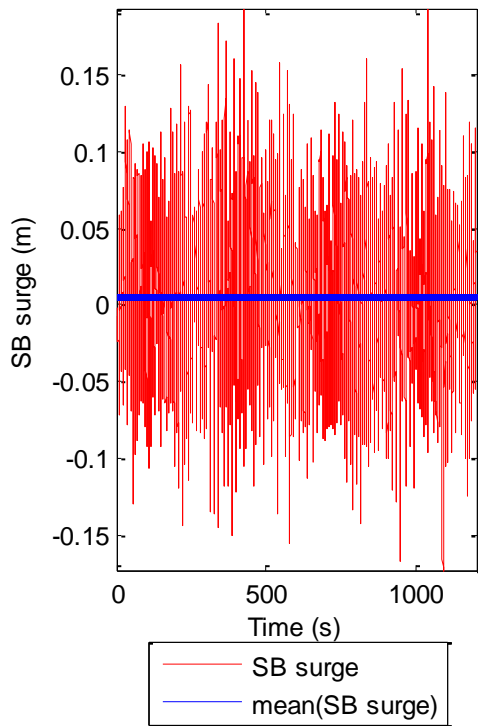


**Σχήματα 2.4.1.4** Χρονοσειρές για τις δυνάμεις στις τρεις γραμμές αγκύρωσης (1-3) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές

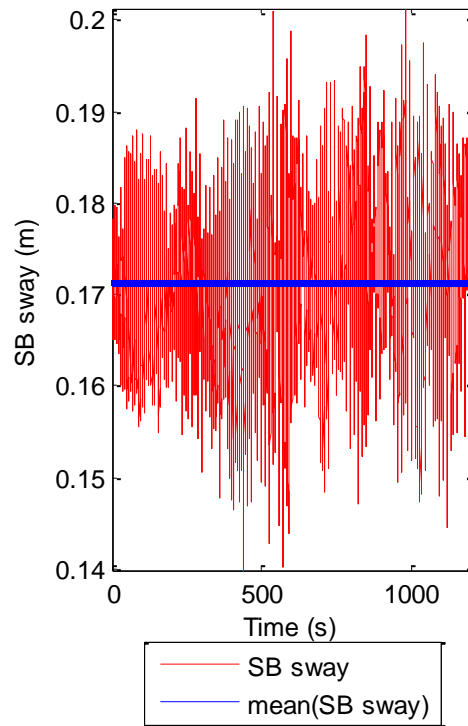


**Σχήματα 2.4.1.5 (1-3)** Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

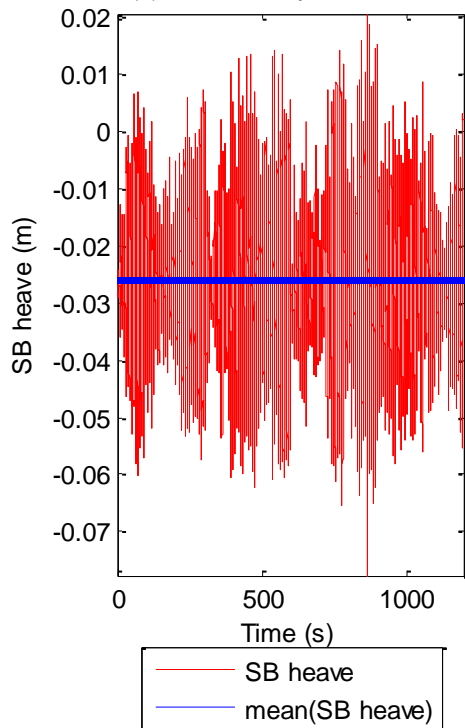
(1) Time History of SB surge



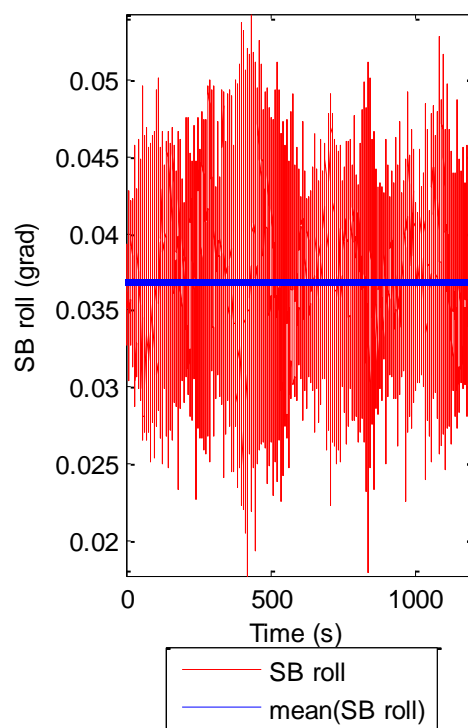
(2) Time History of SB sway

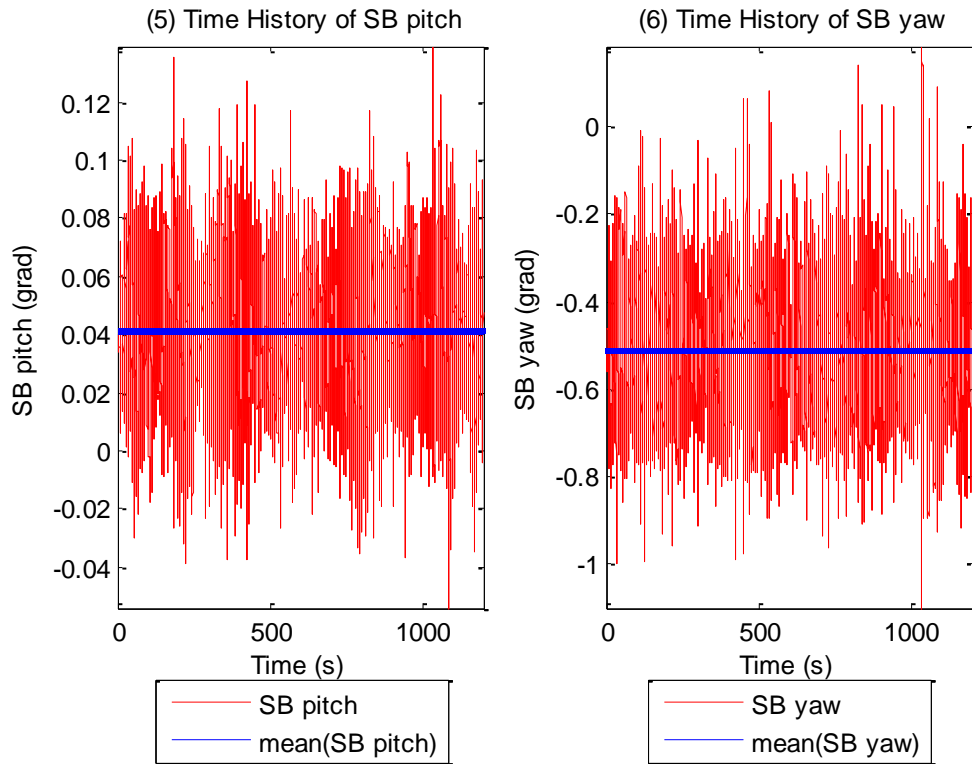


(3) Time History of SB heave



(4) Time History of SB roll





**Σχήματα 2.4.1.6** Χρονοσειρές για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

<b>Πίνακας 2.4.2</b>					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	$H_{rms}$
Wg1 (m)	-0.0084	0.0656	-0.2117	0.2771	0.1861
Wg2 (m)	-0.0035	0.0612	-0.1931	0.2921	0.1726
Wg3 (m)	0.0036	0.0510	-0.1526	0.2259	0.1439
Wg4 (m)	0.0012	0.0564	-0.5346	0.2607	0.1600
Wg5 (m)	-0.0013	0.0568	-0.1705	0.2503	0.1598
Wg6 (m)	-0.0013	0.0579	-0.1913	0.2612	0.1619
Wg7 (m)	0.0075	0.0455	-0.1296	0.2024	0.1290
Wg8 (m)	0.0014	0.0540	-0.1829	0.2327	0.1521
Wg9 (m)	0.0042	0.0488	-0.1477	0.2117	0.1393

Wg10 (m)	0.0013	0.0546	-0.1789	0.2348	0.1553
Wg11 (m)	0.0009	0.0559	-0.1858	0.2429	0.1585
6comp_Fx (N)	1.9987	5.0273	-17.1800	20.6262	13.8991
6comp_Fy(N)	-4.2279	0.7614	-7.9966	-1.1603	2.0074
6comp_Fz (N)	13.8324	3.5009	5.0193	34.3768	9.4638
6comp_Mx (N*m)	-4.3650	0.9035	-8.2572	-0.4324	2.3945
6comp_My (N*m)	-0.4211	7.9800	-33.9956	29.2694	20.7530
6comp_Mz (N*m)	-0.2257	0.0544	-0.4460	-0.0264	0.1221
4comp_Fx (N)	-0.7745	3.6738	-16.4139	12.8982	9.3019
4comp_Fy (N)	0.9330	0.4829	-1.3662	3.1051	1.2418
4comp_Mx (N*m)	-0.1471	0.0593	-0.3842	0.0699	0.1546
4comp_My (N*m)	-0.2041	0.4412	-2.5476	1.4275	1.1192
Mooring_1 (N)	14.2529	0.3241	13.0101	15.6188	0.4749
Mooring_2 (N)	13.7200	0.2054	13.0225	14.4835	0.3065
Mooring_3 (N)	13.0456	0.2300	12.0205	13.8705	0.3173
Acc_1 (G)	-0.0240	0.0363	-0.1758	0.1074	0.0896
Acc_2 (G)	0.0211	0.0079	-0.0169	0.0516	0.0211
Acc_3 (G)	-0.9596	0.0058	-0.9791	-0.9317	0.0138
SB_x (m)	0.0058	0.0492	-0.1731	0.1932	0.0895
SB_y (m)	0.1714	0.0087	0.1399	0.2013	0.0083
SB_z (m)	-0.0261	0.0144	-0.0777	0.0206	0.0200

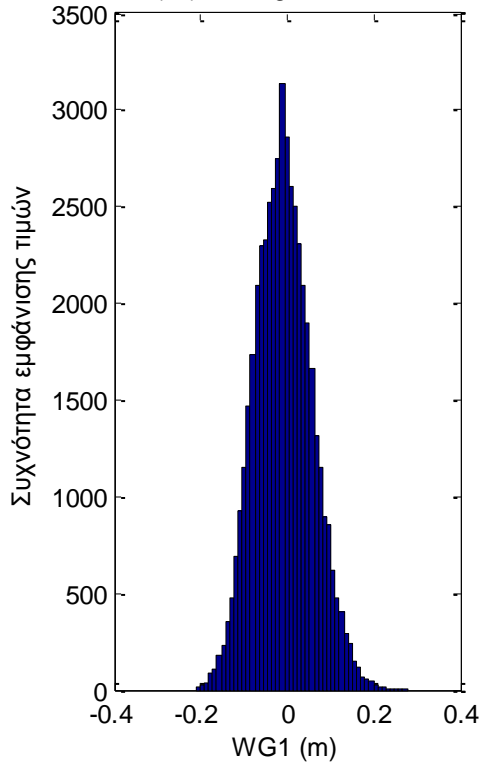


SB_roll (grad)	0.0369	0.0044	0.0177	0.0543	0.0060
SB_pitch (grad)	0.0414	0.0240	-0.0542	0.1392	0.0352
SB_yaw (grad)	-0.5108	0.1400	-1.1018	0.1846	0.2414

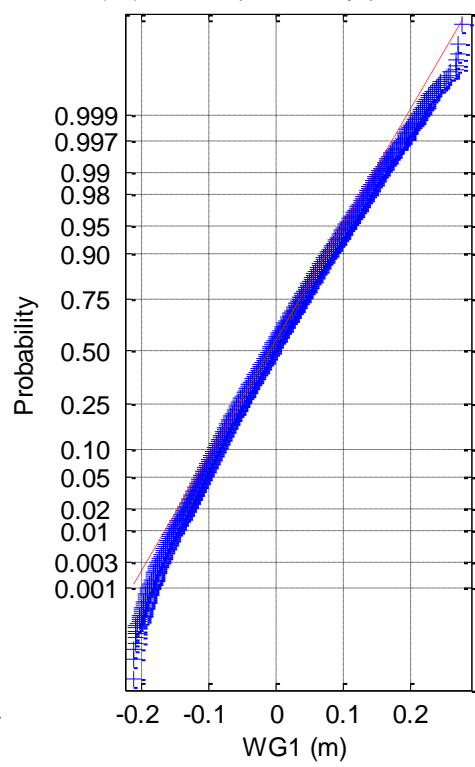
<b>Πίνακας 2.4.3</b>				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.2062	3.0131	1	1
Wg2 (m)	0.2522	3.0968	1	1
Wg3 (m)	0.2356	3.0800	1	1
Wg4 (m)	0.2753	3.4955	1	1
Wg5 (m)	0.2853	3.1303	1	1
Wg6 (m)	0.2843	3.1470	1	1
Wg7 (m)	0.2716	3.0204	1	1
Wg8 (m)	0.2757	3.0831	1	1
Wg9 (m)	0.2531	3.0377	1	1
Wg10 (m)	0.2470	3.0400	1	1
Wg11 (m)	0.2448	3.0132	1	1
6comp_Fx (N)	-0.0393	3.1293	1	1
6comp_Fy(N)	-0.1449	3.3694	1	1
6comp_Fz (N)	0.7578	4.0500	1	1
6comp_Mx (N*m)	0.0043	3.2365	1	1
6comp_My (N*m)	-0.0453	3.1935	1	1

6comp_Mz (N*m)	-0.0783	3.0680	1	1
4comp_Fx (N)	-0.0471	3.2077	1	1
4comp_Fy (N)	-0.0352	3.3662	1	1
4comp_Mx (N*m)	0.0408	2.4989	1	1
4comp_My (N*m)	-0.1018	3.4079	1	1
Mooring_1 (N)	0.1108	3.3132	1	1
Mooring_2 (N)	0.0395	2.7744	1	1
Mooring_3 (N)	-0.0238	3.3886	1	1
Acc_1 (G)	-0.0034	3.0504	1	1
Acc_2 (G)	-0.0189	3.1878	1	1
Acc_3 (G)	0.2522	3.2347	1	1
SB_x (m)	0.0744	3.0899	1	1
SB_y (m)	-0.0570	2.9622	1	1
SB_z (m)	0.0627	2.6725	1	1
SB_roll (grad)	0.0926	3.2745	1	1
SB_pitch (grad)	0.0033	3.0064	1	1
SB_yaw (grad)	0.2332	3.4329	1	1

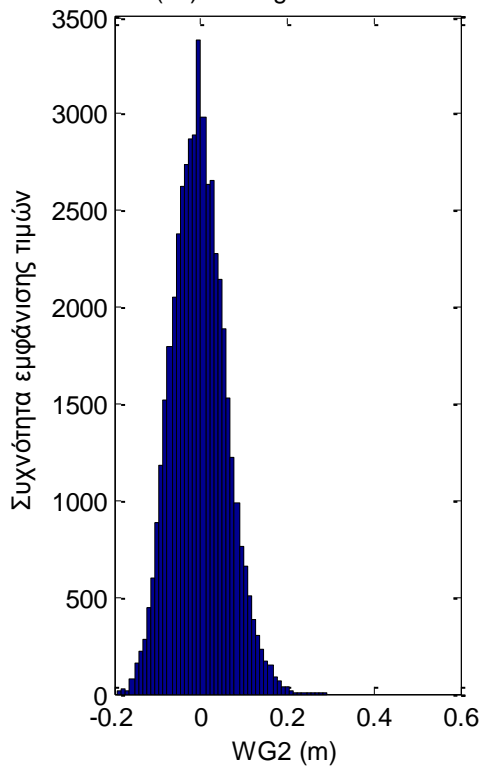
(1a) Histogram of WG1



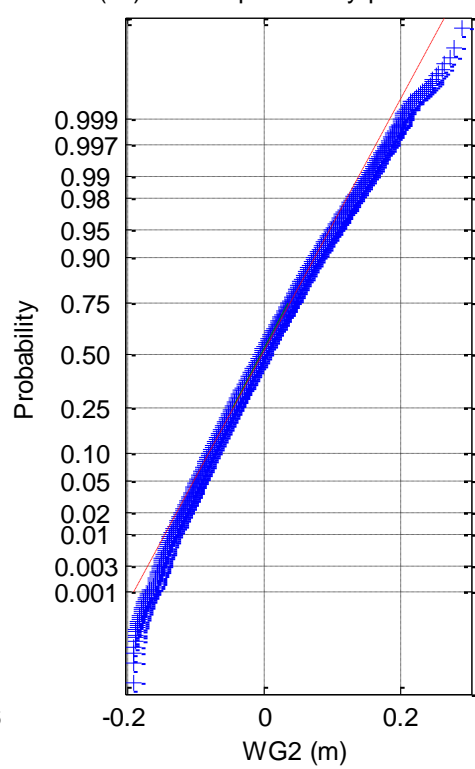
(1b) Normal probability plot of WG1



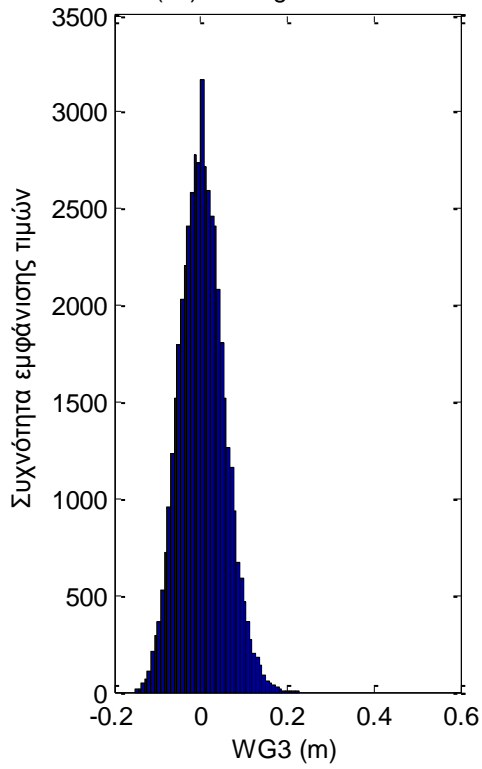
(2a) Histogram of WG2



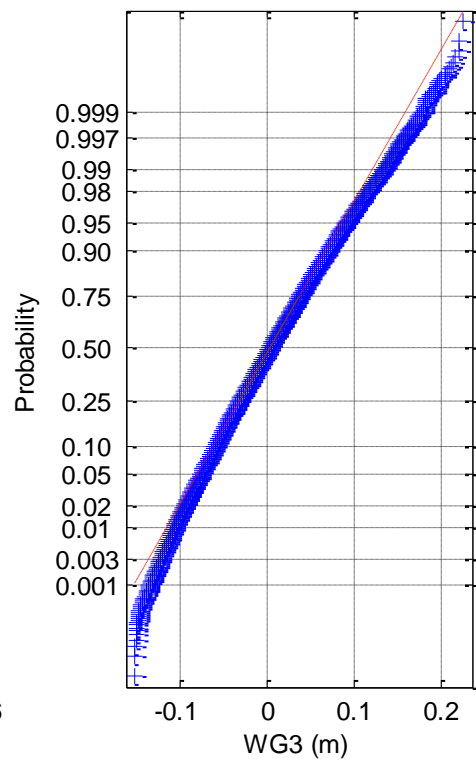
(2b) Normal probability plot of WG2



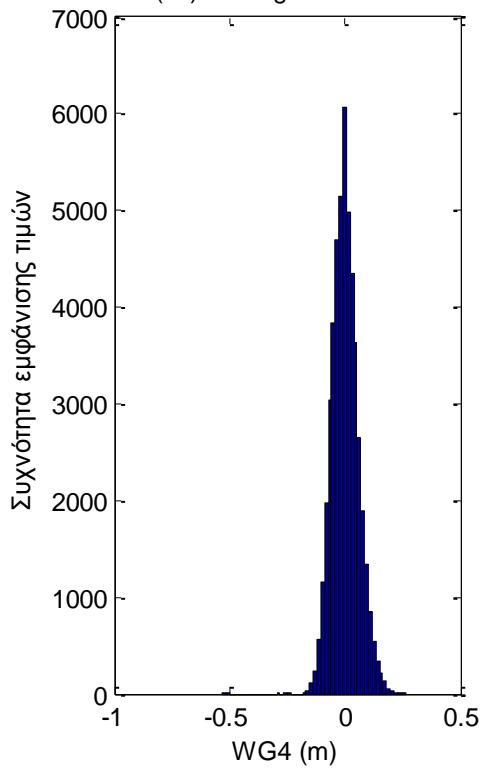
(3a) Histogram of WG3



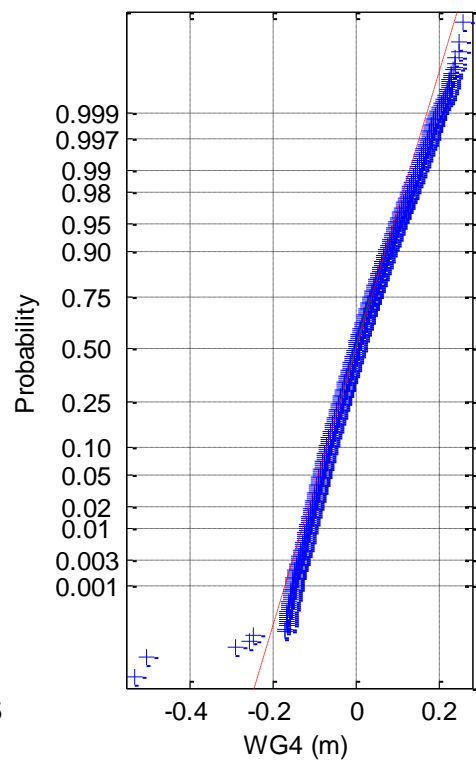
(3b) Normal probability plot of WG3



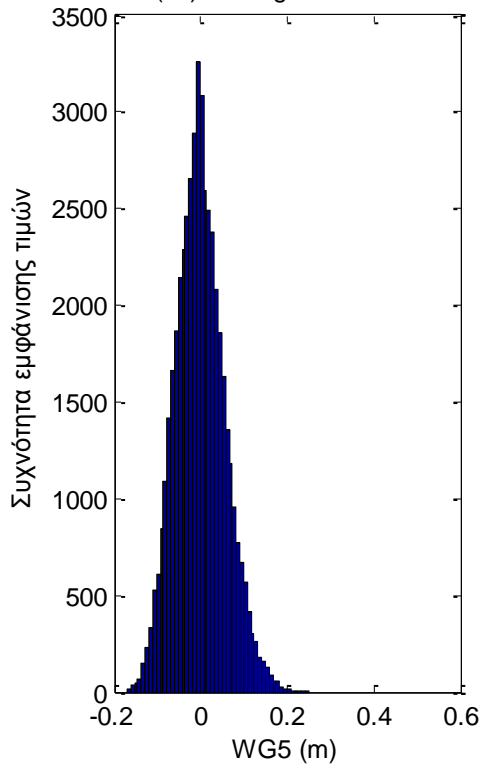
(4a) Histogram of WG4



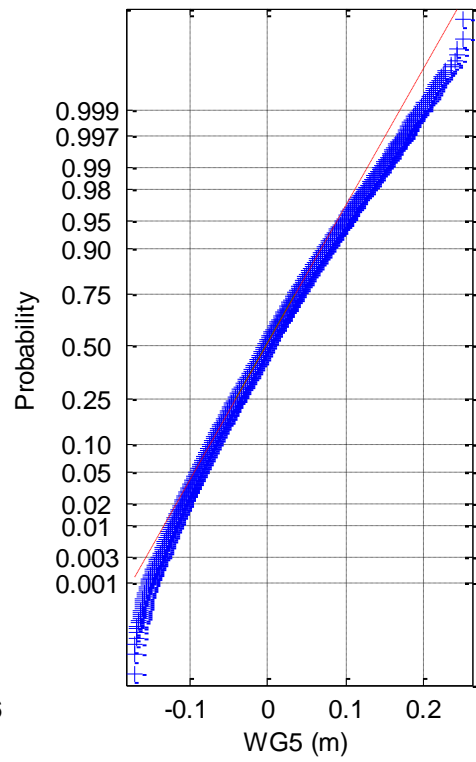
(4b) Normal probability plot of WG4



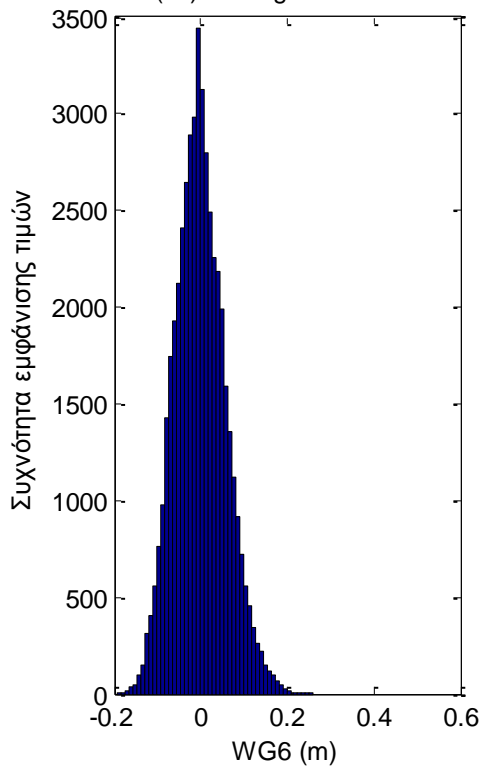
(5a) Histogram of WG5



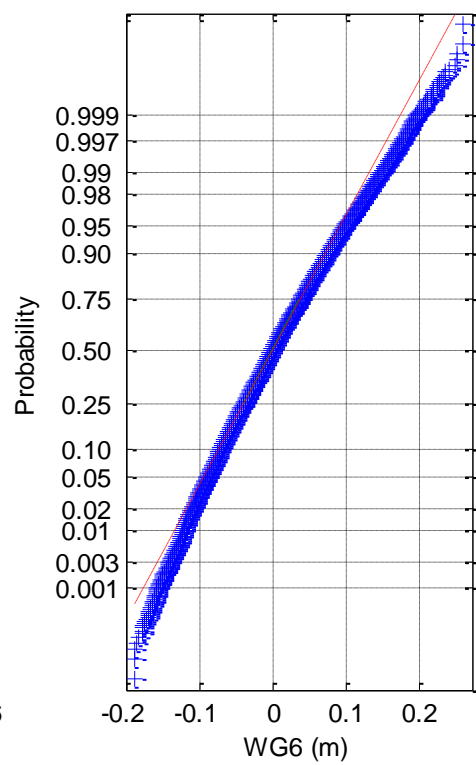
(5b) Normal probability plot of WG5



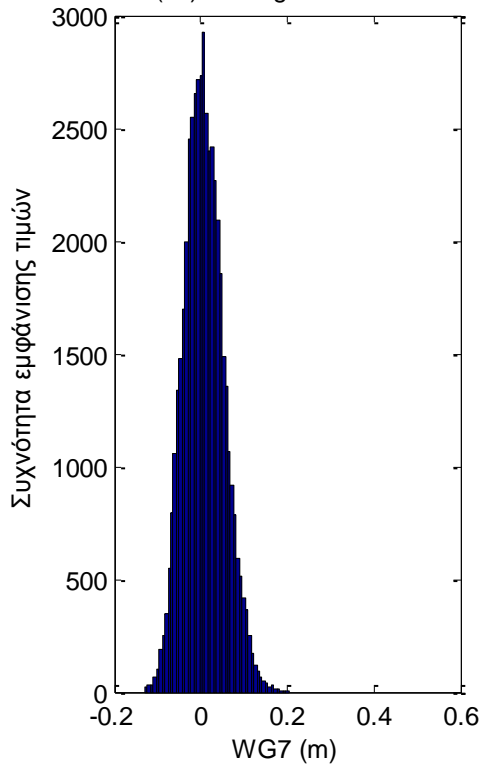
(6a) Histogram of WG6



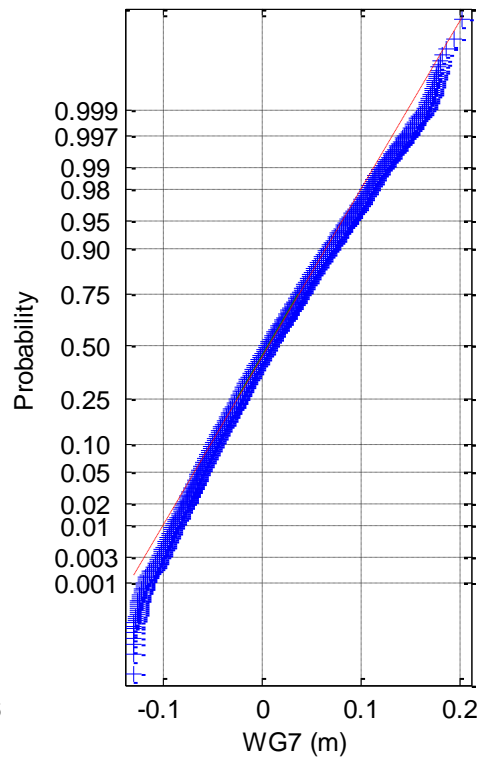
(6b) Normal probability plot of WG6



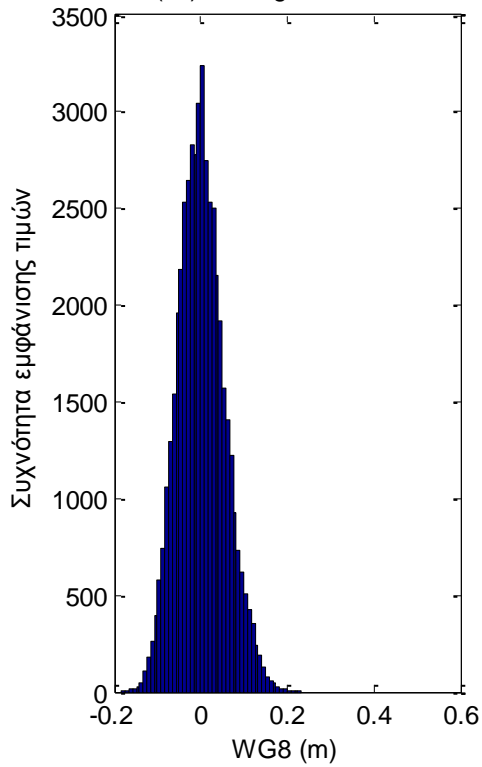
(7a) Histogram of WG7



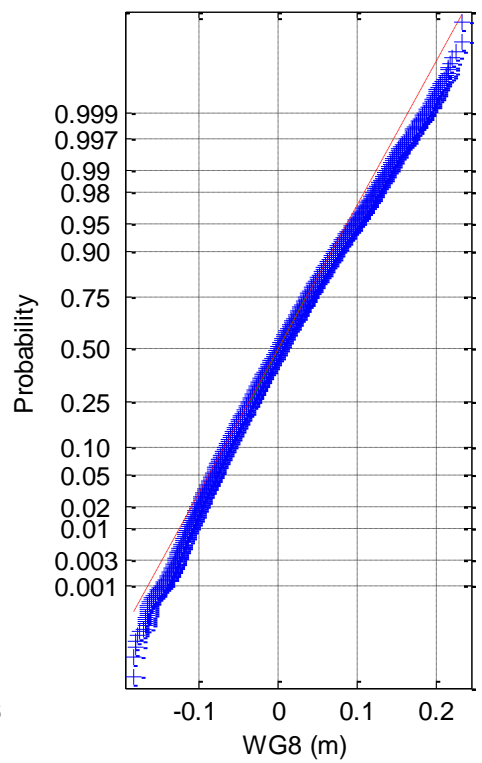
(7b) Normal probability plot of WG7

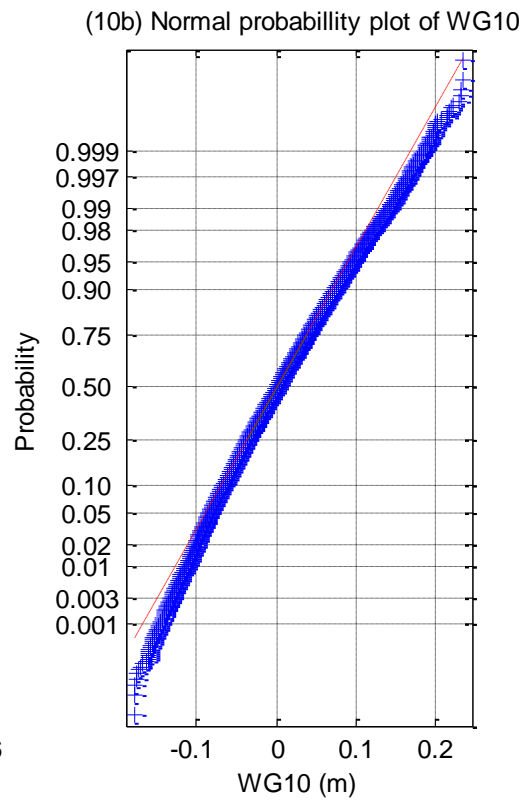
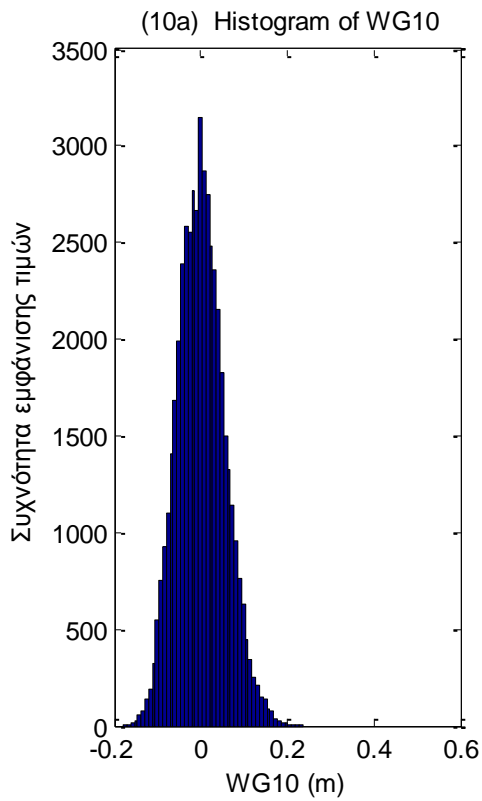
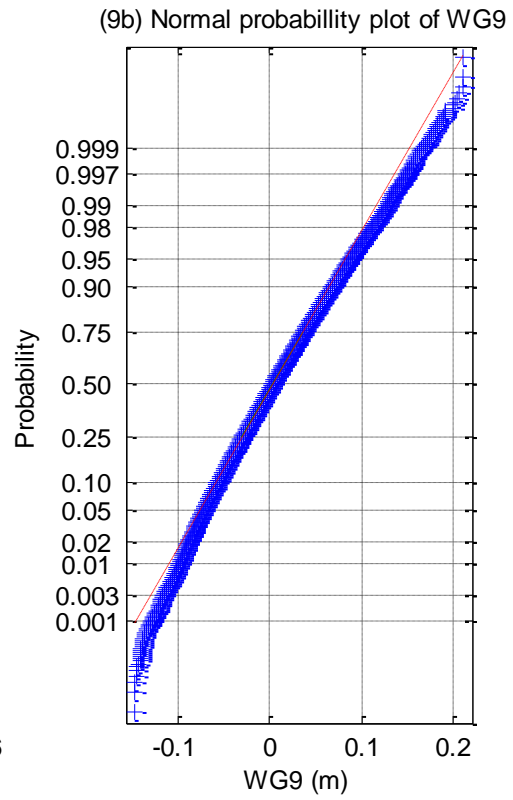
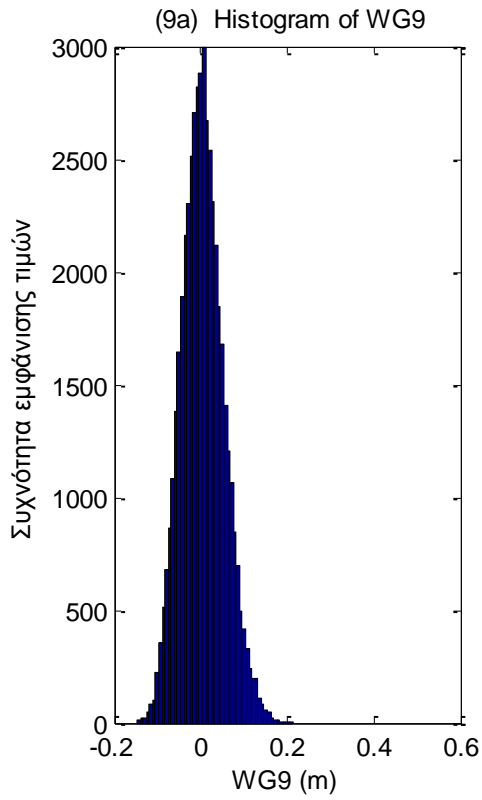


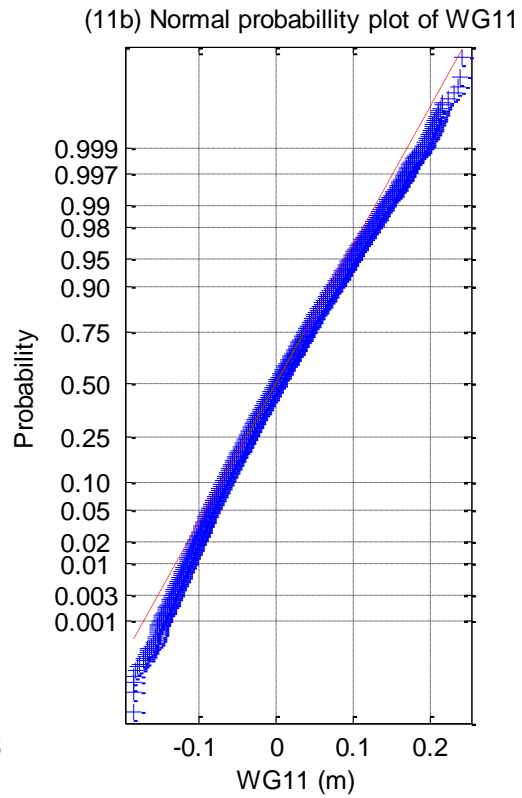
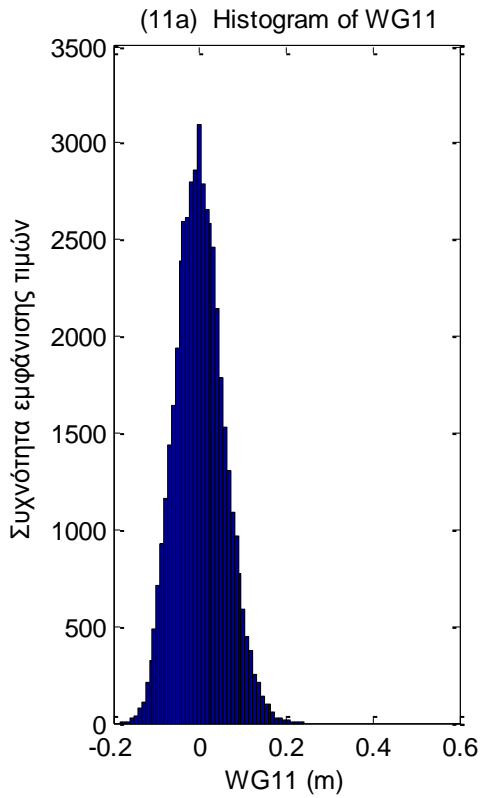
(8a) Histogram of WG8



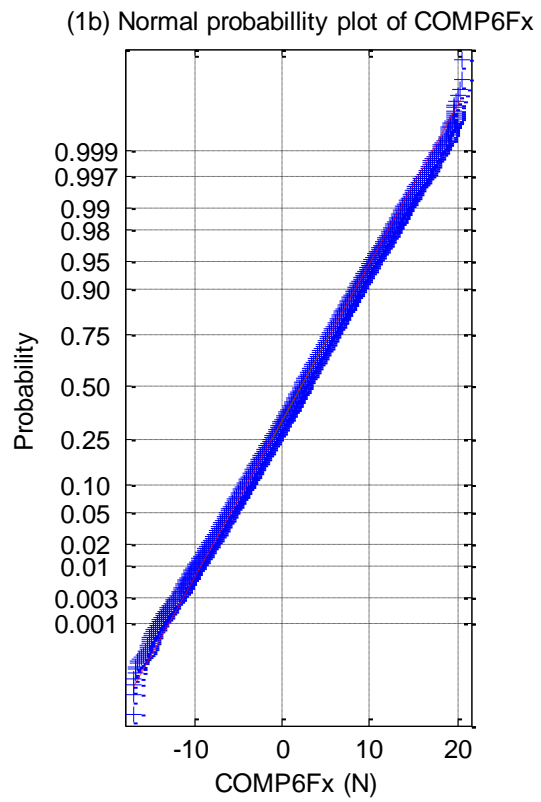
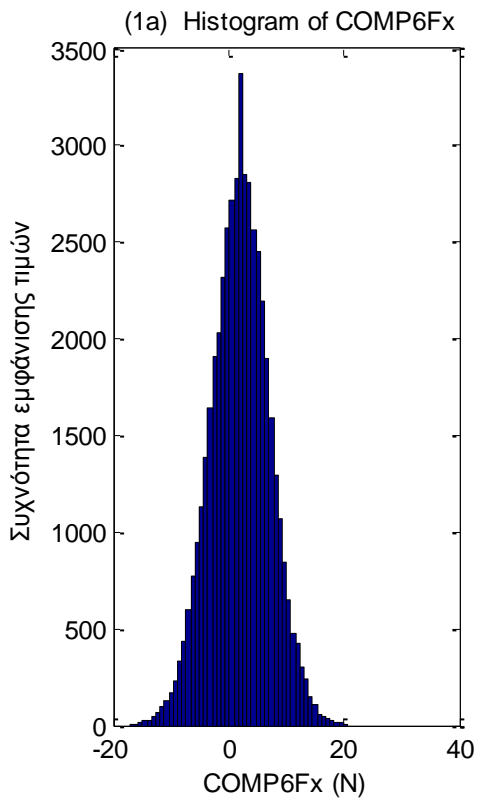
(8b) Normal probability plot of WG8



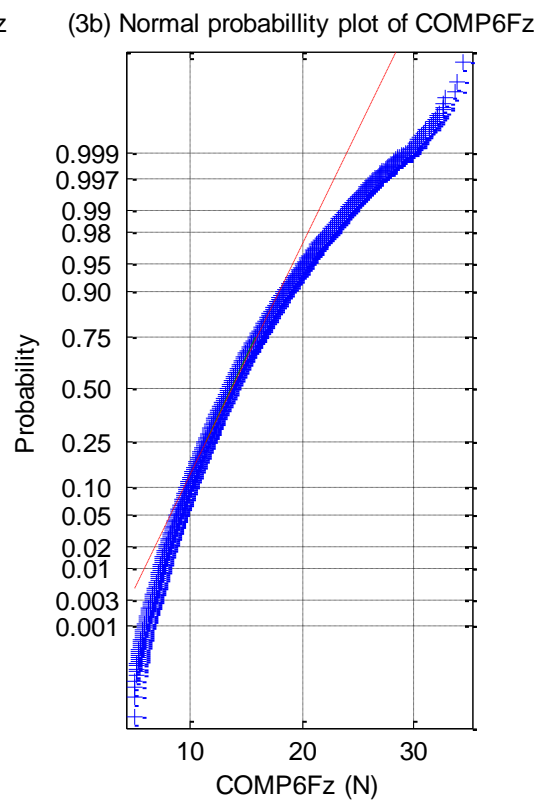
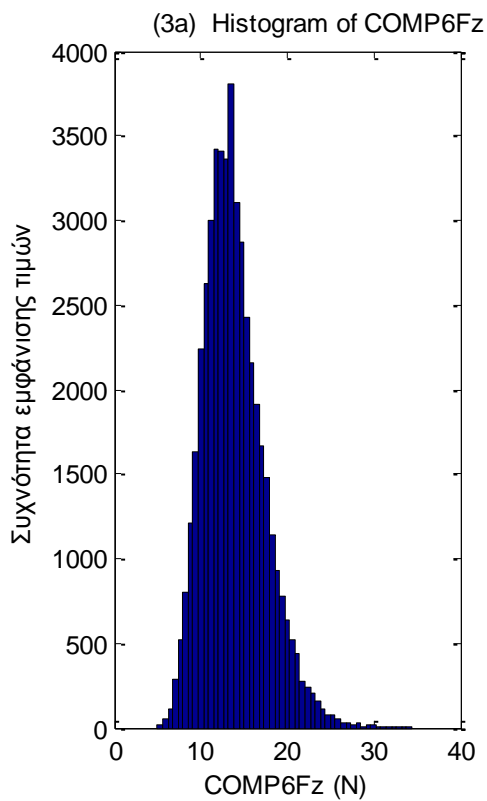
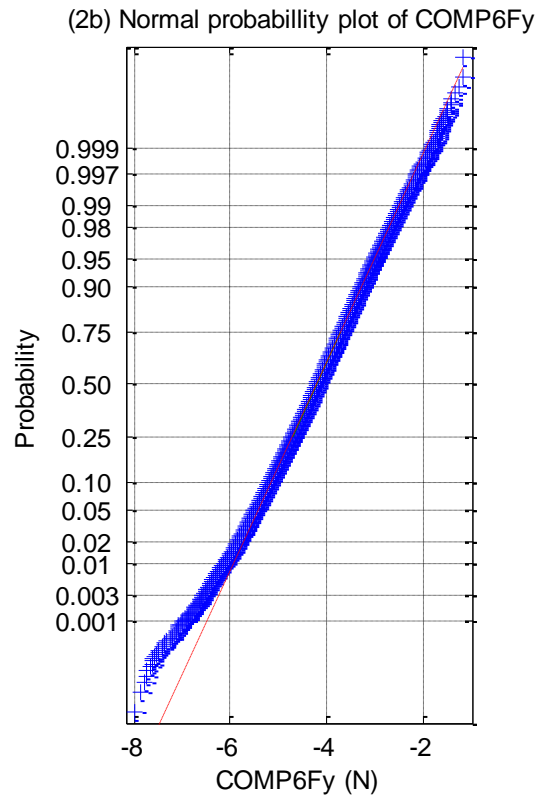
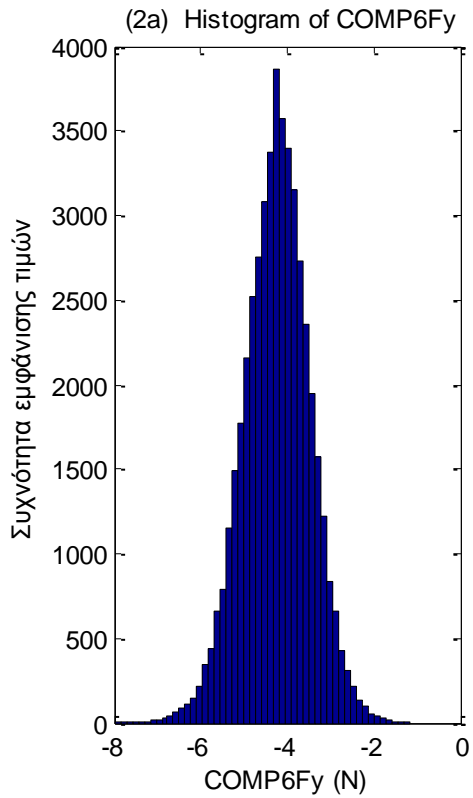


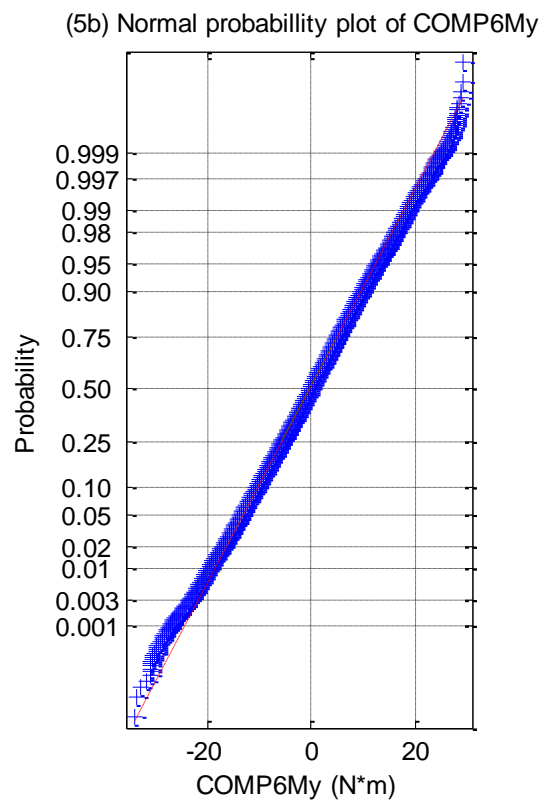
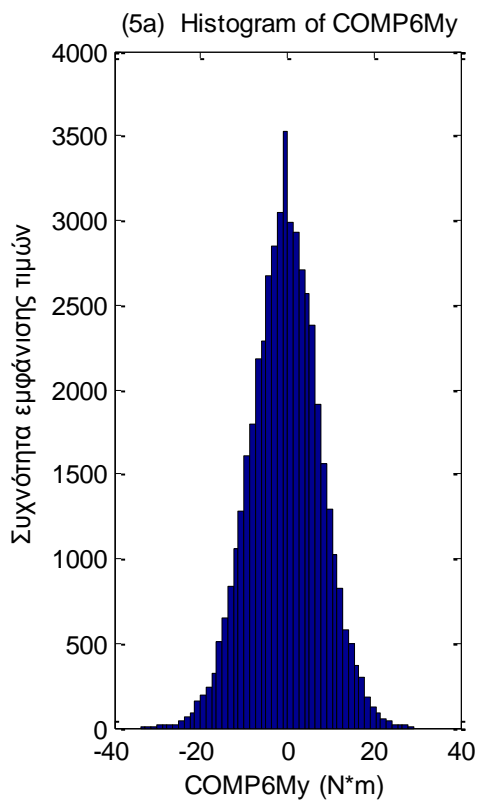
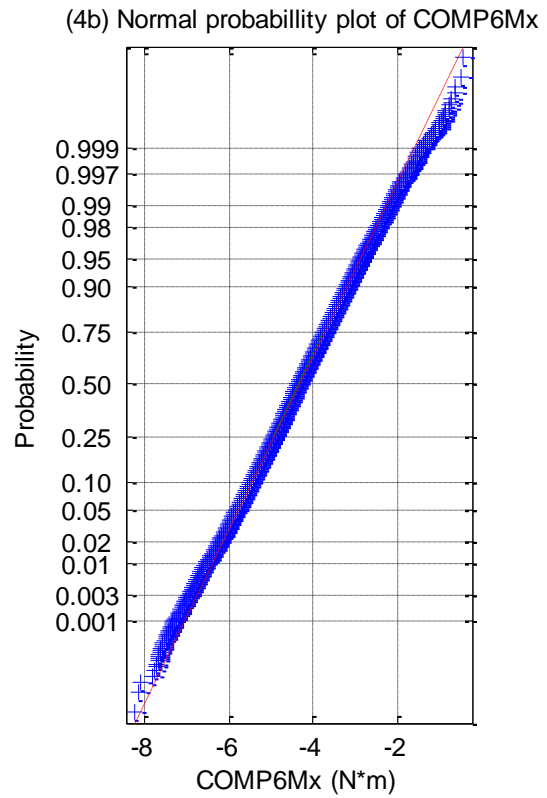
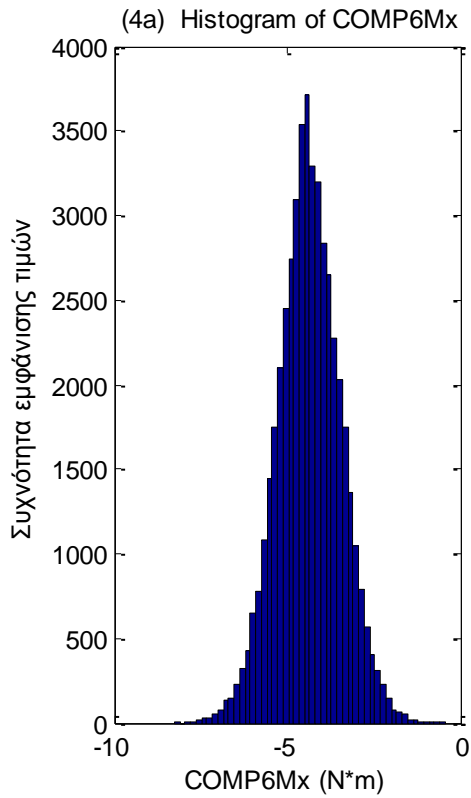


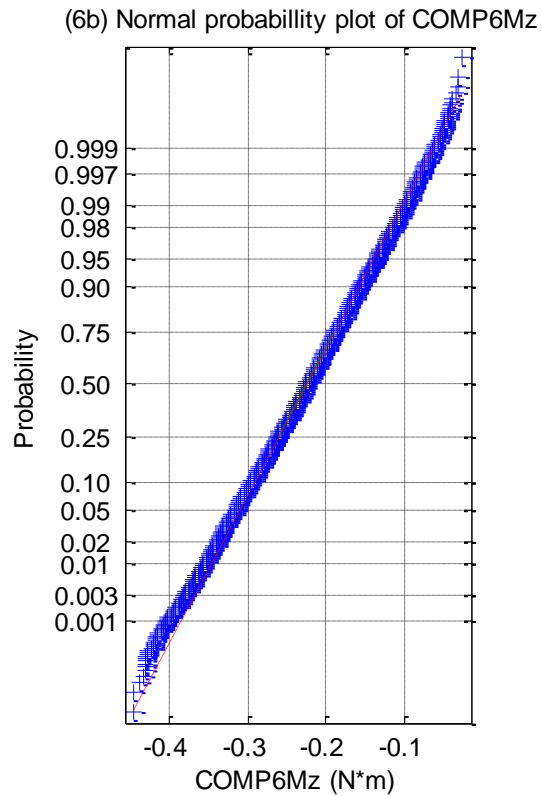
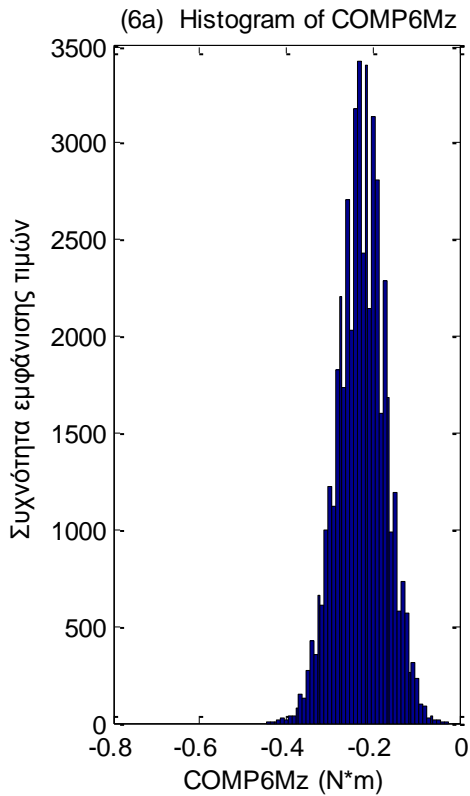
**Σχήματα 2.4.2.1 (1-11)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος



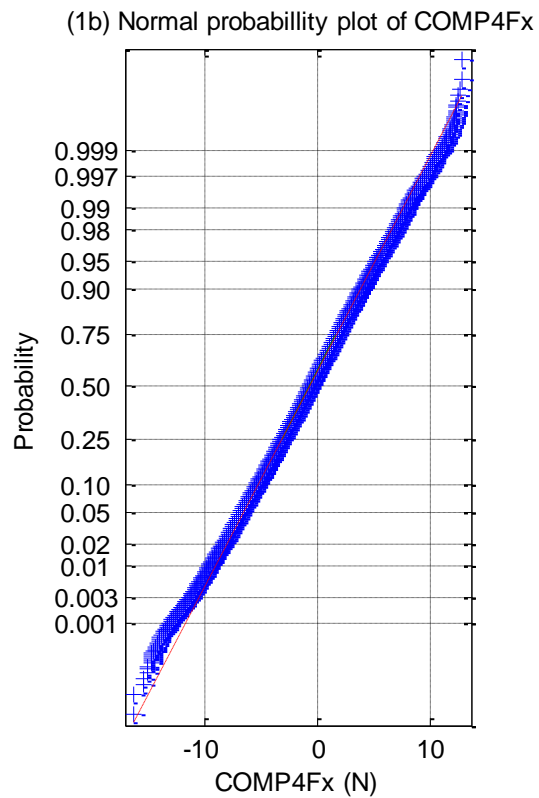
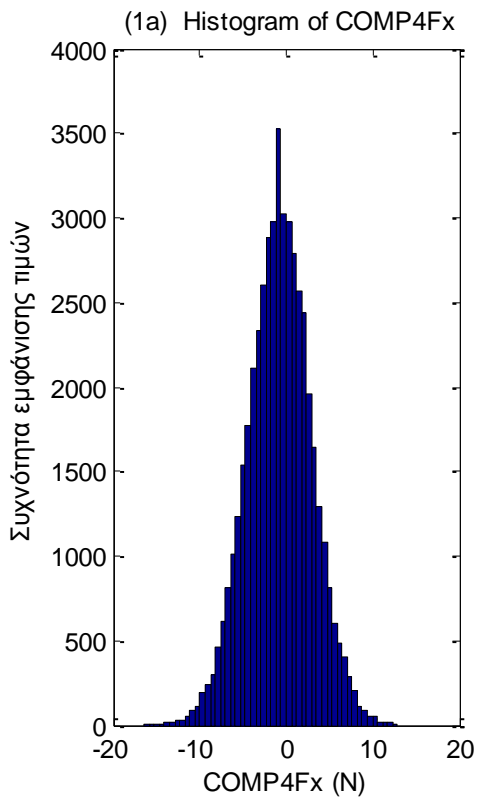


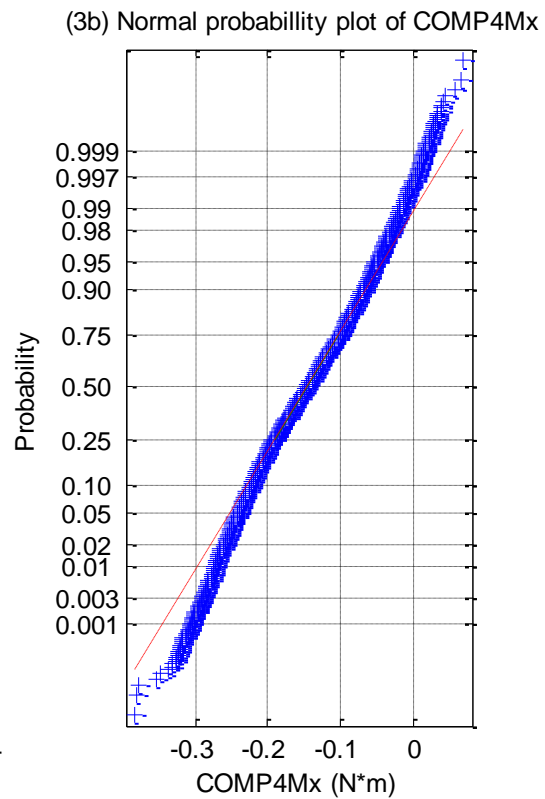
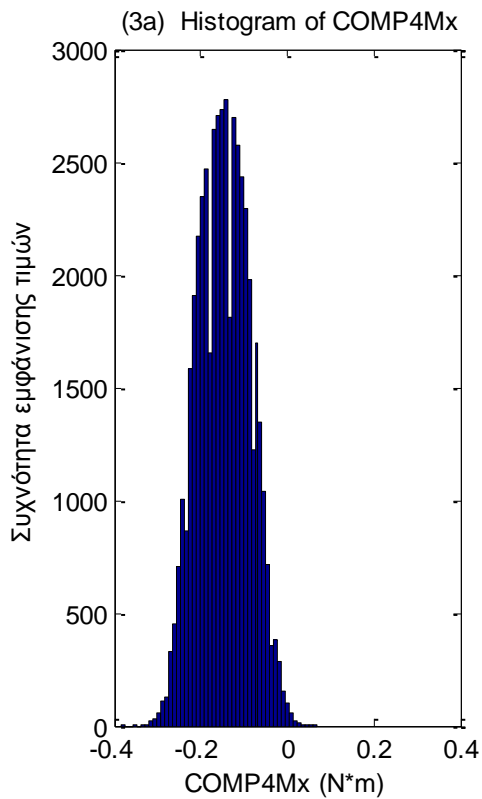
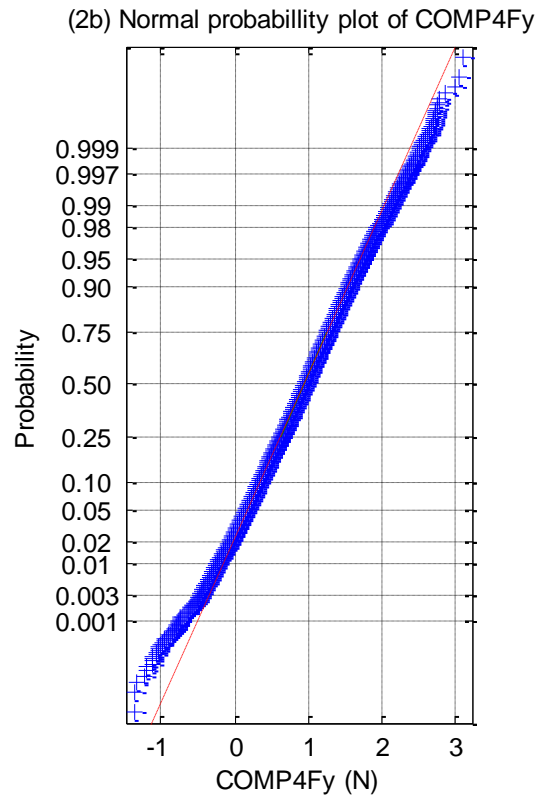
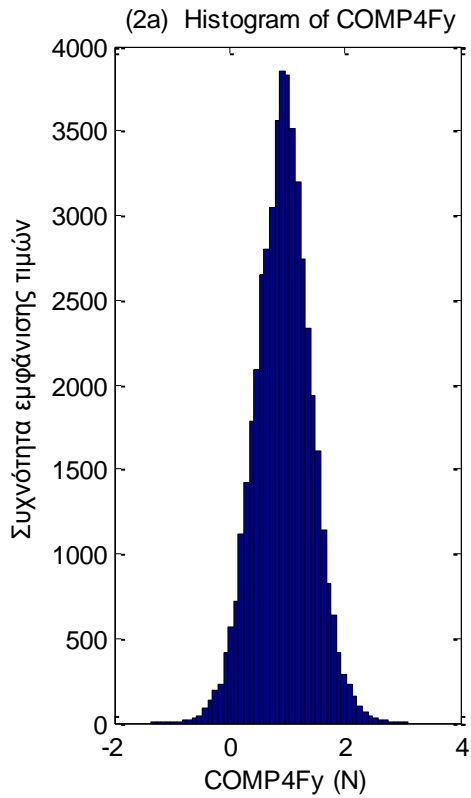


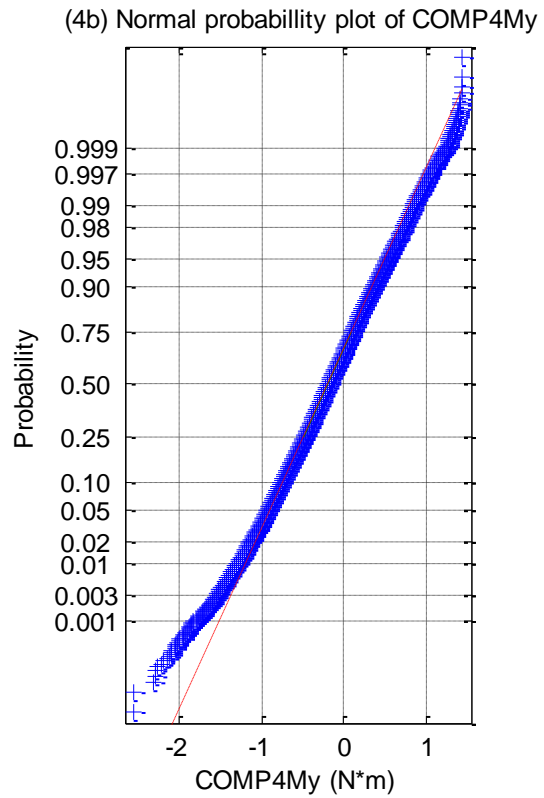
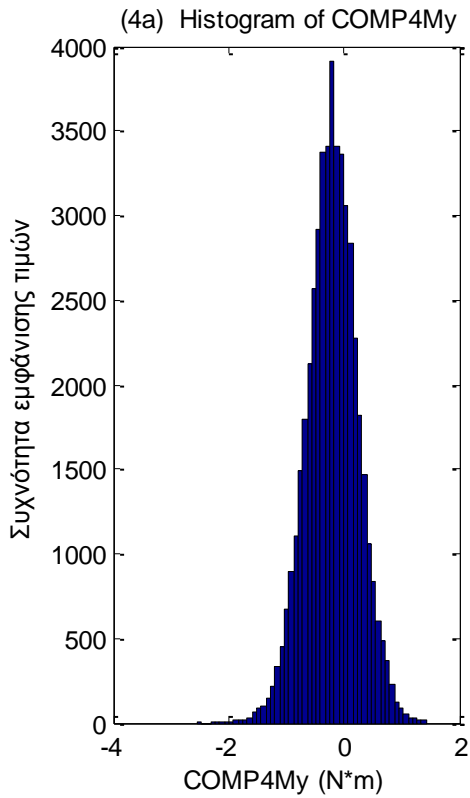




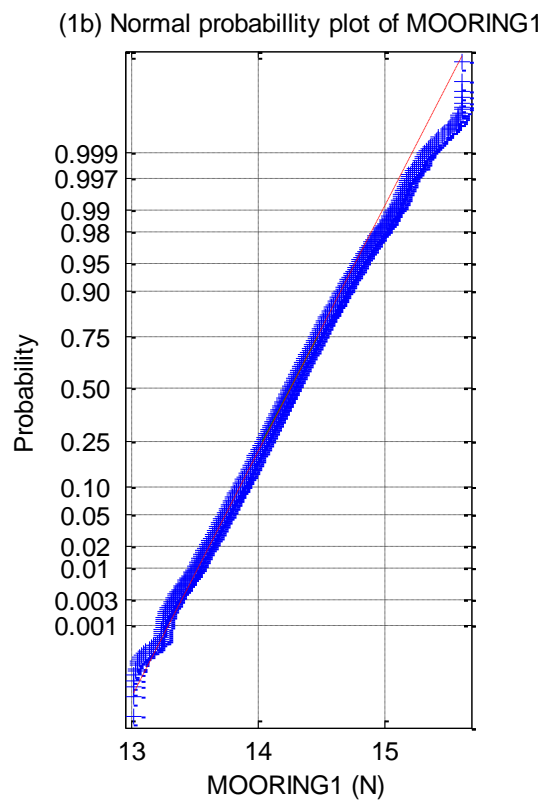
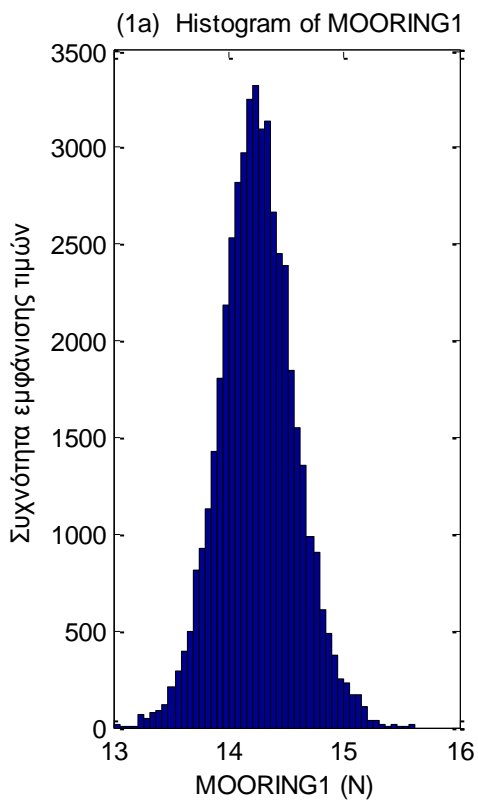
**Σχήματα 2.4.2.2** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

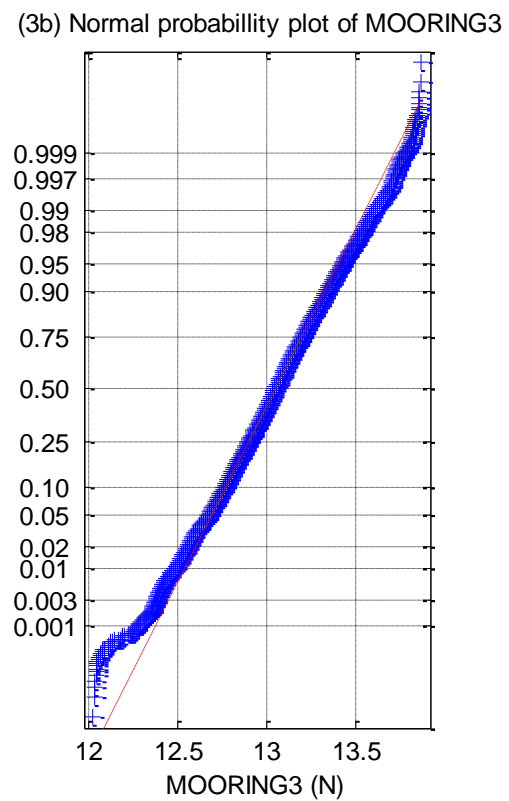
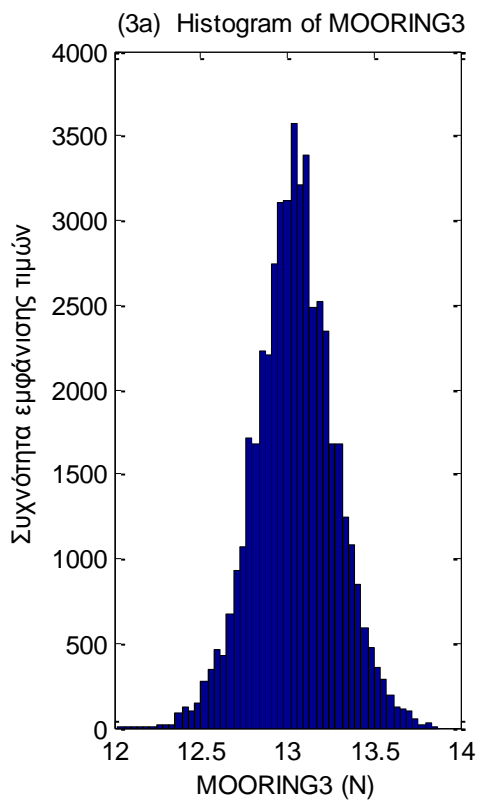
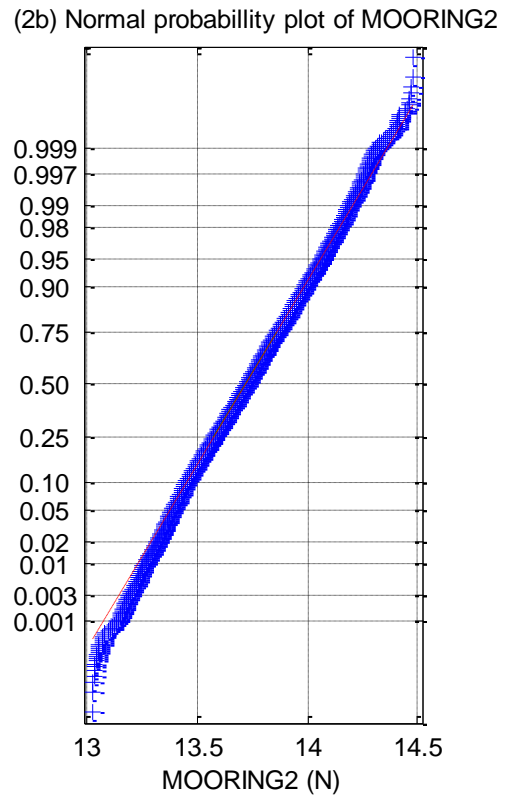
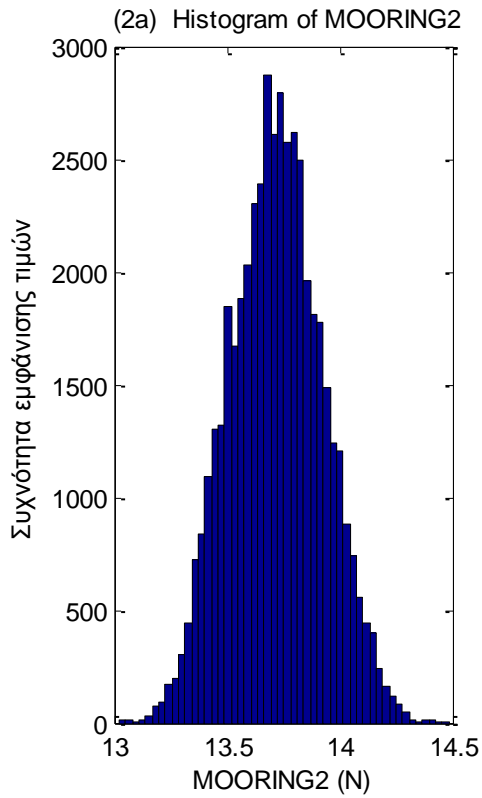






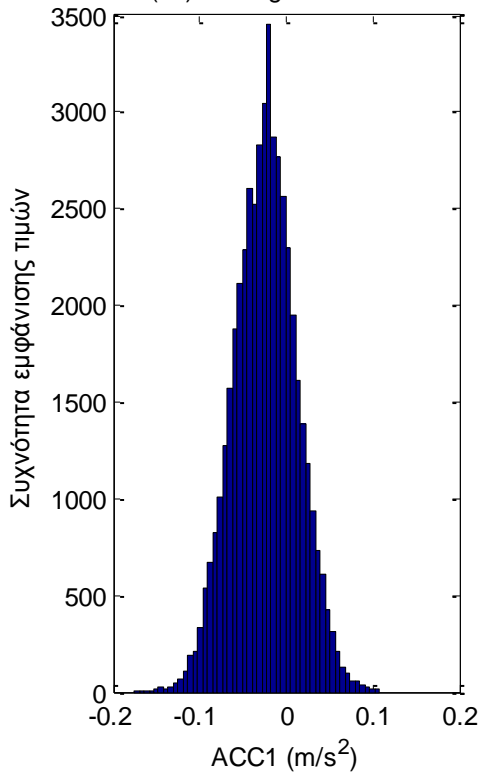
**Σχήματα 2.4.2.3** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



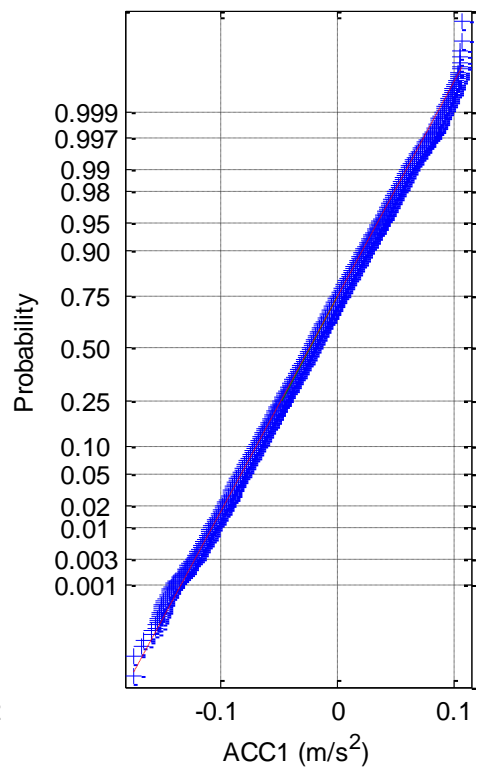


**Σχήματα 2.4.2.4 (1-3)** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

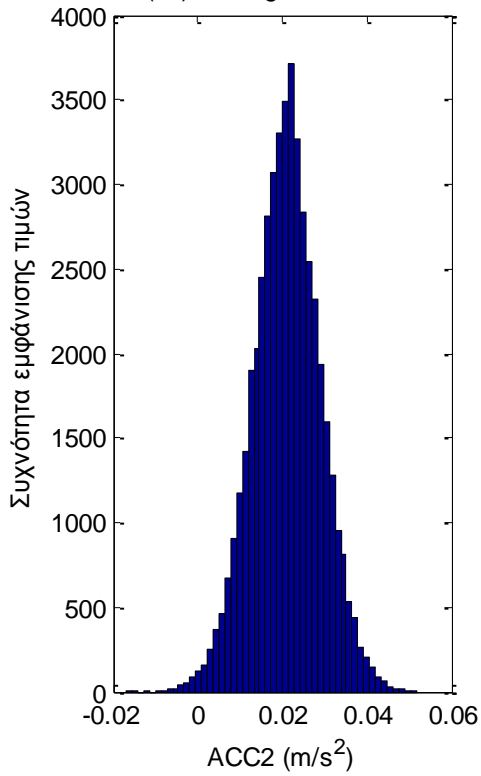
(1a) Histogram of ACC1



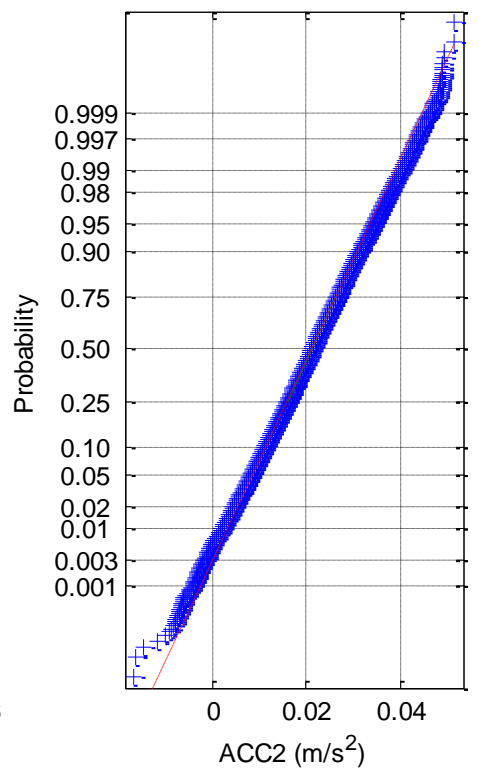
(1b) Normal probability plot of ACC1

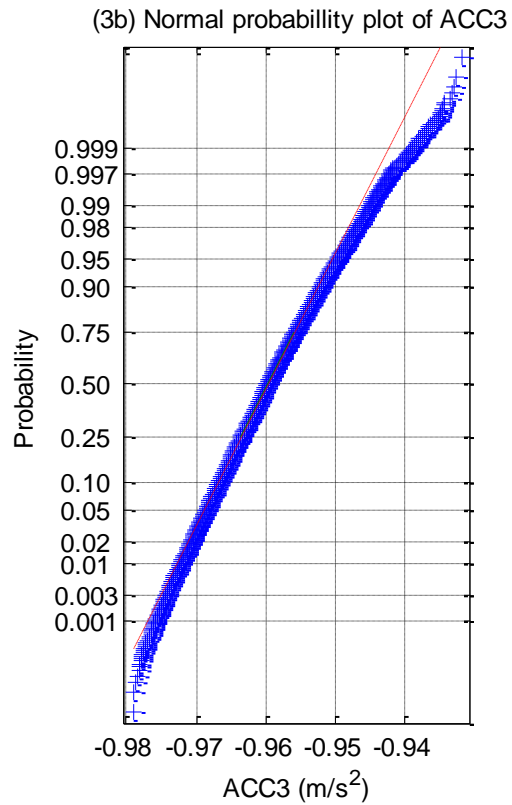
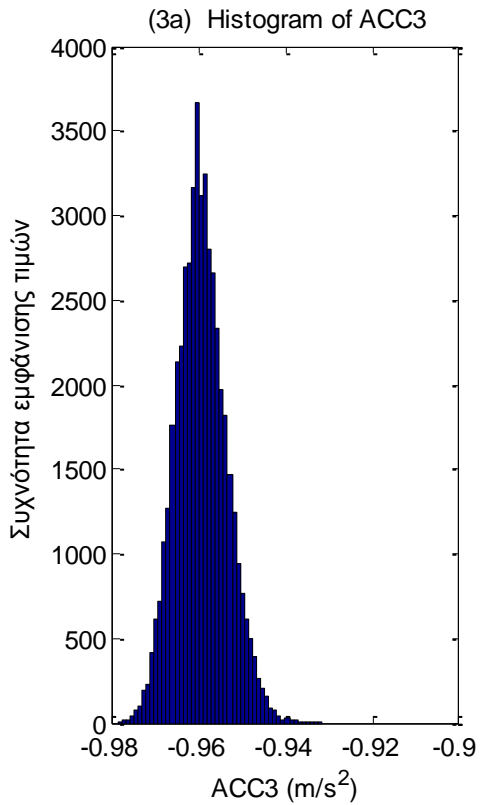


(2a) Histogram of ACC2

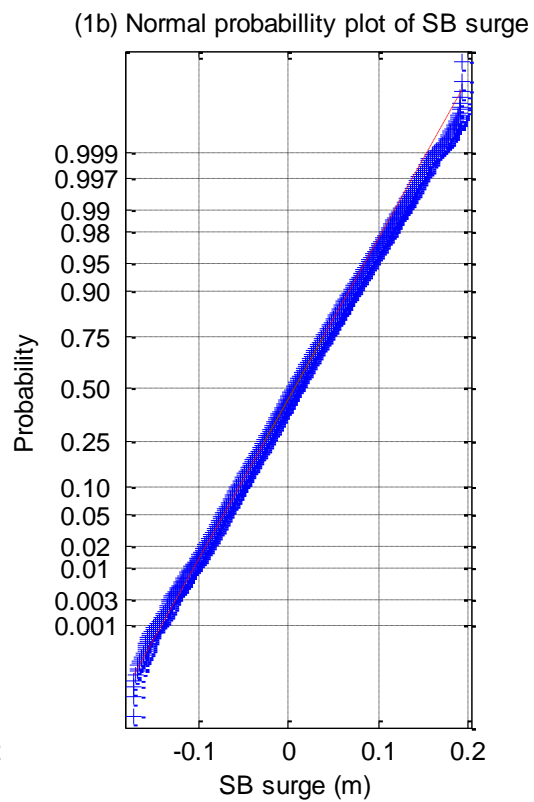
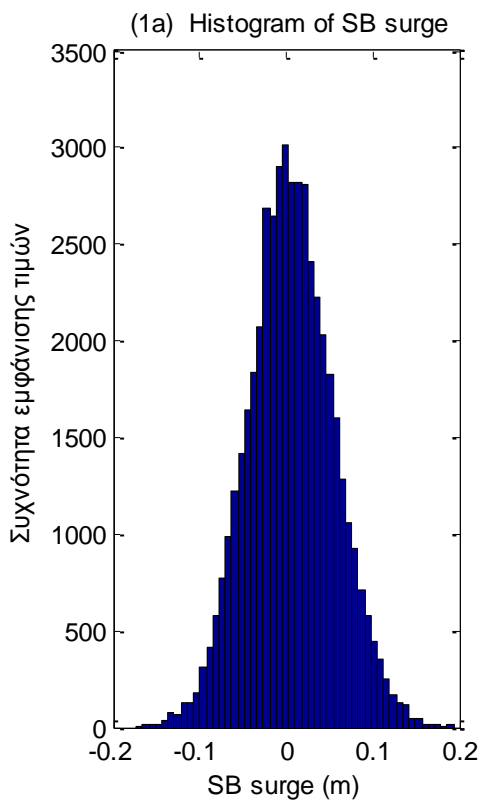


(2b) Normal probability plot of ACC2

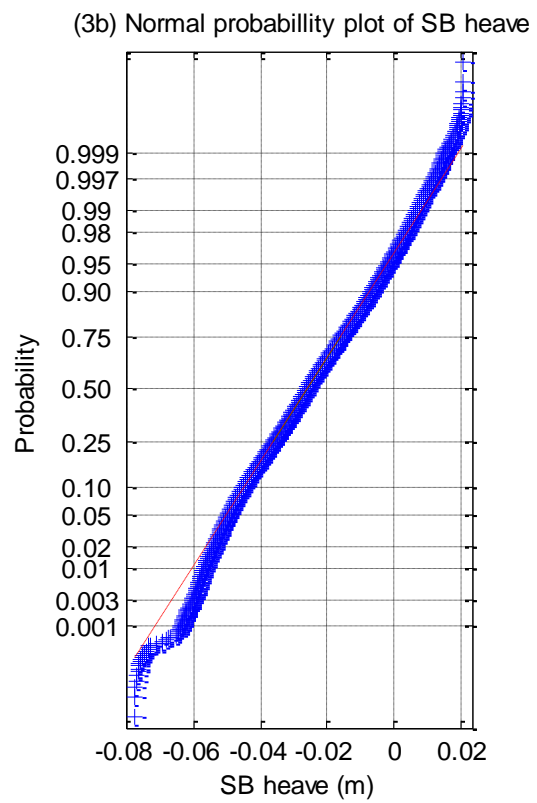
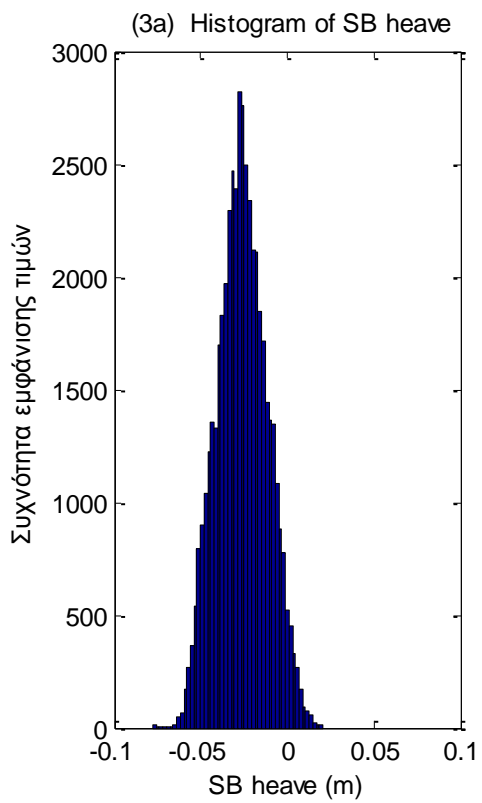
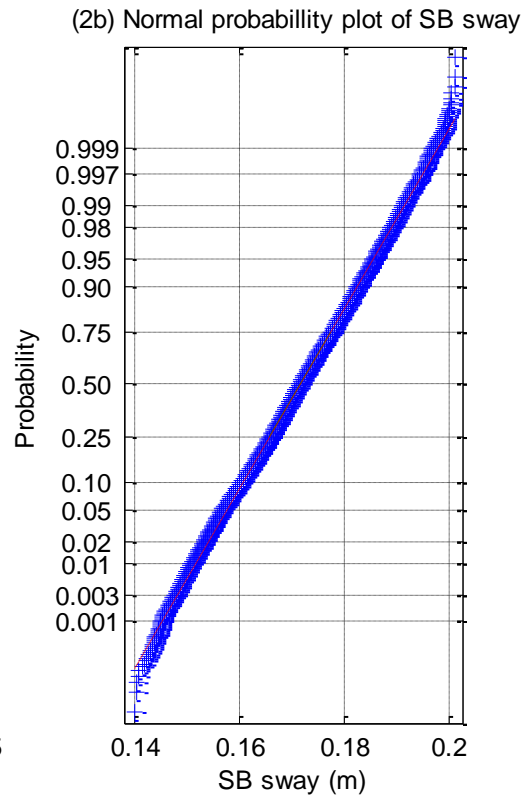
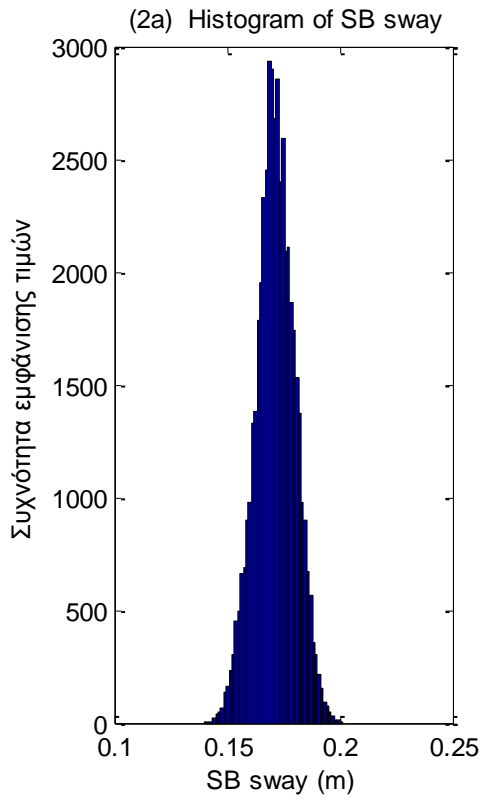




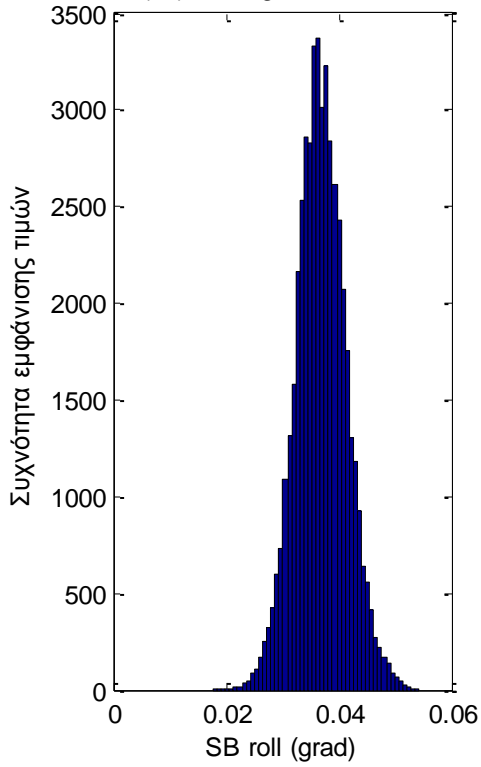
**Σχήματα 2.4.2.5 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



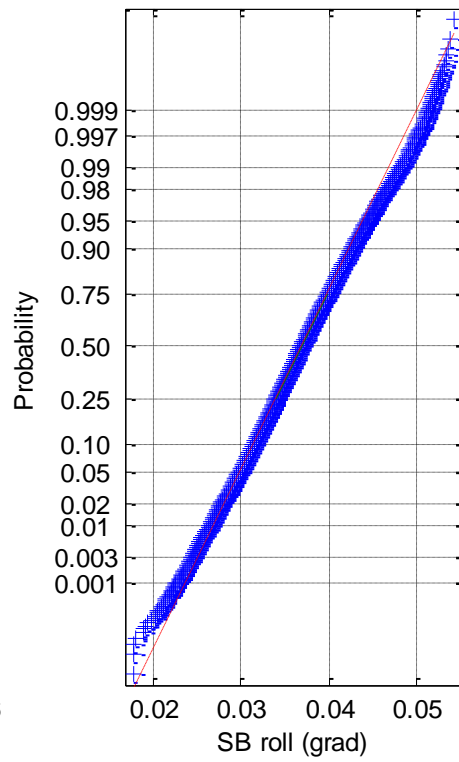




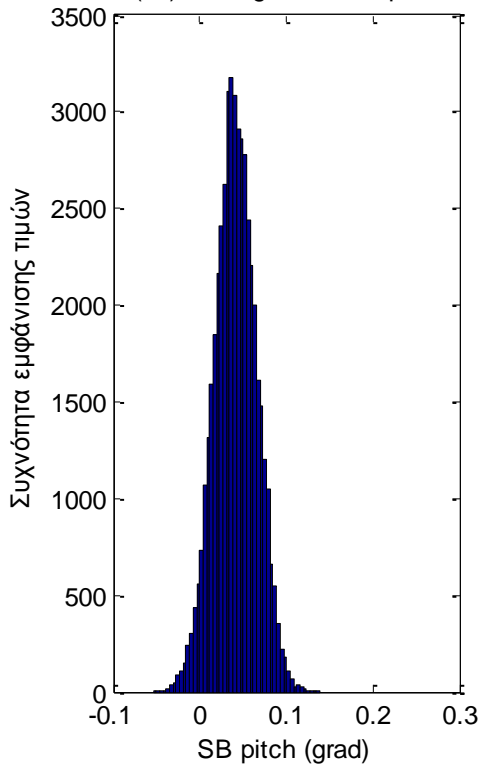
(4a) Histogram of SB roll



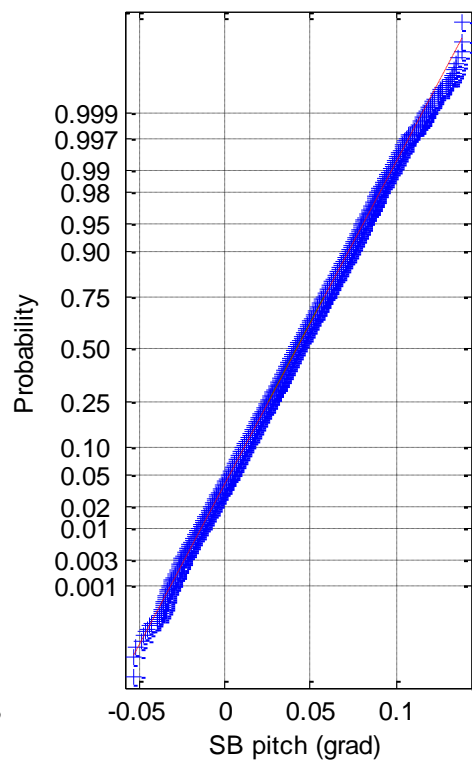
(4b) Normal probability plot of SB roll

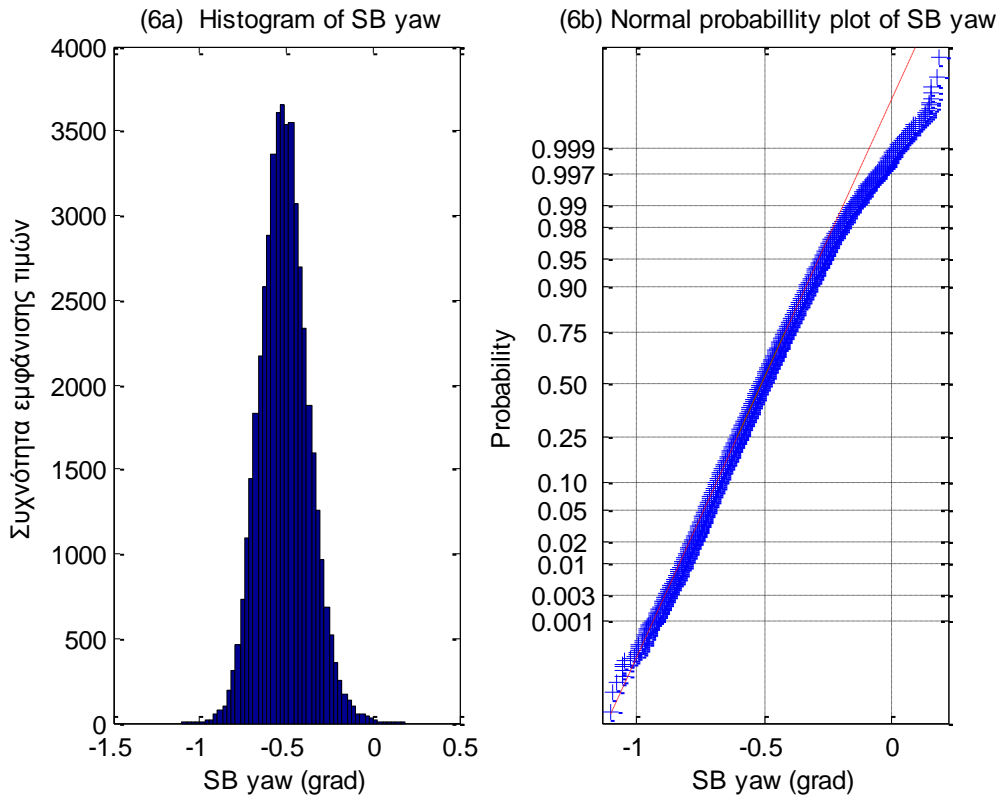


(5a) Histogram of SB pitch

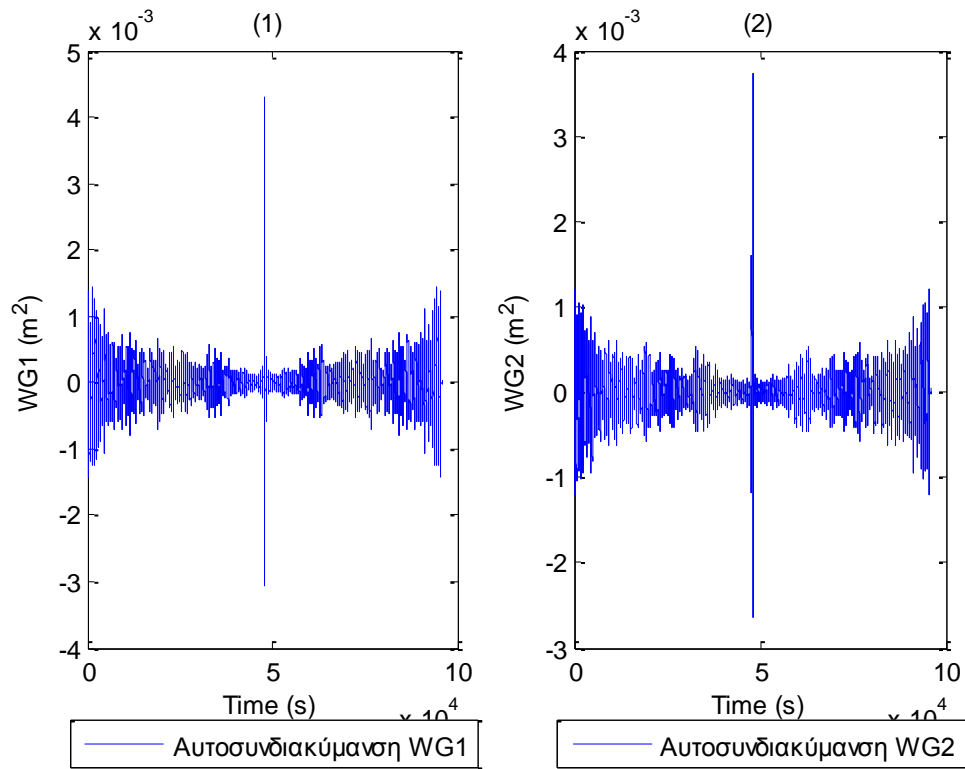


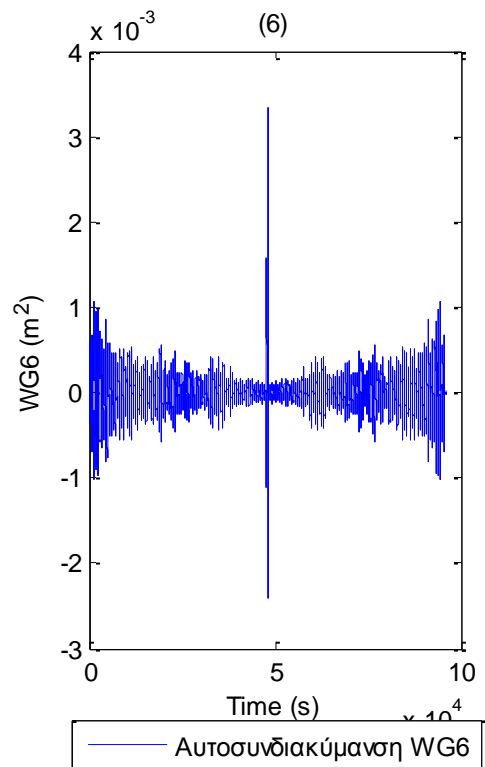
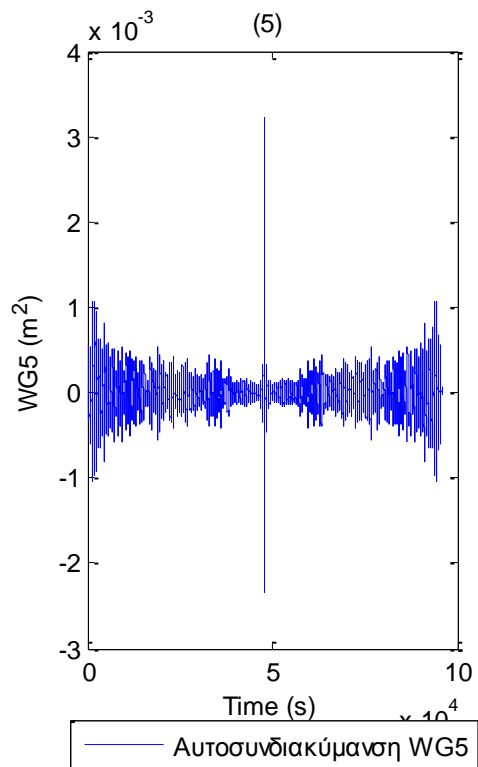
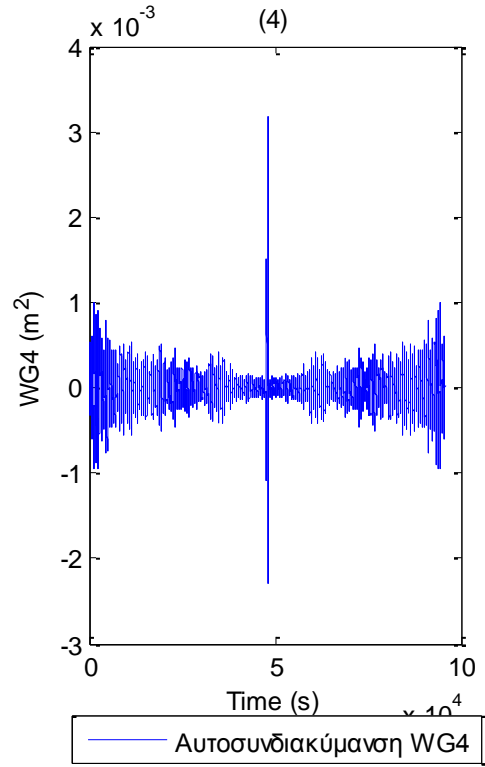
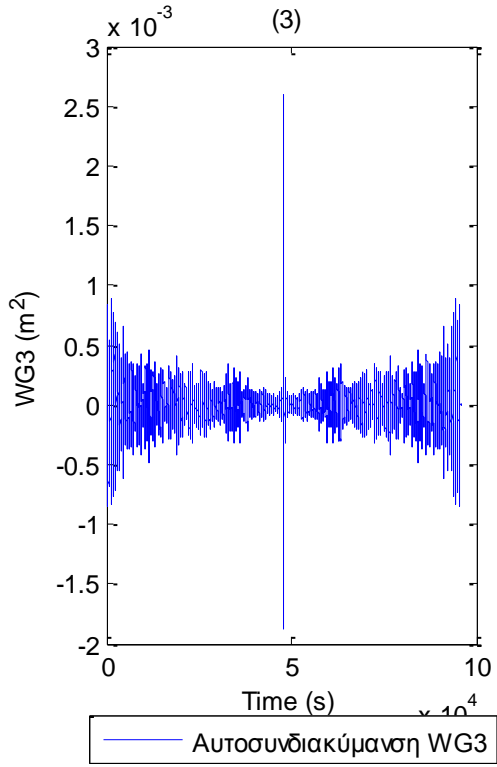
(5b) Normal probability plot of SB pitch

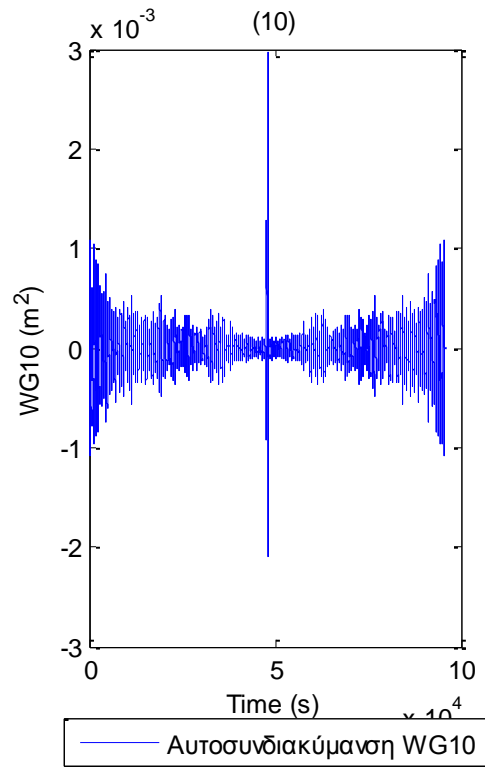
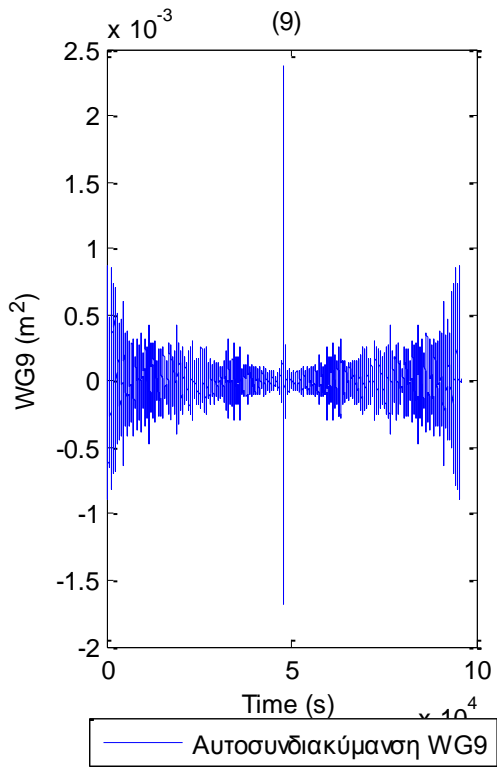
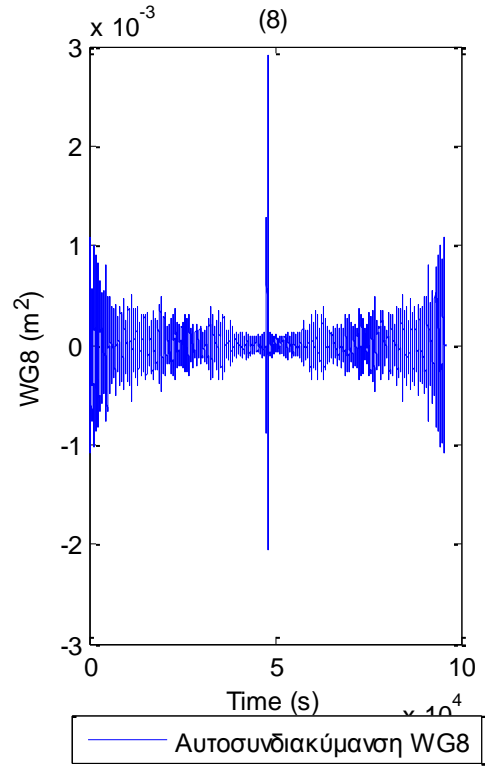
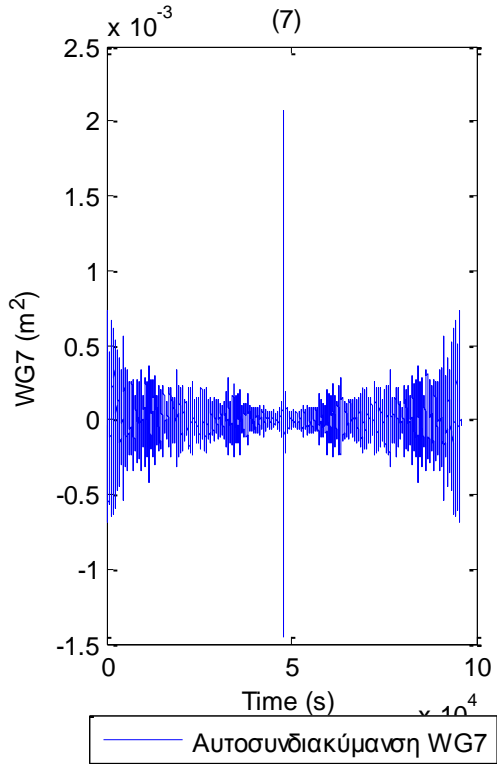


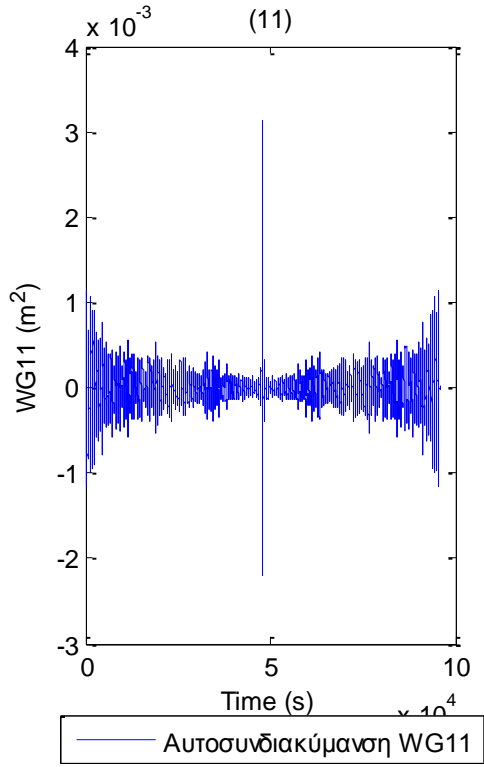


**Σχήματα 2.4.2.6** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

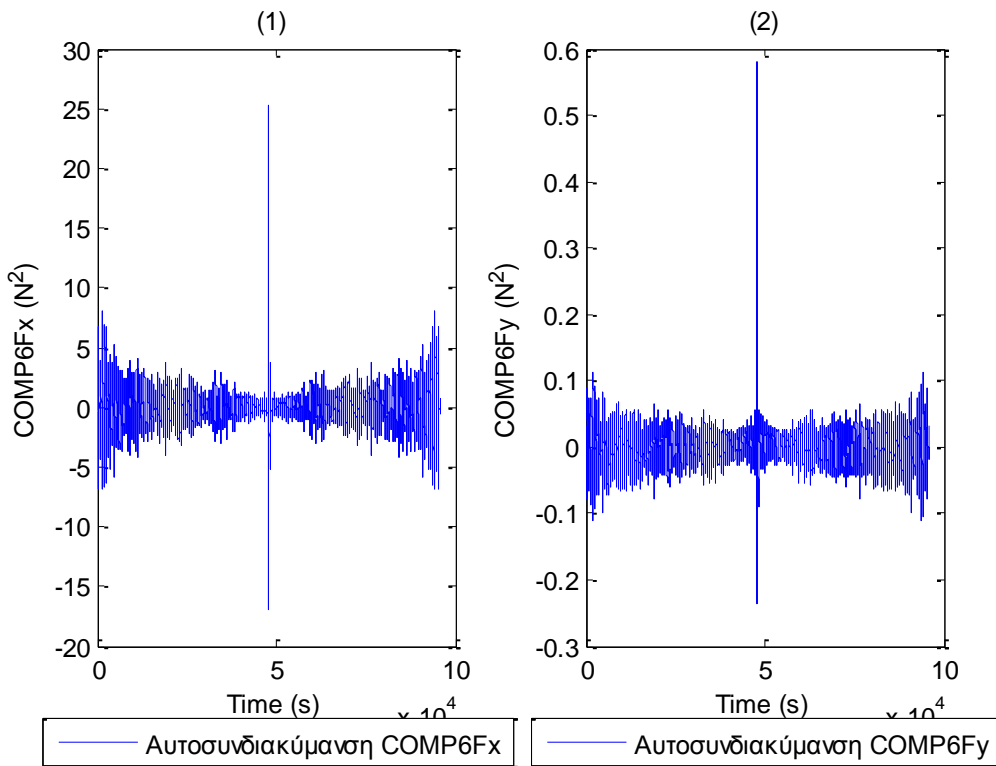


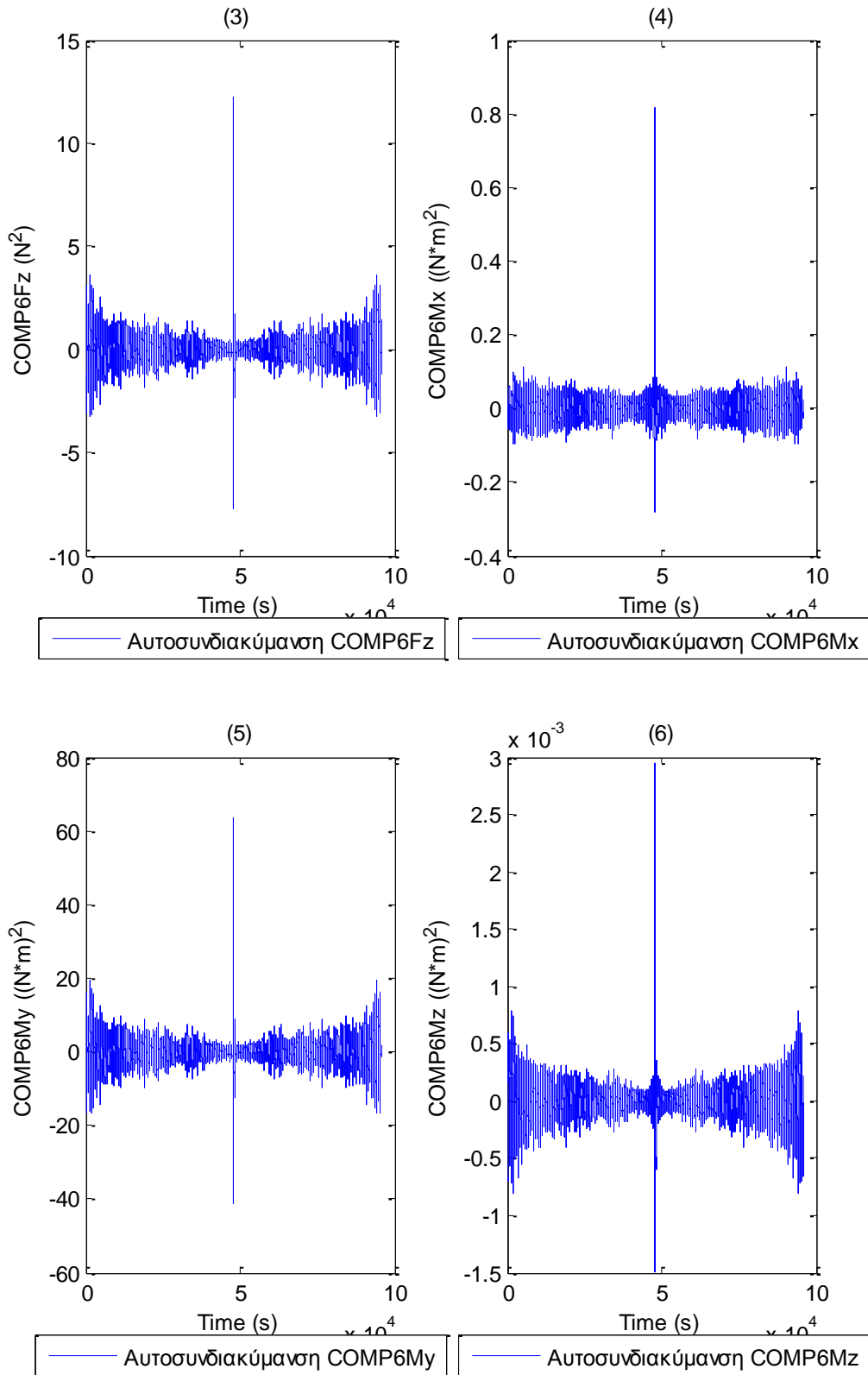




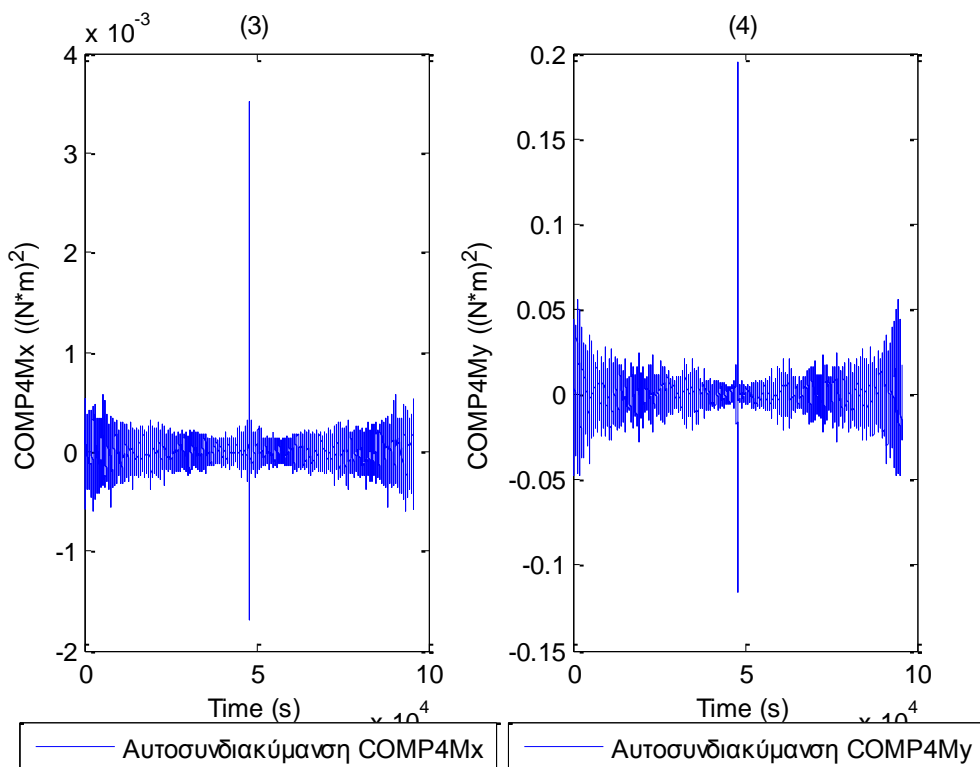
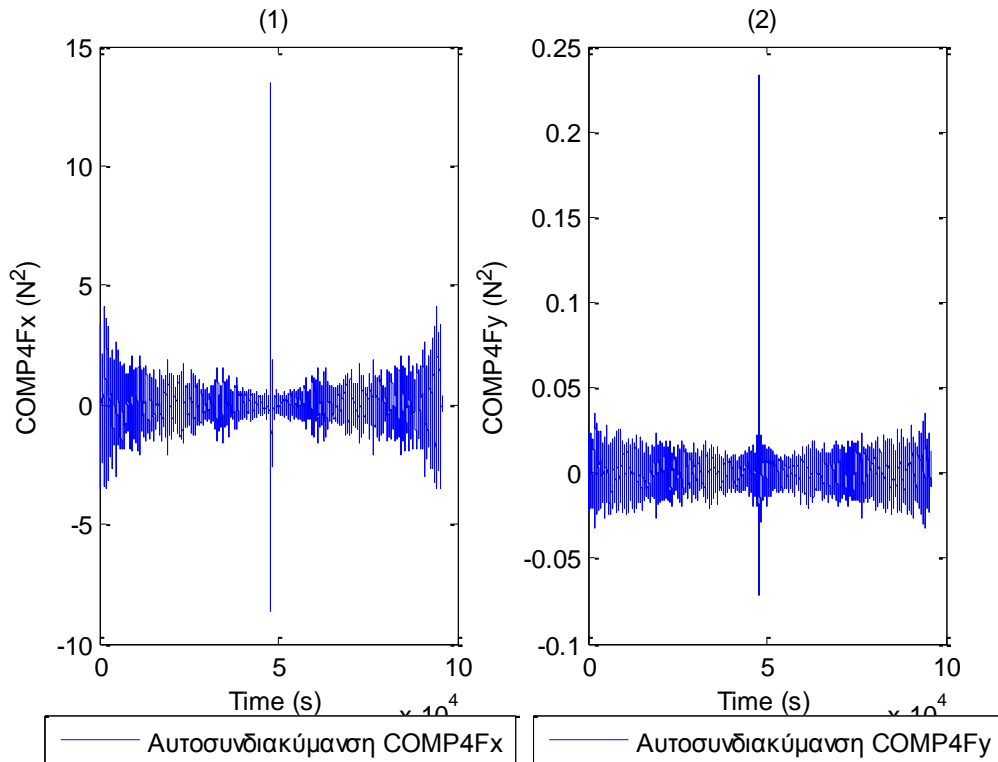


**Σχήματα 2.4.3.1 (1-11)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



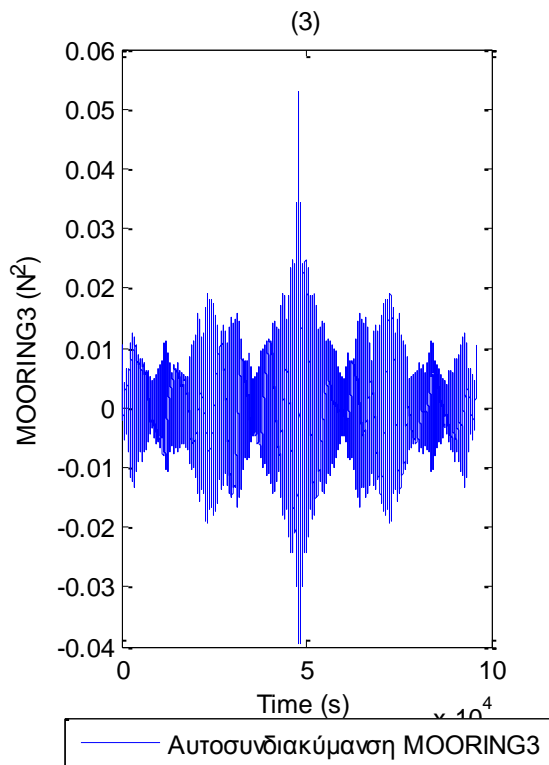
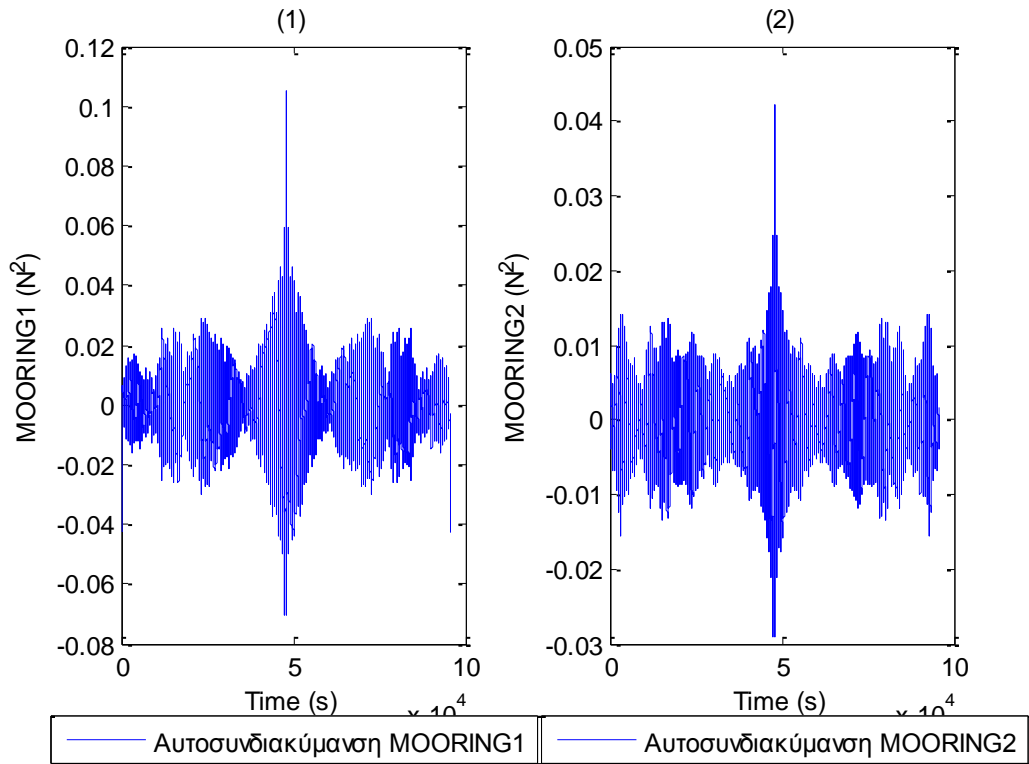


**Σχήματα 2.4.3.2** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

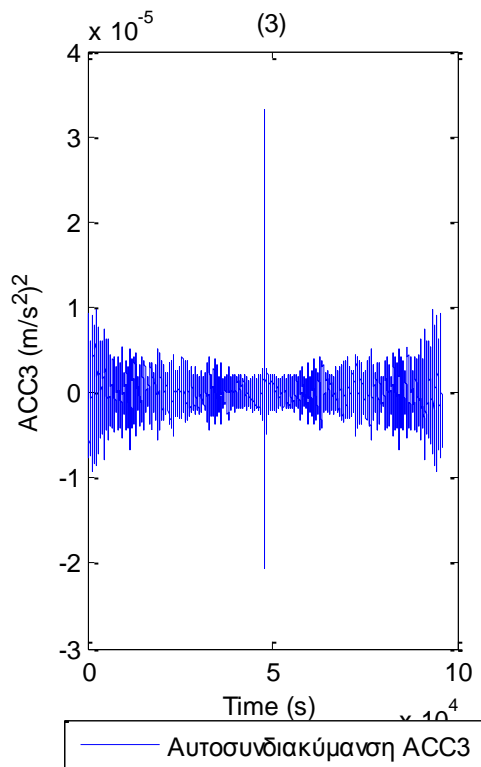
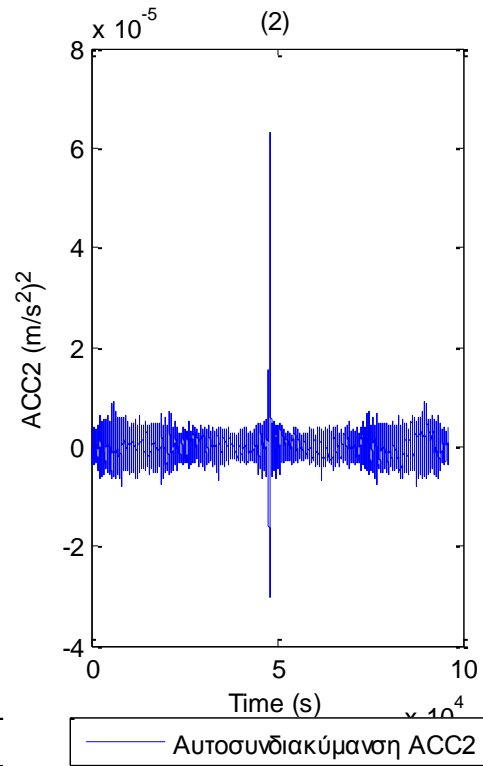
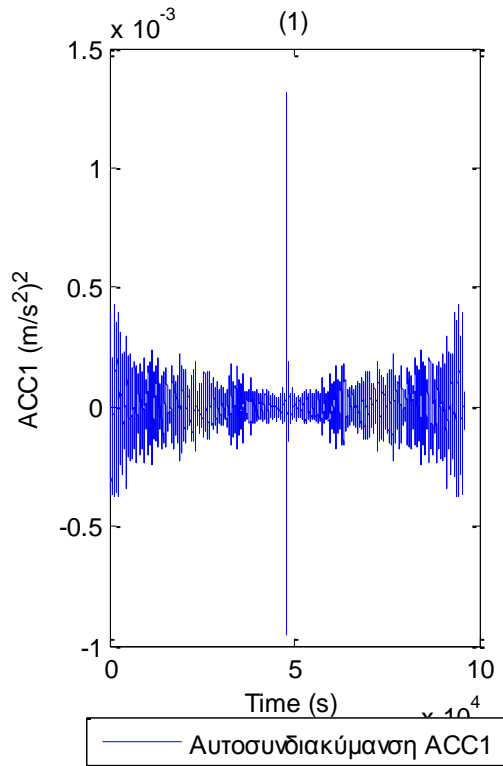


**Σχήματα 2.4.3.3** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

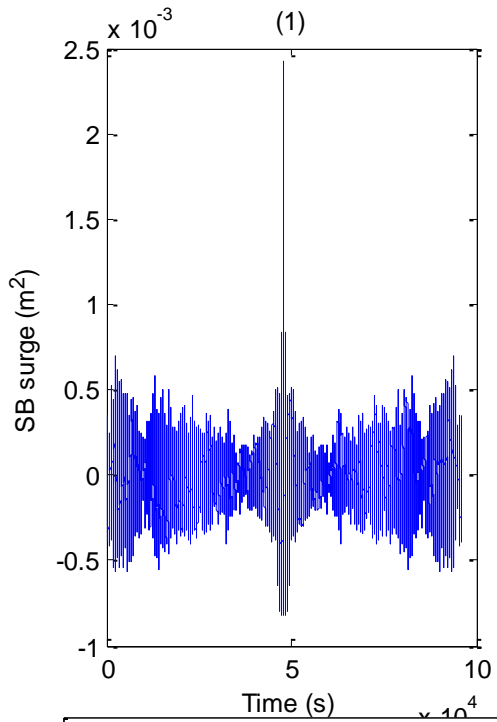




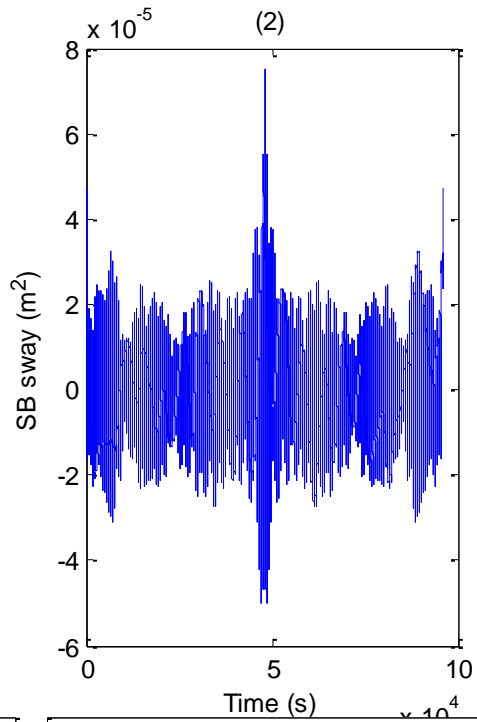
**Σχήματα 2.4.3.4 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



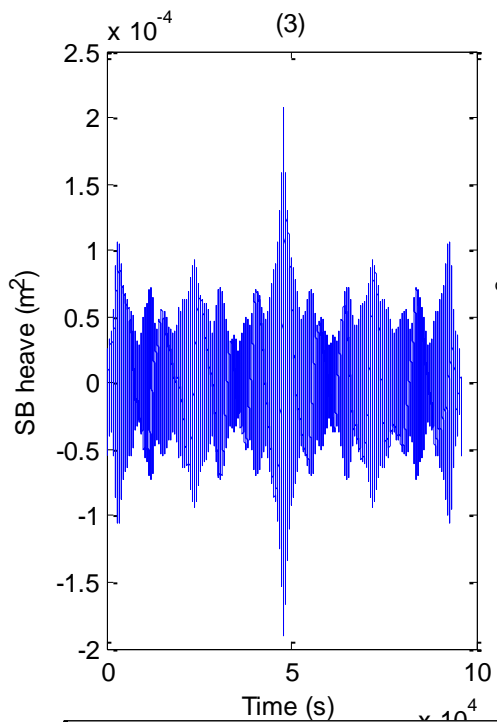
**Σχήματα 2.4.3.5 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



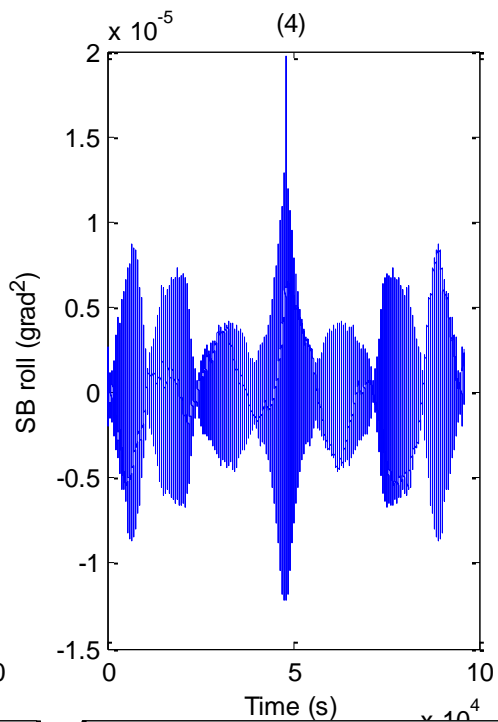
— Αυτοσυνδιακύμανση SB surge



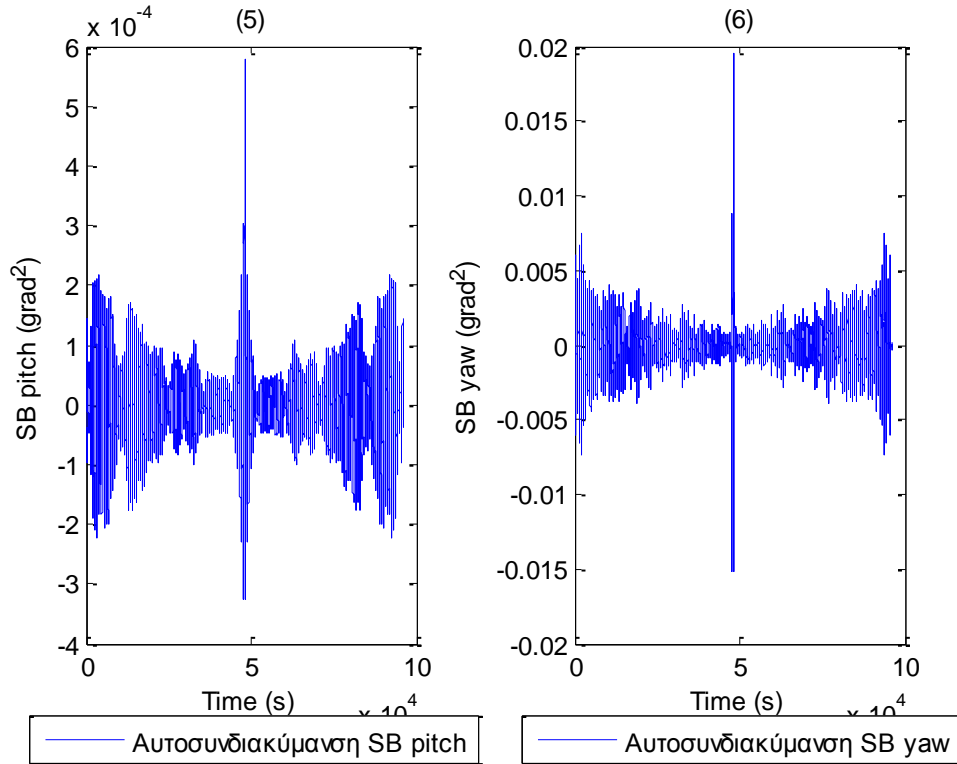
— Αυτοσυνδιακύμανση SB sway



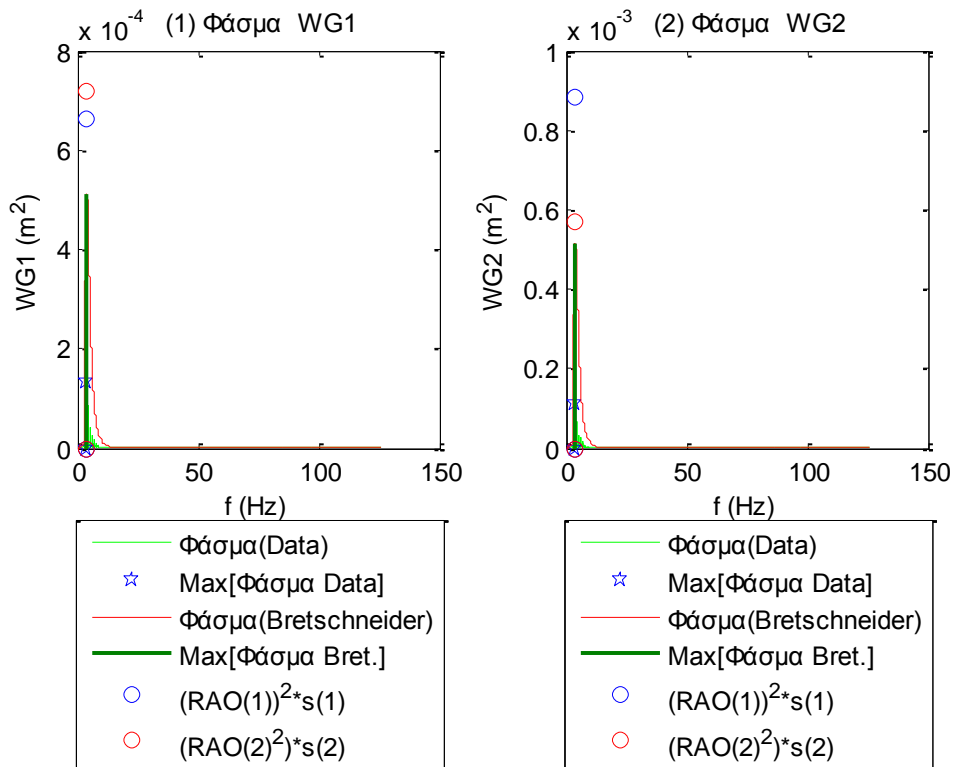
— Αυτοσυνδιακύμανση SB heave

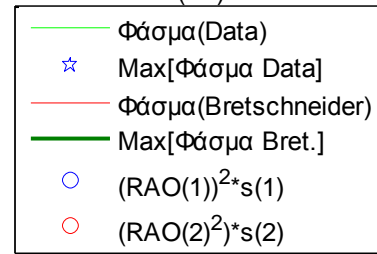
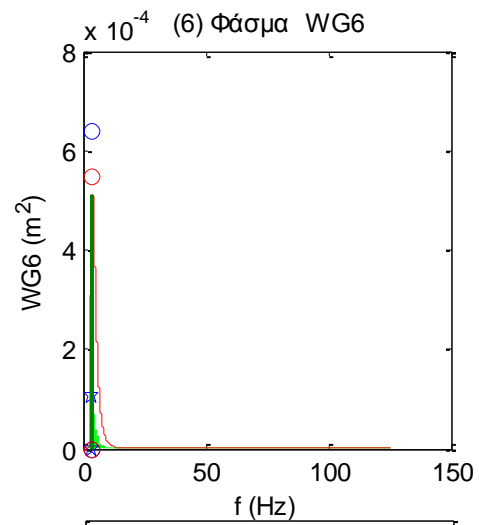
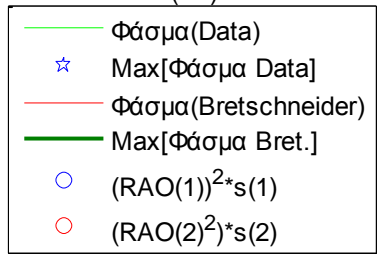
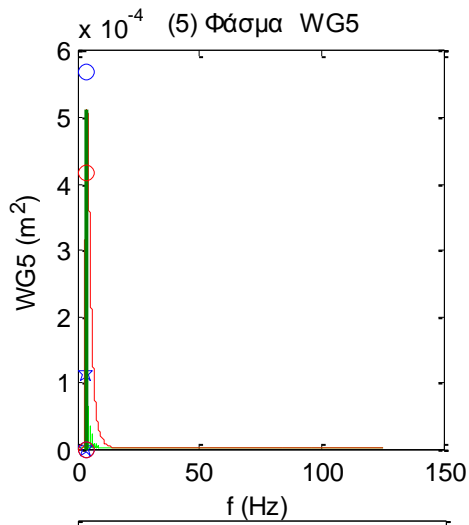
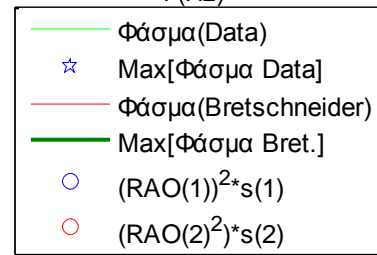
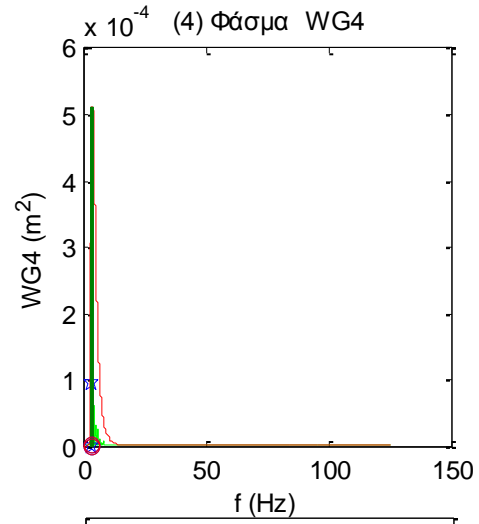
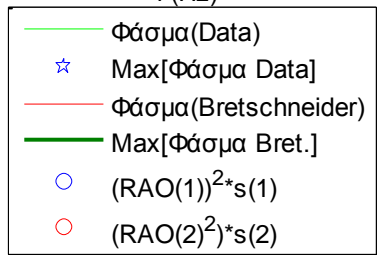
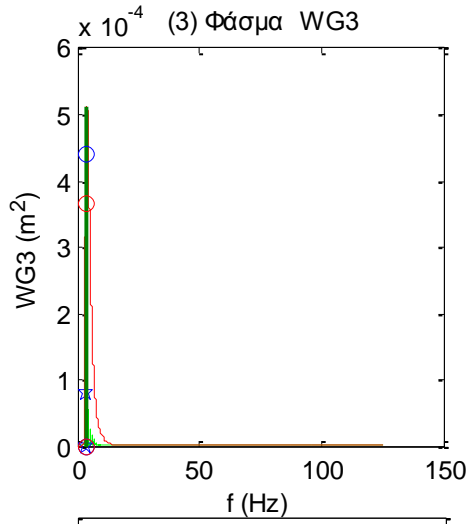


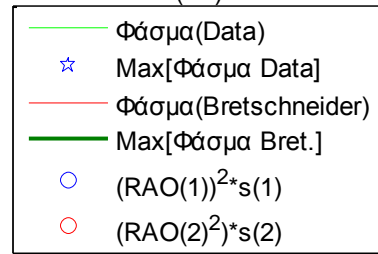
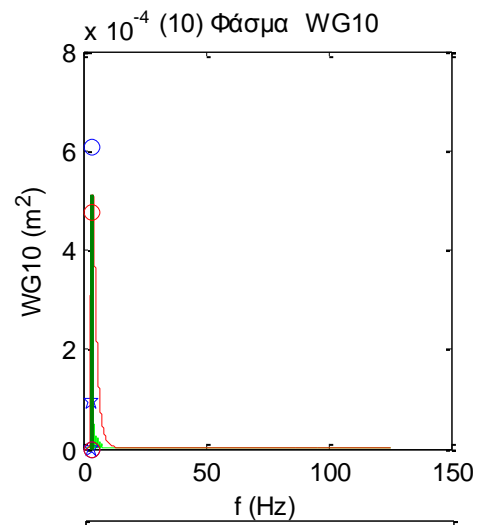
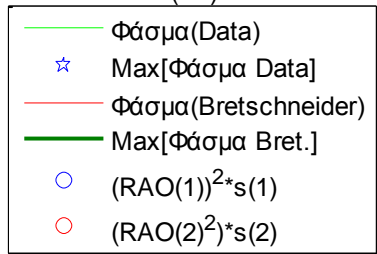
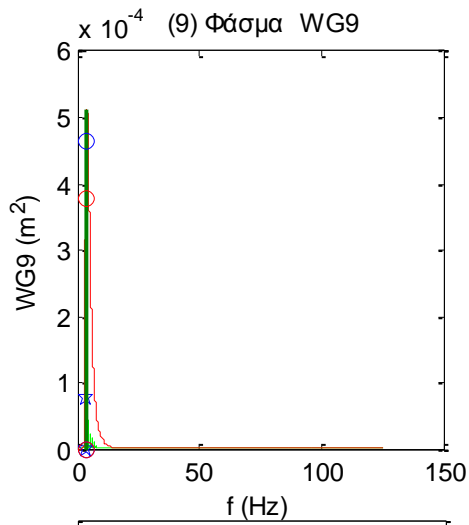
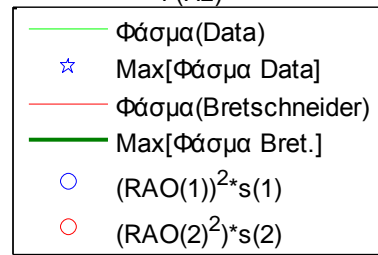
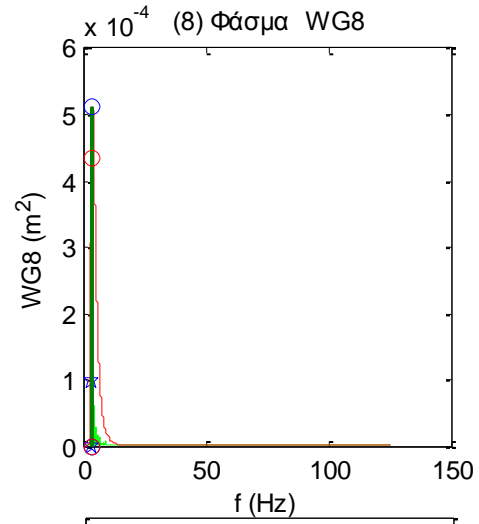
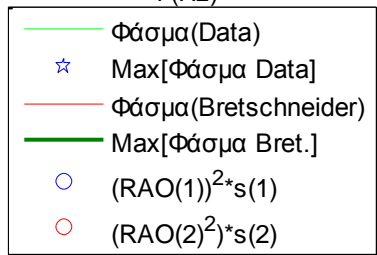
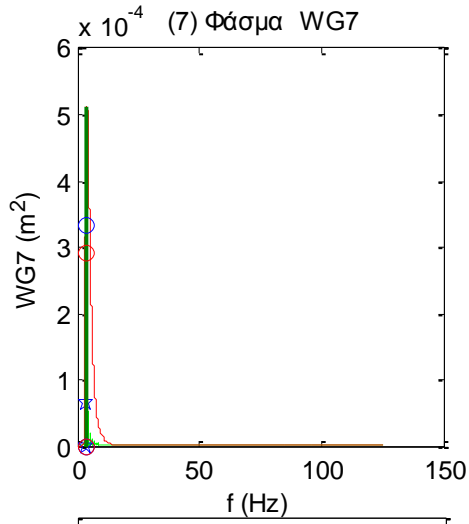
— Αυτοσυνδιακύμανση SB roll

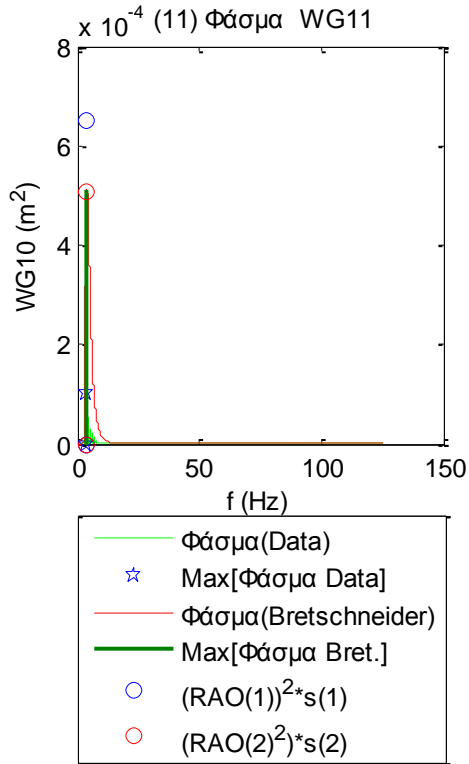


**Σχήματα 2.4.3.6** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

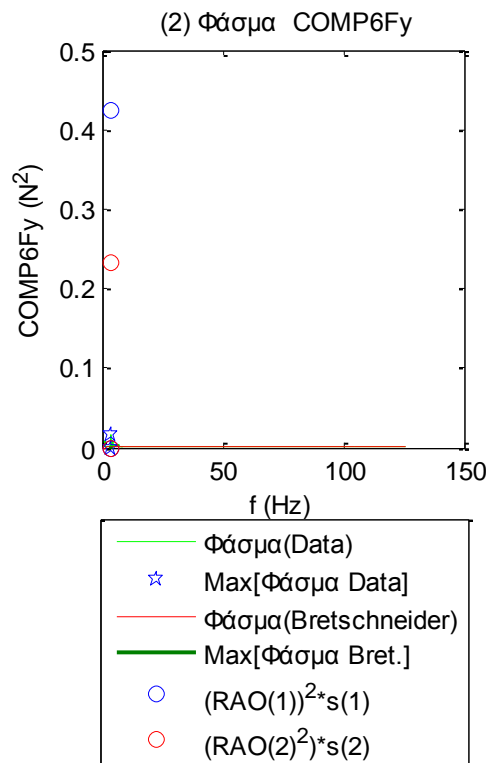
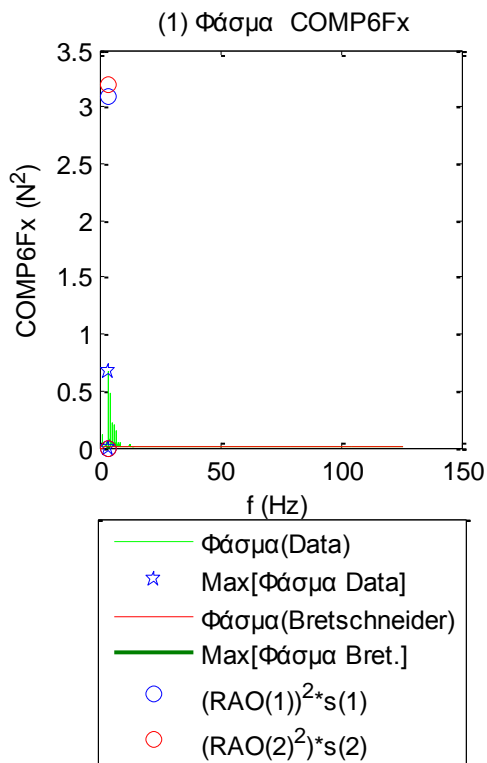


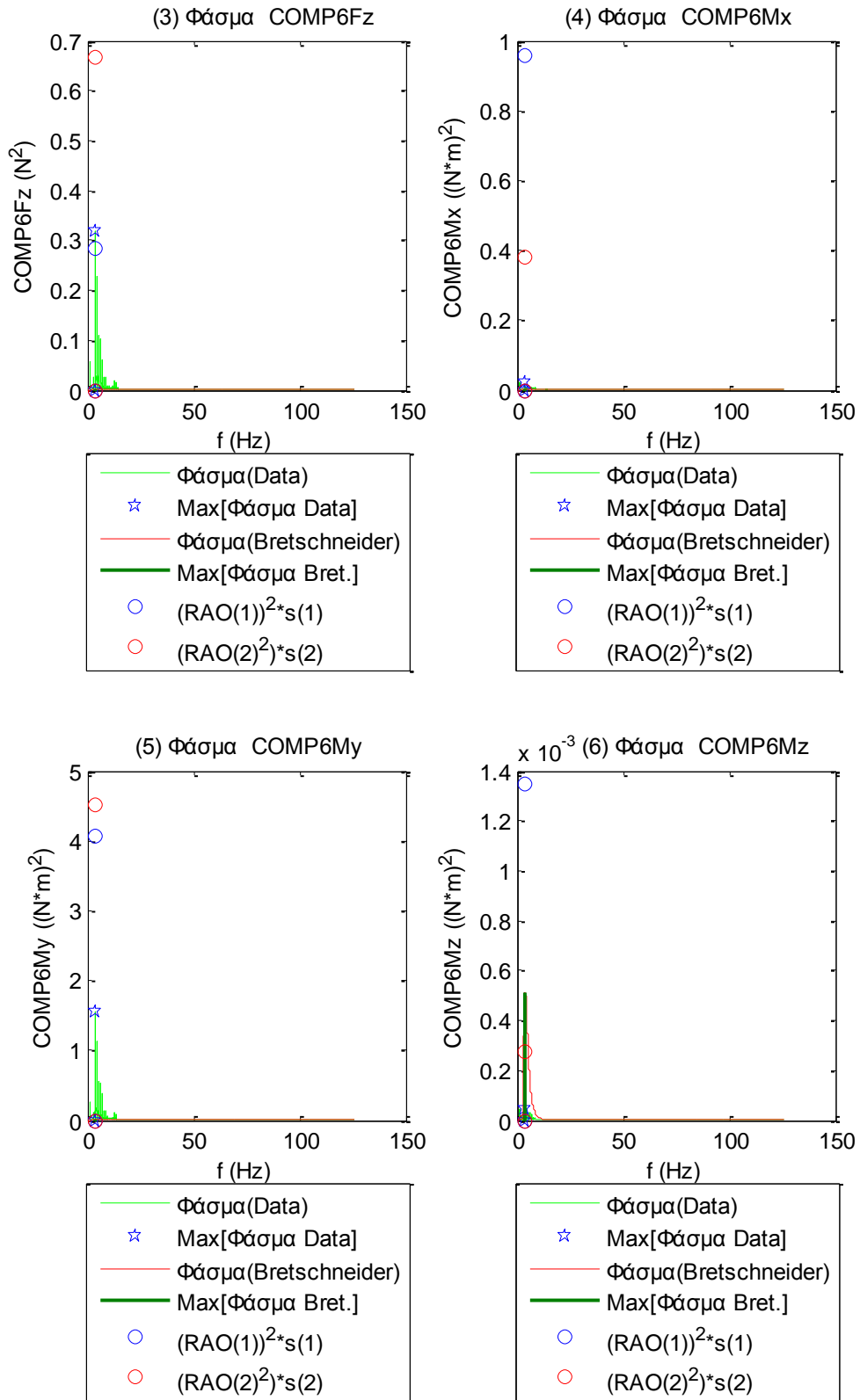






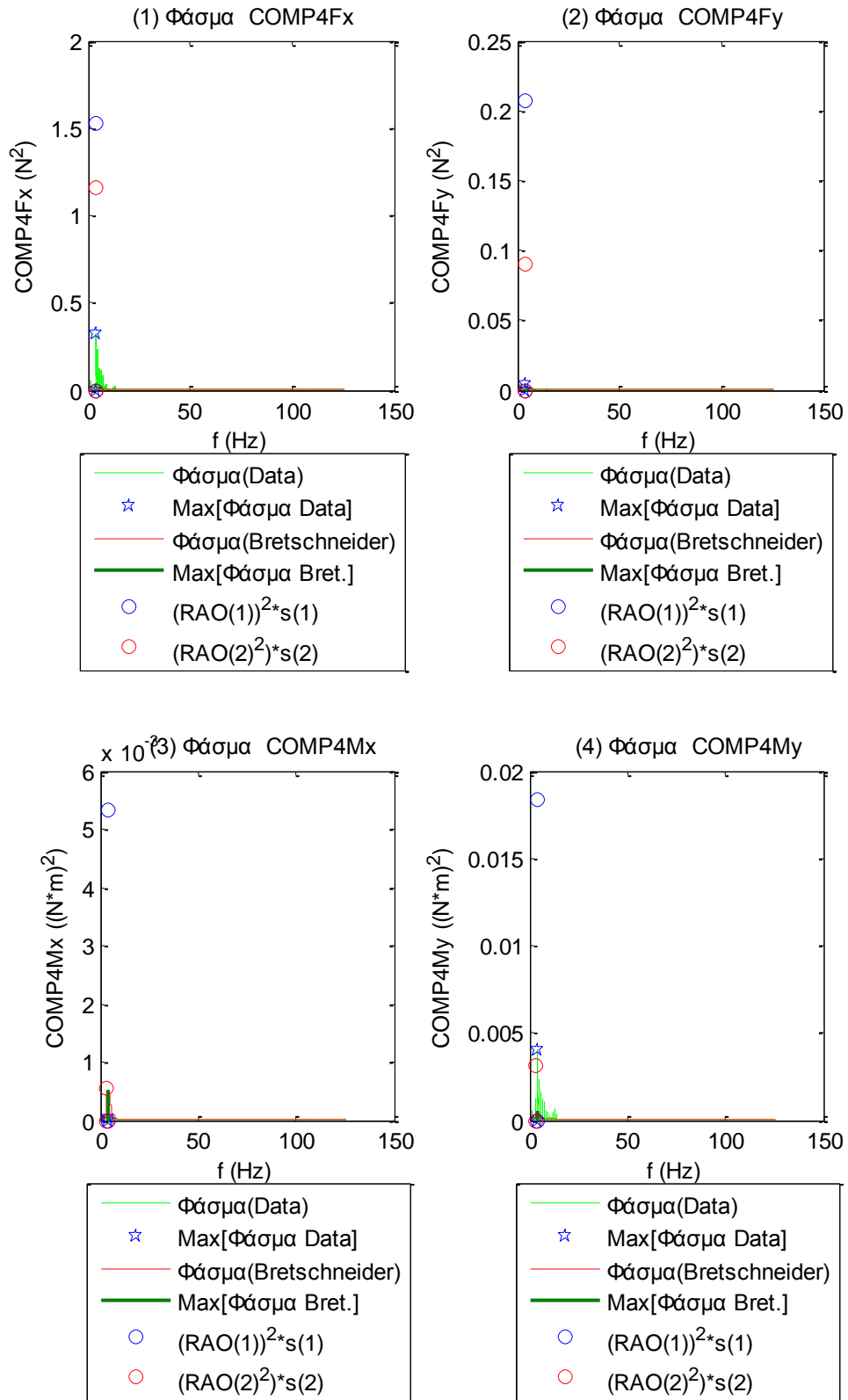
Σχήματα 2.4.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος



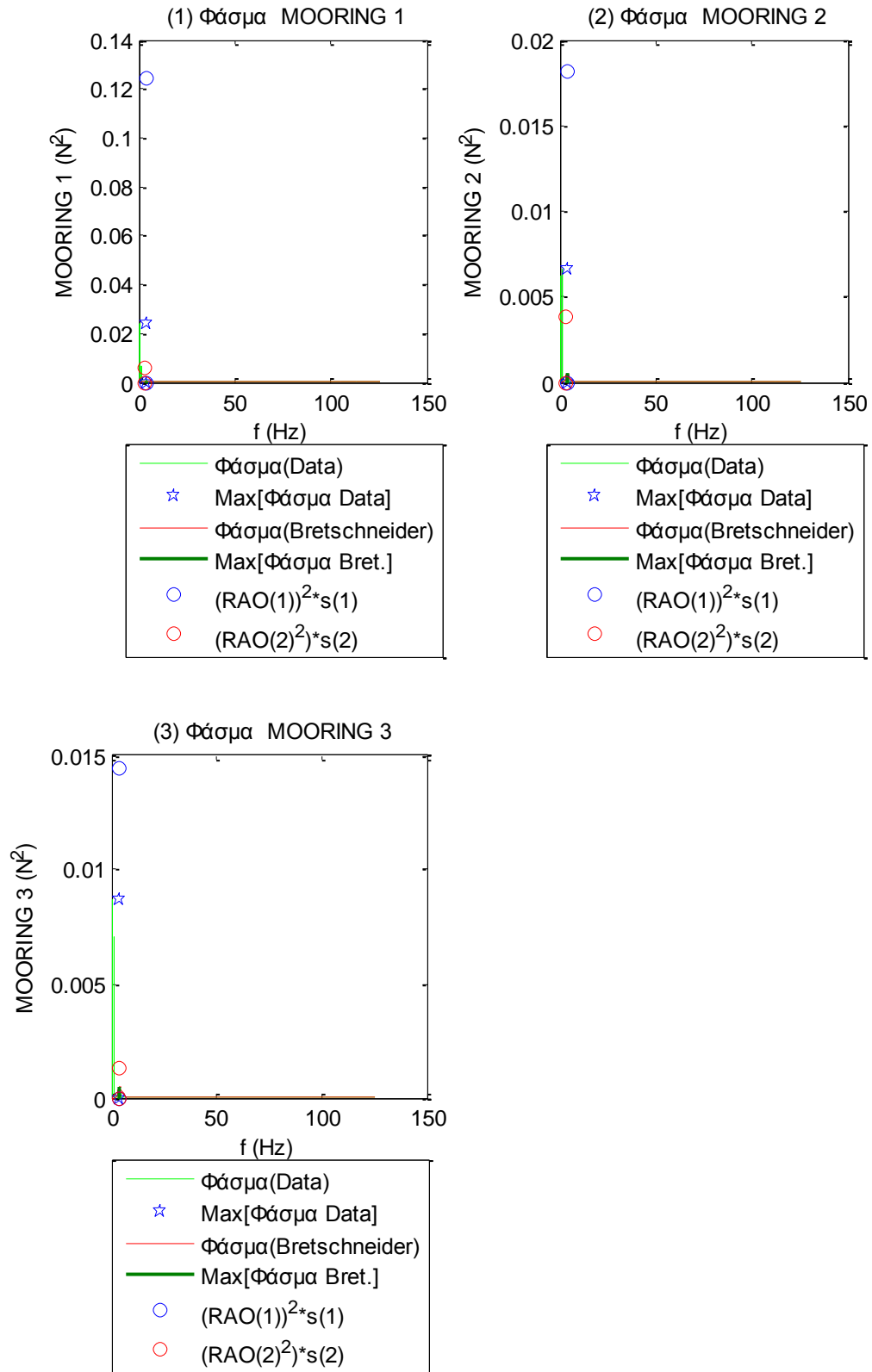


**Σχήματα 2.4.4.2** Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

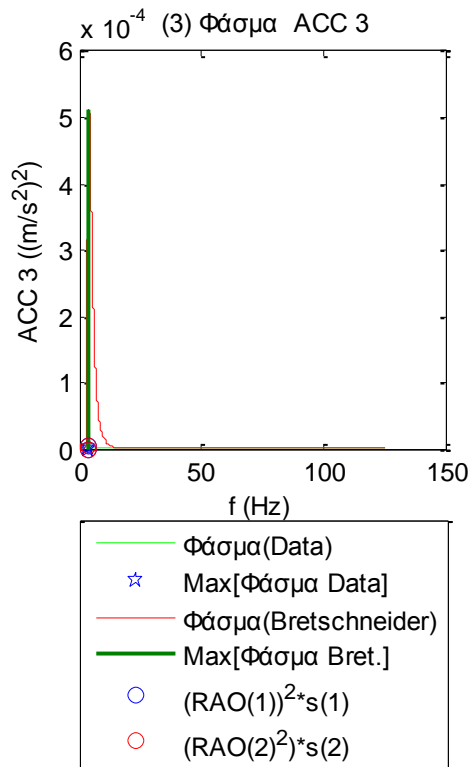
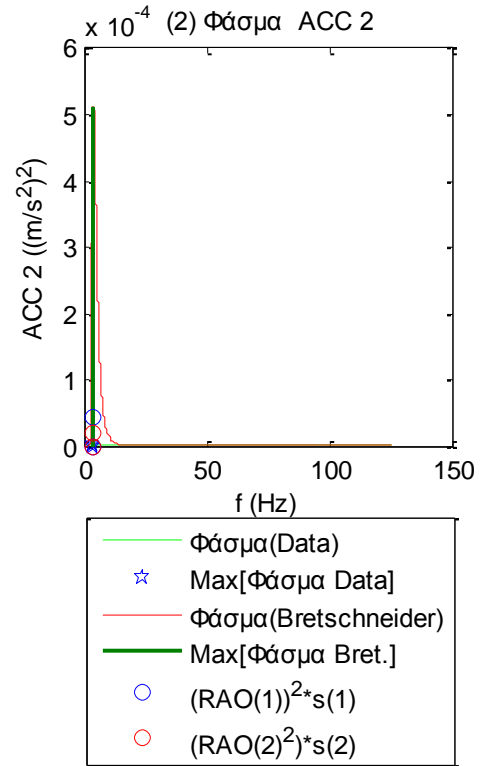
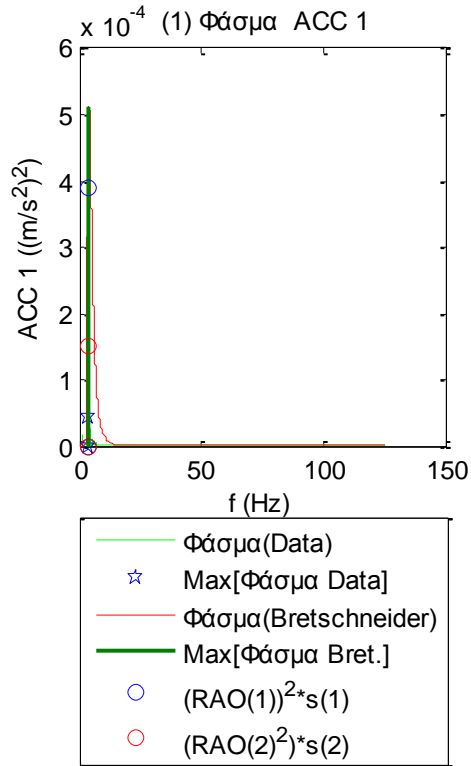




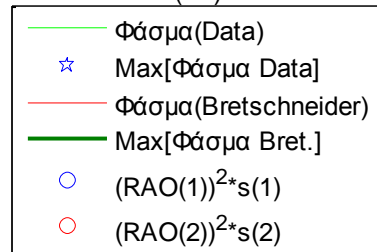
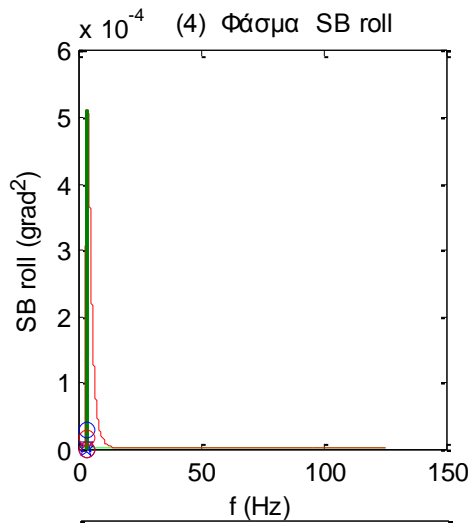
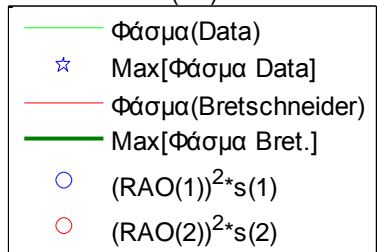
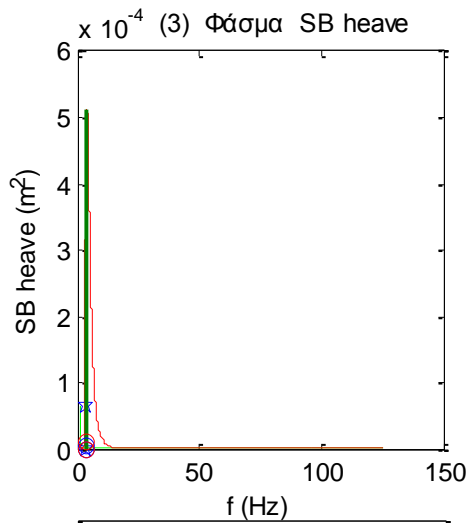
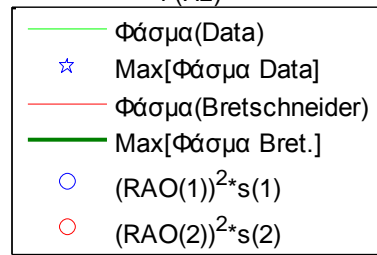
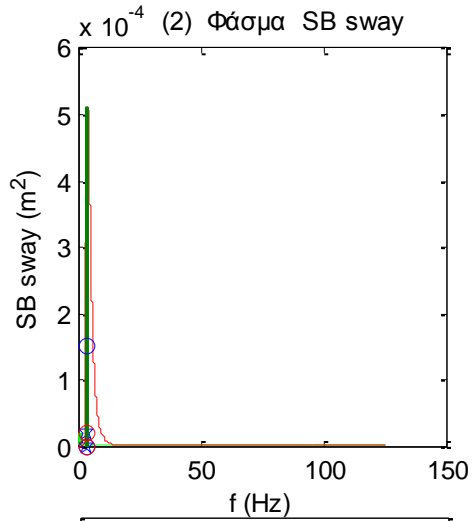
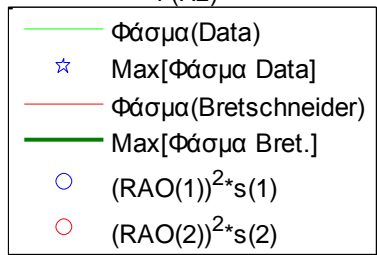
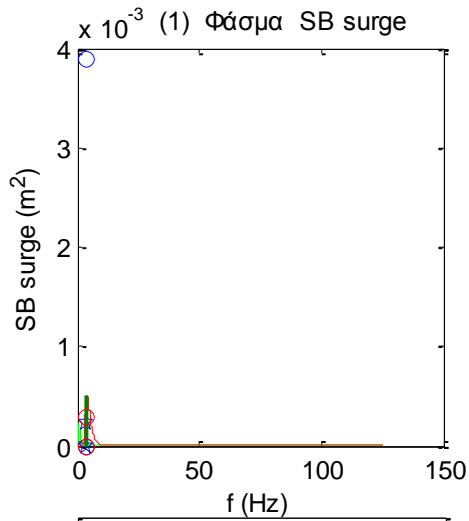
**Σχήματα 2.4.4.3** Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

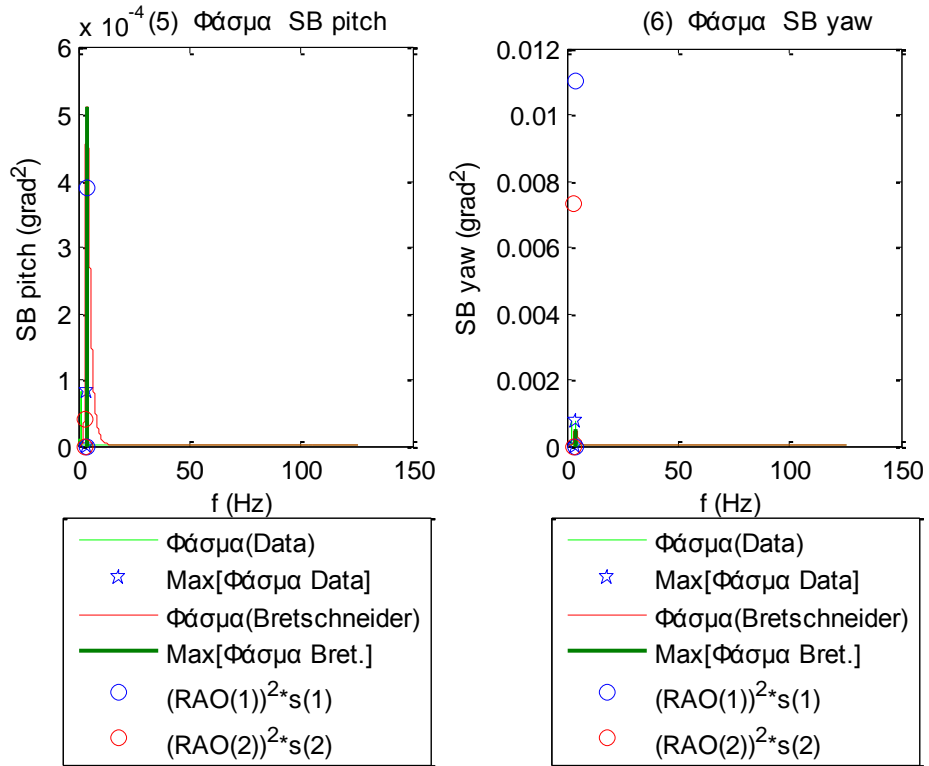


Σχήματα 2.4.4.4 (1-3) Φάσματα για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

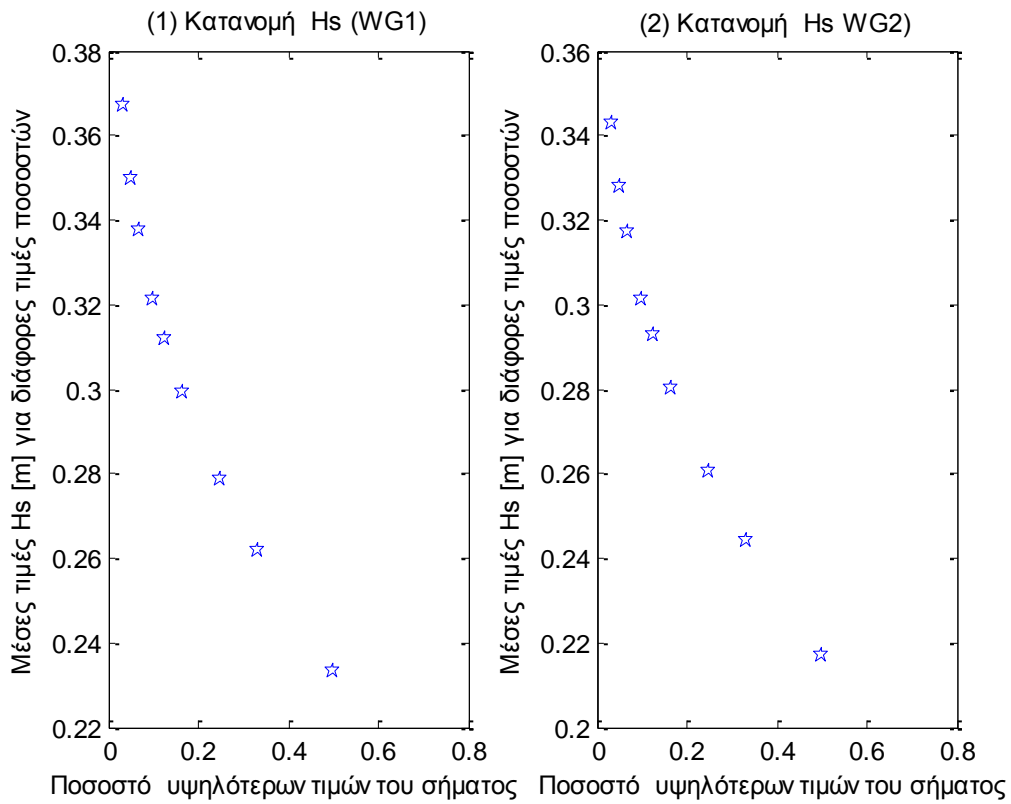


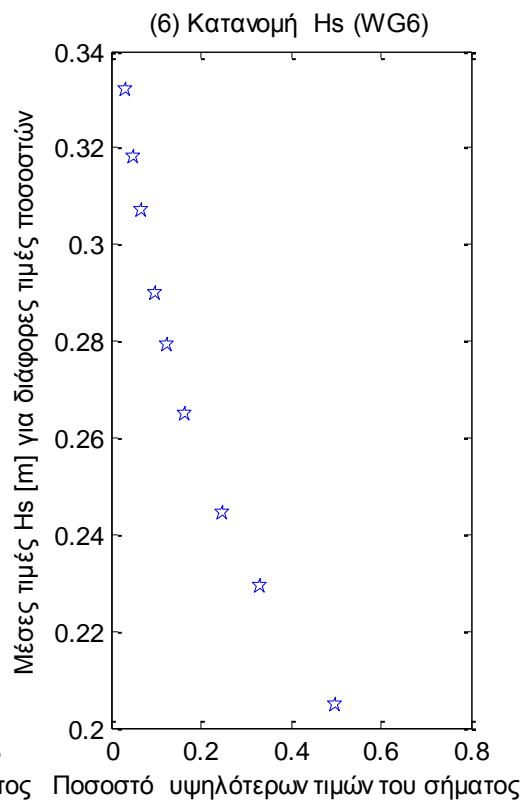
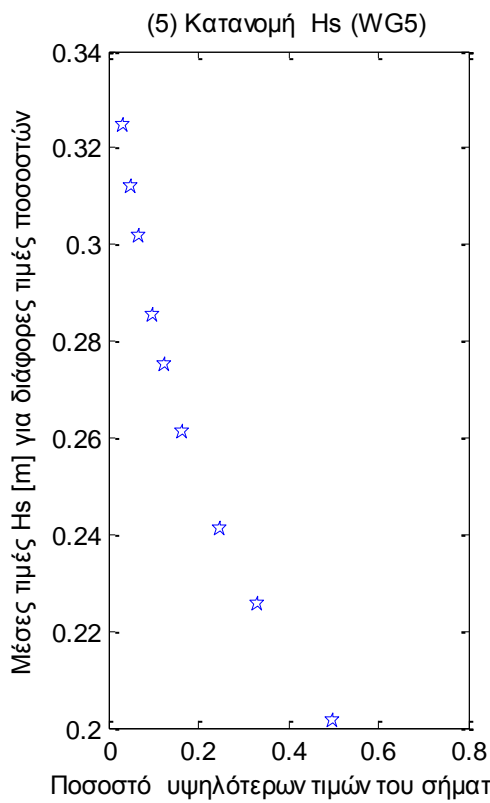
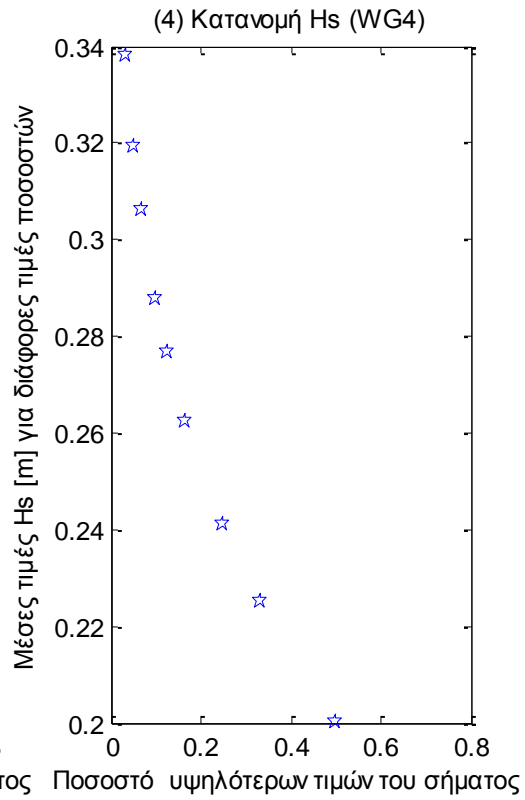
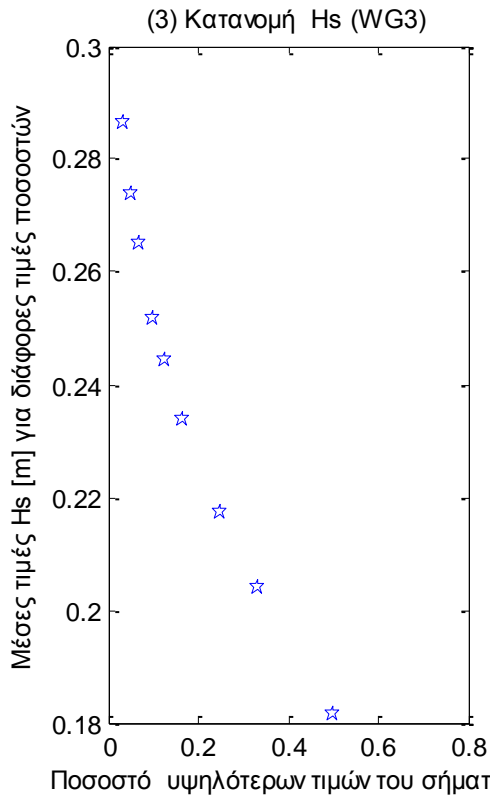
**Σχήματα 2.4.4.5 (1-3)** Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

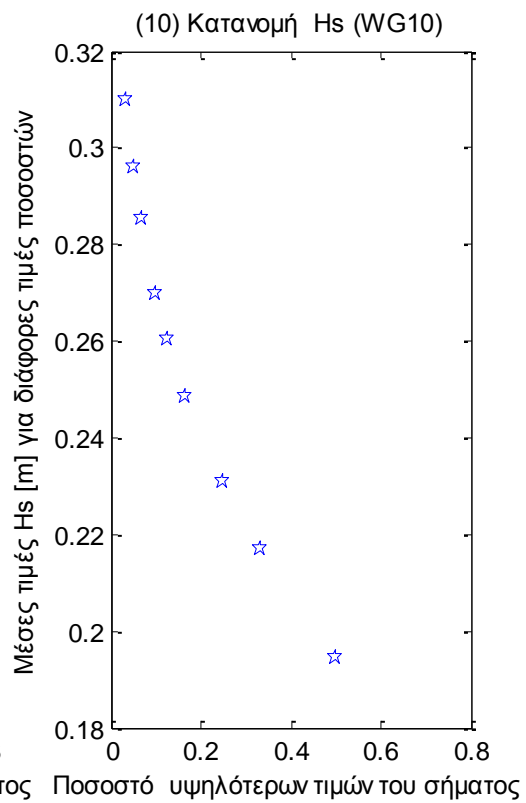
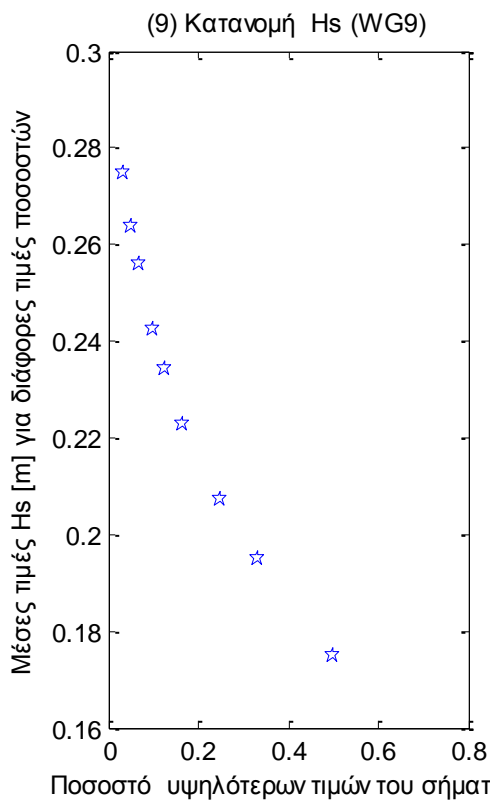
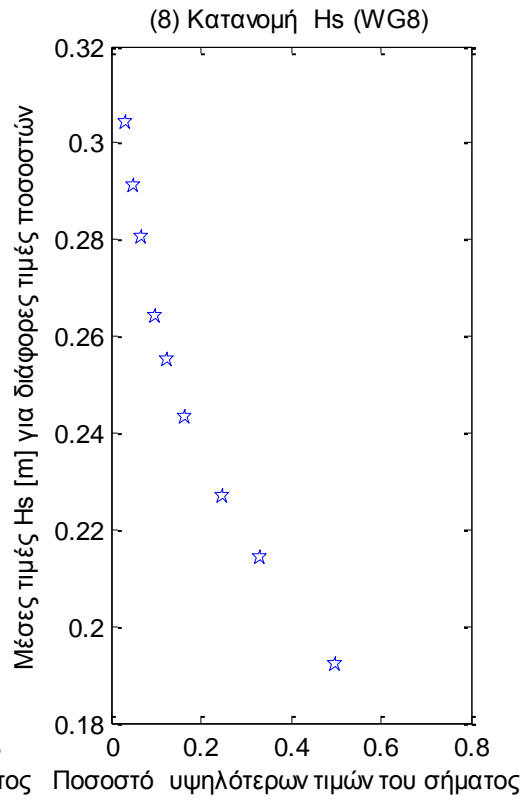
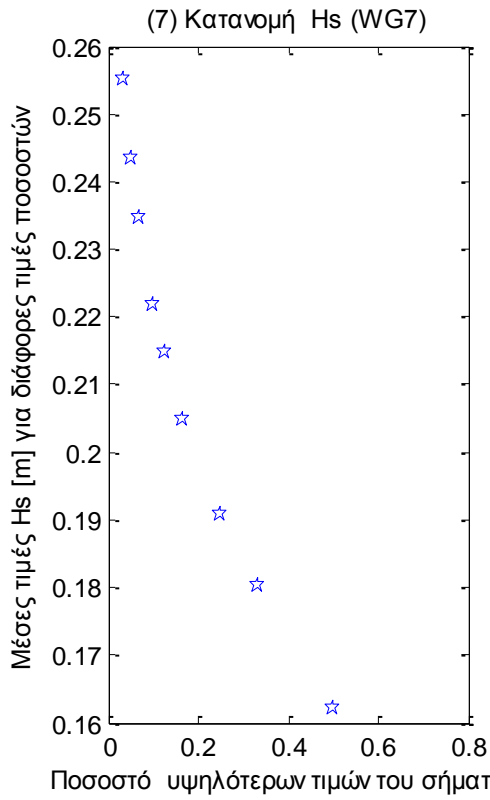


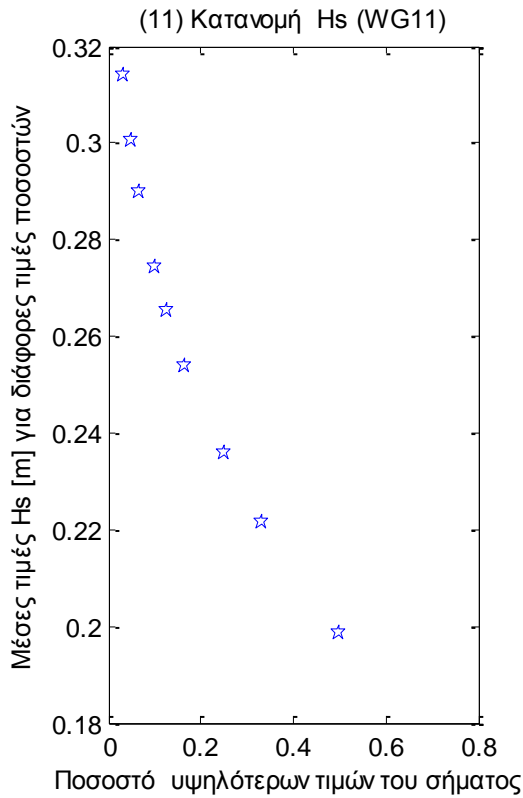


**Σχήματα 2.4.4.6** Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

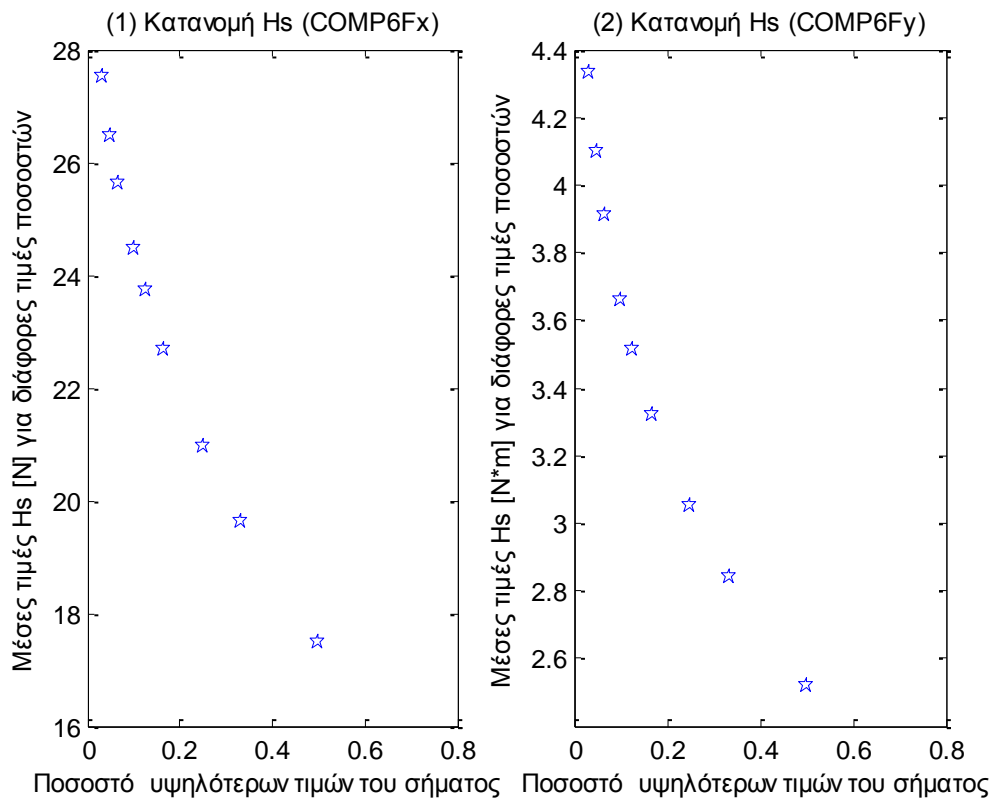




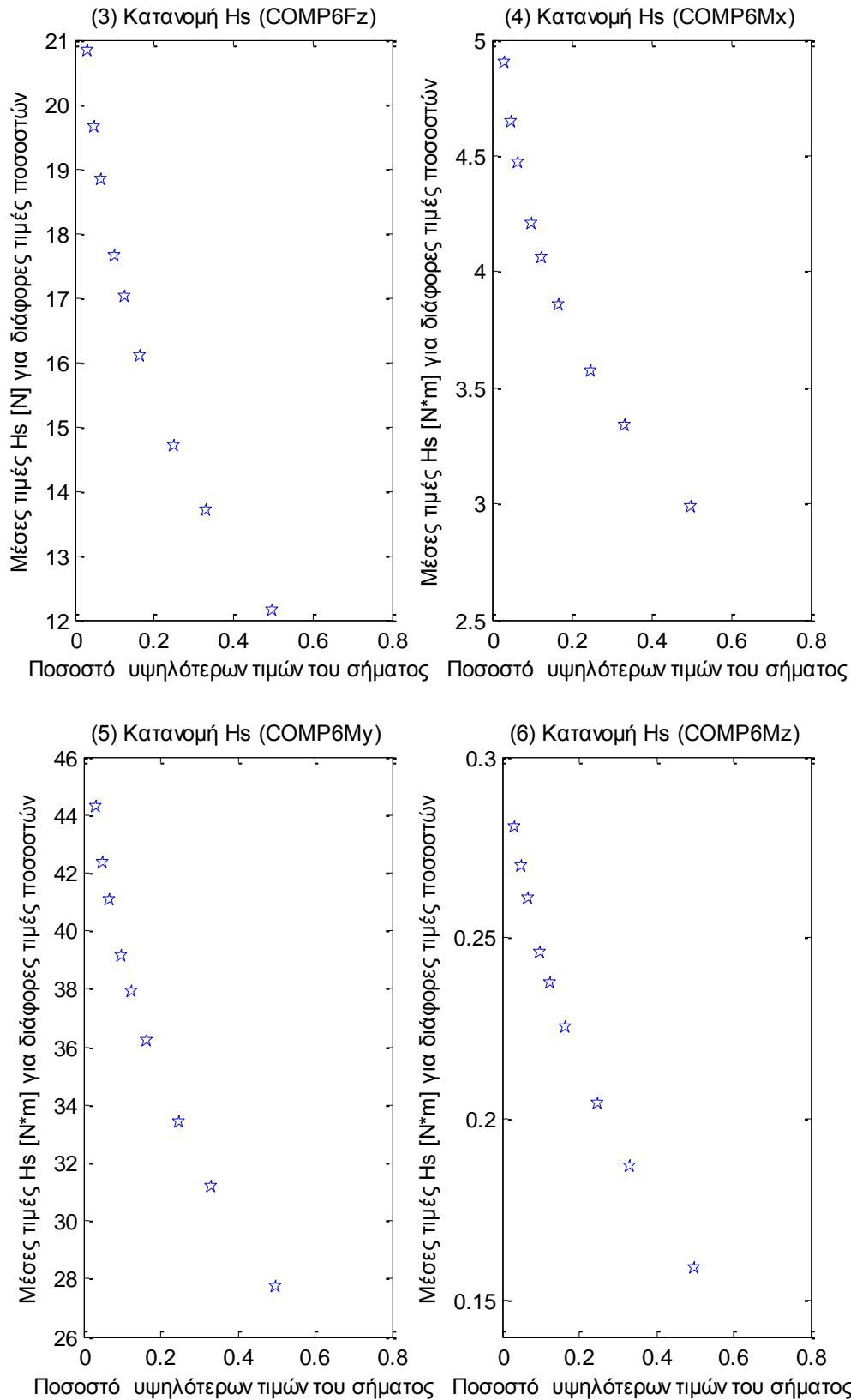




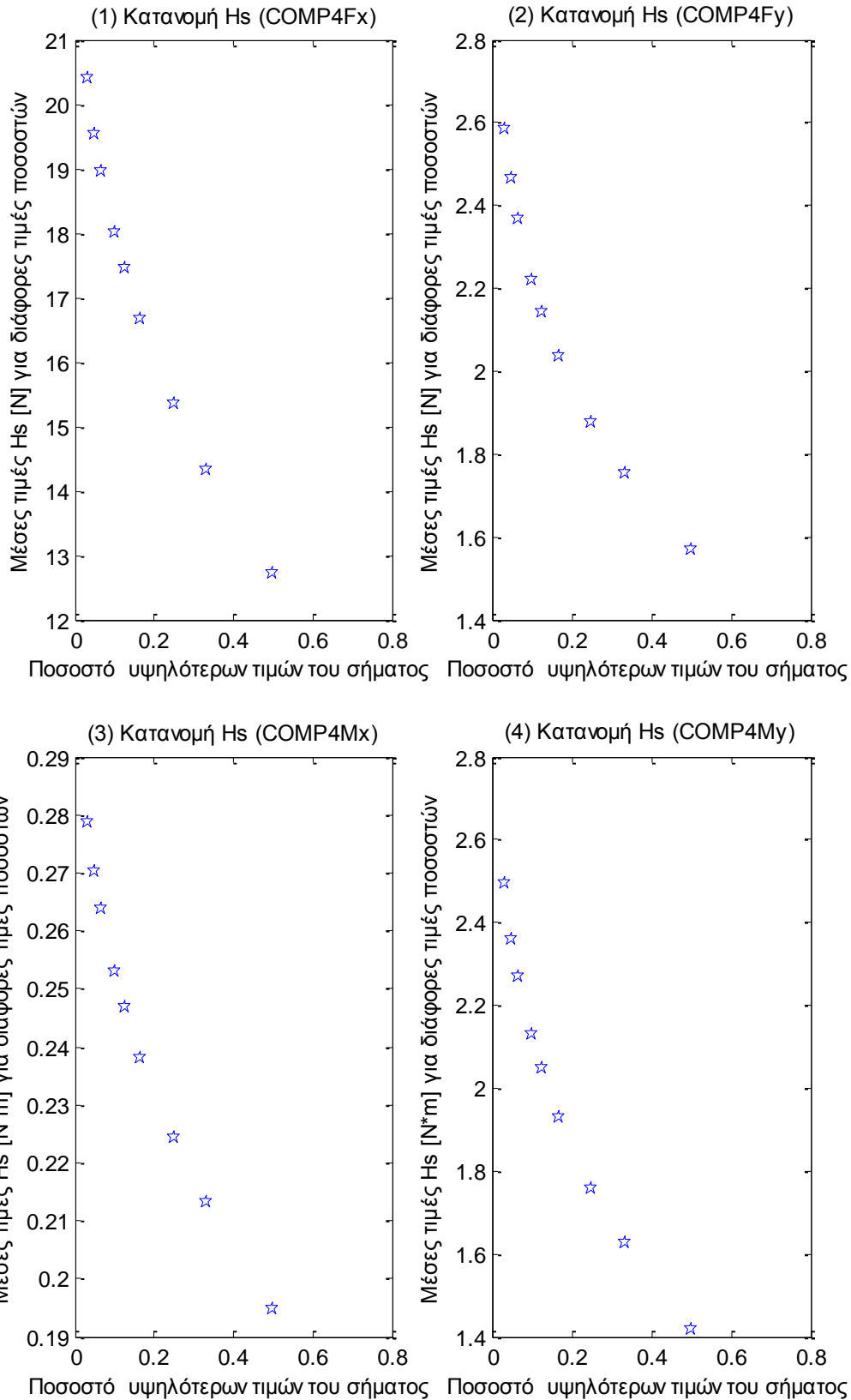
**Σχήματα 2.4.5.1 (1-11)** Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



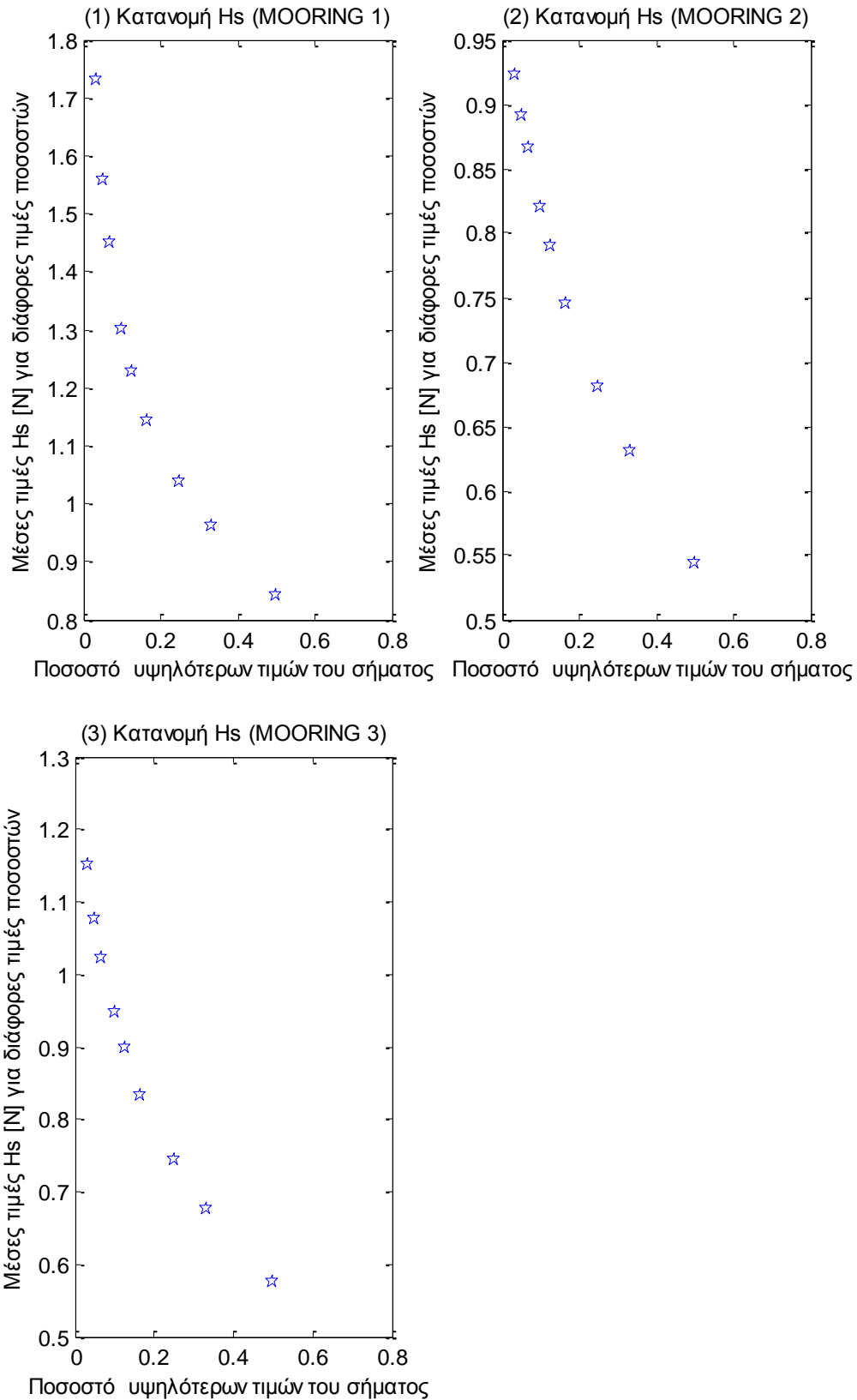




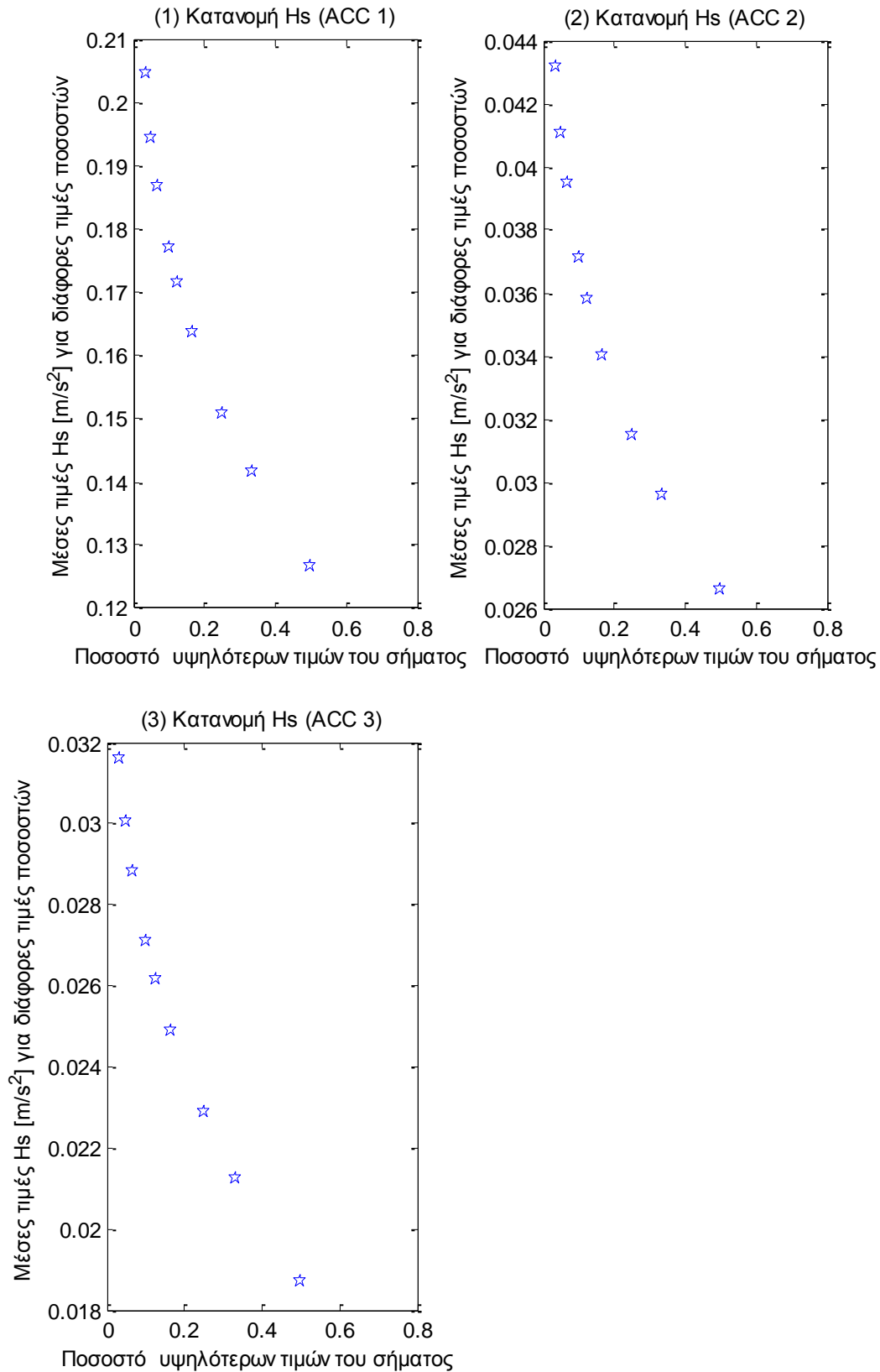
**Σχήματα 2.4.5.2** Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



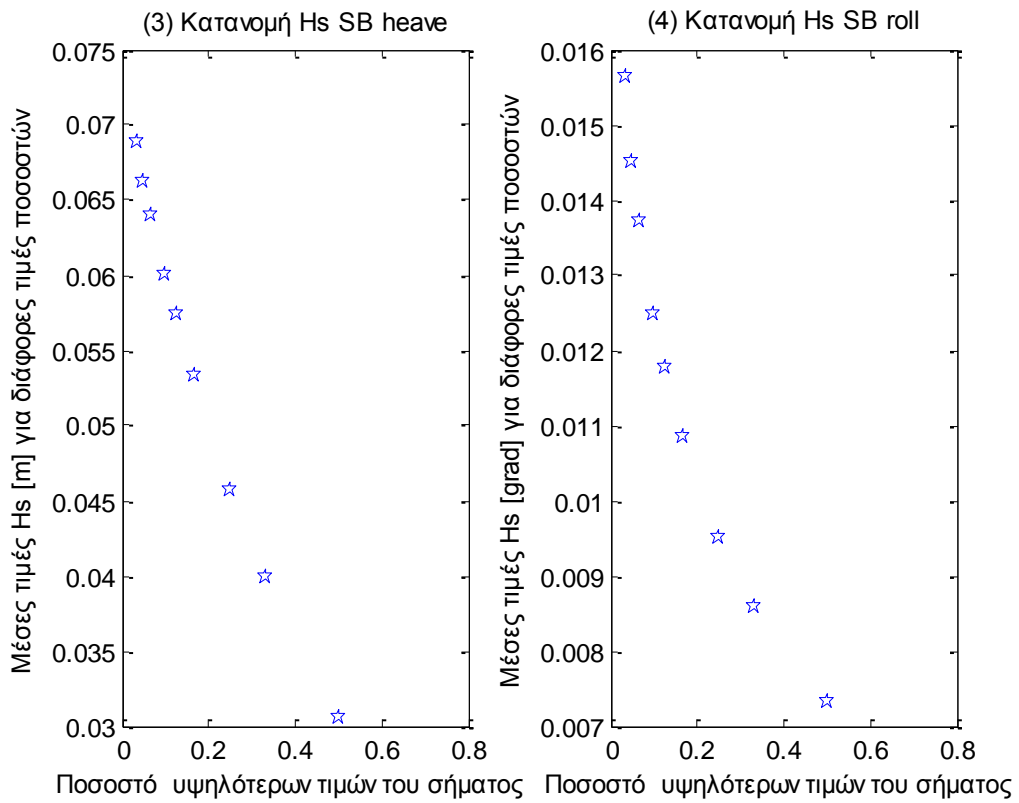
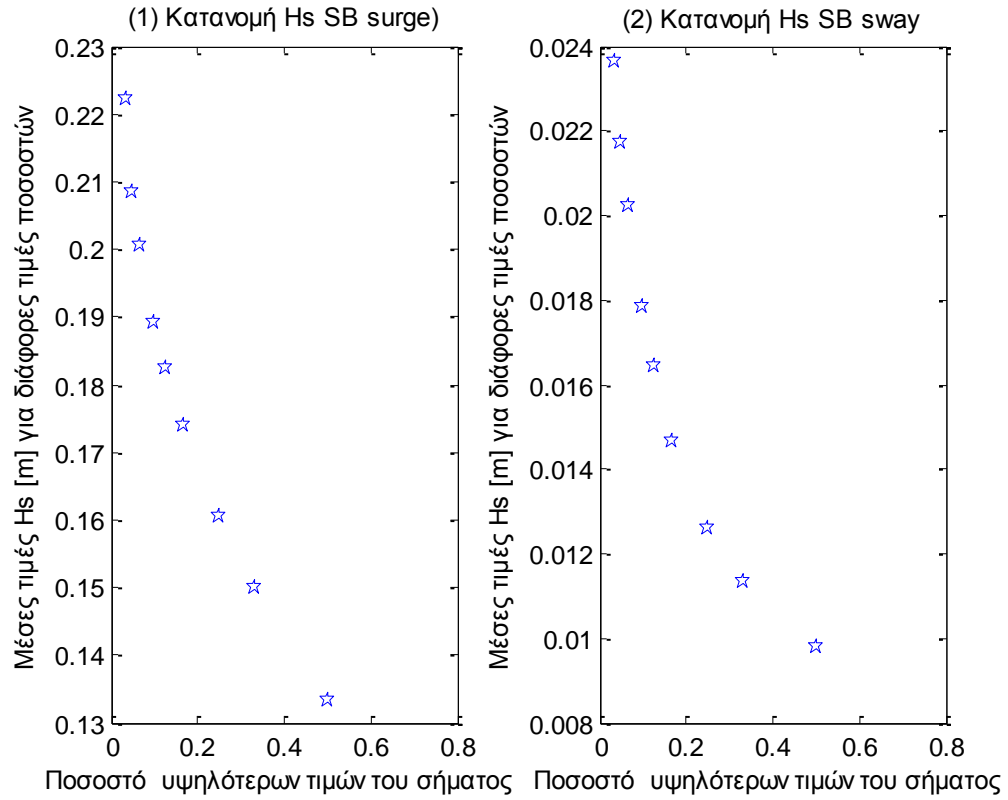
**Σχήματα 2.4.5.3** Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

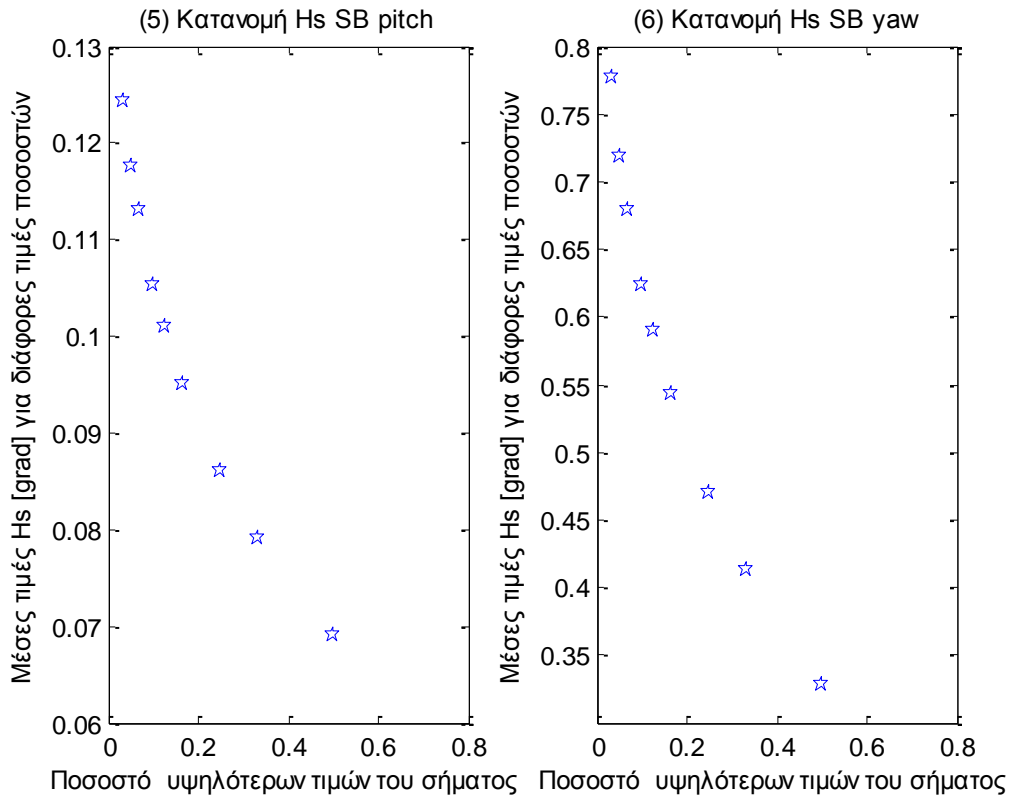


**Σχήματα 2.4.5.4 (1-4)** Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

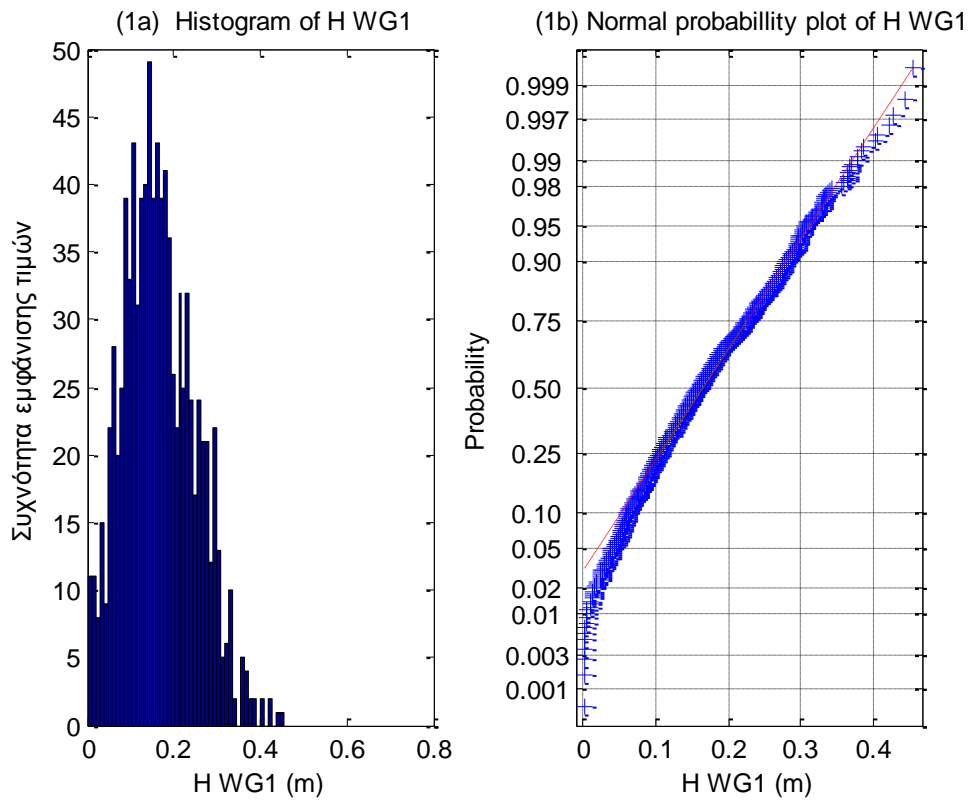


**Σχήματα 2.4.5.5 (1-3)** Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

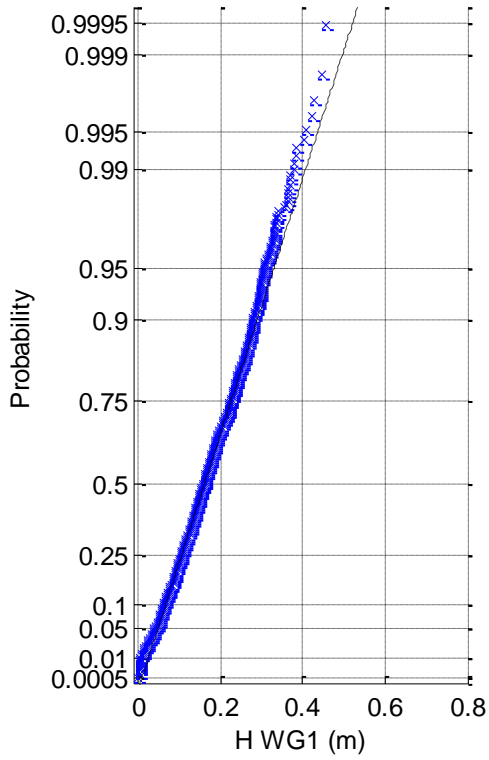




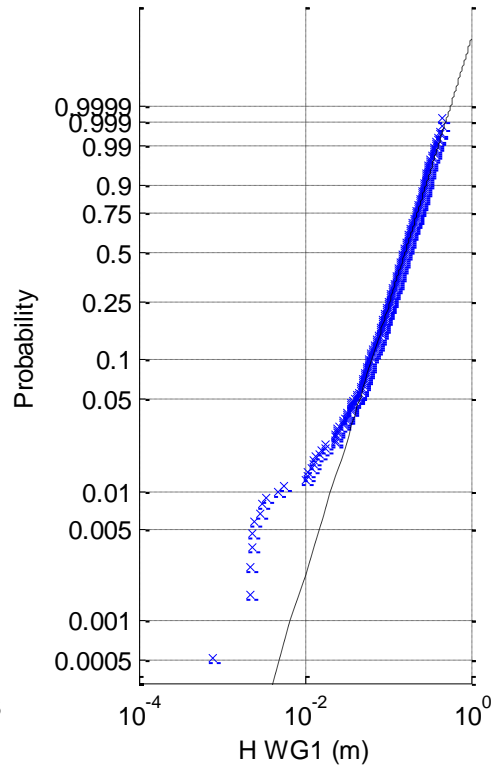
**Σχήματα 2.4.5.6** Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



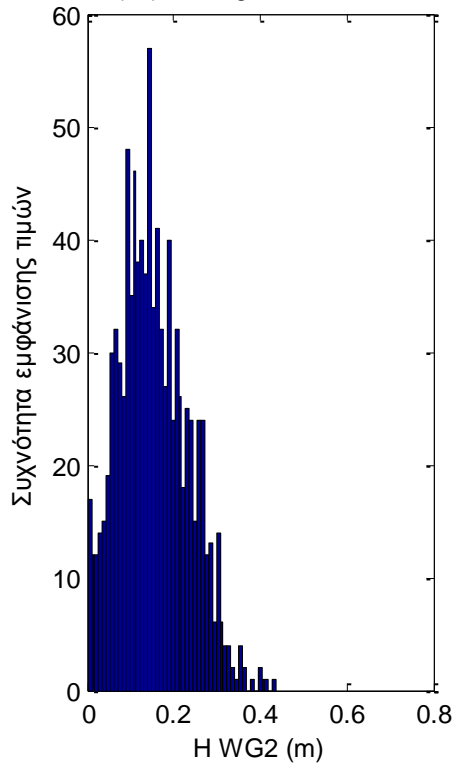
(1c) Rayleigh probability plot of H WG1



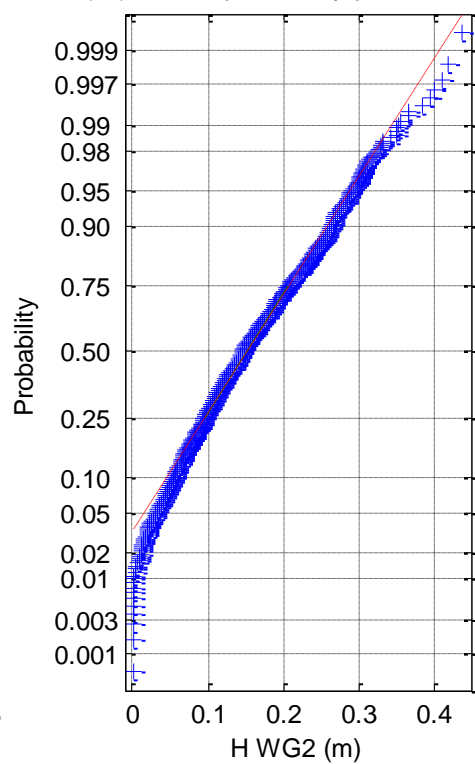
(1d) Weibull probability plot of H WG1



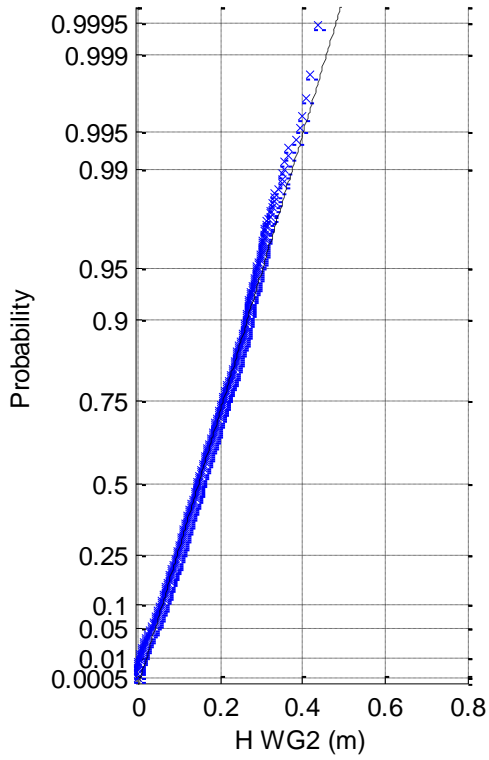
(2a) Histogram of H WG2



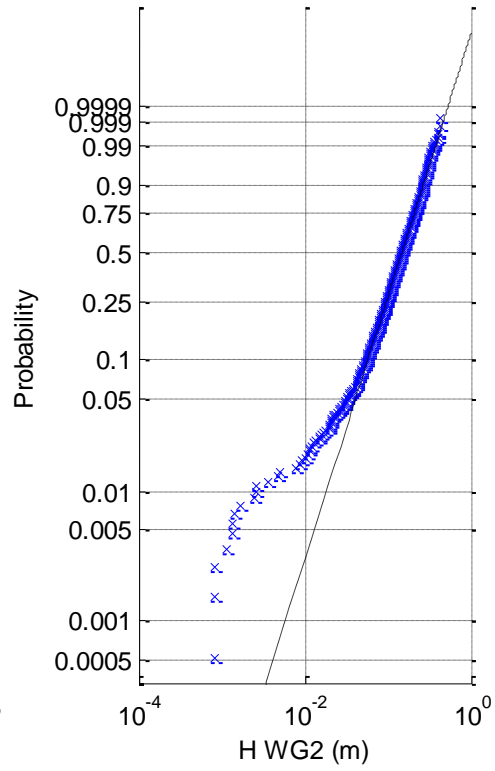
(2b) Normal probability plot of H WG2



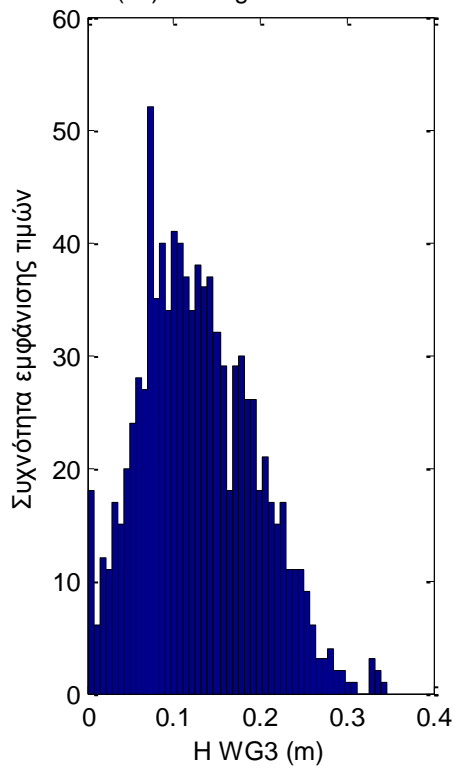
(2c) Rayleigh probability plot of H WG2



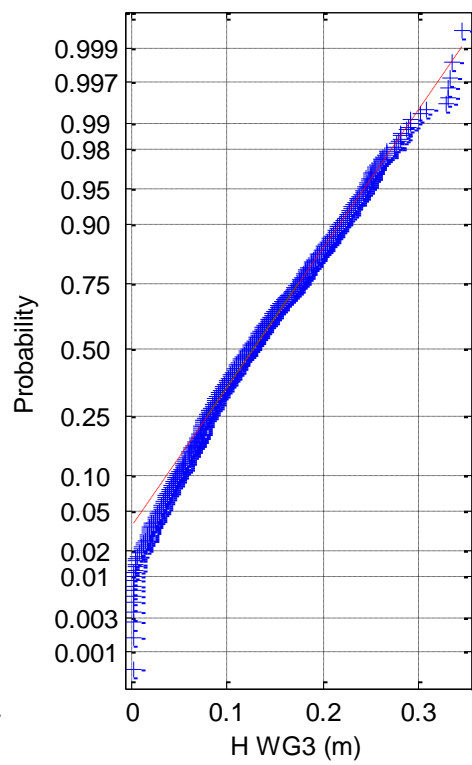
(2d) Weibull probability plot of H WG2



(3a) Histogram of H WG3

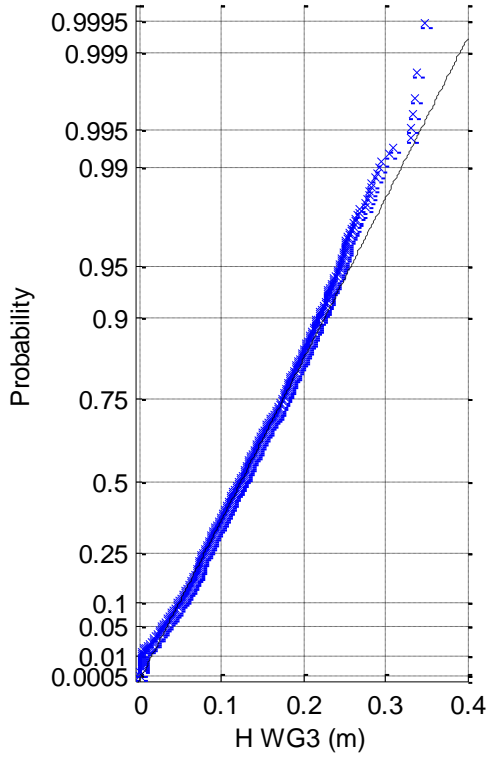


(3b) Normal probability plot of H WG3

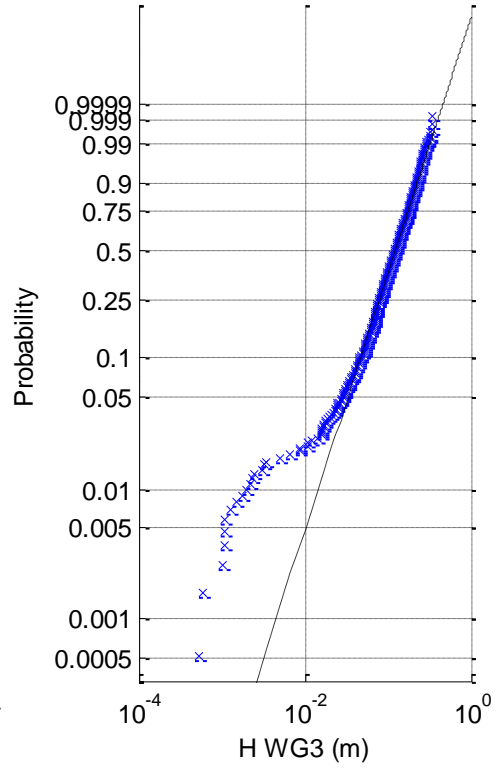




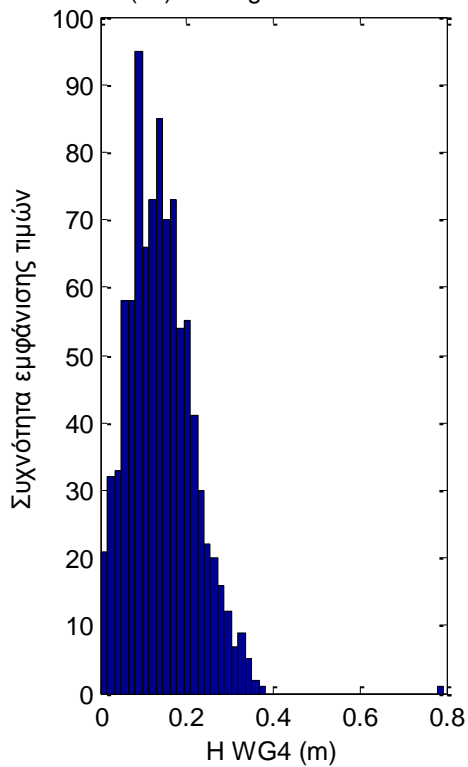
(3c) Rayleigh probability plot of H WG3



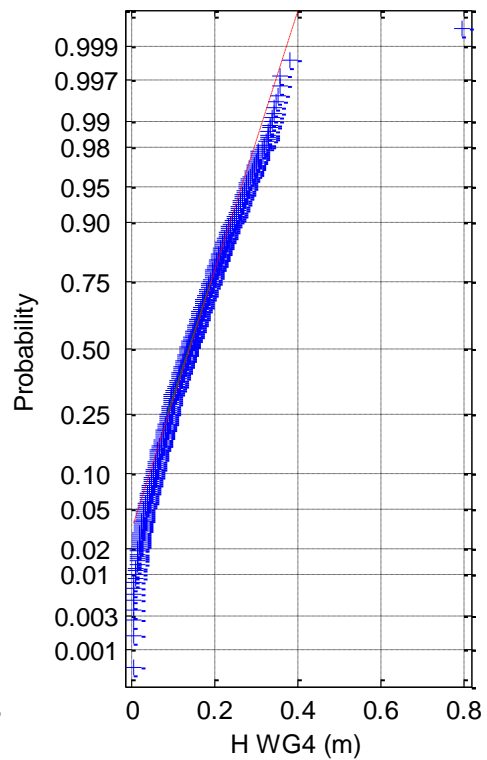
(3d) Weibull probability plot of H WG3



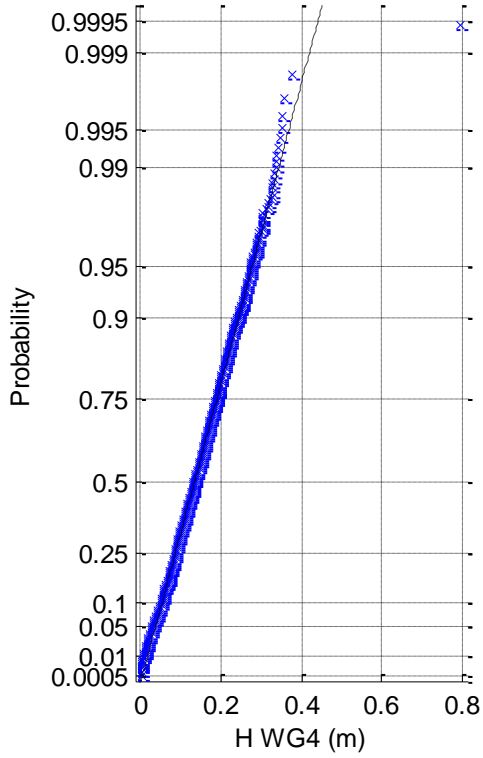
(4a) Histogram of H WG4



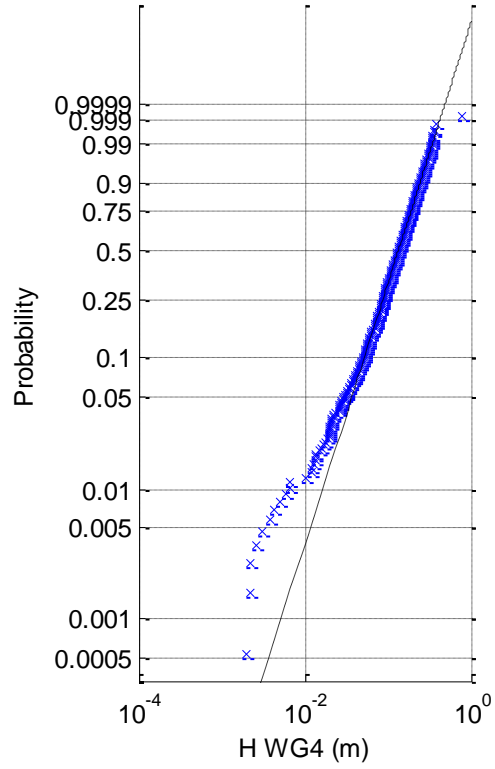
(4b) Normal probability plot of H WG4



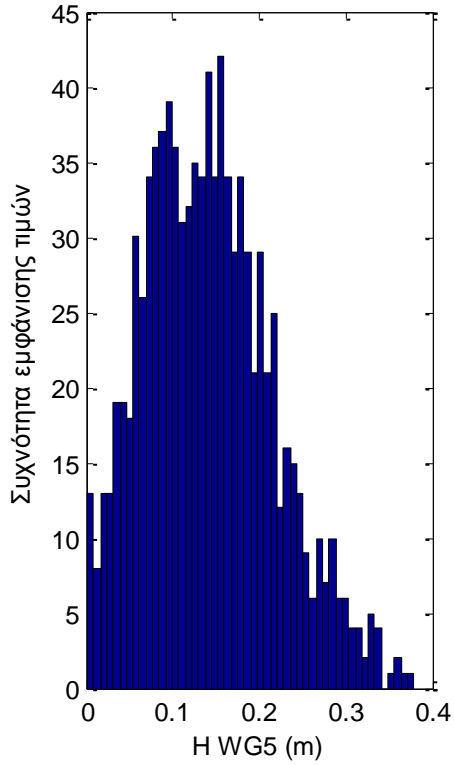
(4c) Rayleigh probability plot of H WG4



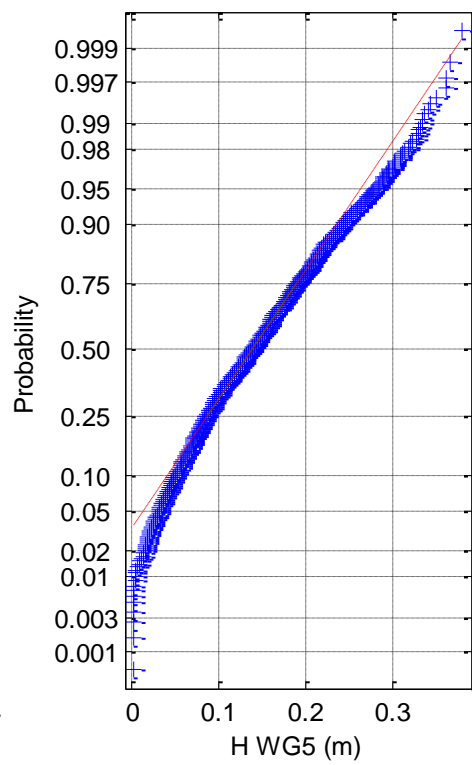
(4d) Weibull probability plot of H WG4



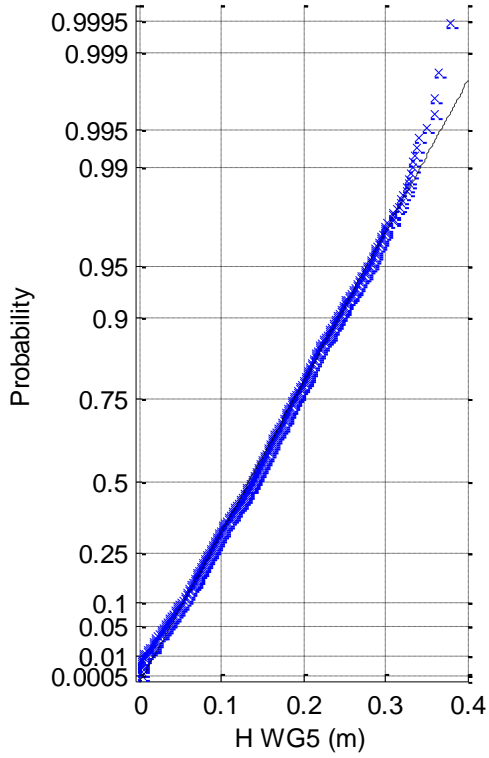
(5a) Histogram of H WG5



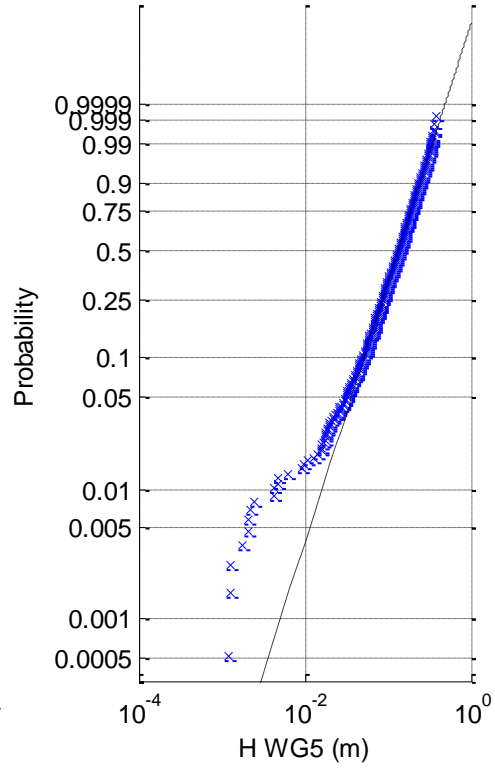
(5b) Normal probability plot of H WG5



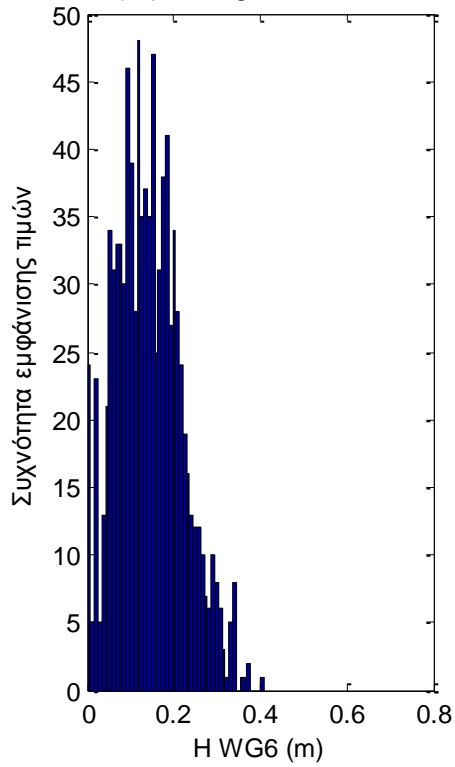
(5c) Rayleigh probability plot of H WG5



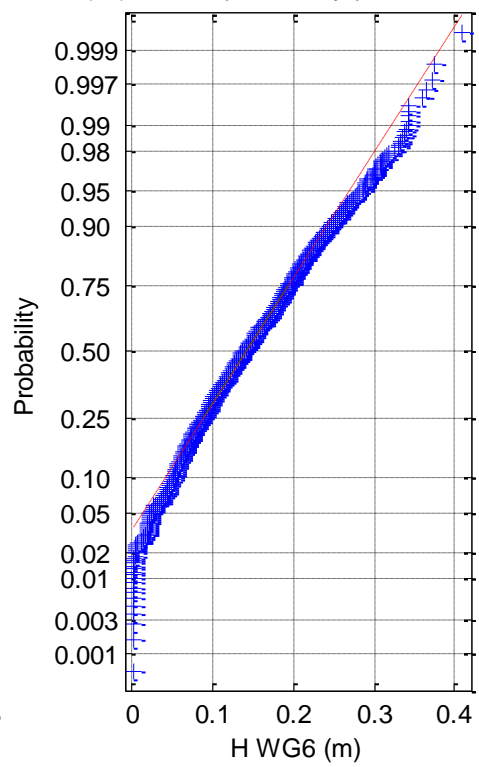
(5d) Weibull probability plot of H WG5



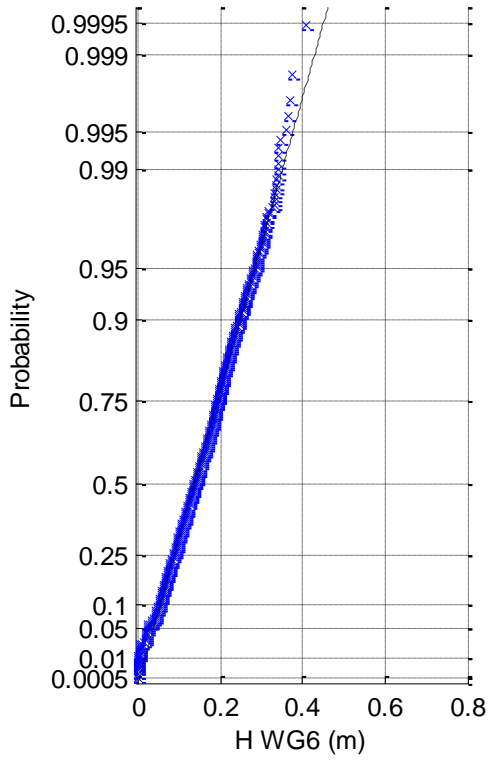
(6a) Histogram of H WG6



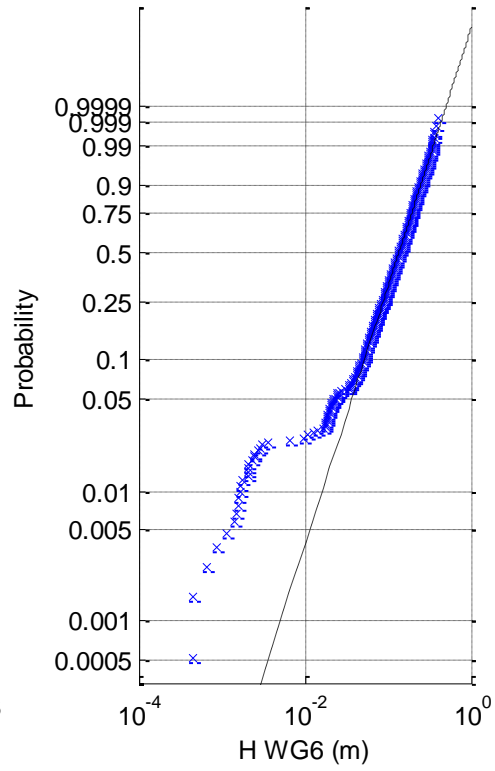
(6b) Normal probability plot of H WG6



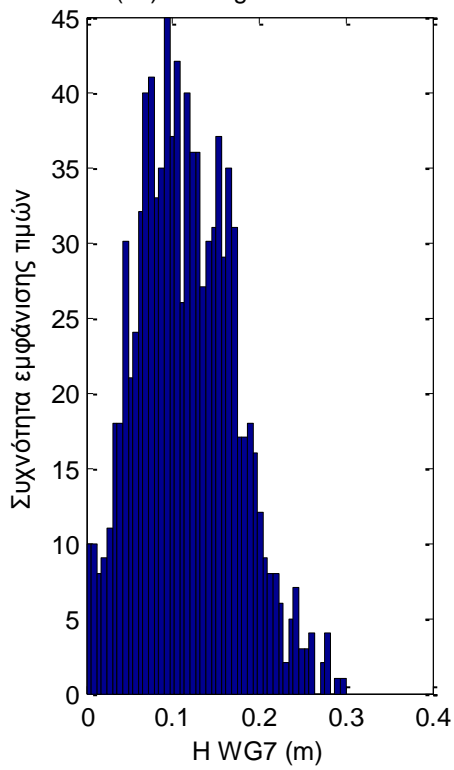
(6c) Rayleigh probability plot of H WG6



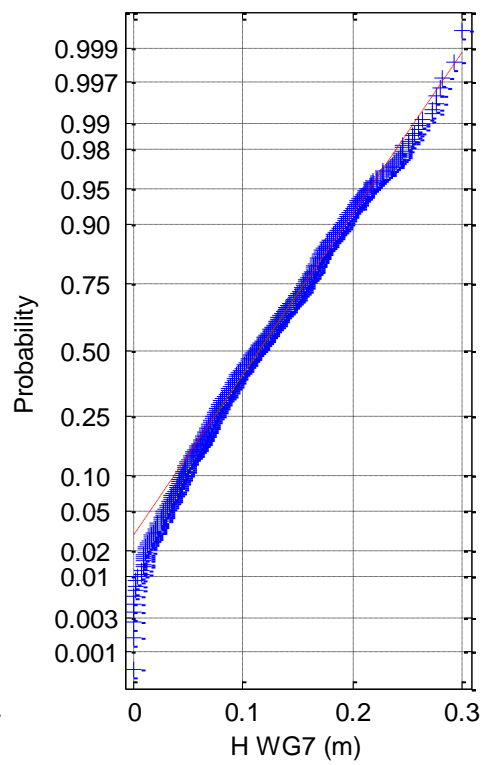
(6d) Weibull probability plot of H WG6



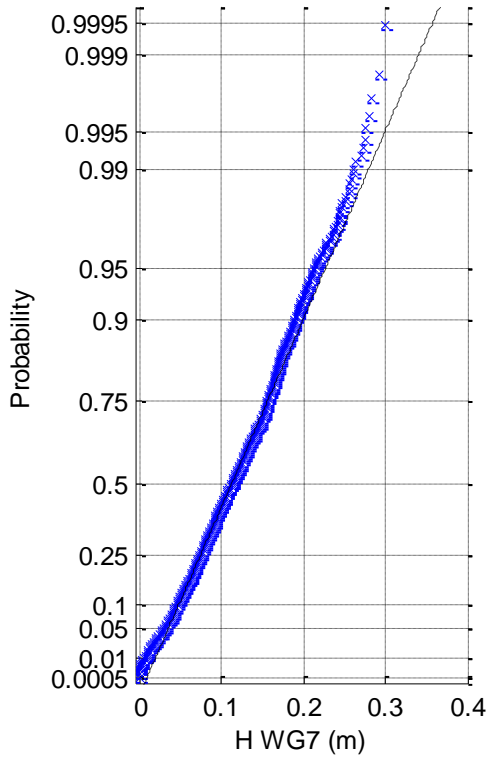
(7a) Histogram of H WG7



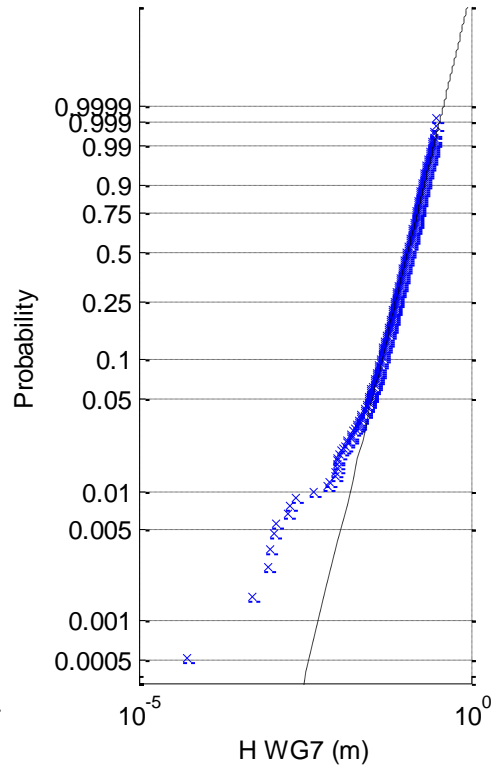
(7b) Normal probability plot of H WG7



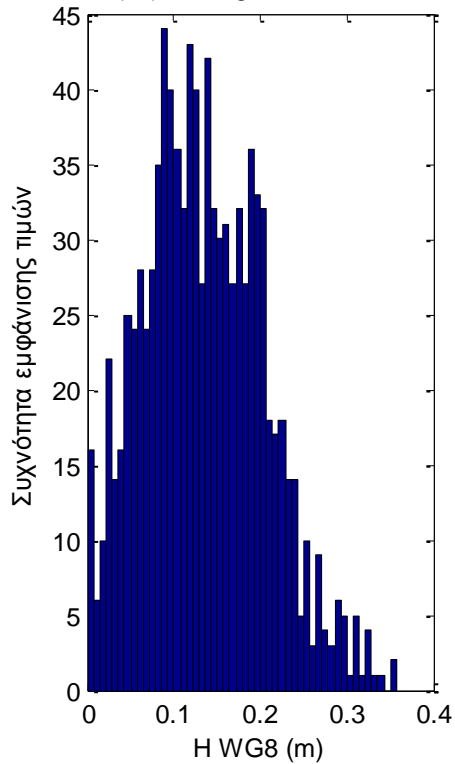
(7c) Rayleigh probability plot of H WG7



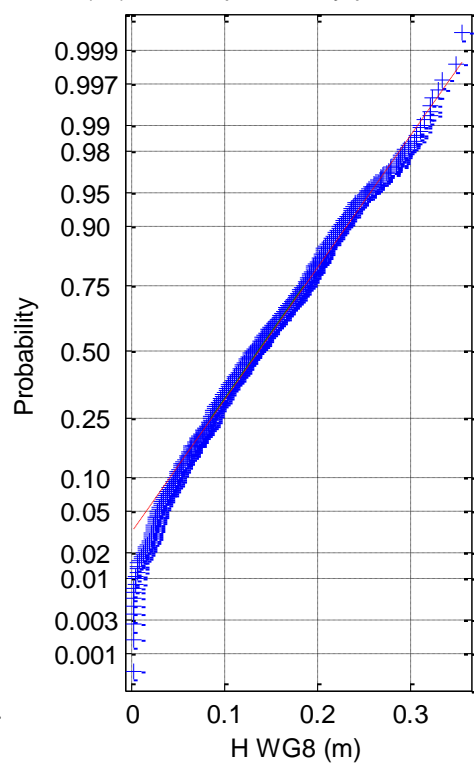
(7d) Weibull probability plot of H WG7



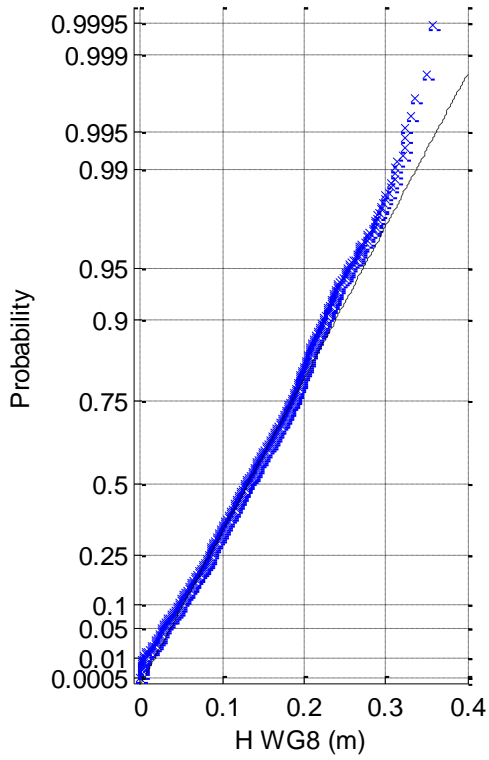
(8a) Histogram of H WG8



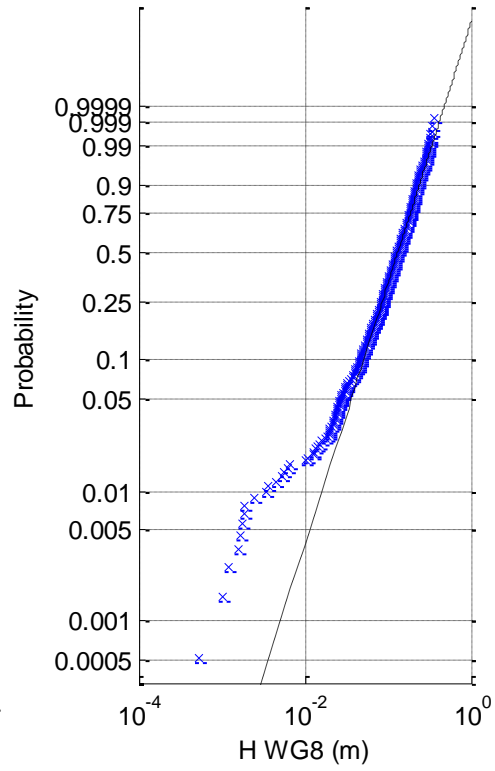
(8b) Normal probability plot of H WG8



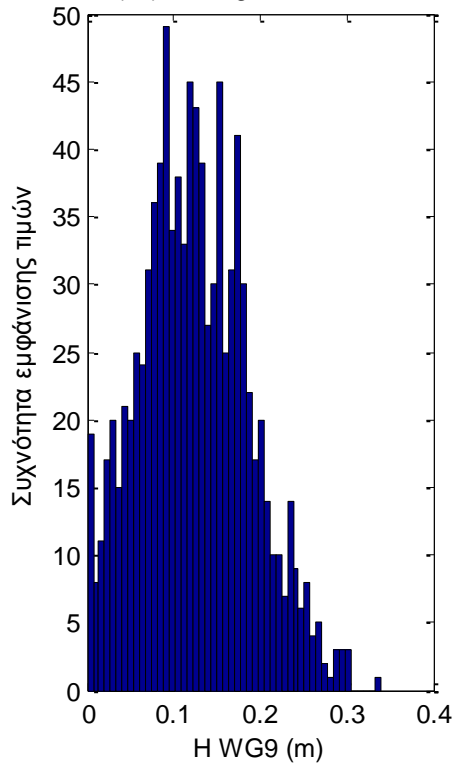
(8c) Rayleigh probability plot of H WG8



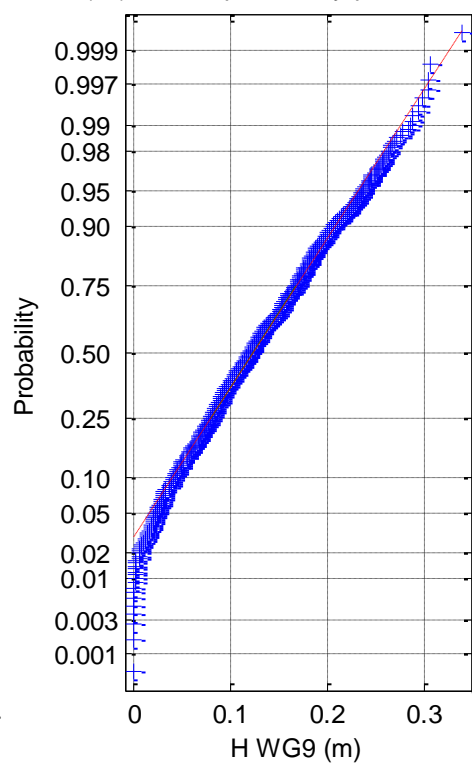
(8d) Weibull probability plot of H WG8



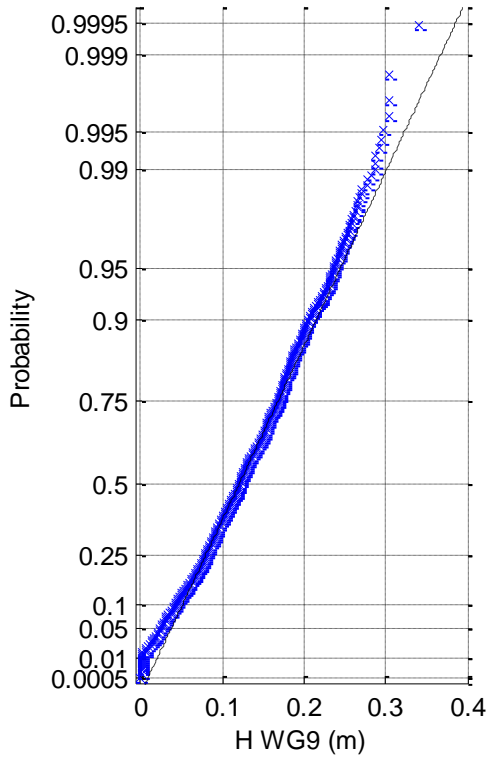
(9a) Histogram of H WG9



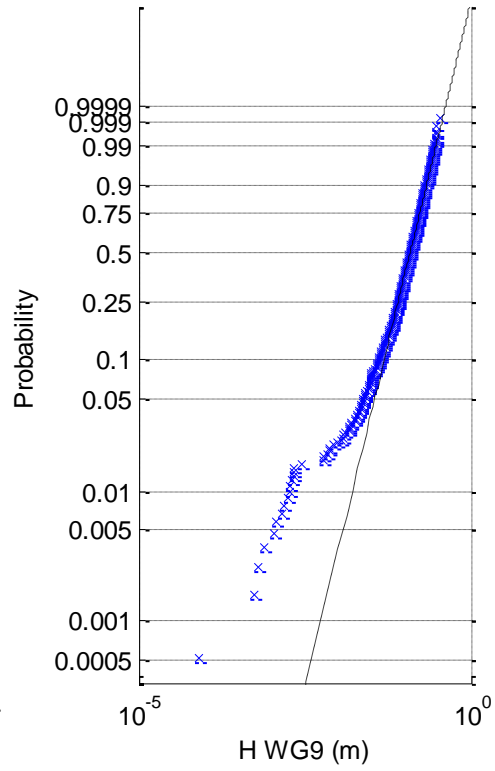
(9b) Normal probability plot of H WG9



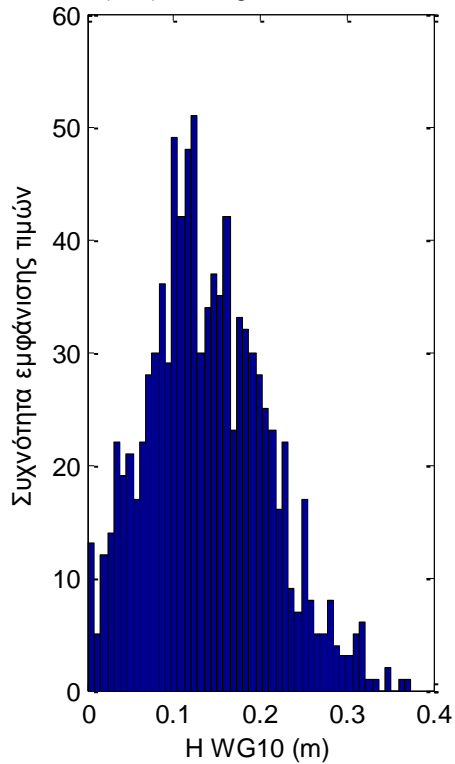
(9c) Rayleigh probability plot of H WG9



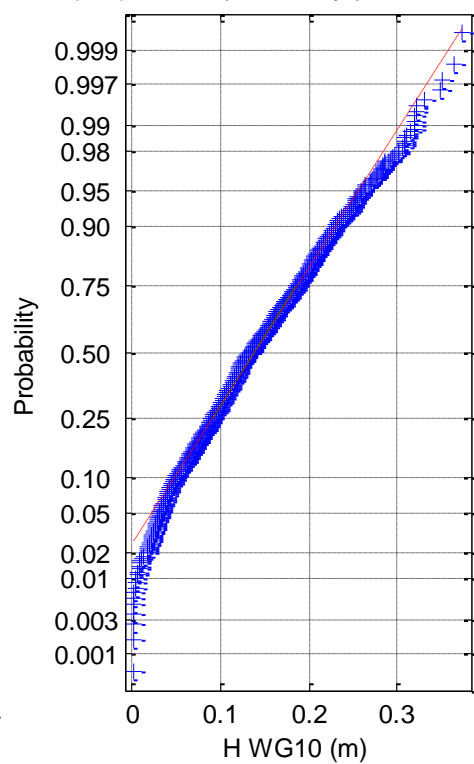
(9d) Weibull probability plot of H WG9



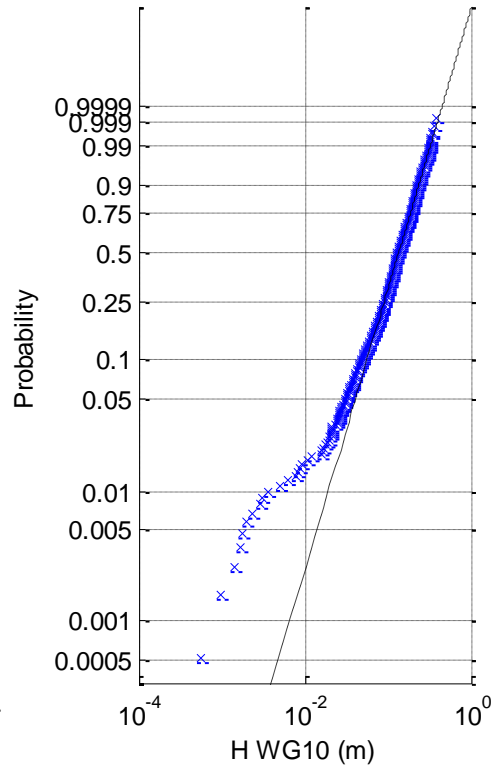
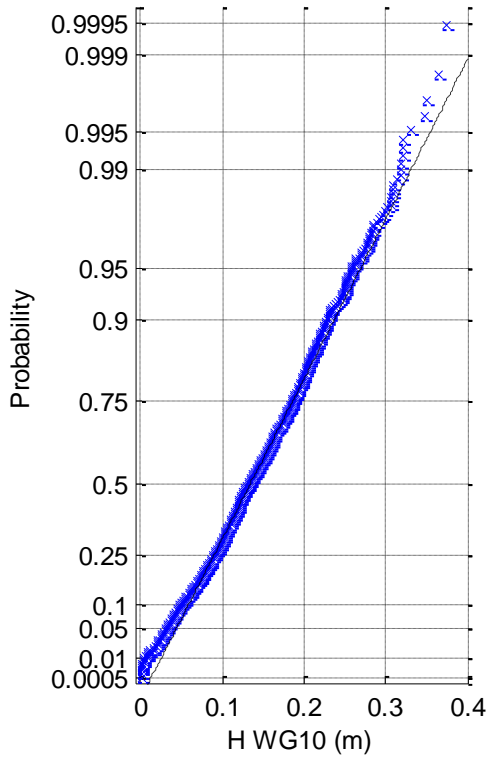
(10a) Histogram of H WG10



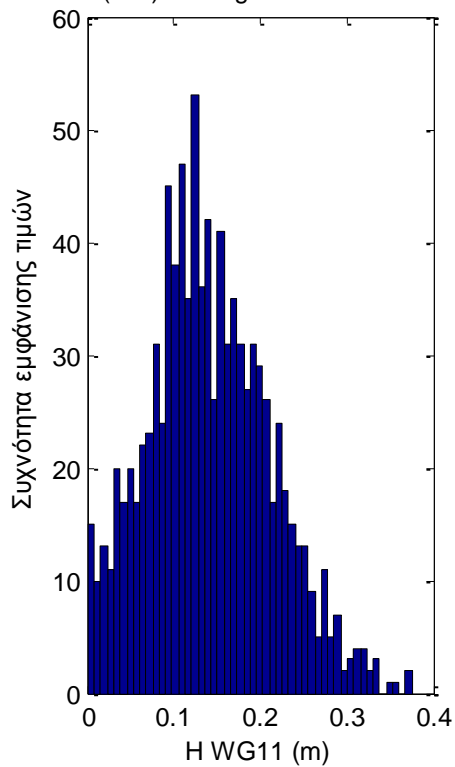
(10b) Normal probability plot of H WG10



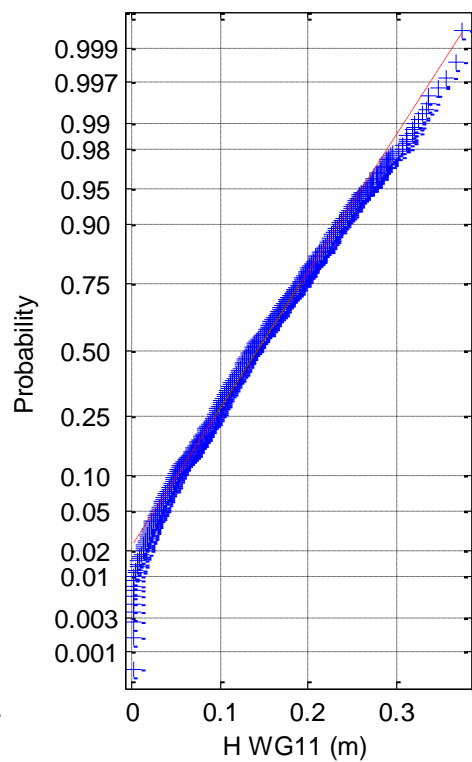
(10c) Rayleigh probability plot of H WG10 (10d) Weibull probability plot of H WG10



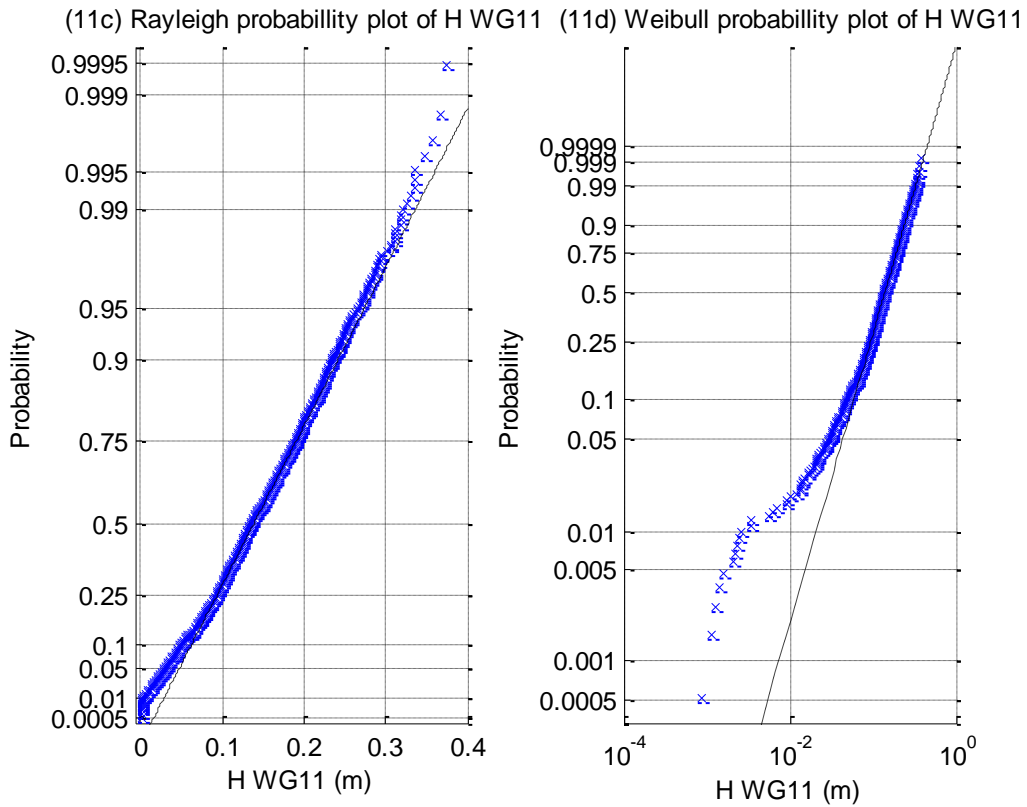
(11a) Histogram of H WG11



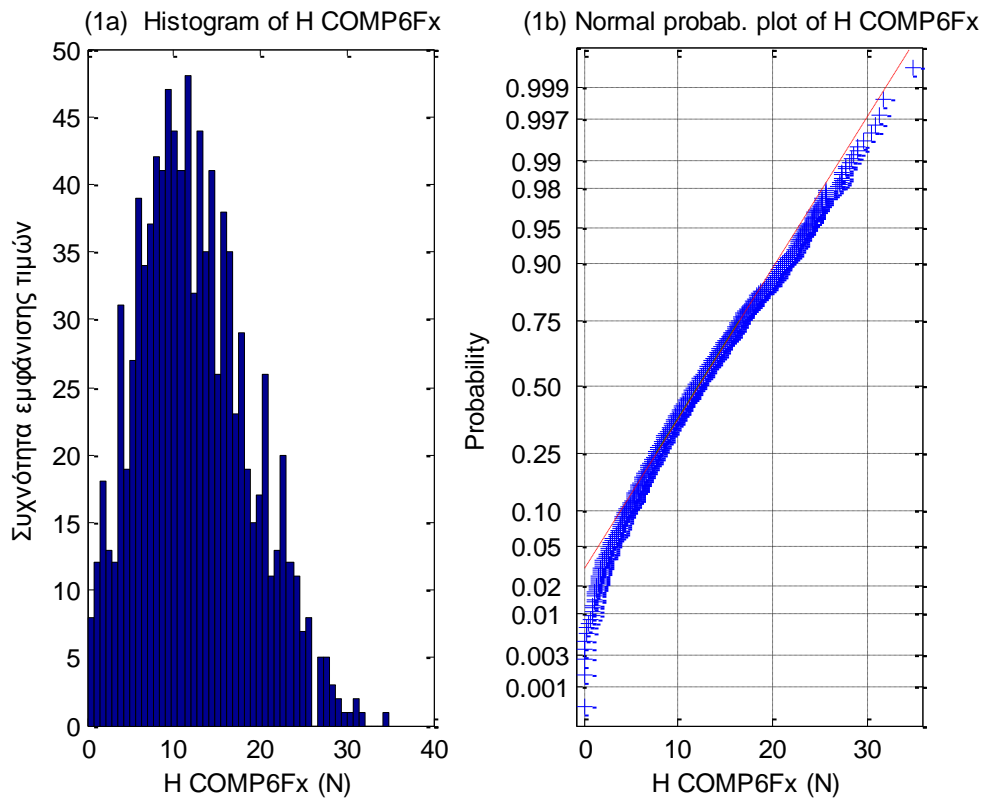
(11b) Normal probability plot of H WG11



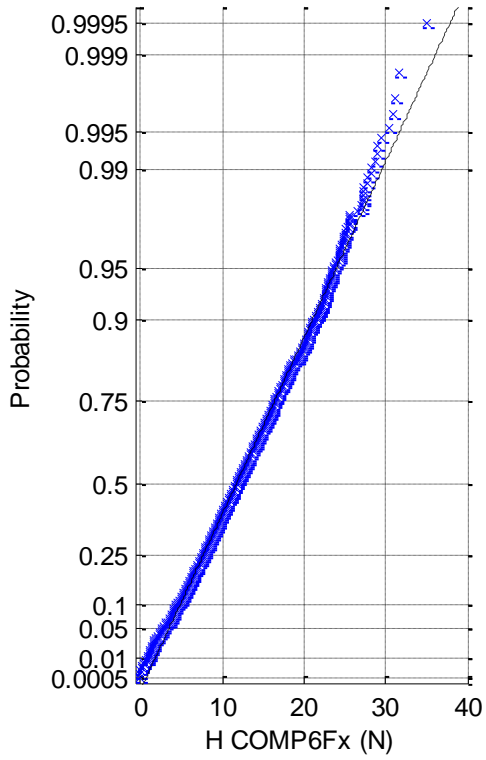




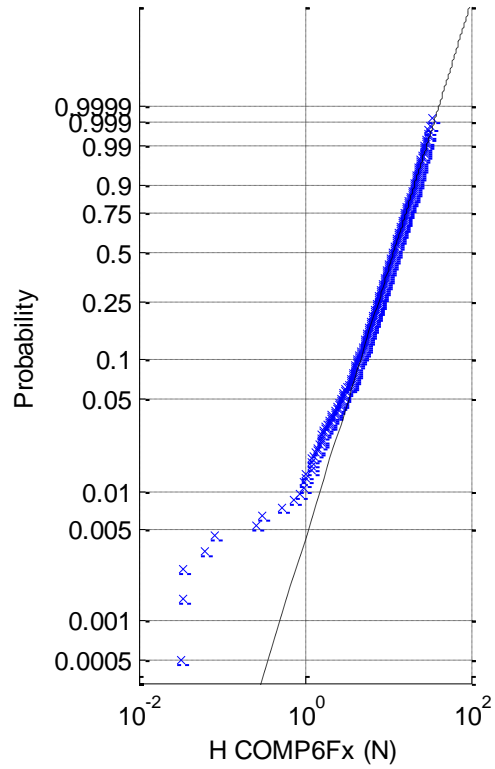
**Σχήματα 2.4.6.1 (1-11)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος



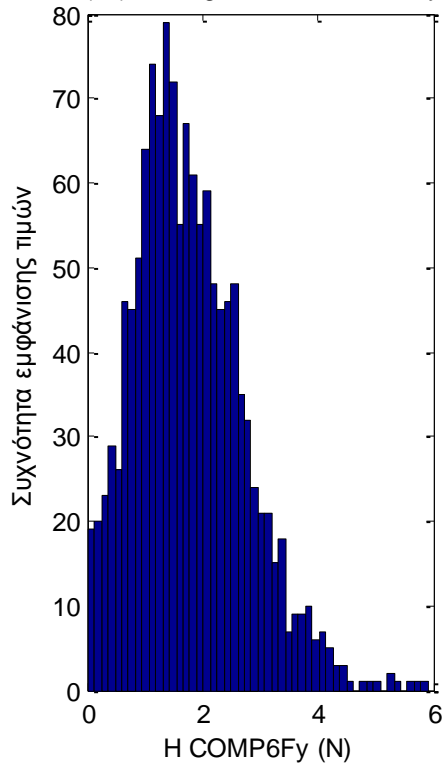
(1c) Rayleigh probab. plot of H COMP6Fx



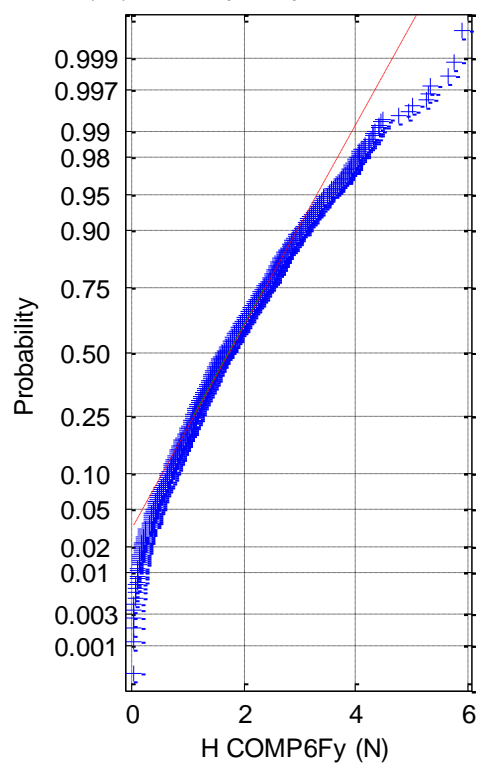
(1d) Weibull probab. plot of H COMP6Fx



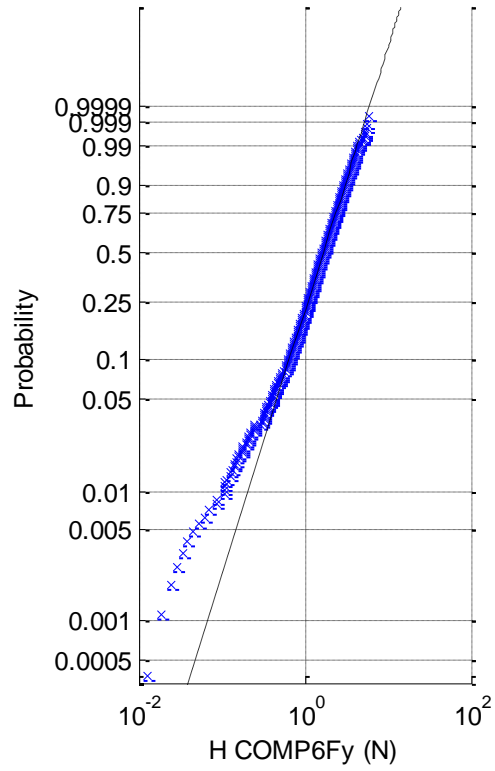
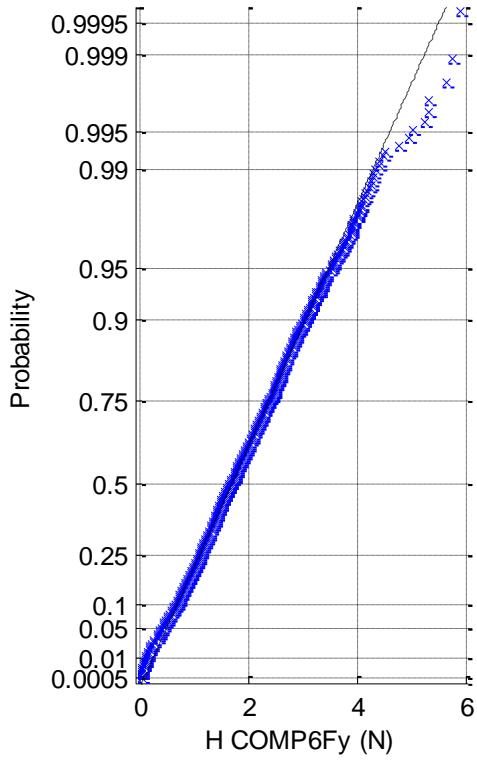
(2a) Histogram of H COMP6Fy



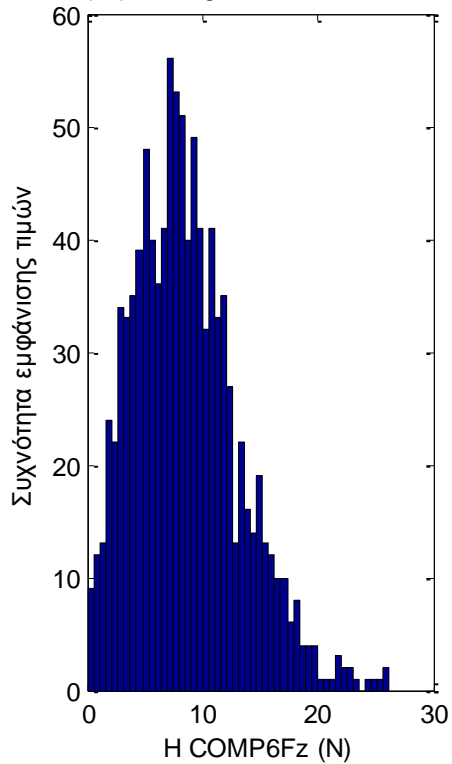
(2b) Normal probab. plot of H COMP6Fy



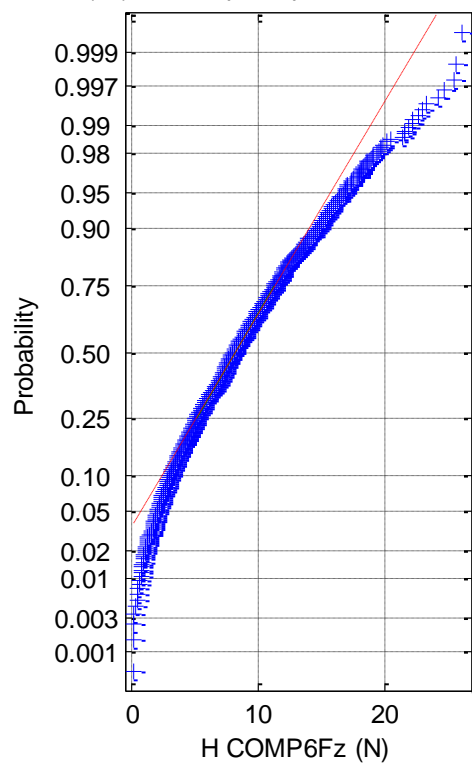
(2c) Rayleigh probab. plot of H COMP6Fy (2d) Weibull probab. plot of H COMP6Fy



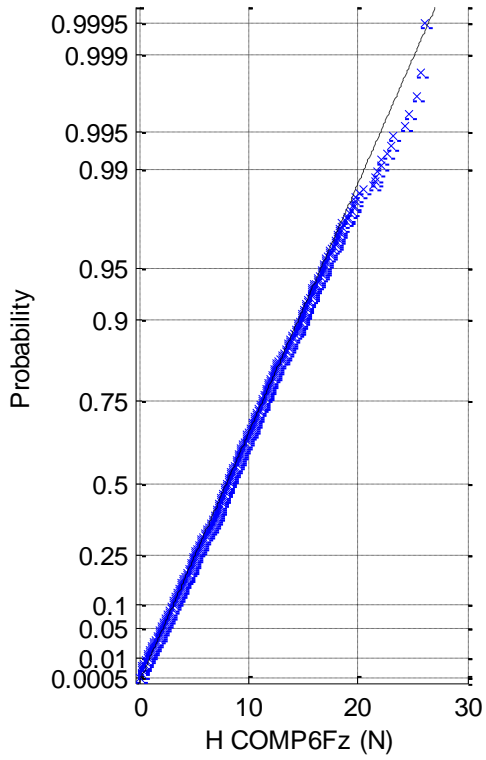
(3a) Histogram of H COMP6Fz



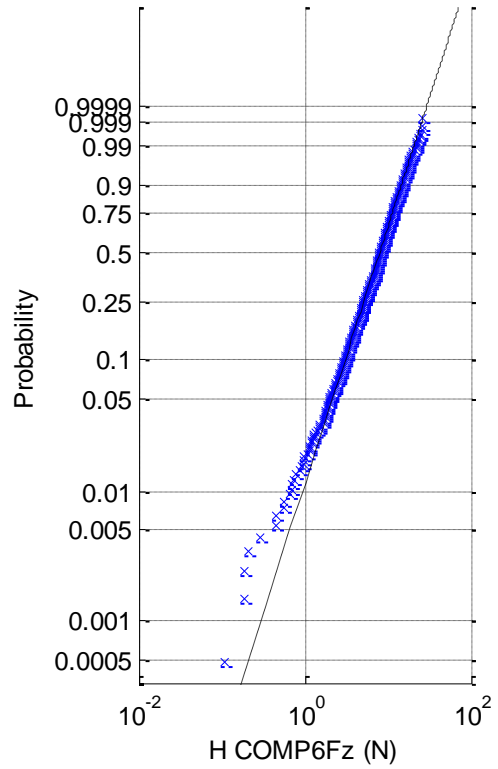
(3b) Normal probab. plot of H COMP6Fz



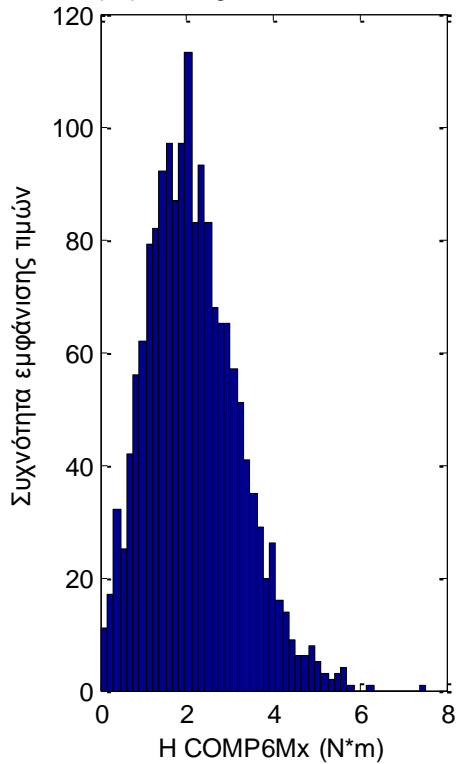
(3c) Rayleigh prob. plot of H COMP6Fz



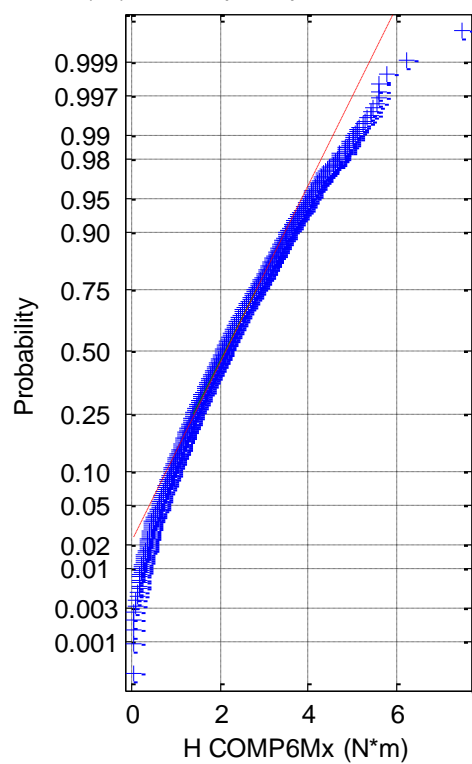
(3d) Weibull prob. plot of H COMP6Fz



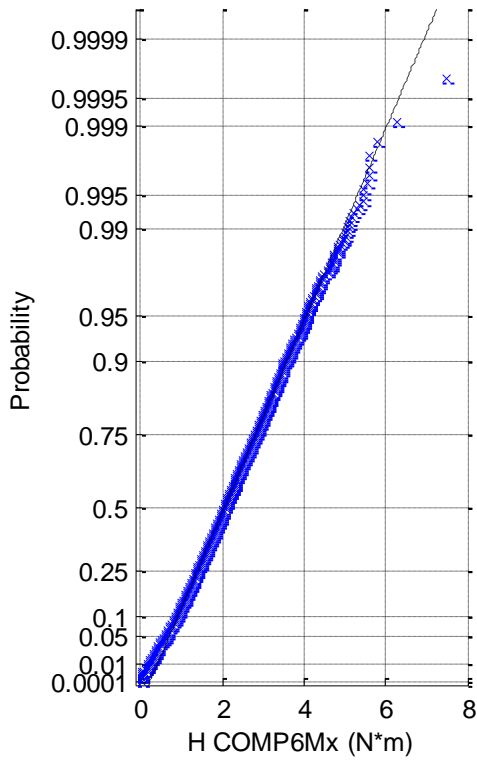
(4a) Histogram of H COMP6Mx



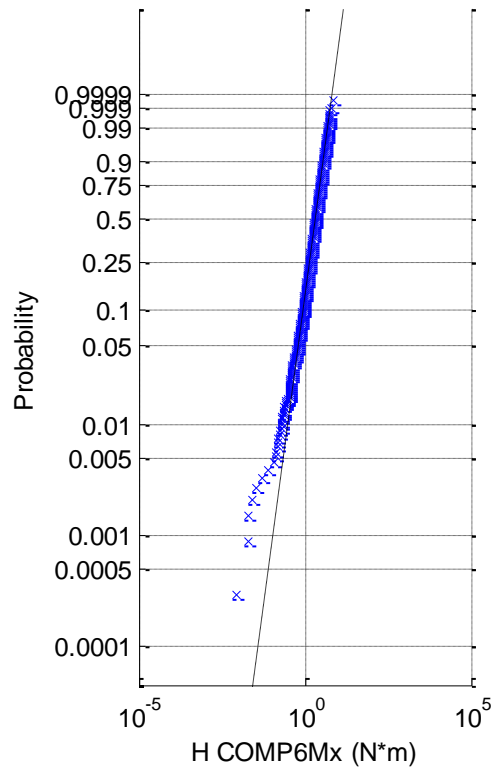
(4b) Normal prob. plot of H COMP6Mx



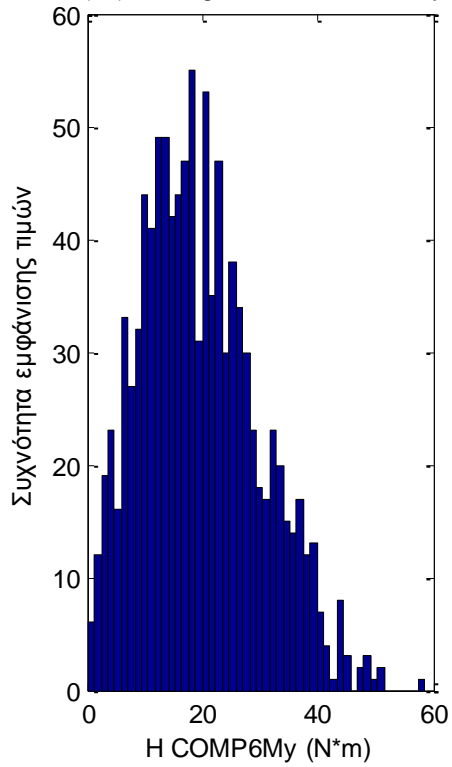
(4c) Rayleigh prob. plot of H COMP6Mx



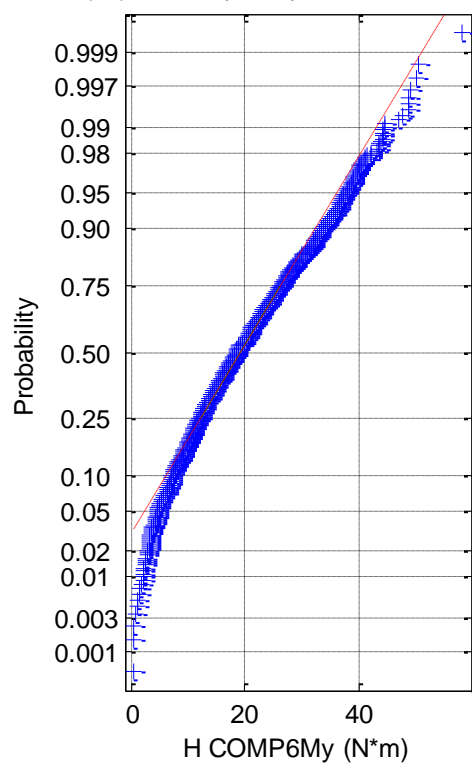
(4d) Weibull prob. plot of H COMP6Mx



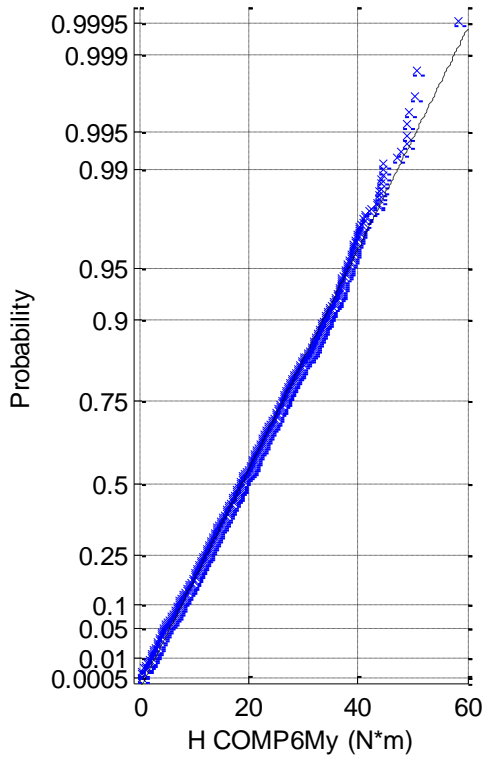
(5a) Histogram of H COMP6My



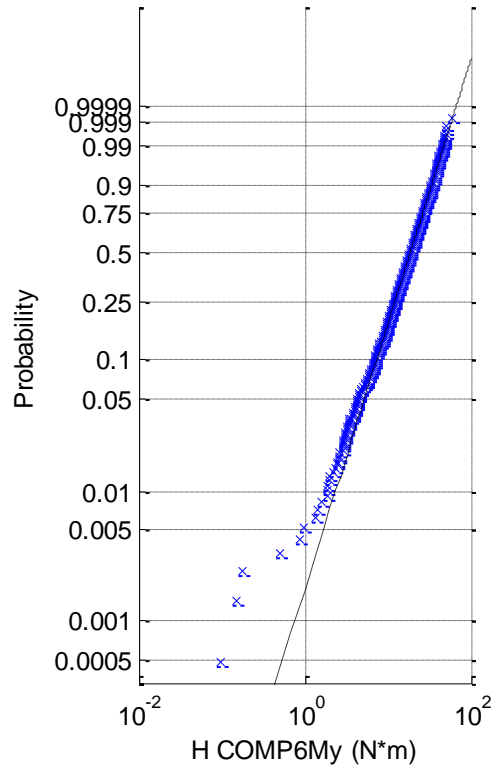
(5b) Normal prob. plot of H COMP6My



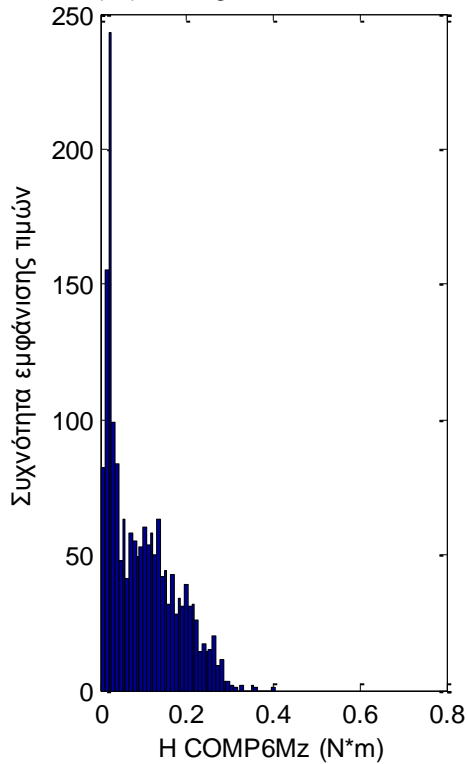
(5c) Rayleigh prob. plot of H COMP6My



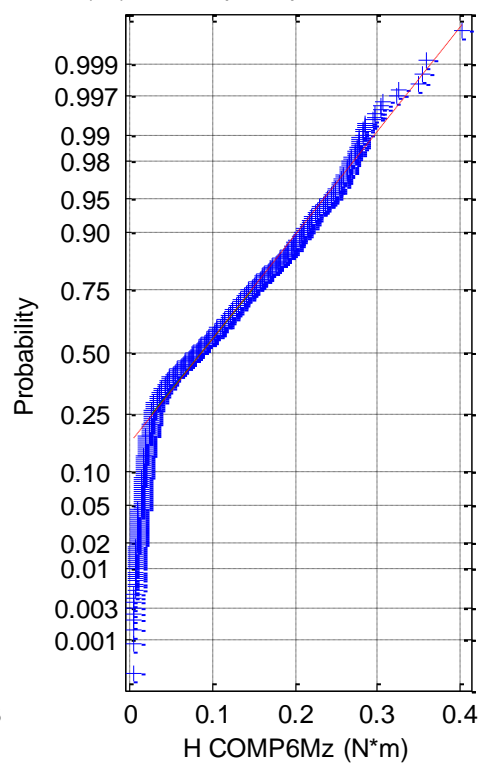
(5d) Weibull prob. plot of H COMP6My

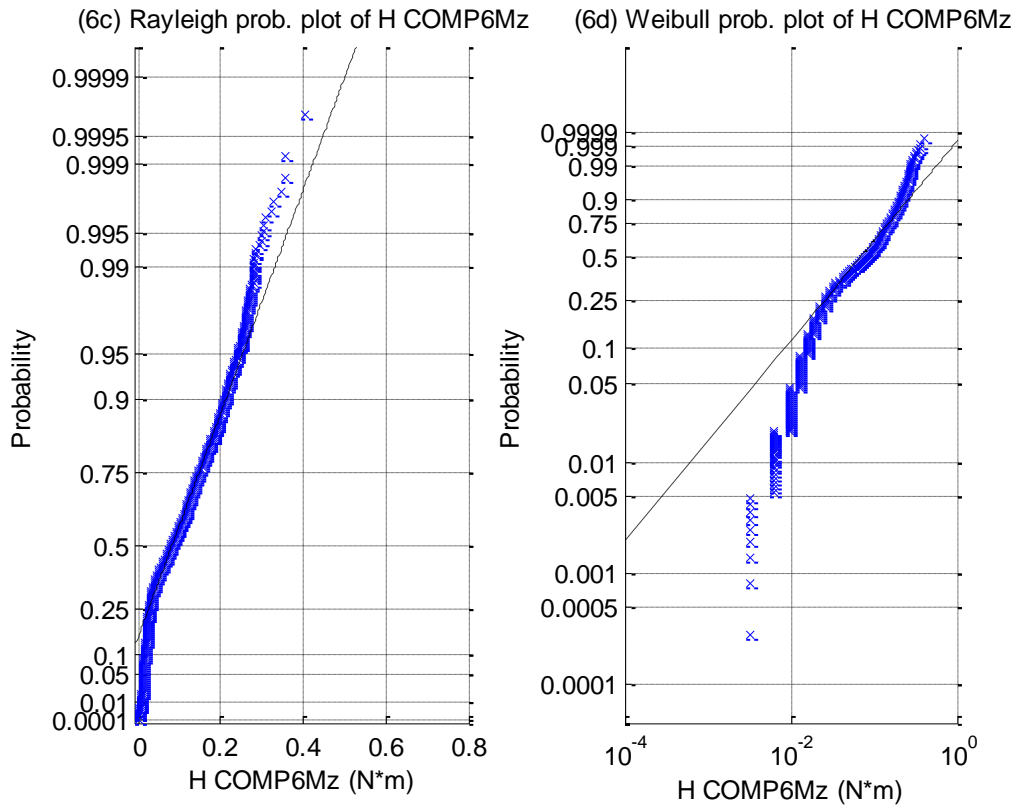


(6a) Histogram of H COMP6Mz

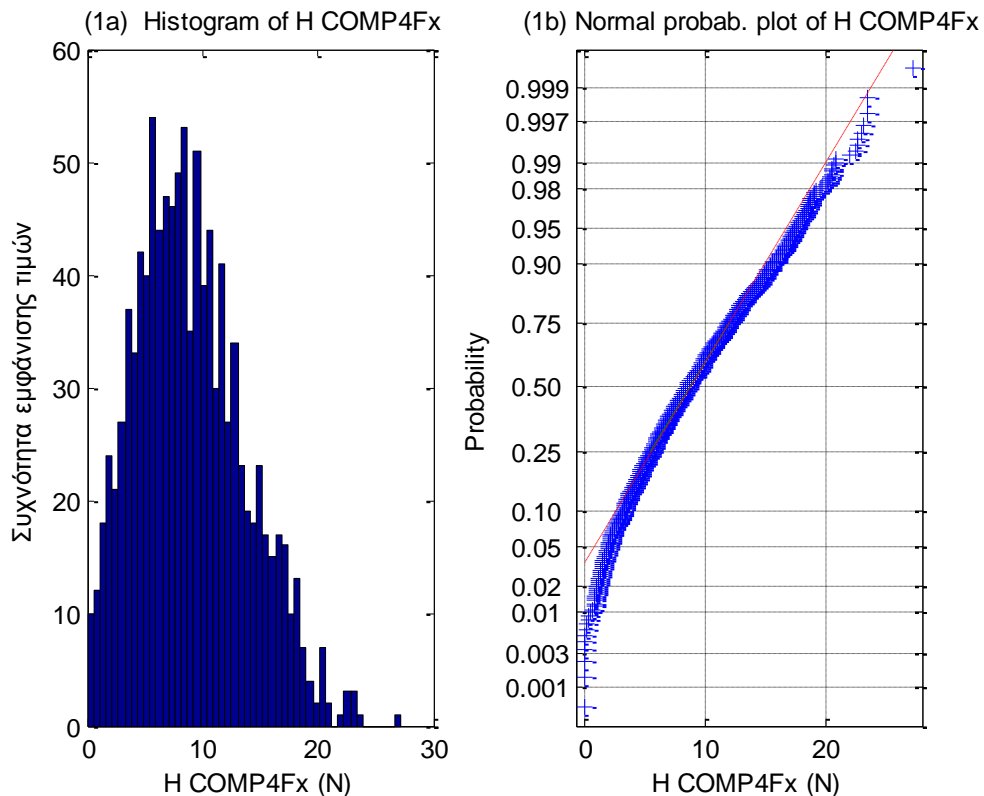


(6b) Normal prob. plot of H COMP6Mz

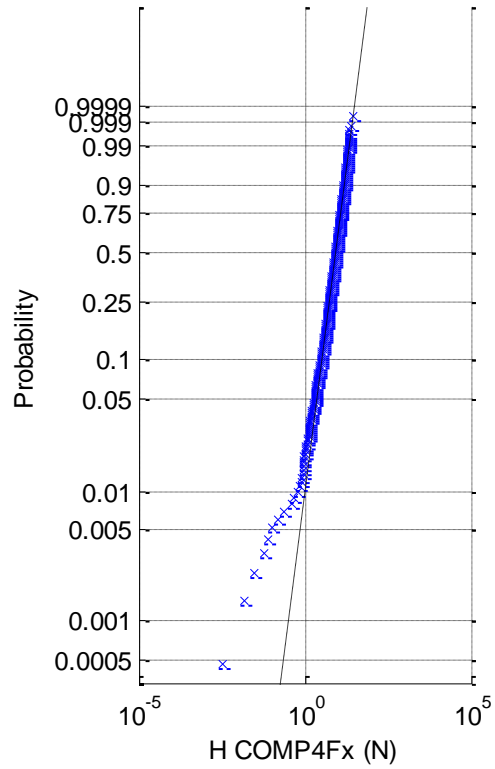
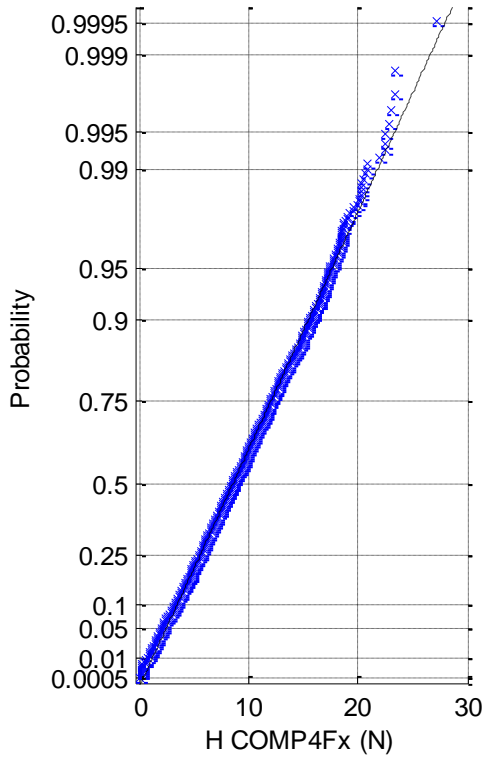




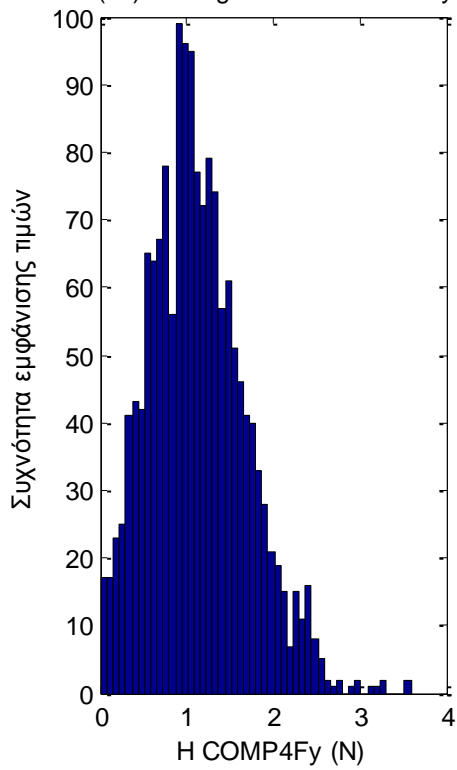
**Σχήματα 2.4.6.2 (1-6)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



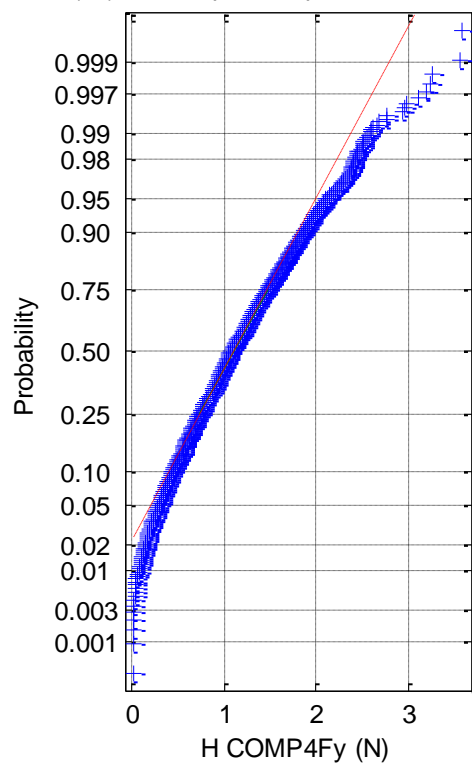
(1c) Rayleigh probab. plot of H COMP4Fx (1d) Weibull probab. plot of H COMP4Fx



(2a) Histogram of H COMP4Fy

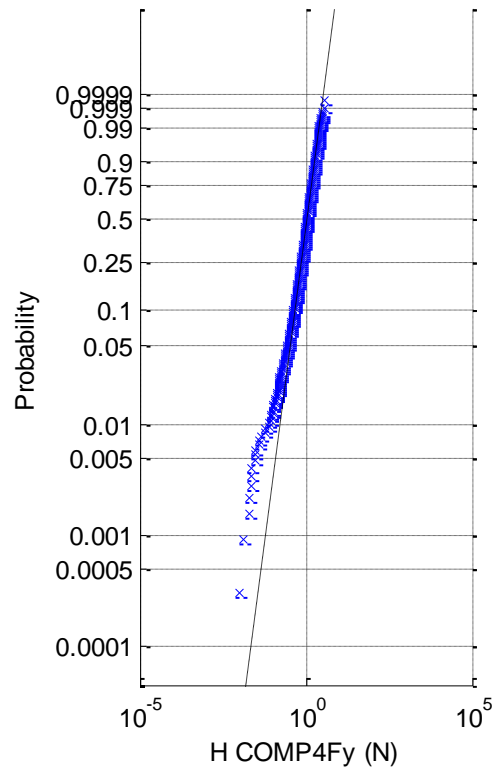
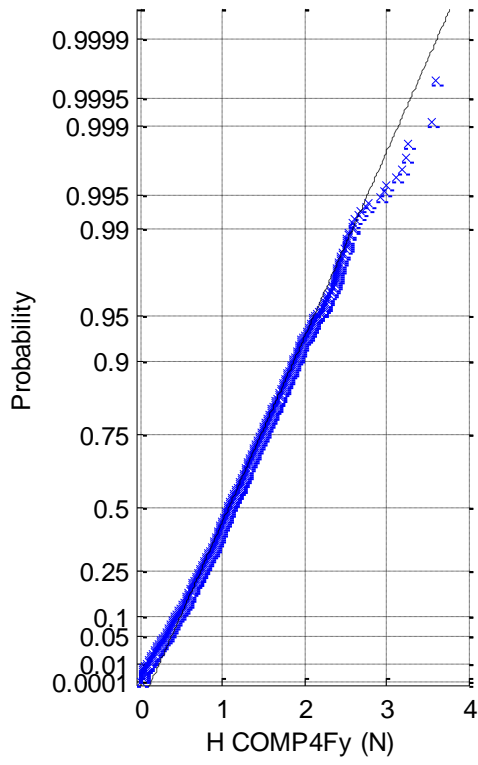


(2b) Normal probab. plot of H COMP4Fy

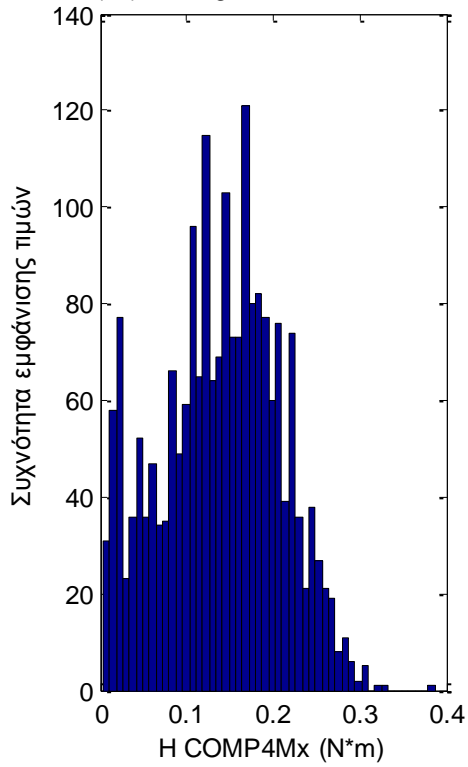




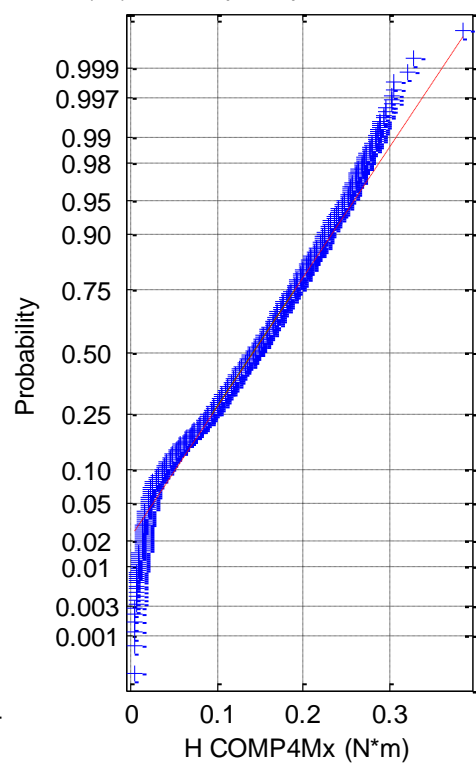
(2c) Rayleigh probab. plot of H COMP4Fy (2d) Weibull probab. plot of H COMP4Fy



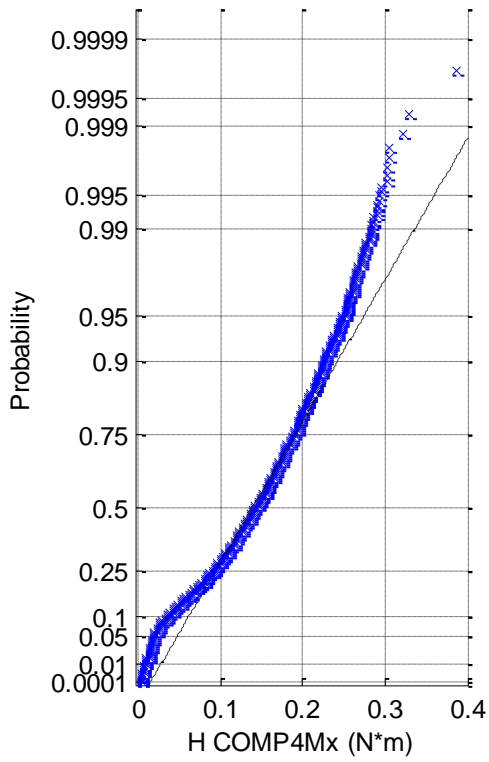
(3a) Histogram of H COMP4Mx



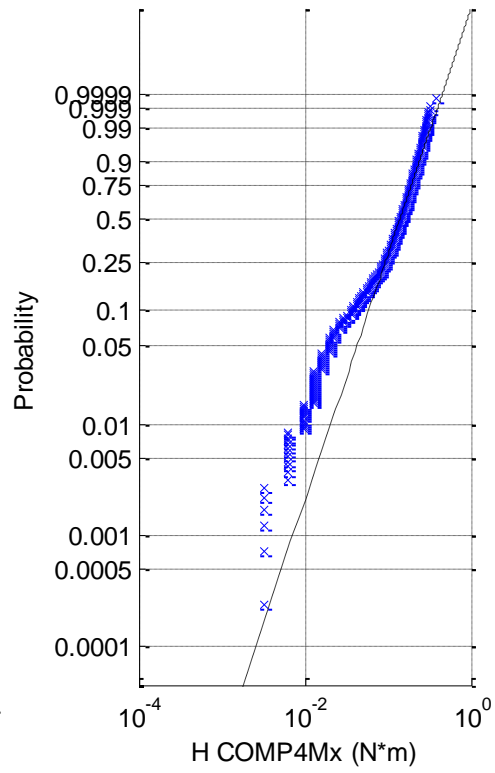
(3b) Normal prob. plot of H COMP4Mx



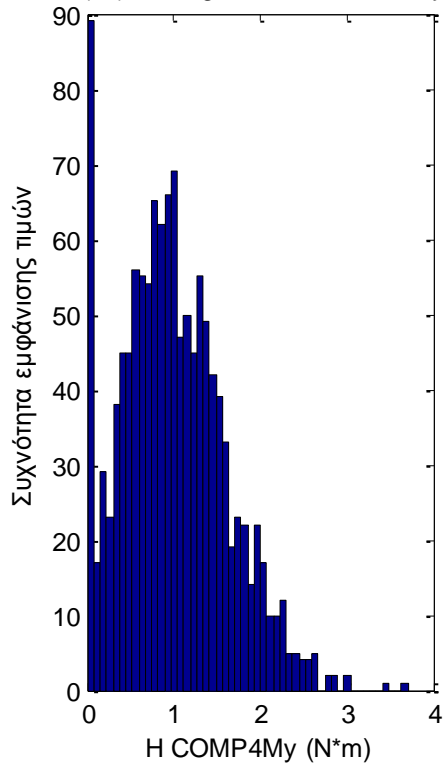
(3c) Rayleigh prob. plot of H COMP4Mx



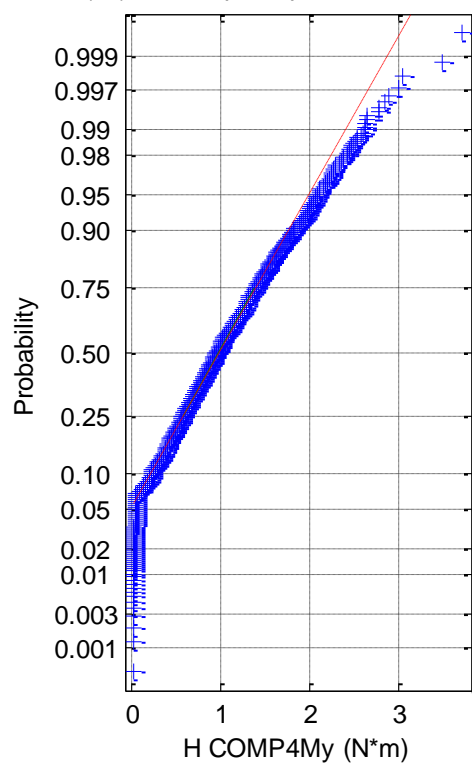
(3d) Weibull prob. plot of H COMP4Mx

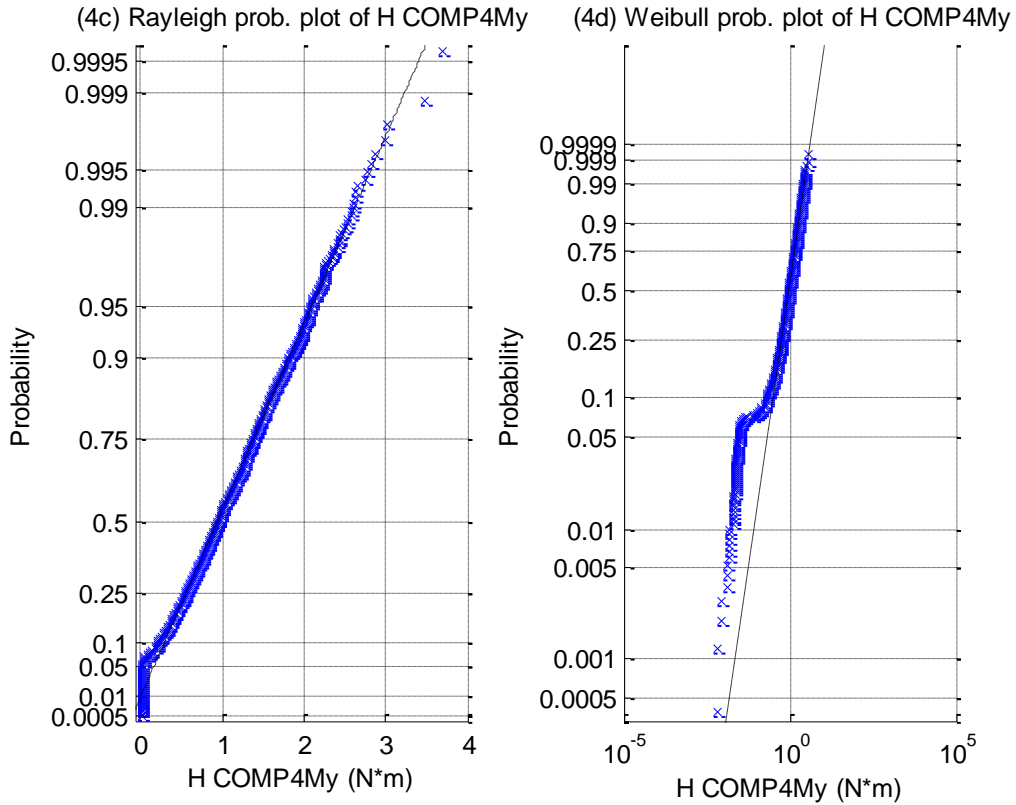


(4a) Histogram of H COMP4My

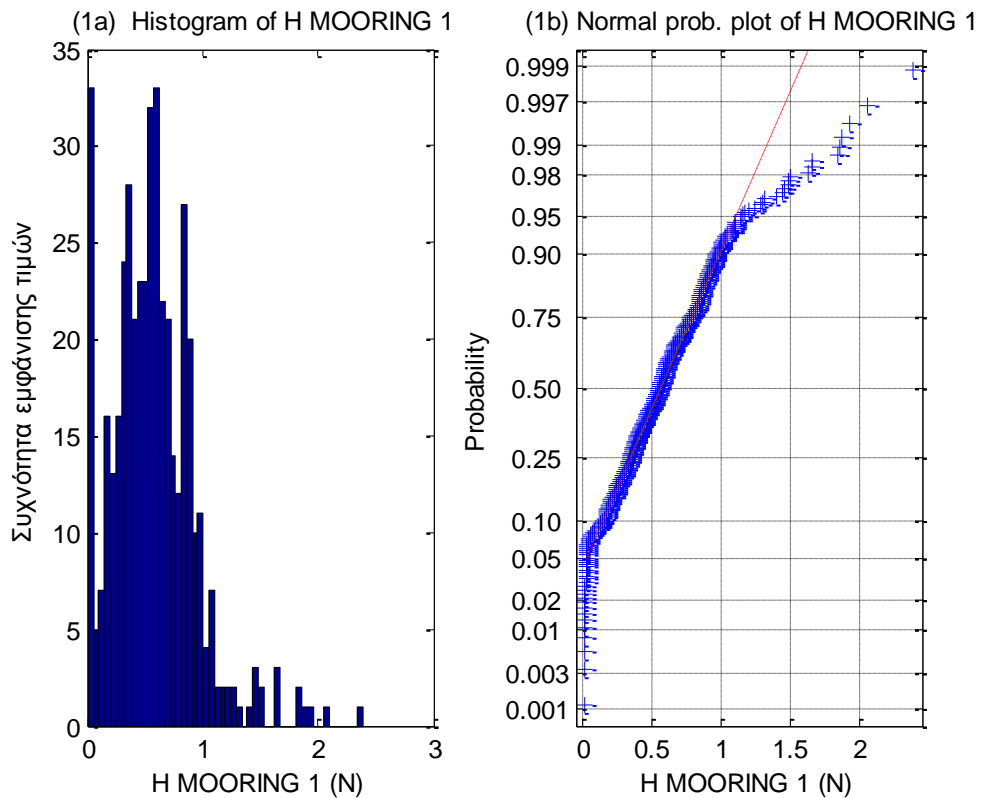


(4b) Normal prob. plot of H COMP4My

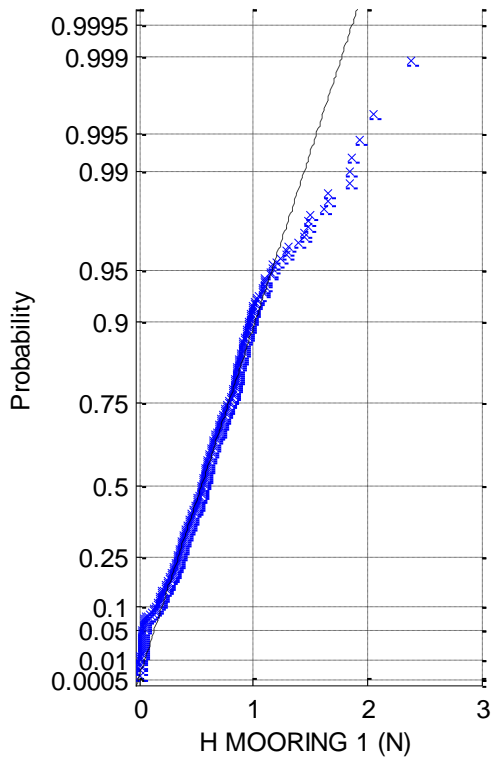




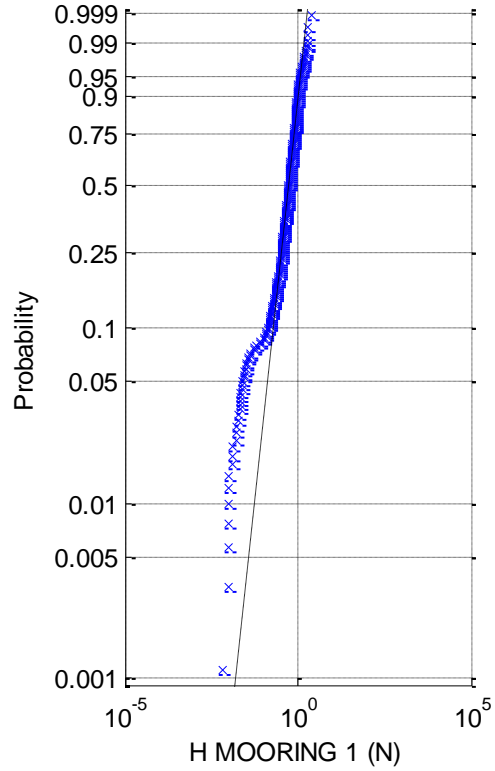
**Σχήματα 2.4.6.3 (1-4)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



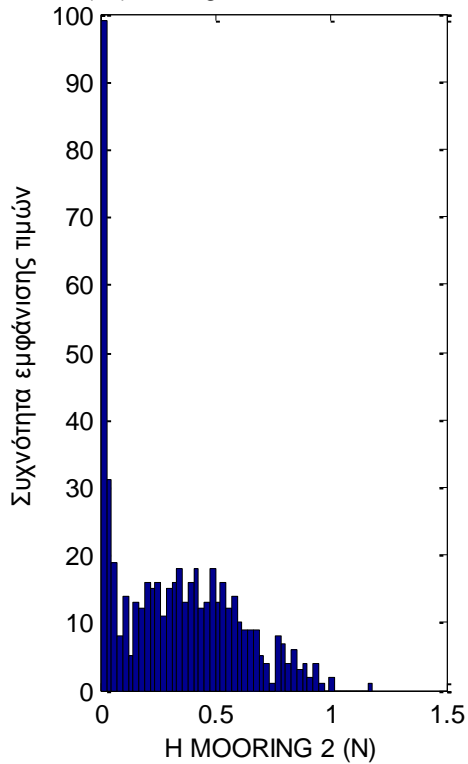
(1c) Rayleigh prob. plot of H MOORING 1



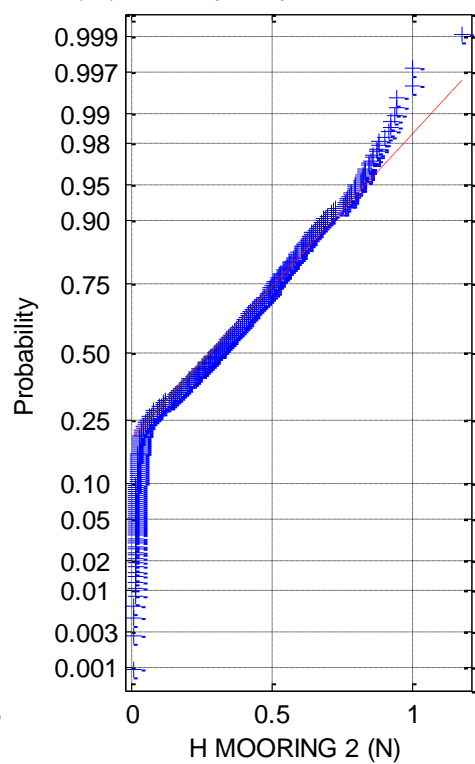
(1d) Weibull prob. plot of H MOORING 1



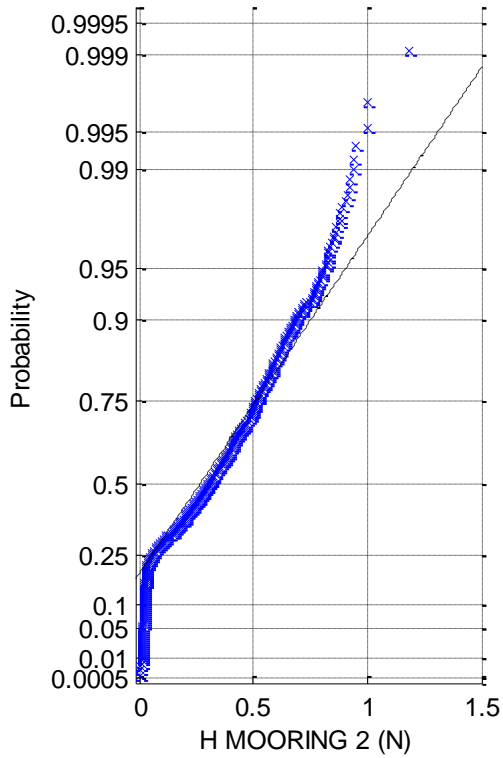
(2a) Histogram of H MOORING 2



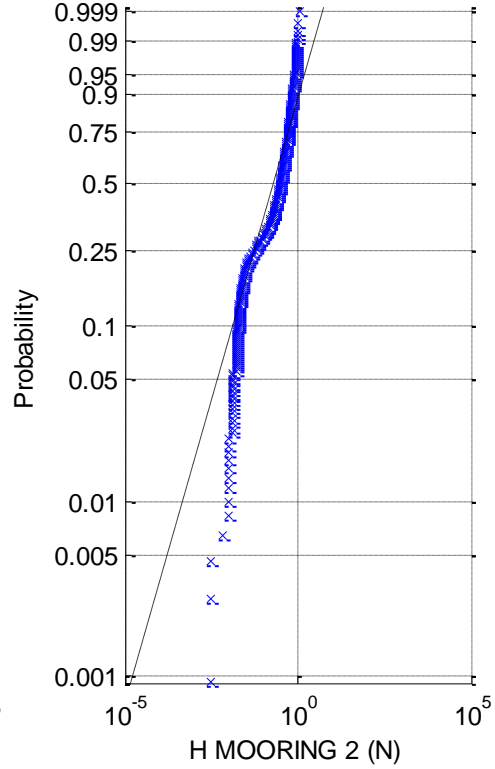
(2b) Normal prob. plot of H MOORING 2



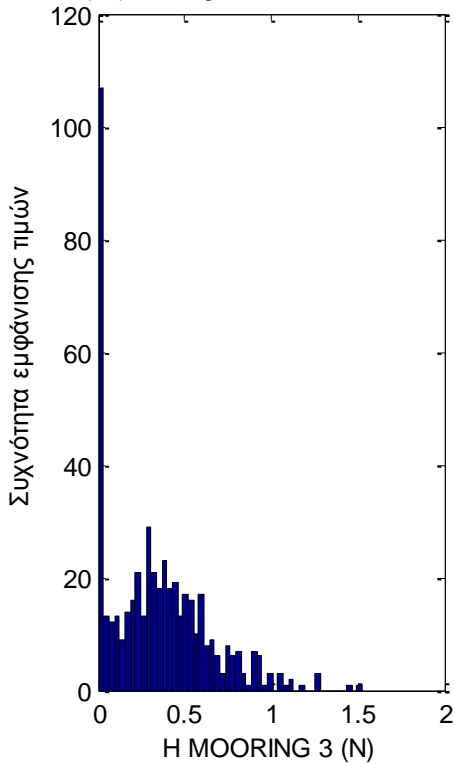
(2c) Rayleigh prob. plot of H MOORING 2



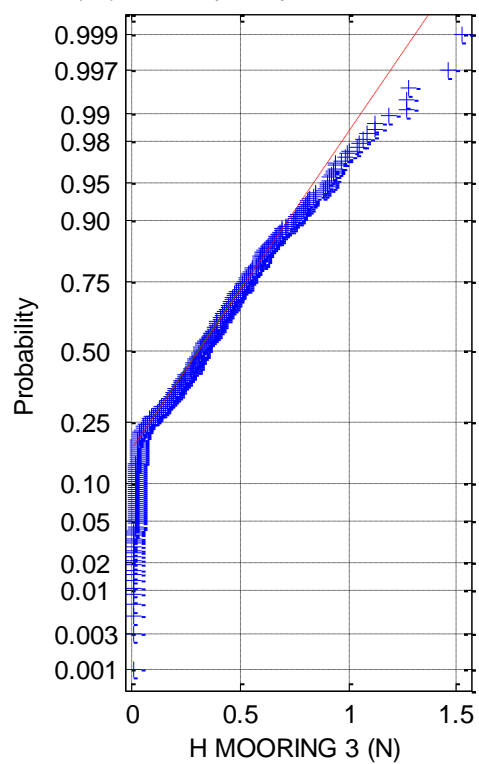
(2d) Weibull prob. plot of H MOORING 2

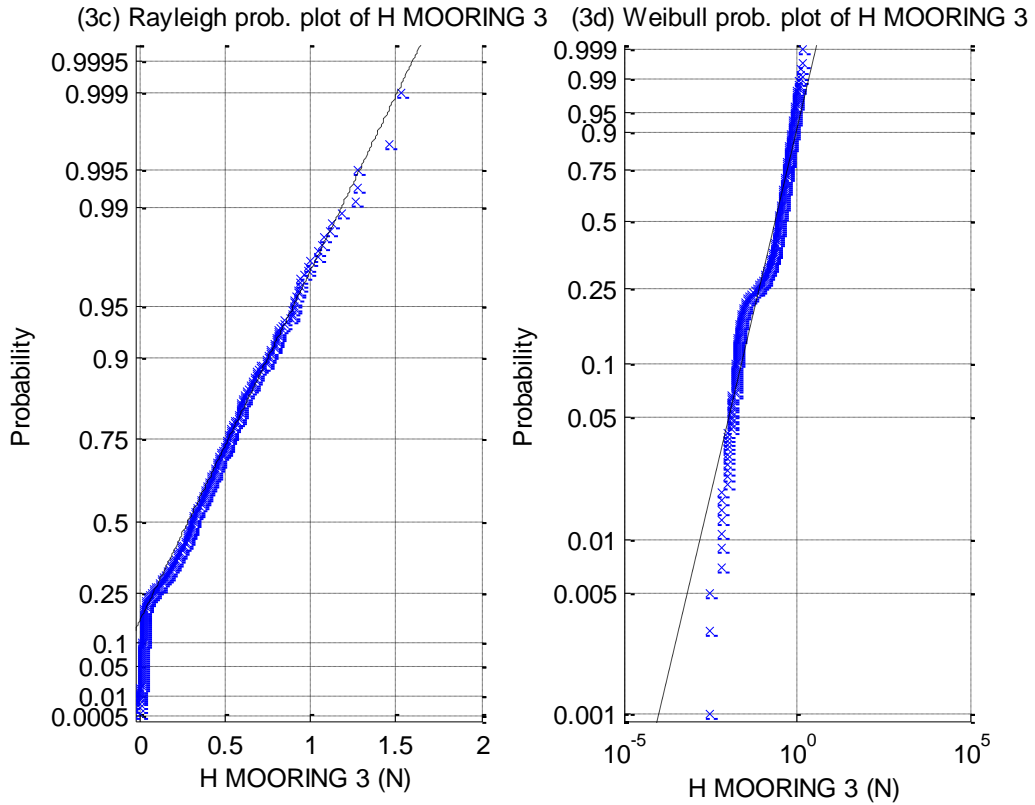


(3a) Histogram of H MOORING 3

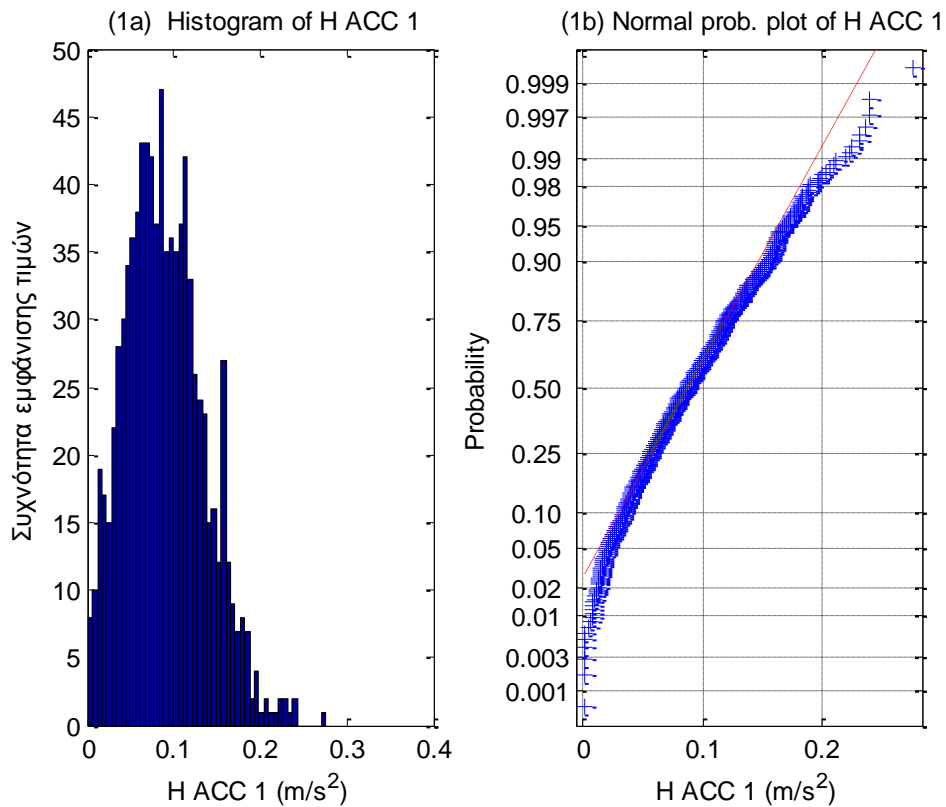


(3b) Normal prob. plot of H MOORING 3

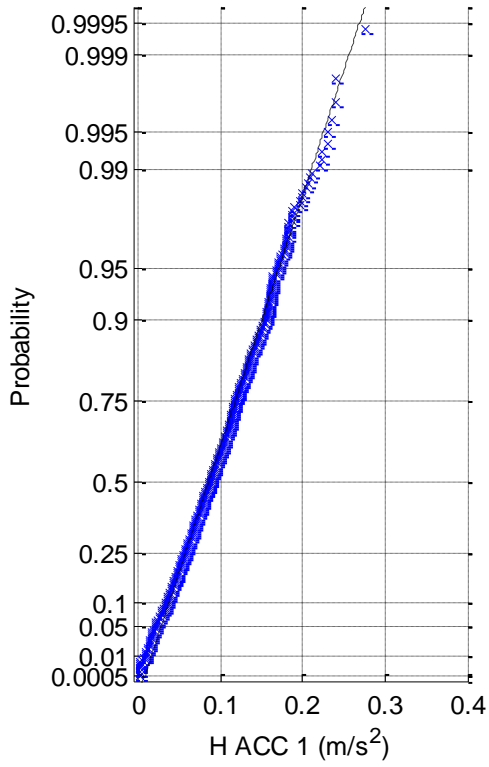




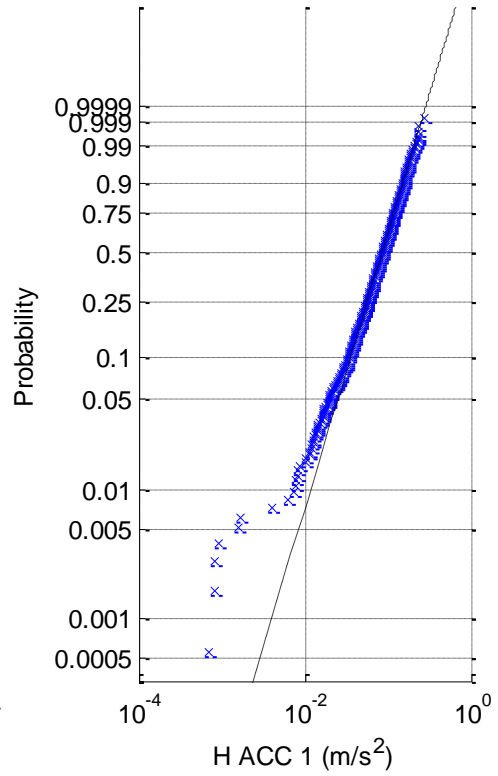
**Σχήματα 2.4.6.4 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



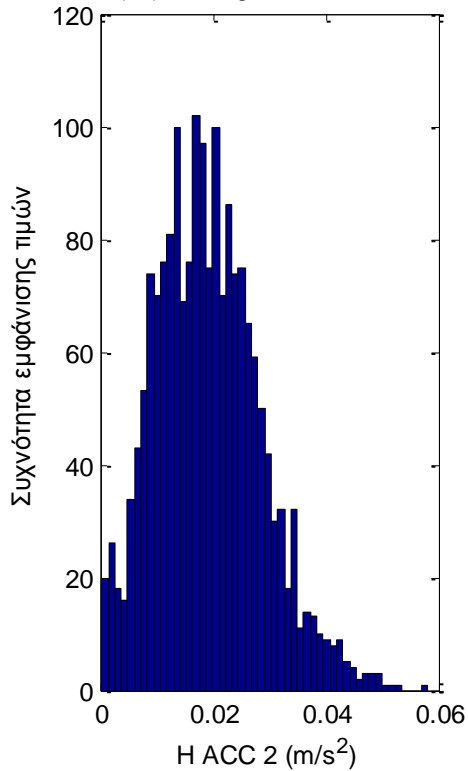
(1c) Rayleigh prob. plot of H ACC 1



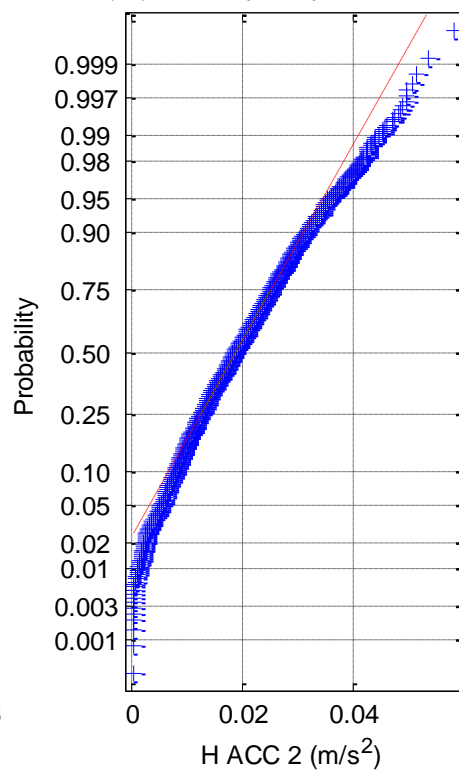
(1d) Weibull prob. plot of H ACC 1



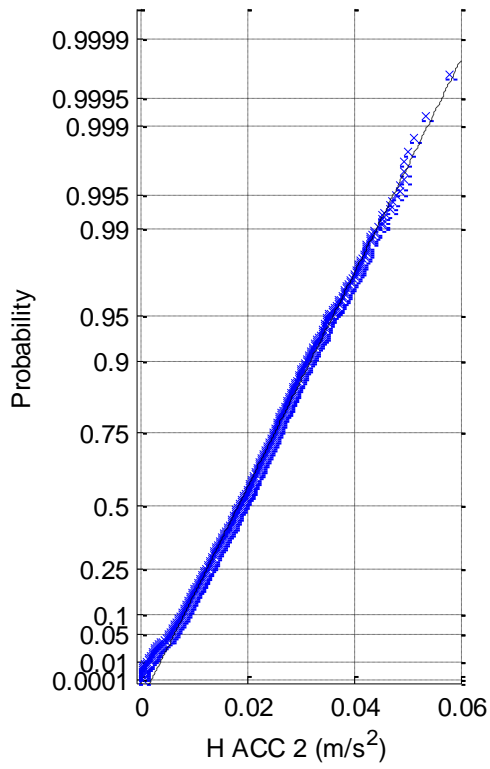
(2a) Histogram of H ACC 2



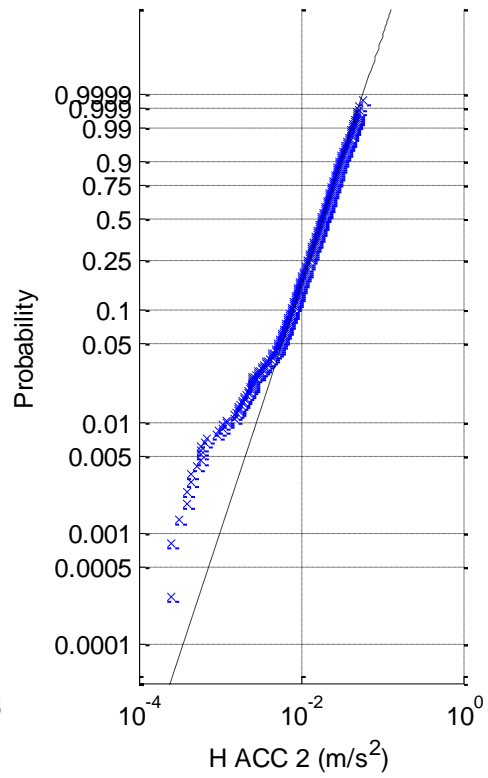
(2b) Normal prob. plot of H ACC 2



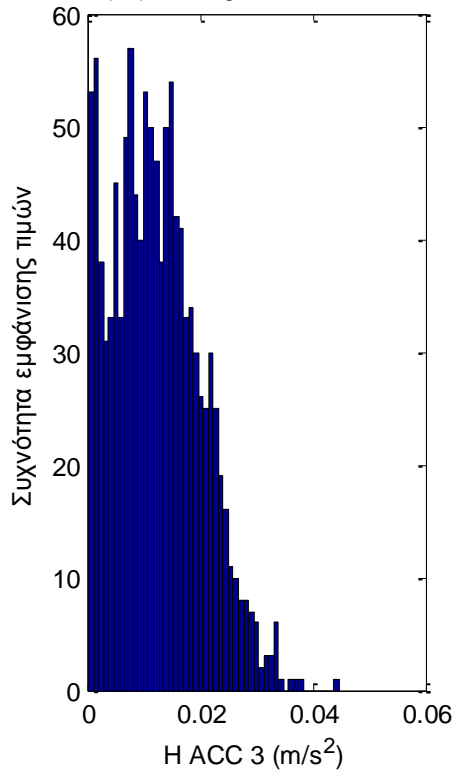
(2c) Rayleigh prob. plot of H ACC 2



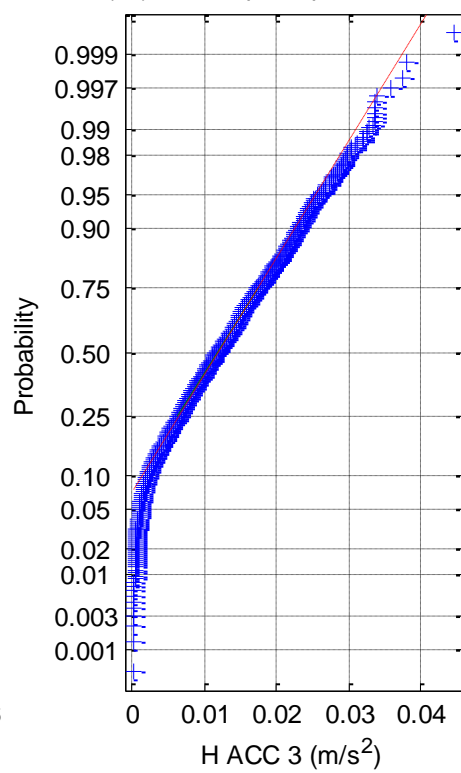
(2d) Weibull prob. plot of H ACC 2



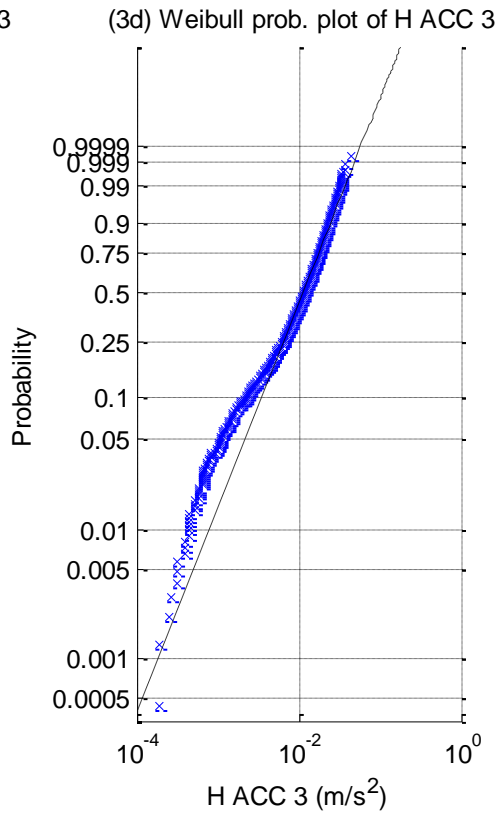
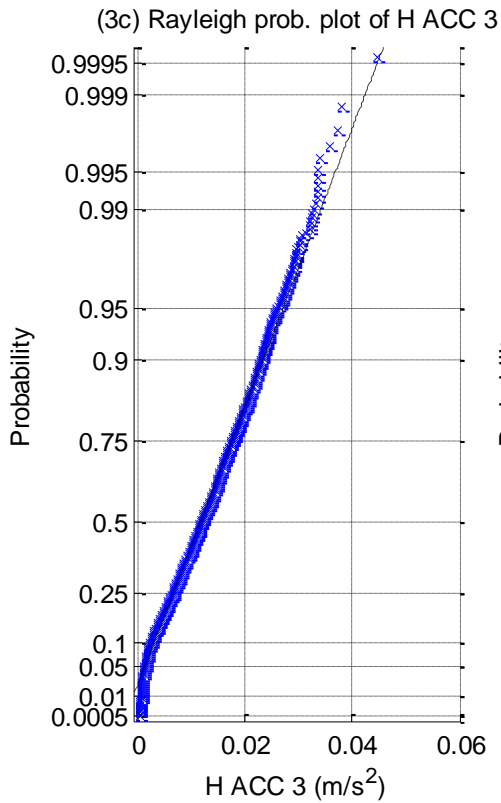
(3a) Histogram of H ACC 3



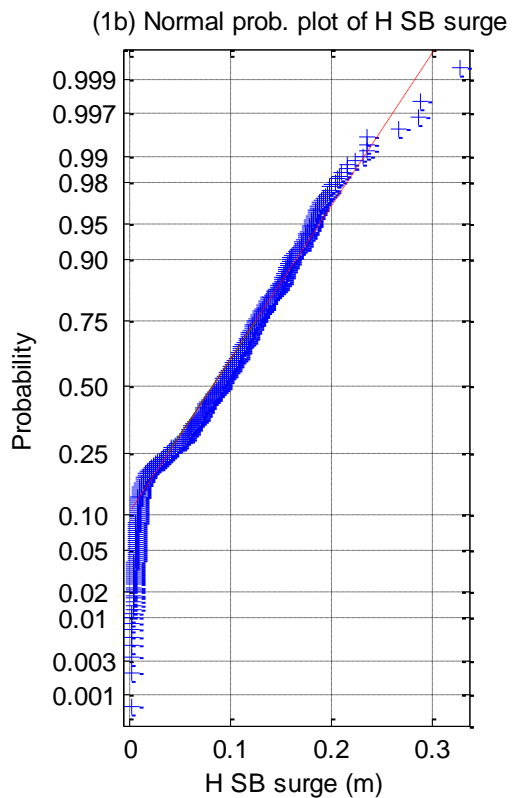
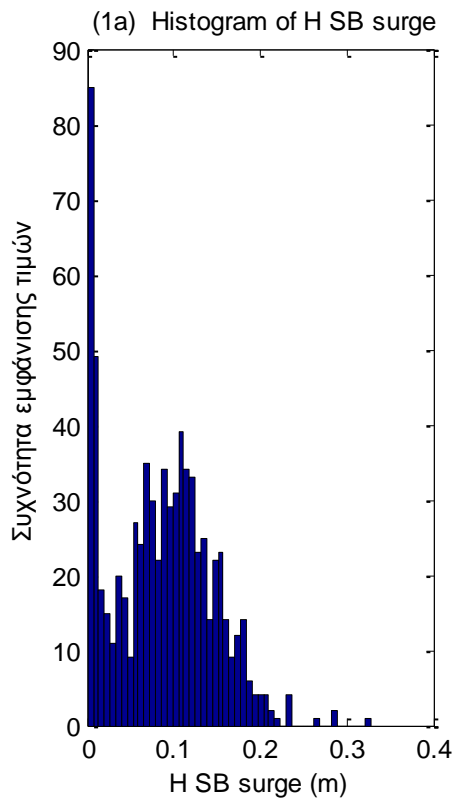
(3b) Normal prob. plot of H ACC 3



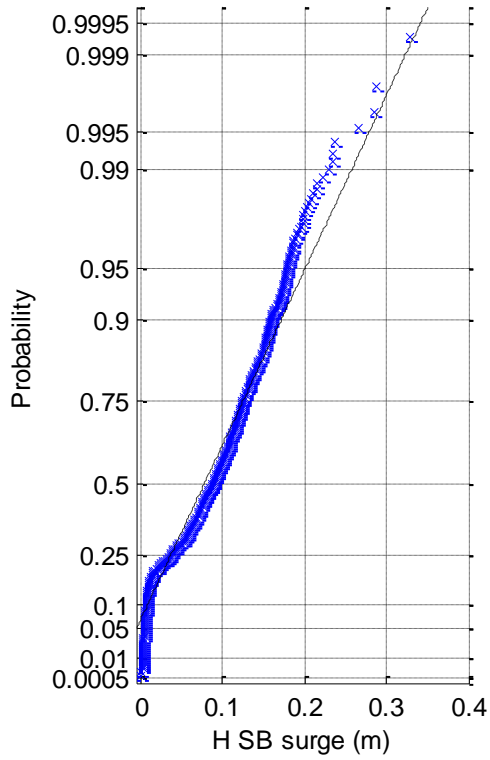




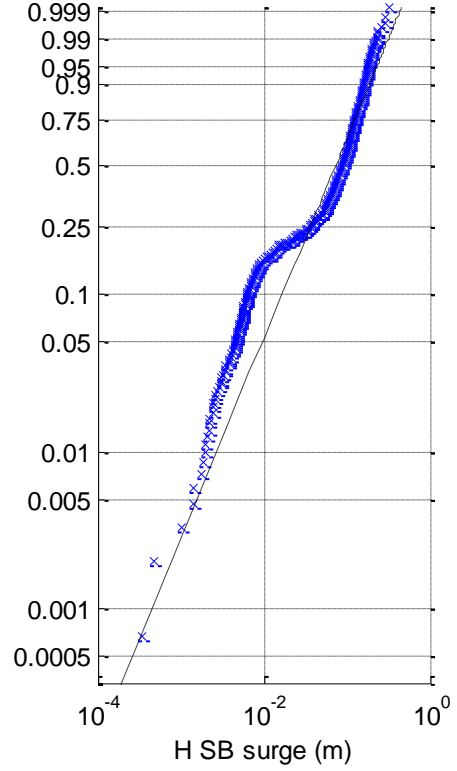
**Σχήματα 2.4.6.5 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



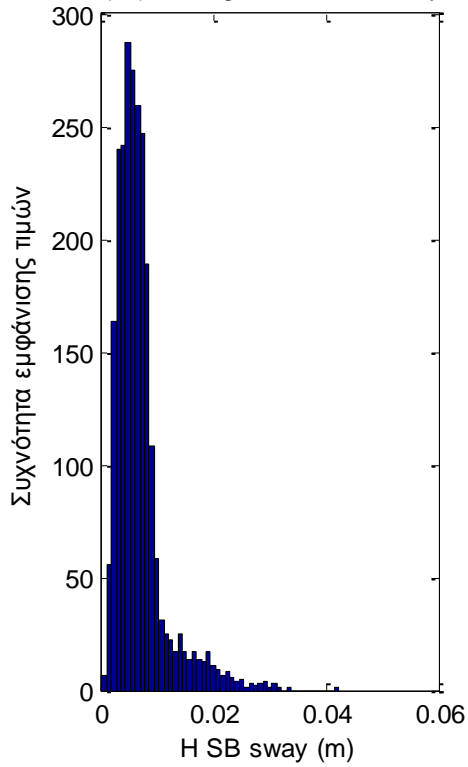
(1c) Rayleigh prob. plot of H SB surge



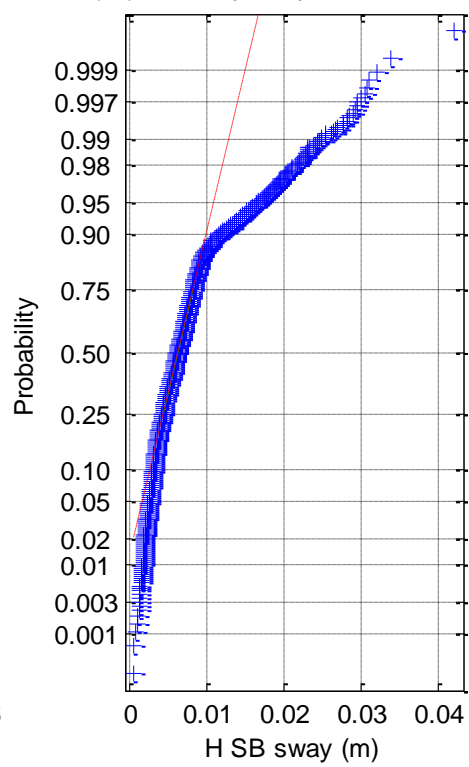
(1d) Weibull prob. plot of H SB surge



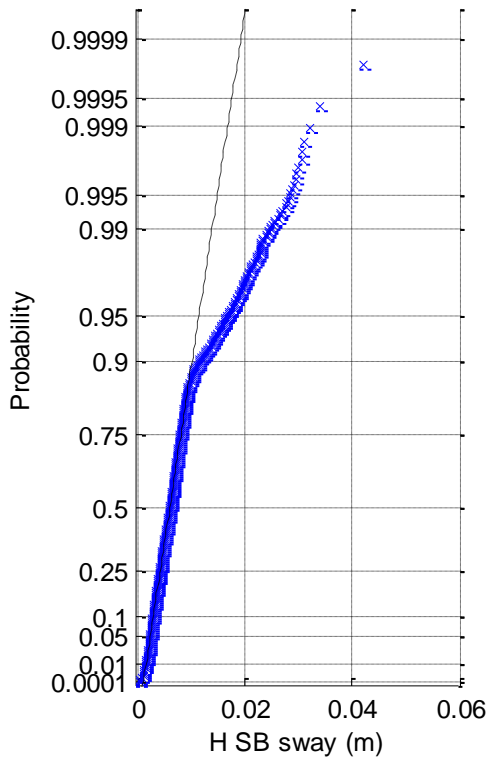
(2a) Histogram of H SB sway



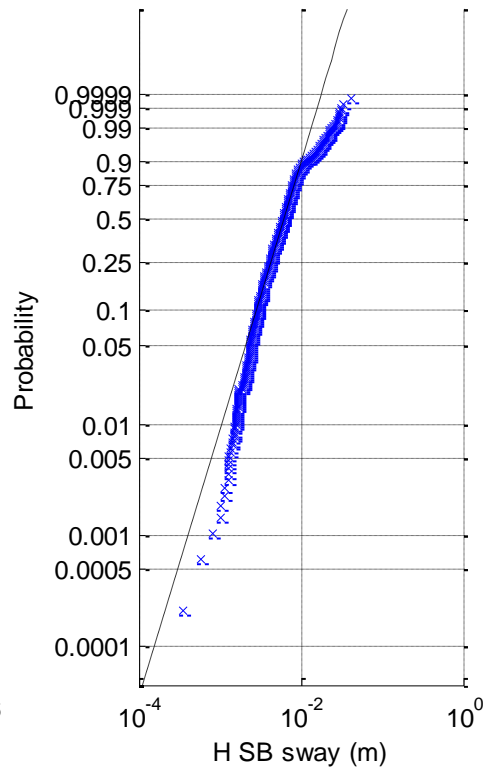
(2b) Normal prob. plot of H SB sway



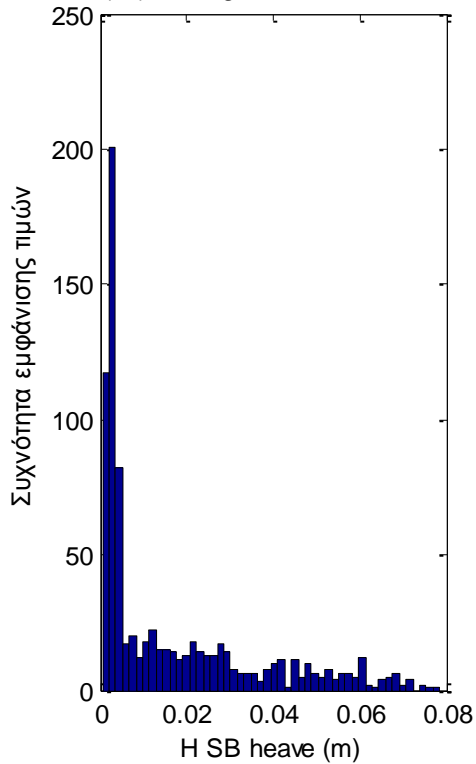
(2c) Rayleigh prob. plot of H SB sway



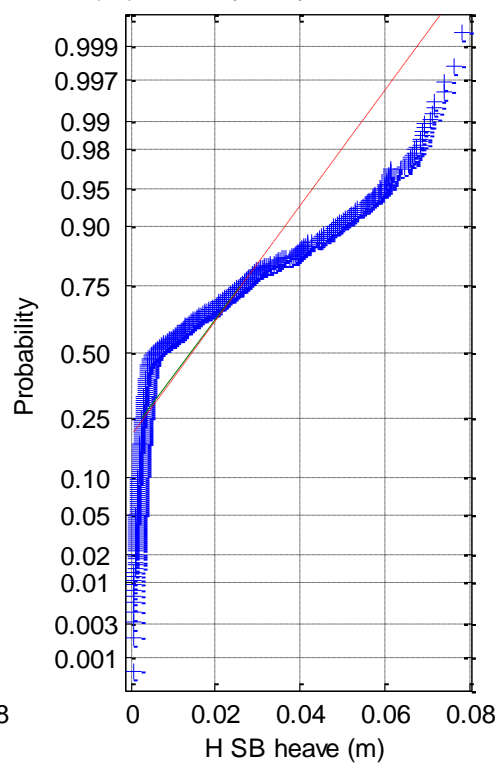
(2d) Weibull prob. plot of H SB sway



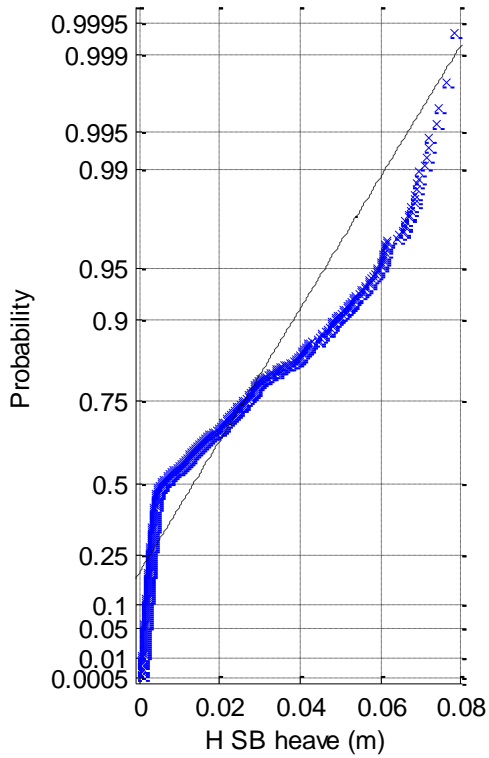
(3a) Histogram of H SB heave



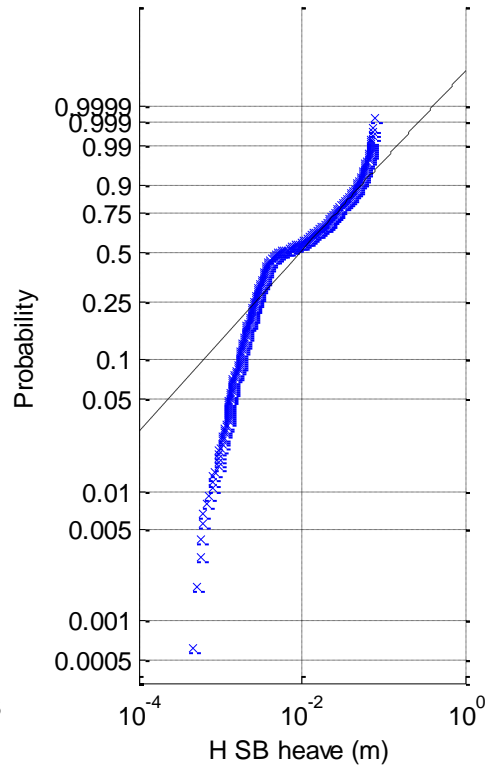
(3b) Normal prob. plot of H SB heave



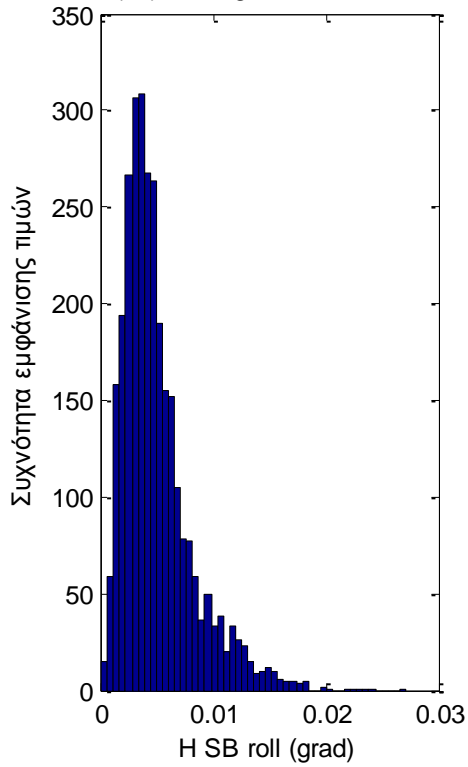
(3c) Rayleigh prob. plot of H SB heave



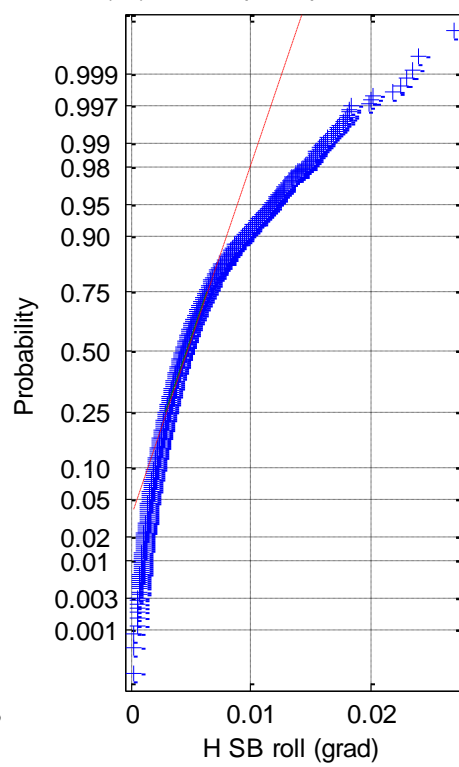
(3d) Weibull prob. plot of H SB heave



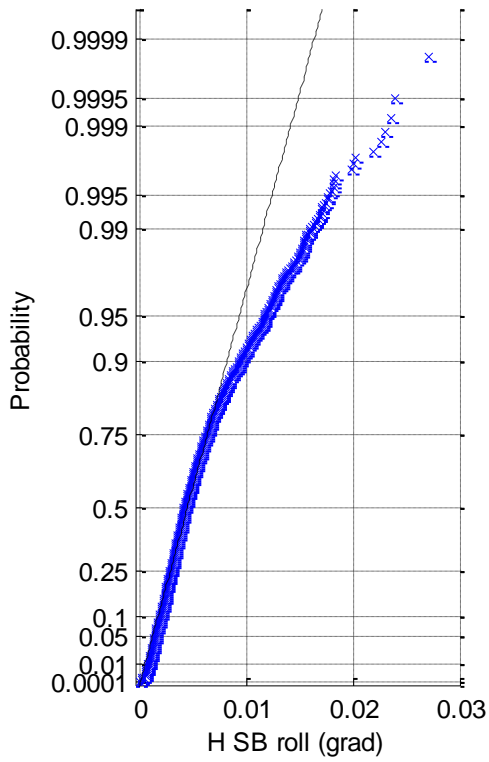
(4a) Histogram of H SB roll



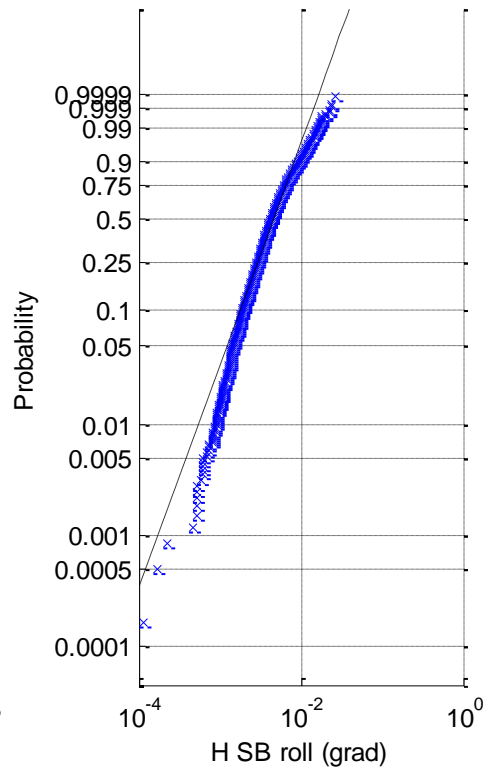
(4b) Normal prob. plot of H SB roll



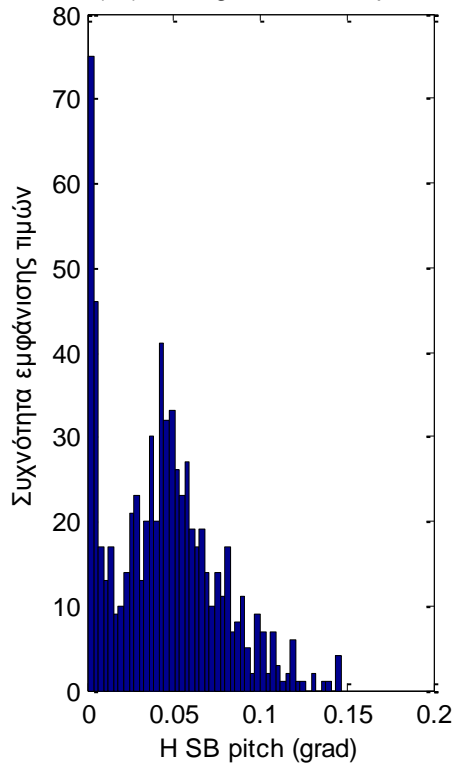
(4c) Rayleigh prob. plot of H SB roll



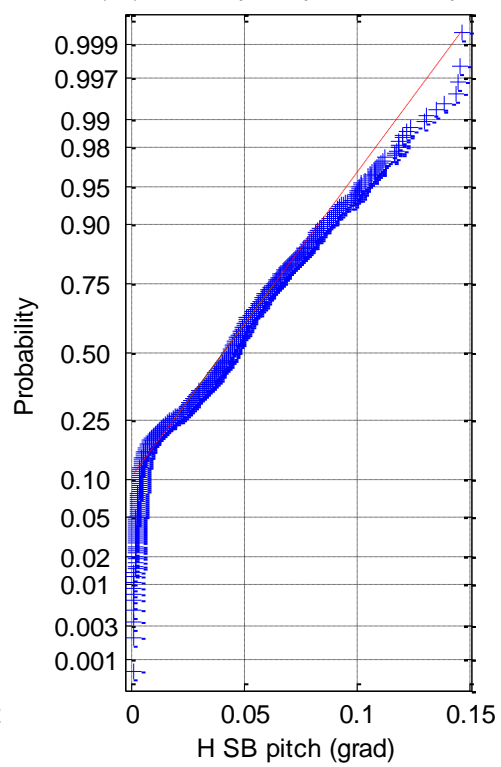
(4d) Weibull prob. plot of H SB roll



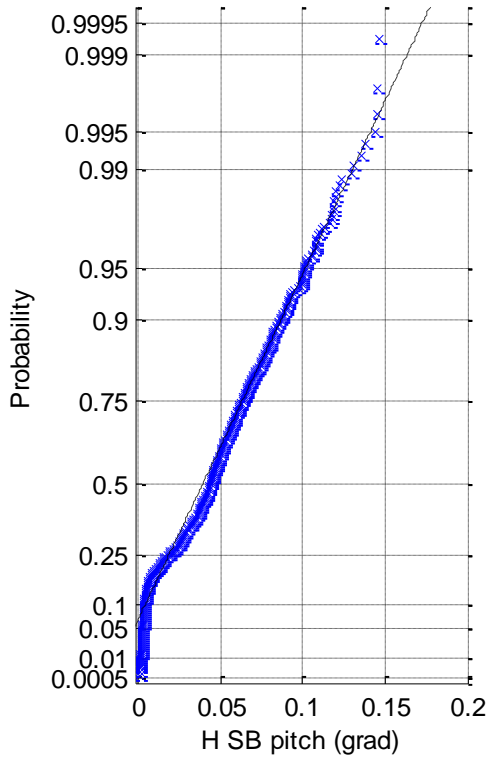
(5a) Histogram of H SB pitch



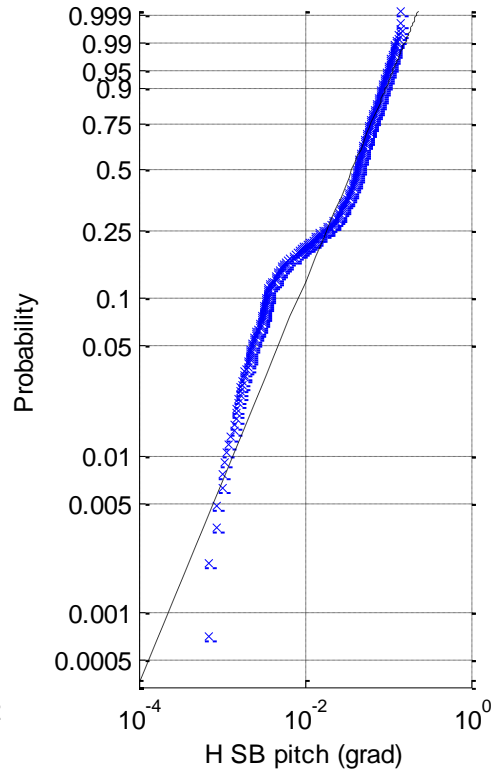
(5b) Normal prob. plot of H SB pitch



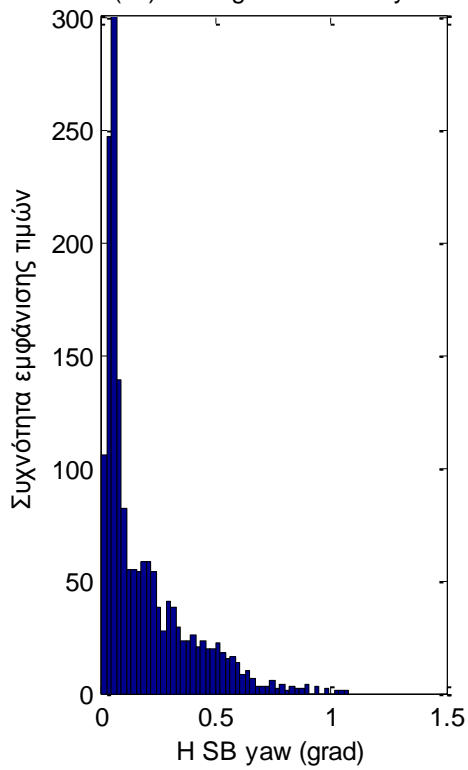
(5c) Rayleigh prob. plot of H SB pitch



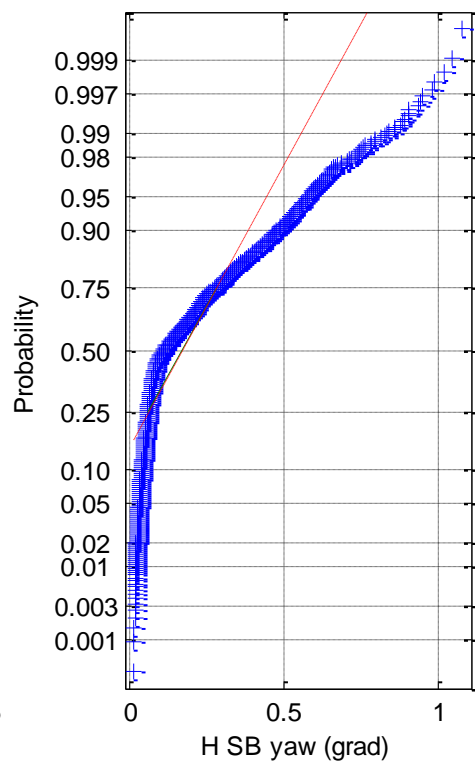
(5d) Weibull prob. plot of H SB pitch

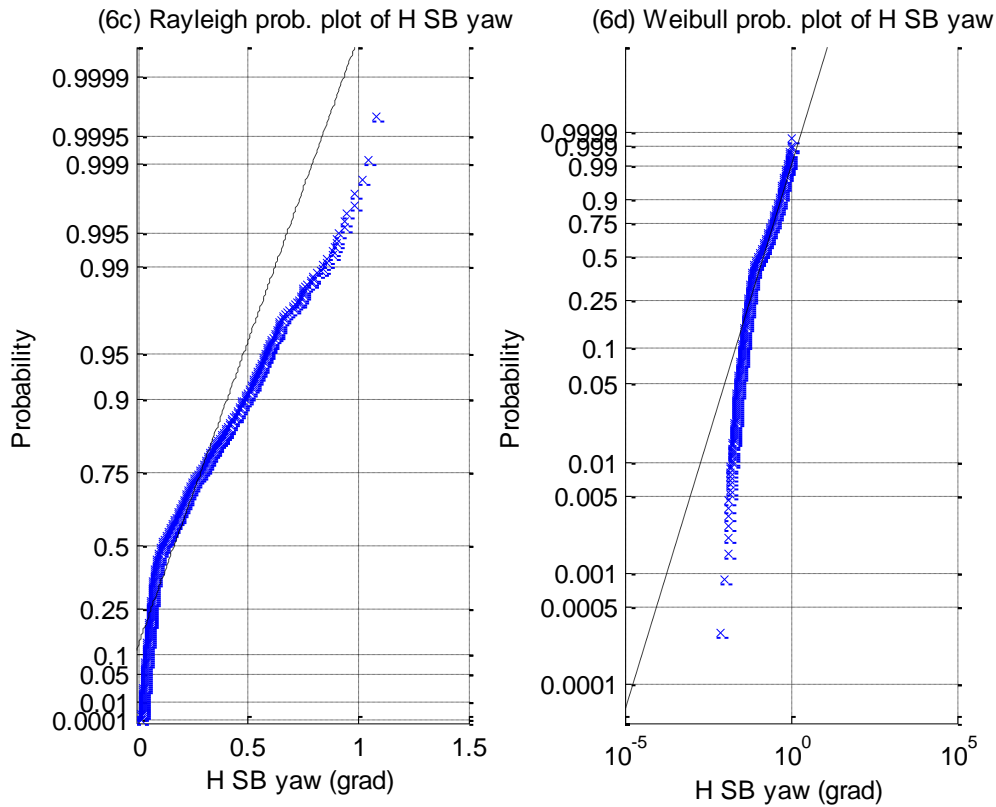


(6a) Histogram of H SB yaw

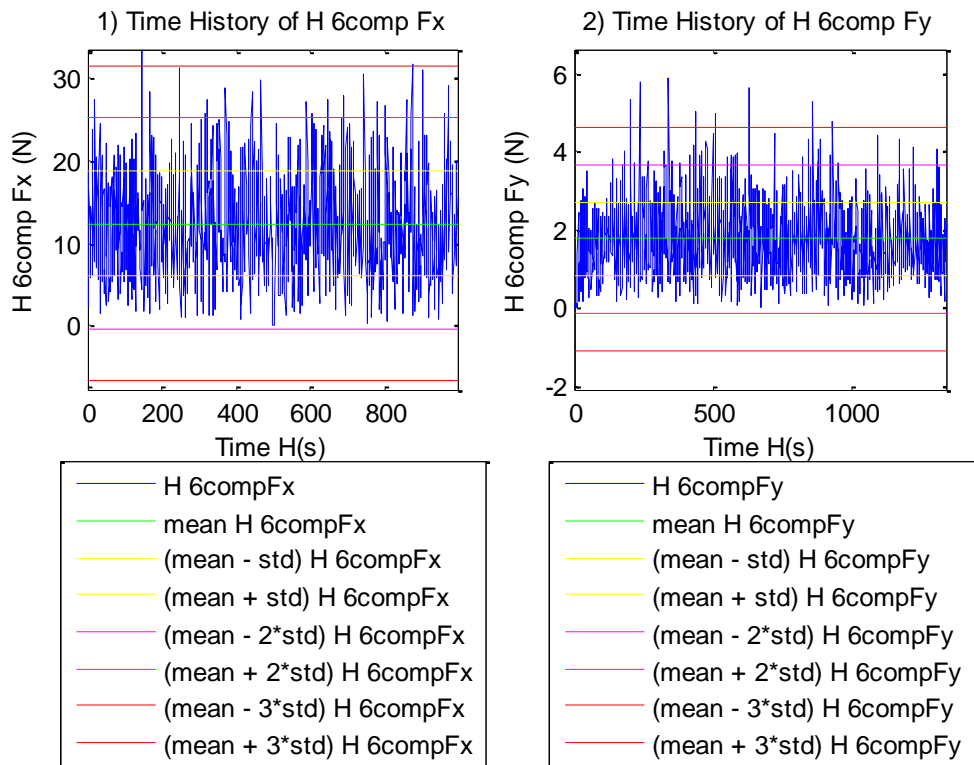


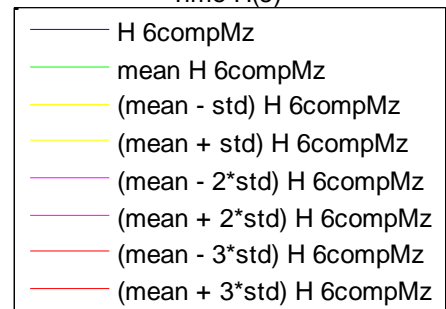
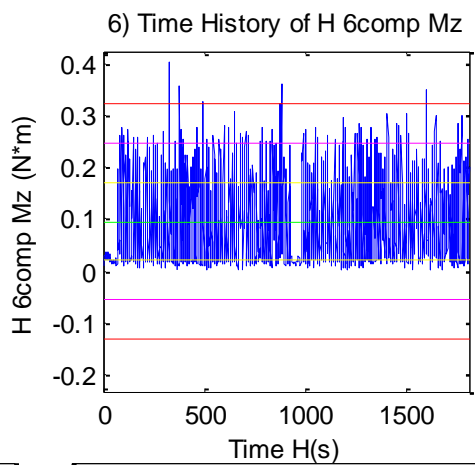
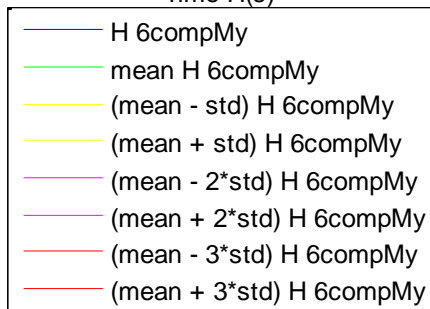
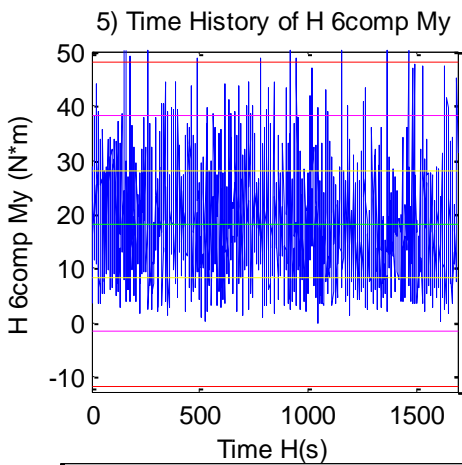
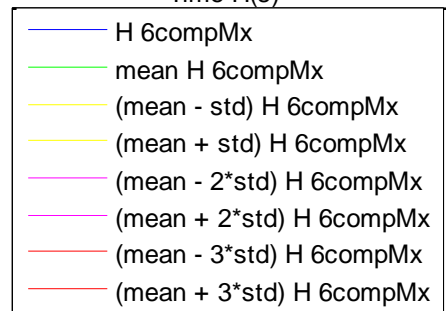
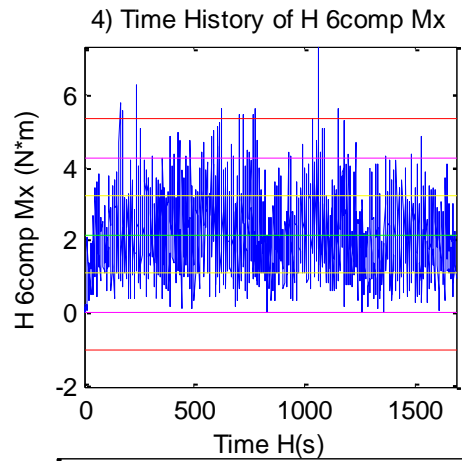
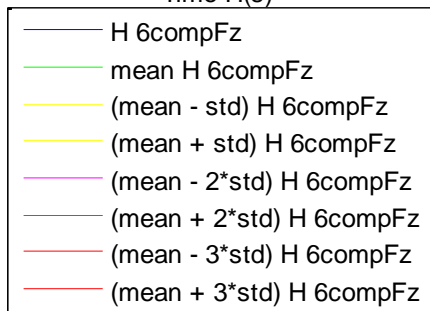
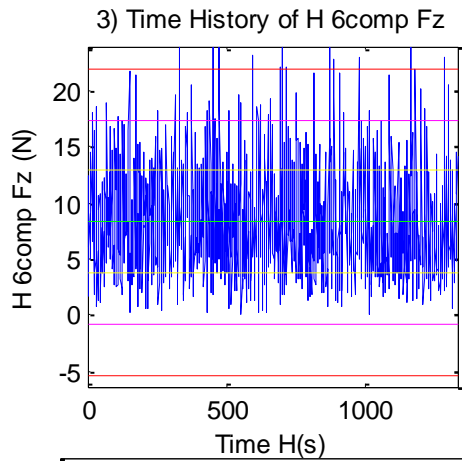
(6b) Normal prob. plot of H SB yaw





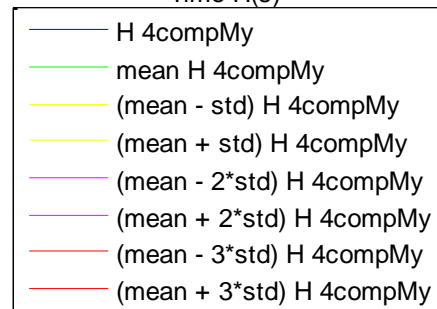
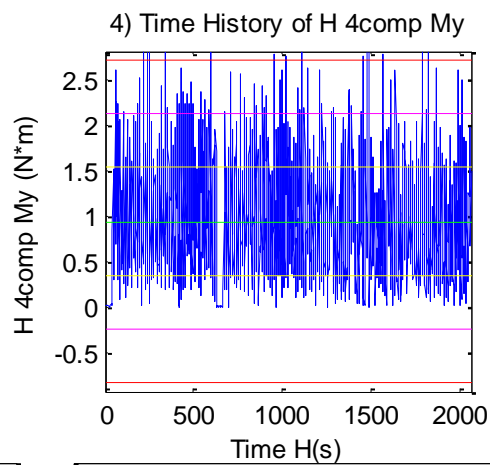
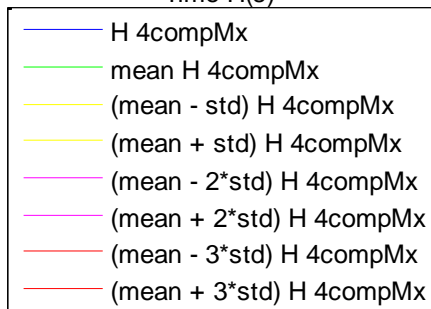
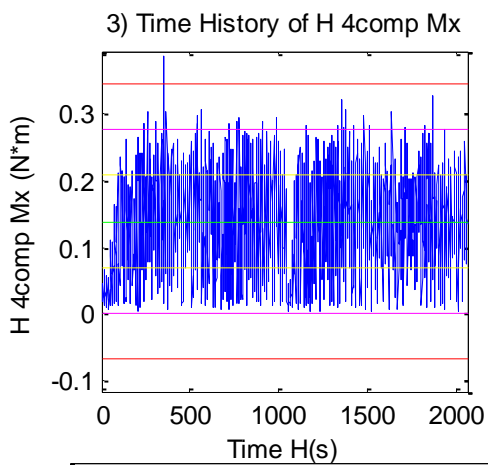
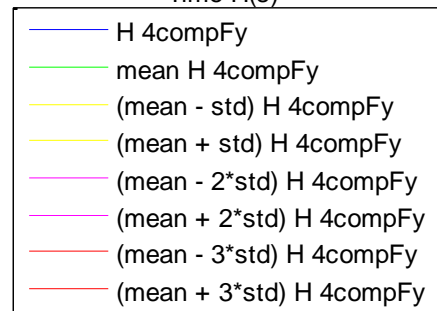
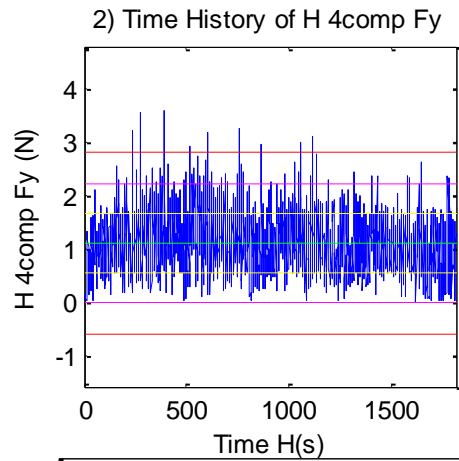
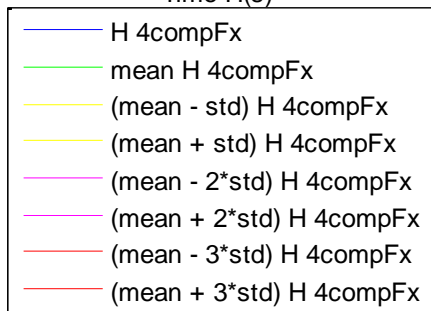
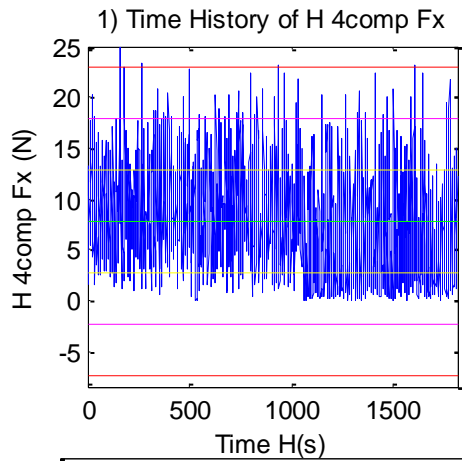
**Σχήματα 2.4.6.6 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



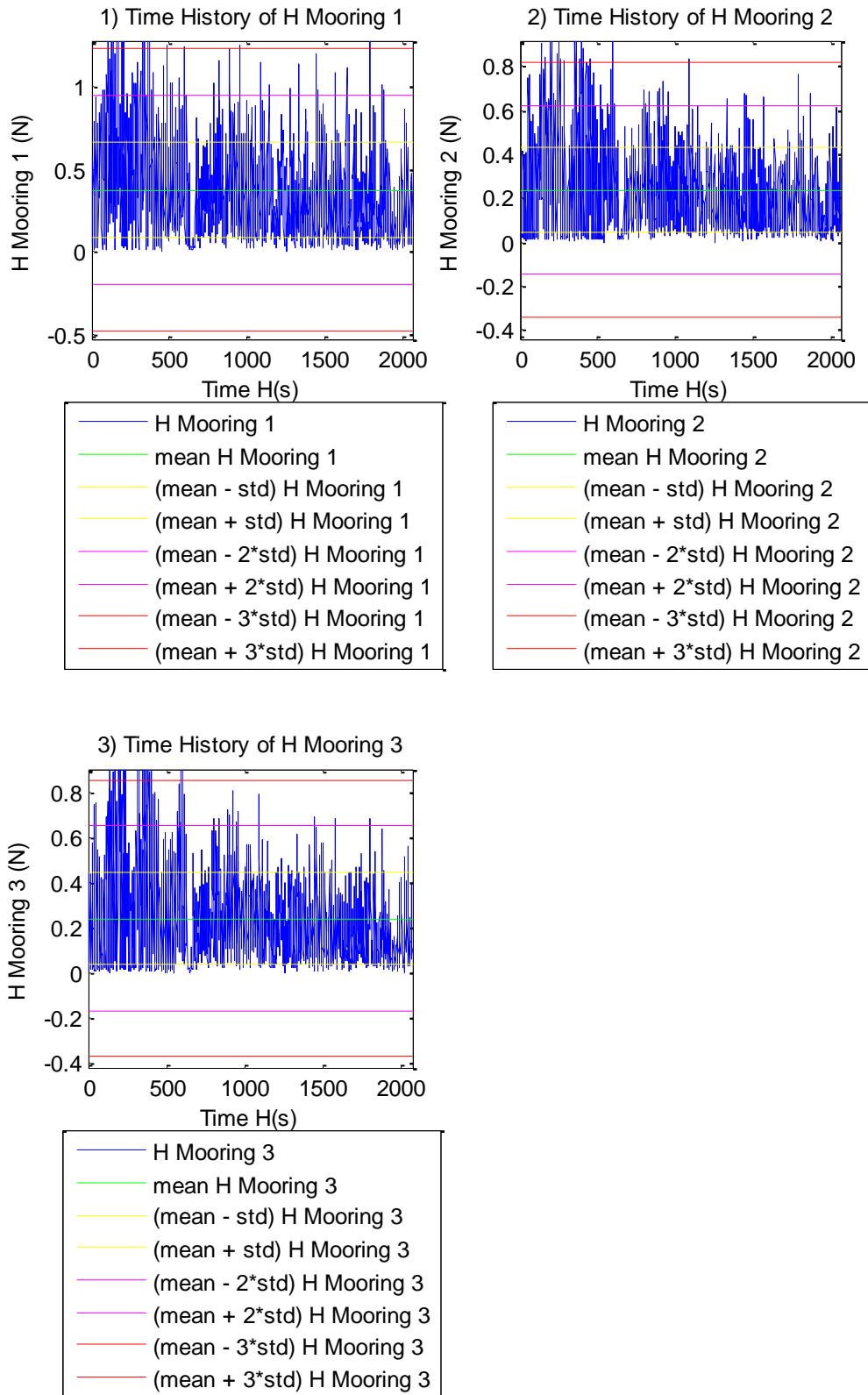


**Σχήματα 2.4.7.1 (1-6)** Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

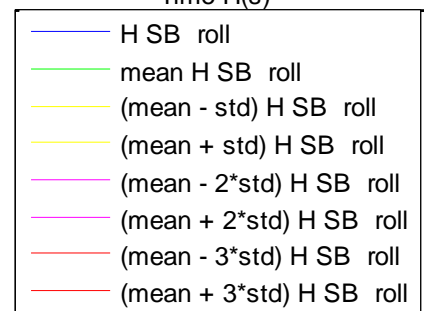
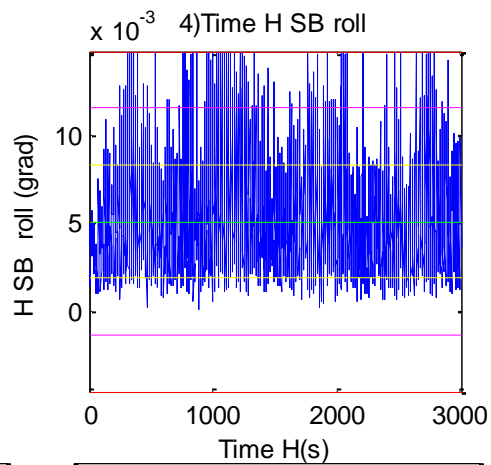
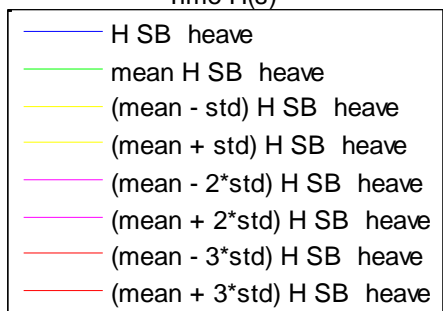
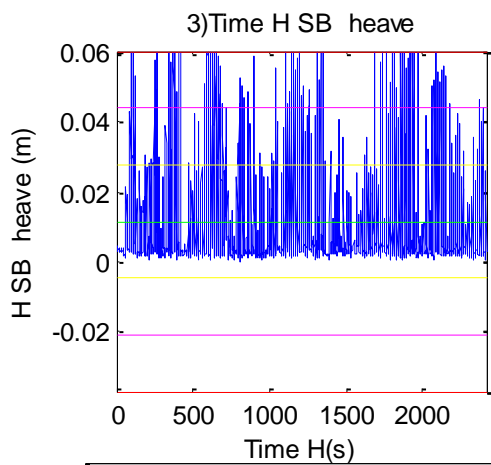
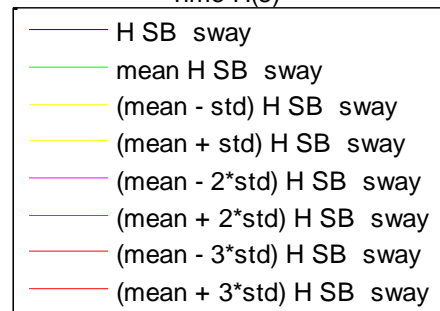
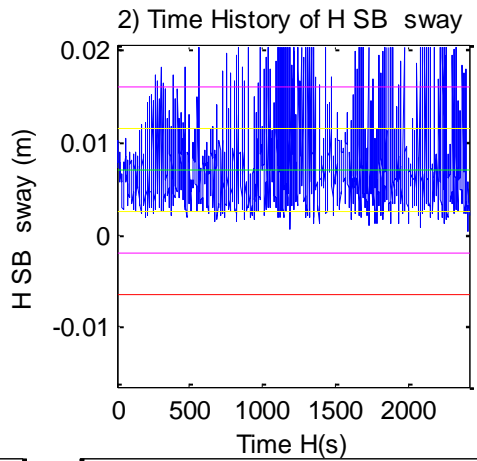
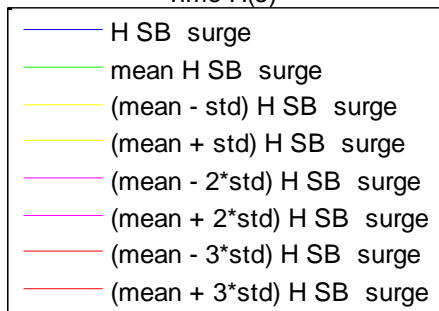
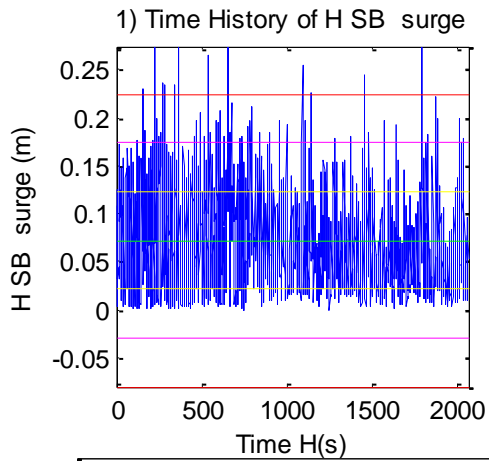


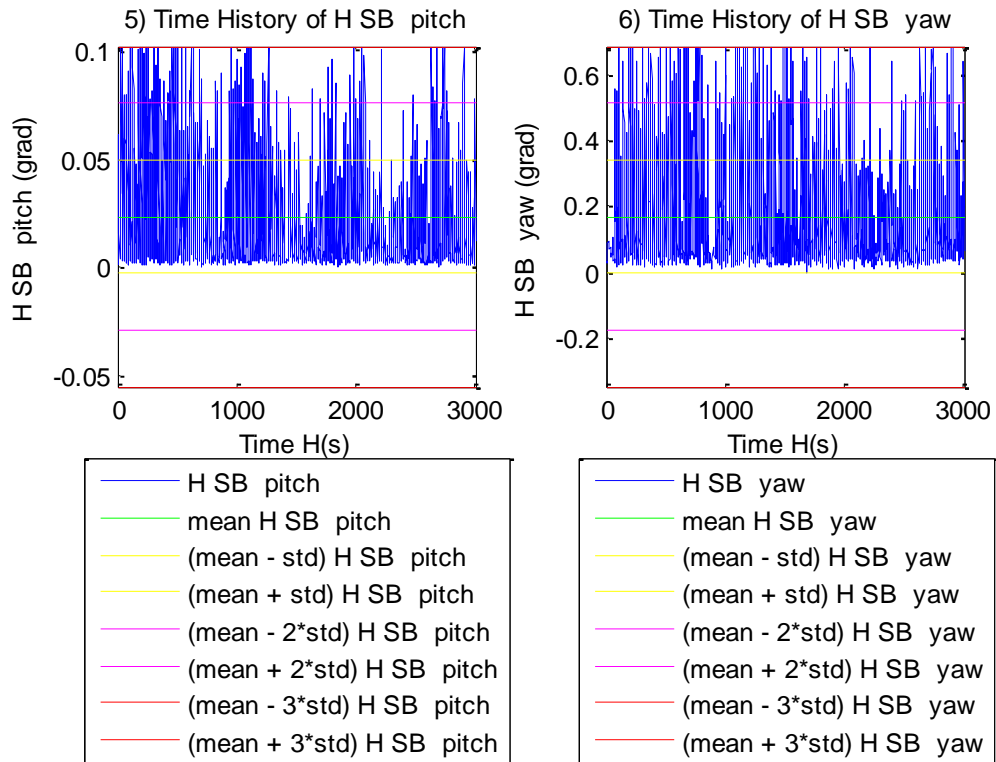


**Σχήματα 2.4.7.2 (1-4)** Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch



**Σχήματα 2.4.7.3 (1-3)** Διαγράμματα διάταξης του H για τις τρεις δυνάμεις στις τρεις γραμμές αγκύρωσης της A/Γ





**Σχήματα 2.4.7.4 (1-6)** Διαγράμματα διάταξης του H για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=100**

4.1147	3.7934	3.7959	1.1252	1.0582	1.0170	1.5899	1.9626	1.4901	1.1474	0.8920
3.4937	3.8591	3.4290	1.0187	0.8873	0.9580	1.6247	1.9886	1.5092	1.2224	1.0278
4.0337	3.8960	4.4542	1.2142	1.1008	1.1519	1.2497	1.8288	1.2996	1.0726	0.8321
0.8698	0.9727	0.9370	4.7567	4.3736	4.3922	0.7677	0.9161	1.2158	1.1973	1.2224
0.8148	0.9577	0.9018	4.0888	4.4157	4.1752	0.7574	1.0326	1.1103	1.1649	1.2632
0.7805	0.9424	0.8674	4.1728	4.1708	4.4343	0.7687	0.9109	1.1576	1.1936	1.2340
1.5385	1.2565	1.4326	0.7074	0.8049	0.6675	4.4923	2.2703	0.9727	1.1091	1.2629
2.1182	1.9382	2.0150	0.7483	0.8570	0.8313	1.6048	4.4061	2.2509	1.1654	1.0729
1.6342	1.5916	1.7714	1.2271	1.2148	1.1939	0.9890	2.2065	4.3968	3.0411	2.4126
1.2053	1.1623	1.4685	1.3039	1.3868	1.3684	1.1380	1.1660	2.3776	4.3331	3.8506
0.9628	0.9858	1.1885	1.3569	1.4779	1.4428	1.3392	0.9460	1.7090	3.5899	4.3234

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=1000**

3.2618	3.1051	2.9859	0.9610	0.9610	0.9894	1.4784	1.6240	1.4120	1.1199	0.9684
2.9746	3.1375	2.7676	0.9034	0.9041	0.9134	1.5152	1.6316	1.4623	1.1901	1.0518
3.1567	3.0549	3.4366	1.0199	1.0050	1.0578	1.2985	1.5296	1.3375	1.1119	0.9883
0.9931	0.9970	1.0060	3.5216	3.3715	3.4286	0.9216	0.9249	1.0169	1.1190	1.1399
0.9914	0.9874	0.9839	3.2800	3.4091	3.2751	0.9505	0.9806	0.9984	1.0966	1.1320
1.0030	1.0001	1.0266	3.3478	3.2900	3.4266	0.9594	0.9384	0.9935	1.1127	1.1412
1.3631	1.3780	1.2083	0.9041	0.9326	0.9094	3.4588	1.7711	0.9573	0.9682	1.0667
1.7358	1.6949	1.5615	0.8756	0.9527	0.8701	1.6233	3.4014	1.9231	1.1539	0.9538
1.5352	1.5722	1.4673	1.0347	1.0580	1.0398	0.9132	1.9565	3.4331	2.4894	1.9391
1.1406	1.2362	1.2078	1.1671	1.1683	1.1620	0.9873	1.1752	2.3706	3.3910	3.0897
0.9860	1.0969	1.0689	1.2228	1.2217	1.1970	1.0981	0.9935	1.8162	3.0508	3.3512

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz] για K=100**

4.1734	2.9656	3.3474	2.3119	3.7636	3.1333
0.6500	1.6651	1.5596	0.4639	1.2812	1.5001
0.5621	1.9805	2.1353	0.6923	1.6599	2.0513
1.1796	0.3640	0.5779	1.6854	0.7498	0.6456
4.0726	3.8921	4.3484	1.9543	4.4679	4.1173
0.4061	1.6542	1.7598	0.6615	1.3244	1.7978

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz] για K=1000**

3.3352	1.9714	2.3961	1.7524	3.0340	2.1956
0.7912	1.4697	1.3876	0.6065	1.1297	1.3209
0.7259	1.6251	1.7710	0.7712	1.3250	1.6959
1.1009	0.5450	0.7290	1.5156	0.8837	0.8154
3.2209	2.7197	3.2154	1.4178	3.4761	3.0073
0.6177	1.4280	1.5498	0.7738	1.1397	1.5952

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=100**

4.5170	2.3361	1.1389	4.4684
0.6717	2.6990	2.0153	0.5254
0.7491	1.5916	2.1094	0.7802
4.7118	1.8378	0.9321	4.8088

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=1000**

3.4872	1.5689	1.0250	3.4109
0.7122	2.2651	1.7930	0.4946
0.8930	1.5151	1.8753	0.9260
3.4505	1.1801	0.9742	3.5367

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=100**

1.0785	0.9762	0.9665
0.9963	1.0450	1.0387
0.9831	1.0498	1.0565

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=1000**

1.0590	0.9830	0.9791
0.9922	1.0352	1.0315
0.9820	1.0394	1.0442

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway,  
Heave, Roll, Pitch, Yaw] για K=100**

4.3168	1.0657	0.7771	1.4958	3.8487	2.9748
1.0218	1.1513	0.9987	0.9025	1.0565	1.0561
0.9125	0.5796	2.5003	1.2090	0.9216	1.0516
0.8761	0.8671	0.9745	1.3958	0.7225	0.7446

2.1454 1.2700 1.2846 0.4468 2.8369 2.3141  
 1.1958 1.1399 1.0780 0.6199 1.6441 1.8549

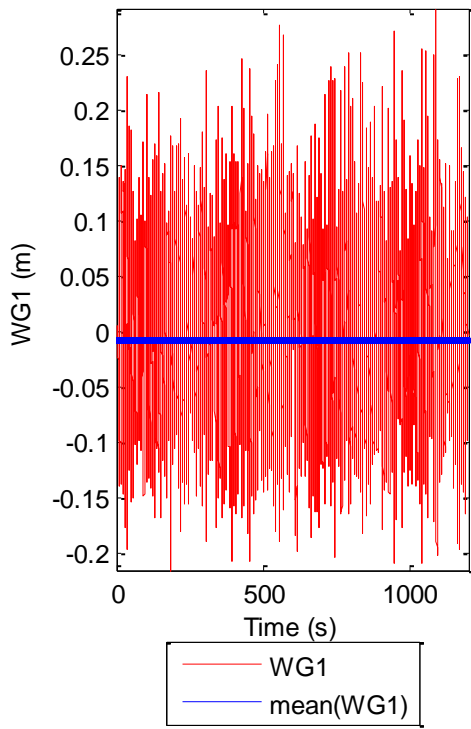
**Μητρώα ΜΚΝ για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000**

3.4240 1.1839 0.8331 1.1649 2.7448 2.0724  
 1.0043 1.1185 0.9904 0.9194 1.0155 1.0227  
 0.8936 0.8081 2.1768 1.0019 0.9961 0.9218  
 0.9379 0.8808 1.0302 1.3096 0.8737 0.8634  
 1.6247 1.1652 1.0735 0.5359 2.3394 1.8125  
 1.1418 1.0947 1.0114 0.7405 1.3883 1.6299

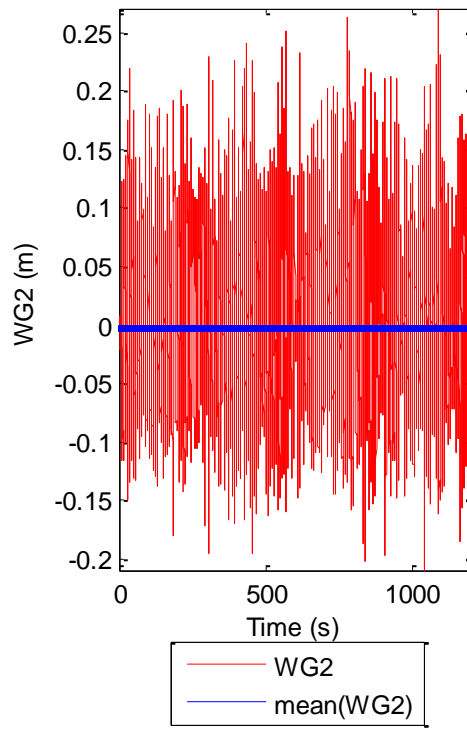
**2.5 Παρουσίαση χρονοσειρών (C11) T1400+T1401\_1.6\_0.15\_SB\_20\_NR**

<b>Πίνακας 2.5.1</b>	<b>Χαρακτηριστικά Πειράματος</b>
Τύπος μοντέλου	SB
Ύψος κύματος (m)	0.150
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	20
Περιστροφή η μη του Ρότορα	Χωρίς Περιστροφή

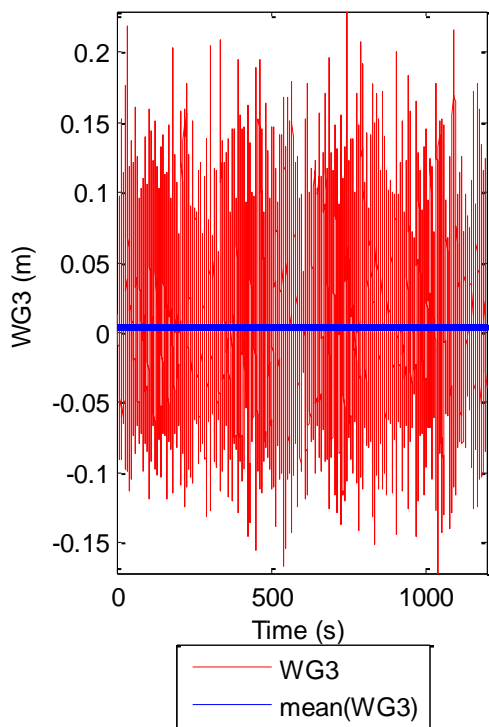
(1) Time History of WG1



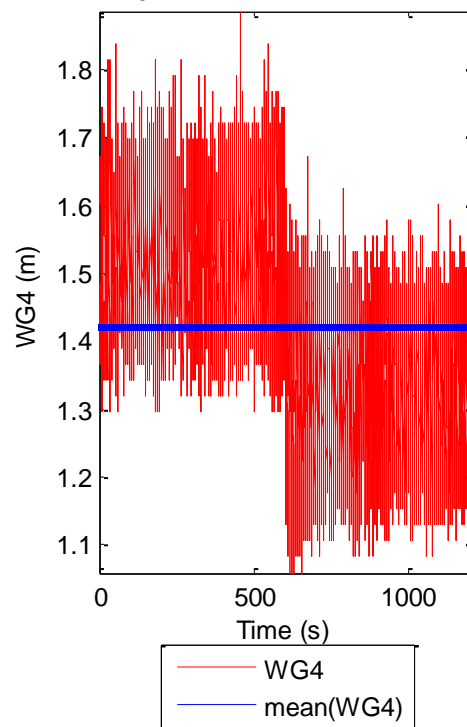
(2) Time History of WG2



(3) Time History of WG3

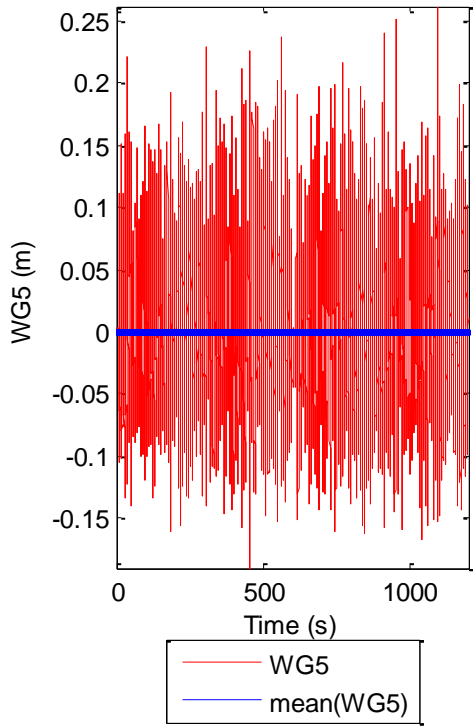


$\times 10^{-3}$  (4) Time History of WG4

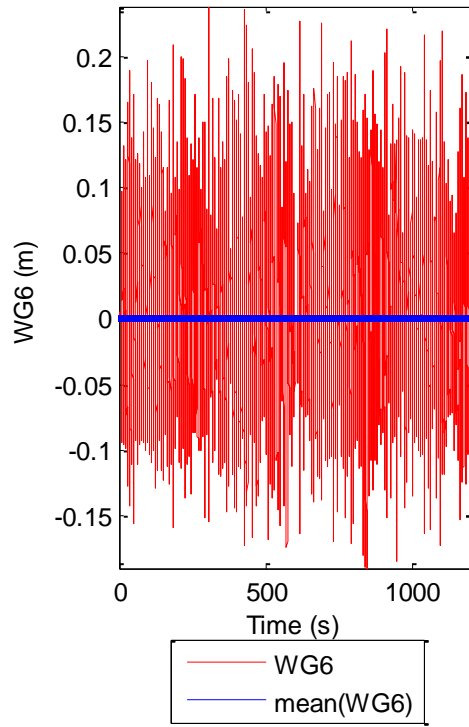




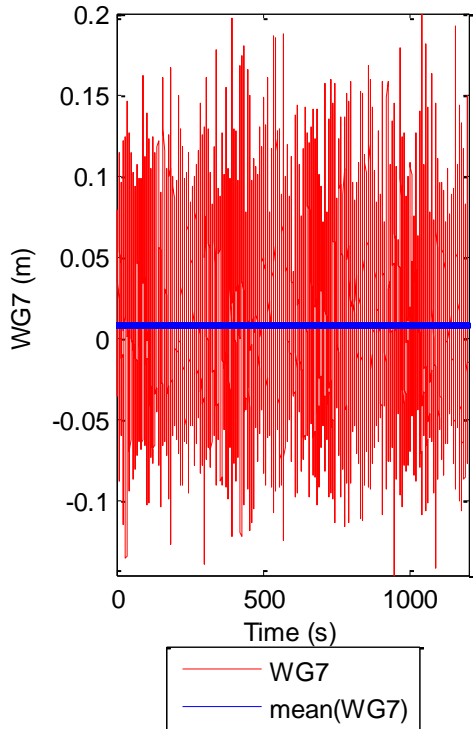
(5) Time History of WG5



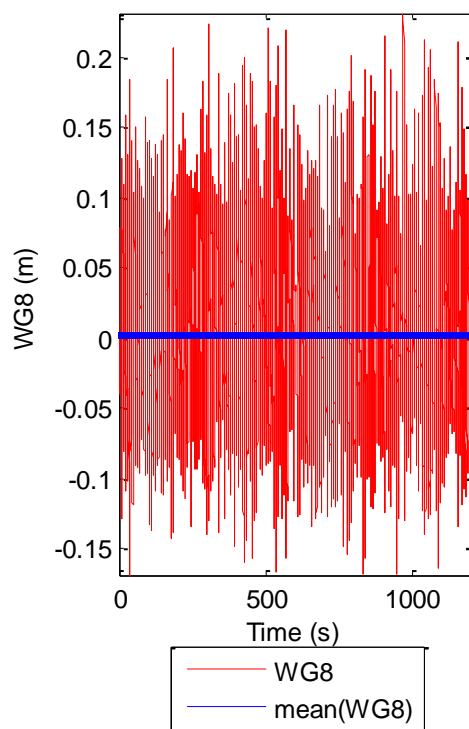
(6) Time History of WG6

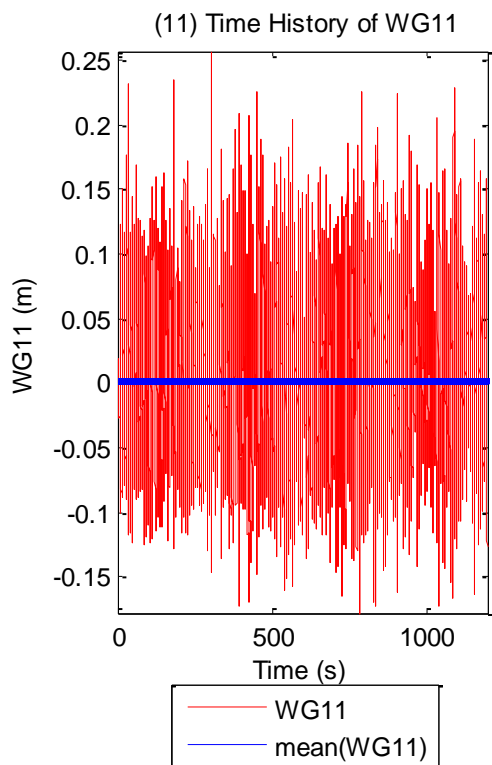
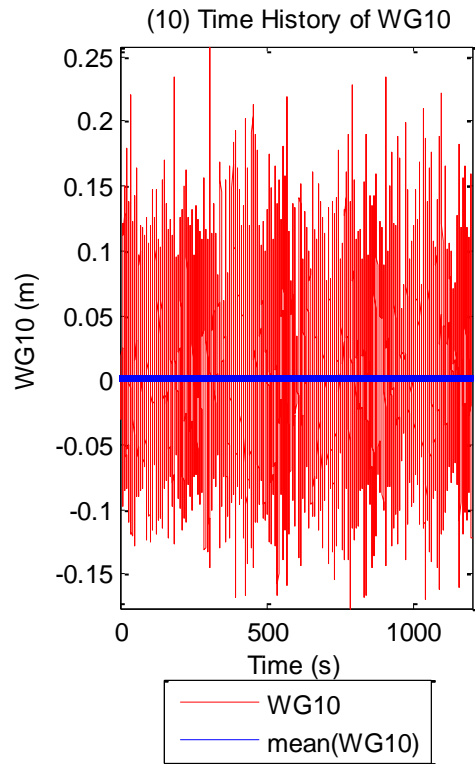
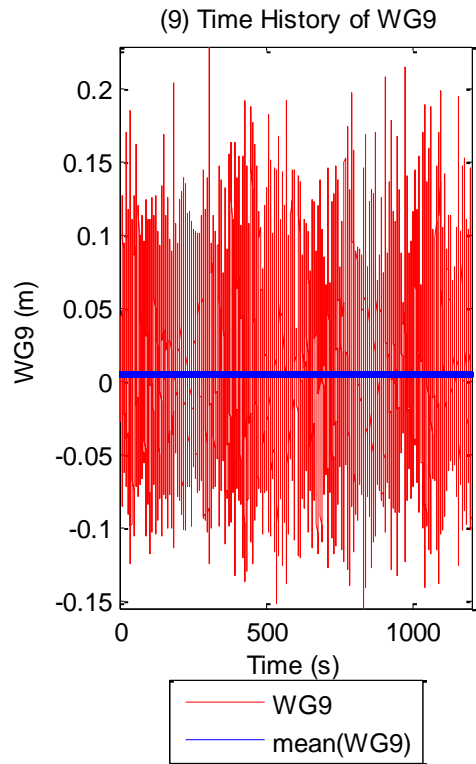


(7) Time History of WG7



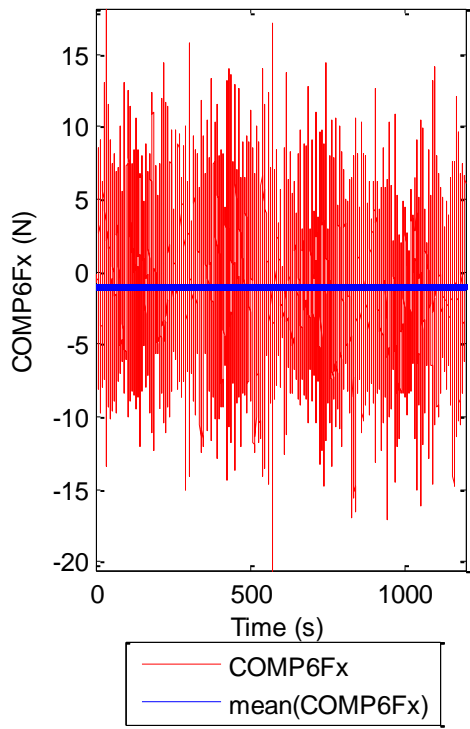
(8) Time History of WG8



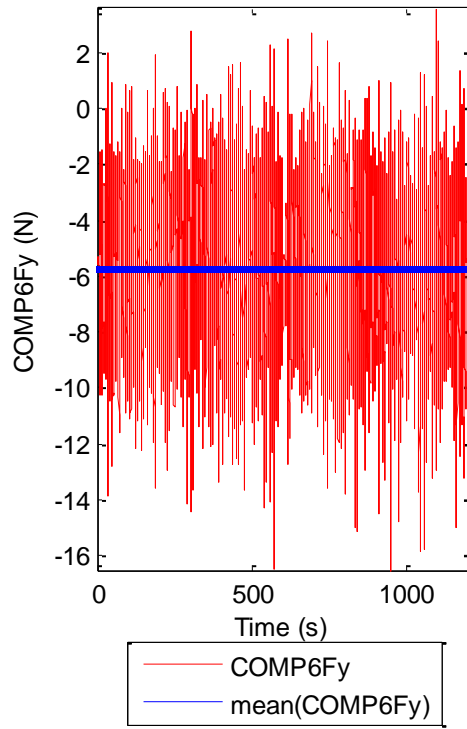


**Σχήματα 2.5.1.1 (1-6)** Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

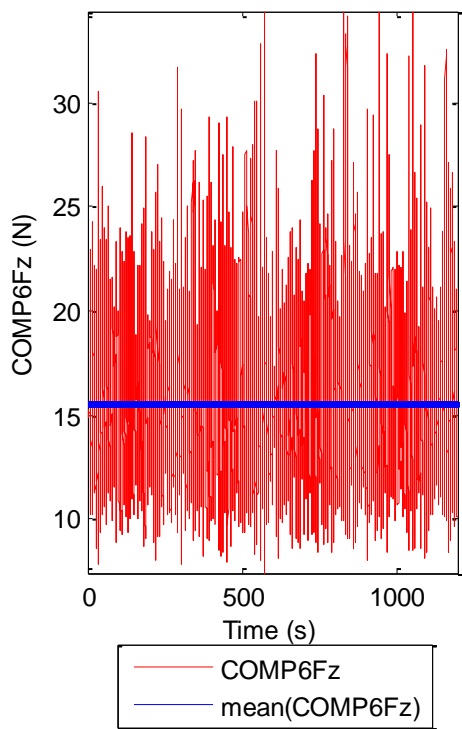
(1) Time History of COMP6Fx



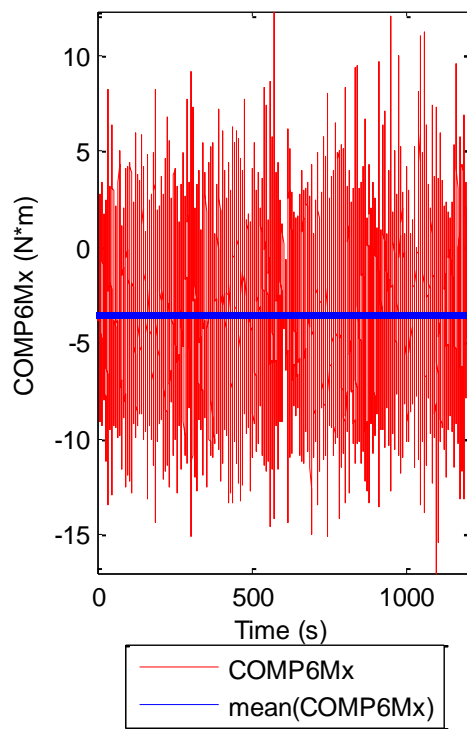
(2) Time History of COMP6Fy

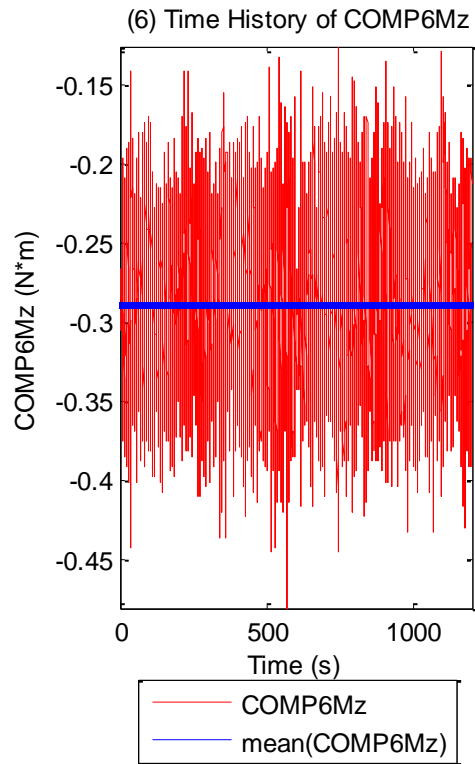
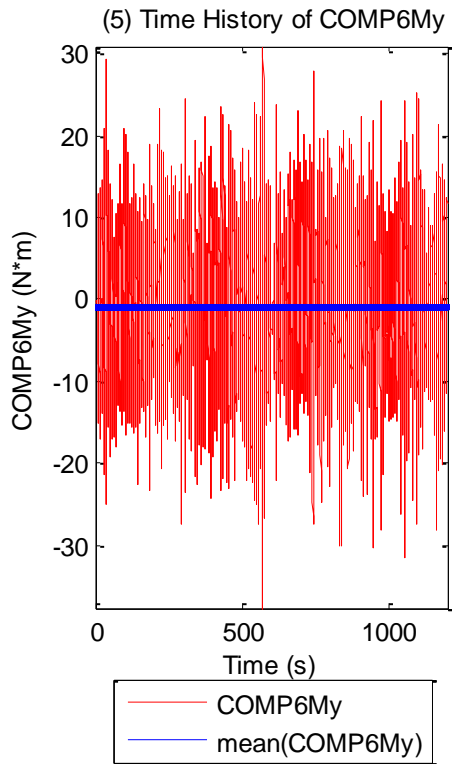


(3) Time History of COMP6Fz

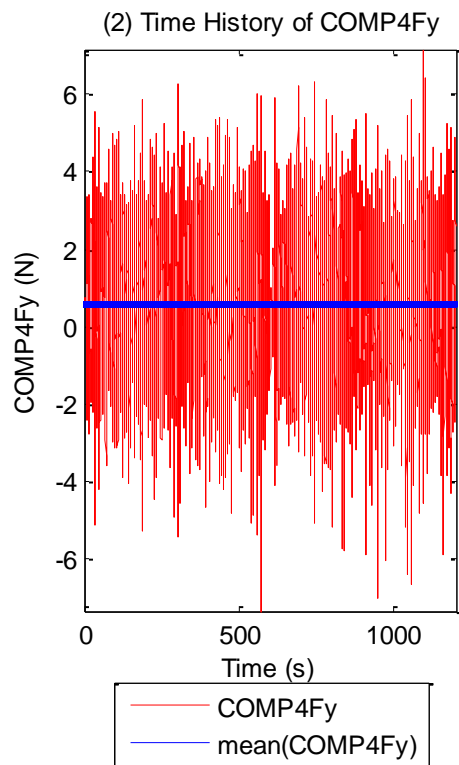
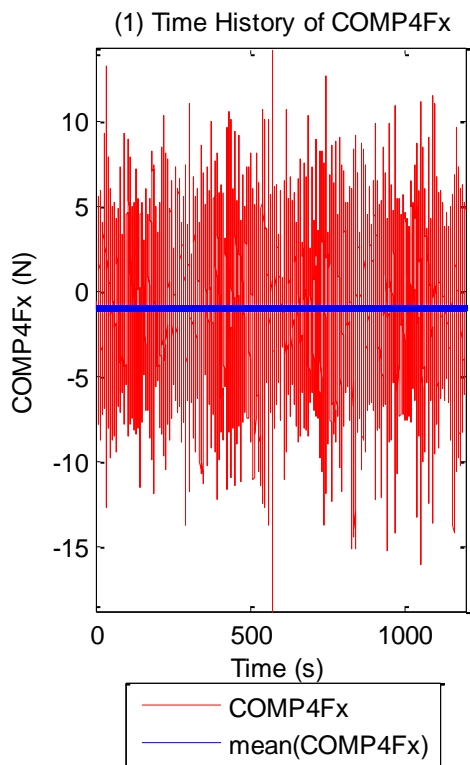


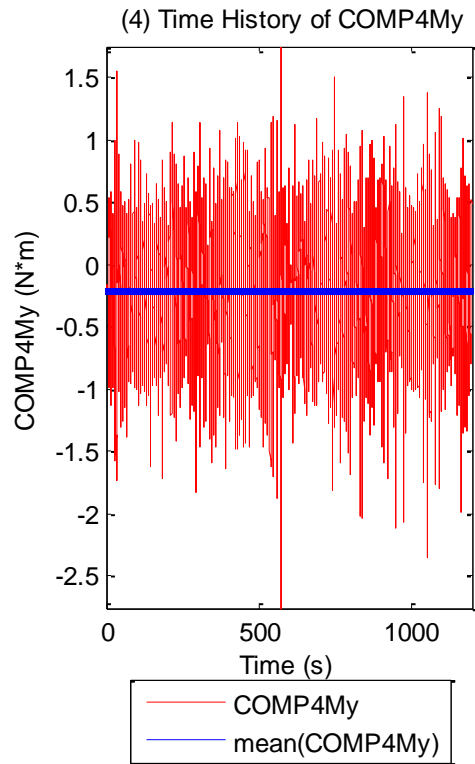
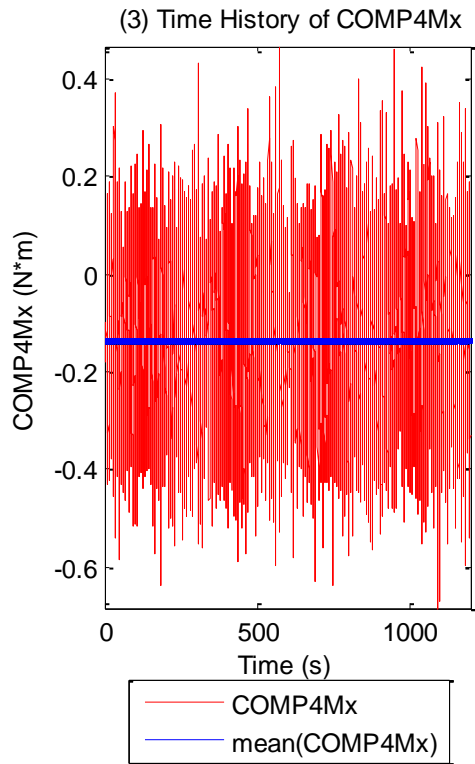
(4) Time History of COMP6Mx



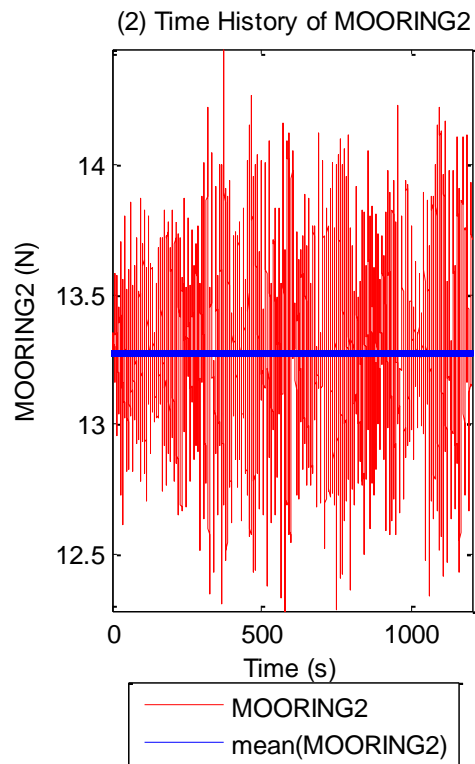
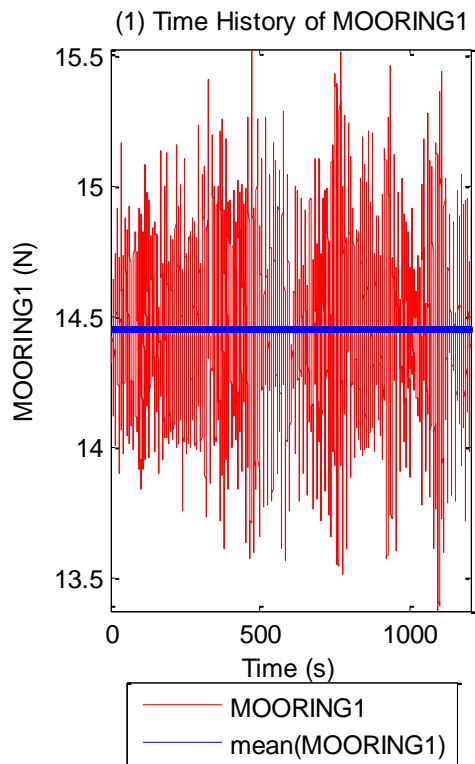


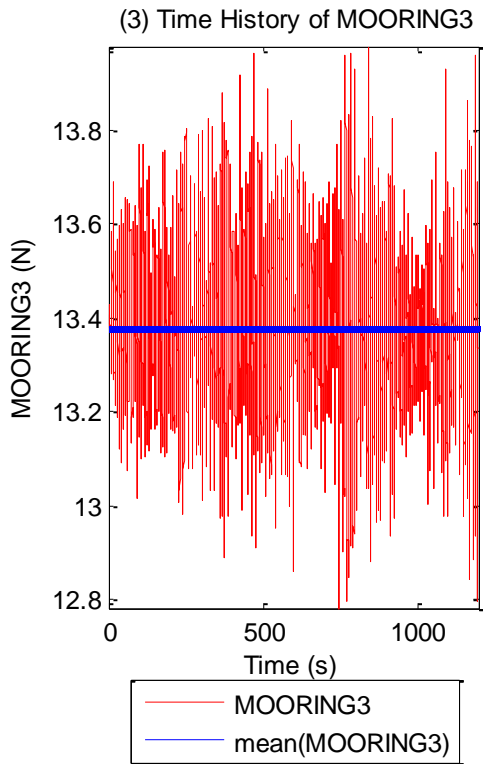
**Σχήματα 2.5.1.2** Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



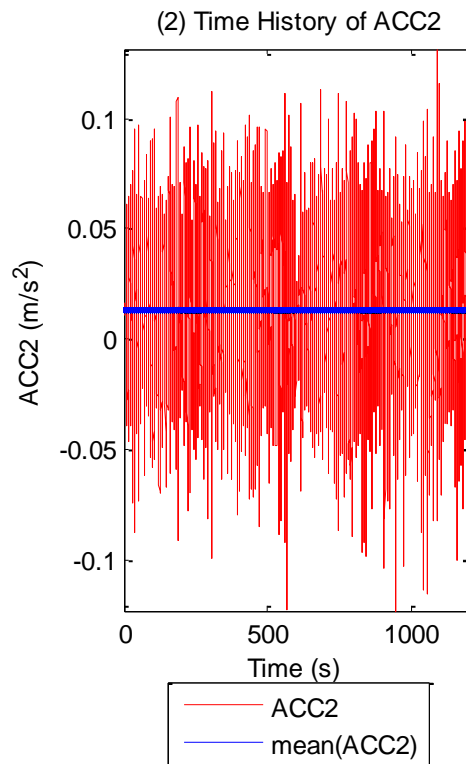
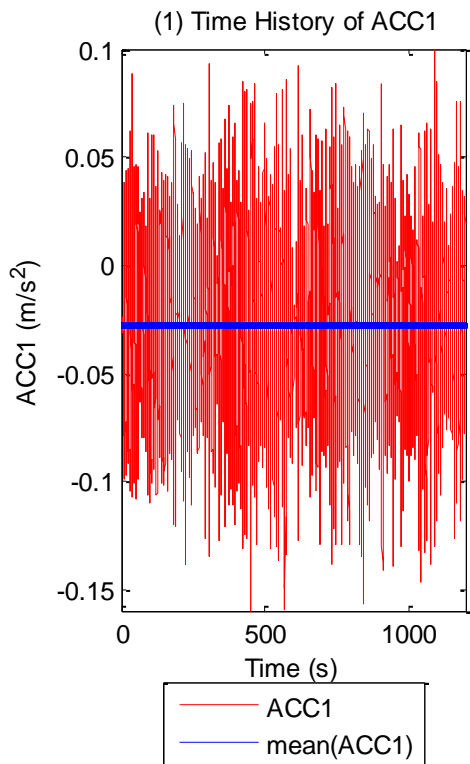


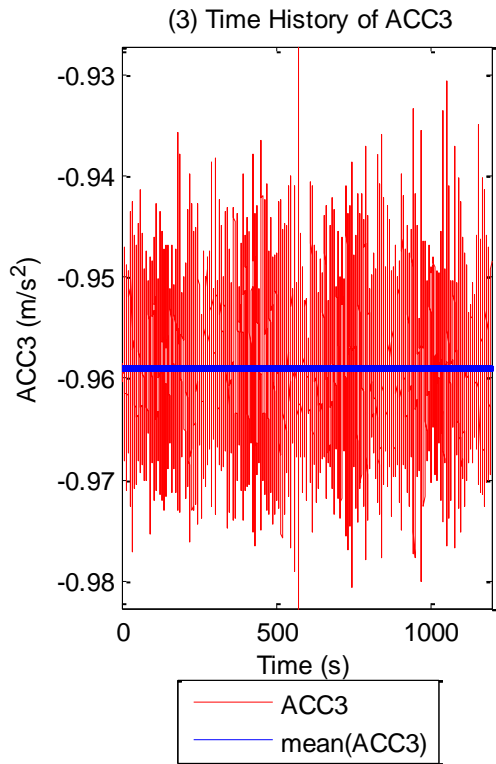
**Σχήματα 2.5.1.3** Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



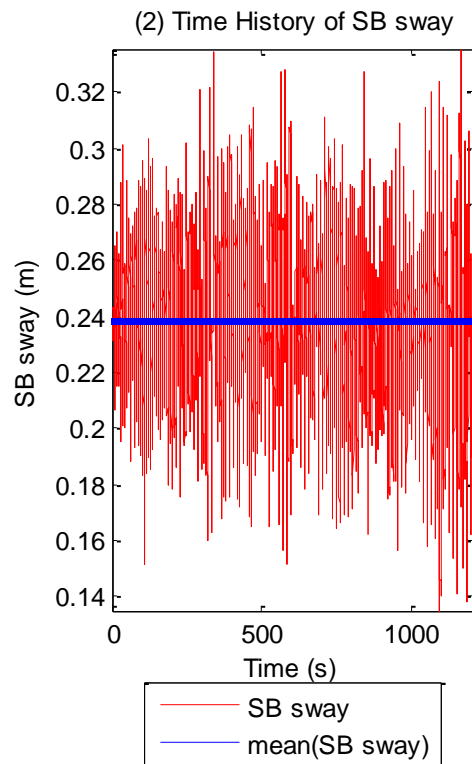
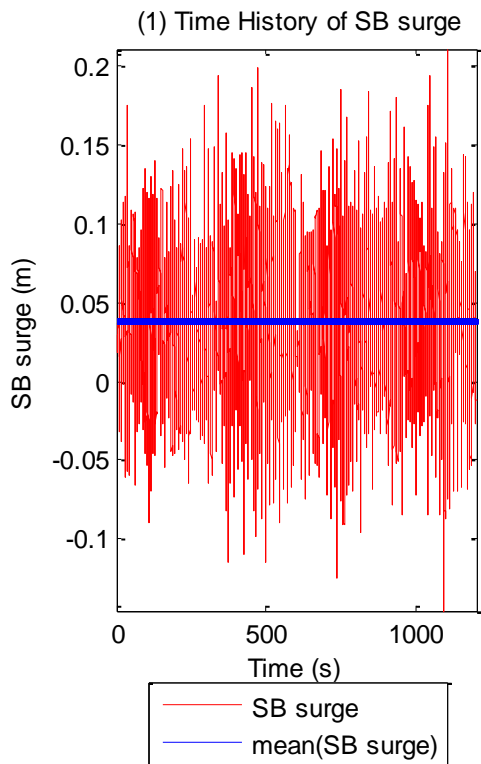


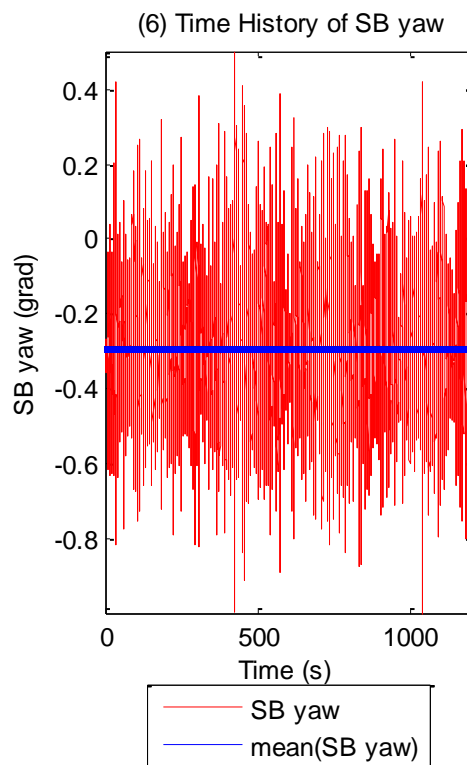
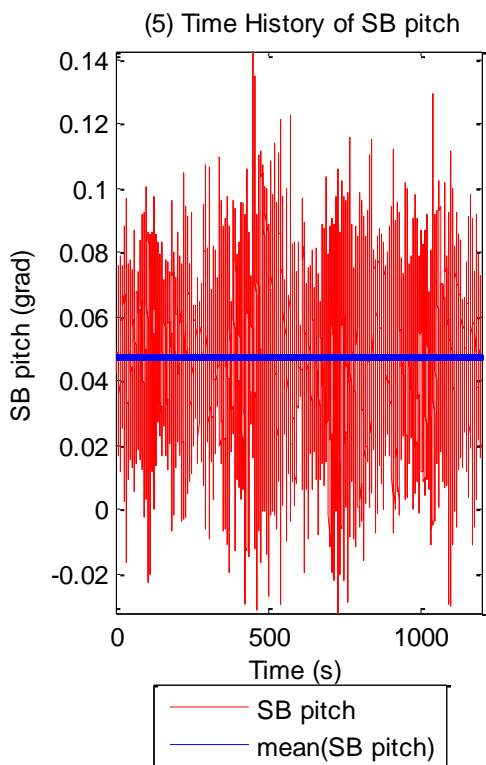
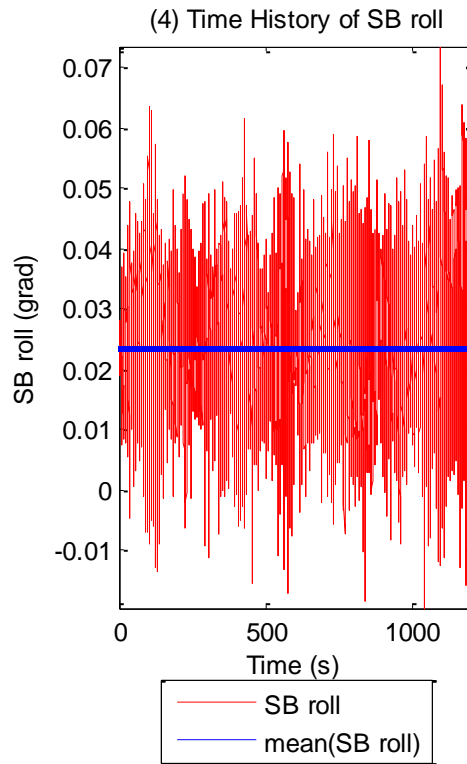
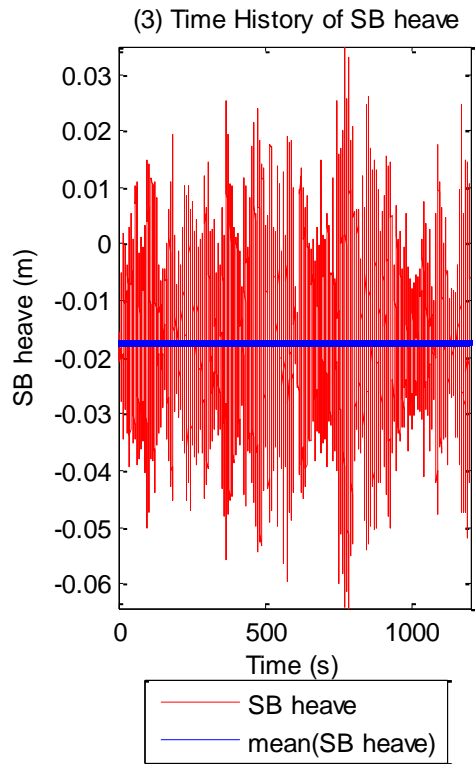
**Σχήματα 2.5.1.4** Χρονοσειρές για τις δυνάμεις στις τρεις γραμμές αγκύρωσης (1-3) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές





**Σχήματα 2.5.1.5 (1-3)** Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης  
(1) Acc1, (2) Acc2 και (3) Acc3





**Σχήματα 2.5.1.6** Χρονοσειρές για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



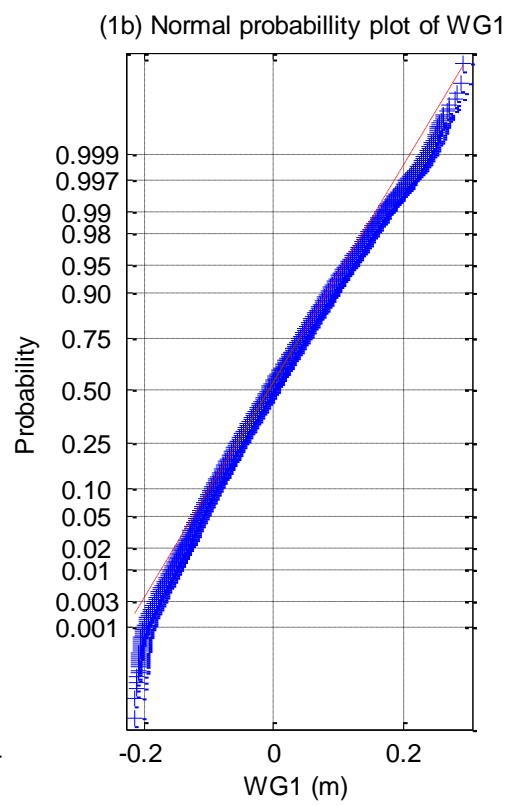
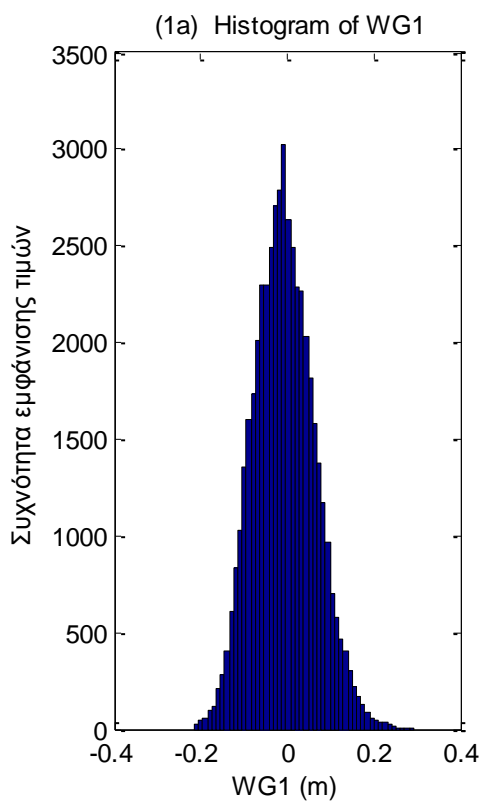
<b>Πίνακας 2.5.2</b>					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H <sub>rms</sub>
Wg1 (m)	-0.0069	0.0702	-0.2156	0.2919	0.1976
Wg2 (m)	-0.0019	0.0638	-0.2099	0.2710	0.1777
Wg3 (m)	0.0046	0.0539	-0.1717	0.2294	0.1509
Wg4 (m)	0.0014	0.0001	0.0011	0.0019	0.0003
Wg5 (m)	0.0000	0.0594	-0.1905	0.2621	0.0992
Wg6 (m)	0.0000	0.0607	-0.1906	0.2388	0.1013
Wg7 (m)	0.0081	0.0471	-0.1461	0.2012	0.0788
Wg8 (m)	0.0019	0.0561	-0.1686	0.2314	0.0943
Wg9 (m)	0.0055	0.0506	-0.1544	0.2289	0.0850
Wg10 (m)	0.0015	0.0567	-0.1763	0.2579	0.0952
Wg11 (m)	0.0020	0.0581	-0.1781	0.2570	0.0974
6comp_Fx (N)	-1.0646	4.3044	-20.5707	18.1620	7.1479
6comp_Fy(N)	-5.7016	2.4765	-16.5121	3.5747	4.2551
6comp_Fz (N)	15.4860	3.4381	7.4073	34.3768	5.8890
6comp_Mx (N*m)	-3.4816	3.4496	-16.9798	12.3232	6.0907
6comp_My (N*m)	-0.7391	7.5749	-37.7322	30.9550	13.2631
6comp_Mz (N*m)	-0.2885	0.0403	-0.4812	-0.1257	0.0719
4comp_Fx (N)	-0.9412	3.6036	-18.8434	14.3018	6.5265
4comp_Fy (N)	0.6133	1.6693	-7.3364	7.1559	3.1412

4comp_Mx (N*m)	-0.1366	0.1498	-0.6837	0.4661	0.2955
4comp_My (N*m)	-0.2132	0.4208	-2.7557	1.7459	0.8033
Mooring_1 (N)	14.4605	0.3019	13.3768	15.5295	0.3323
Mooring_2 (N)	13.2746	0.3240	12.2840	14.4453	0.3069
Mooring_3 (N)	13.3770	0.1720	12.7810	13.9792	0.1884
Acc_1 (G)	-0.0271	0.0355	-0.1597	0.1003	0.0644
Acc_2 (G)	0.0135	0.0299	-0.1231	0.1314	0.0585
Acc_3 (G)	-0.9589	0.0061	-0.9827	-0.9272	0.0115
SB_x (m)	0.0390	0.0454	-0.1454	0.2112	0.0641
SB_y (m)	0.2381	0.0274	0.1350	0.3353	0.0281
SB_z (m)	-0.0174	0.0133	-0.0643	0.0349	0.0146
SB_roll (grad)	0.0234	0.0114	-0.0197	0.0736	0.0147
SB_pitch (grad)	0.0477	0.0214	-0.0321	0.1426	0.0311
SB_yaw (grad)	-0.2945	0.1730	-0.9968	0.5009	0.2683

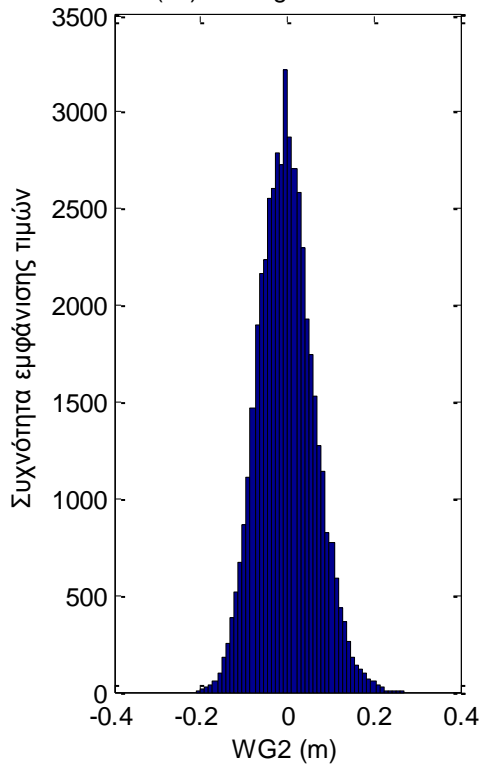
<b>Πίνακας 2.5.3</b>				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	l_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.2285	3.0366	1	1
Wg2 (m)	0.2569	3.1421	1	1
Wg3 (m)	0.2394	3.0786	1	1

Wg4 (m)	-0.0195	2.2243	1	1
Wg5 (m)	0.2855	3.0795	1	1
Wg6 (m)	0.2499	3.1148	1	1
Wg7 (m)	0.2652	3.0933	1	1
Wg8 (m)	0.2733	3.1290	1	1
Wg9 (m)	0.2320	3.0980	1	1
Wg10 (m)	0.2245	3.1025	1	1
Wg11 (m)	0.2124	3.0478	1	1
6comp_Fx (N)	0.1931	3.2909	1	1
6comp_Fy(N)	-0.1255	3.1612	1	1
6comp_Fz (N)	0.8461	4.3896	1	1
6comp_Mx (N*m)	0.1022	3.2253	1	1
6comp_My (N*m)	-0.0468	3.2713	1	1
6comp_Mz (N*m)	-0.0077	3.1626	1	1
4comp_Fx (N)	-0.0551	3.2865	1	1
4comp_Fy (N)	-0.1067	3.2591	1	1
4comp_Mx (N*m)	0.0651	2.8596	1	1
4comp_My (N*m)	-0.1054	3.5491	1	1
Mooring_1 (N)	0.0369	3.0680	1	1
Mooring_2 (N)	0.0150	2.7449	1	1
Mooring_3 (N)	0.0414	3.0961	1	1
Acc_1 (G)	-0.0041	3.0338	1	1
Acc_2 (G)	-0.0985	3.2322	1	1
Acc_3 (G)	0.2755	3.2453	1	1

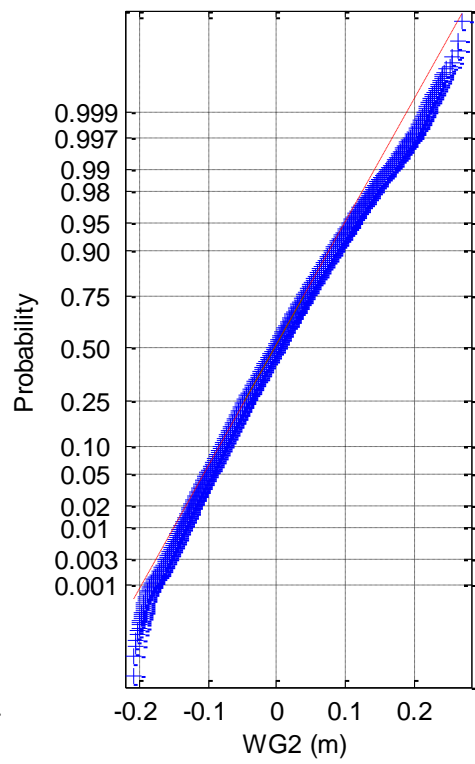
SB_x (m)	0.0103	3.1203	1	1
SB_y (m)	-0.1088	3.1535	1	1
SB_z (m)	0.0876	3.1926	1	1
SB_roll (grad)	0.0034	3.1973	1	1
SB_pitch (grad)	-0.0142	3.3525	1	1
SB_yaw (grad)	0.2490	3.5046	1	1



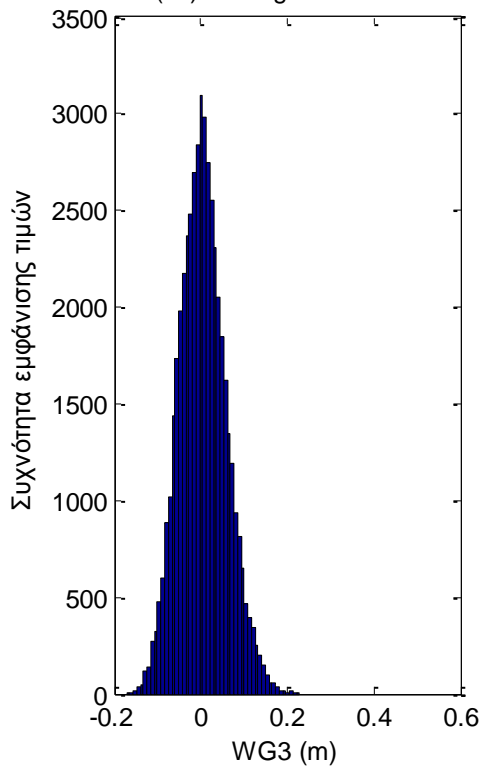
(2a) Histogram of WG2



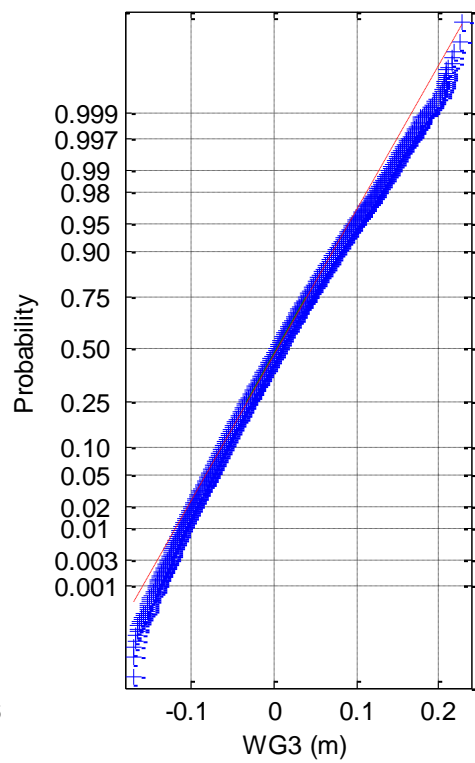
(2b) Normal probability plot of WG2



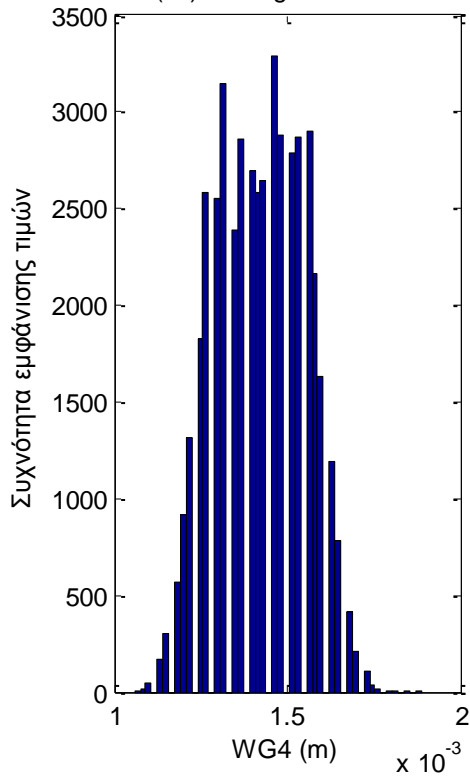
(3a) Histogram of WG3



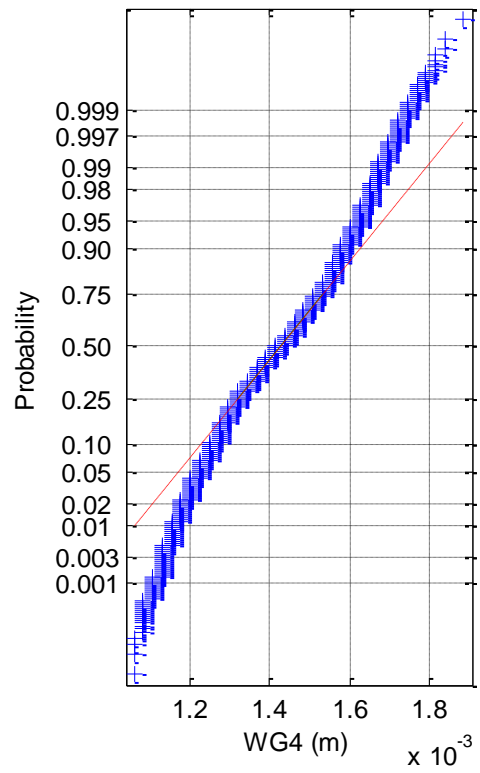
(3b) Normal probability plot of WG3



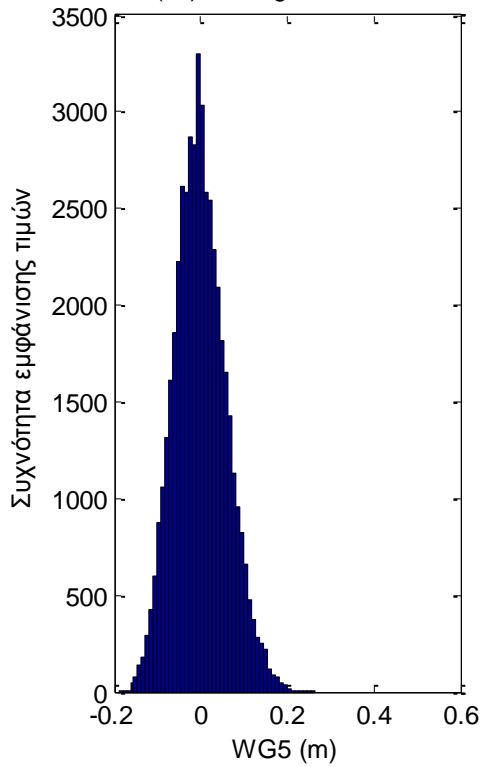
(4a) Histogram of WG4



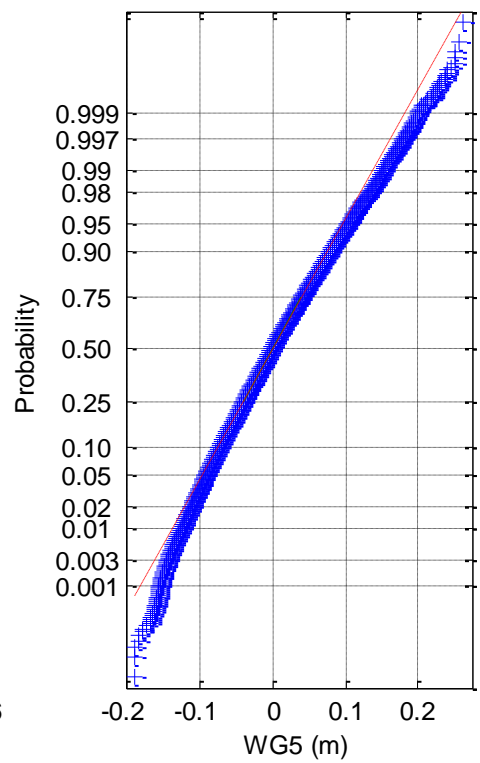
(4b) Normal probability plot of WG4



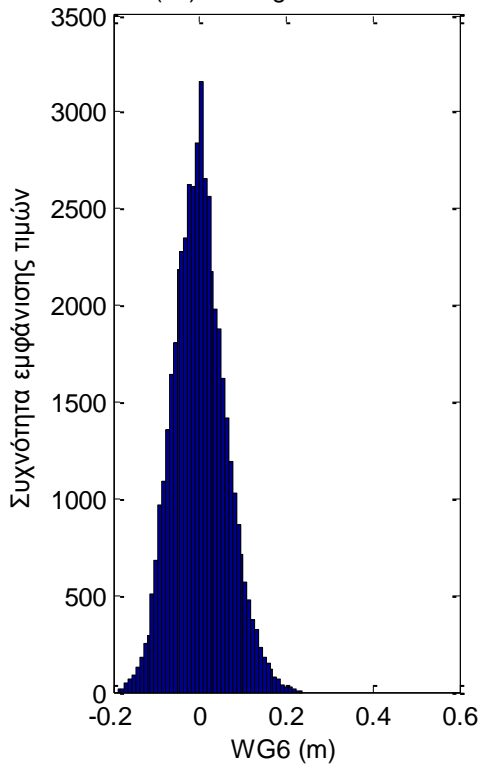
(5a) Histogram of WG5



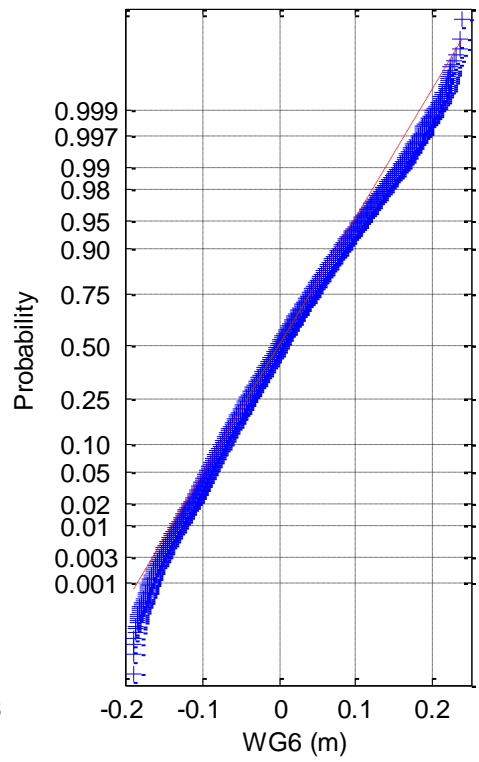
(5b) Normal probability plot of WG5



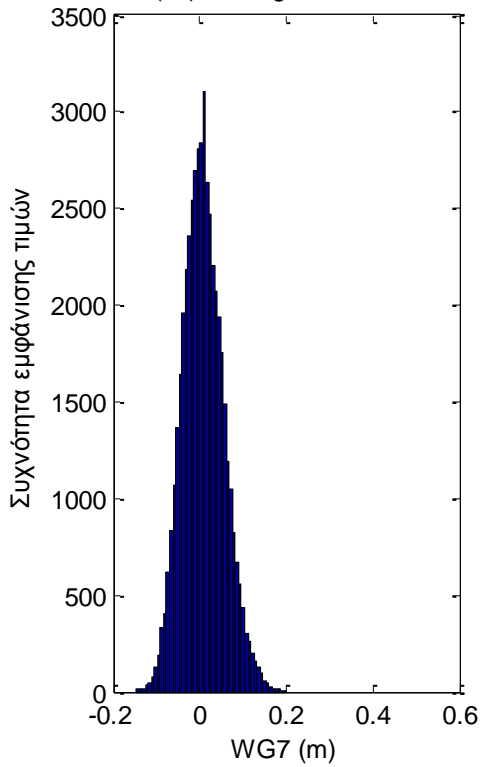
(6a) Histogram of WG6



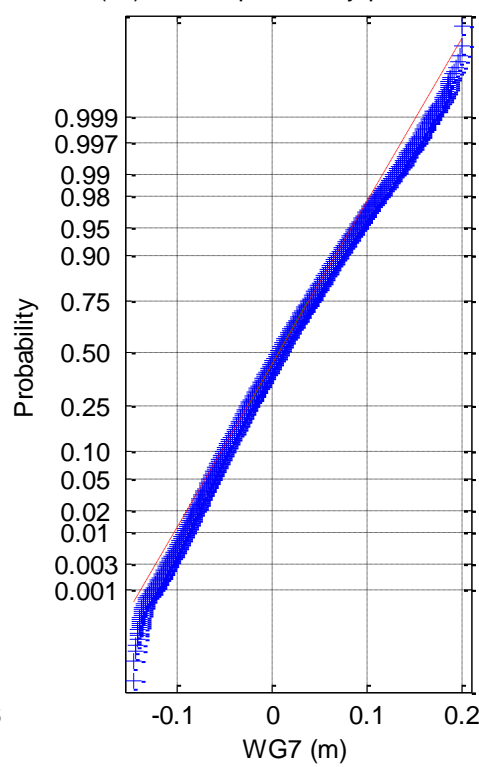
(6b) Normal probability plot of WG6



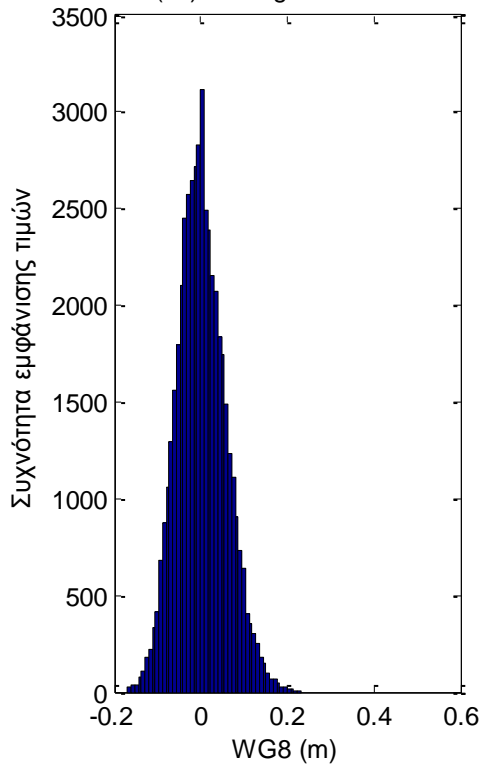
(7a) Histogram of WG7



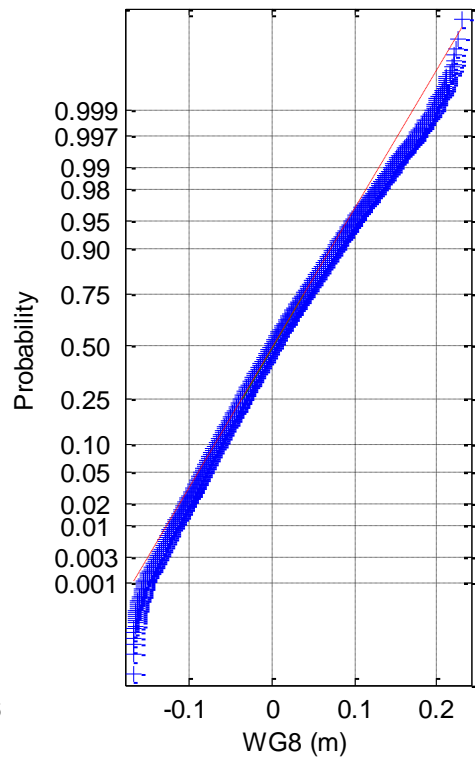
(7b) Normal probability plot of WG7



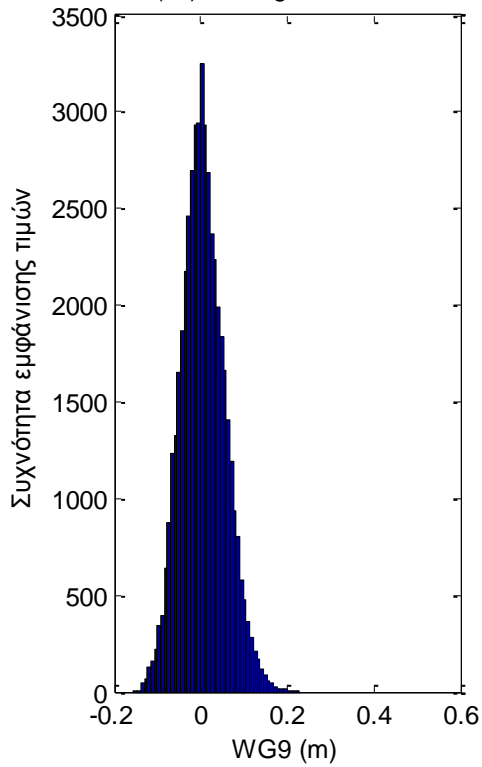
(8a) Histogram of WG8



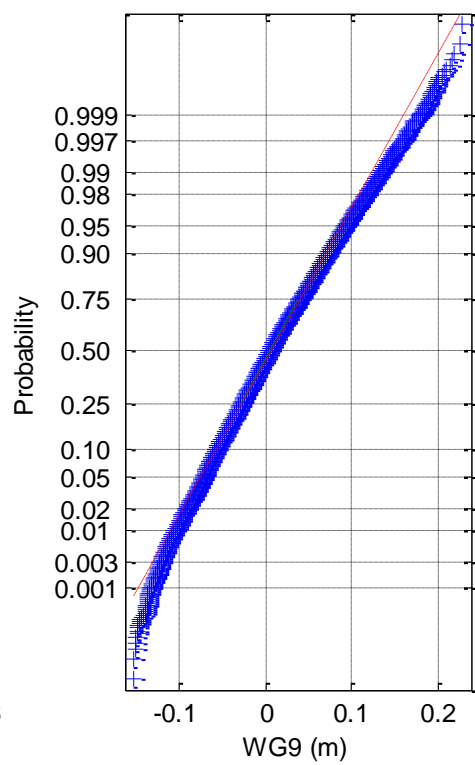
(8b) Normal probability plot of WG8



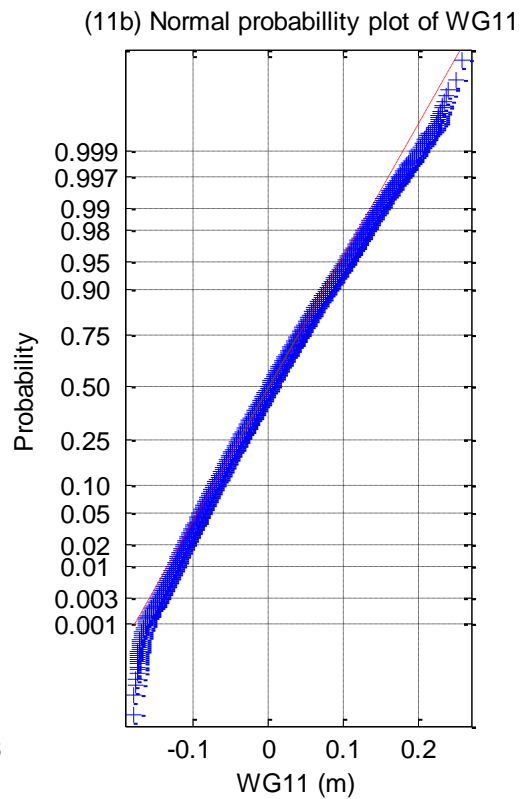
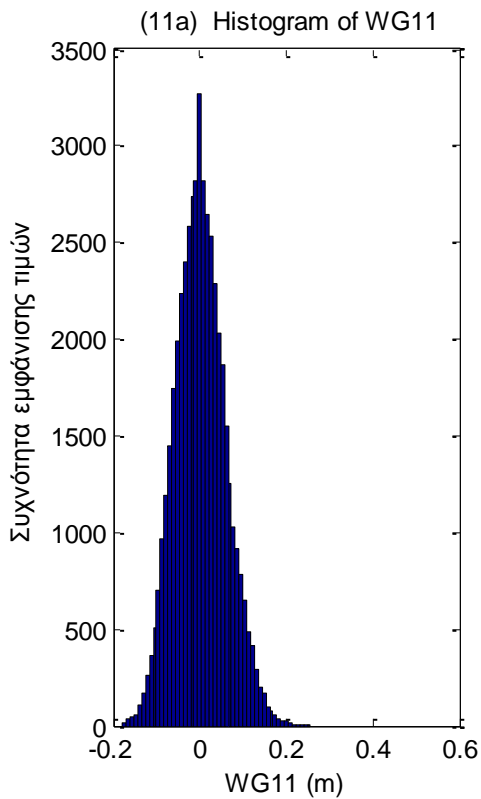
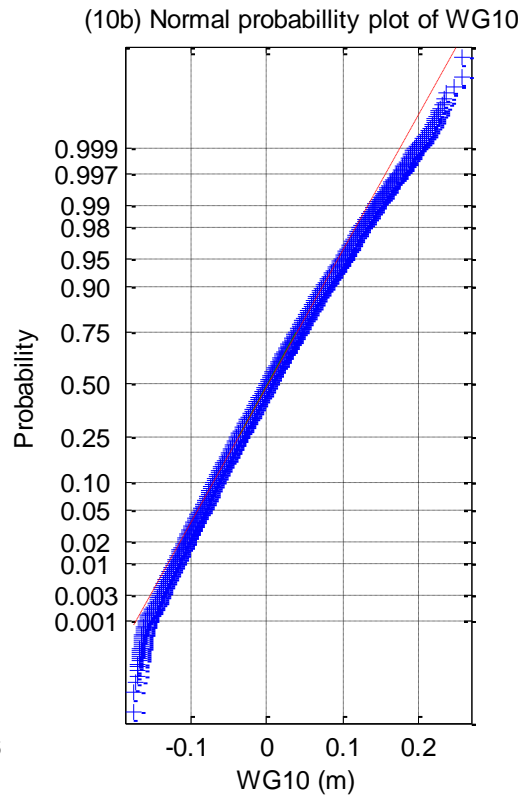
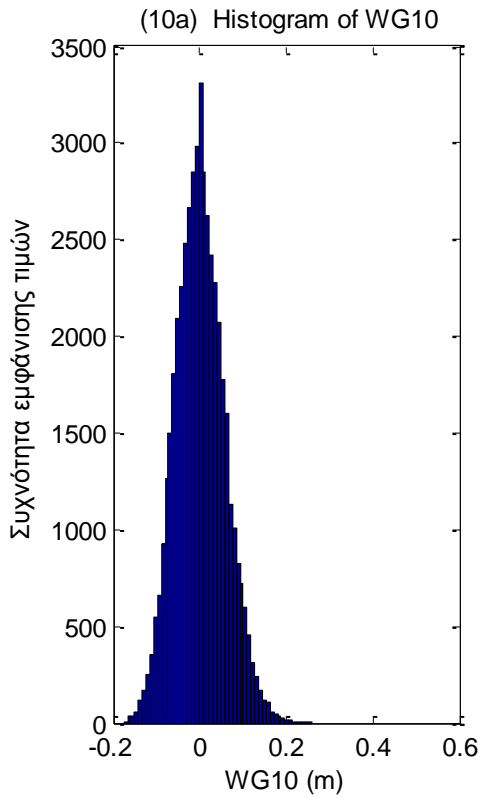
(9a) Histogram of WG9



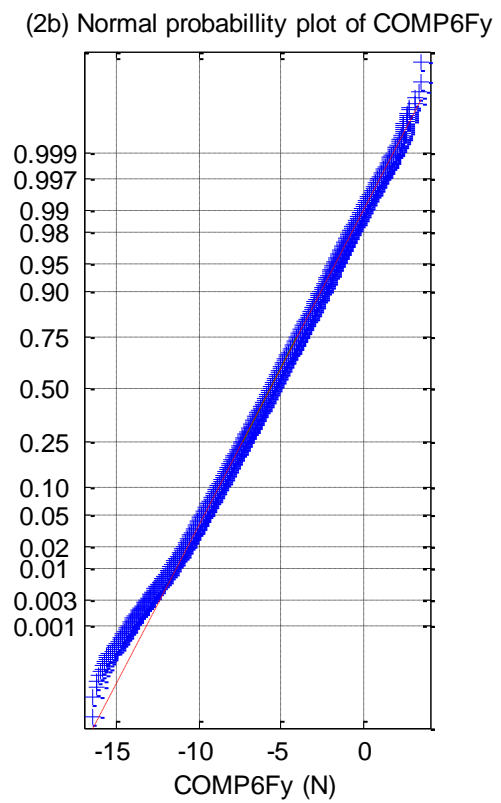
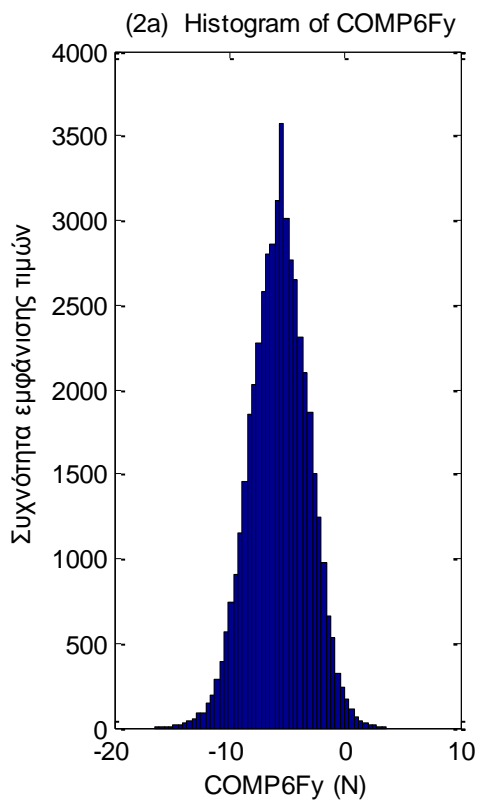
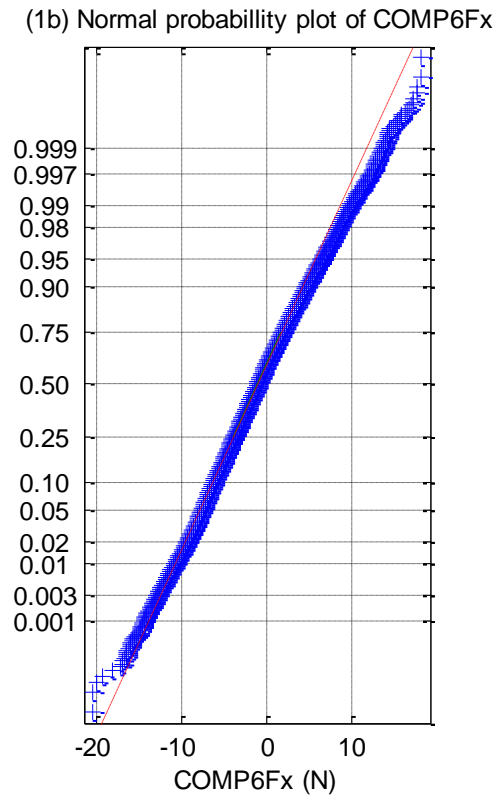
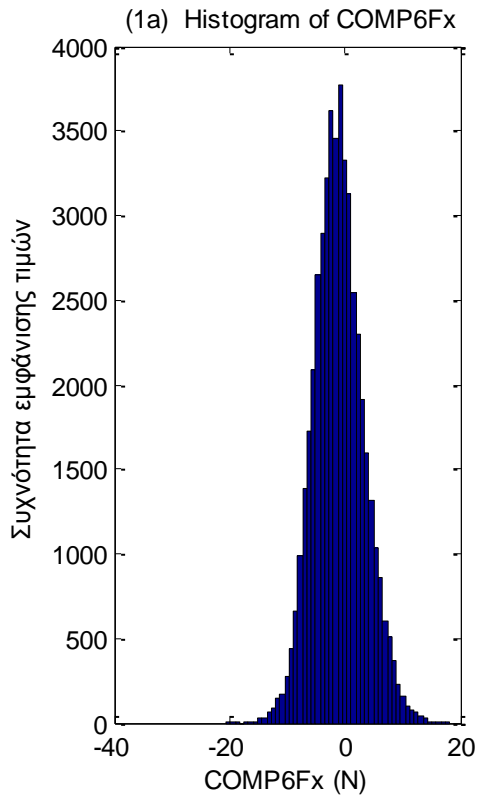
(9b) Normal probability plot of WG9



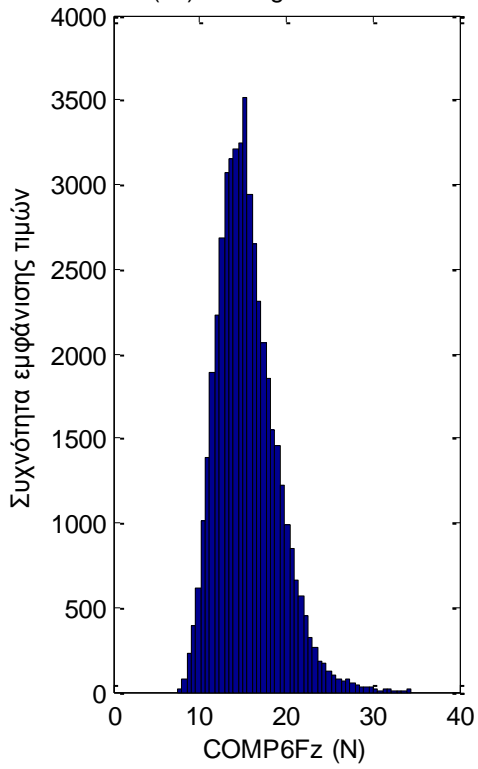




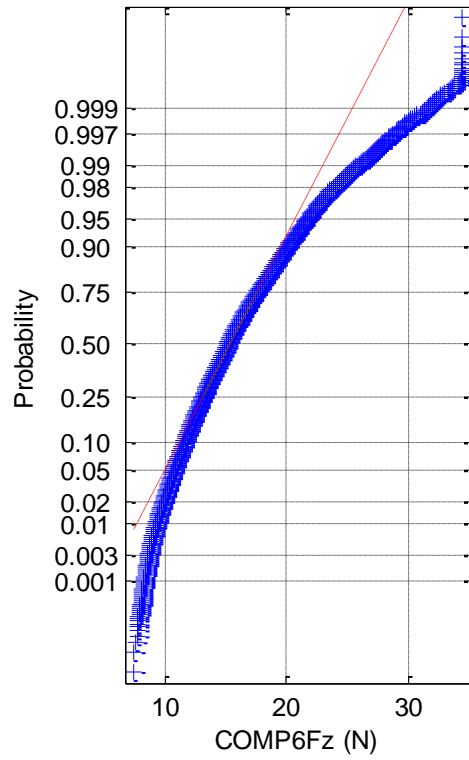
**Σχήματα 2.5.2.1 (1-11)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος



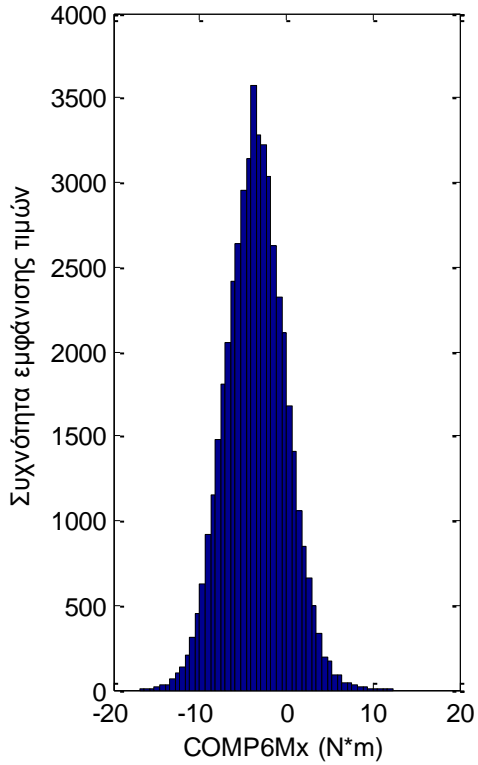
(3a) Histogram of COMP6Fz



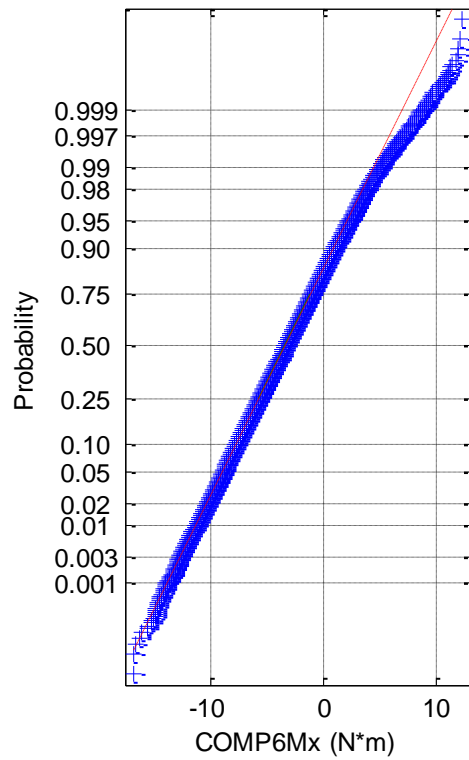
(3b) Normal probability plot of COMP6Fz

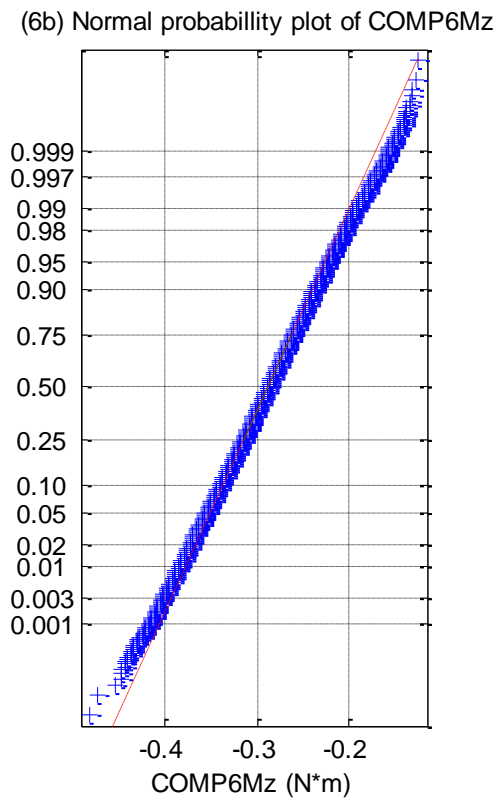
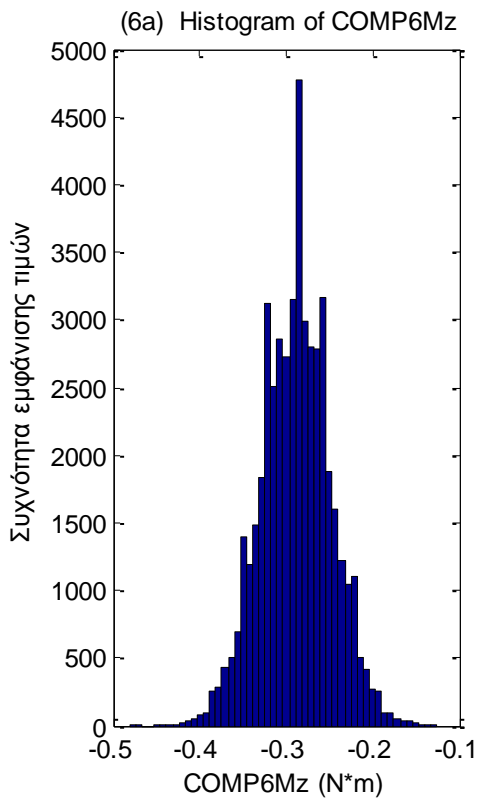
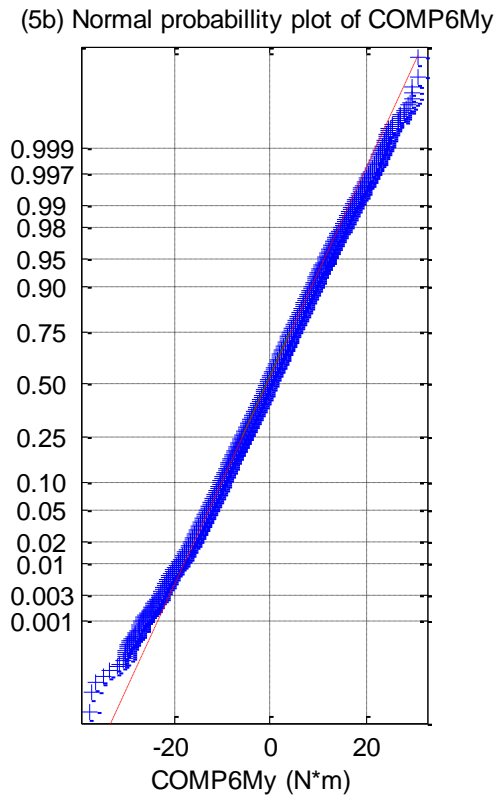
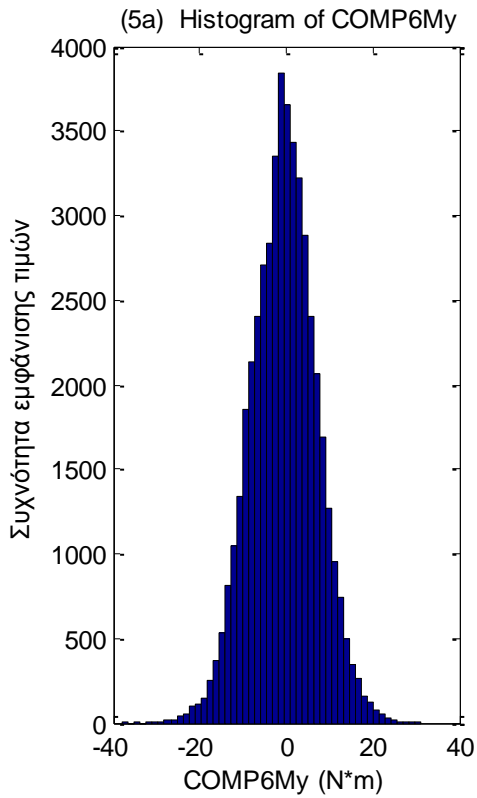


(4a) Histogram of COMP6Mx

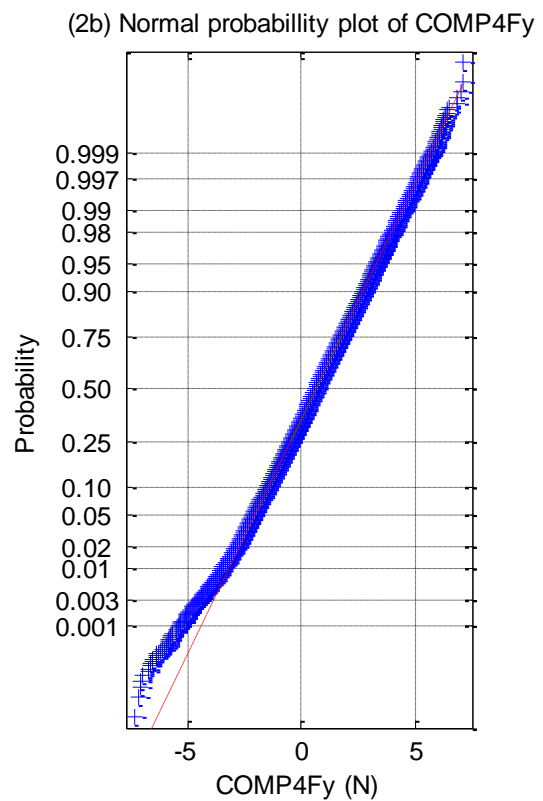
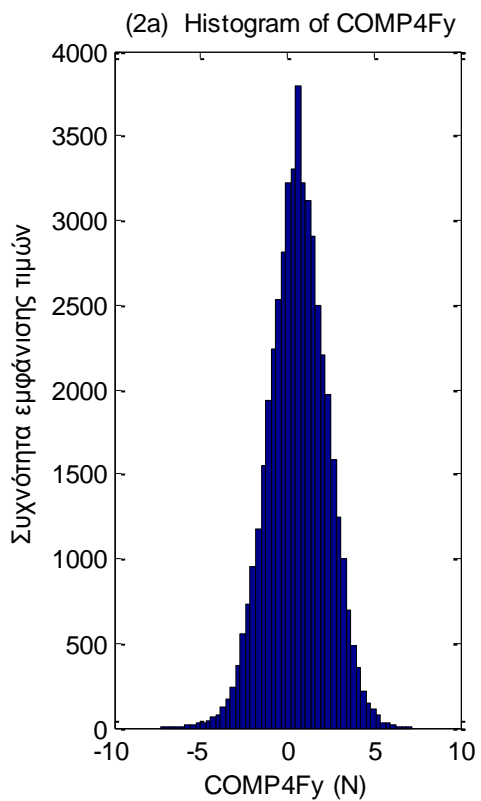
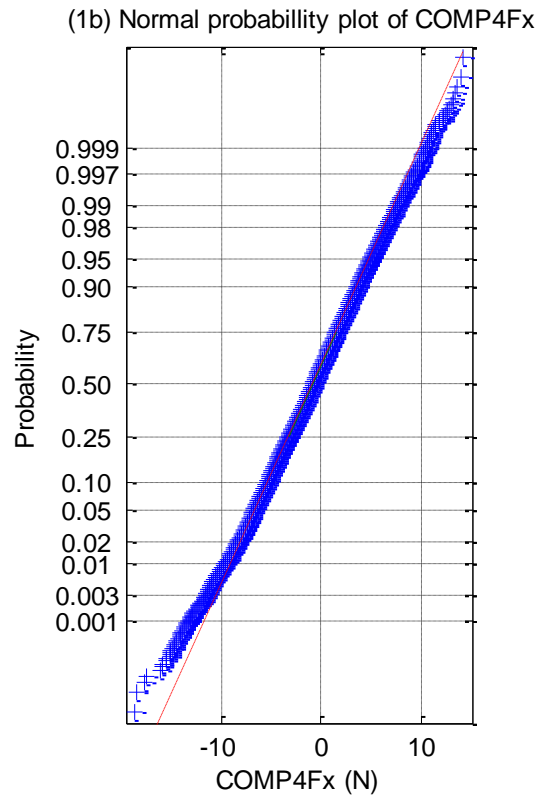
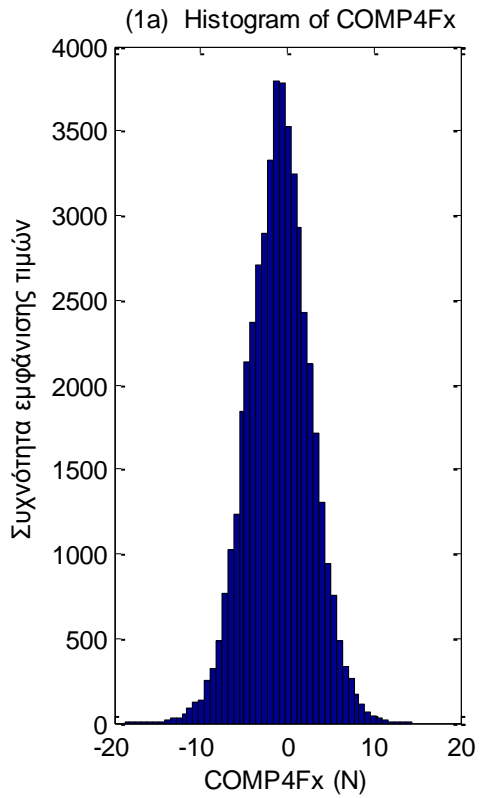


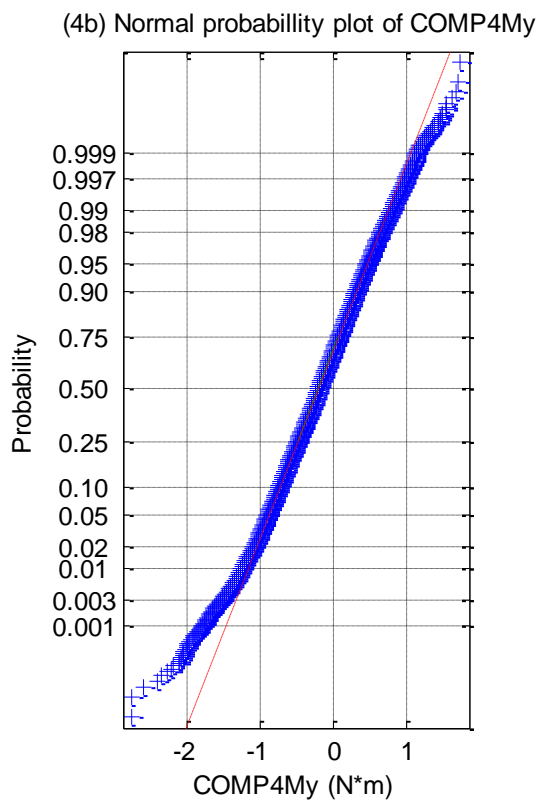
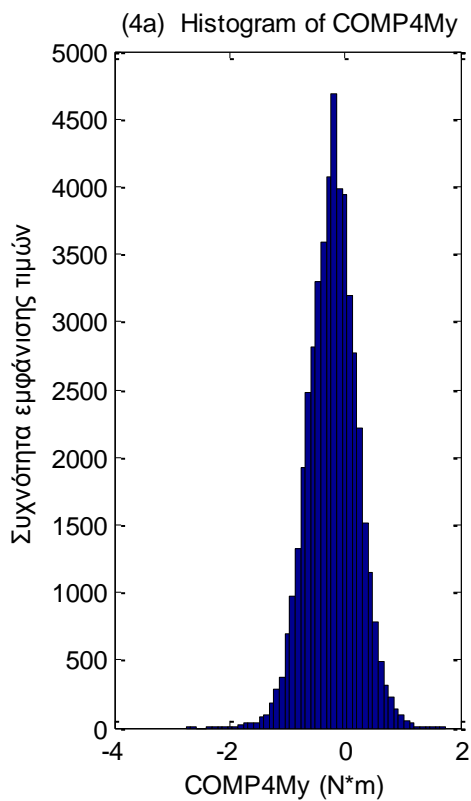
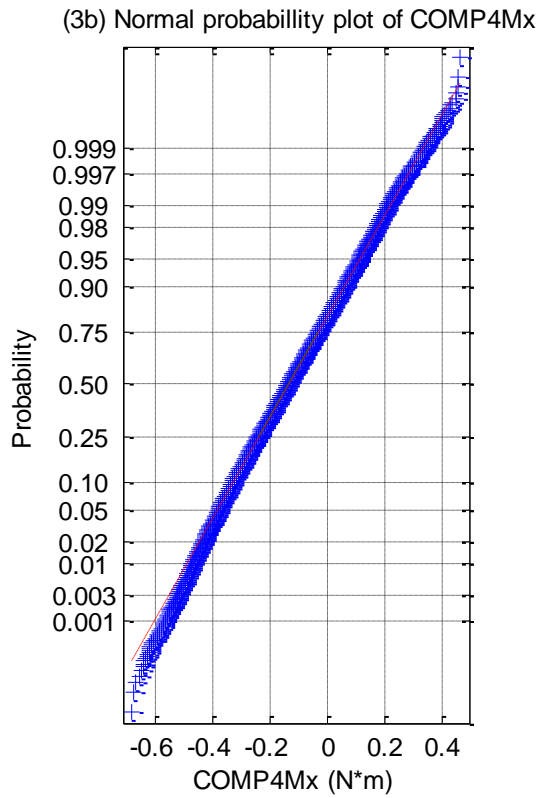
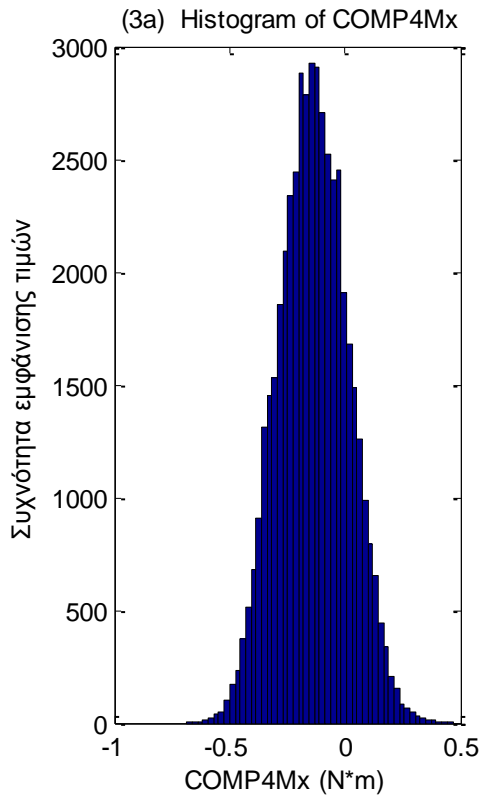
(4b) Normal probability plot of COMP6Mx





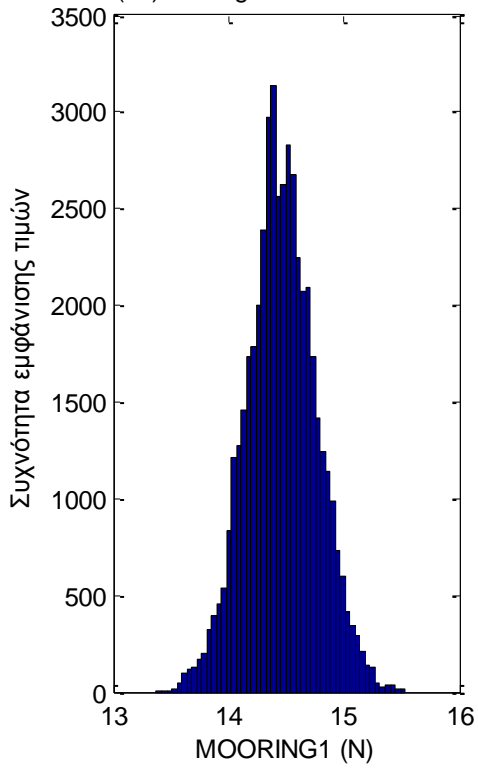
**Σχήματα 2.5.2.2** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



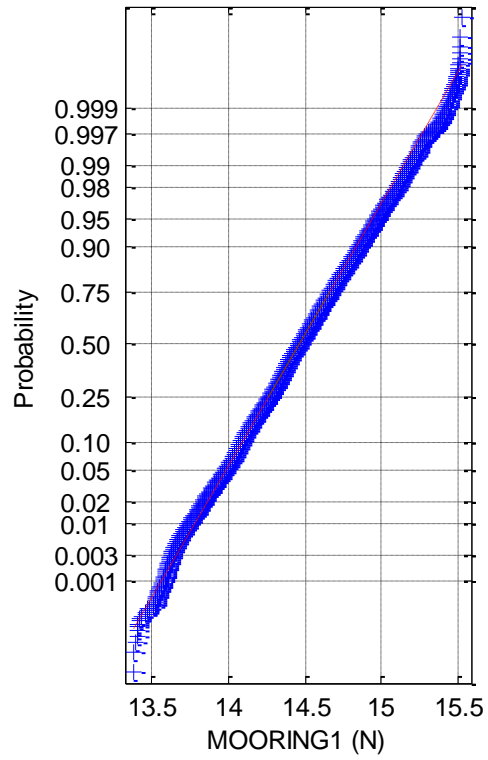


**Σχήματα 2.5.2.3** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

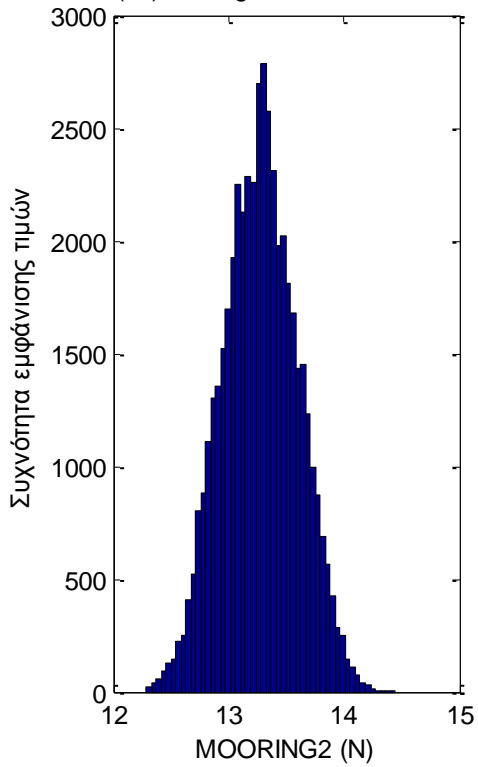
(1a) Histogram of MOORING1



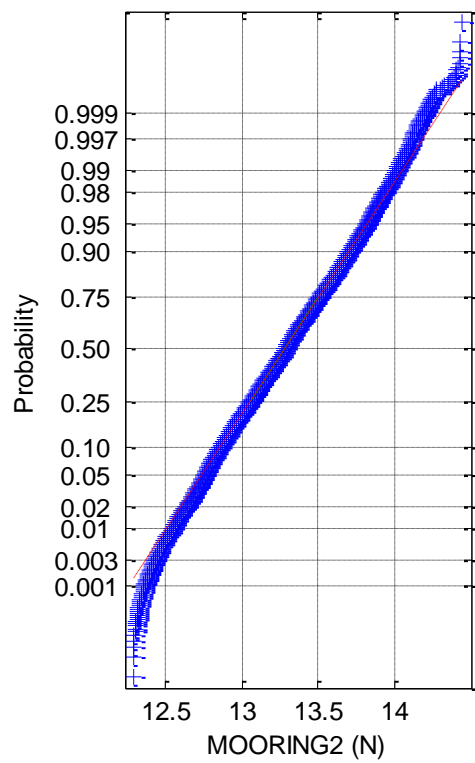
(1b) Normal probability plot of MOORING1

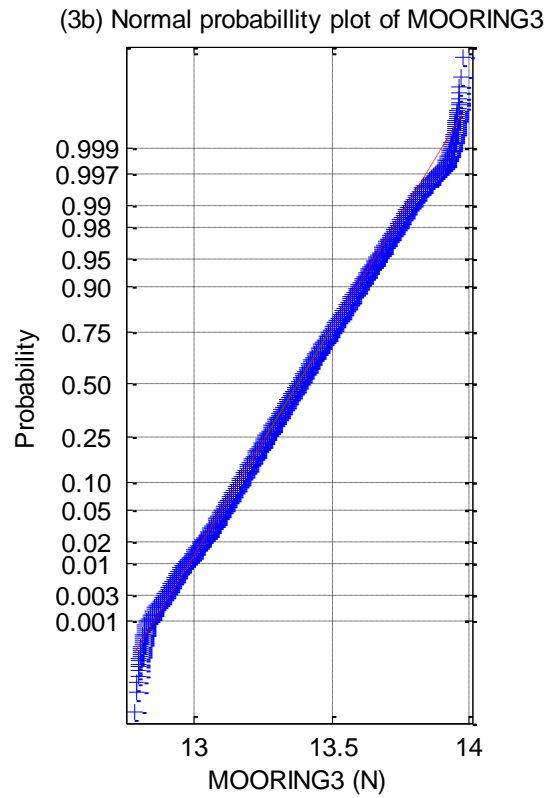
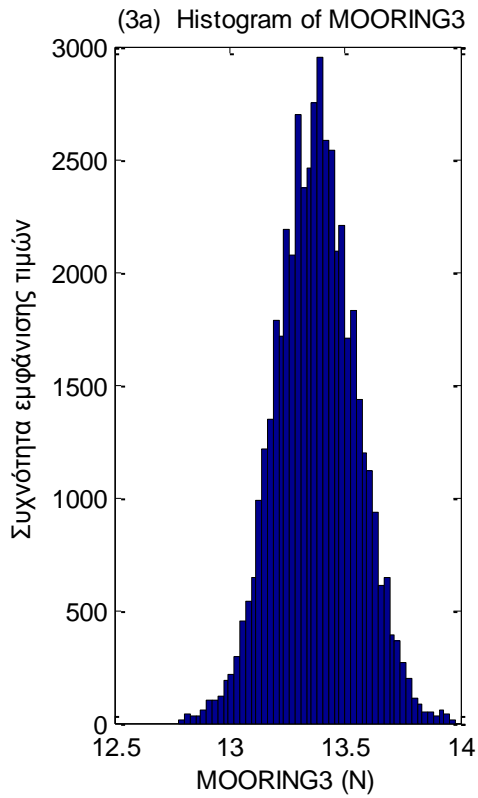


(2a) Histogram of MOORING2

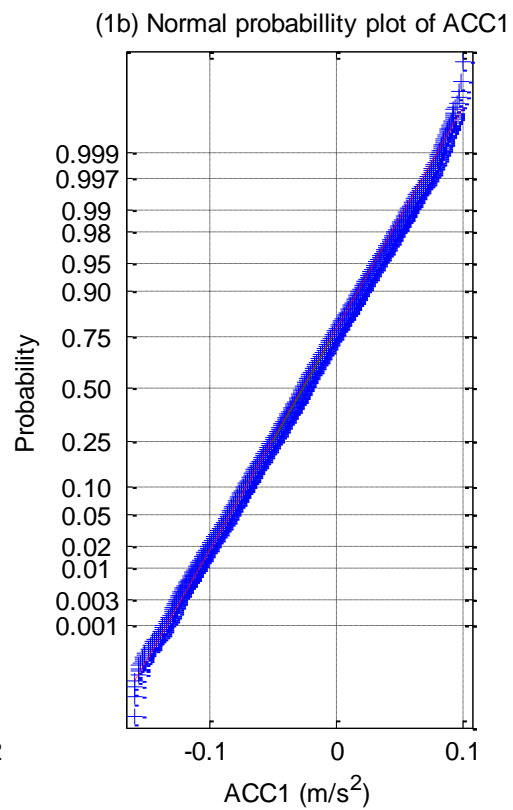
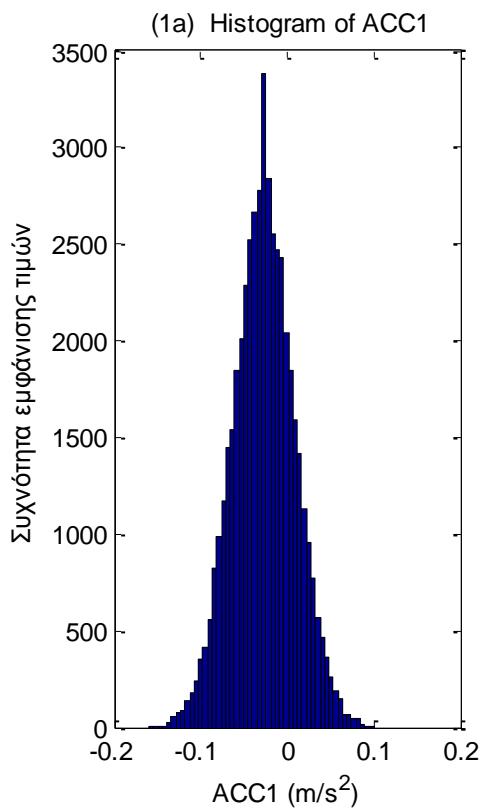


(2b) Normal probability plot of MOORING2

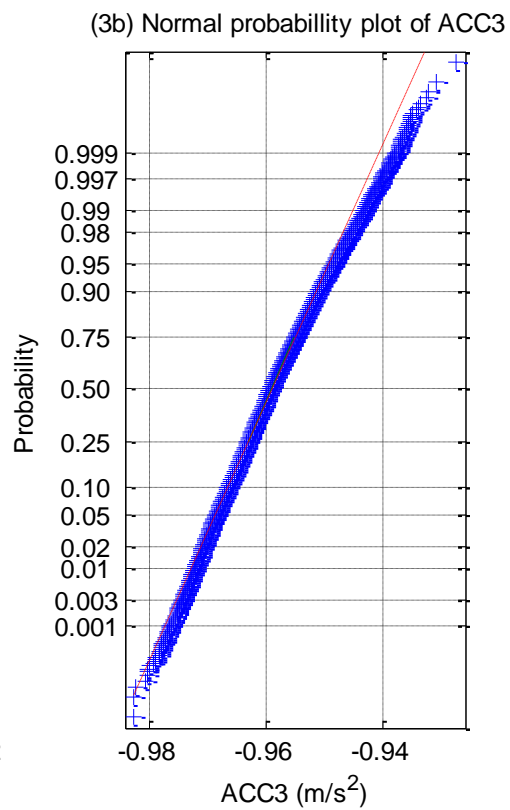
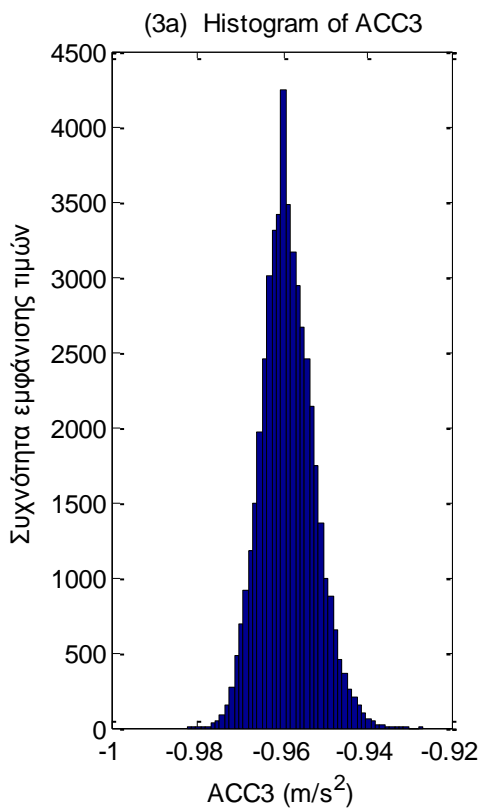
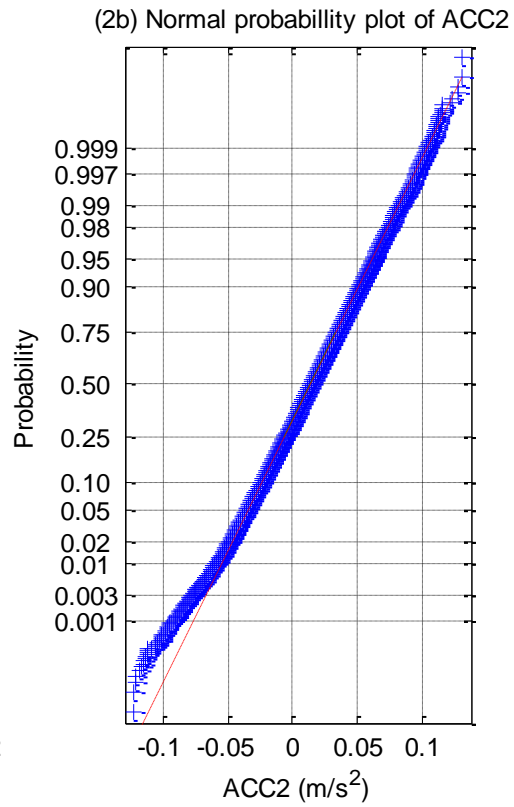
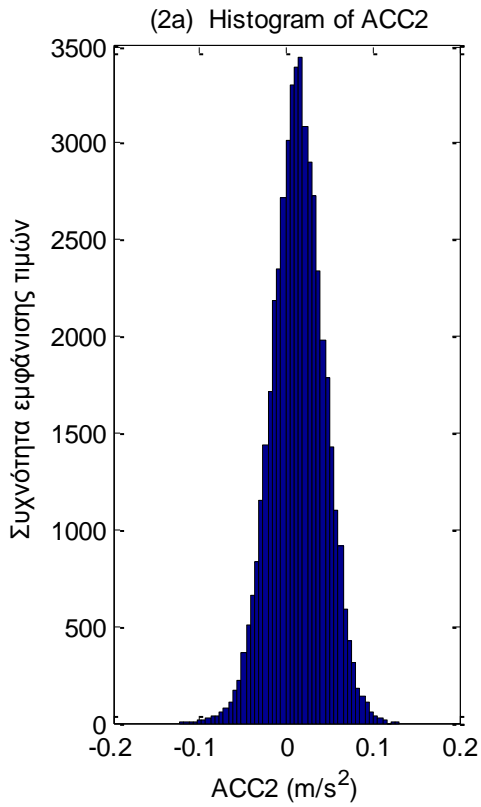




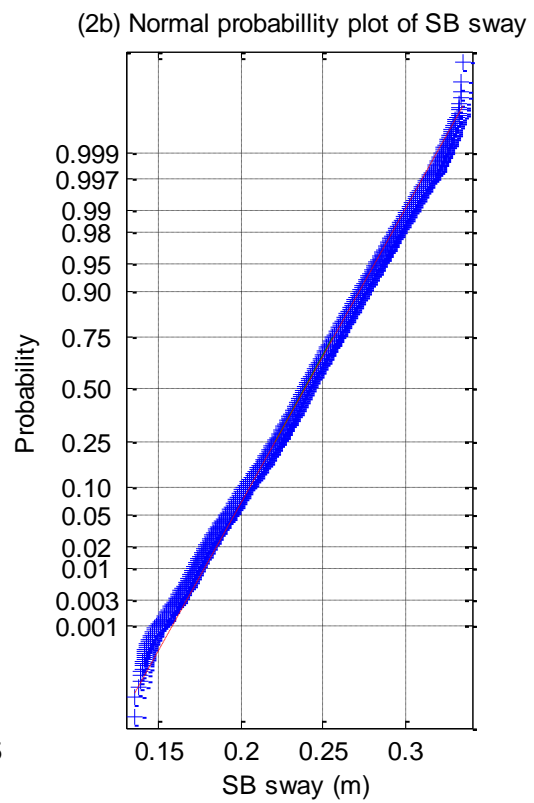
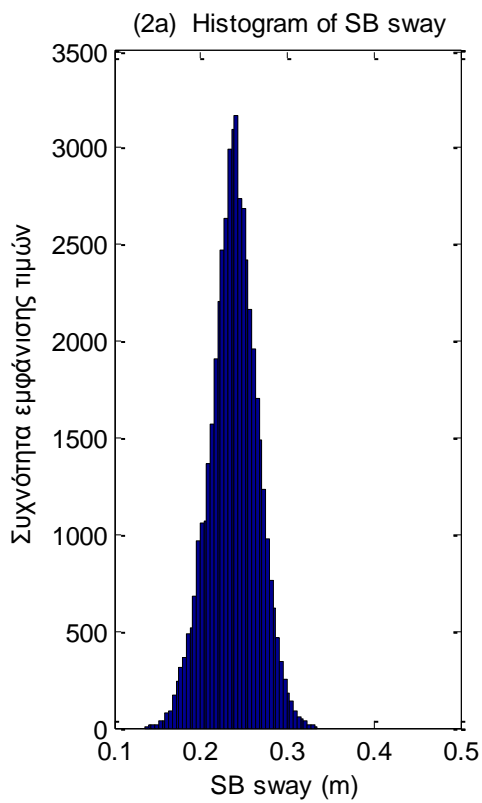
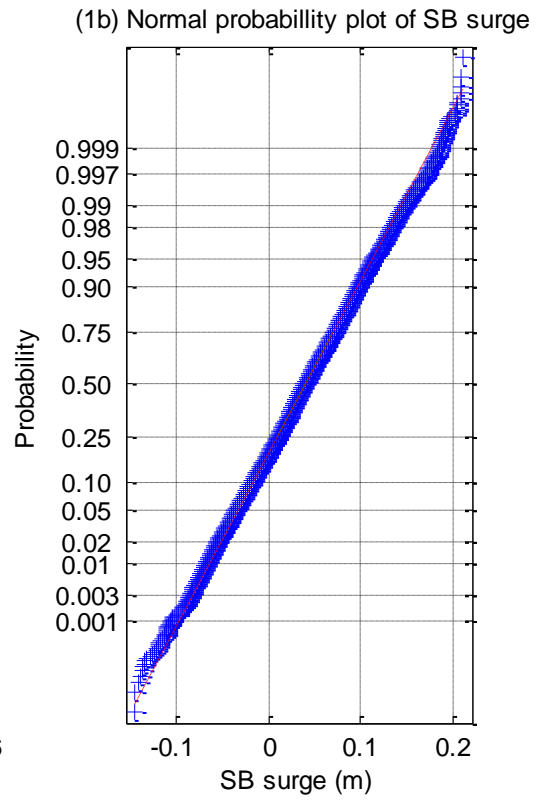
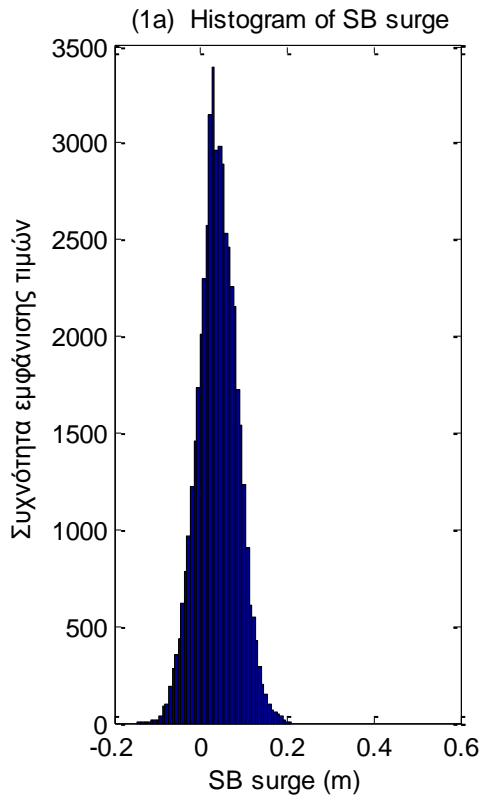
**Σχήματα 2.5.2.4 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



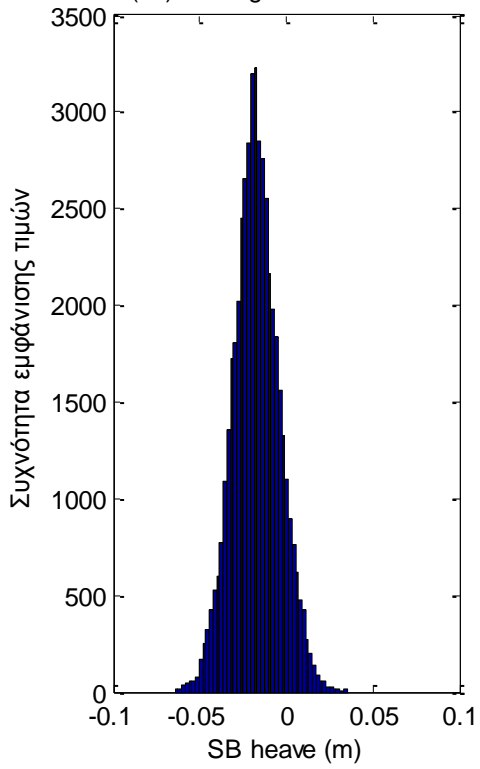




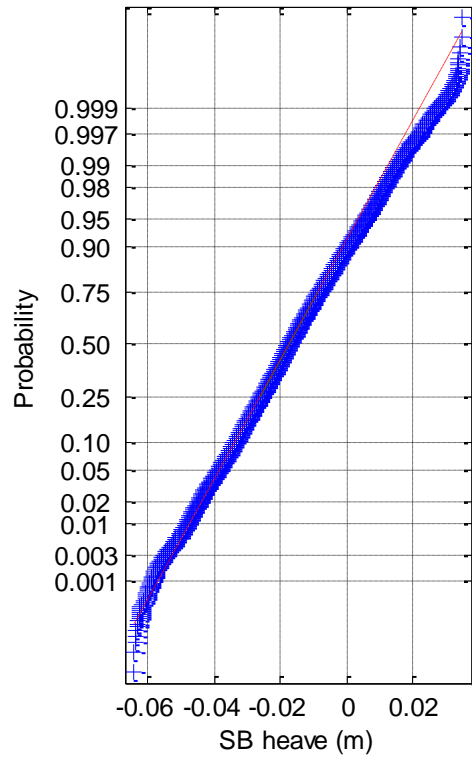
**Σχήματα 2.5.2.5 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



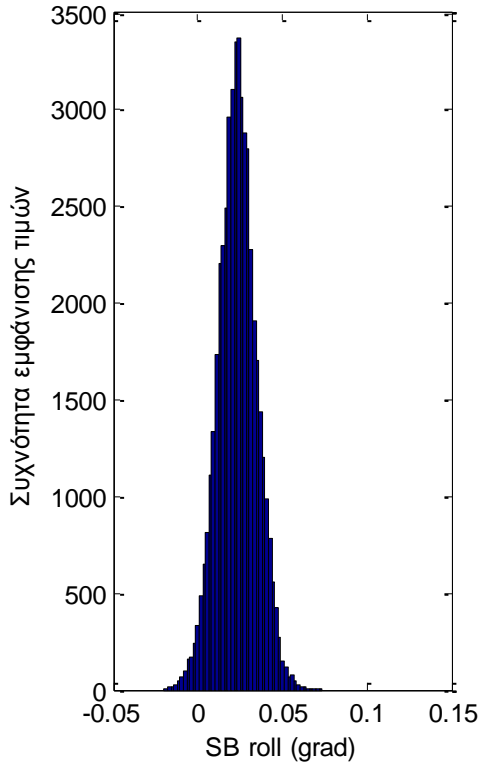
(3a) Histogram of SB heave



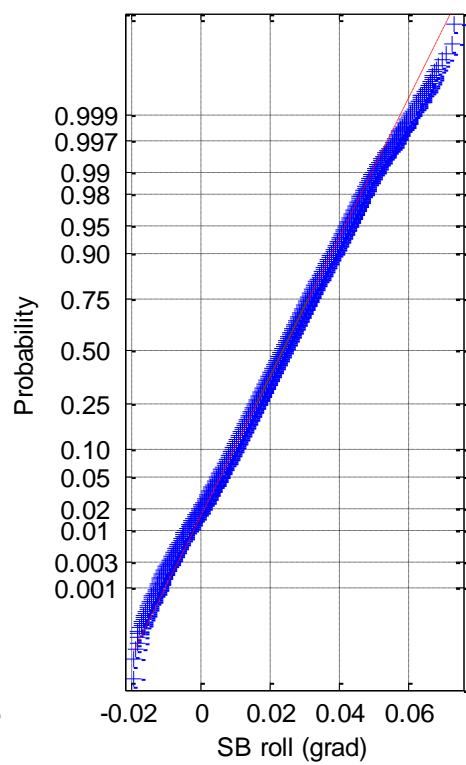
(3b) Normal probability plot of SB heave

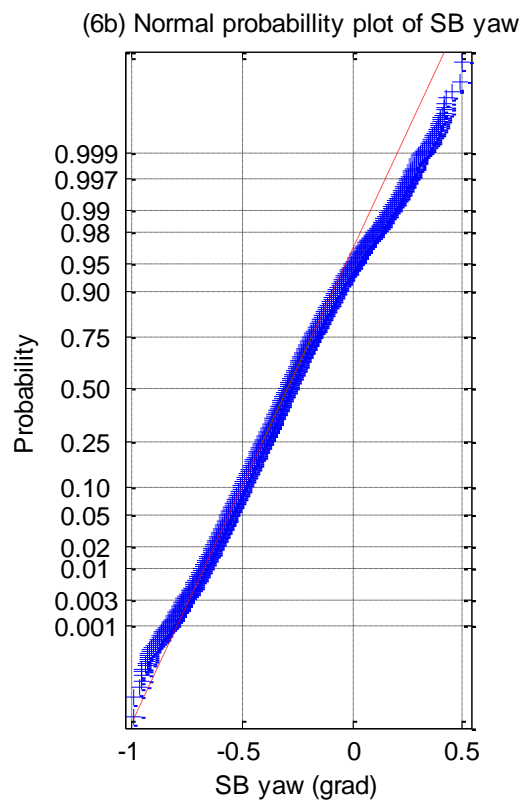
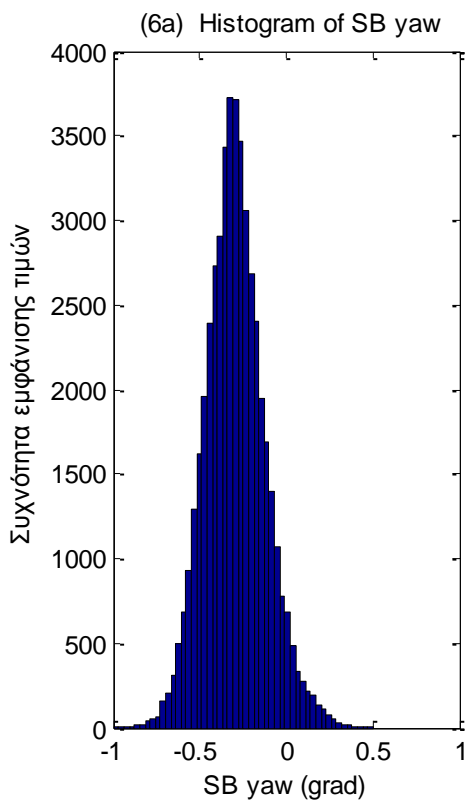
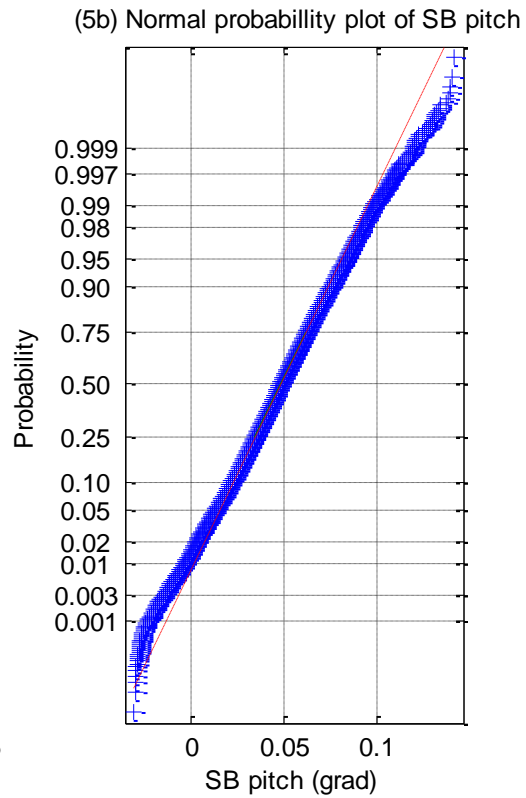
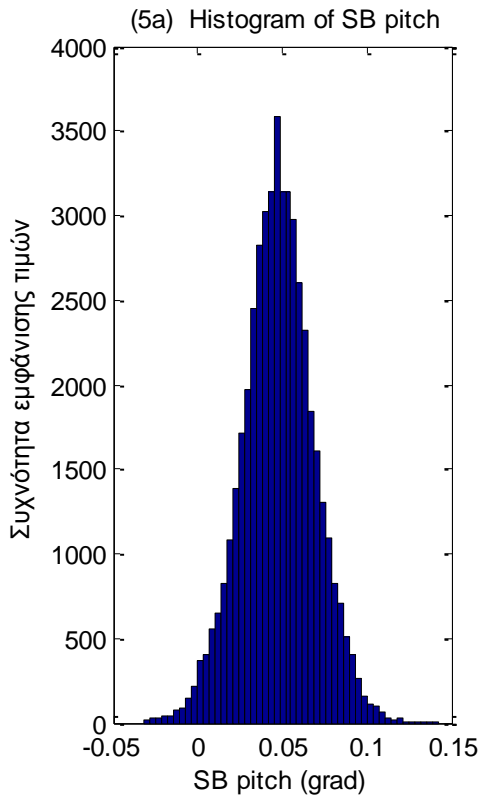


(4a) Histogram of SB roll

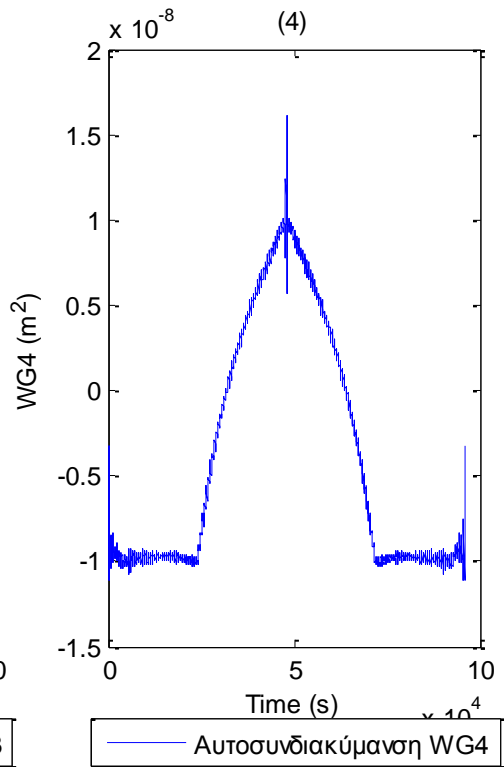
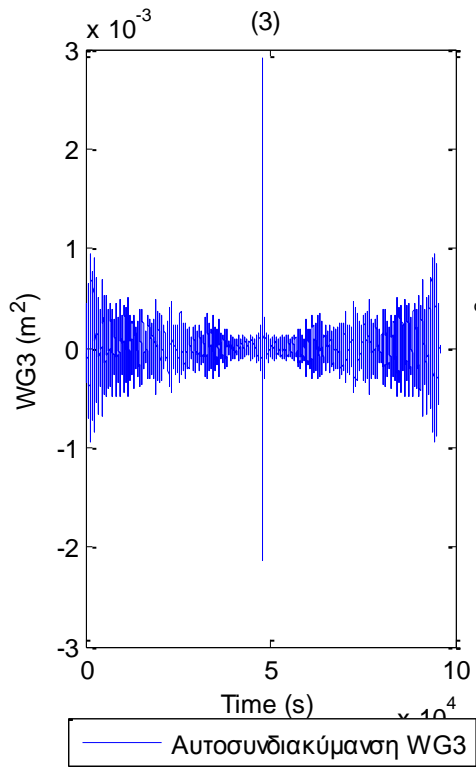
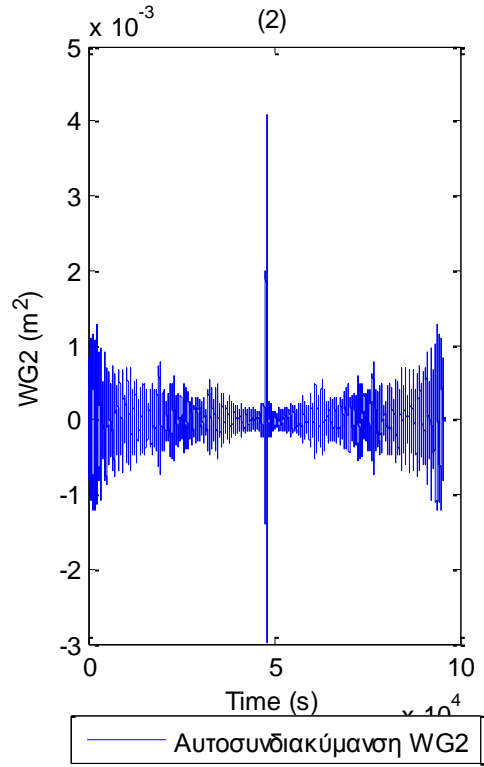
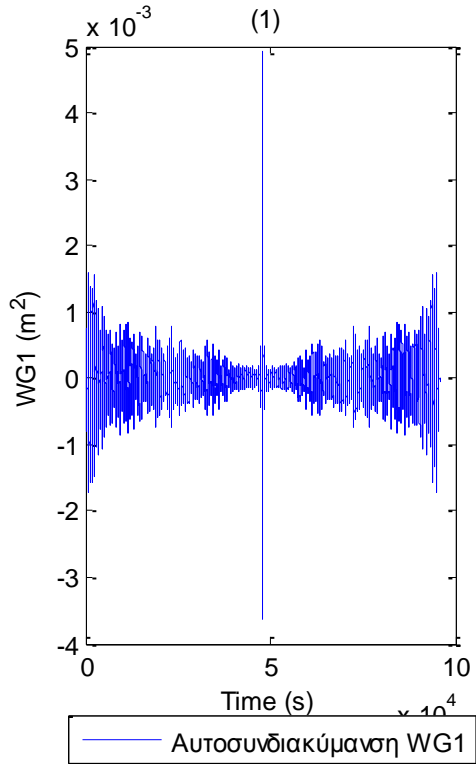


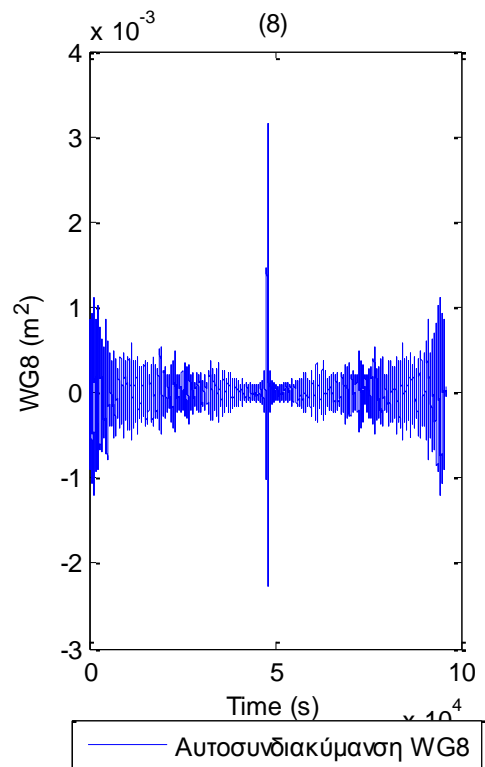
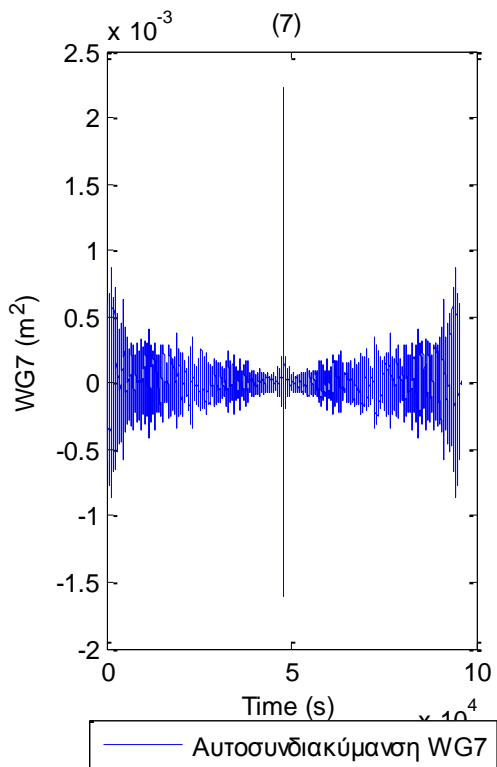
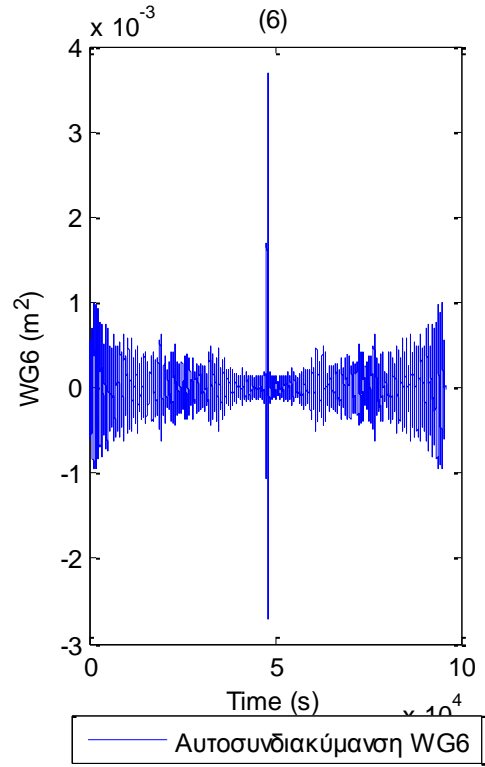
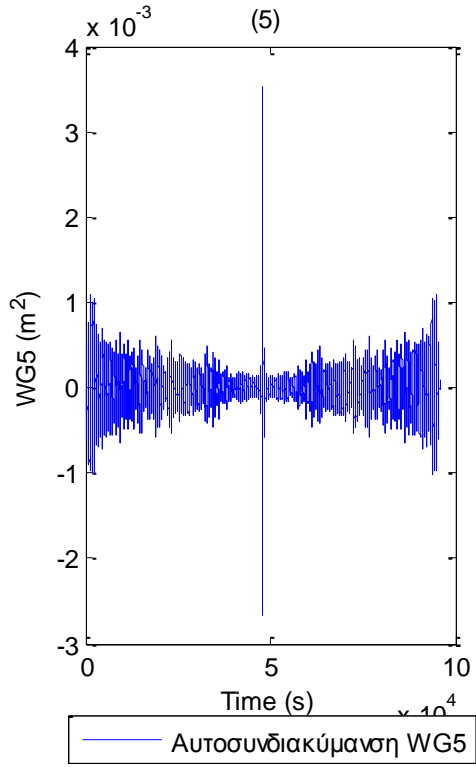
(4b) Normal probability plot of SB roll

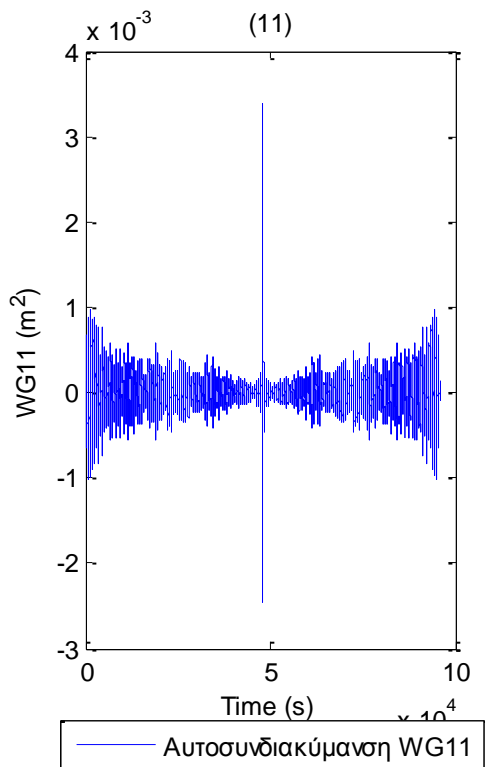
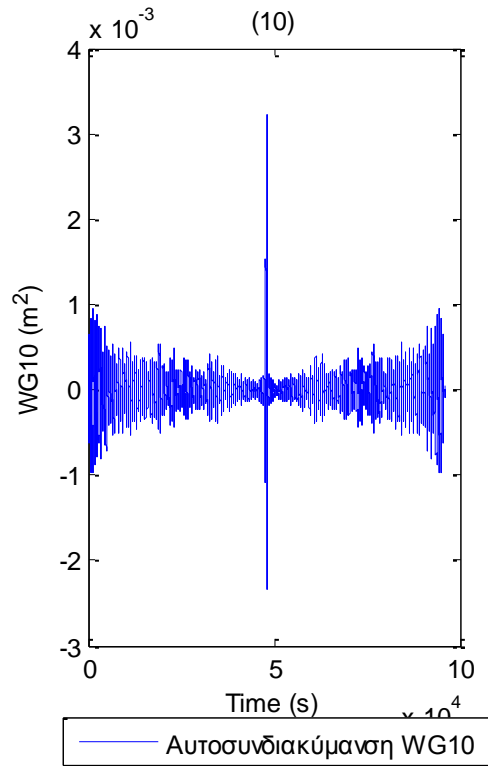
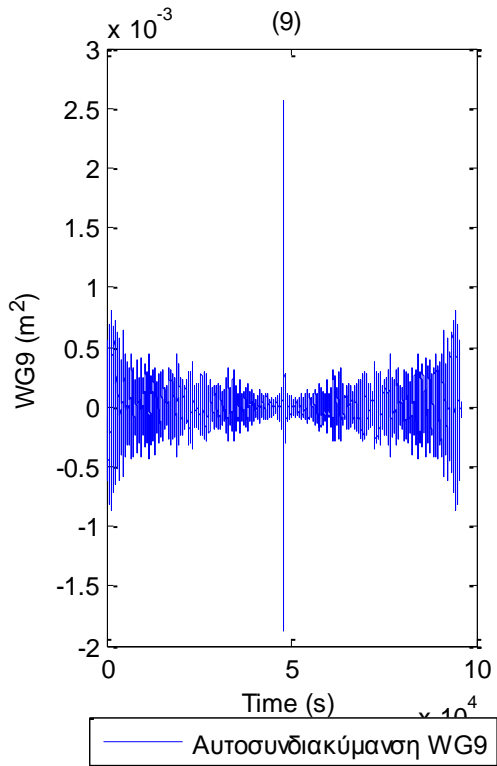




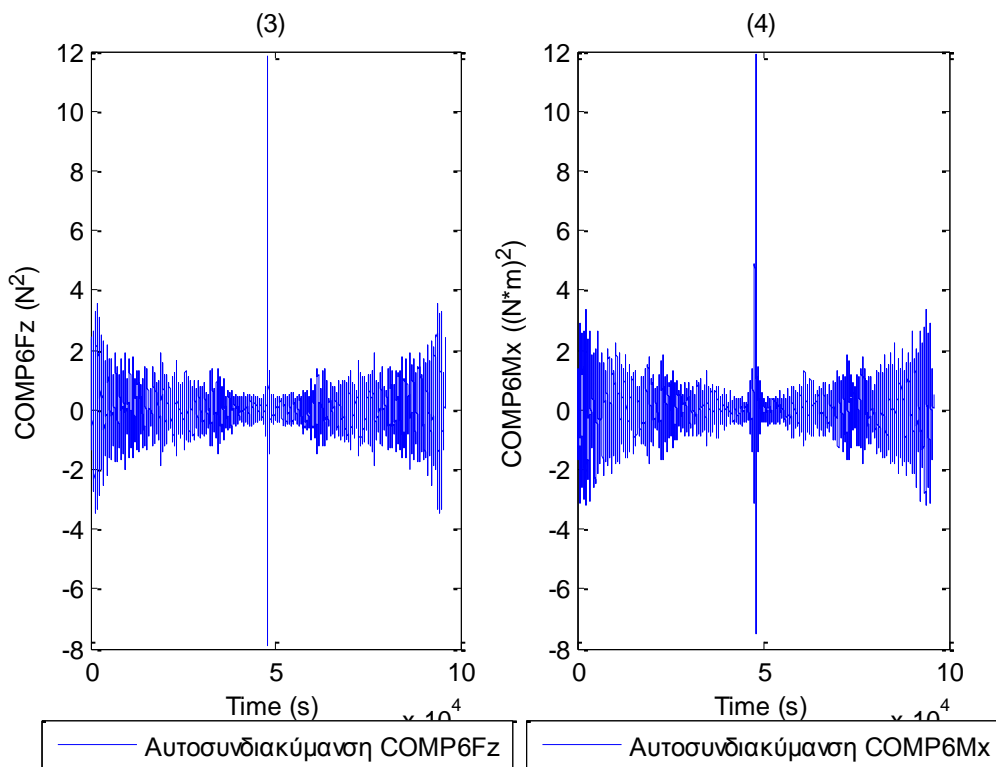
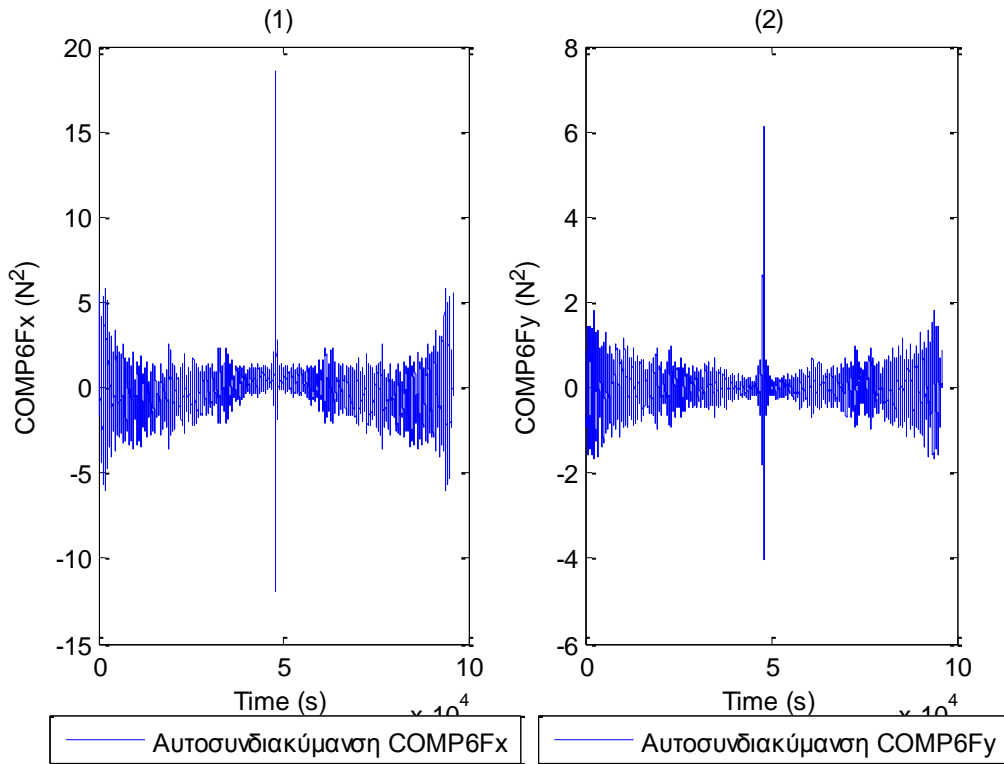
**Σχήματα 2.5.2.6** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



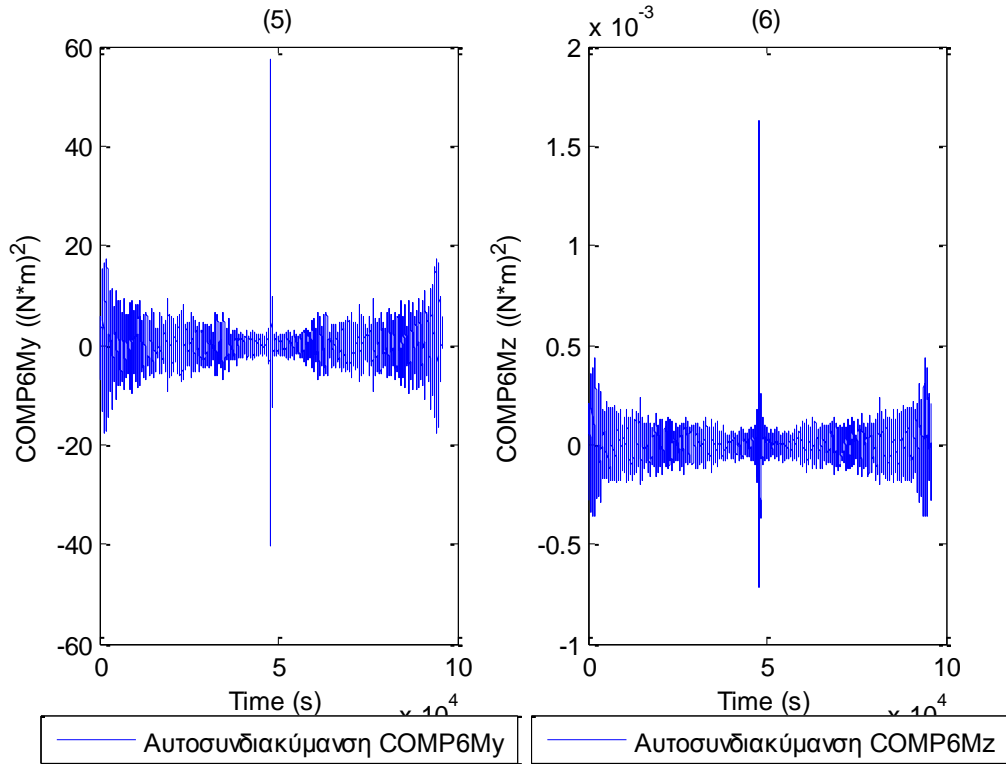




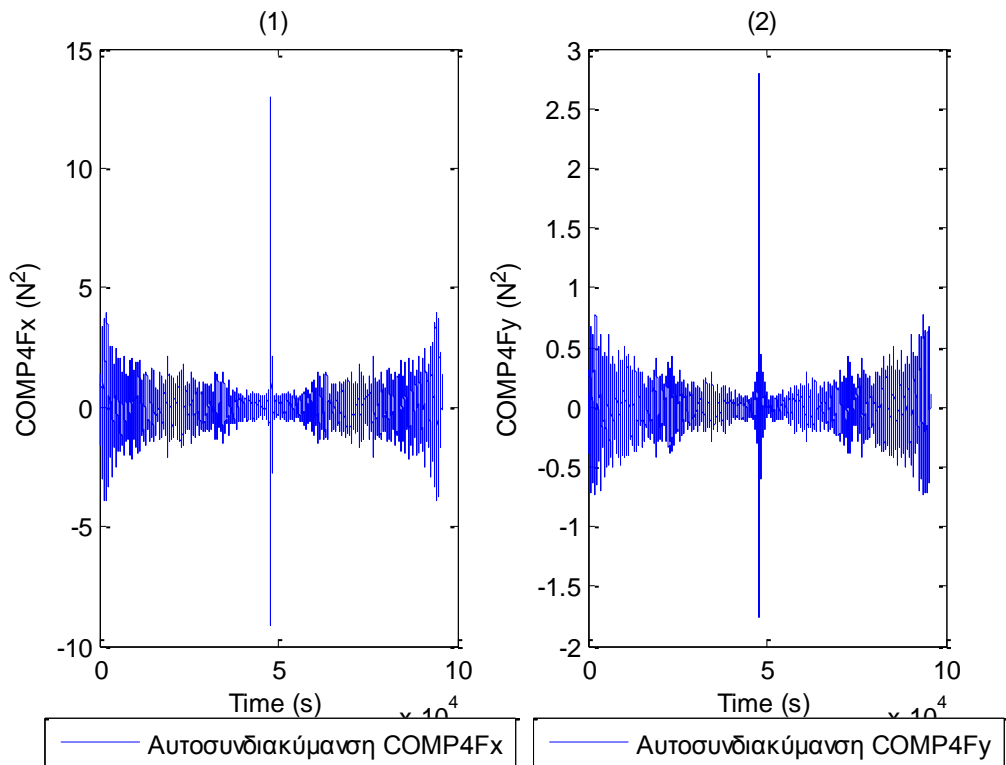
**Σχήματα 2.5.3.1 (1-11)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος

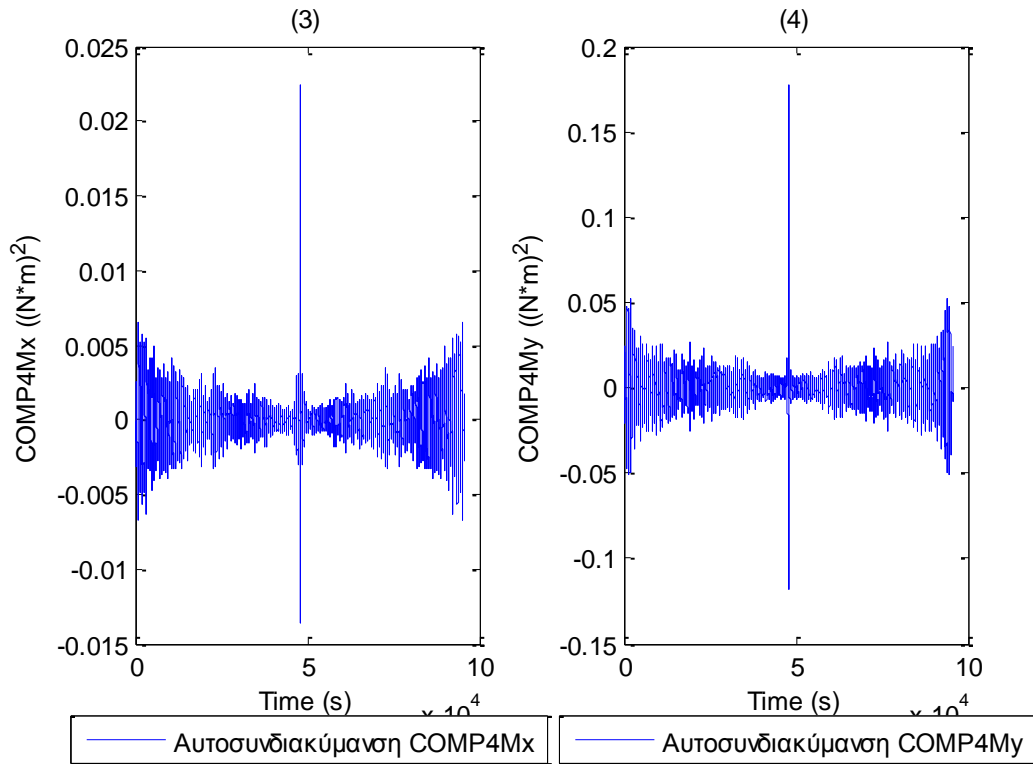




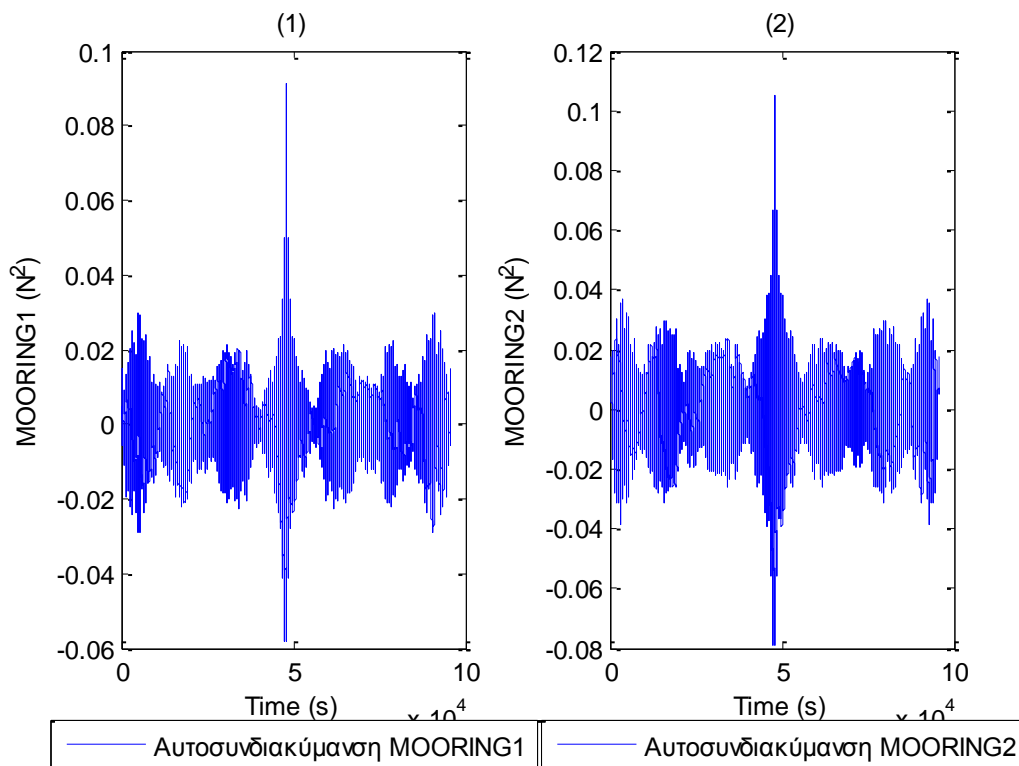


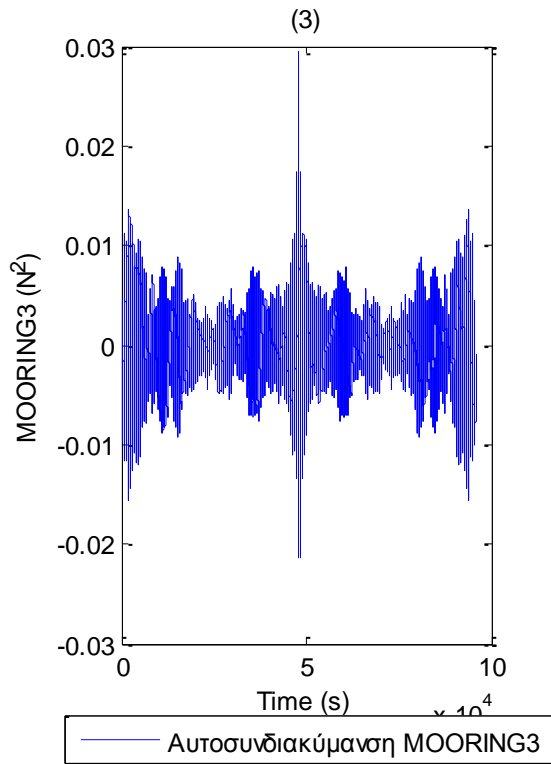
**Σχήματα 2.5.3.2** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



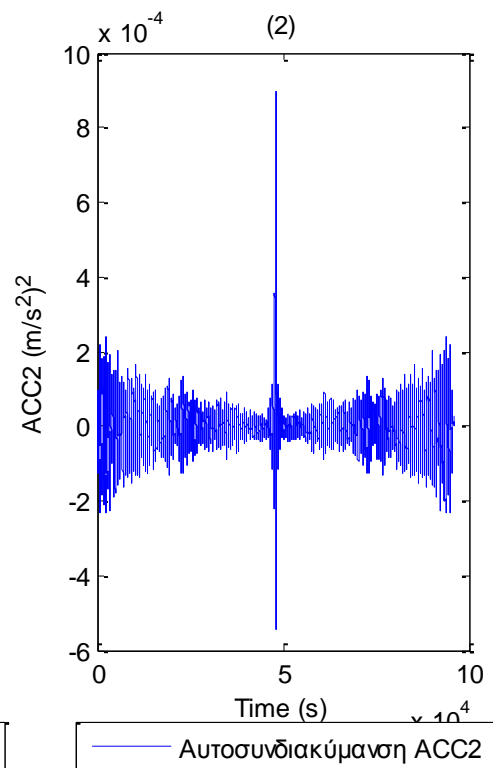
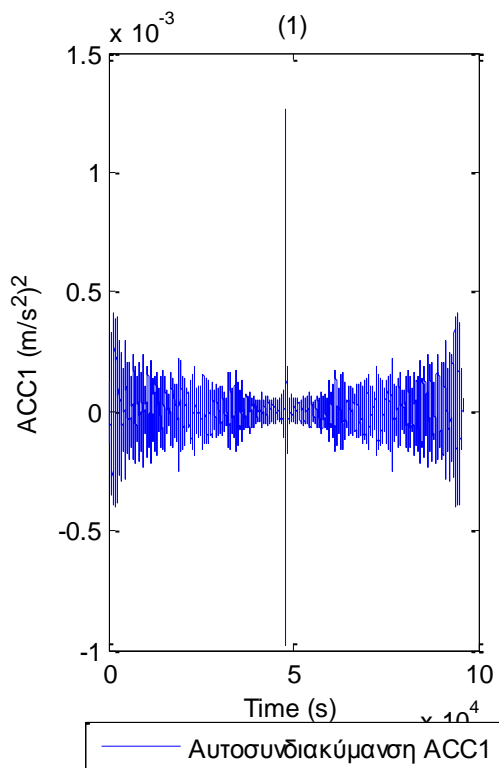


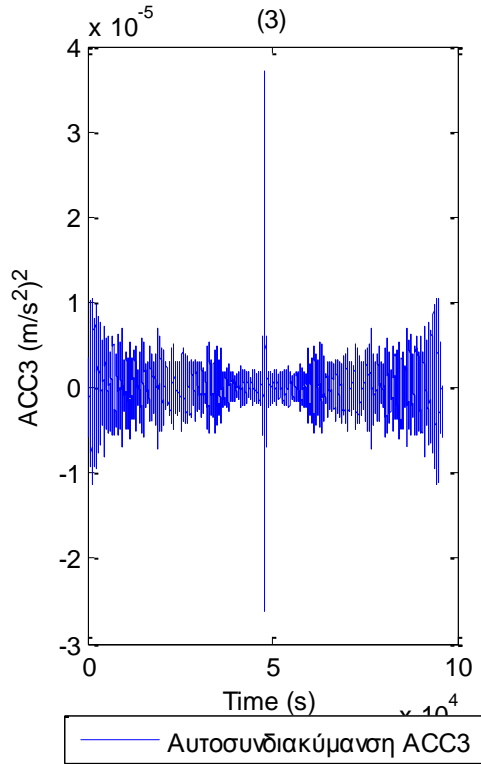
**Σχήματα 2.5.3.3** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



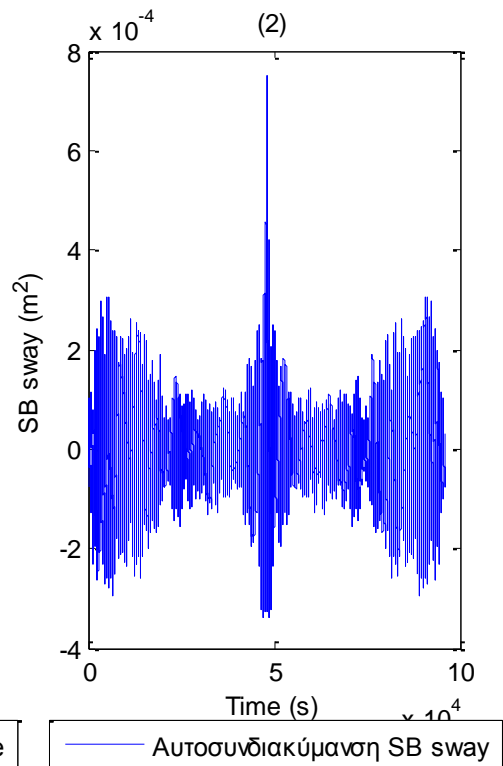
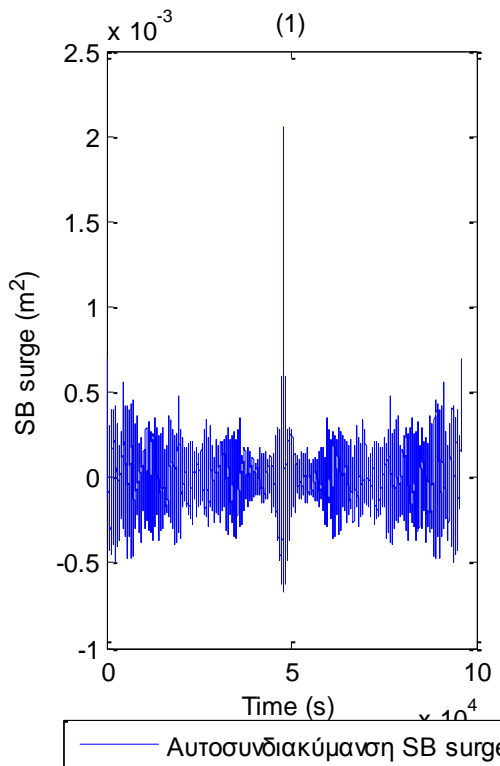


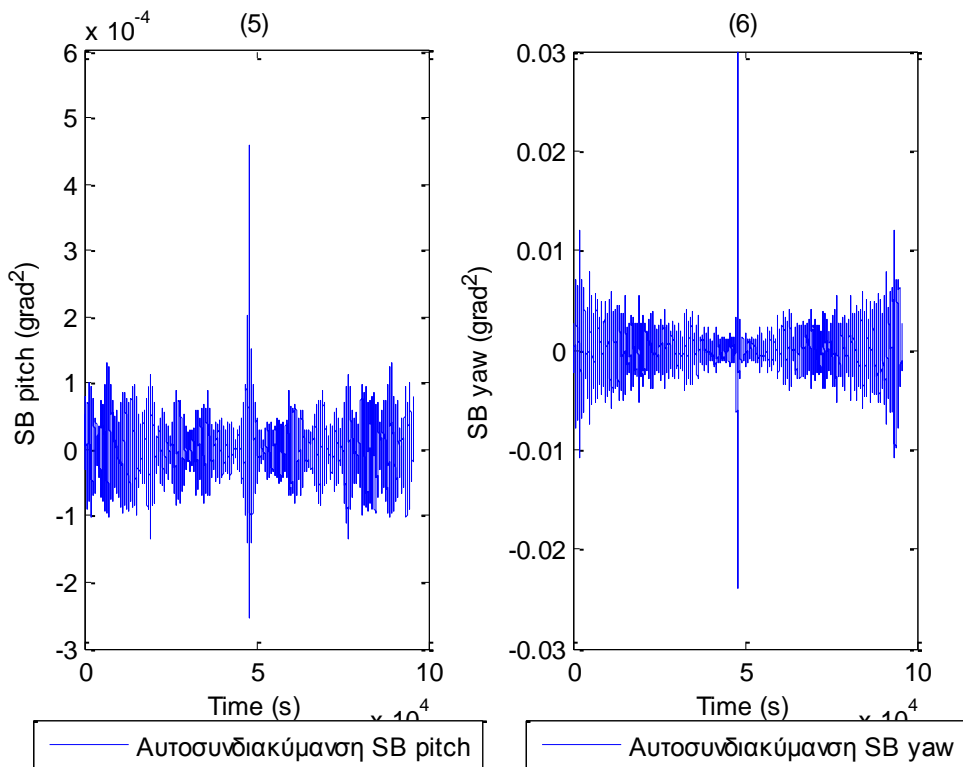
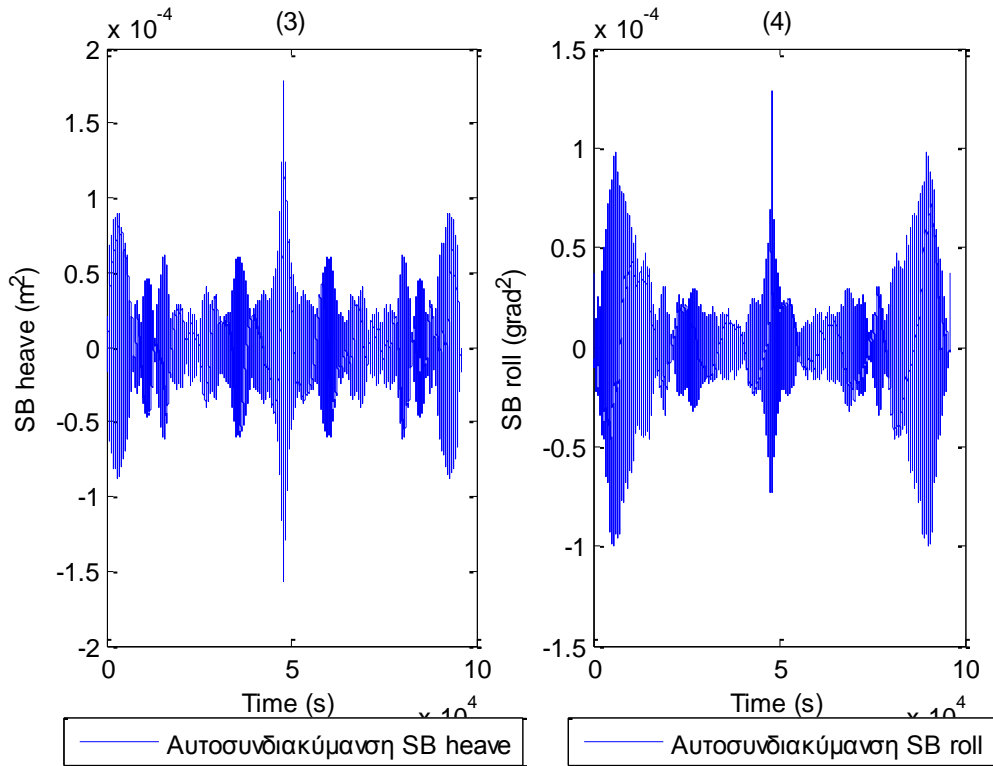
**Σχήματα 2.5.3.4 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



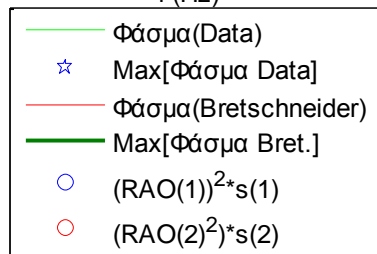
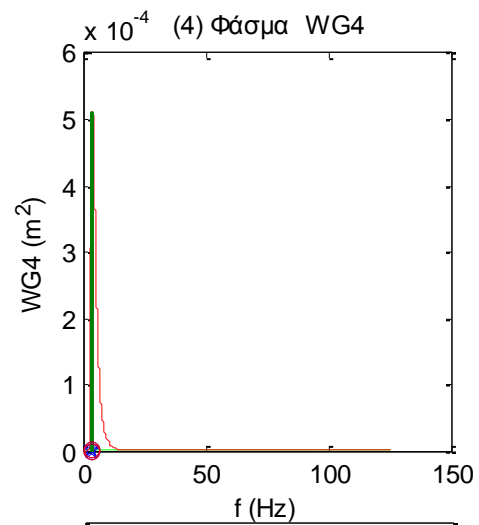
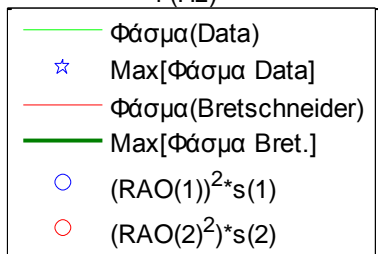
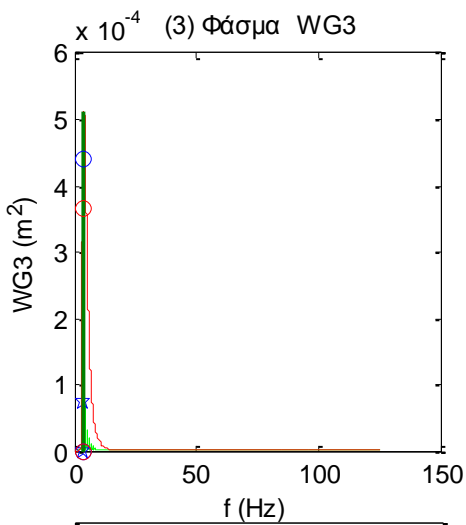
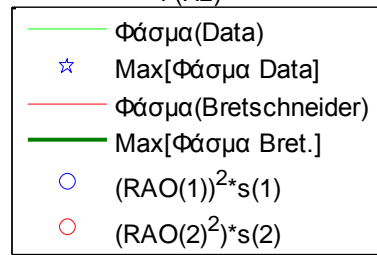
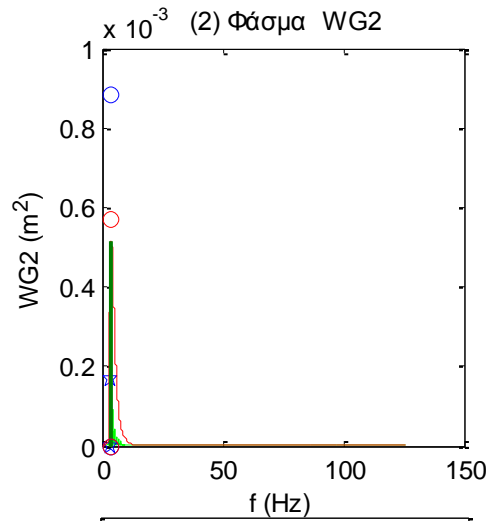
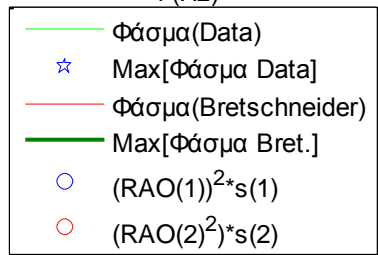
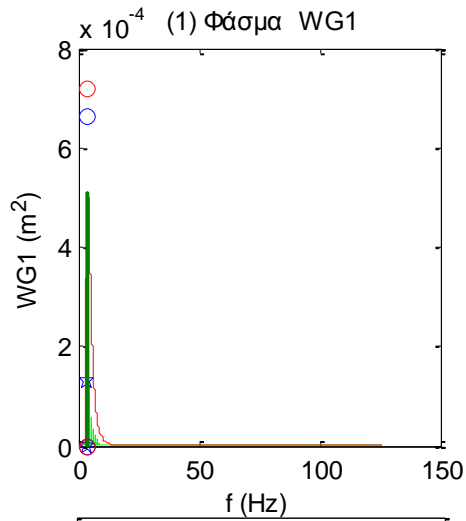


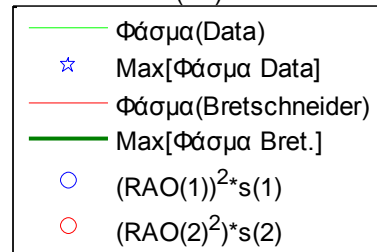
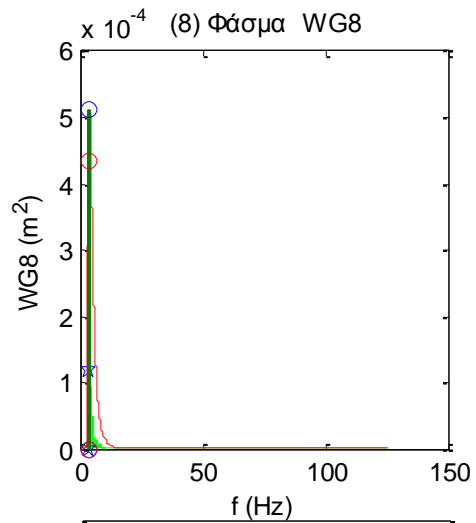
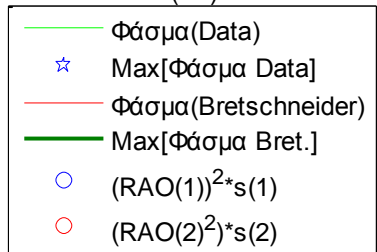
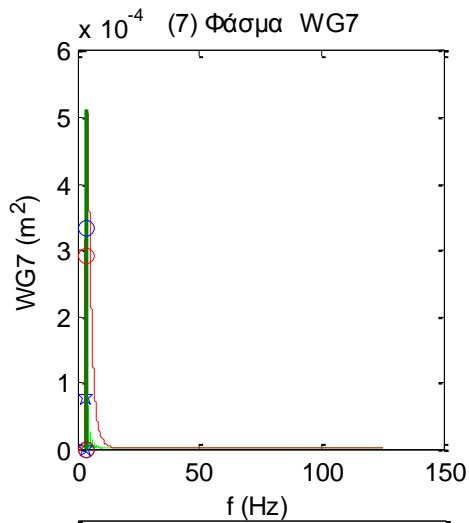
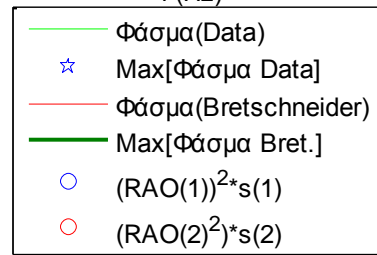
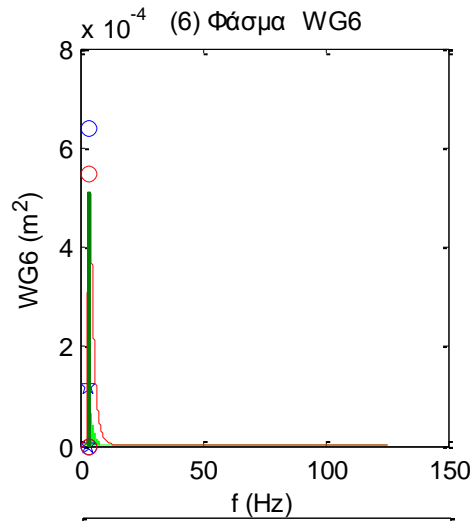
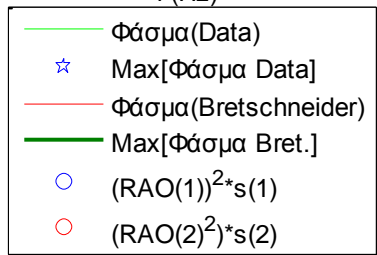
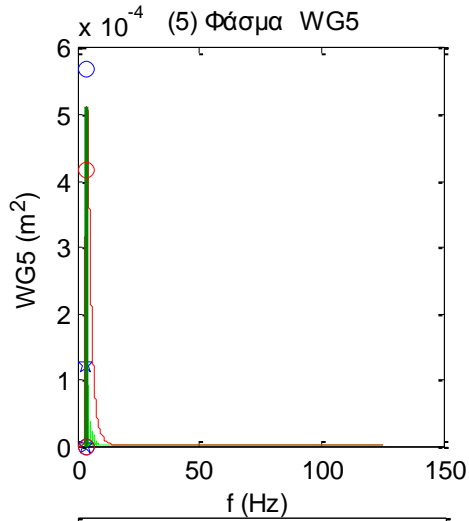
**Σχήματα 2.5.3.5 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

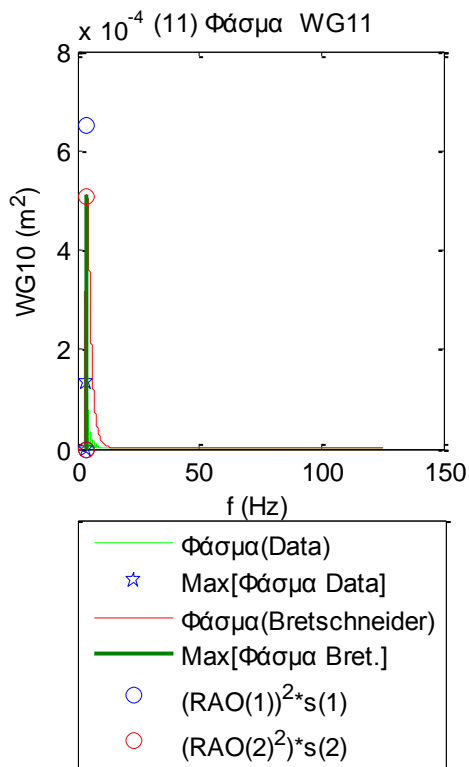
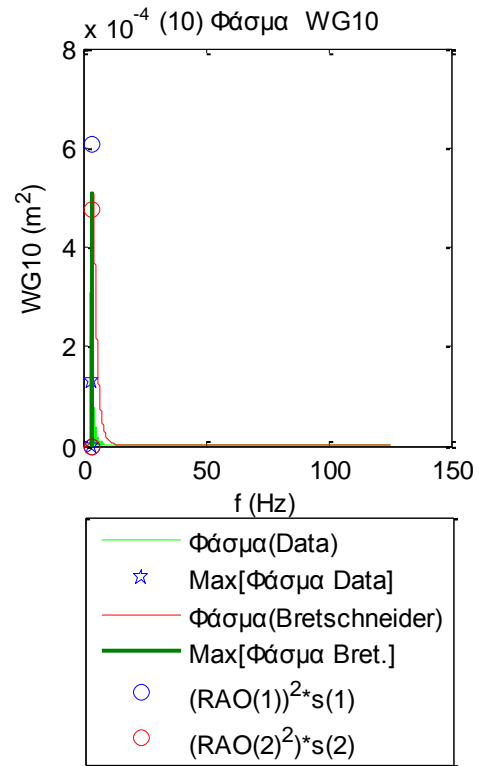
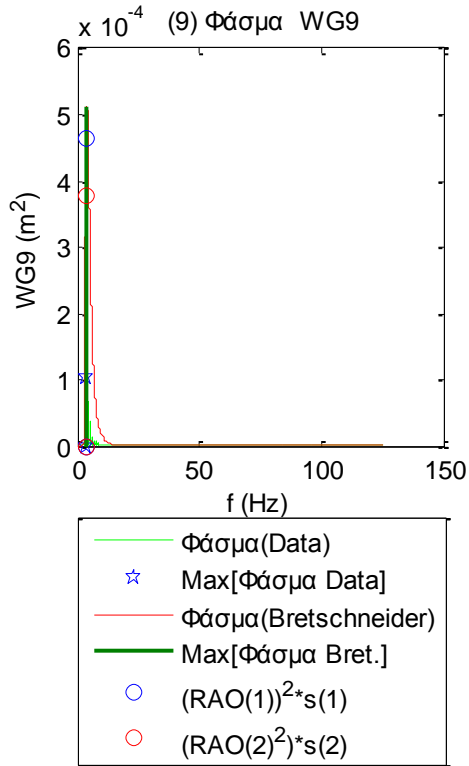




**Σχήματα 2.5.3.6** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

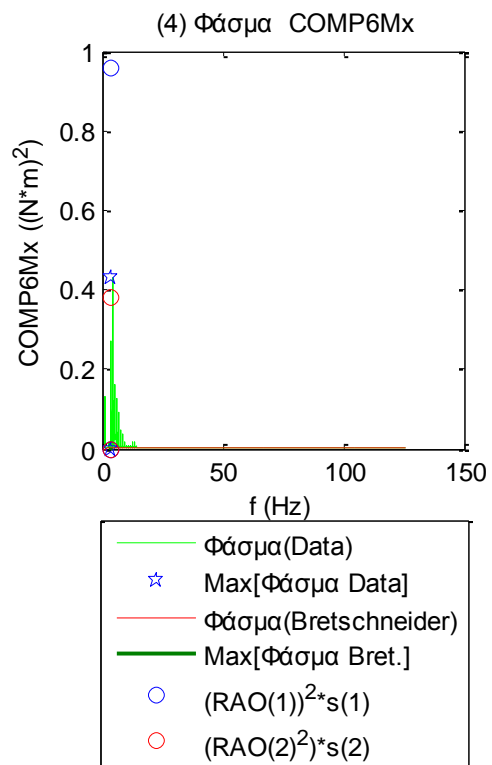
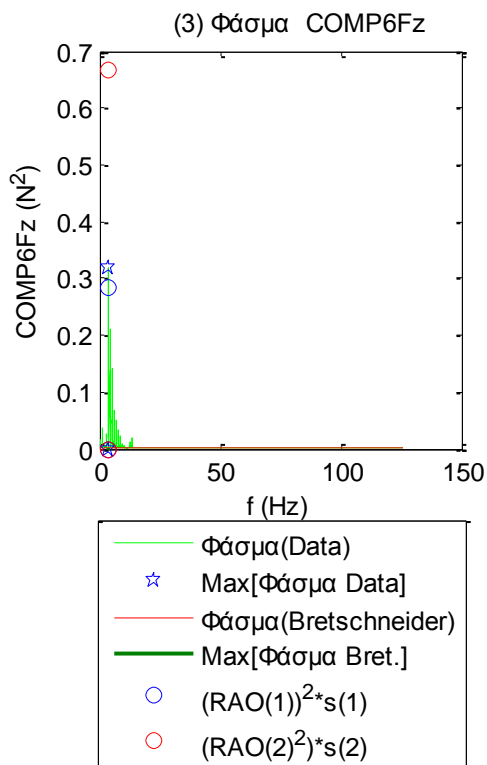
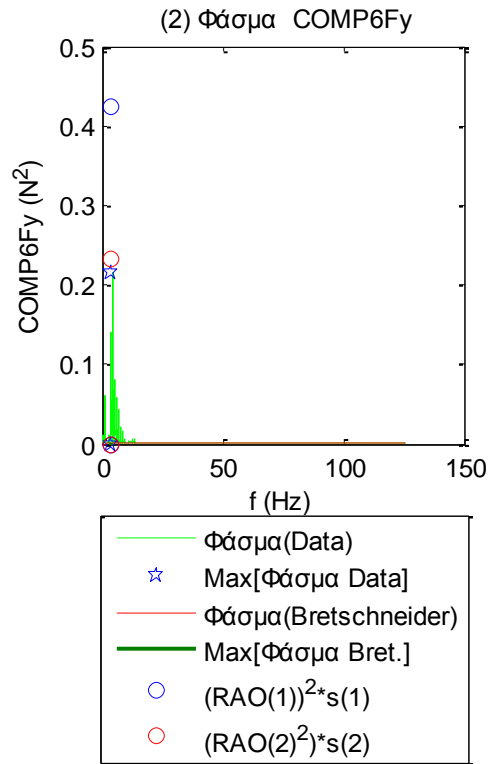
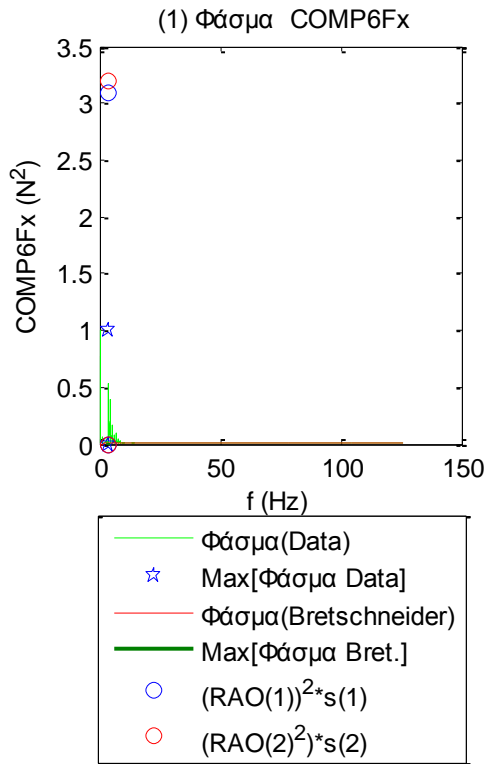


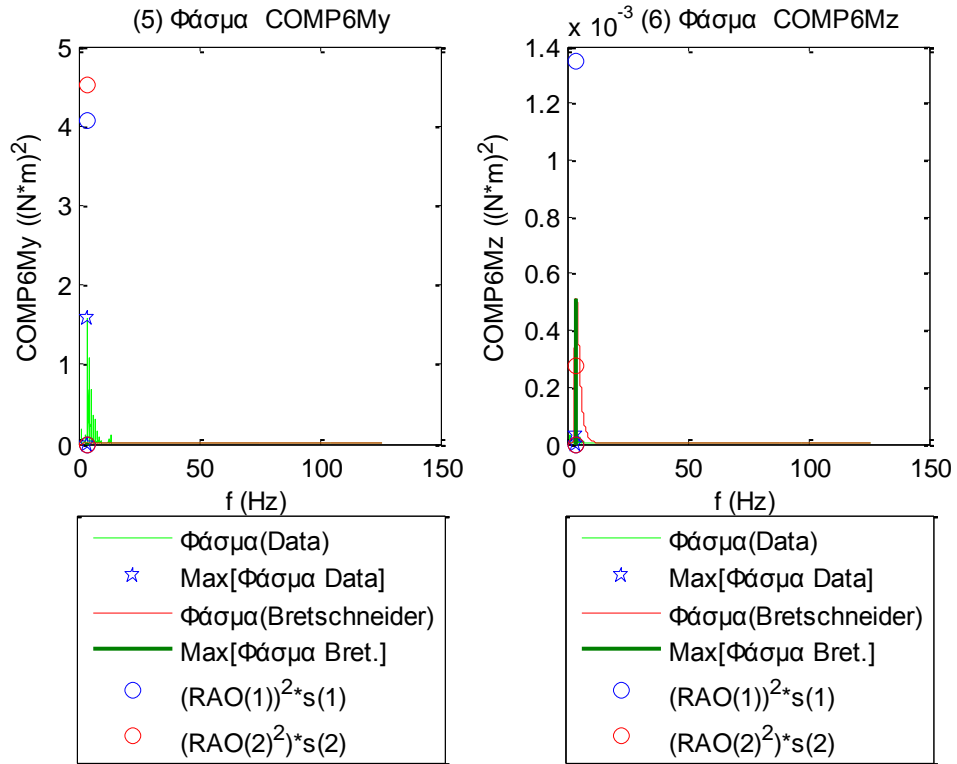




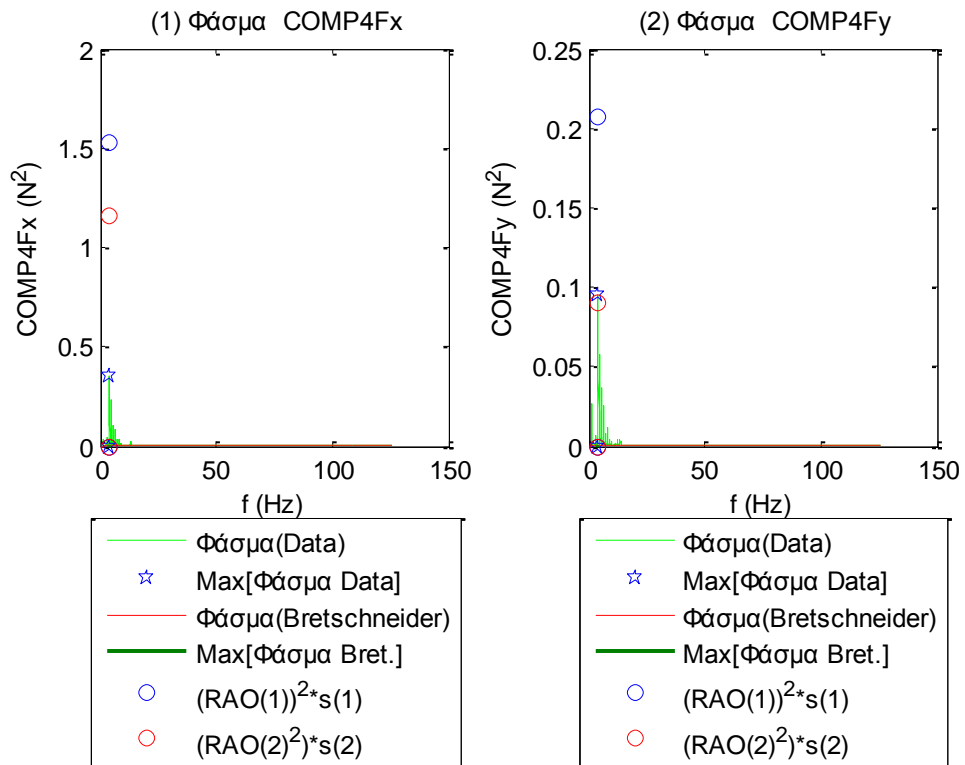
Σχήματα 2.5.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος

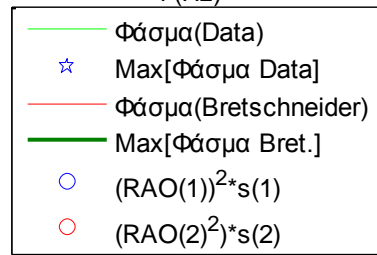
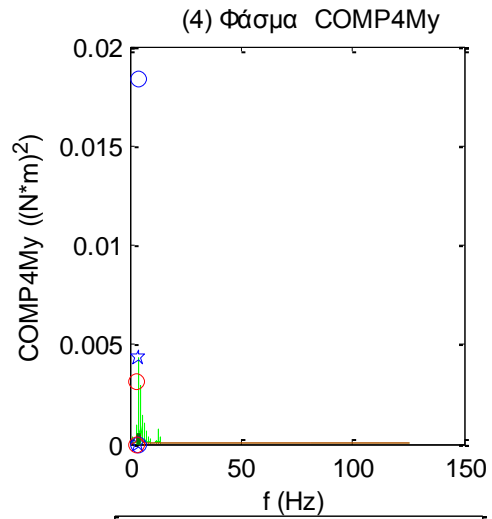
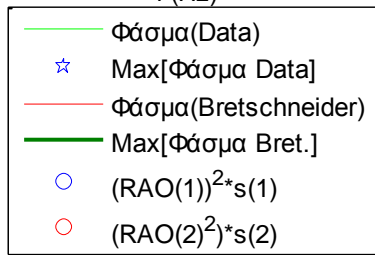
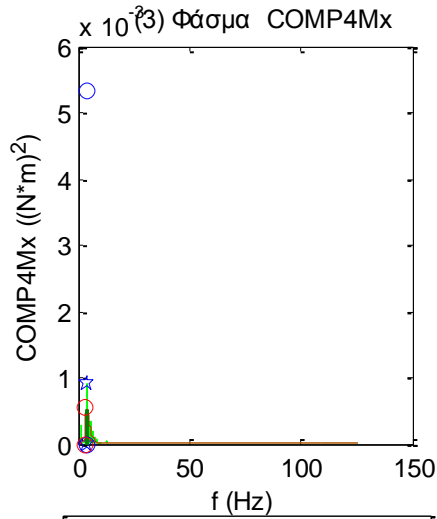




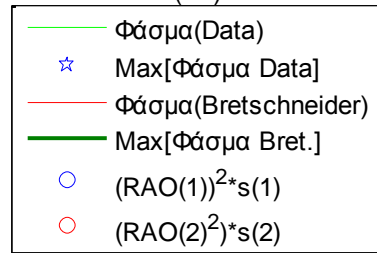
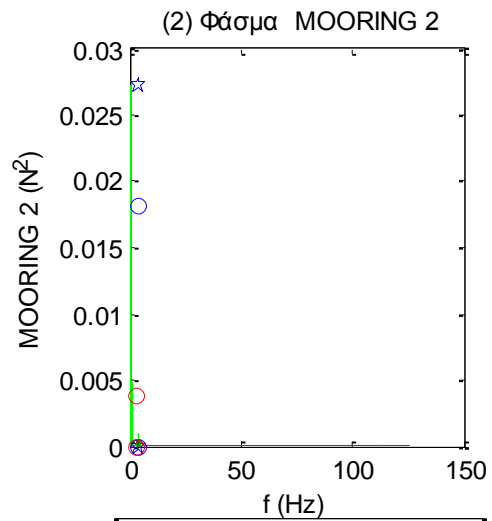
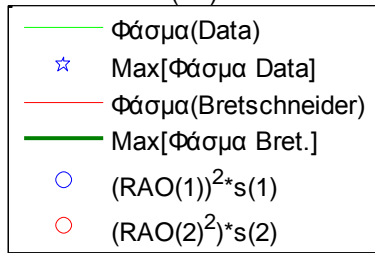
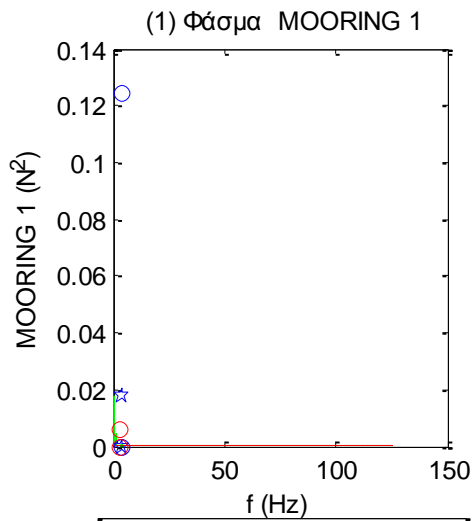


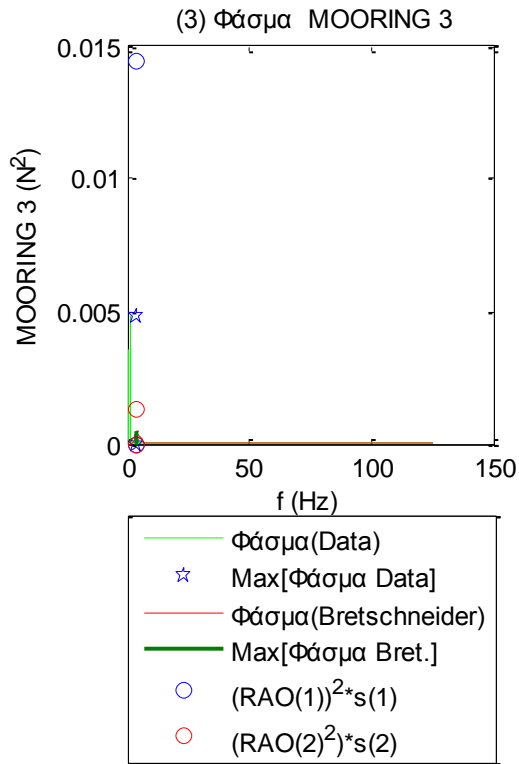
**Σχήματα 2.5.4.2** Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



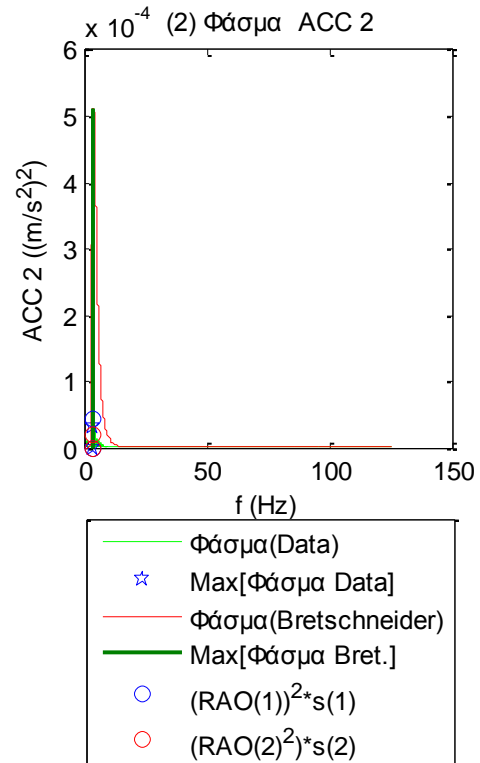
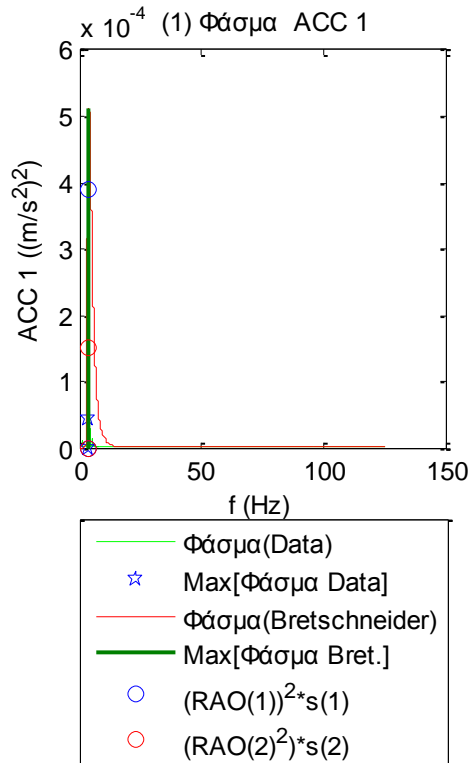


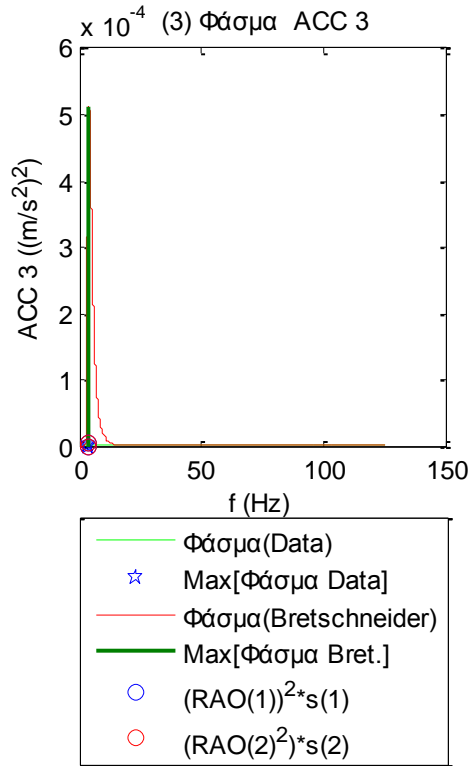
**Σχήματα 2.5.4.3** Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



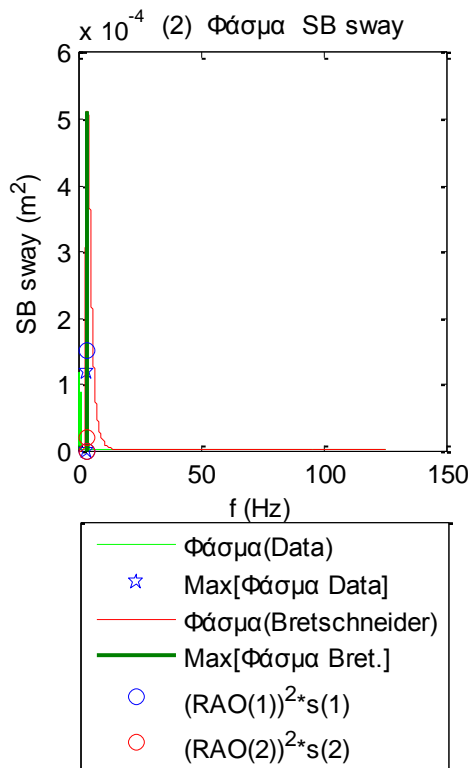
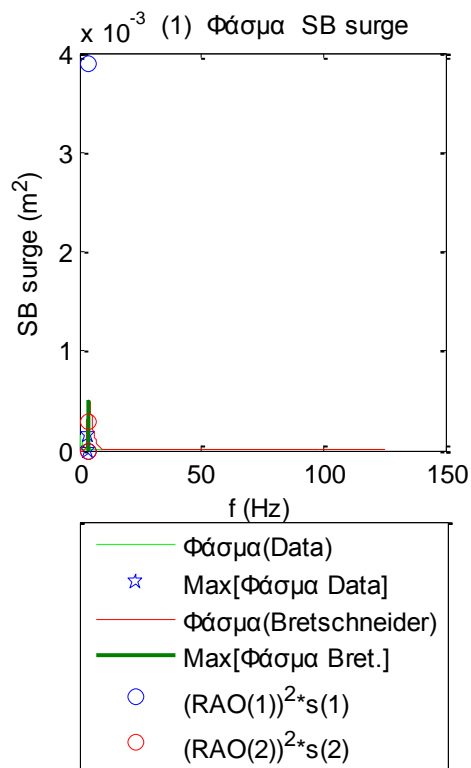


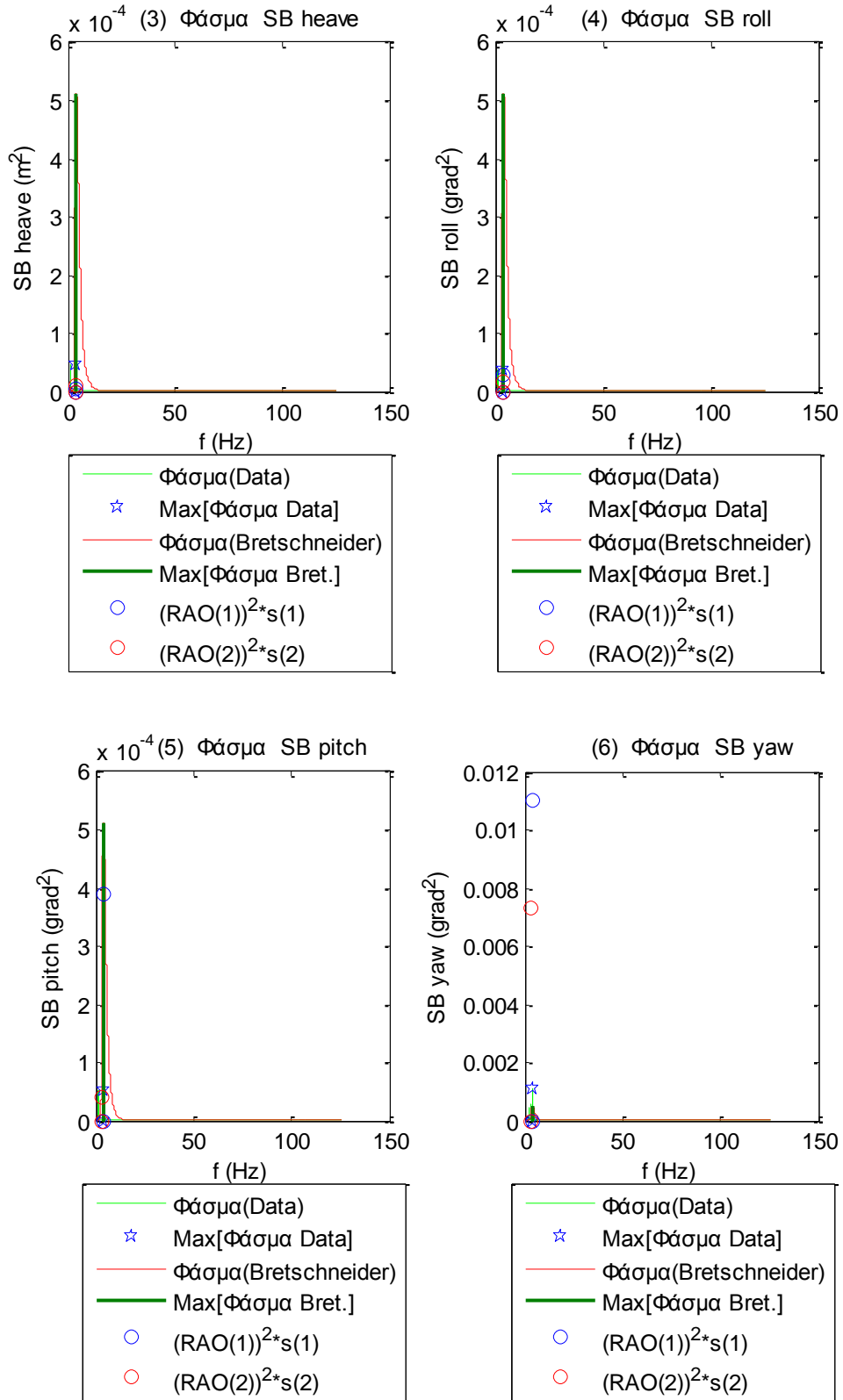
Σχήματα 2.5.4.4 (1-3) Φάσματα για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



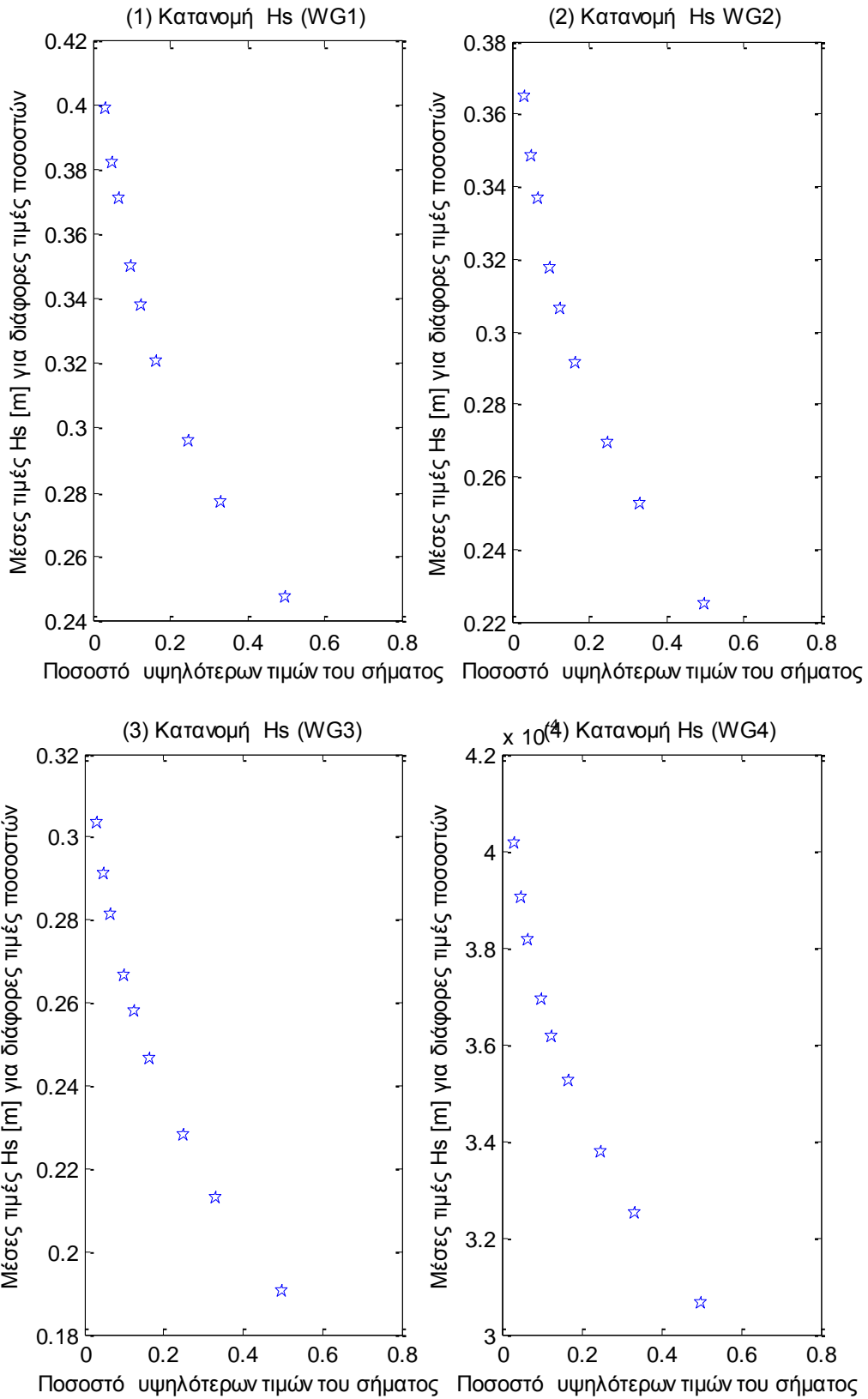


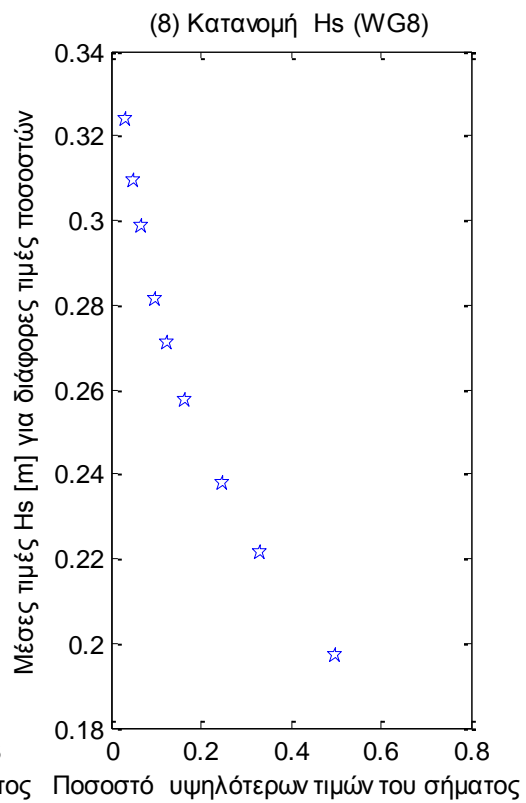
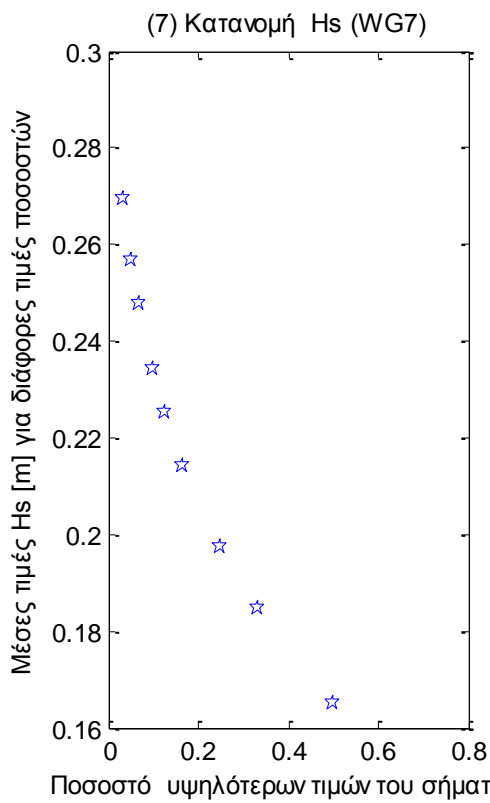
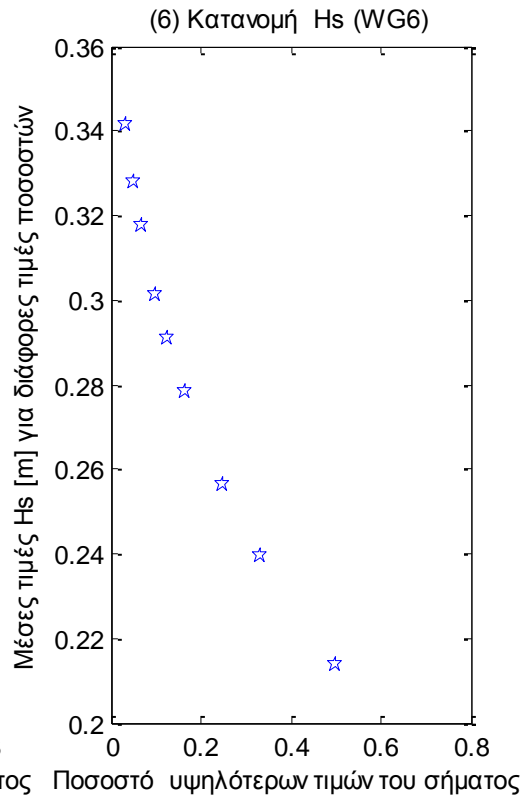
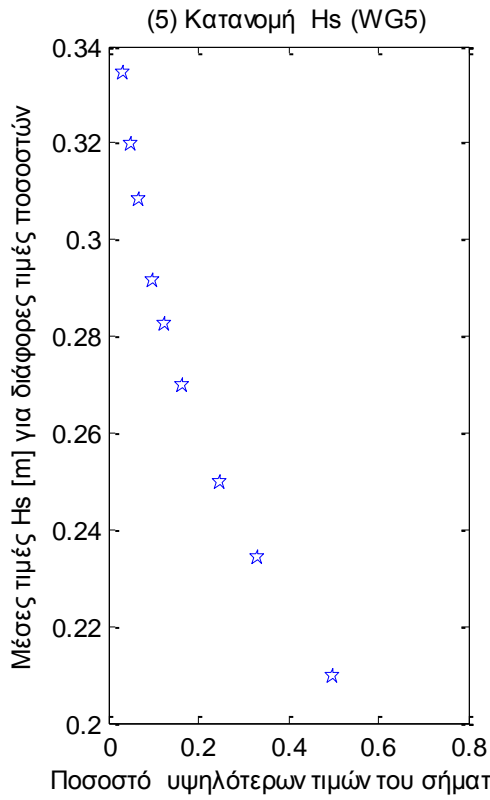
**Σχήματα 2.5.4.5 (1-3)** Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



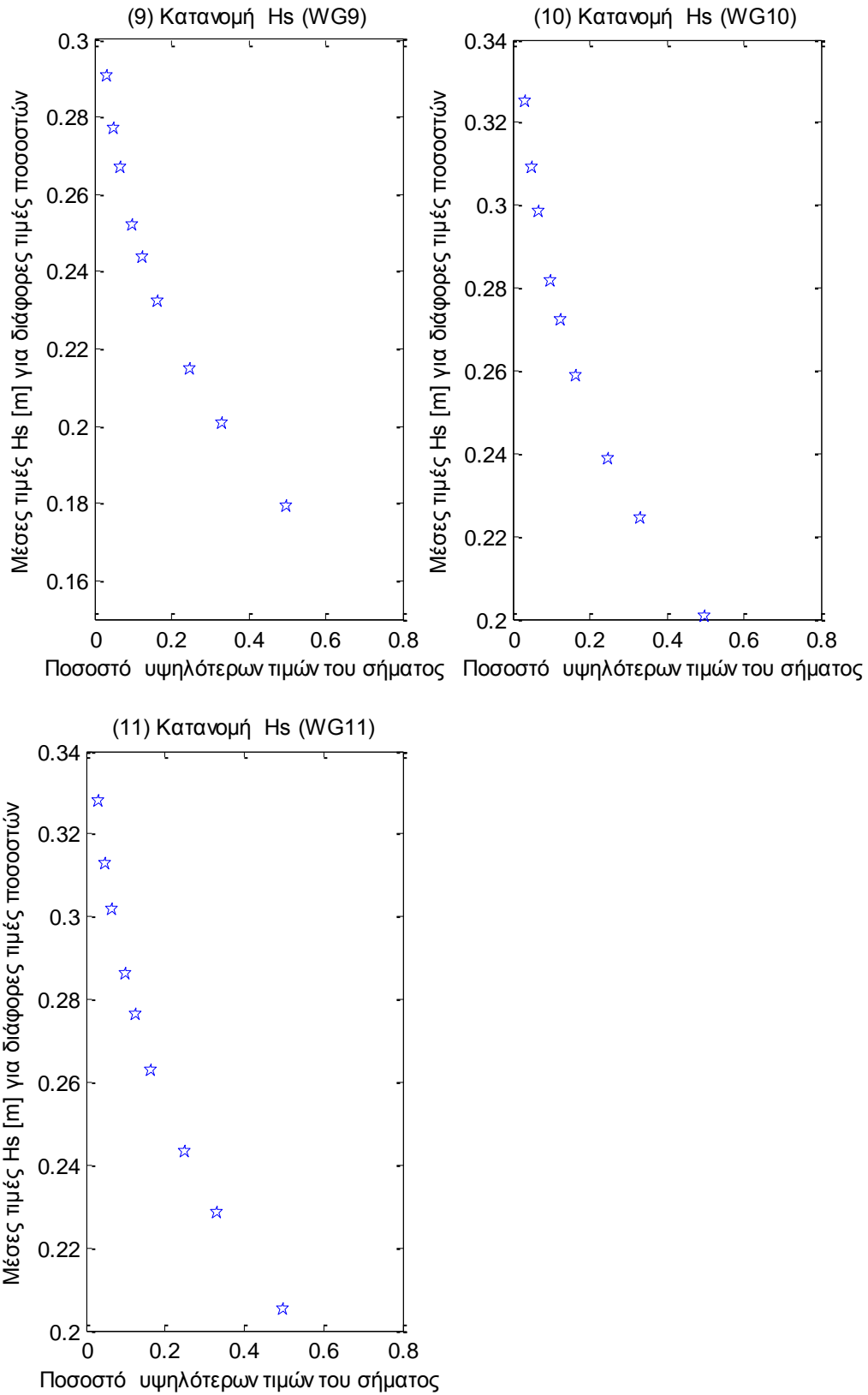


**Σχήματα 2.5.4.6** Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

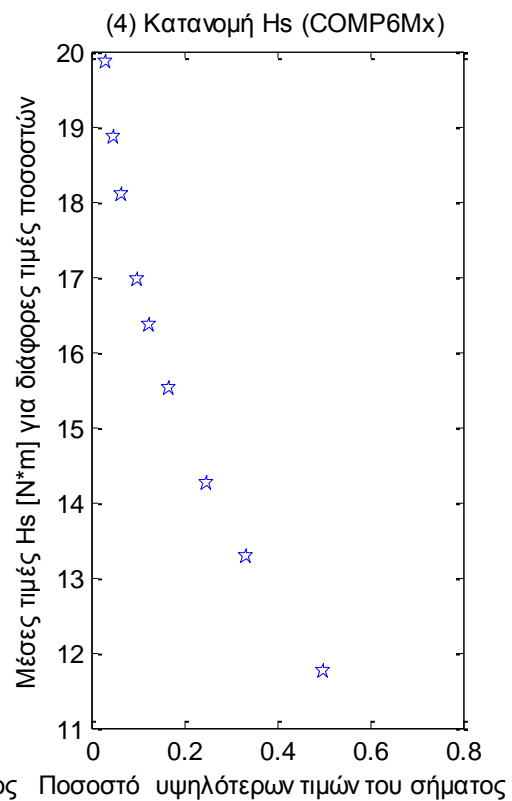
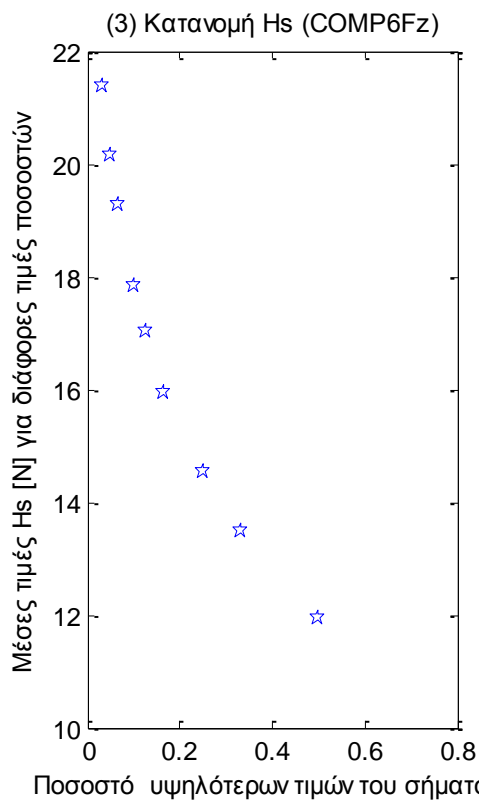
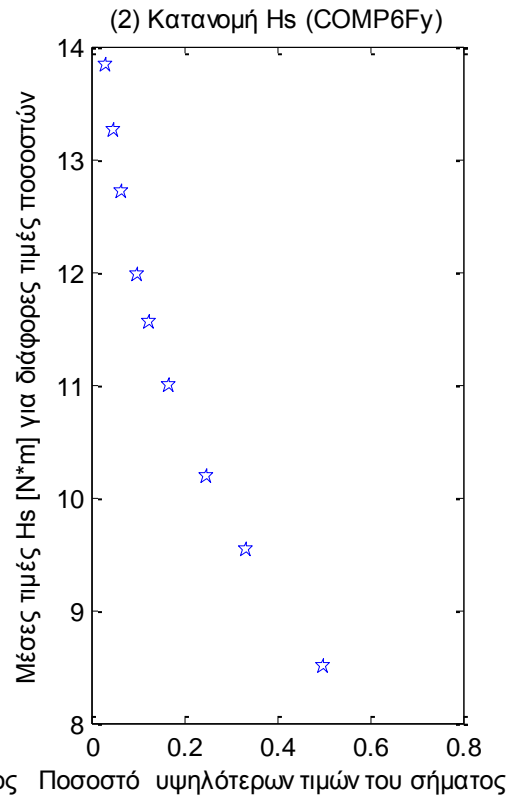
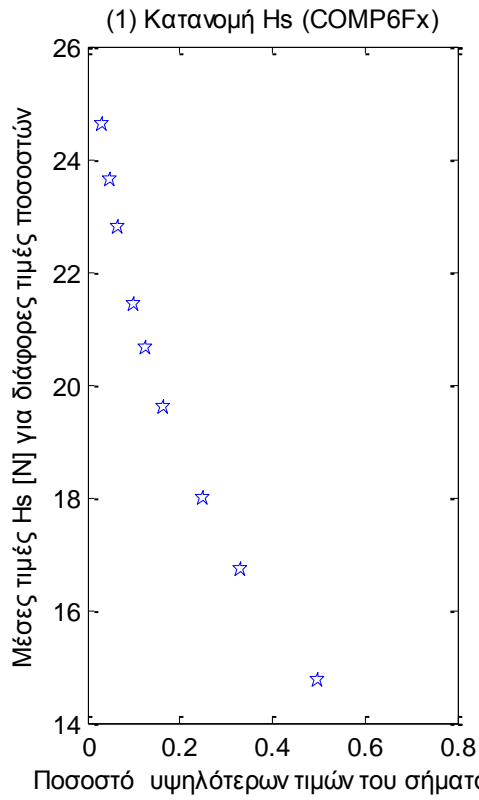


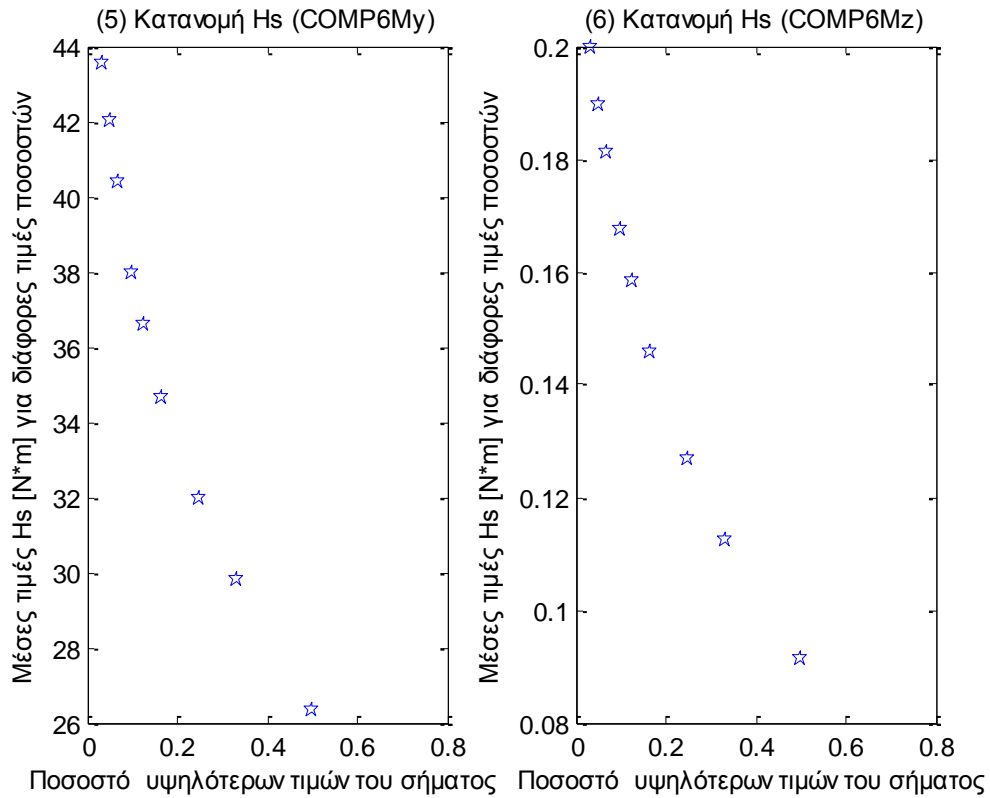




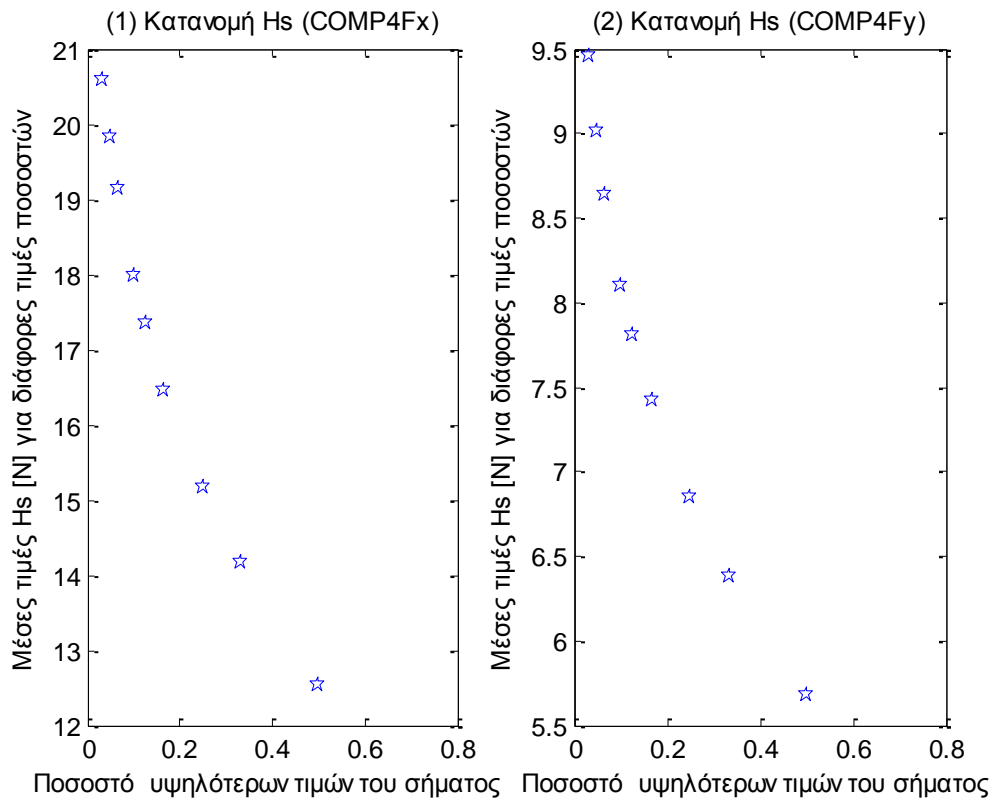


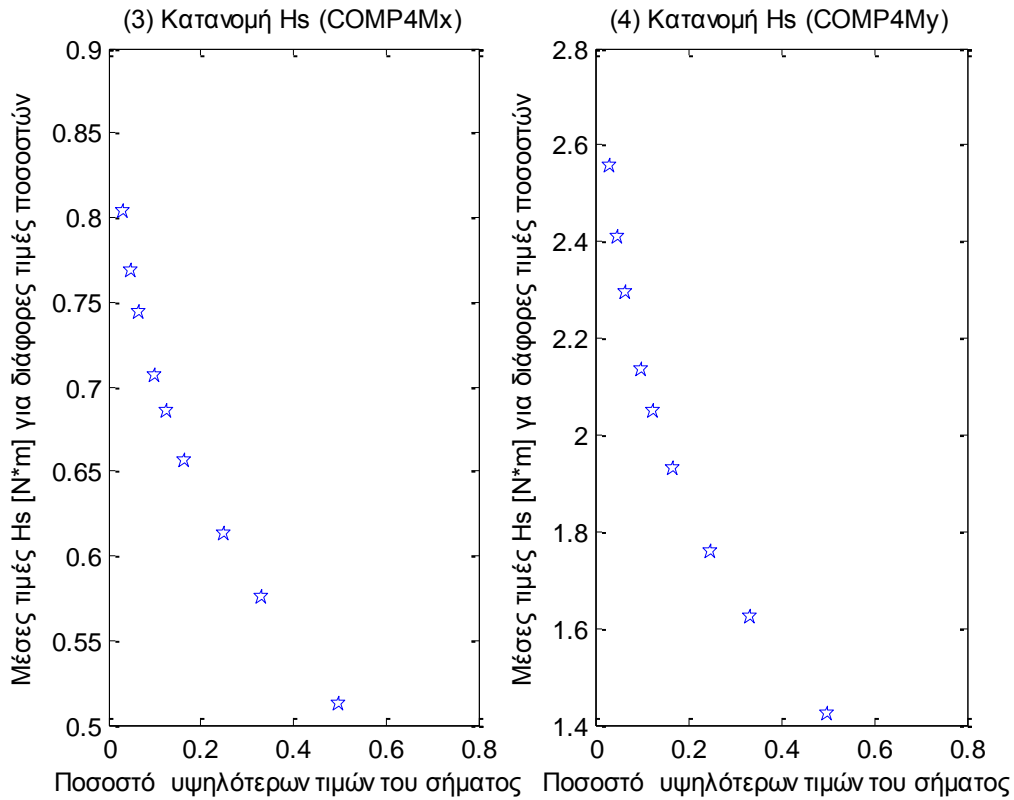
**Σχήματα 2.5.5.1 (1-11)** Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



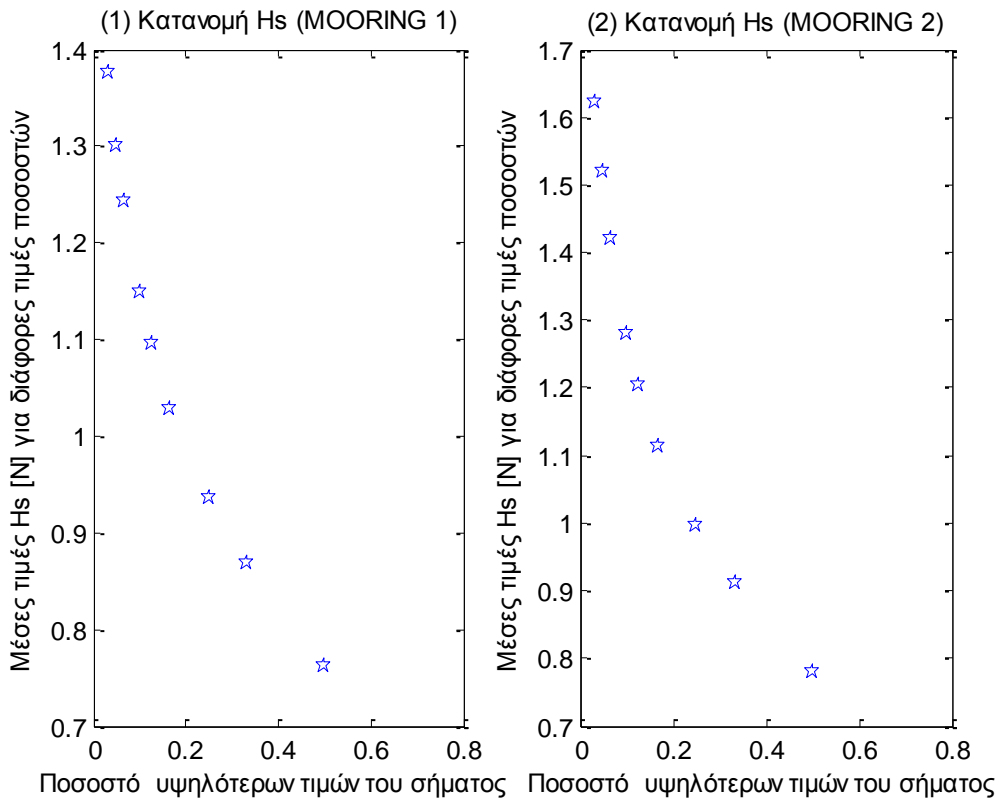


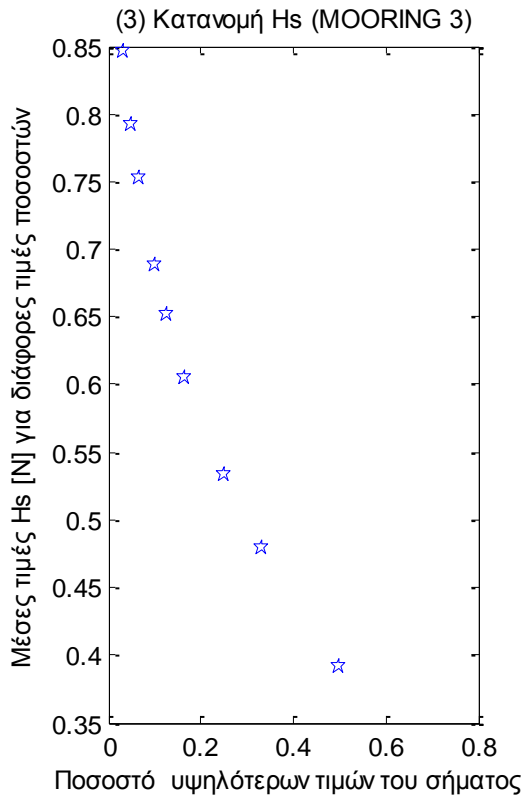
**Σχήματα 2.5.5.2** Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



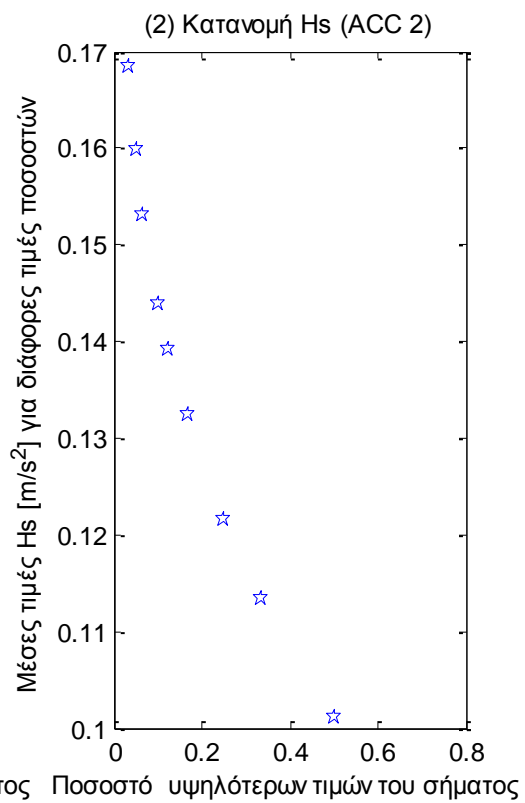
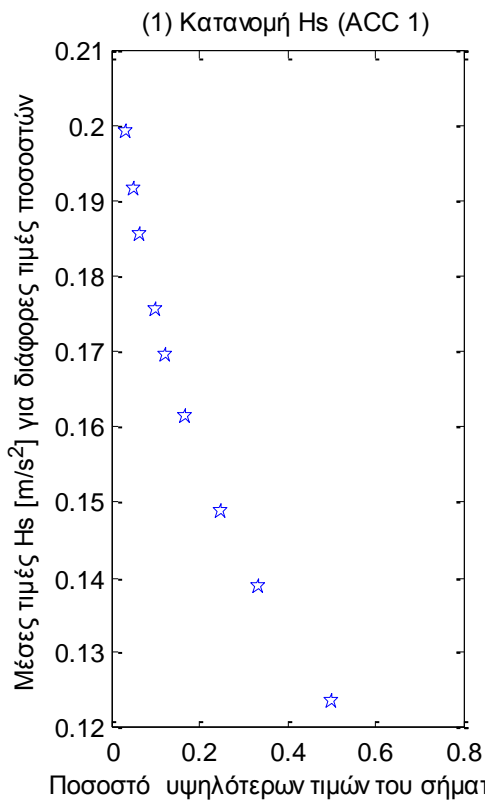


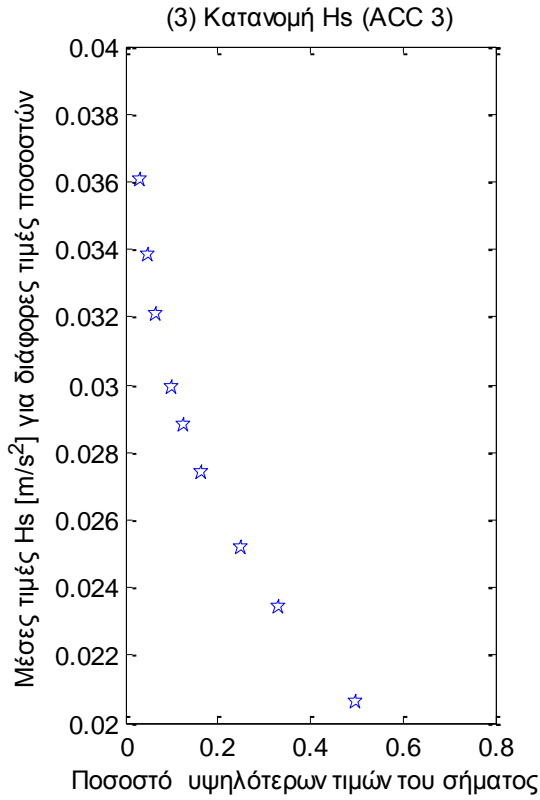
**Σχήματα 2.5.5.3** Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



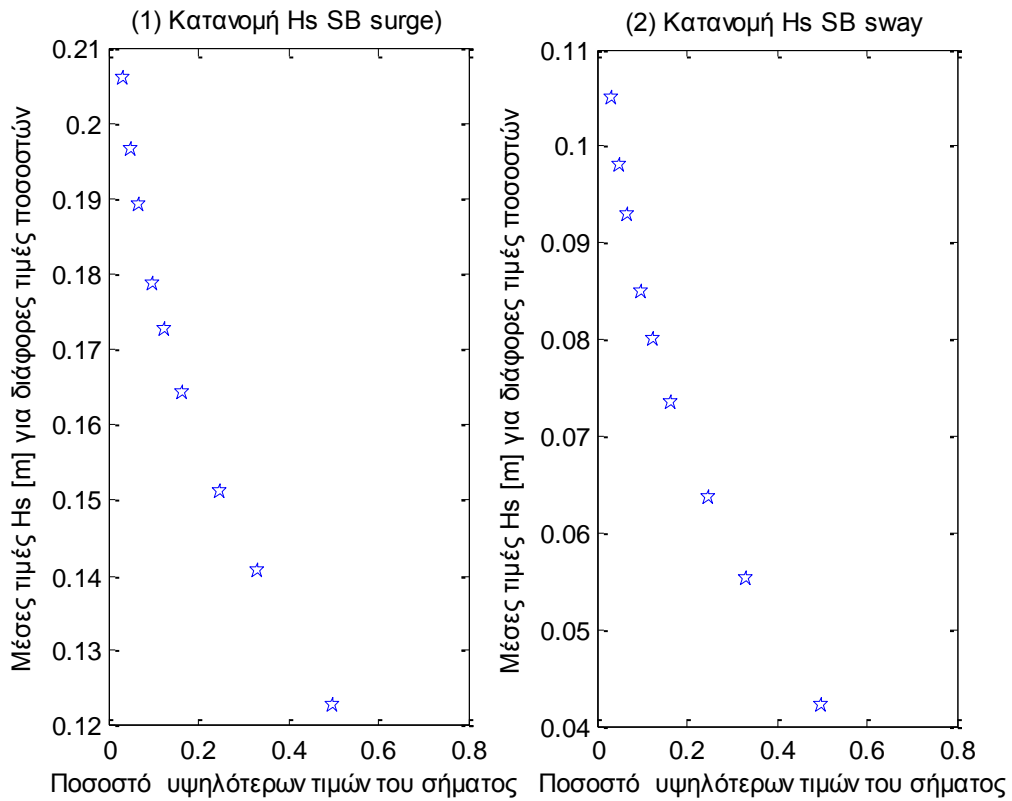


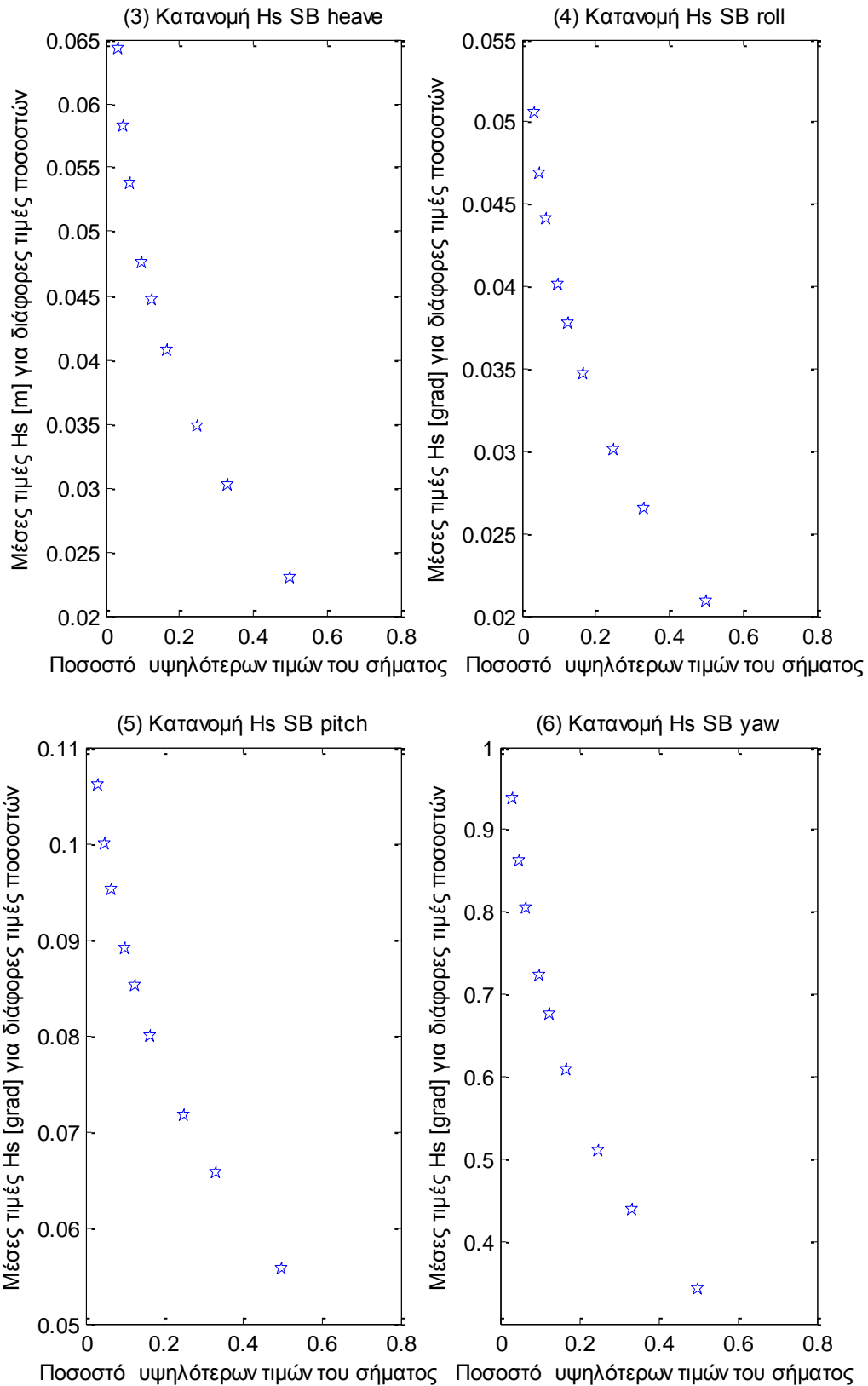
**Σχήματα 2.5.5.4 (1-4)** Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης



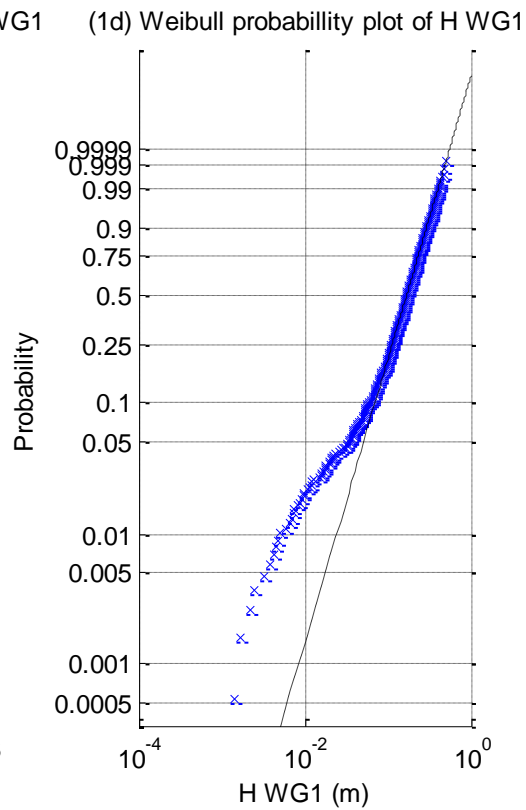
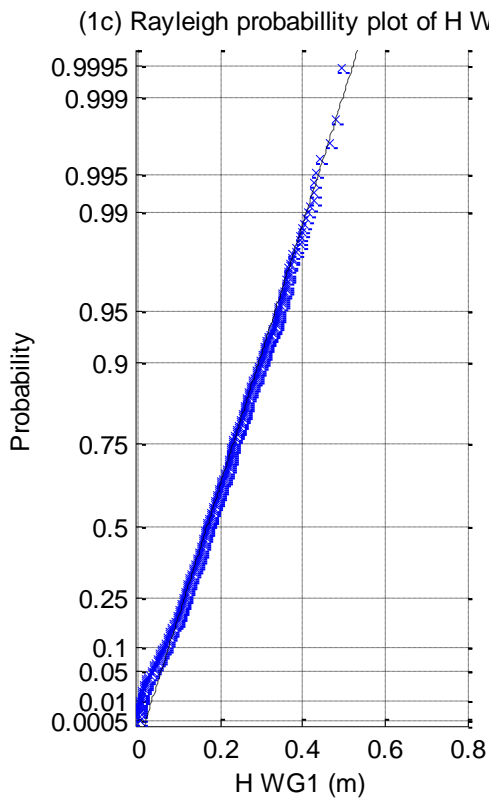
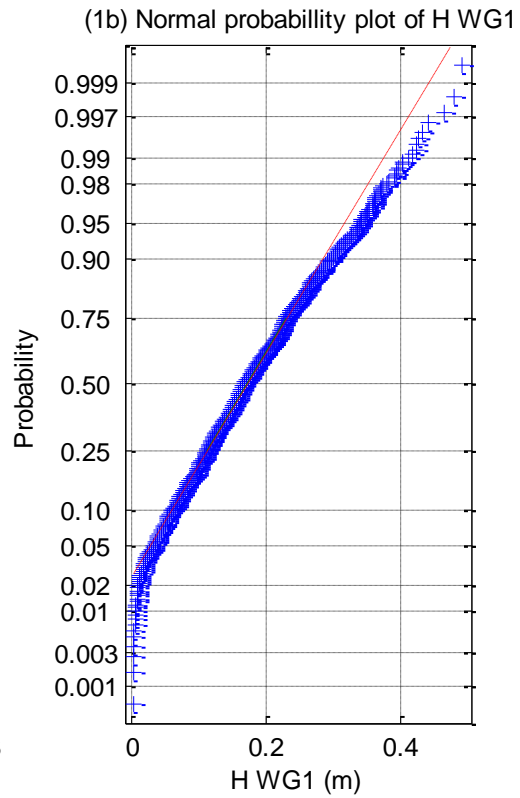
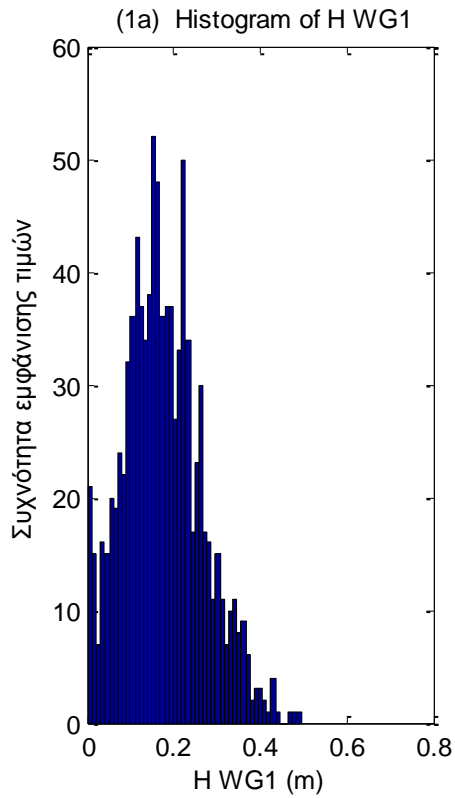


**Σχήματα 2.5.5.5 (1-3)** Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

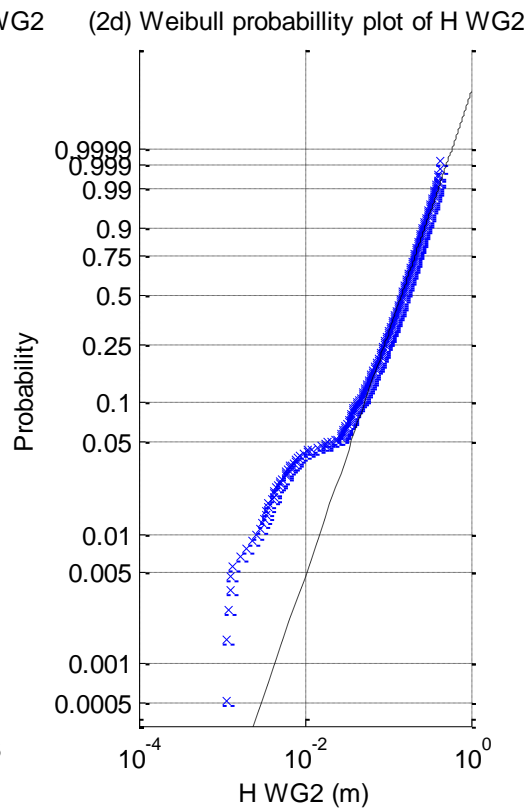
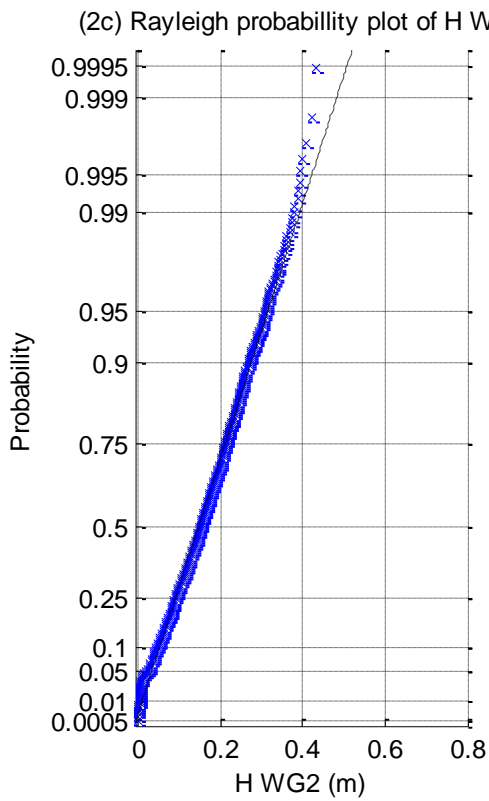
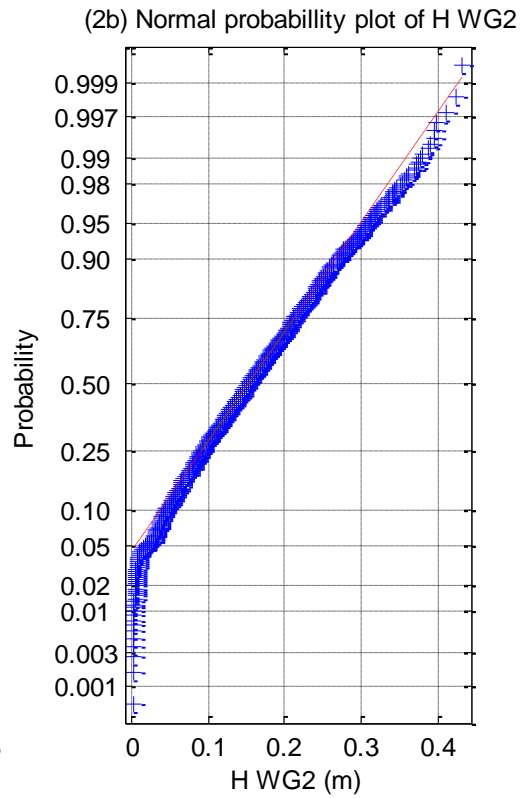
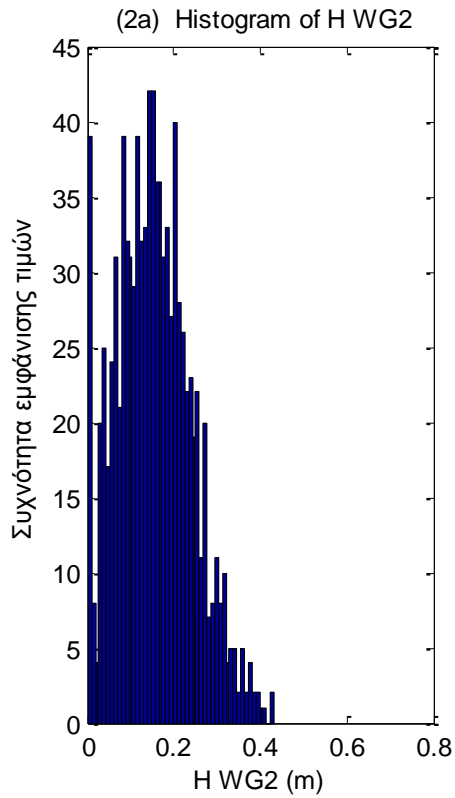


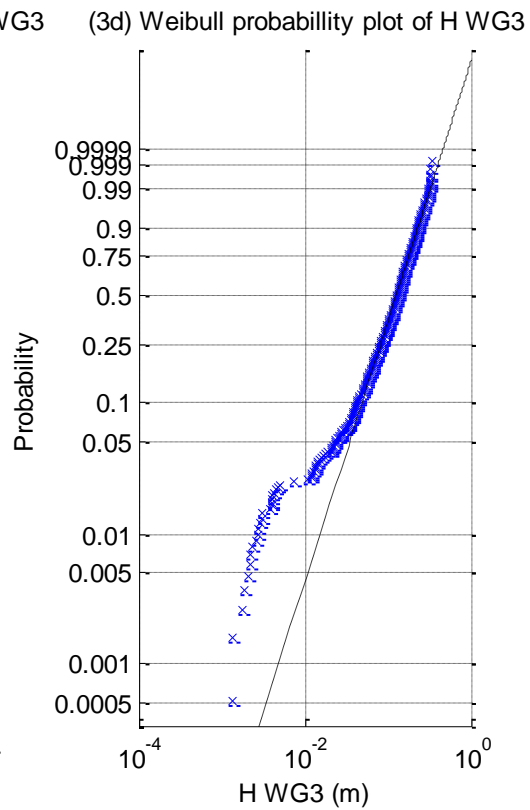
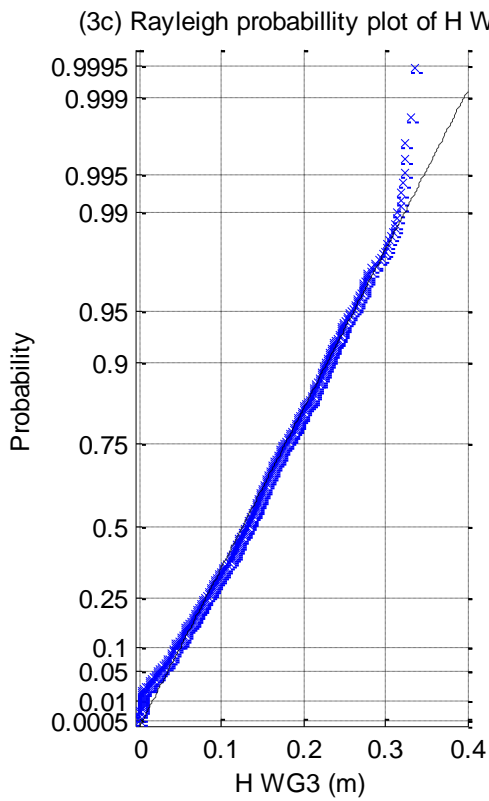
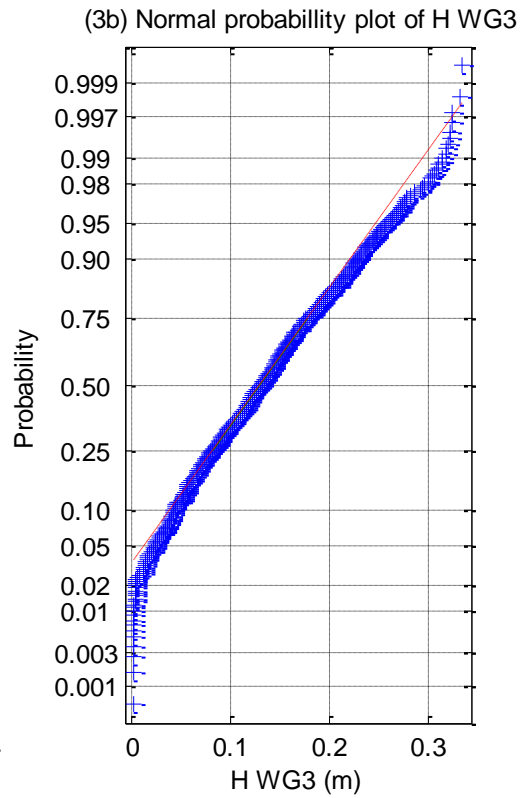
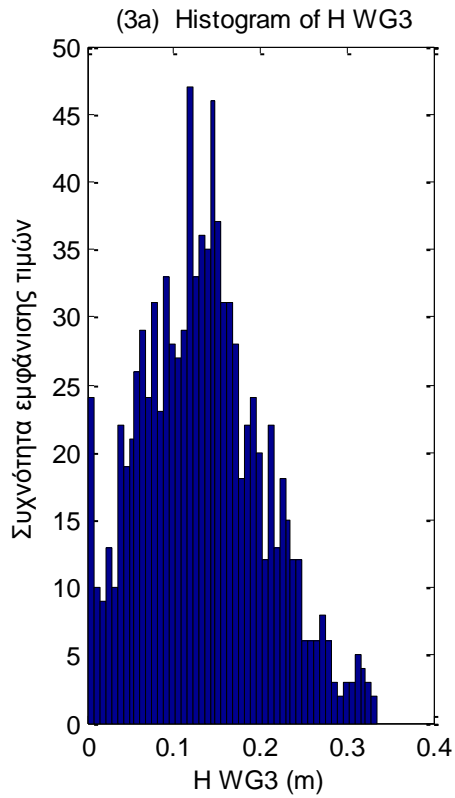


**Σχήματα 2.5.5.6** Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

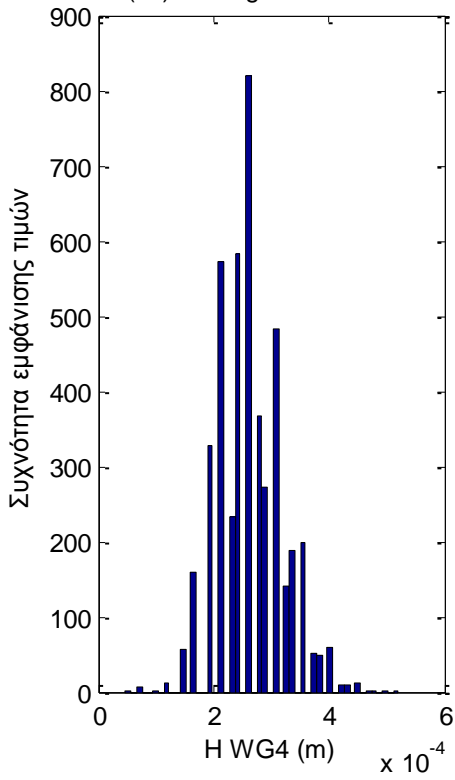




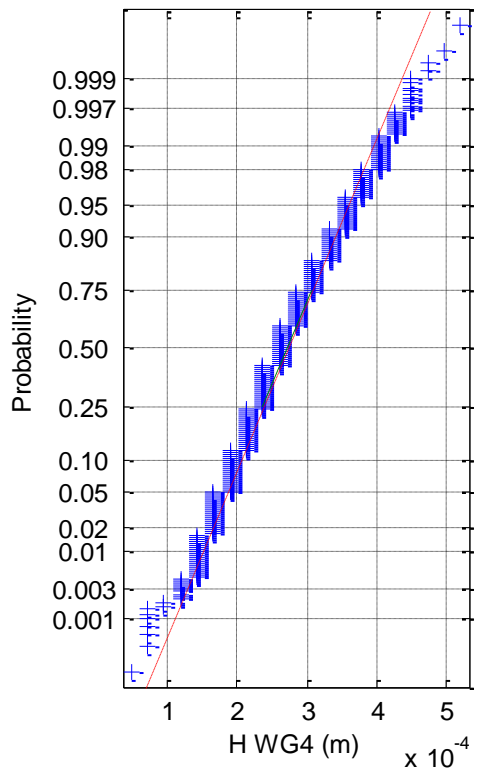




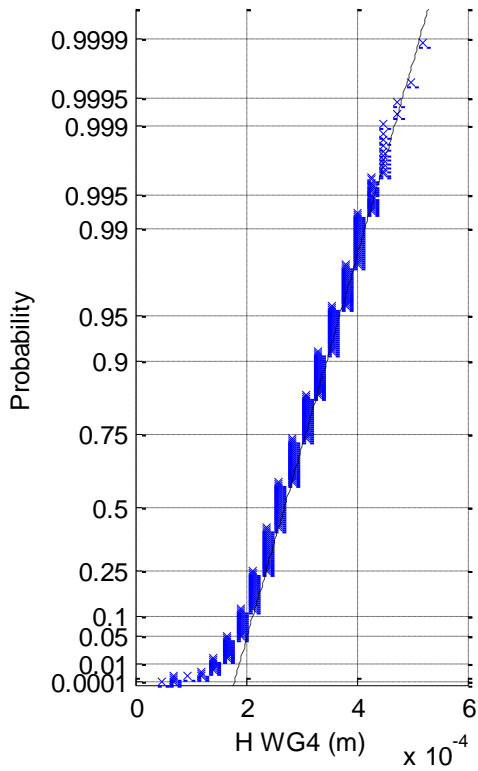
(4a) Histogram of H WG4



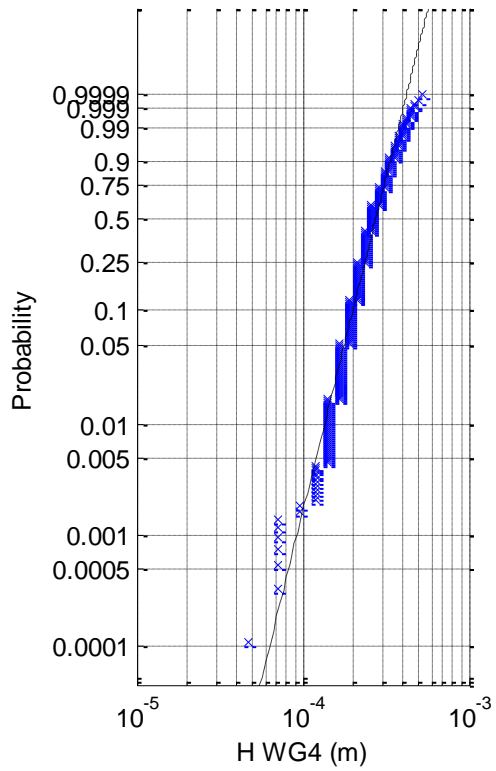
(4b) Normal probability plot of H WG4

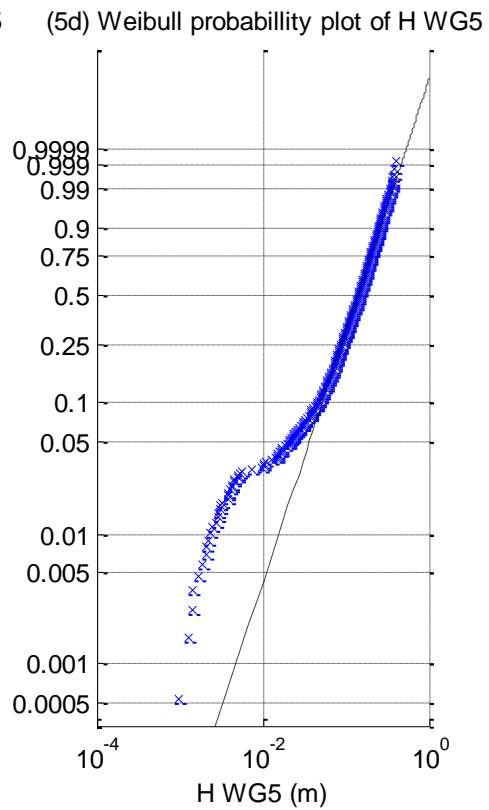
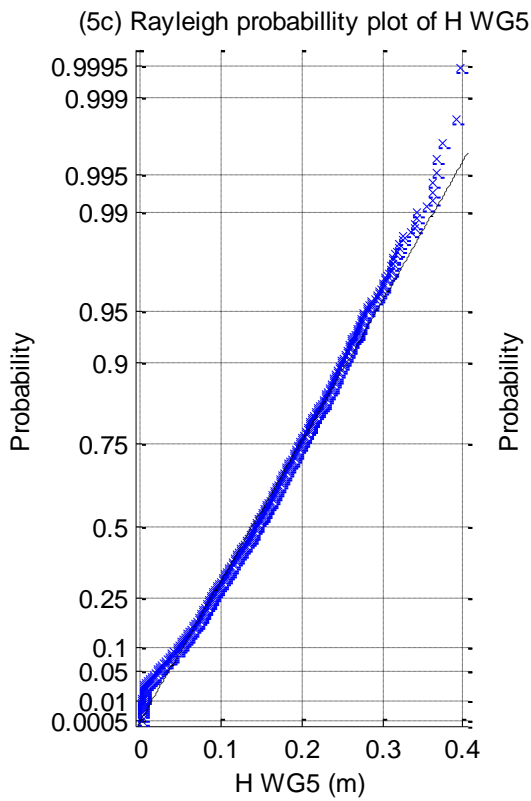
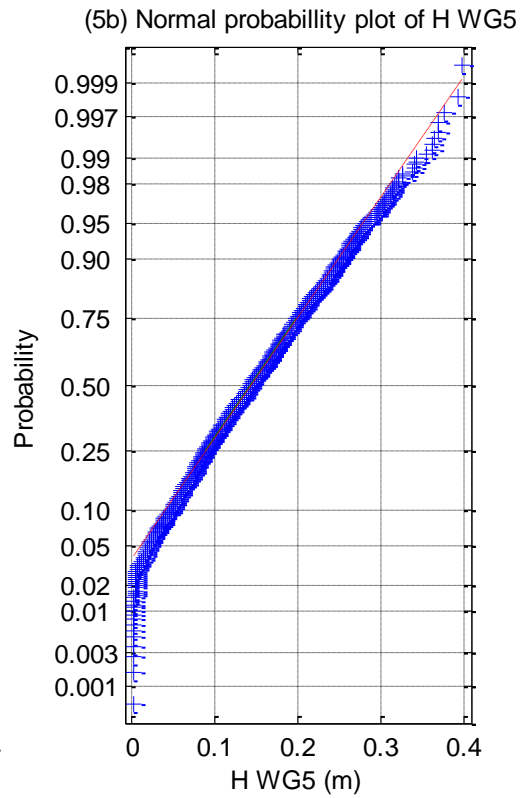
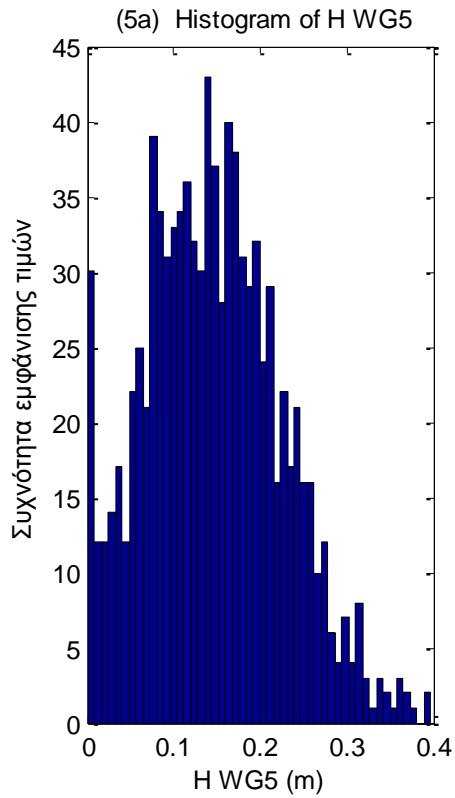


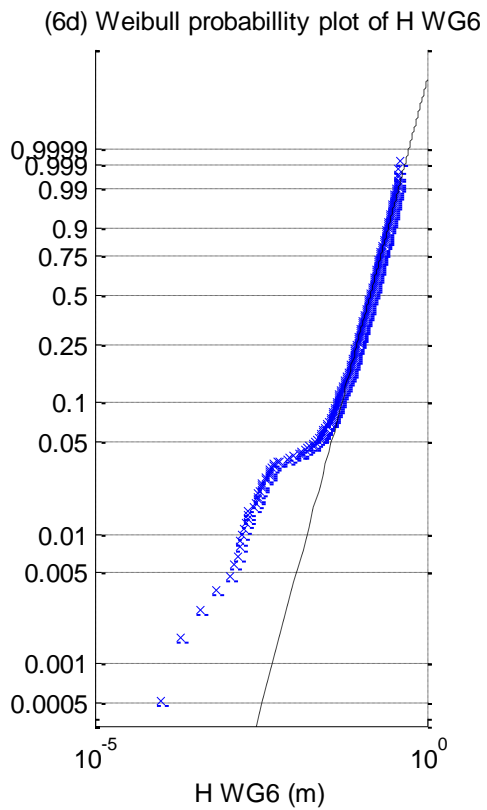
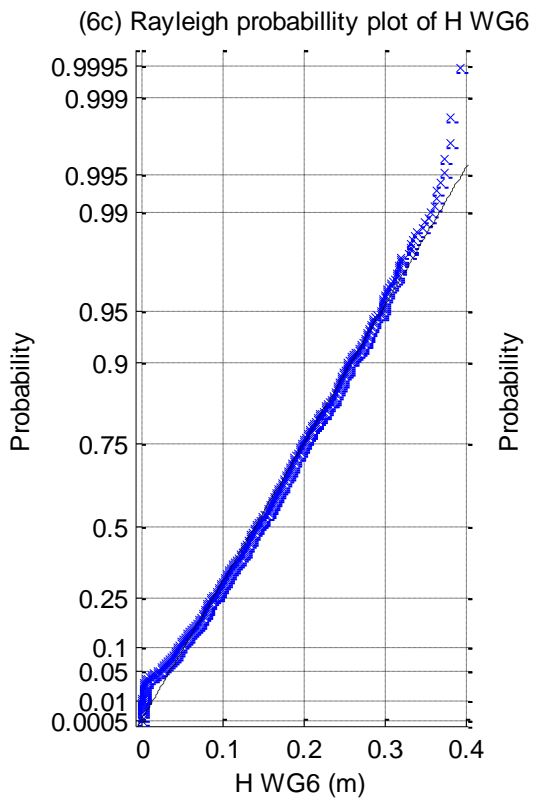
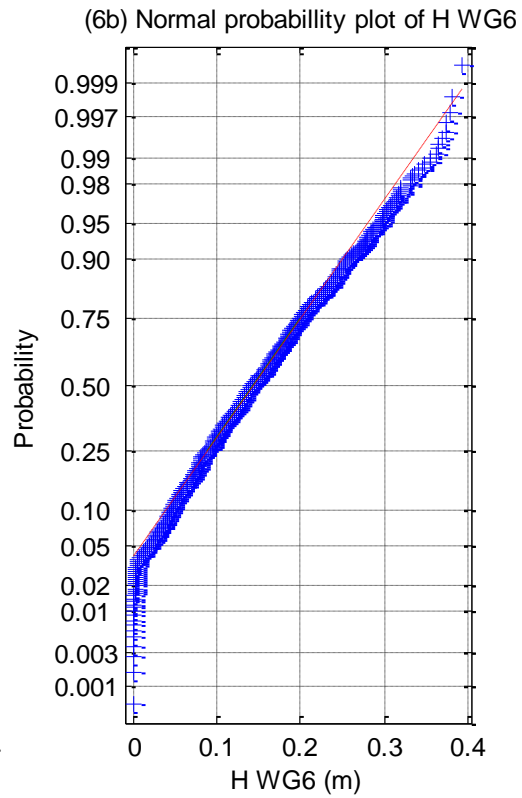
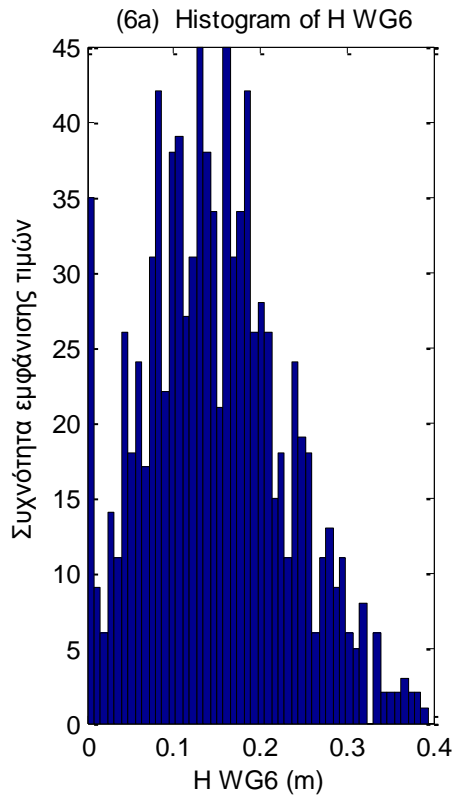
(4c) Rayleigh probability plot of H WG4

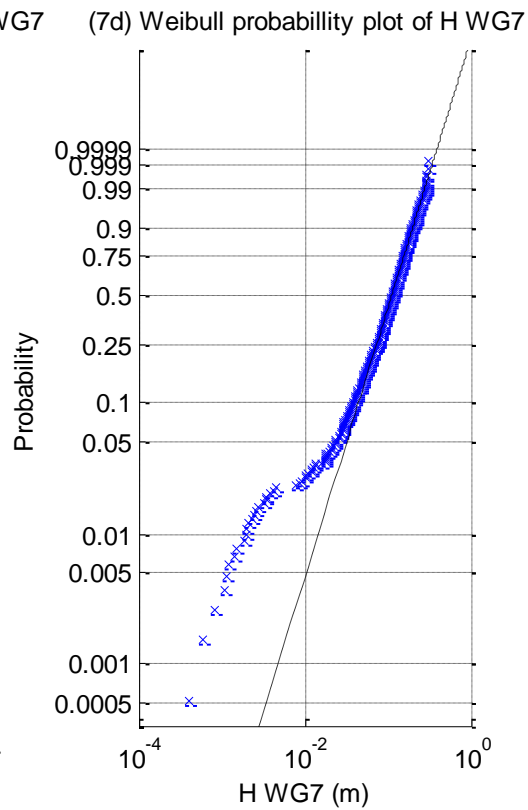
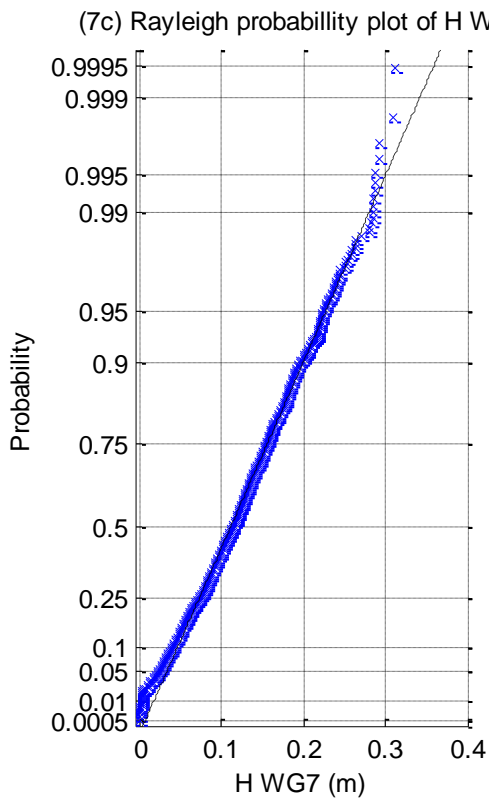
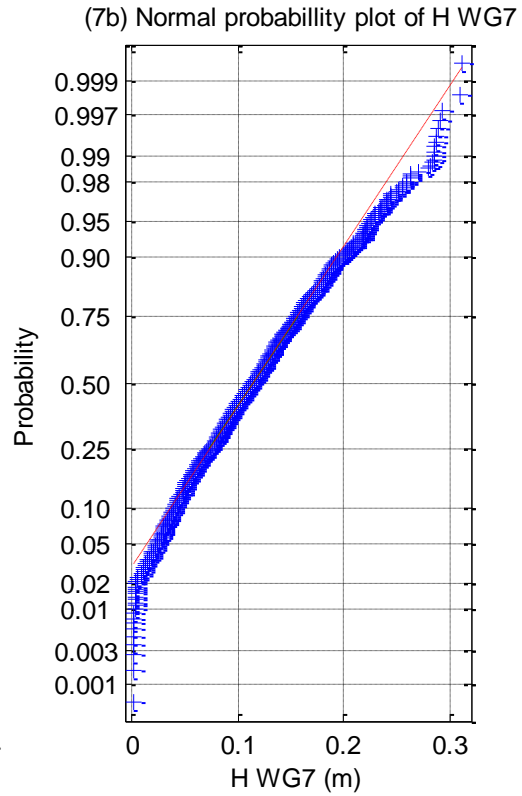
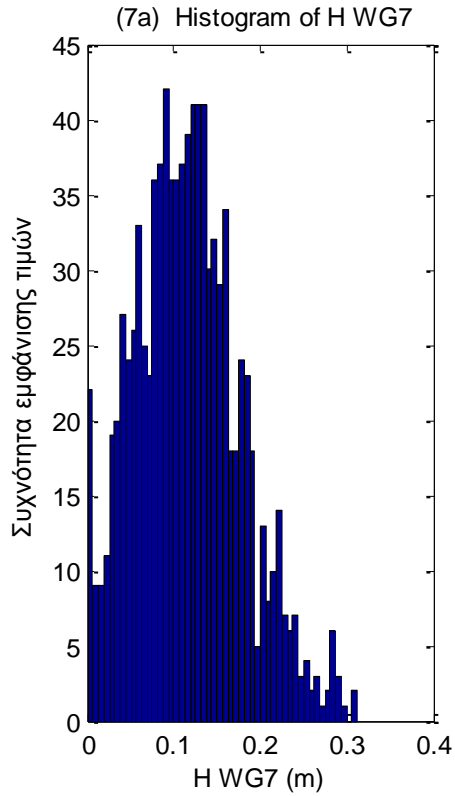


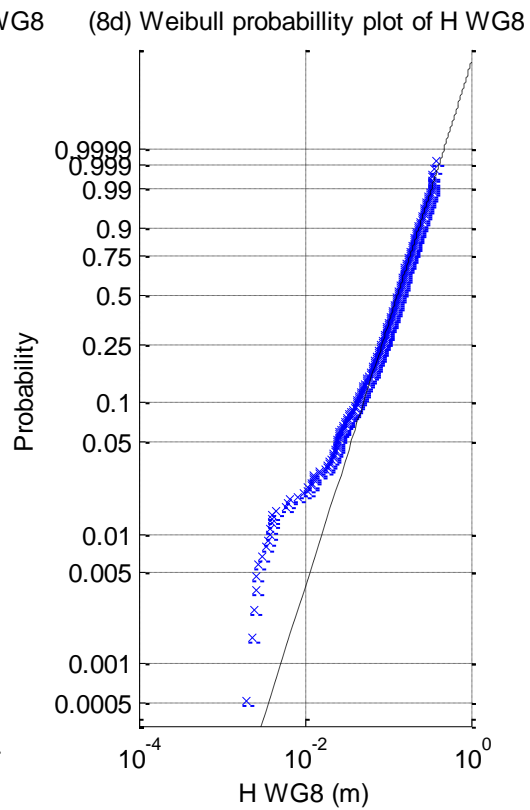
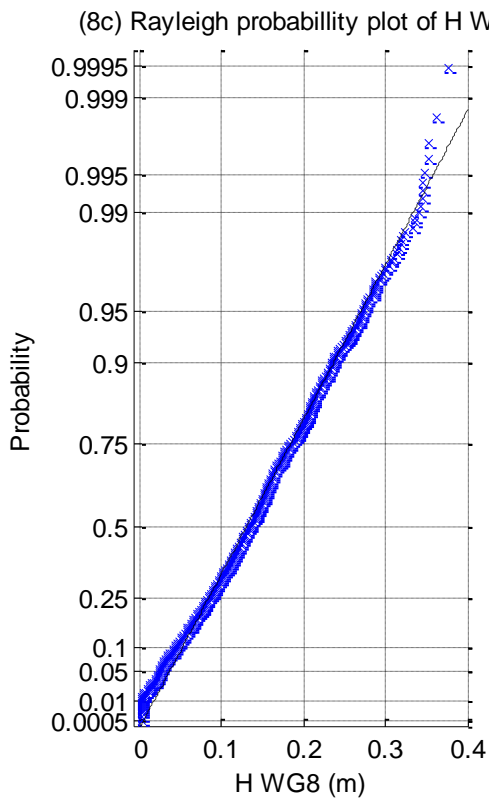
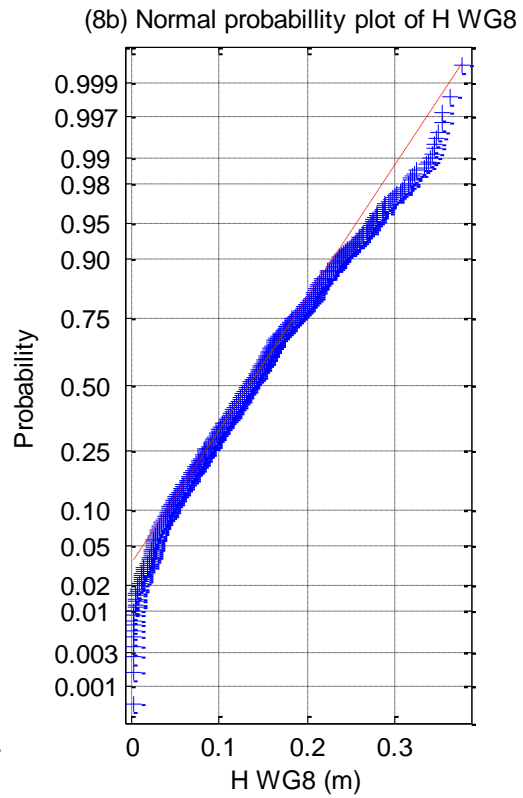
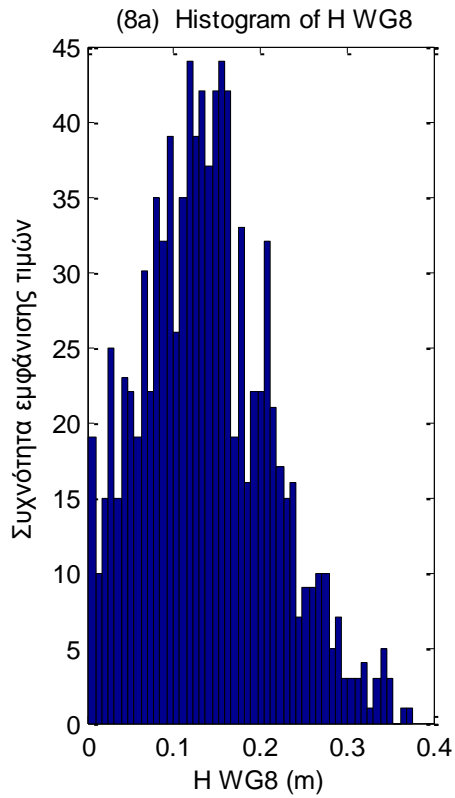
(4d) Weibull probability plot of H WG4

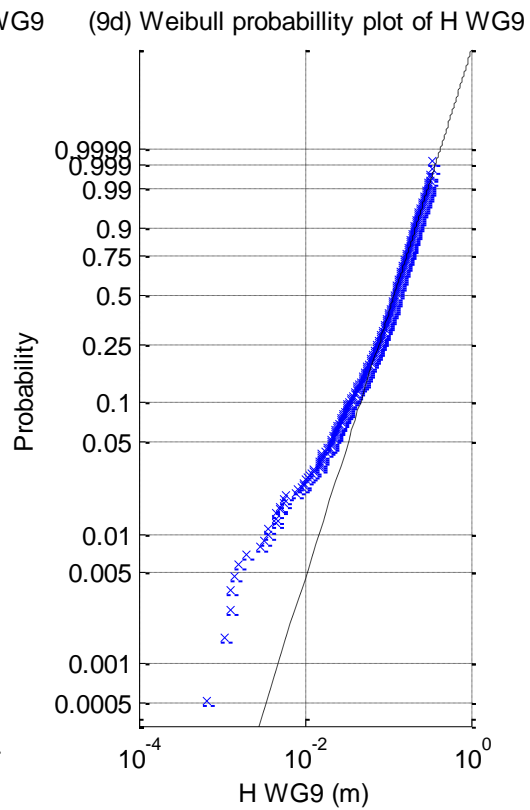
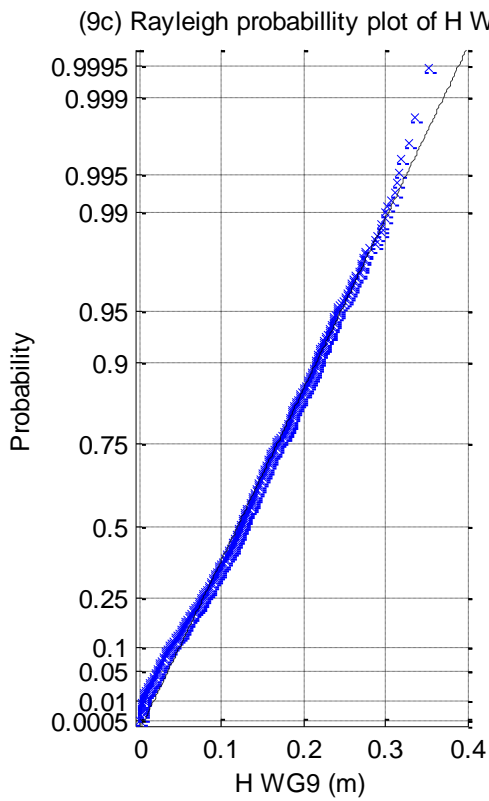
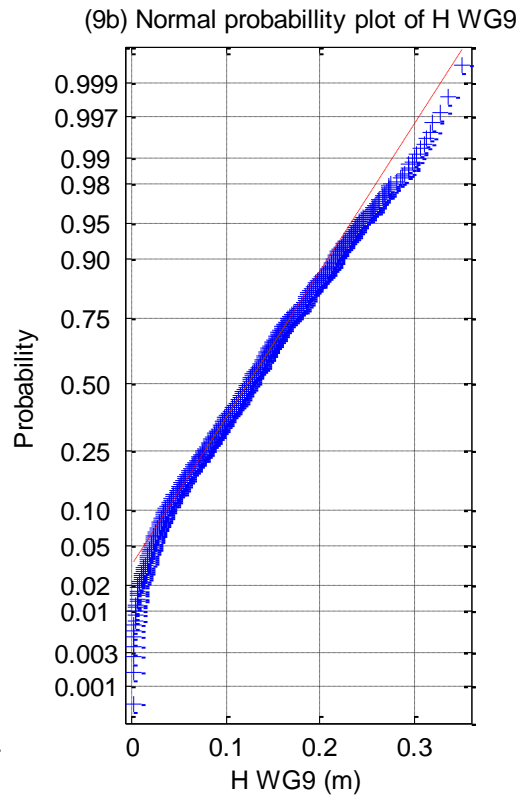
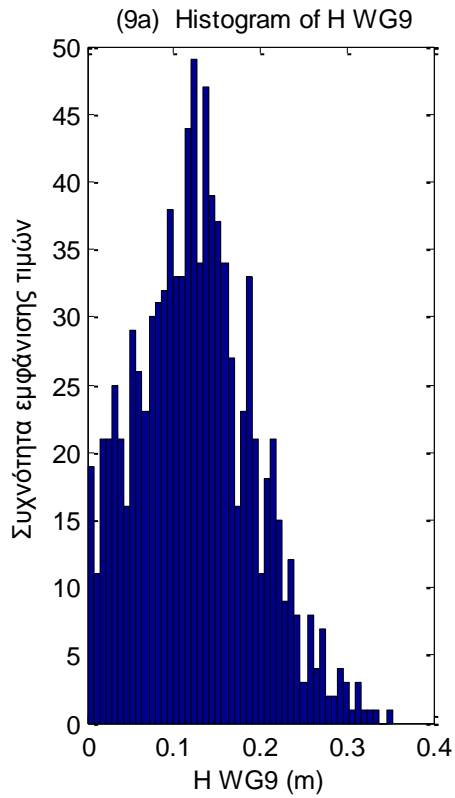




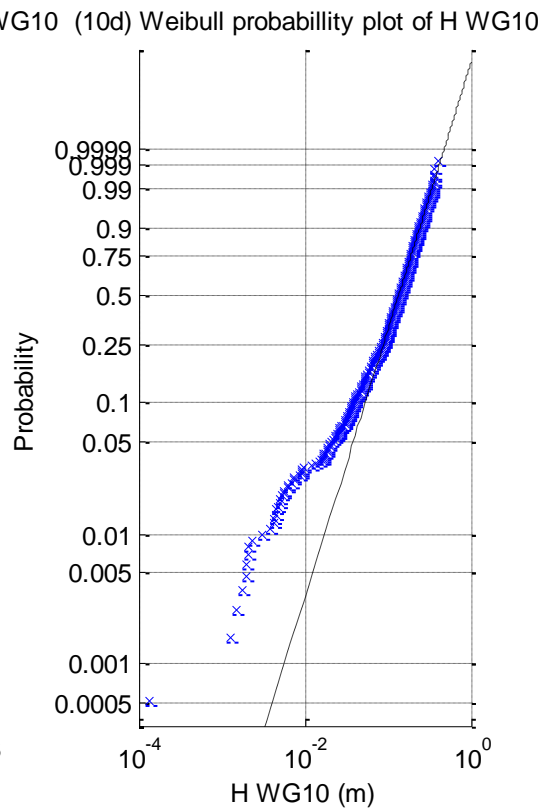
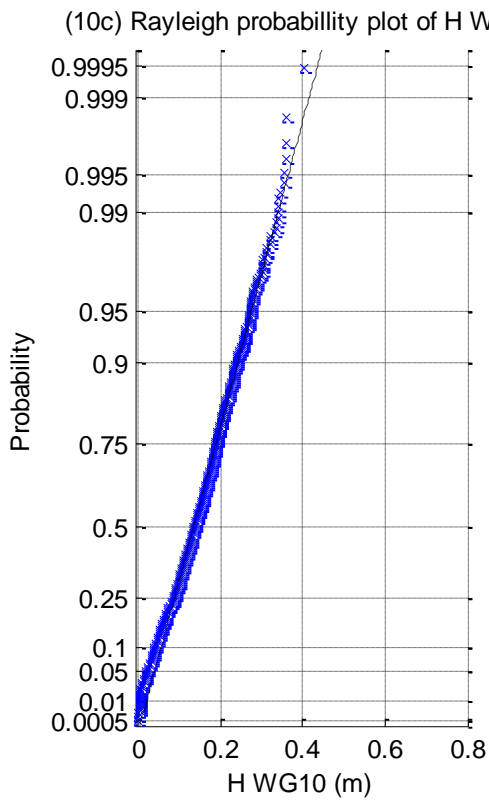
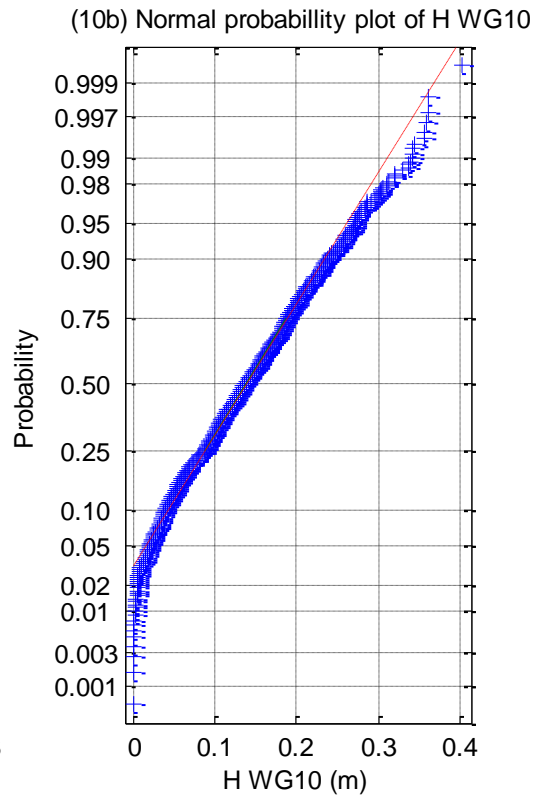
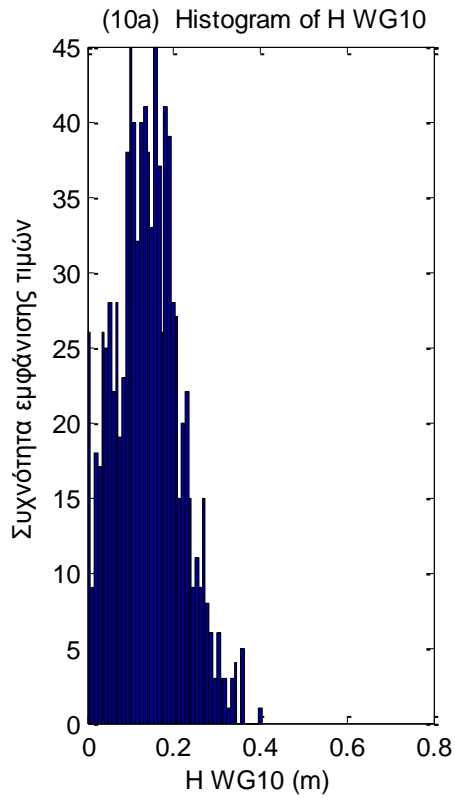


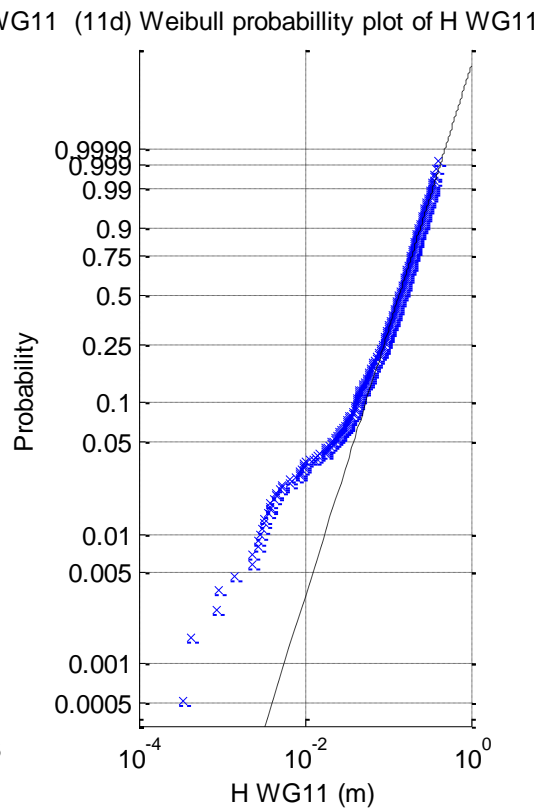
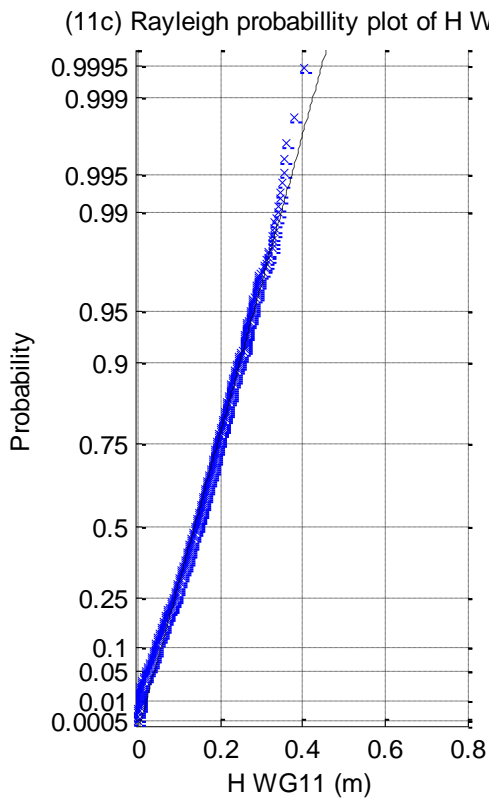
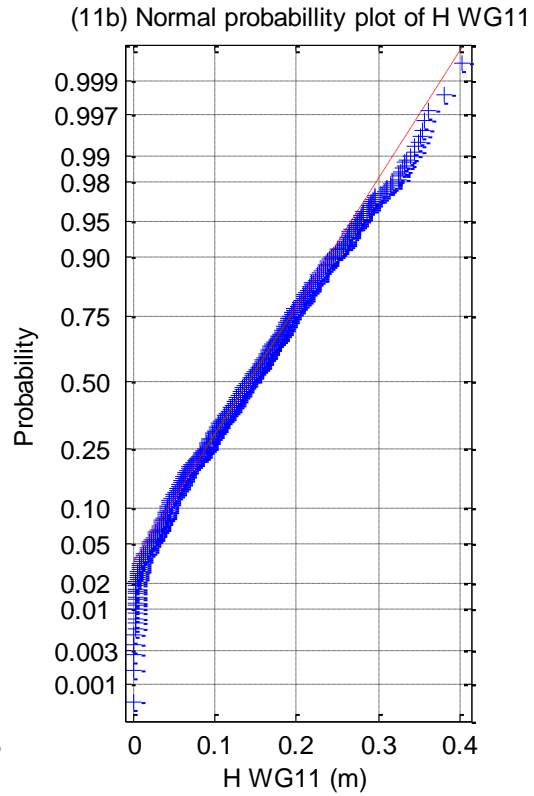
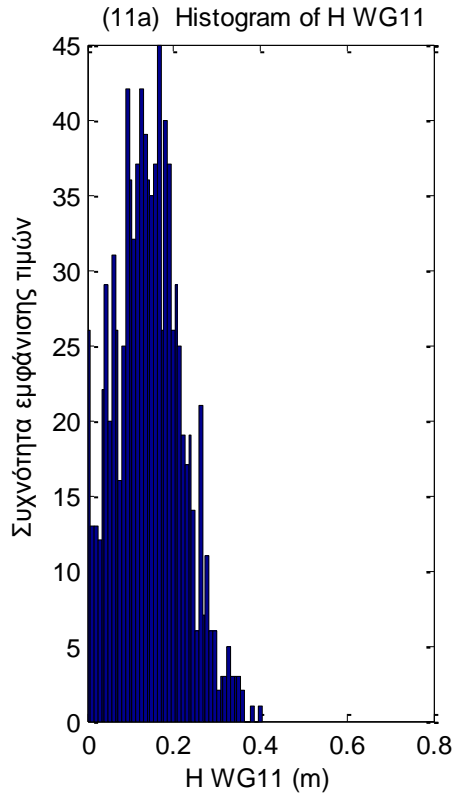




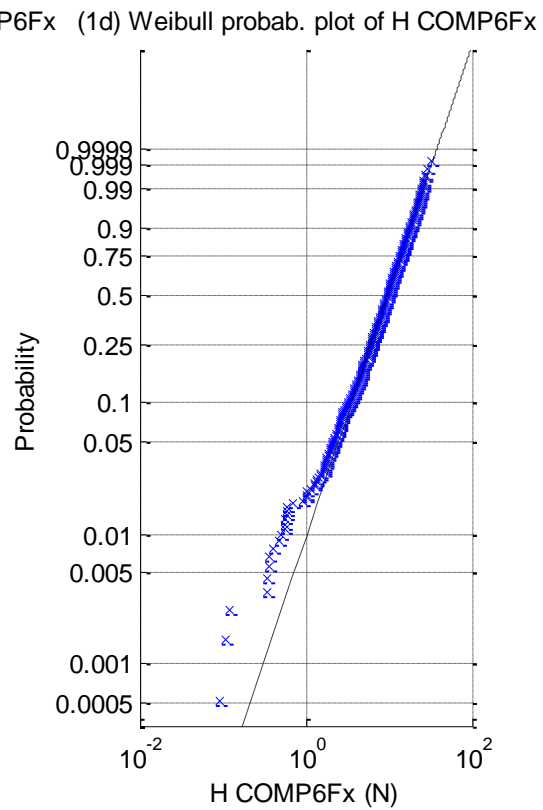
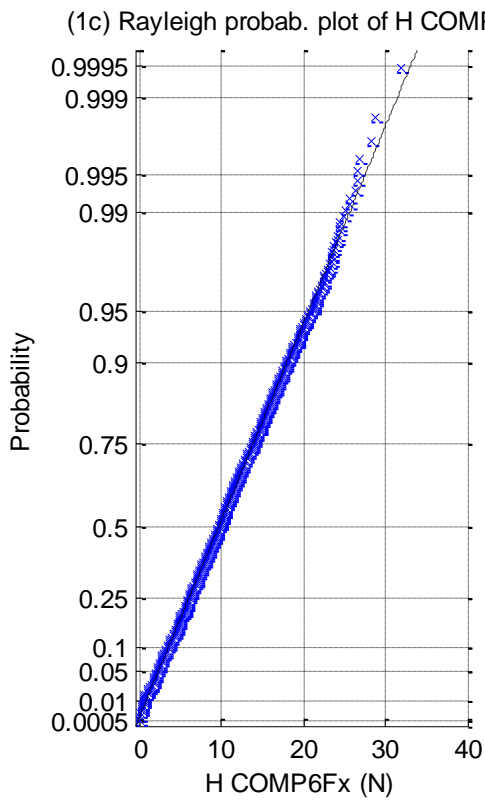
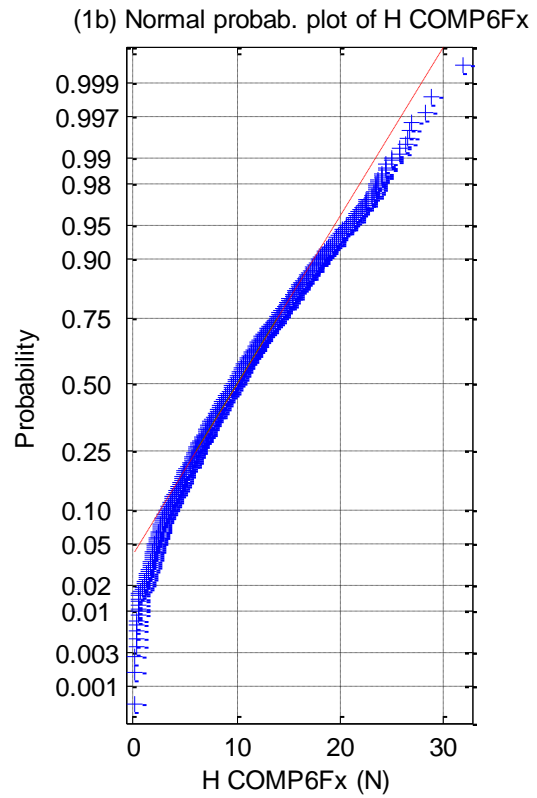
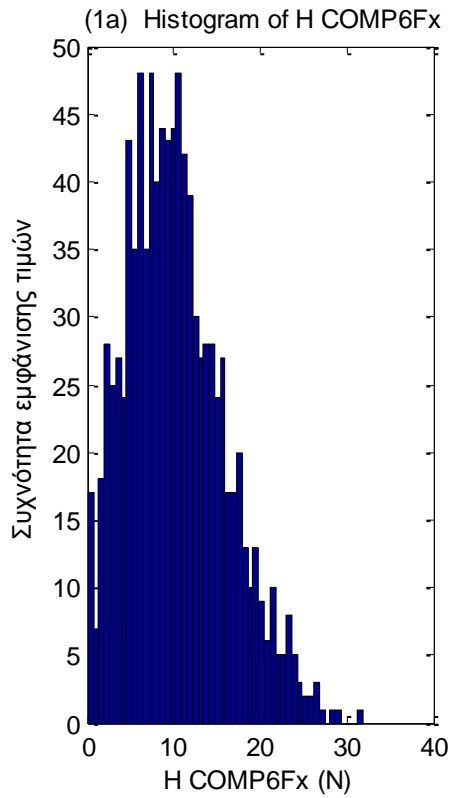


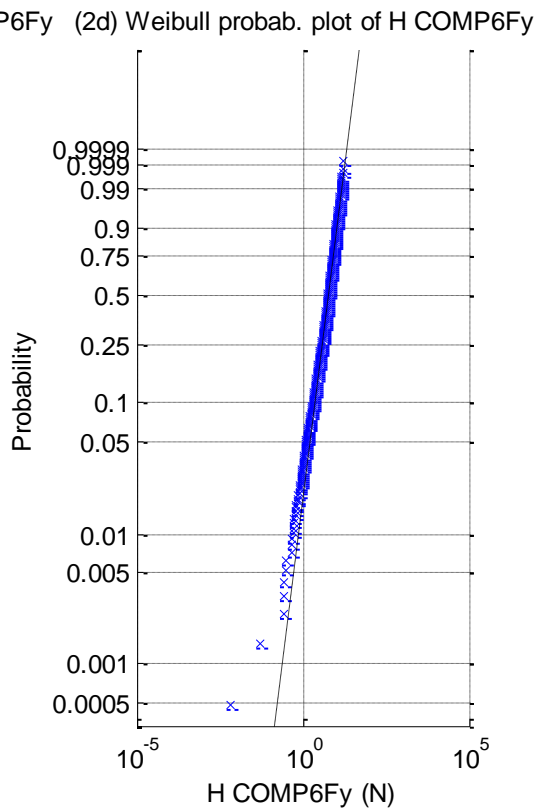
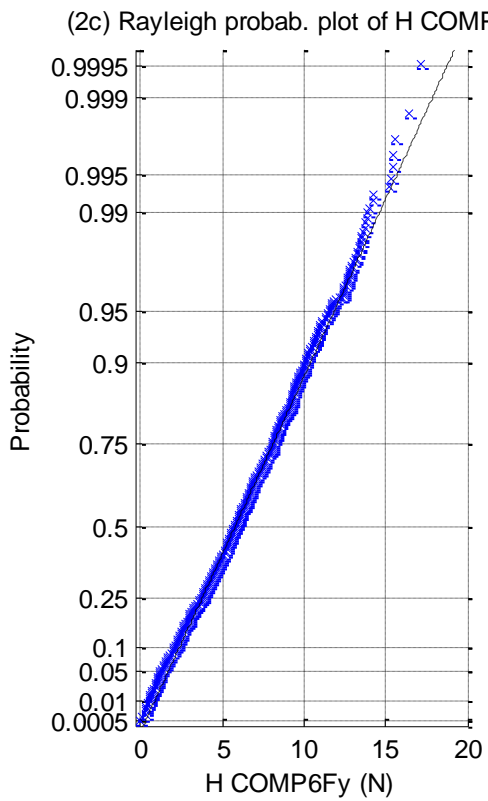
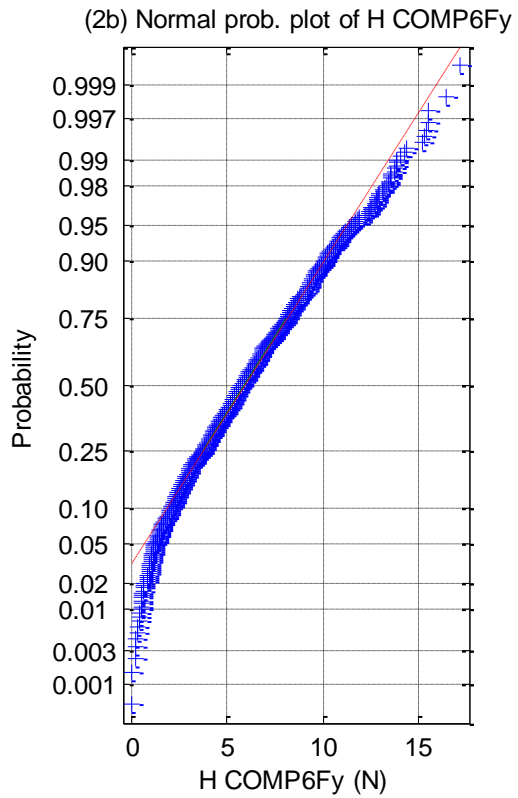
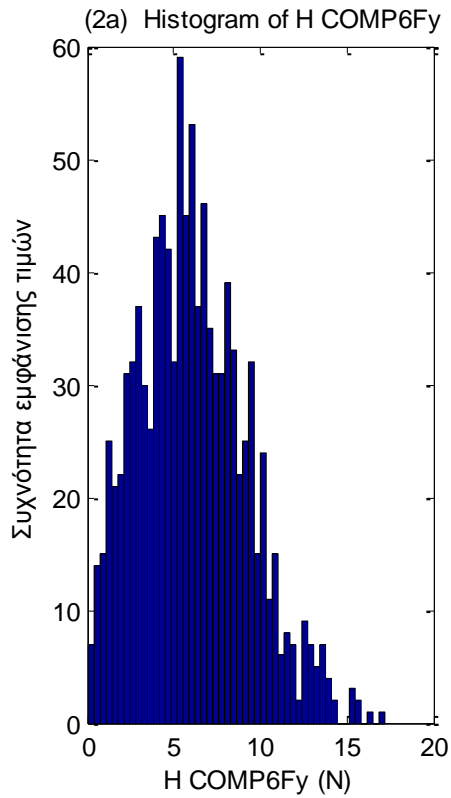


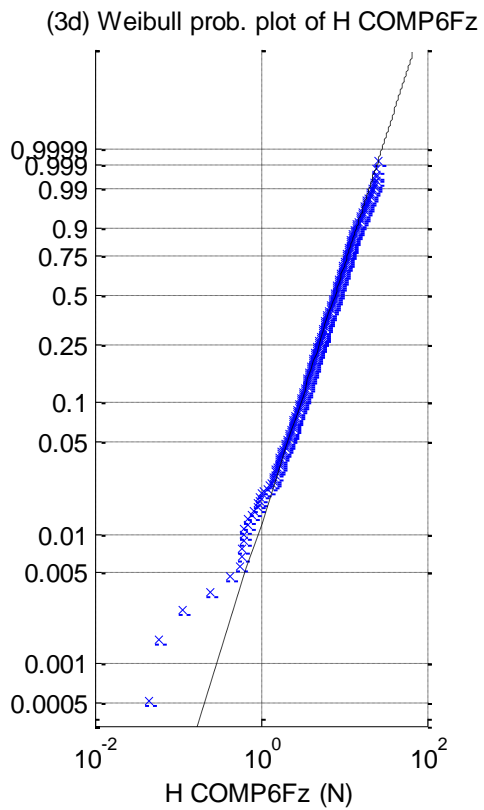
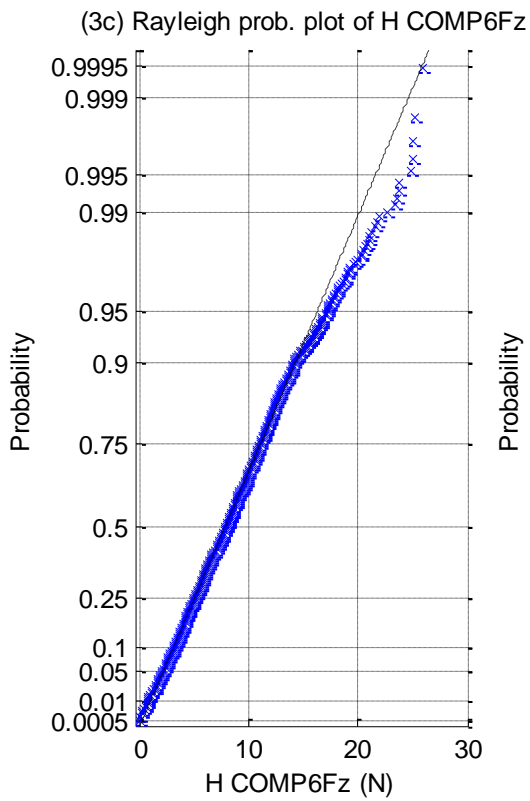
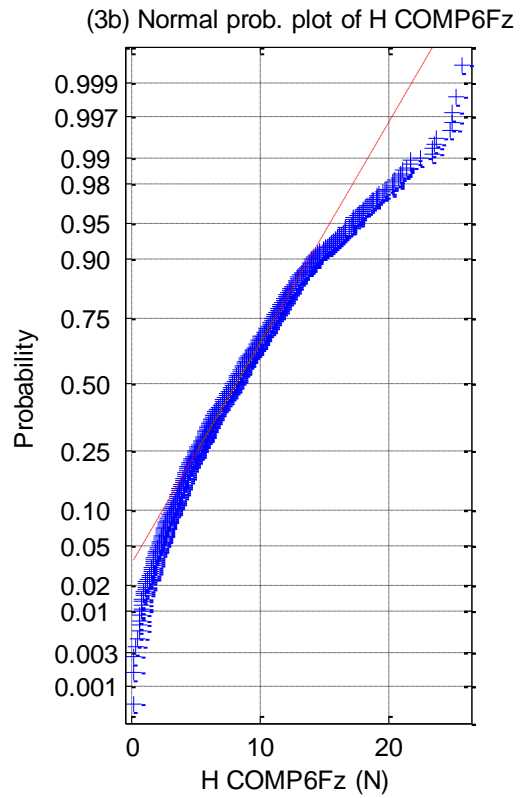
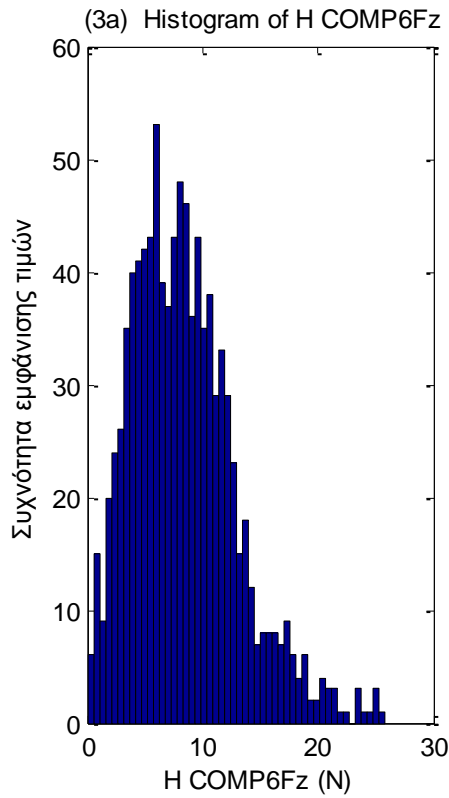


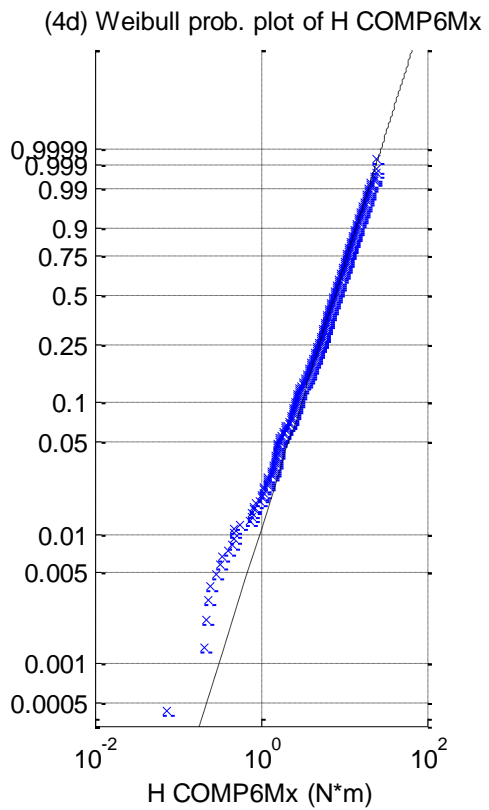
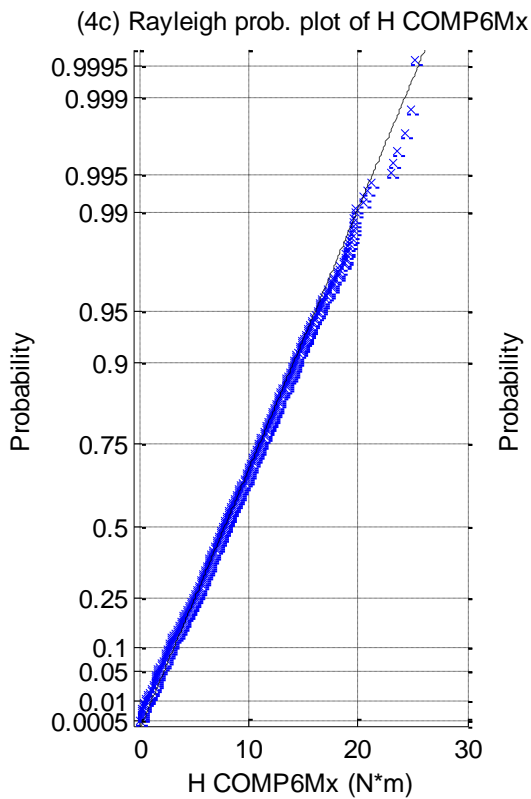
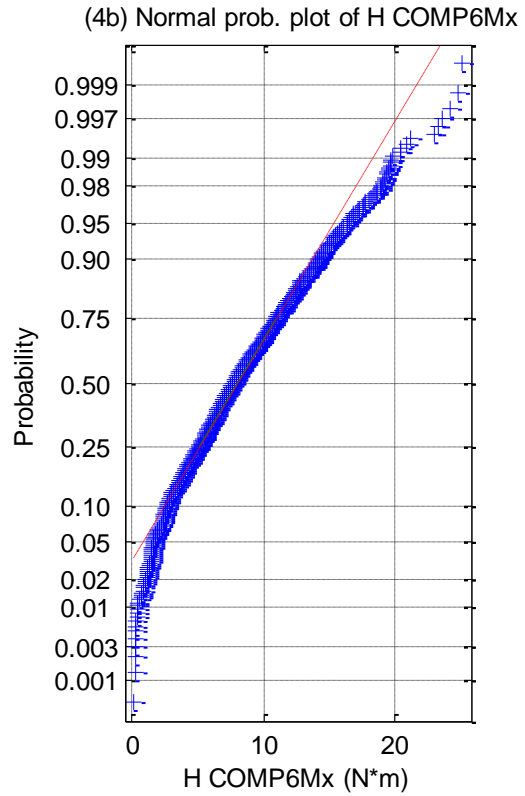
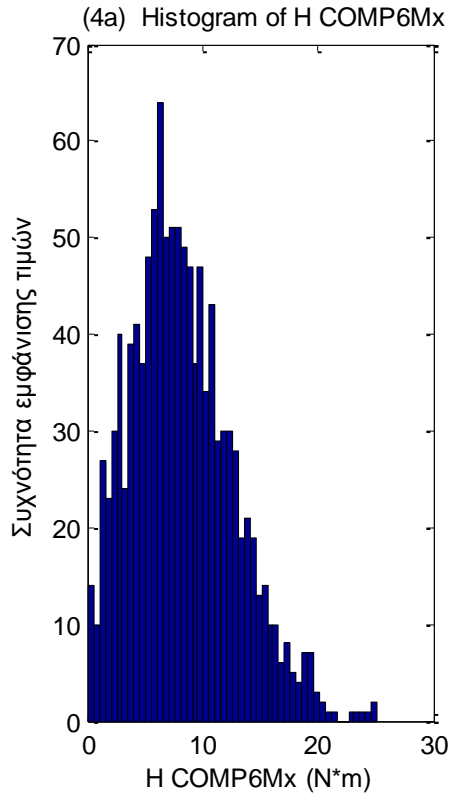


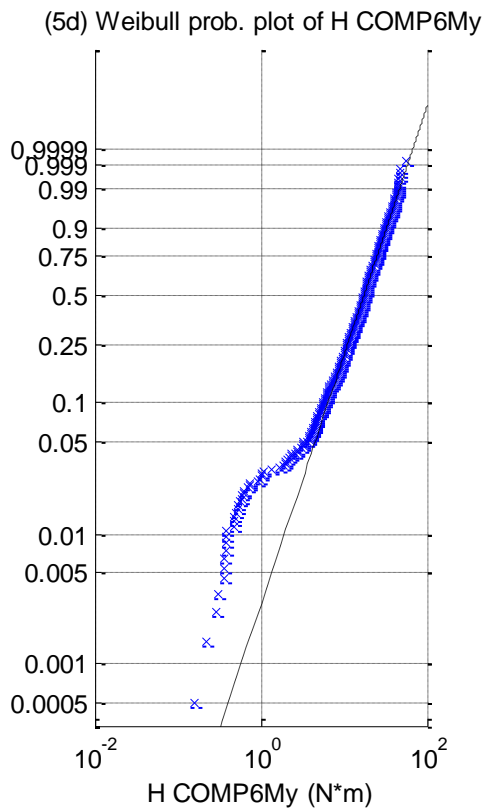
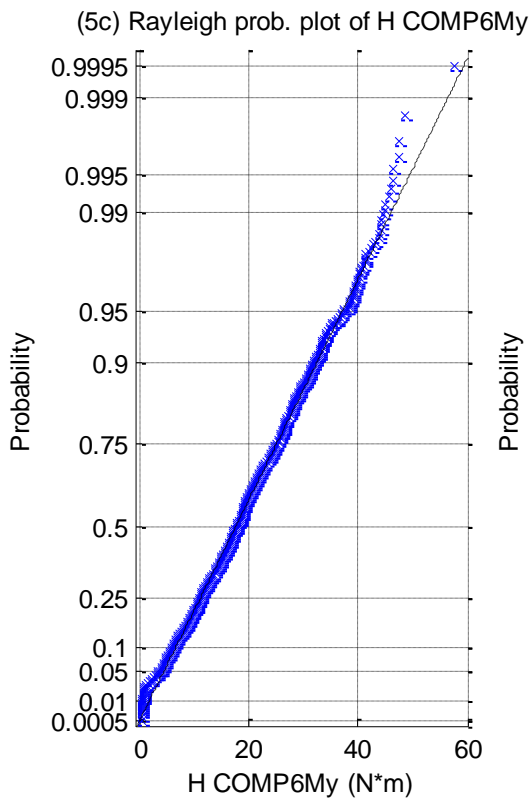
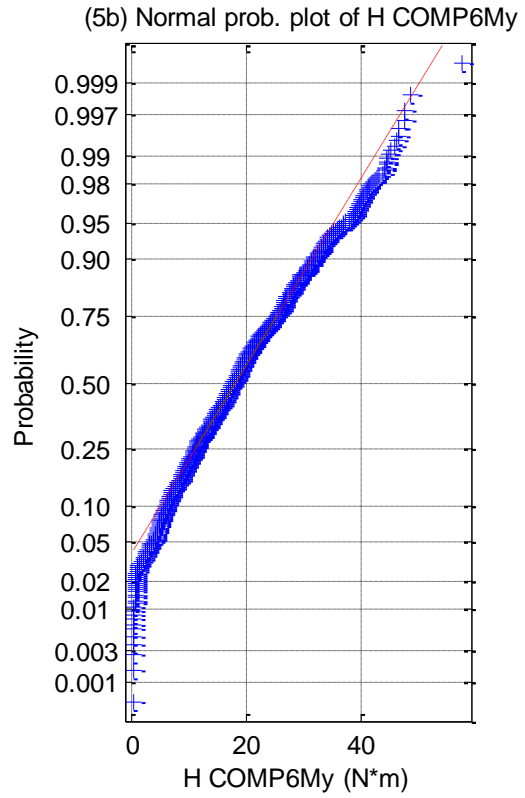
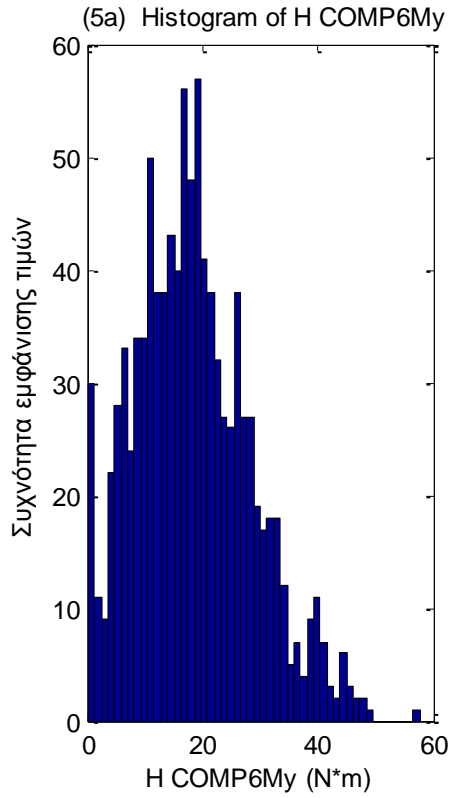
**Σχήματα 2.5.6.1 (1-11)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος

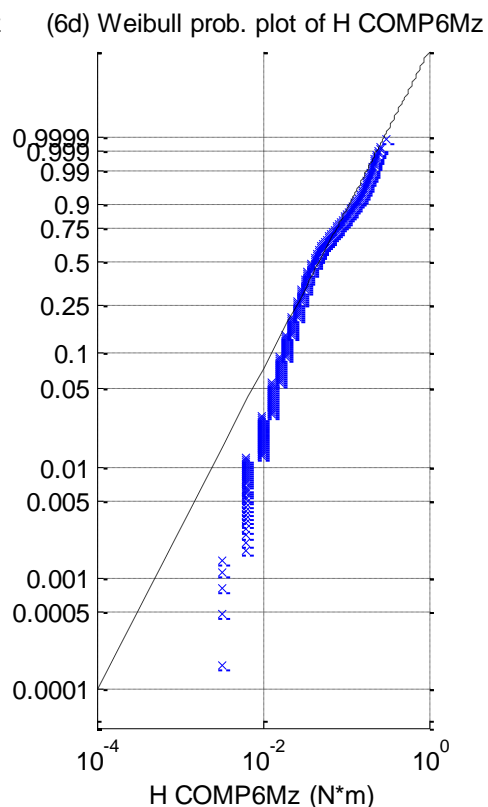
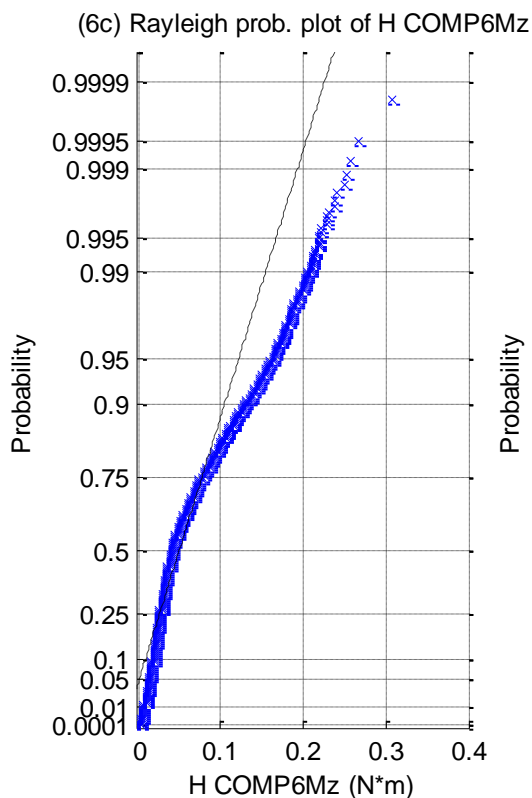
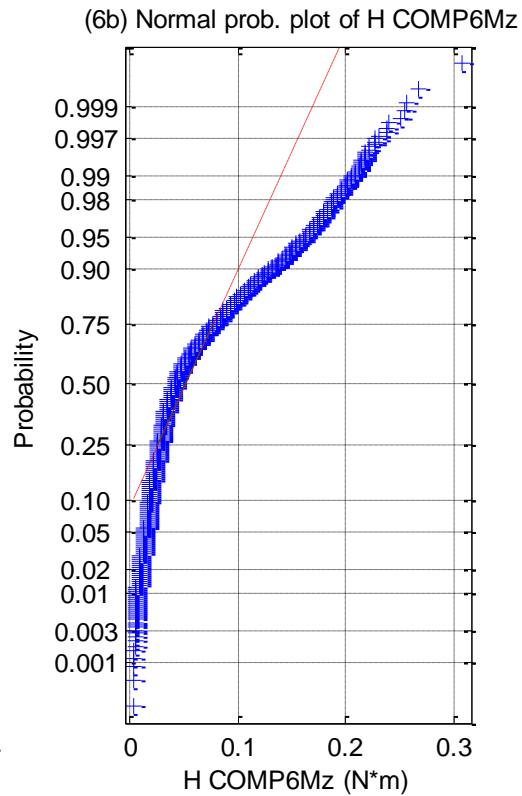
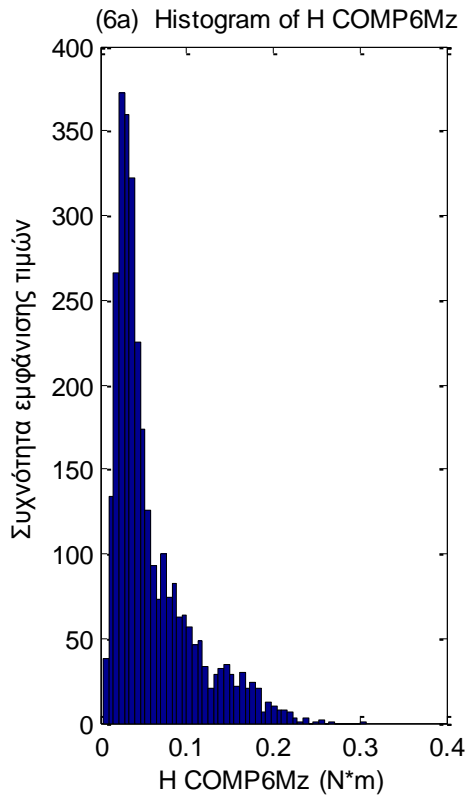






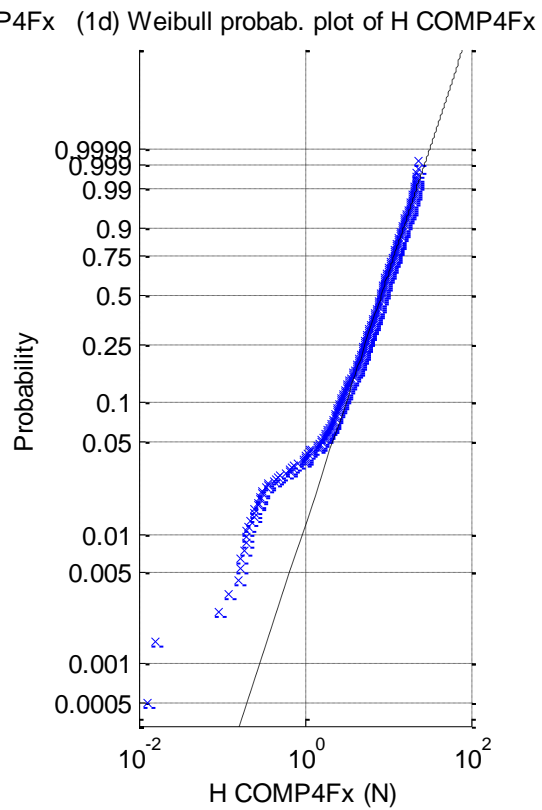
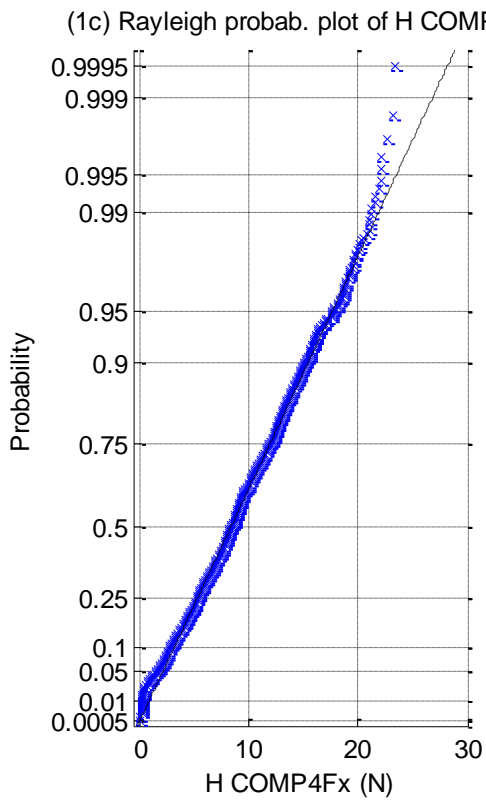
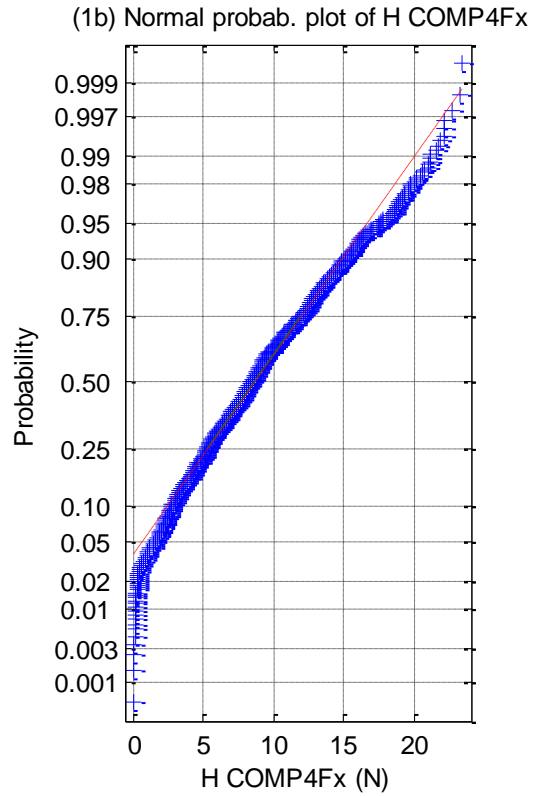
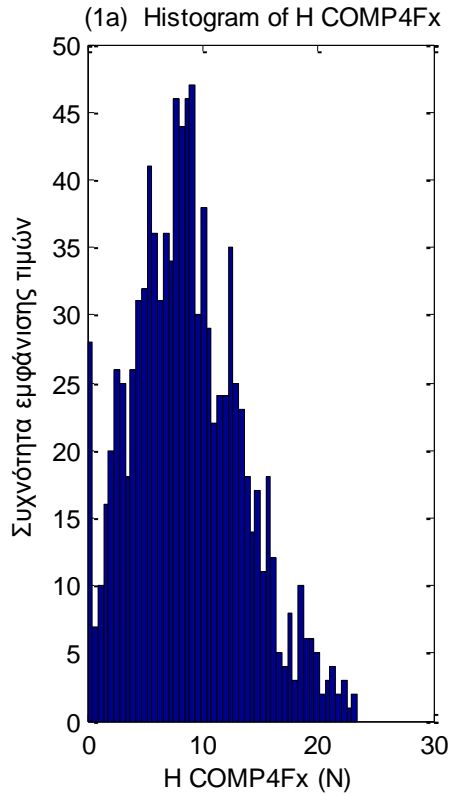


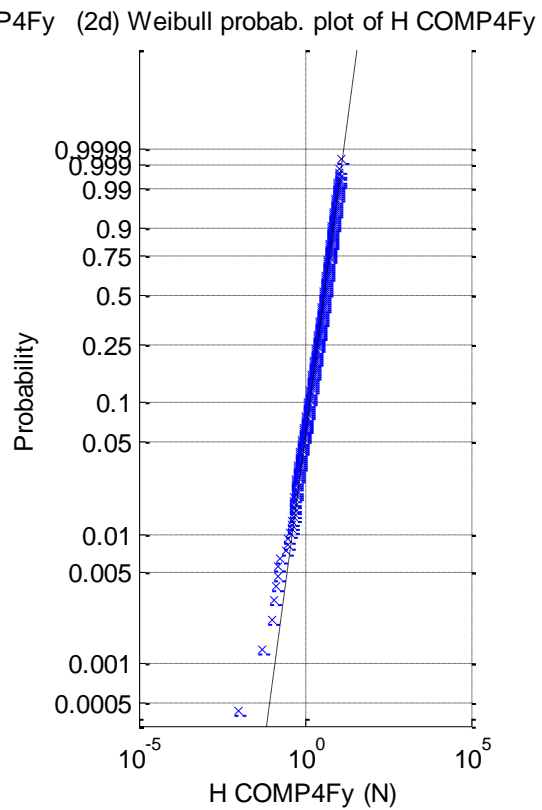
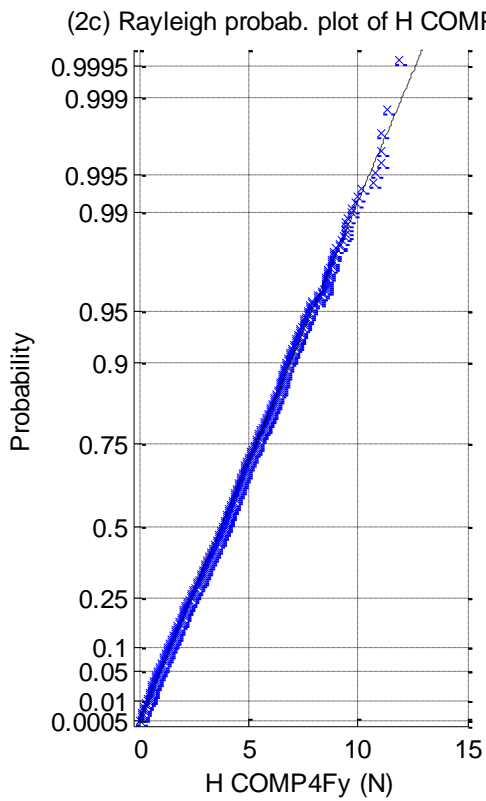
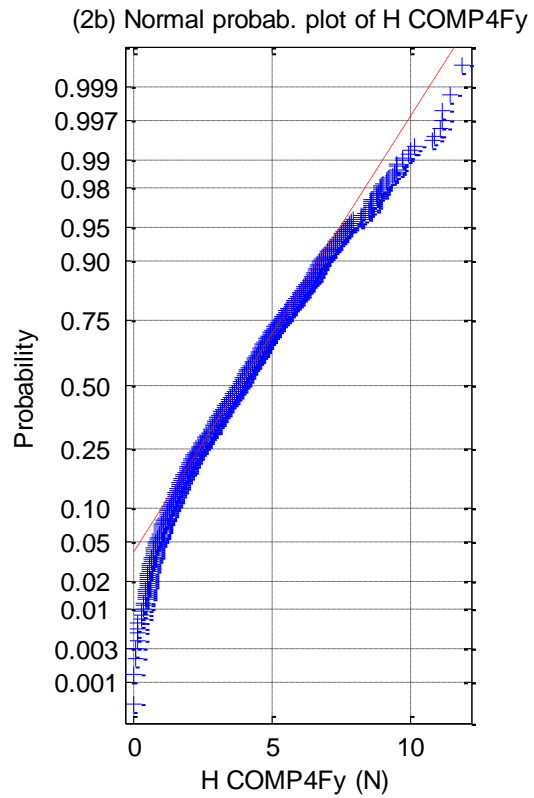
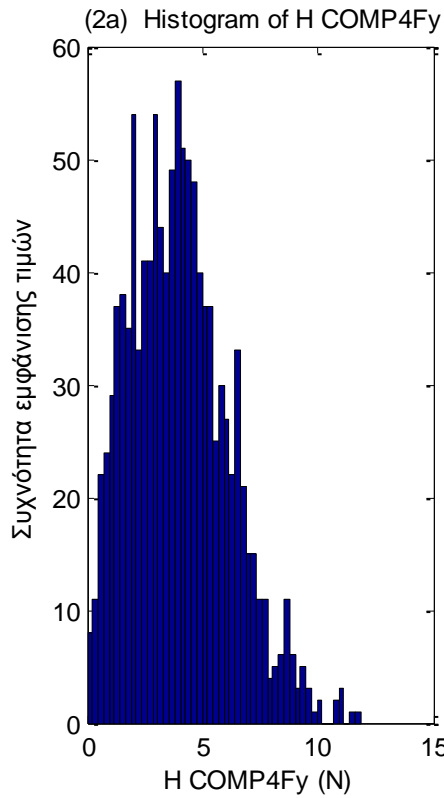


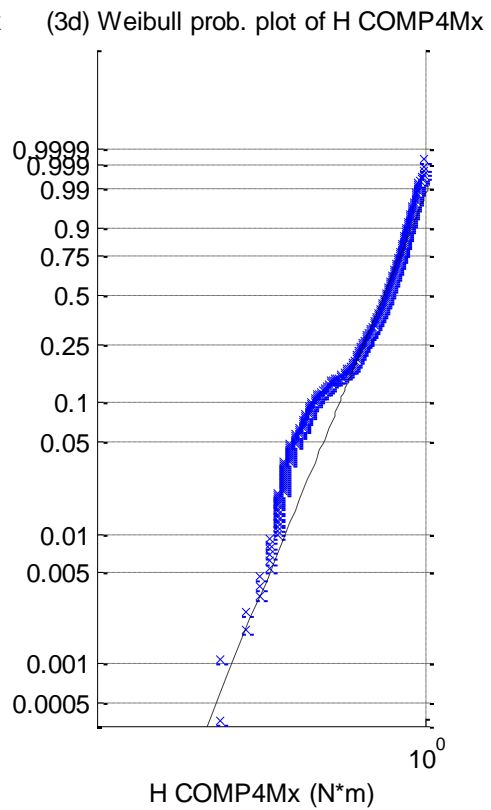
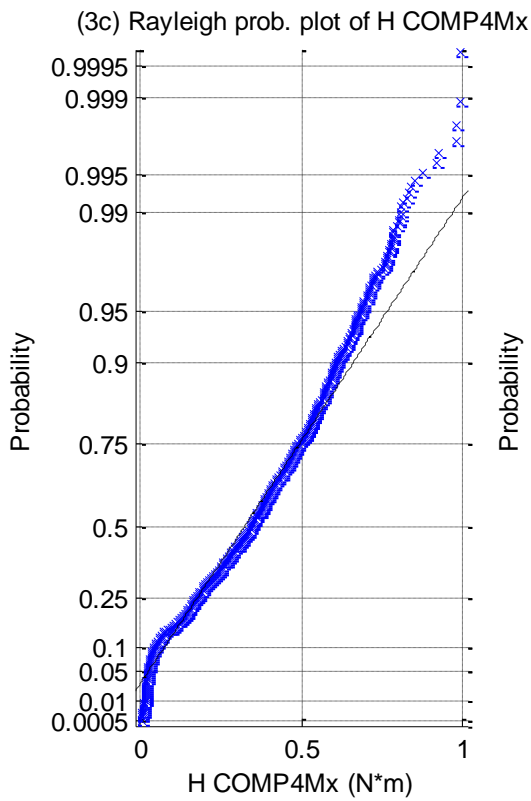
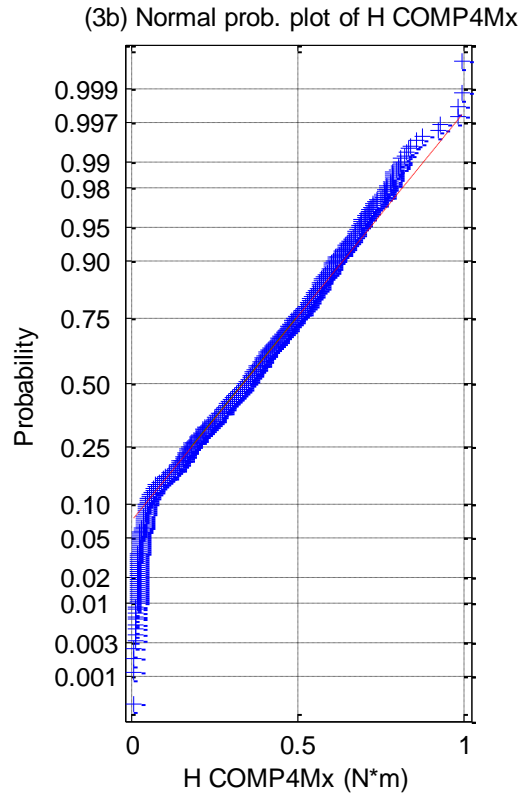
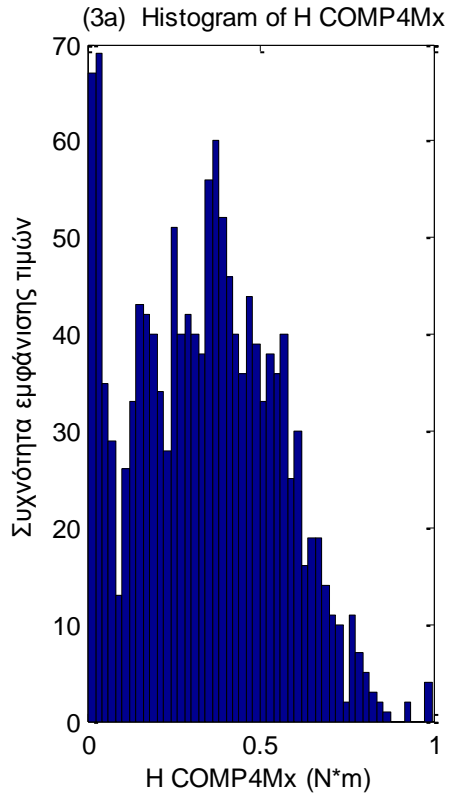


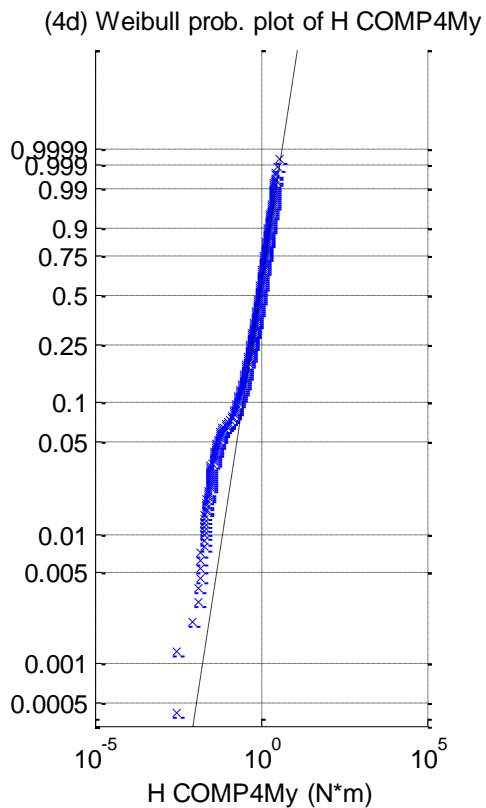
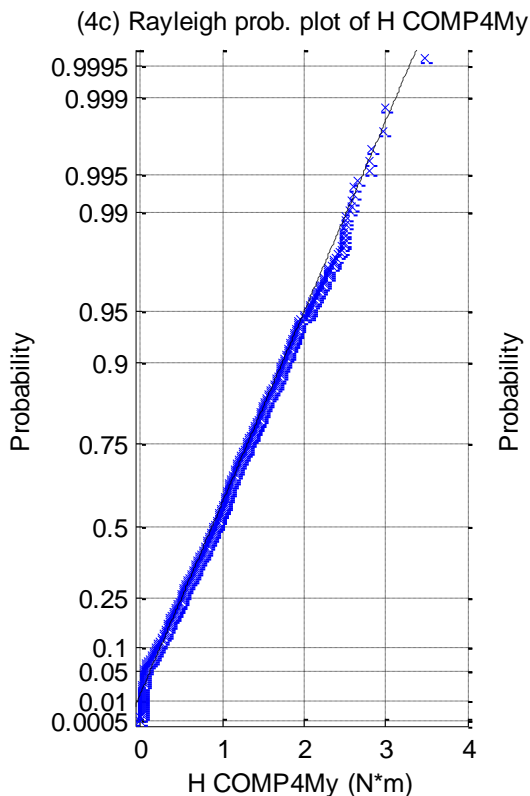
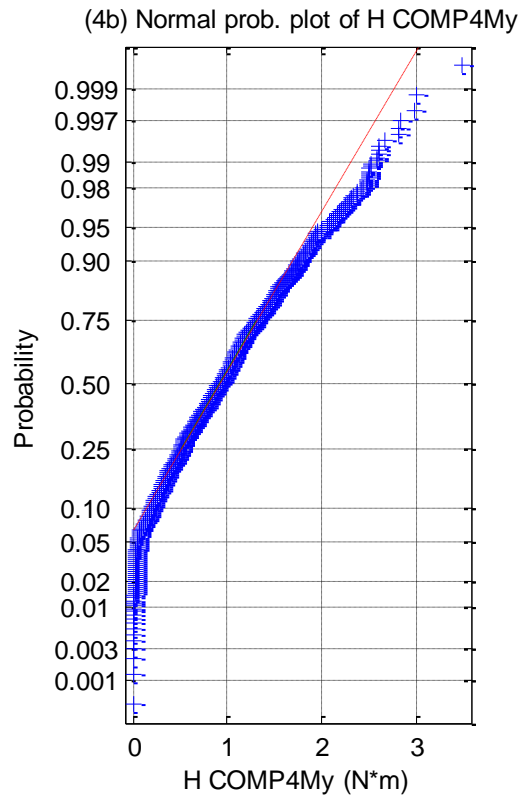
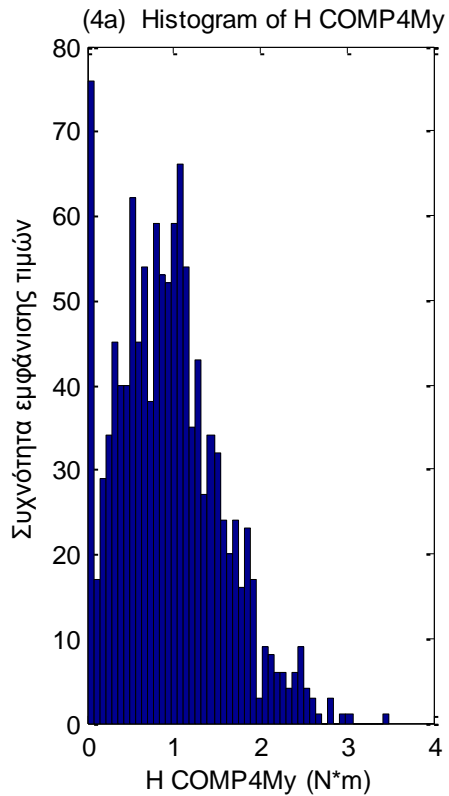
**Σχήματα 2.5.6.2 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



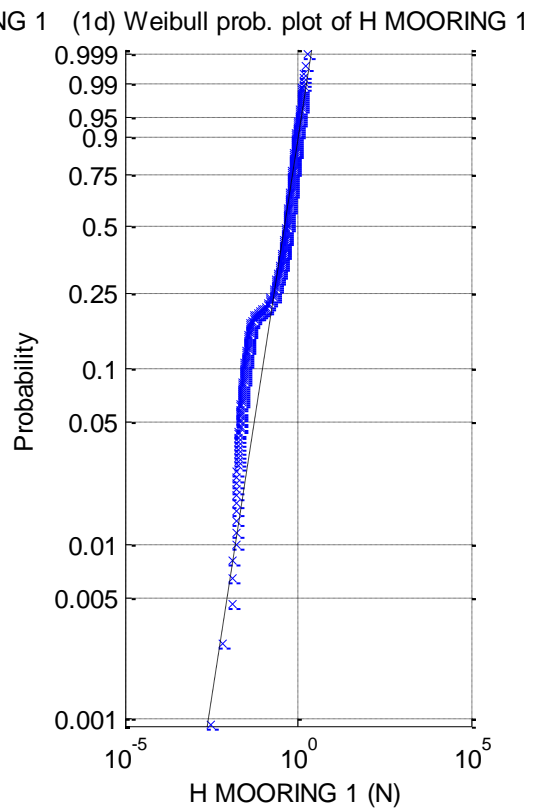
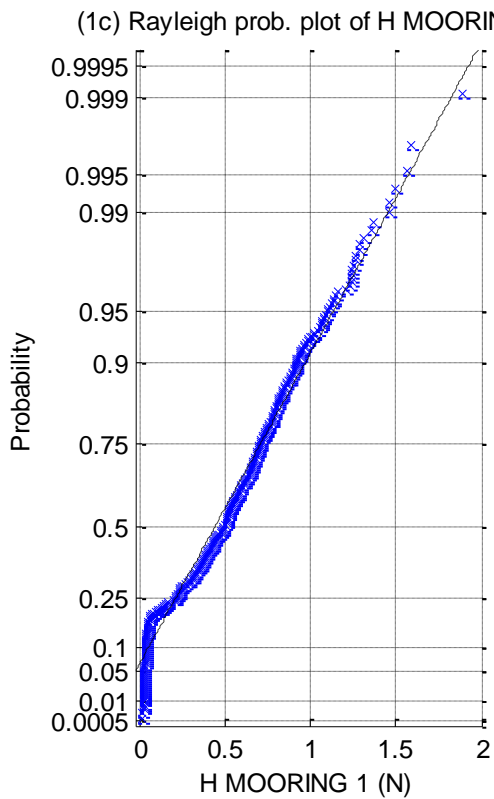
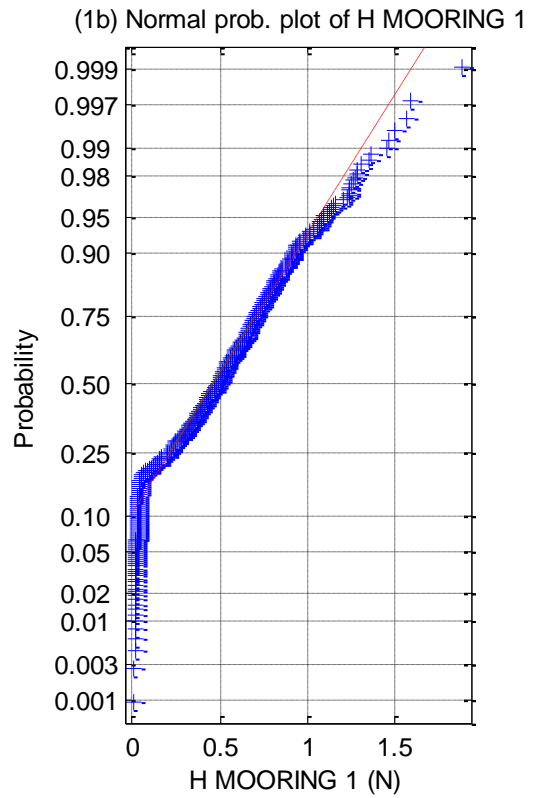
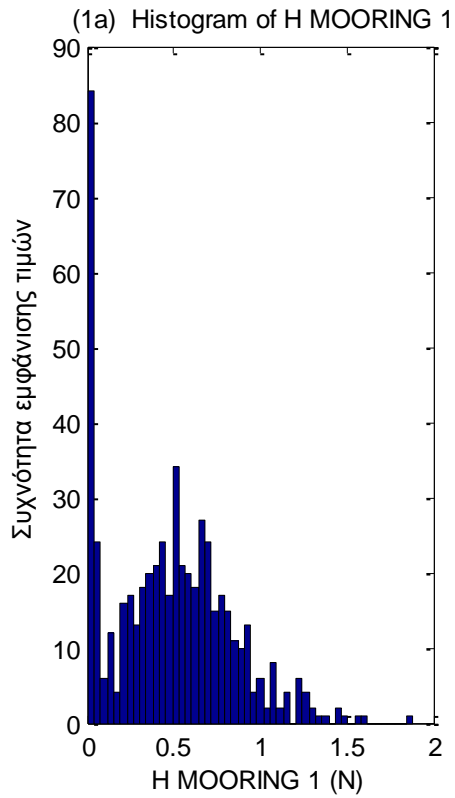




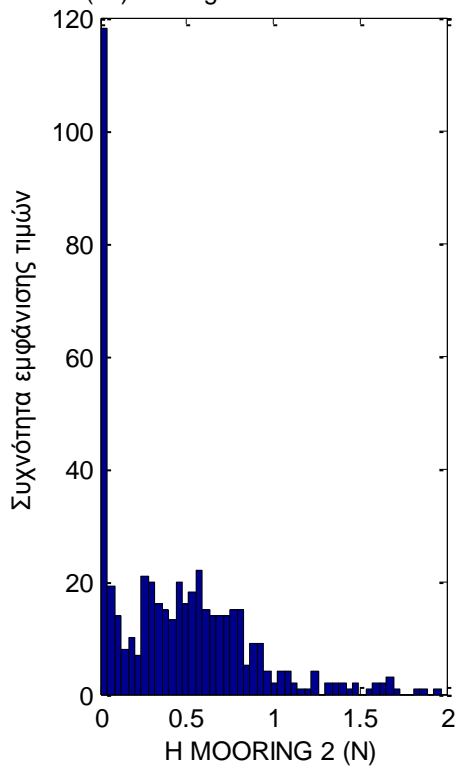




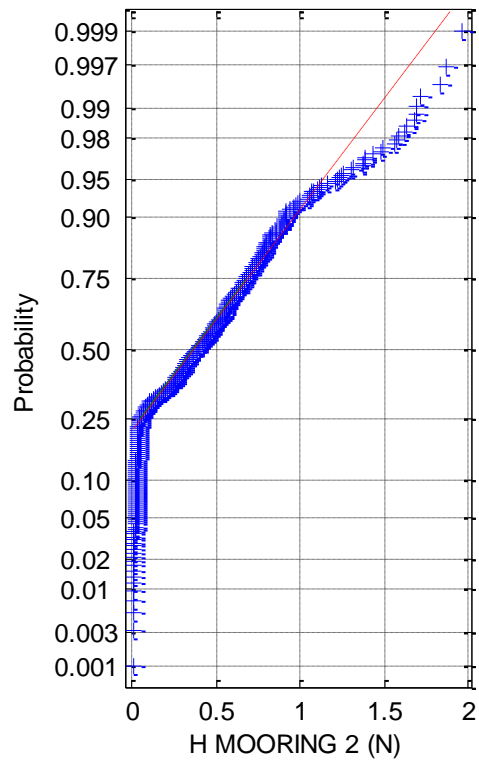
**Σχήματα 2.5.6.3 (1-4)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



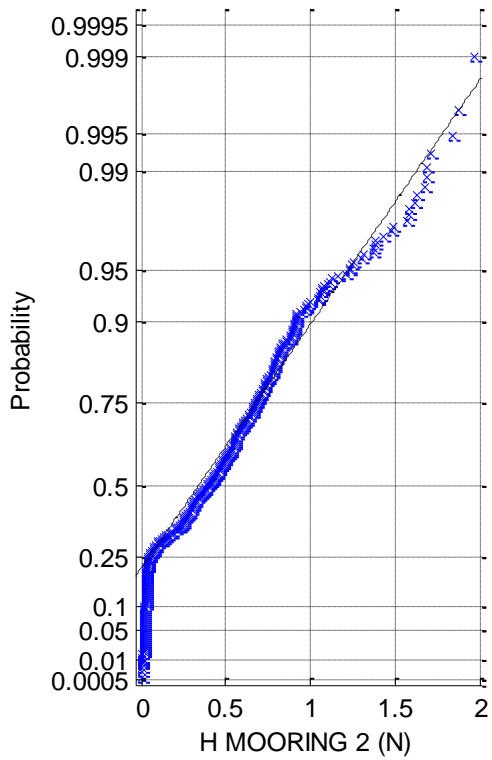
(2a) Histogram of H MOORING 2



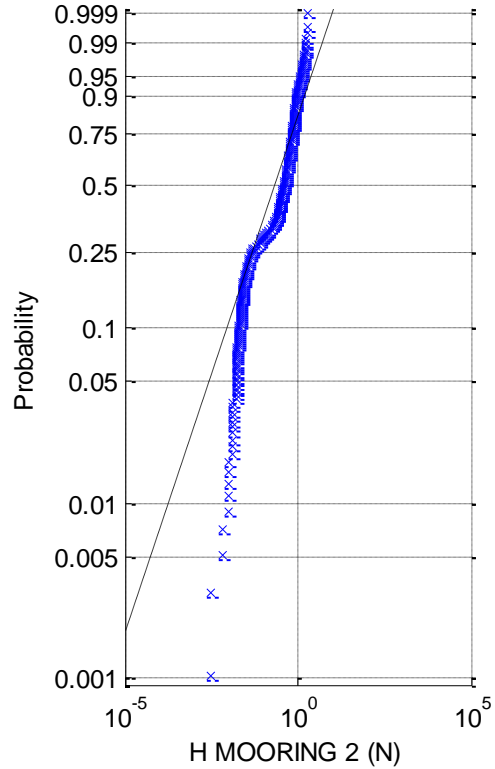
(2b) Normal prob. plot of H MOORING 2

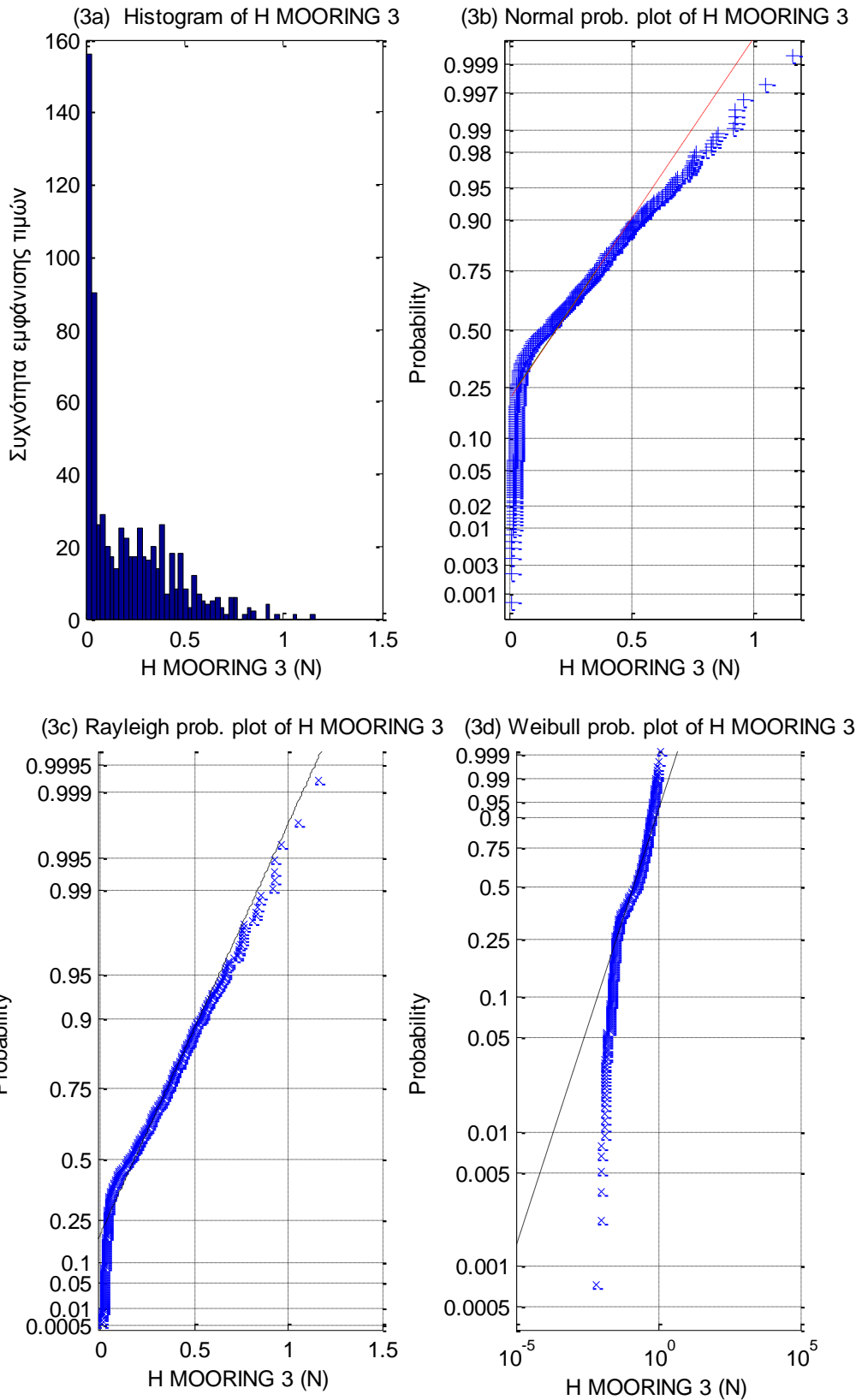


(2c) Rayleigh prob. plot of H MOORING 2

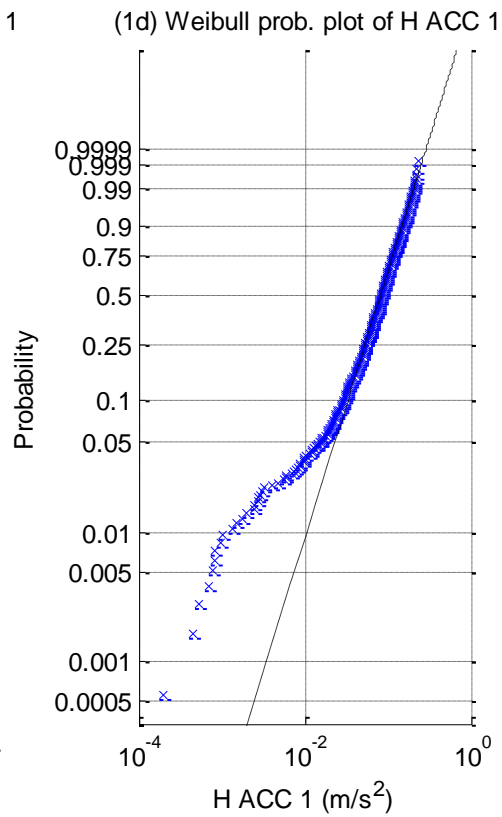
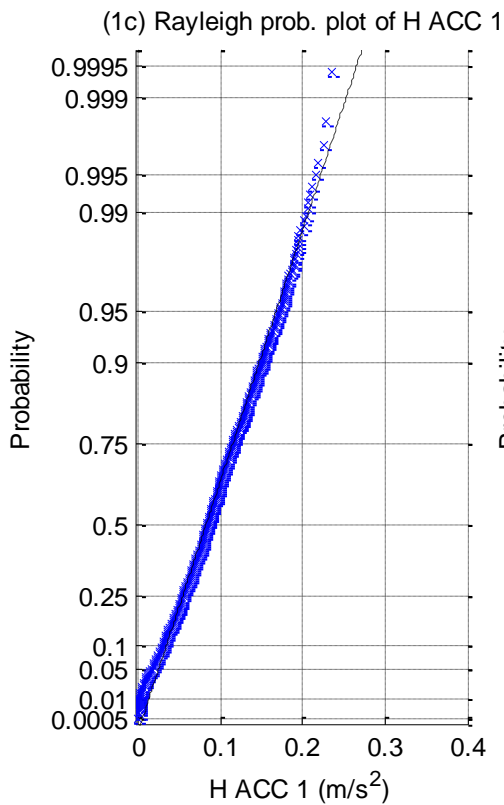
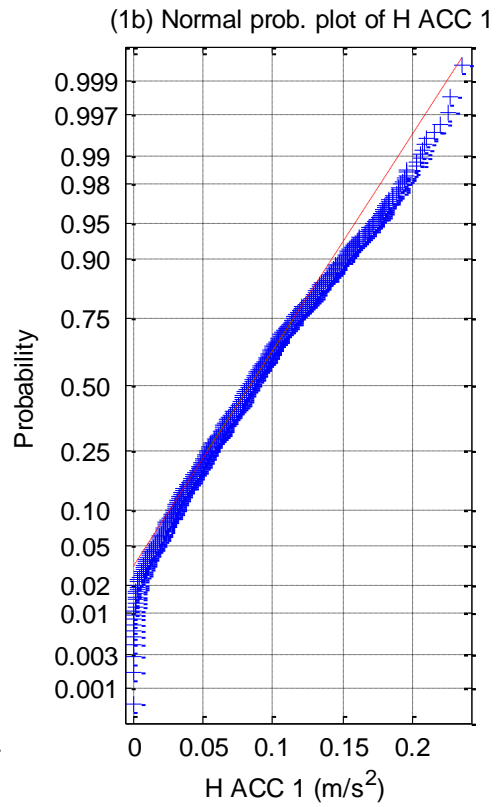
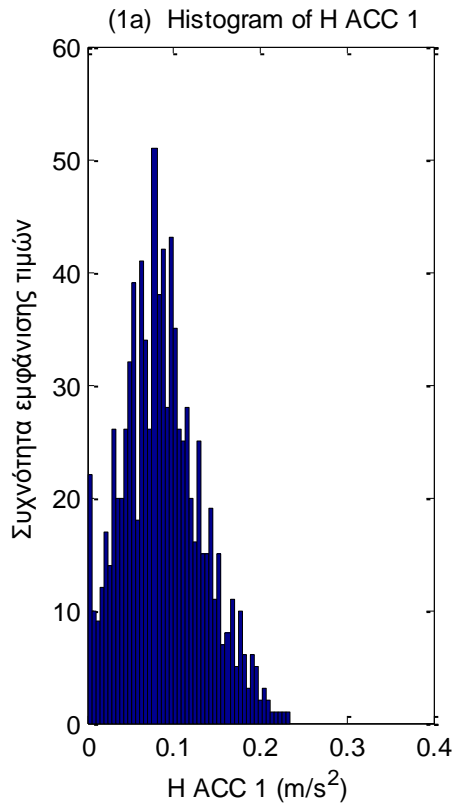


(2d) Weibull prob. plot of H MOORING 2

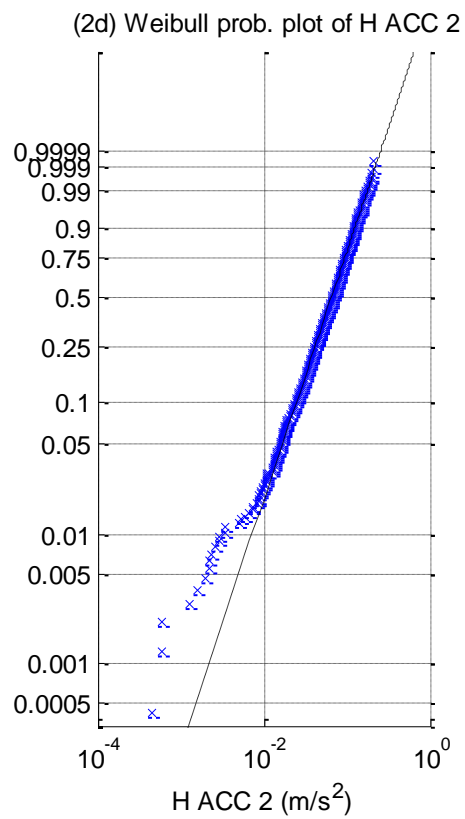
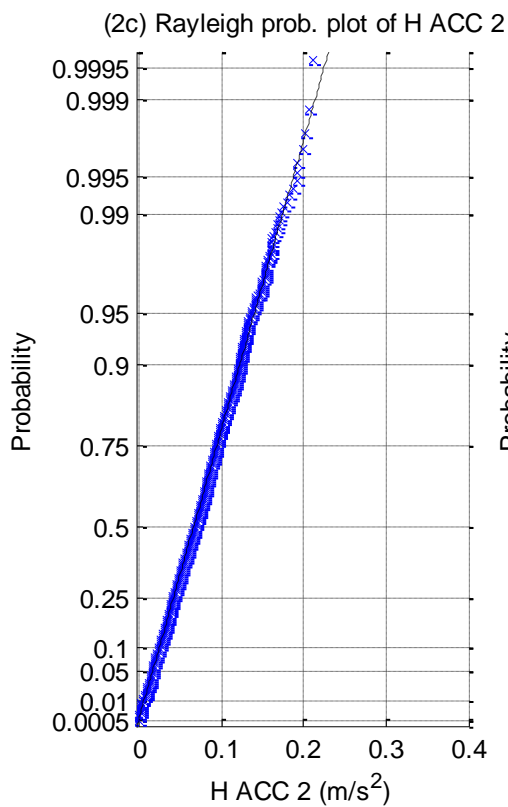
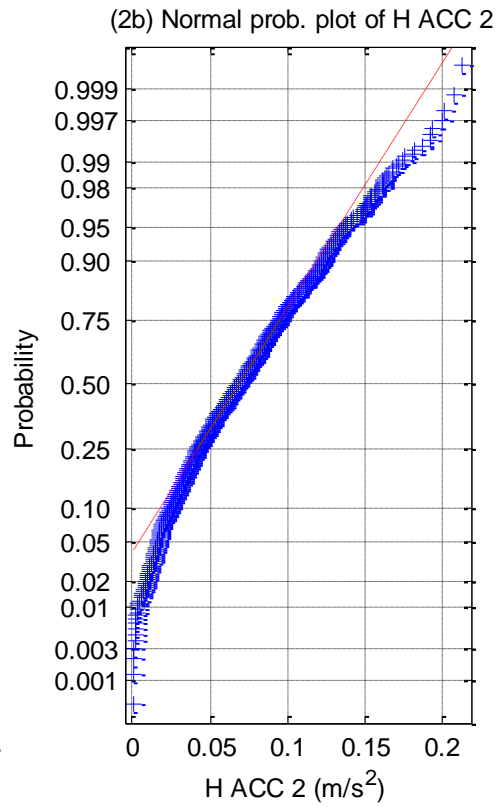
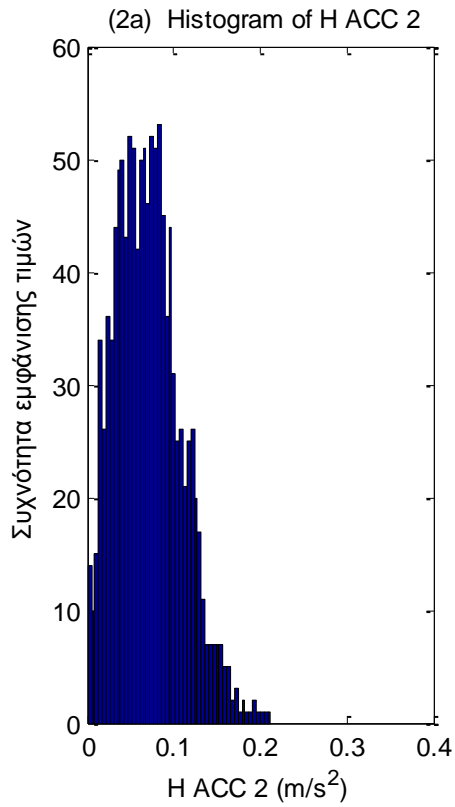


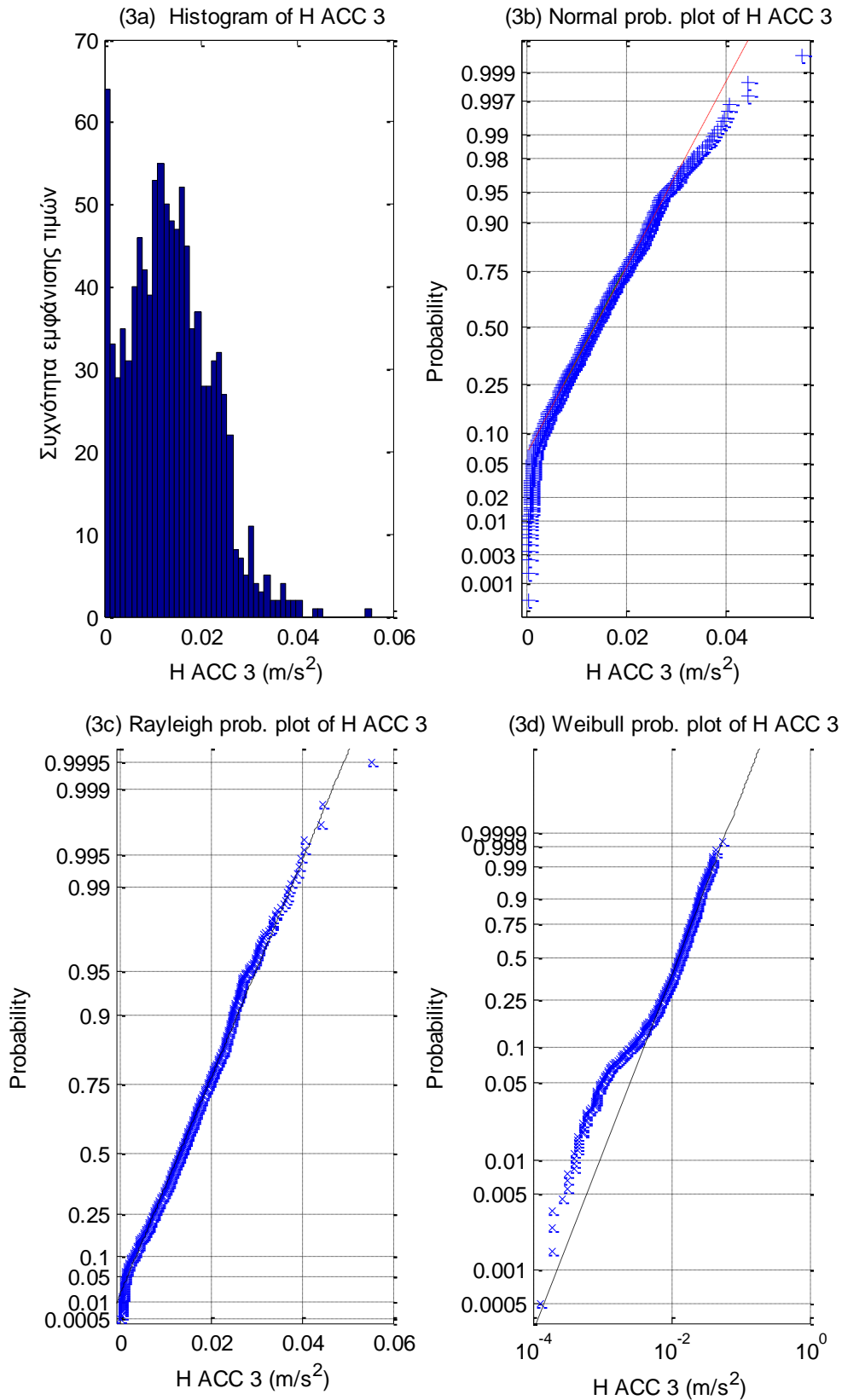


**Σχήματα 2.5.6.4 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

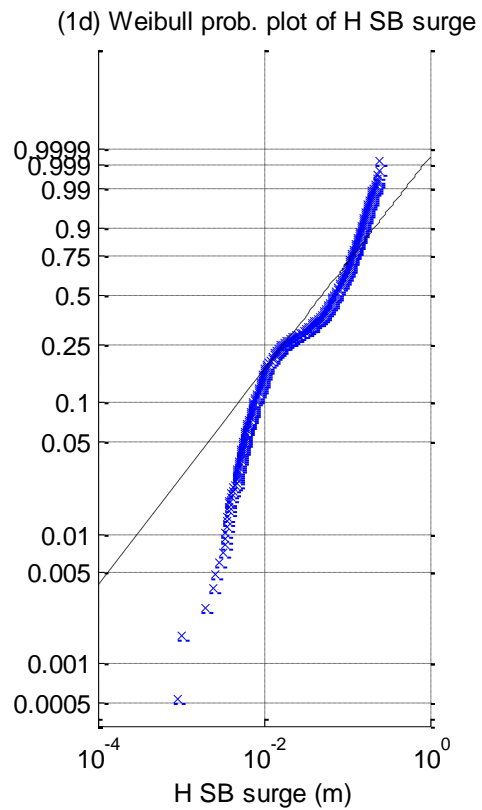
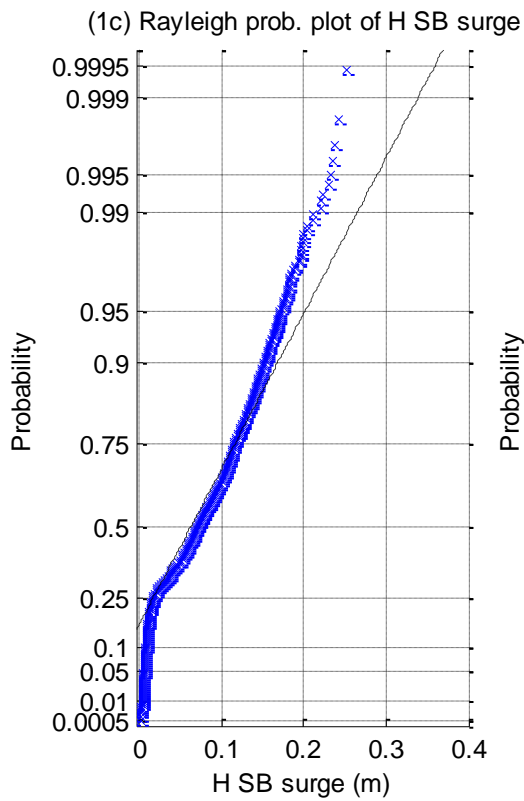
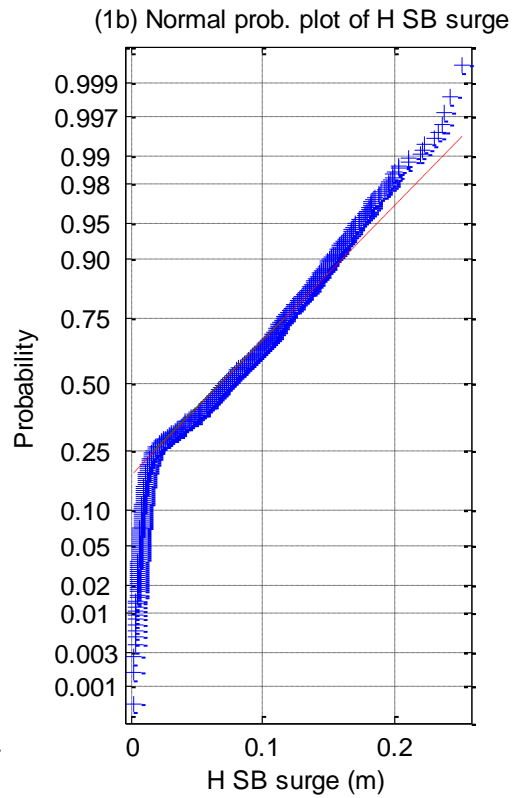
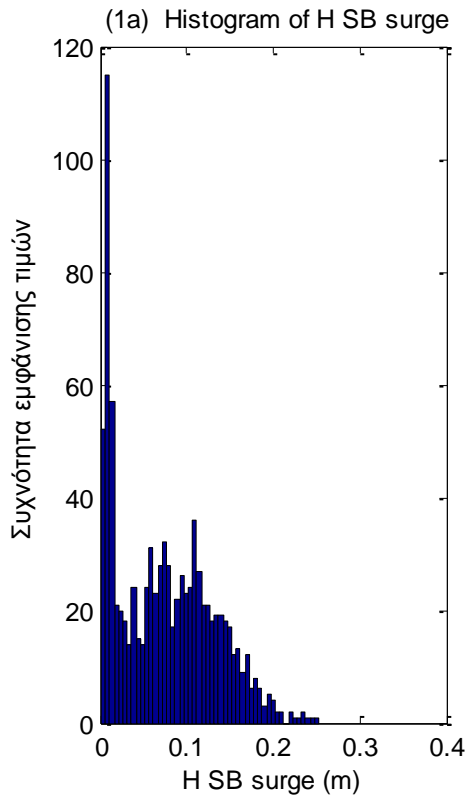


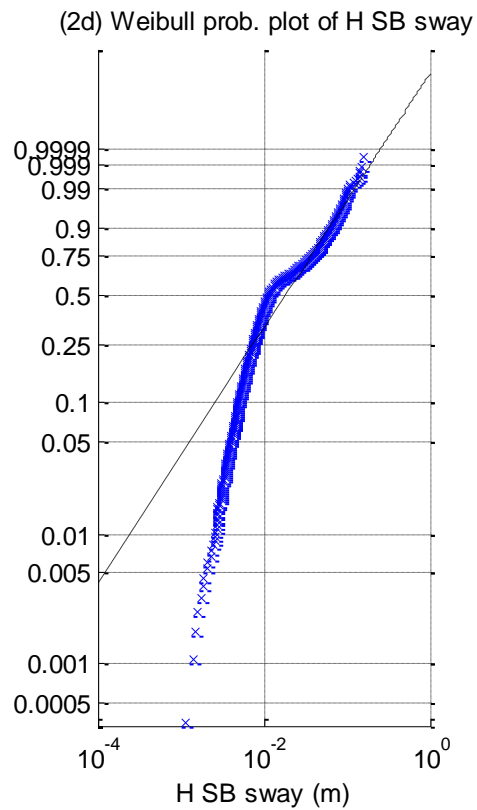
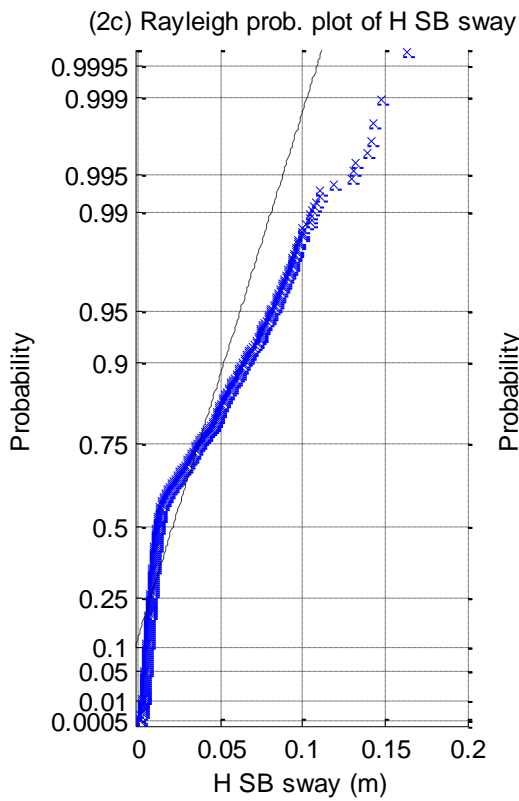
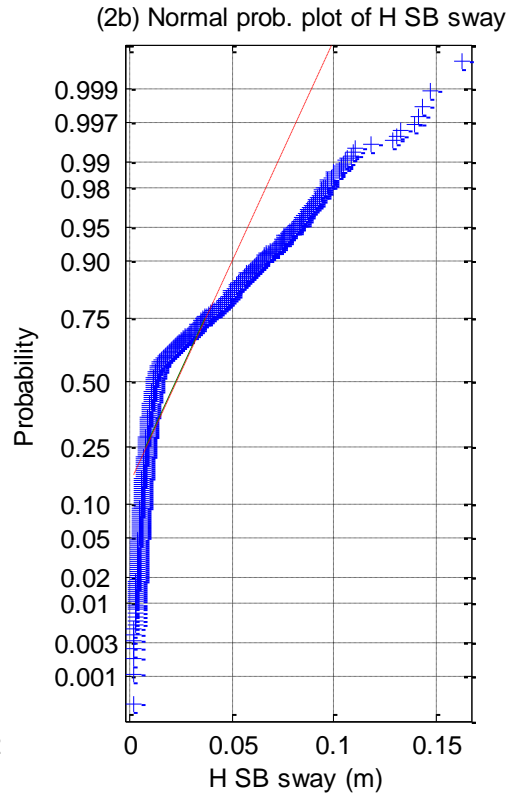
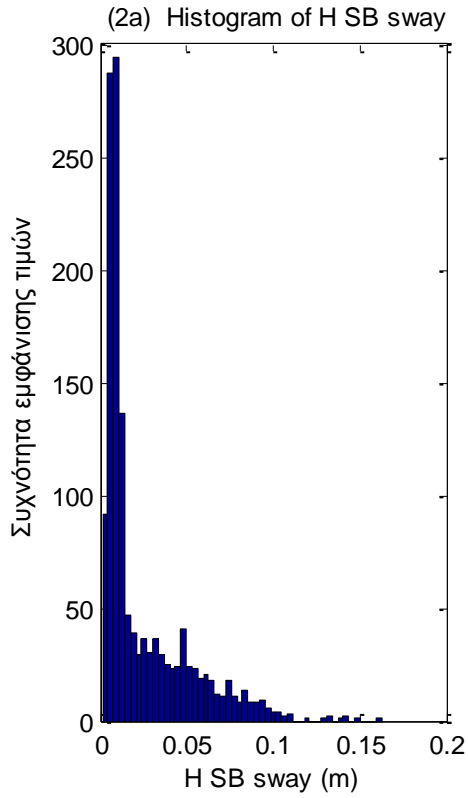


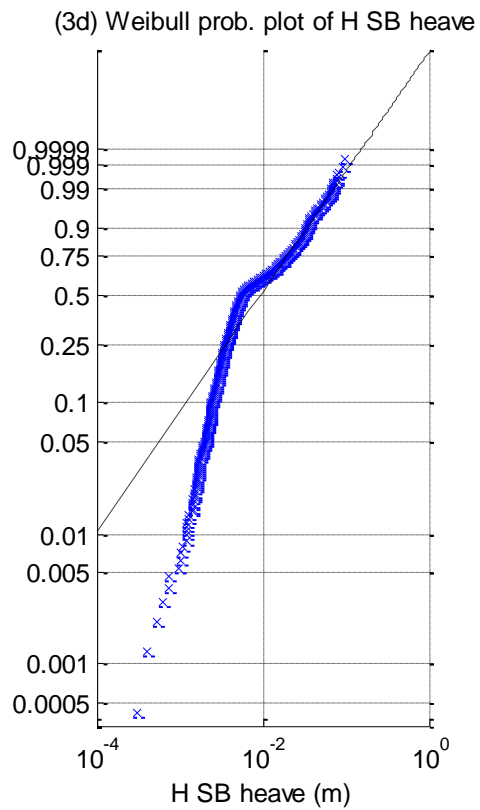
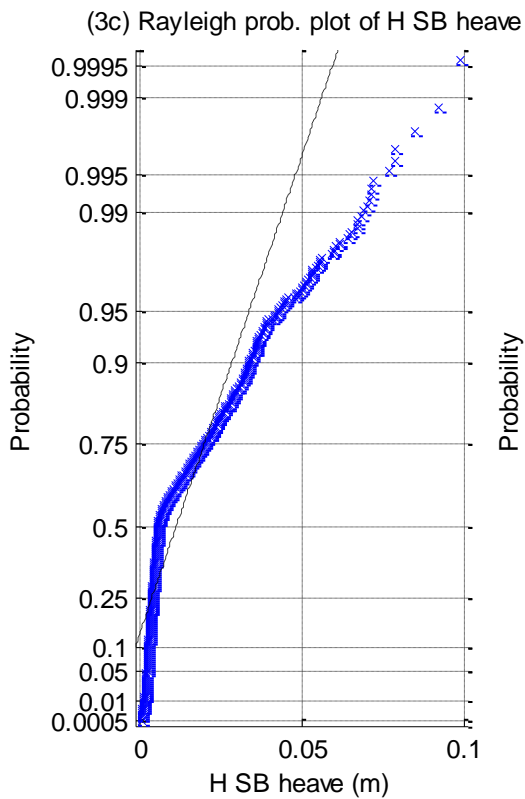
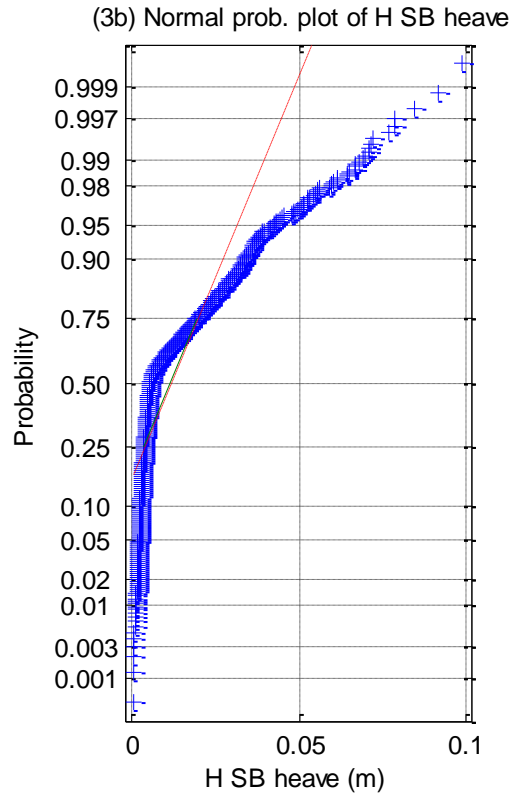
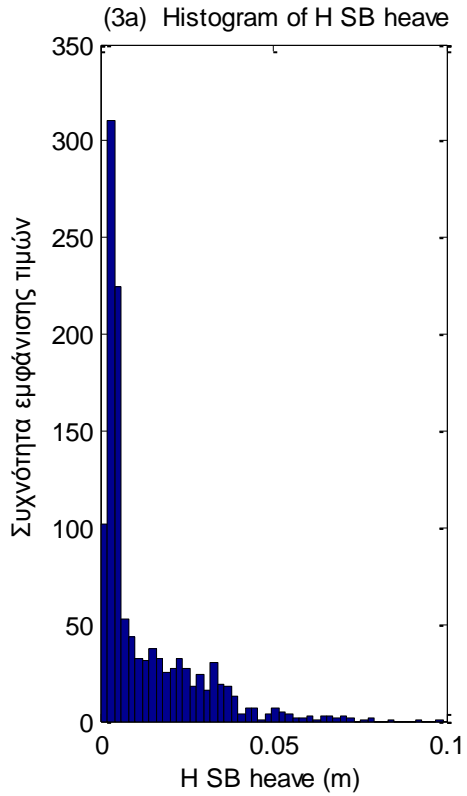


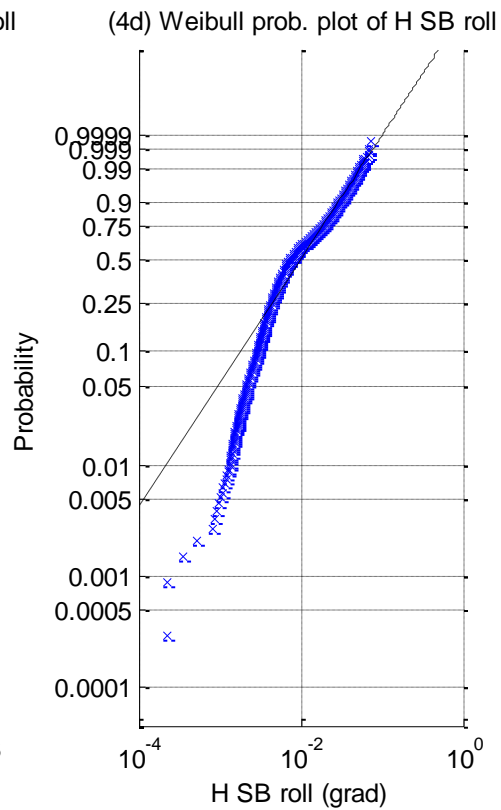
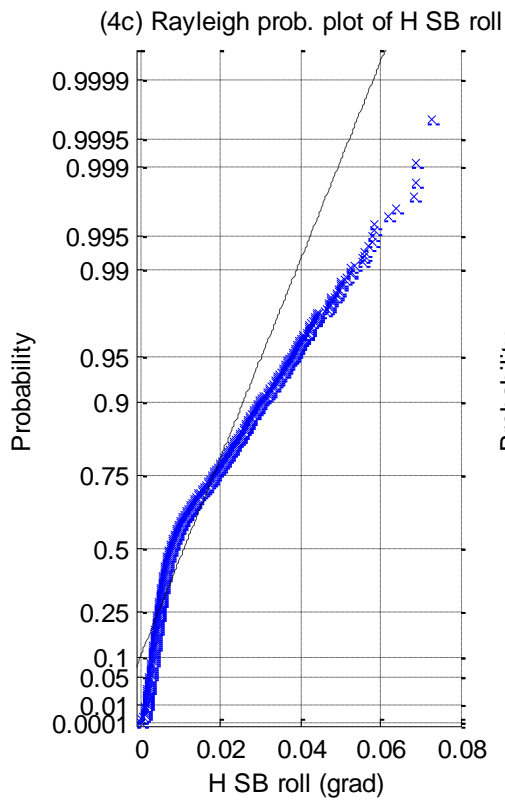
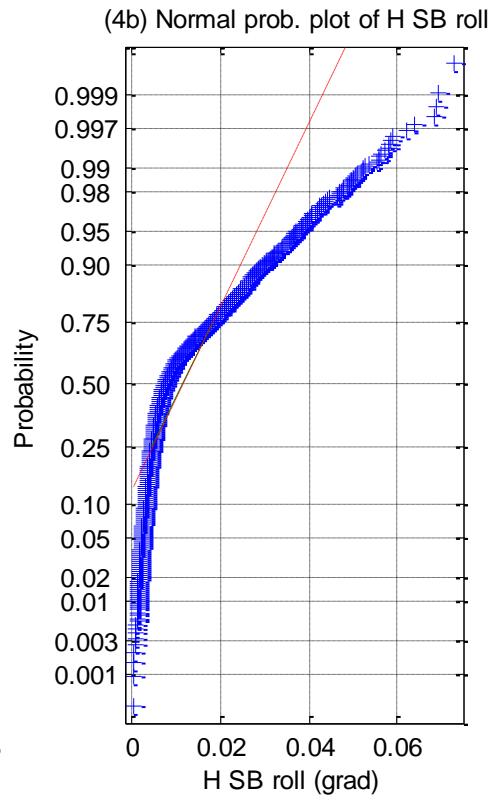
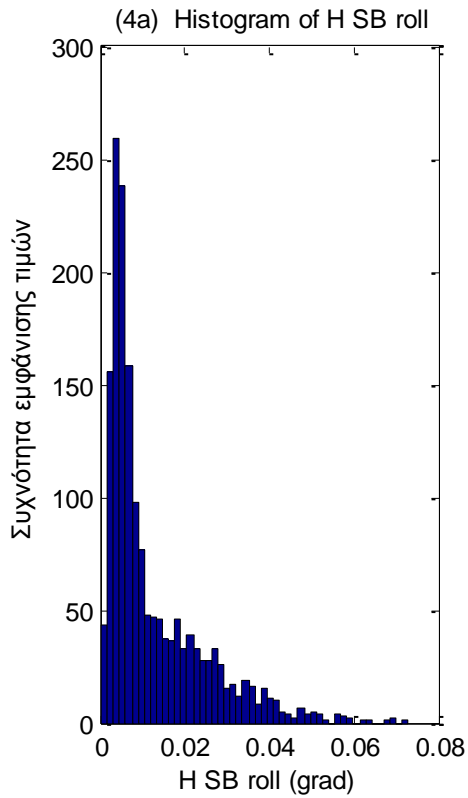


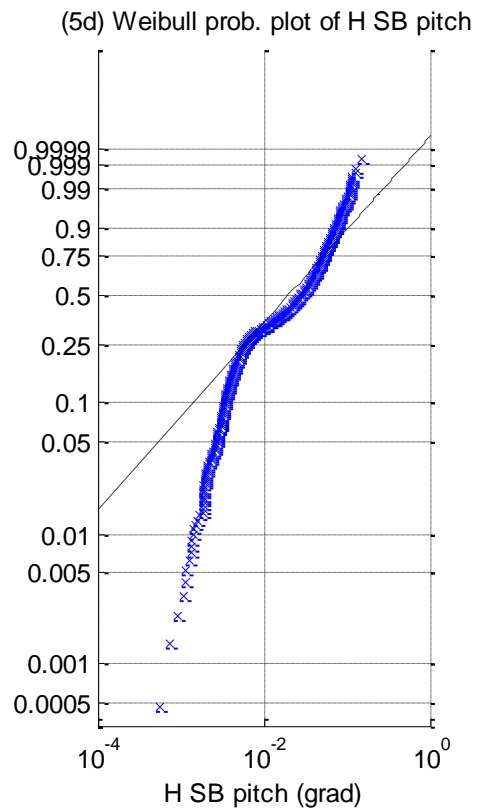
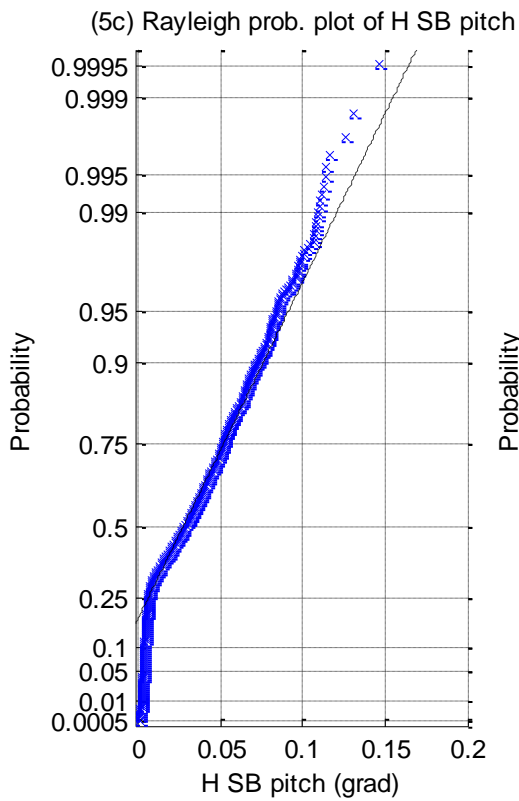
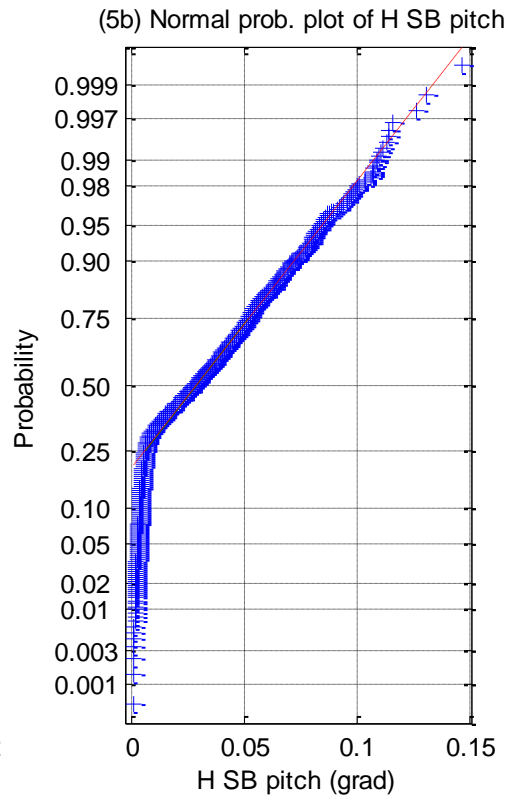
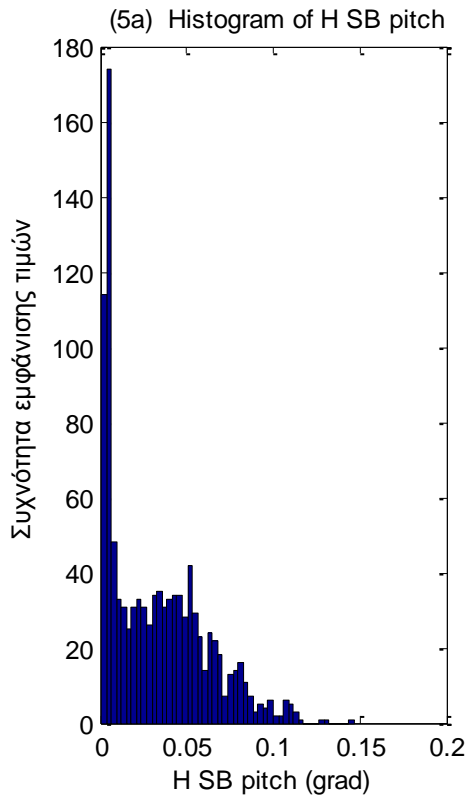
**Σχήματα 2.5.6.5 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης

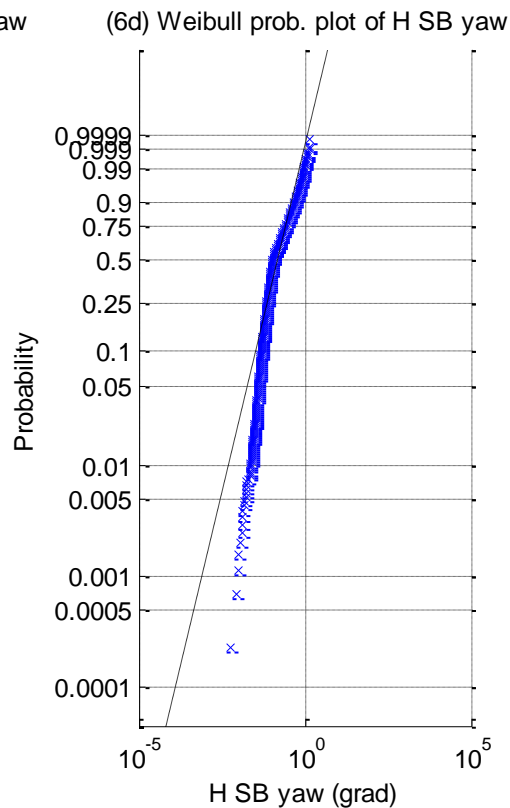
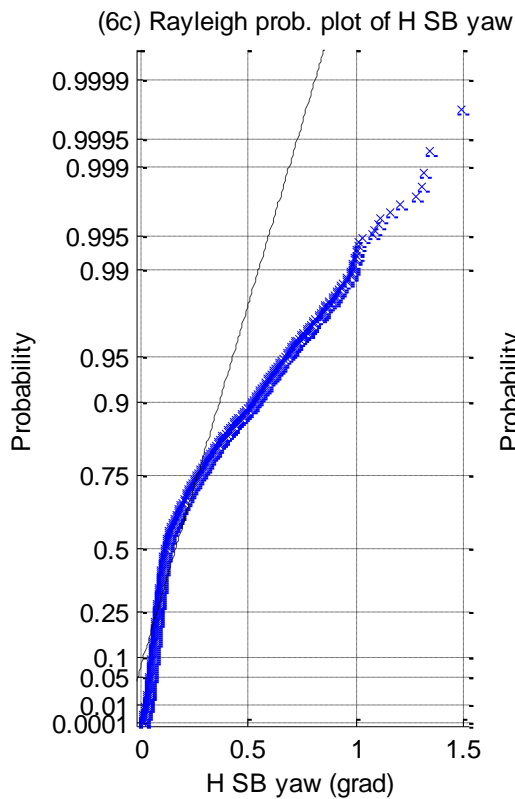
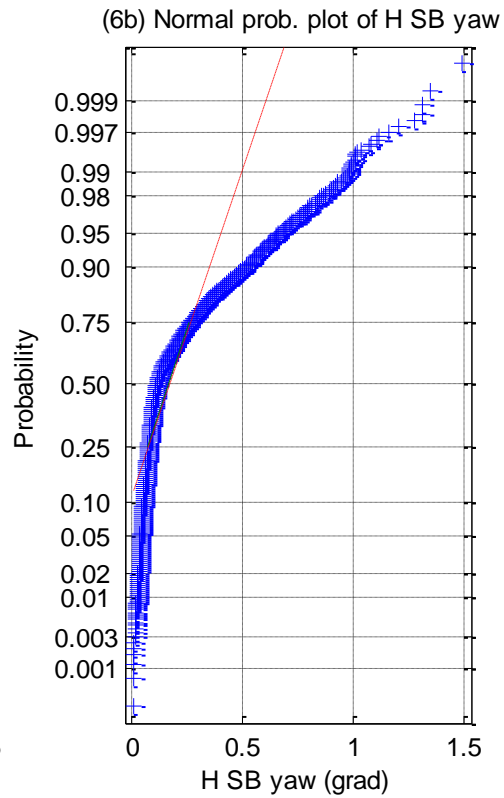
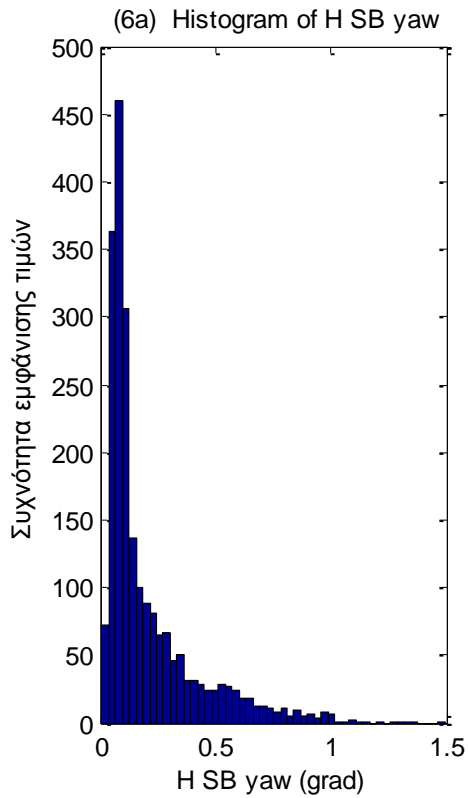








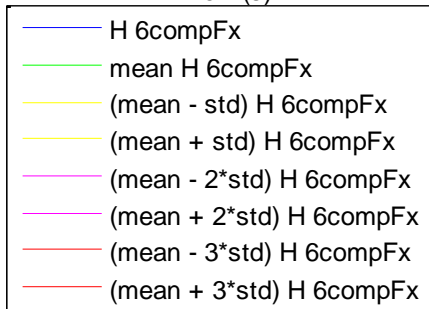
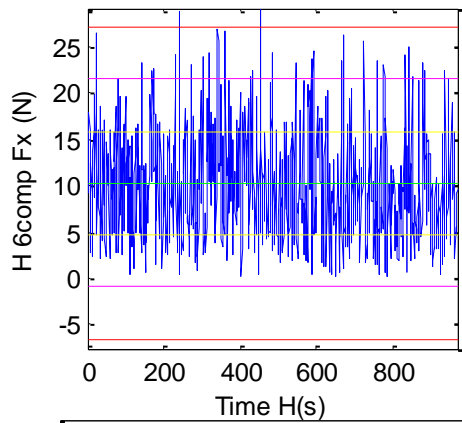




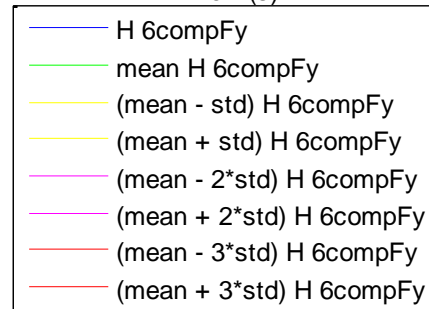
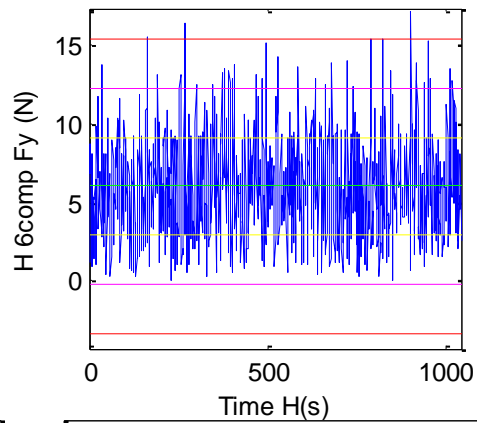
**Σχήματα 2.5.6.6 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



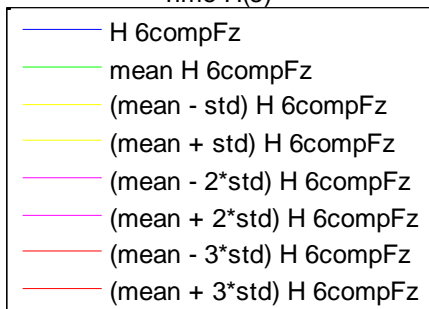
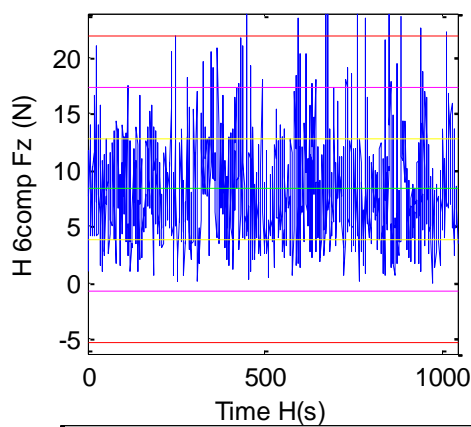
1) Time History of H 6comp Fx



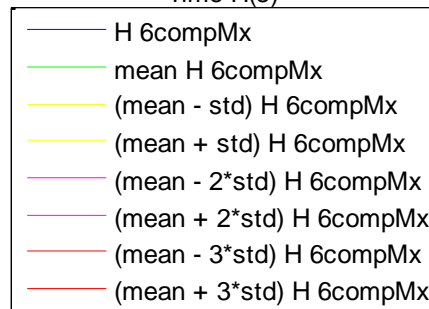
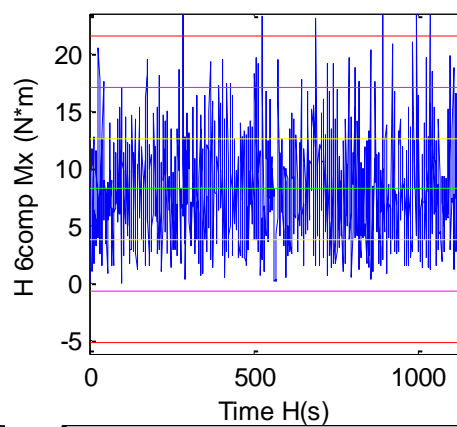
2) Time History of H 6comp Fy

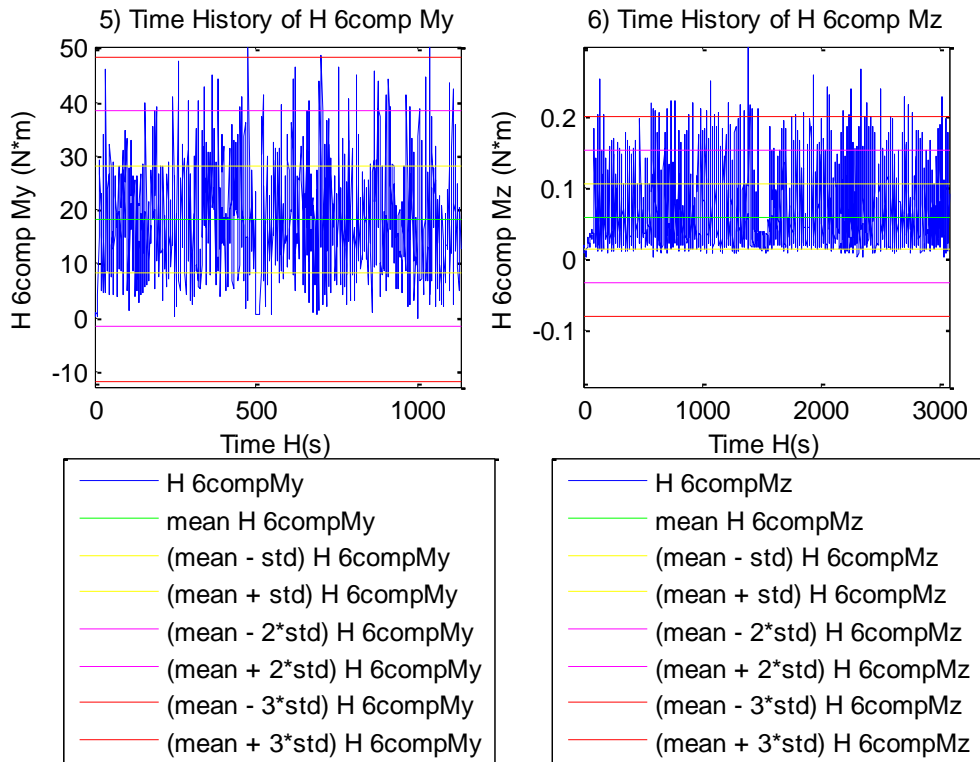


3) Time History of H 6comp Fz

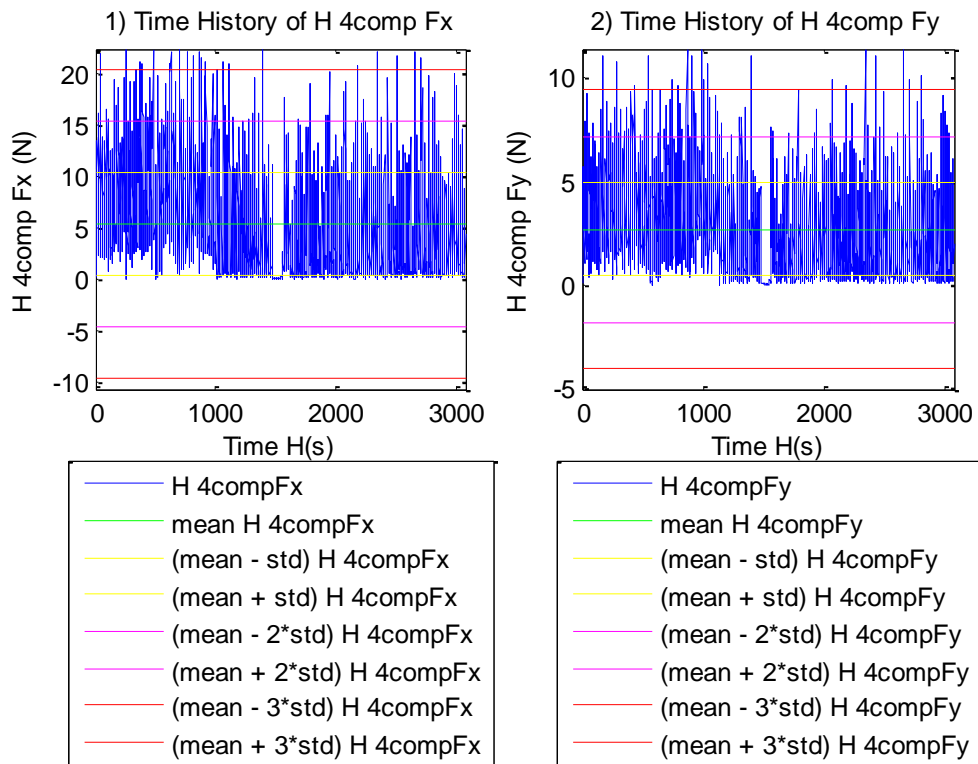


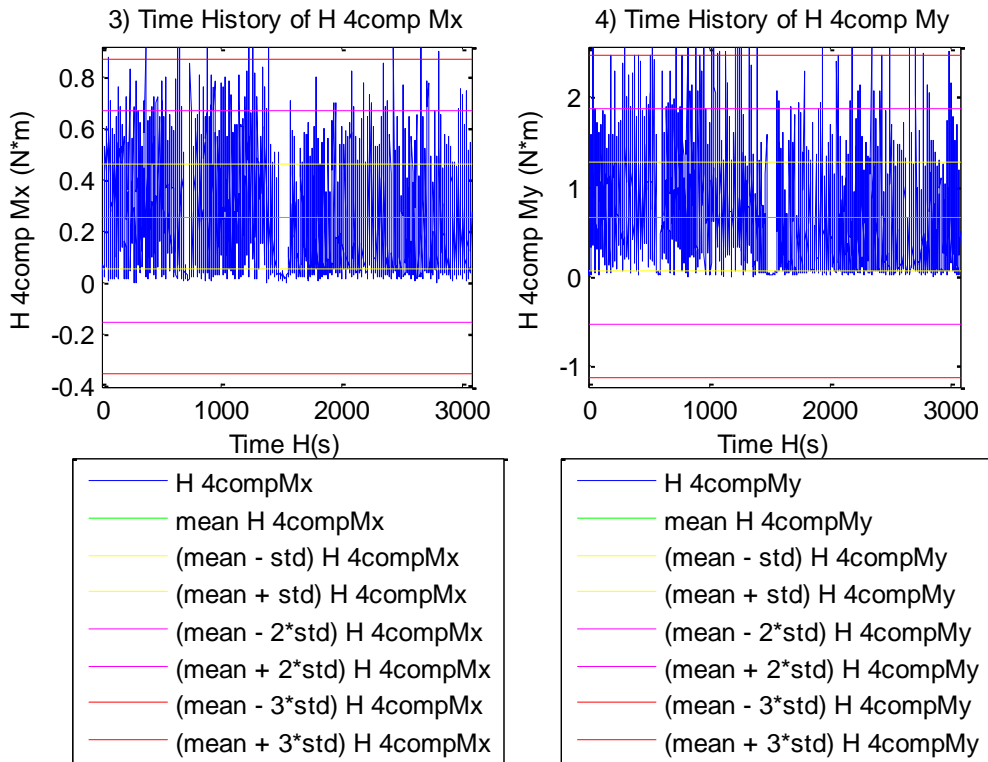
4) Time History of H 6comp Mx



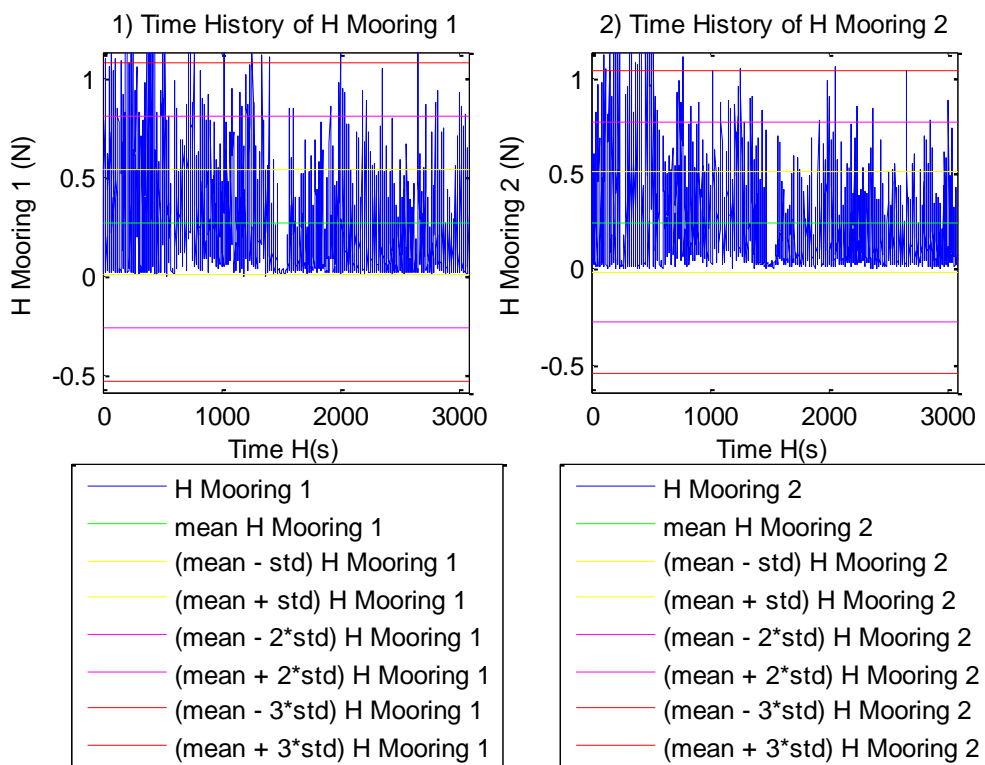


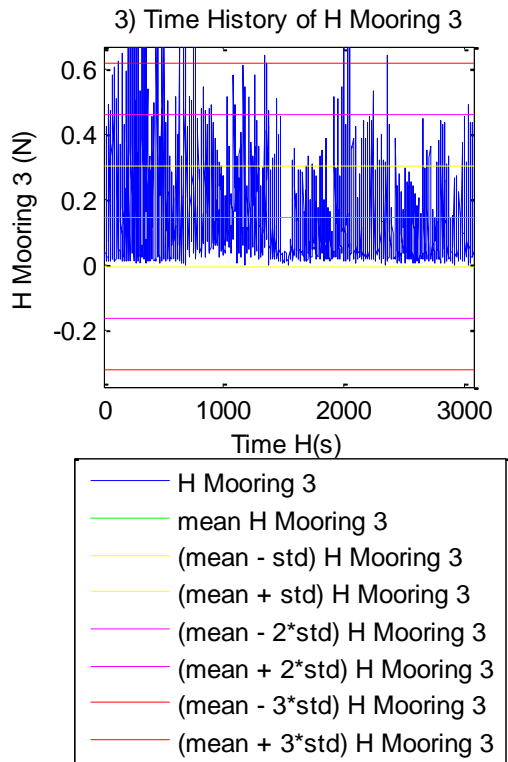
**Σχήματα 2.5.7.1 (1-6)** Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



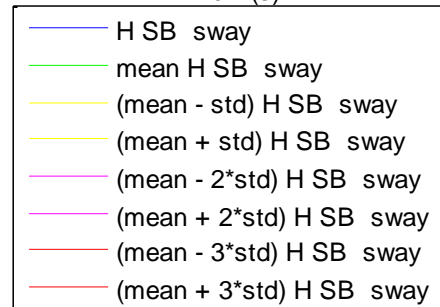
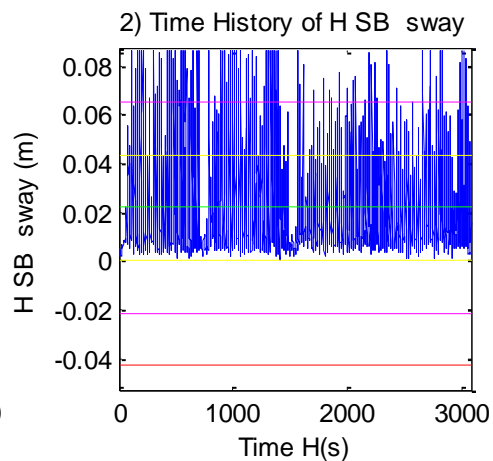
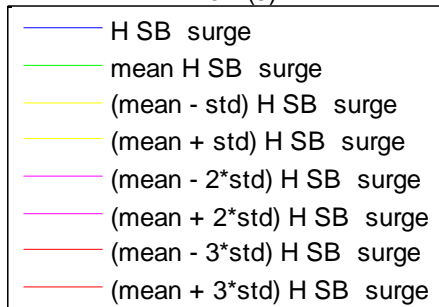
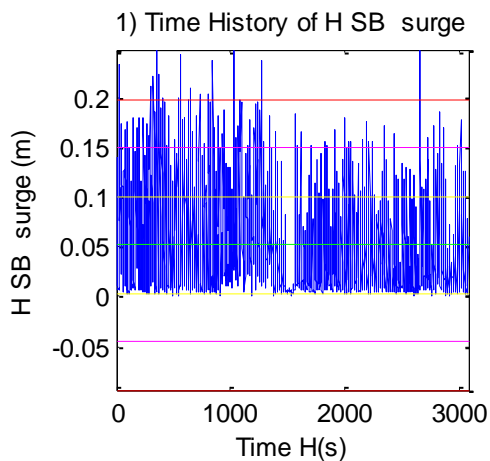


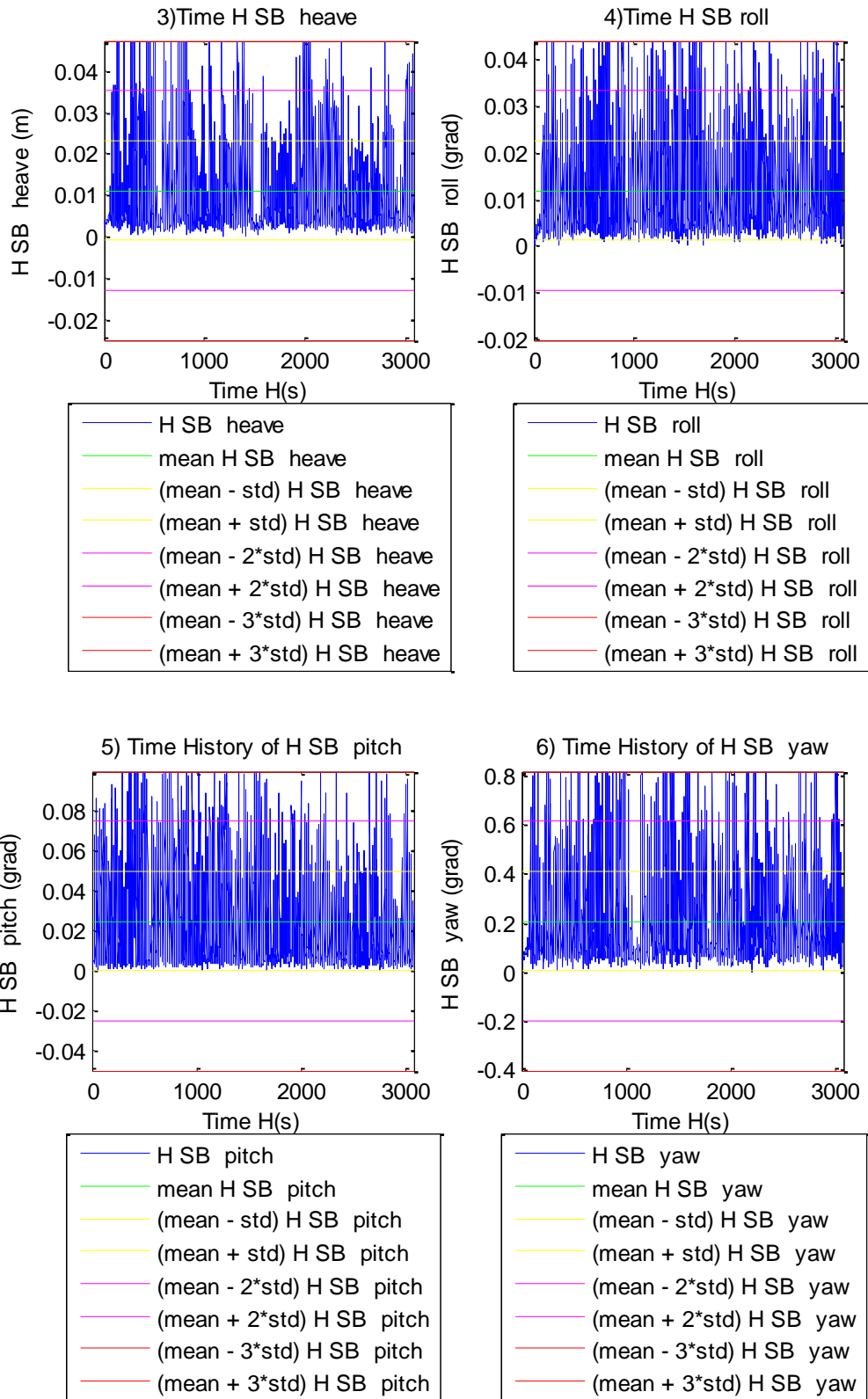
**Σχήματα 2.5.7.2 (1-4)** Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch





**Σχήματα 2.5.7.3 (1-3)** Διαγράμματα διάταξης του H για τις τρεις δυνάμεις στις τρεις γραμμές αγκύρωσης της A/Γ





**Σχήματα 2.5.7.4 (1-6)** Διαγράμματα διάταξης του H για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=100**

4.2037	1.3568	1.1686	0.9765	1.5187	2.0604	1.4927	1.6873	1.6920	1.7265	1.7180
0.9971	3.9412	0.9624	0.9790	1.2462	1.6617	2.0830	1.8939	1.5529	1.2363	0.9670
0.9486	1.5896	4.4138	1.7424	1.1179	1.0827	1.2778	1.0553	0.9744	1.6512	2.3622
0.9750	0.9950	1.0876	1.2327	1.0015	1.0062	1.0090	1.0105	1.0012	1.0248	1.0343
1.3660	1.0791	1.1782	0.7780	4.3719	1.1115	1.0217	0.9772	1.1086	1.2956	1.2996
1.7783	1.4604	1.1041	1.0156	1.2573	4.2586	0.8141	0.8388	1.1601	1.2427	1.2513
0.9240	1.7906	1.4631	1.1193	0.8235	1.1848	4.5126	2.4542	0.8252	0.6682	0.8341
1.3886	1.9956	1.2237	1.0254	1.0201	1.3875	1.7976	4.4424	2.5294	1.3777	0.8970
1.6359	1.4761	0.7587	0.9245	1.5843	1.4124	0.9041	2.0616	4.5189	3.3331	2.6319
1.6416	0.9551	1.4929	1.0764	1.4134	1.2706	0.7881	1.0628	3.0025	4.4769	4.0750
1.5584	0.8102	2.2250	1.2046	1.3896	1.2769	0.7376	0.9043	2.2380	3.9511	4.3794

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=1000**

3.2956	1.3917	1.1133	1.0132	1.1867	1.7632	1.2046	1.5553	1.5458	1.4605	1.4085
1.3730	3.2062	1.1310	1.0031	0.9839	1.2634	1.6881	1.5166	1.3111	1.0945	1.0341
1.0073	1.3771	3.4410	1.3252	1.1630	0.9697	1.3793	1.0824	1.0320	1.5500	2.0287
0.9901	0.9979	1.0430	1.1858	1.0007	0.9968	0.9917	0.9993	0.9964	1.0028	1.0087
1.1779	1.0738	1.0863	0.9744	3.3868	1.2229	0.9785	1.0728	1.0799	1.0607	1.0779
1.6833	1.3005	1.0097	0.9512	1.2211	3.4375	1.0142	1.0814	1.0666	1.0860	1.0424
1.1228	1.6957	1.3781	1.0534	0.9387	1.1104	3.5358	1.9165	0.9414	0.8967	0.9752
1.5473	1.6915	1.0386	1.0394	1.0193	1.1894	1.7493	3.4628	2.1054	1.2648	1.0687
1.6805	1.3501	1.0291	1.0278	1.1804	1.1052	0.9660	2.1153	3.4698	2.6919	2.1738
1.6013	1.0571	1.6105	1.0849	1.1599	1.0858	0.9773	1.2118	2.6019	3.4171	3.1893
1.4969	0.9901	2.0686	1.1189	1.1589	1.0545	1.0452	1.0308	2.0704	3.1655	3.3797

**Μητρώα MKN για τις έξι δυνάμεις και ροπές  $\text{bcomp}$  [ Fx, Fy, Fz, Mx, My, Mz] για K=100**

4.3841	4.0462	4.1973	3.2910	4.3124	3.2922
1.8570	2.5308	2.4674	0.3234	2.0662	1.9898

1.6338	1.9985	2.0479	0.5995	1.7686	1.7580
2.4334	2.2086	2.0496	3.4805	2.3809	1.0757
4.5769	4.3485	4.5318	3.5098	4.6499	3.5757
1.1419	1.3139	1.3475	0.6743	1.1960	1.4570

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz]  
για K=1000**

3.4060	2.9010	3.1126	2.2923	3.3290	2.4694
1.3747	2.1025	2.0369	0.1565	1.3913	1.7186
1.3133	1.6473	1.6984	0.6922	1.3187	1.5144
1.8068	1.2959	1.1308	2.8732	1.8894	0.7271
3.4081	3.1062	3.2948	2.5198	3.5382	2.6269
1.0656	1.2359	1.2735	0.7977	1.0657	1.3409

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=100**

4.7058	4.0110	2.7171	4.6516
3.7581	4.2910	3.9071	3.6651
1.9543	2.9631	3.4484	1.7898
4.9302	3.7825	2.1864	4.9884

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=1000**

3.5301	2.7643	2.1046	3.4724
2.7128	3.3713	3.1332	2.4910
1.4766	2.5946	2.8664	1.1858
3.4804	2.4109	1.6228	3.5485

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=100**

1.0669	0.9593	1.0211
--------	--------	--------

0.9639 1.0712 1.0250

1.0195 1.0149 1.0417

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2, 3] για K=1000**

1.0512 0.9733 1.0186

0.9696 1.0565 1.0128

1.0138 1.0089 1.0317

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=100**

3.8220 3.1292 1.2515 1.4638 3.2607 2.9022

1.2754 1.3578 0.9988 0.7123 1.1930 1.1716

1.0909 1.1019 3.1689 0.7439 0.9473 0.7128

0.2930 0.3161 0.9995 2.6072 0.4181 0.3876

2.2380 1.9884 1.0582 0.2987 2.5343 2.1812

2.0504 2.0277 0.9158 0.5416 2.5195 2.8074

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000**

3.0900 2.5569 1.1752 0.8516 2.7565 2.3714

1.2087 1.2745 1.0197 0.8098 1.1565 1.1301

0.9900 1.0893 2.6435 0.8788 1.0329 0.8719

0.3802 0.3255 0.9780 2.1673 0.3195 0.4218

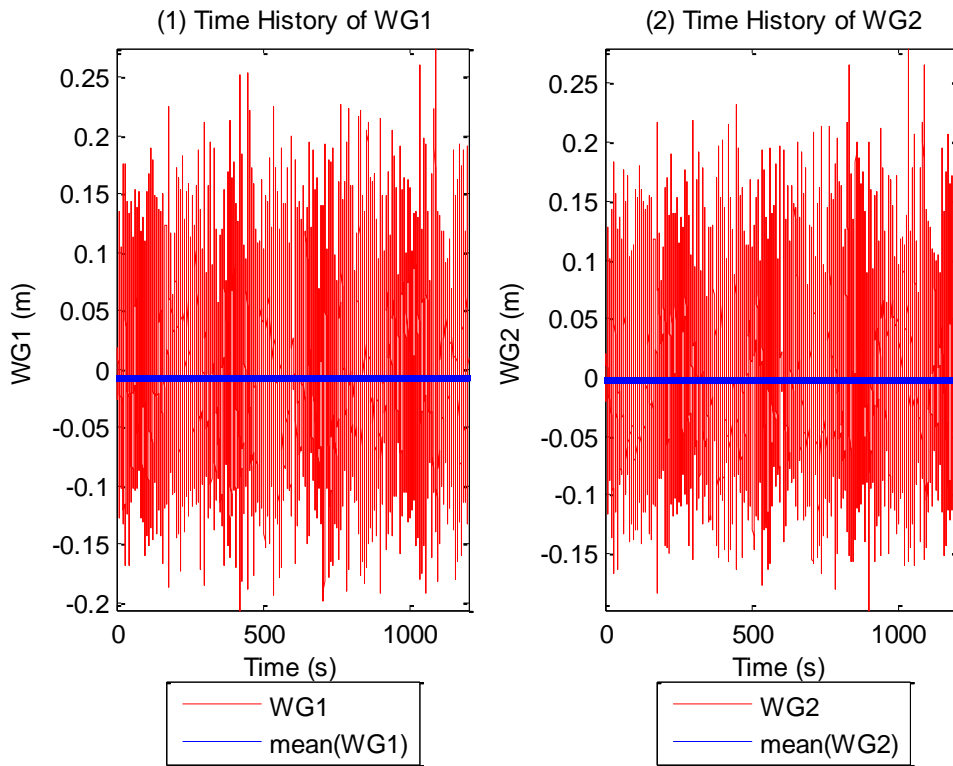
1.9564 1.6562 1.0654 0.2864 2.0996 1.7930

1.8710 1.5805 1.0079 0.4685 1.9595 2.2993

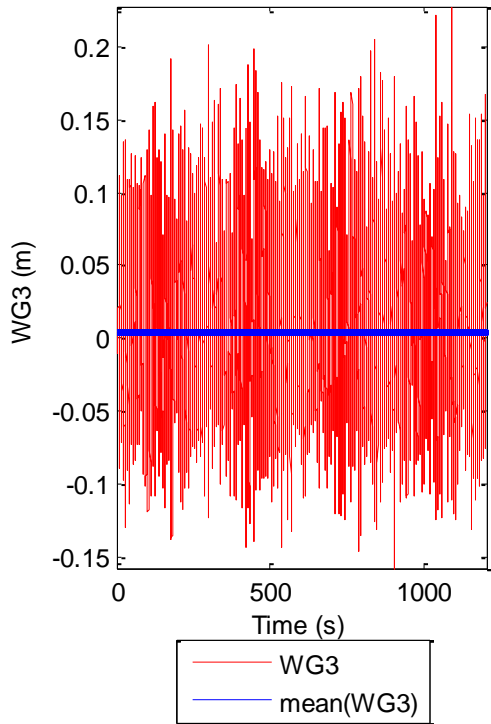


## 2.6 Παρουσίαση χρονοσειρών (C12) T1422+T1423\_1.6\_0.15\_SB\_0\_R

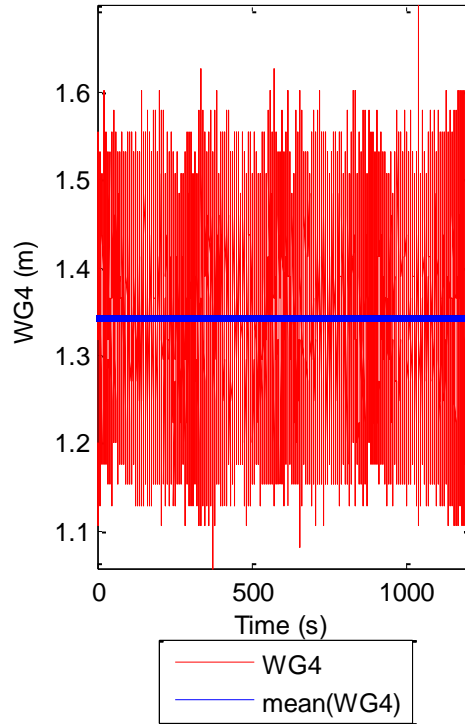
Πίνακας 2.6.1		Χαρακτηριστικά Πειράματος	
Τύπος μοντέλου		SB	
Ύψος κύματος (m)		0.150	
Περίοδος κύματος (s)		1.6	
Τύπος κύματος		IRREGULAR	
Γωνία πρόσπτωσης κυμάτων (deg)		0	
Περιστροφή η μη του Ρότορα		Περιστροφή	



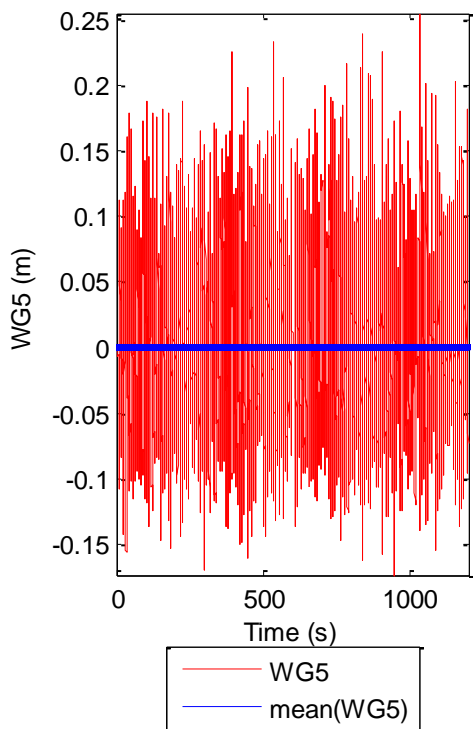
(3) Time History of WG3



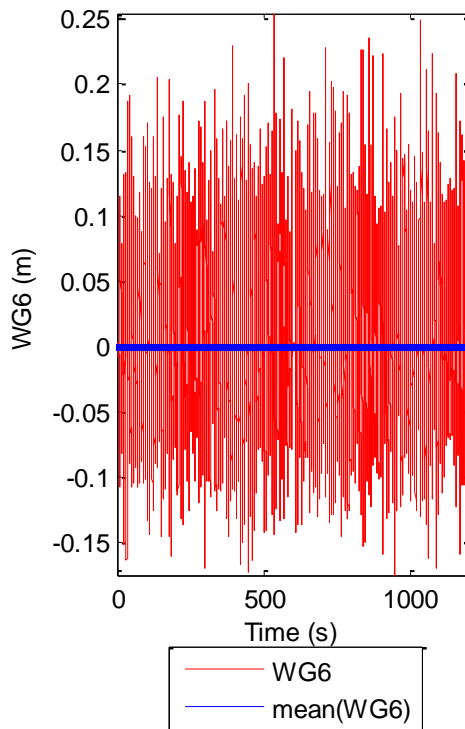
$\times 10^{-3}$  (4) Time History of WG4



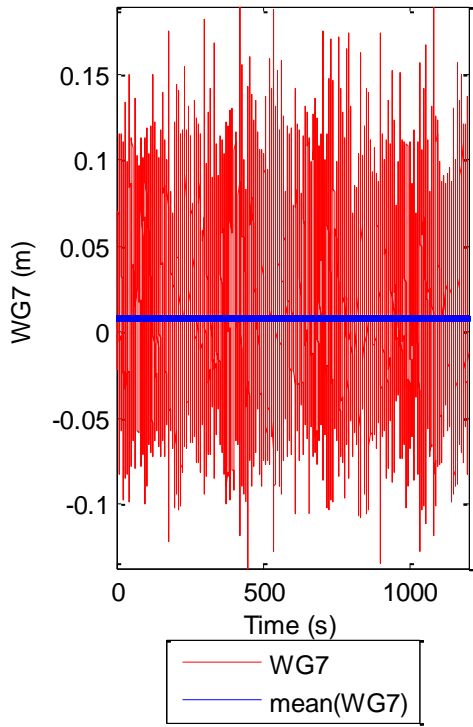
(5) Time History of WG5



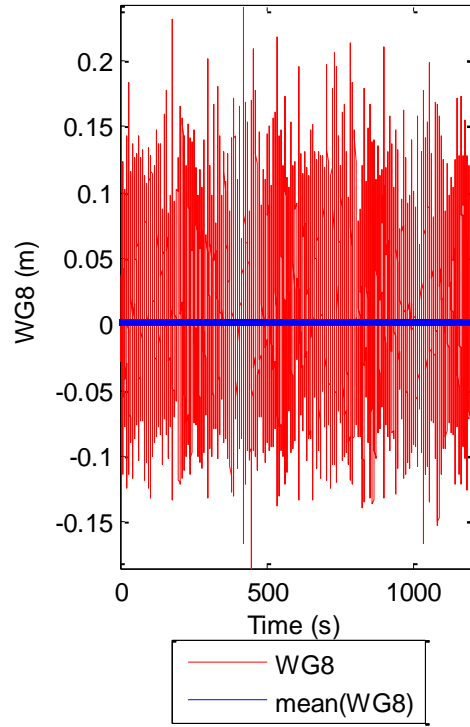
(6) Time History of WG6



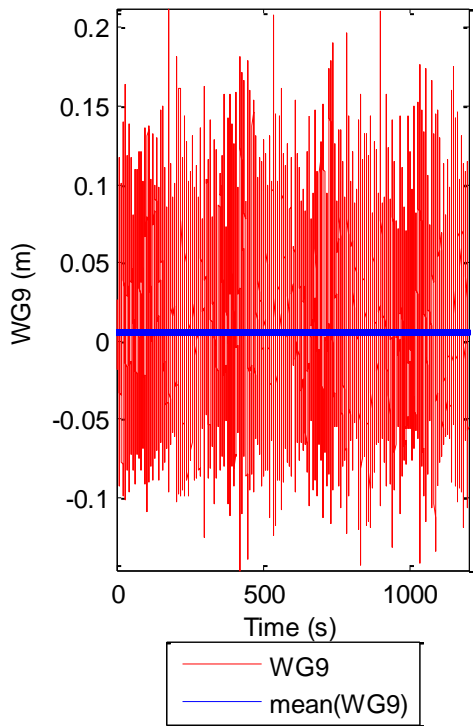
(7) Time History of WG7



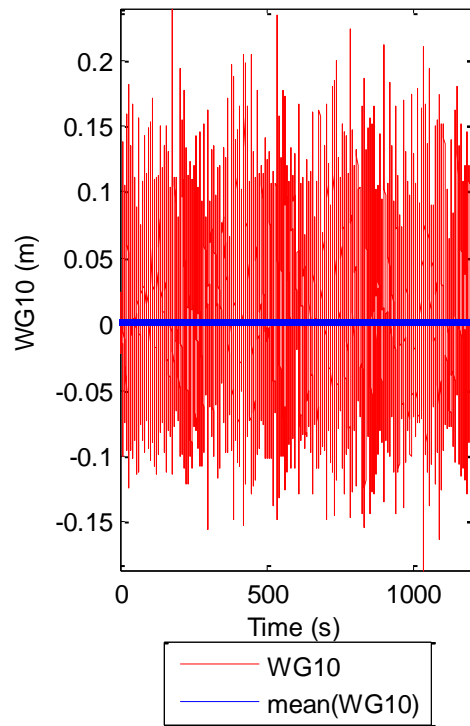
(8) Time History of WG8

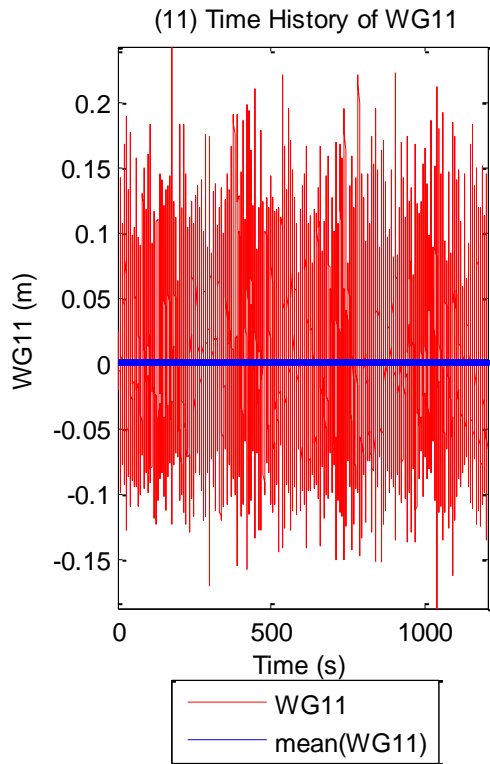


(9) Time History of WG9

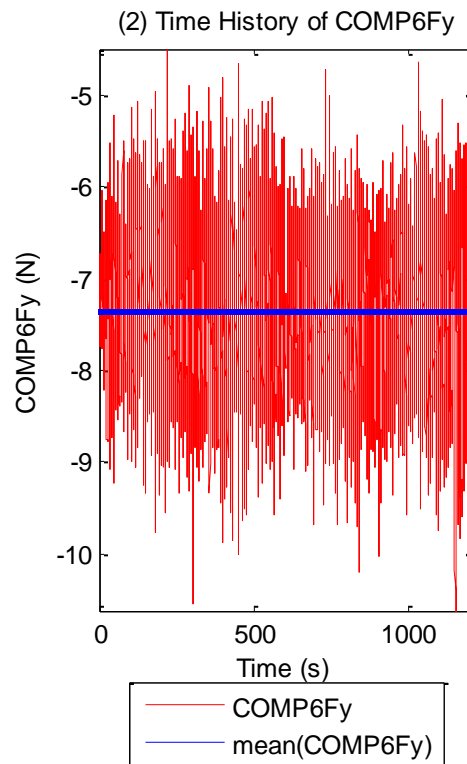
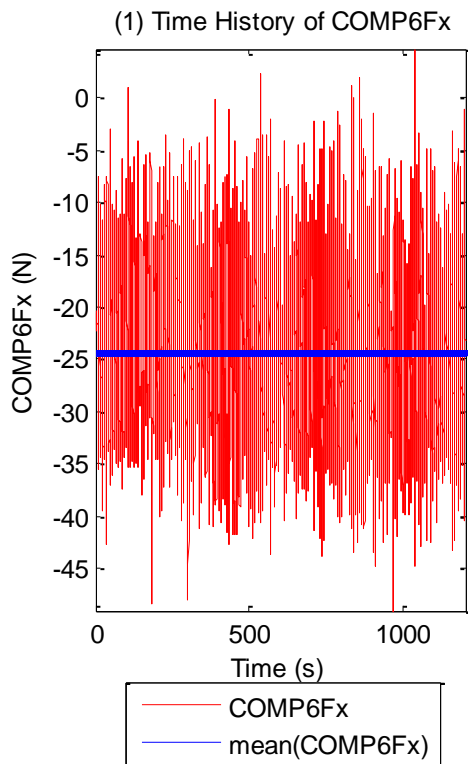


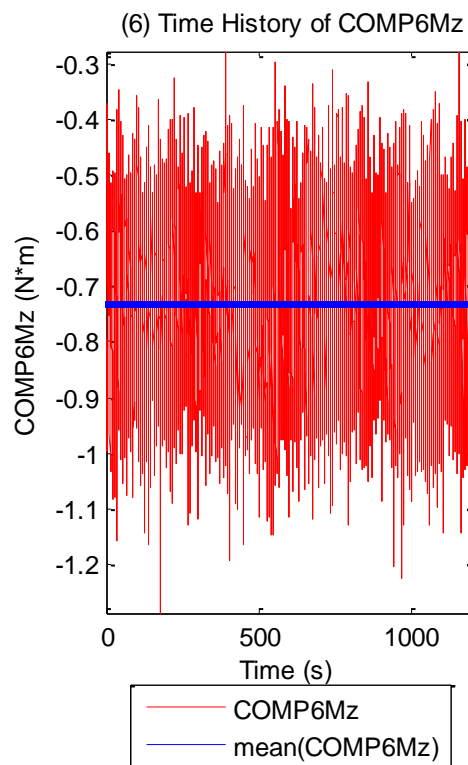
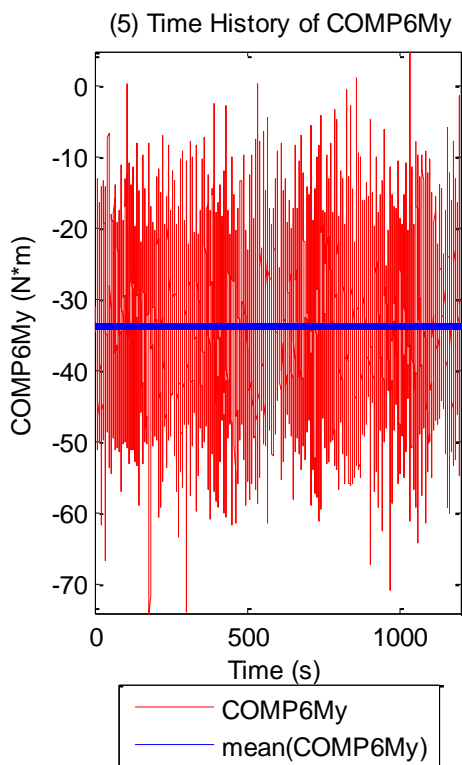
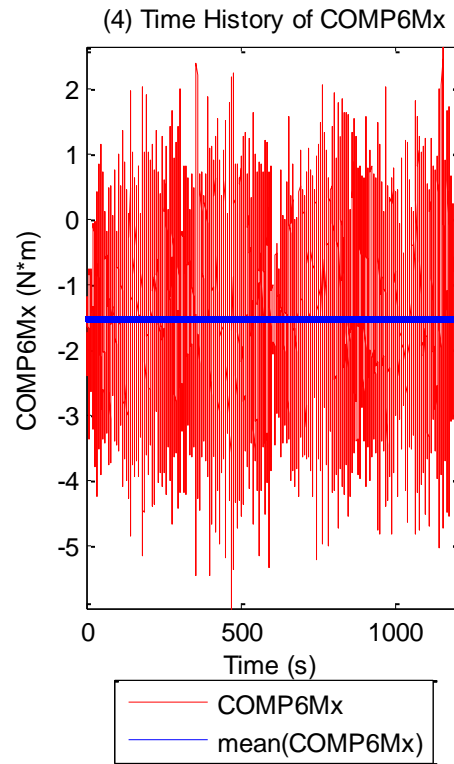
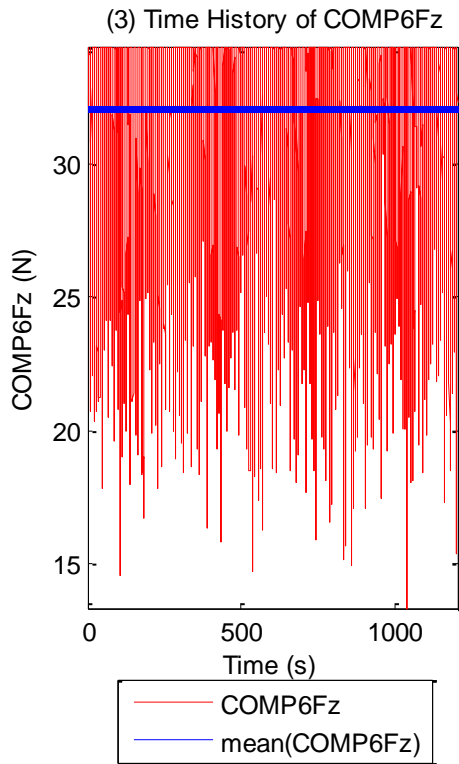
(10) Time History of WG10



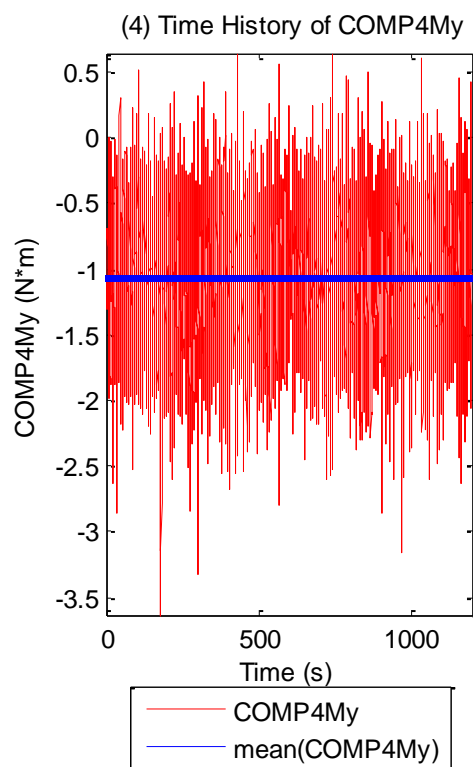
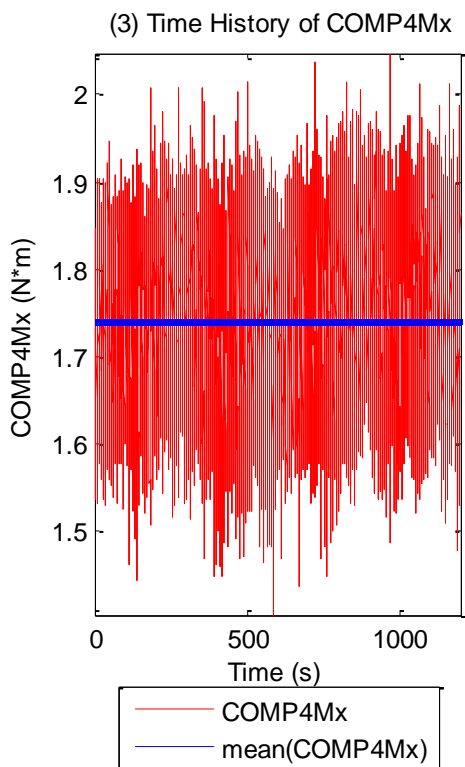
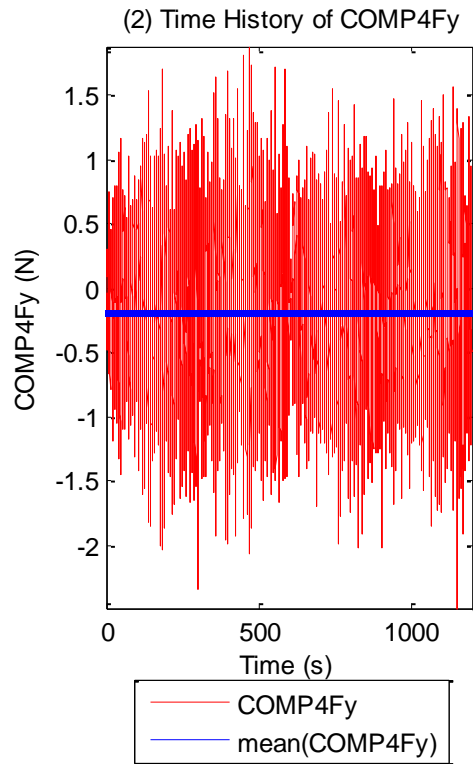
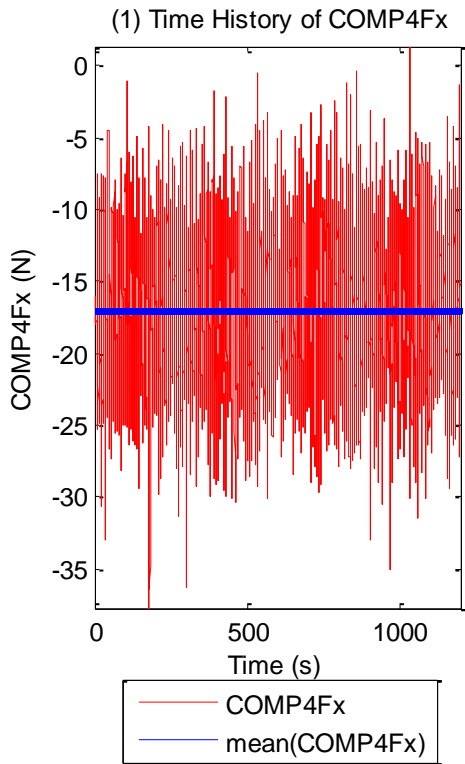


**Σχήματα 2.6.1.1 (1-6)** Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

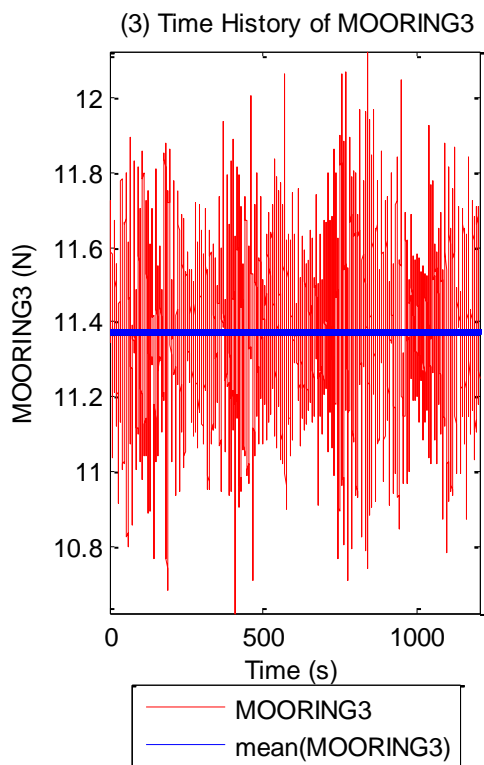
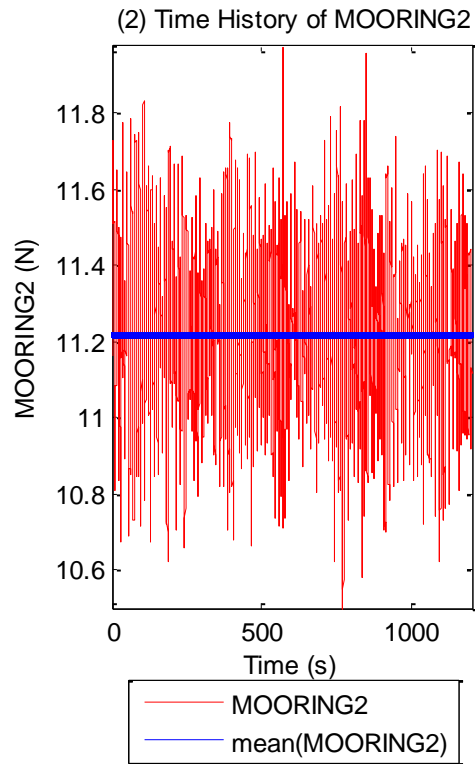
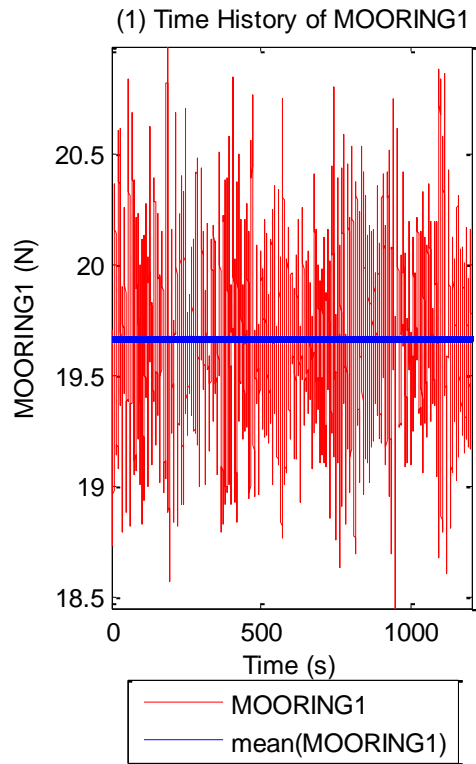




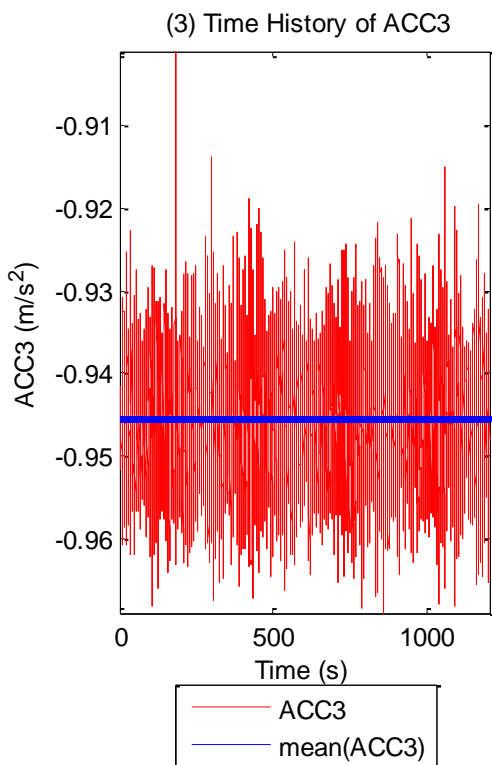
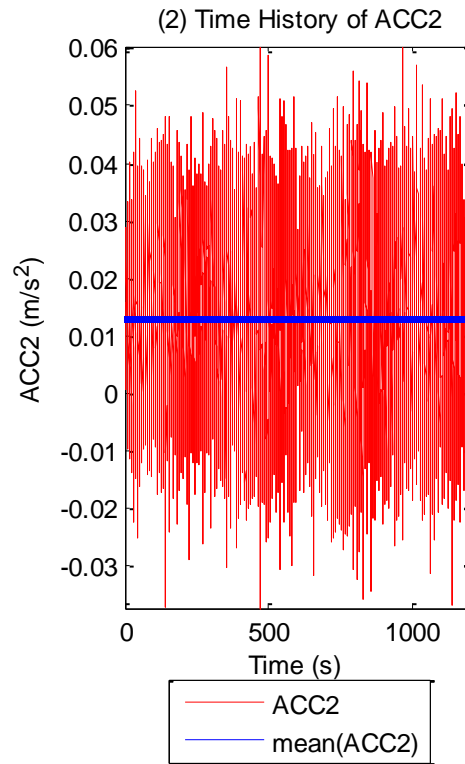
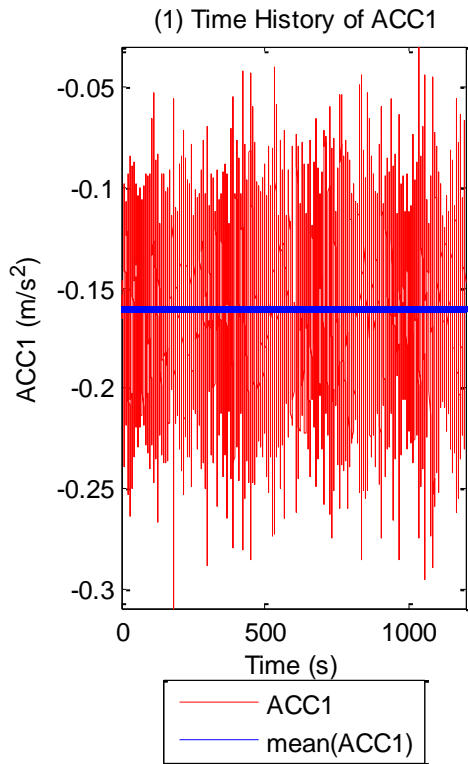
**Σχήματα 2.6.1.2** Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



**Σχήματα 2.6.1.3** Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



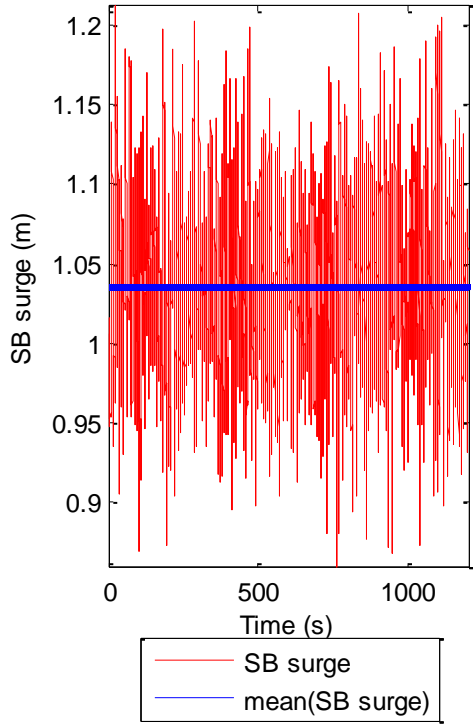
**Σχήματα 2.6.1.4** Χρονοσειρές για τις δυνάμεις στις τρεις γραμμές αγκύρωσης (1-3) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές



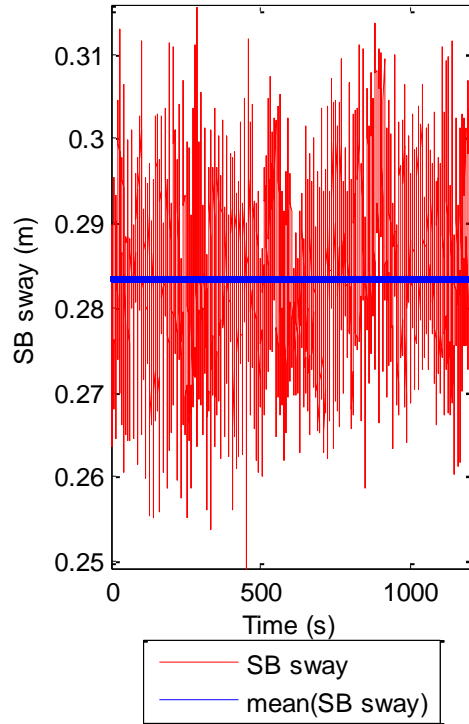
**Σχήματα 2.6.1.5 (1-3)** Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



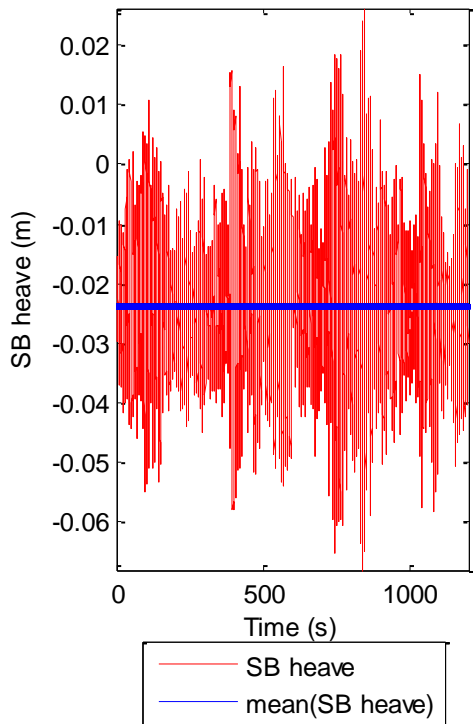
(1) Time History of SB surge



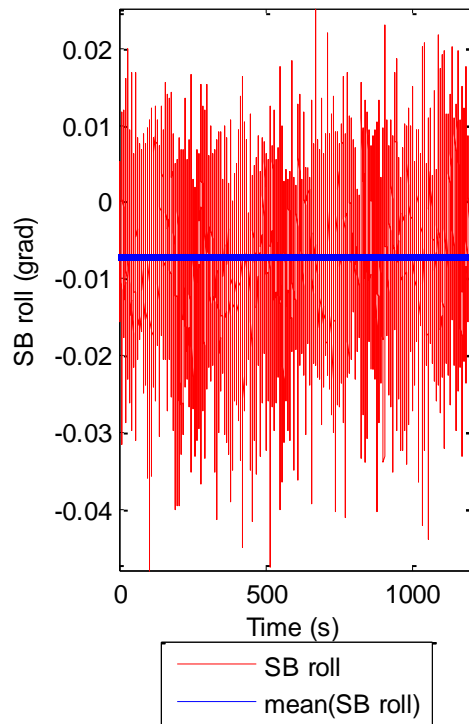
(2) Time History of SB sway

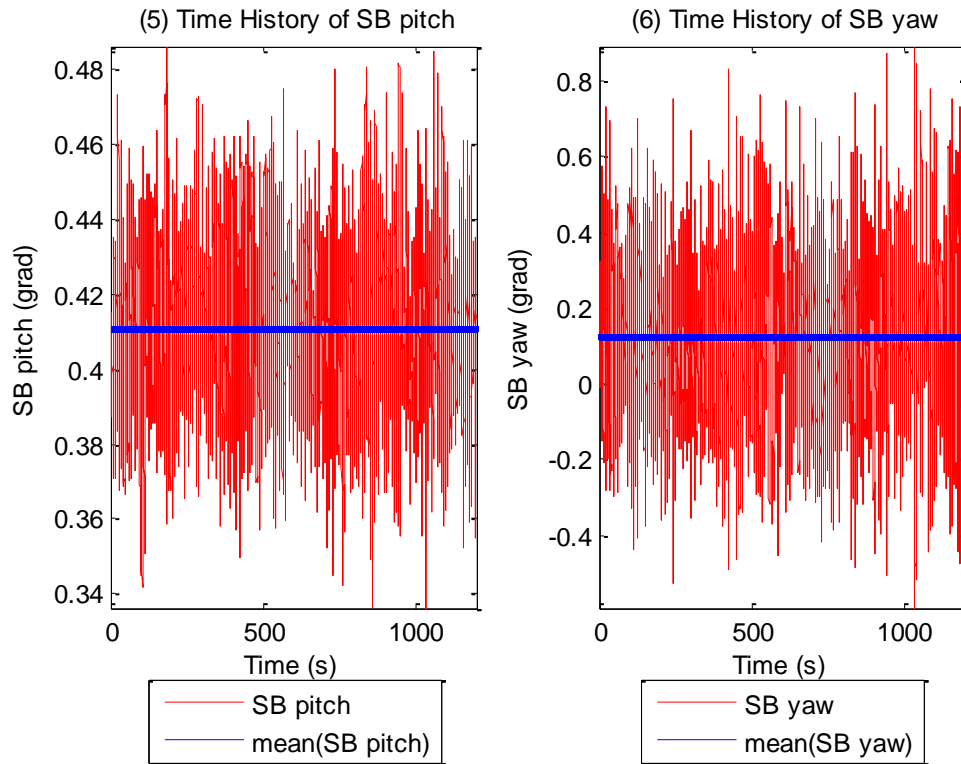


(3) Time History of SB heave



(4) Time History of SB roll





**Σχήματα 2.6.1.6** Χρονοσειρές για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

<b>Πίνακας 2.6.2</b>					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	$H_{rms}$
Wg1 (m)	-0.0067	0.0657	-0.2067	0.2748	0.1864
Wg2 (m)	-0.0016	0.0616	-0.1978	0.2801	0.1744
Wg3 (m)	0.0047	0.0512	-0.1579	0.2278	0.1452
Wg4 (m)	0.0013	0.0001	0.0011	0.0017	0.0002
Wg5 (m)	0.0002	0.0573	-0.1737	0.2553	0.0548
Wg6 (m)	0.0004	0.0586	-0.1746	0.2543	0.0564
Wg7 (m)	0.0082	0.0458	-0.1371	0.1896	0.0449
Wg8 (m)	0.0021	0.0542	-0.1846	0.2409	0.0529

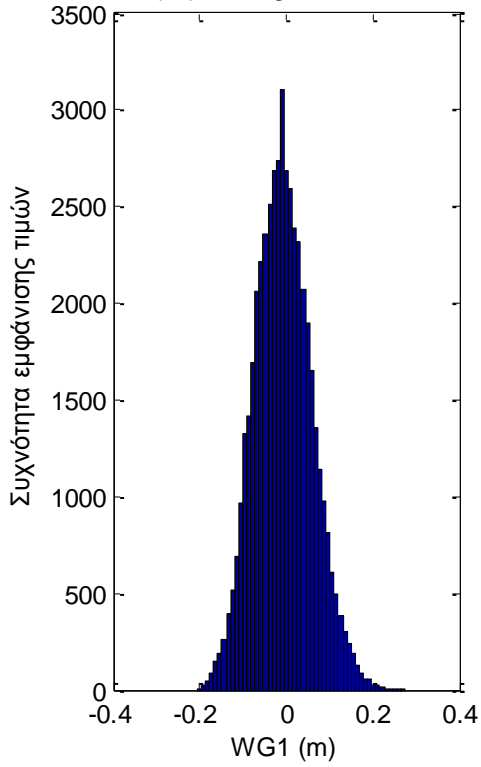
Wg9 (m)	0.0057	0.0489	-0.1462	0.2124	0.0479
Wg10 (m)	0.0018	0.0547	-0.1860	0.2391	0.0536
Wg11 (m)	0.0022	0.0560	-0.1869	0.2434	0.0550
6comp_Fx (N)	-24.4028	6.8172	-49.0518	4.6759	6.6348
6comp_Fy(N)	-7.3482	0.6990	-10.6240	-4.4903	0.8808
6comp_Fz (N)	32.0483	3.5222	13.3542	34.3768	3.9741
6comp_Mx (N*m)	-1.5160	1.0343	-5.9683	2.6367	1.4738
6comp_My (N*m)	-33.7233	8.6387	-73.9719	4.7739	10.5272
6comp_Mz (N*m)	-0.7301	0.1081	-1.2883	-0.2762	0.2058
4comp_Fx (N)	-17.0082	4.1842	-37.7484	1.3321	5.3255
4comp_Fy (N)	-0.1841	0.5001	-2.4888	1.8782	0.8111
4comp_Mx (N*m)	1.7404	0.0745	1.4033	2.0475	0.1404
4comp_My (N*m)	-1.0678	0.4045	-3.6352	0.6426	0.6217
Mooring_1 (N)	19.6654	0.3693	18.4506	20.9858	0.2077
Mooring_2 (N)	11.2198	0.1993	10.4985	11.9753	0.1263
Mooring_3 (N)	11.3756	0.2006	10.6242	12.1227	0.1277
Acc_1 (G)	-0.1606	0.0353	-0.3094	-0.0295	0.0442
Acc_2 (G)	0.0129	0.0116	-0.0374	0.0603	0.0212
Acc_3 (G)	-0.9455	0.0062	-0.9691	-0.9010	0.0082
SB_x (m)	1.0352	0.0500	0.8583	1.2119	0.0430
SB_y (m)	0.2836	0.0088	0.2492	0.3157	0.0088

SB_z (m)	-0.0237	0.0120	-0.0681	0.0262	0.0095
SB_roll (grad)	-0.0073	0.0075	-0.0480	0.0252	0.0097
SB_pitch (grad)	0.4108	0.0199	0.3362	0.4863	0.0182
SB_yaw (grad)	0.1238	0.1797	-0.5929	0.8920	0.1977

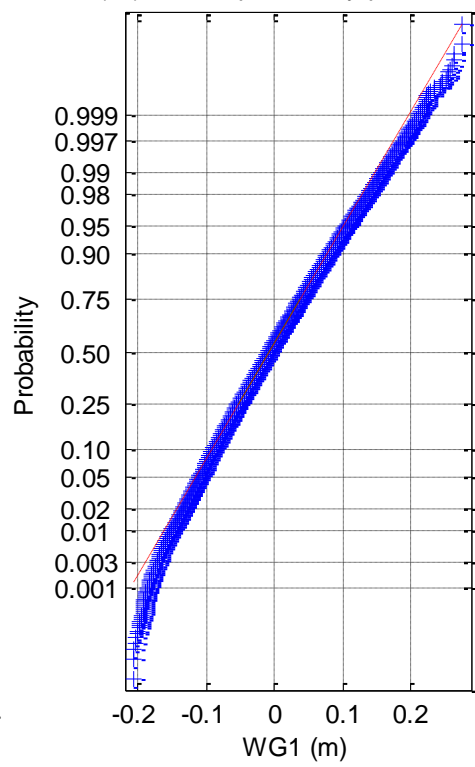
<b>Πίνακας 2.6.3</b>				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.2068	3.0015	1	1
Wg2 (m)	0.2560	3.0839	1	1
Wg3 (m)	0.2393	3.0715	1	1
Wg4 (m)	0.0416	2.8212	1	1
Wg5 (m)	0.2760	3.1215	1	1
Wg6 (m)	0.2697	3.1559	1	1
Wg7 (m)	0.2637	3.0000	1	1
Wg8 (m)	0.2721	3.0718	1	1
Wg9 (m)	0.2484	3.0188	1	1
Wg10 (m)	0.2450	3.0514	1	1
Wg11 (m)	0.2458	3.0340	1	1
6comp_Fx (N)	0.2886	3.1733	1	1
6comp_Fy(N)	0.0137	3.2760	1	1
6comp_Fz (N)	-1.6661	5.3120	1	1
6comp_Mx (N*m)	-0.0130	3.1760	1	1

6comp_My (N*m)	0.0946	3.4460	1	1
6comp_Mz (N*m)	-0.0351	3.3575	1	1
4comp_Fx (N)	0.1075	3.3791	1	1
4comp_Fy (N)	-0.0162	3.2420	1	1
4comp_Mx (N*m)	-0.0623	3.0689	1	1
4comp_My (N*m)	-0.0807	3.8320	1	1
Mooring_1 (N)	0.1537	3.0006	1	1
Mooring_2 (N)	0.0173	2.9592	1	1
Mooring_3 (N)	-0.0318	3.1657	1	1
Acc_1 (G)	-0.0487	2.9875	1	1
Acc_2 (G)	-0.0771	3.1814	1	1
Acc_3 (G)	0.2005	3.6180	1	1
SB_x (m)	0.0968	3.1464	1	1
SB_y (m)	0.0189	2.7515	1	1
SB_z (m)	0.1324	3.6211	1	1
SB_roll (grad)	-0.0889	3.3188	1	1
SB_pitch (grad)	0.0970	3.1883	1	1
SB_yaw (grad)	0.1192	3.3513	1	1

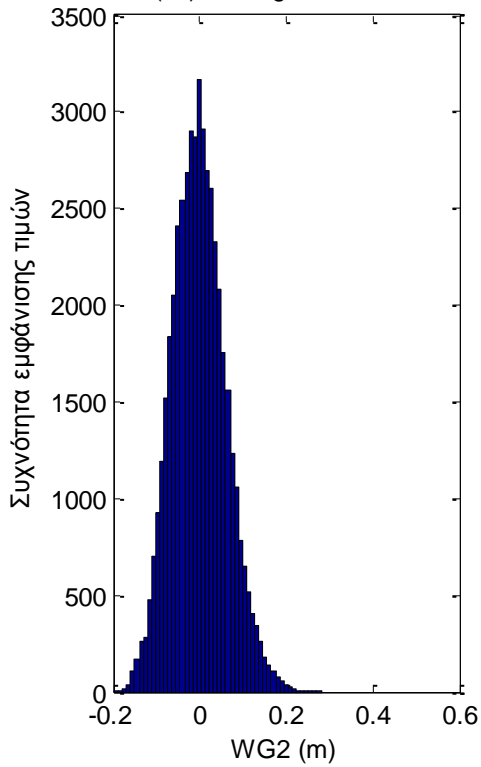
(1a) Histogram of WG1



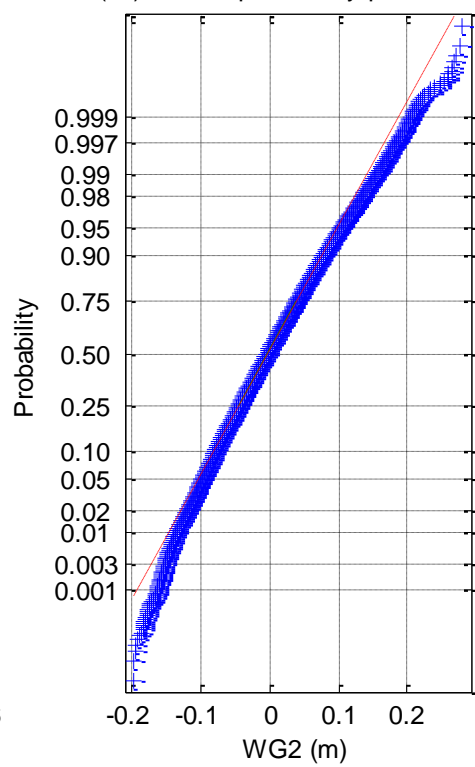
(1b) Normal probability plot of WG1



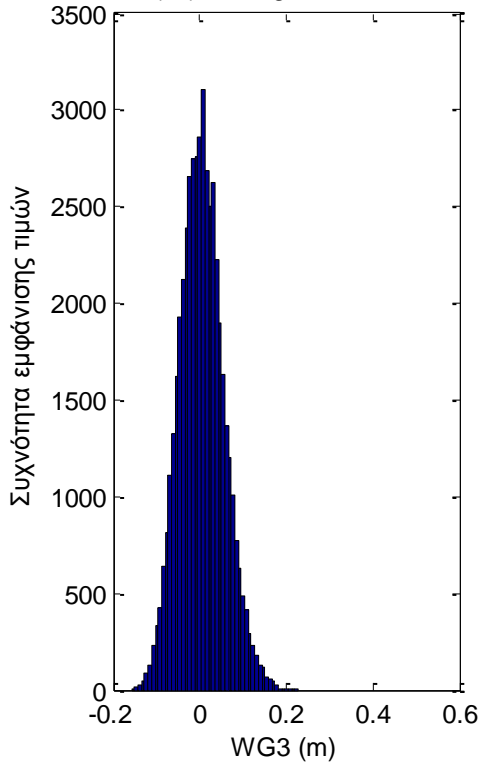
(2a) Histogram of WG2



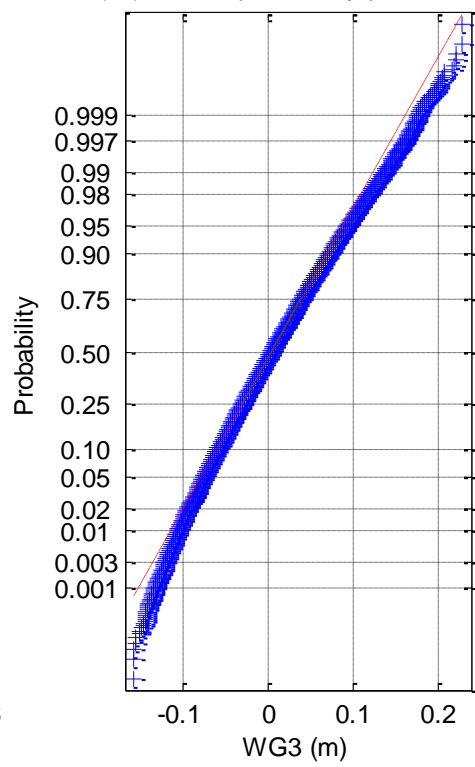
(2b) Normal probability plot of WG2



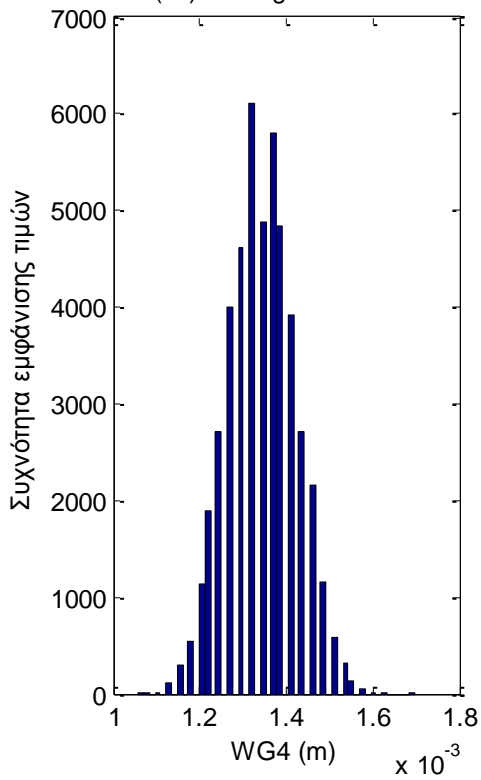
(3a) Histogram of WG3



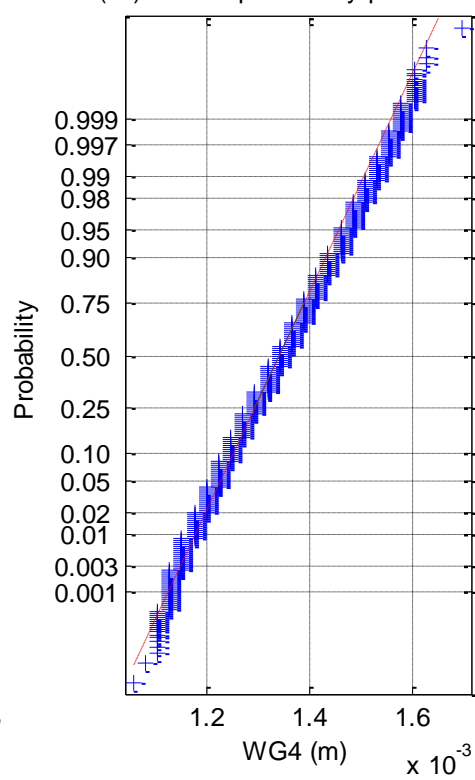
(3b) Normal probability plot of WG3



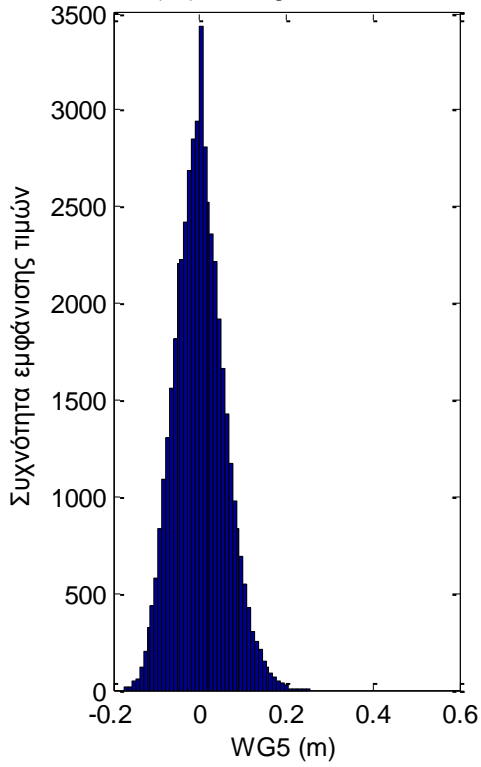
(4a) Histogram of WG4



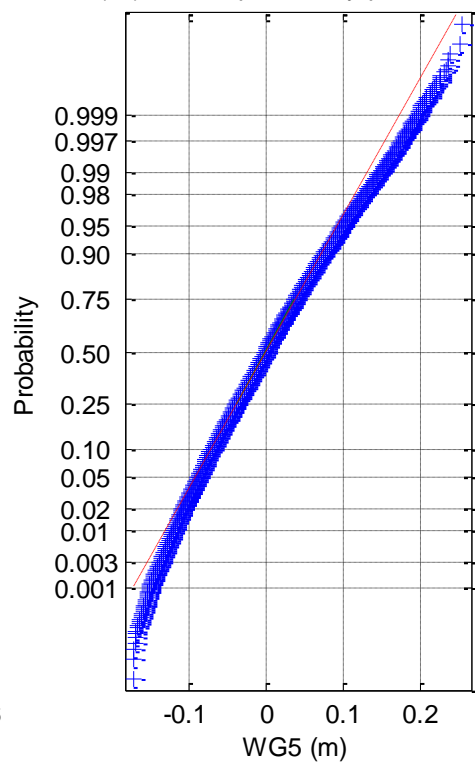
(4b) Normal probability plot of WG4



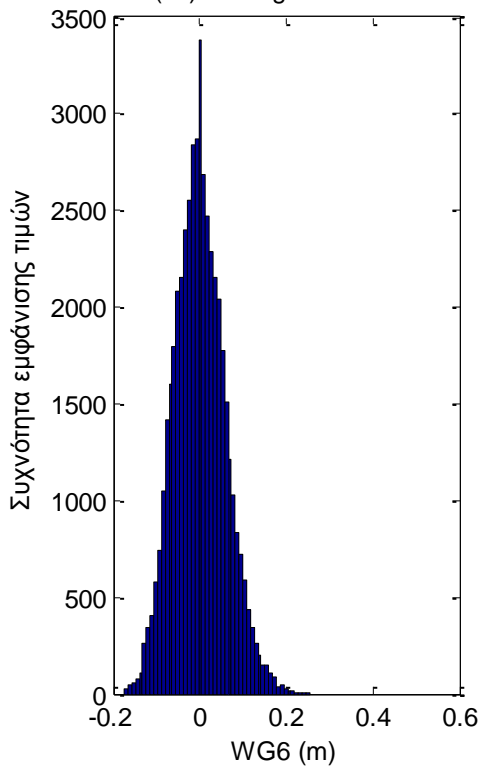
(5a) Histogram of WG5



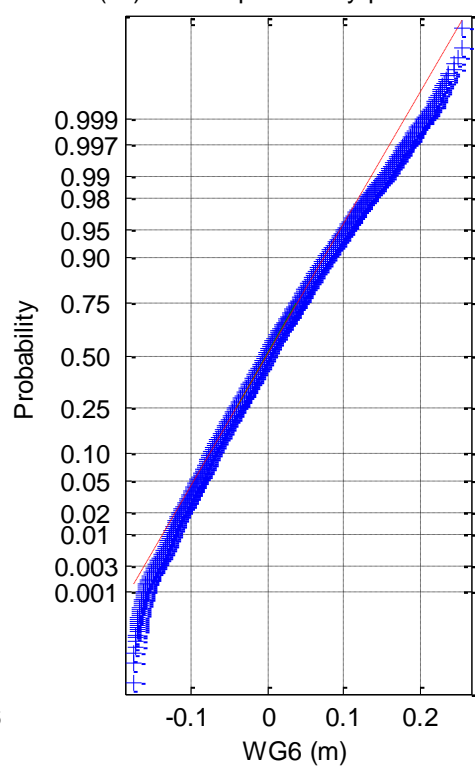
(5b) Normal probability plot of WG5



(6a) Histogram of WG6

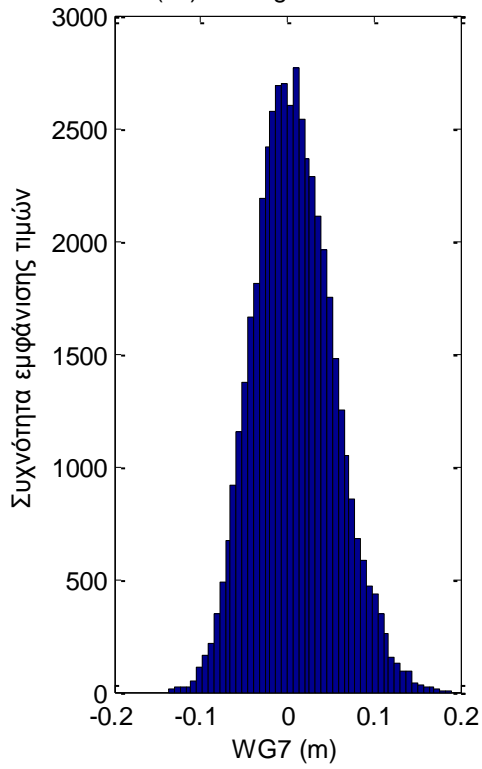


(6b) Normal probability plot of WG6

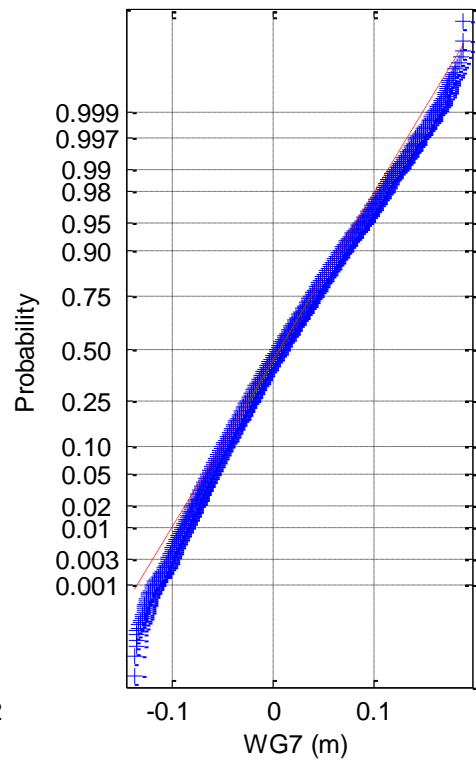




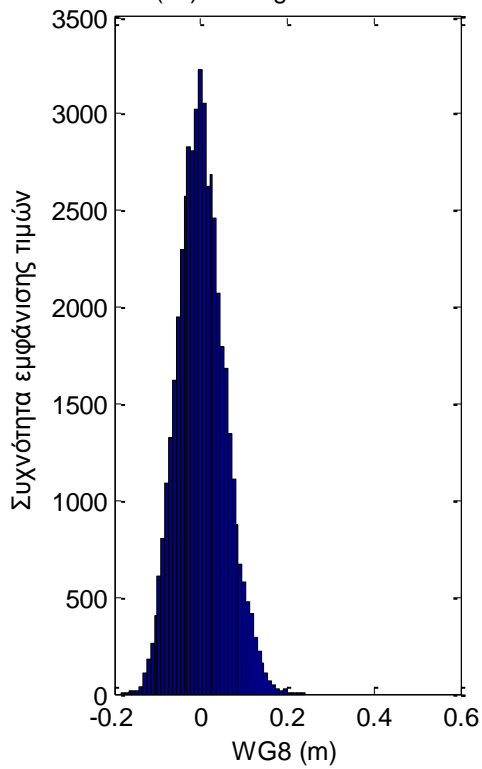
(7a) Histogram of WG7



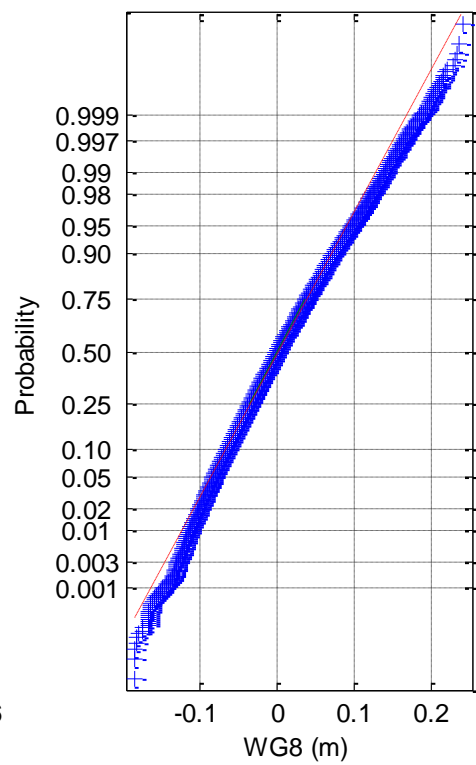
(7b) Normal probability plot of WG7



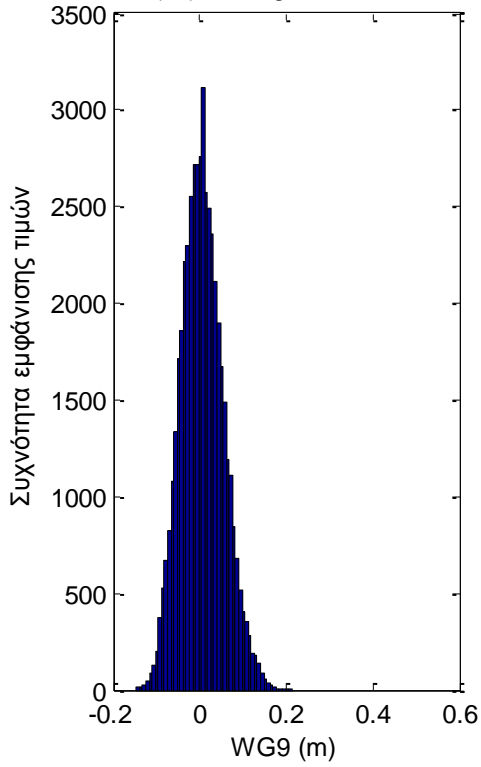
(8a) Histogram of WG8



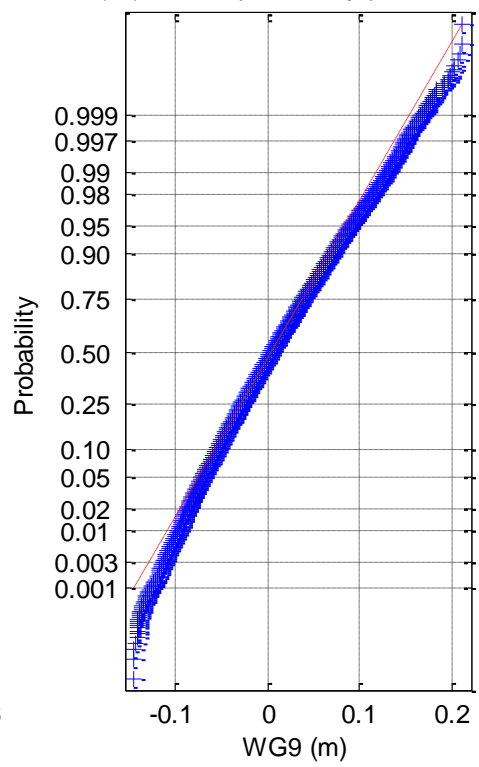
(8b) Normal probability plot of WG8



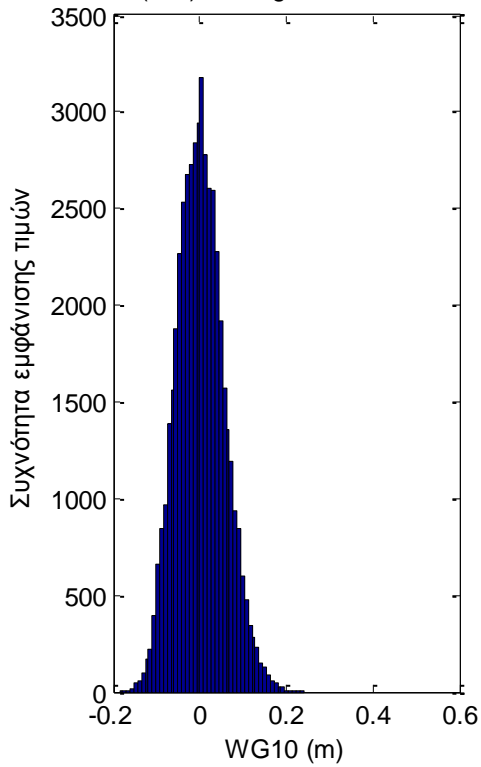
(9a) Histogram of WG9



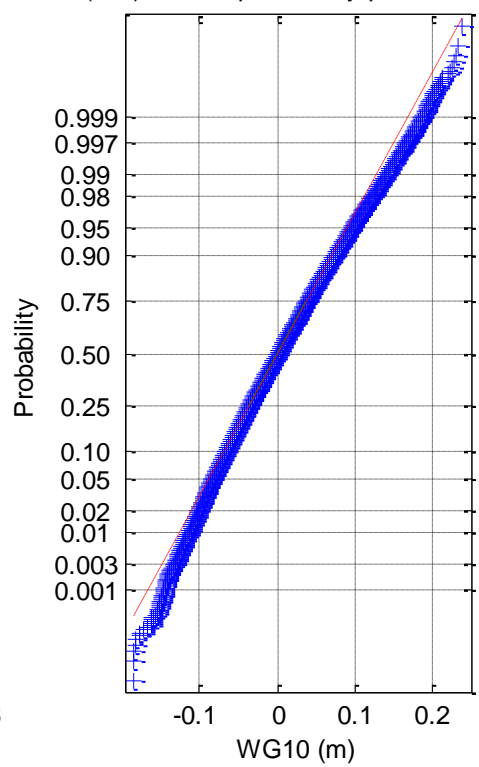
(9b) Normal probability plot of WG9

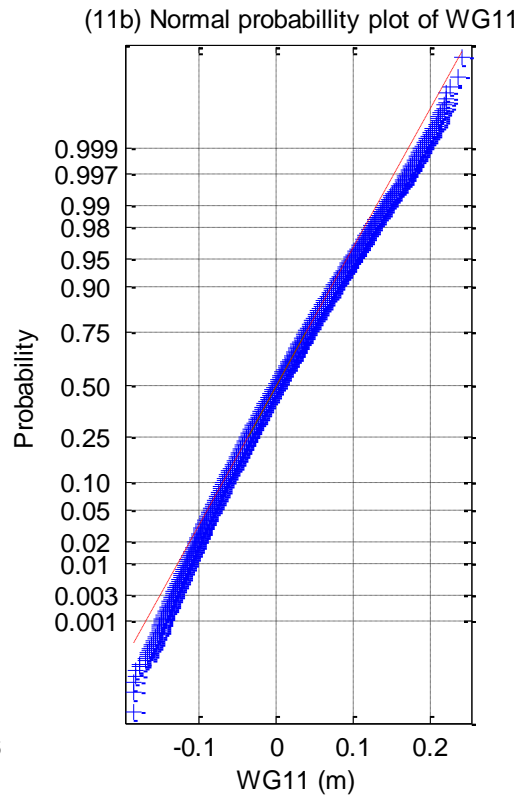
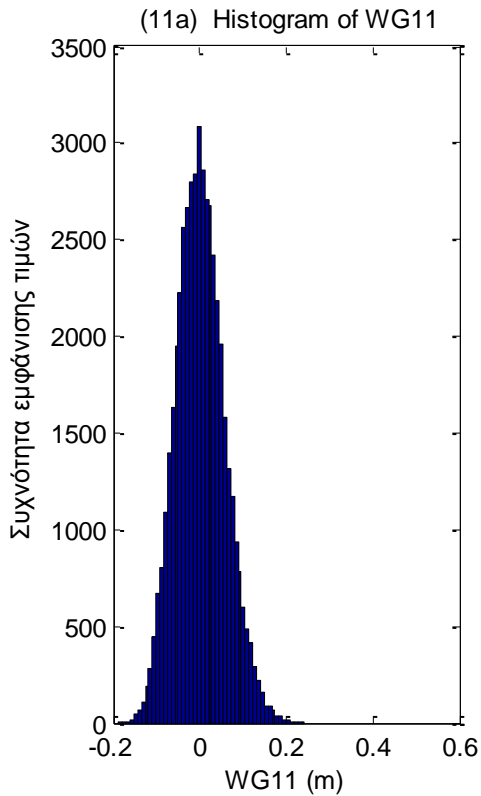


(10a) Histogram of WG10

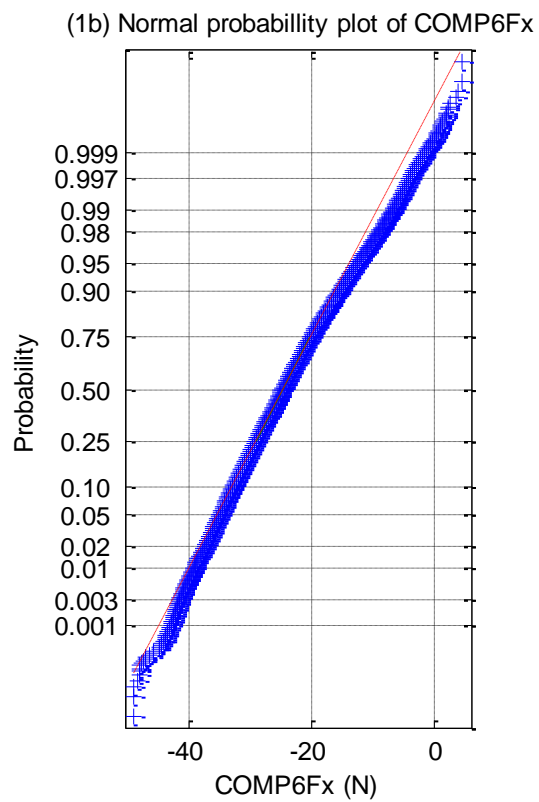
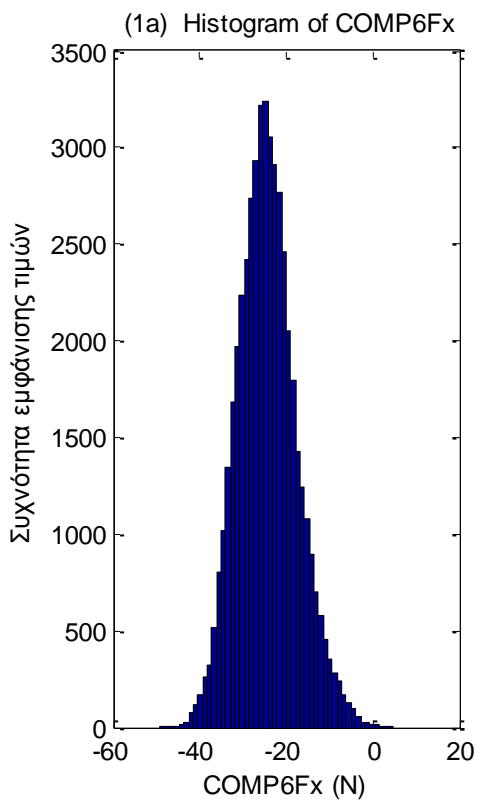


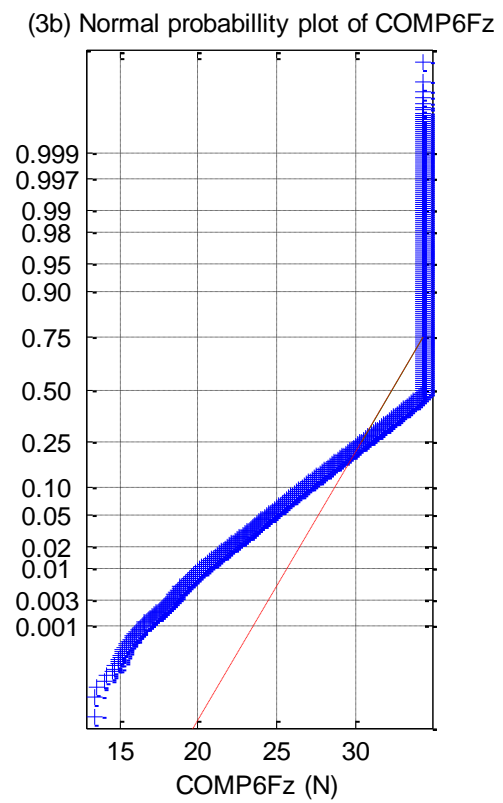
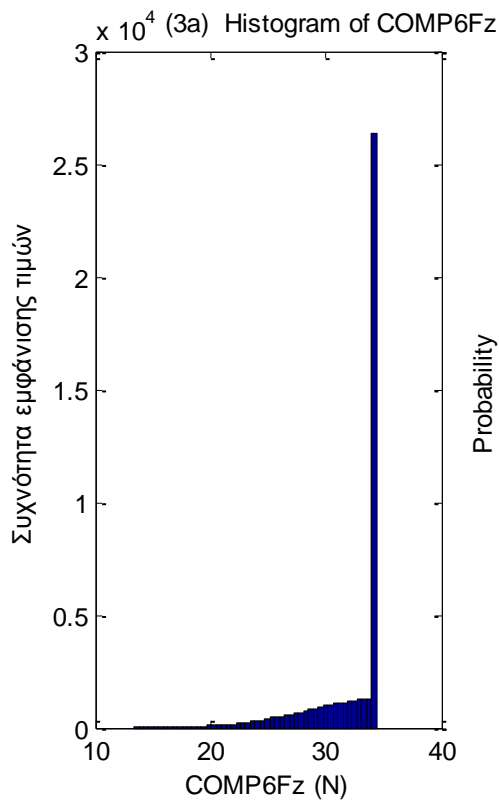
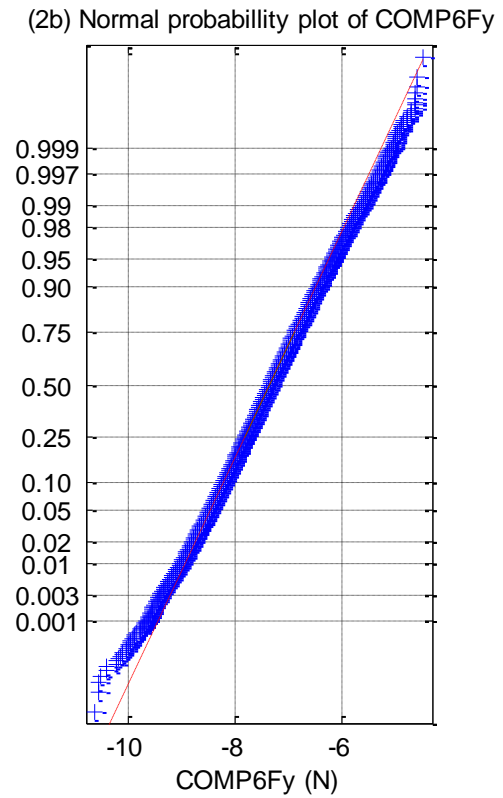
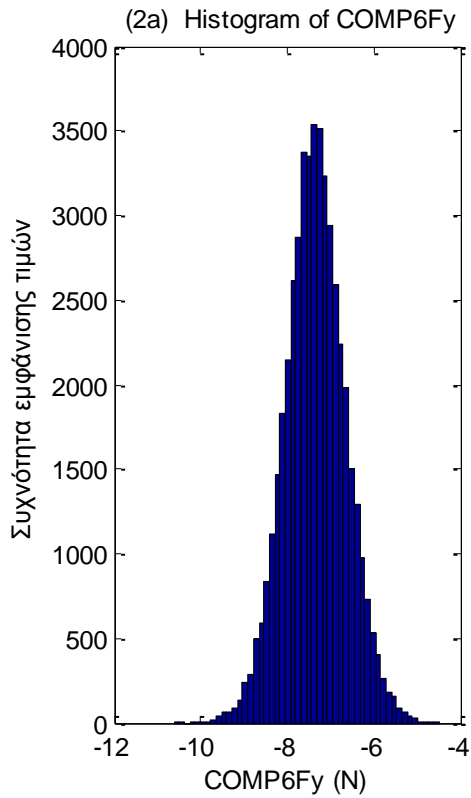
(10b) Normal probability plot of WG10

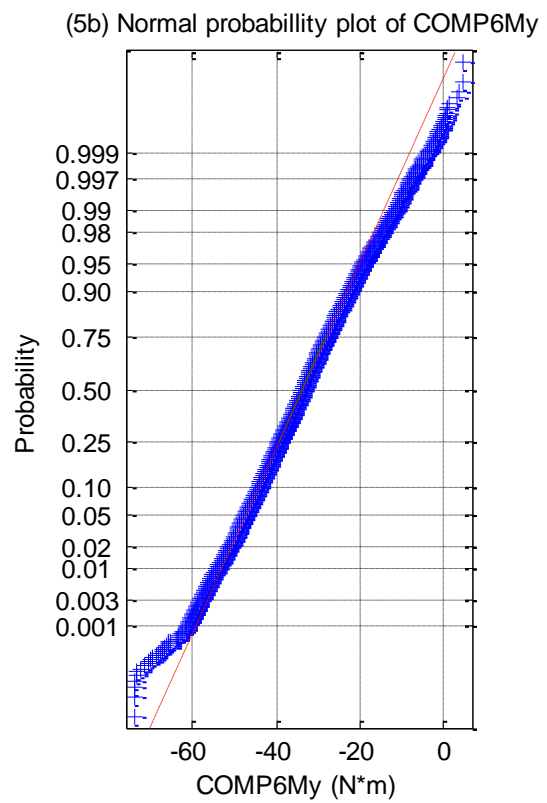
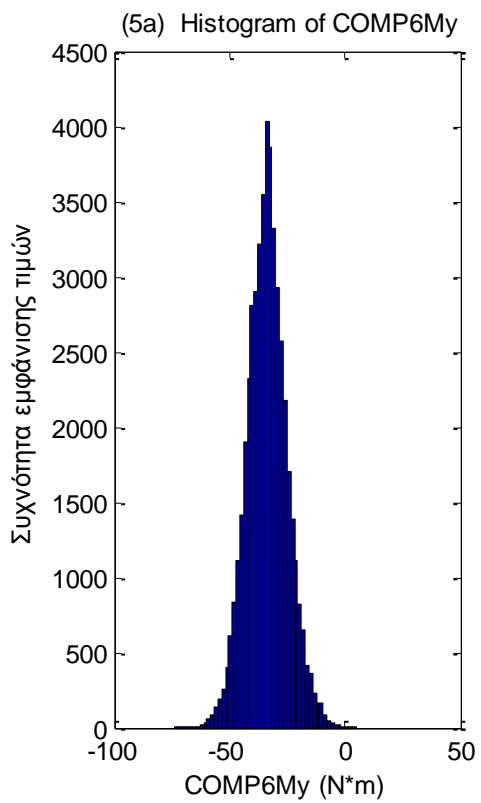
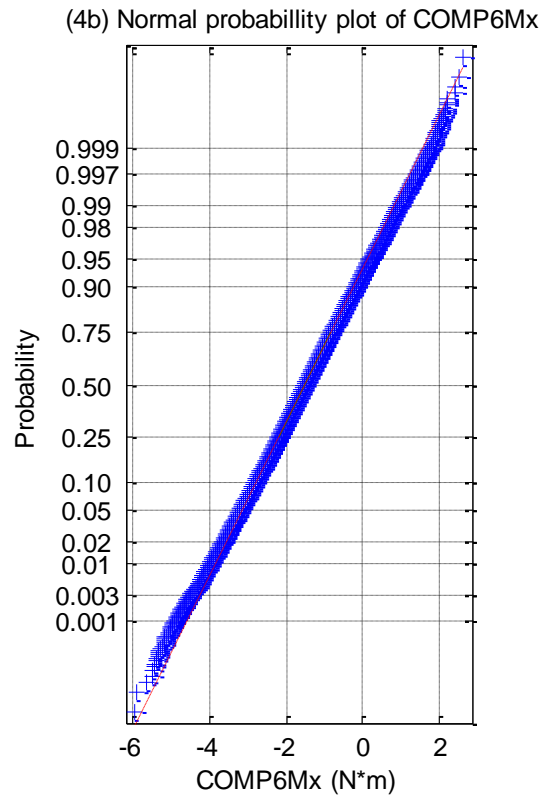
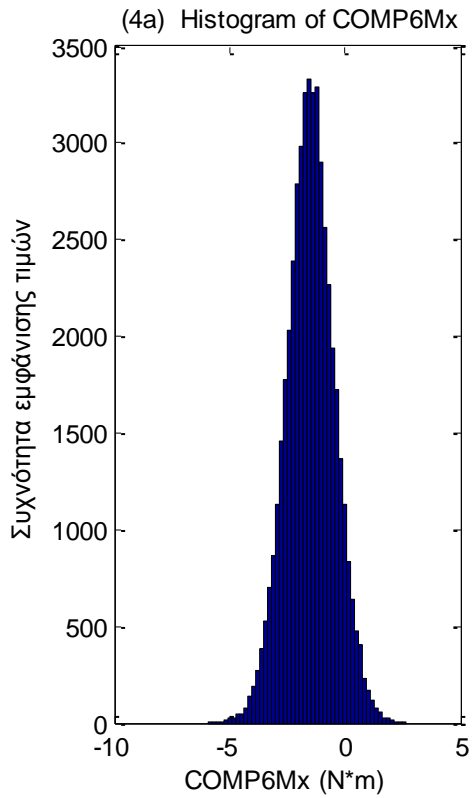


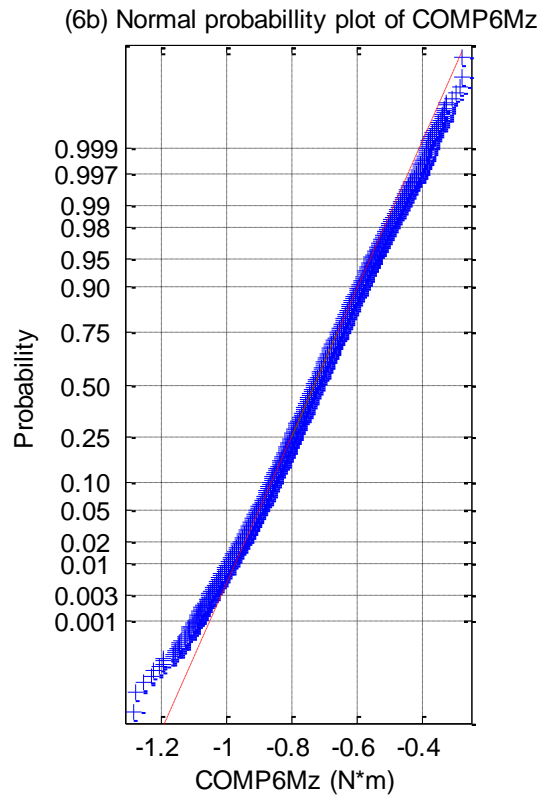
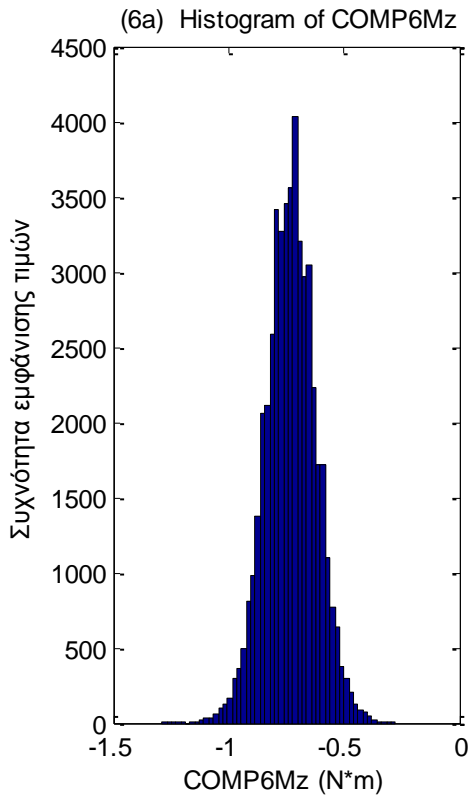


**Σχήματα 2.6.2.1 (1-11)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

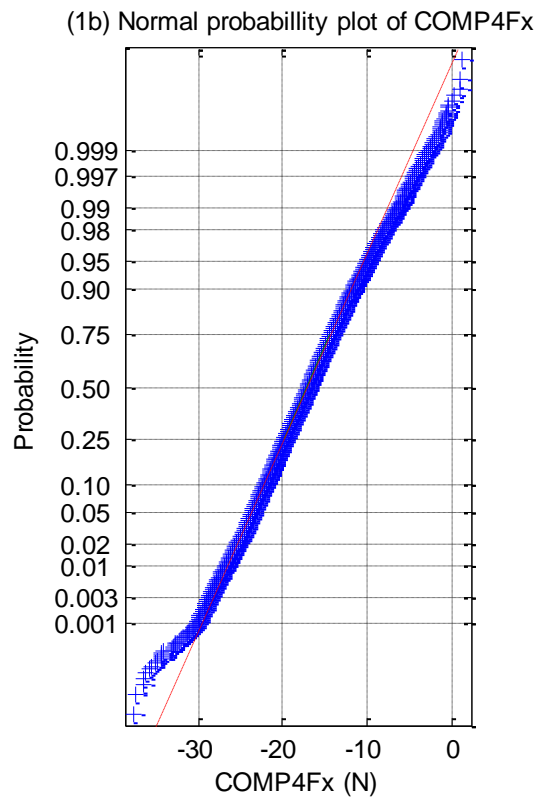
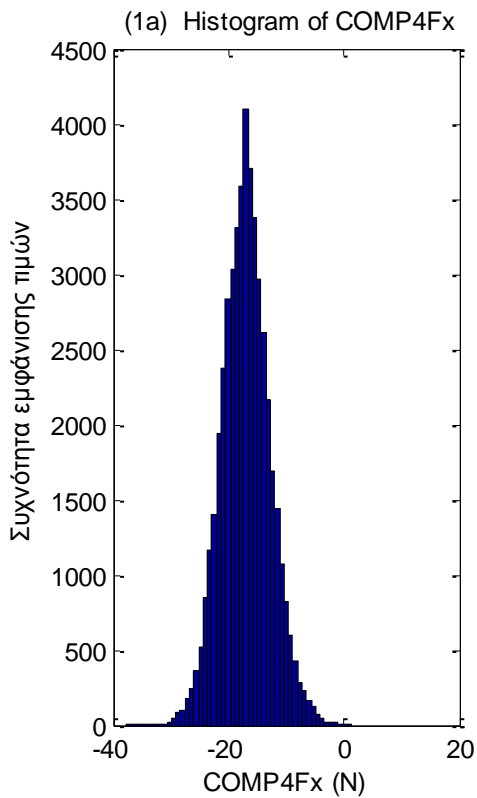


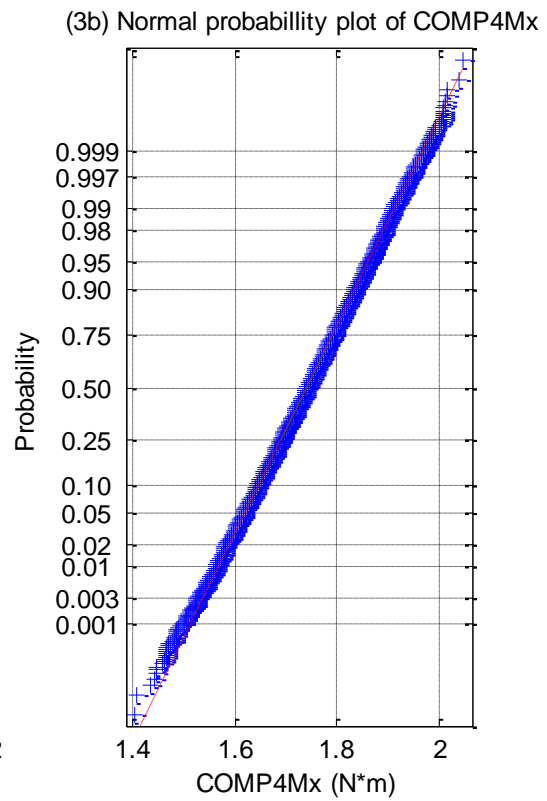
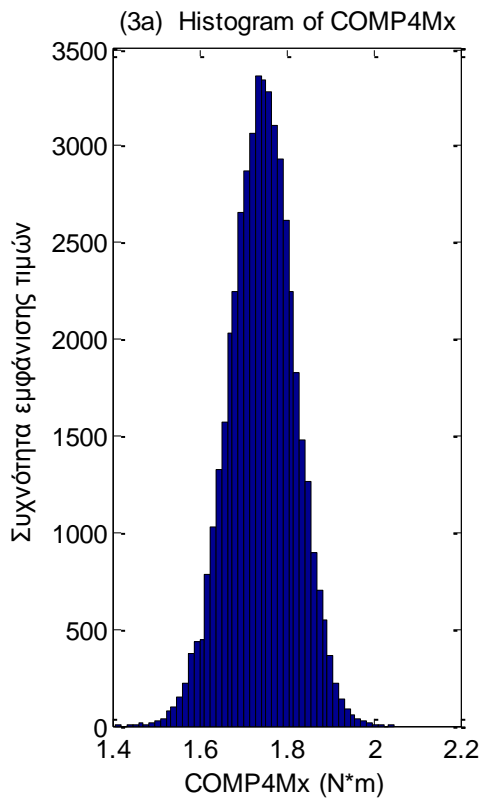
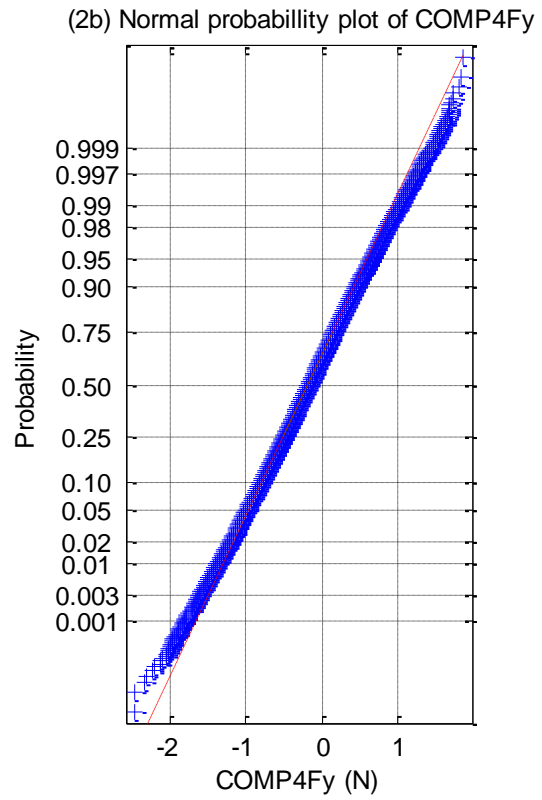
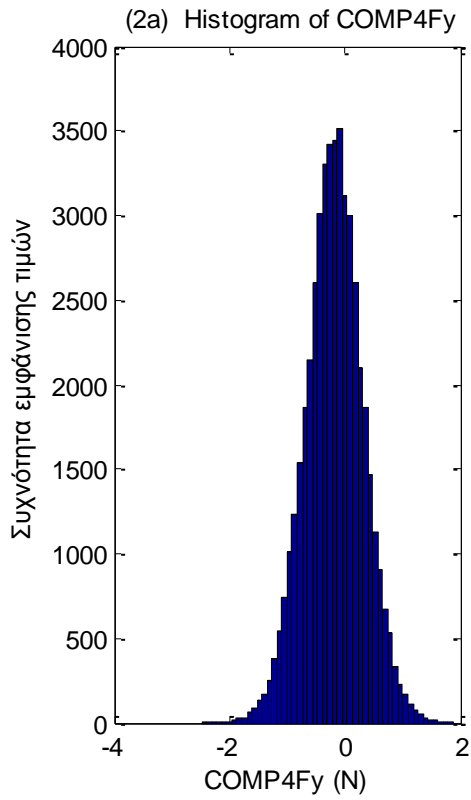


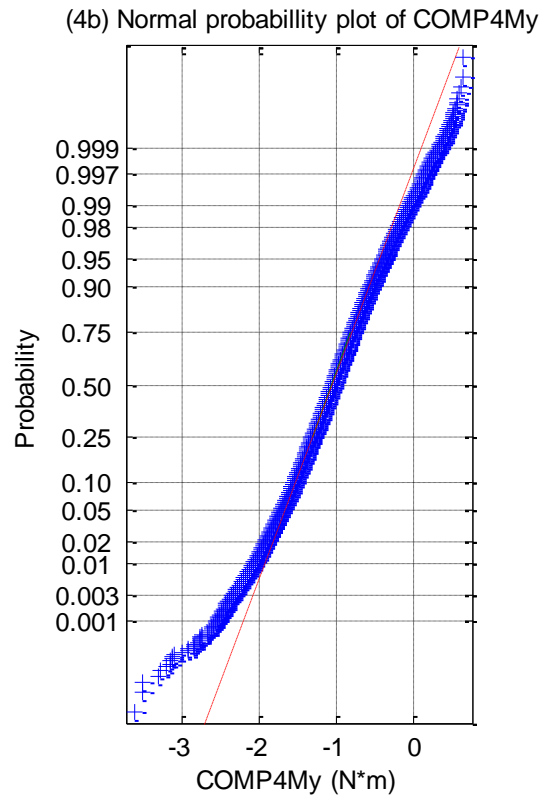
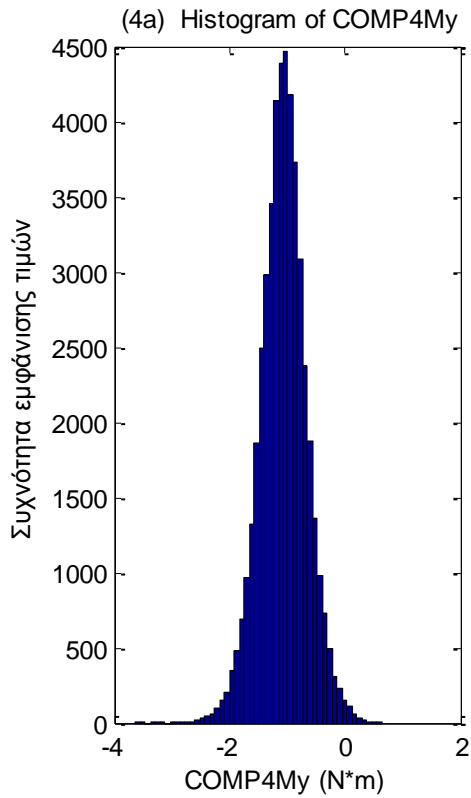




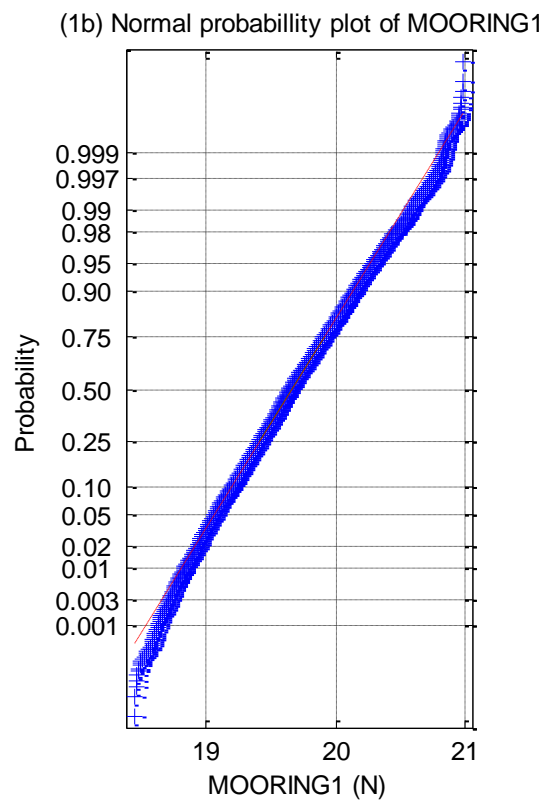
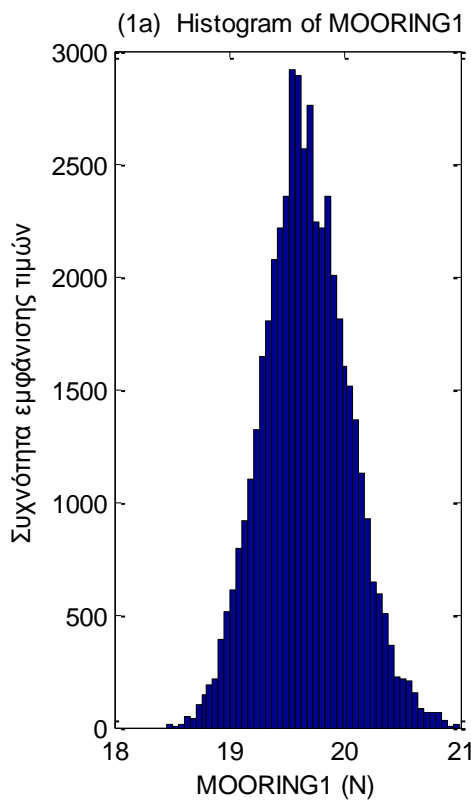
**Σχήματα 2.6.2.2** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



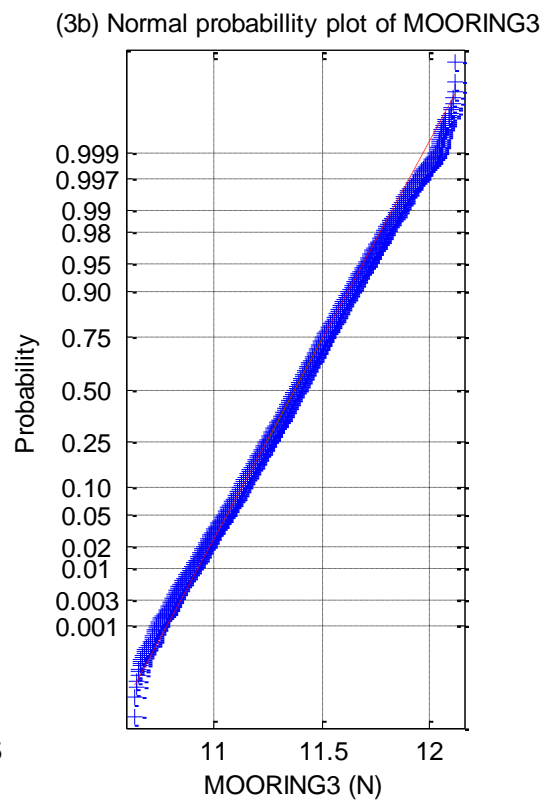
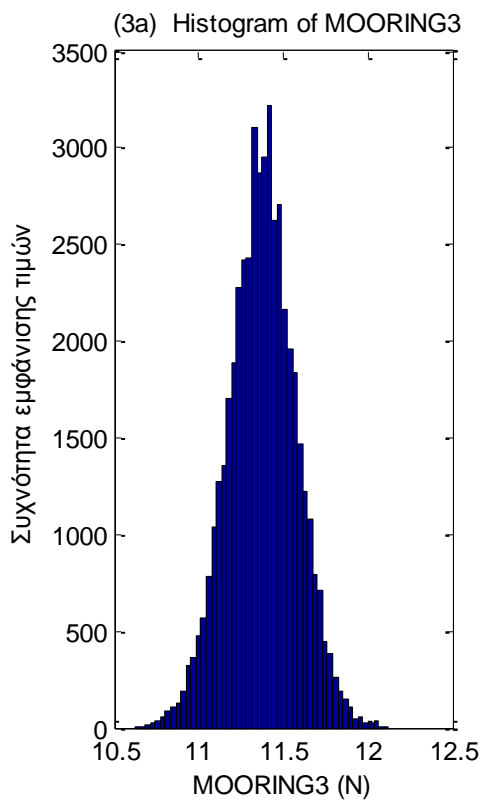
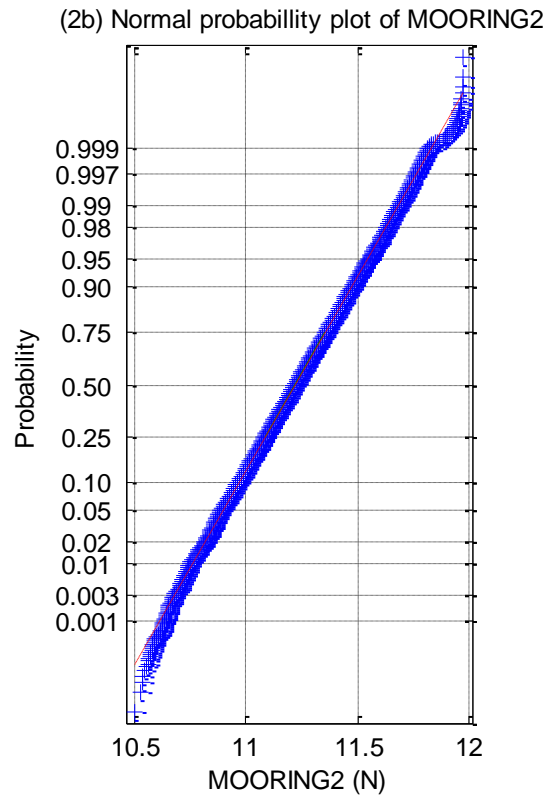
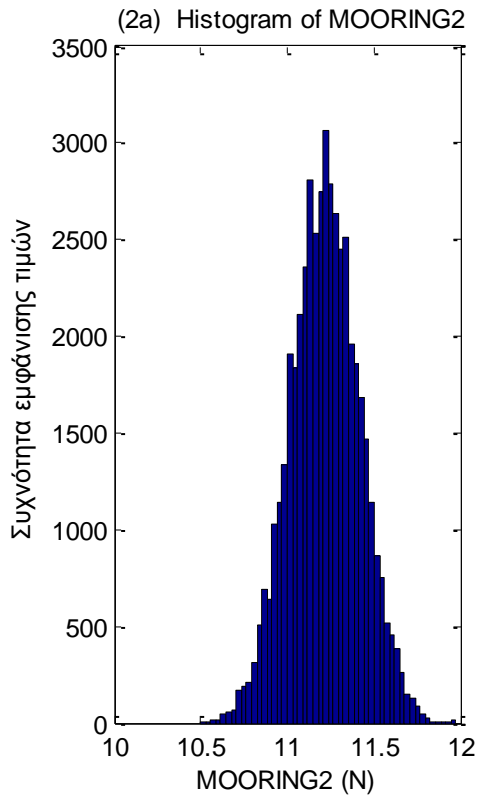




**Σχήματα 2.6.2.3** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

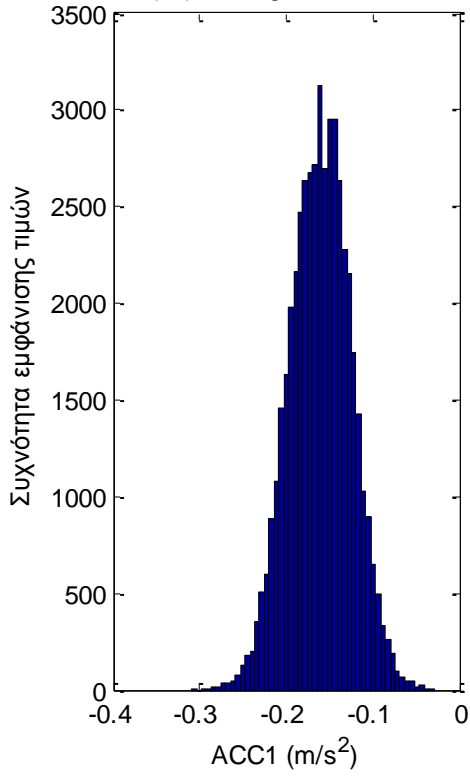




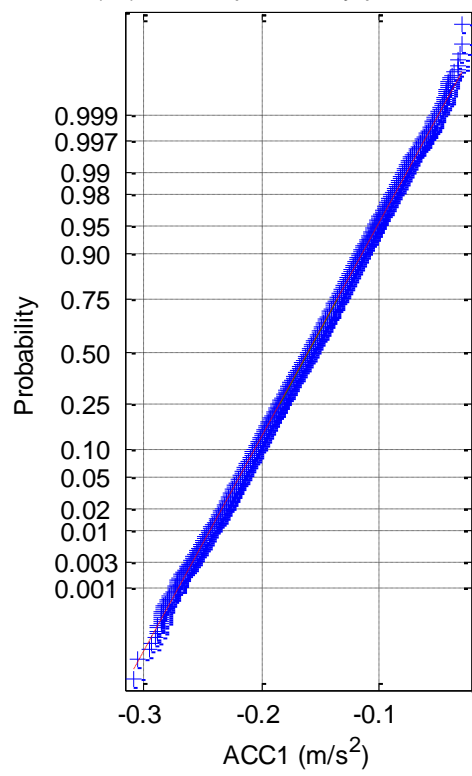


**Σχήματα 2.6.2.4 (1-3)** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

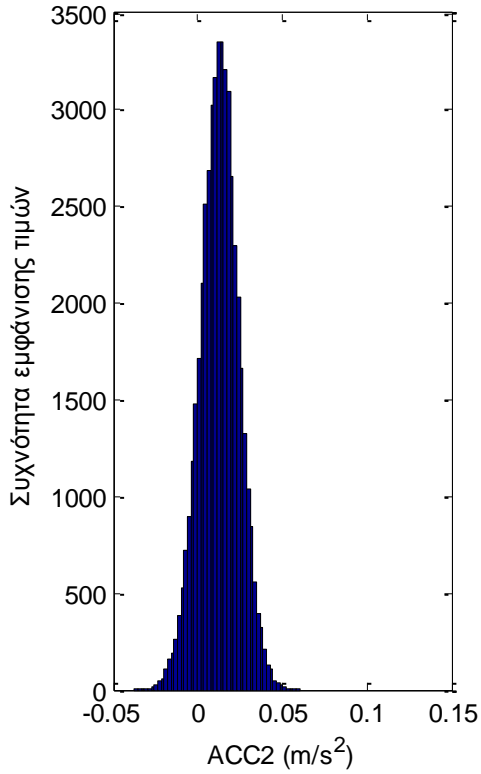
(1a) Histogram of ACC1



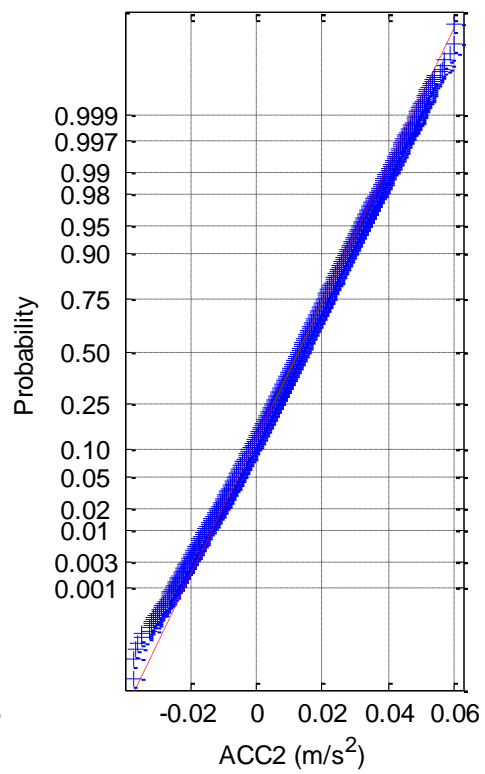
(1b) Normal probability plot of ACC1

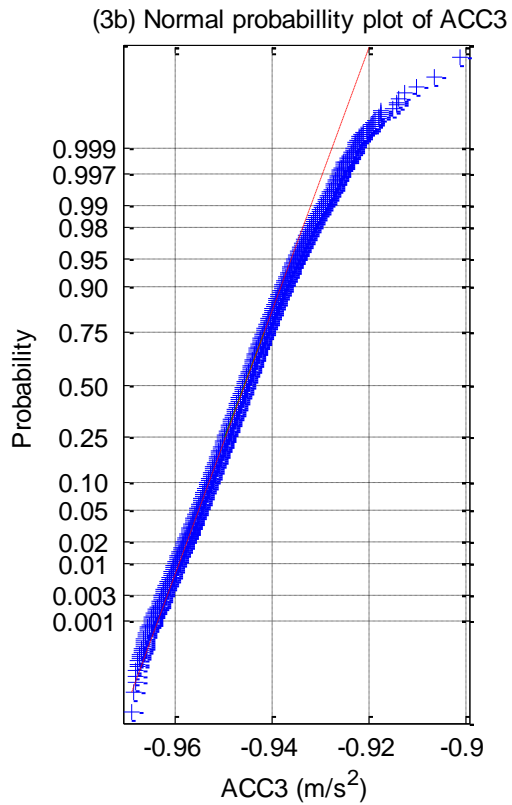
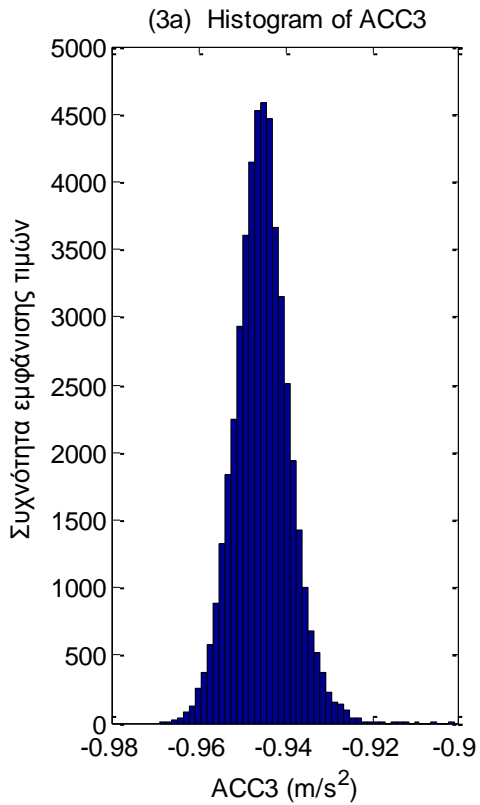


(2a) Histogram of ACC2

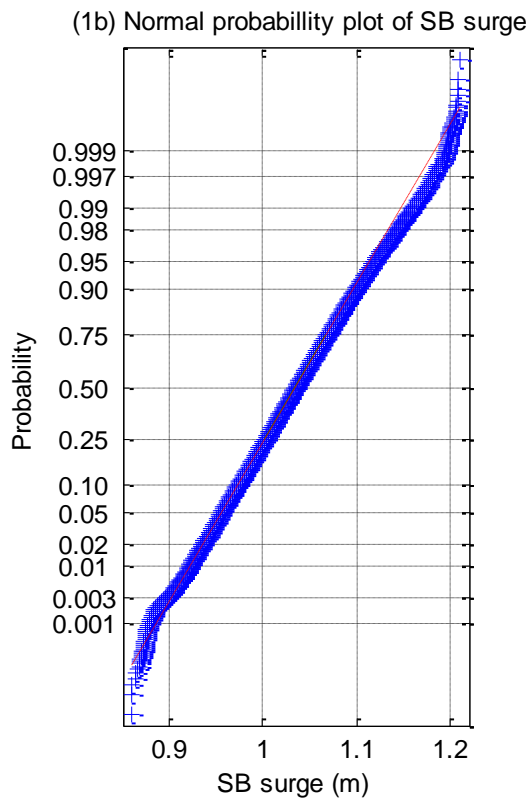
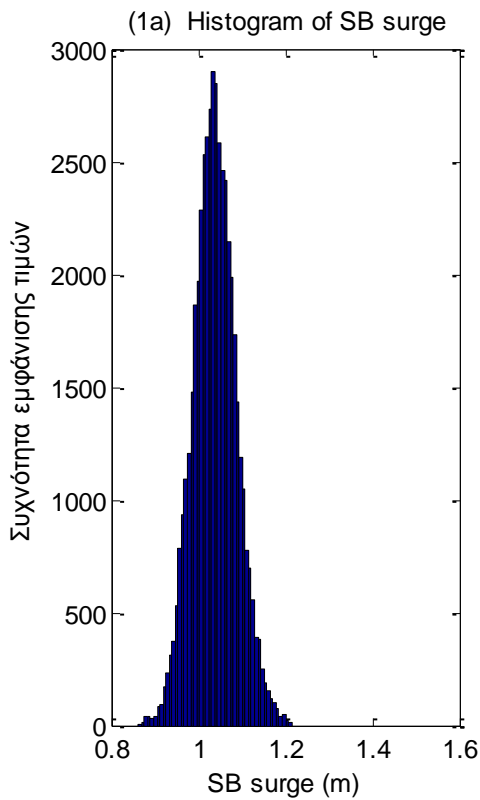


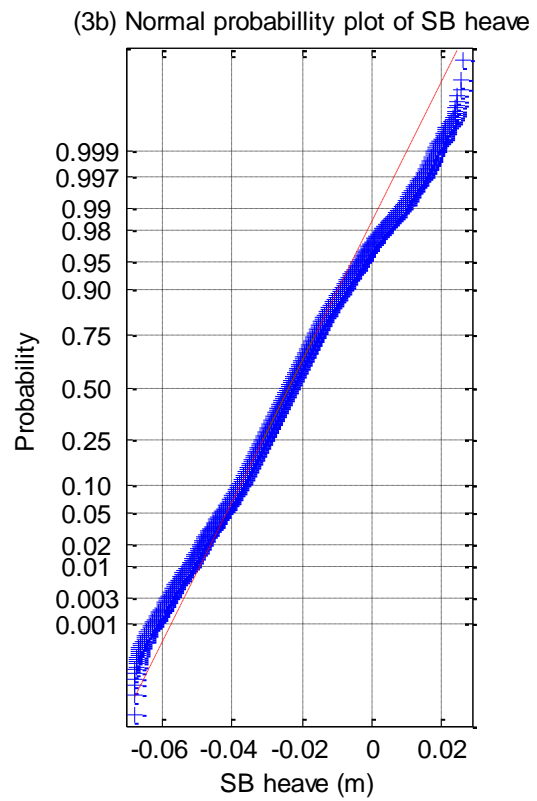
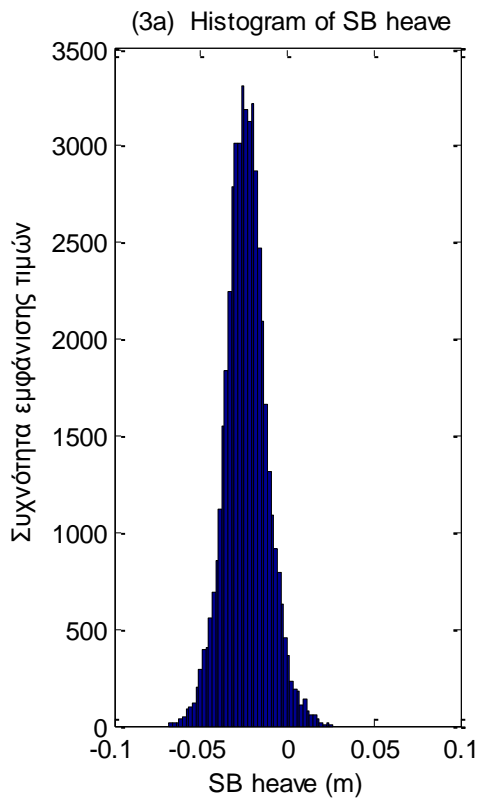
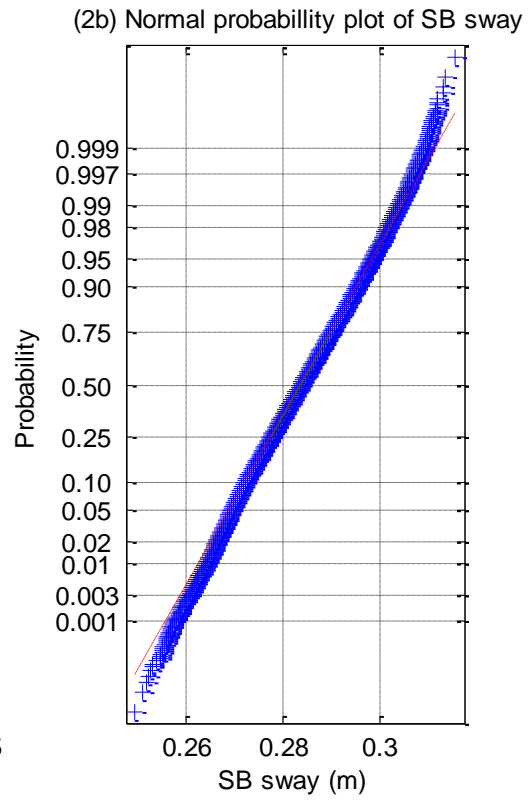
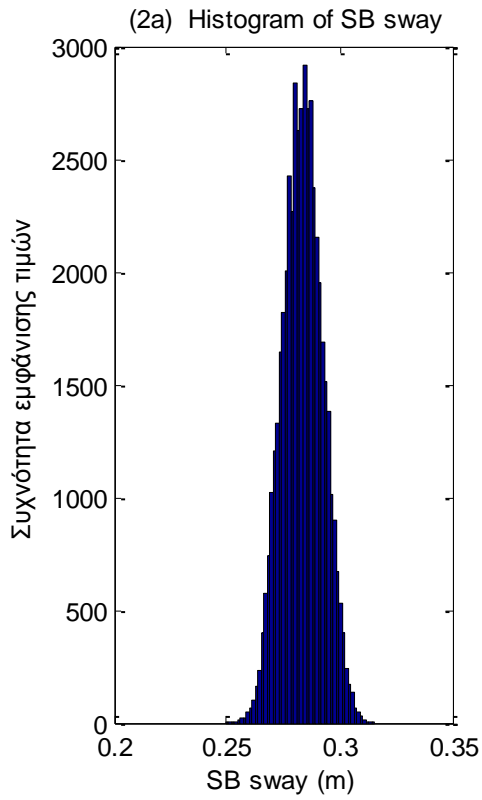
(2b) Normal probability plot of ACC2



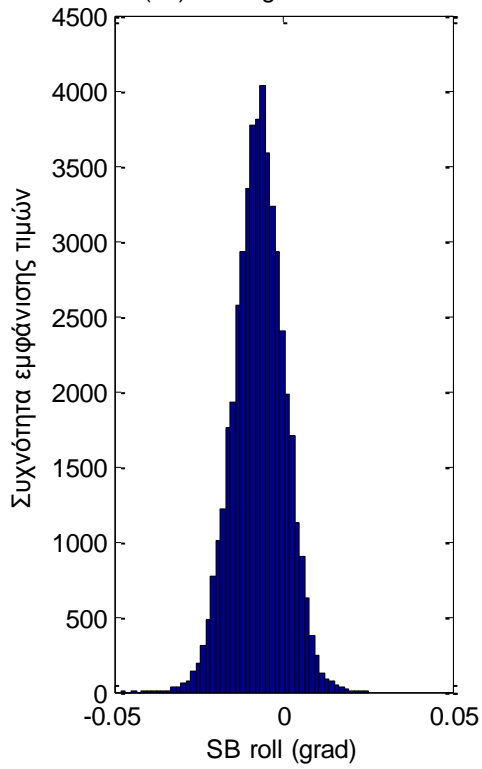


**Σχήματα 2.6.2.5 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

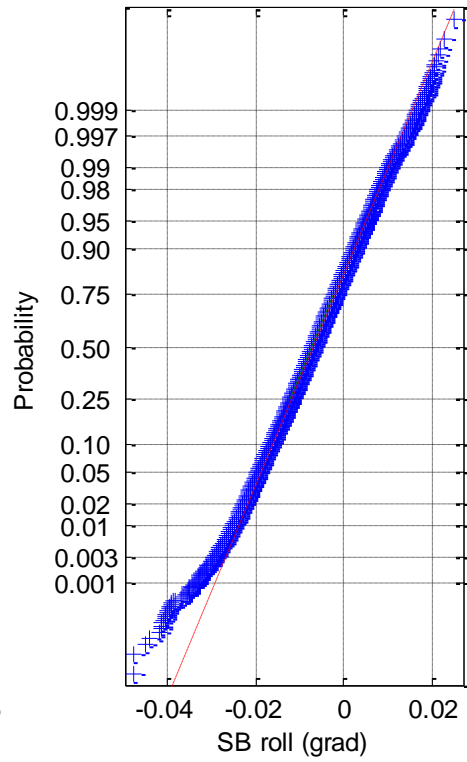




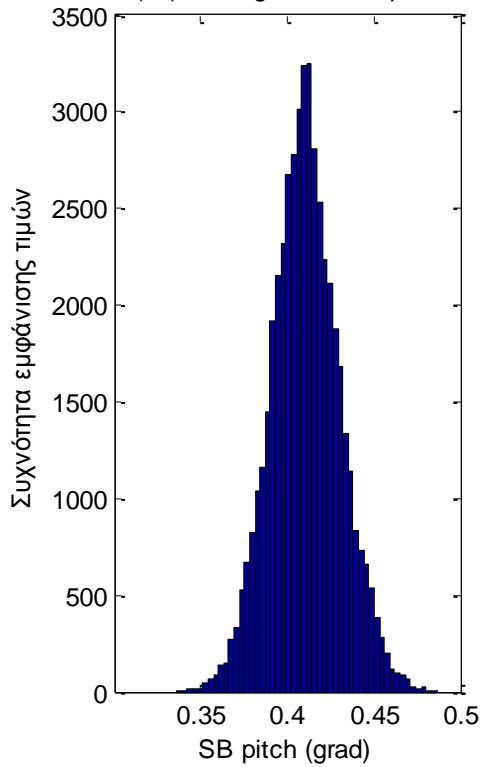
(4a) Histogram of SB roll



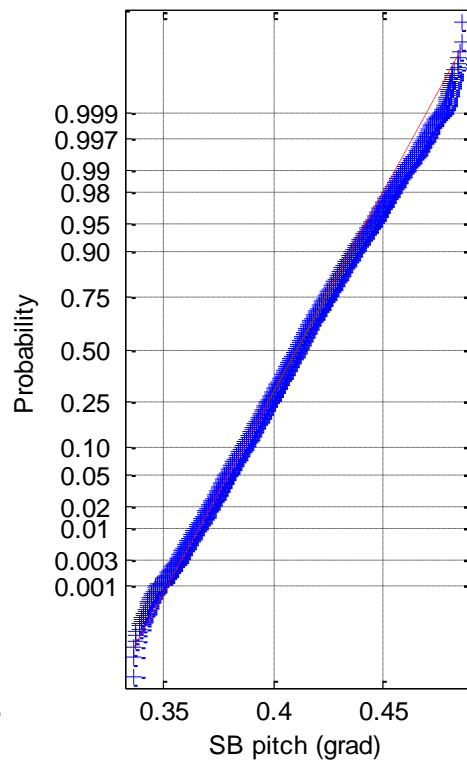
(4b) Normal probability plot of SB roll

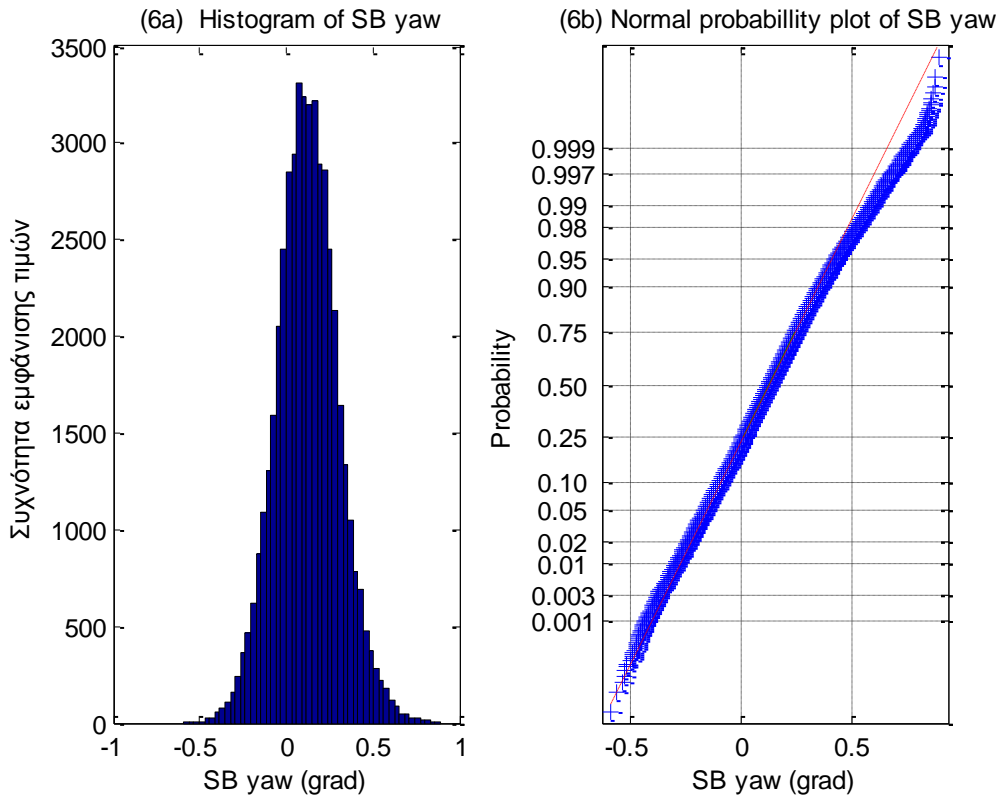


(5a) Histogram of SB pitch

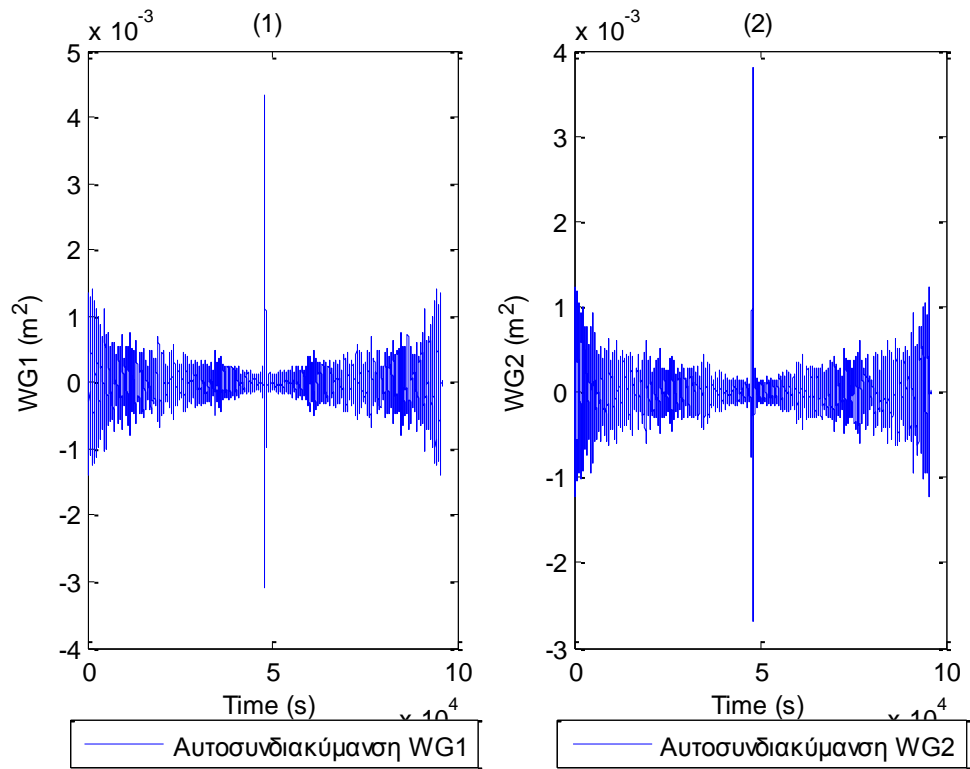


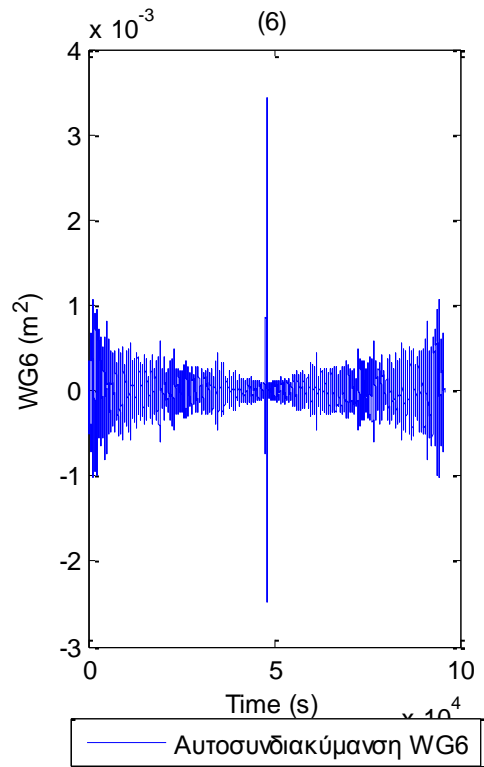
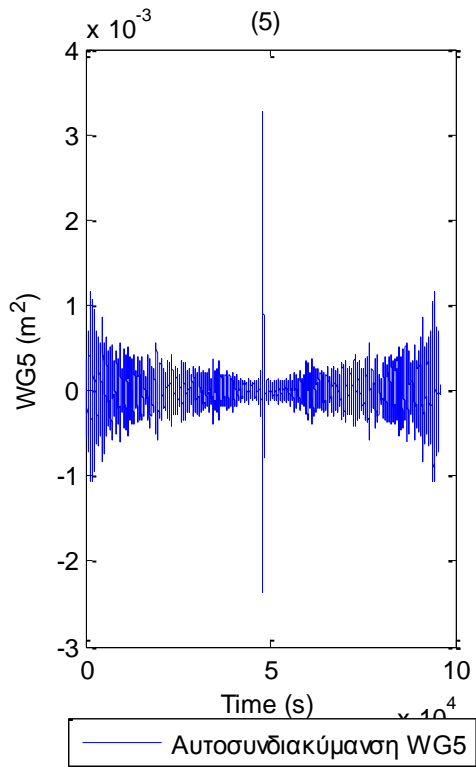
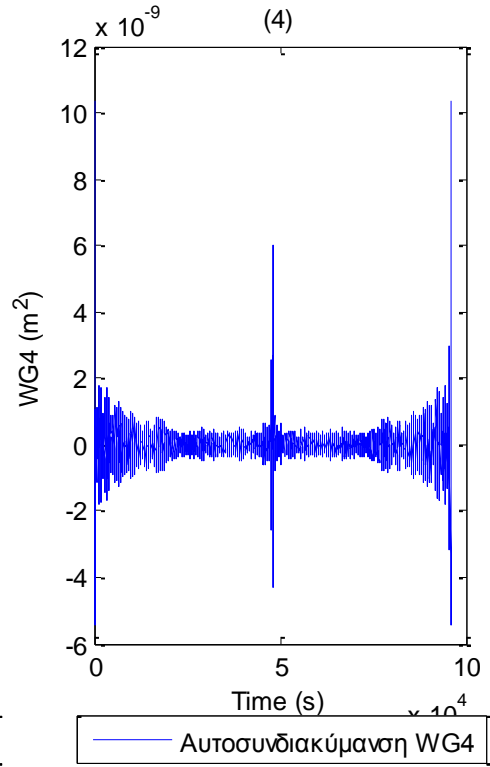
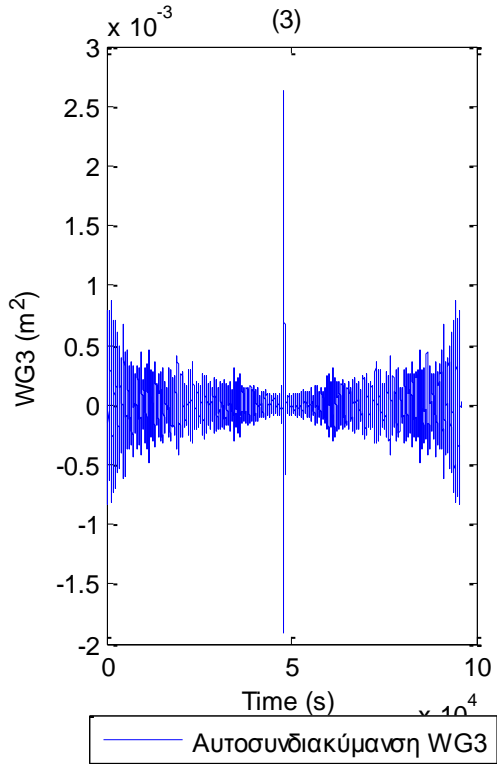
(5b) Normal probability plot of SB pitch

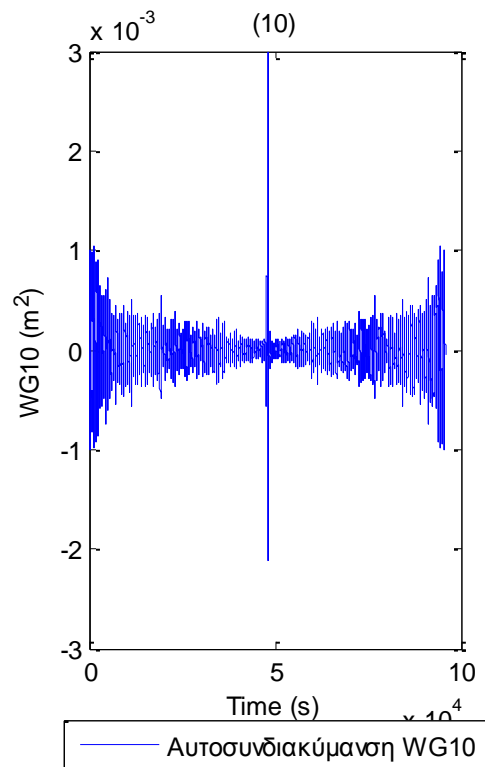
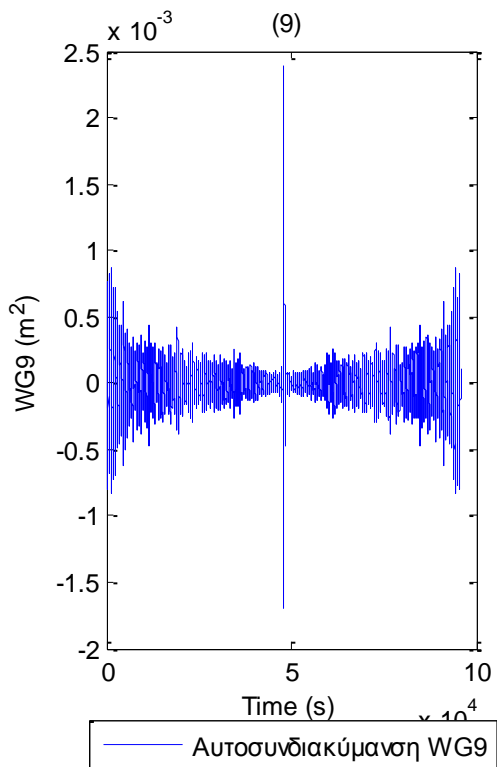
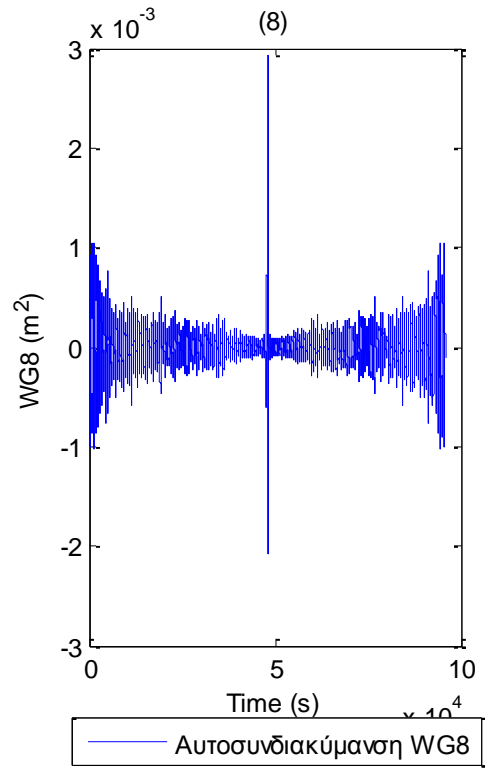
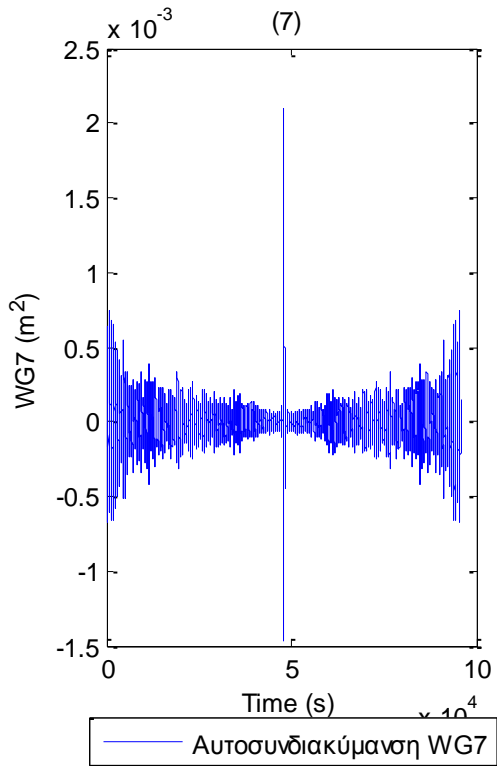




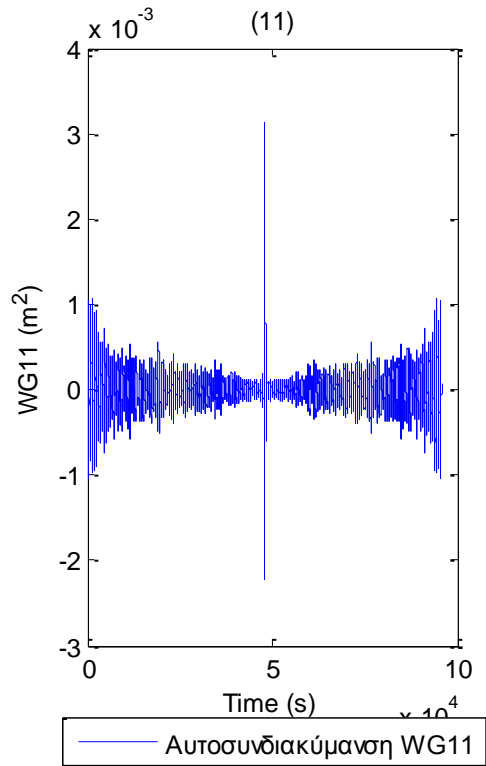
**Σχήματα 2.6.2.6** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



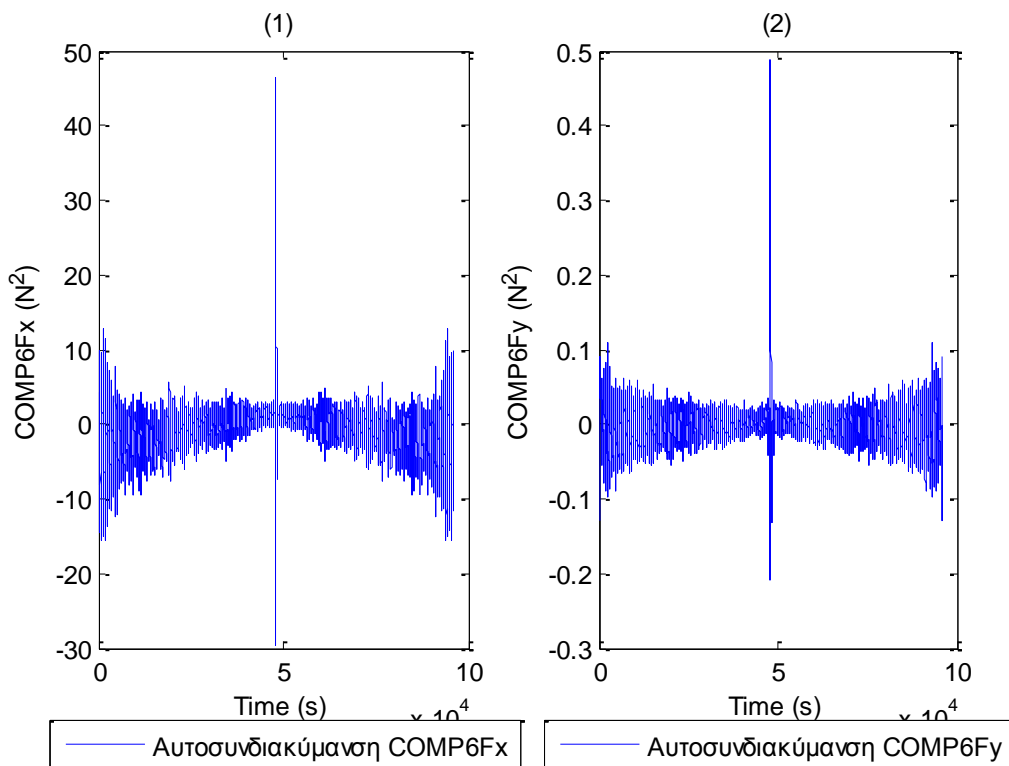


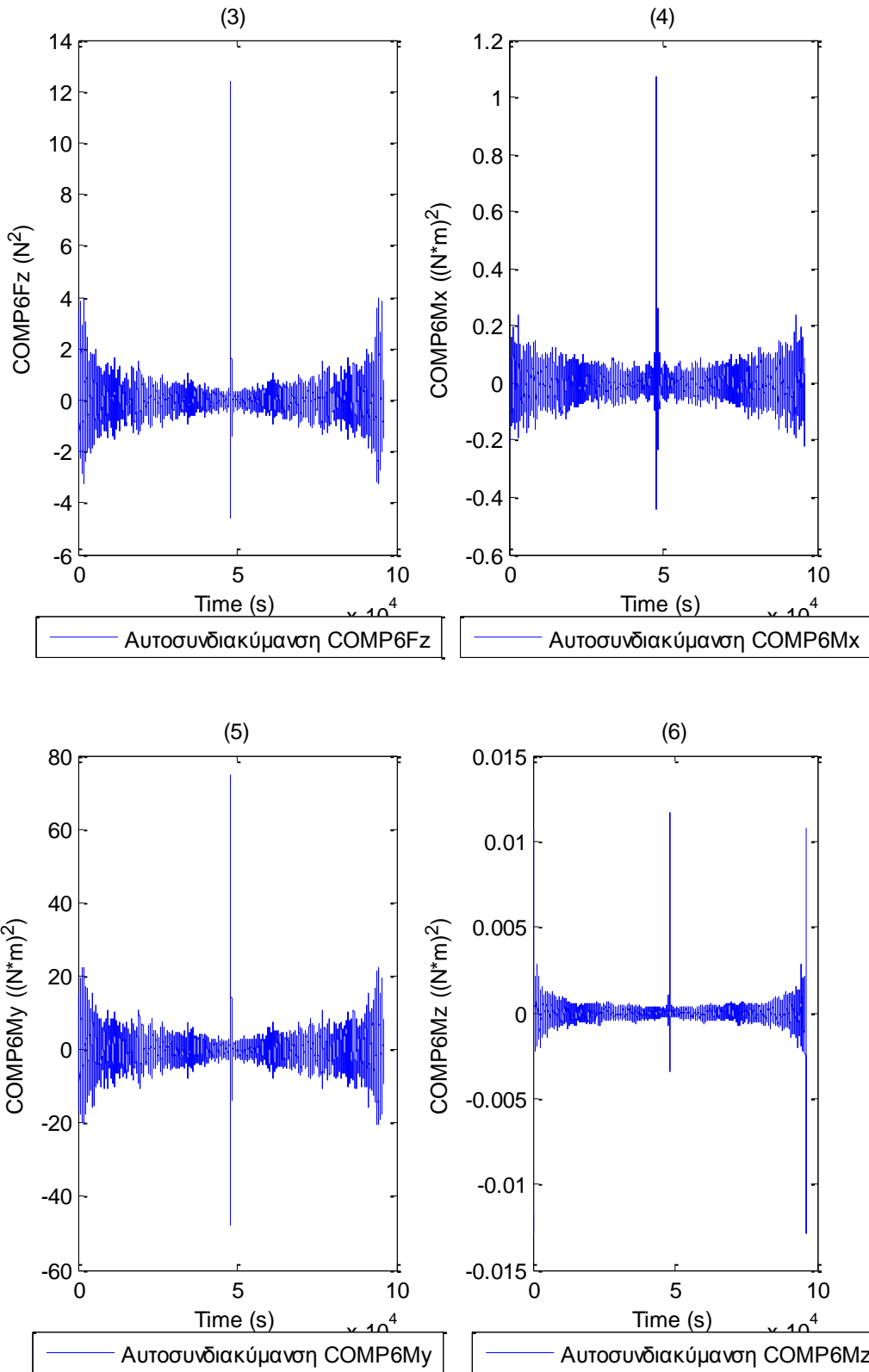




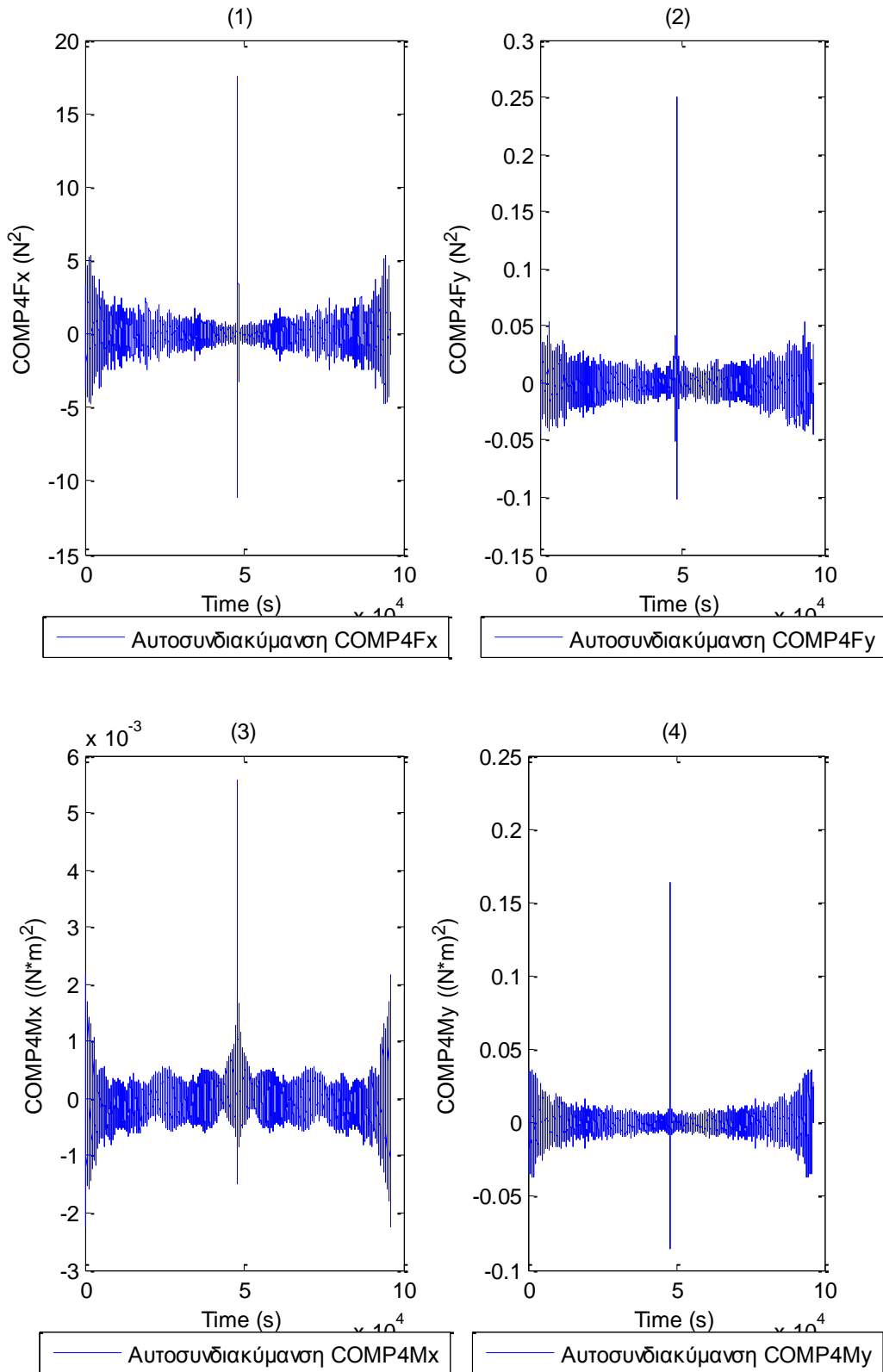


**Σχήματα 2.6.3.1 (1-11)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος

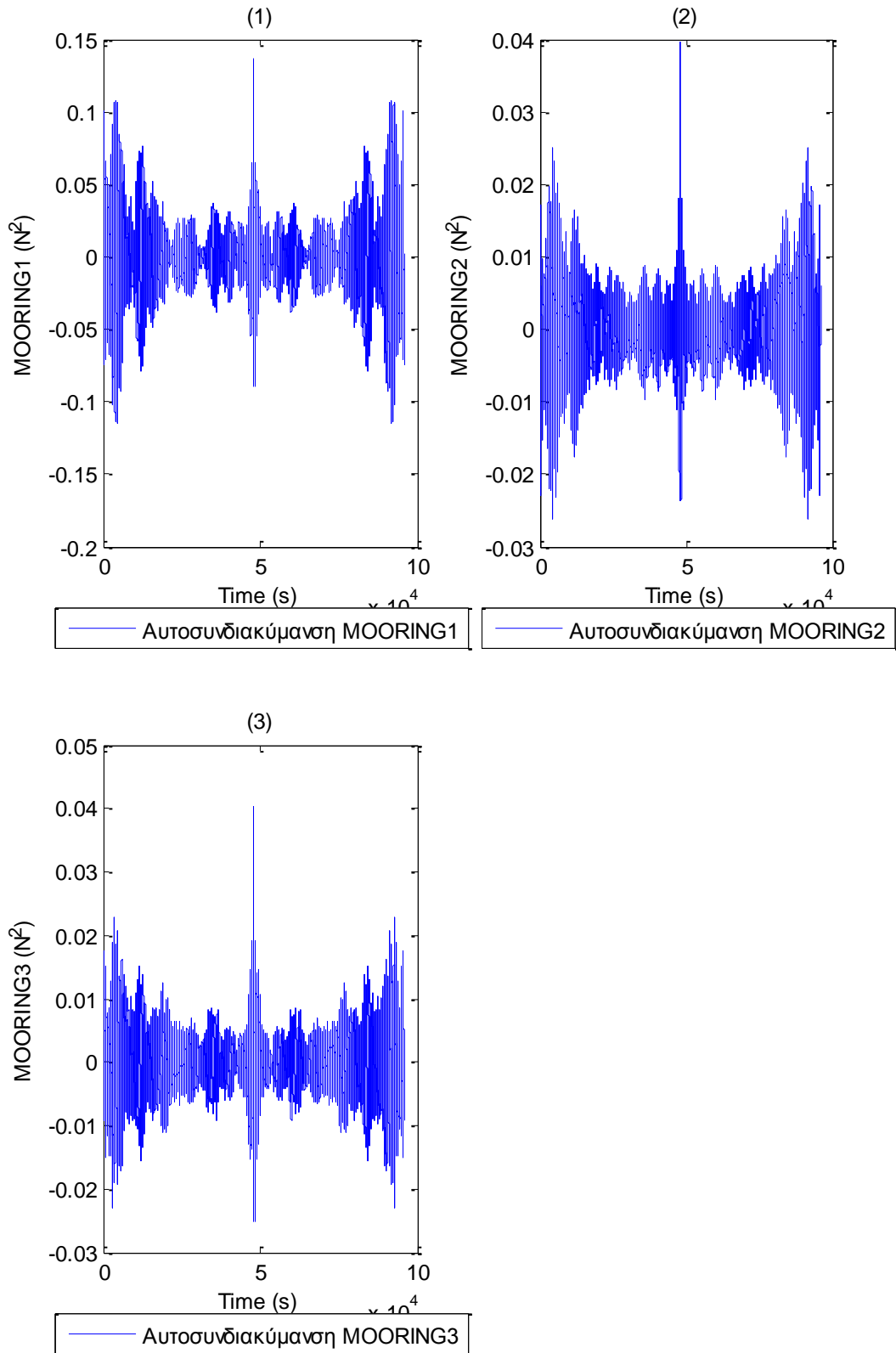




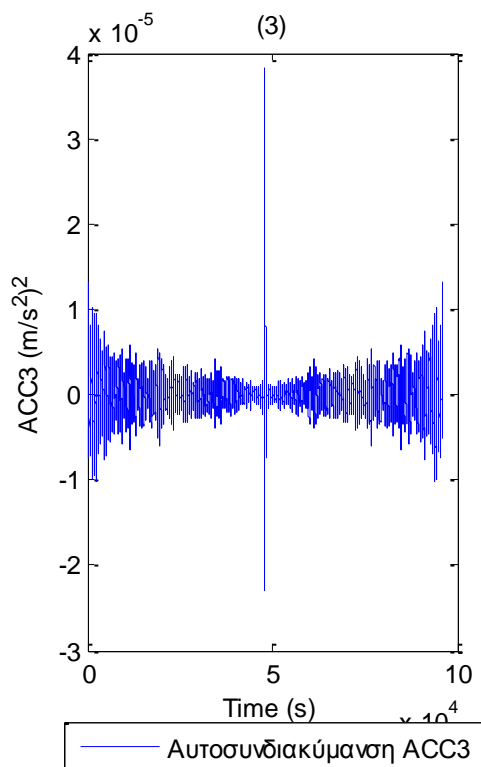
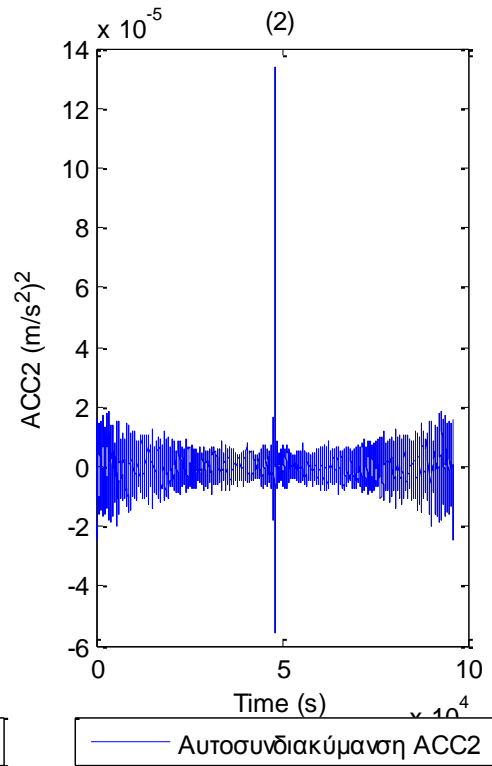
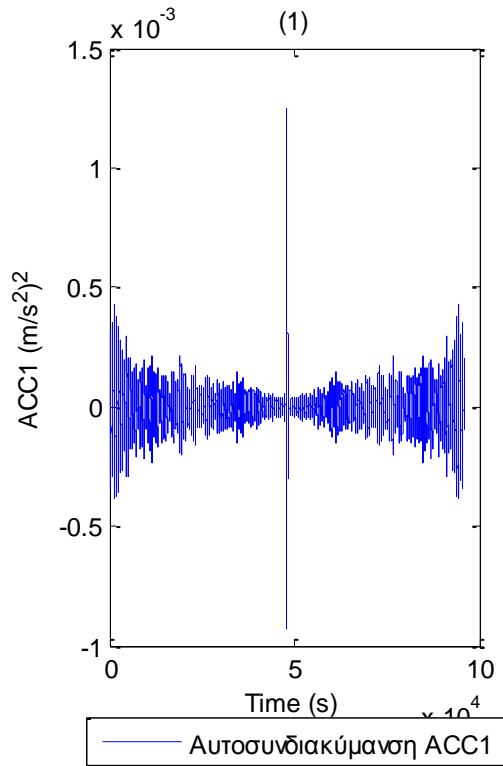
**Σχήματα 2.6.3.2** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



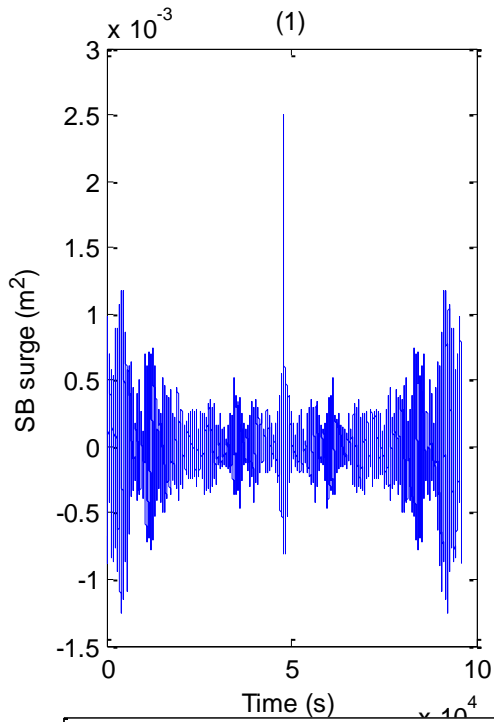
**Σχήματα 2.6.3.3** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



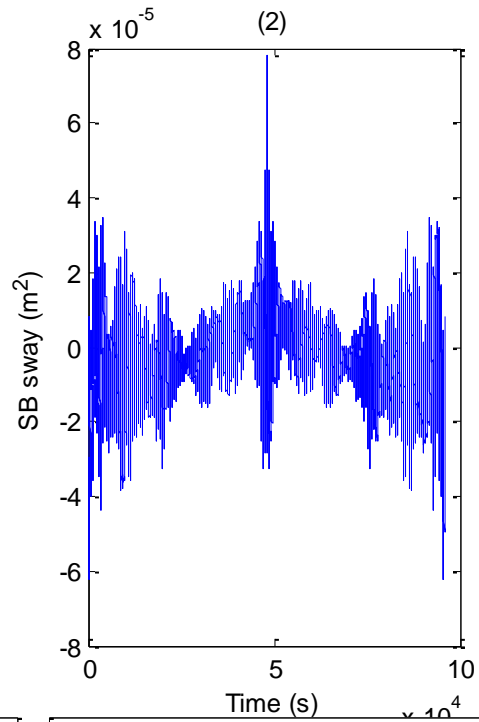
**Σχήματα 2.6.3.4 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



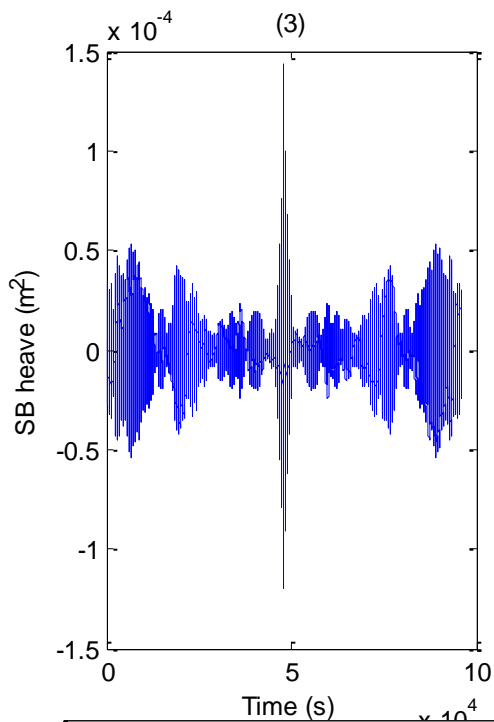
**Σχήματα 2.6.3.5 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



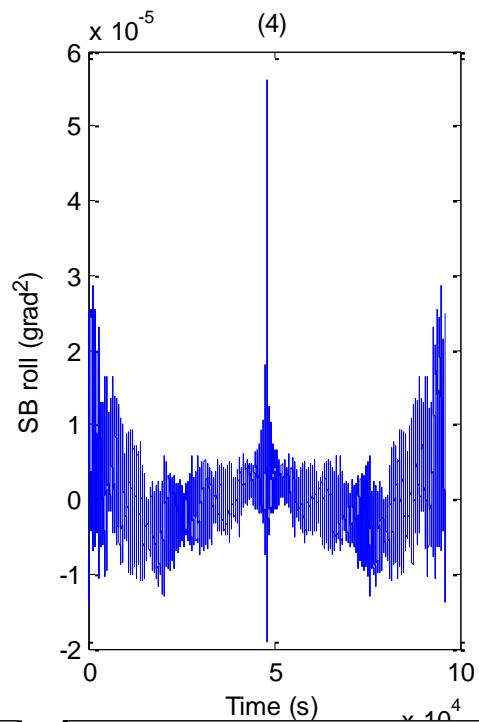
— Αυτοσυνδιακύμανση SB surge



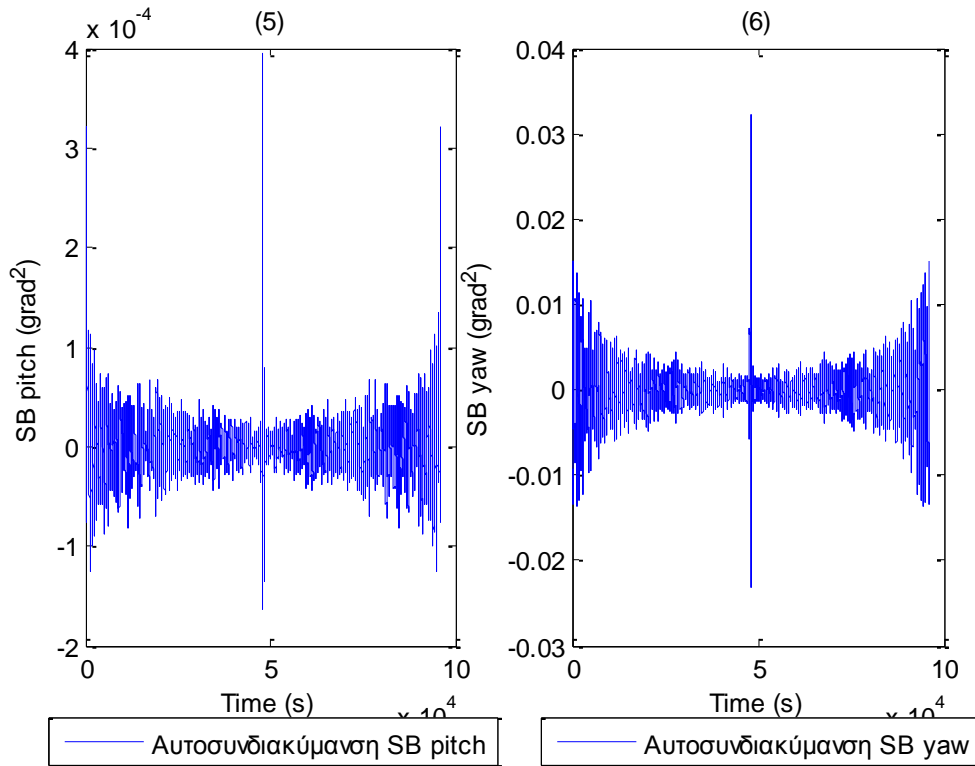
— Αυτοσυνδιακύμανση SB sway



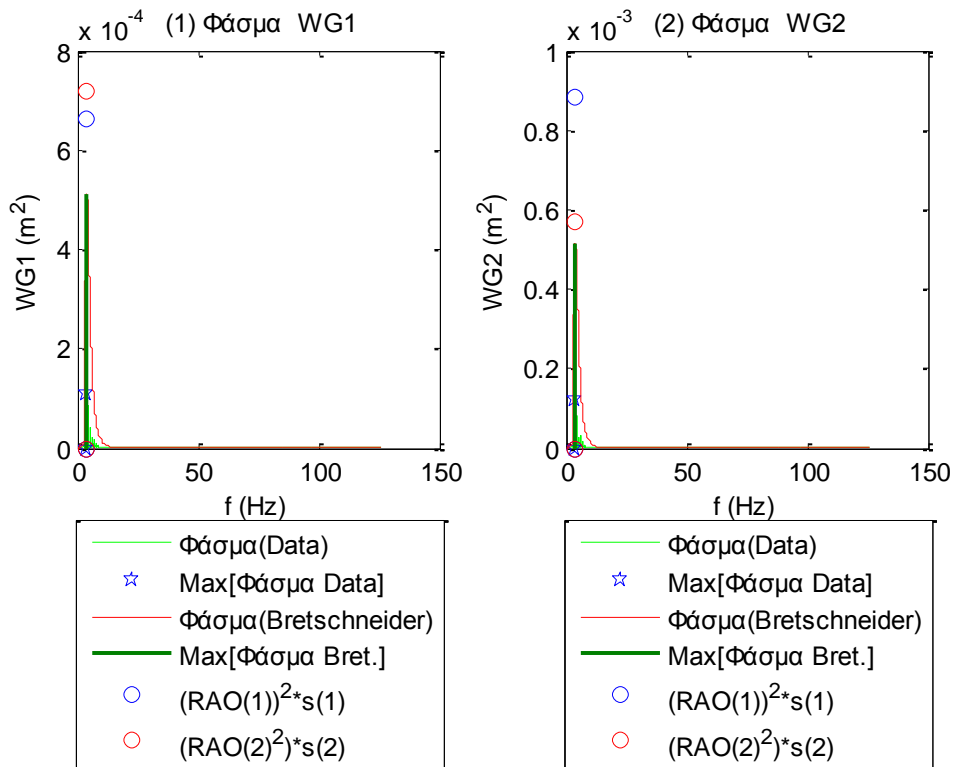
— Αυτοσυνδιακύμανση SB heave

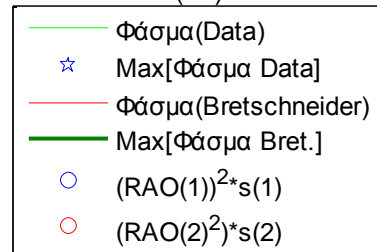
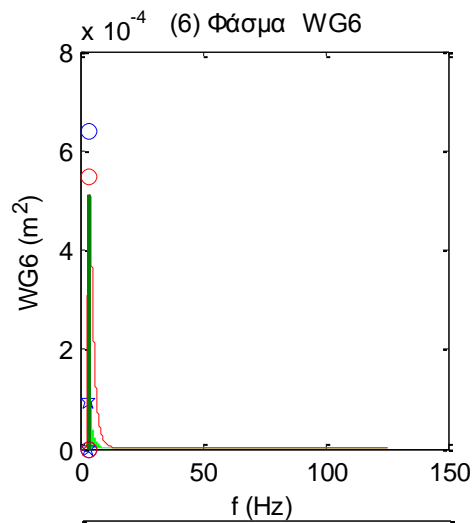
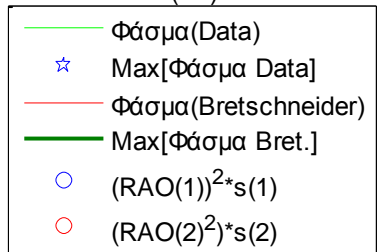
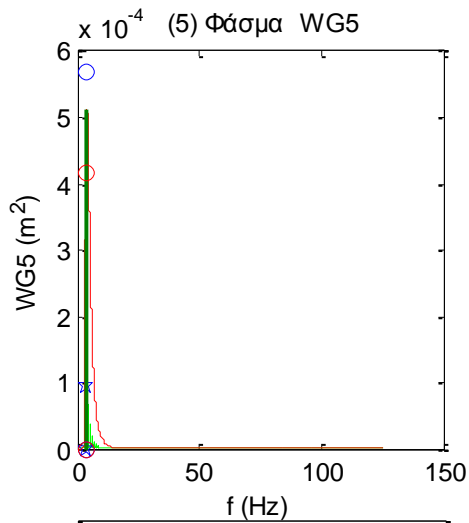
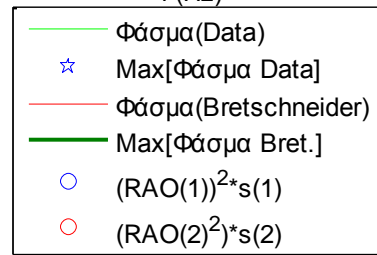
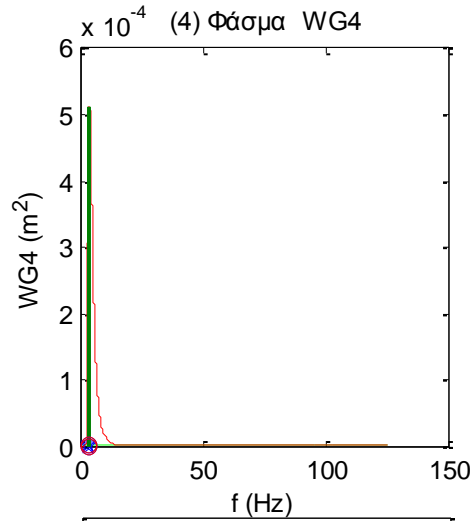
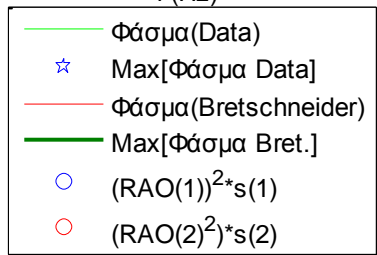
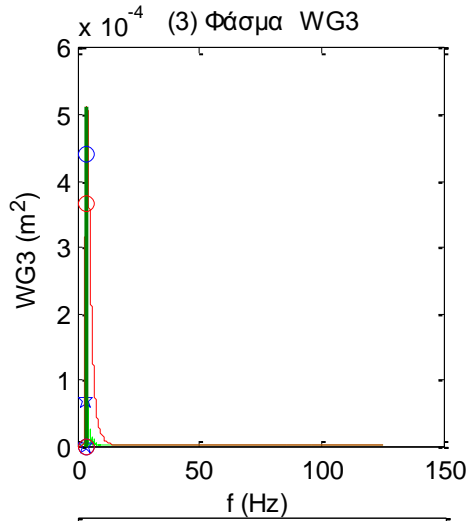


— Αυτοσυνδιακύμανση SB roll

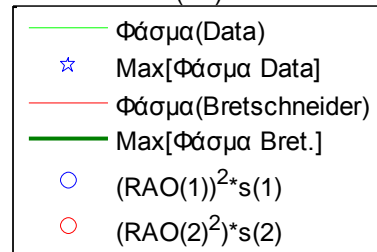
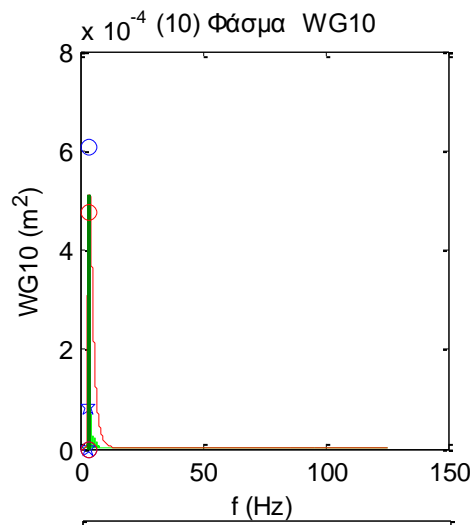
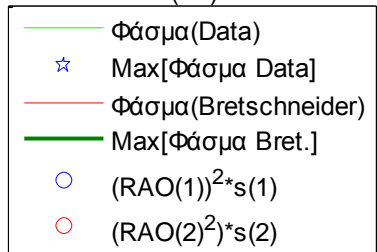
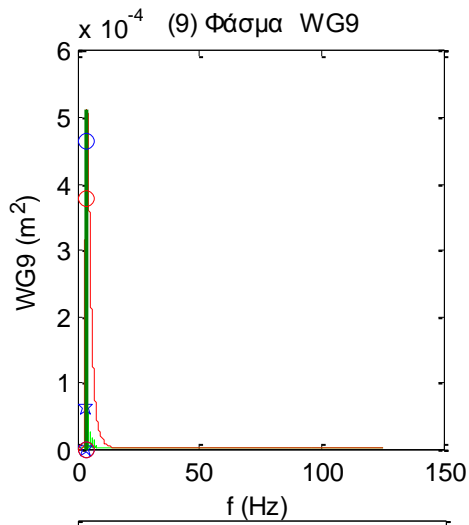
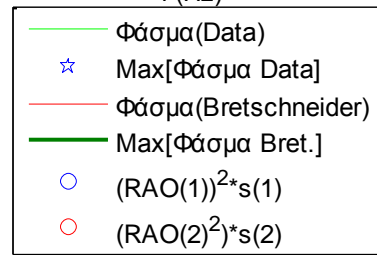
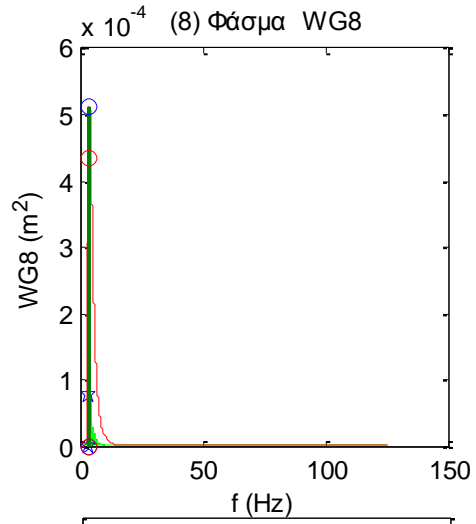
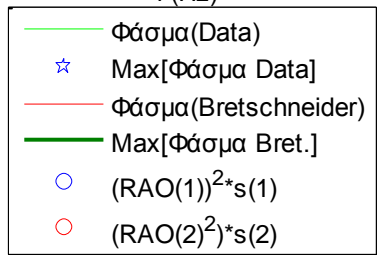
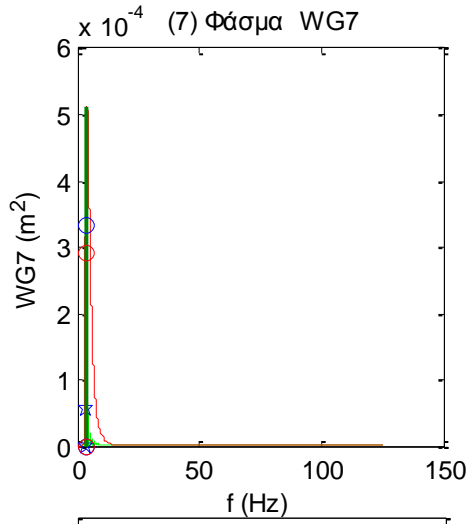


**Σχήματα 2.6.3.6** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

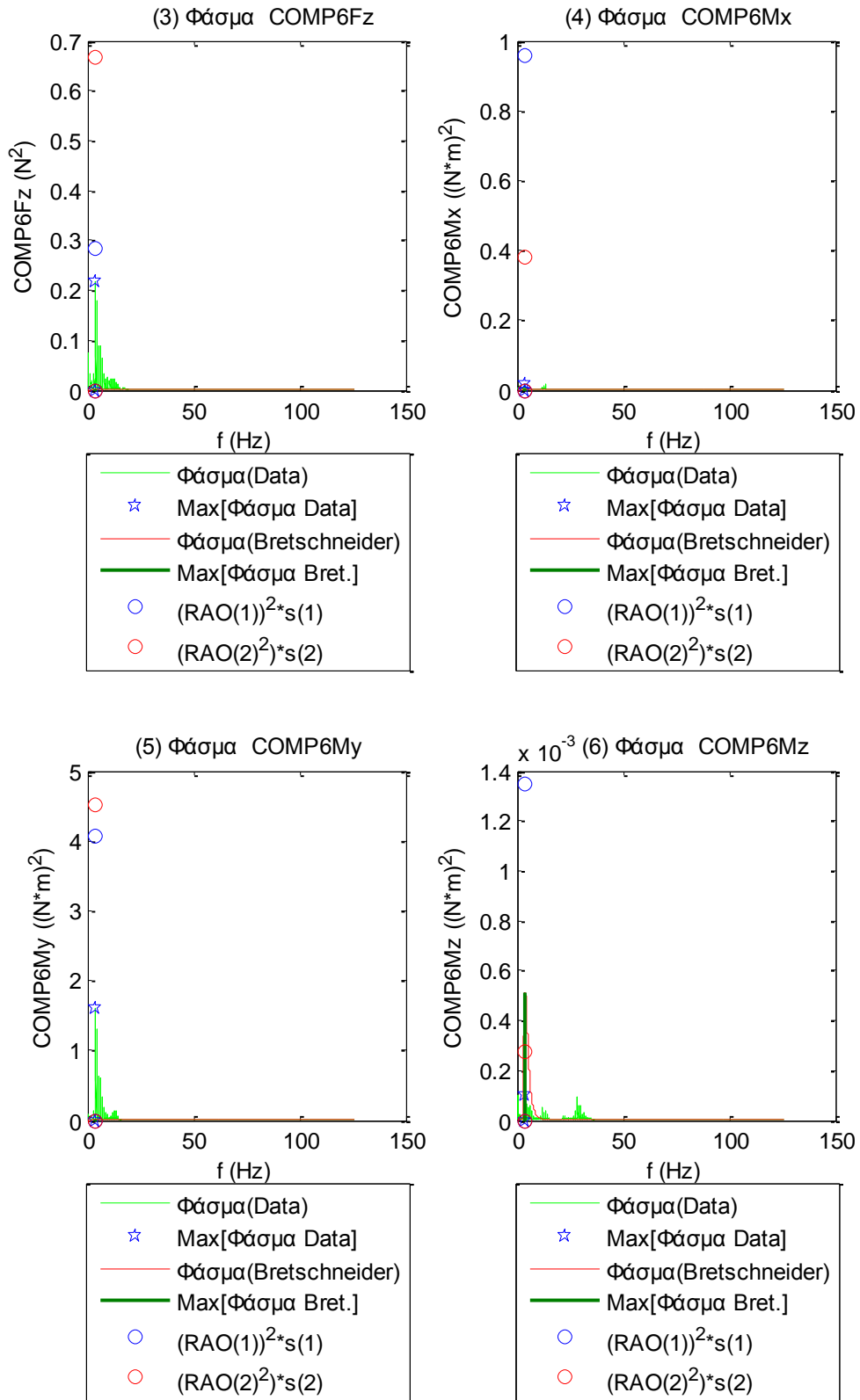




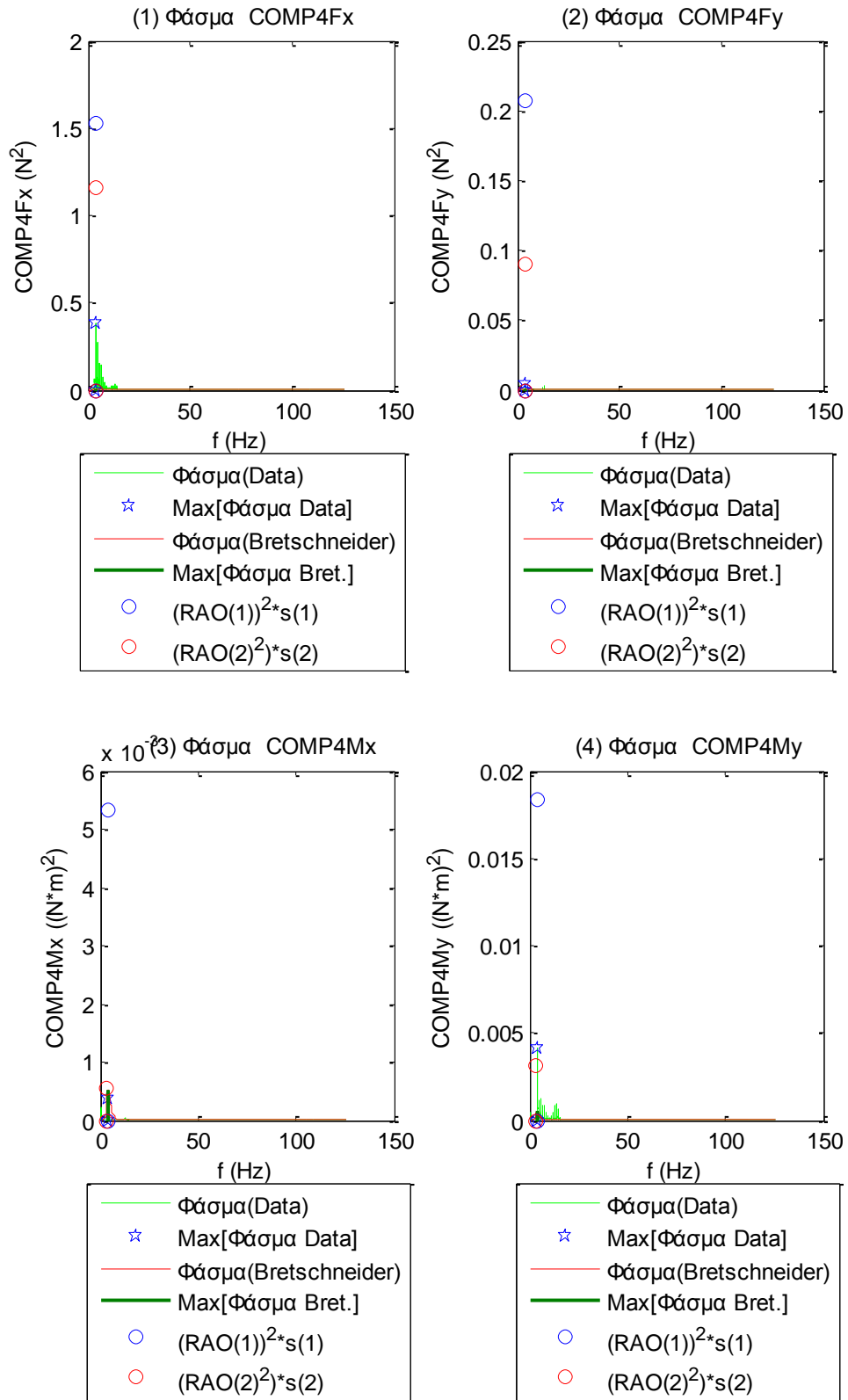




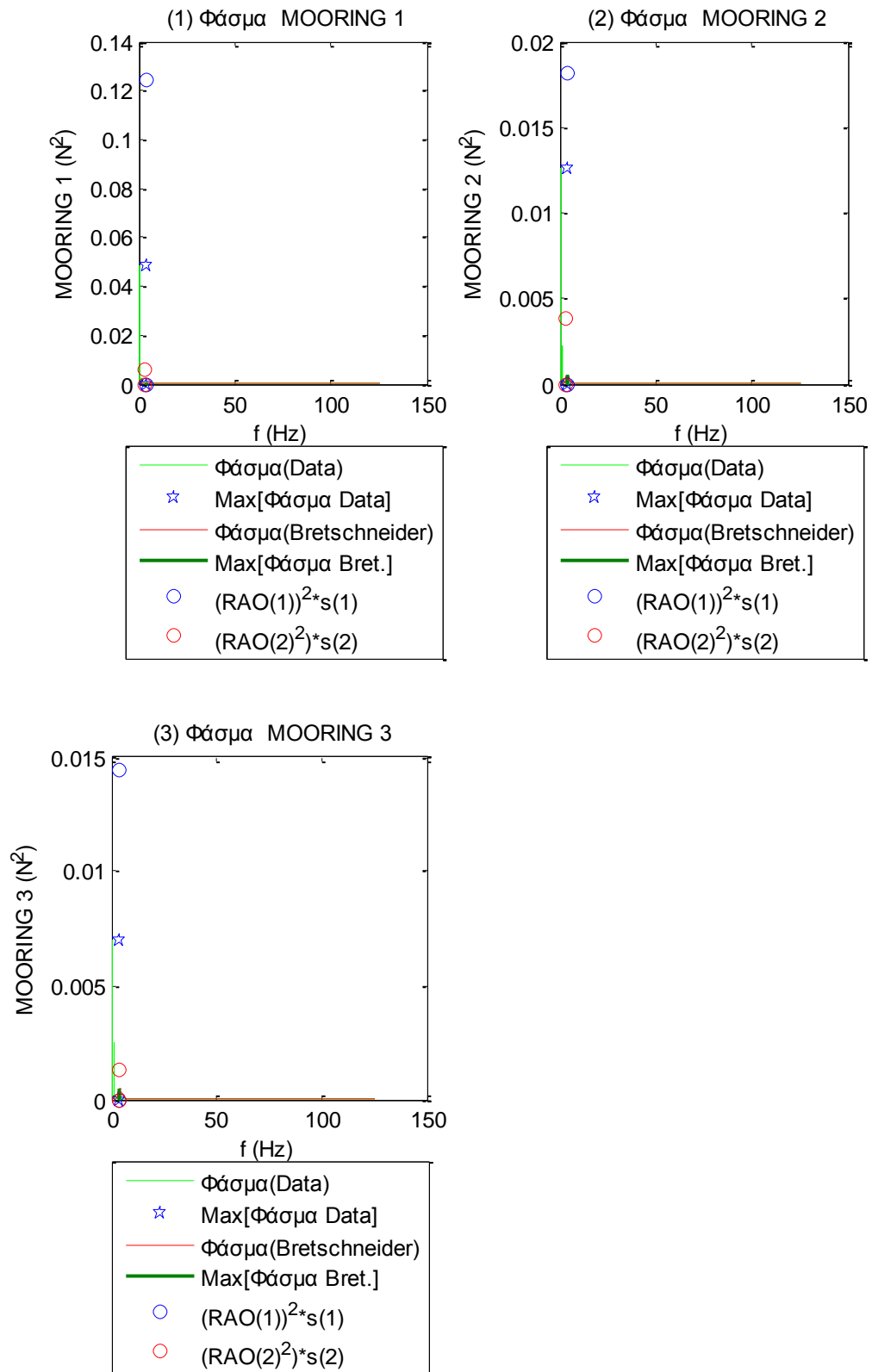




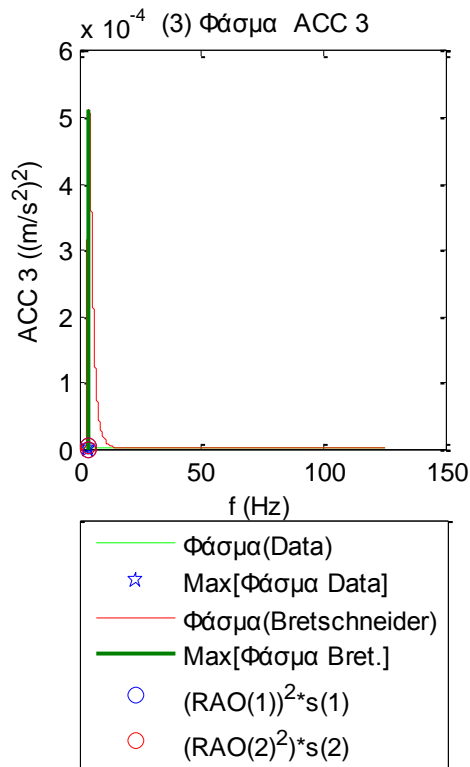
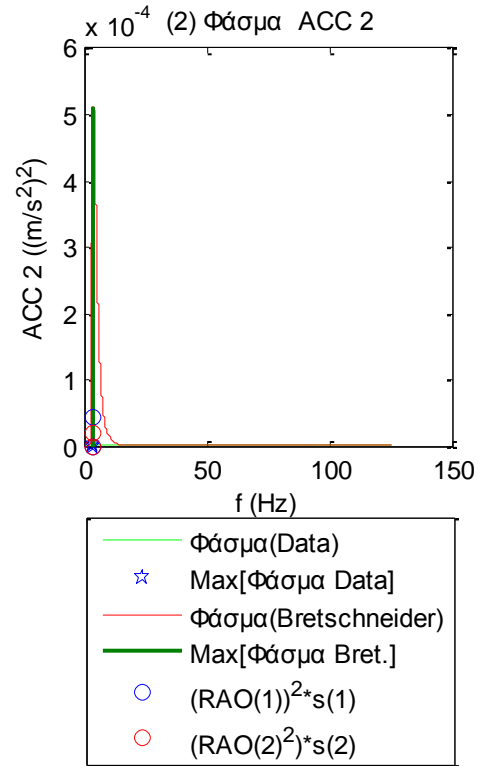
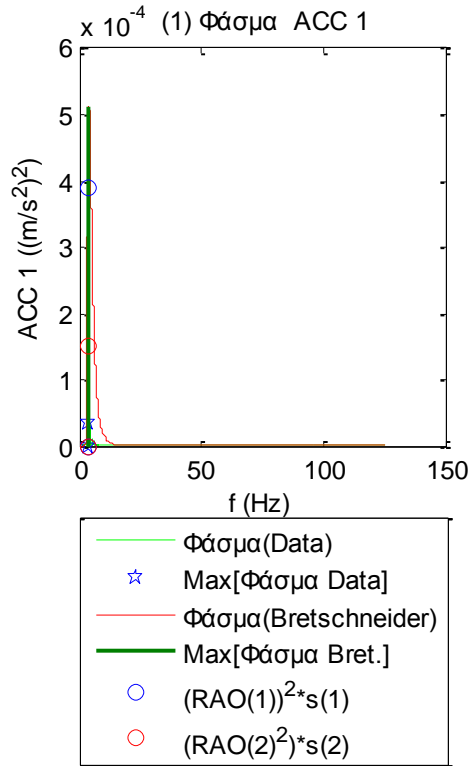
**Σχήματα 2.6.4.2** Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



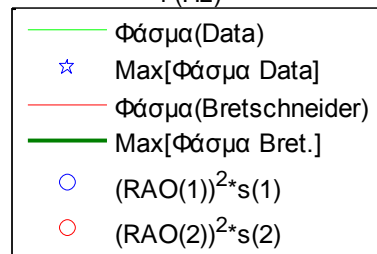
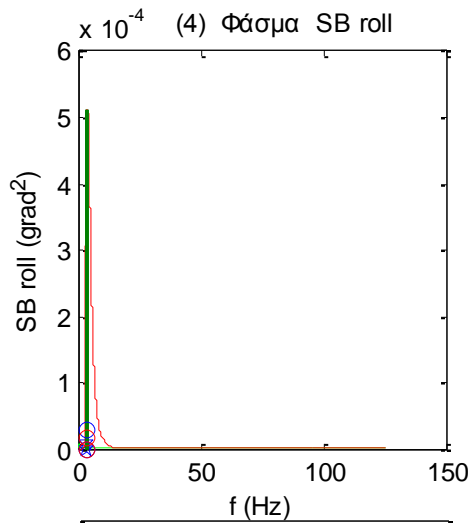
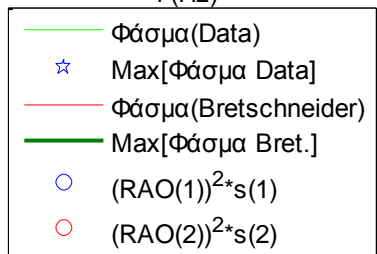
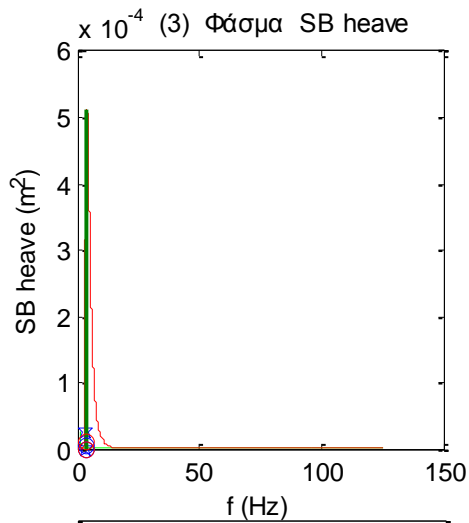
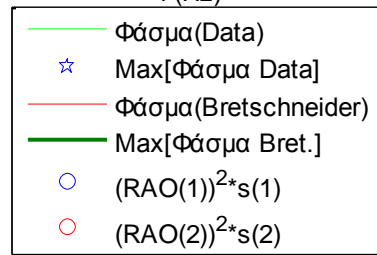
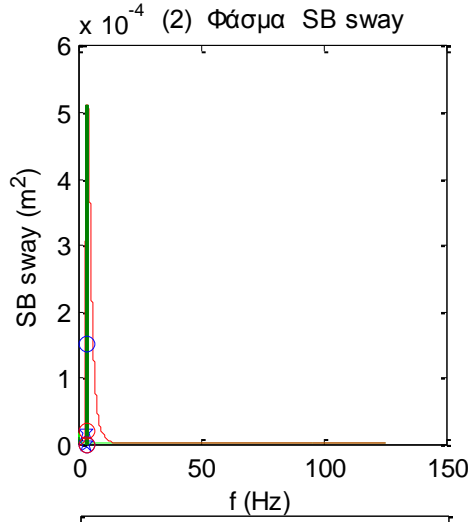
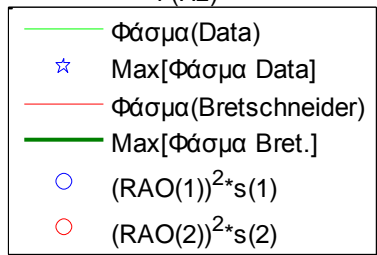
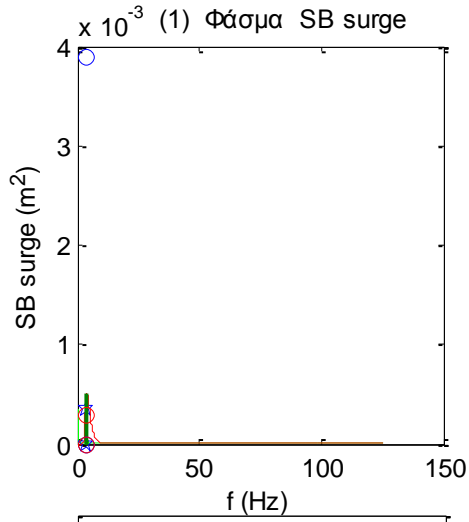
**Σχήματα 2.6.4.3** Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

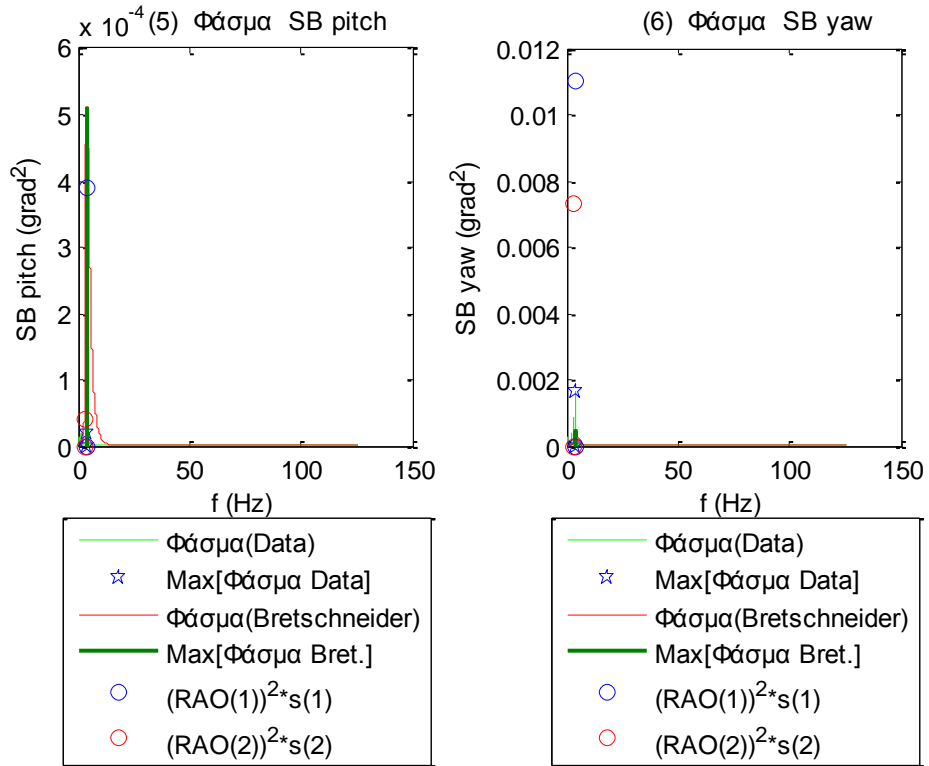


Σχήματα 2.6.4.4 (1-3) Φάσματα για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

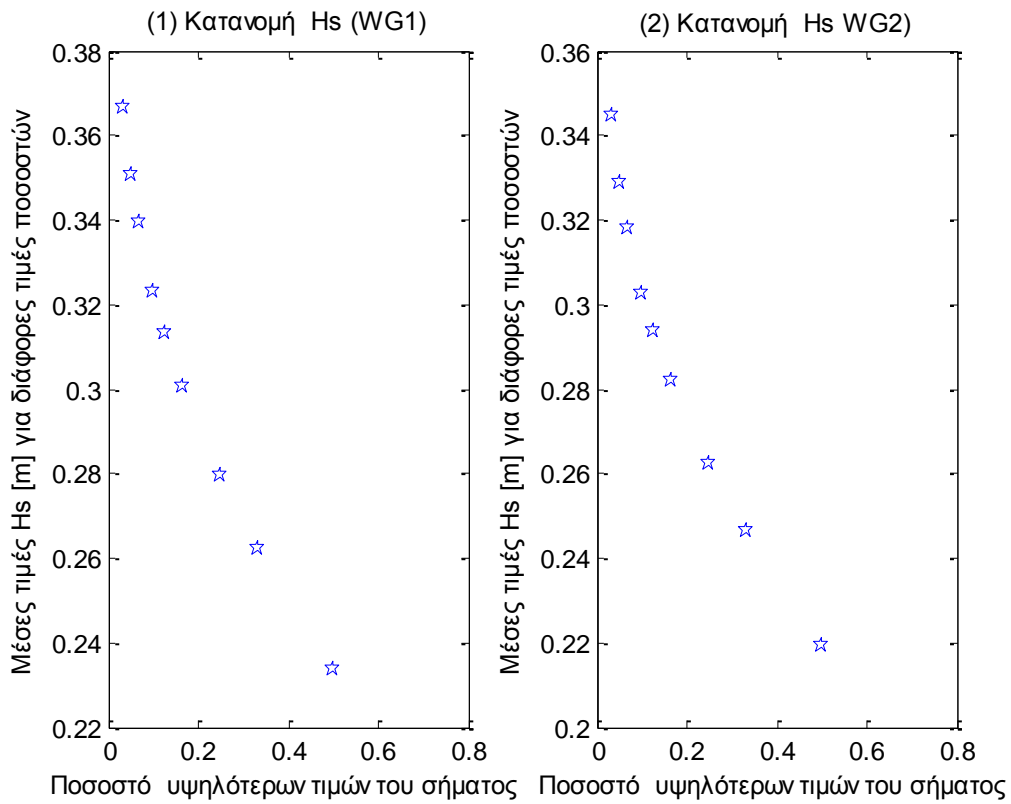


**Σχήματα 2.6.4.5 (1-3)** Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

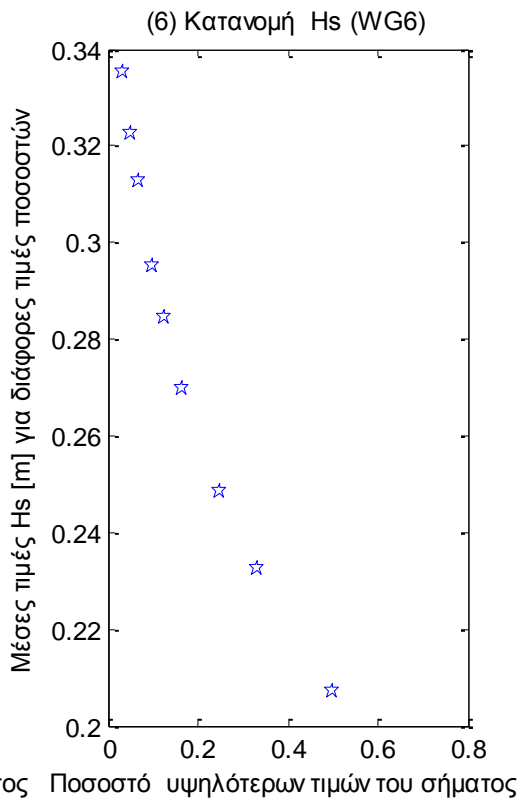
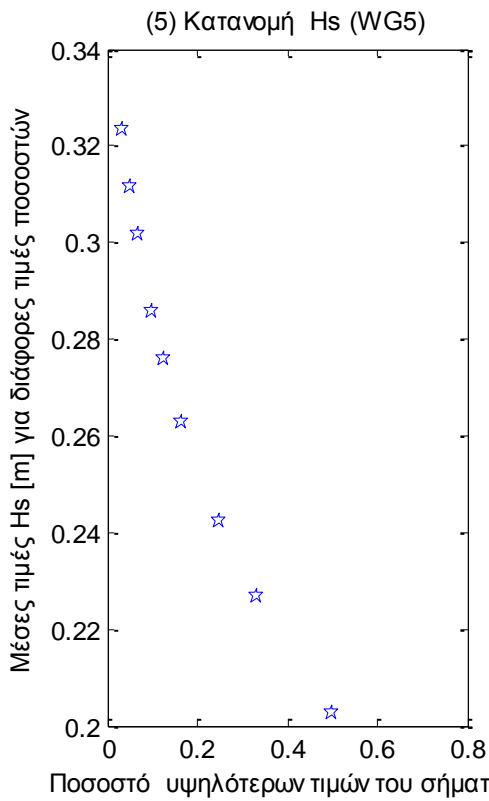
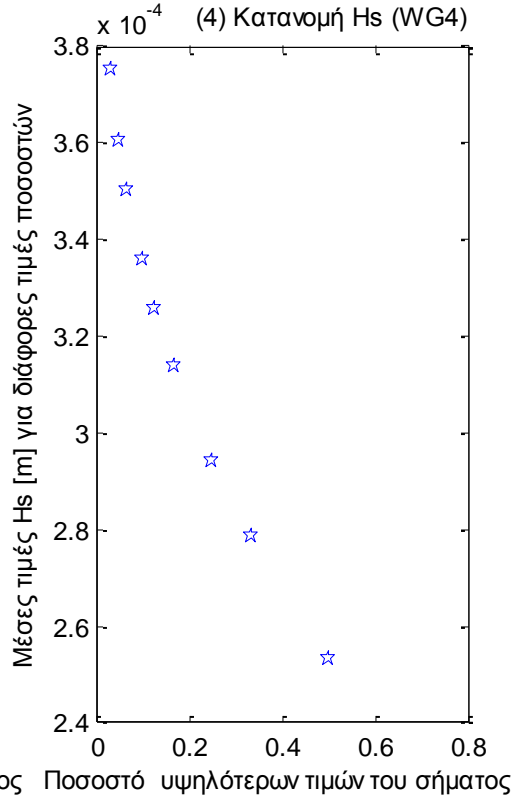
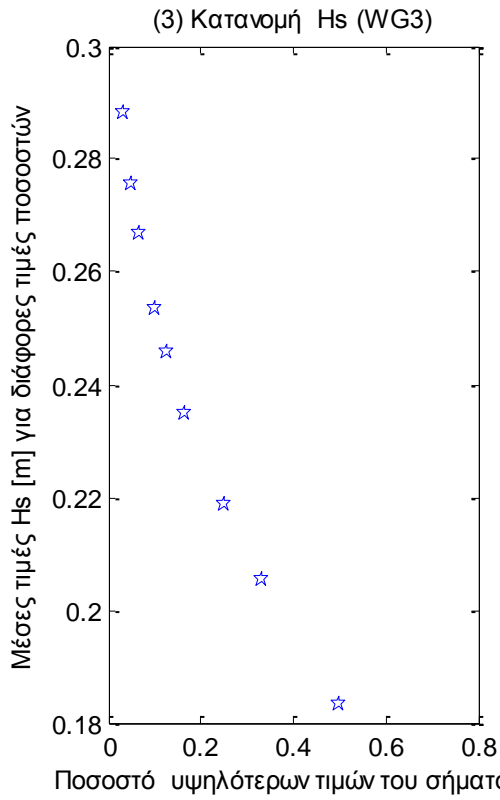


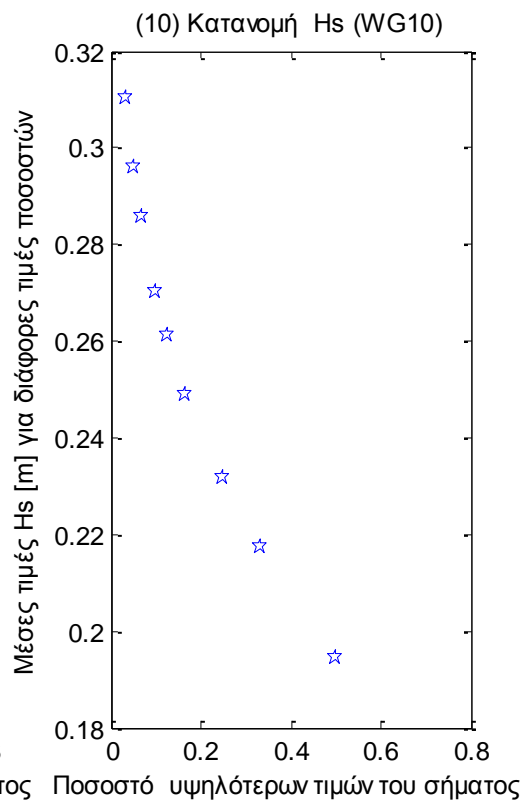
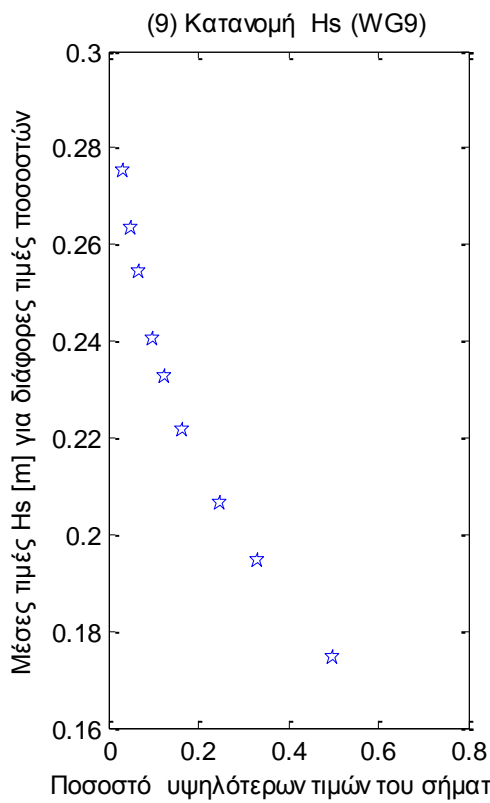
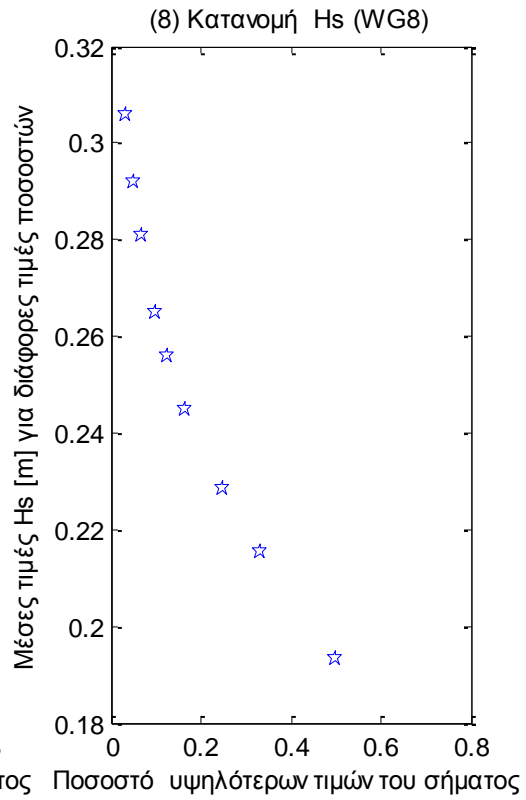
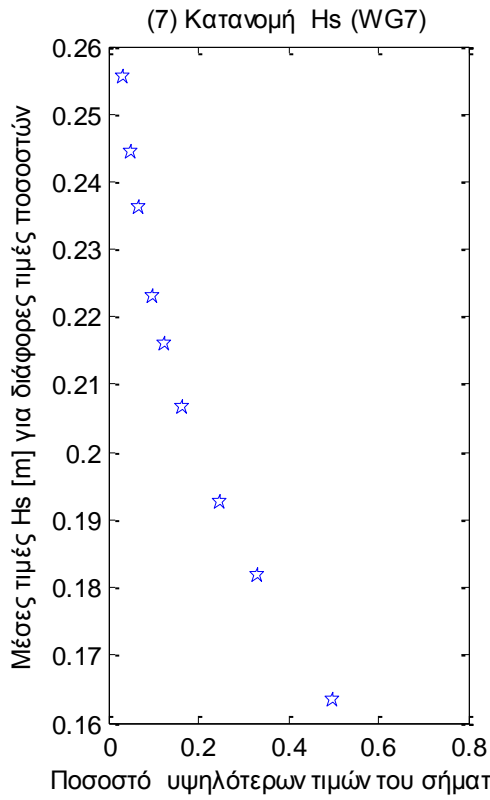


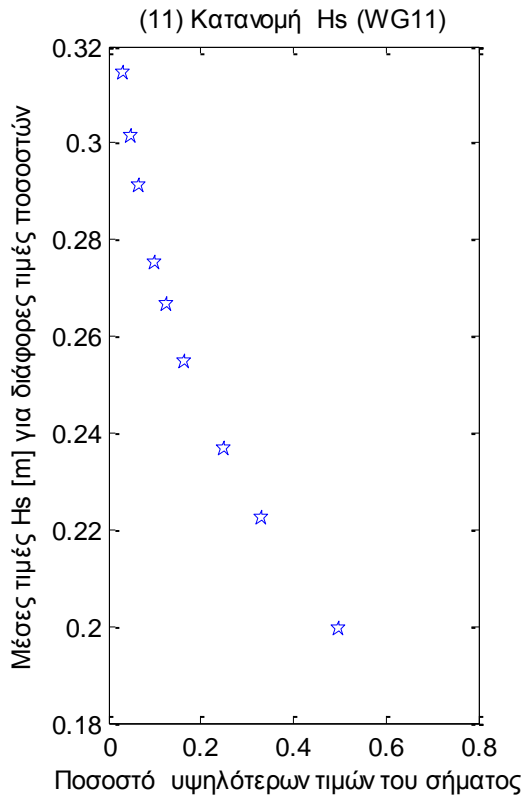
**Σχήματα 2.6.4.6** Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



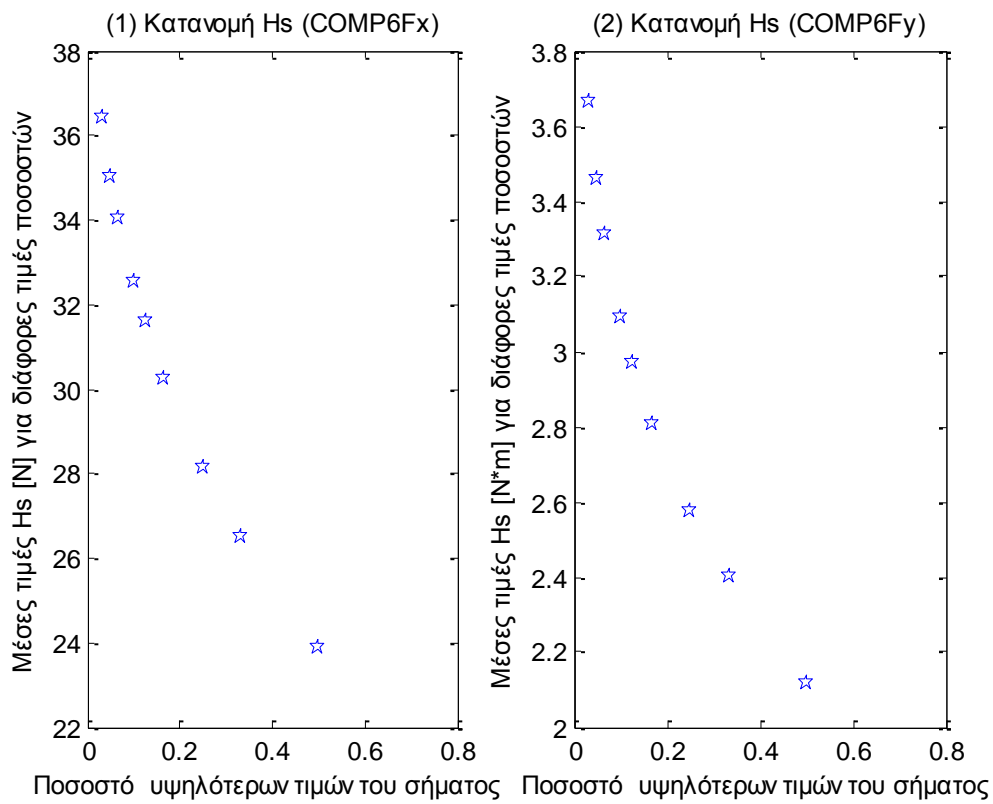


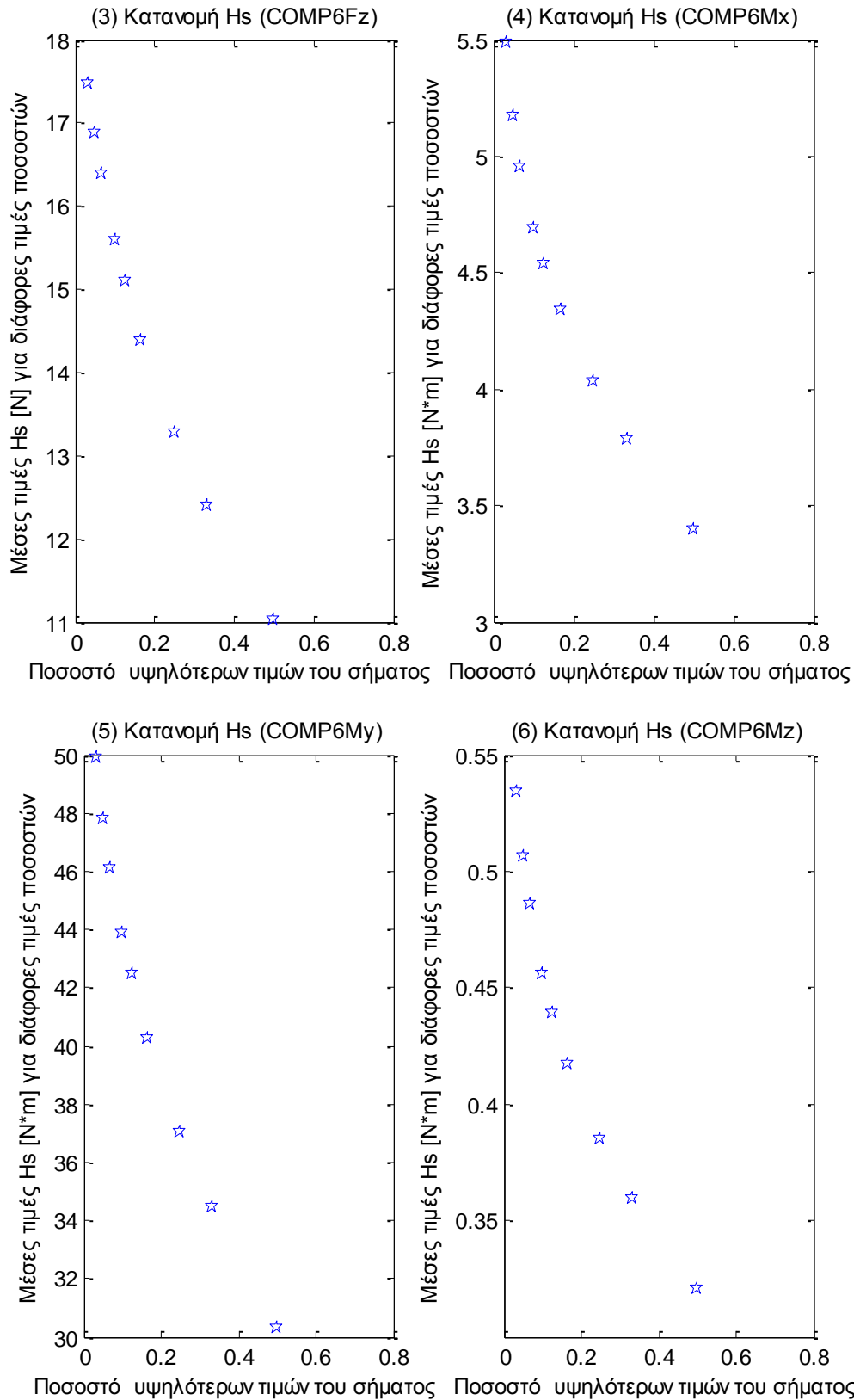




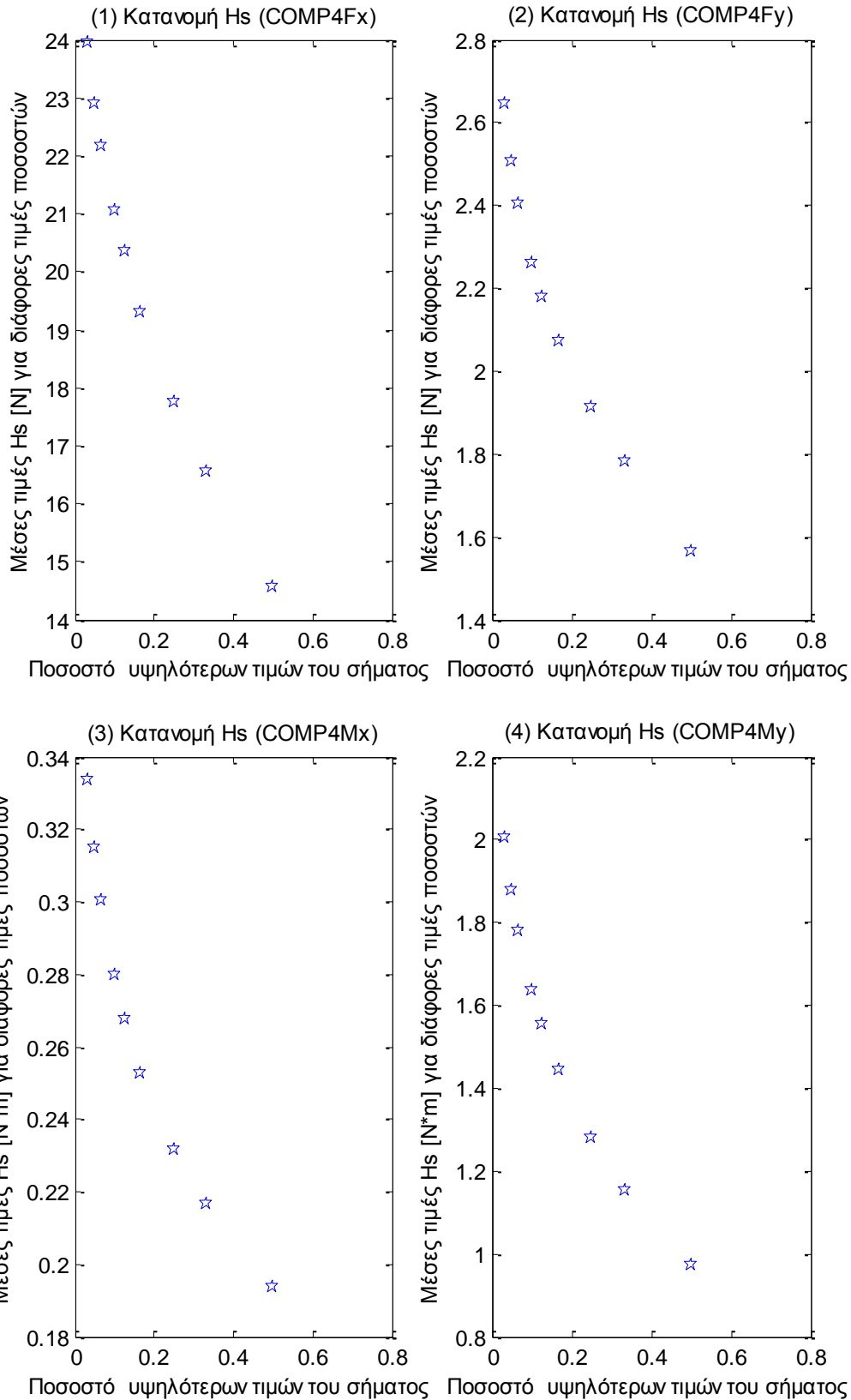


**Σχήματα 2.6.5.1 (1-11)** Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος

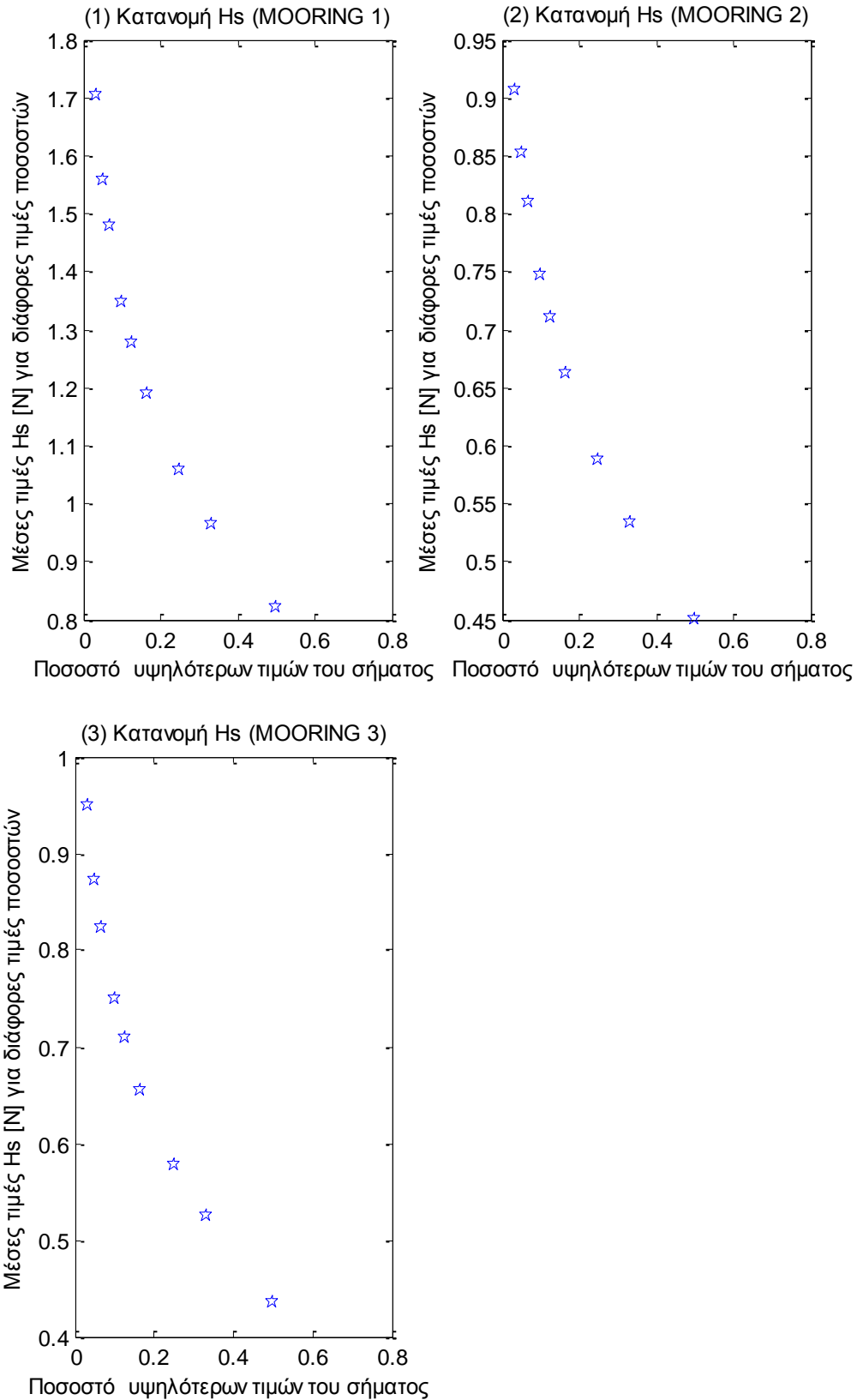




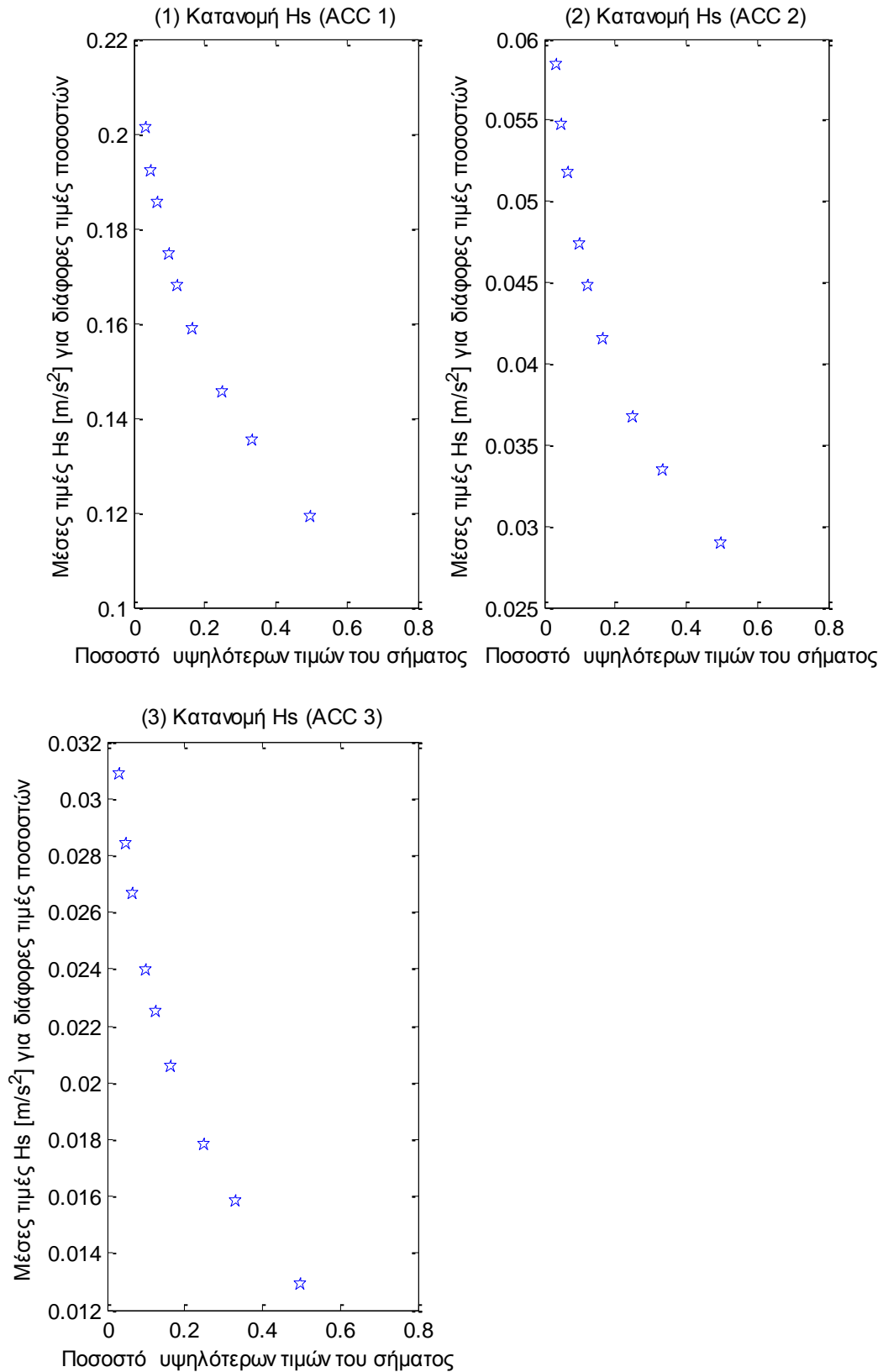
**Σχήματα 2.6.5.2** Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



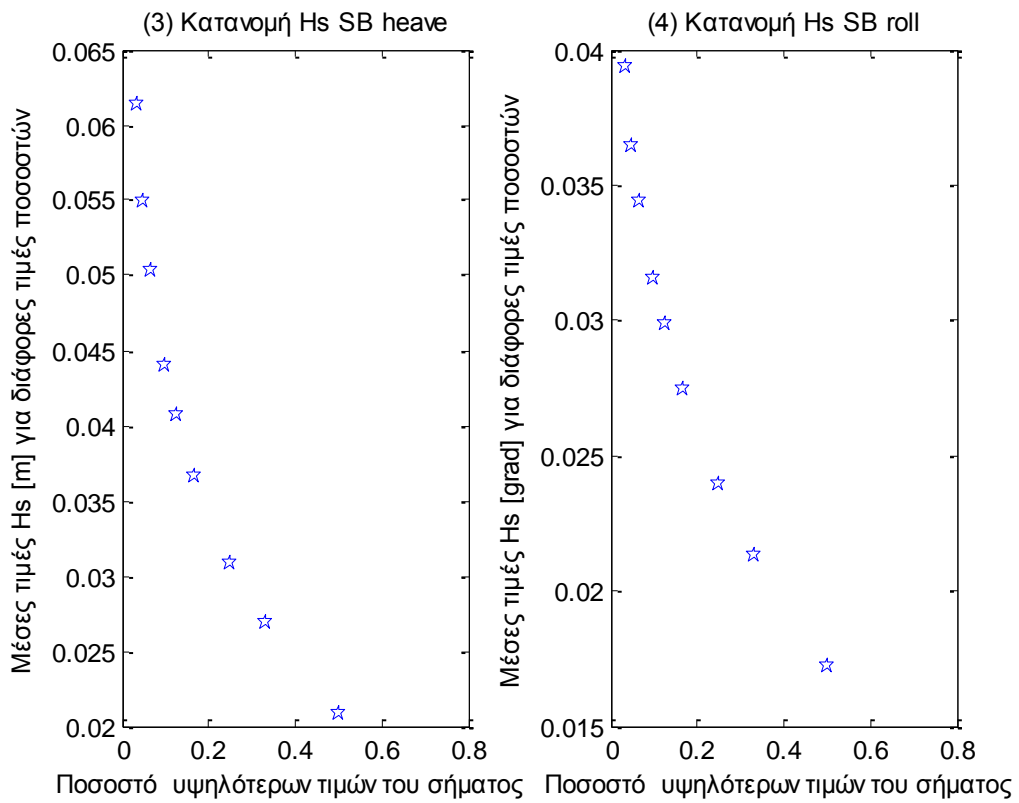
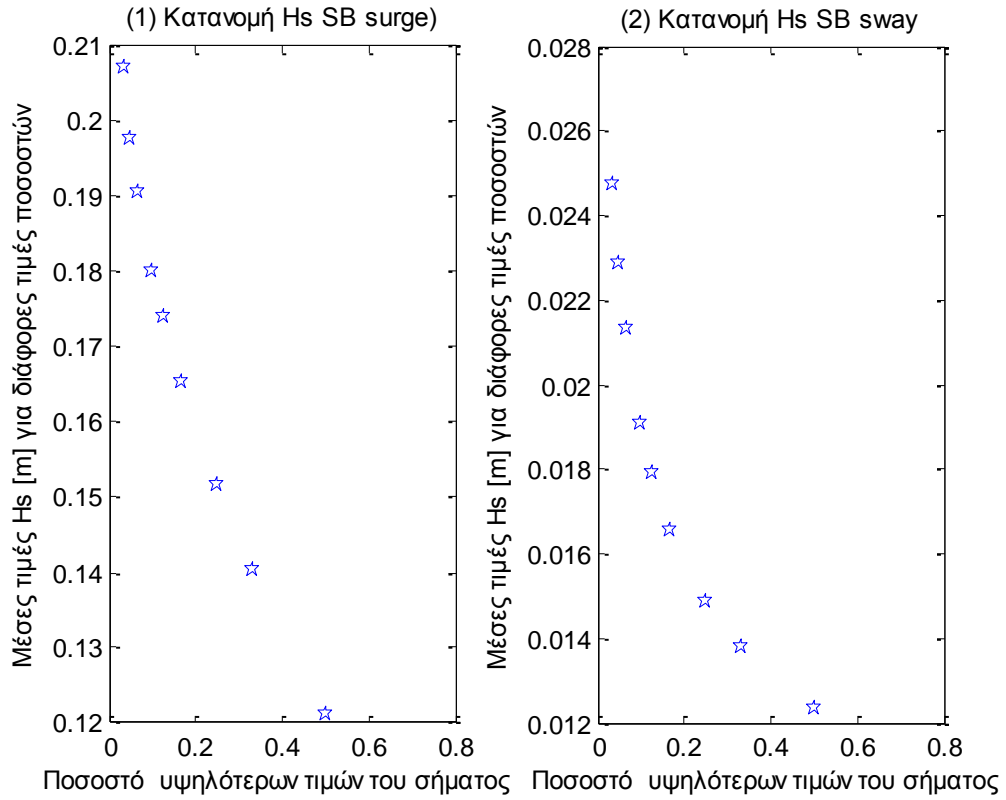
**Σχήματα 2.6.5.3** Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



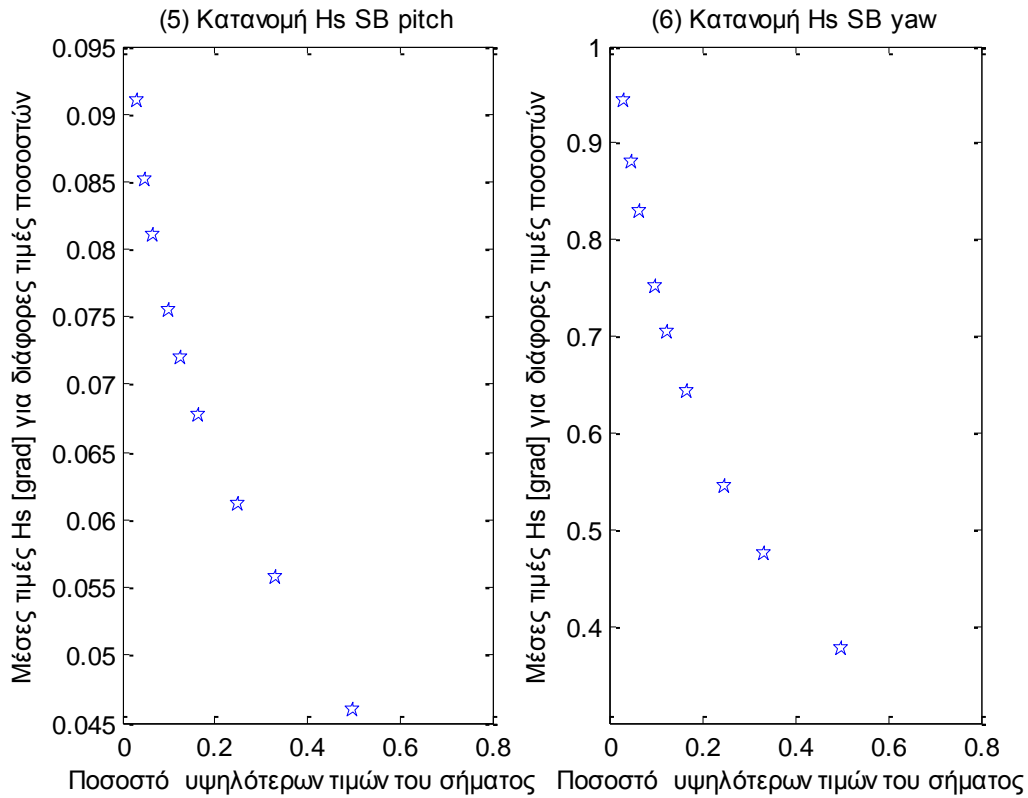
**Σχήματα 2.6.5.4 (1-4)** Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης



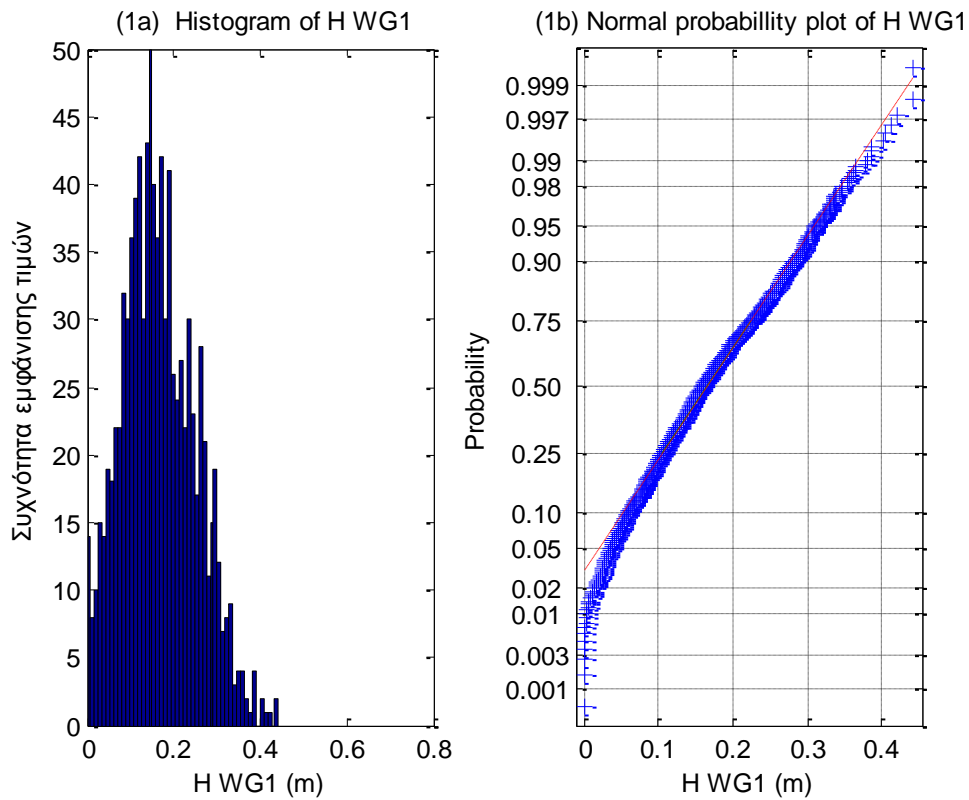
**Σχήματα 2.6.5.5 (1-3)** Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



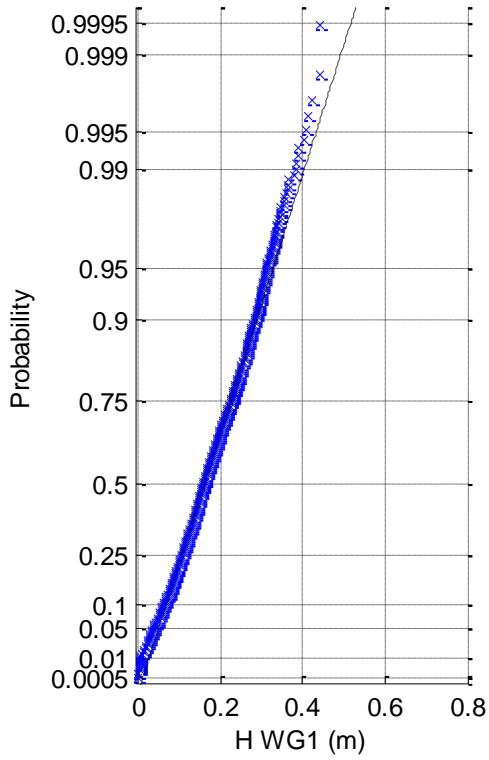




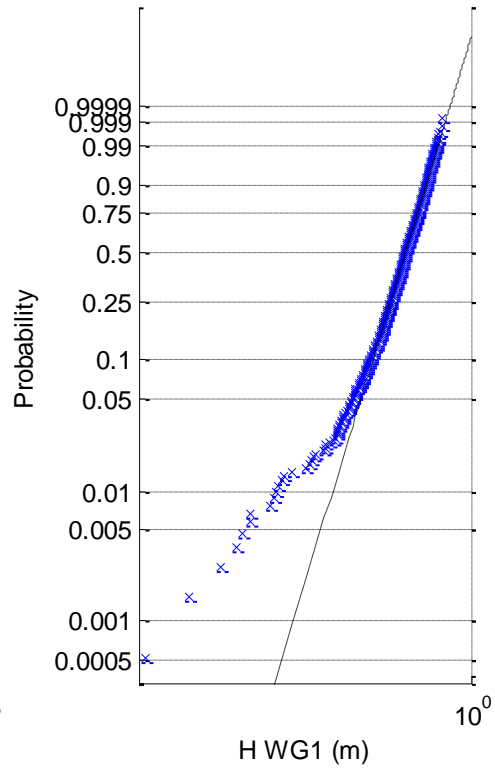
**Σχήματα 2.6.5.6** Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



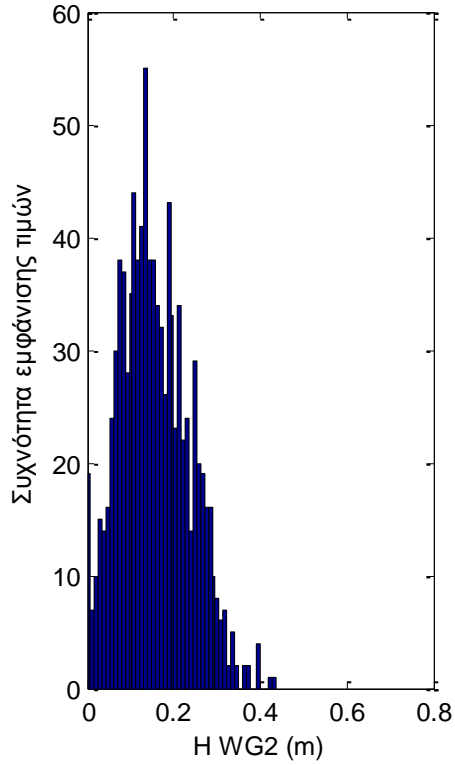
(1c) Rayleigh probability plot of H WG1



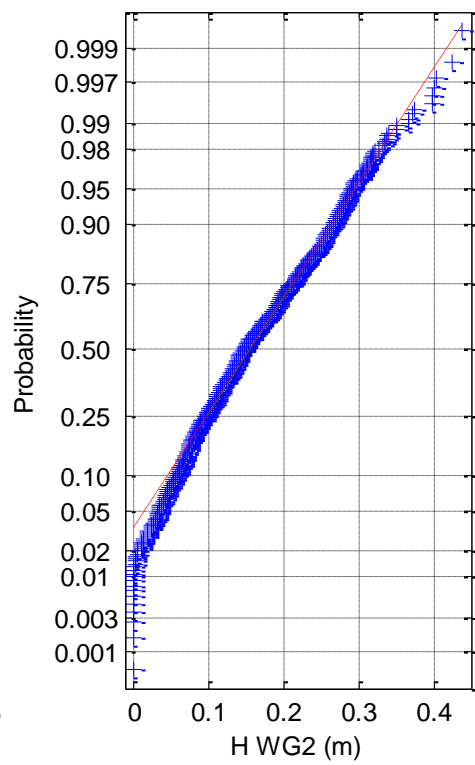
(1d) Weibull probability plot of H WG1



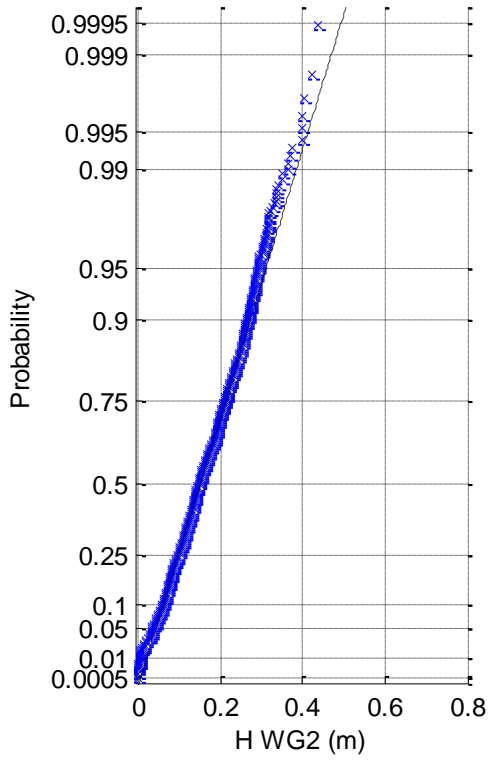
(2a) Histogram of H WG2



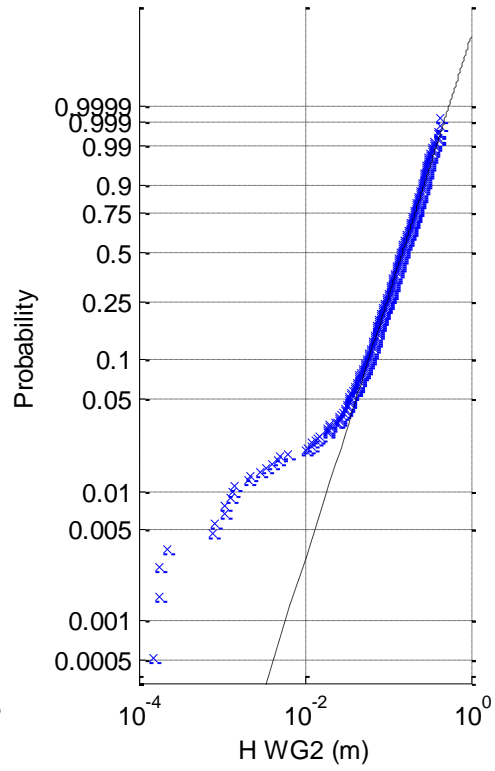
(2b) Normal probability plot of H WG2



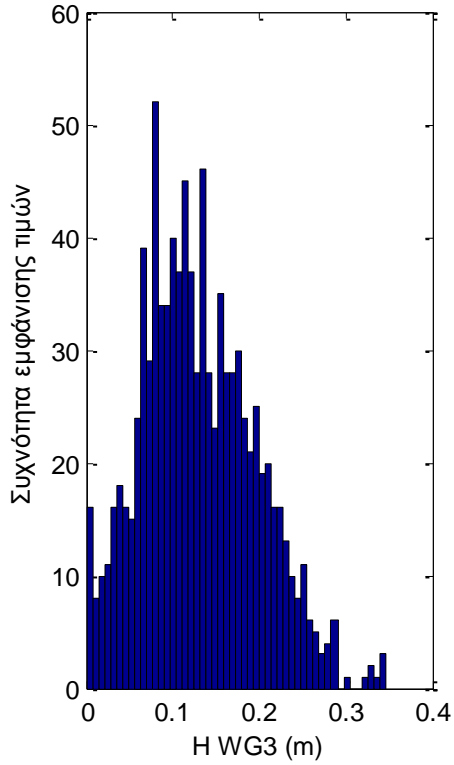
(2c) Rayleigh probability plot of H WG2



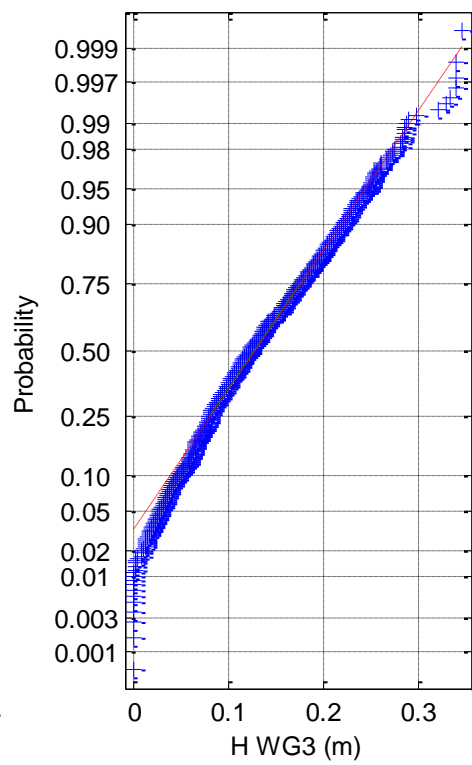
(2d) Weibull probability plot of H WG2



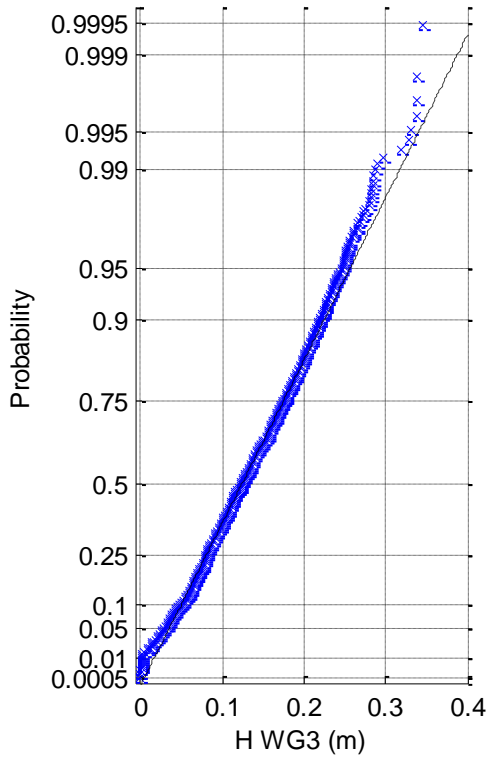
(3a) Histogram of H WG3



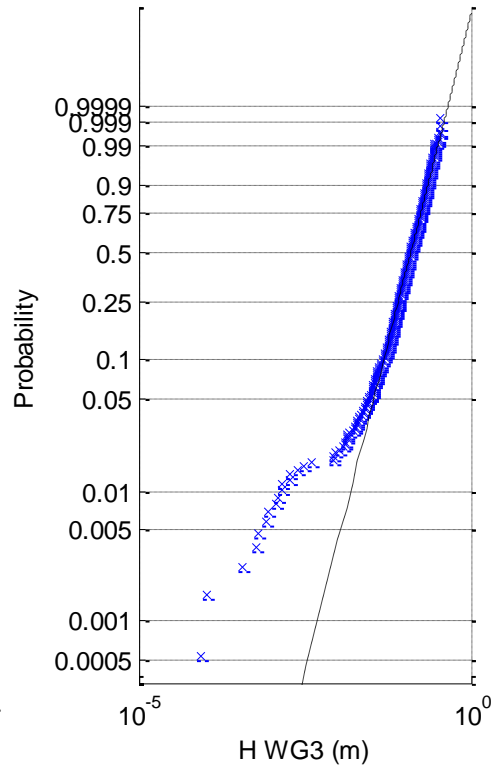
(3b) Normal probability plot of H WG3



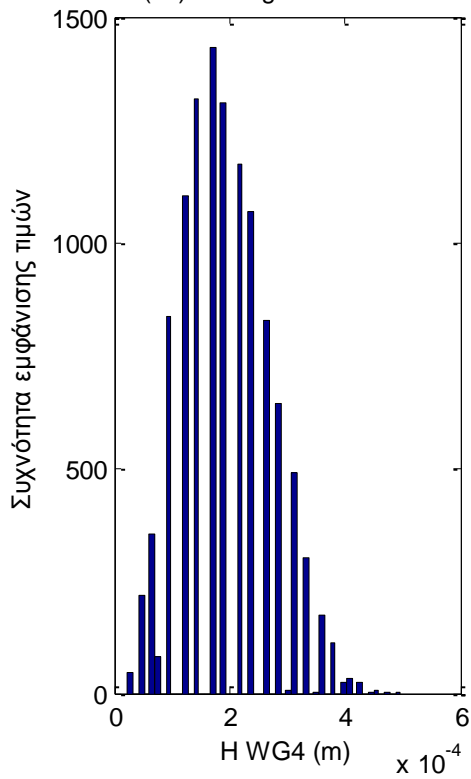
(3c) Rayleigh probability plot of H WG3



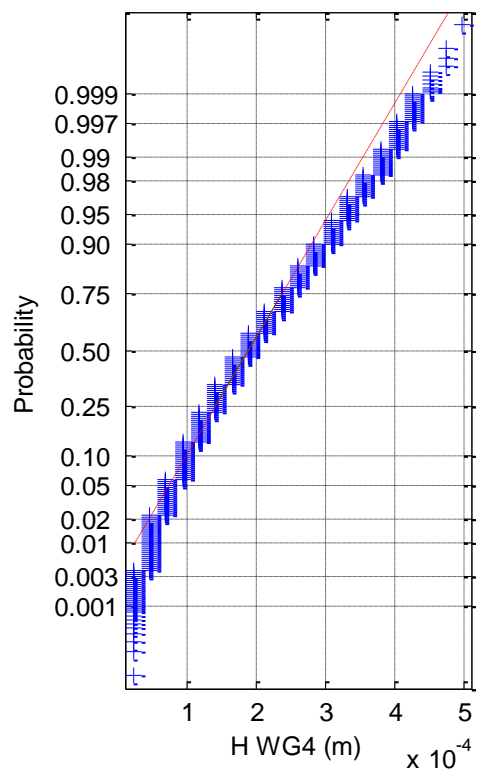
(3d) Weibull probability plot of H WG3



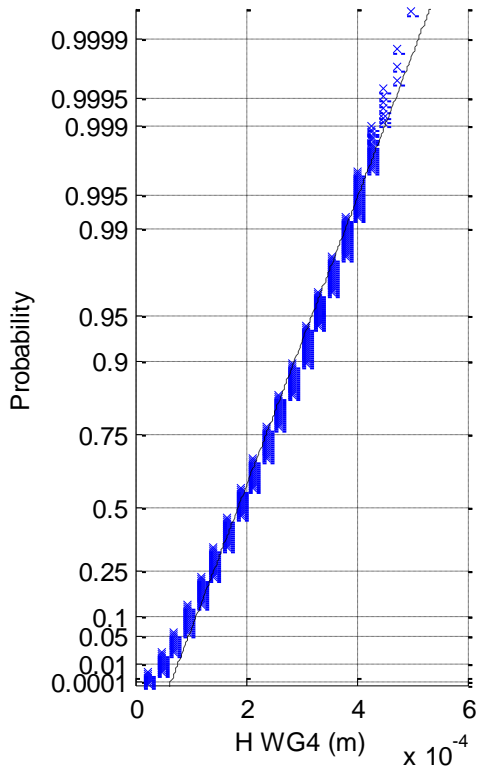
(4a) Histogram of H WG4



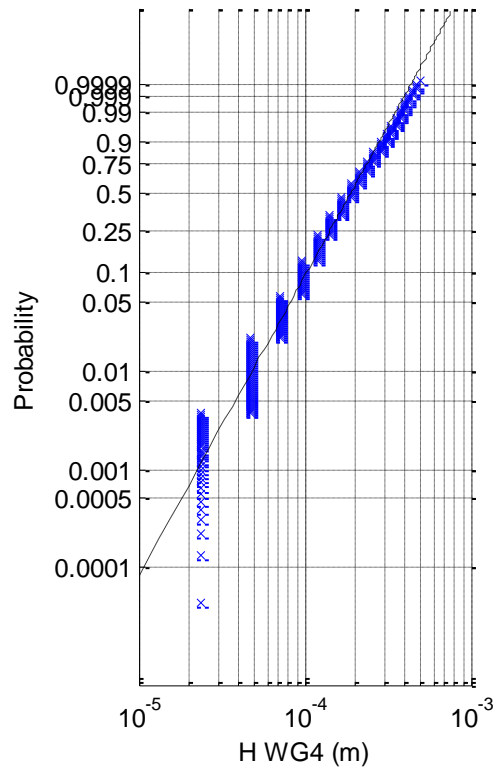
(4b) Normal probability plot of H WG4



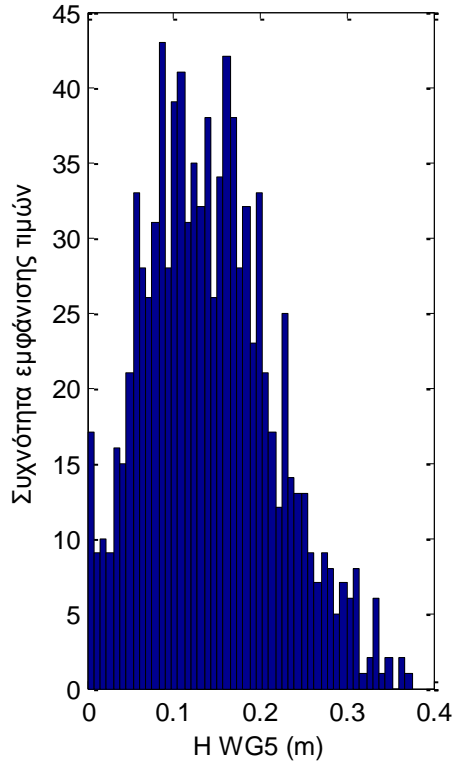
(4c) Rayleigh probability plot of H WG4



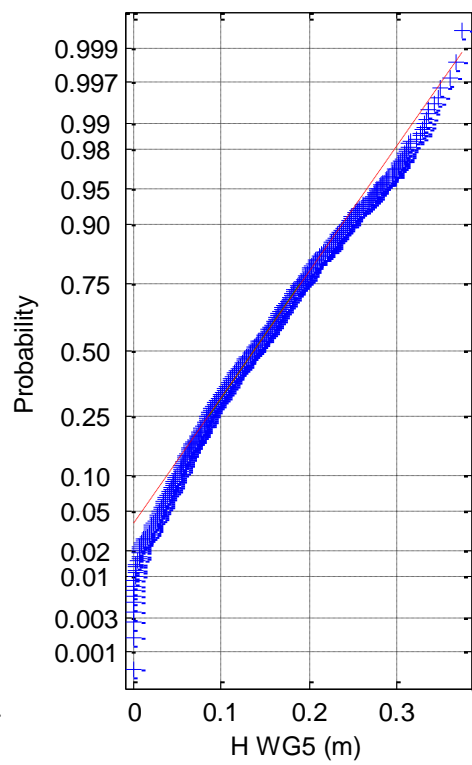
(4d) Weibull probability plot of H WG4



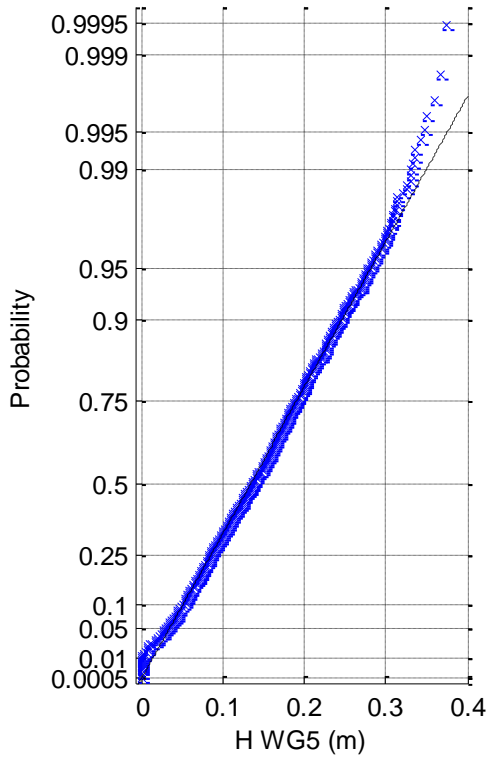
(5a) Histogram of H WG5



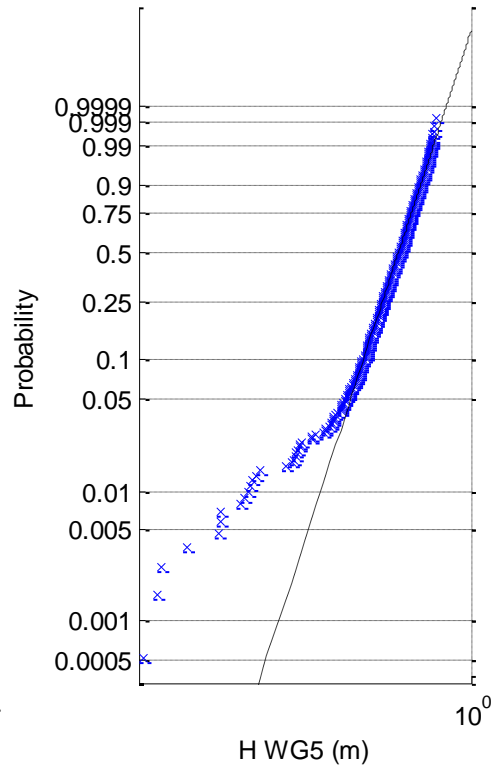
(5b) Normal probability plot of H WG5



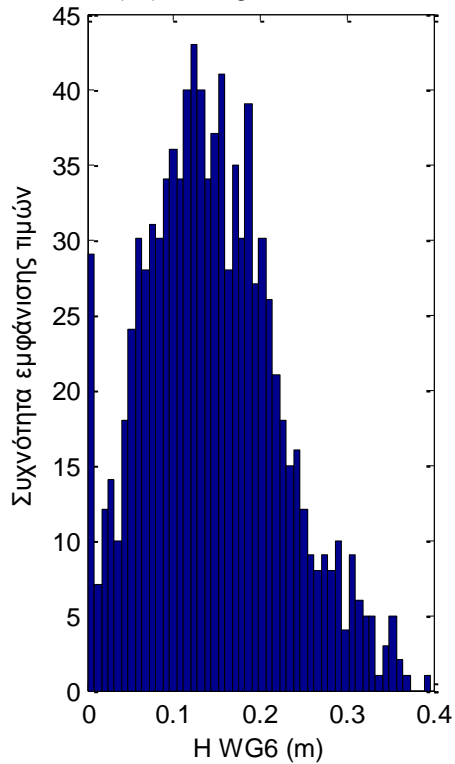
(5c) Rayleigh probability plot of H WG5



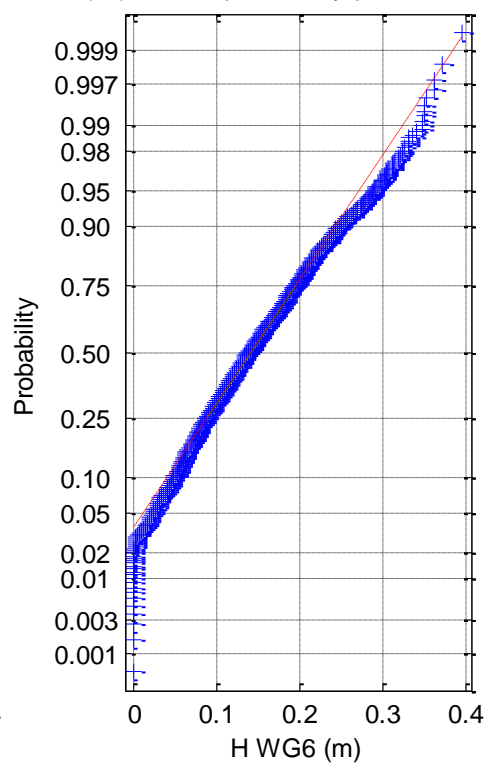
(5d) Weibull probability plot of H WG5



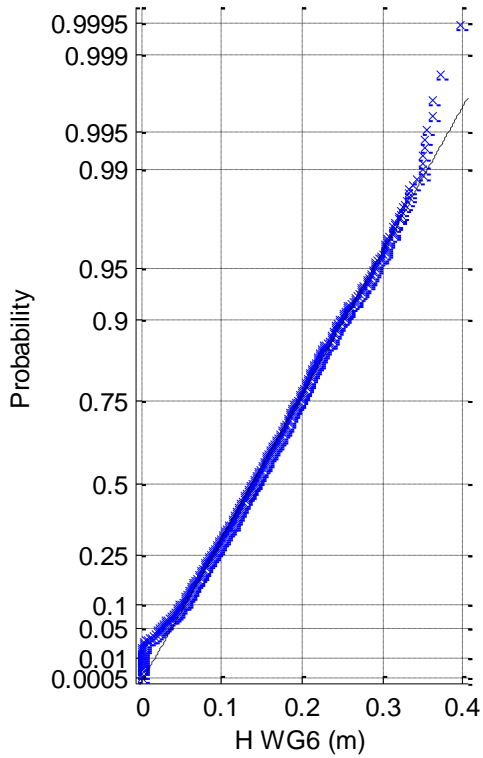
(6a) Histogram of H WG6



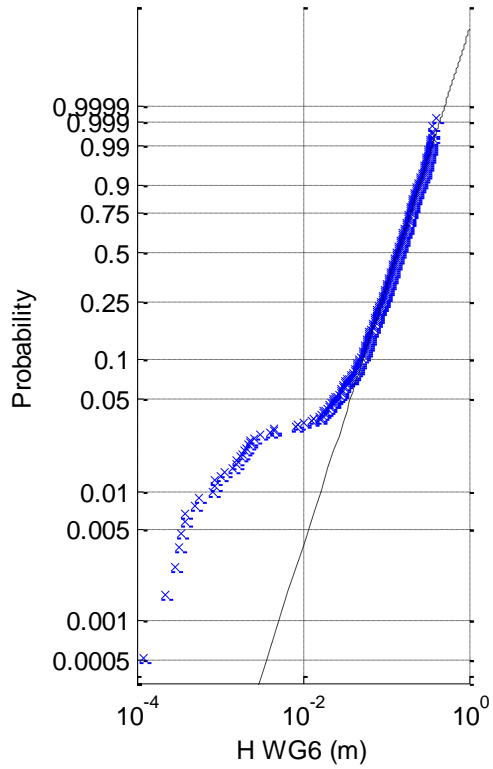
(6b) Normal probability plot of H WG6



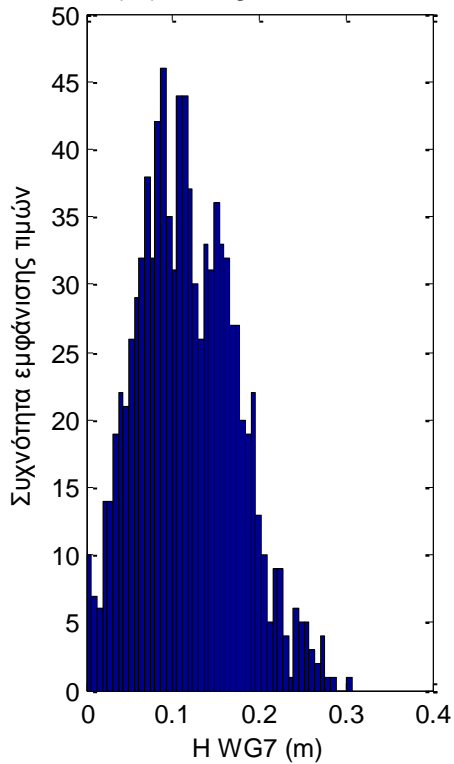
(6c) Rayleigh probability plot of H WG6



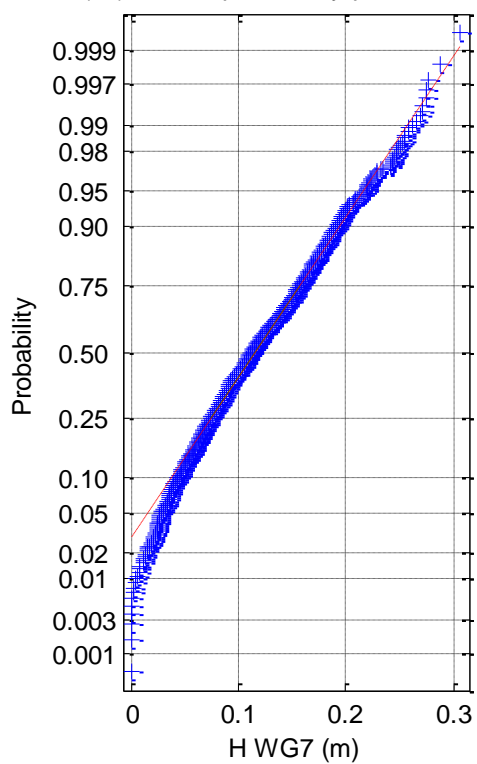
(6d) Weibull probability plot of H WG6



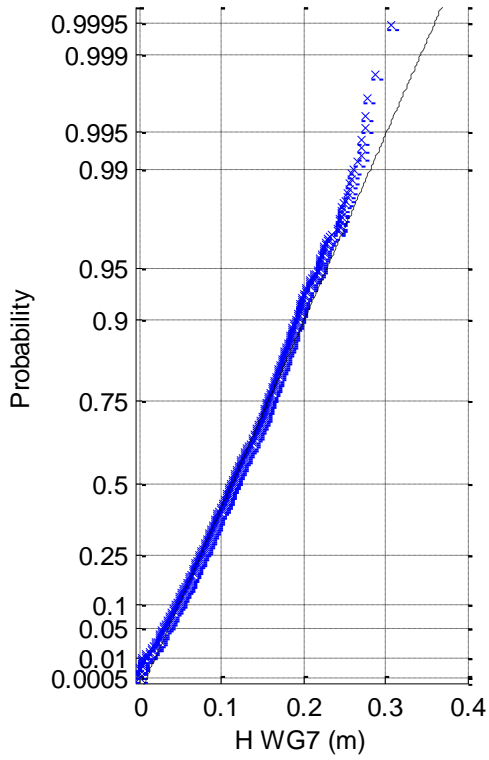
(7a) Histogram of H WG7



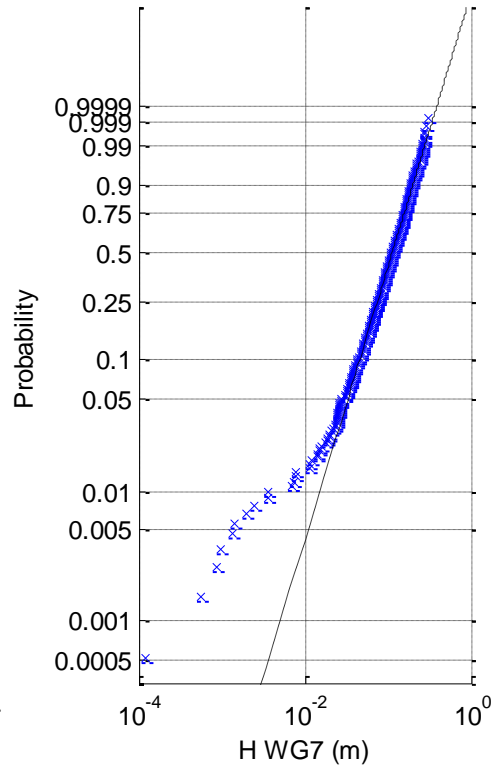
(7b) Normal probability plot of H WG7



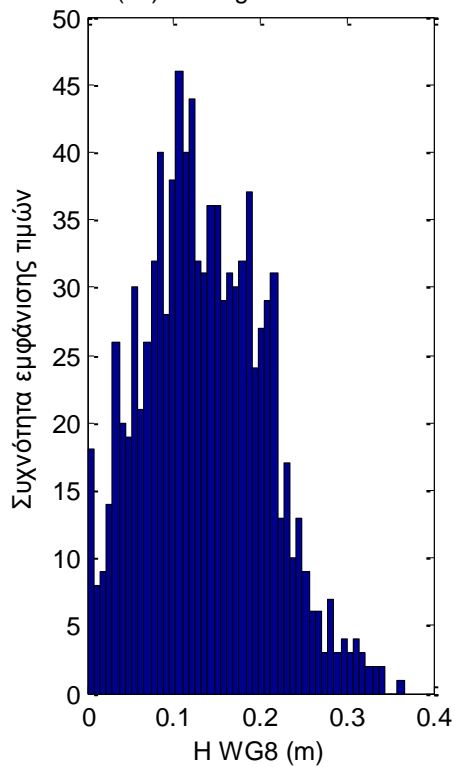
(7c) Rayleigh probability plot of H WG7



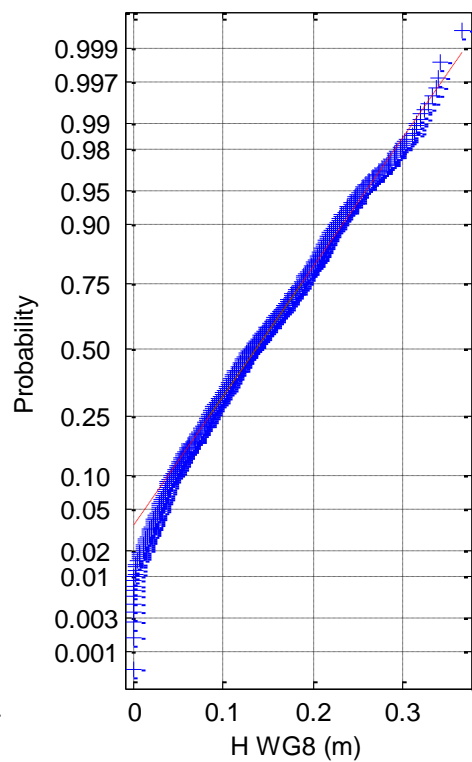
(7d) Weibull probability plot of H WG7



(8a) Histogram of H WG8

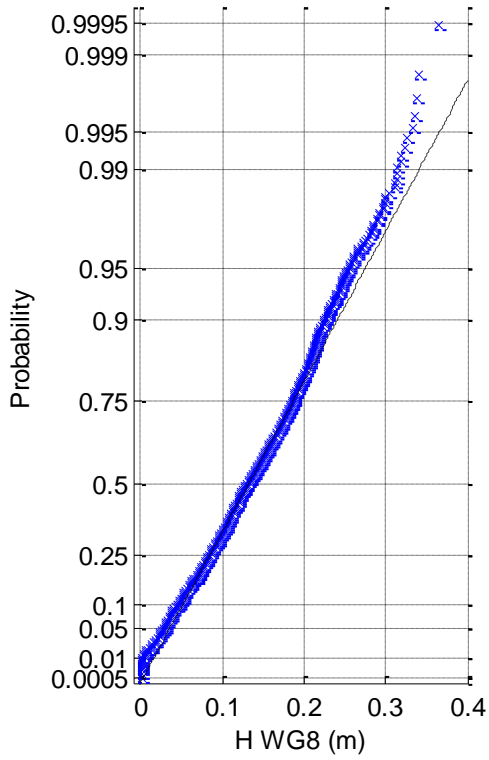


(8b) Normal probability plot of H WG8

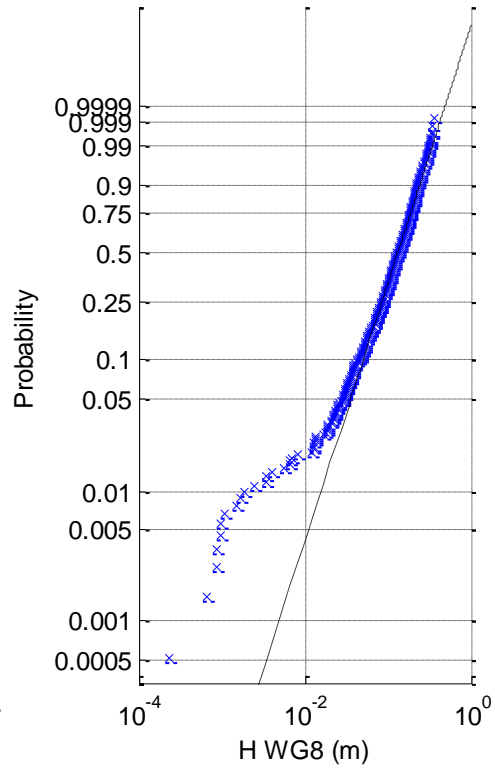




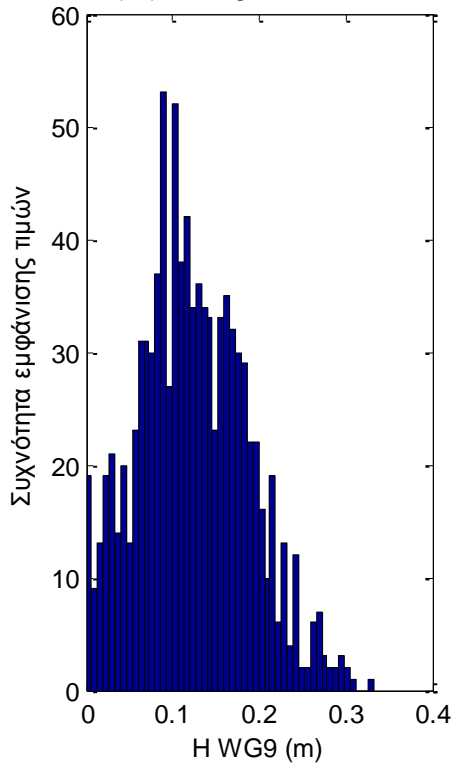
(8c) Rayleigh probability plot of H WG8



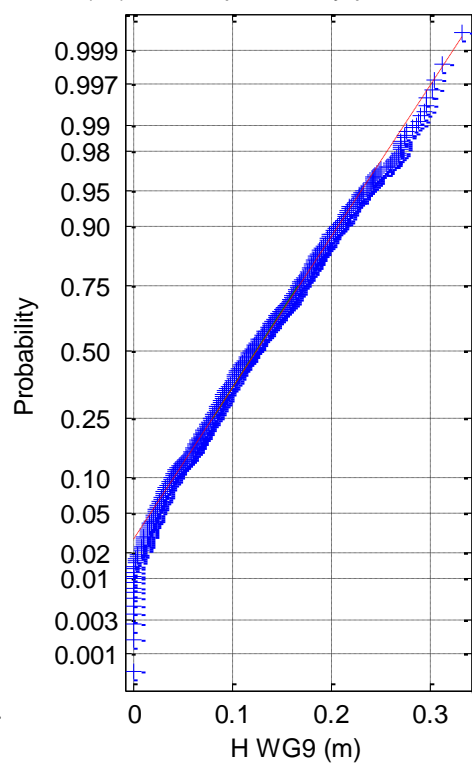
(8d) Weibull probability plot of H WG8



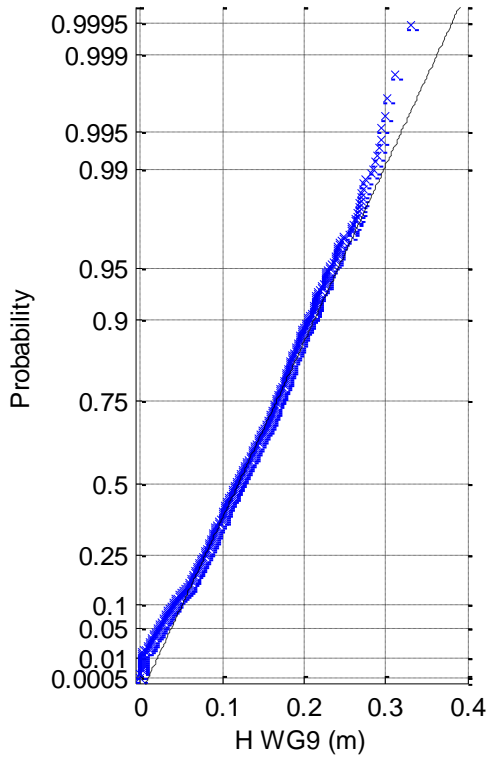
(9a) Histogram of H WG9



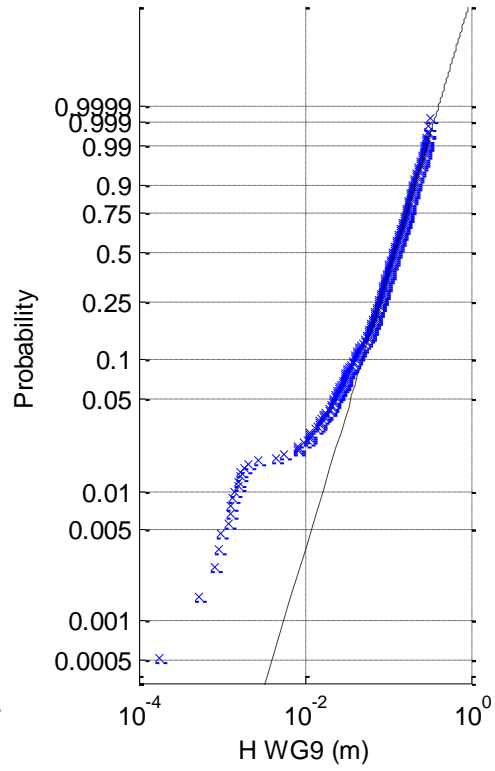
(9b) Normal probability plot of H WG9



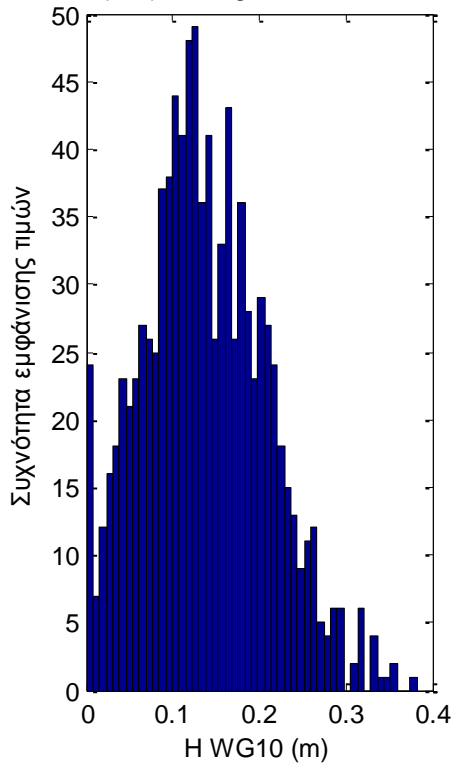
(9c) Rayleigh probability plot of H WG9



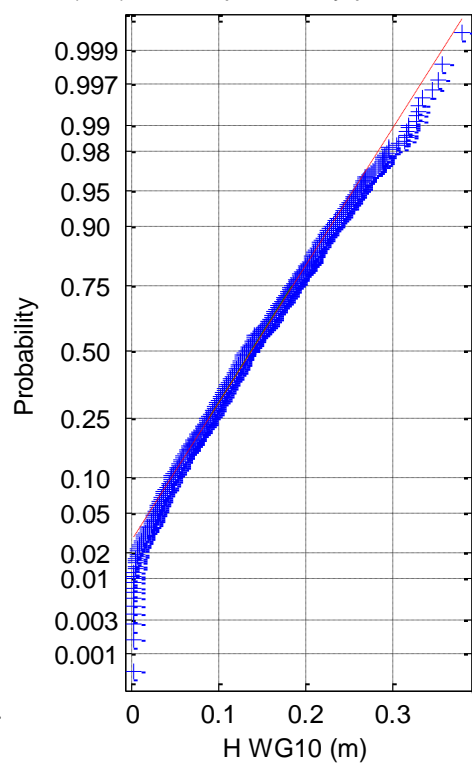
(9d) Weibull probability plot of H WG9



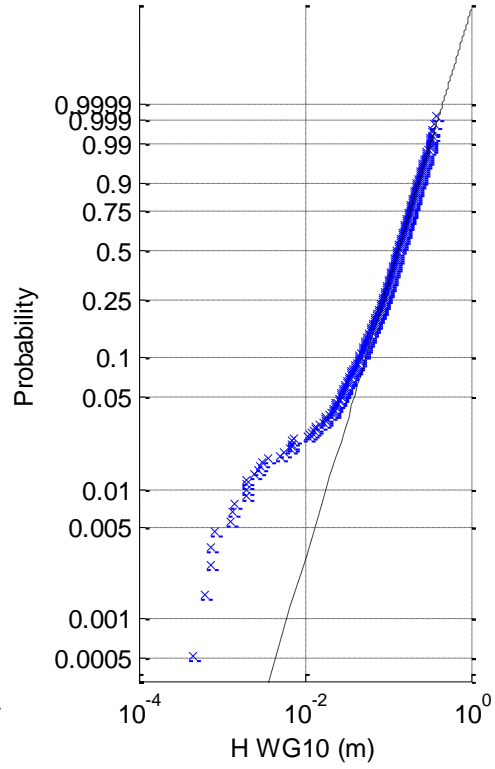
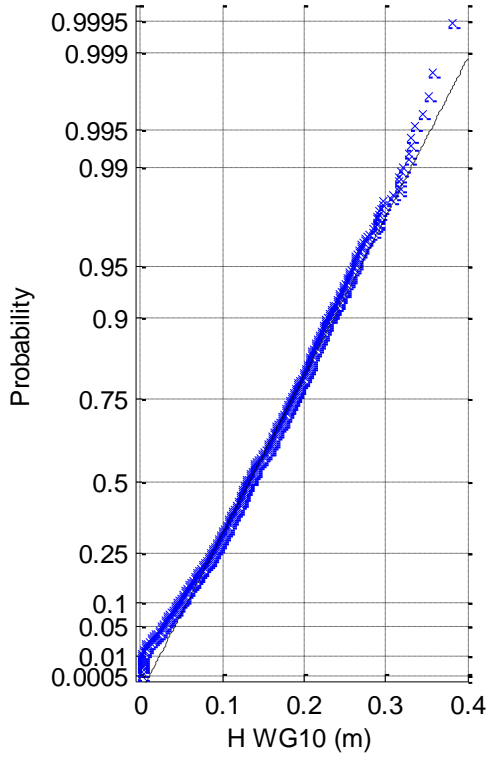
(10a) Histogram of H WG10



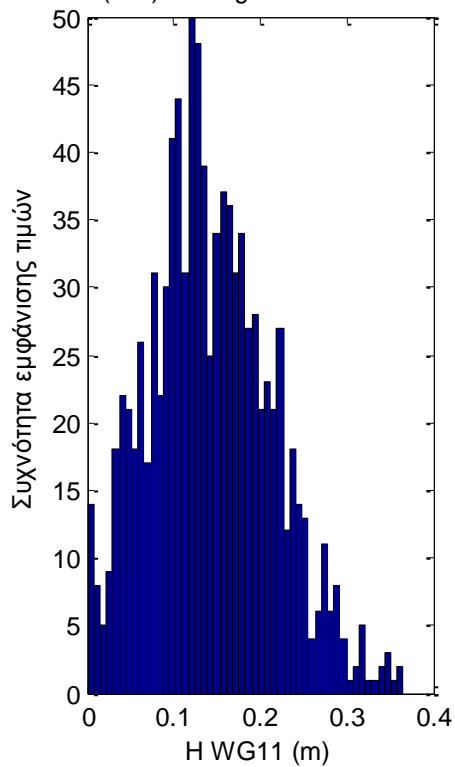
(10b) Normal probability plot of H WG10



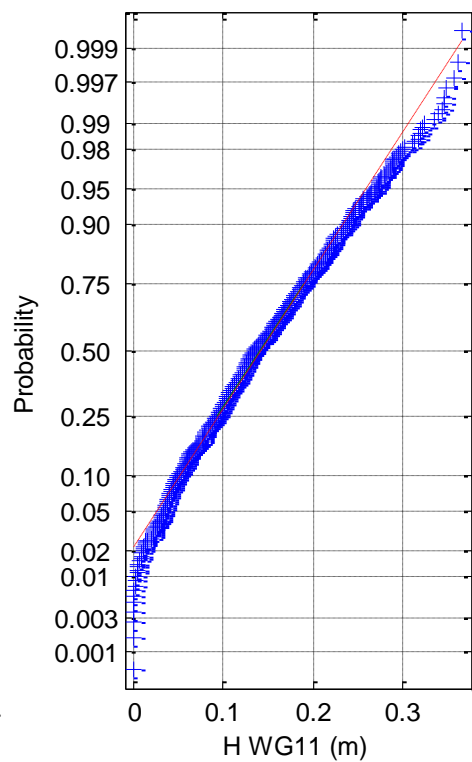
(10c) Rayleigh probability plot of H WG10 (10d) Weibull probability plot of H WG10

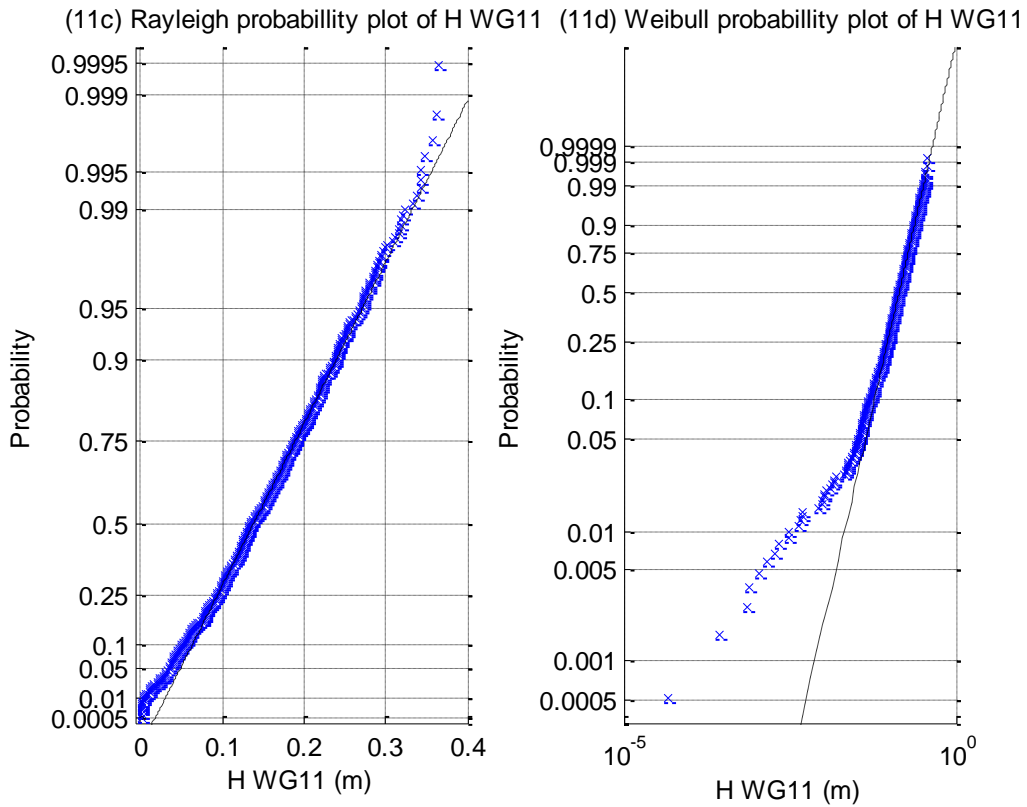


(11a) Histogram of H WG11

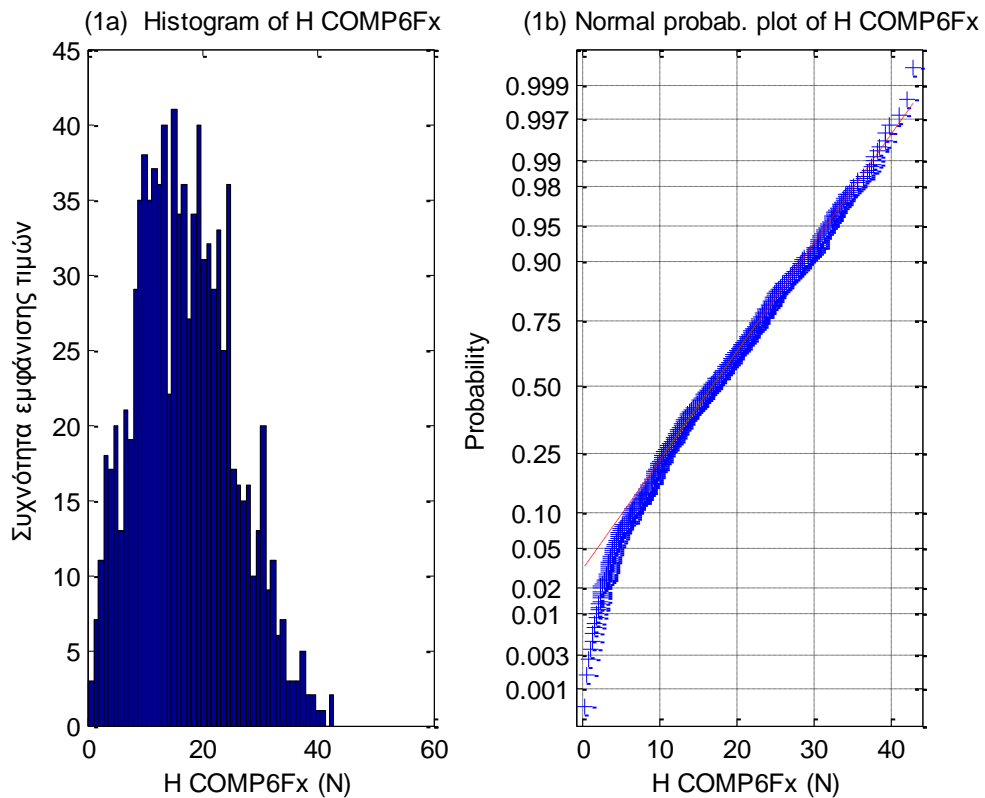


(11b) Normal probability plot of H WG11

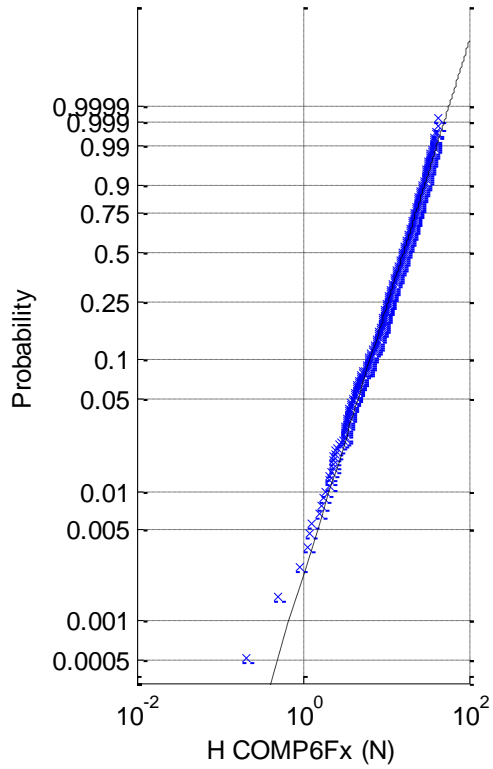
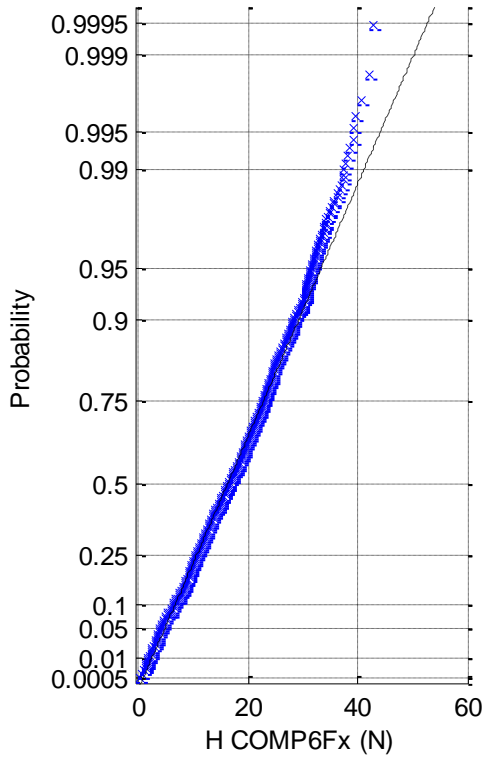




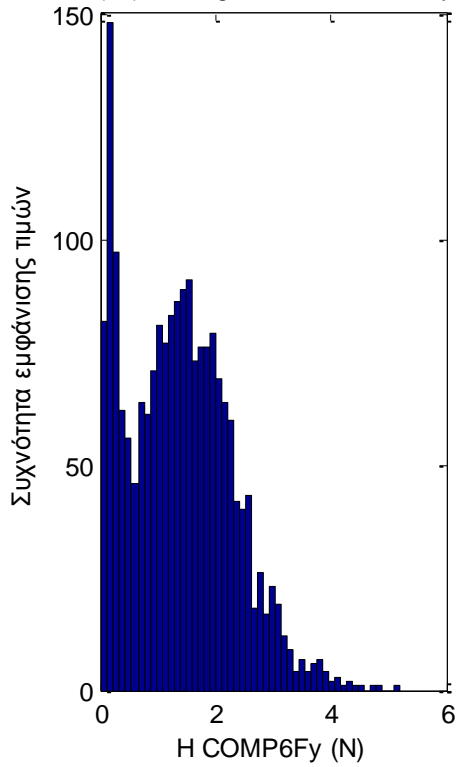
**Σχήματα 2.6.6.1 (1-11)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος



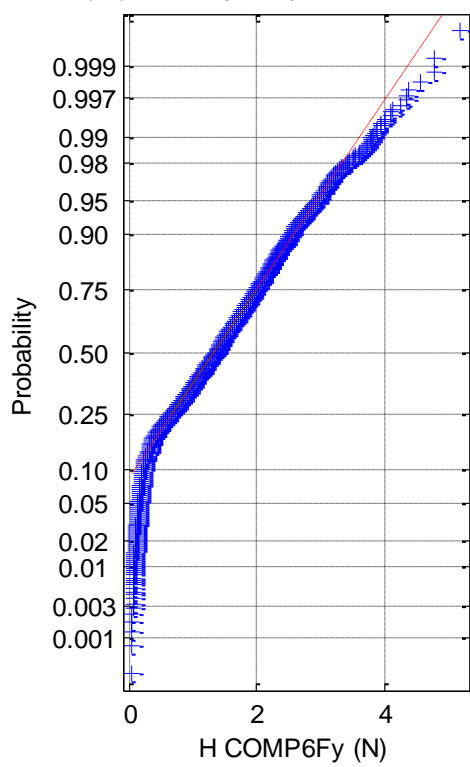
(1c) Rayleigh probab. plot of H COMP6Fx (1d) Weibull probab. plot of H COMP6Fx



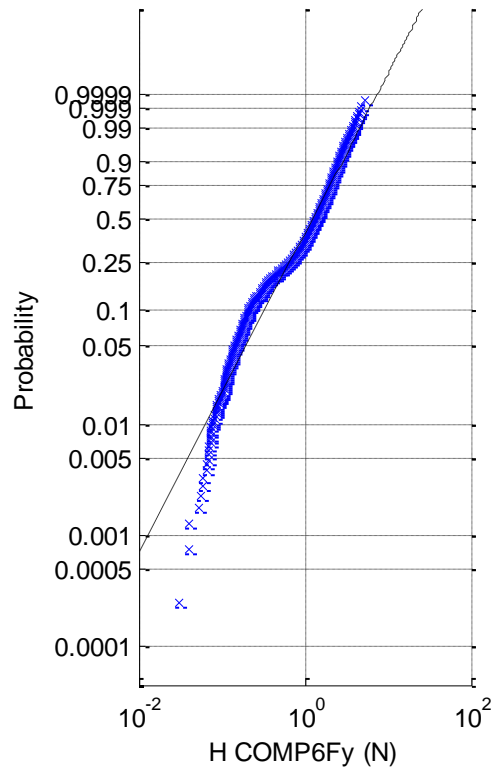
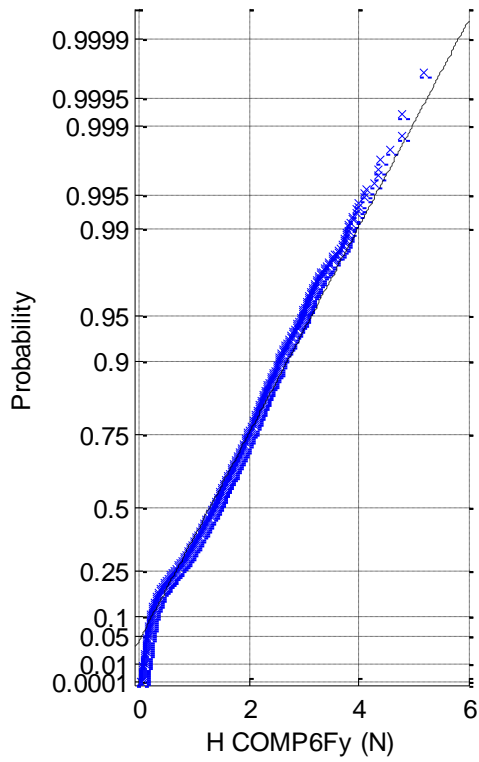
(2a) Histogram of H COMP6Fy



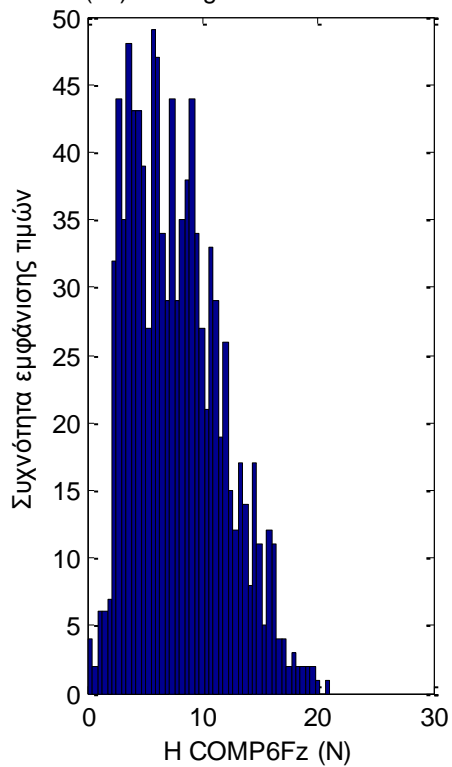
(2b) Normal probab. plot of H COMP6Fy



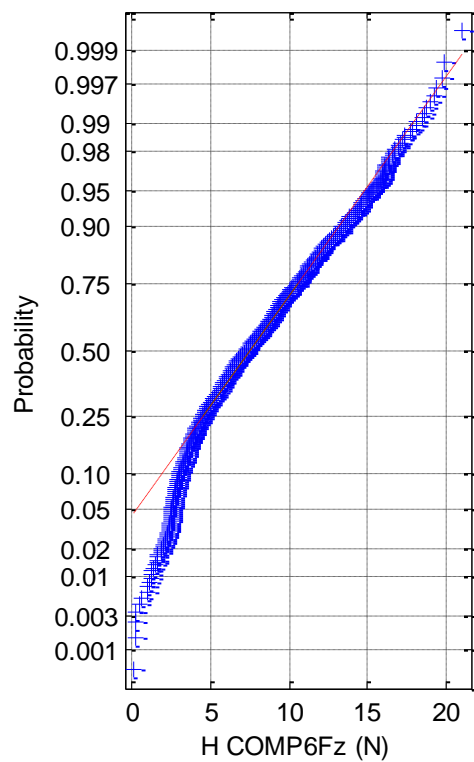
(2c) Rayleigh probab. plot of H COMP6Fy (2d) Weibull probab. plot of H COMP6Fy



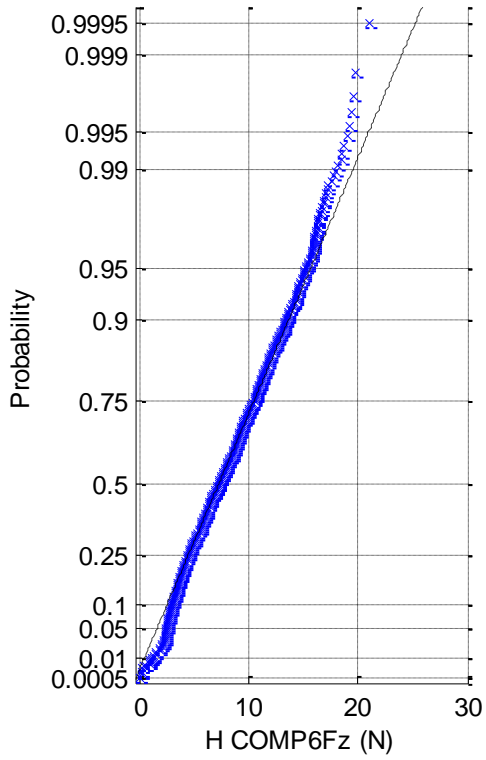
(3a) Histogram of H COMP6Fz



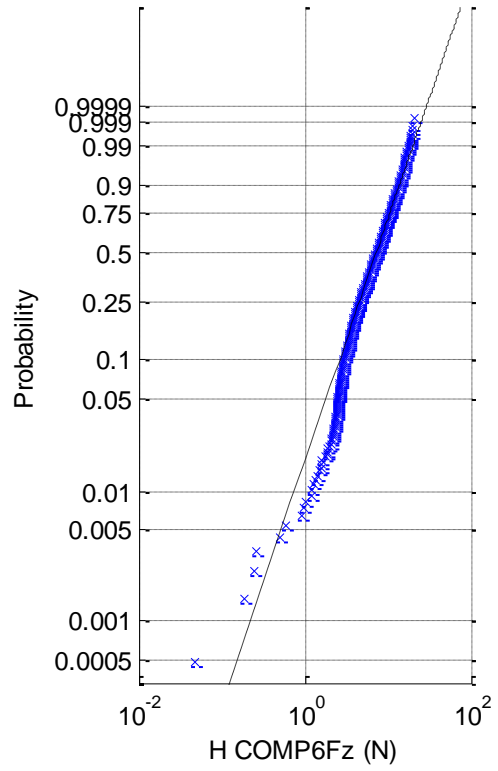
(3b) Normal probab. plot of H COMP6Fz



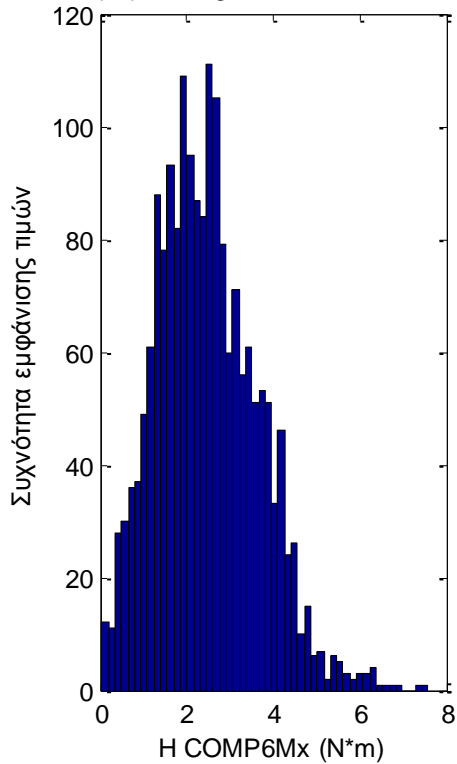
(3c) Rayleigh prob. plot of H COMP6Fz



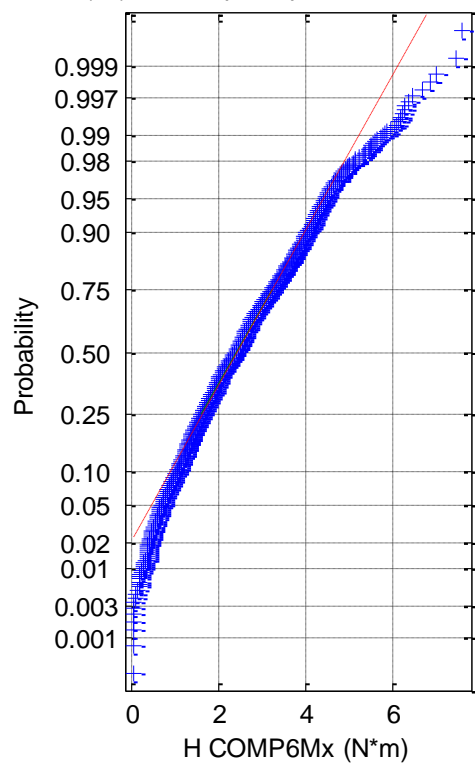
(3d) Weibull prob. plot of H COMP6Fz



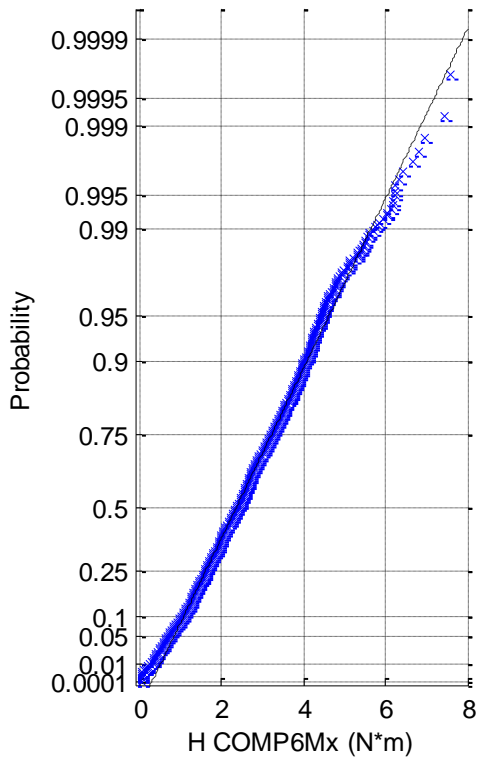
(4a) Histogram of H COMP6Mx



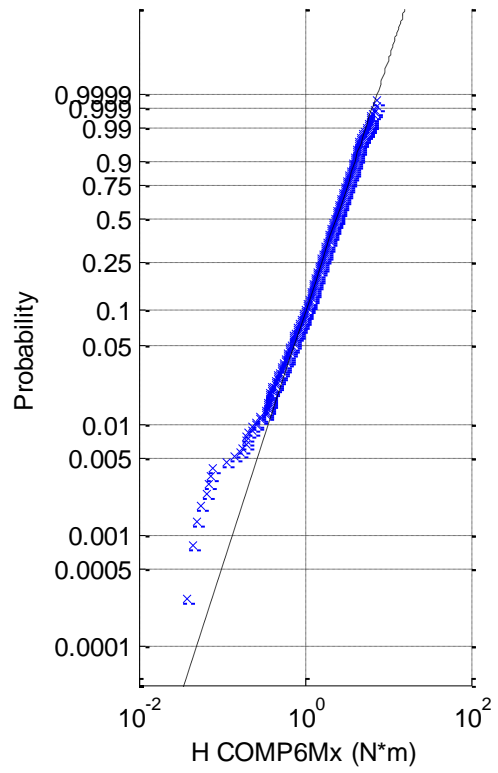
(4b) Normal prob. plot of H COMP6Mx



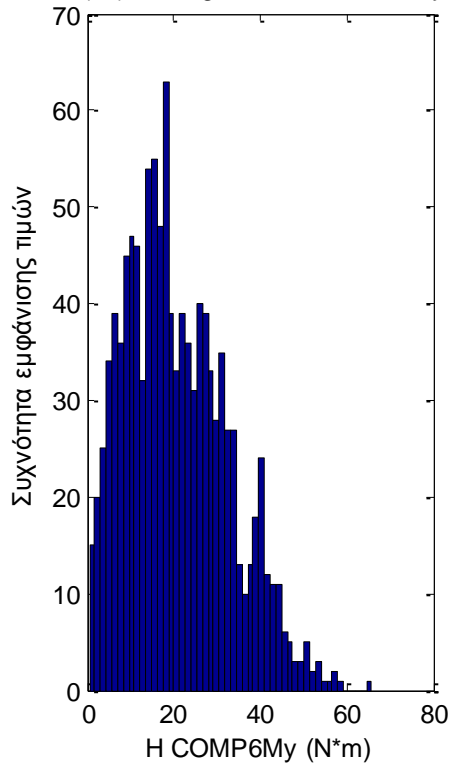
(4c) Rayleigh prob. plot of H COMP6Mx



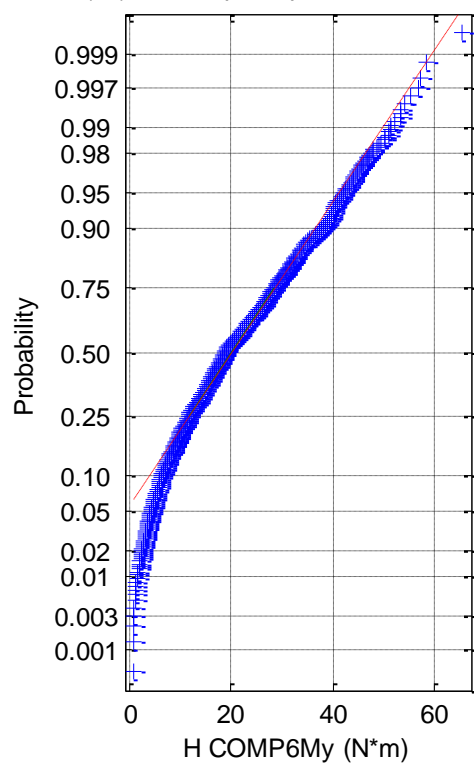
(4d) Weibull prob. plot of H COMP6Mx



(5a) Histogram of H COMP6My

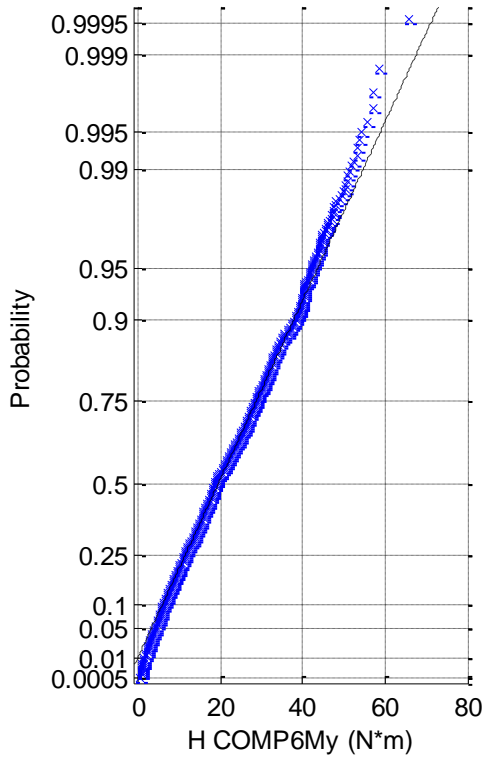


(5b) Normal prob. plot of H COMP6My

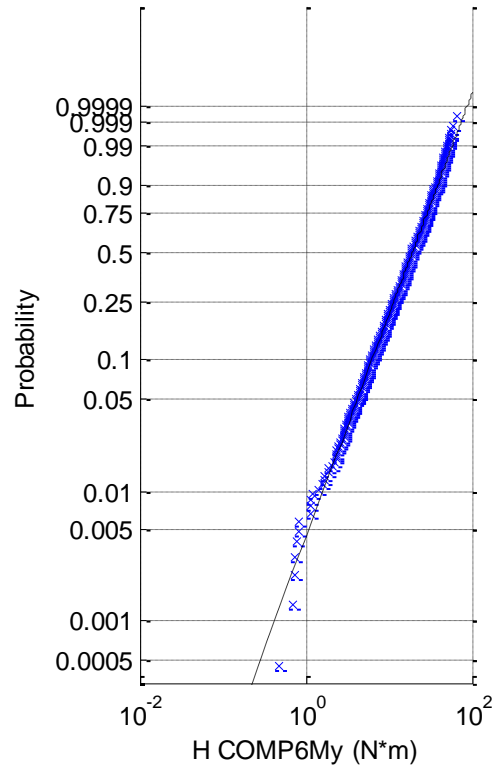




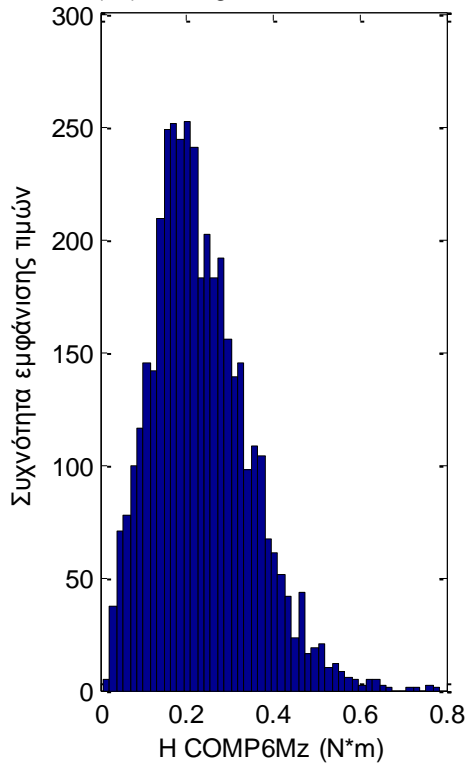
(5c) Rayleigh prob. plot of H COMP6My



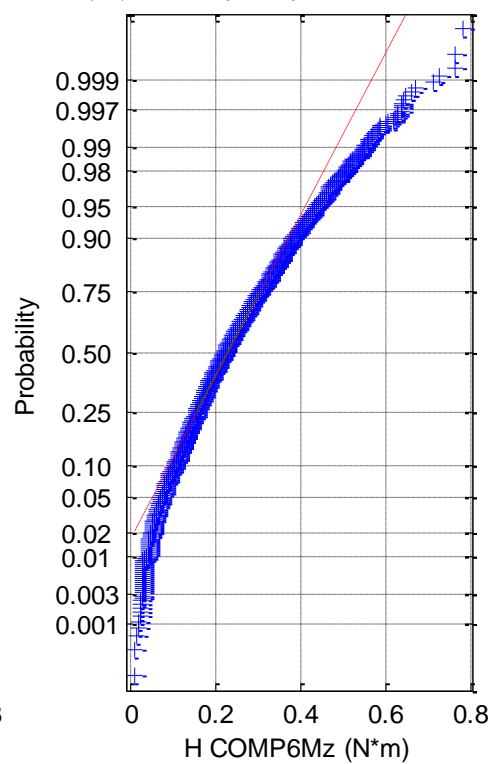
(5d) Weibull prob. plot of H COMP6My

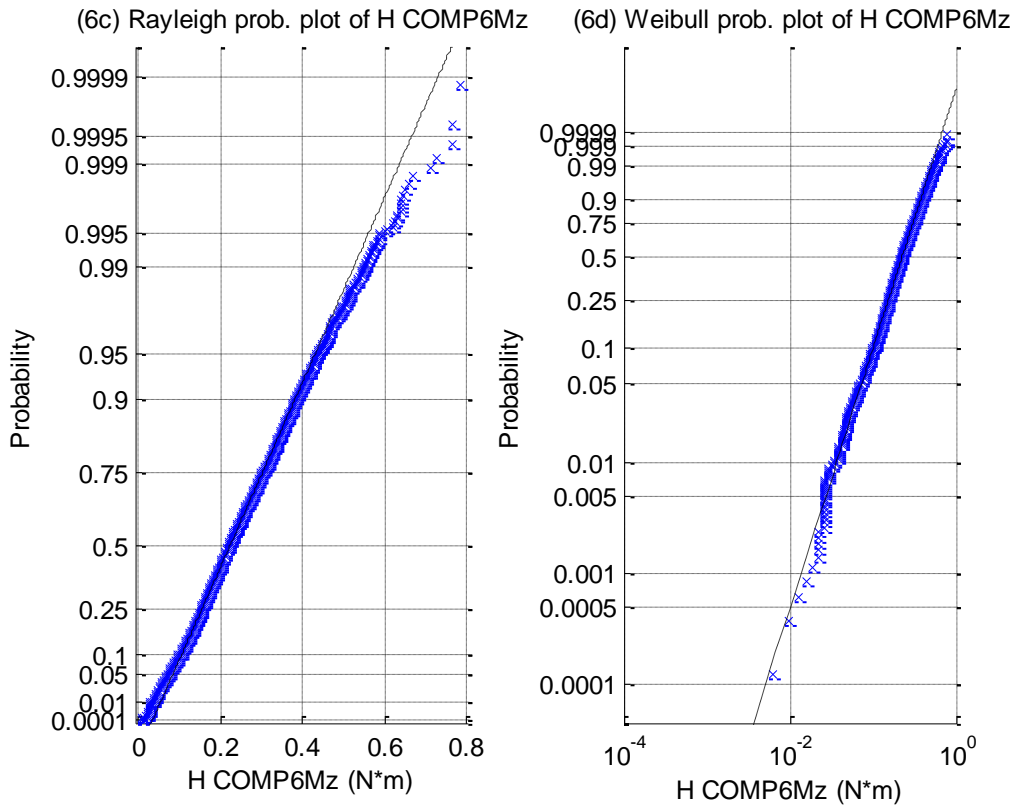


(6a) Histogram of H COMP6Mz

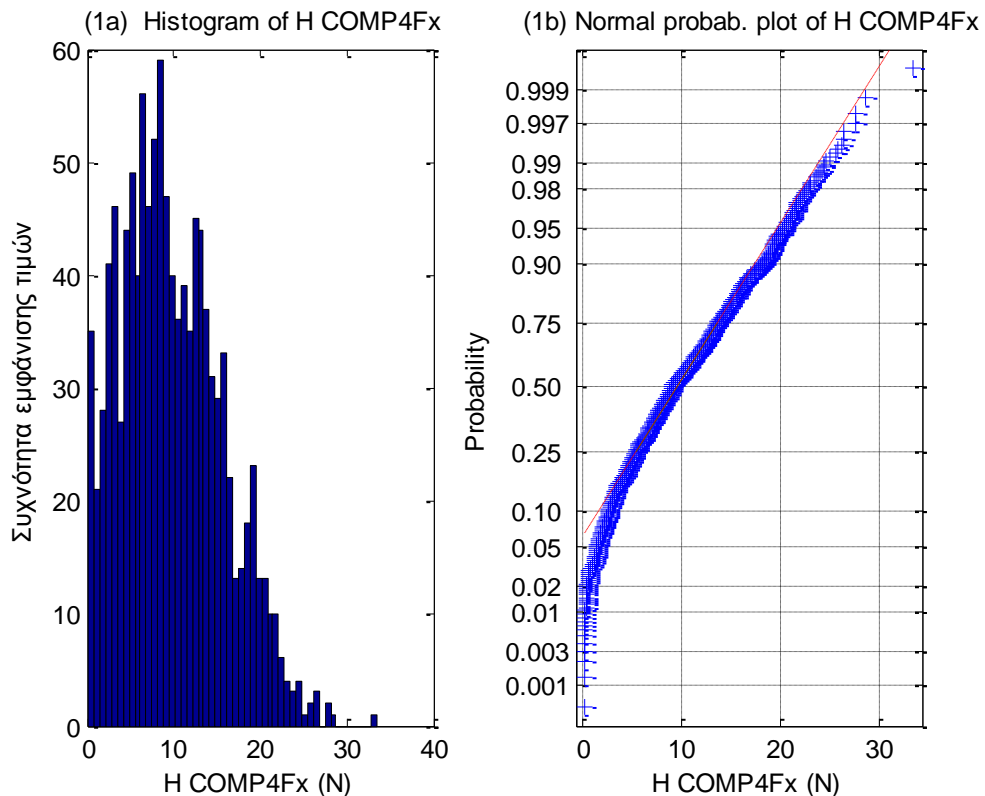


(6b) Normal prob. plot of H COMP6Mz

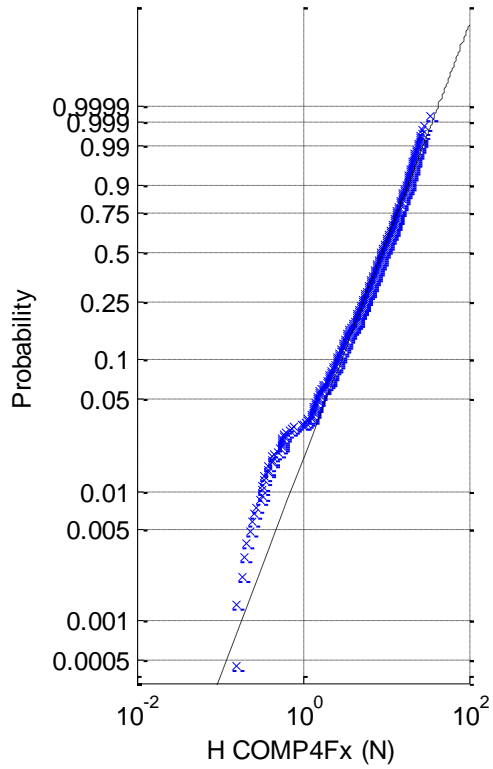
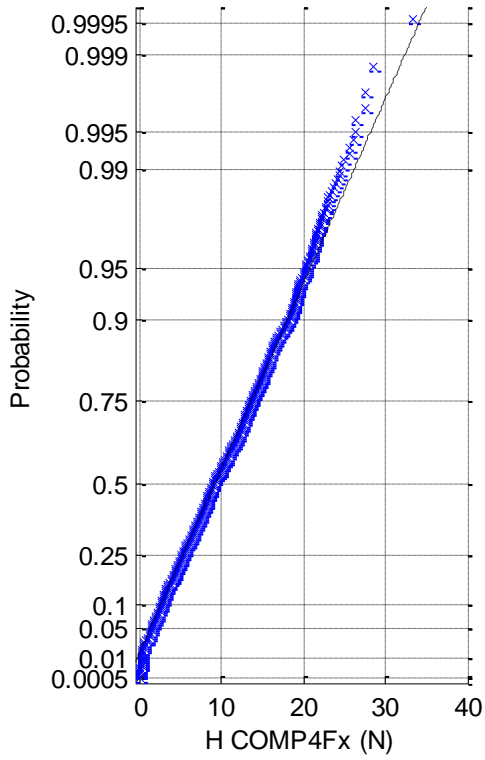




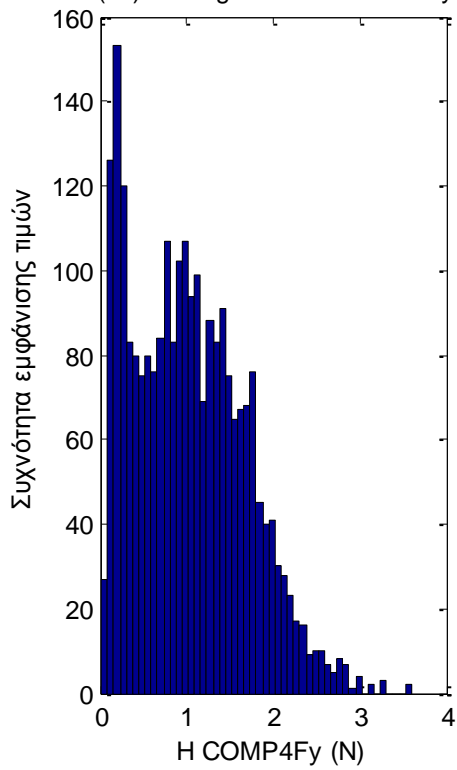
**Σχήματα 2.6.6.2 (1-6)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



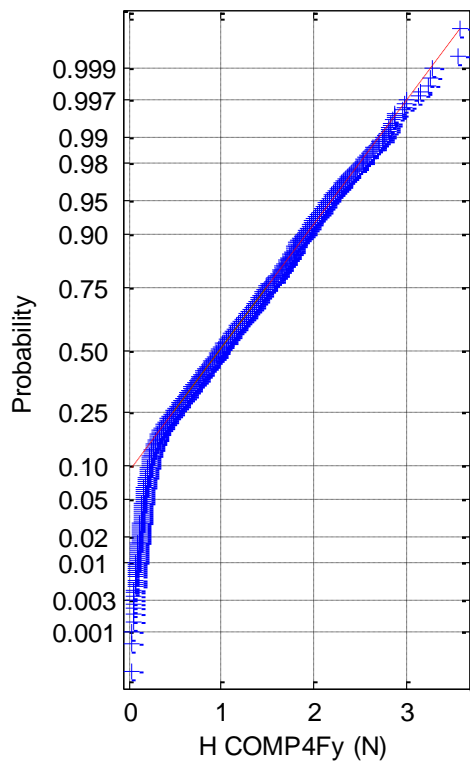
(1c) Rayleigh probab. plot of H COMP4Fx (1d) Weibull probab. plot of H COMP4Fx



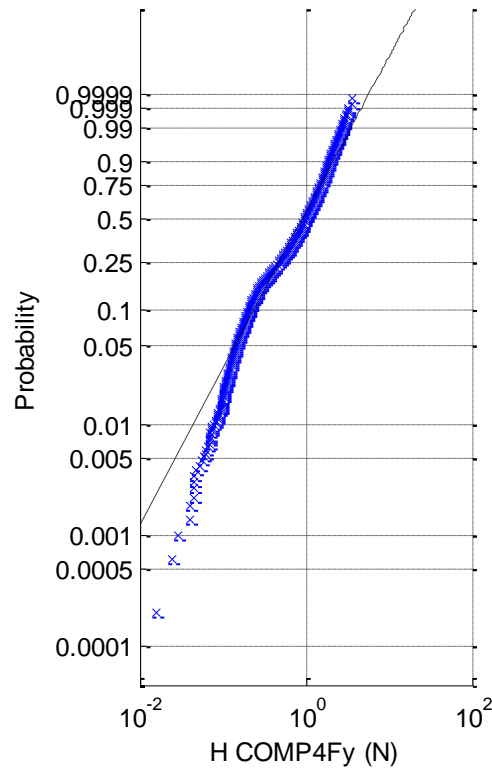
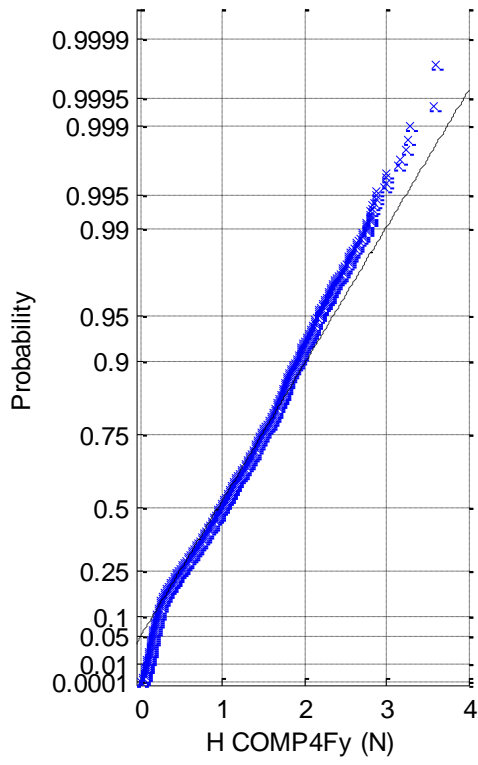
(2a) Histogram of H COMP4Fy



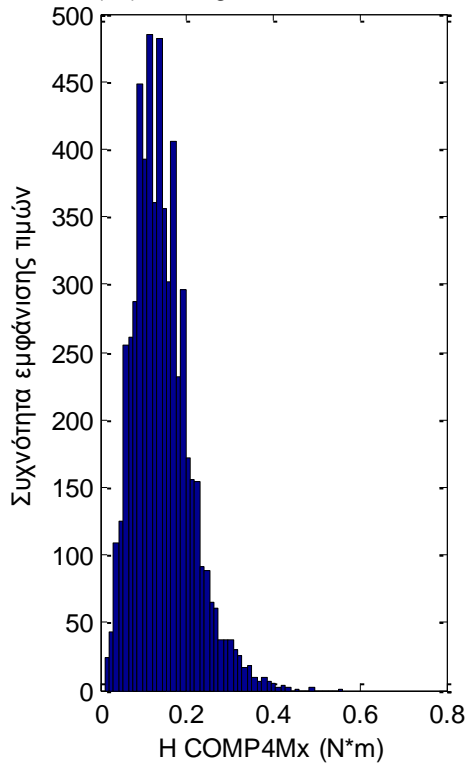
(2b) Normal probab. plot of H COMP4Fy



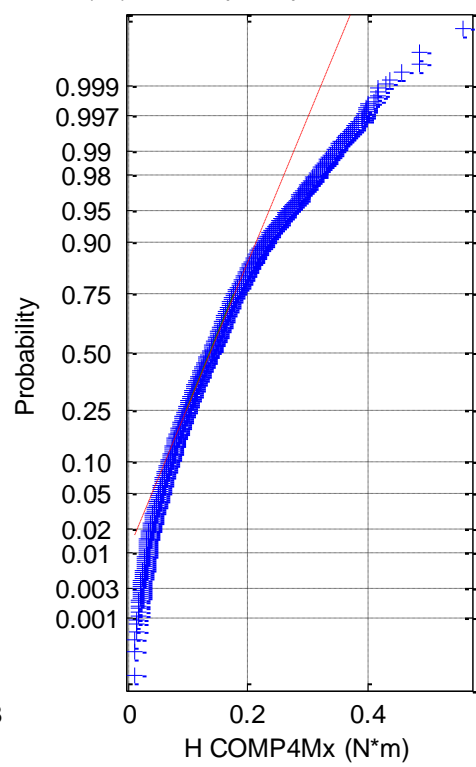
(2c) Rayleigh probab. plot of H COMP4Fy (2d) Weibull probab. plot of H COMP4Fy



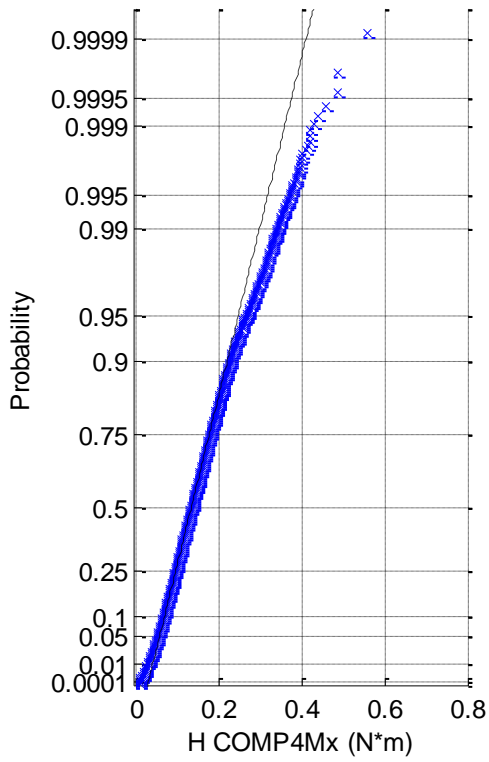
(3a) Histogram of H COMP4Mx



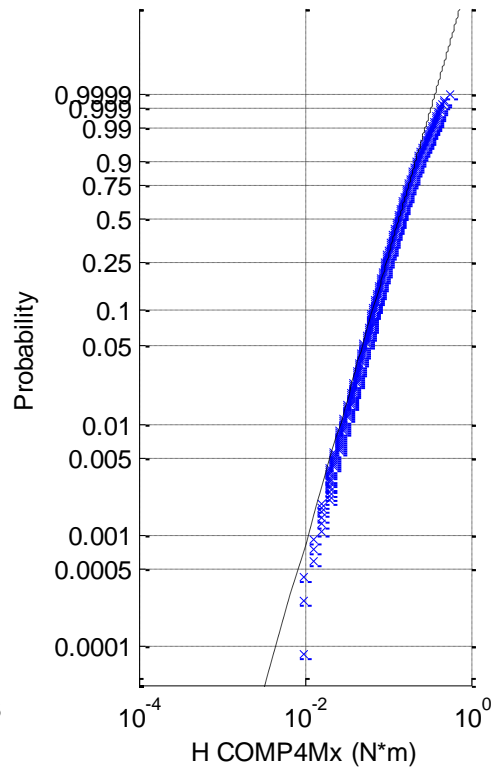
(3b) Normal probab. plot of H COMP4Mx



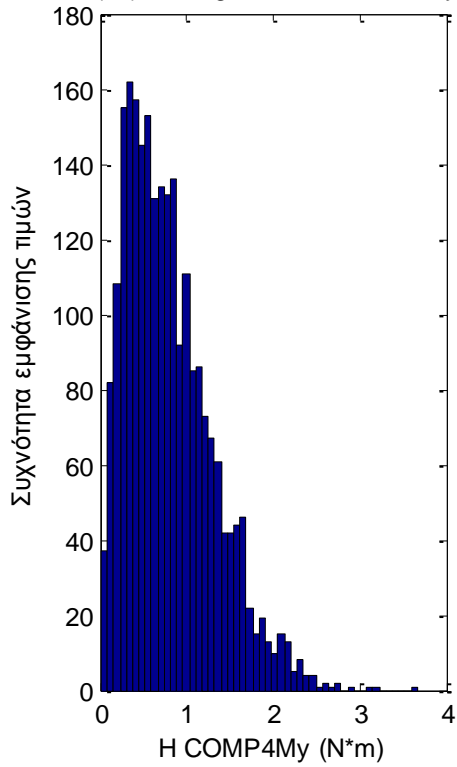
(3c) Rayleigh prob. plot of H COMP4Mx



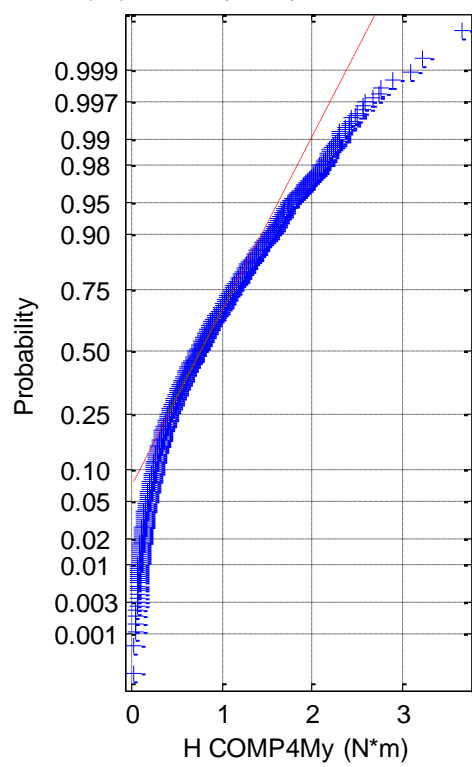
(3d) Weibull prob. plot of H COMP4Mx

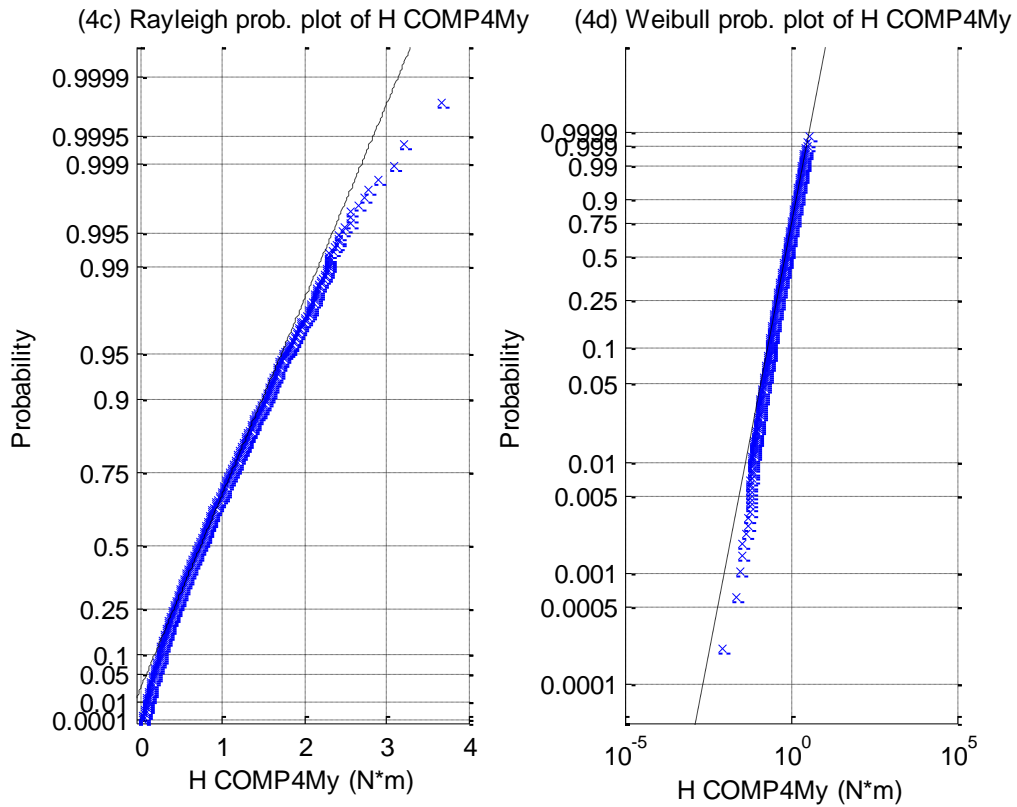


(4a) Histogram of H COMP4My

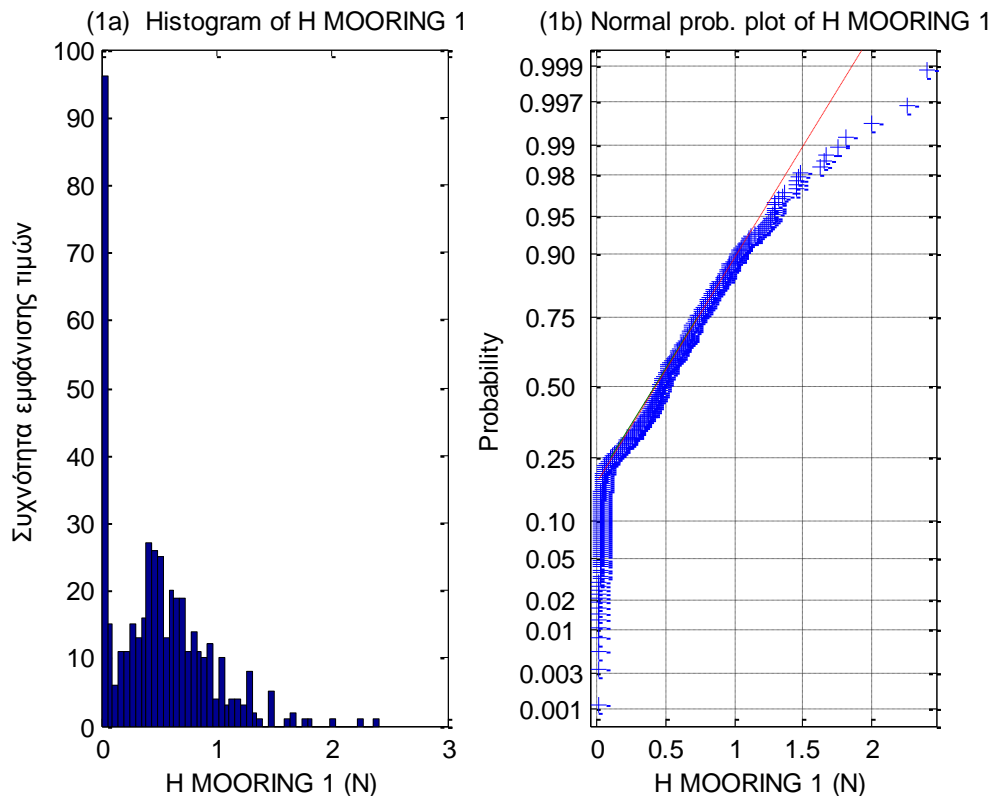


(4b) Normal prob. plot of H COMP4My

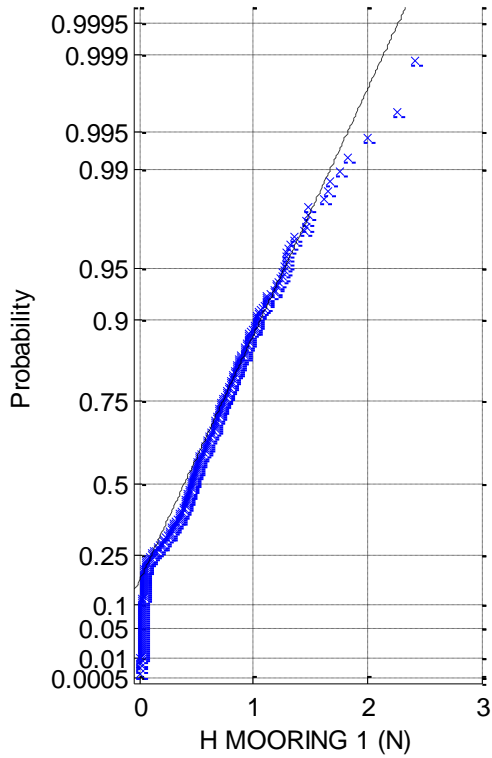




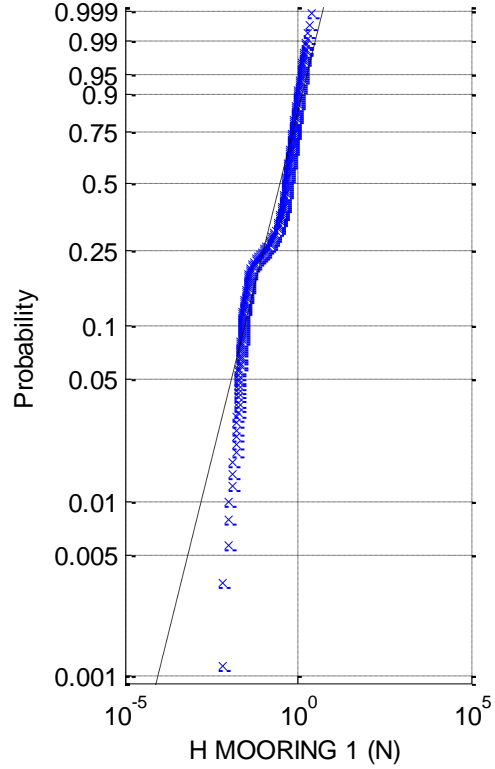
**Σχήματα 2.6.6.3 (1-4)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



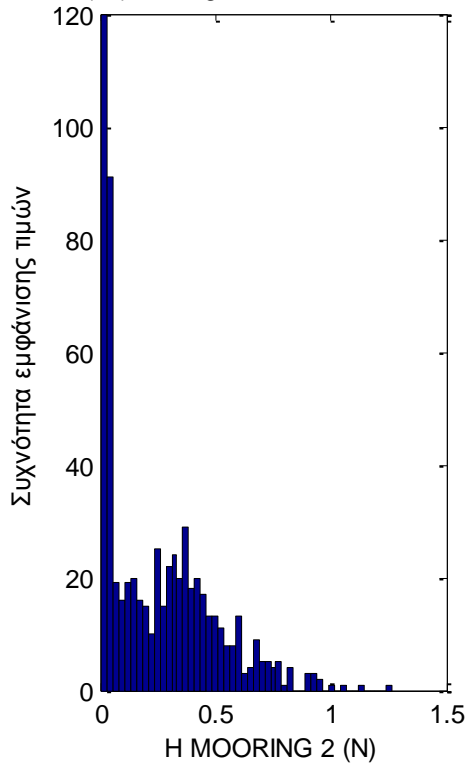
(1c) Rayleigh prob. plot of H MOORING 1



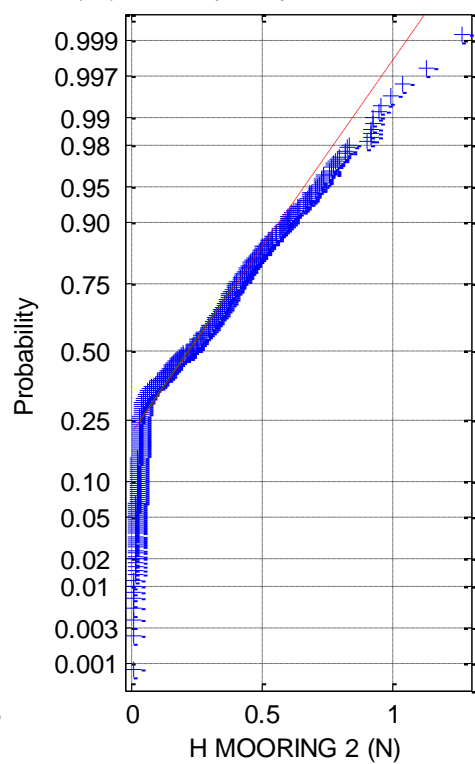
(1d) Weibull prob. plot of H MOORING 1



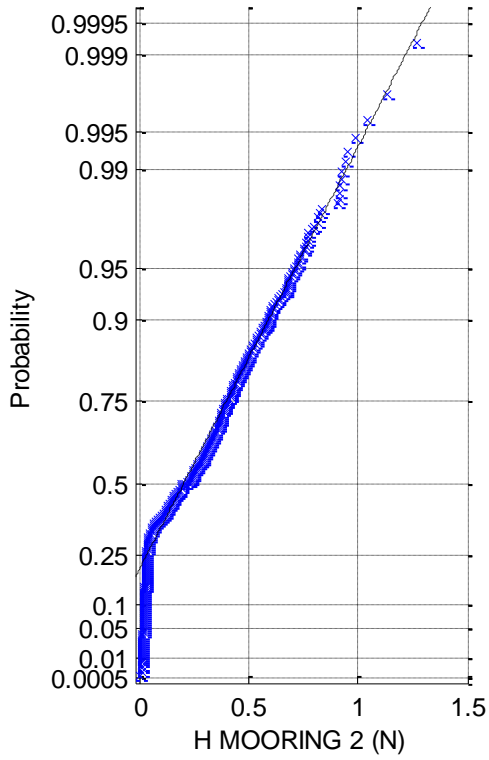
(2a) Histogram of H MOORING 2



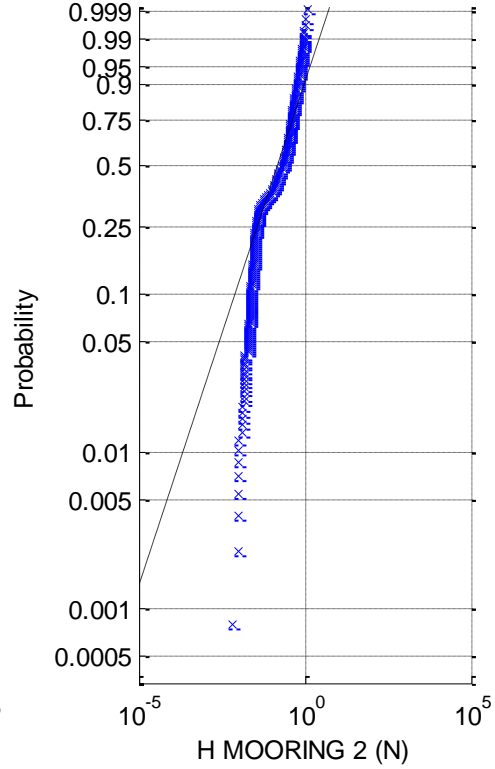
(2b) Normal prob. plot of H MOORING 2



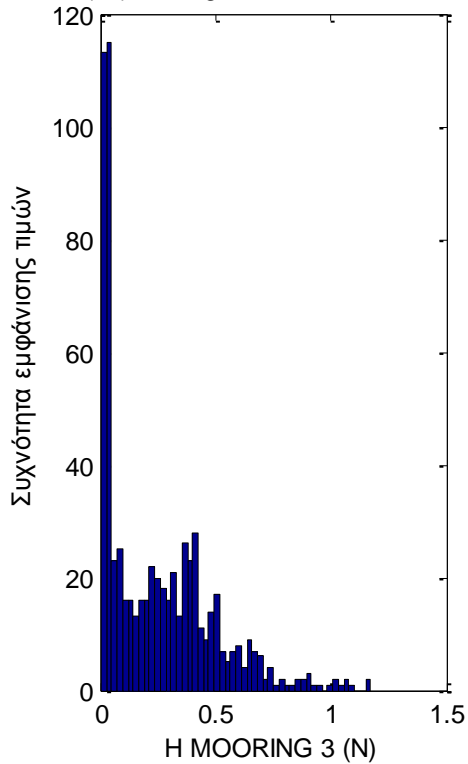
(2c) Rayleigh prob. plot of H MOORING 2



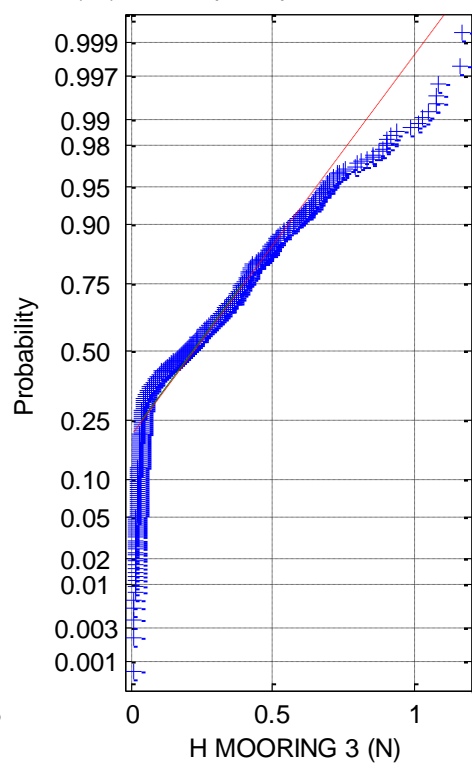
(2d) Weibull prob. plot of H MOORING 2



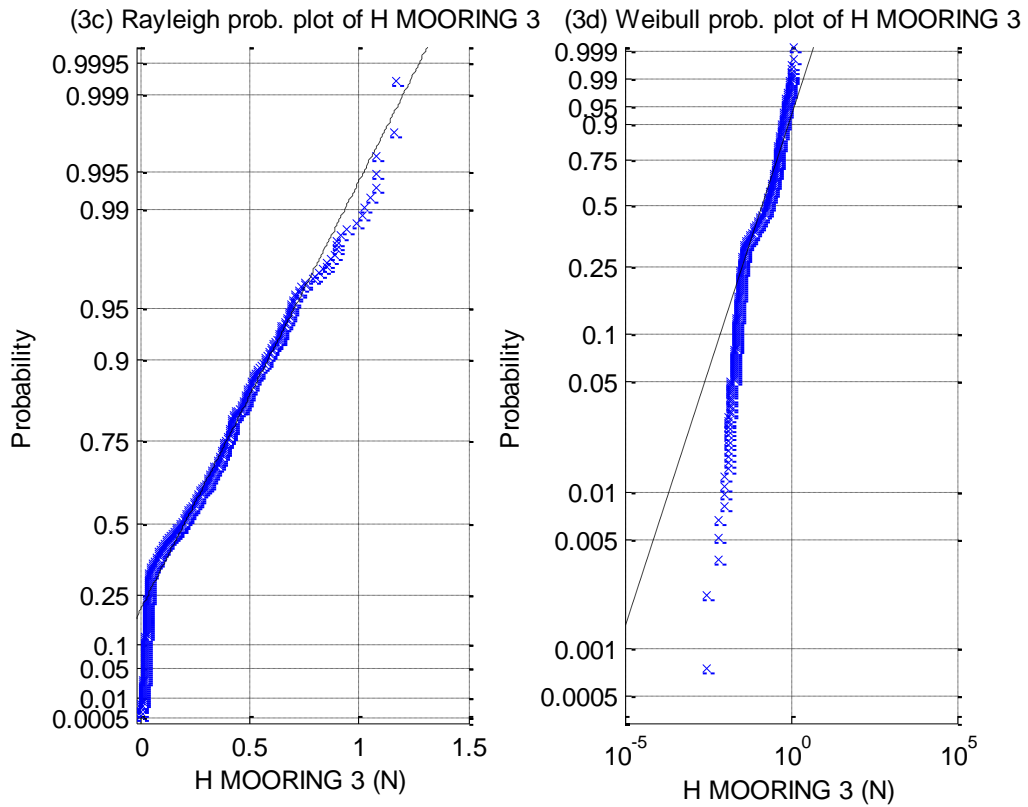
(3a) Histogram of H MOORING 3



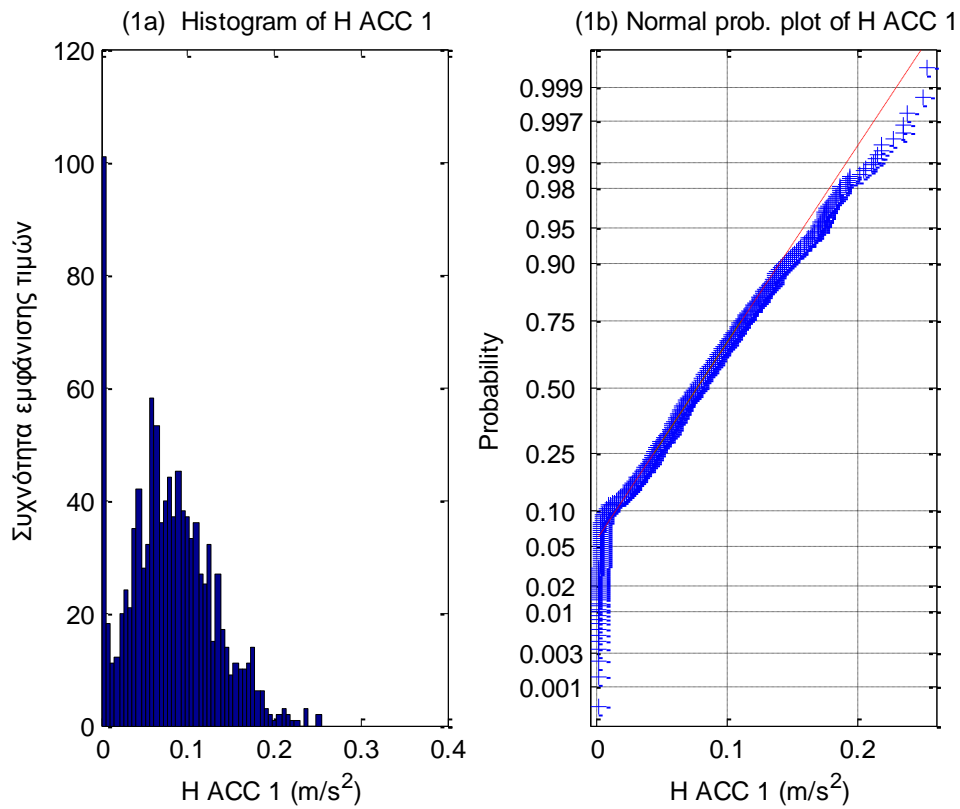
(3b) Normal prob. plot of H MOORING 3



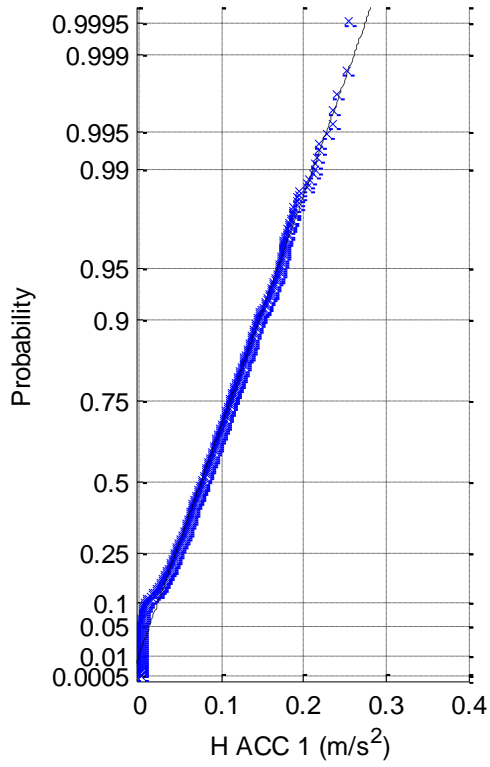




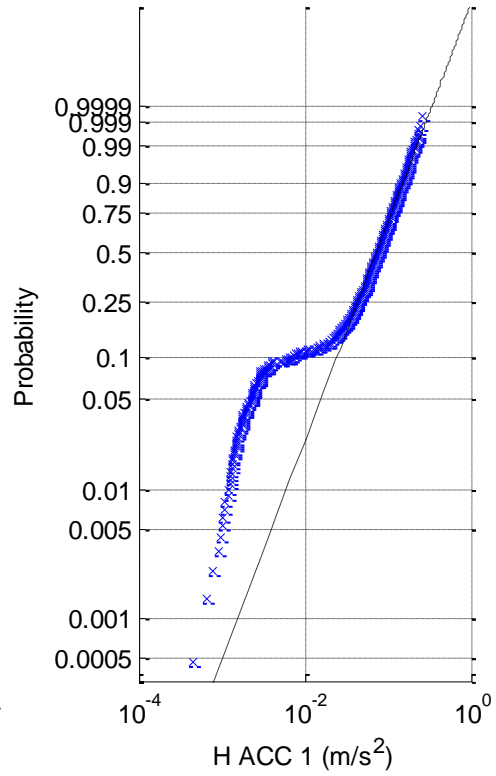
**Σχήματα 2.6.6.4 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



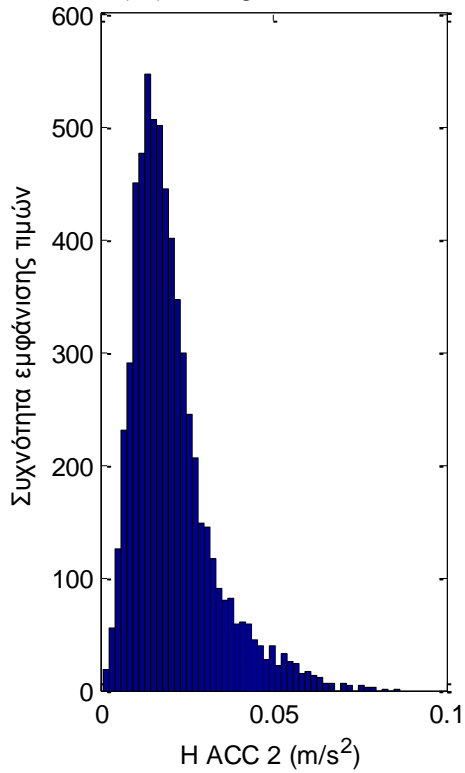
(1c) Rayleigh prob. plot of H ACC 1



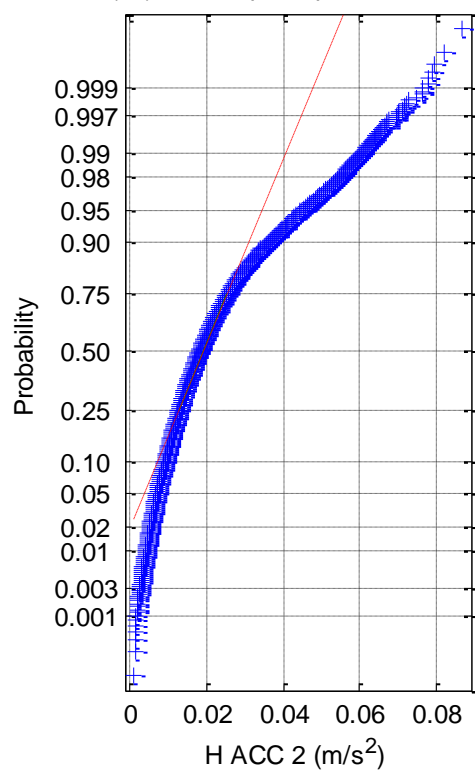
(1d) Weibull prob. plot of H ACC 1



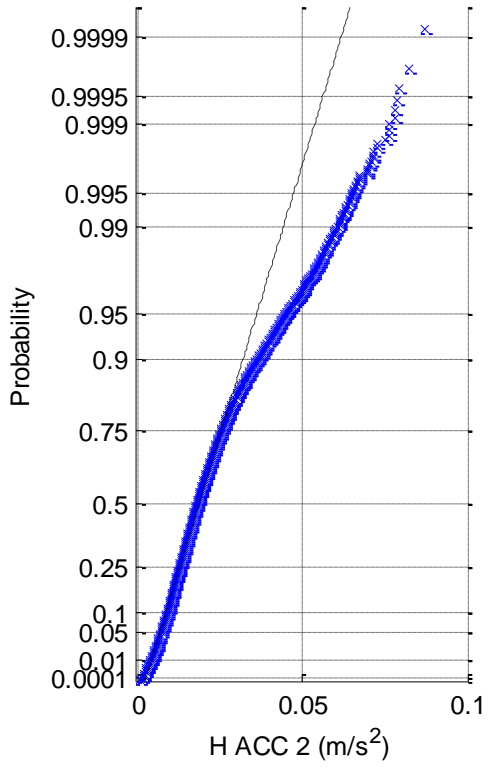
(2a) Histogram of H ACC 2



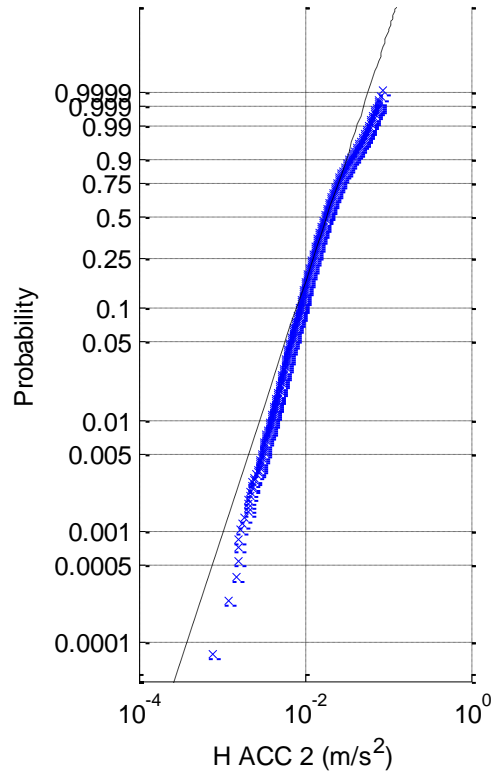
(2b) Normal prob. plot of H ACC 2



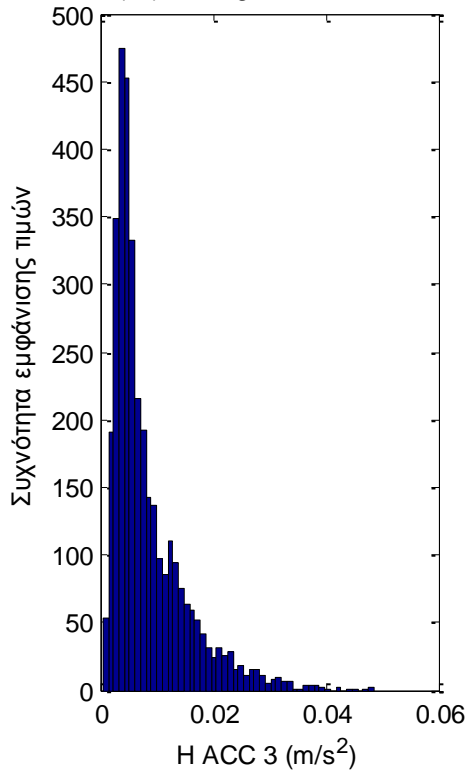
(2c) Rayleigh prob. plot of H ACC 2



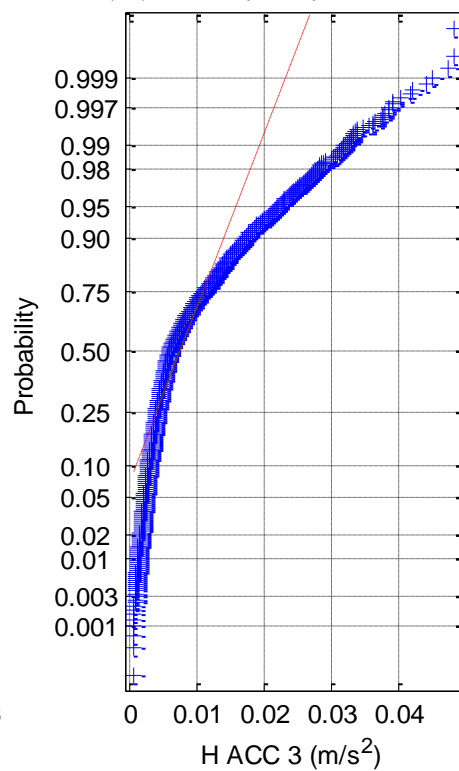
(2d) Weibull prob. plot of H ACC 2

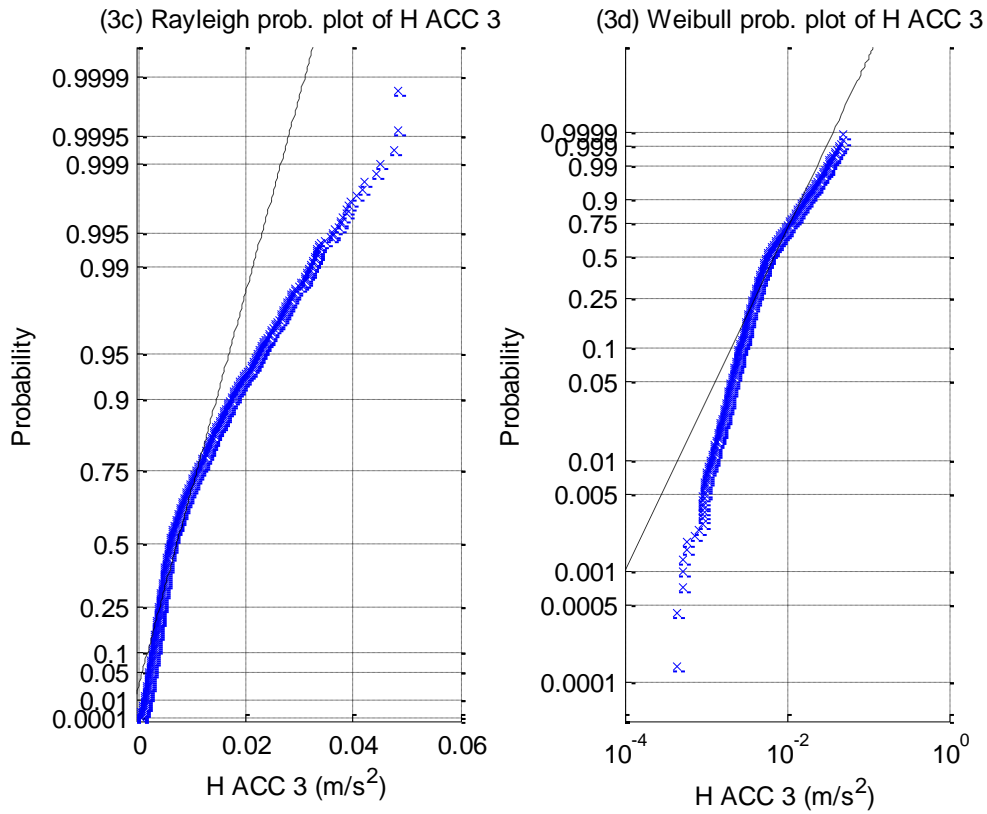


(3a) Histogram of H ACC 3

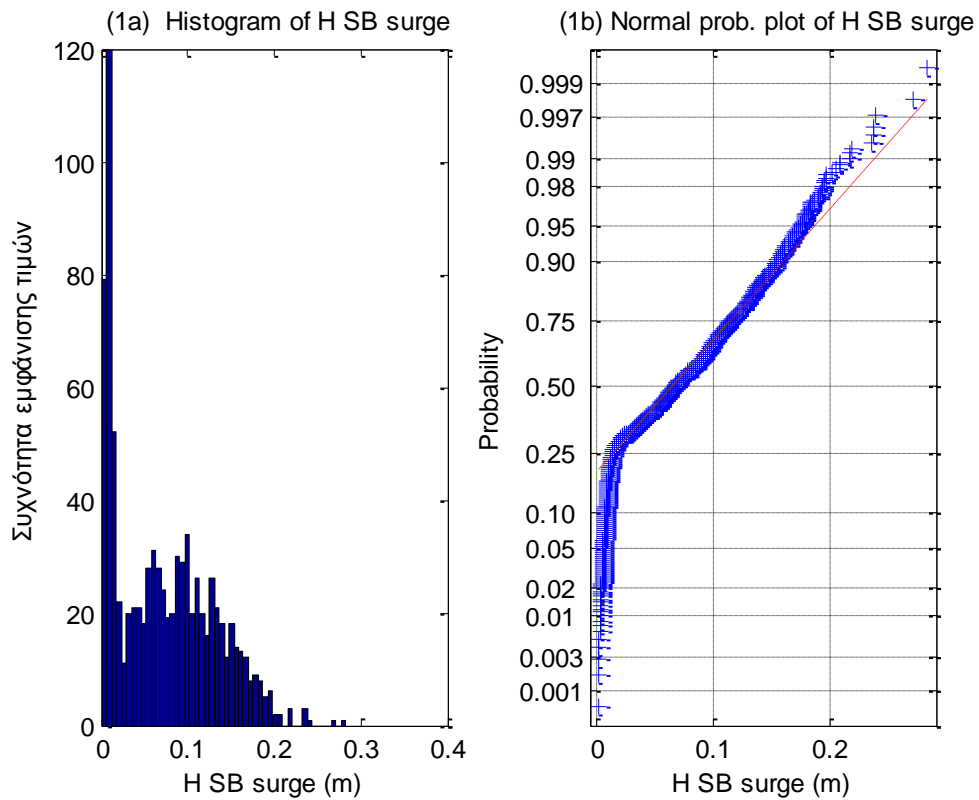


(3b) Normal prob. plot of H ACC 3

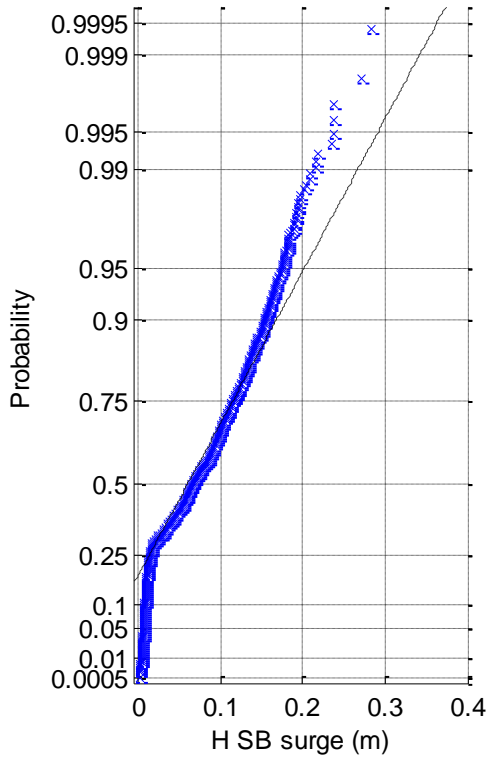




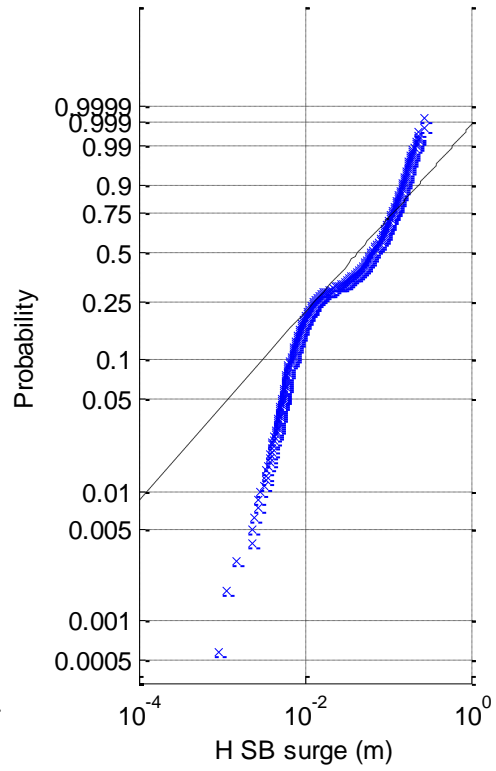
**Σχήματα 2.6.6.5 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



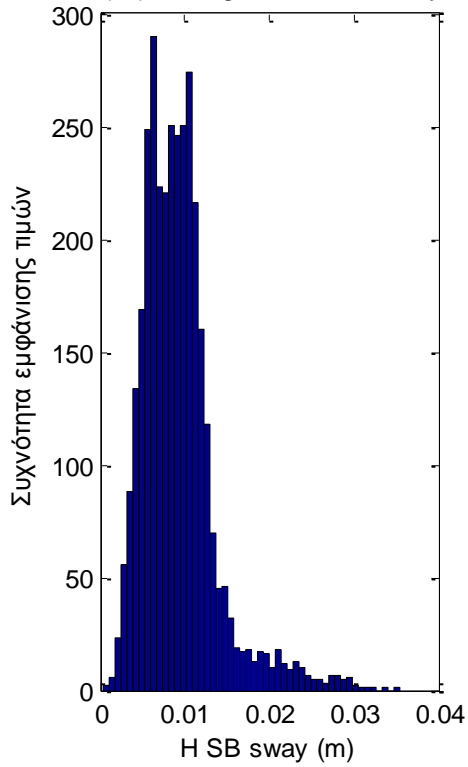
(1c) Rayleigh prob. plot of H SB surge



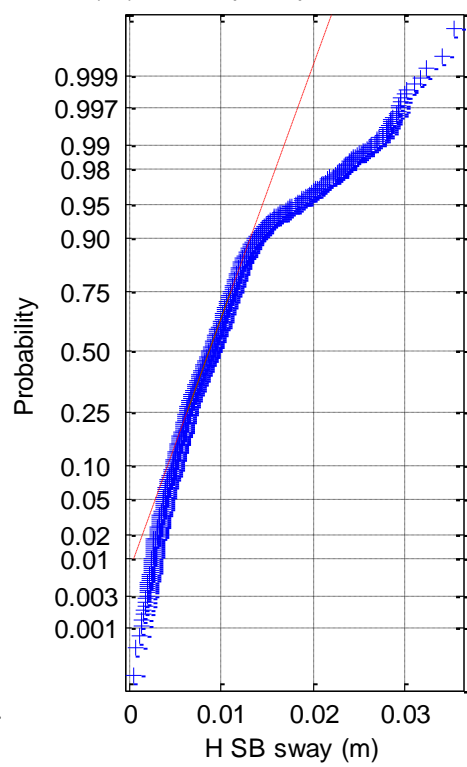
(1d) Weibull prob. plot of H SB surge



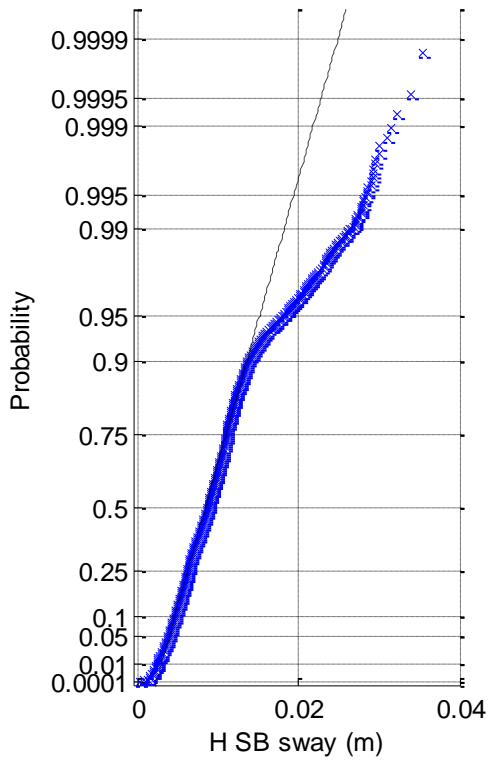
(2a) Histogram of H SB sway



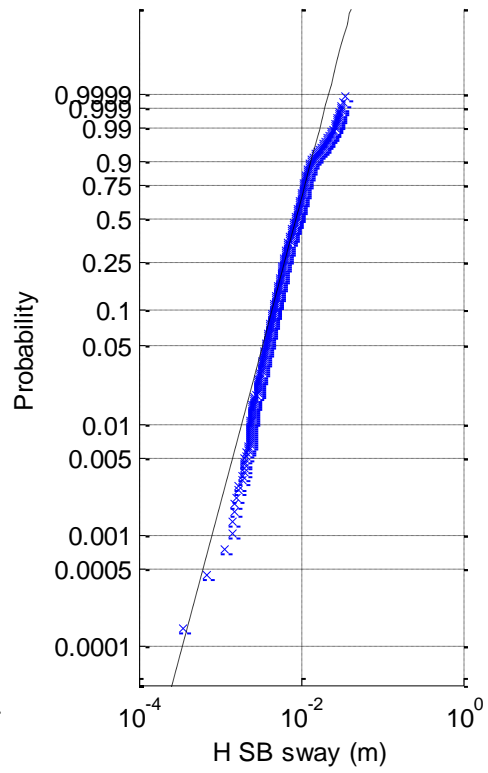
(2b) Normal prob. plot of H SB sway



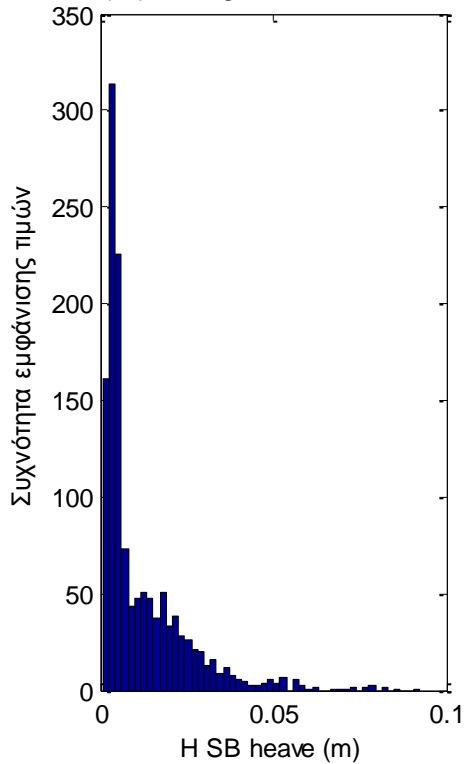
(2c) Rayleigh prob. plot of H SB sway



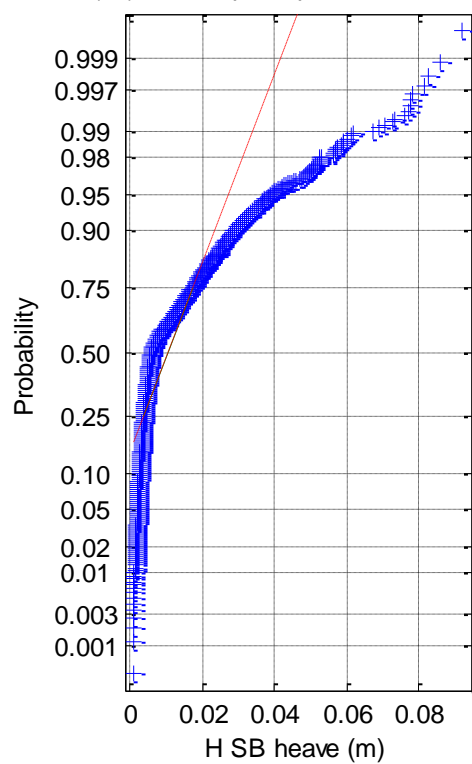
(2d) Weibull prob. plot of H SB sway



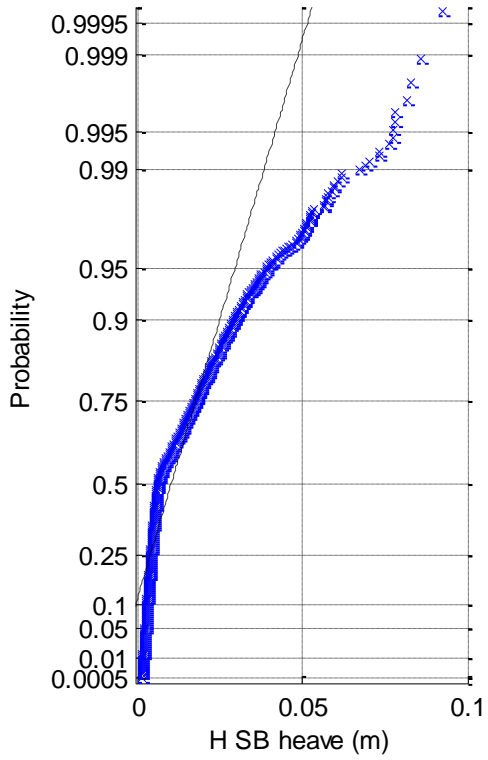
(3a) Histogram of H SB heave



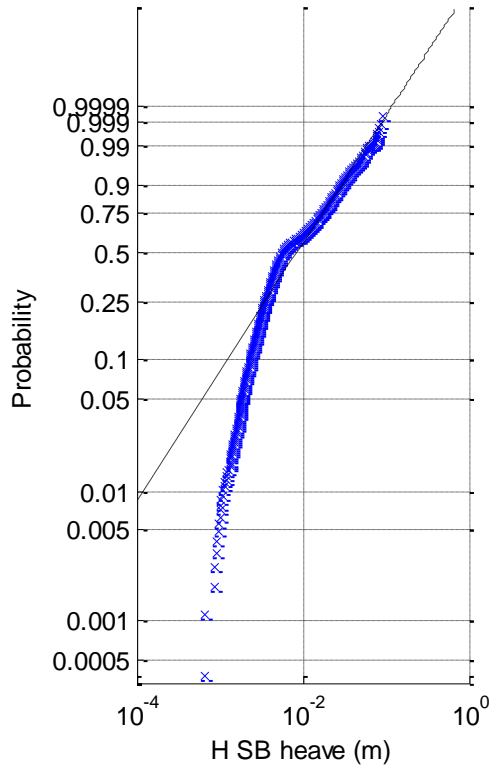
(3b) Normal prob. plot of H SB heave



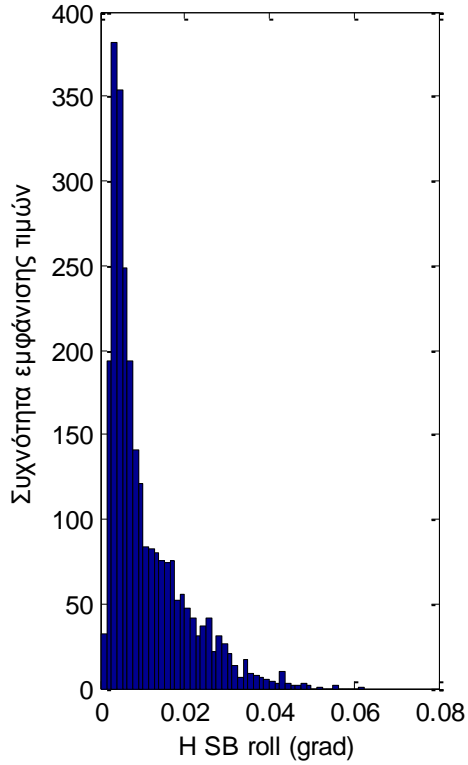
(3c) Rayleigh prob. plot of H SB heave



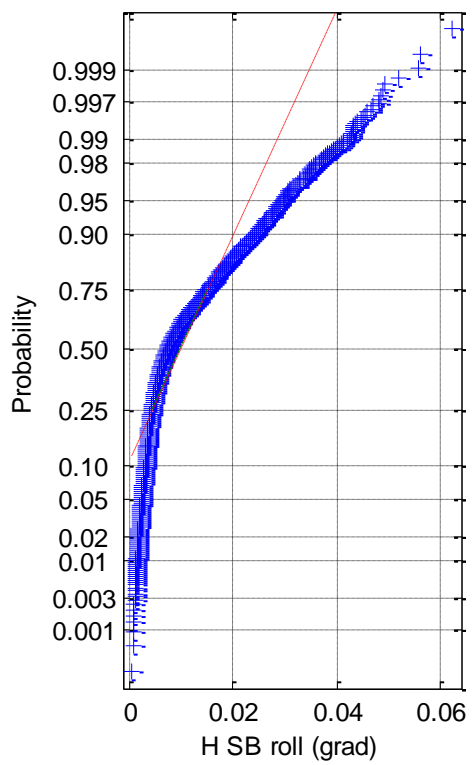
(3d) Weibull prob. plot of H SB heave



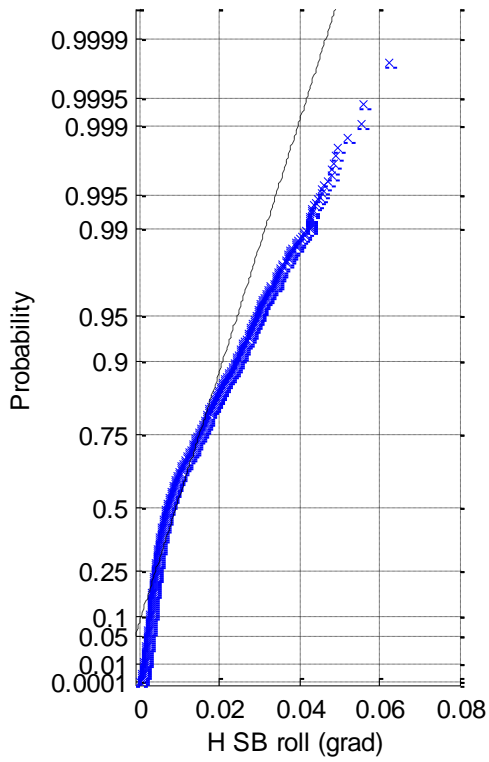
(4a) Histogram of H SB roll



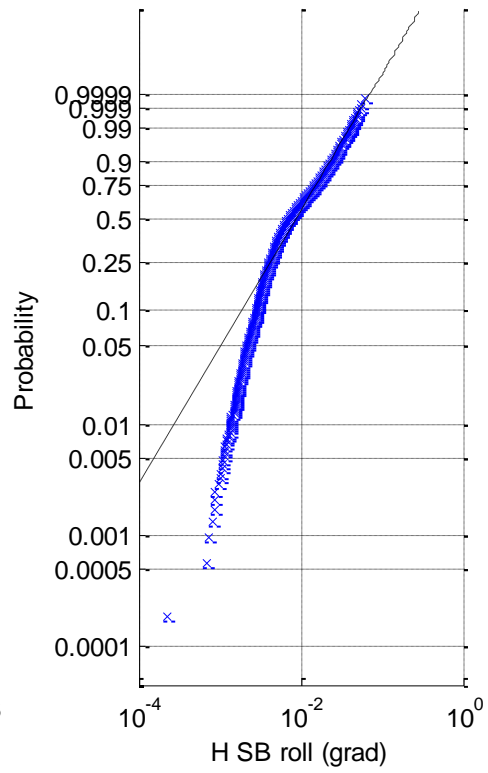
(4b) Normal prob. plot of H SB roll



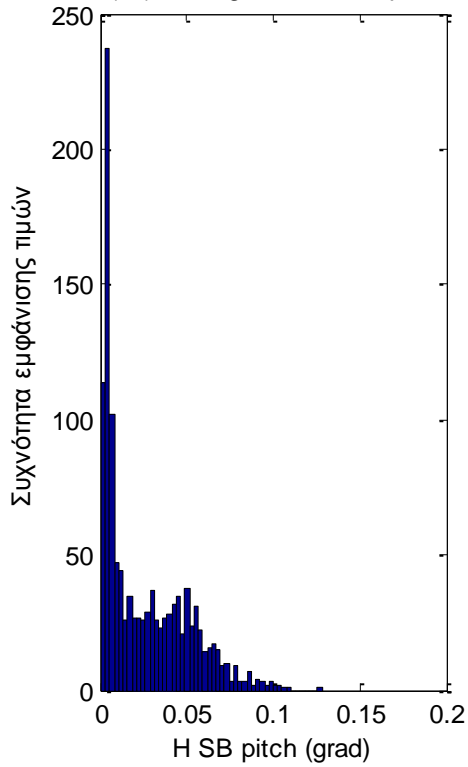
(4c) Rayleigh prob. plot of H SB roll



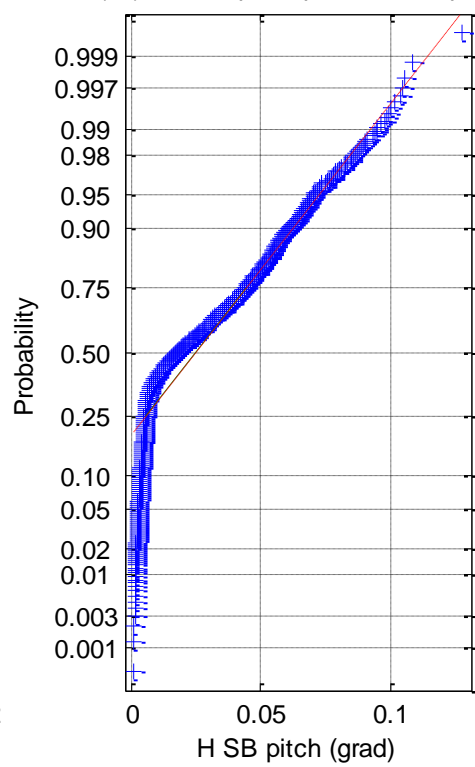
(4d) Weibull prob. plot of H SB roll



(5a) Histogram of H SB pitch

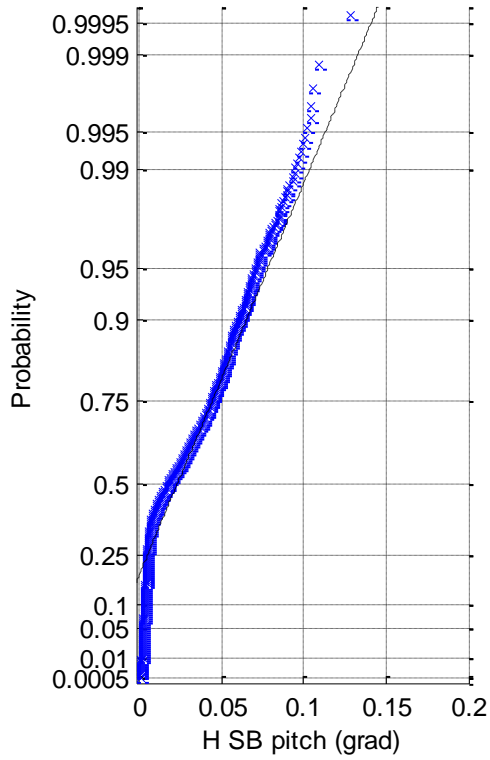


(5b) Normal prob. plot of H SB pitch

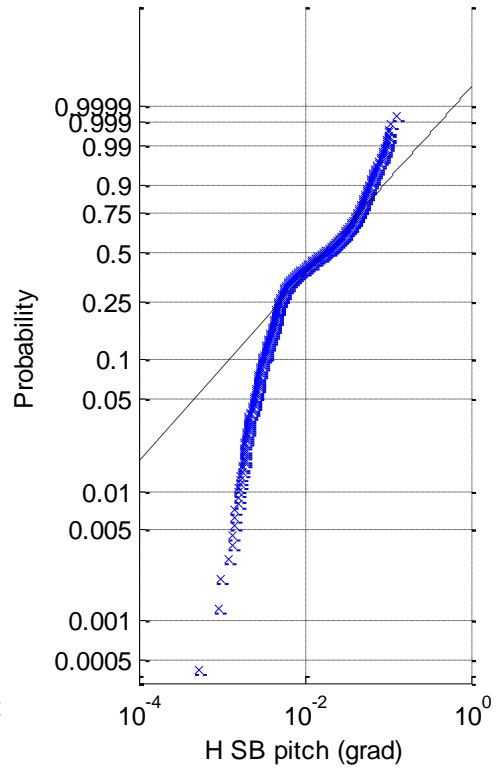




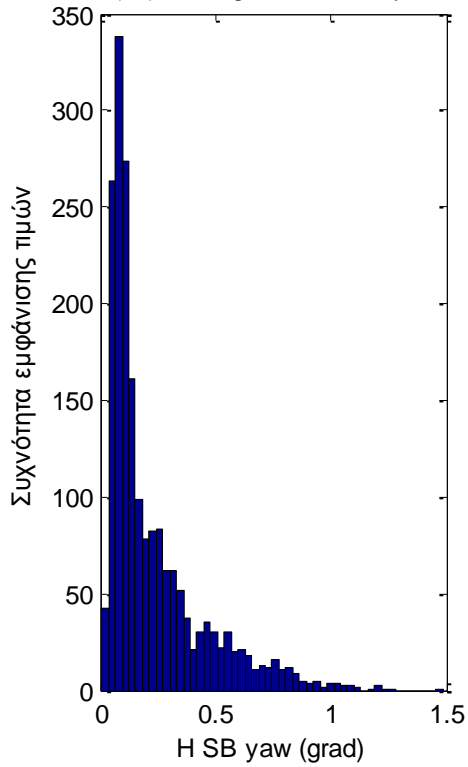
(5c) Rayleigh prob. plot of H SB pitch



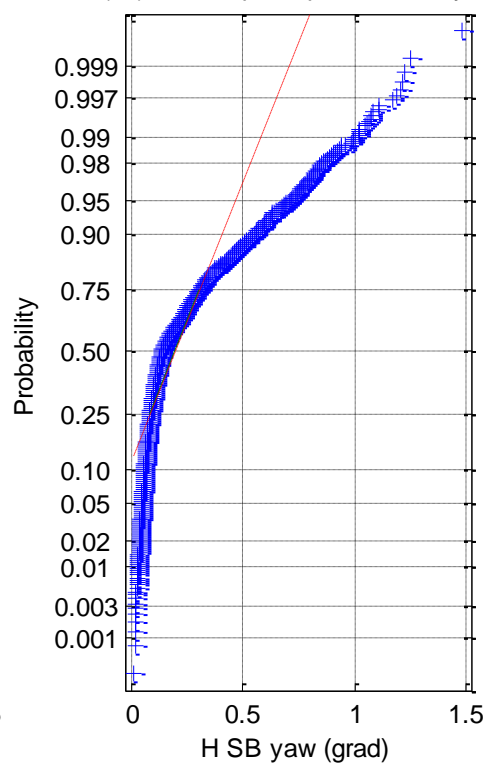
(5d) Weibull prob. plot of H SB pitch

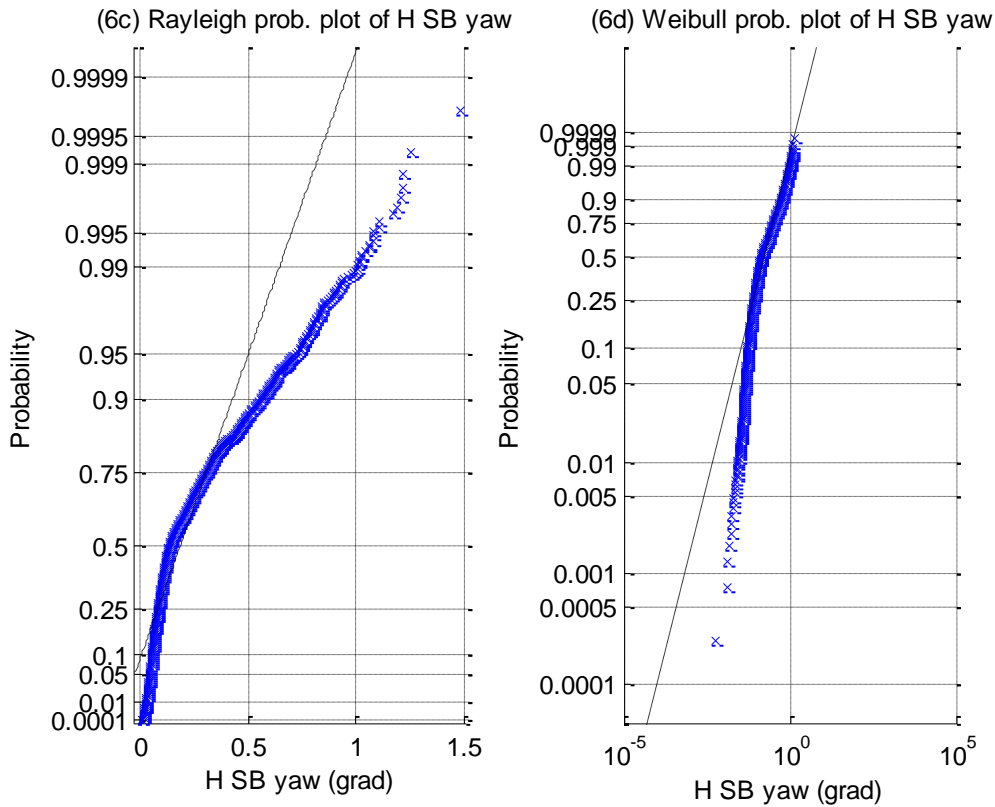


(6a) Histogram of H SB yaw

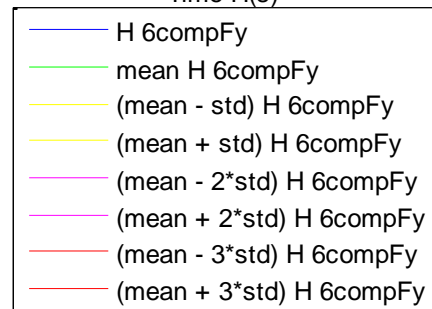
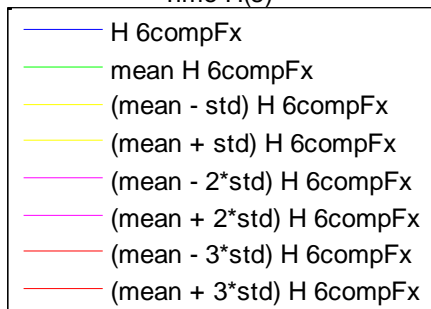
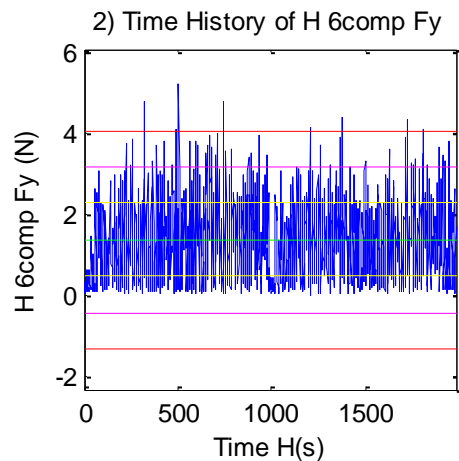
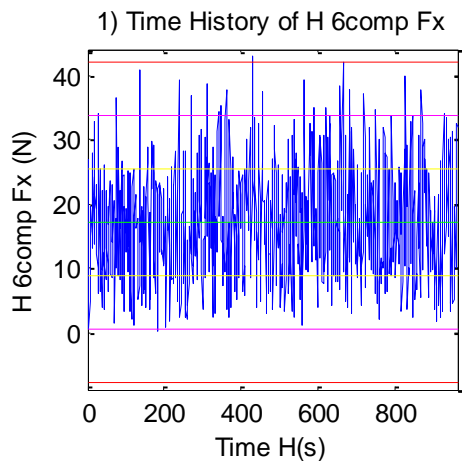


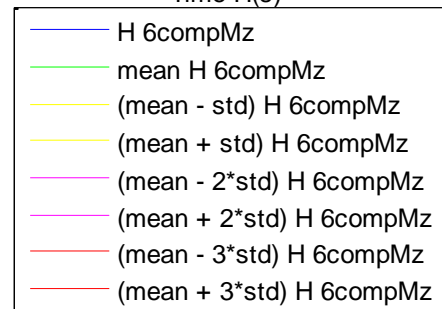
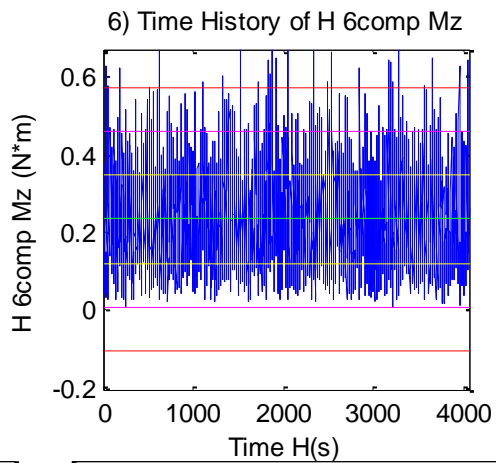
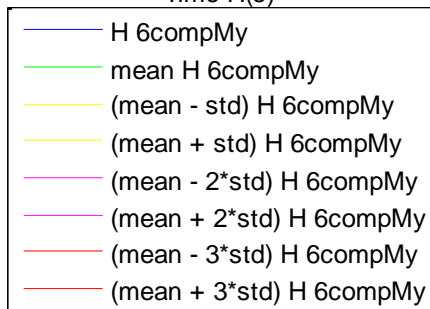
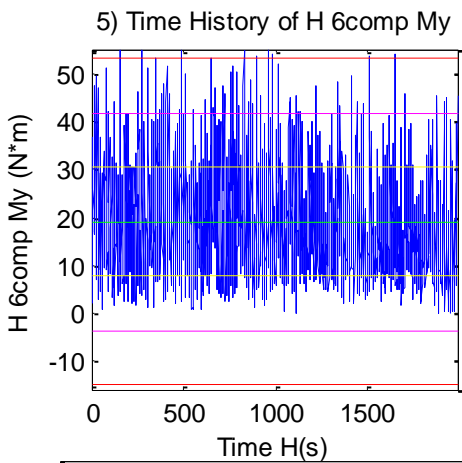
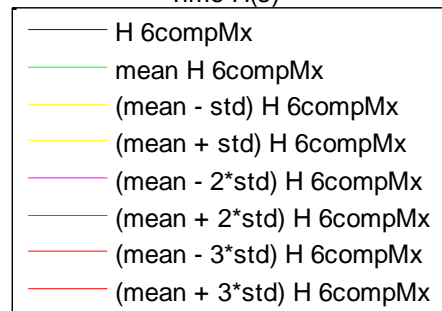
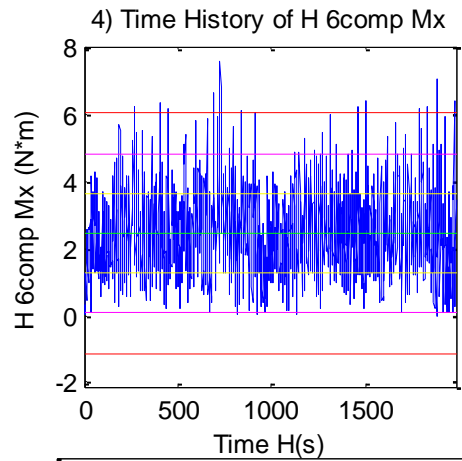
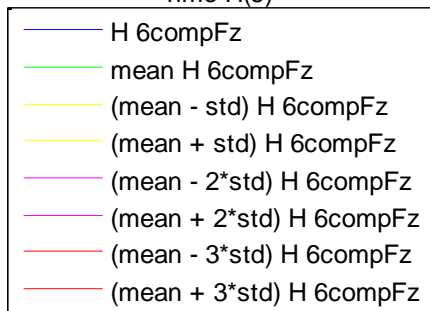
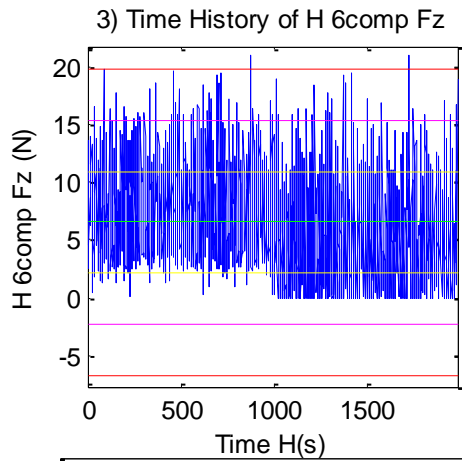
(6b) Normal prob. plot of H SB yaw



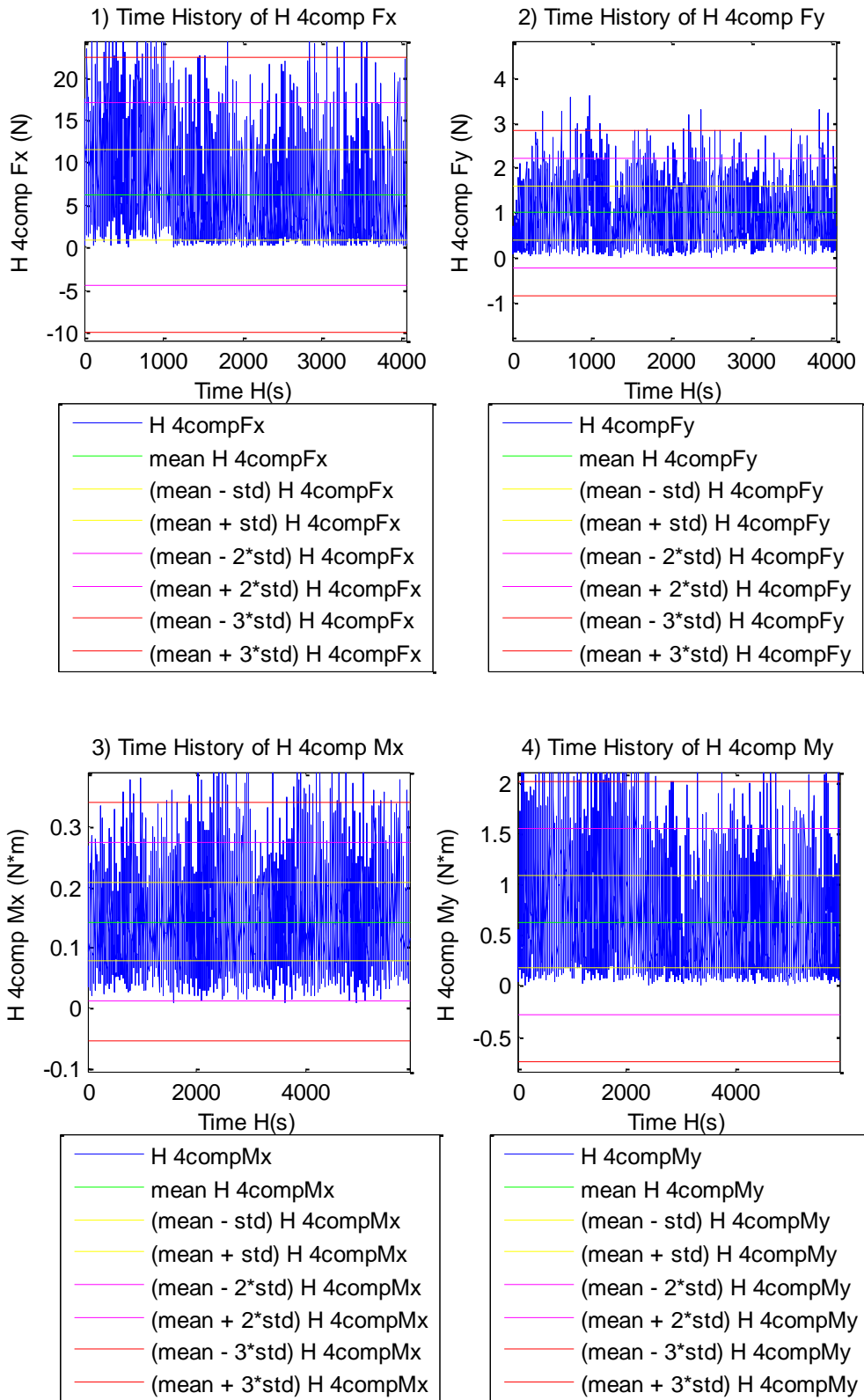


**Σχήματα 2.6.6.6 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

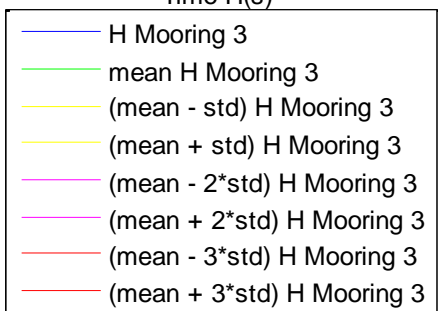
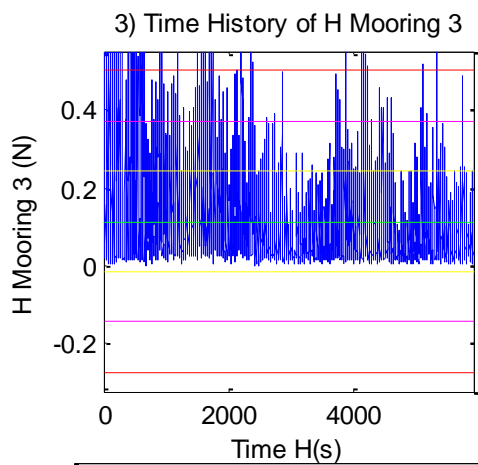
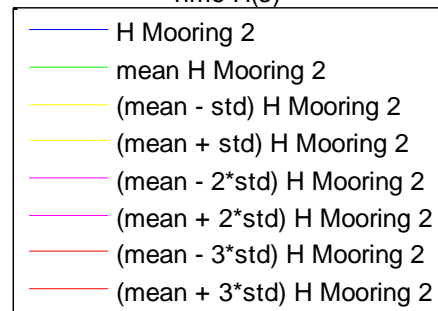
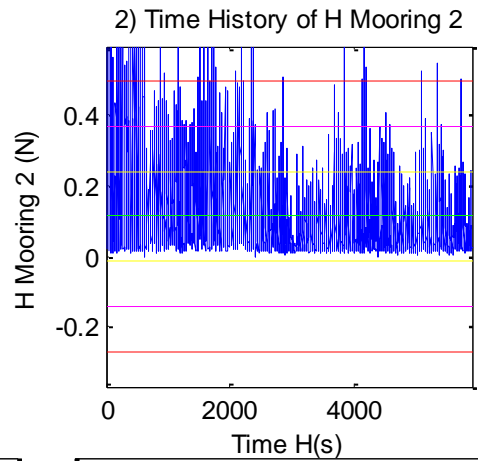
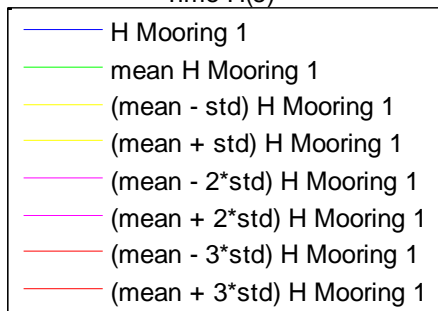
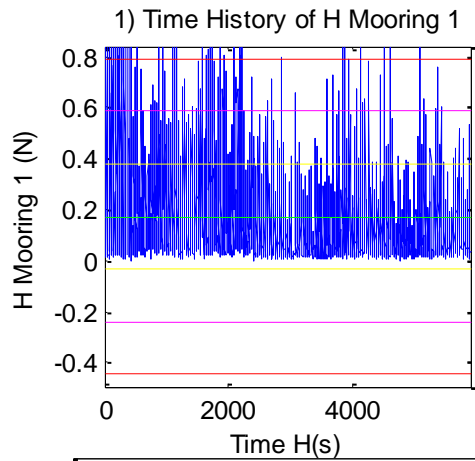




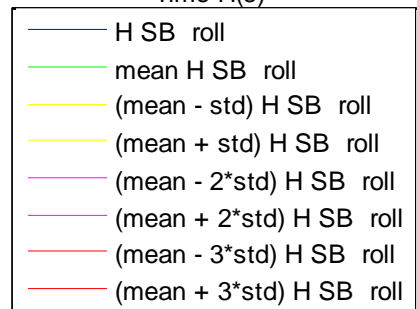
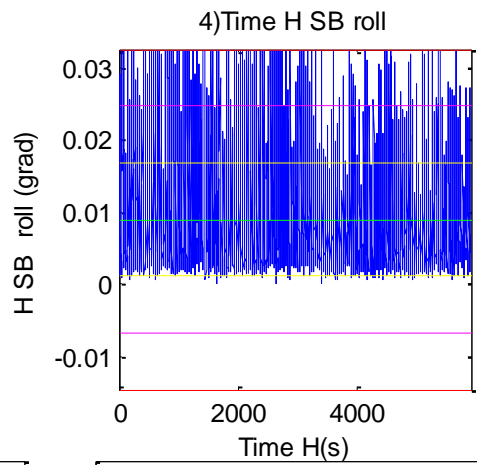
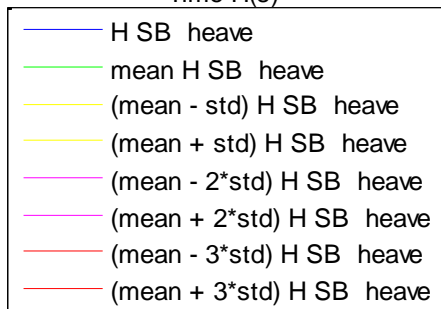
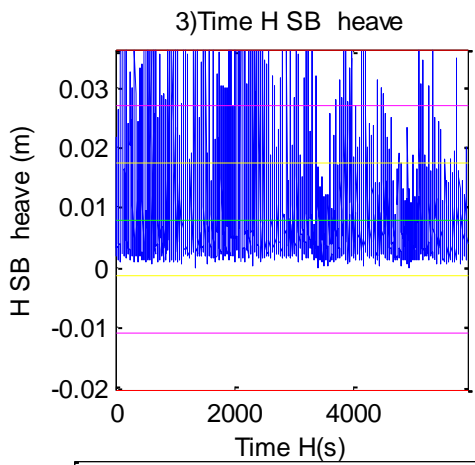
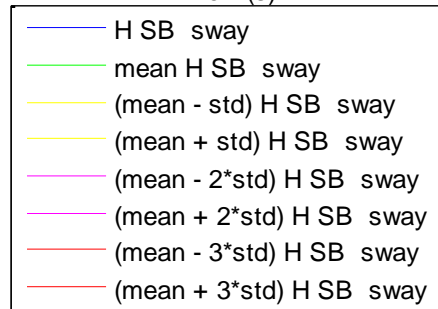
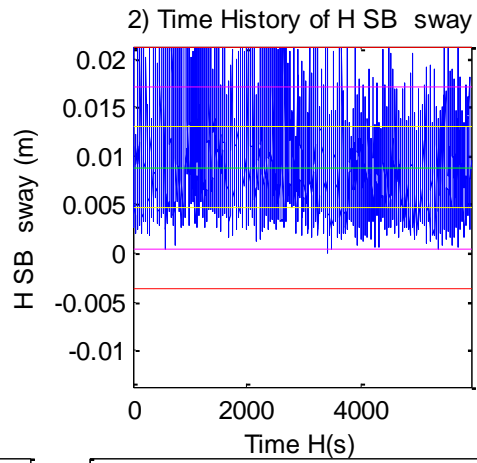
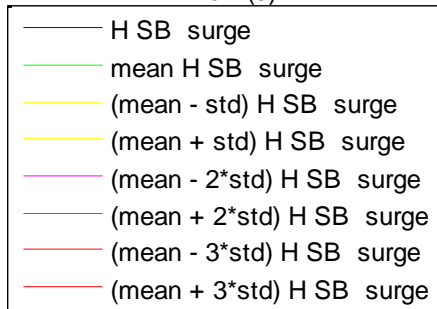
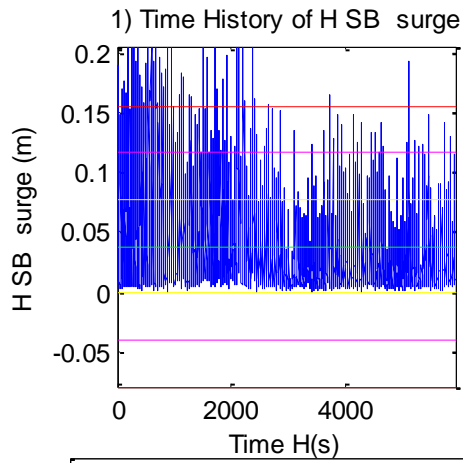
**Σχήματα 2.6.7.1 (1-6)** Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

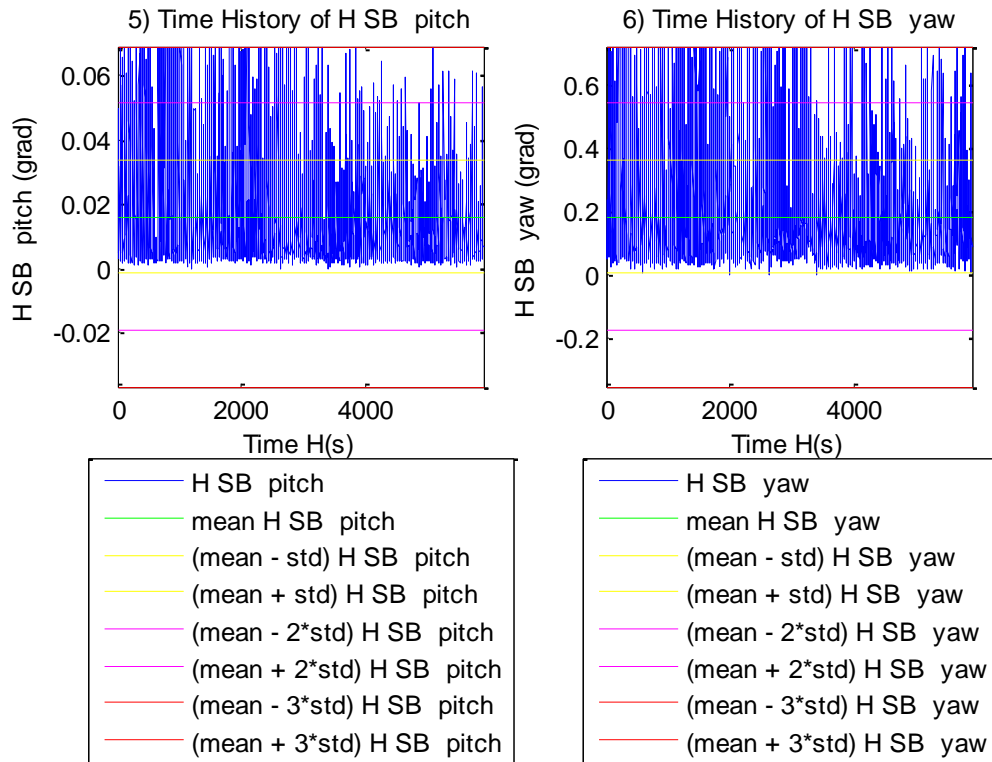


**Σχήματα 2.6.7.2 (1-4)** Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch



**Σχήματα 2.6.7.3 (1-3)** Διαγράμματα διάταξης του H για τις τρεις δυνάμεις στις τρεις γραμμές αγκύρωσης της Α/Γ





**Σχήματα 2.6.7.4 (1-6)** Διαγράμματα διάταξης του H για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=100**

4.0928	3.7388	3.7334	1.7111	1.0562	1.0578	1.5398	1.9954	1.5092	1.1642	0.8479
3.4495	3.8544	3.5499	1.6102	0.9322	0.9608	1.5562	1.9523	1.6127	1.3634	1.0605
3.9396	3.9447	4.4212	1.9570	1.0703	1.1117	1.1769	1.7312	1.3579	1.1197	0.8208
1.0670	1.0563	1.0917	1.1766	0.9941	0.9950	0.9962	1.0017	0.9960	0.9909	0.9948
0.7420	0.9074	0.8965	0.9666	4.4355	4.2658	0.7387	1.0266	1.1666	1.0686	1.1804
0.7263	0.9159	0.8740	0.9646	4.2972	4.4706	0.7671	0.9612	1.2622	1.1281	1.1390
1.6510	1.3037	1.3629	1.0158	0.7574	0.7559	4.4197	2.0799	0.9429	1.0783	1.1134
2.2204	1.9199	1.9973	1.0621	0.9505	0.8256	1.6051	4.4262	2.3313	1.1983	1.0213
1.6725	1.5861	1.7125	1.0759	1.2000	1.1900	0.9127	2.2091	4.3953	3.1546	2.4543
1.2431	1.0710	1.4127	1.0771	1.3406	1.3703	1.1989	1.1859	2.5569	4.3694	3.8497
1.0233	0.9056	1.1379	1.0427	1.4691	1.4759	1.4348	0.9671	1.8630	3.6420	4.3526

**Μητρώα MKN για τα 11 όργανα μέτρησης (WG) για K=1000**

3.2641	3.0736	2.9329	1.3519	0.9958	1.0104	1.4936	1.6107	1.3884	1.0930	0.9752
2.9334	3.1482	2.7804	1.2866	0.9340	0.9358	1.5117	1.6380	1.4840	1.2041	1.0770
3.0990	3.0607	3.4431	1.4656	1.0226	1.0512	1.3012	1.4970	1.2933	1.0978	0.9909
1.0277	1.0206	1.0452	1.1375	0.9981	1.0006	0.9996	1.0022	0.9986	0.9989	0.9980
0.9852	0.9893	1.0055	0.9937	3.4320	3.3298	0.9449	0.9654	0.9875	1.0546	1.1297
0.9823	0.9941	1.0128	1.0010	3.3566	3.4653	0.9579	0.9288	0.9903	1.0734	1.1329
1.3738	1.3624	1.2109	0.9952	0.9342	0.9008	3.4524	1.7254	0.9413	0.9491	1.0595
1.7220	1.6473	1.5351	1.0965	0.9374	0.8934	1.5911	3.3993	1.9226	1.1527	0.9690
1.4801	1.5688	1.4286	1.0849	1.0534	1.0509	0.9012	1.9413	3.4319	2.4725	1.9490
1.1083	1.2147	1.1893	1.0421	1.1353	1.1394	0.9819	1.1563	2.3463	3.3954	3.0905
0.9654	1.0684	1.0662	1.0162	1.1824	1.1868	1.0914	0.9768	1.8028	3.0797	3.3783

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz] για K=100**

1.7889	1.5130	1.1129	1.1065	1.7553	1.4549
1.1408	1.3263	1.0047	0.7816	1.1816	1.1236
1.0726	1.0725	1.0726	1.0607	1.0726	1.0603
1.4030	0.7450	1.2139	3.1383	1.1247	0.9367
1.8171	1.5166	1.1883	1.1735	1.8705	1.4633
1.2456	1.1552	1.0715	0.9847	1.2561	1.5242

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz] για K=1000**

1.6189	1.3491	1.1237	1.0938	1.5981	1.3029
1.1234	1.2364	1.0221	0.8413	1.1274	1.0664
1.0726	1.0693	1.0726	1.0461	1.0726	1.0536
1.1558	0.4223	1.0949	2.5747	1.1423	0.9846
1.6074	1.3445	1.1880	1.1432	1.6296	1.2737
1.1645	1.0821	1.0416	1.0061	1.1621	1.3779



**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=100**

1.8283	1.2470	0.6869	1.7897
1.6372	4.4467	2.7726	1.9057
0.9658	1.0564	1.1347	0.9722
2.3823	1.4472	0.5670	2.4869

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=1000**

1.5976	1.0971	0.8057	1.5458
1.3155	3.4484	2.1811	1.4745
0.9741	1.0398	1.1011	0.9818
1.8890	1.1707	0.7414	2.0027

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=100**

1.0602	0.9893	0.9831
0.9662	1.0562	1.0484
0.9652	1.0454	1.0578

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=1000**

1.0478	0.9801	0.9814
0.9764	1.0427	1.0369
0.9766	1.0366	1.0432

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway,  
Heave, Roll, Pitch, Yaw] για K=100**

1.1558	1.0138	1.0376	1.0409	1.1219	0.9465
1.0284	1.0905	1.0057	0.9874	1.0280	1.0208
1.2959	0.8388	2.6253	0.7464	1.5292	1.2050

2.0187 1.3727 0.8172 4.1085 1.6013 1.6476  
 1.1254 1.0346 1.0491 1.0499 1.1597 0.9660  
 0.6240 0.7505 1.1285 1.2343 0.6319 4.3897

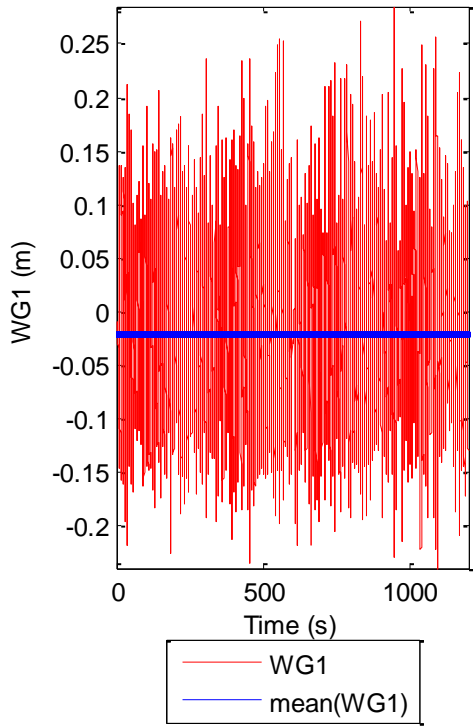
**Μητρώα ΜΚΝ για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000**

1.1228 1.0062 1.0189 1.0452 1.0979 0.9653  
 1.0078 1.0724 0.9979 1.0052 1.0122 1.0058  
 1.2122 0.8958 2.2268 0.7972 1.2637 1.1002  
 1.7005 1.2555 0.9538 3.0667 1.7467 0.9815  
 1.0968 1.0211 1.0265 1.0485 1.1219 0.9702  
 0.7419 1.0330 1.0708 1.2829 0.7227 3.4238

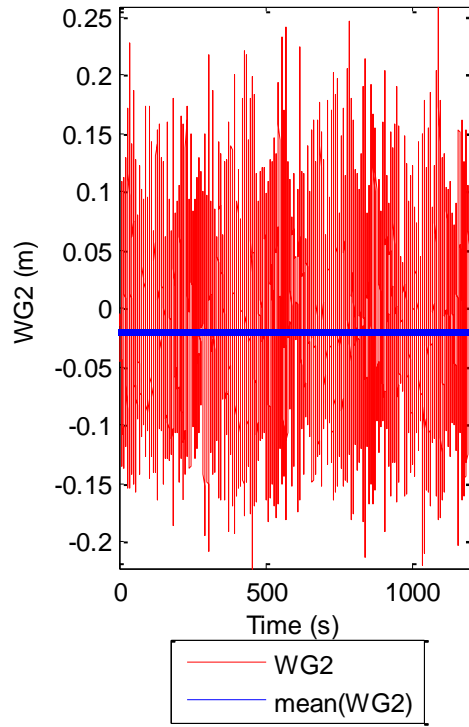
**2.7 Παρουσίαση χρονοσειρών (C13) T1429+T1430\_1.6\_0.15\_SB\_20\_R**

<b>Πίνακας 2.7.1</b>	<b>Χαρακτηριστικά Πειράματος</b>
Τύπος μοντέλου	SB
Ύψος κύματος (m)	0.150
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	20
Περιστροφή η μη του Ρότορα	Περιστροφή

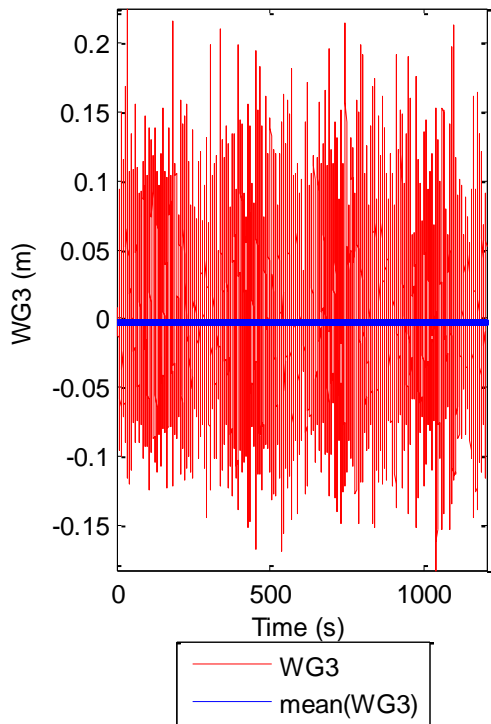
(1) Time History of WG1



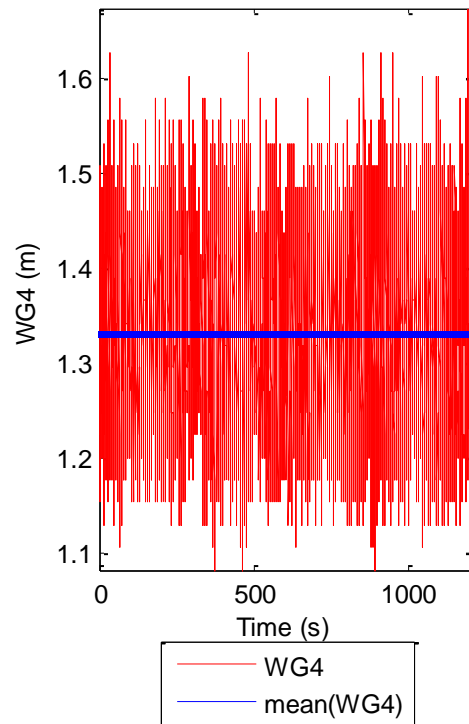
(2) Time History of WG2



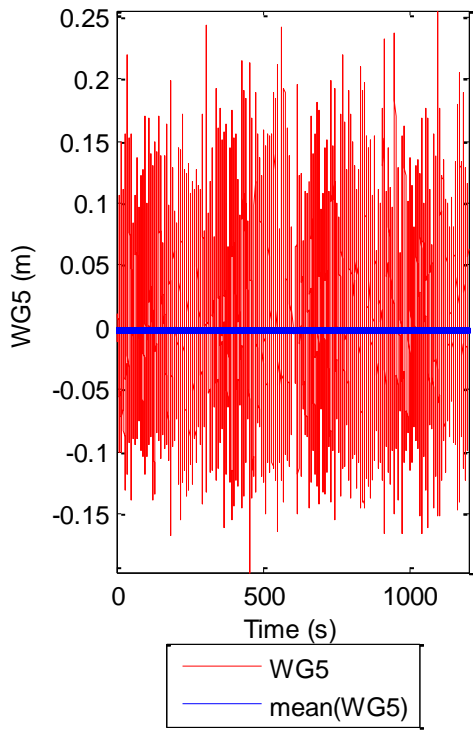
(3) Time History of WG3



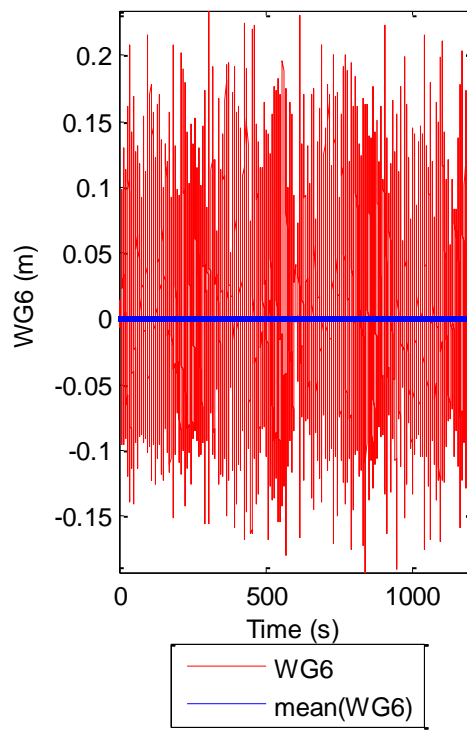
$\times 10^{-3}$  (4) Time History of WG4



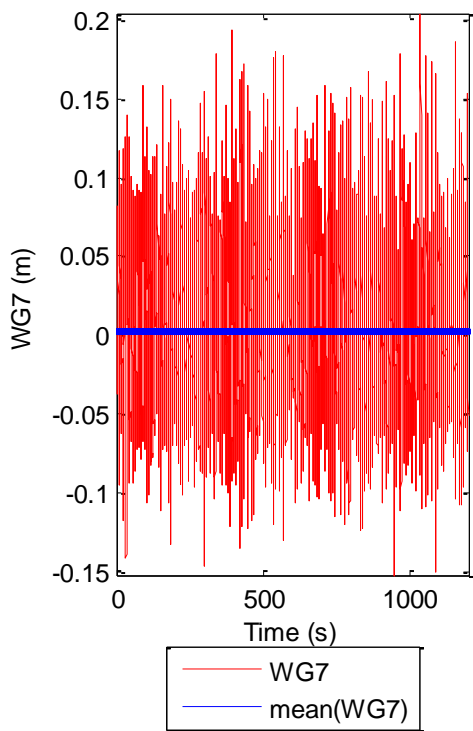
(5) Time History of WG5



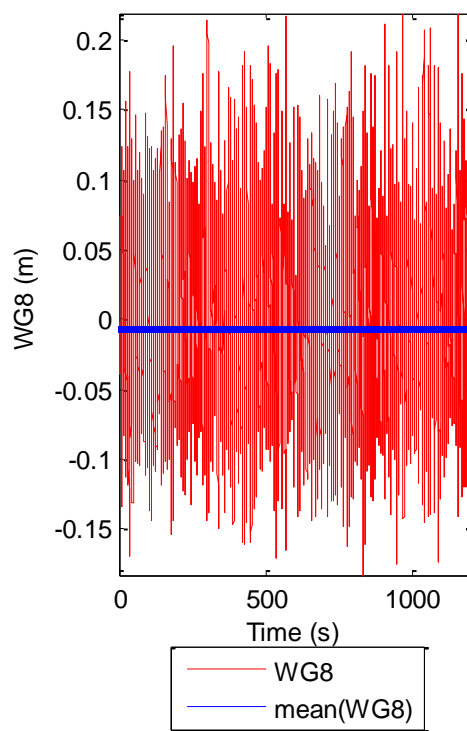
(6) Time History of WG6

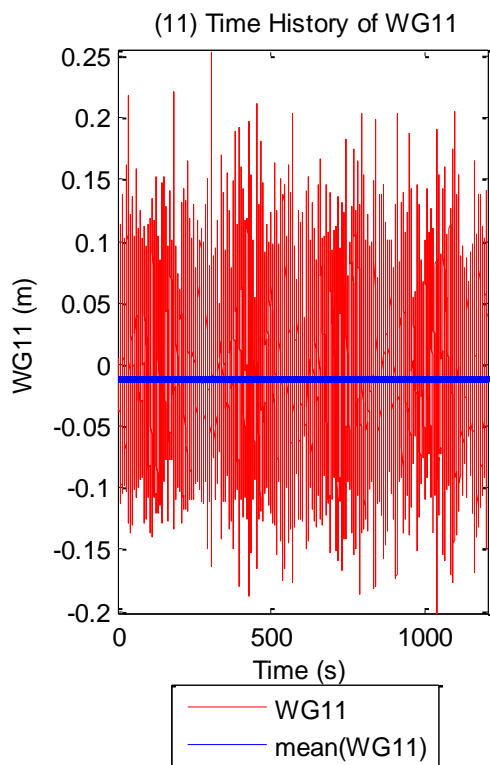
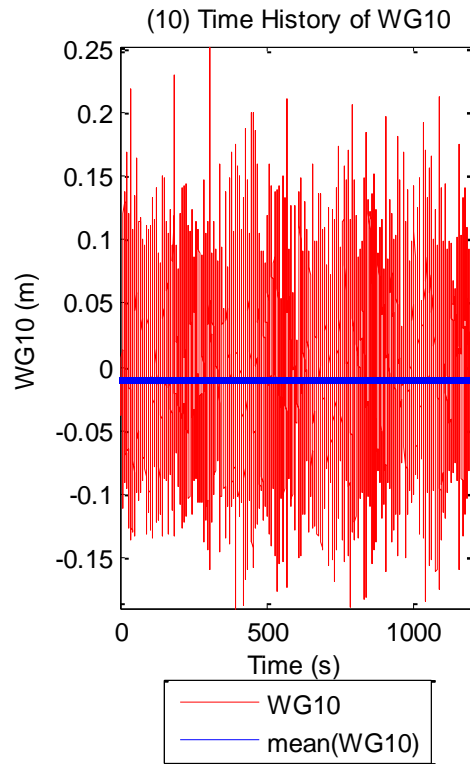
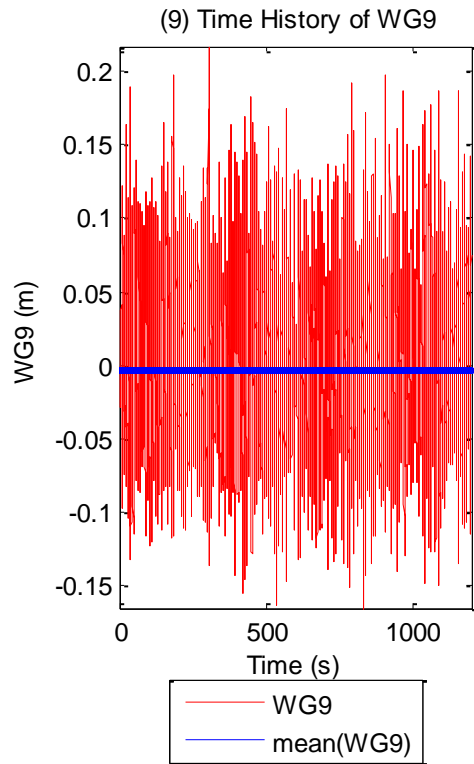


(7) Time History of WG7



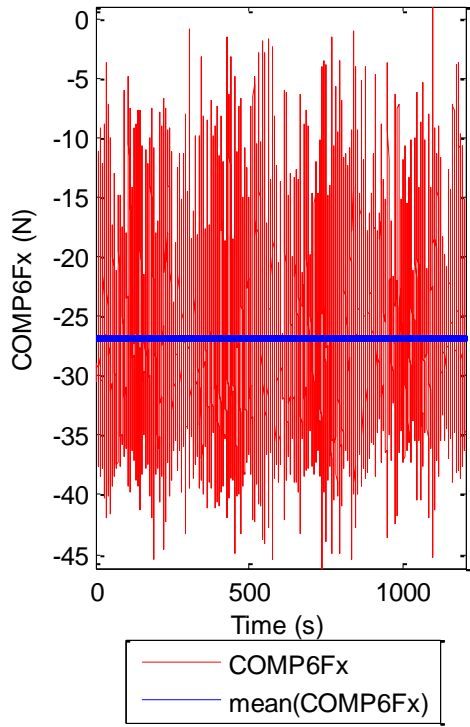
(8) Time History of WG8



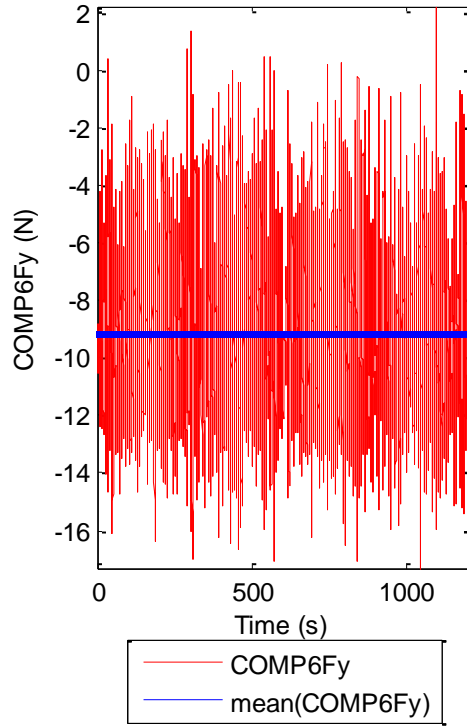


**Σχήματα 2.7.1.1 (1-6)** Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

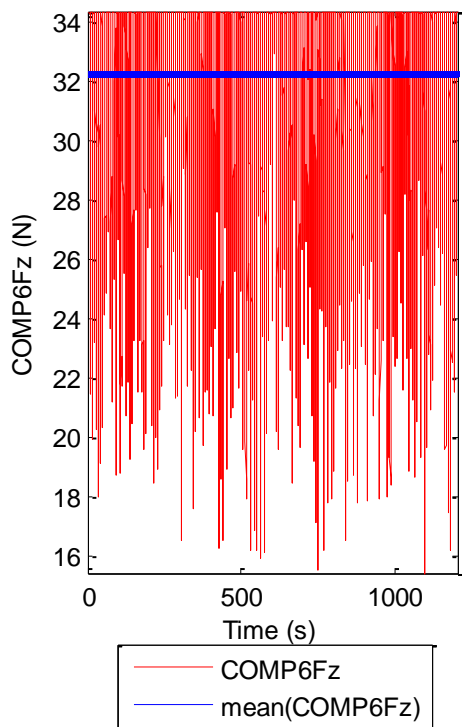
(1) Time History of COMP6Fx



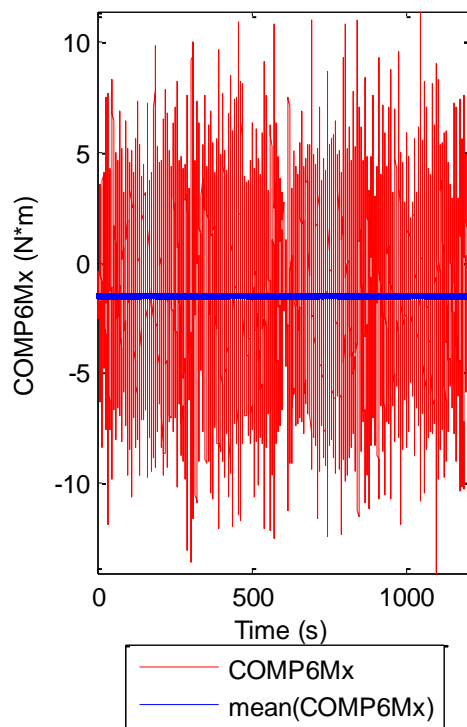
(2) Time History of COMP6Fy

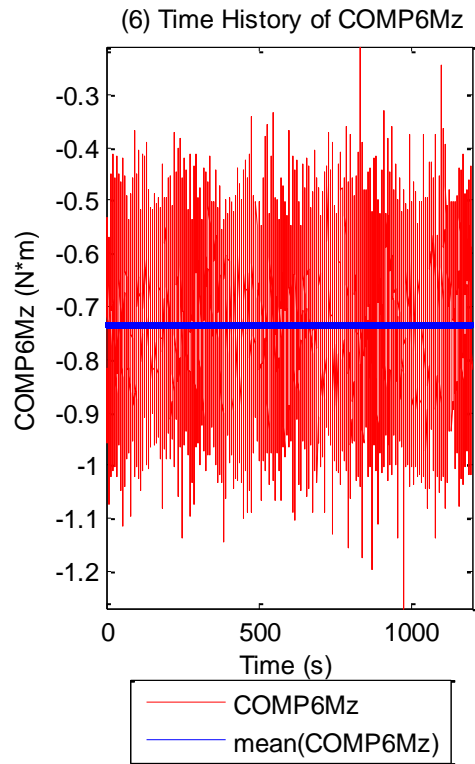
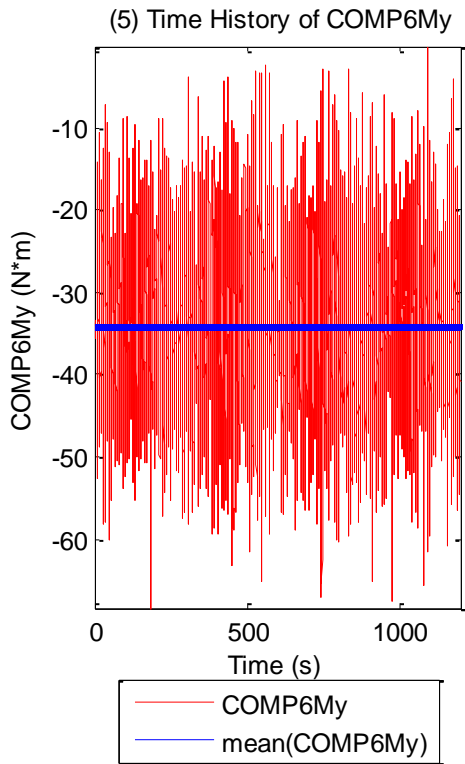


(3) Time History of COMP6Fz

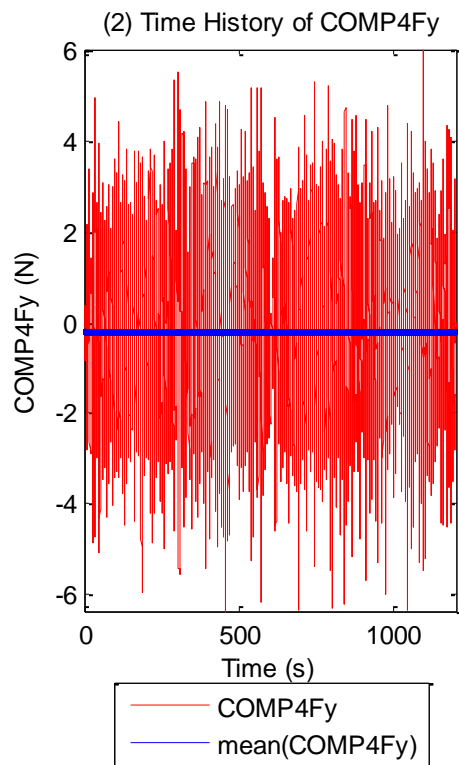
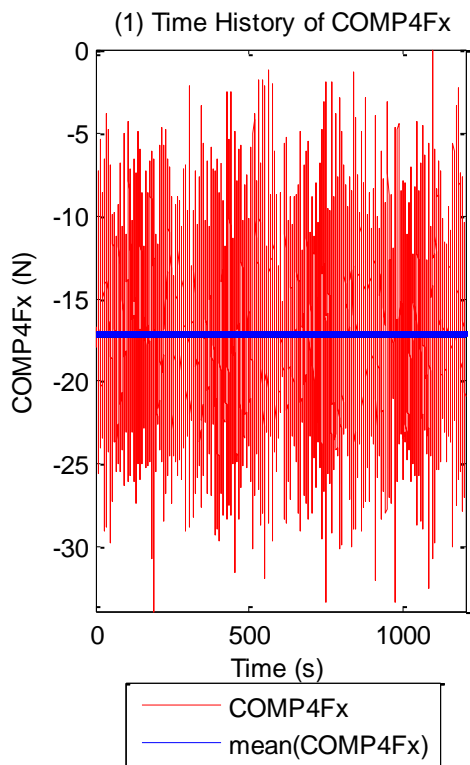


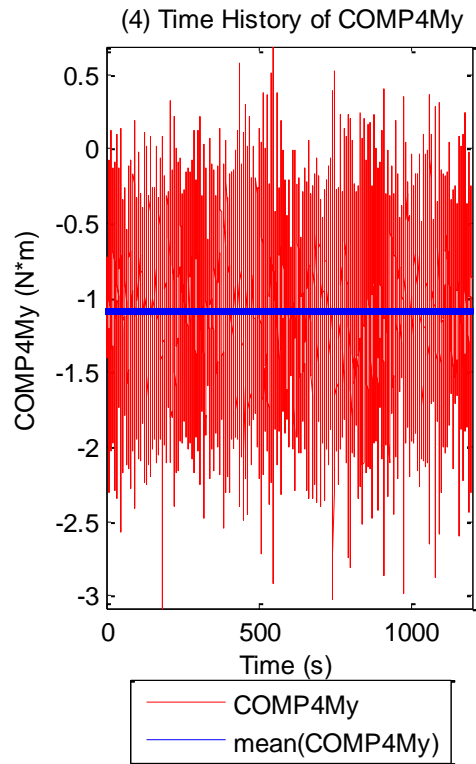
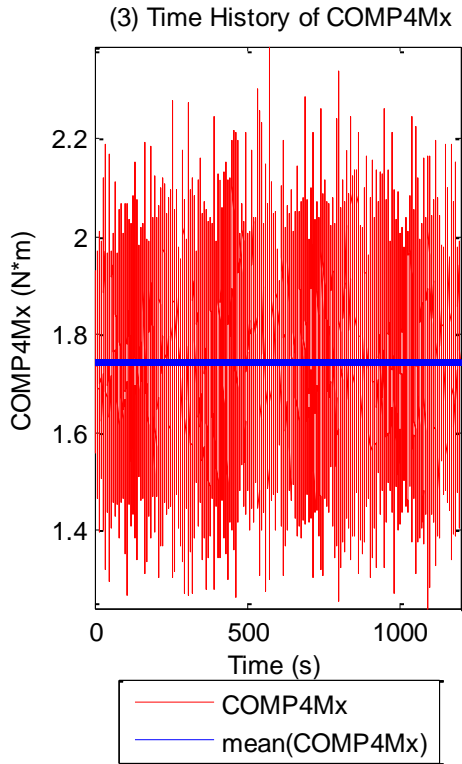
(4) Time History of COMP6Mx



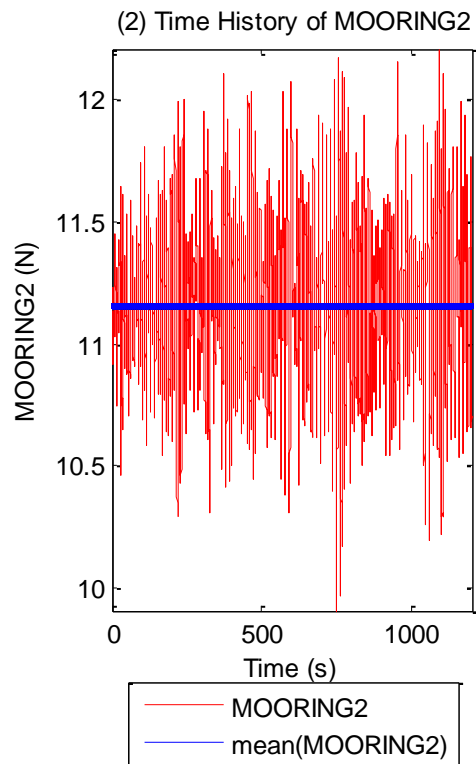
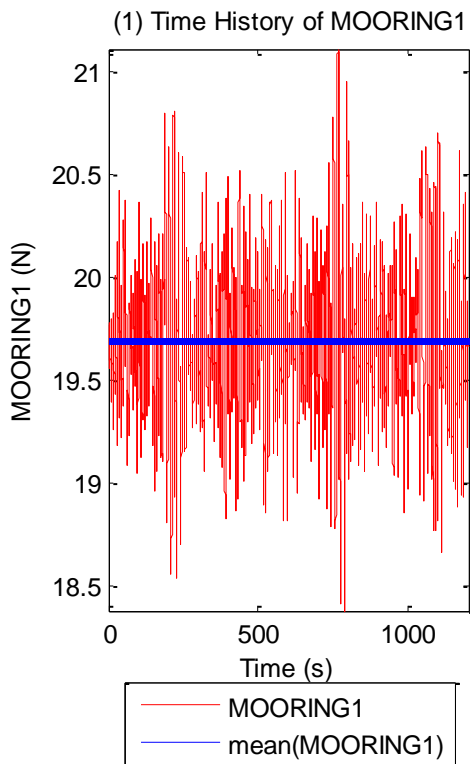


**Σχήματα 2.7.1.2** Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

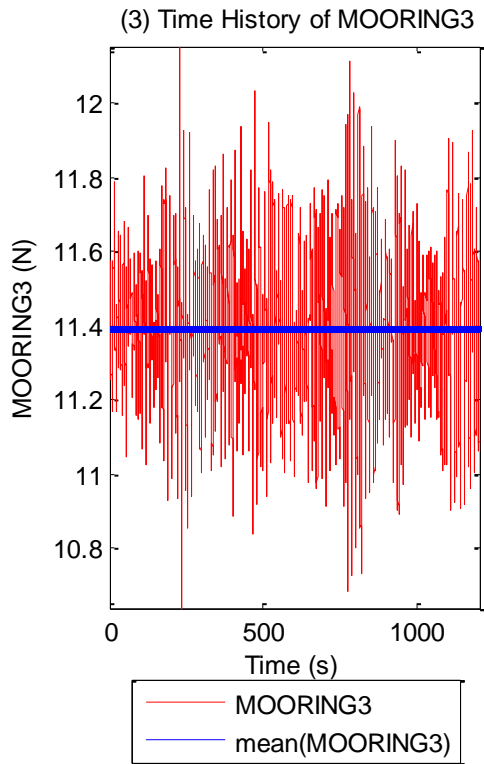




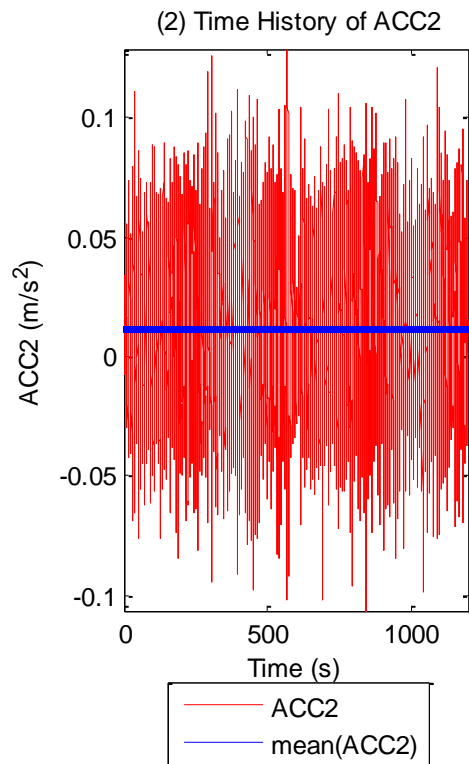
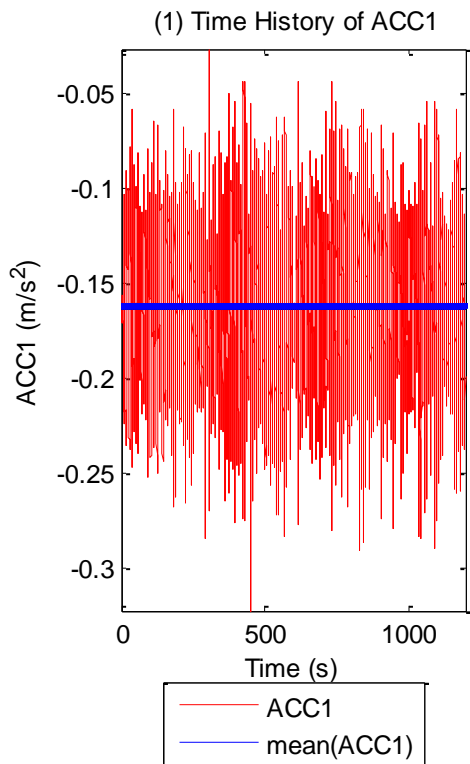
**Σχήματα 2.7.1.3** Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)

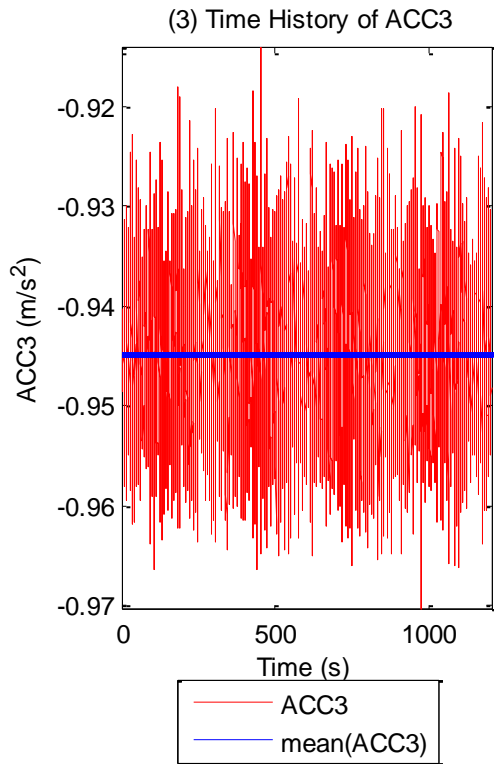






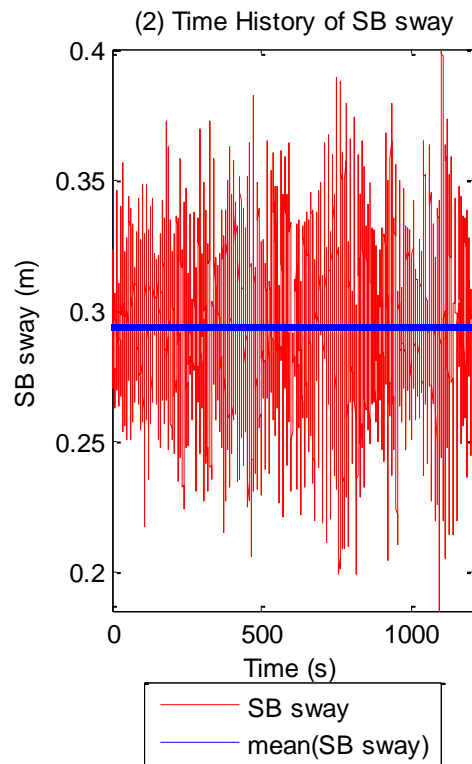
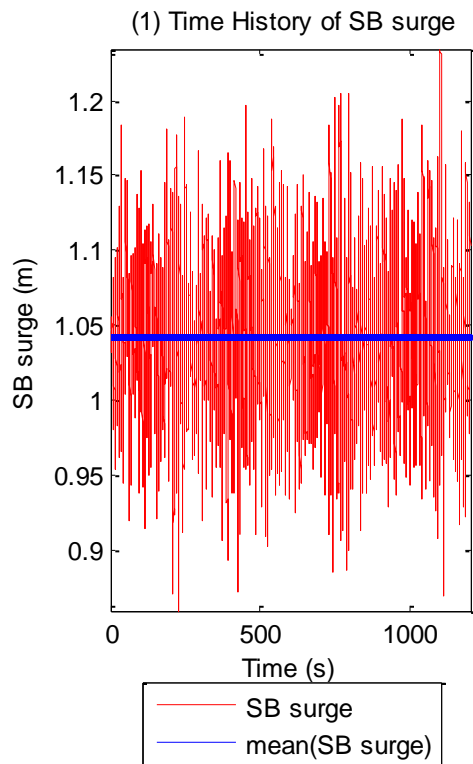
**Σχήματα 2.7.1.4** Χρονοσειρές για τις δυνάμεις στις τρεις γραμμές αγκύρωσης (1-3) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές

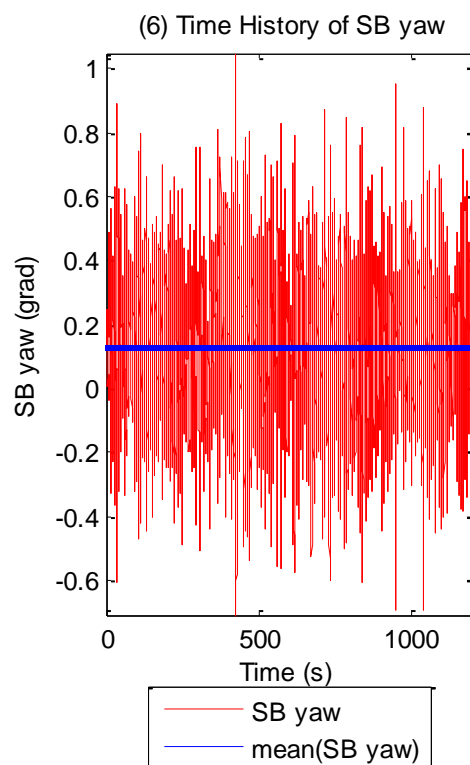
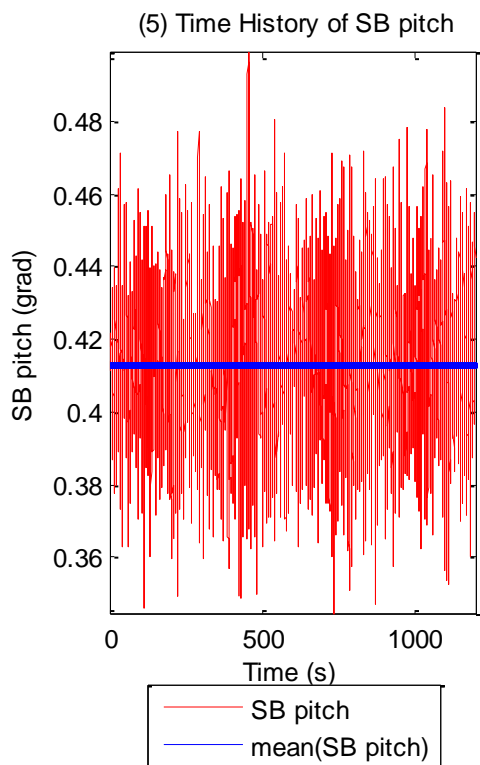
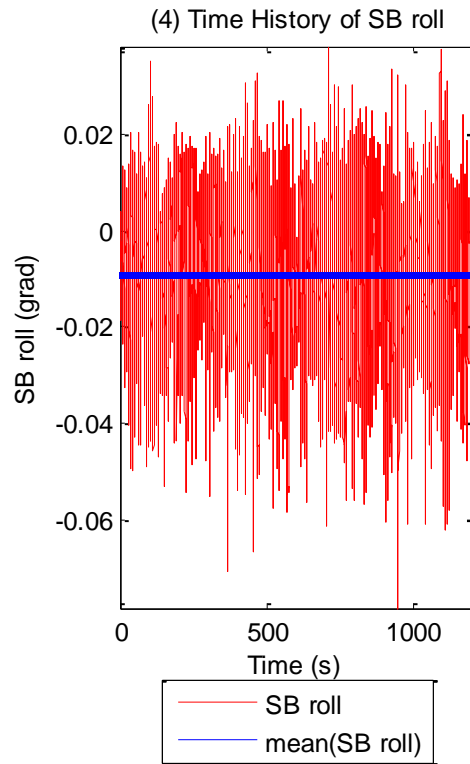
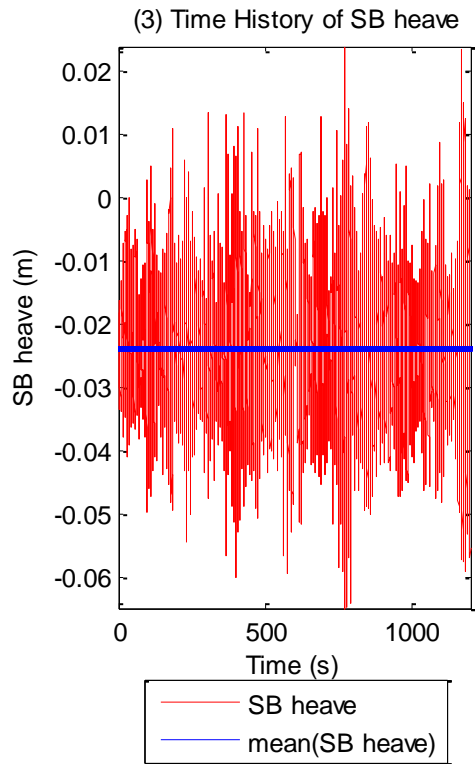




**Σχήματα 2.7.1.5 (1-3)** Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης

(1) Acc1, (2) Acc2 και (3) Acc3





**Σχήματα 2.7.1.6** Χρονοσειρές για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

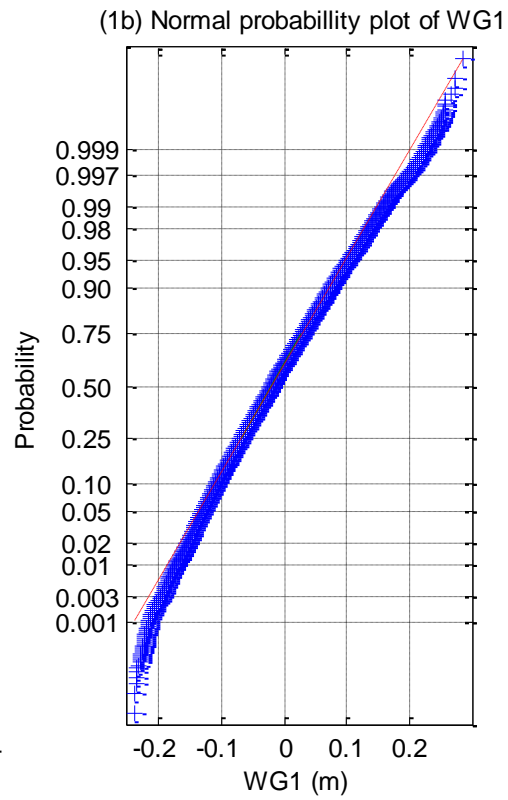
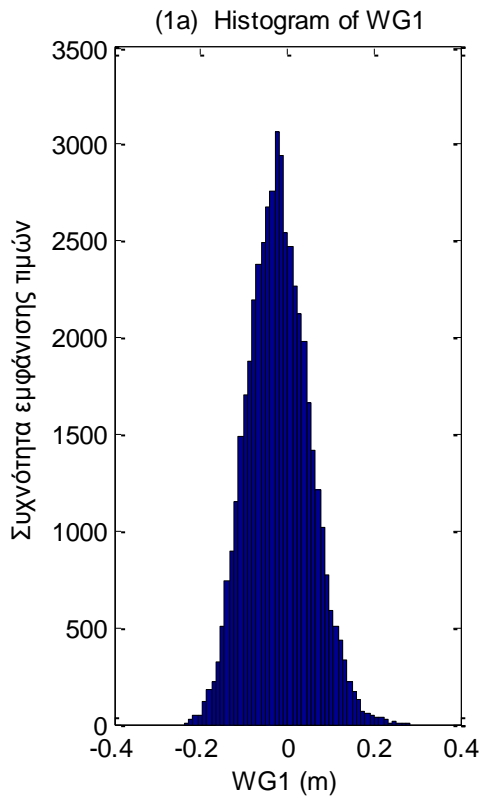
<b>Πίνακας 2.7.2</b>					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H <sub>rms</sub>
Wg1 (m)	-0.0195	0.0708	-0.2388	0.2849	0.2000
Wg2 (m)	-0.0190	0.0646	-0.2223	0.2592	0.1807
Wg3 (m)	-0.0028	0.0544	-0.1829	0.2256	0.1529
Wg4 (m)	0.0013	0.0001	0.0011	0.0017	0.0002
Wg5 (m)	-0.0016	0.0601	-0.1971	0.2553	0.0566
Wg6 (m)	-0.0000	0.0612	-0.1927	0.2342	0.0577
Wg7 (m)	0.0024	0.0474	-0.1519	0.2041	0.0449
Wg8 (m)	-0.0063	0.0563	-0.1827	0.2190	0.0536
Wg9 (m)	-0.0036	0.0510	-0.1656	0.2171	0.0487
Wg10 (m)	-0.0102	0.0570	-0.1895	0.2520	0.0546
Wg11 (m)	-0.0106	0.0584	-0.2015	0.2542	0.0558
6comp_Fx (N)	-26.7751	6.5464	-46.1642	1.1357	6.3923
6comp_Fy(N)	-9.1702	2.4786	-17.2996	2.2232	2.4678
6comp_Fz (N)	32.2627	3.3845	15.4297	34.3768	3.4830
6comp_Mx (N*m)	-1.4424	3.2891	-14.0886	11.3967	3.4794
6comp_My (N*m)	-34.1325	8.5576	-68.3536	-0.1541	9.0262
6comp_Mz (N*m)	-0.7347	0.1042	-1.2691	-0.2090	0.2021
4comp_Fx (N)	-17.1034	4.2711	-33.8487	0.0491	5.3807
4comp_Fy (N)	-0.1910	1.5974	-6.3625	6.0269	2.0421
4comp_Mx (N*m)	1.7455	0.1416	1.2423	2.3889	0.2026

4comp_My (N*m)	-1.0824	0.3930	-3.0836	0.6867	0.6145
Mooring_1 (N)	19.6931	0.3427	18.3804	21.1070	0.1909
Mooring_2 (N)	11.1561	0.3121	9.9065	12.2109	0.1767
Mooring_3 (N)	11.3908	0.2025	10.6369	12.1547	0.1041
Acc_1 (G)	-0.1612	0.0360	-0.3224	-0.0263	0.0443
Acc_2 (G)	0.0120	0.0285	-0.1063	0.1287	0.0380
Acc_3 (G)	-0.9448	0.0064	-0.9705	-0.9141	0.0080
SB_x (m)	1.0424	0.0487	0.8597	1.2343	0.0409
SB_y (m)	0.2938	0.0277	0.1852	0.4005	0.0197
SB_z (m)	-0.0236	0.0109	-0.0647	0.0240	0.0088
SB_roll (grad)	-0.0091	0.0135	-0.0782	0.0382	0.0145
SB_pitch (grad)	0.4130	0.0199	0.3442	0.4988	0.0185
SB_yaw (grad)	0.1312	0.2073	-0.7073	1.0484	0.2166

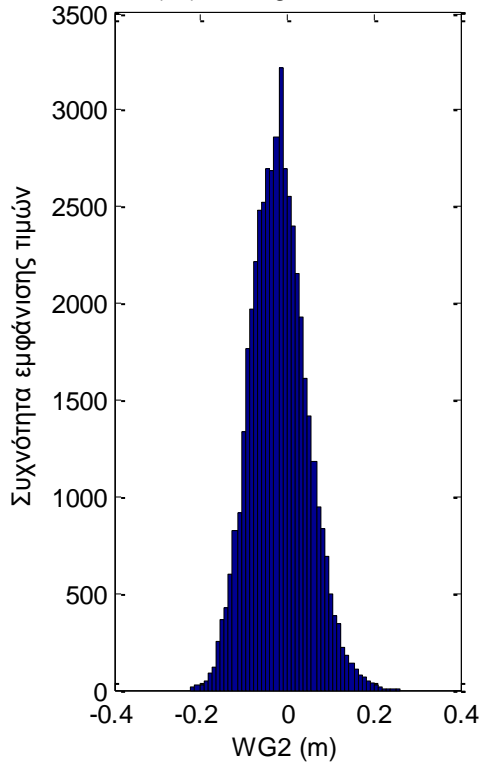
<b>Πίνακας 2.7.3</b>				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.2210	3.0386	1	1
Wg2 (m)	0.2609	3.1259	1	1
Wg3 (m)	0.2356	3.0850	1	1
Wg4 (m)	0.0752	2.6251	1	1
Wg5 (m)	0.2965	3.0909	1	1

Wg6 (m)	0.2523	3.1174	1	1
Wg7 (m)	0.2706	3.0915	1	1
Wg8 (m)	0.2716	3.1248	1	1
Wg9 (m)	0.2281	3.0805	1	1
Wg10 (m)	0.2161	3.0967	1	1
Wg11 (m)	0.2162	3.0597	1	1
6comp_Fx (N)	0.6240	3.5194	1	1
6comp_Fy(N)	0.4599	3.5076	1	1
6comp_Fz (N)	-1.7683	5.6684	1	1
6comp_Mx (N*m)	0.0519	3.0925	1	1
6comp_My (N*m)	0.1222	3.2862	1	1
6comp_Mz (N*m)	-0.0024	3.2050	1	1
4comp_Fx (N)	0.1291	3.1926	1	1
4comp_Fy (N)	-0.0526	3.1193	1	1
4comp_Mx (N*m)	0.0397	3.0265	1	1
4comp_My (N*m)	-0.0374	3.7323	1	1
Mooring_1 (N)	0.0381	3.3713	1	1
Mooring_2 (N)	0.0395	3.1279	1	1
Mooring_3 (N)	-0.0227	3.0940	1	1
Acc_1 (G)	-0.0761	2.9511	1	1
Acc_2 (G)	-0.0161	3.1221	1	1
Acc_3 (G)	0.2083	3.4733	1	1
SB_x (m)	-0.0232	3.2262	1	1
SB_y (m)	-0.0184	3.1538	1	1

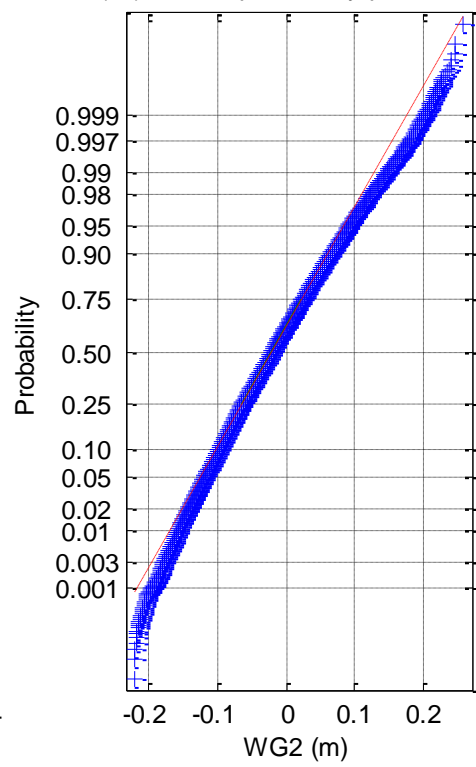
SB_z (m)	0.1379	3.5378	1	1
SB_roll (grad)	-0.2312	3.2331	1	1
SB_pitch (grad)	0.0517	3.0499	1	1
SB_yaw (grad)	-0.0213	3.2910	1	1



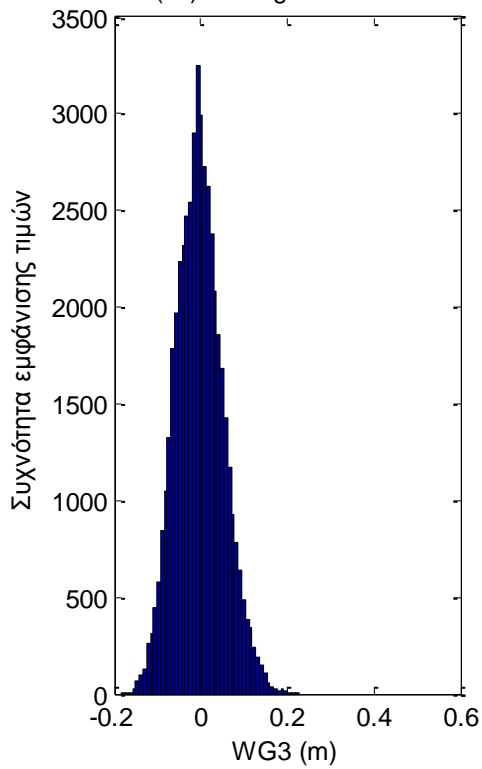
(2a) Histogram of WG2



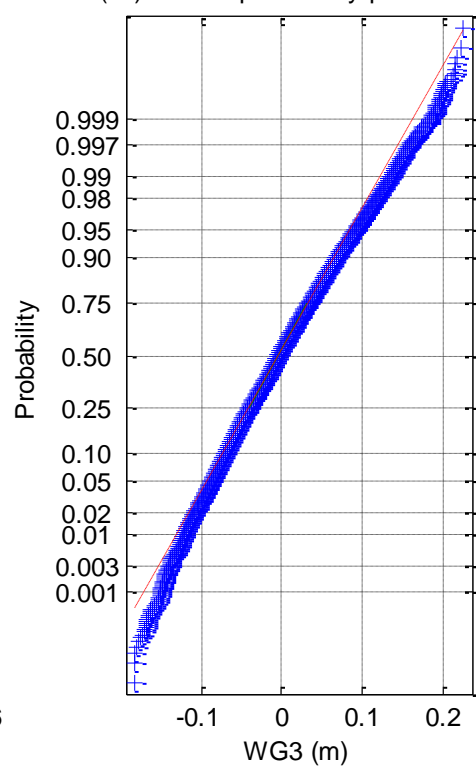
(2b) Normal probability plot of WG2



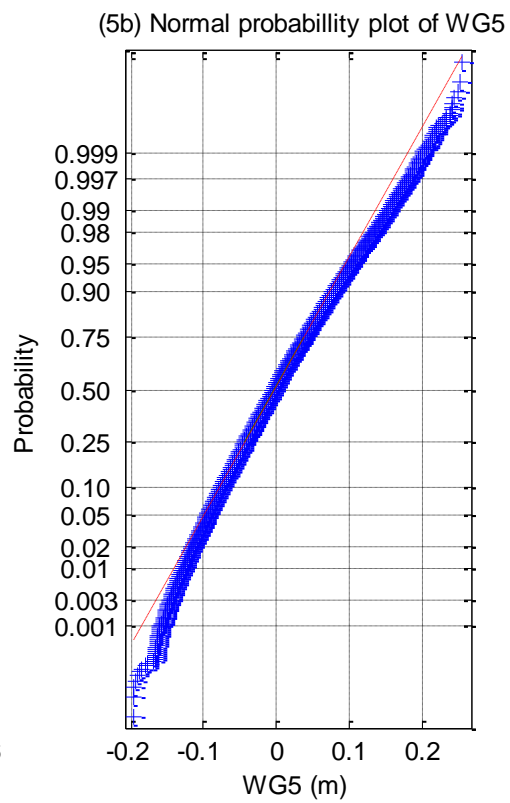
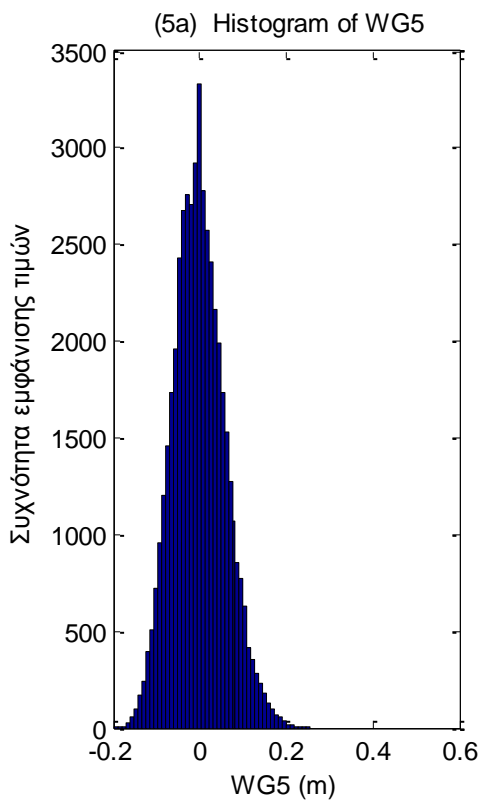
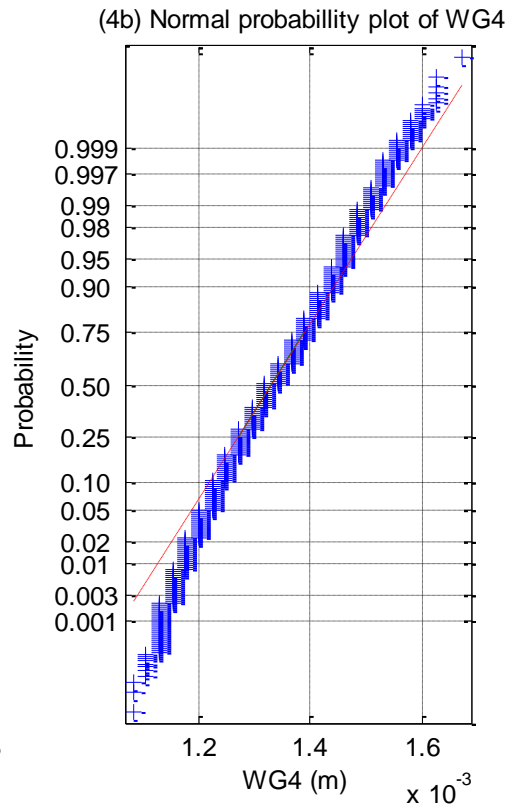
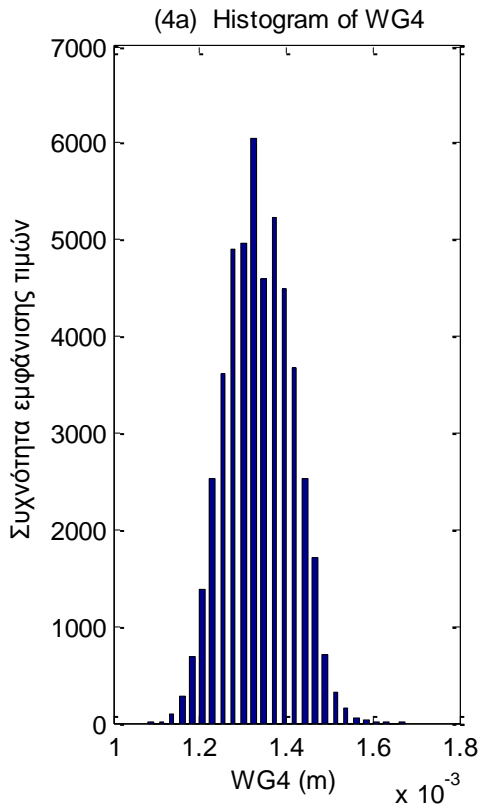
(3a) Histogram of WG3



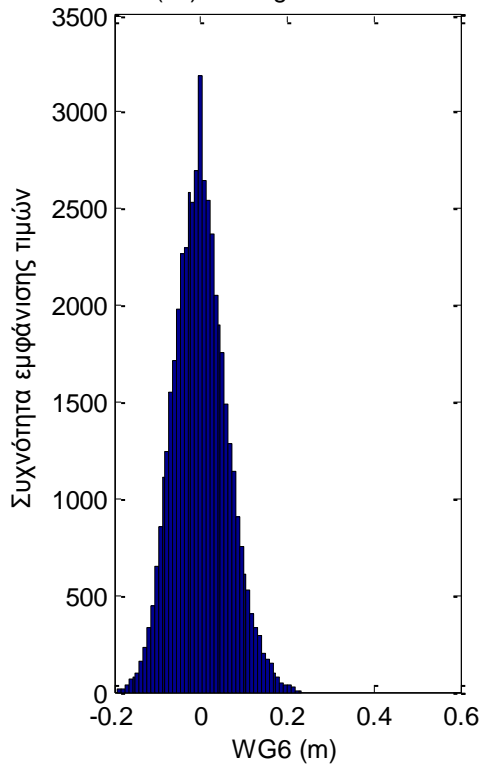
(3b) Normal probability plot of WG3



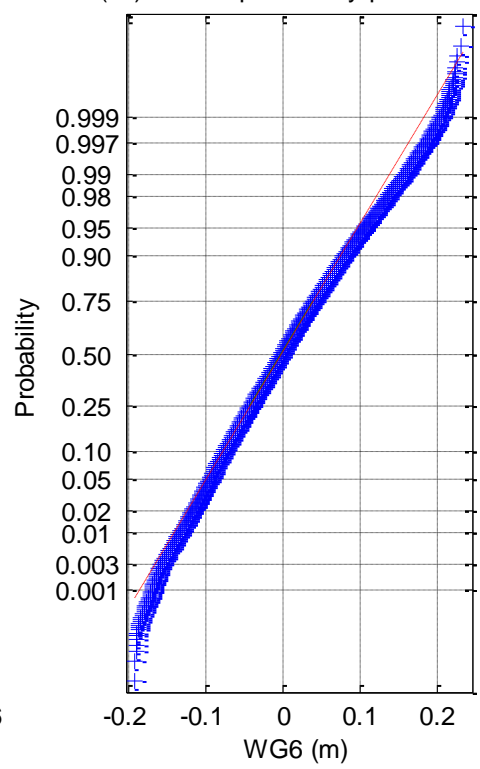




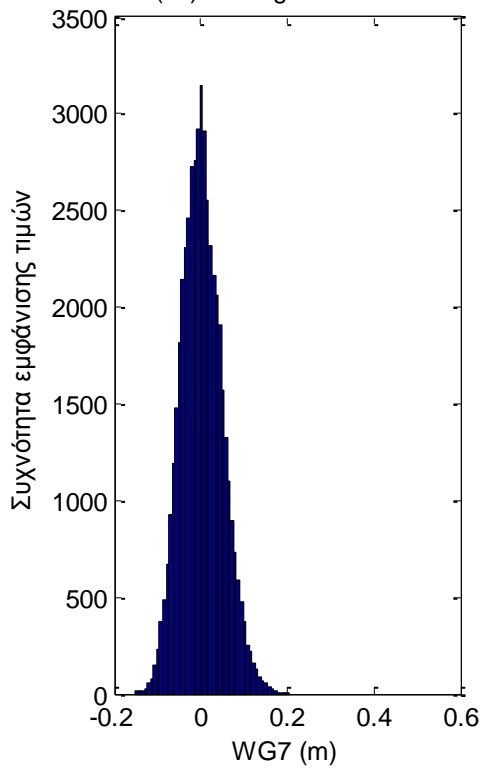
(6a) Histogram of WG6



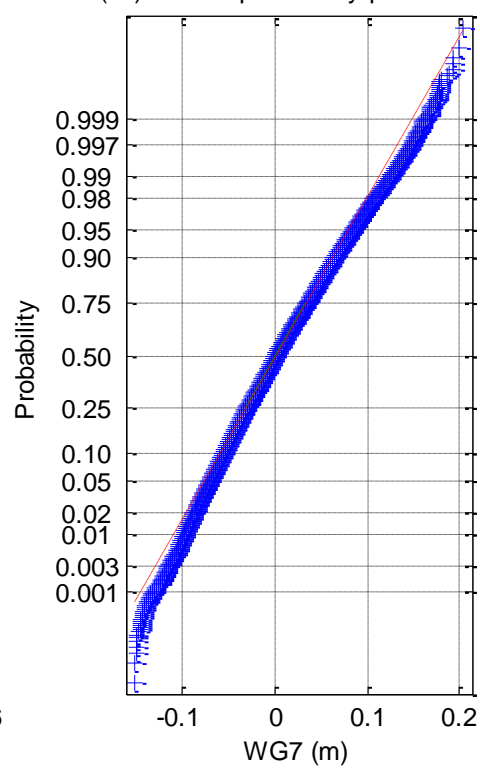
(6b) Normal probability plot of WG6



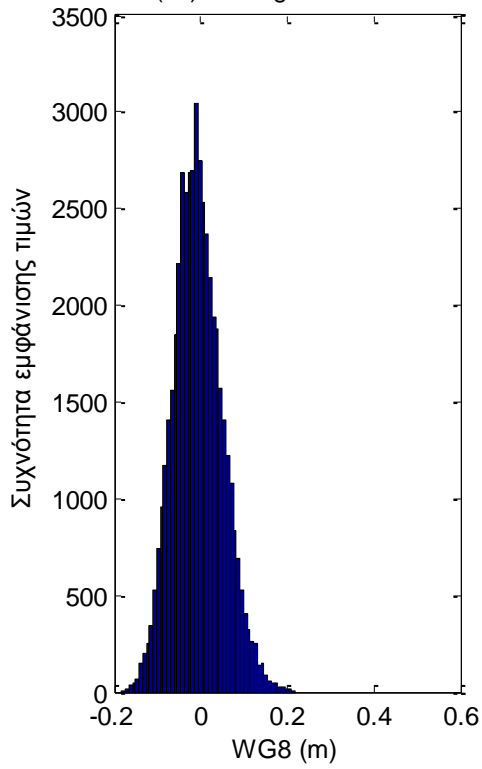
(7a) Histogram of WG7



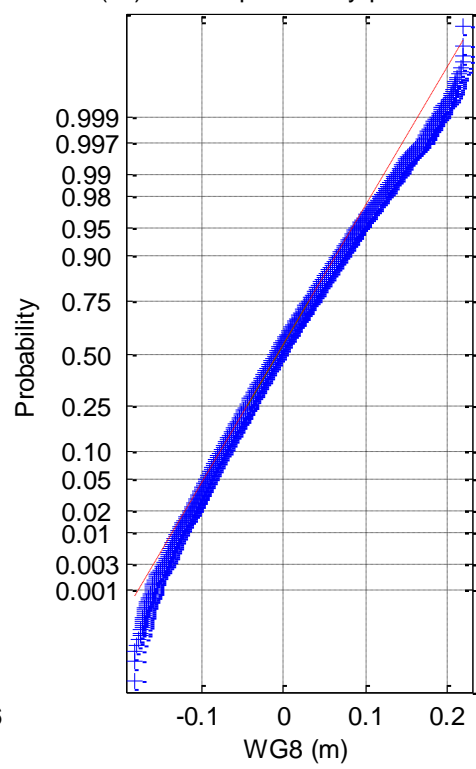
(7b) Normal probability plot of WG7



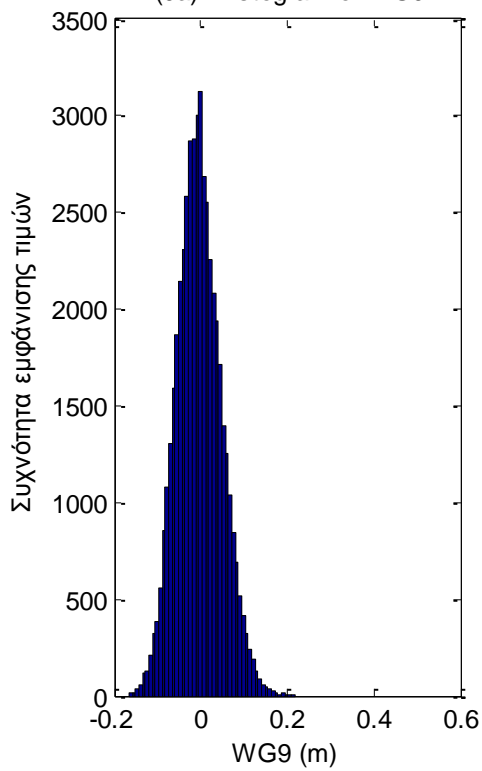
(8a) Histogram of WG8



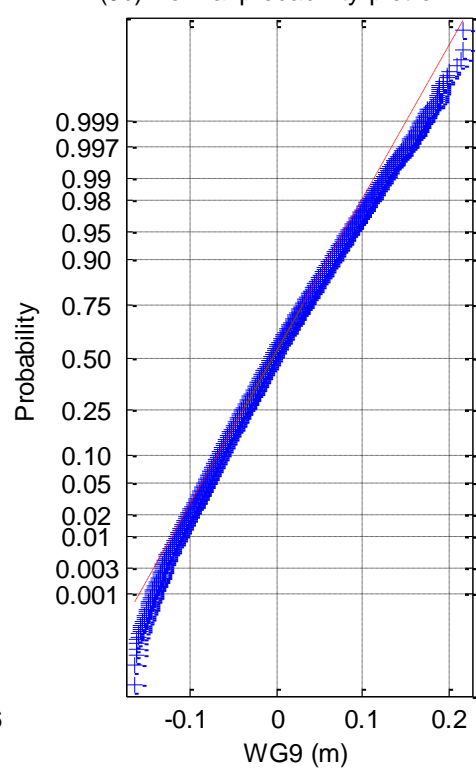
(8b) Normal probability plot of WG8

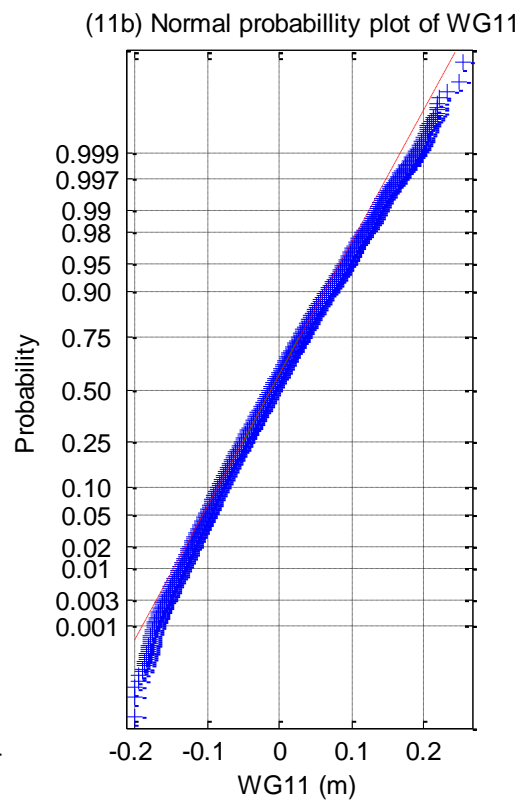
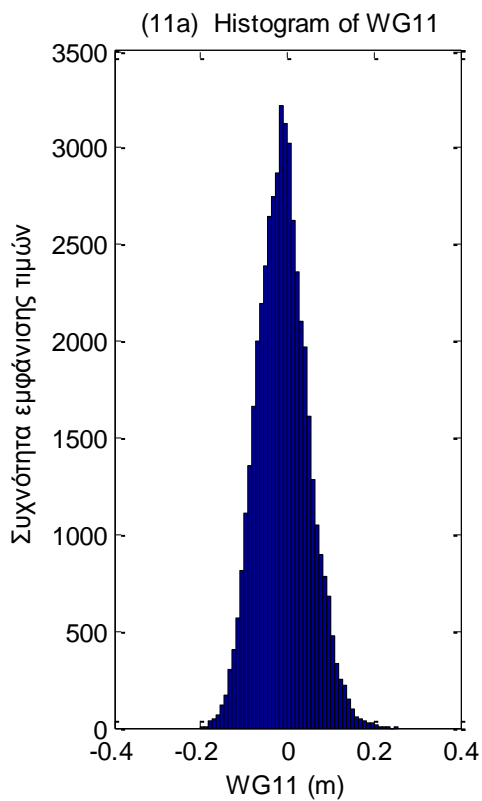
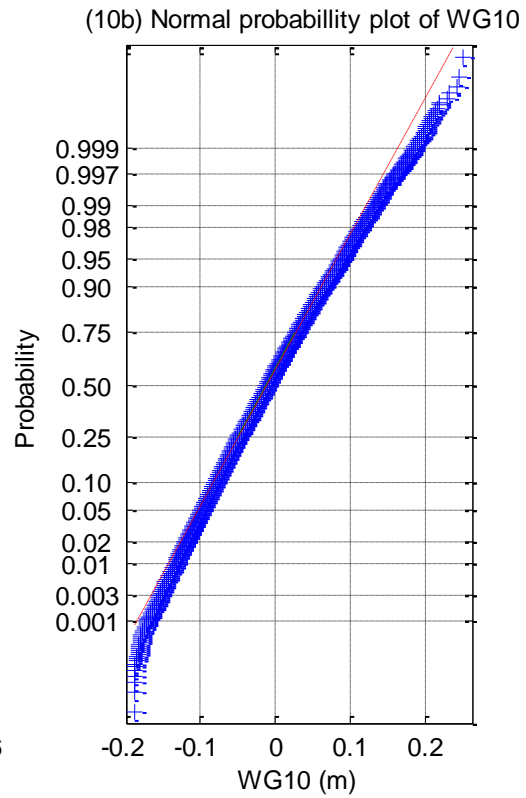
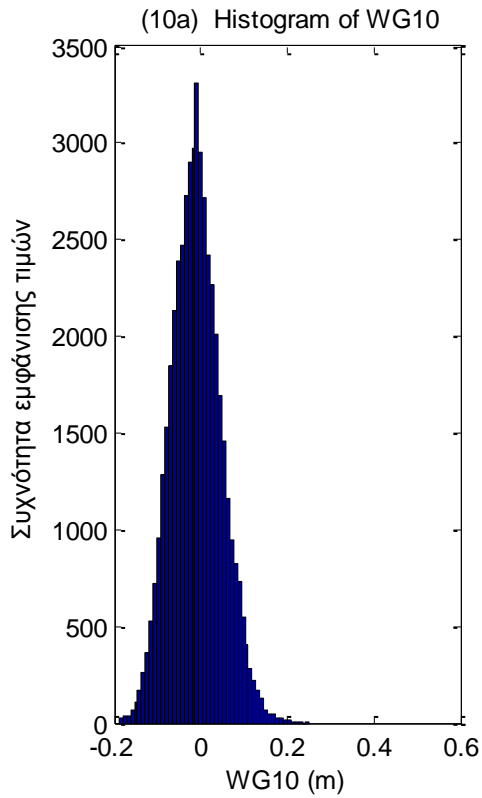


(9a) Histogram of WG9

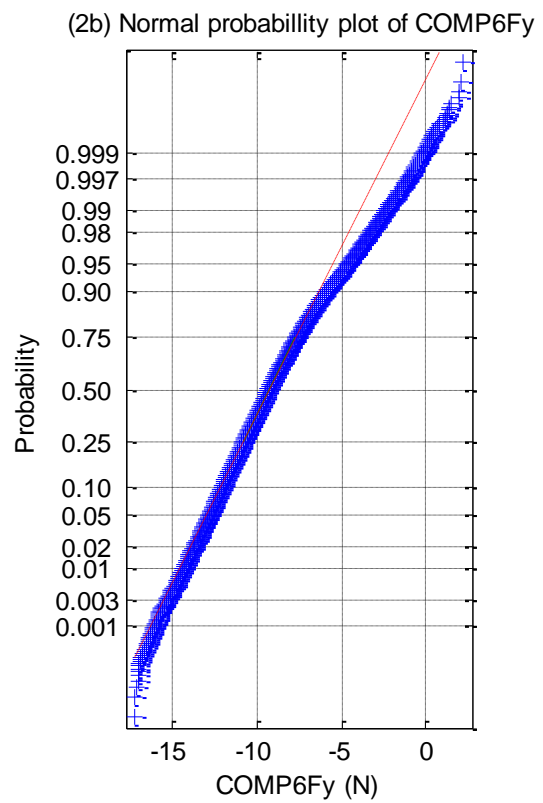
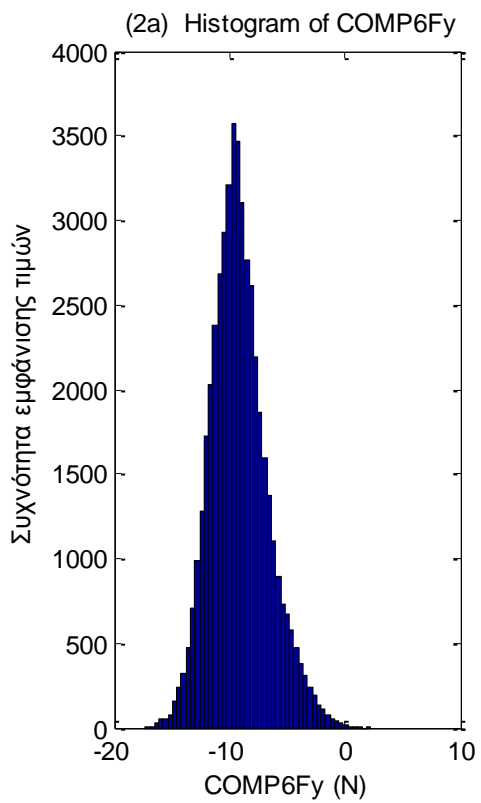
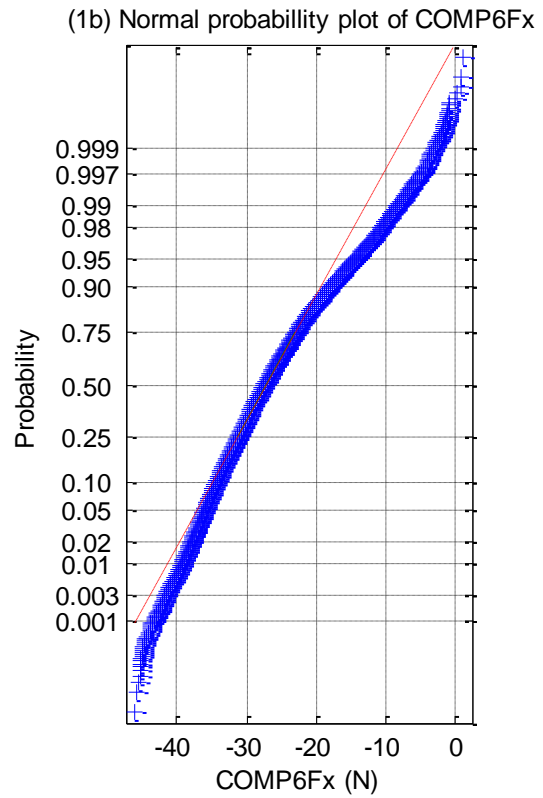
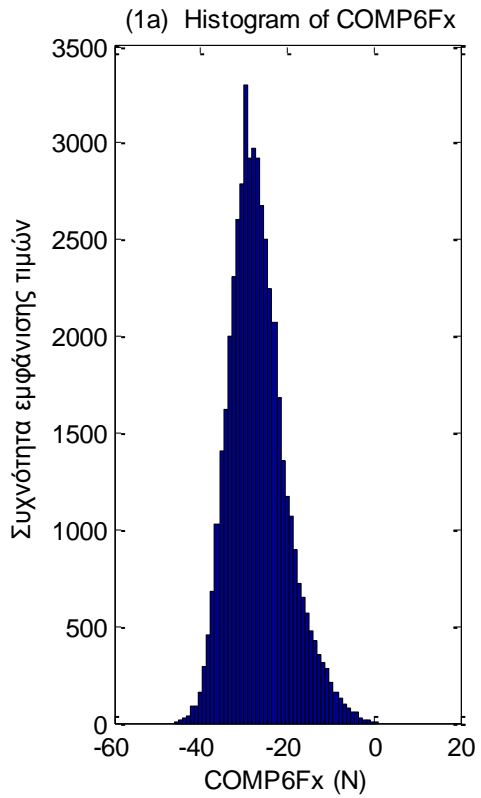


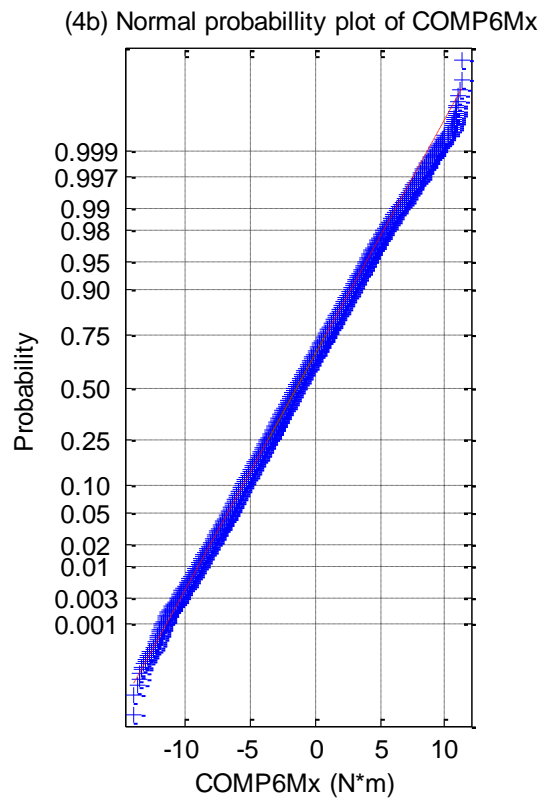
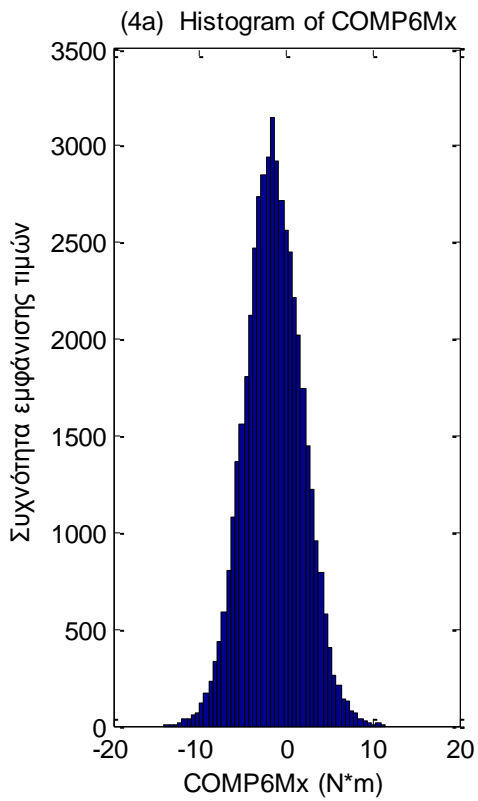
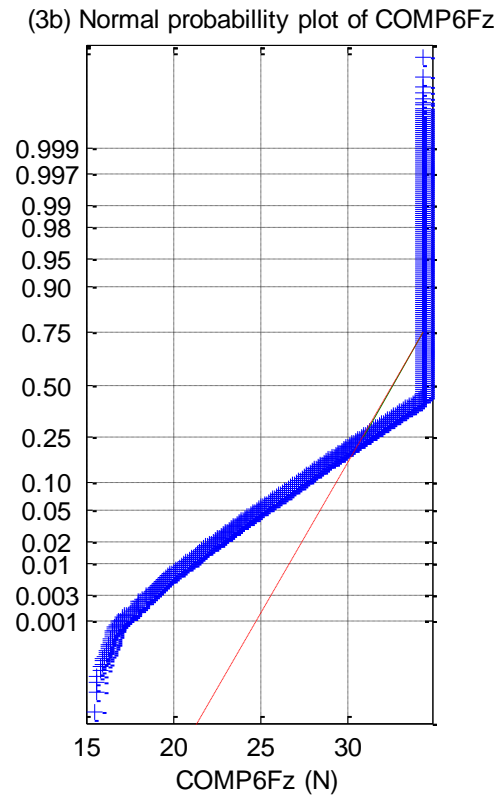
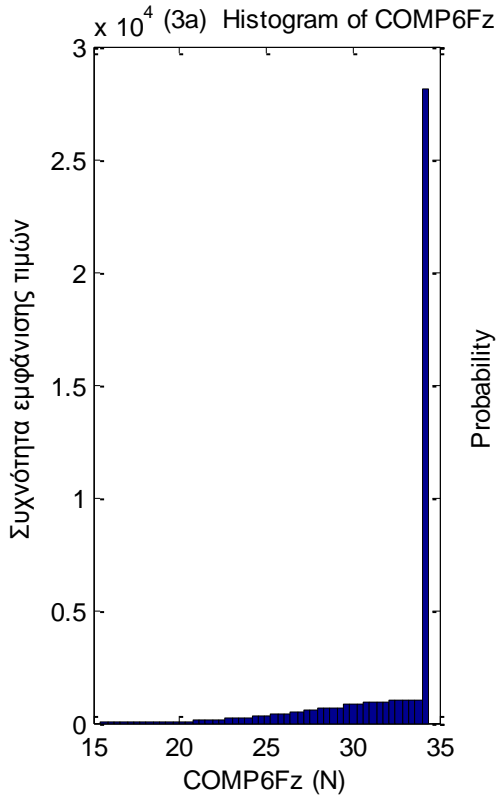
(9b) Normal probability plot of WG9

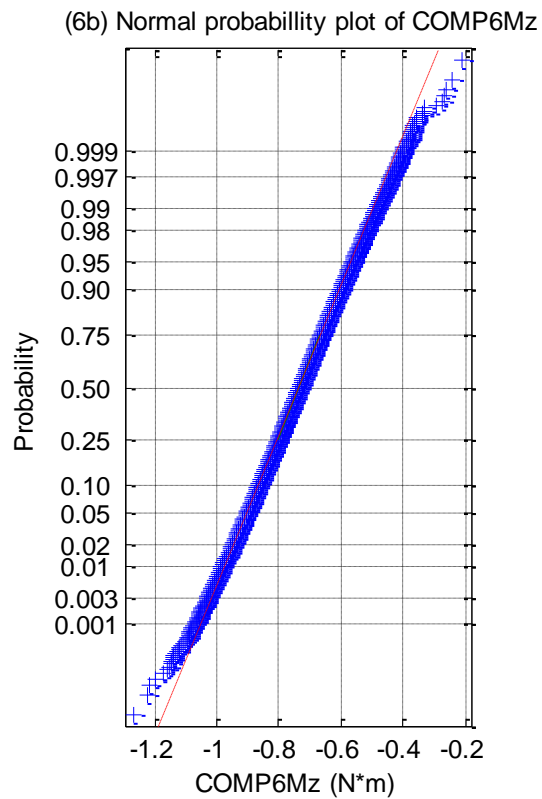
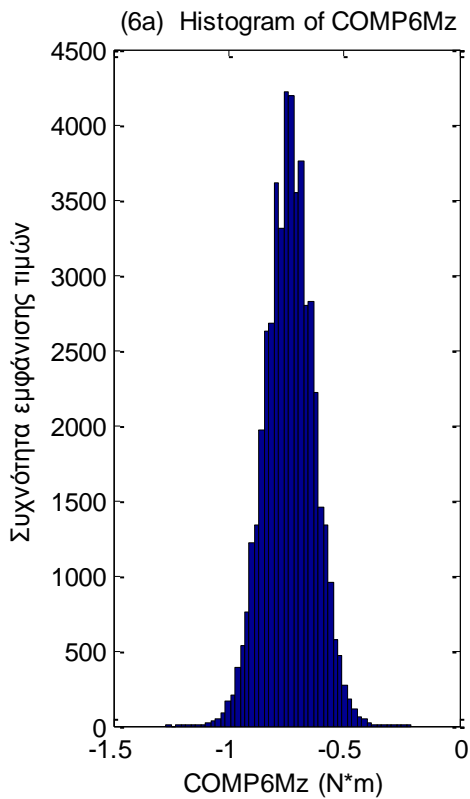
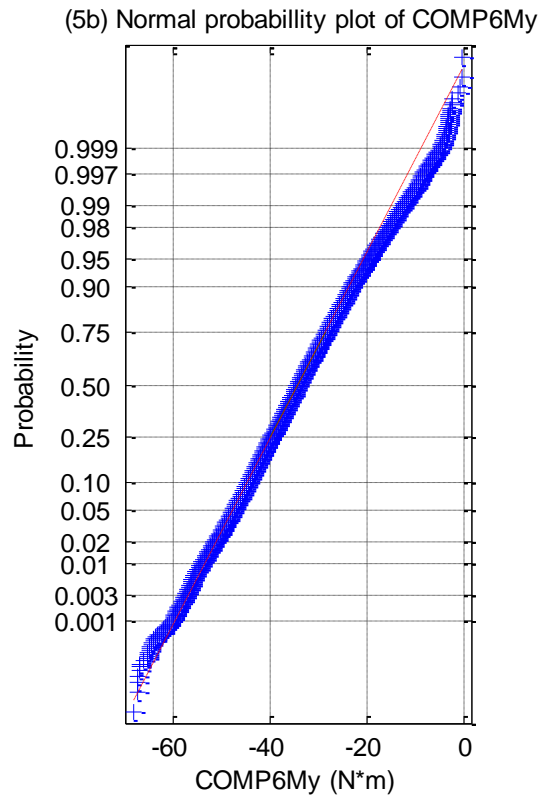
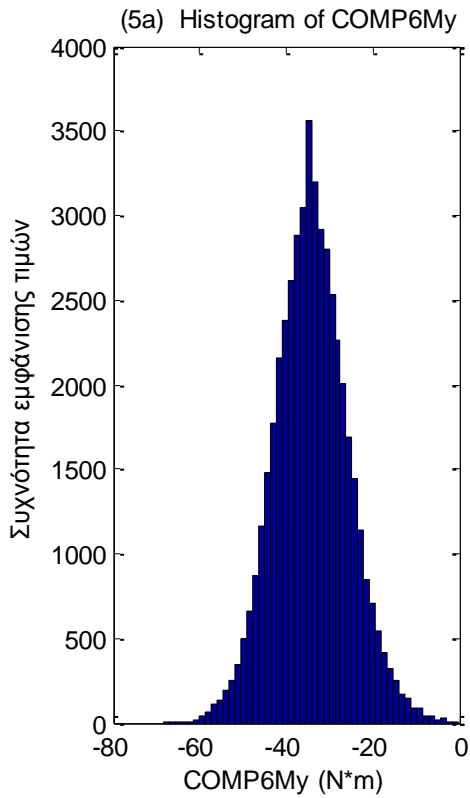




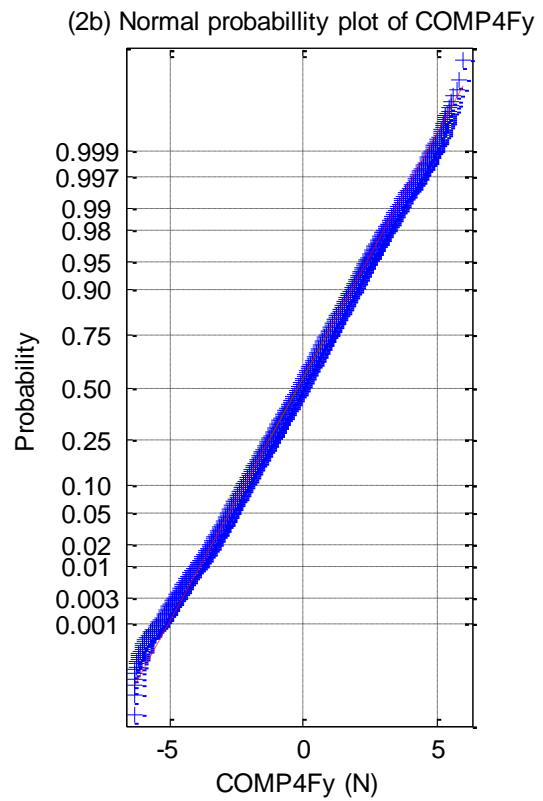
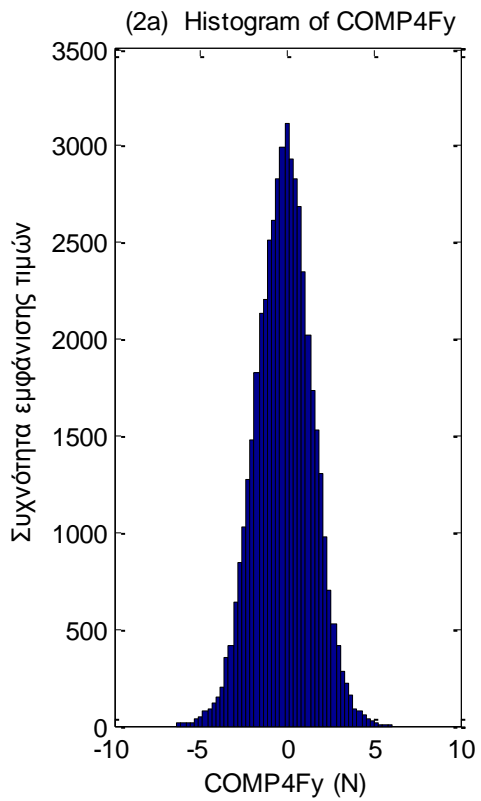
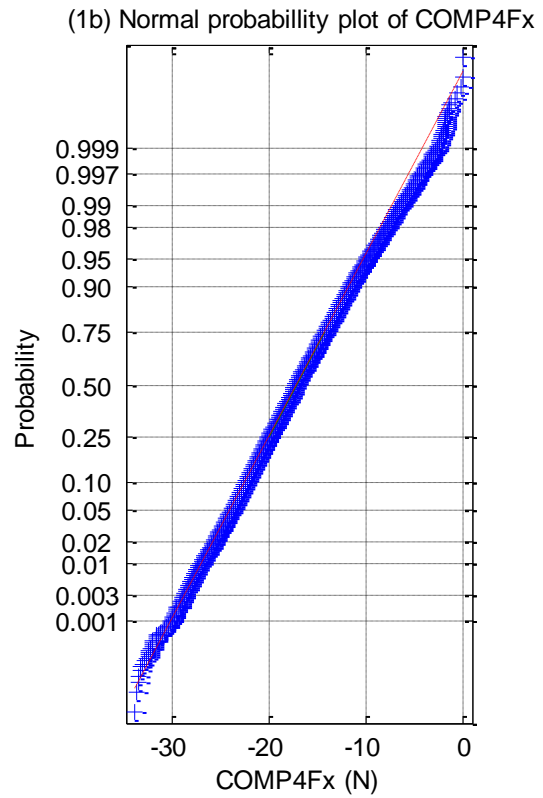
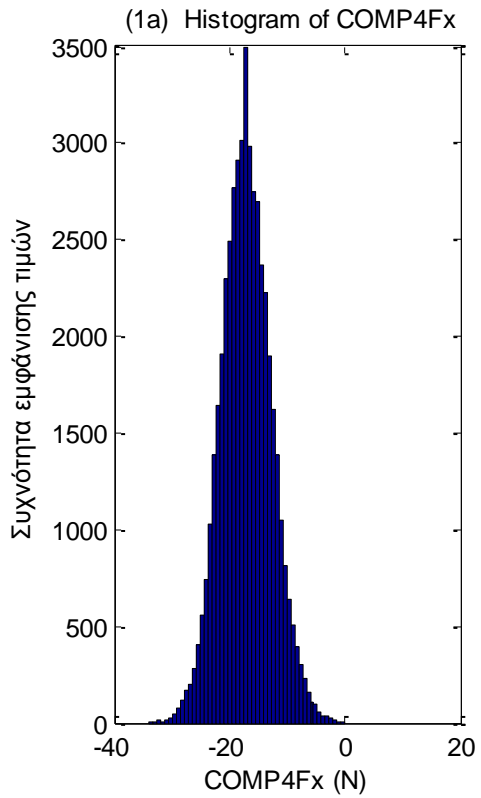
**Σχήματα 2.7.2.1 (1-11)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος



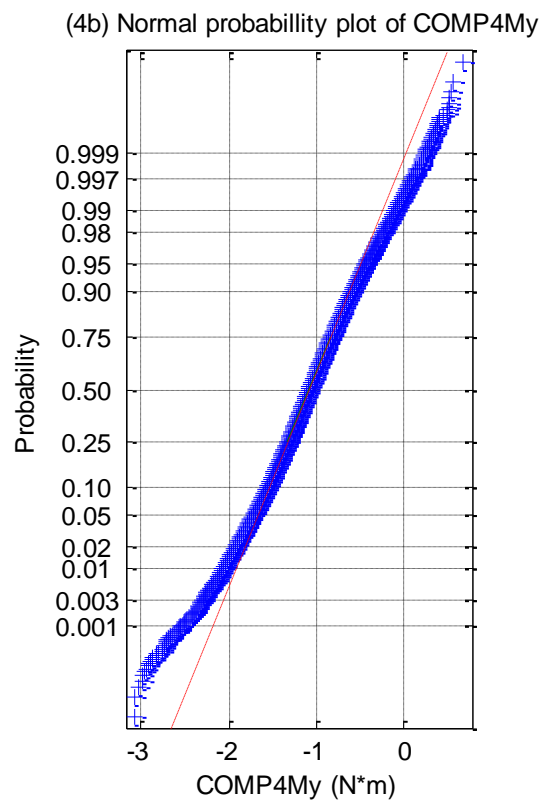
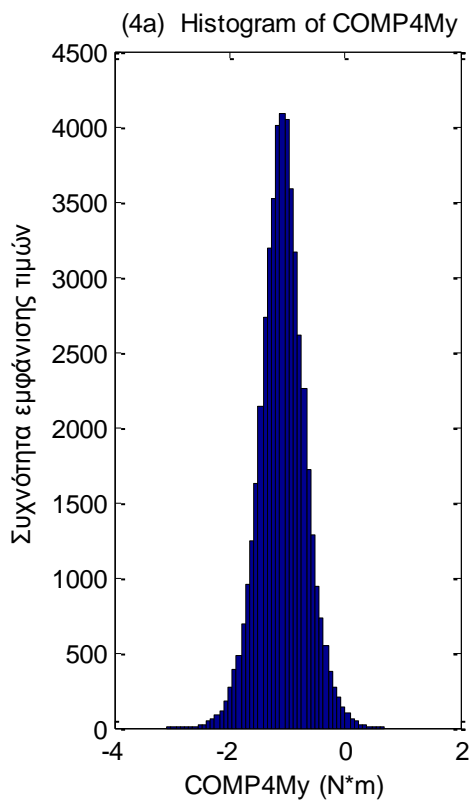
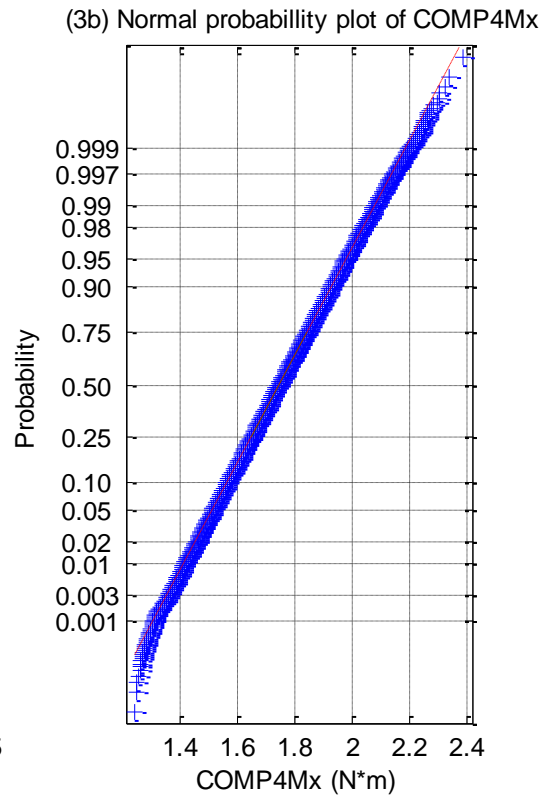
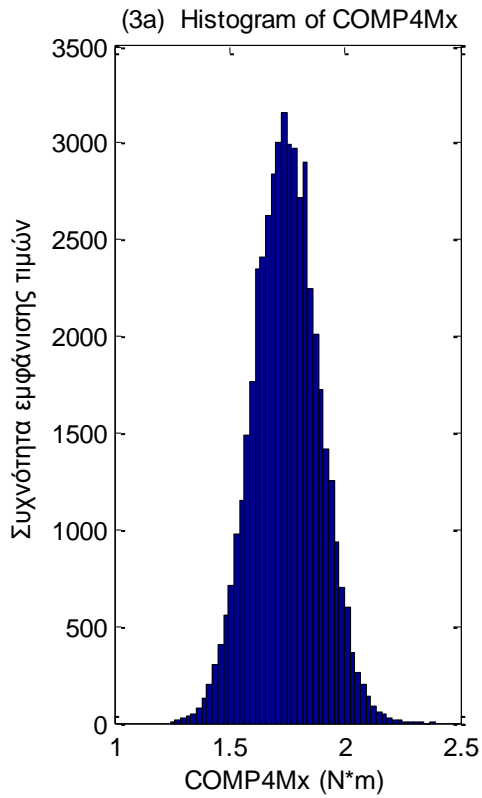




**Σχήματα 2.7.2.2** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

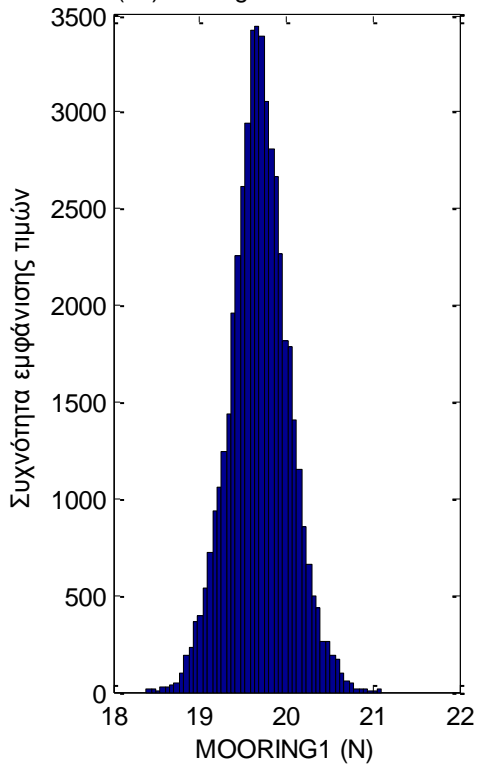




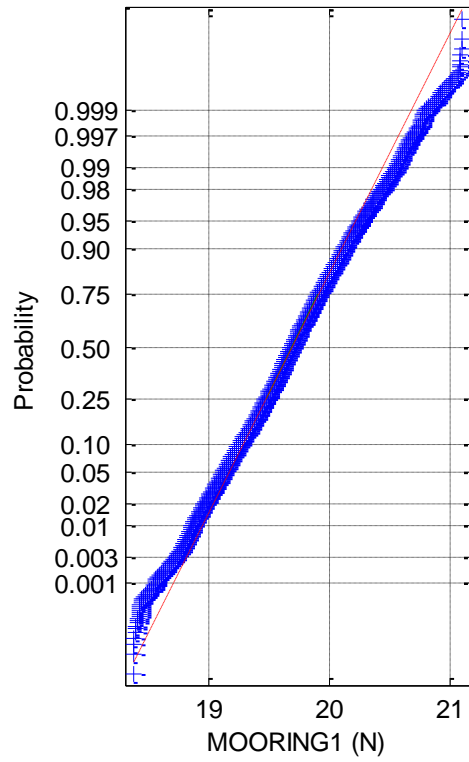


**Σχήματα 2.7.2.3** a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

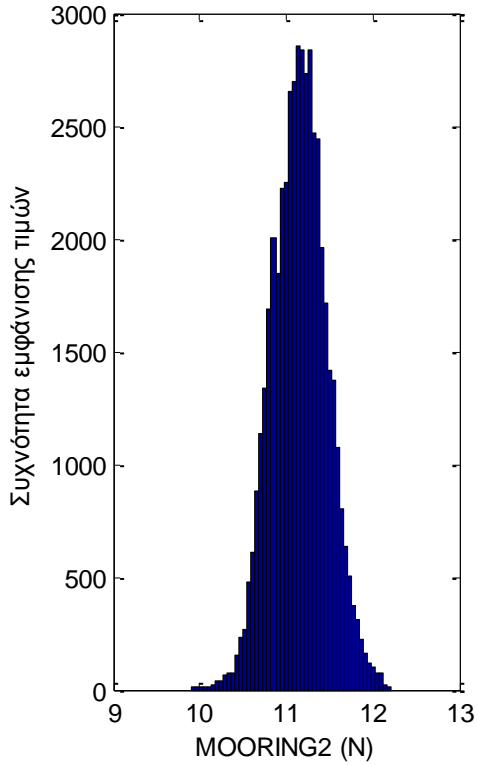
(1a) Histogram of MOORING1



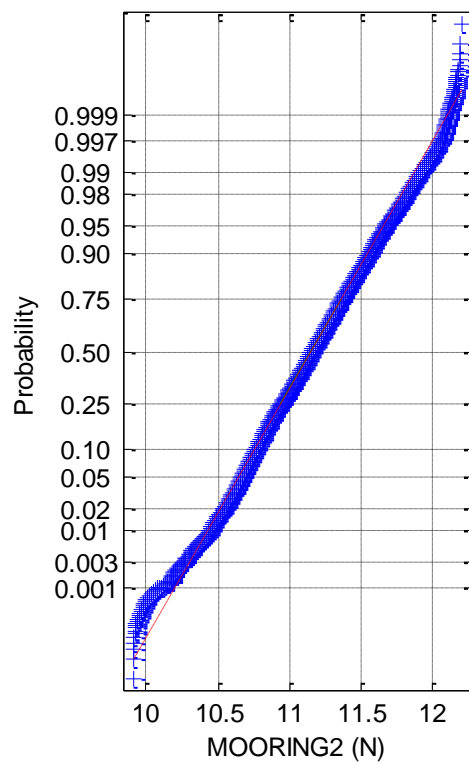
(1b) Normal probability plot of MOORING1

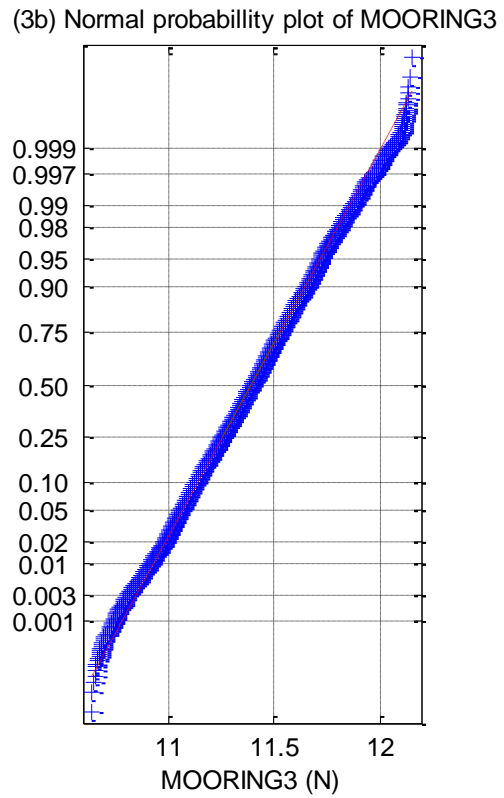
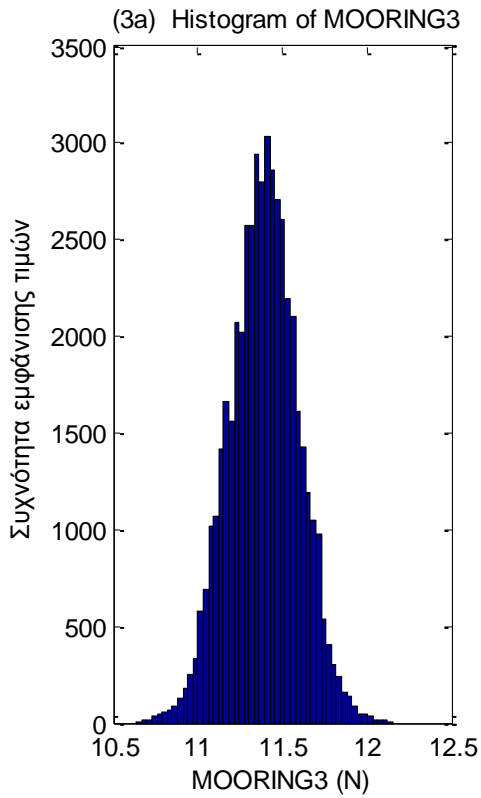


(2a) Histogram of MOORING2

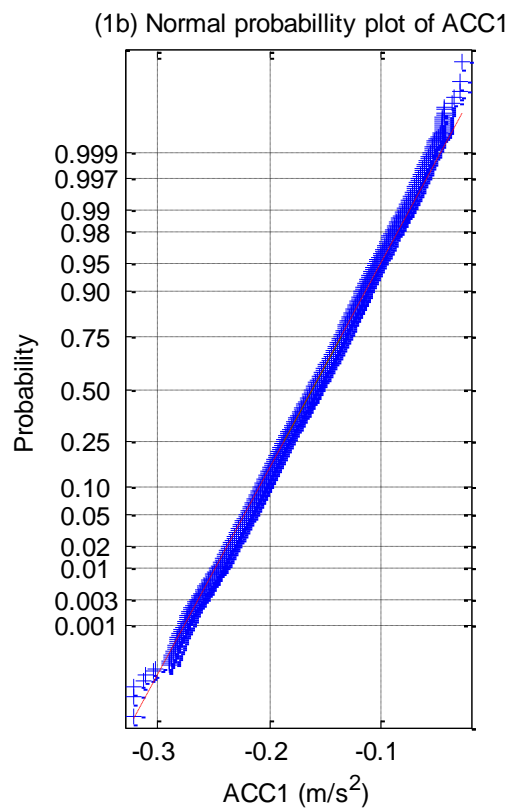
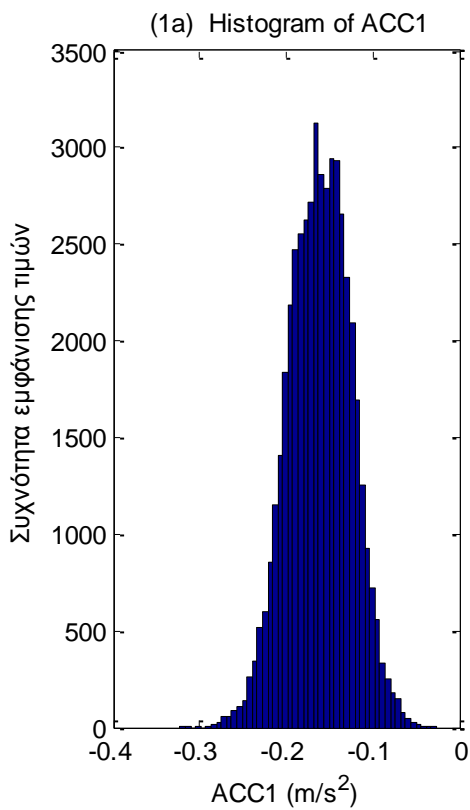


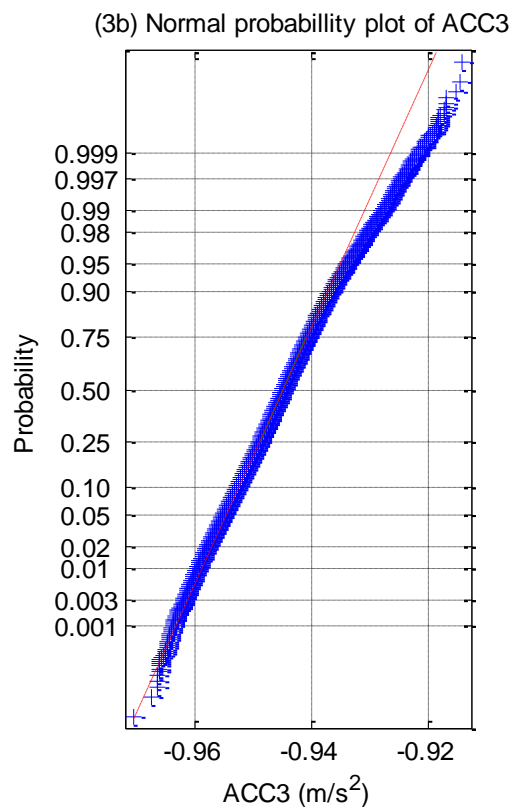
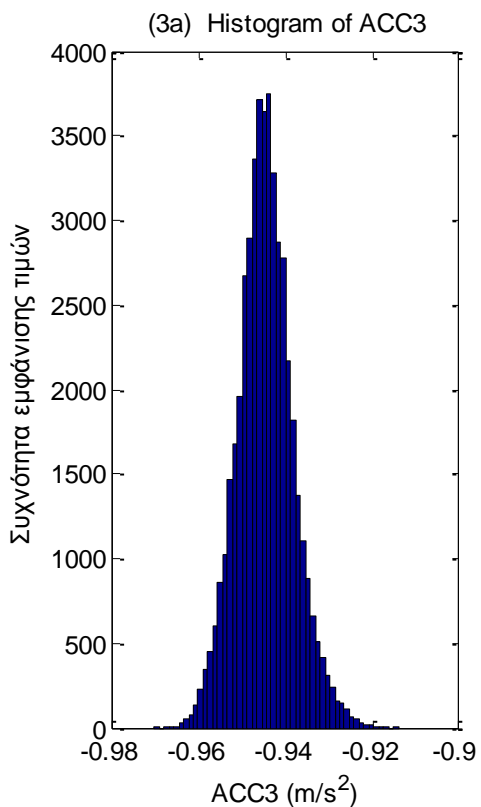
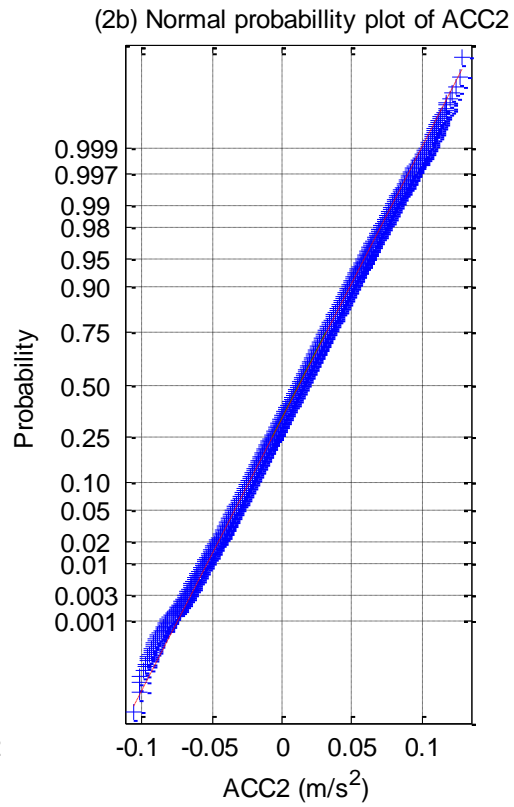
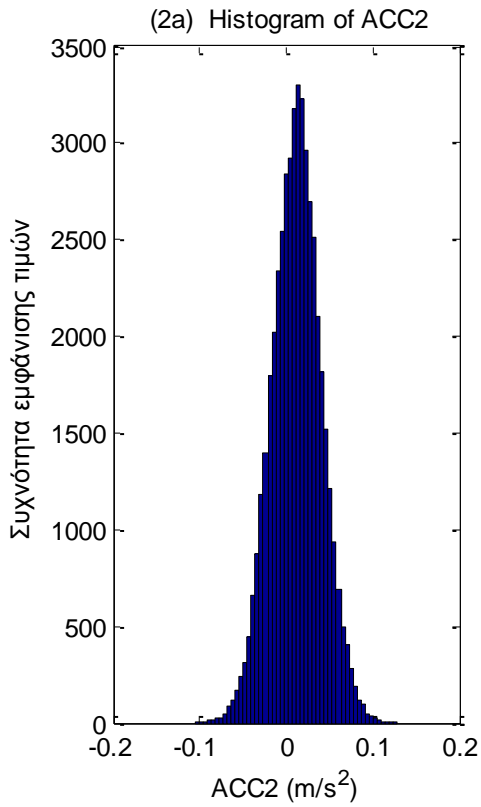
(2b) Normal probability plot of MOORING2



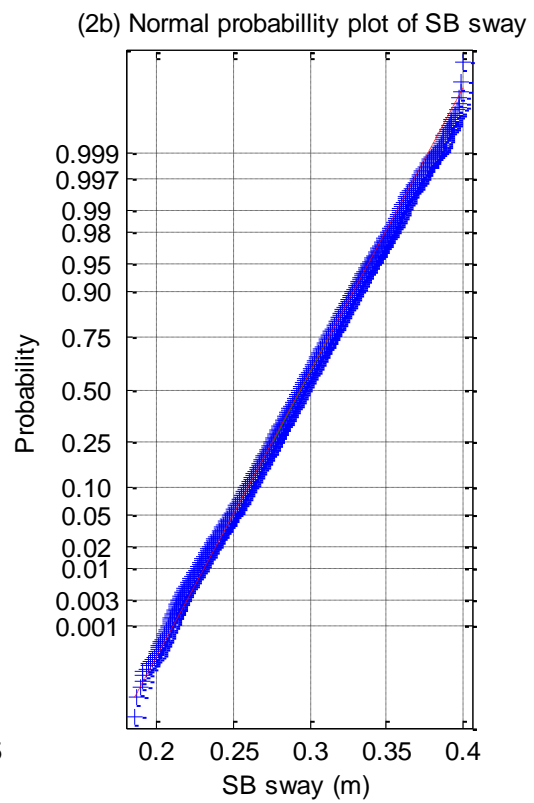
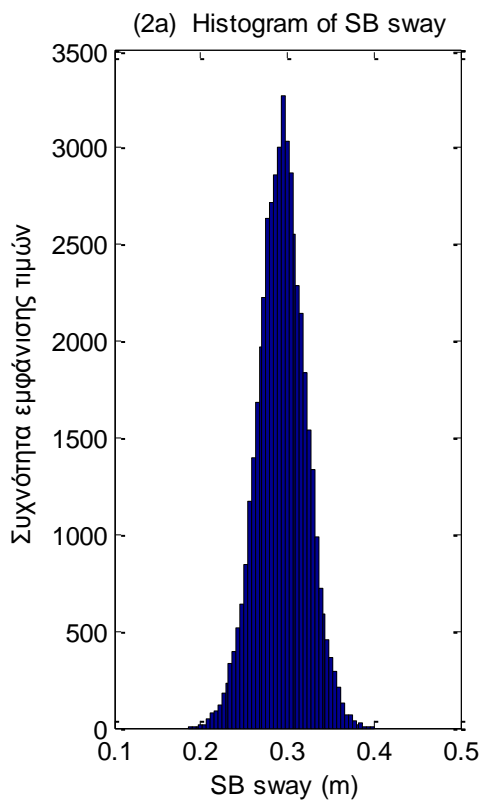
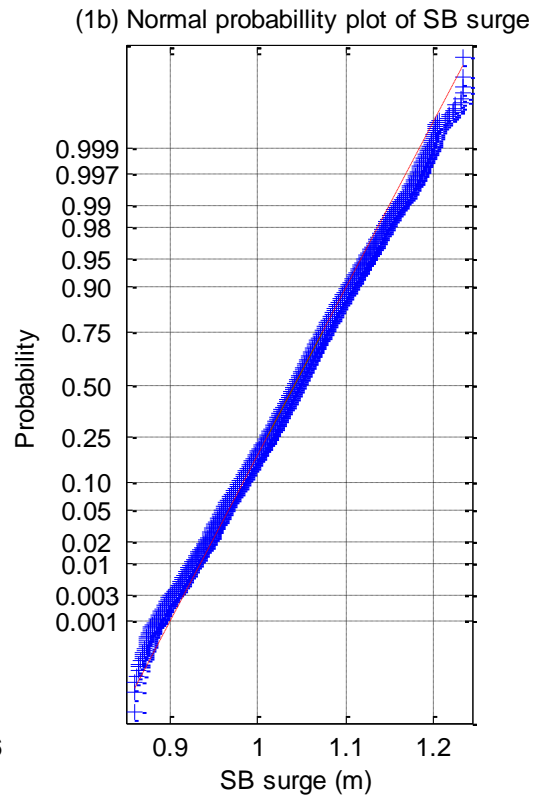
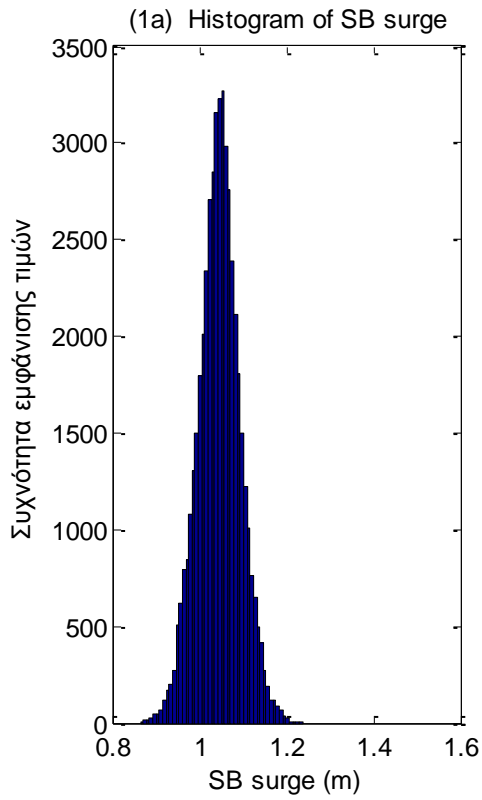


**Σχήματα 2.7.2.4 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

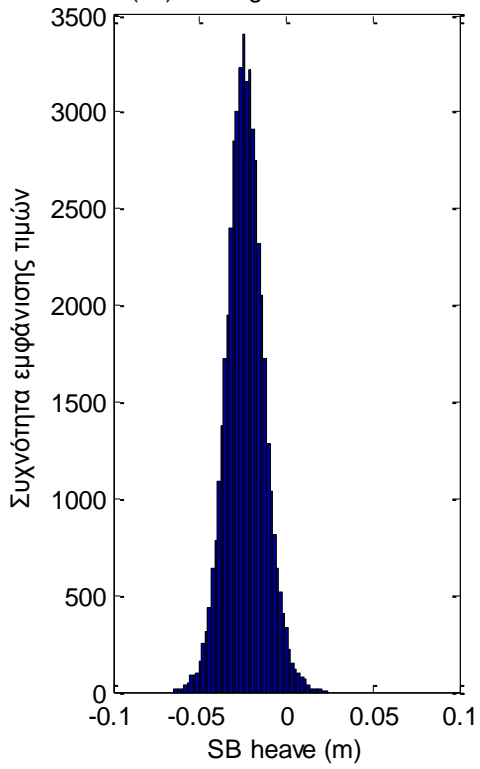




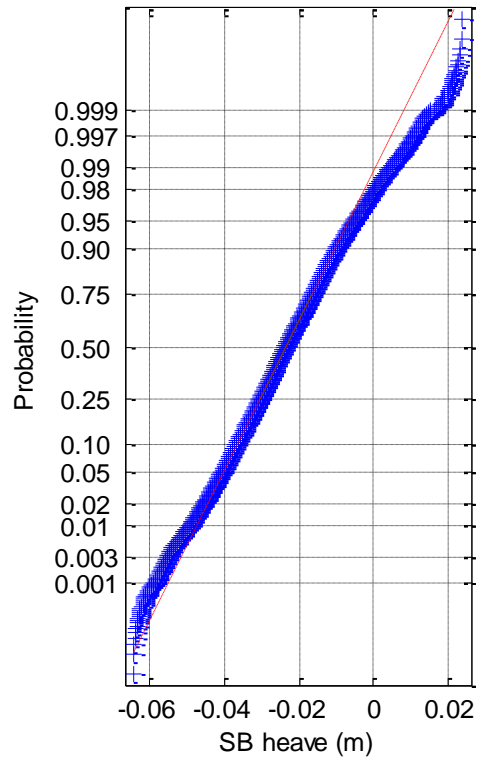
**Σχήματα 2.7.2.5 (1-3)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



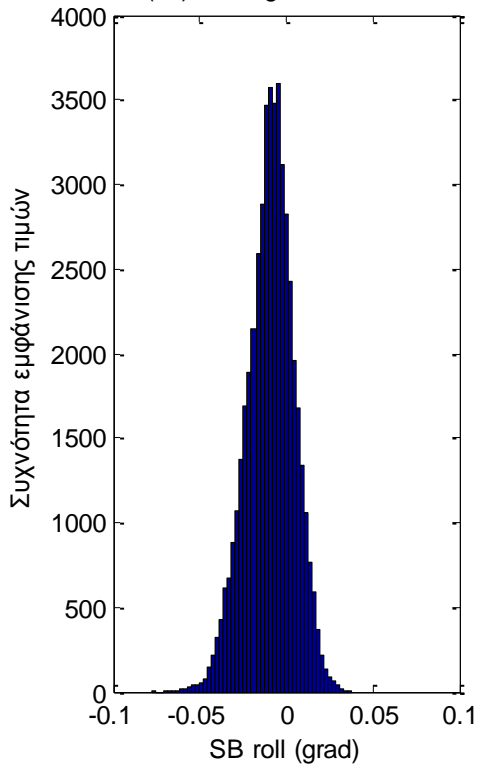
(3a) Histogram of SB heave



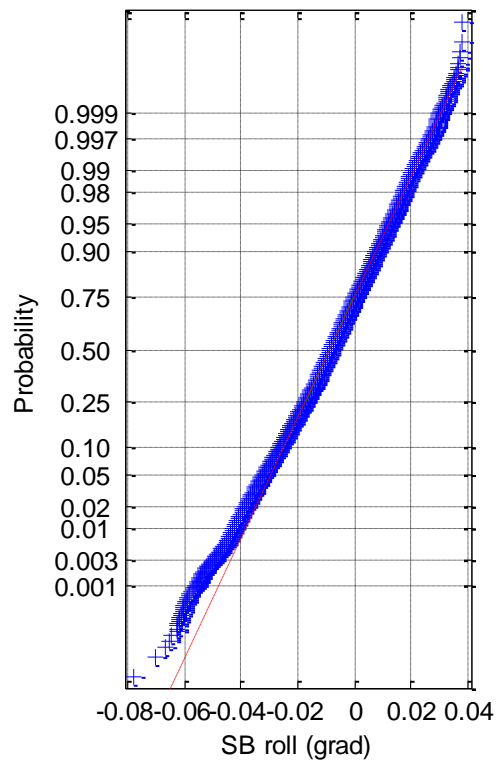
(3b) Normal probability plot of SB heave

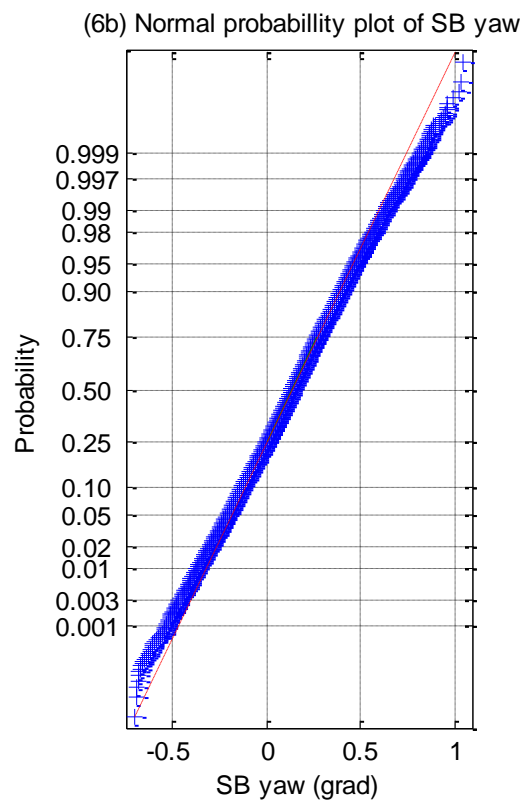
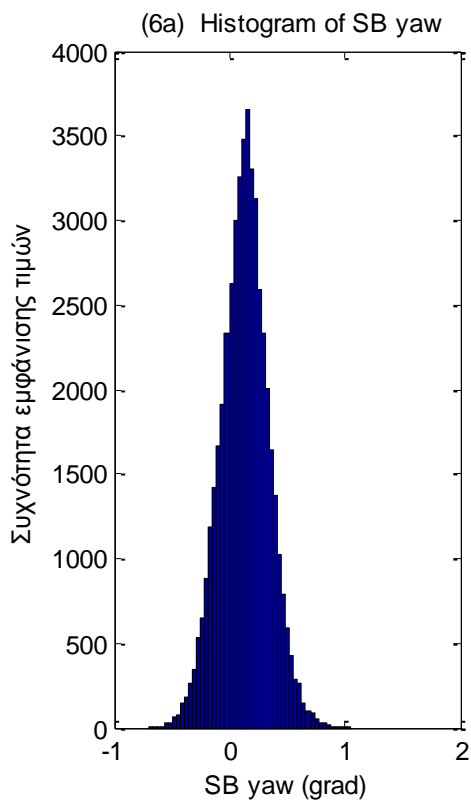
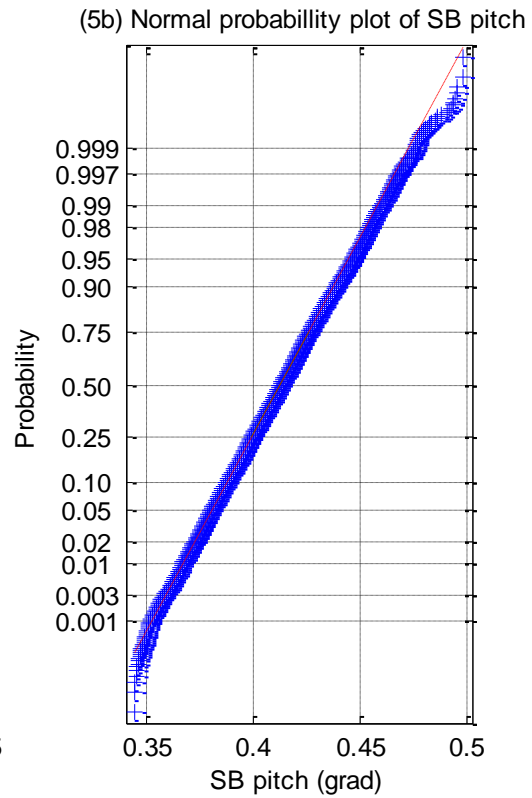
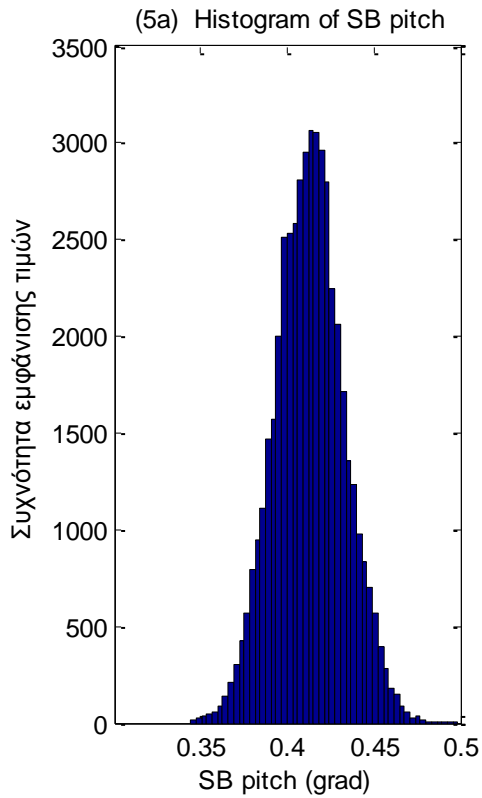


(4a) Histogram of SB roll

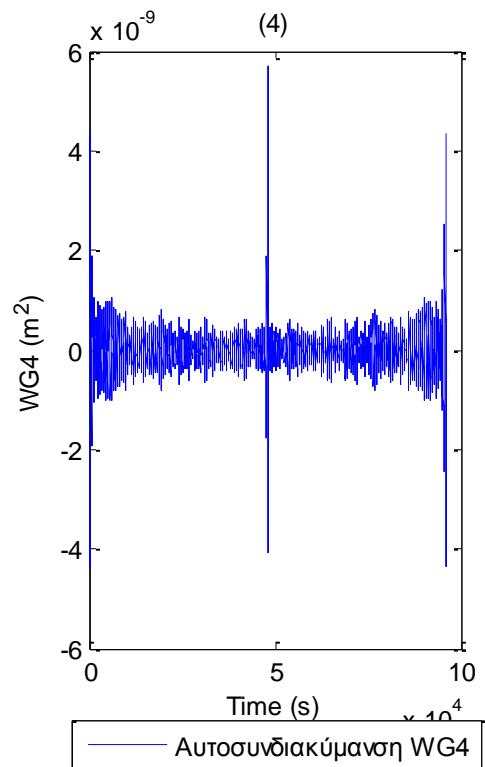
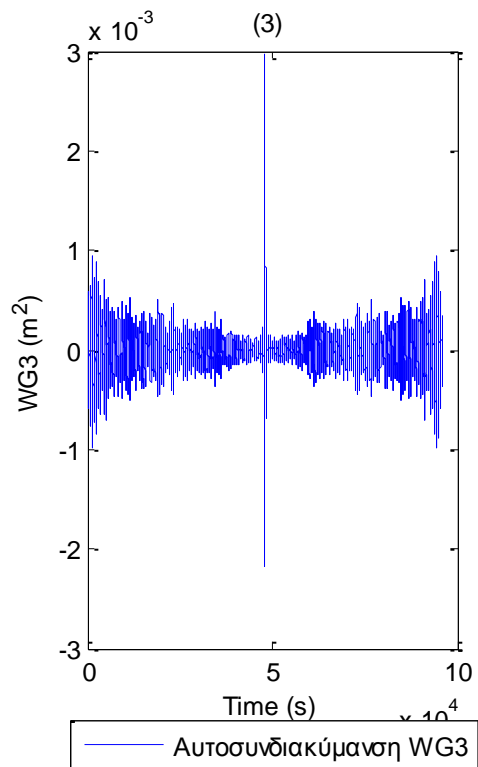
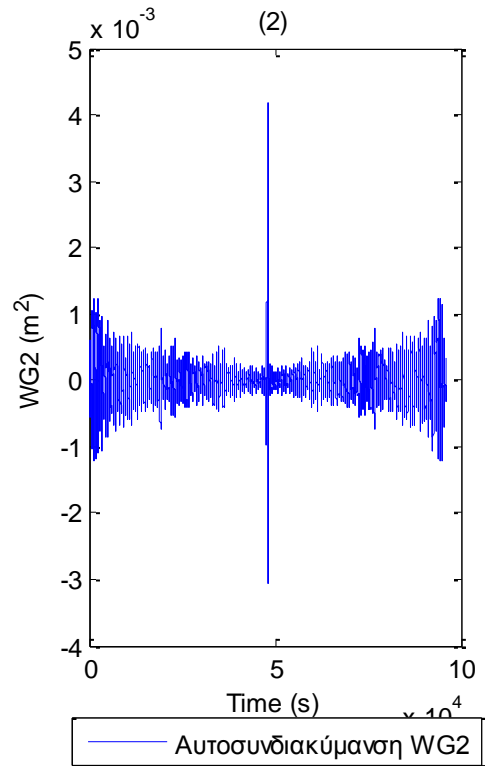
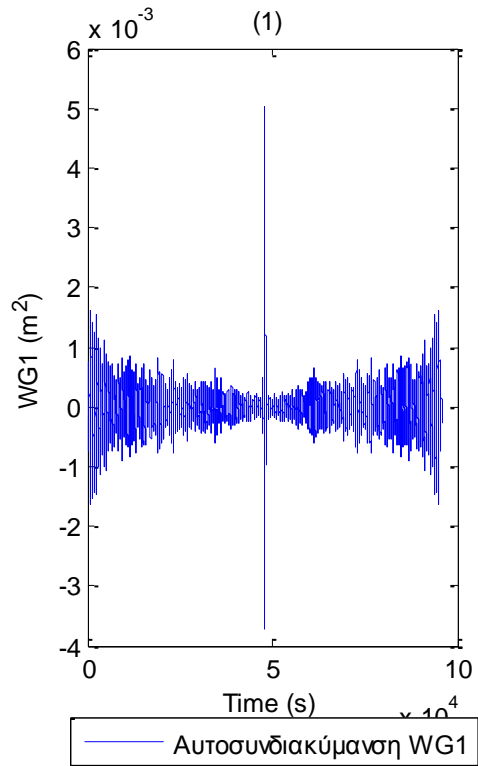


(4b) Normal probability plot of SB roll

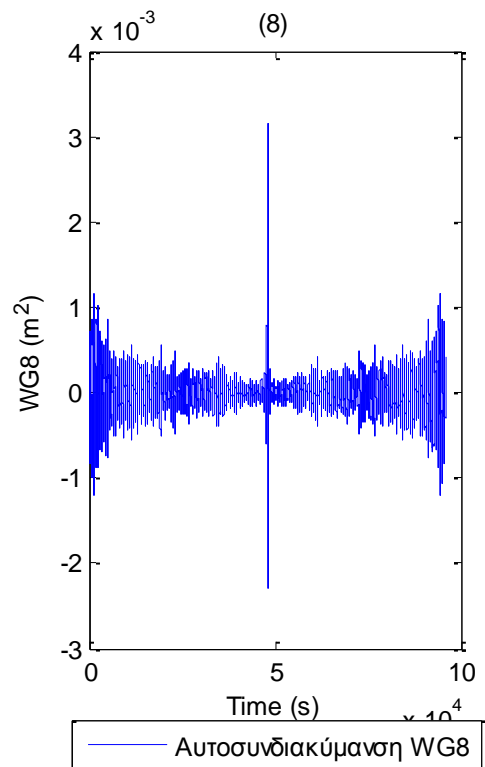
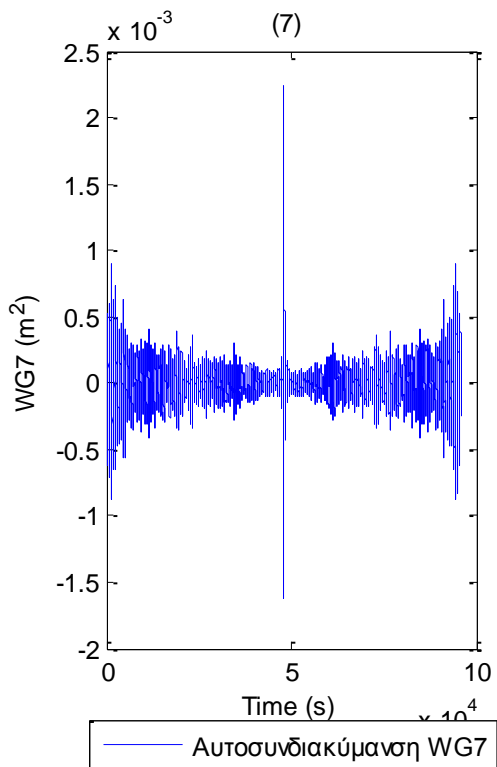
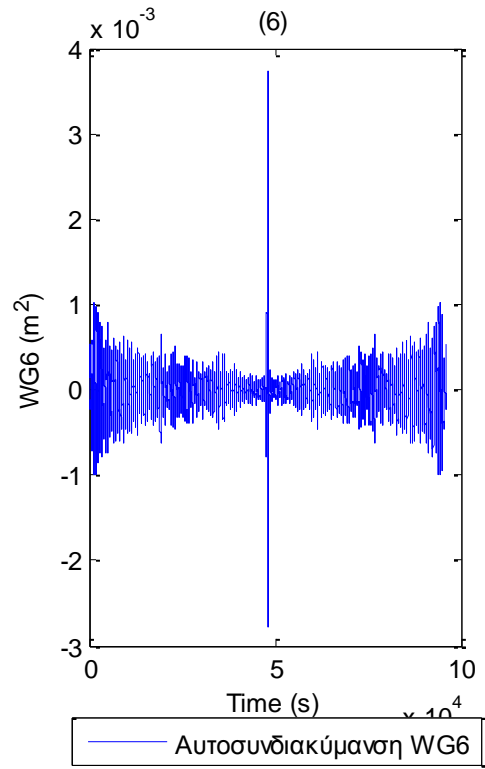
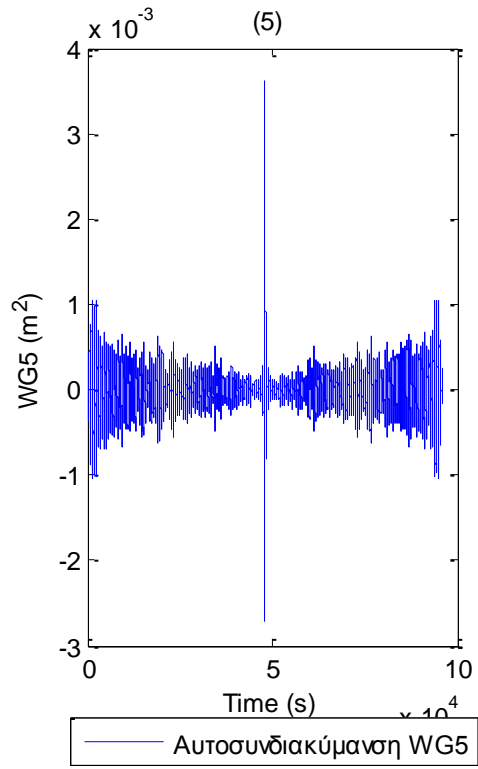


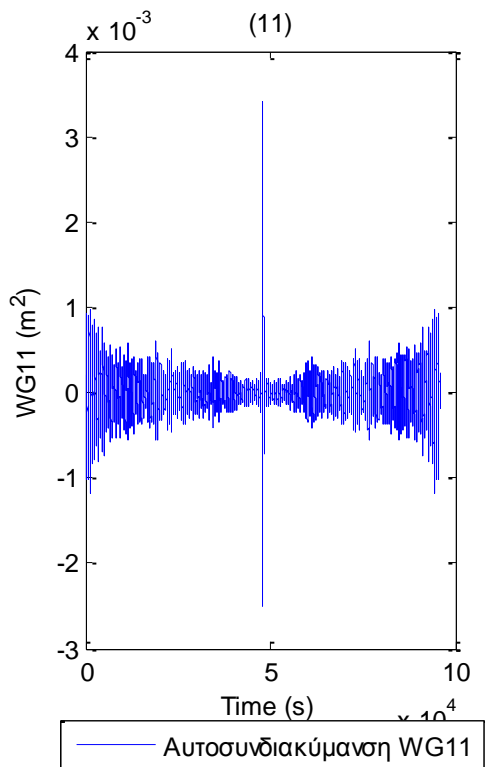
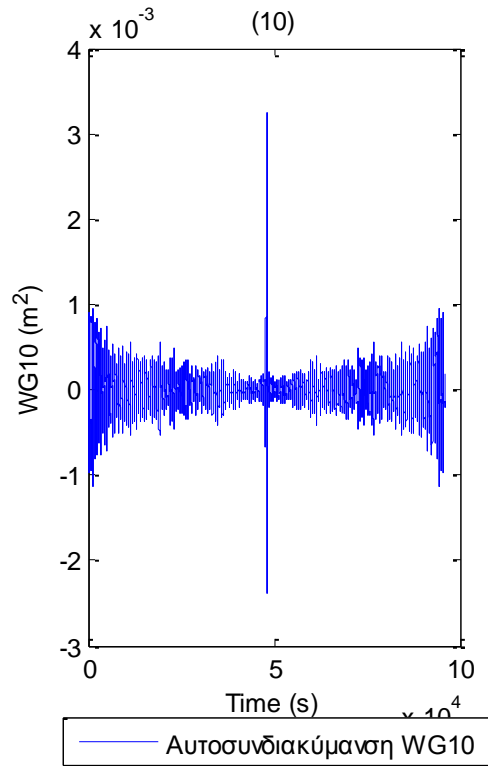
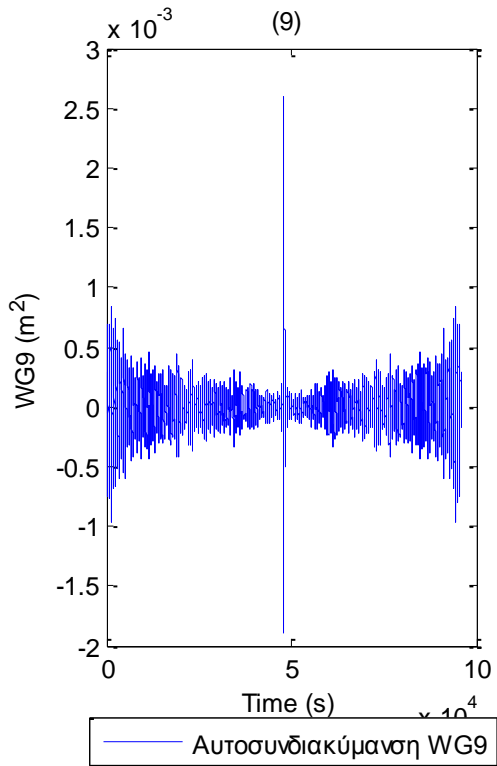


**Σχήματα 2.7.2.6** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

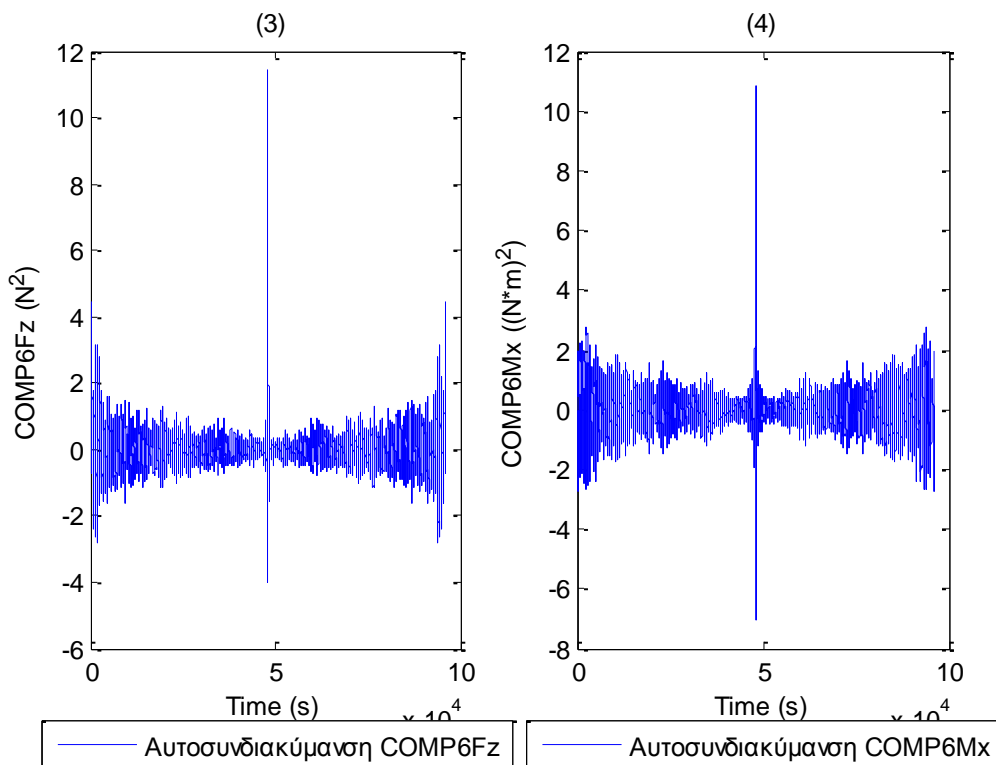
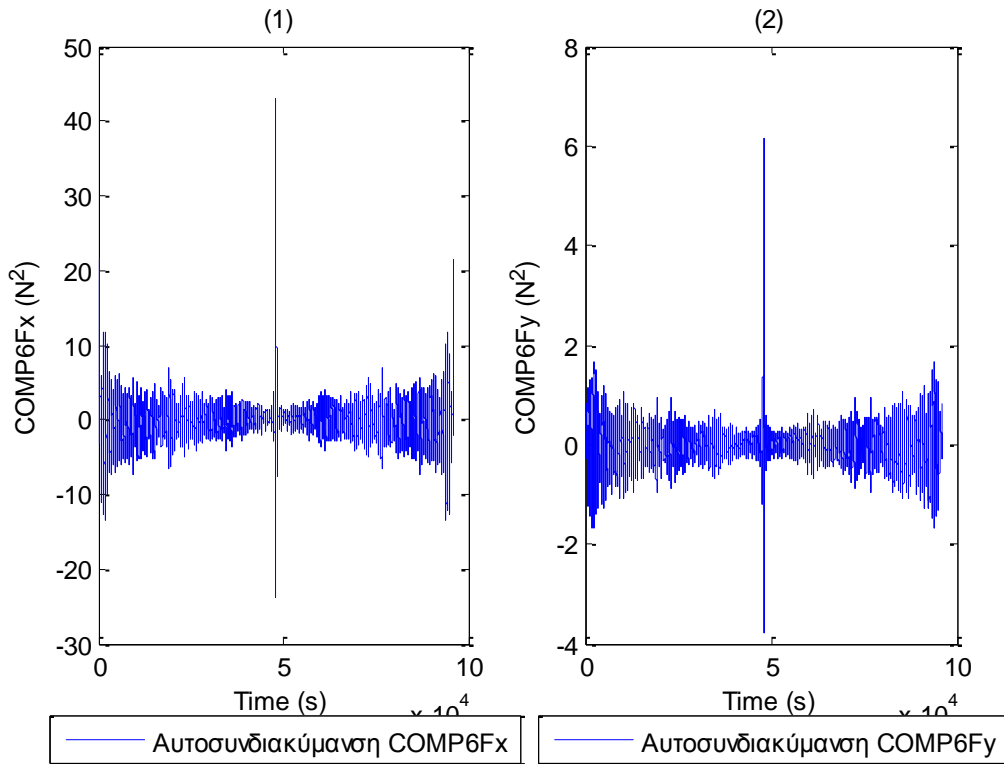


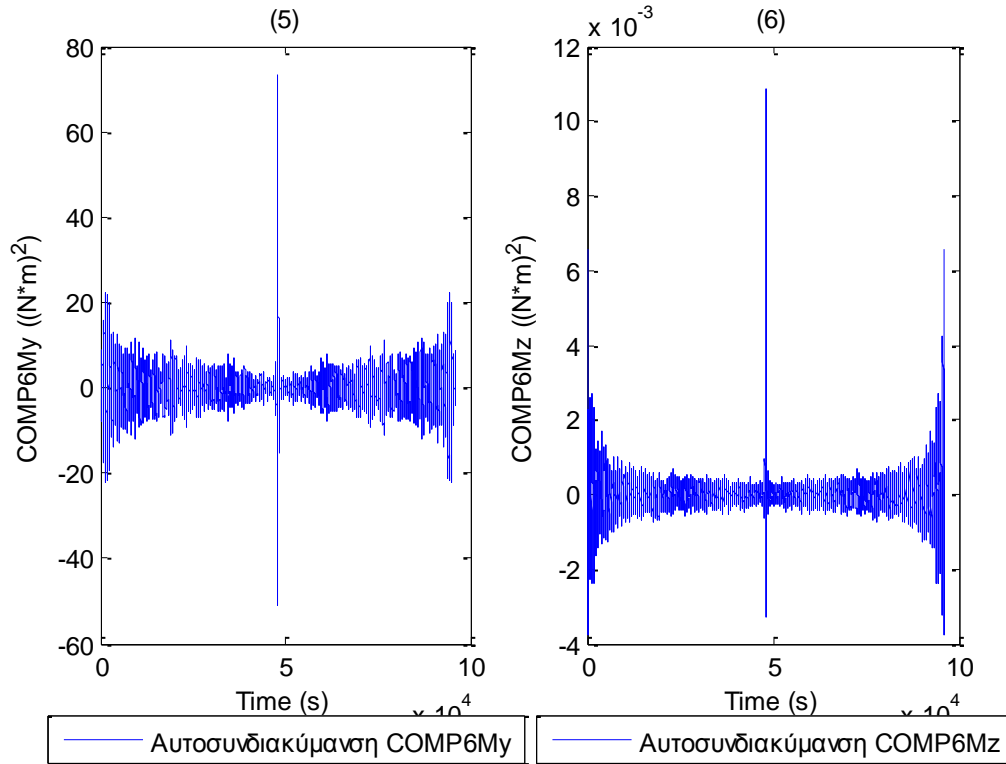




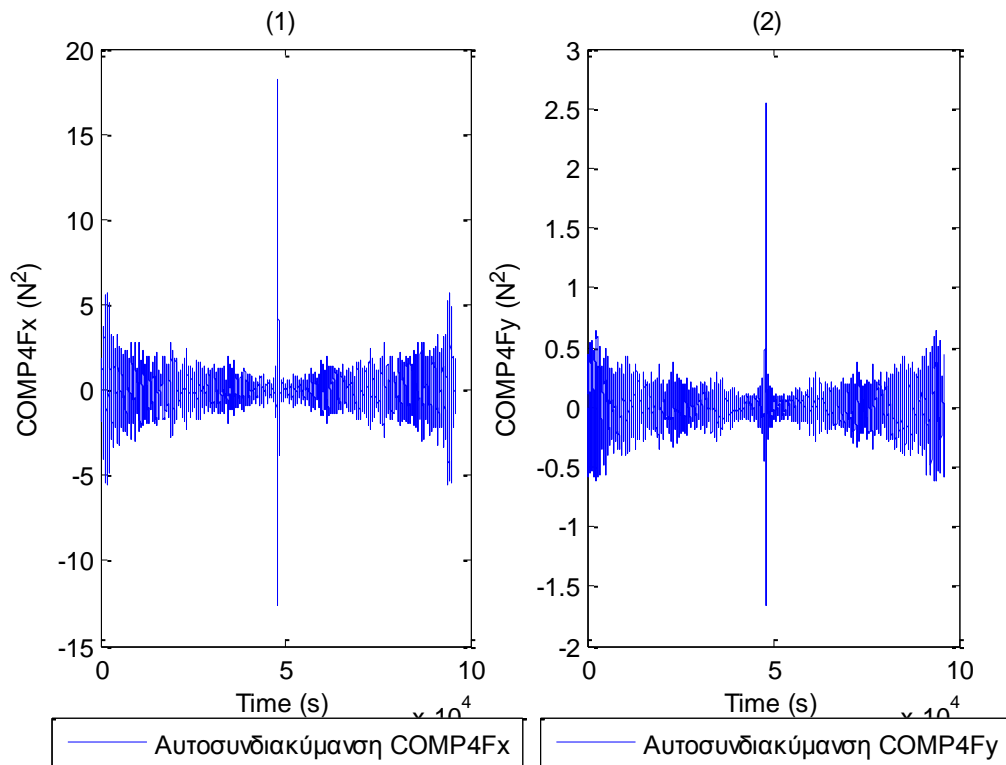


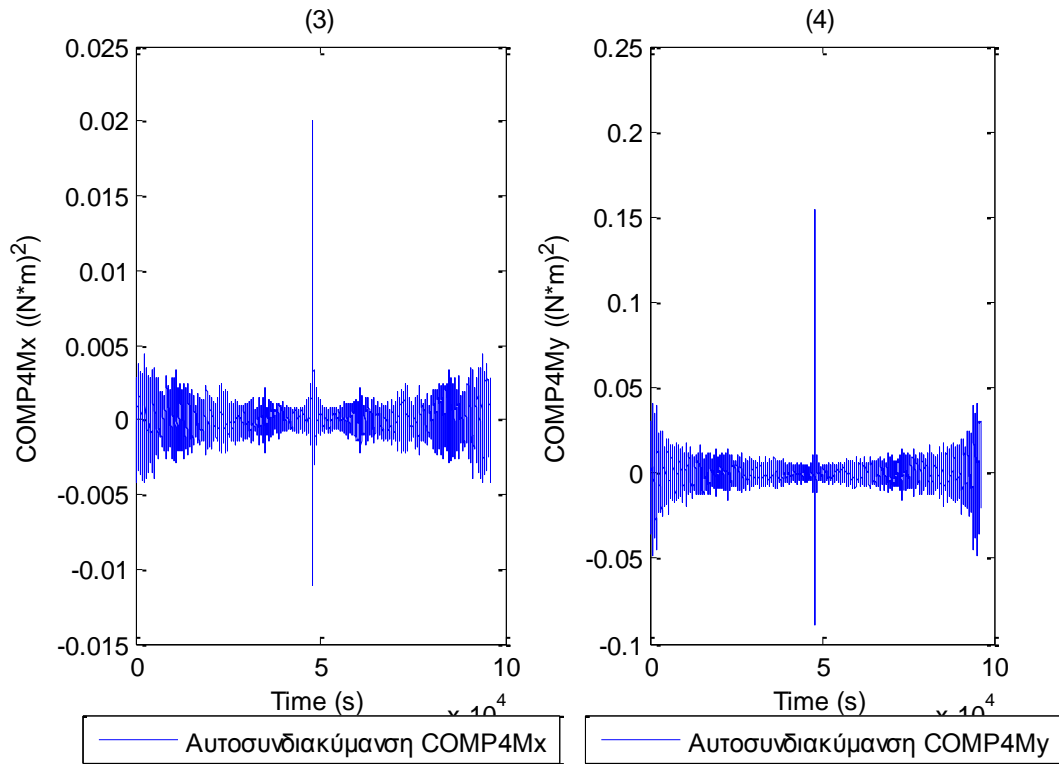
**Σχήματα 2.7.3.1 (1-11)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



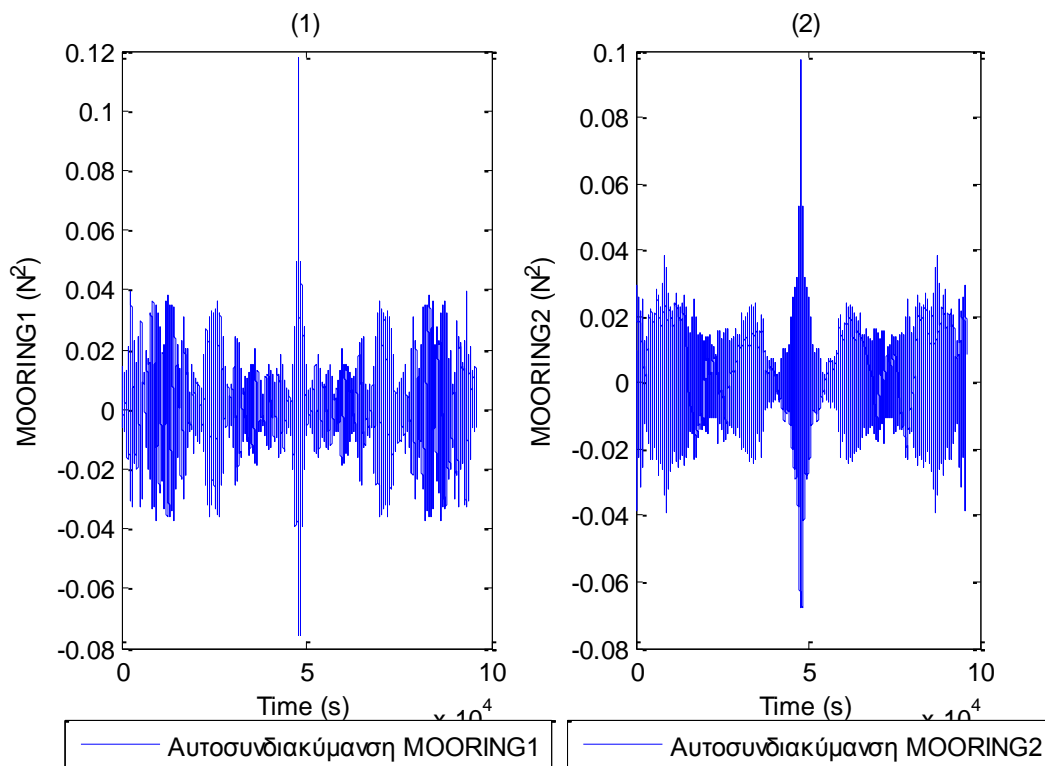


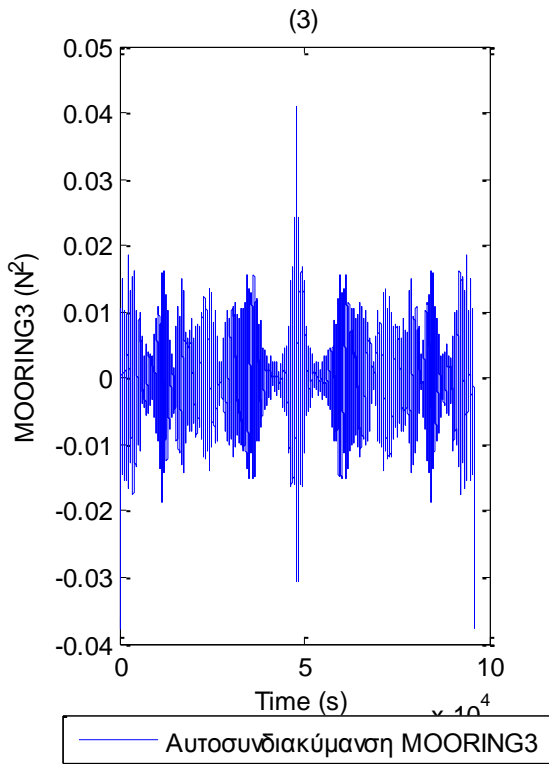
**Σχήματα 2.7.3.2** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



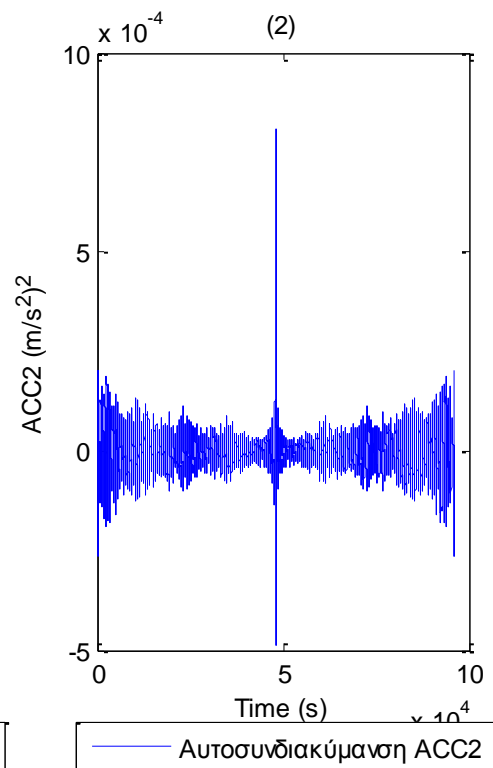
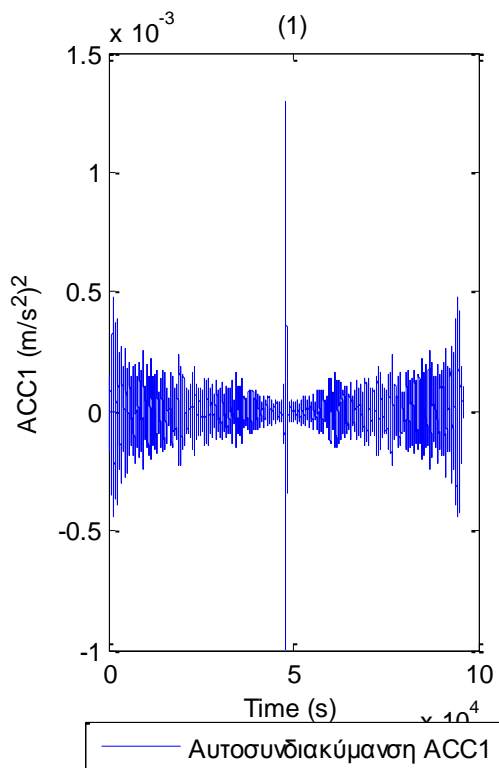


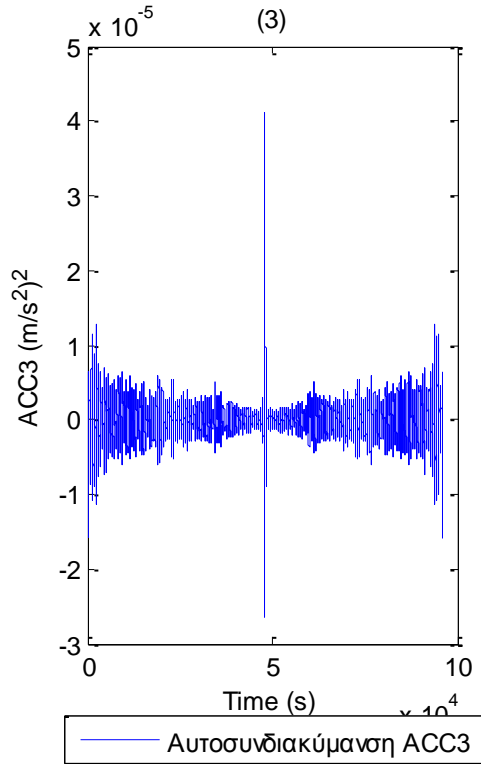
**Σχήματα 2.7.3.3** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



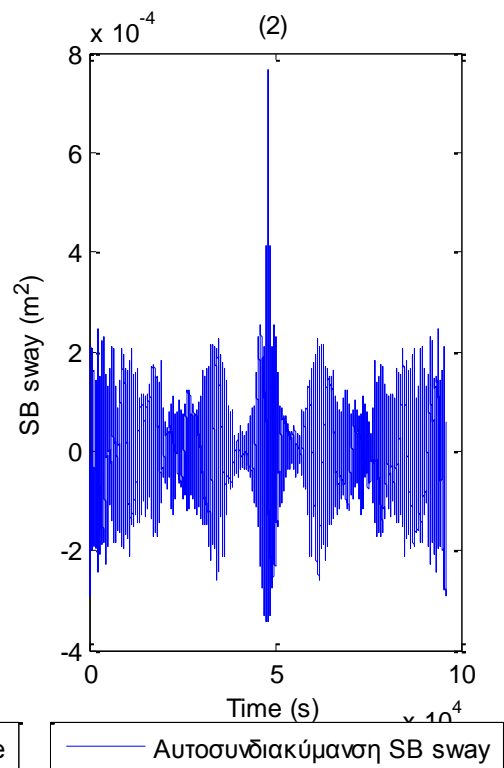
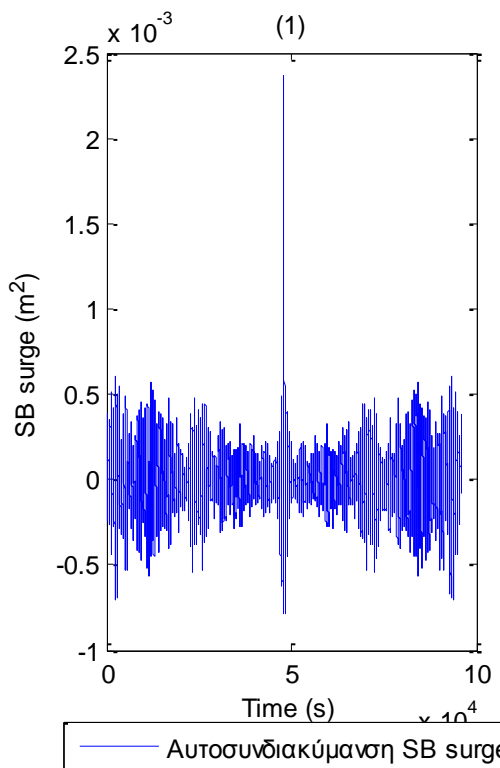


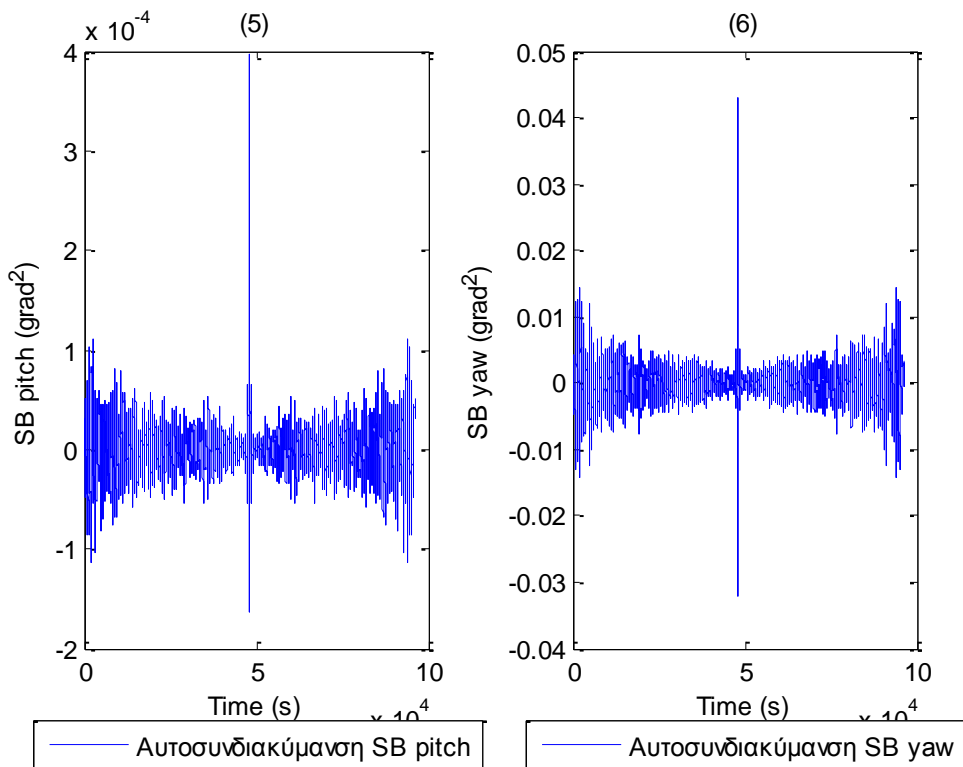
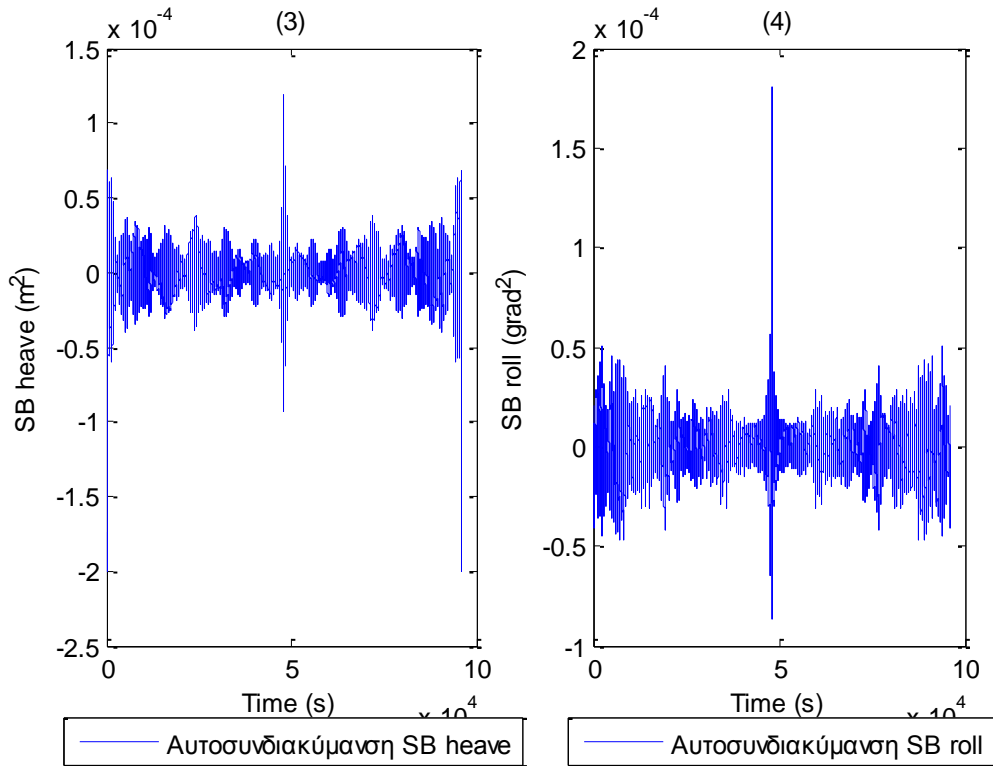
**Σχήματα 2.7.3.4 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τρεις γραμμές αγκύρωσης





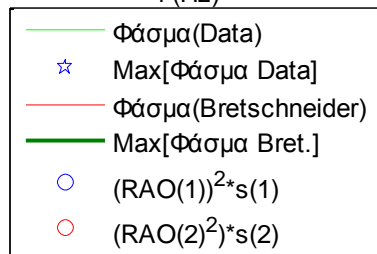
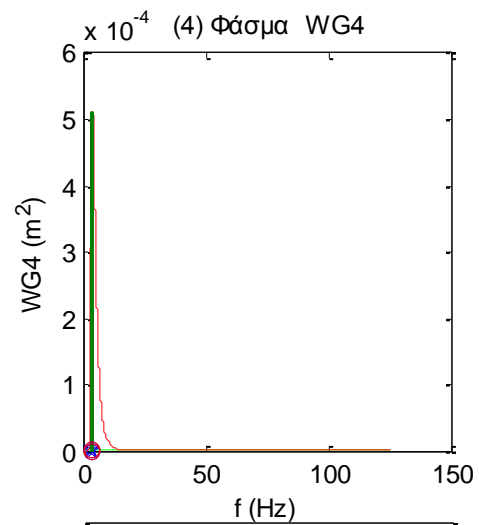
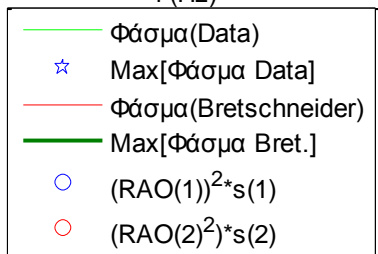
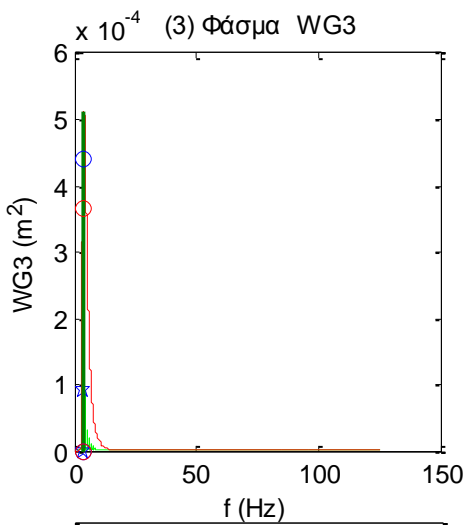
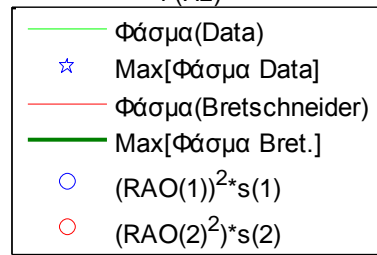
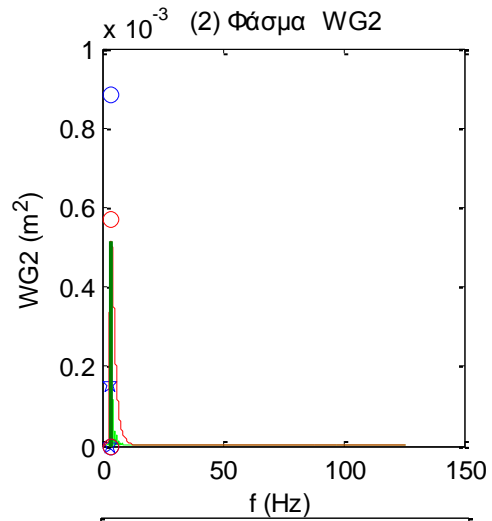
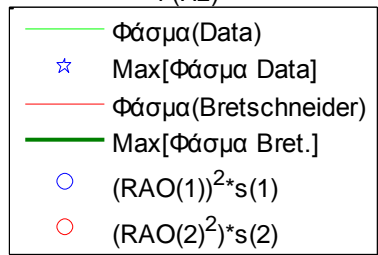
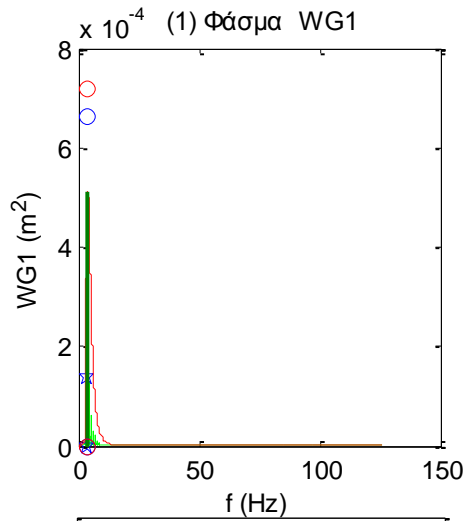
**Σχήματα 2.7.3.5 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

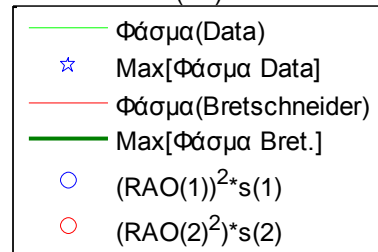
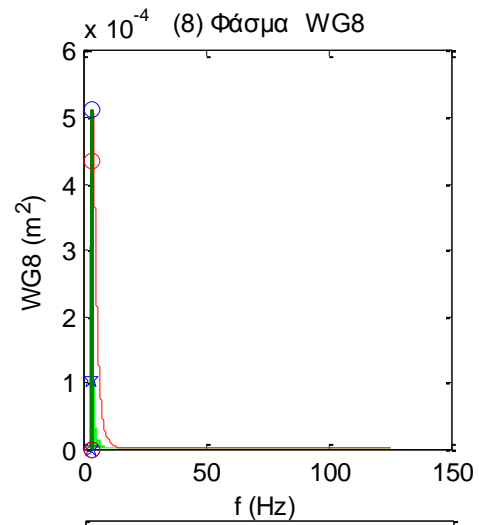
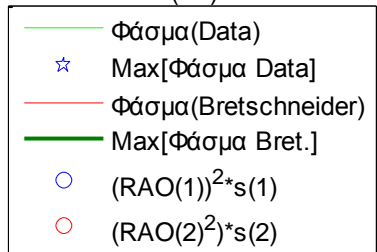
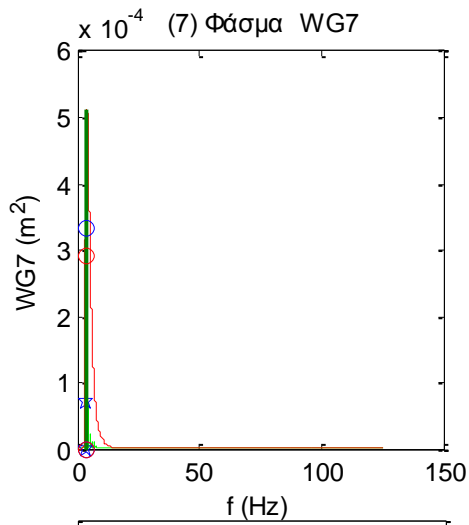
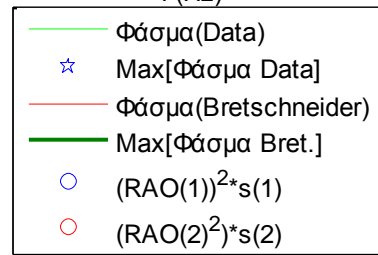
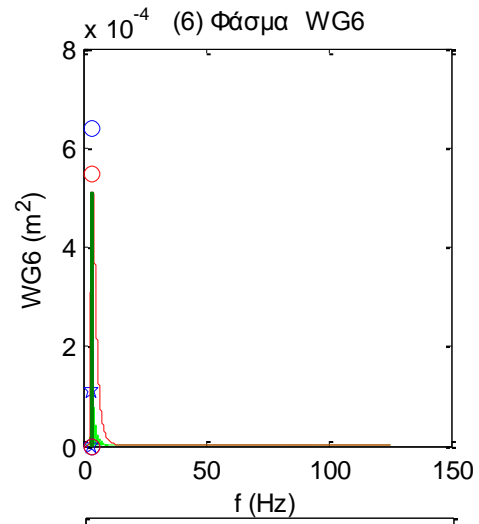
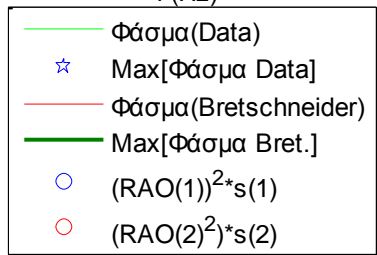
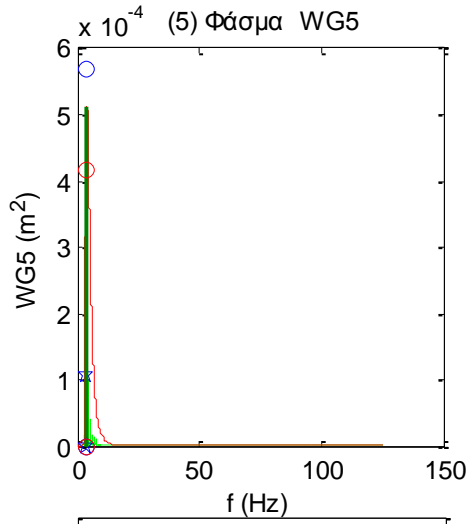


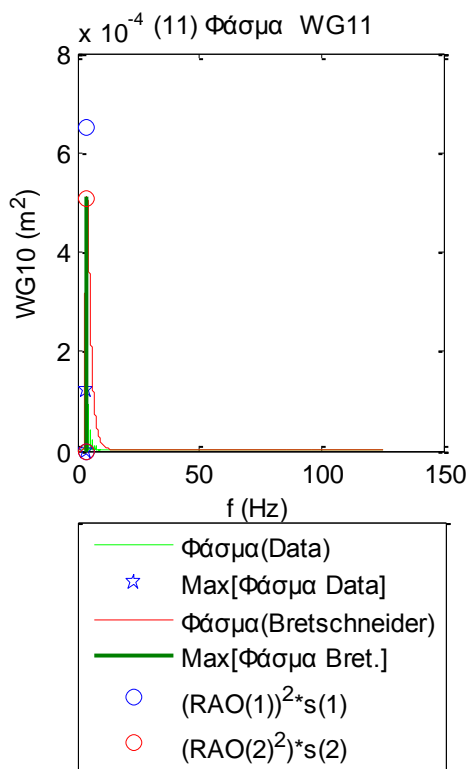
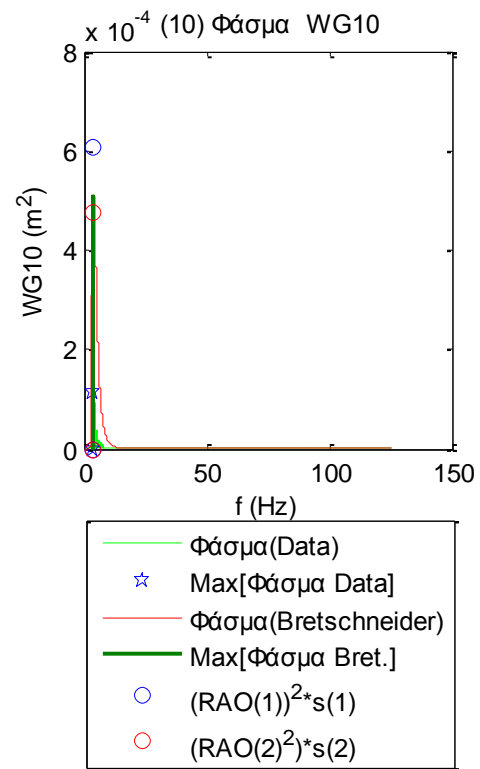
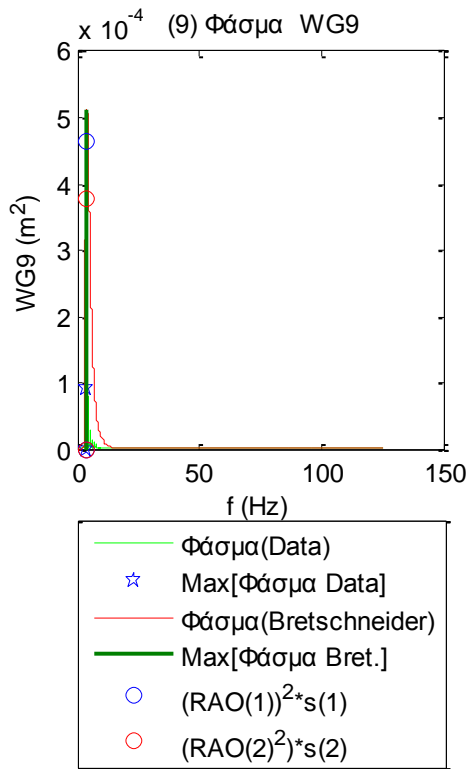


**Σχήματα 2.7.3.6** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

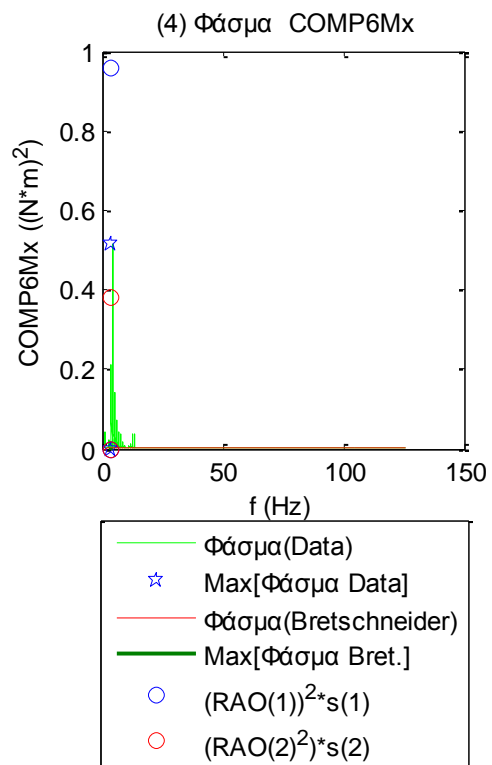
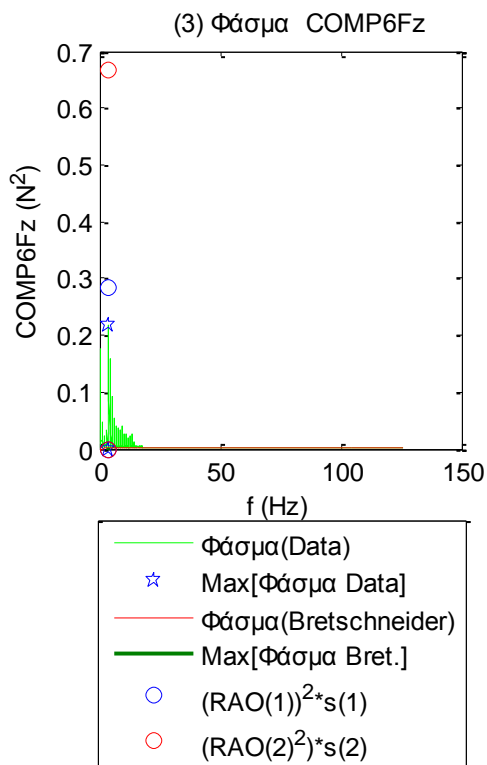
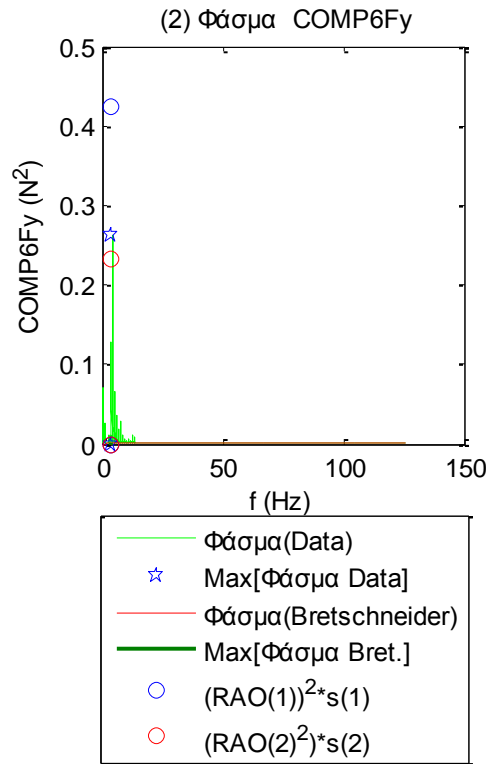
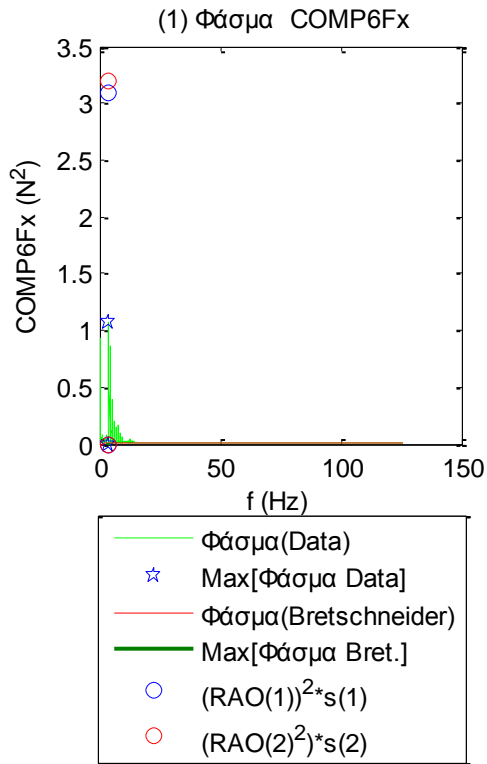


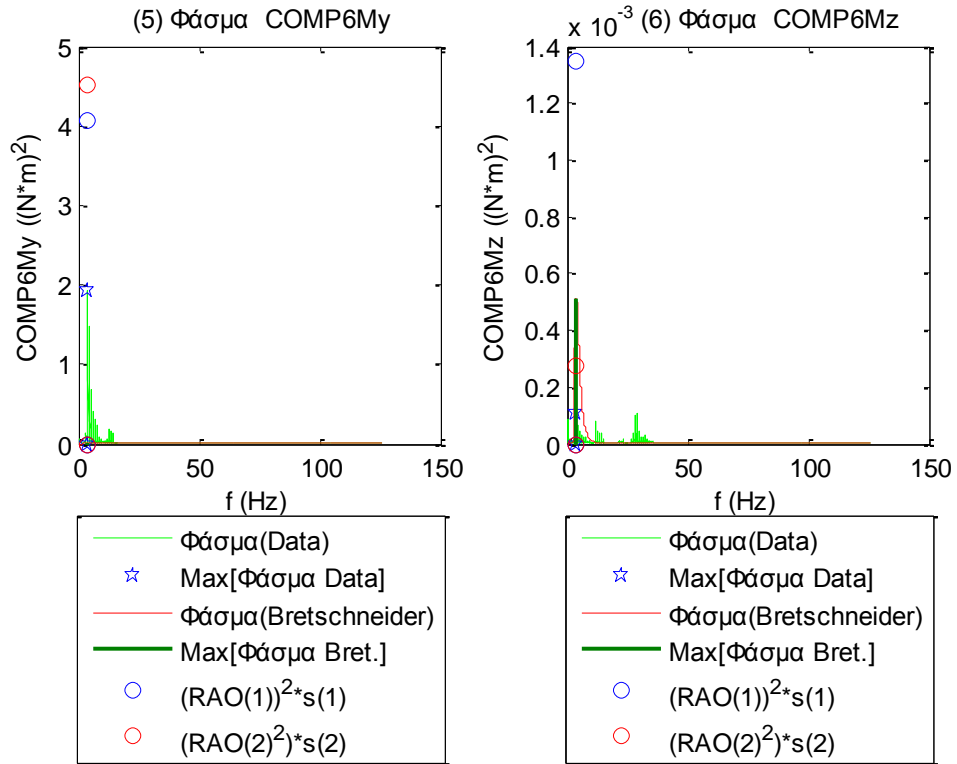




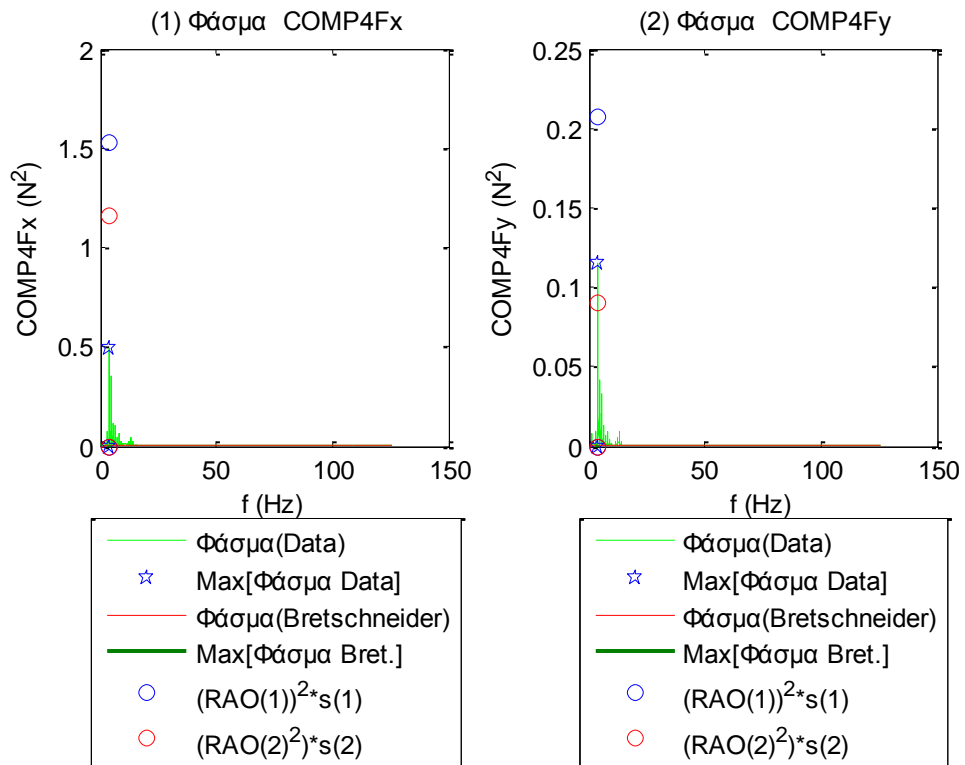


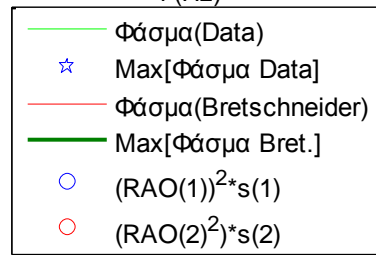
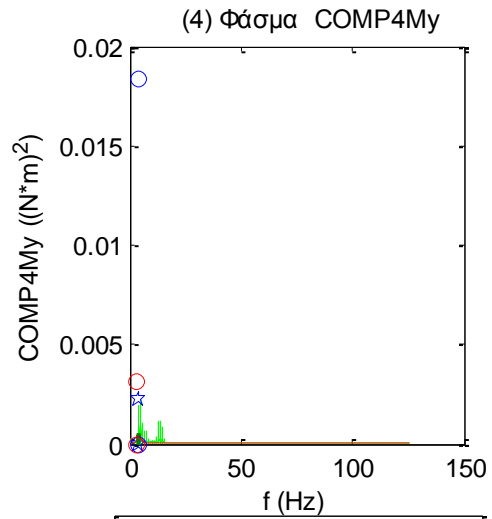
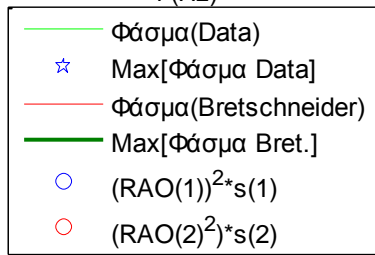
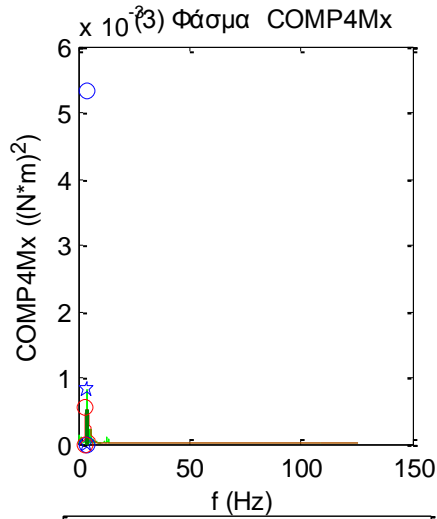
**Σχήματα 2.7.4.1 (1-11)** Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος



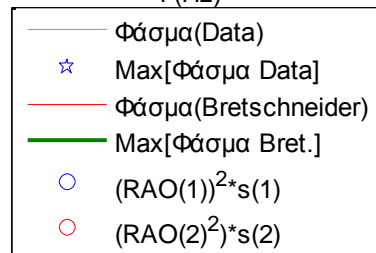
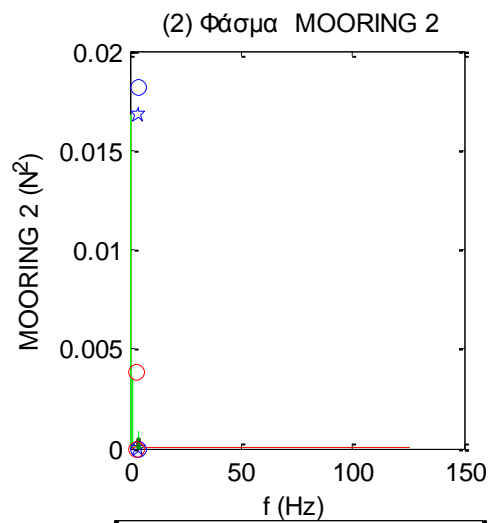
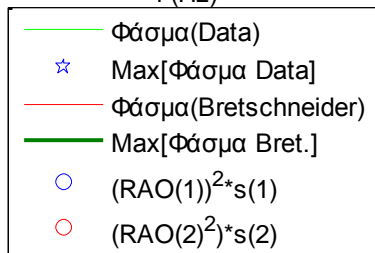
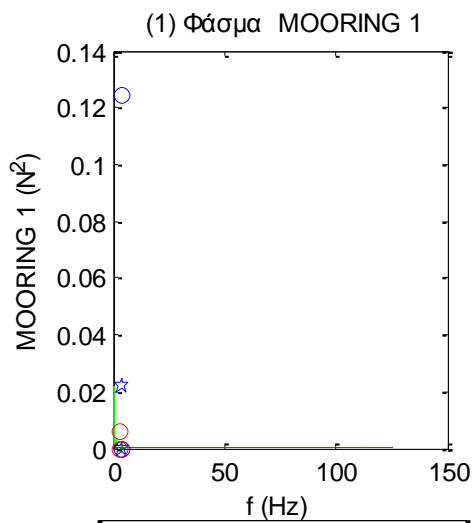


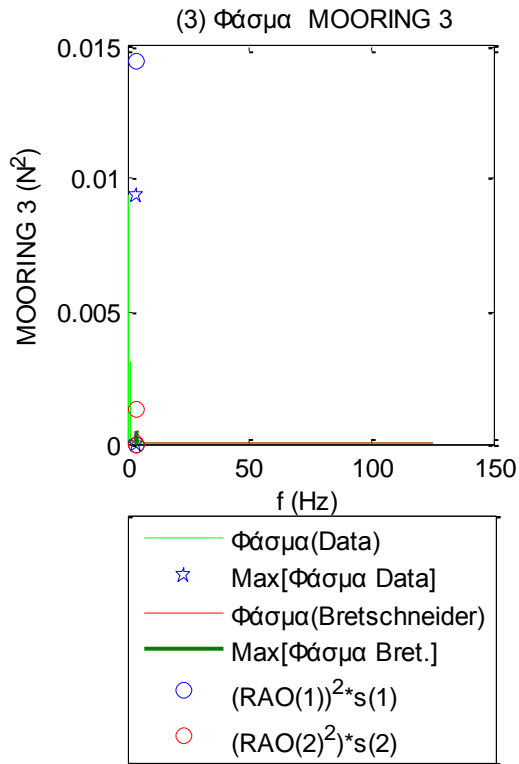
**Σχήματα 2.7.4.2** Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



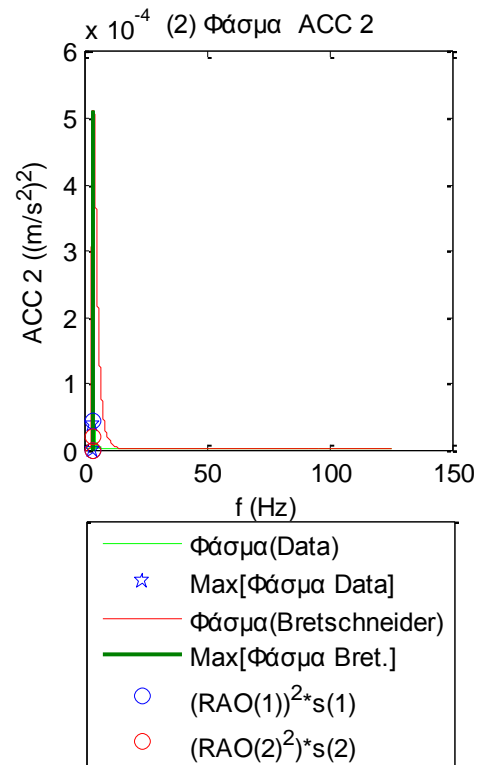
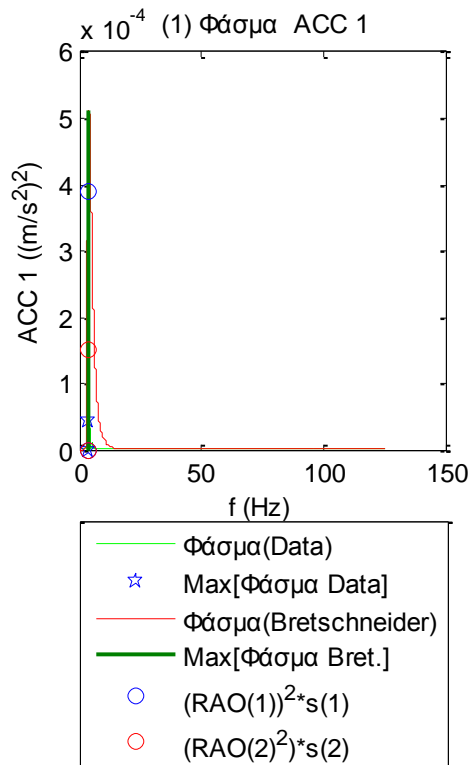


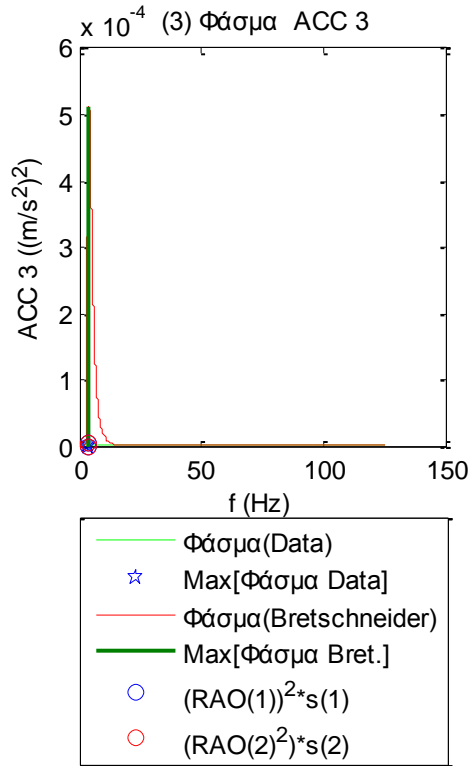
**Σχήματα 2.7.4.3** Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



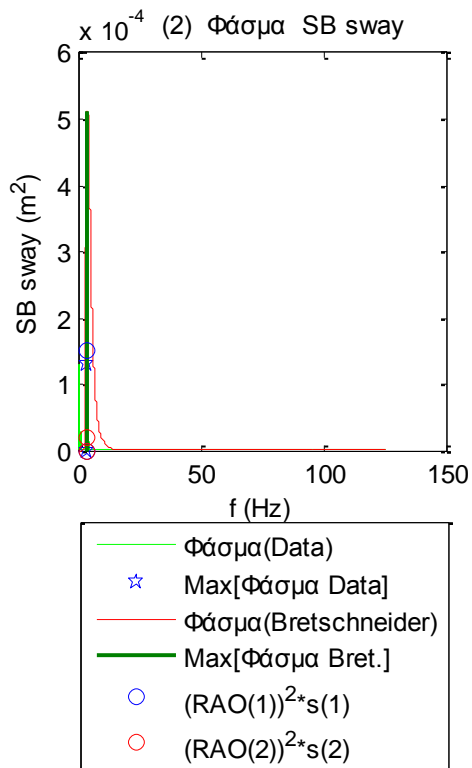
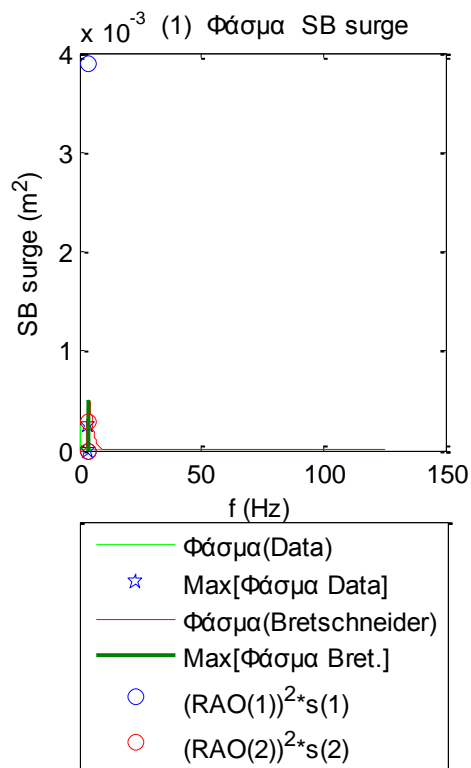


Σχήματα 2.7.4.4 (1-3) Φάσματα για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

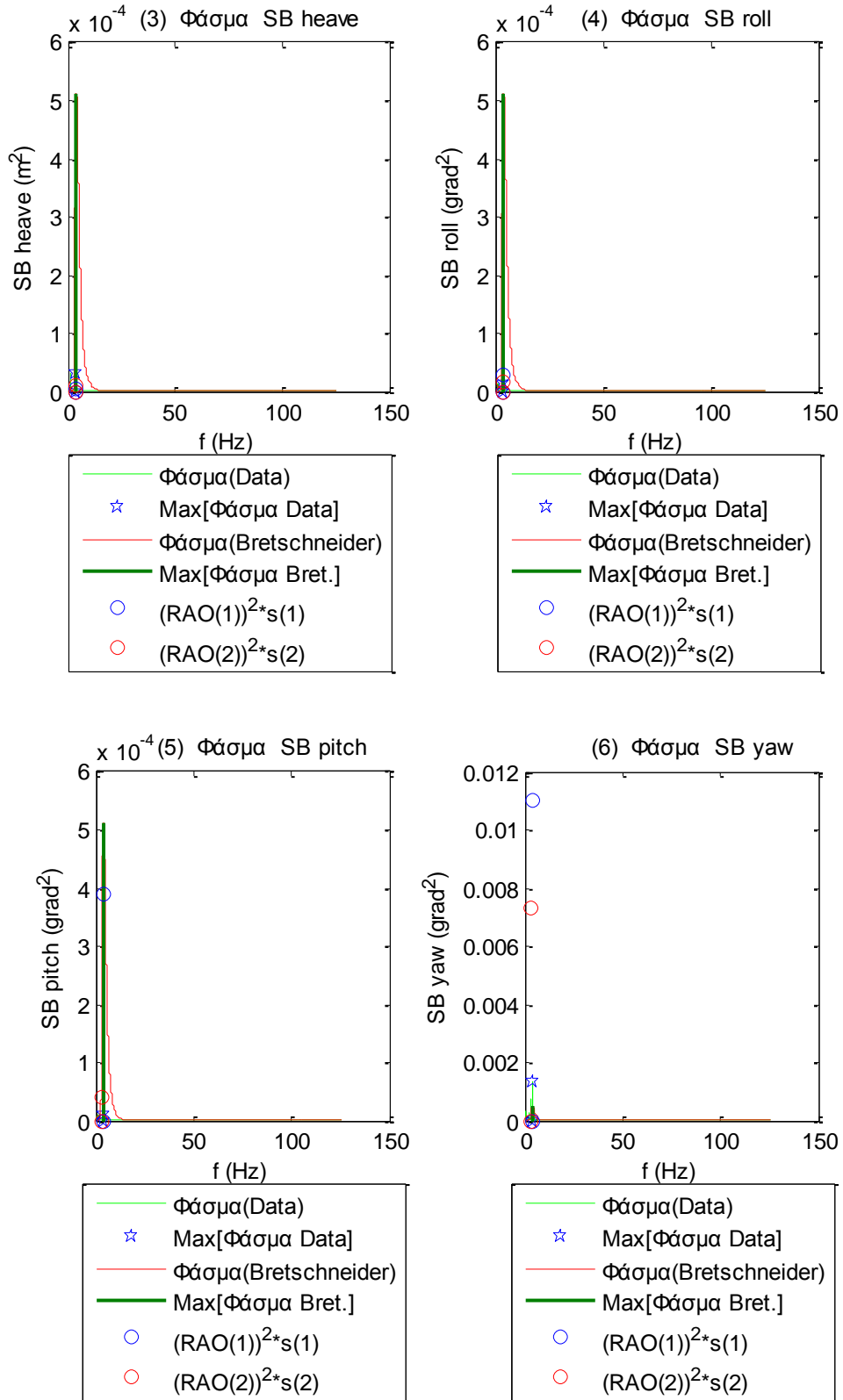




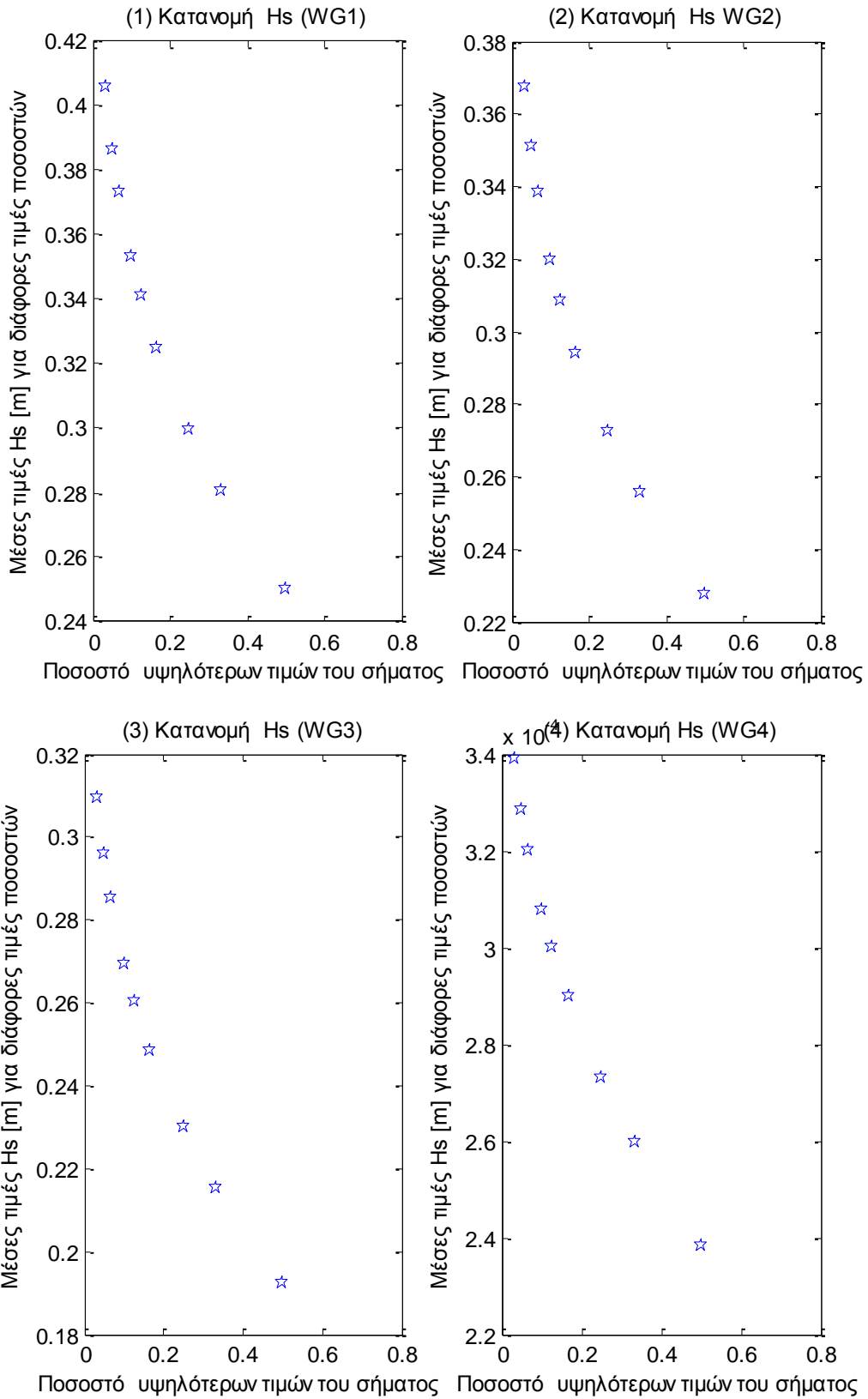
**Σχήματα 2.7.4.5 (1-3)** Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

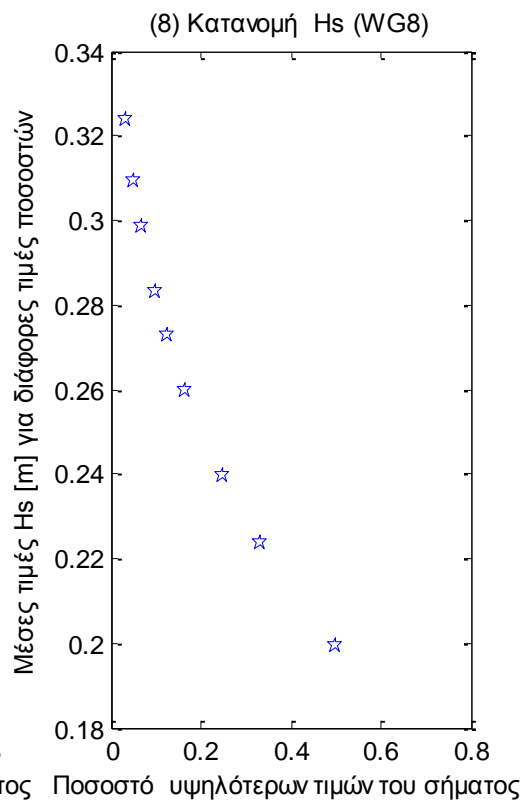
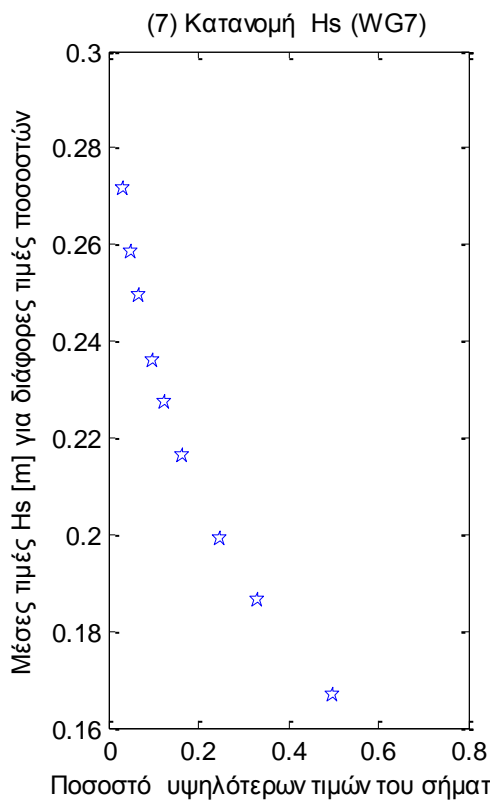
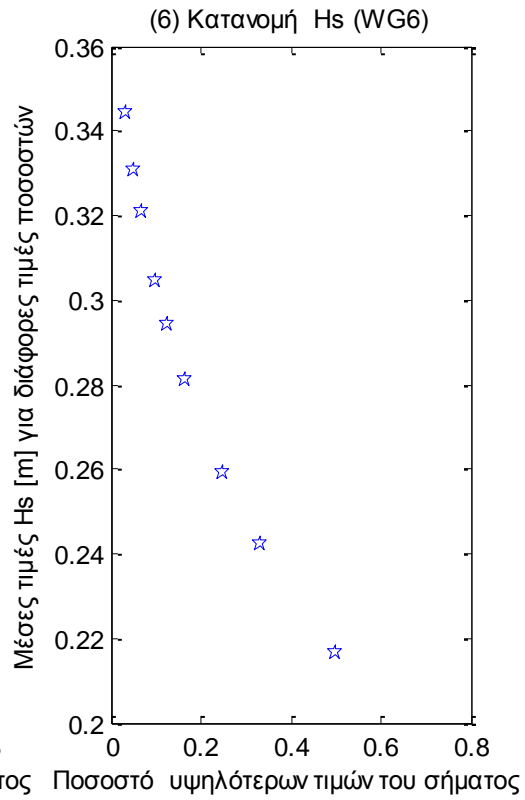
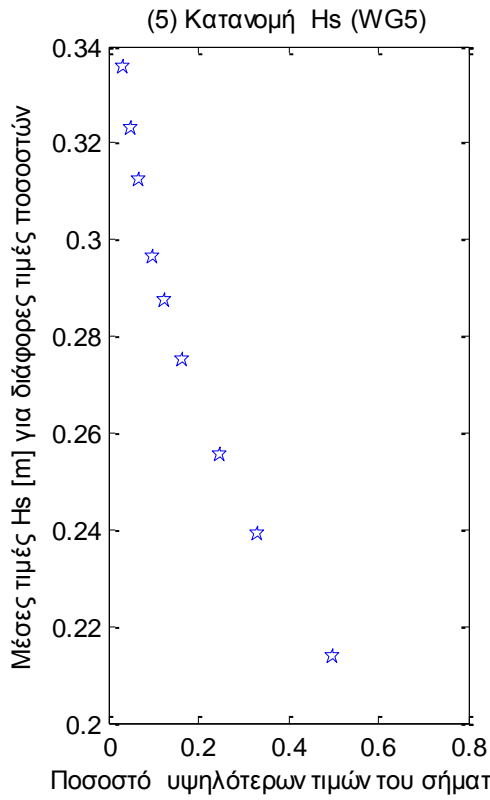


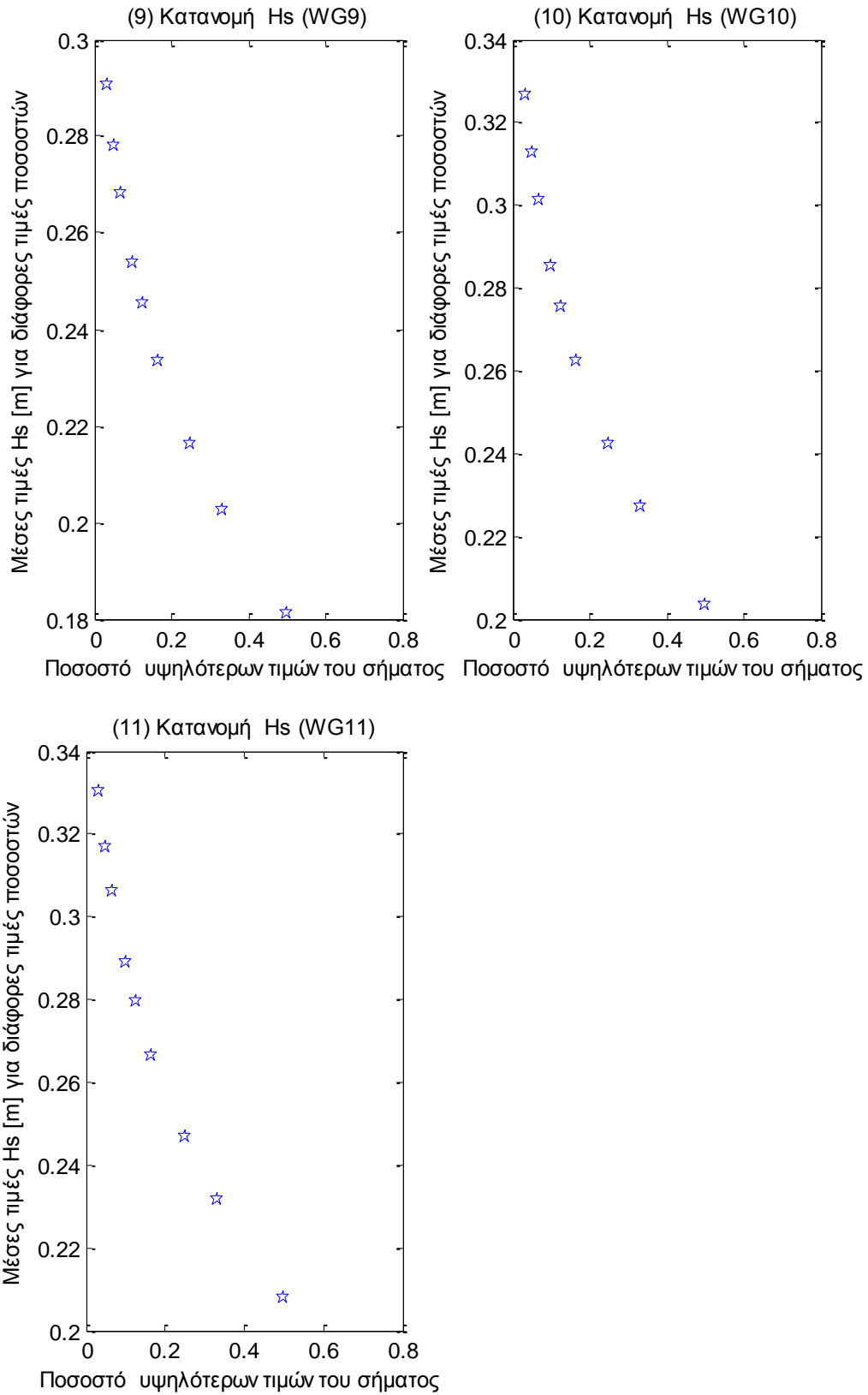




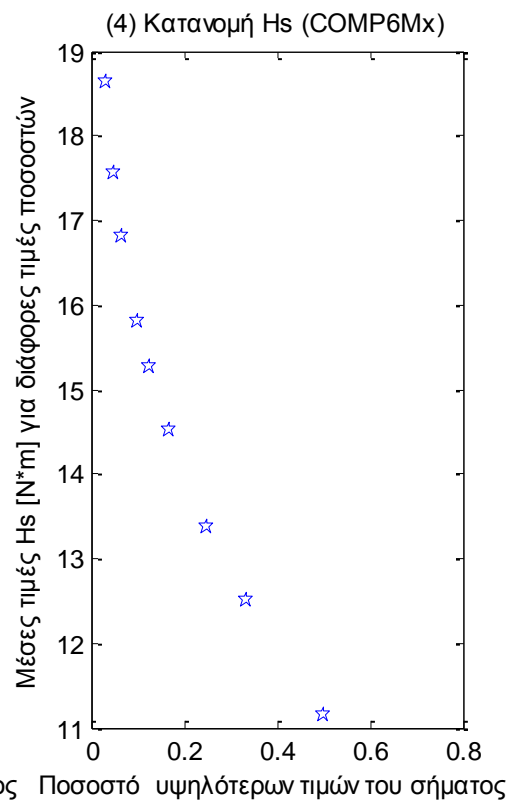
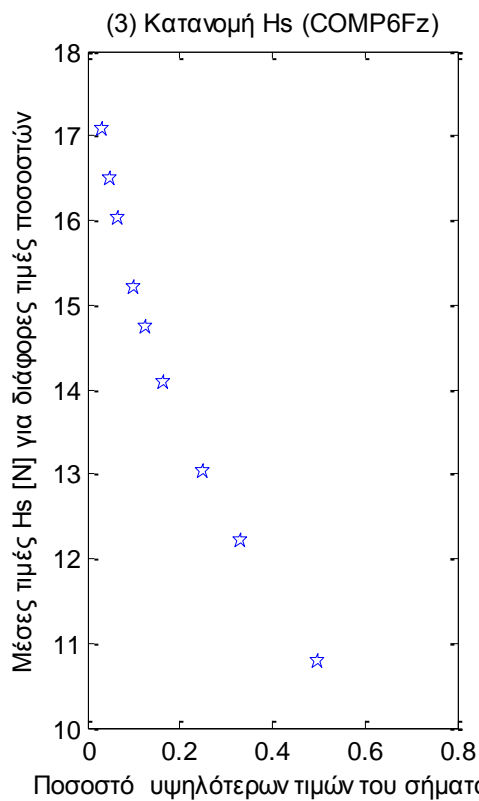
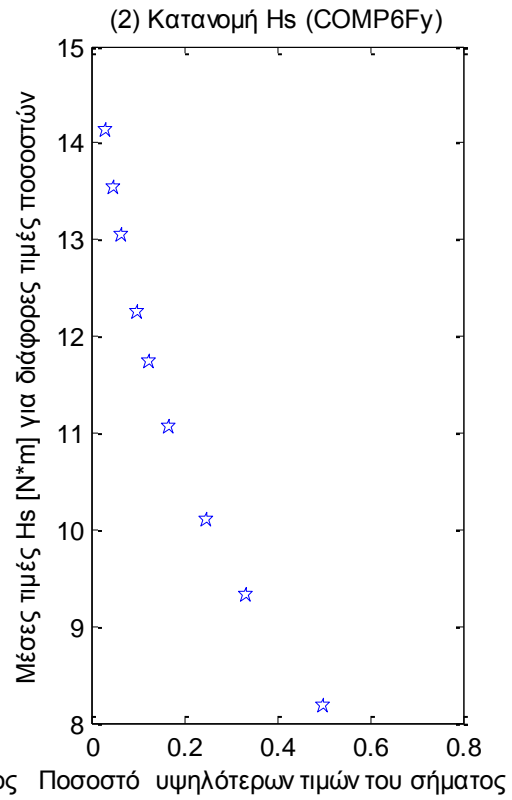
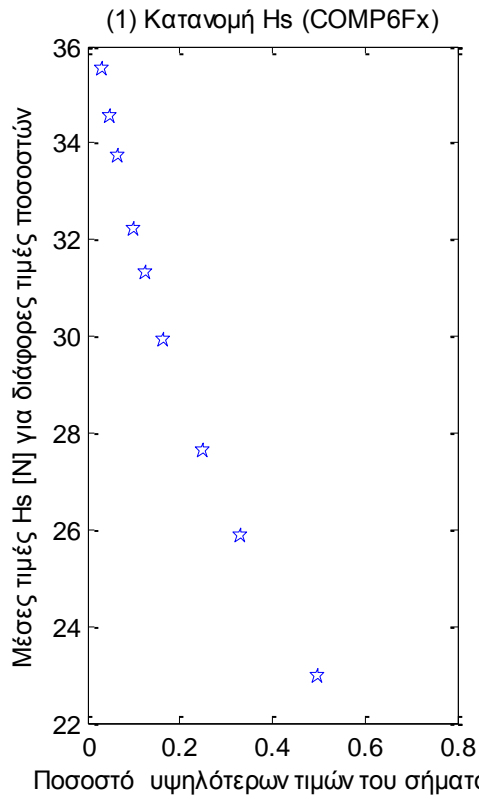
**Σχήματα 2.7.4.6** Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

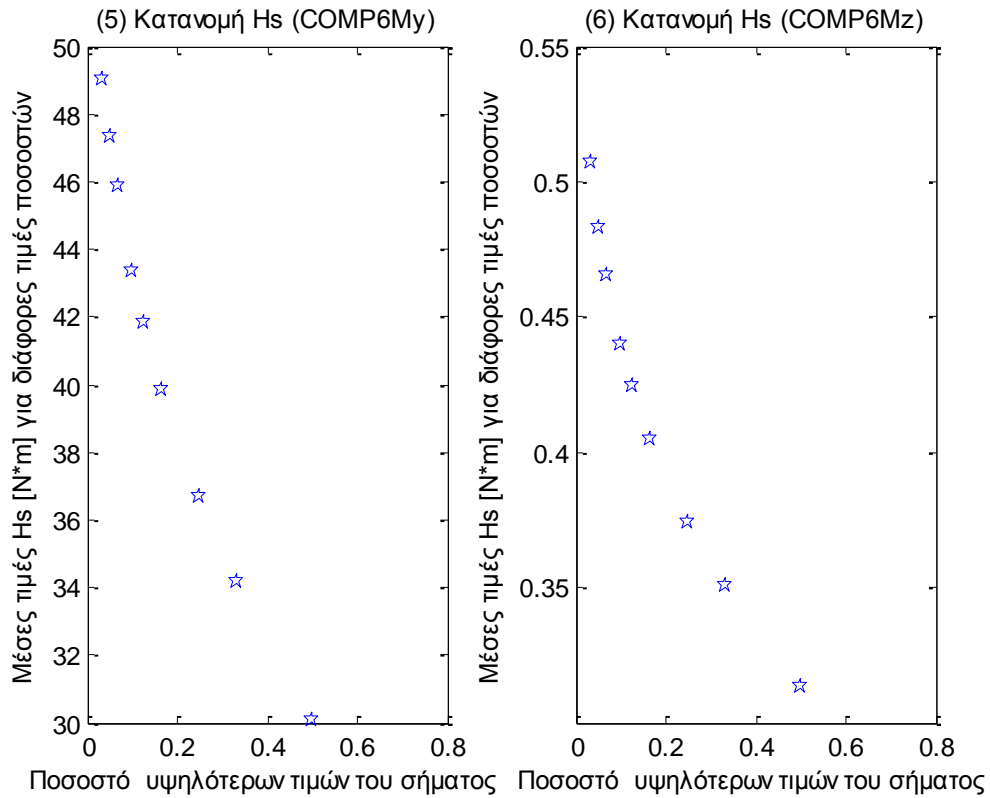




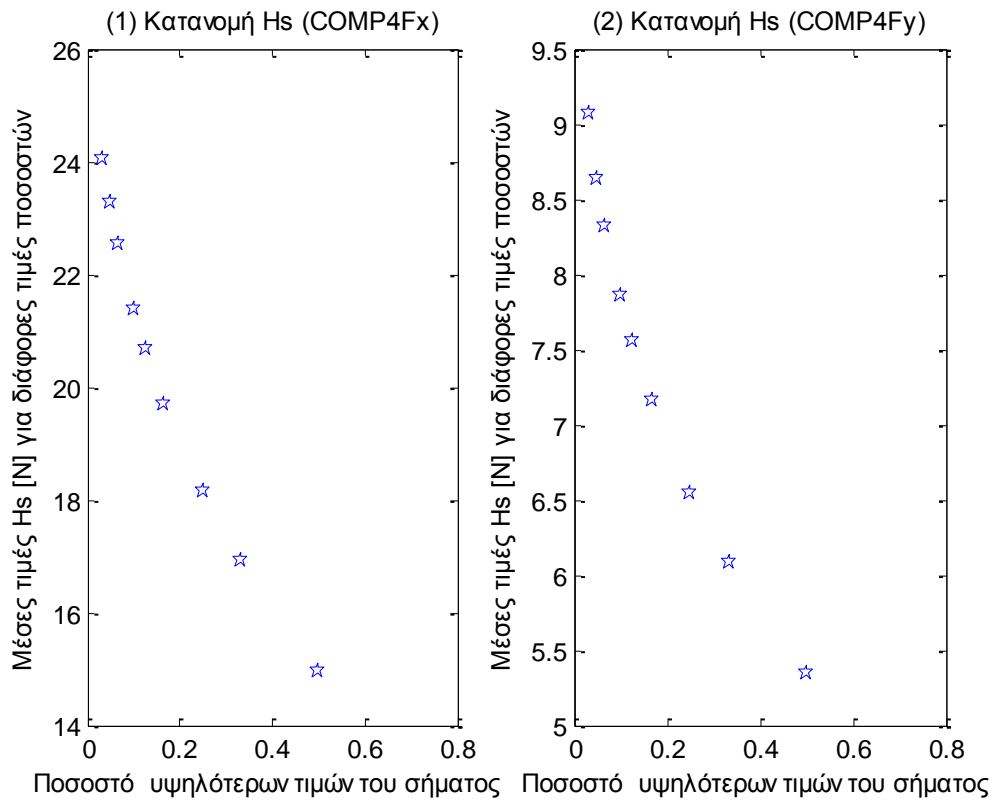


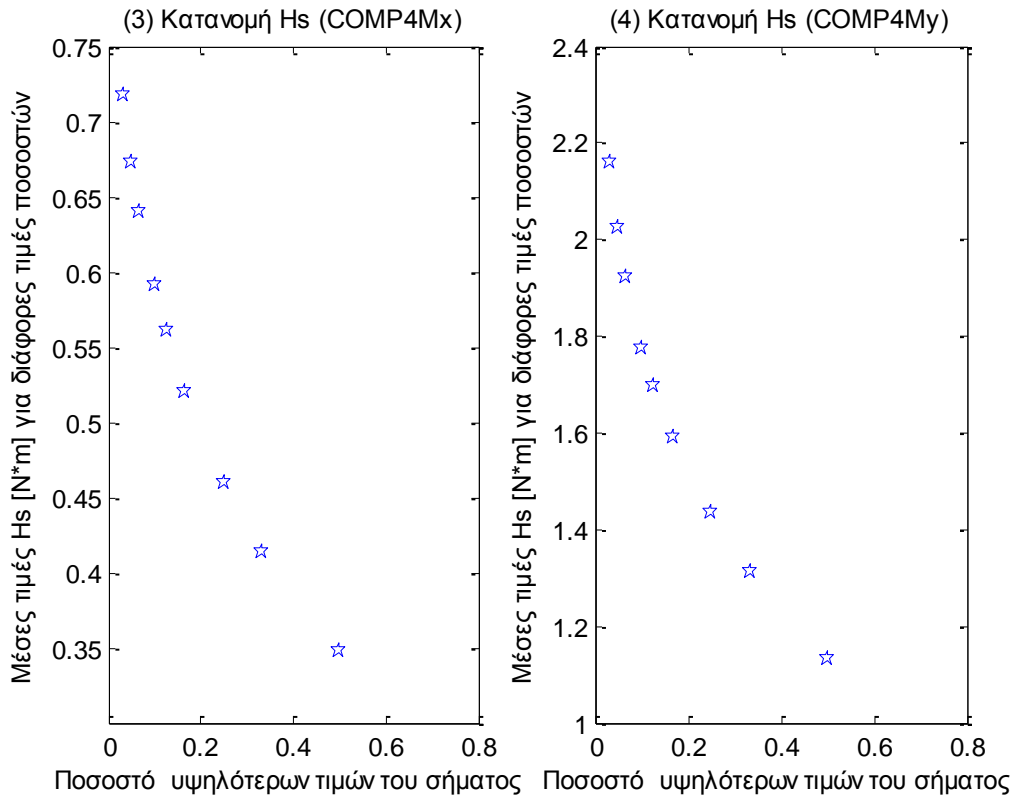
**Σχήματα 2.7.5.1 (1-11)** Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



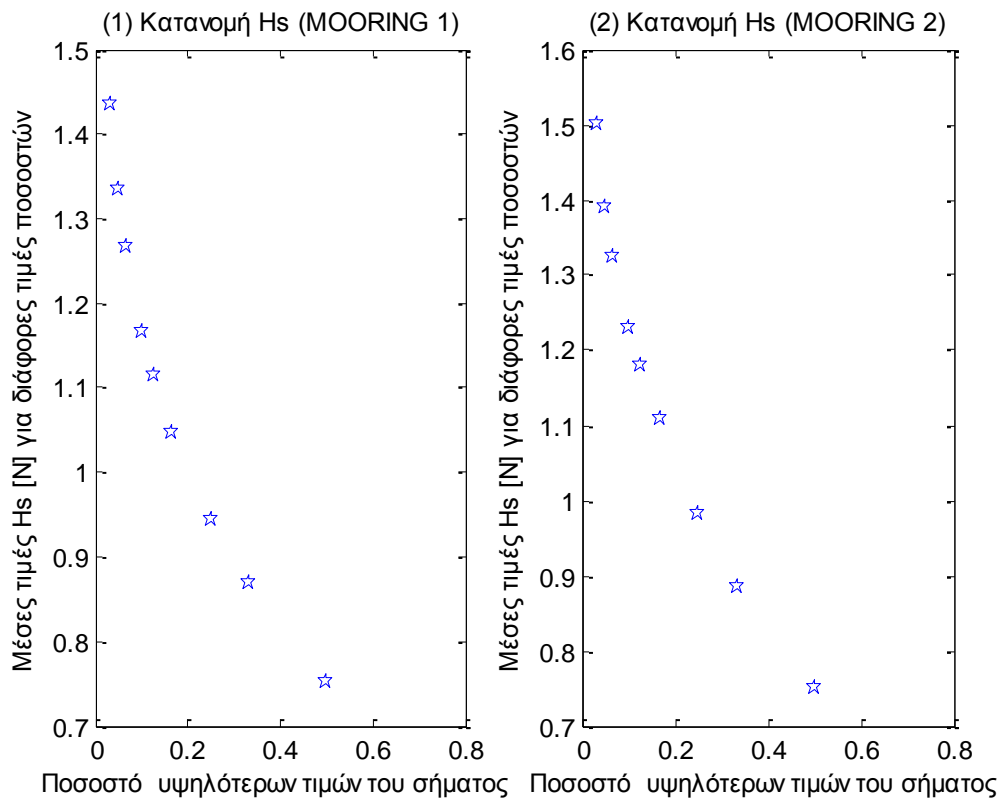


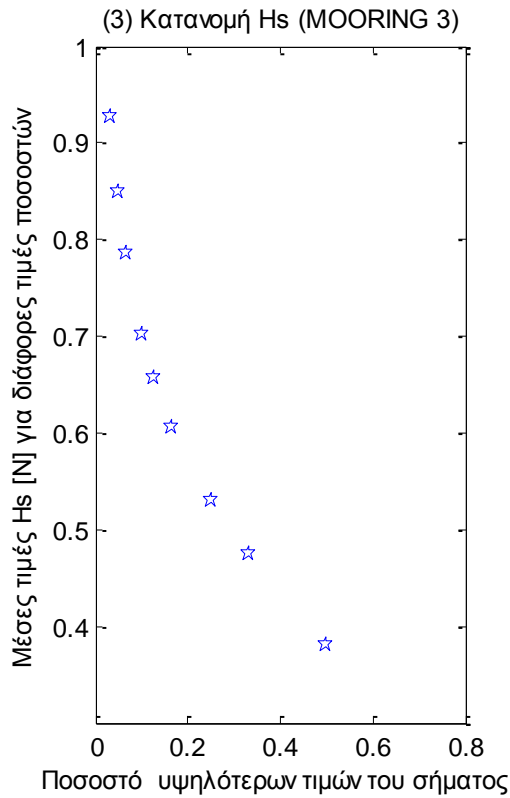
**Σχήματα 2.7.5.2** Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



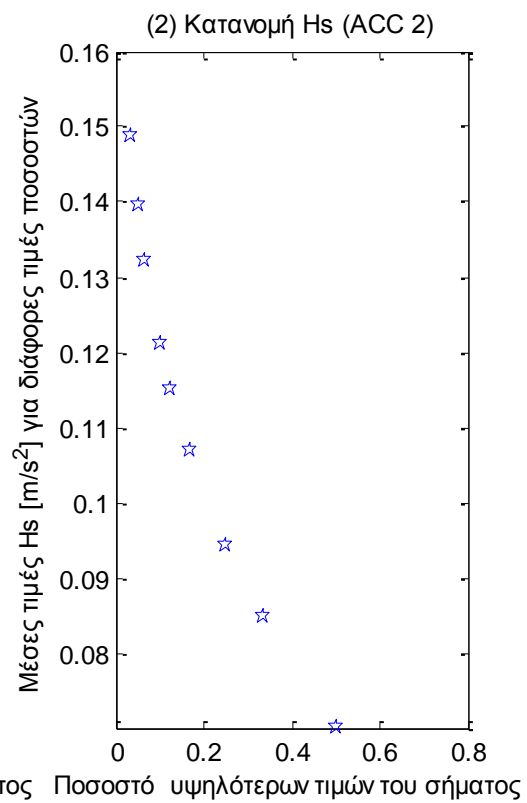
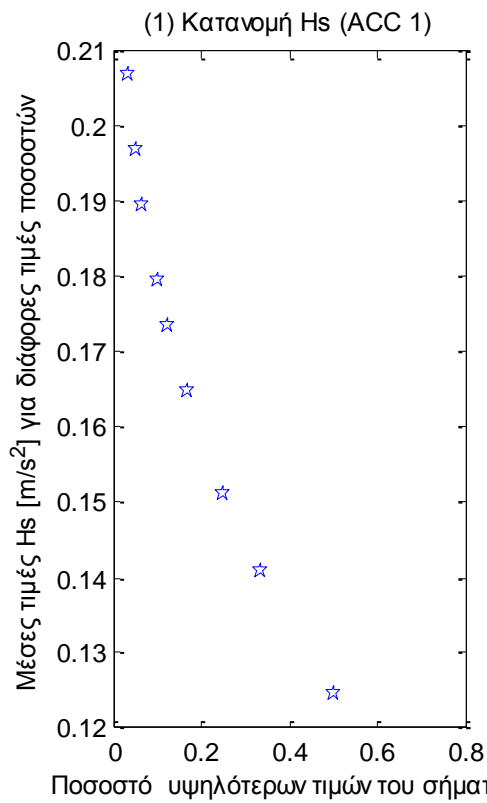


**Σχήματα 2.7.5.3** Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

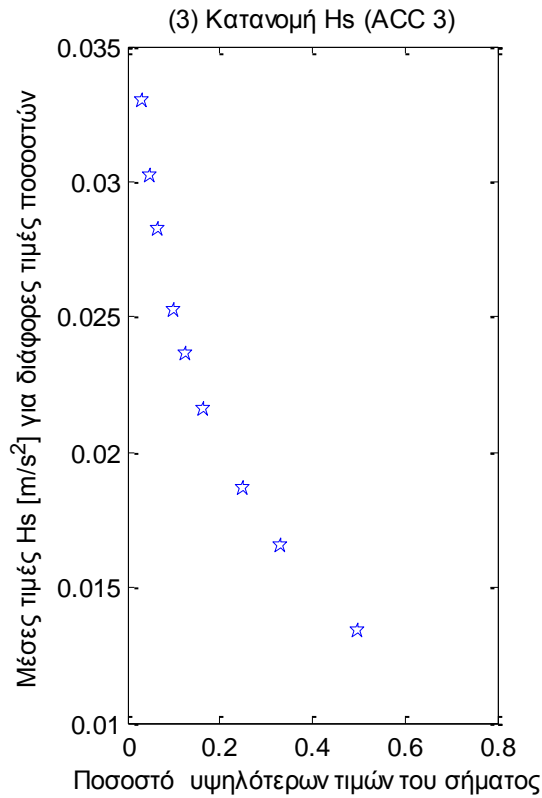




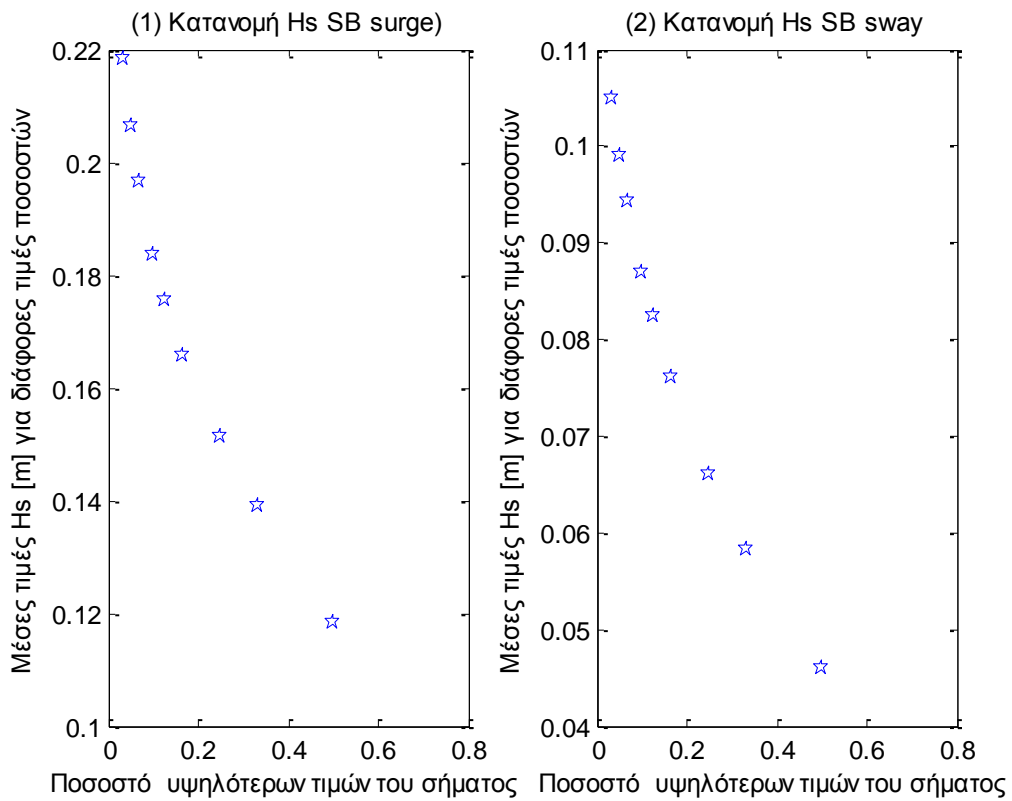
**Σχήματα 2.7.5.4 (1-4)** Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

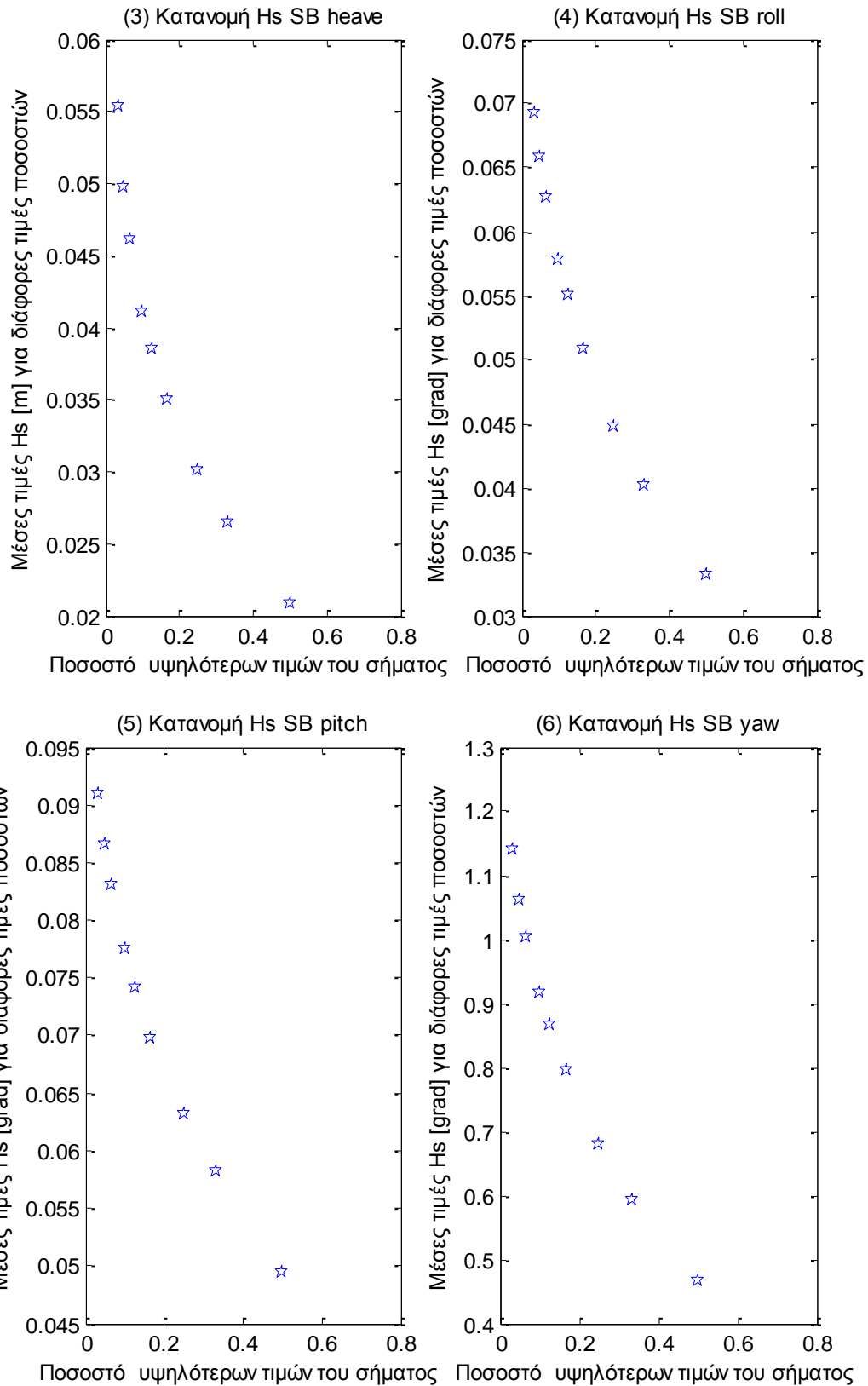




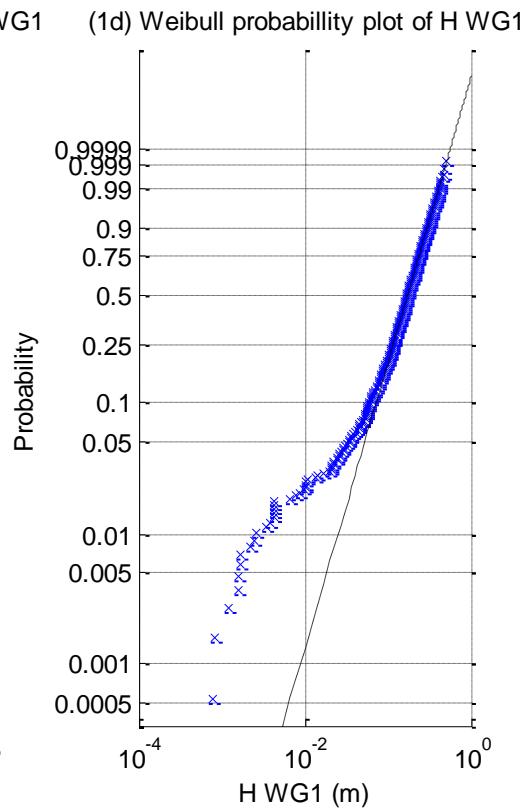
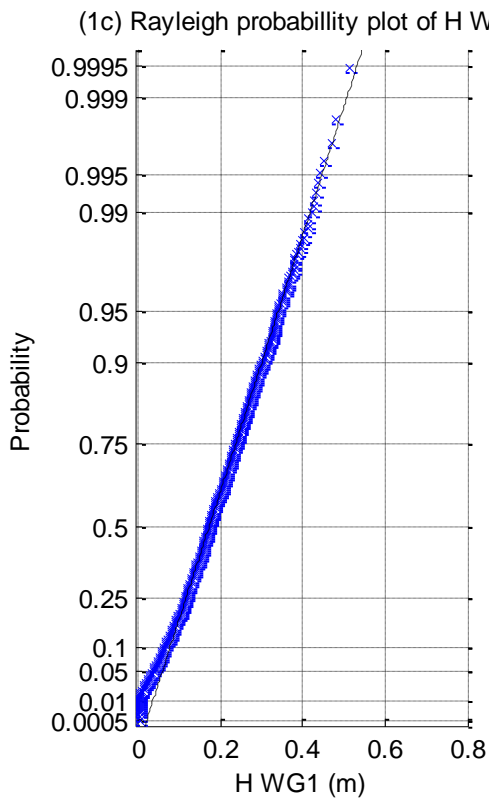
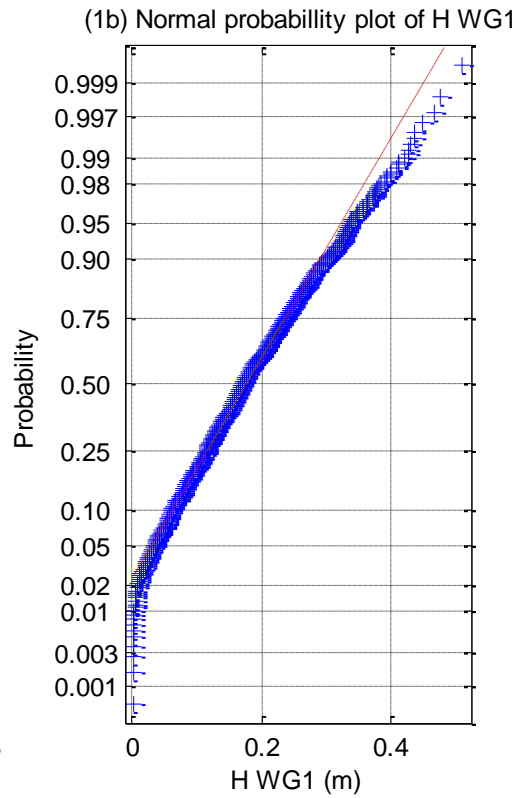
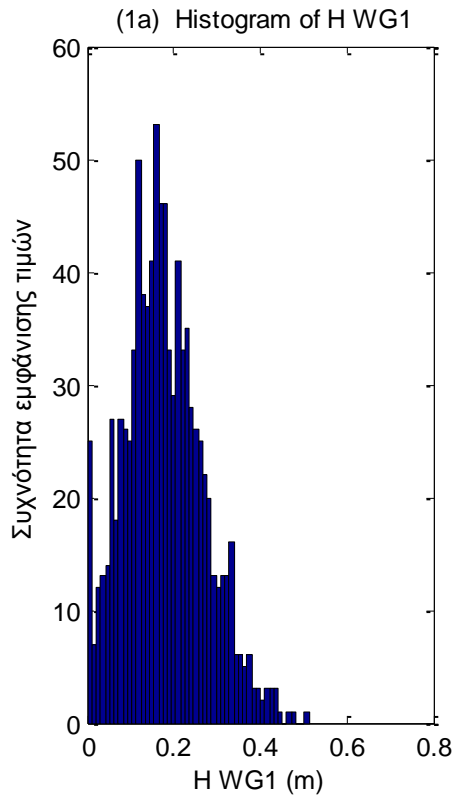


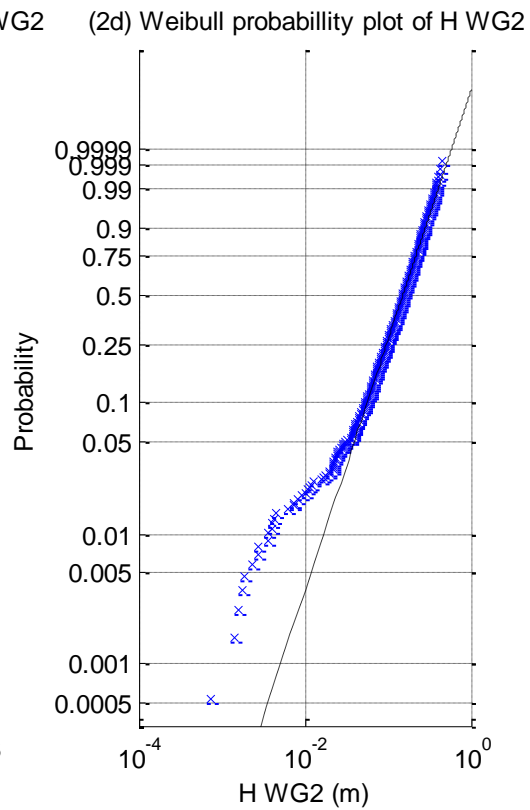
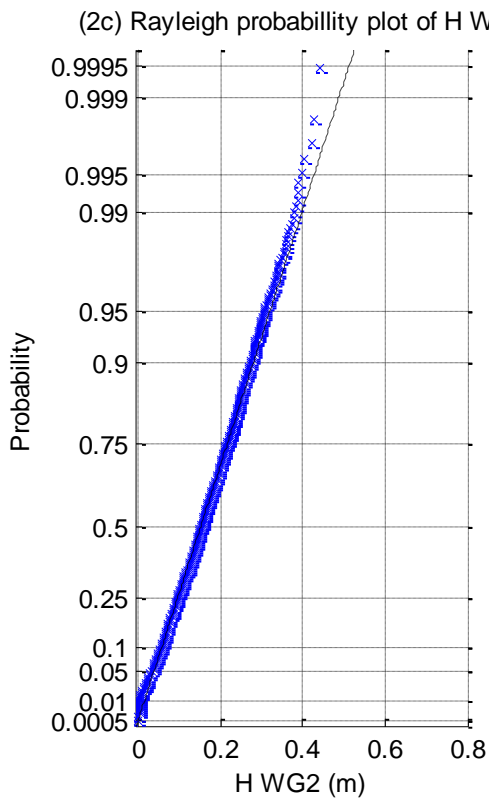
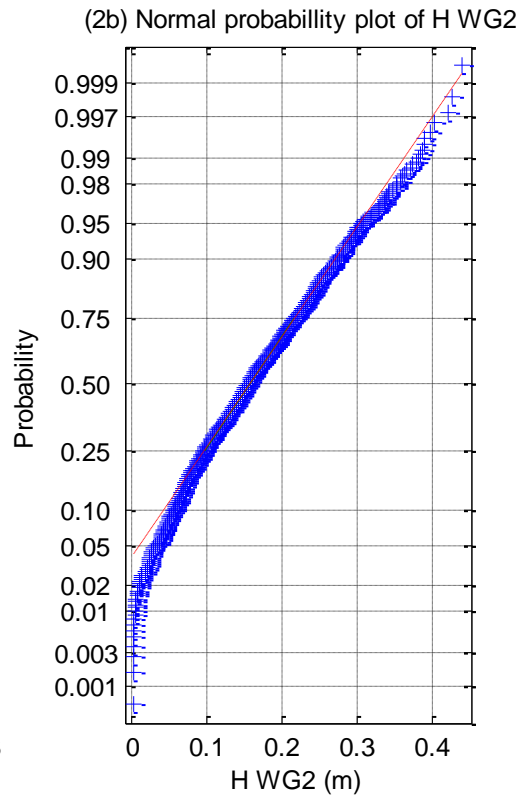
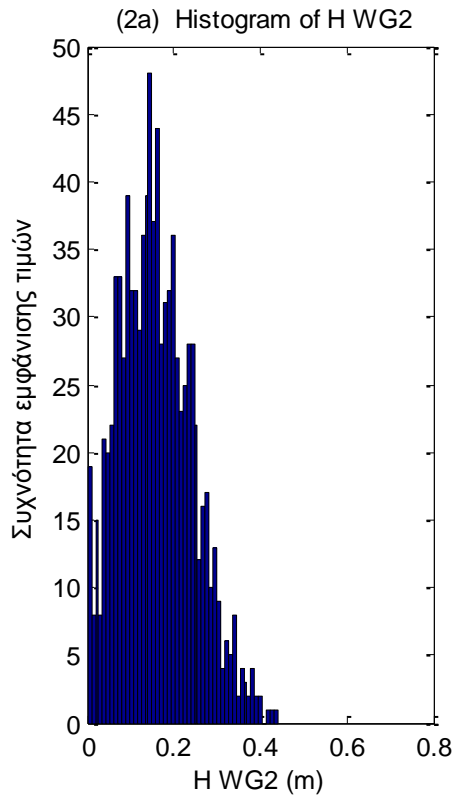
**Σχήματα 2.7.5.5 (1-3)** Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

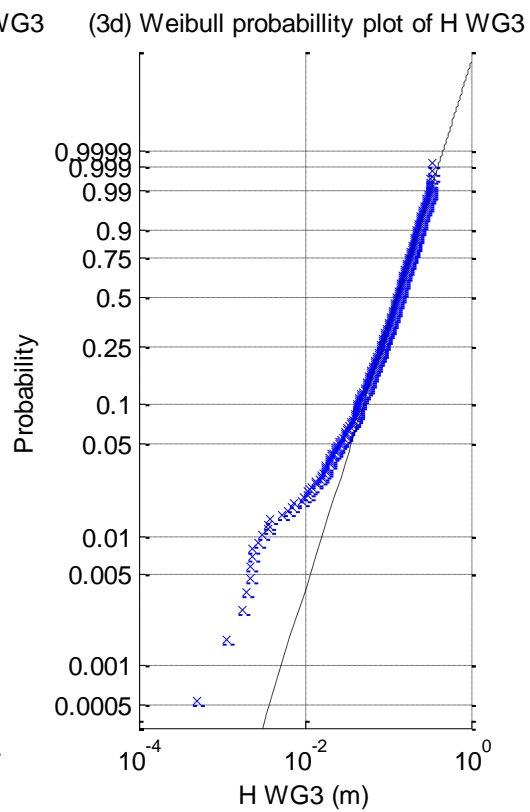
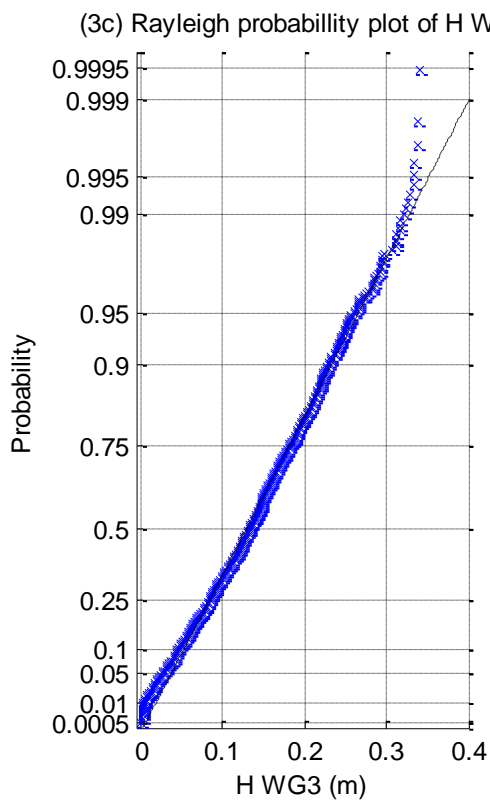
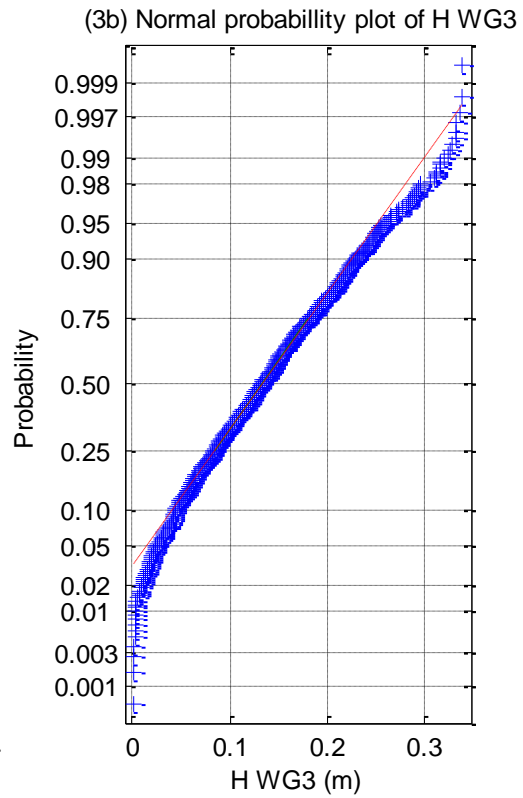
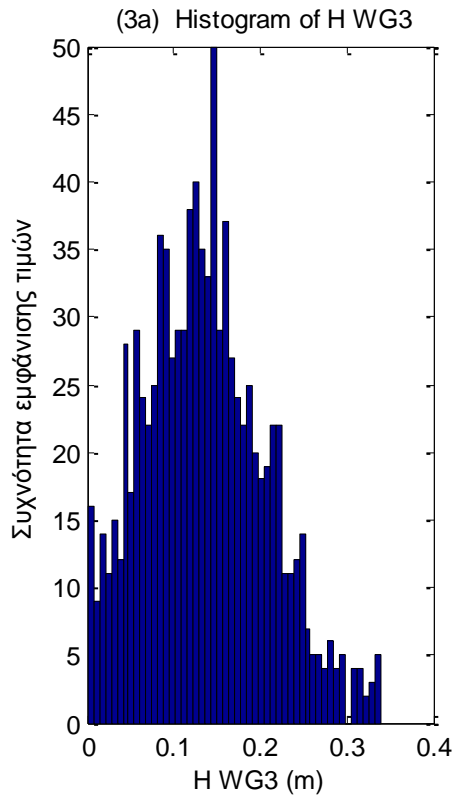


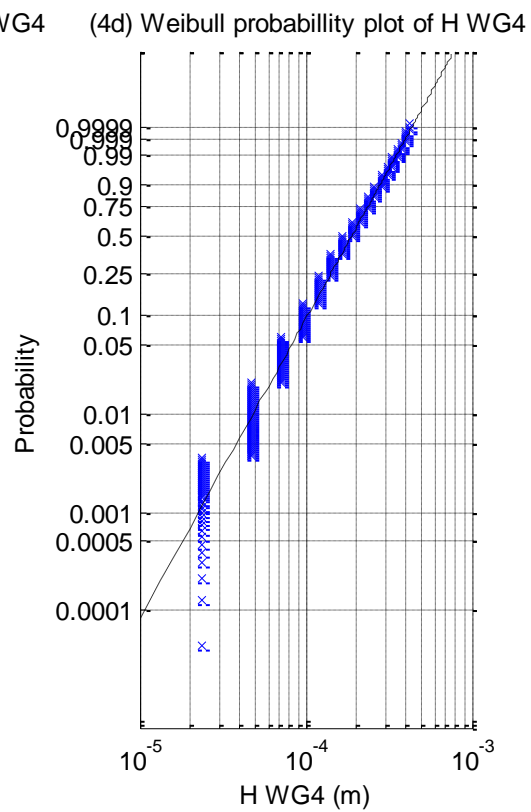
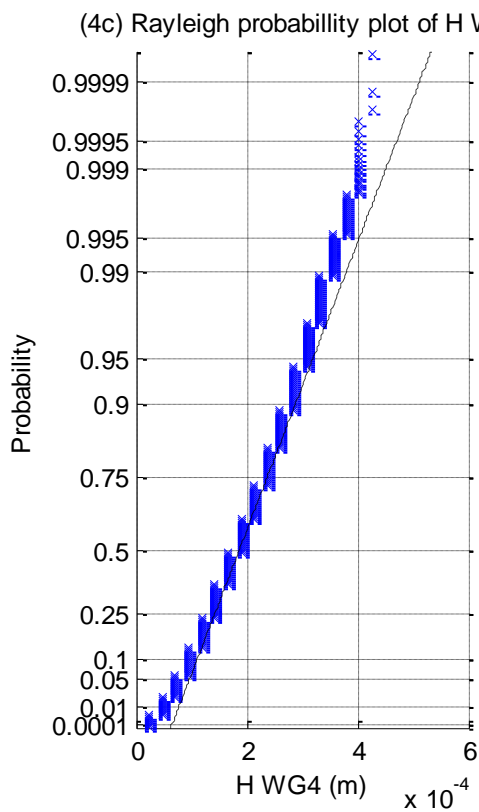
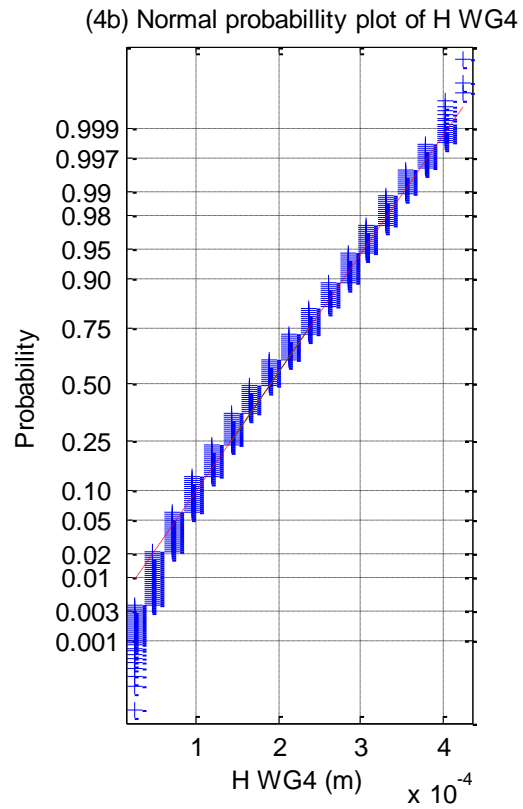
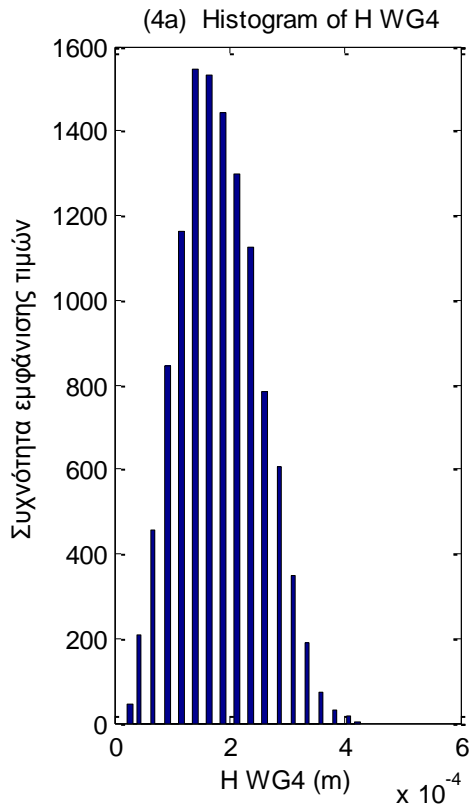


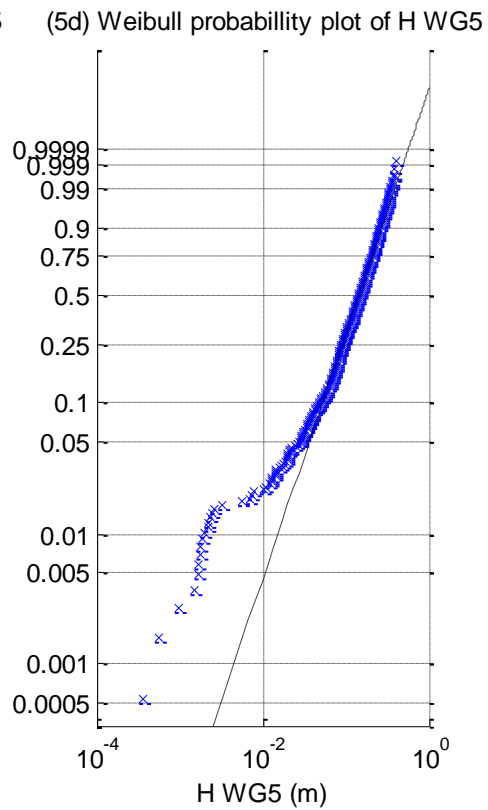
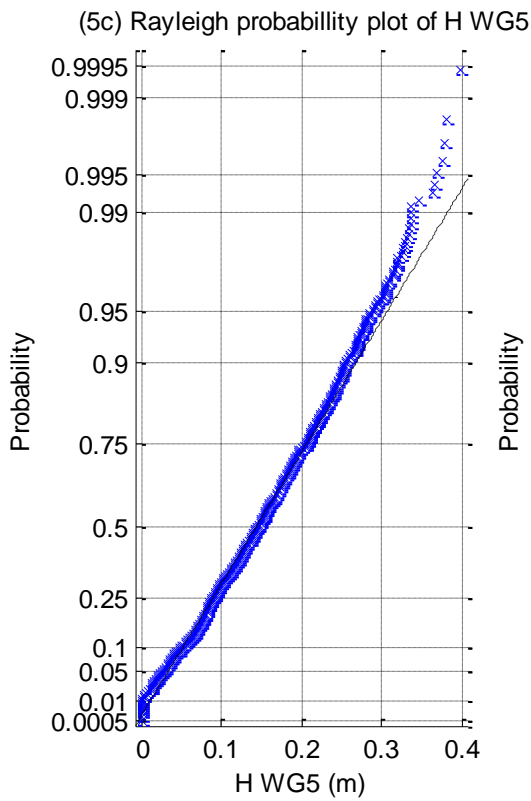
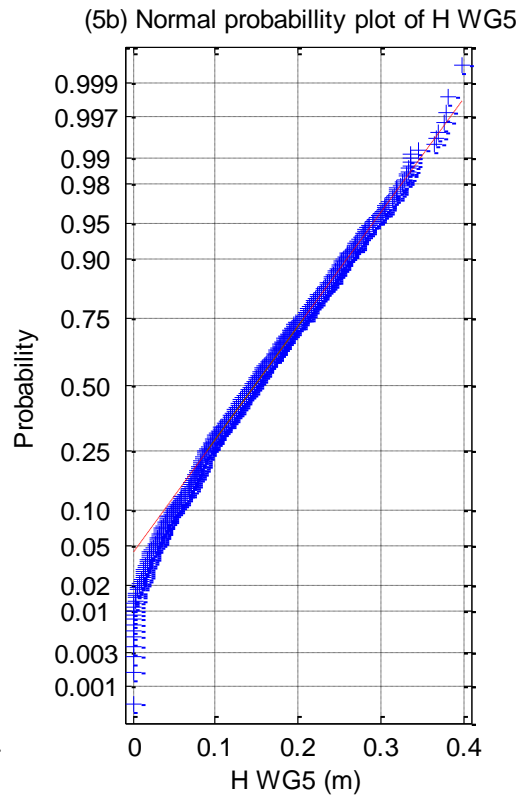
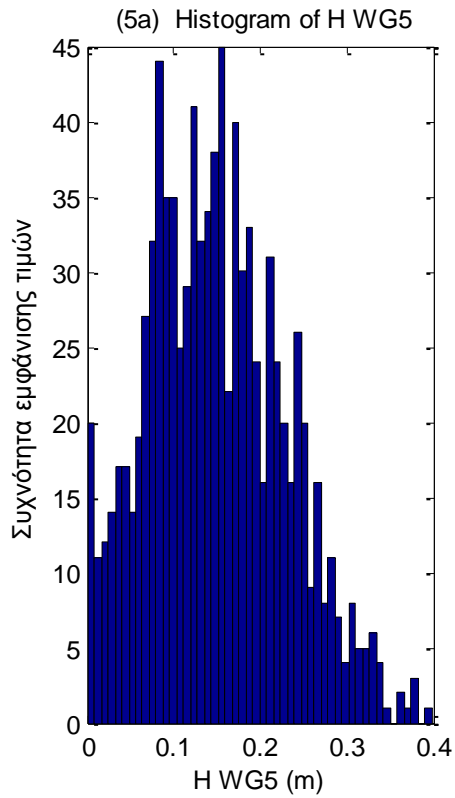
**Σχήματα 2.7.5.6** Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

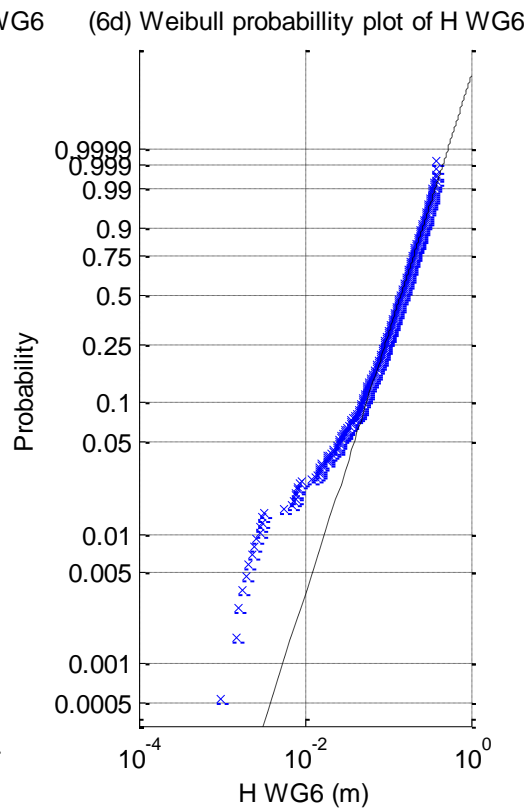
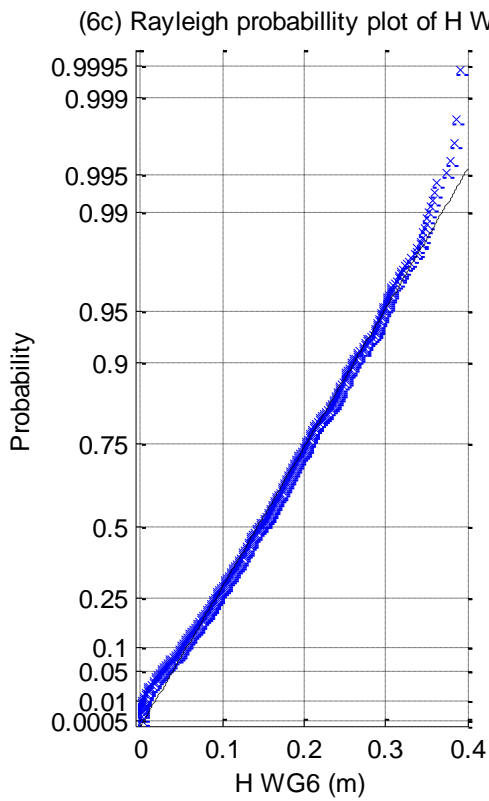
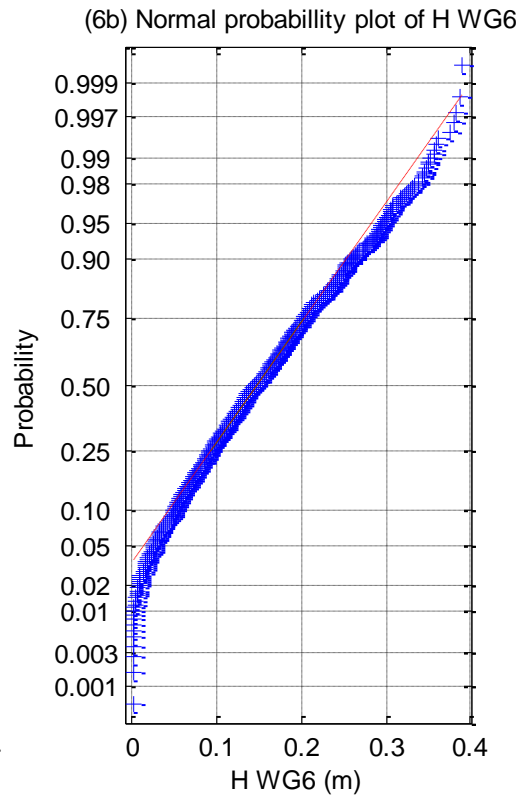
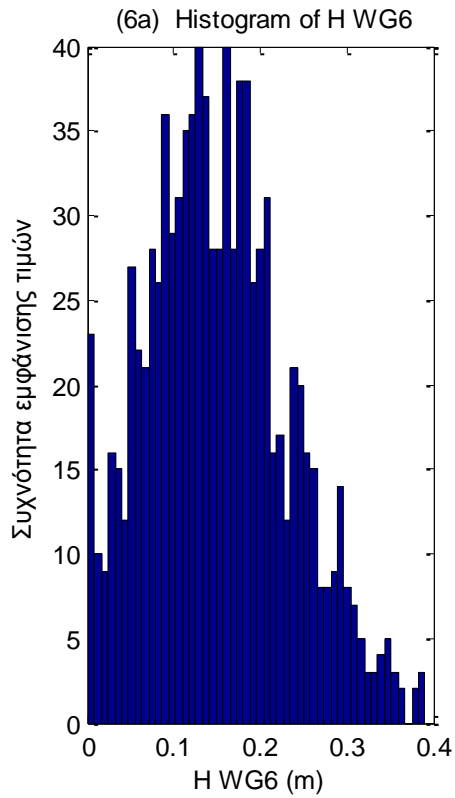




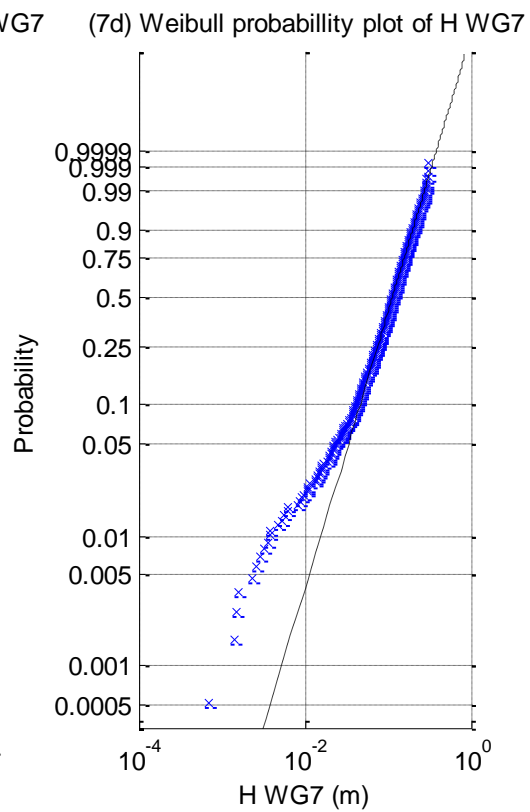
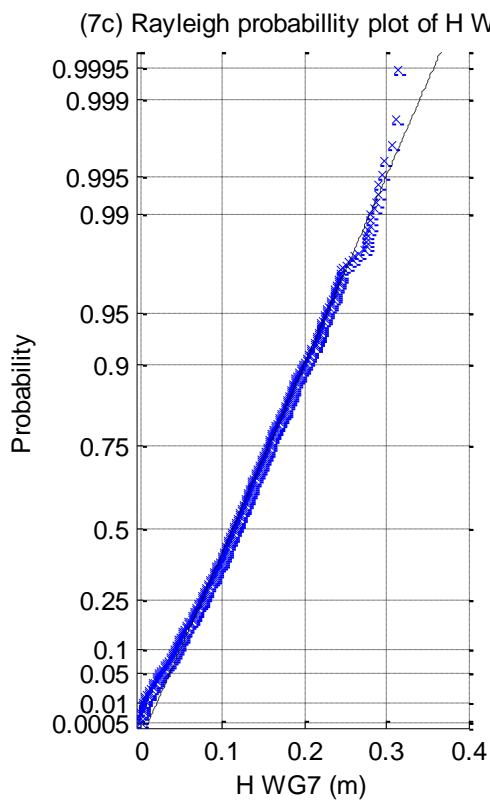
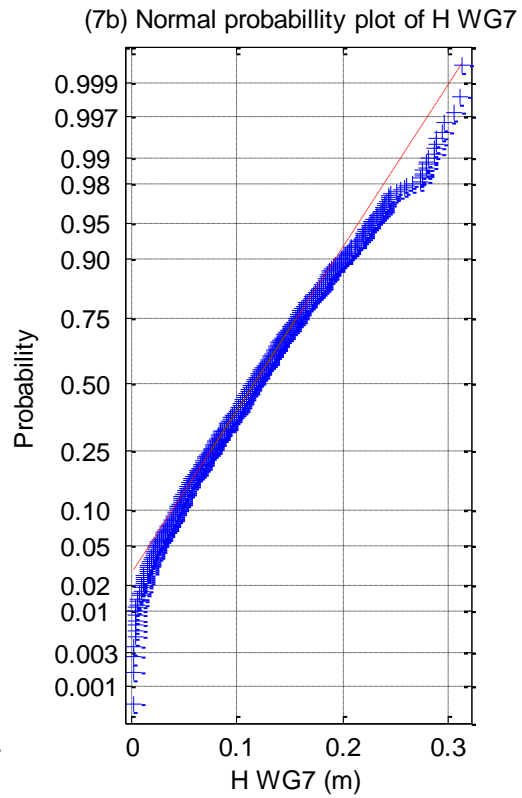
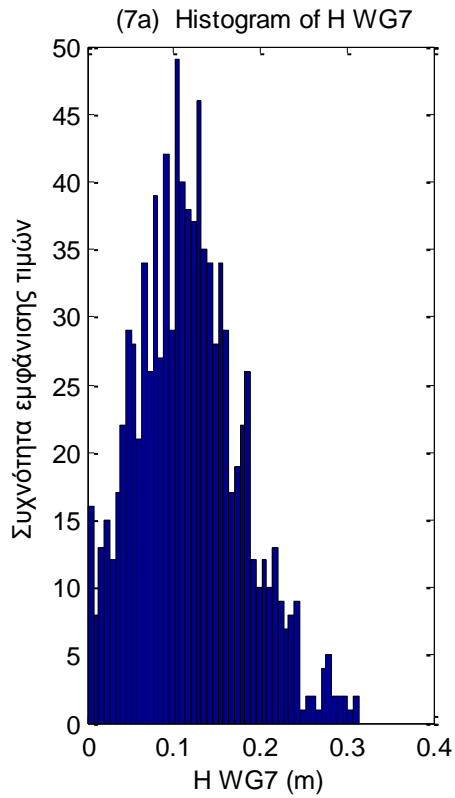


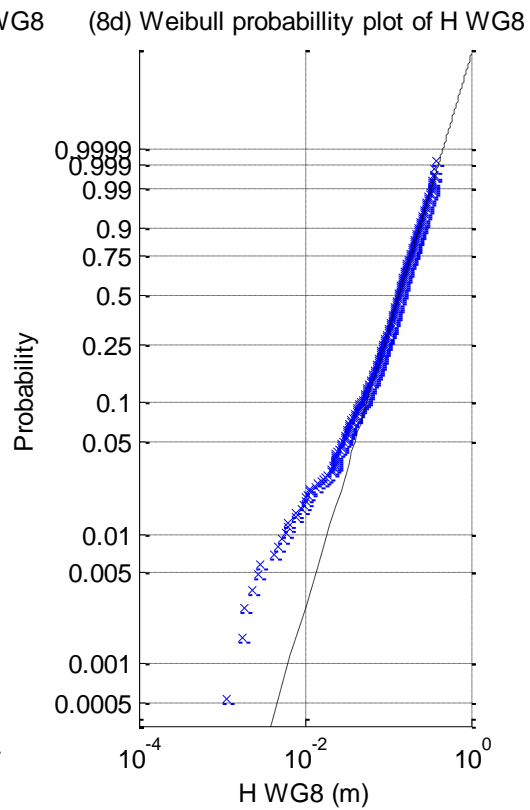
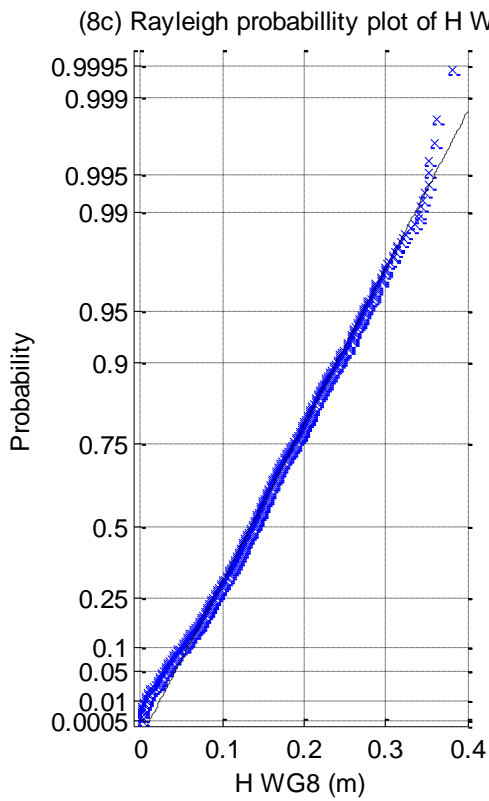
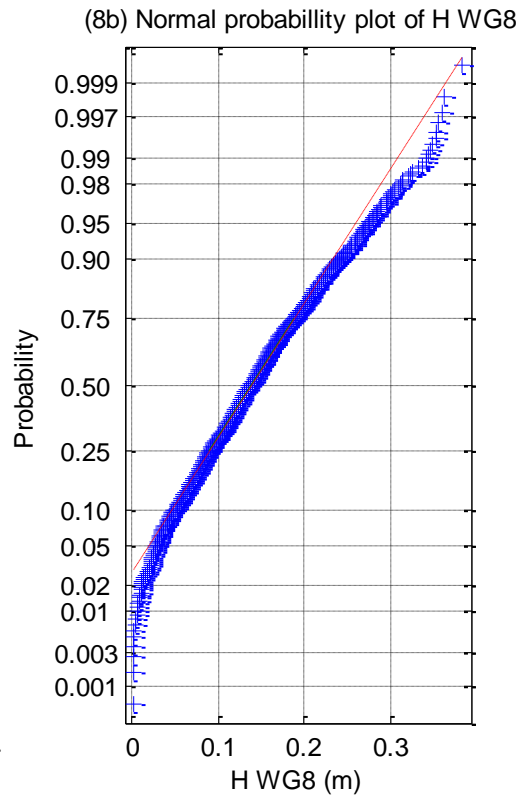
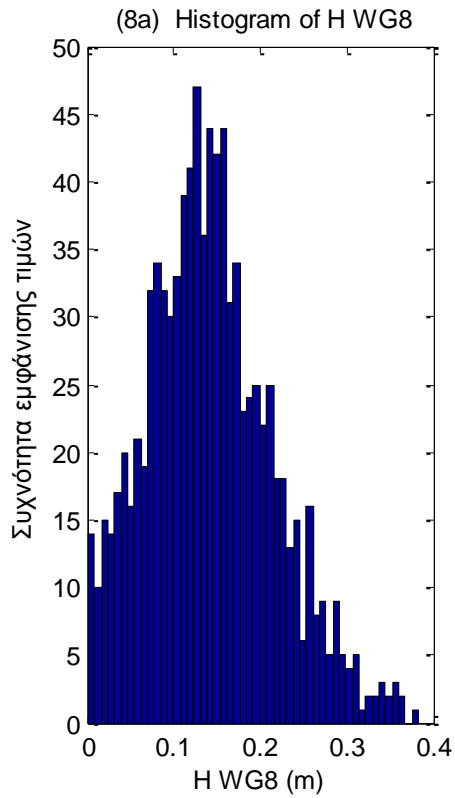


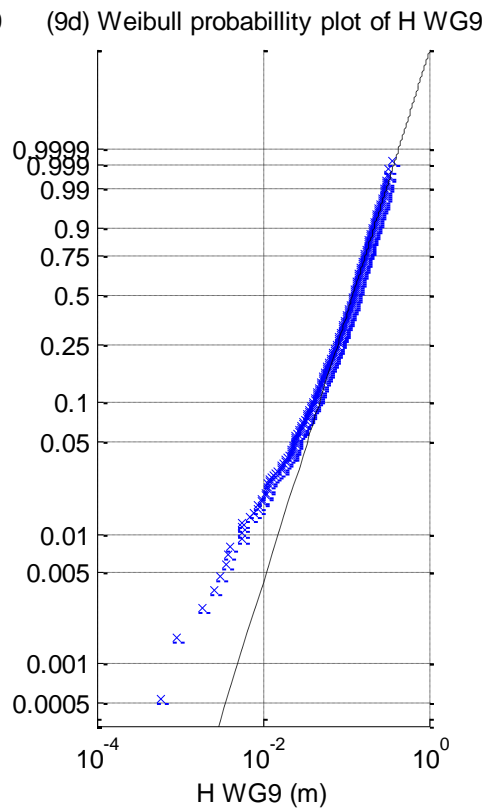
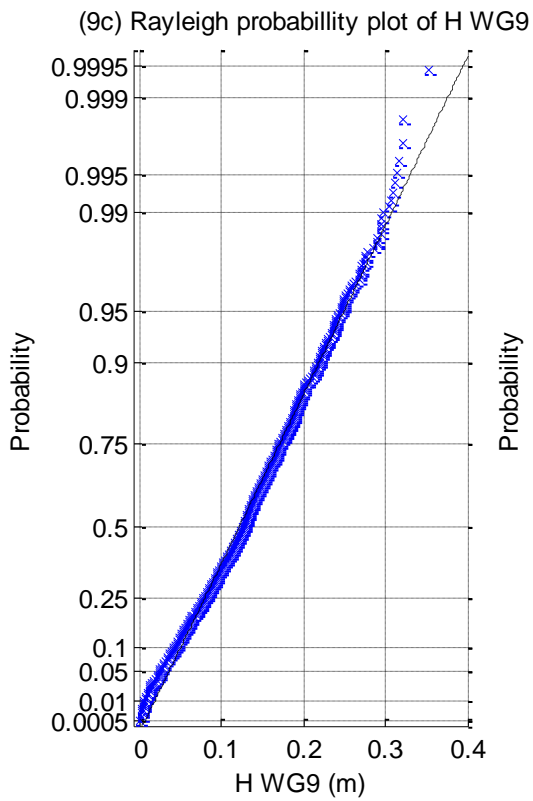
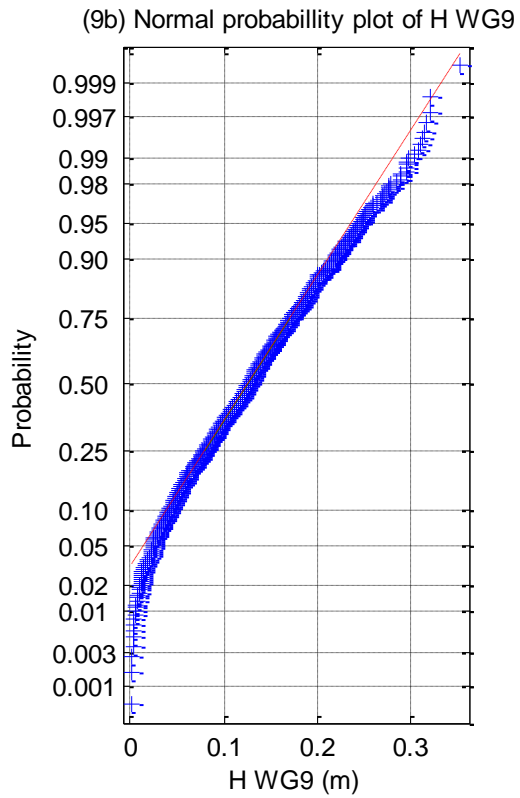
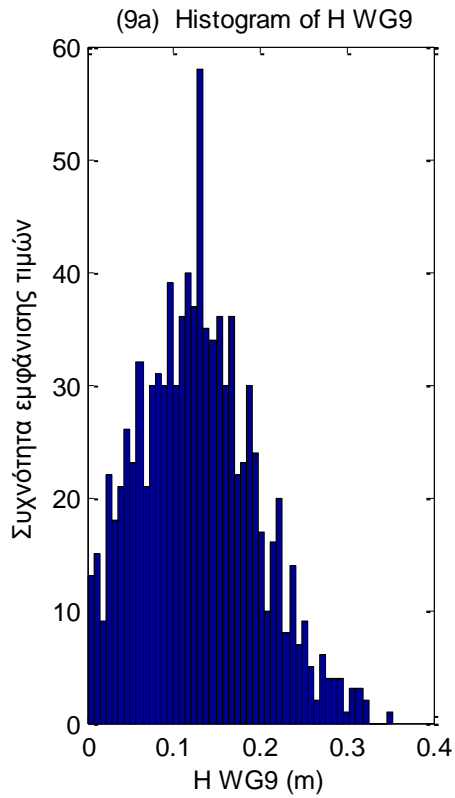


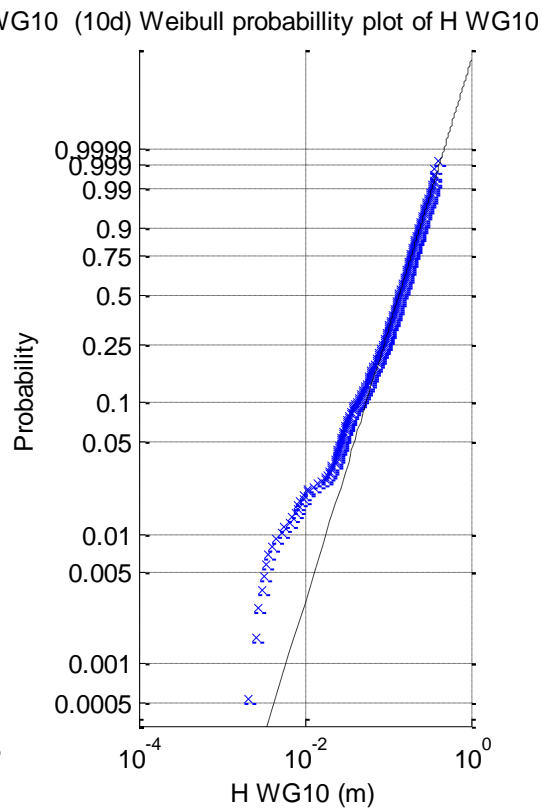
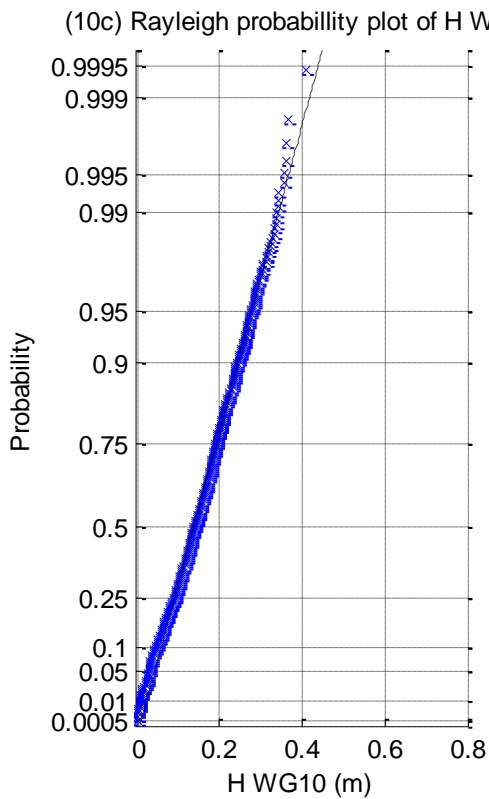
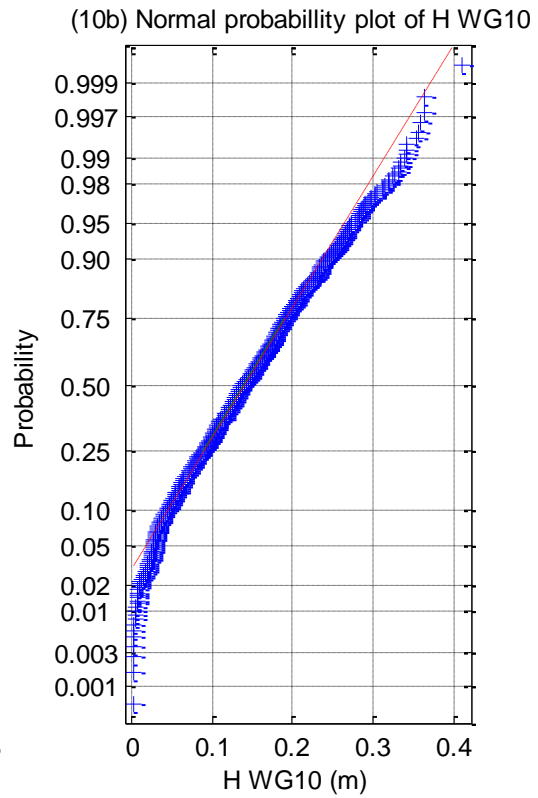
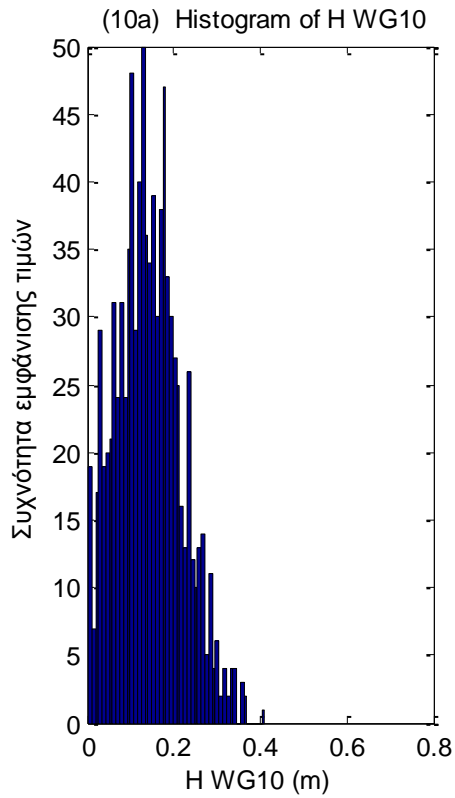


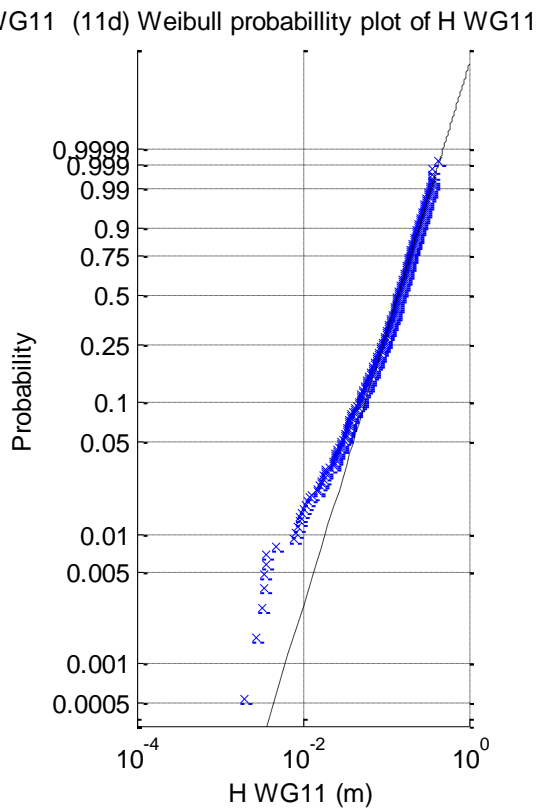
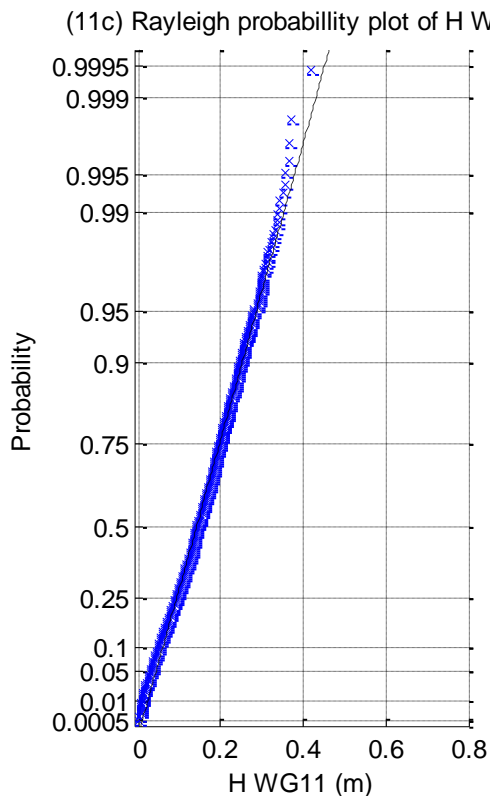
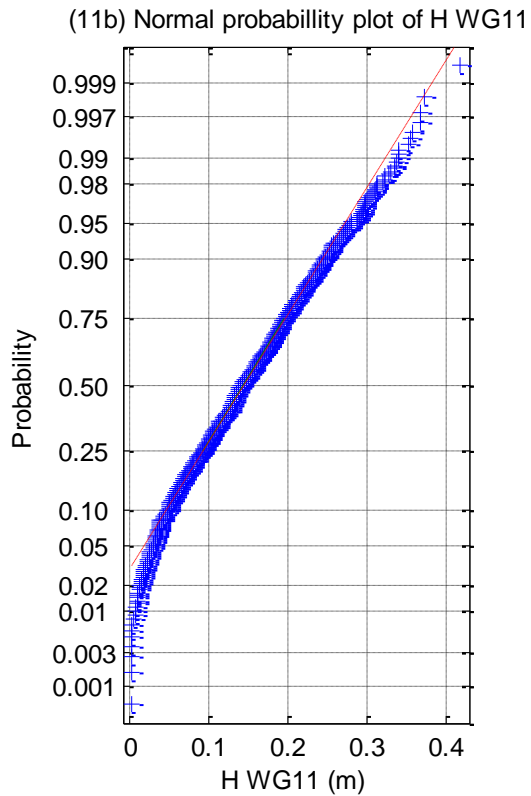
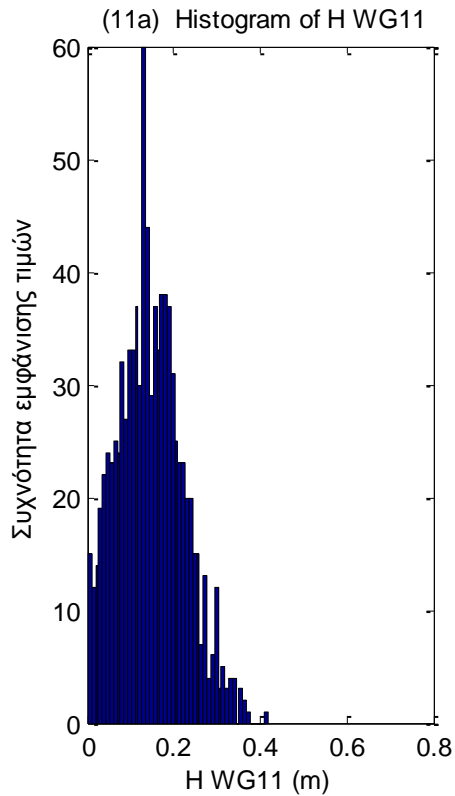




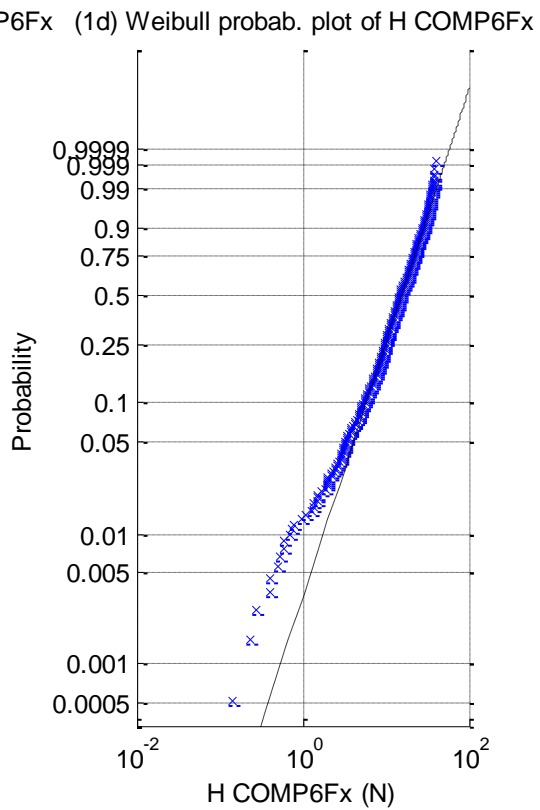
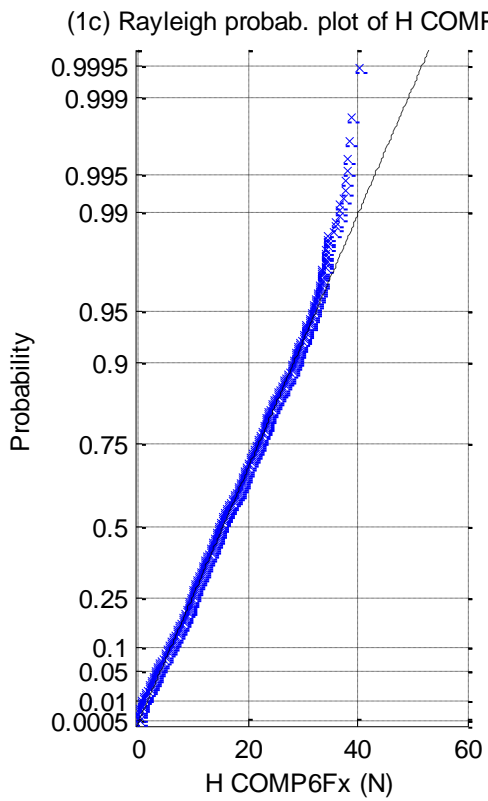
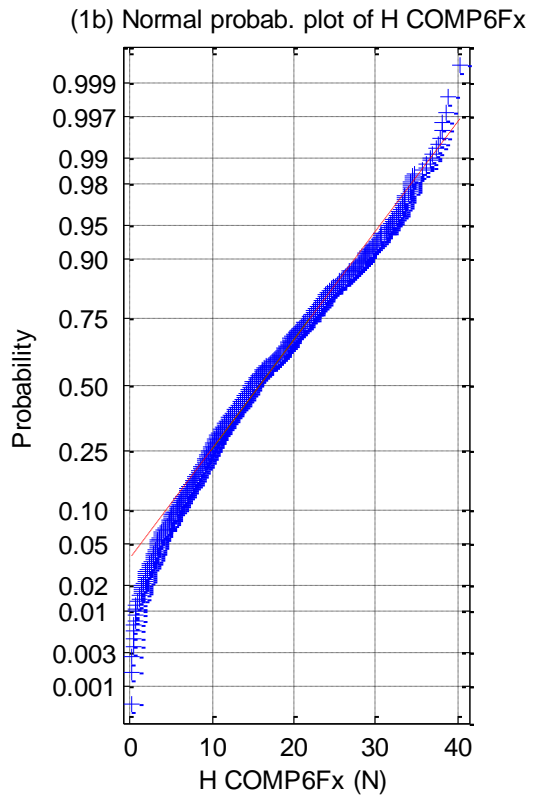
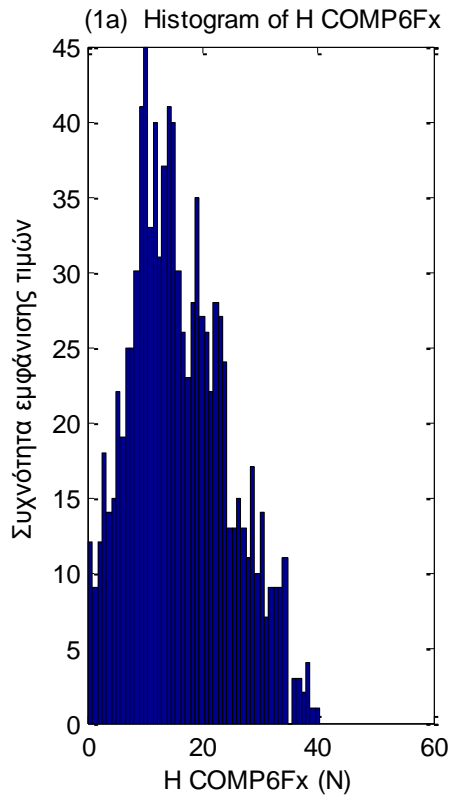


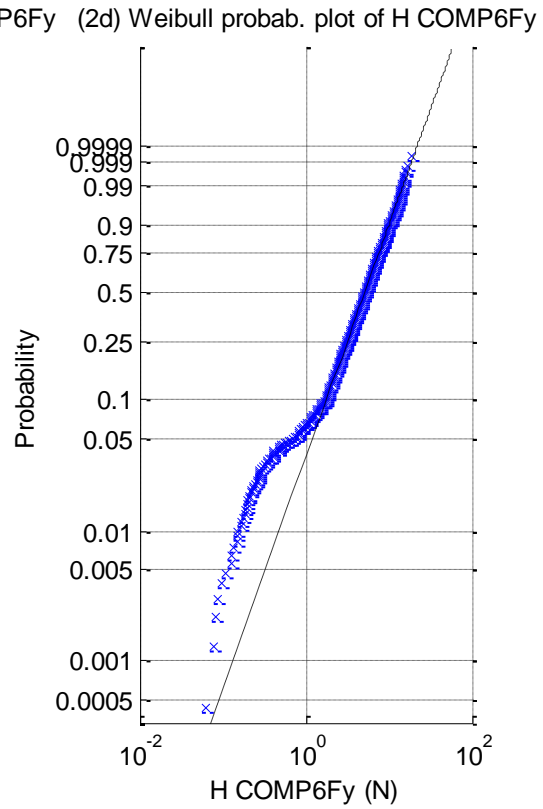
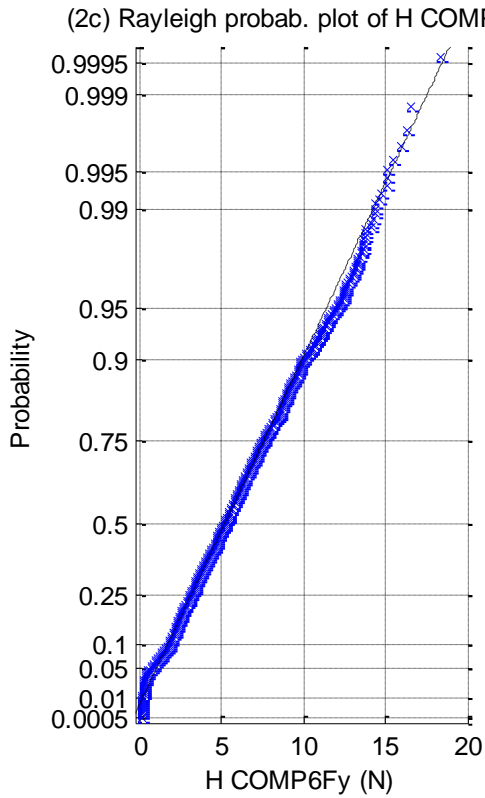
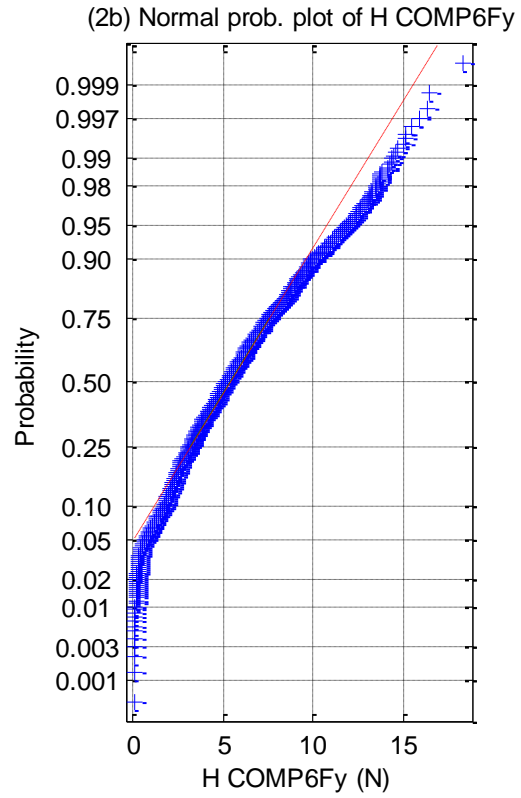
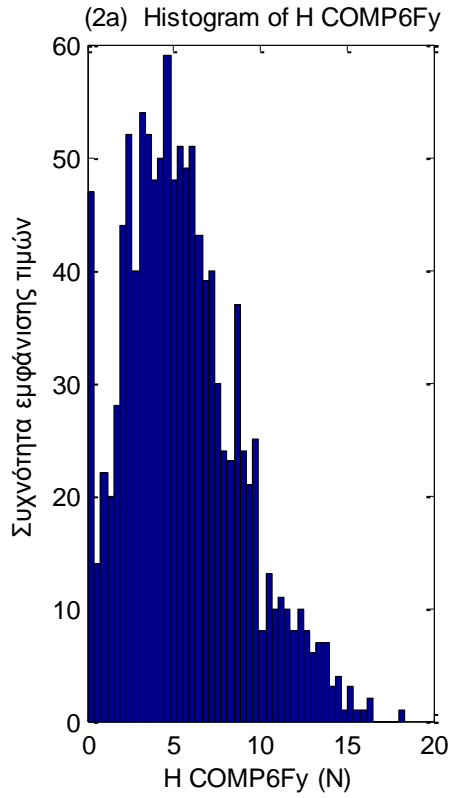


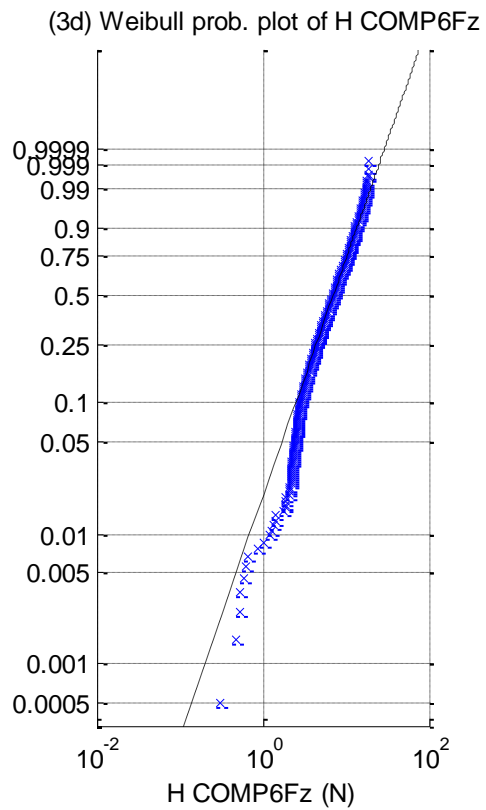
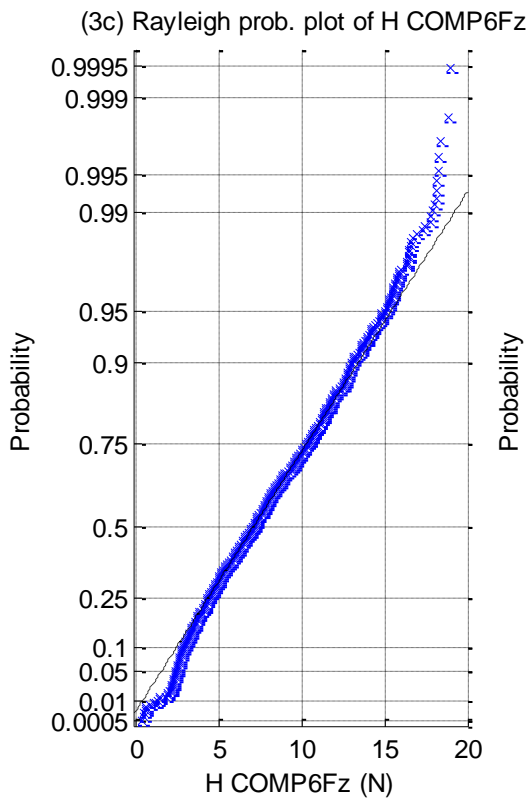
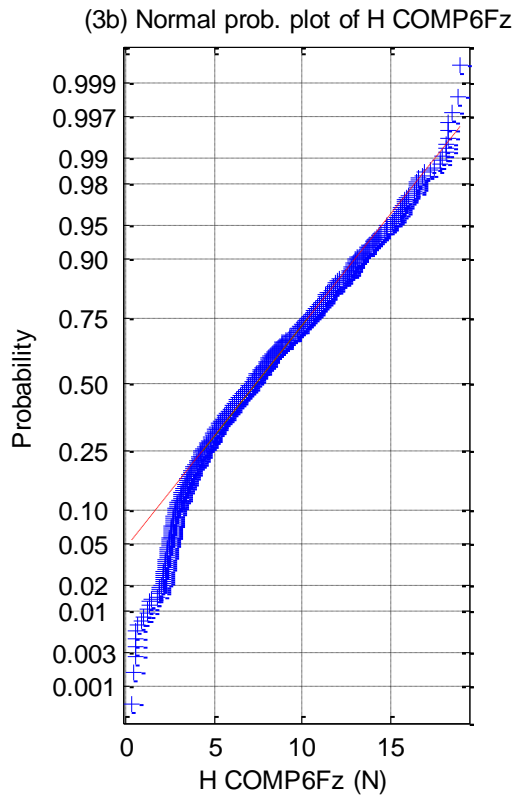
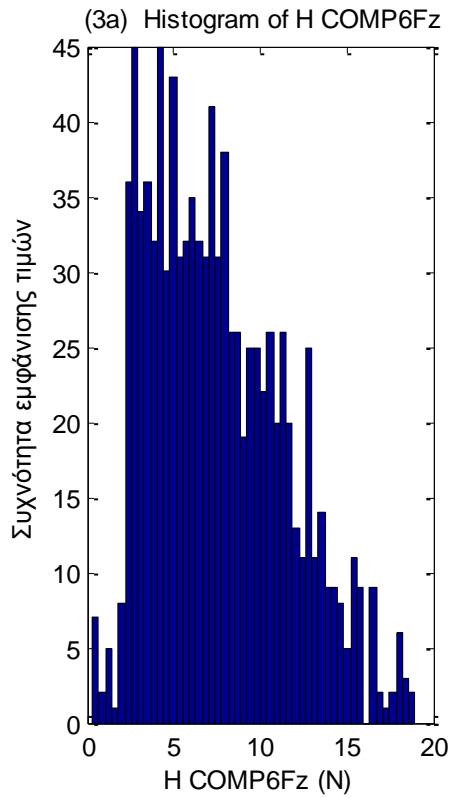




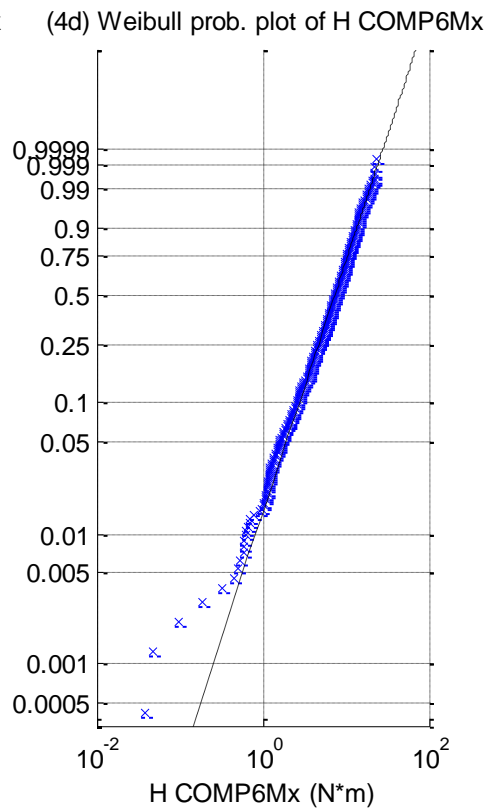
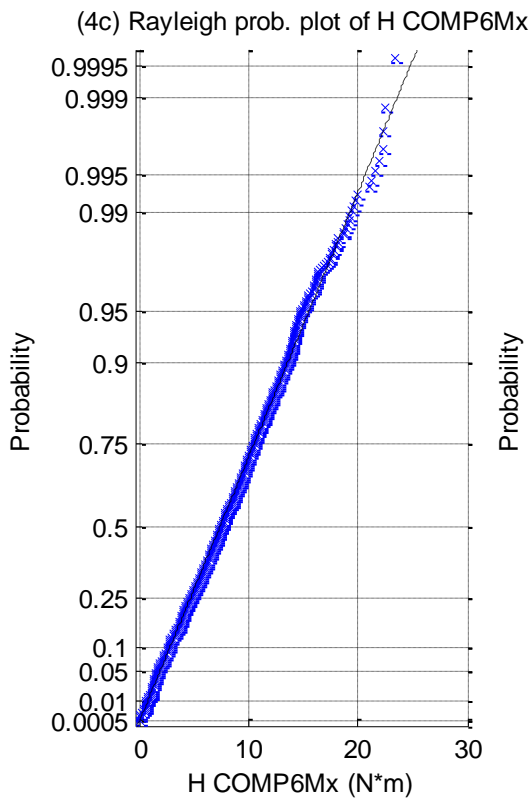
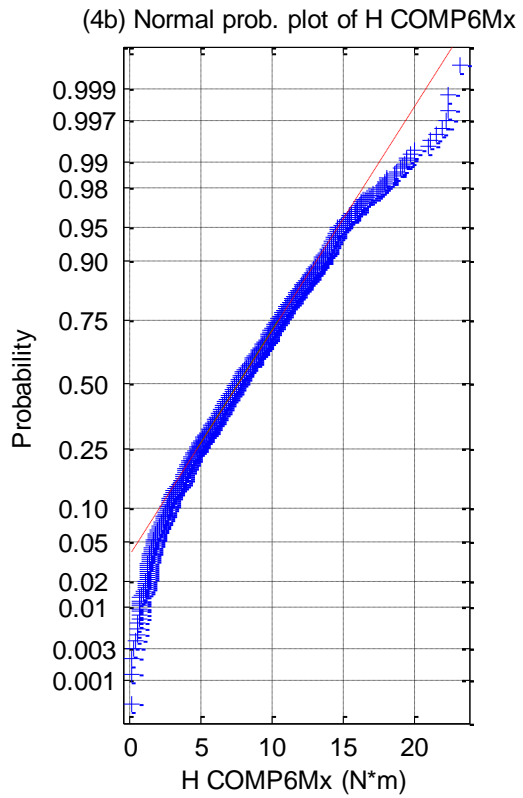
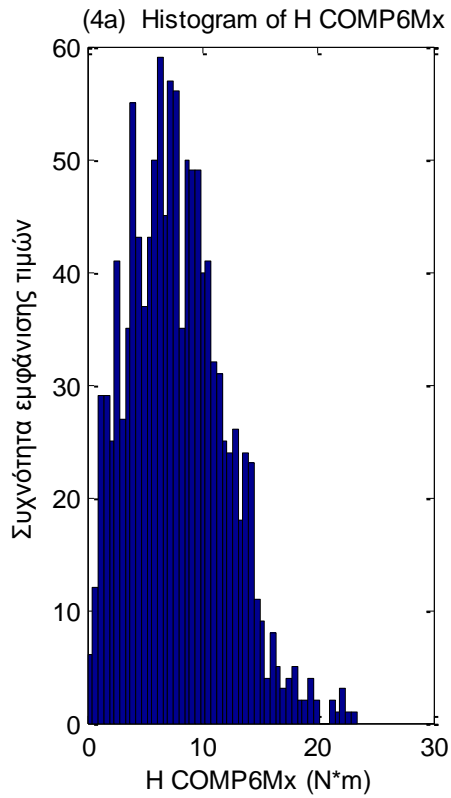
**Σχήματα 2.7.6.1 (1-11)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος

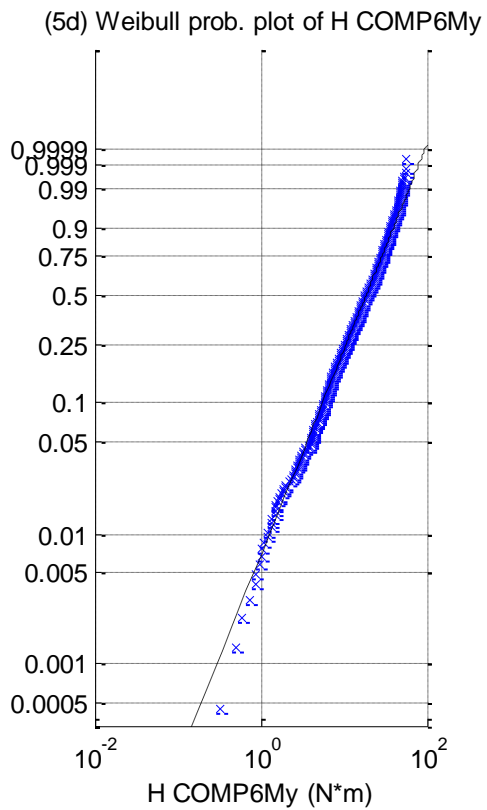
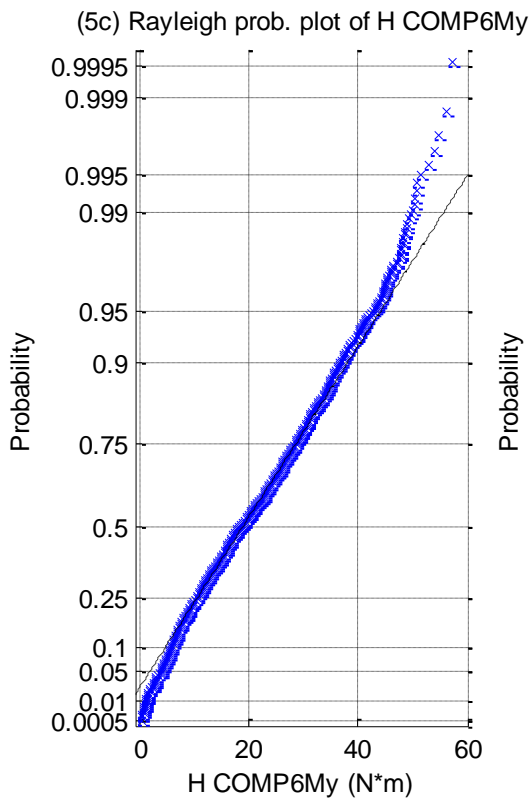
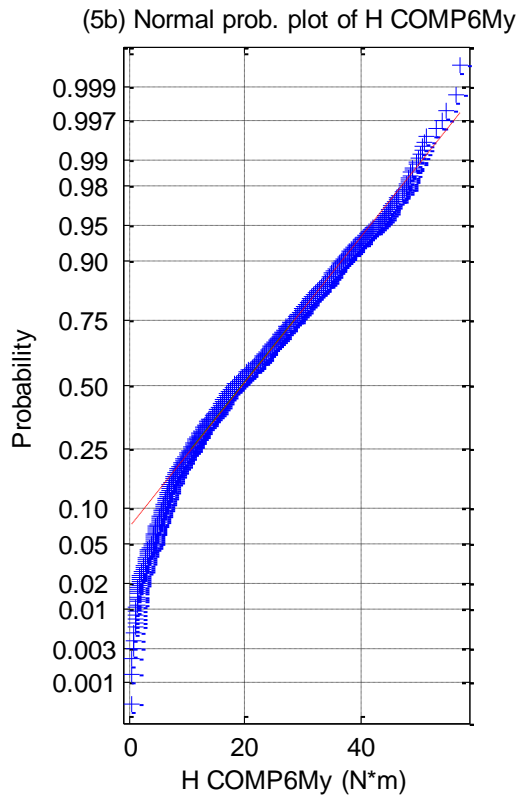
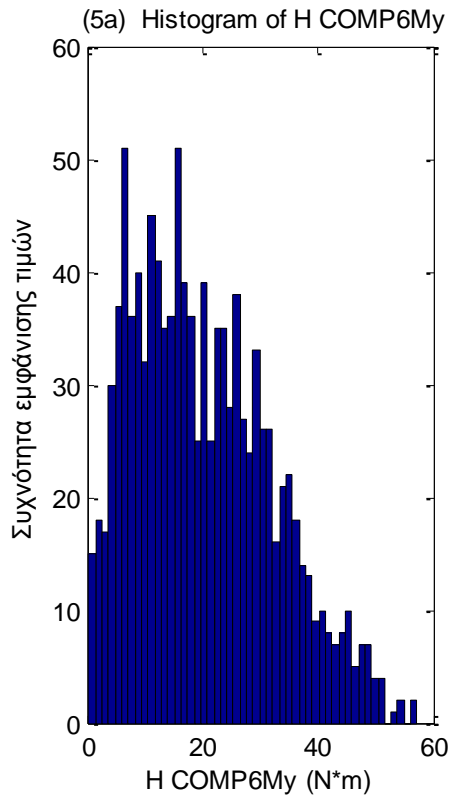


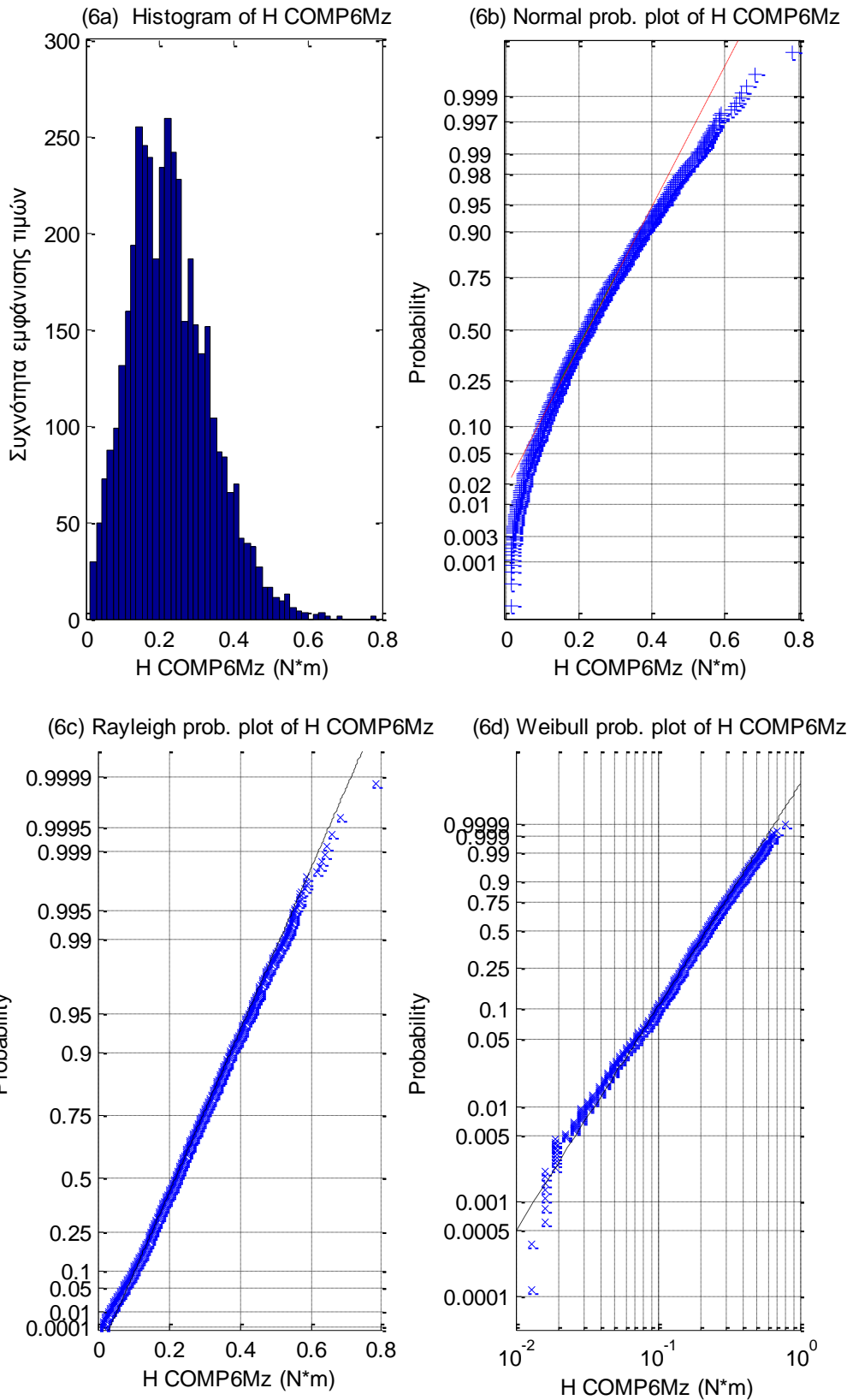




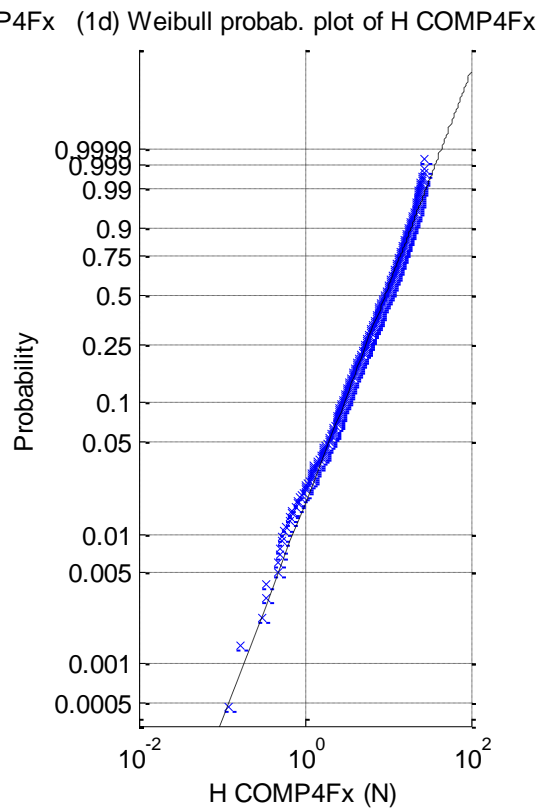
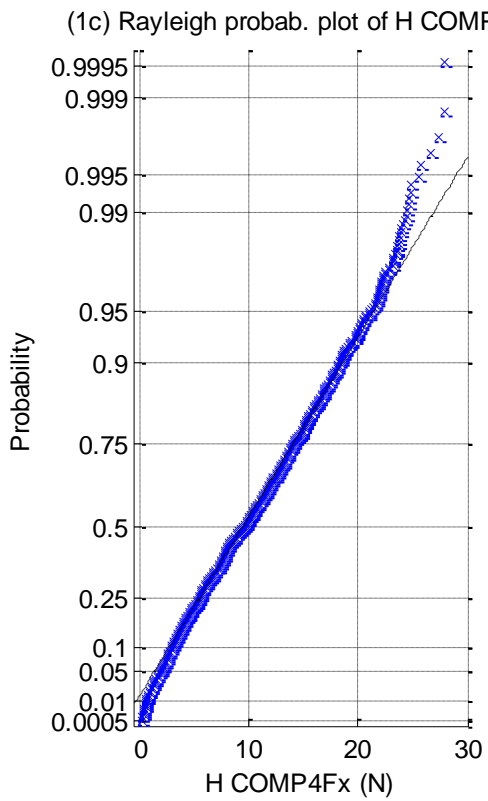
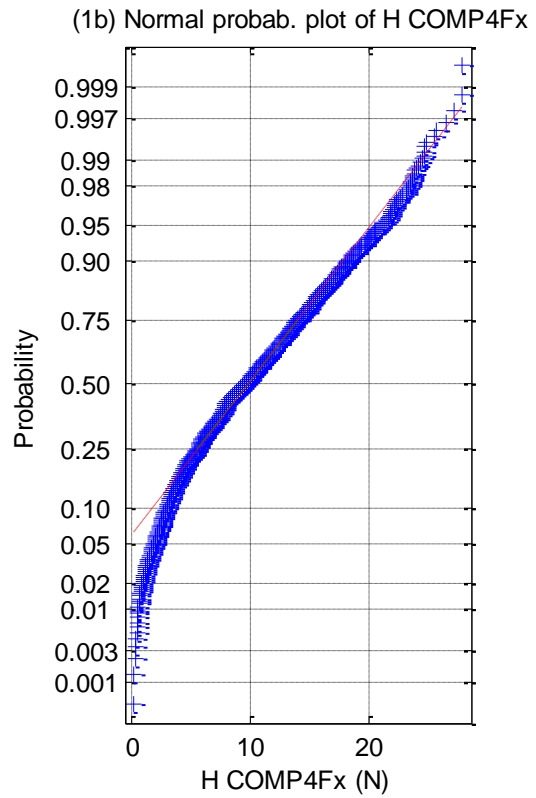
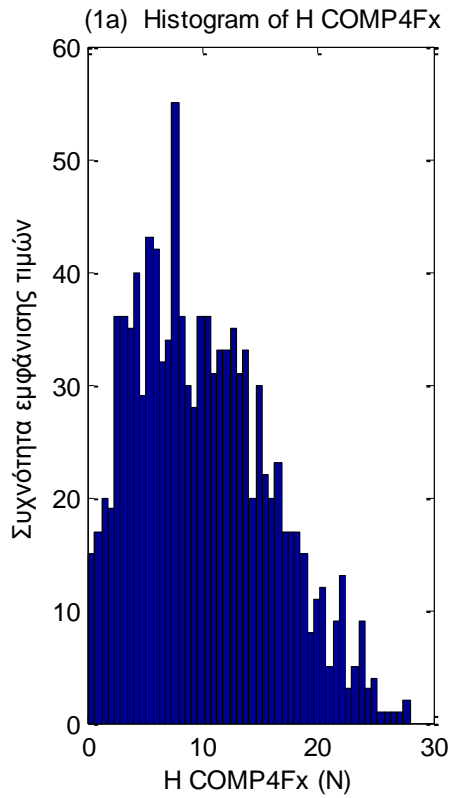


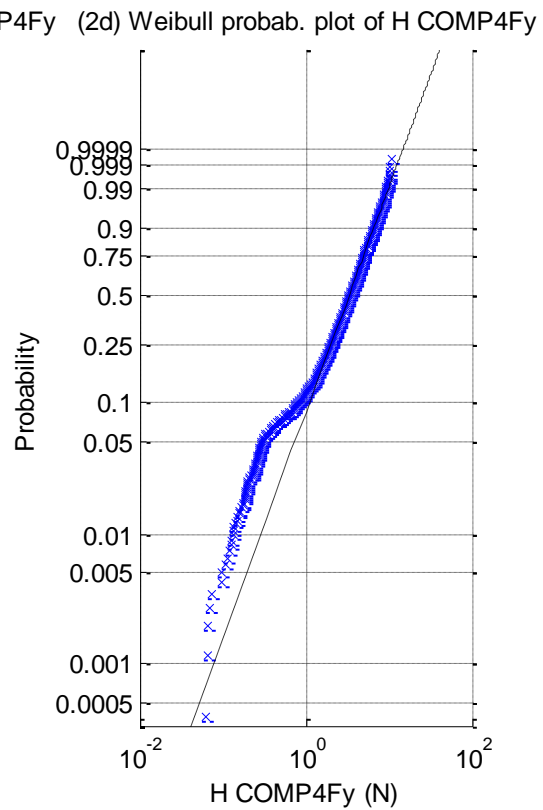
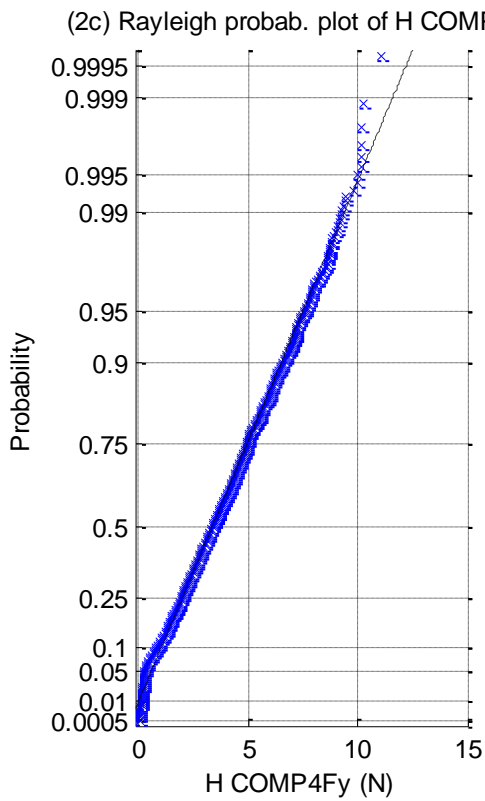
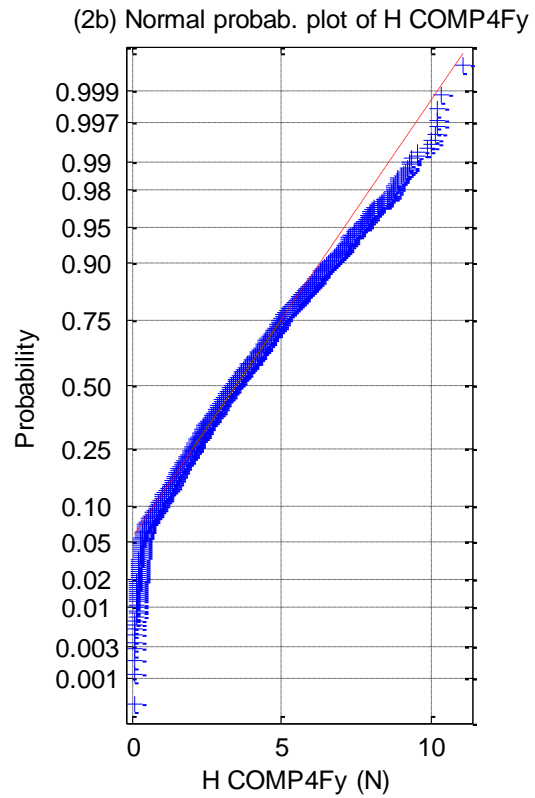
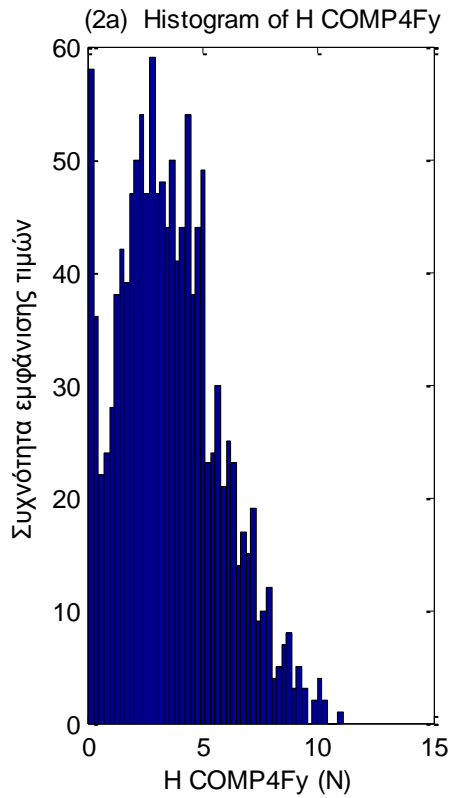


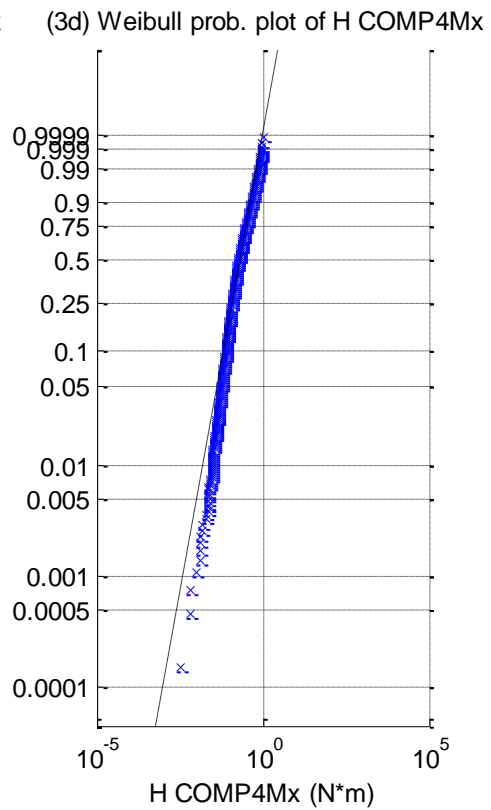
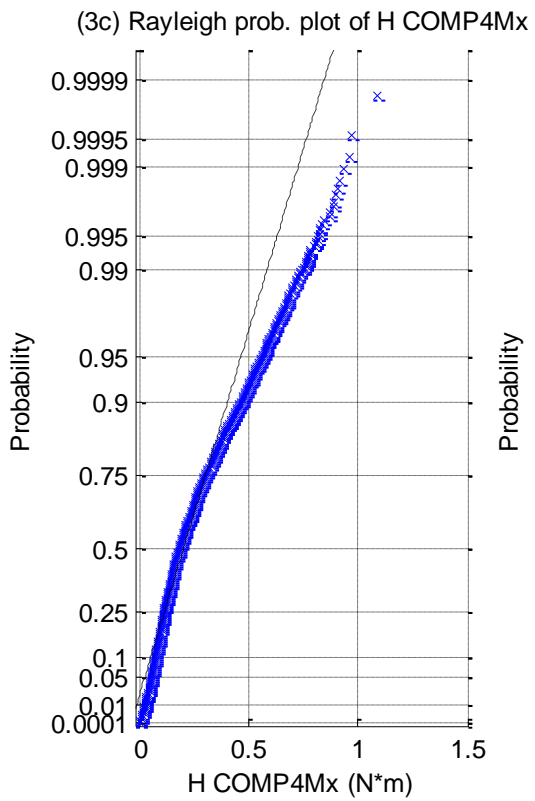
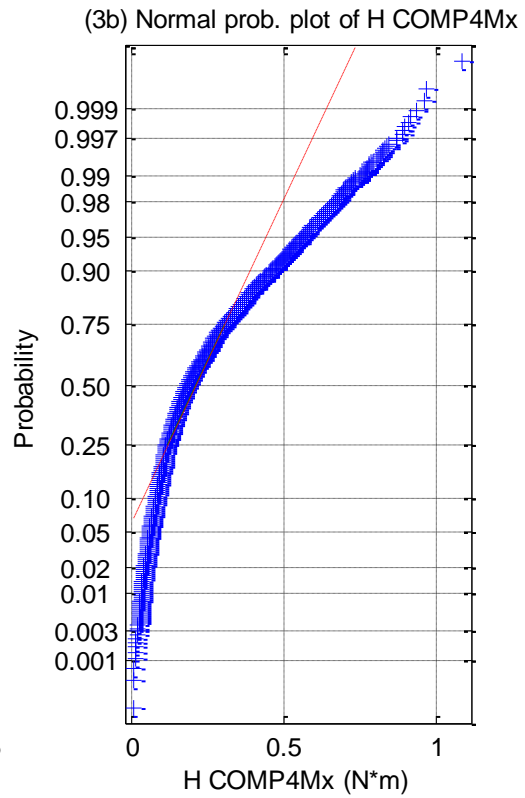
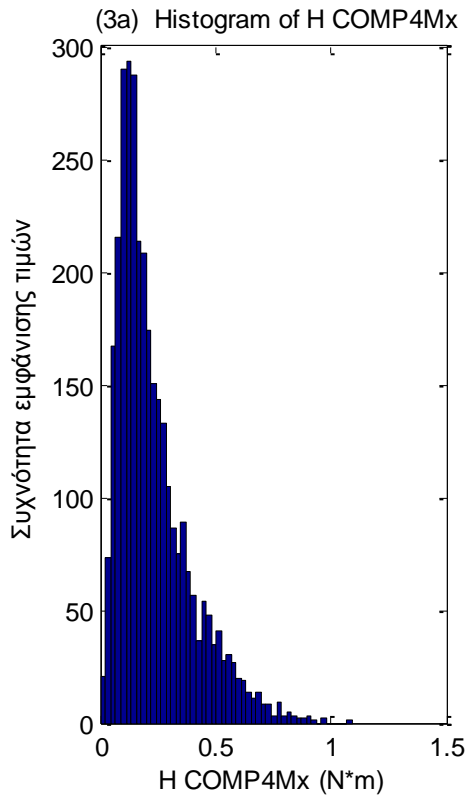


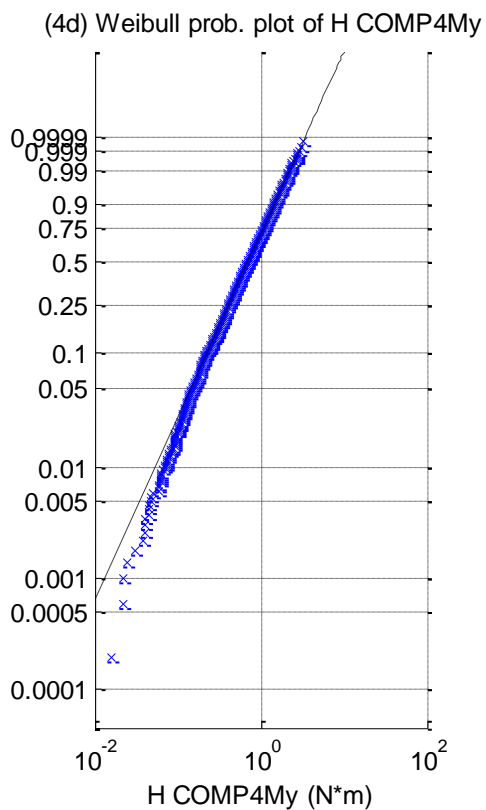
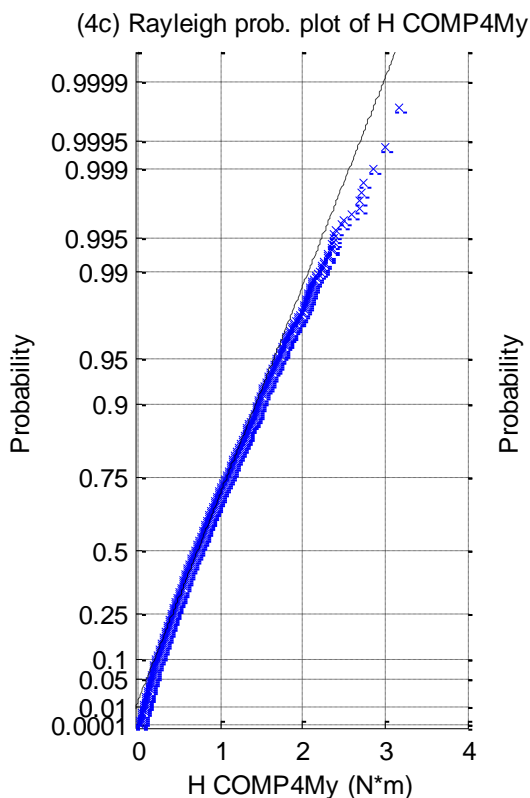
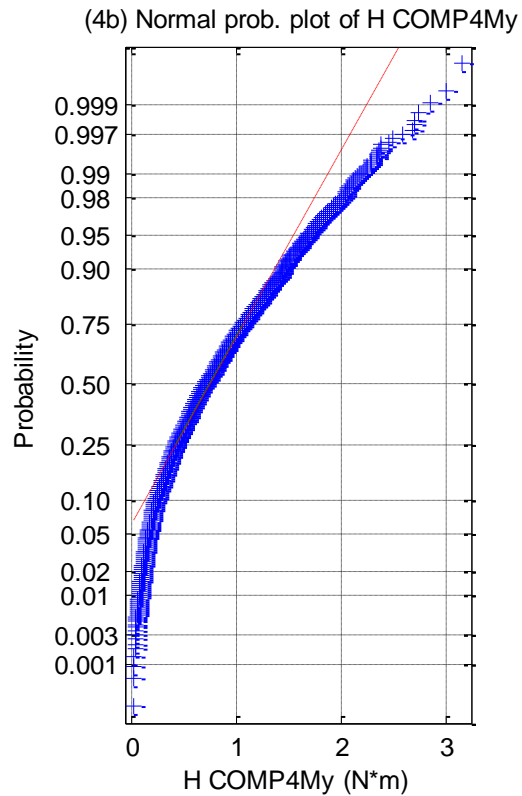
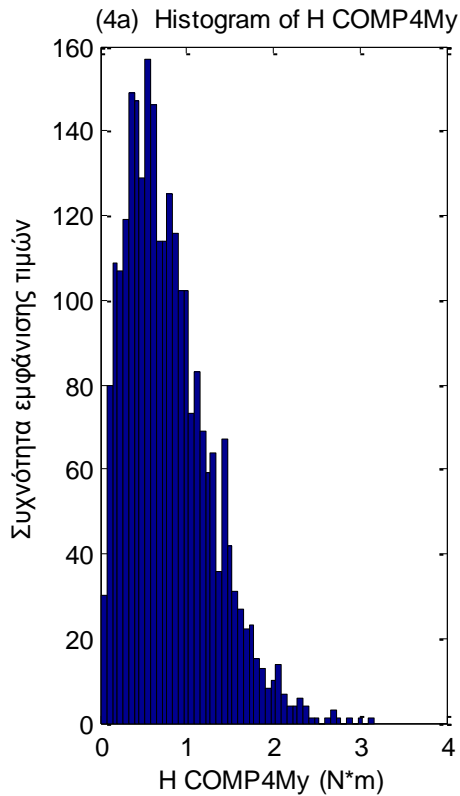


**Σχήματα 2.7.6.2 (1-6)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

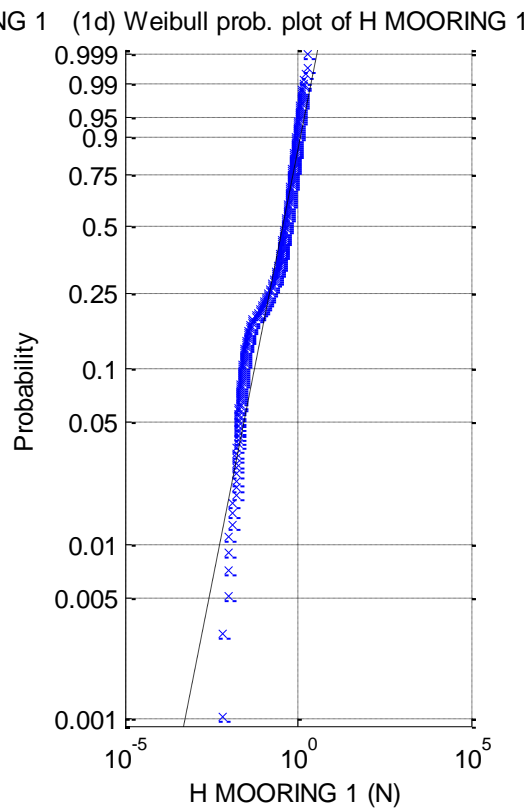
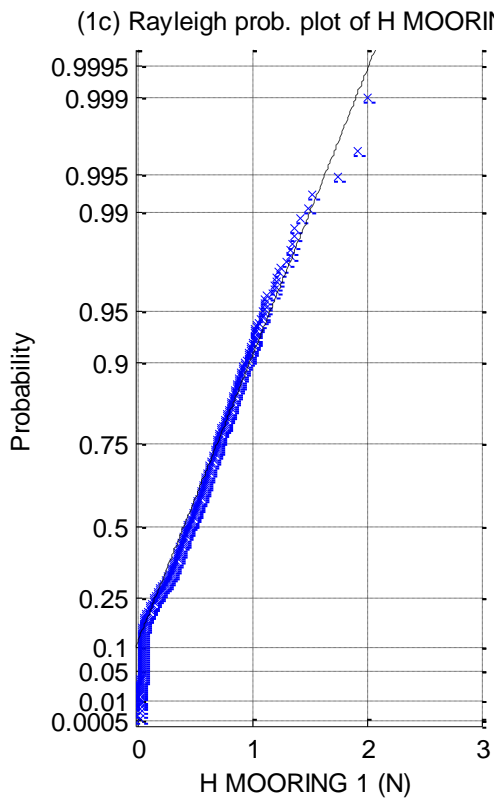
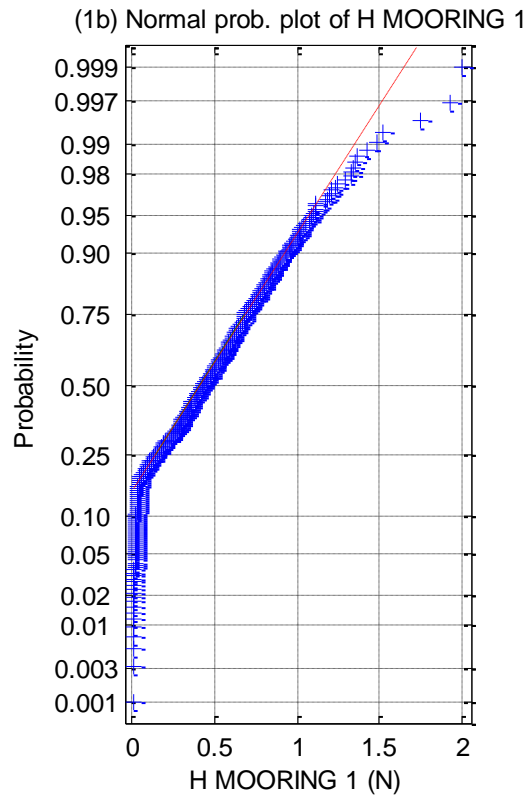
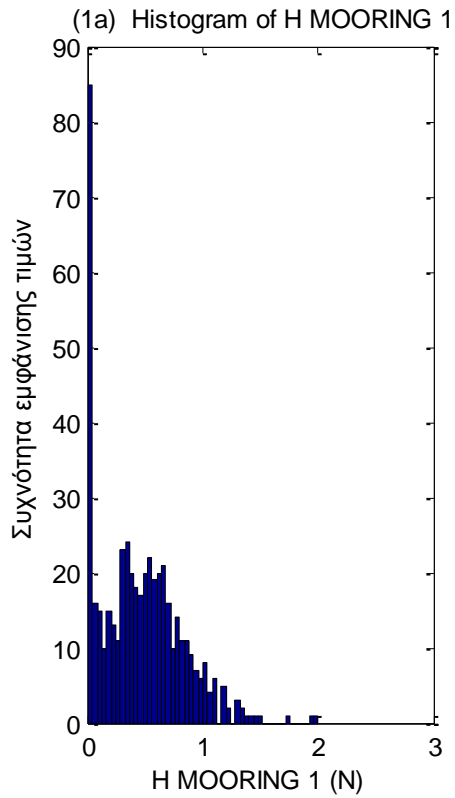






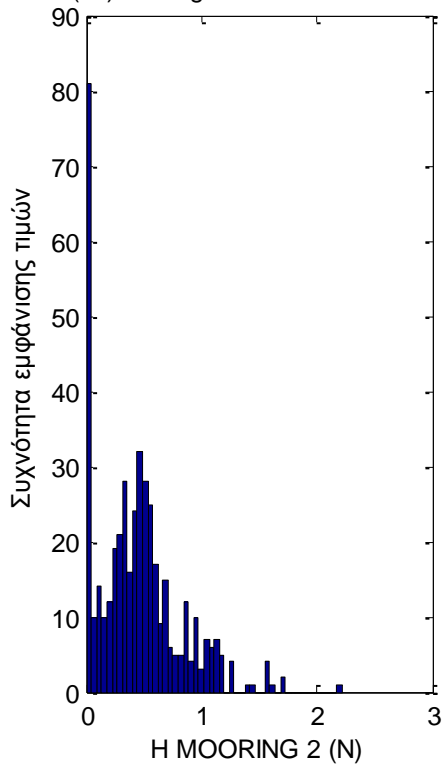


**Σχήματα 2.7.6.3 (1-4)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch

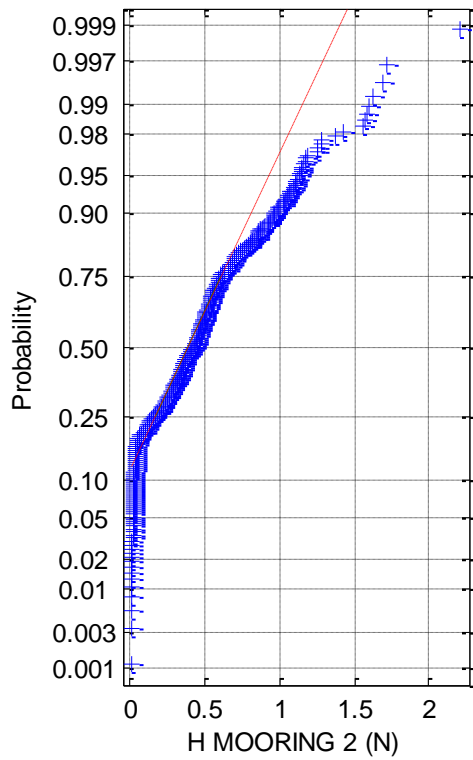




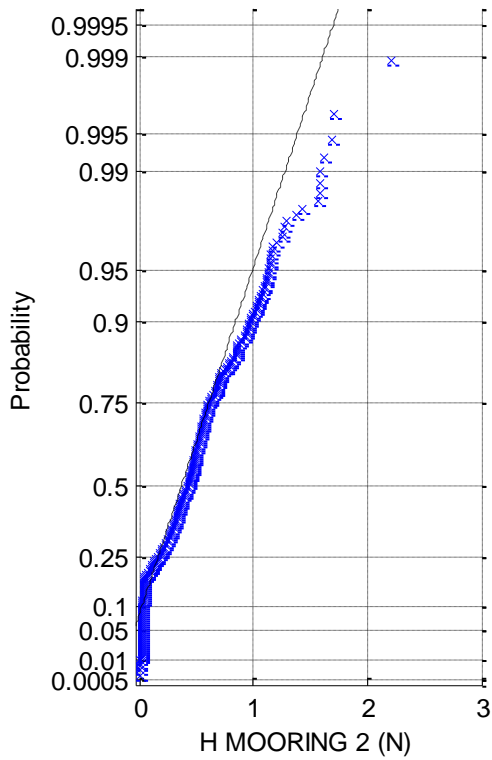
(2a) Histogram of H MOORING 2



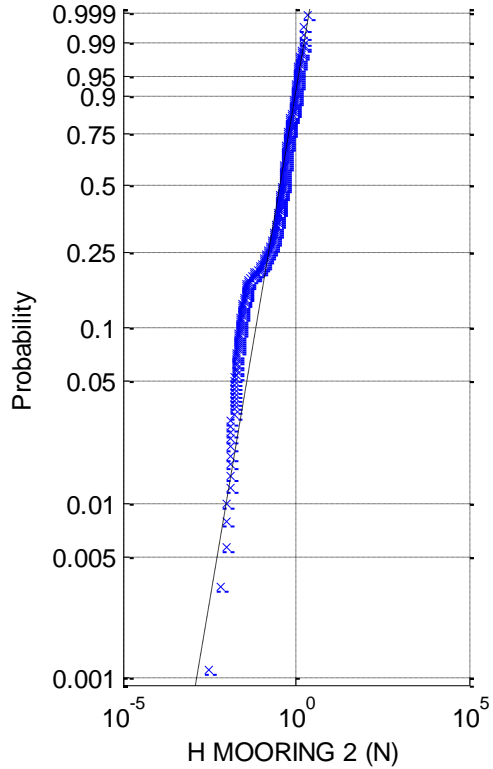
(2b) Normal prob. plot of H MOORING 2

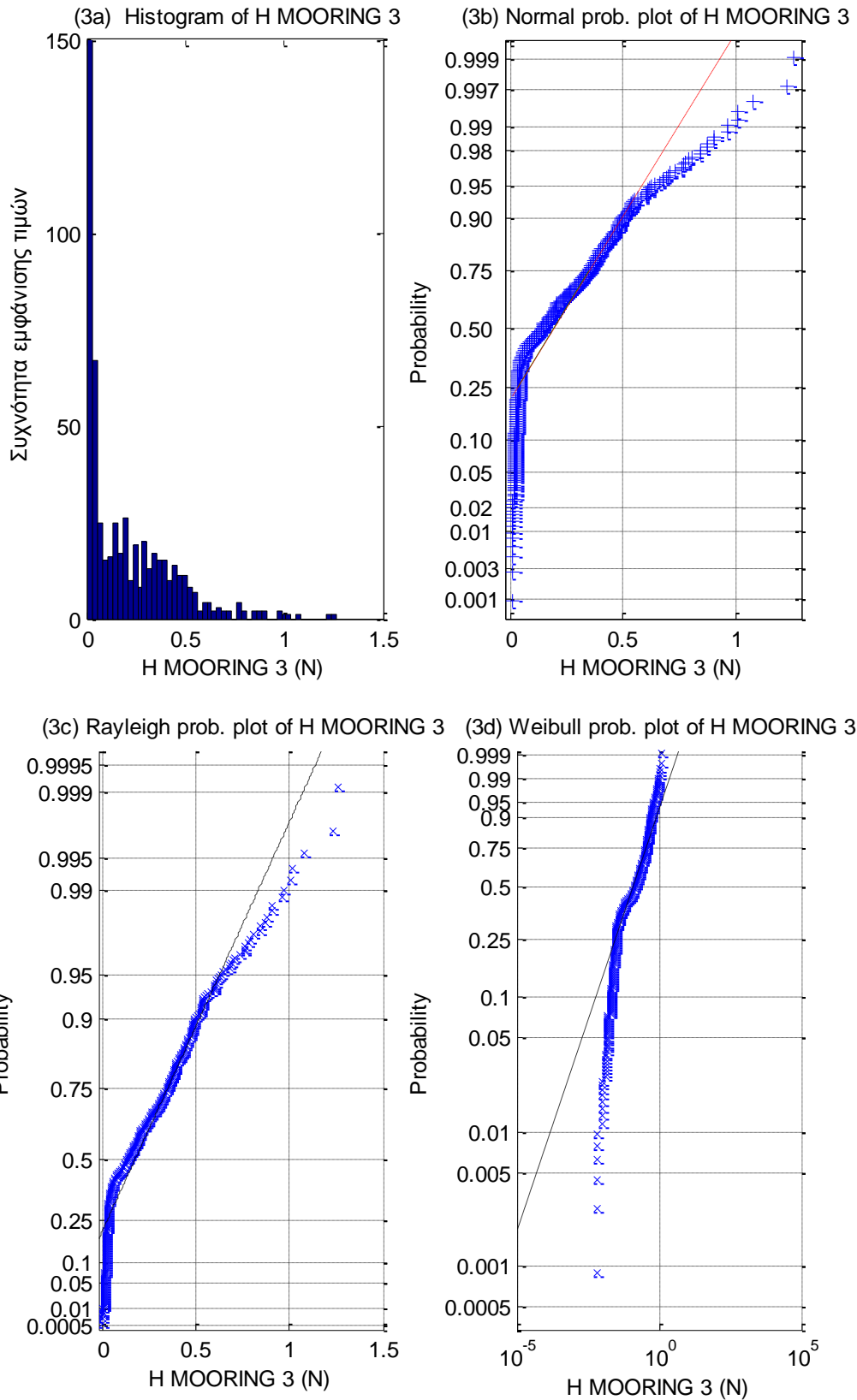


(2c) Rayleigh prob. plot of H MOORING 2

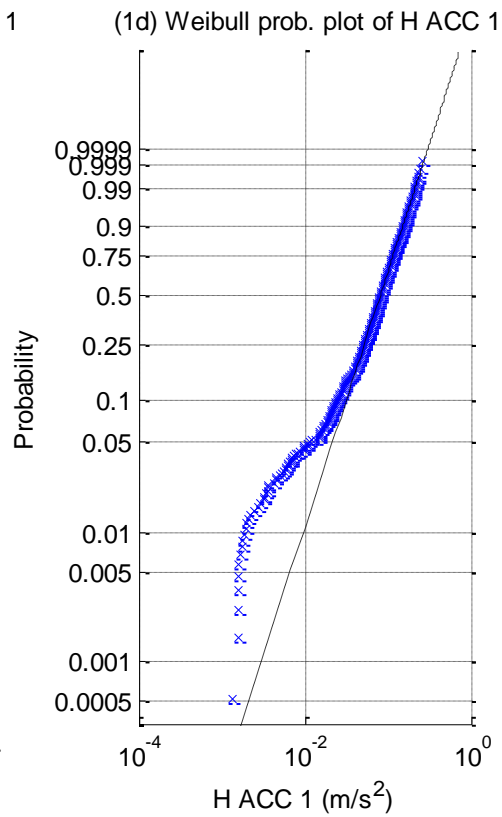
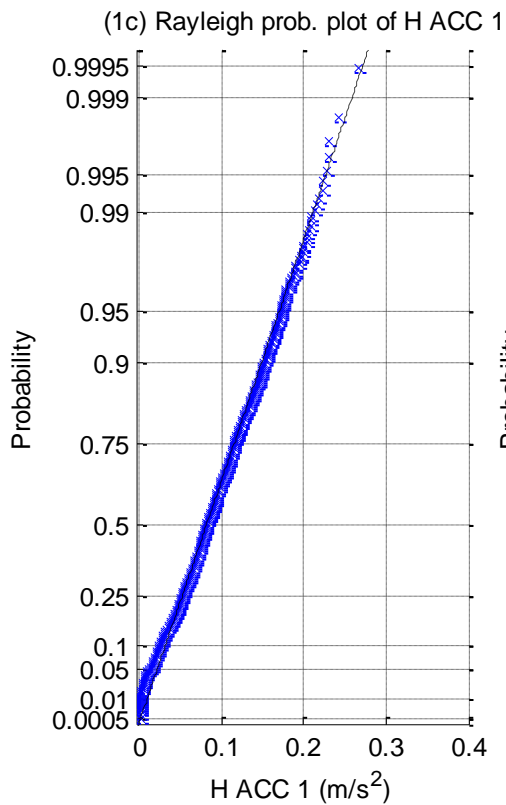
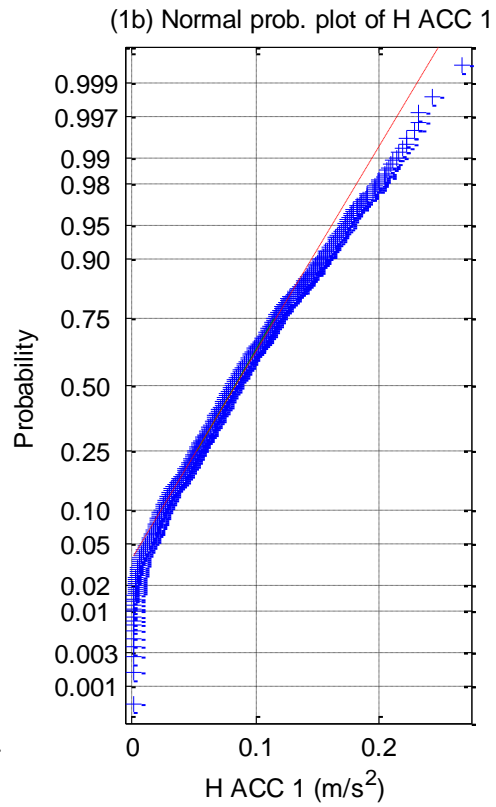
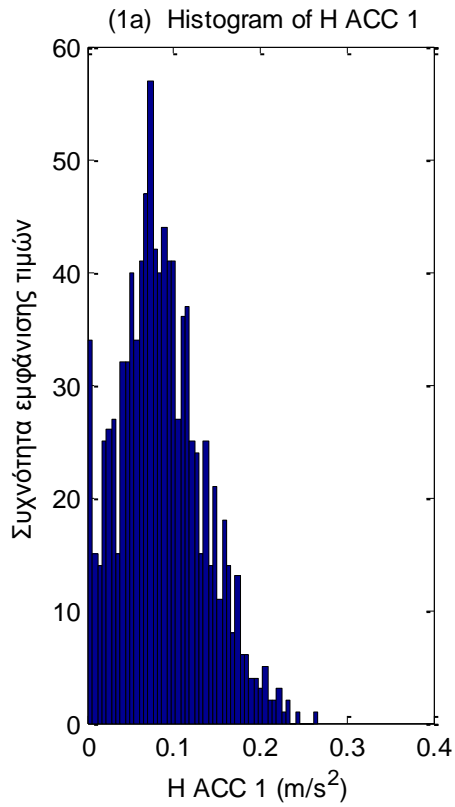


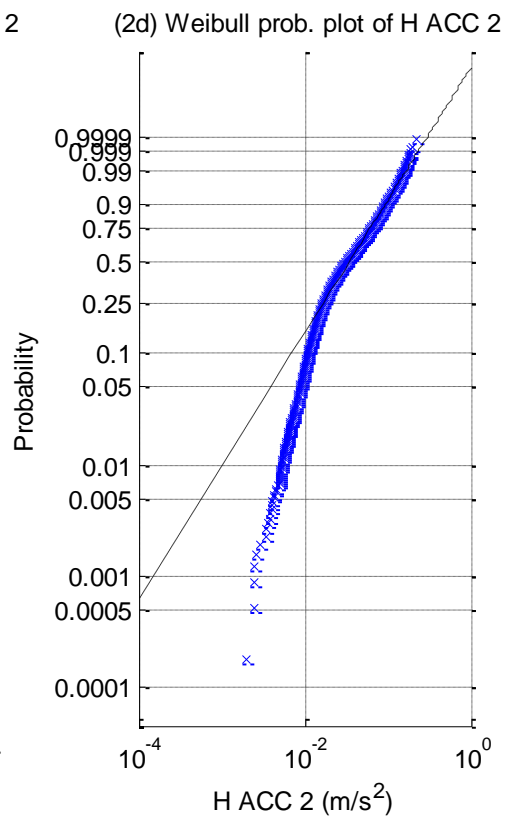
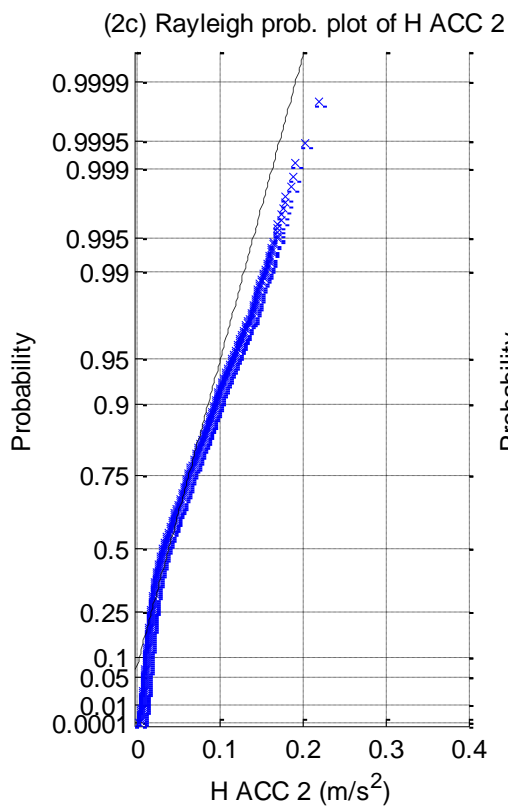
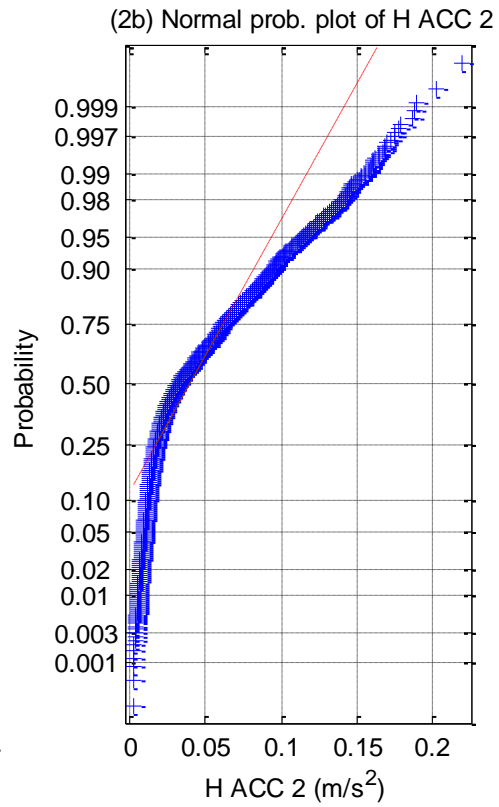
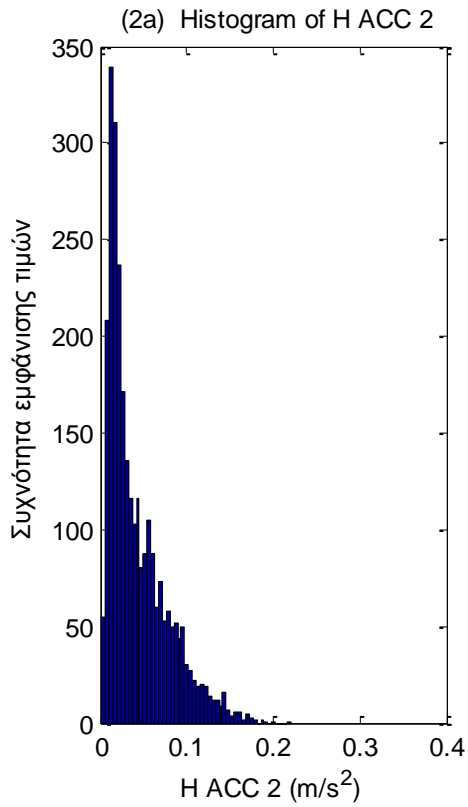
(2d) Weibull prob. plot of H MOORING 2

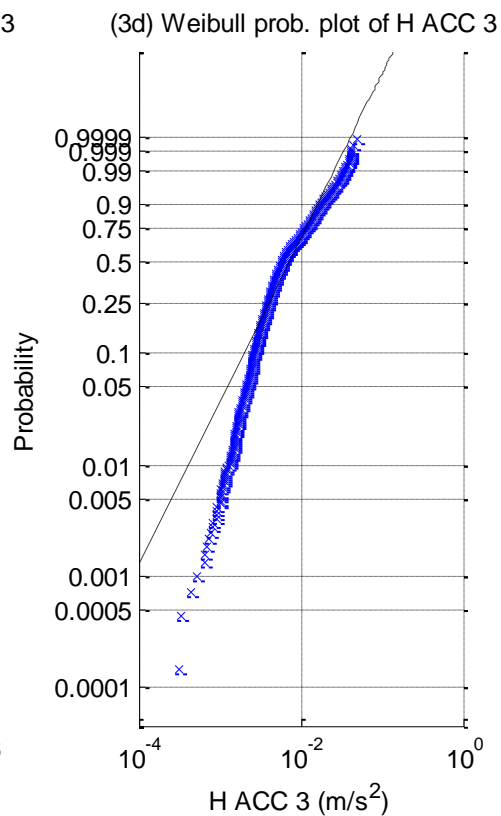
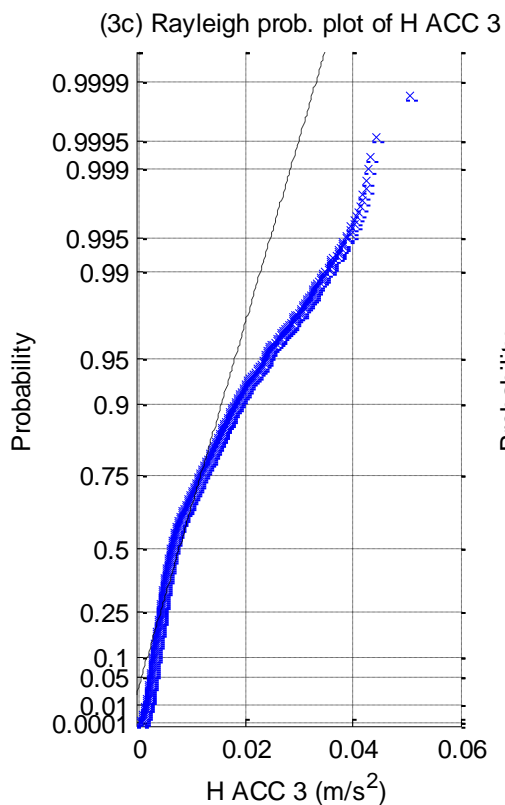
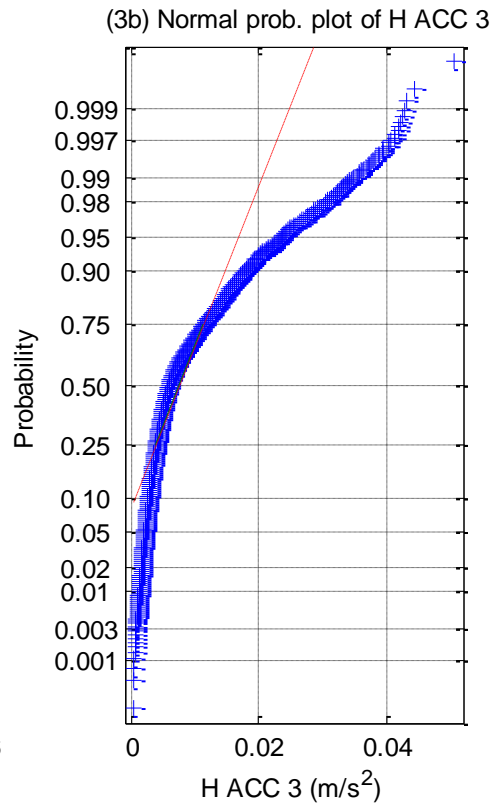
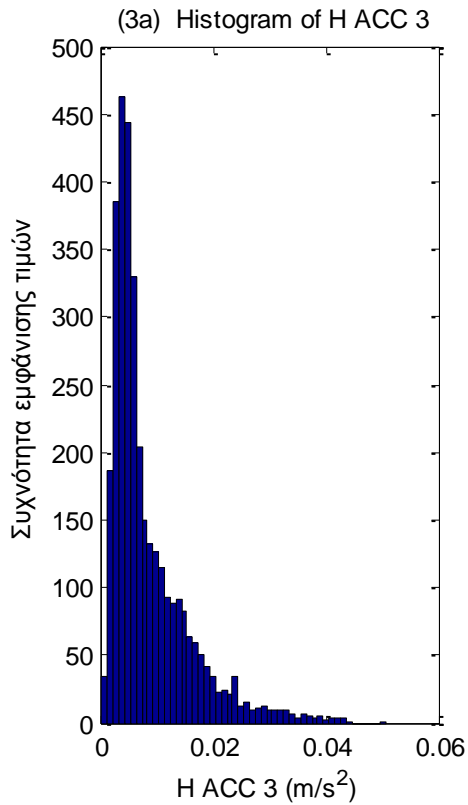




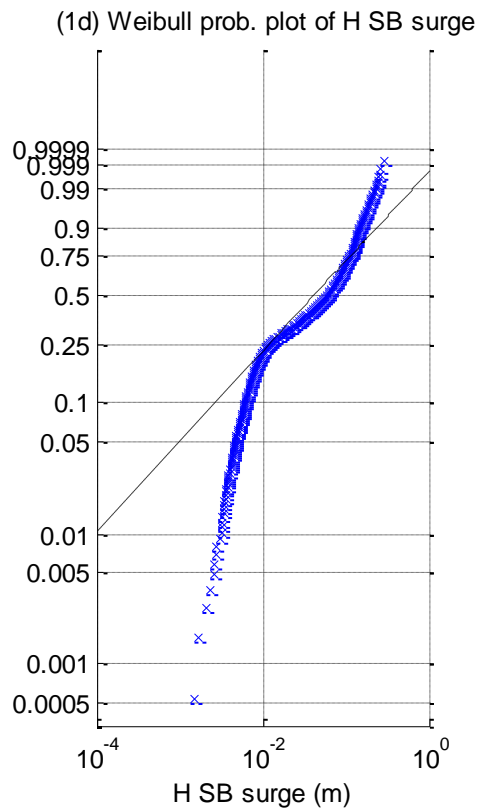
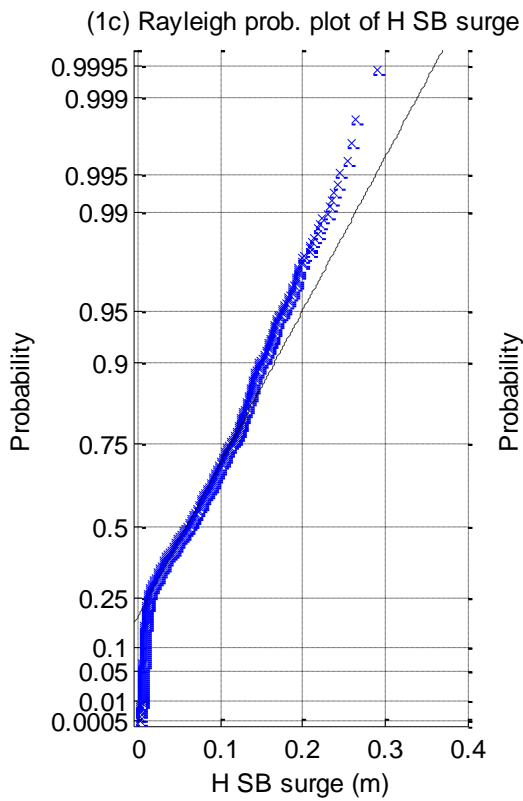
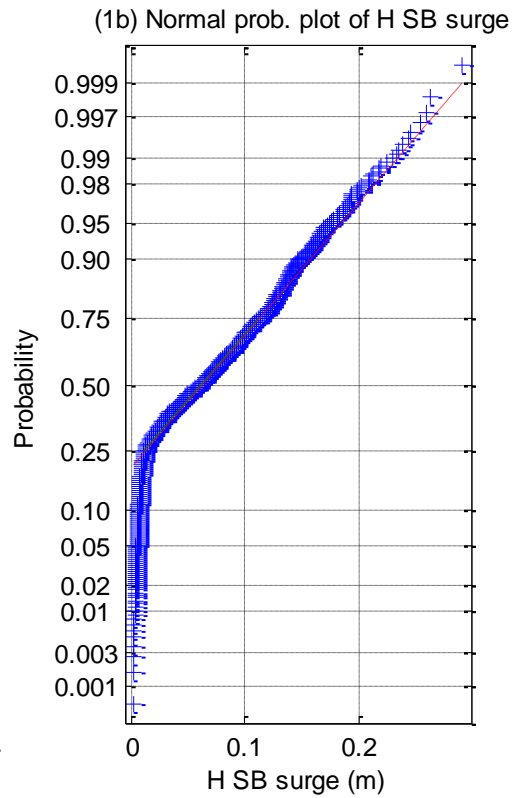
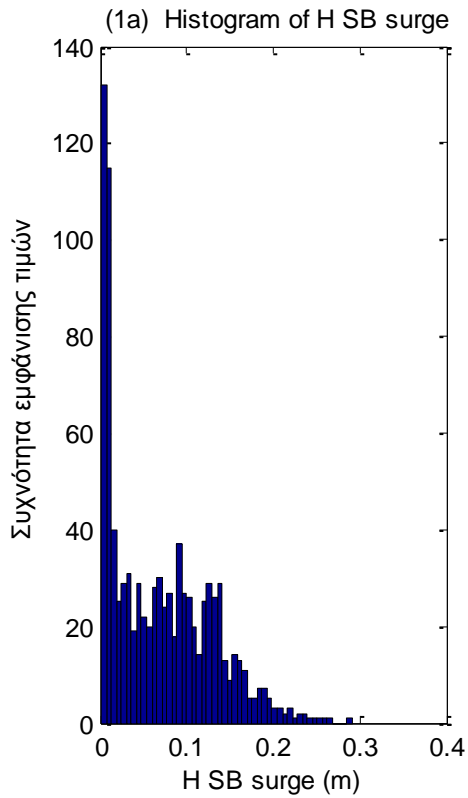
**Σχήματα 2.7.6.4 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

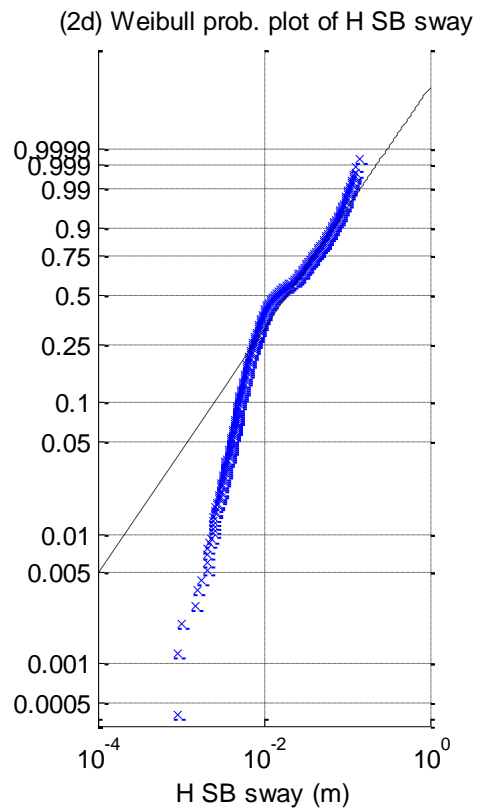
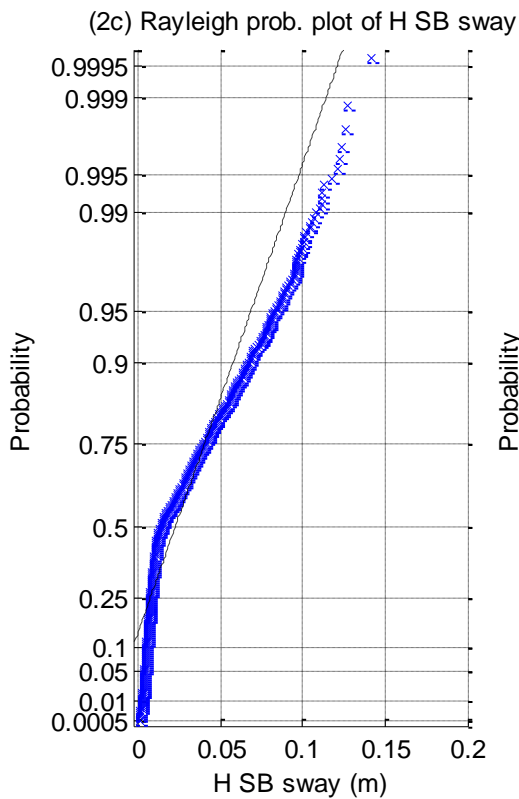
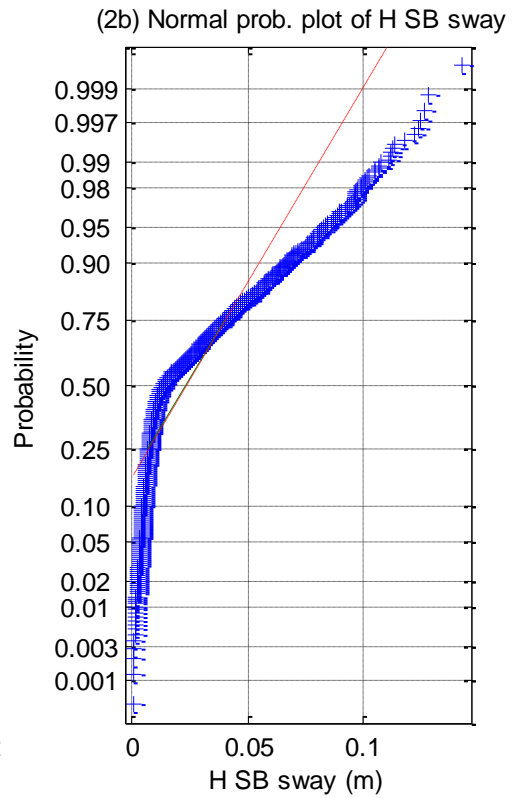
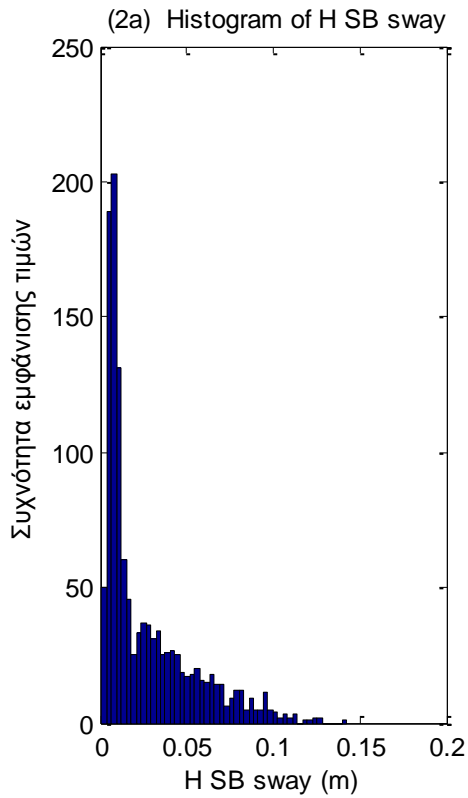


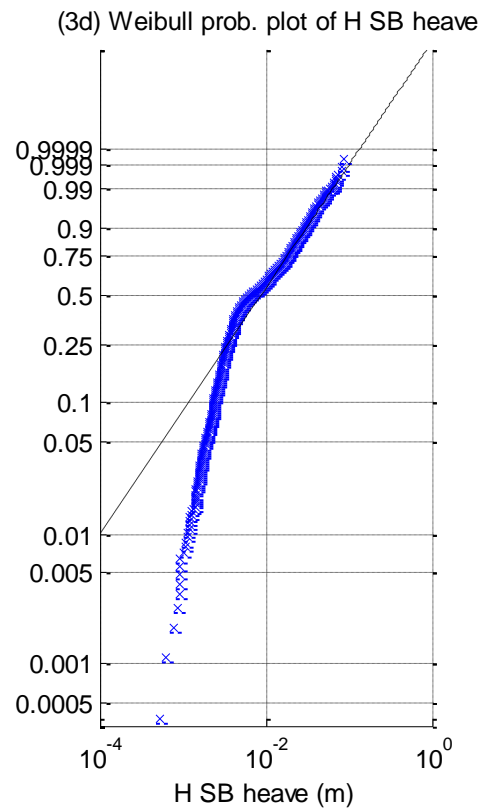
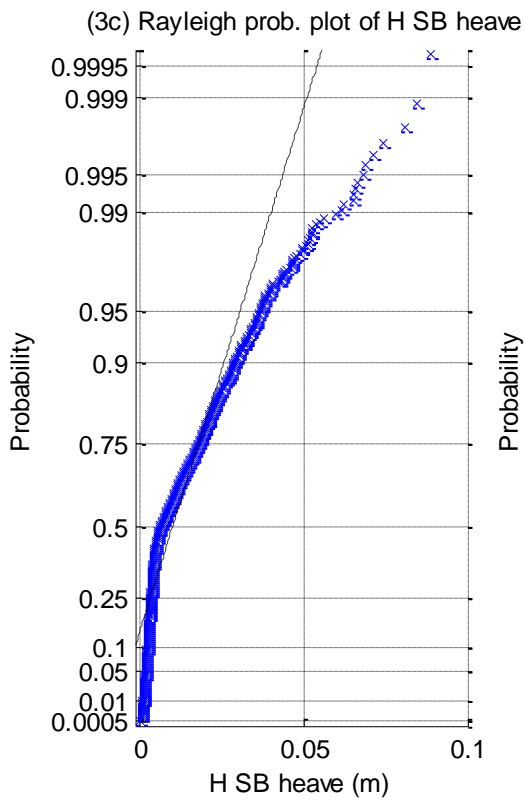
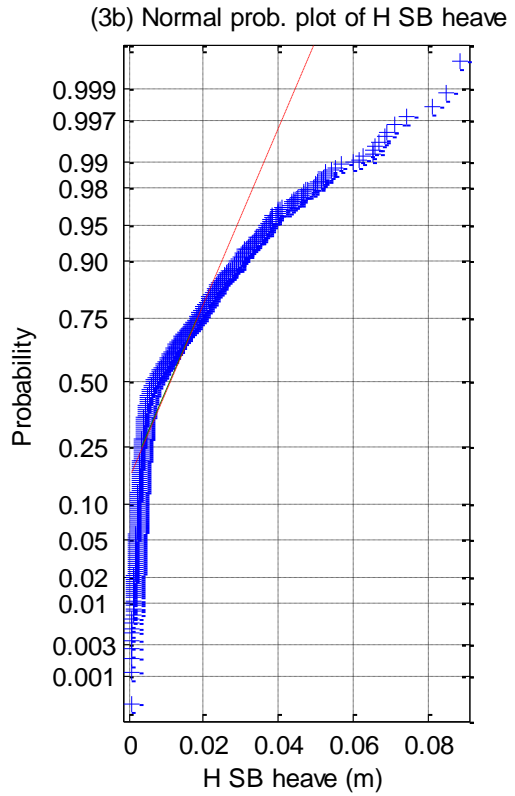
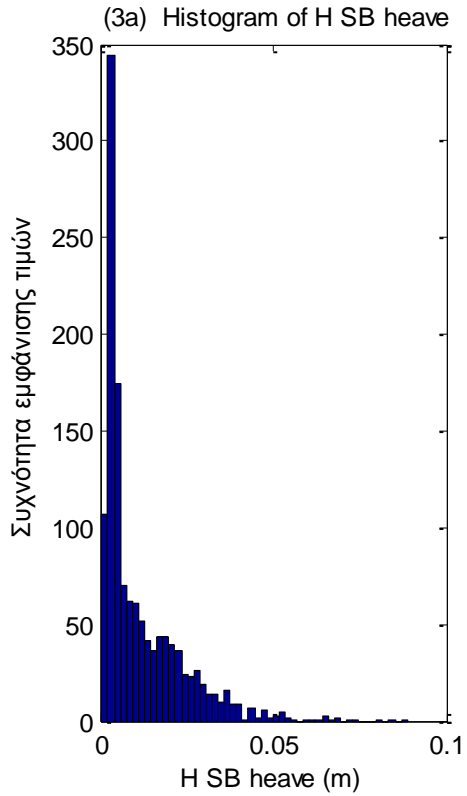




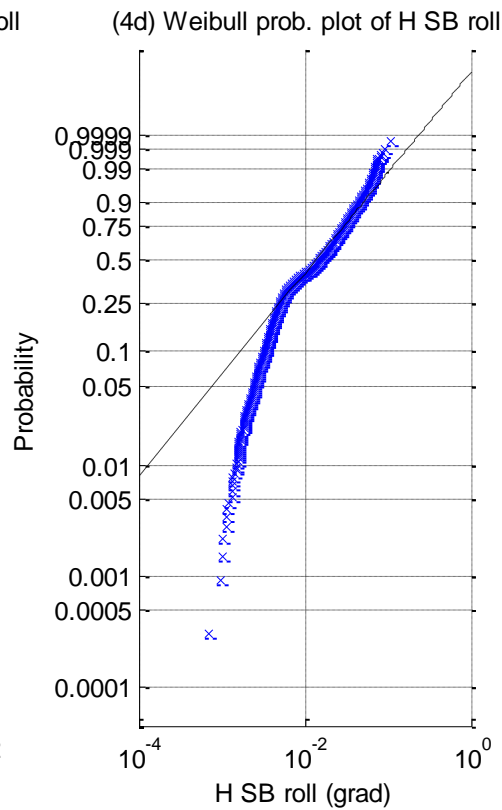
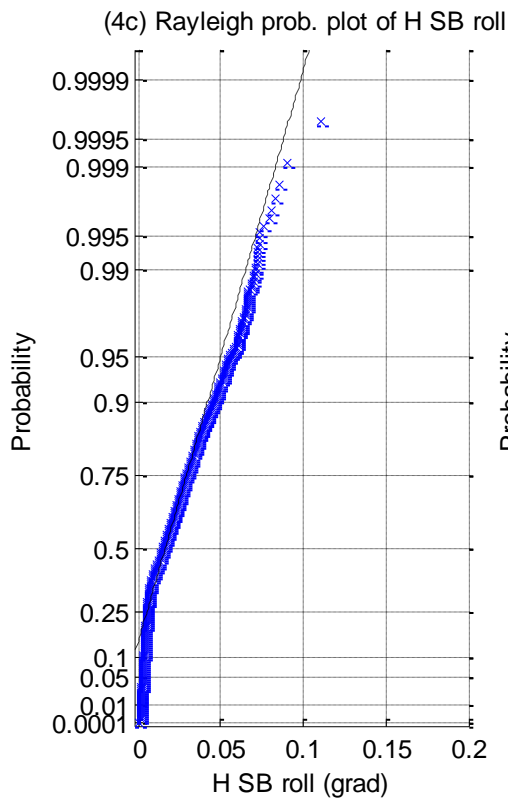
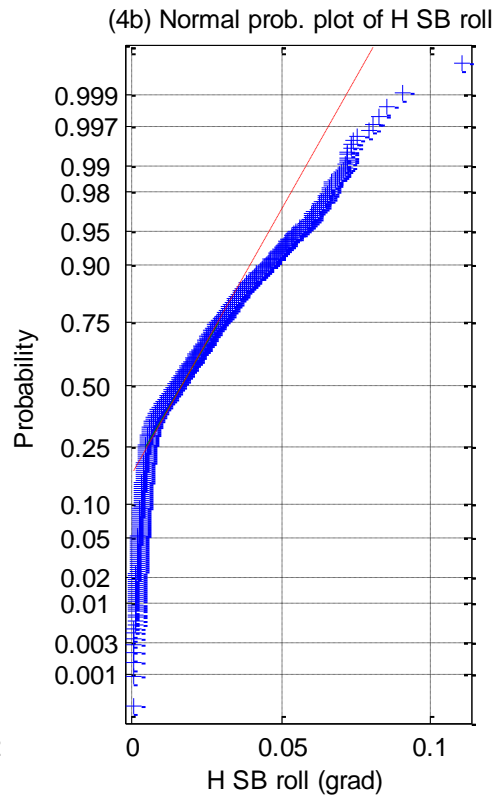
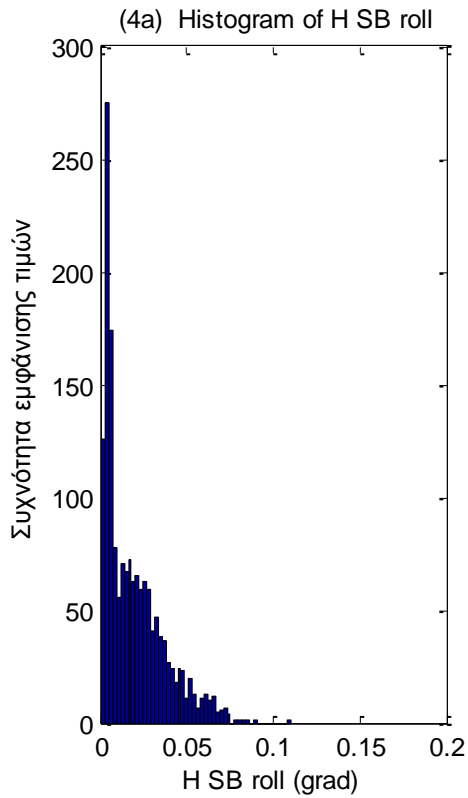
**Σχήματα 2.7.6.5 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης

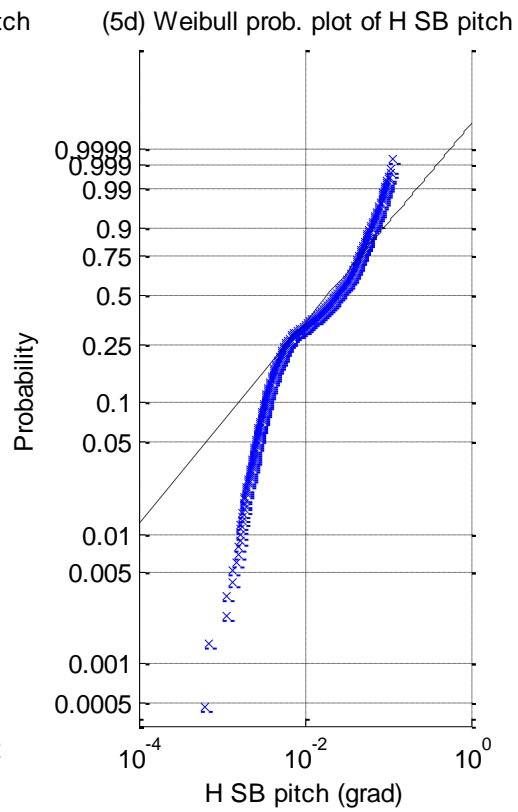
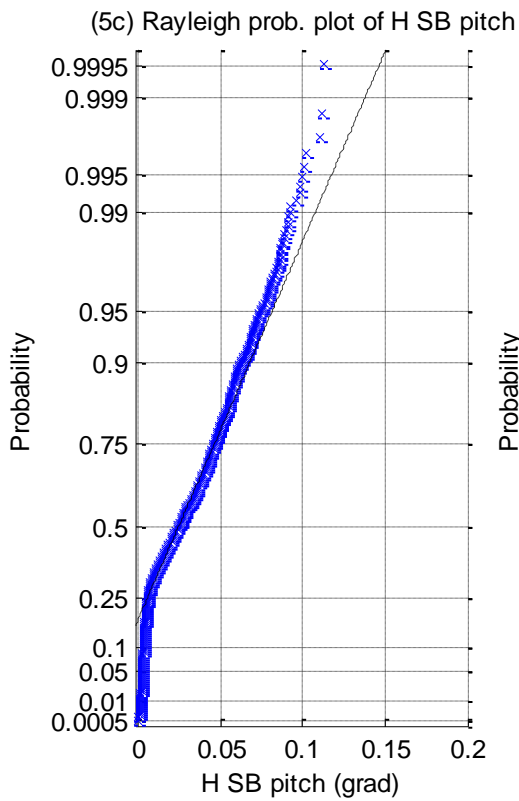
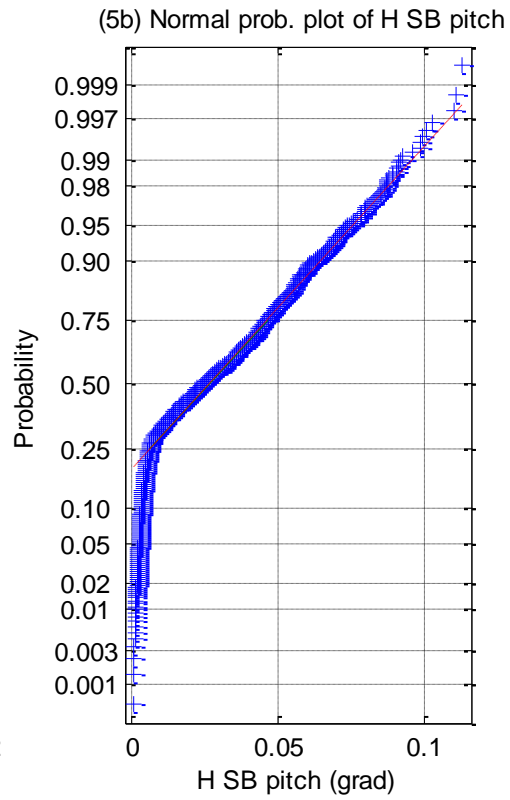
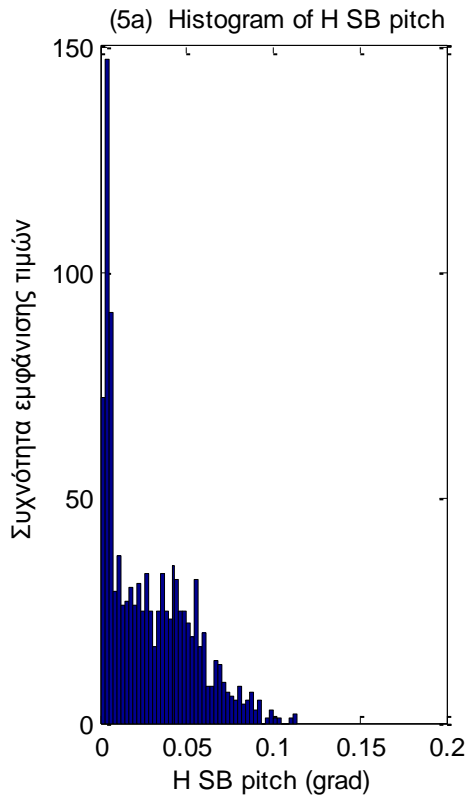


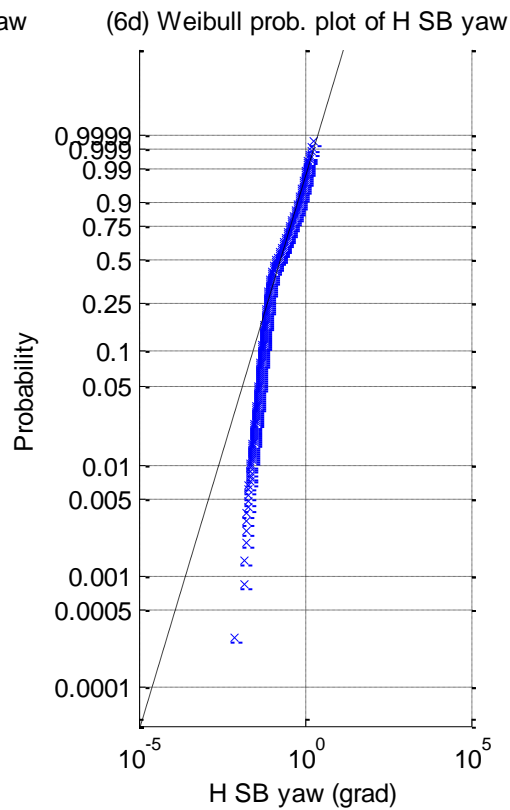
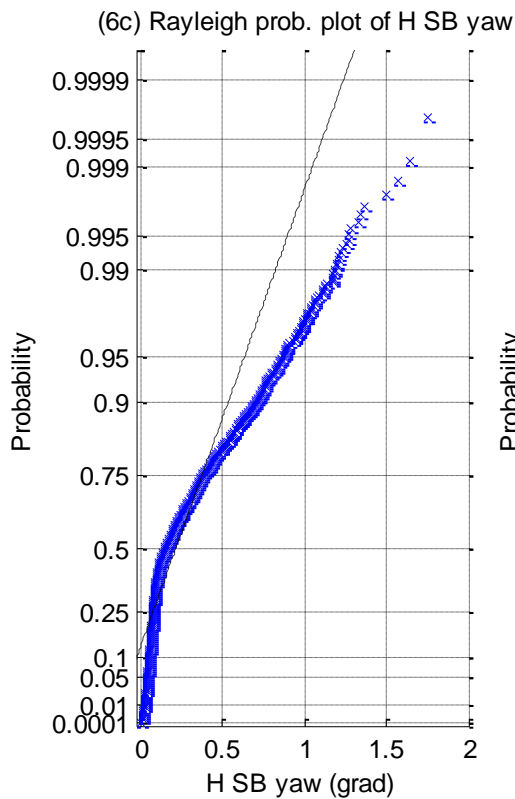
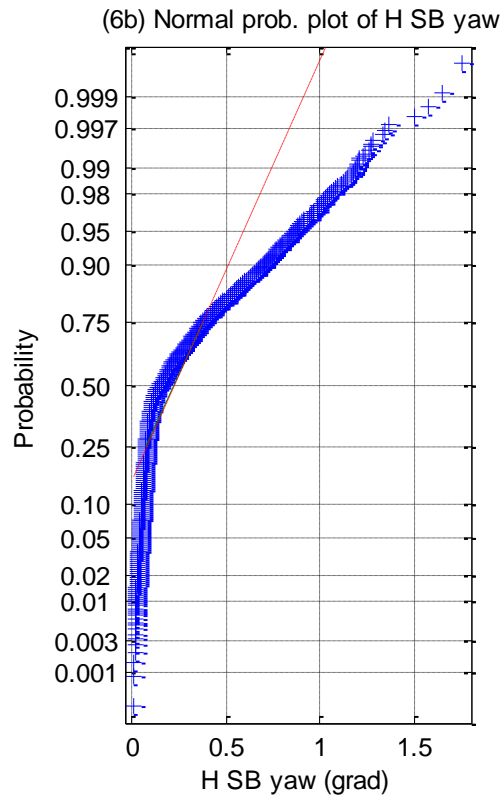
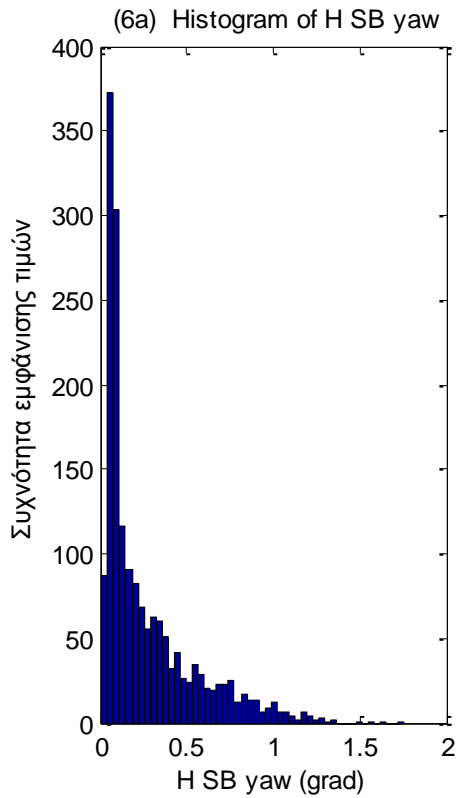






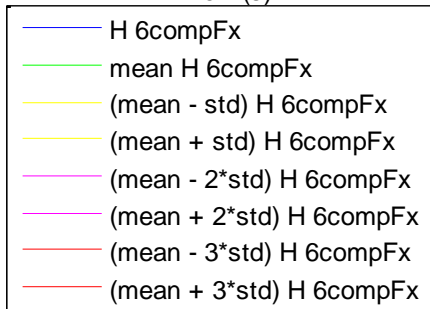
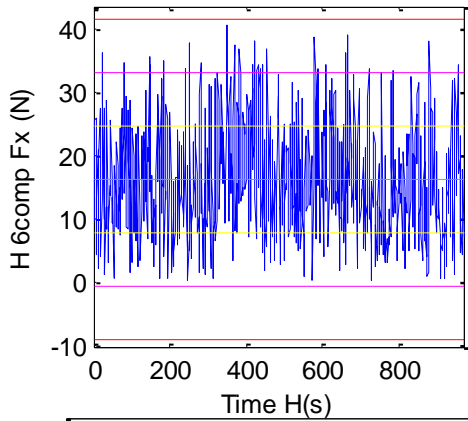




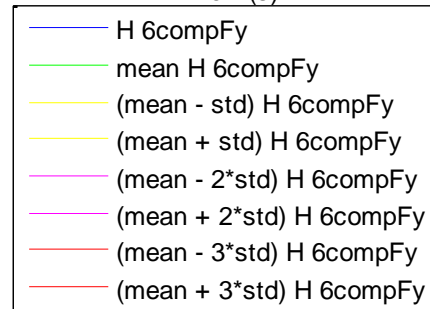
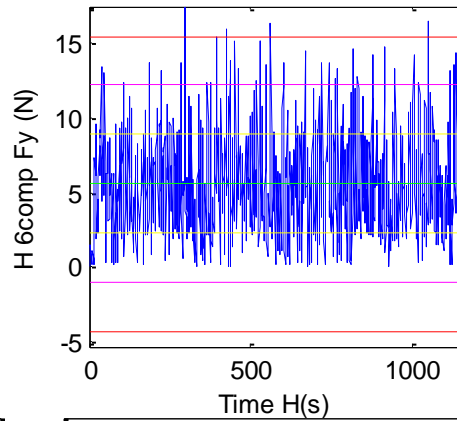


**Σχήματα 2.7.6.6 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

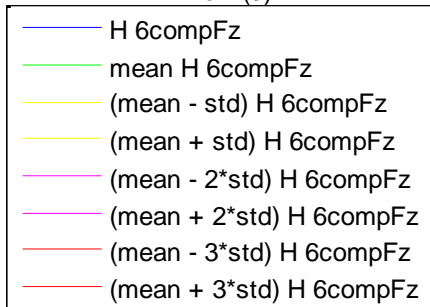
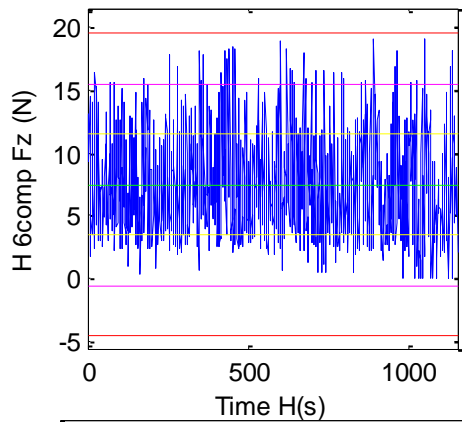
1) Time History of H 6comp Fx



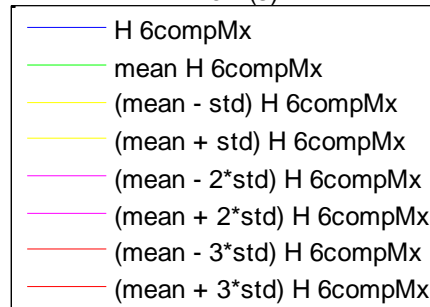
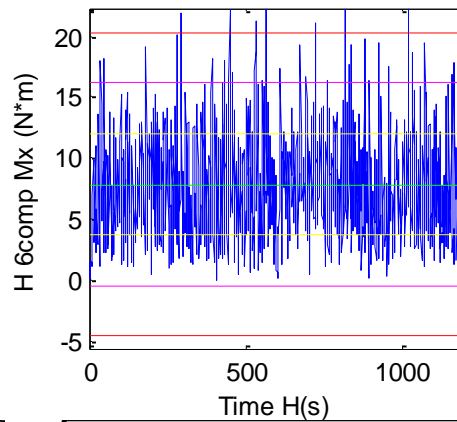
2) Time History of H 6comp Fy

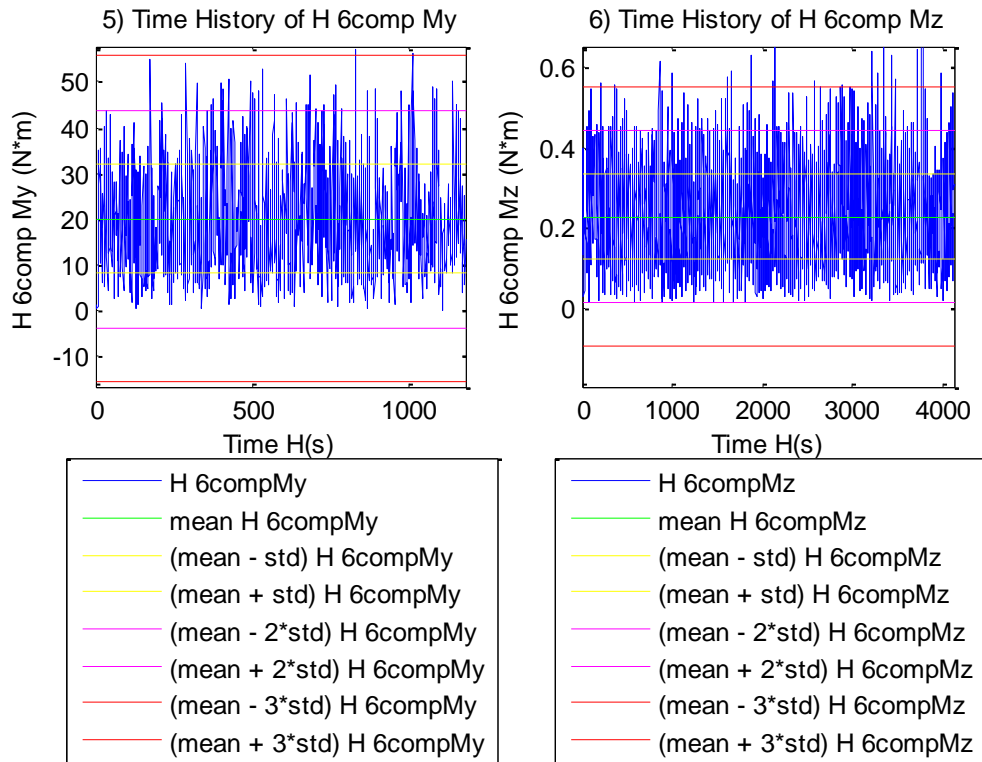


3) Time History of H 6comp Fz

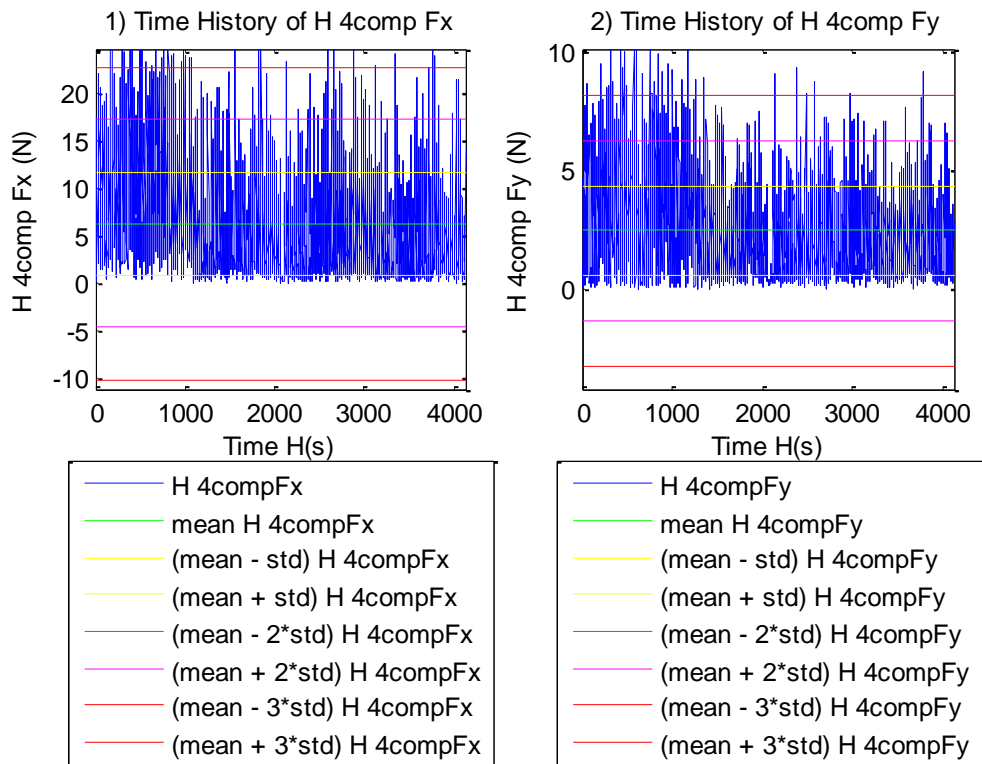


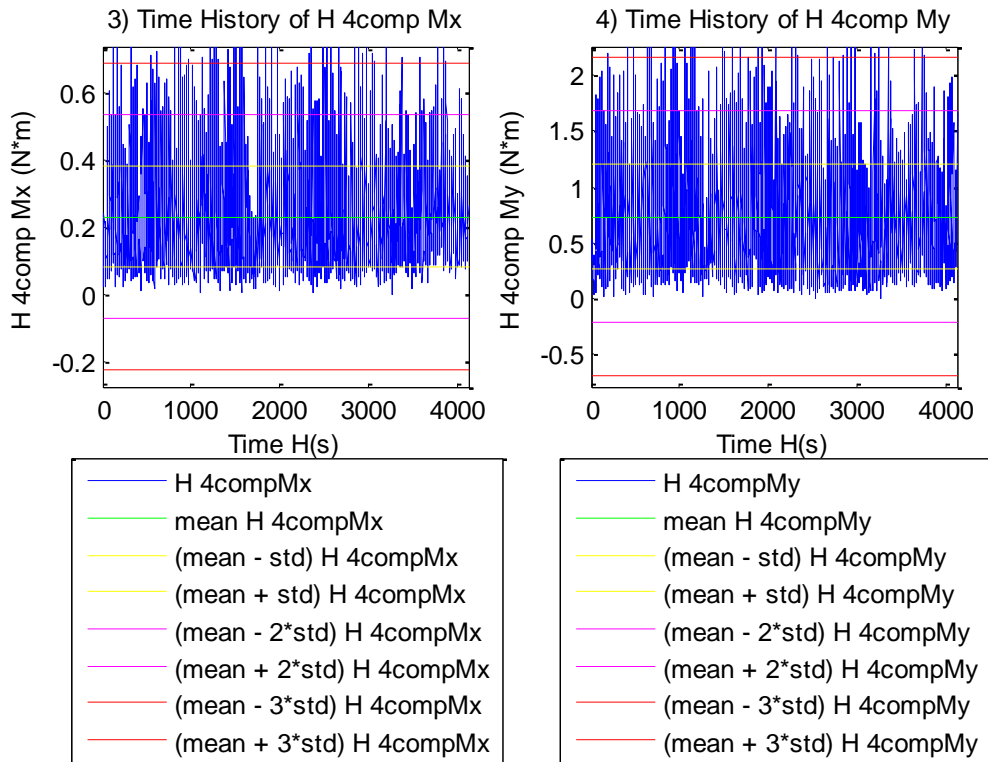
4) Time History of H 6comp Mx



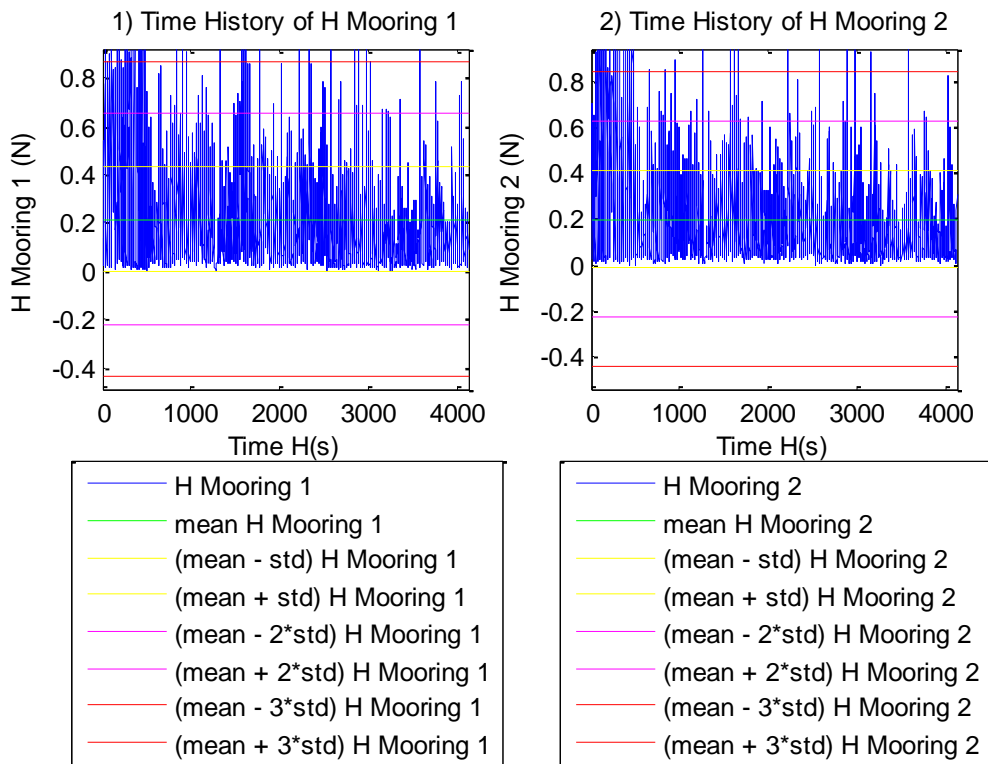


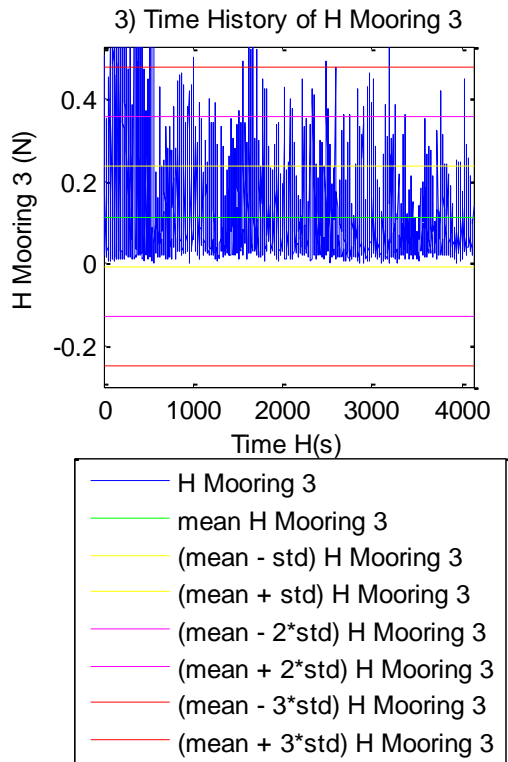
**Σχήματα 2.7.7.1 (1-6)** Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



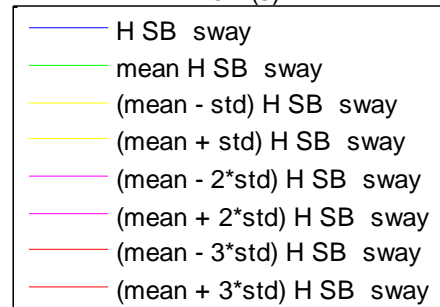
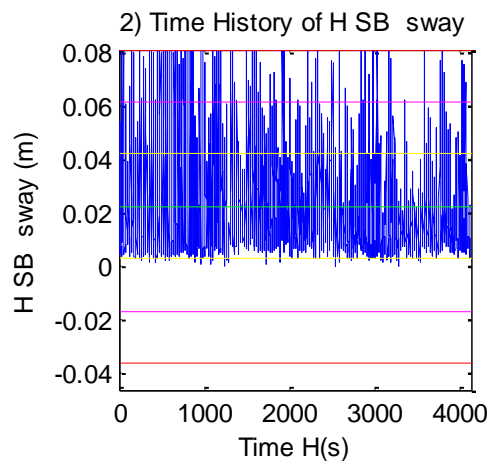
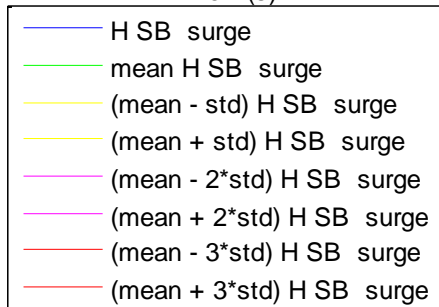
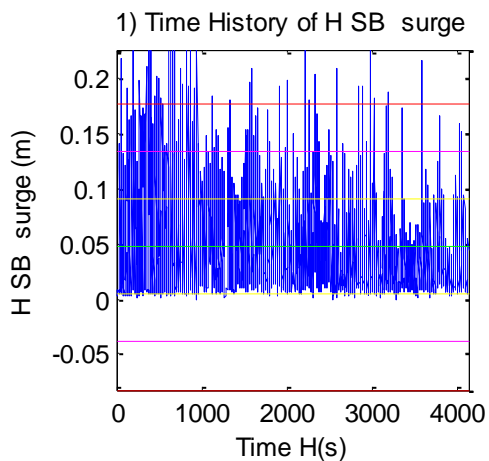


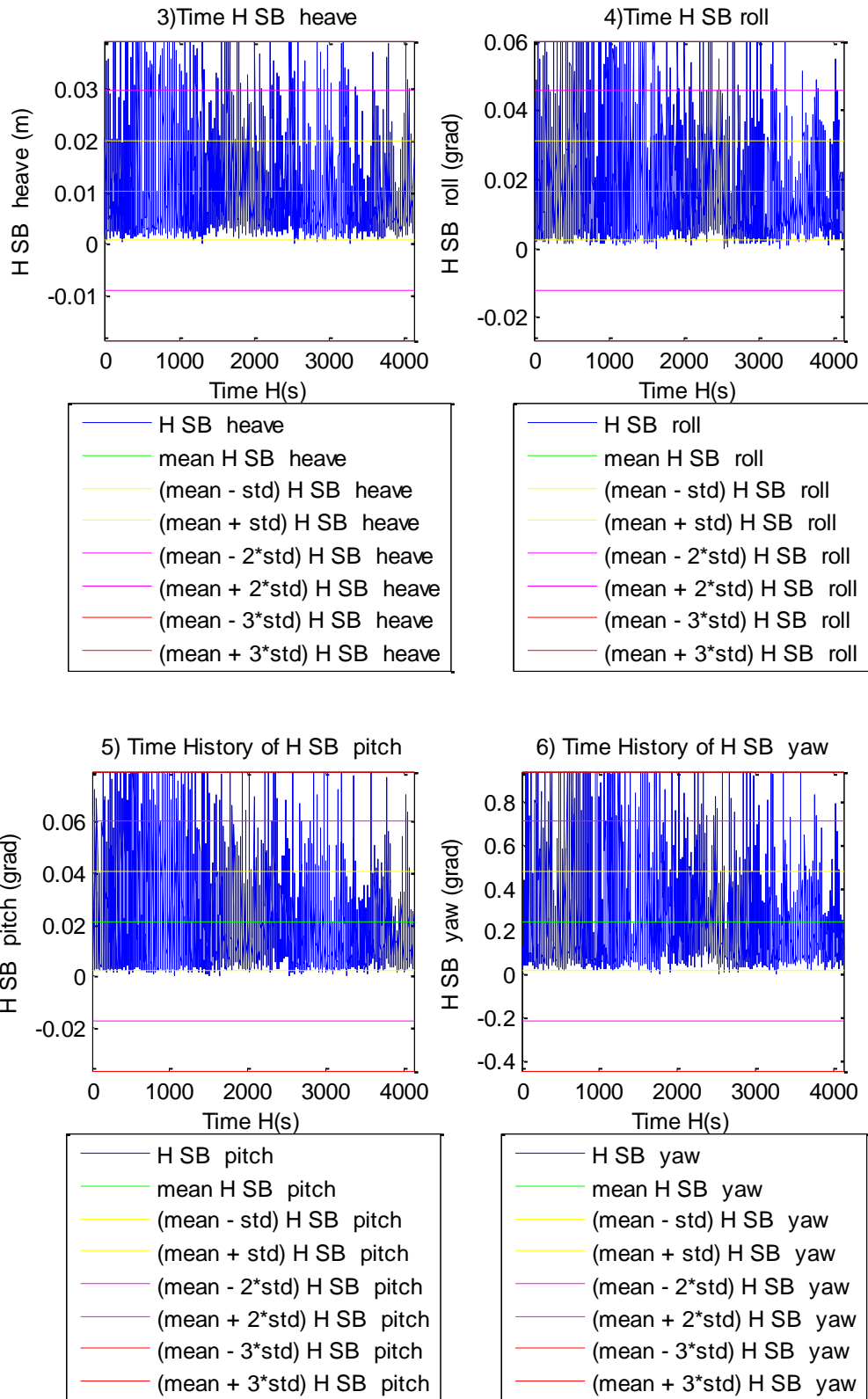
**Σχήματα 2.7.7.2 (1-4)** Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch





**Σχήματα 2.7.7.3 (1-3)** Διαγράμματα διάταξης του H για τις τρεις δυνάμεις στις τρεις γραμμές αγκύρωσης της A/Γ





**Σχήματα 2.7.7.4 (1-6)** Διαγράμματα διάταξης του H για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



**Μητρώα ΜΚΝ για τα 11 όργανα μέτρησης (WG) για K=100**

3.9187	1.7700	1.2030	1.1011	1.5095	2.3475	1.7108	1.8504	1.9354	1.5867	1.5173
1.2850	3.6022	0.9259	0.9026	1.1732	1.7285	2.0664	1.9159	1.5026	1.1802	1.0370
0.9094	1.7115	4.3057	2.6268	1.0872	1.0241	1.2797	1.2932	0.9674	1.7466	2.2964
0.9982	0.9953	1.0924	1.1745	1.0053	1.0037	0.9996	1.0028	0.9943	1.0135	1.0224
1.4701	1.0205	1.0099	0.9392	4.3118	0.9965	0.9540	1.0149	0.8811	1.1891	1.1729
2.2975	1.4812	1.1189	0.8441	1.3392	4.2517	0.8328	0.7600	1.1114	1.3280	1.3243
1.2506	2.0371	1.6936	1.2258	0.7067	1.0614	4.3818	2.3506	0.7926	0.6332	0.9108
1.7457	1.8770	1.2321	1.0097	0.8845	1.1126	1.6939	4.2158	2.3854	1.4630	0.9096
1.8543	1.3832	0.7661	0.8359	1.2956	1.4010	0.8170	2.0257	4.2644	3.2612	2.6431
1.6195	0.9510	1.5556	1.1713	1.2197	1.2095	0.8504	0.9436	2.6513	4.1622	3.8318
1.4997	0.9587	2.2072	1.4449	1.1459	1.1760	0.8642	0.7860	1.9817	3.7210	4.0919

**Μητρώα ΜΚΝ για τα 11 όργανα μέτρησης (WG) για K=1000**

3.1872	1.5391	1.1258	1.0749	1.2131	1.8220	1.2748	1.5733	1.5661	1.4061	1.3263
1.4859	3.0068	1.1507	0.9589	0.9661	1.2618	1.6931	1.4541	1.2549	1.0686	1.0525
1.0692	1.5029	3.3544	1.5211	1.1128	0.9576	1.5159	1.1208	1.0490	1.6136	2.0788
1.0019	0.9991	1.0430	1.1312	1.0024	1.0022	1.0012	0.9976	0.9997	1.0021	1.0074
1.2219	1.0615	1.0908	1.0386	3.3708	1.2152	0.9731	1.0296	1.0445	1.0306	1.0552
1.6947	1.2942	1.0246	1.0439	1.1850	3.4412	1.0147	1.0345	1.1462	1.1089	1.1190
1.2119	1.6456	1.5550	1.0707	0.9577	1.0848	3.4628	1.9552	1.0118	0.9683	1.0861
1.4693	1.5753	1.1183	1.0105	0.9941	1.1029	1.6796	3.3322	2.1510	1.3642	1.1251
1.5980	1.2790	1.0092	0.9685	1.0996	1.1163	0.9488	2.1021	3.3436	2.6838	2.2296
1.4841	1.0647	1.5424	1.0637	1.0635	1.0320	1.0441	1.2340	2.5219	3.2858	3.1079
1.4029	1.0438	1.9786	1.1726	1.0568	0.9912	1.1561	1.0396	2.0127	3.0790	3.2550

**Μητρώα ΜΚΝ για τις έξι δυνάμεις και ροπές  $\mathbf{bcomp}$  [  $F_x$ ,  $F_y$ ,  $F_z$ ,  $M_x$ ,  $M_y$ ,  $M_z$  ] για K=100**

1.6257	1.4506	1.1091	0.2934	1.5397	1.2168
1.4475	1.7679	1.0423	0.1404	1.5957	1.3175
1.0656	1.0655	1.0656	0.6377	1.0656	1.0552
1.2308	3.2023	0.5643	4.1400	2.3268	1.3752

1.6715	1.6063	1.0127	0.3597	1.8017	1.3208
1.0659	1.0453	1.0255	0.9202	1.1437	1.4756

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz]  
για K=1000**

1.4850	1.3663	1.1556	0.5801	1.4327	1.1081
1.4127	1.5885	1.0931	0.4585	1.4824	1.1765
1.0656	1.0655	1.0656	0.7801	1.0656	1.0297
1.2483	2.2341	0.7059	3.2926	1.7128	1.1106
1.5243	1.4859	1.1302	0.6508	1.6053	1.1666
1.0524	1.0558	1.0306	0.9218	1.0958	1.3486

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=100**

1.7847	1.3627	1.5371	1.7342
3.3258	4.4070	3.9190	3.5126
1.1710	1.1391	1.2672	1.1797
2.2345	1.6189	1.7057	2.3843

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=1000**

1.5940	1.1345	1.4026	1.5213
2.5874	3.4514	3.0314	2.5001
1.1324	1.0613	1.1985	1.1264
1.8102	1.2587	1.5235	1.9523

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2,  
3] για K=100**

1.0590	0.9770	1.0017
0.9438	1.0861	0.9960
1.0034	1.0018	1.0583

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2, 3] για K=1000**

1.0446	0.9777	0.9940
0.9545	1.0695	1.0046
0.9999	1.0036	1.0434

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=100**

1.1499	1.1231	0.9995	1.0872	1.1232	0.9531
1.2419	1.3049	1.0287	1.1253	1.1417	0.9257
1.4844	1.4771	2.5027	0.8507	1.3345	1.0605
2.8126	2.7507	0.9817	4.4640	3.0469	1.6405
1.1137	1.0878	1.0237	1.1082	1.1573	0.9663
0.6328	0.6895	1.1909	1.7408	0.6974	4.2217

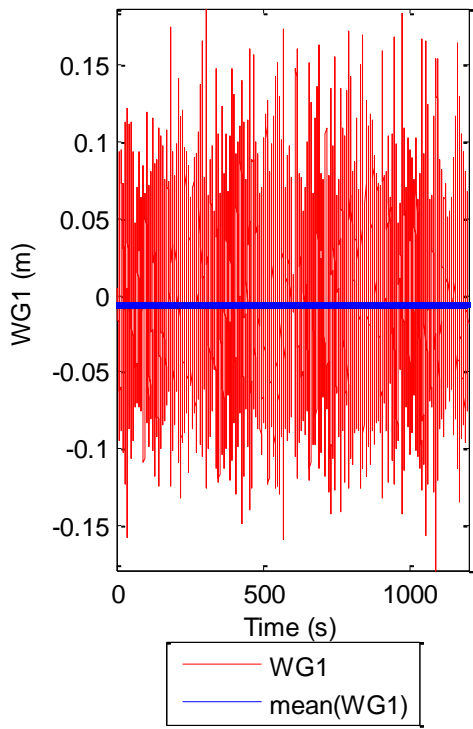
**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000**

1.1158	1.0566	1.0265	1.0715	1.0939	0.9619
1.1402	1.2302	1.0486	1.1144	1.0939	0.9404
1.2606	1.2182	2.1164	0.9364	1.2627	1.0009
2.3633	2.2812	1.0883	3.4434	2.3705	1.2087
1.0929	1.0423	1.0288	1.0763	1.1178	0.9704
0.7899	0.7300	1.0417	1.2421	0.7684	3.2945

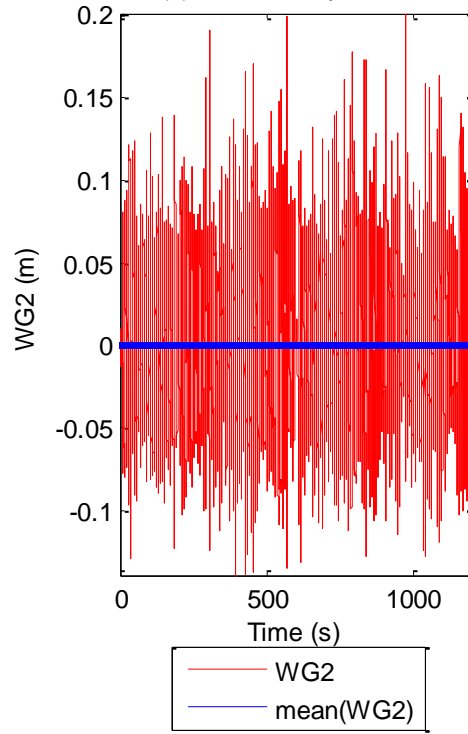
## 2.8 Παρουσίαση χρονοσειρών (C8) T1439+T1440\_1.6\_0.10\_SB\_20\_R

<b>Πίνακας 2.8.1</b>	<b>Χαρακτηριστικά Πειράματος</b>
Τύπος μοντέλου	SB
Ύψος κύματος (m)	0.10
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	20
Περιστροφή η μη του Ρότορα	Περιστροφή

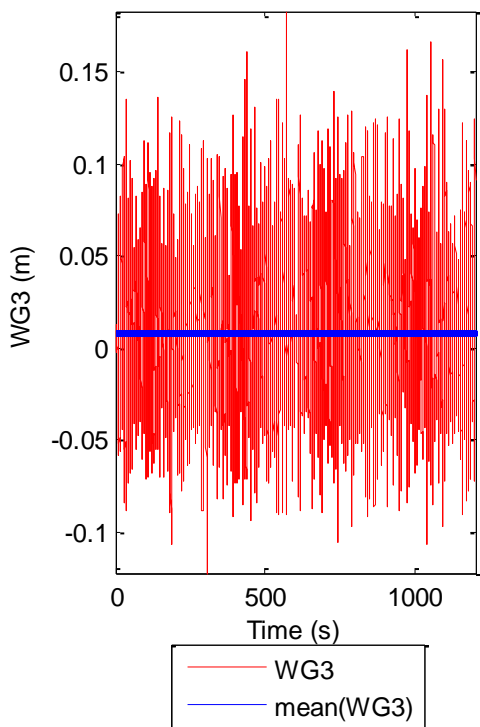
(1) Time History of WG1



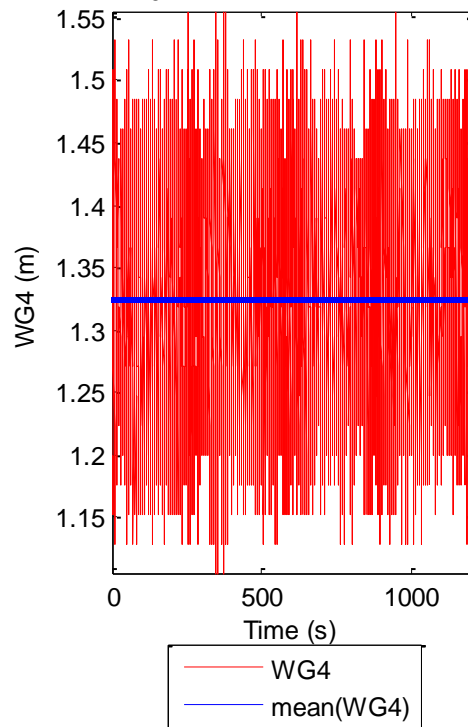
(2) Time History of WG2



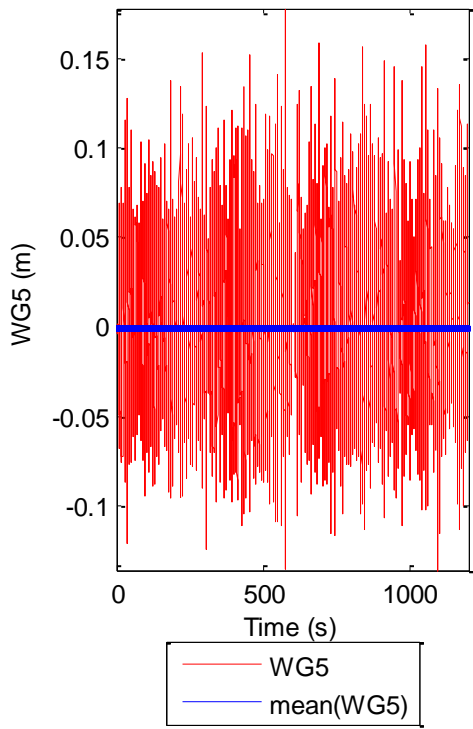
(3) Time History of WG3



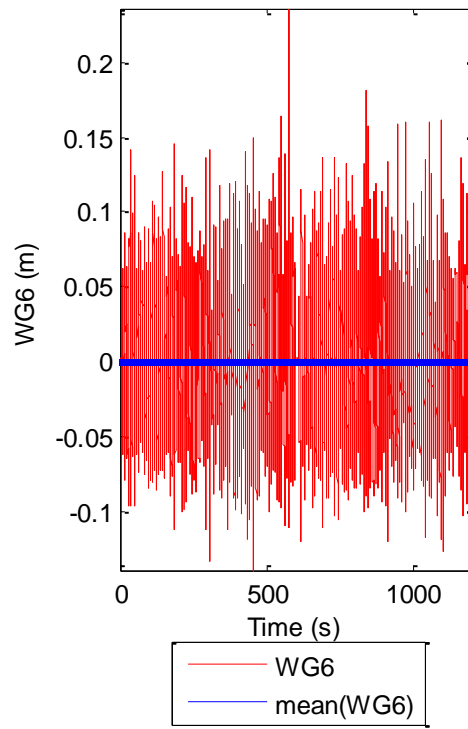
$\times 10^{-3}$  (4) Time History of WG4



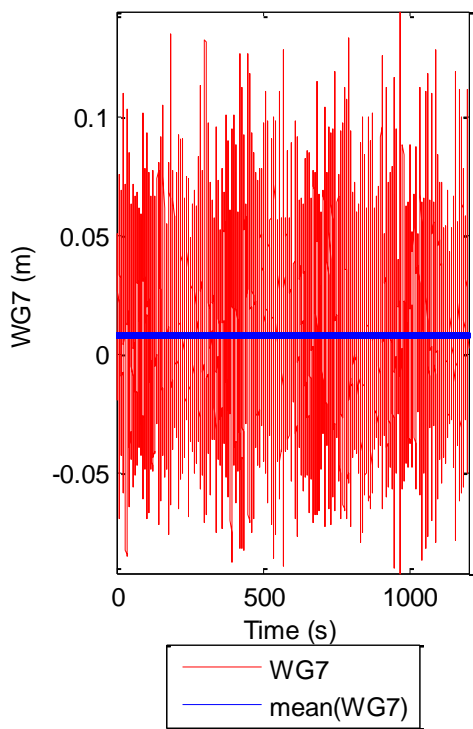
(5) Time History of WG5



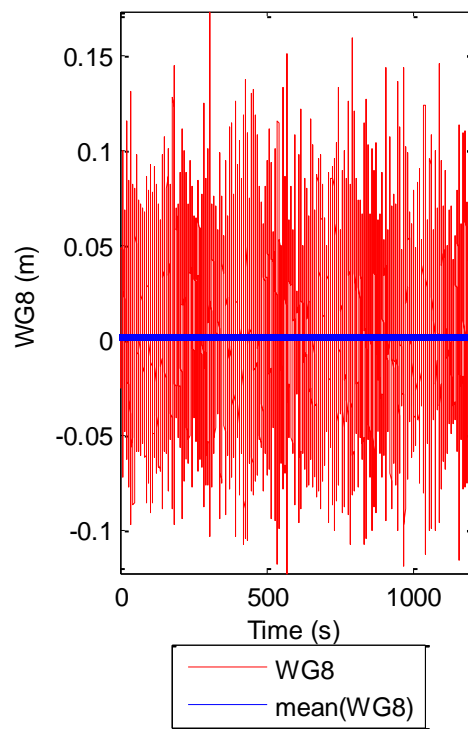
(6) Time History of WG6

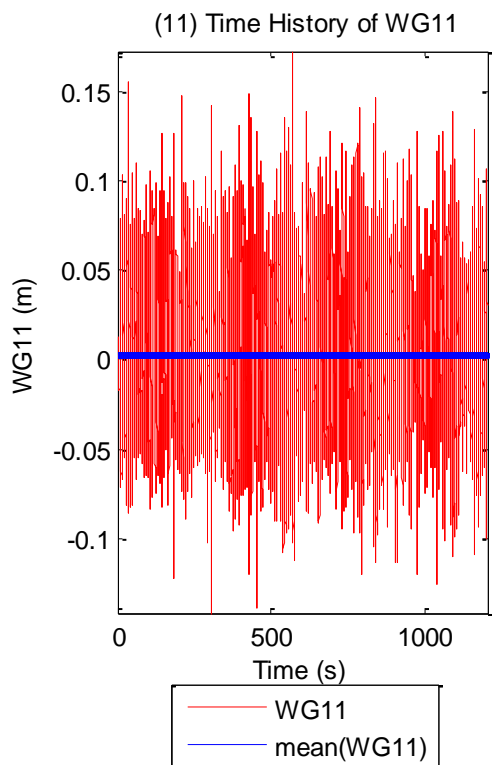
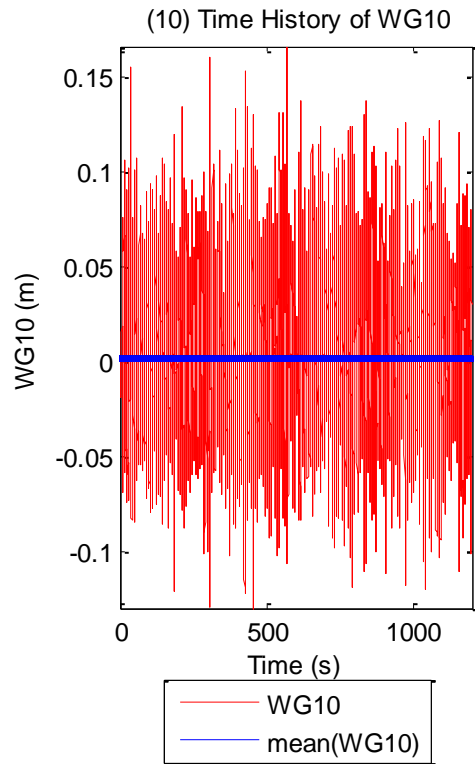
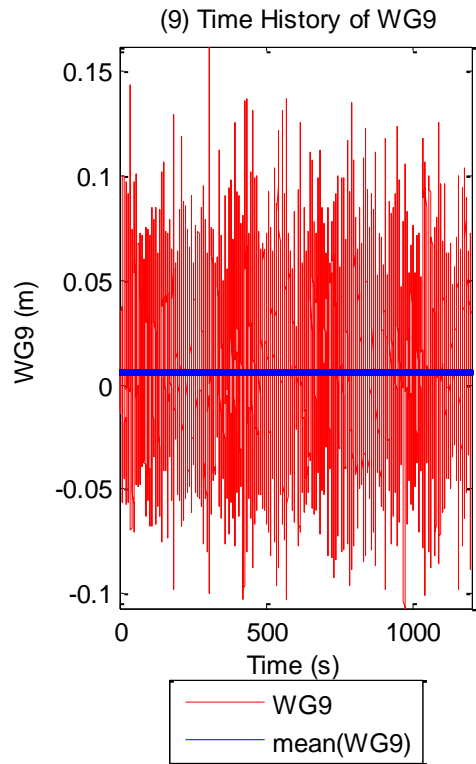


(7) Time History of WG7

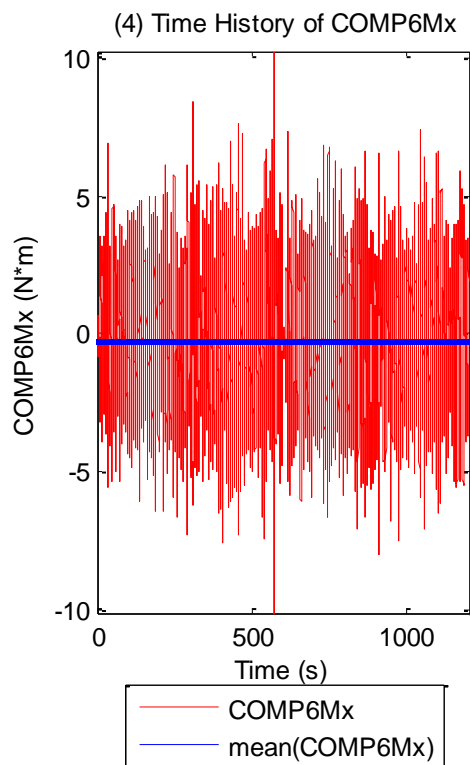
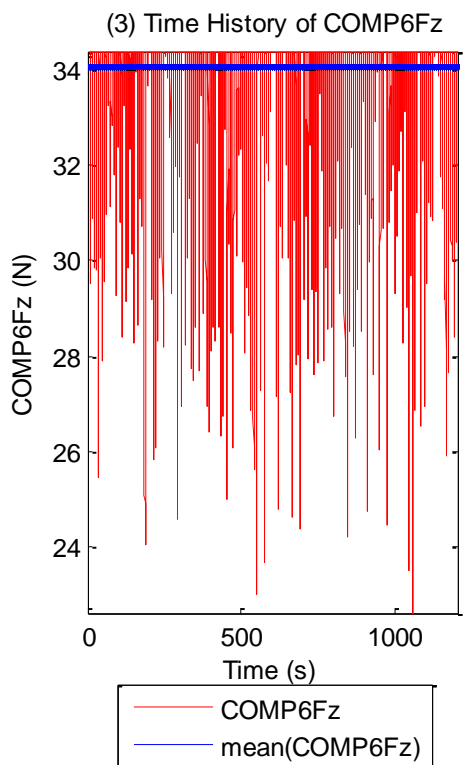
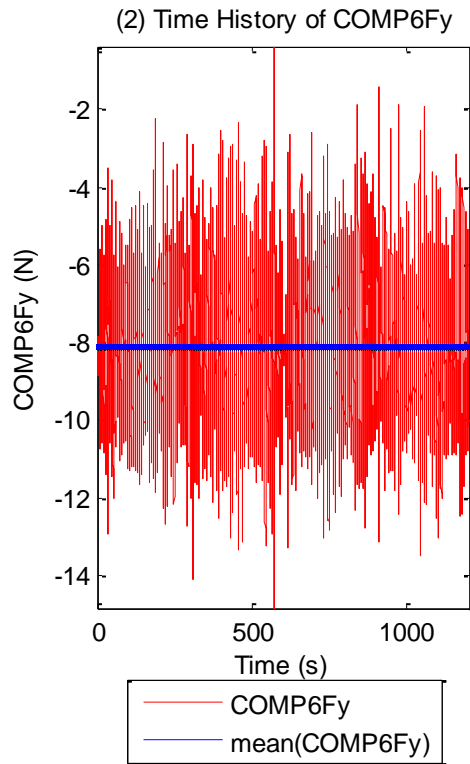
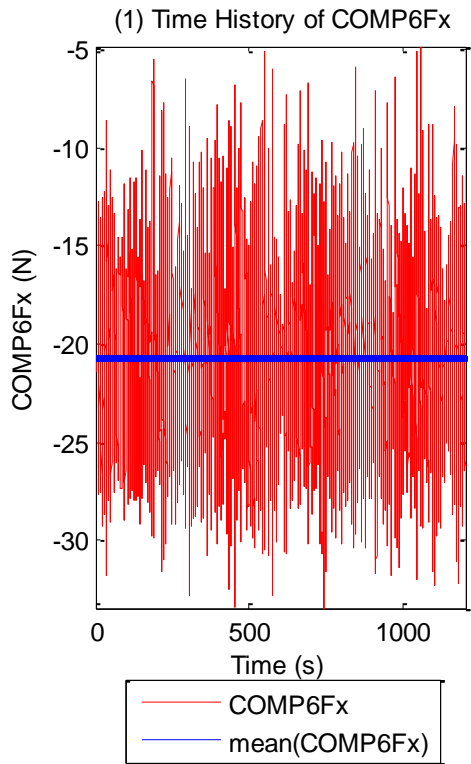


(8) Time History of WG8

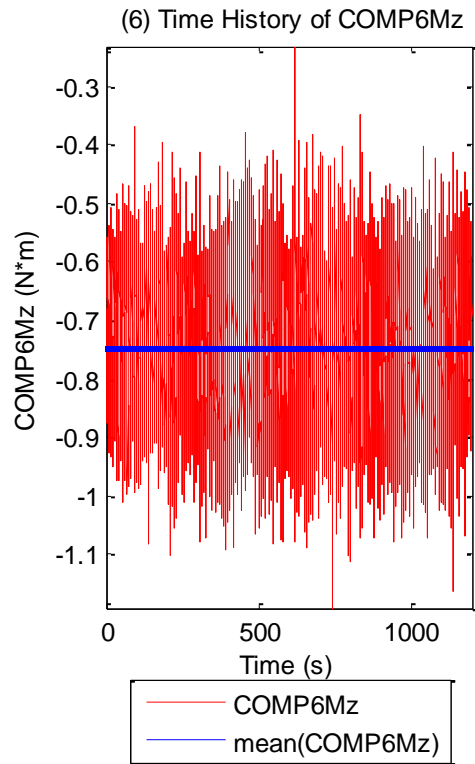
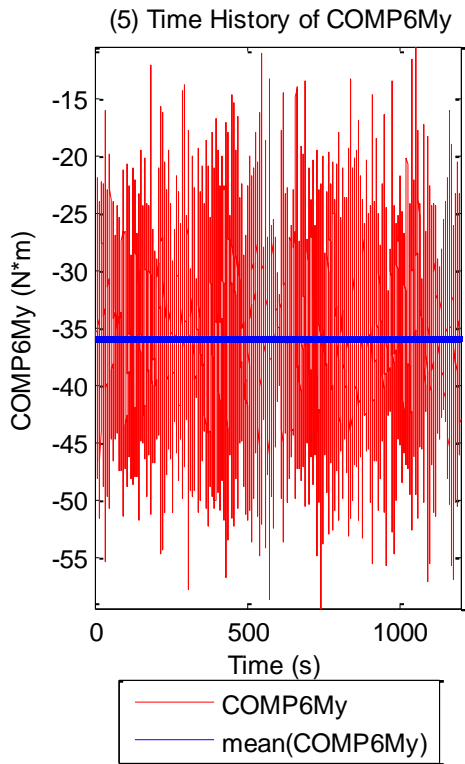




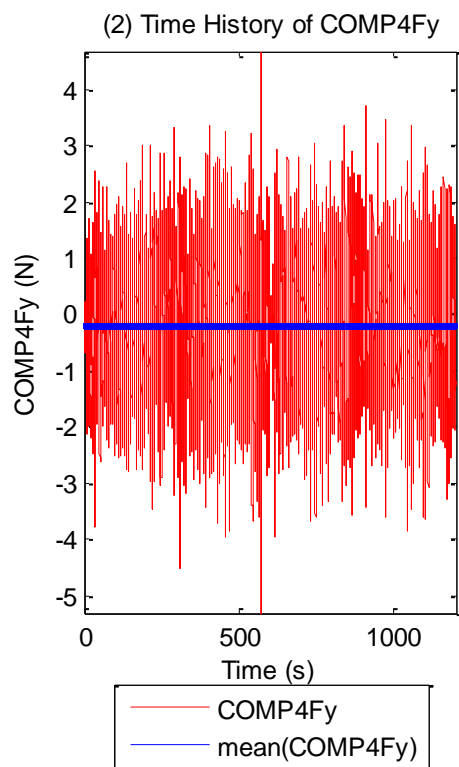
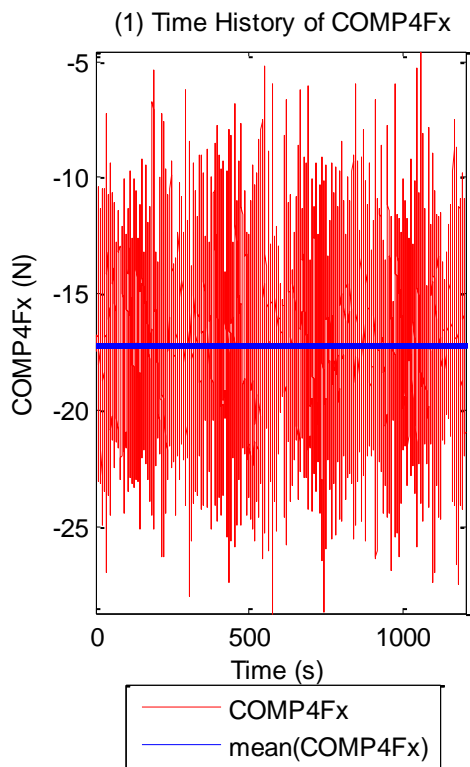
**Σχήματα 2.8.1.1 (1-11)** Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

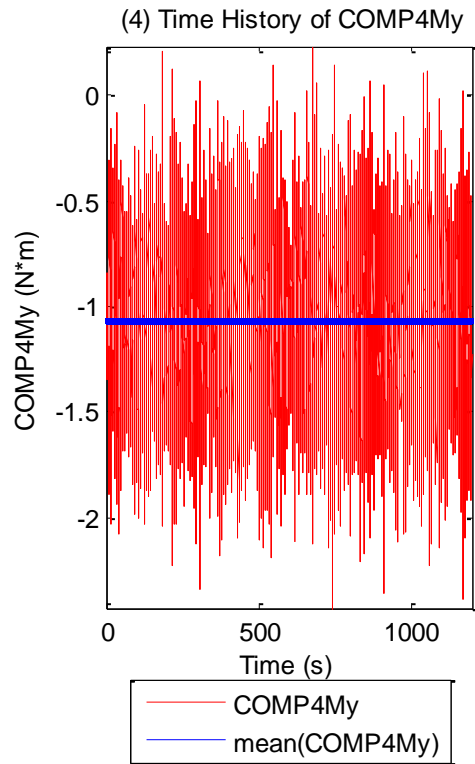
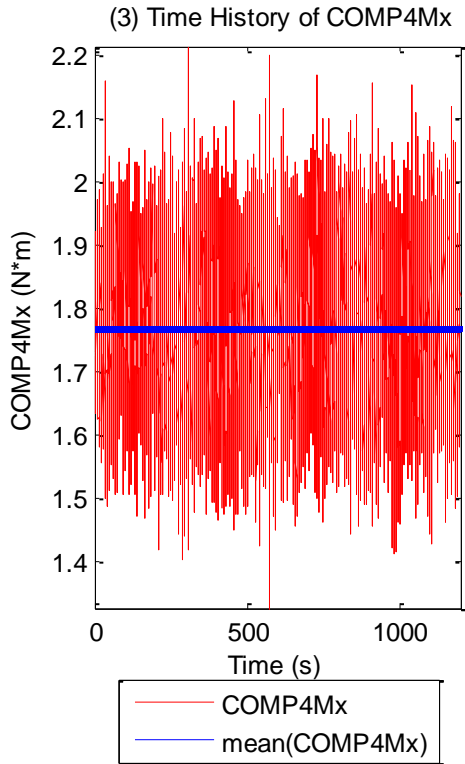




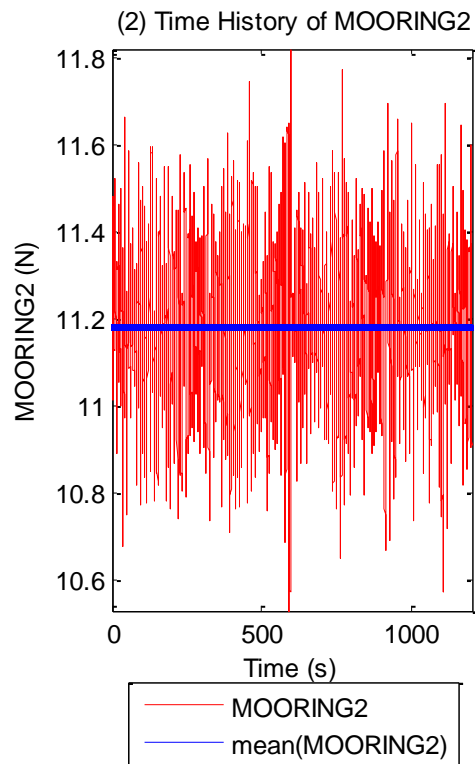
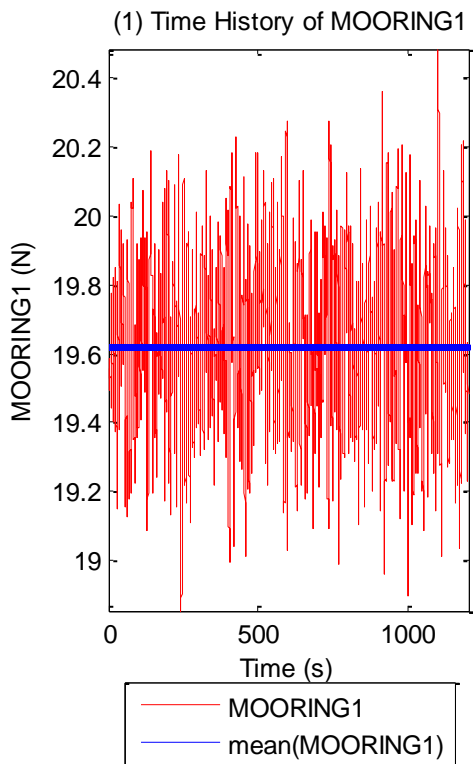


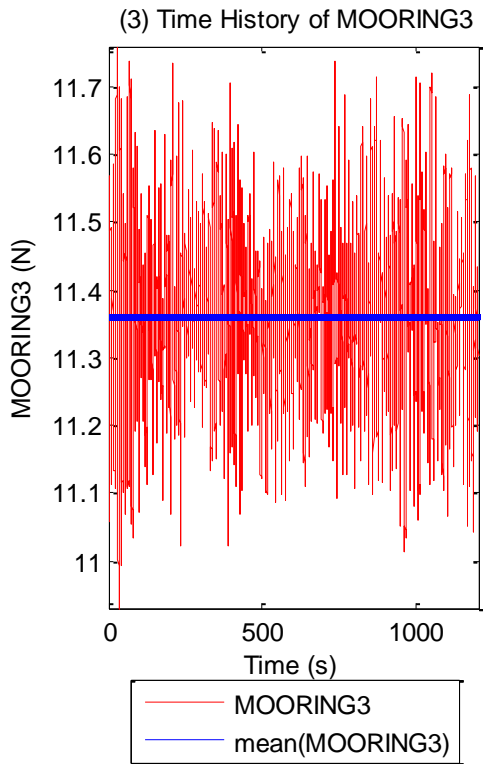
**Σχήματα 2.8.1.2** Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



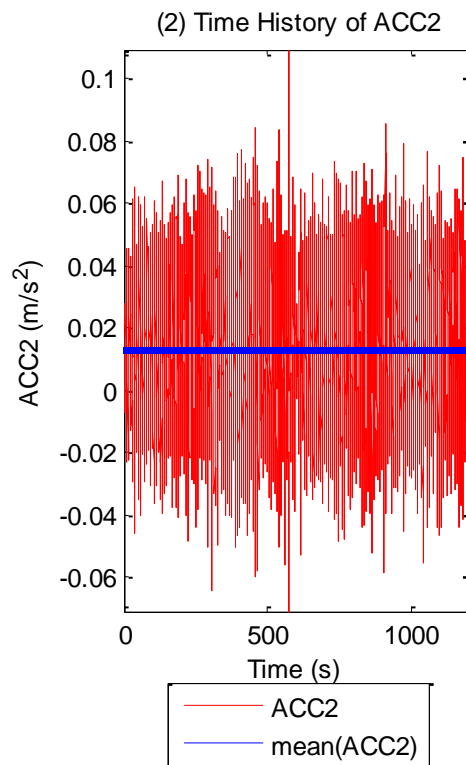
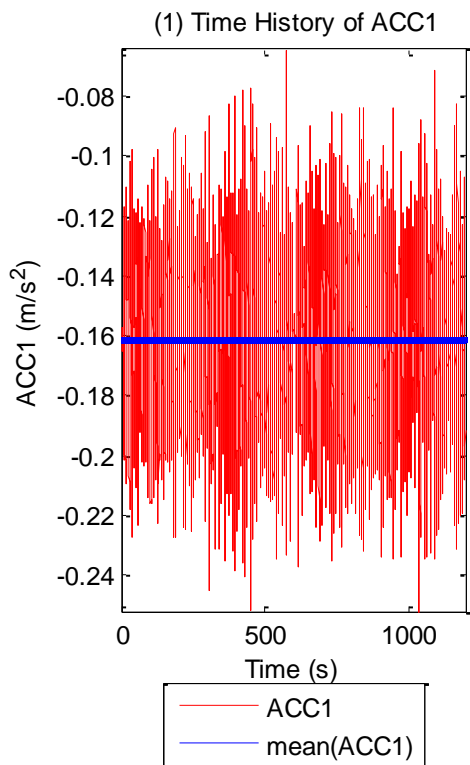


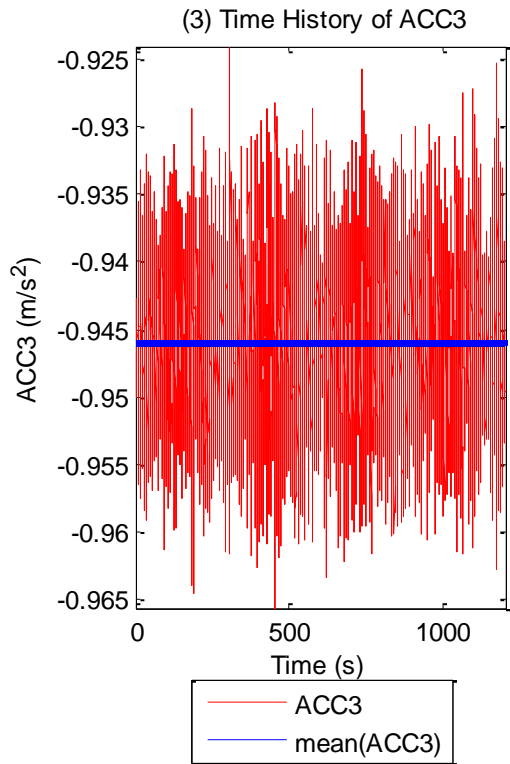
**Σχήματα 2.8.1.3** Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



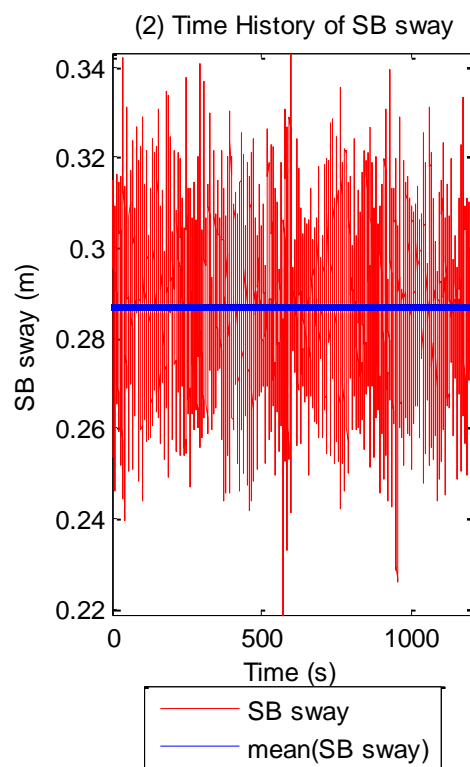
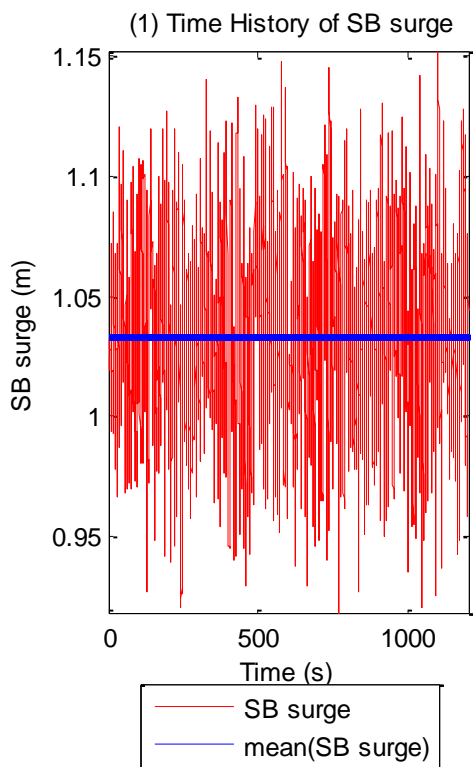


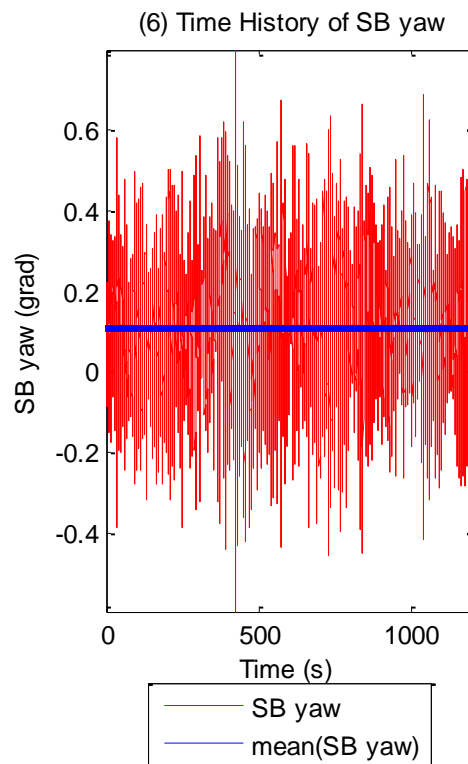
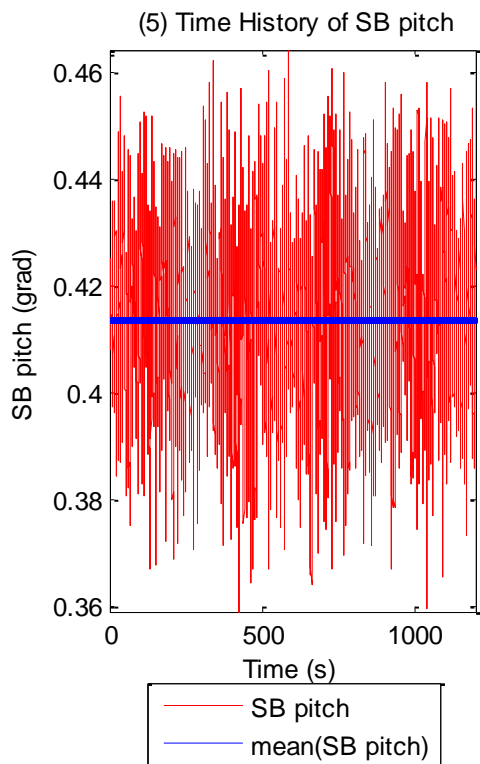
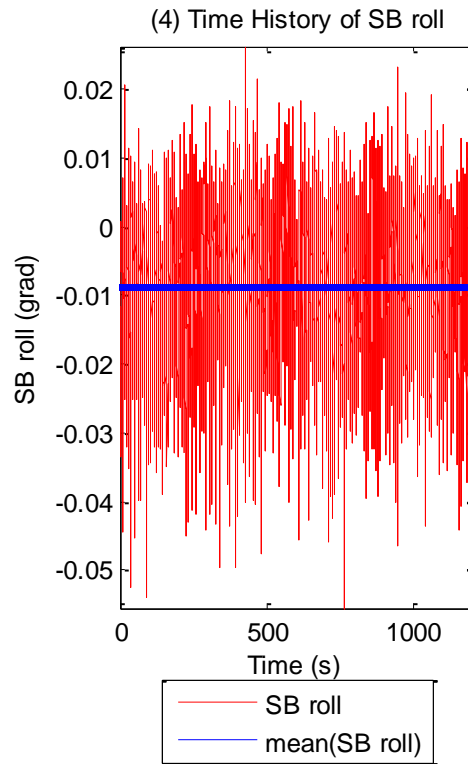
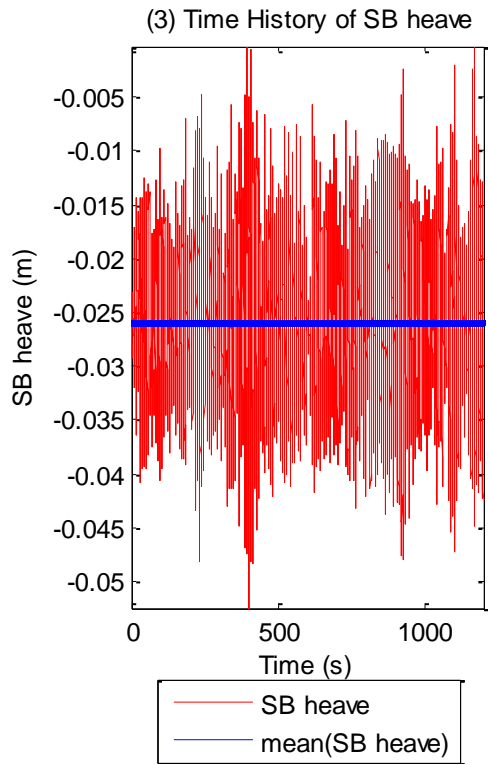
**Σχήματα 2.8.1.4** Χρονοσειρές για τις δυνάμεις στις τρεις γραμμές αγκύρωσης (1-3) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές





**Σχήματα 2.8.1.5 (1-3)** Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3





**Σχήματα 2.8.1.6** Χρονοσειρές για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)

**Πίνακας 2.8.2**

	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή ( Min)	Μέγιστη τιμή ( Max)	Hrms
Wg1 (m)	-0.0053	0.0480	-0.1792	0.1871	0.1334
Wg2 (m)	0.0009	0.0441	-0.1390	0.2011	0.1225
Wg3 (m)	0.0079	0.0372	-0.1220	0.1829	0.1035
Wg4 (m)	0.0013	0.0001	0.0011	0.0016	0.0002
Wg5 (m)	-0.0005	0.0410	-0.1364	0.1783	0.0384
Wg6 (m)	0.0005	0.0419	-0.1387	0.2357	0.0393
Wg7 (m)	0.0080	0.0322	-0.0925	0.1448	0.0303
Wg8 (m)	0.0028	0.0383	-0.1220	0.1739	0.0360
Wg9 (m)	0.0064	0.0348	-0.1070	0.1620	0.0326
Wg10 (m)	0.0023	0.0389	-0.1295	0.1663	0.0365
Wg11 (m)	0.0028	0.0398	-0.1415	0.1722	0.0373
6comp_Fx (N)	-20.7114	3.7868	-33.4296	-4.8401	3.7165
6comp_Fy(N)	-8.1039	1.5831	-14.8329	-0.3885	1.5554
6comp_Fz (N)	34.0798	1.0737	22.6305	34.3768	1.3661
6comp_Mx (N*m)	-0.2400	2.1718	-10.1274	10.2350	2.2485
6comp_My (N*m)	-35.8134	5.9048	-59.3484	-10.4726	6.2673
6comp_Mz (N*m)	-0.7482	0.0931	-1.1922	-0.2314	0.1942
4comp_Fx (N)	-17.1430	2.9620	-28.6786	-4.5684	3.7176

4comp_Fy (N)	-0.1807	1.0586	-5.3158	4.6799	1.3137
4comp_Mx (N*m)	1.7697	0.1021	1.3260	2.2150	0.1553
4comp_My (N*m)	-1.0709	0.3006	-2.4310	0.2328	0.4905
Mooring_1 (N)	19.6229	0.2238	18.8556	20.4820	0.1270
Mooring_2(N)	11.1819	0.1704	10.5303	11.8226	0.1113
Mooring_3 (N)	11.3594	0.1195	10.9309	11.7585	0.0648
Acc_1 (G)	-0.1609	0.0256	-0.2519	-0.0645	0.0312
Acc_2 (G)	0.0129	0.0189	-0.0711	0.1093	0.0256
Acc_3 (G)	-0.9459	0.0047	-0.9656	-0.9241	0.0062
SB_x (m)	1.0334	0.0346	0.9172	1.1516	0.0279
SB_y (m)	0.2868	0.0151	0.2189	0.3431	0.0128
SB_z (m)	-0.0260	0.0068	-0.0525	-0.0003	0.0055
SB_roll (grad)	-0.0087	0.0087	-0.0555	0.0262	0.0103
SB_pitch (grad)	0.4139	0.0148	0.3593	0.4644	0.0130
SB_yaw (grad)	0.1114	0.1499	-0.5940	0.7997	0.1543

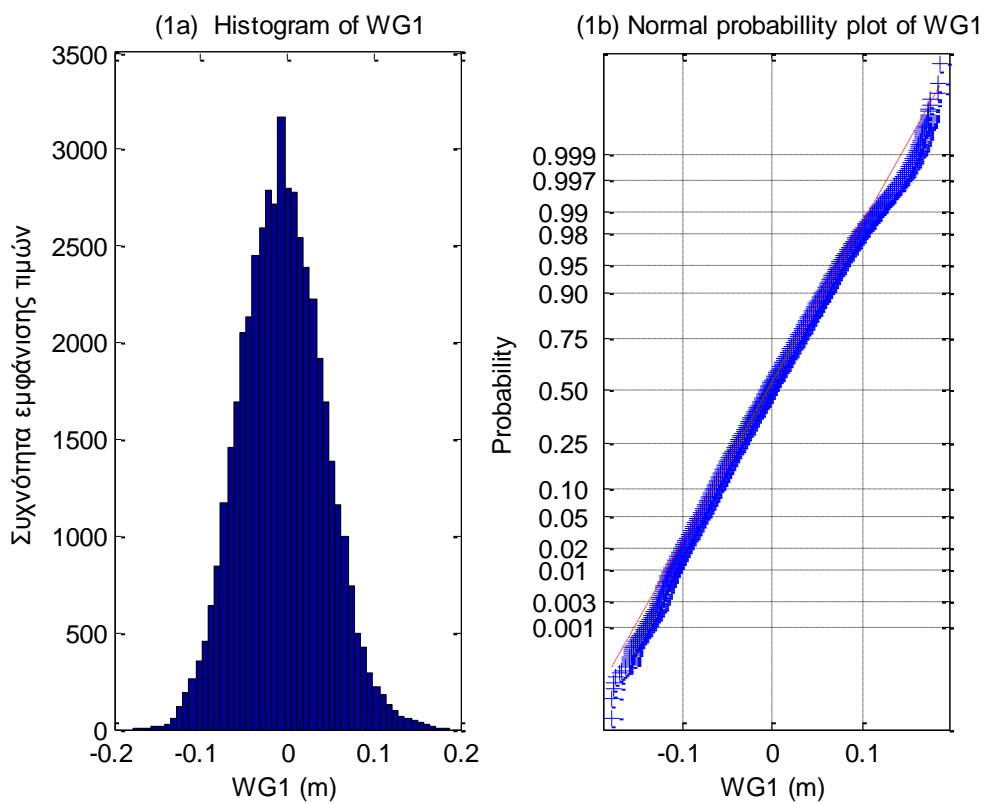
<b>Πίνακας 2.8.3</b>				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test P value	Dickey Fuller Test
Wg1 (m)	0.1628	3.0767	1	1
Wg2 (m)	0.2045	3.1919	1	1
Wg3 (m)	0.2077	3.1582	1	1
Wg4 (m)	0.0217	2.7376	1	1

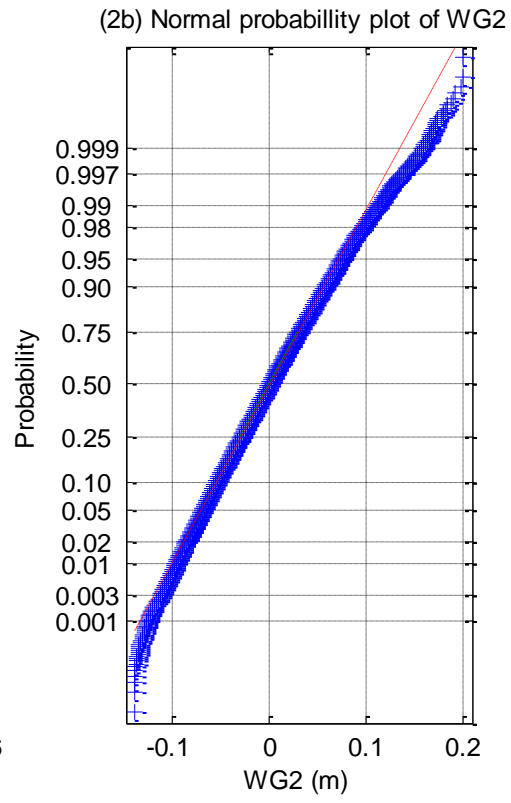
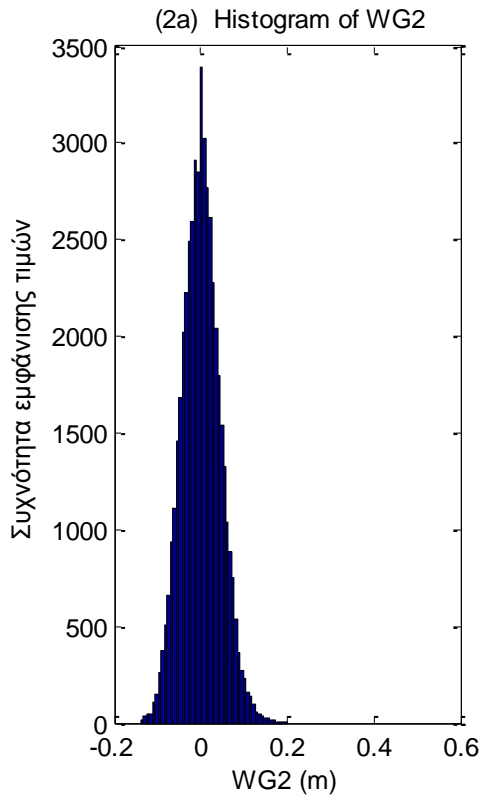
Wg5 (m)	0.1851	3.0902	1	1
Wg6 (m)	0.2186	3.1699	1	1
Wg7 (m)	0.2130	3.1401	1	1
Wg8 (m)	0.1761	3.1268	1	1
Wg9 (m)	0.1410	3.0974	1	1
Wg10 (m)	0.1483	3.1219	1	1
Wg11 (m)	0.1449	3.0893	1	1
6comp_Fx (N)	0.2482	3.2919	1	1
6comp_Fy(N)	0.2190	3.4286	1	1
6comp_Fz (N)	-4.7480	29.1610	1	1
6comp_Mx (N*m)	0.0646	3.0913	1	1
6comp_My (N*m)	0.1337	3.4927	1	1
6comp_Mz (N*m)	0.0138	3.2291	1	1
4comp_Fx (N)	0.1406	3.3438	1	1
4comp_Fy (N)	-0.0665	3.1251	1	1
4comp_Mx (N*m)	0.0418	2.9879	1	1
4comp_My (N*m)	-0.0278	3.5530	1	1
Mooring_1 (N)	0.1031	2.8704	1	1
Mooring_2(N)	-0.1285	3.0741	1	1
Mooring_3 (N)	0.0386	3.0517	1	1
Acc_1 (G)	-0.0309	2.7055	1	1
Acc_2 (G)	-0.0250	3.1212	1	1
Acc_3 (G)	0.0727	3.3636	1	1
SB_x (m)	0.0861	2.9128	1	1



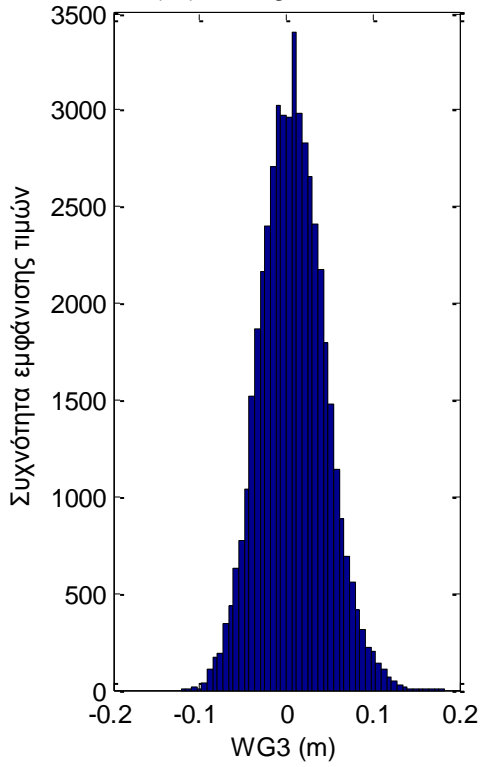
SB_y (m)	0.0108	3.0736	1	1
SB_z (m)	0.0916	3.0937	1	1
SB_roll (grad)	-0.1878	3.3269	1	1
SB_pitch (grad)	0.0033	3.1067	1	1
SB_yaw (grad)	-0.0298	3.3071	1	1

Στα σχήματα που ακολουθούν παραθέτουμε στο a) τα ιστογράμματα και στο b) τα γραφήματα ελέγχου κανονικότητας από τις χρονοσειρές της προηγούμενης ενότητας.

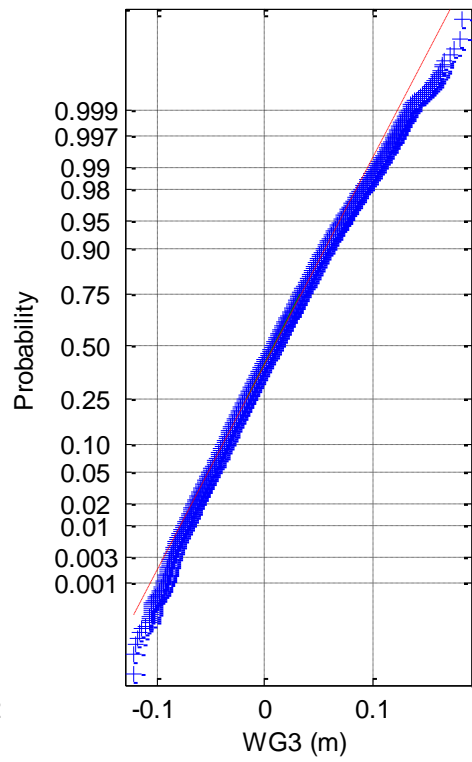




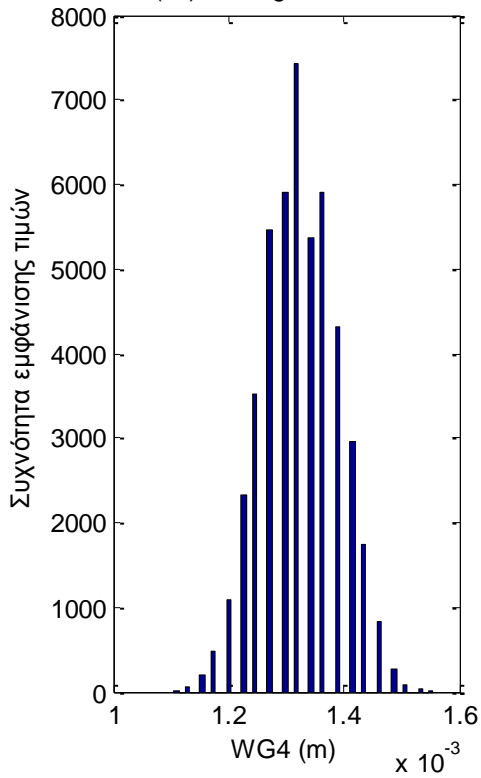
(3a) Histogram of WG3



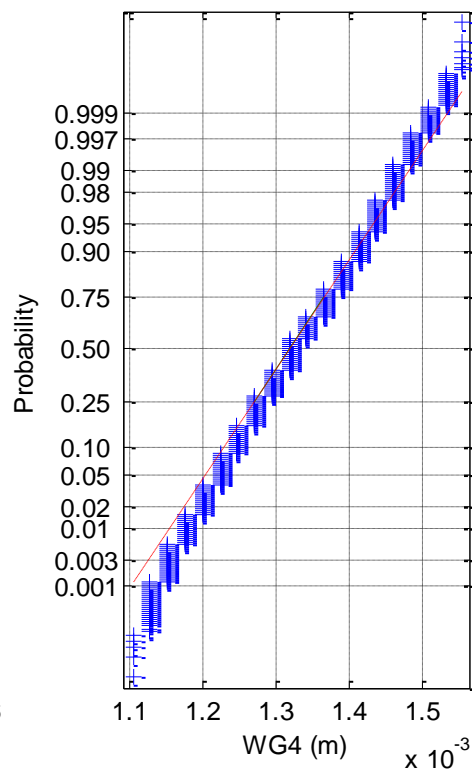
(3b) Normal probability plot of WG3



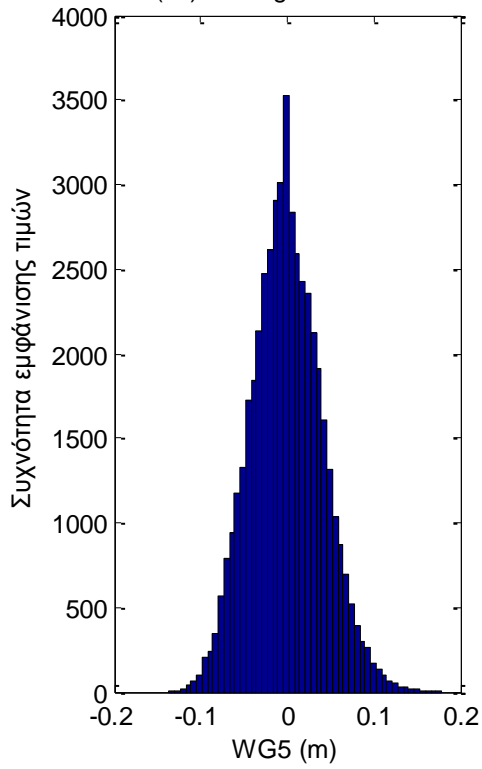
(4a) Histogram of WG4



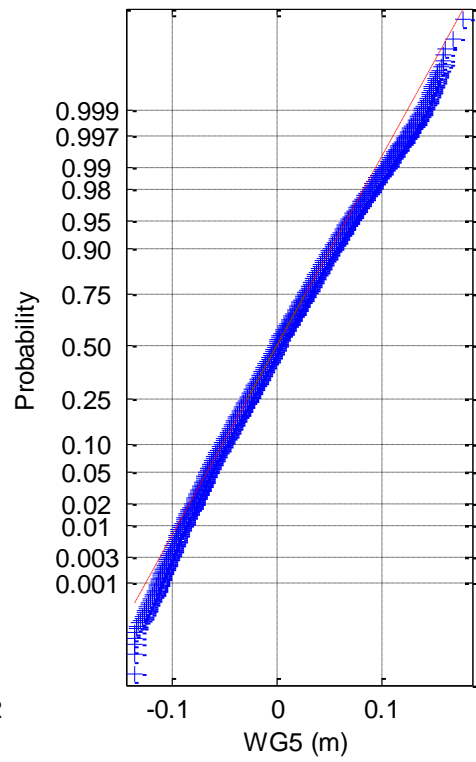
(4b) Normal probability plot of WG4



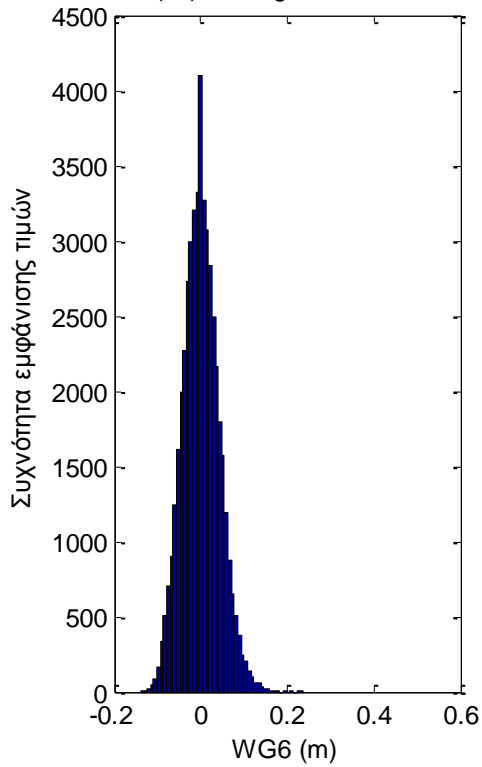
(5a) Histogram of WG5



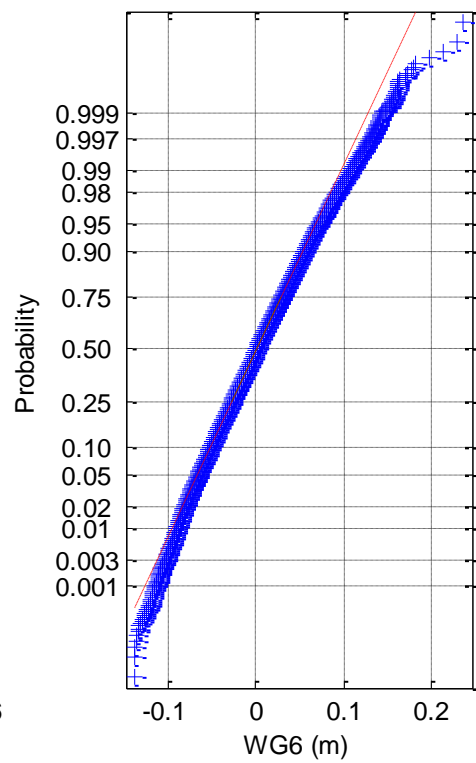
(5b) Normal probability plot of WG5



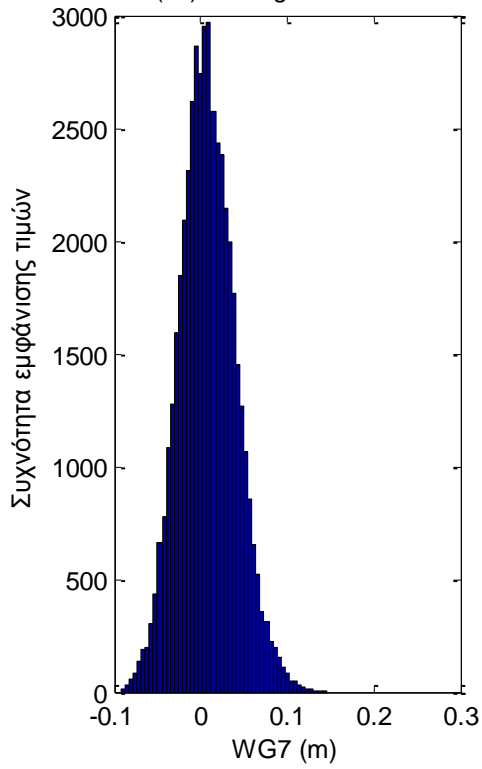
(6a) Histogram of WG6



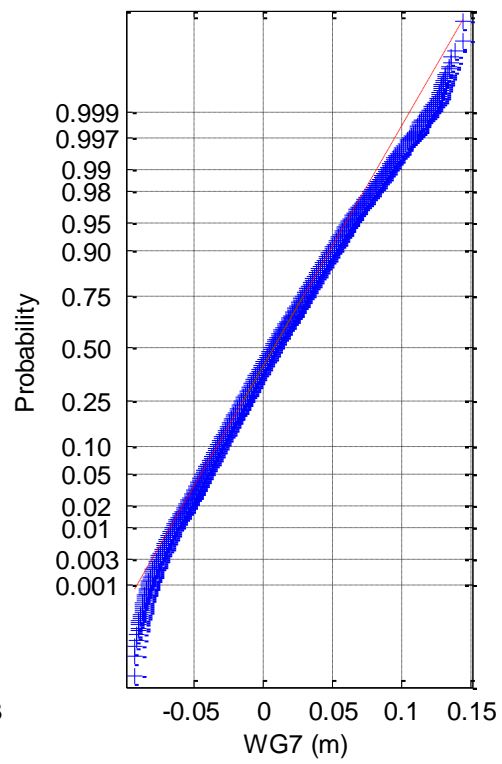
(6b) Normal probability plot of WG6



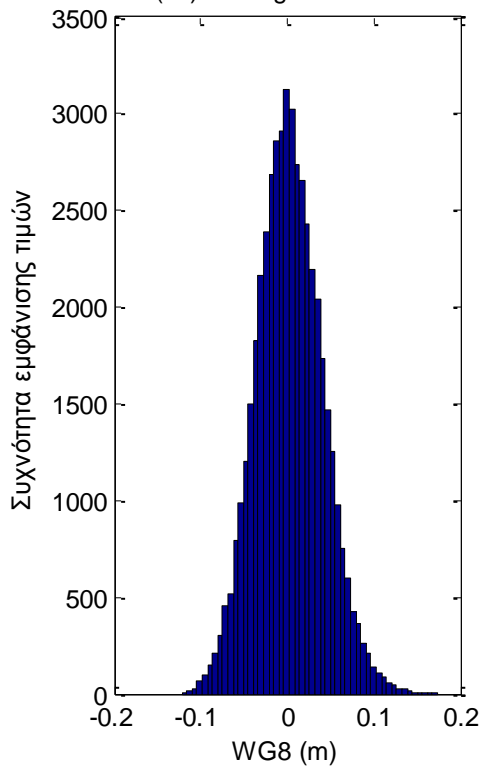
(7a) Histogram of WG7



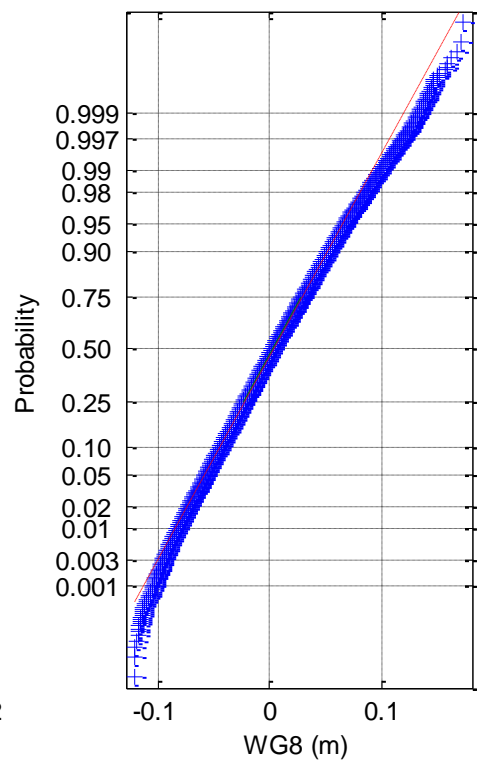
(7b) Normal probability plot of WG7



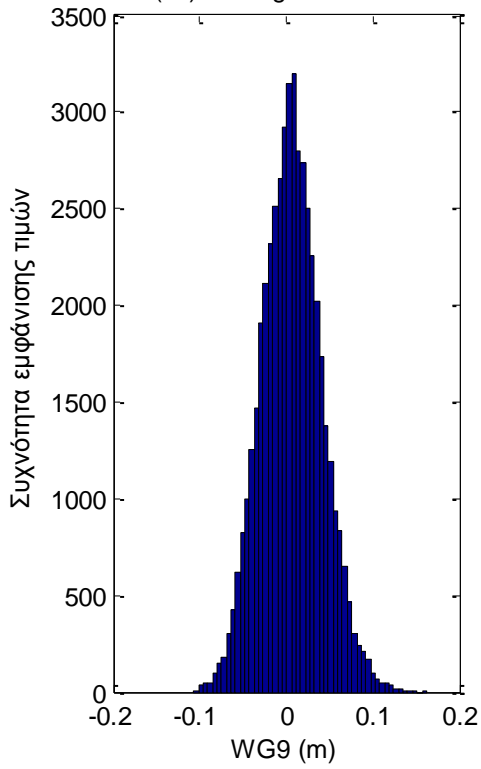
(8a) Histogram of WG8



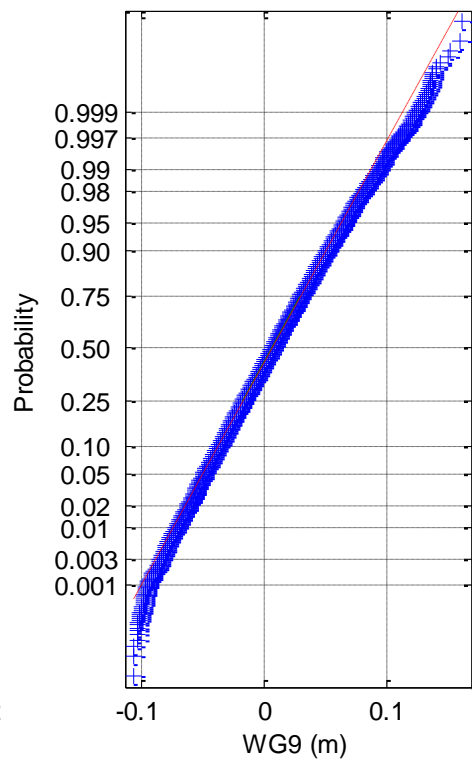
(8b) Normal probability plot of WG8



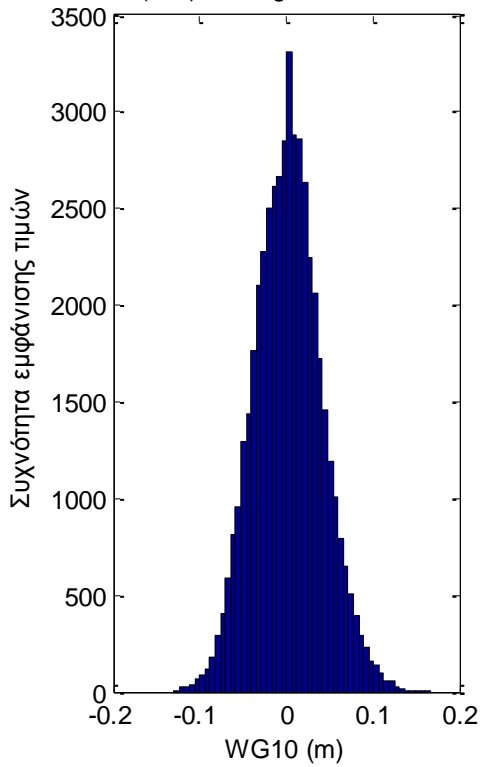
(9a) Histogram of WG9



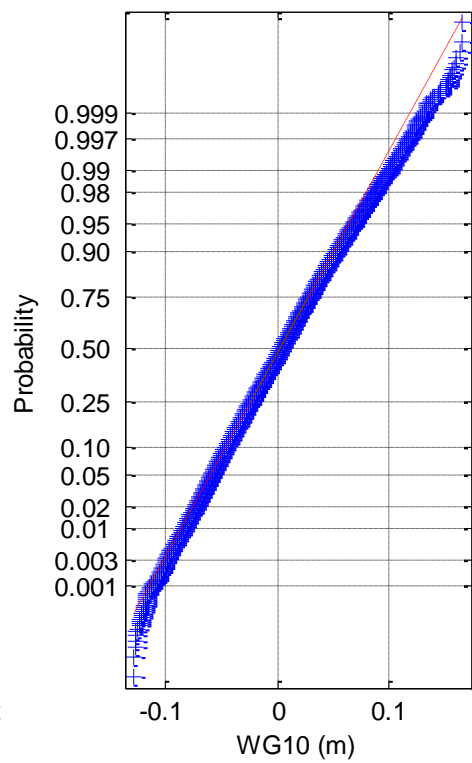
(9b) Normal probability plot of WG9

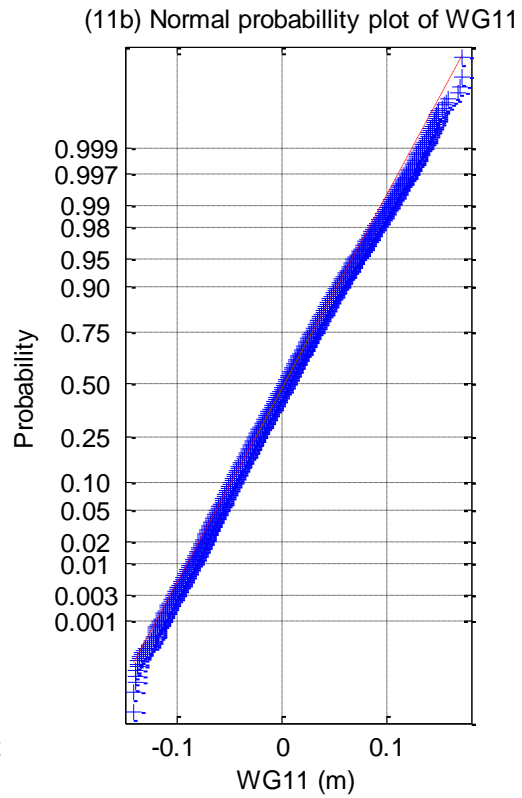
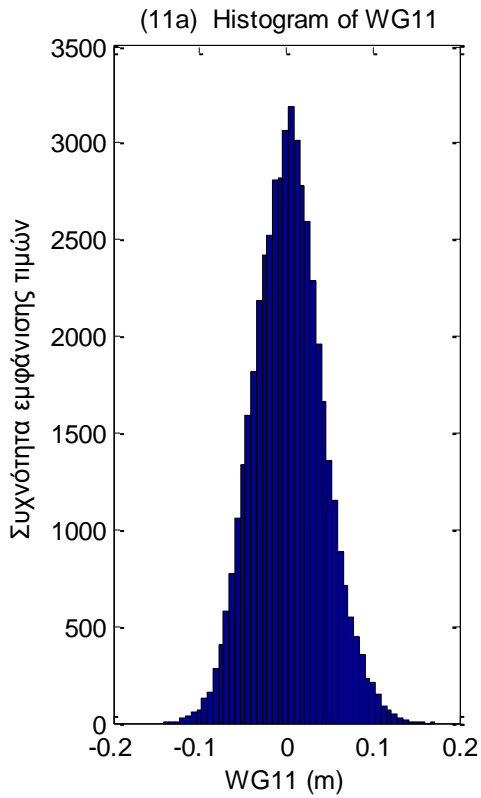


(10a) Histogram of WG10

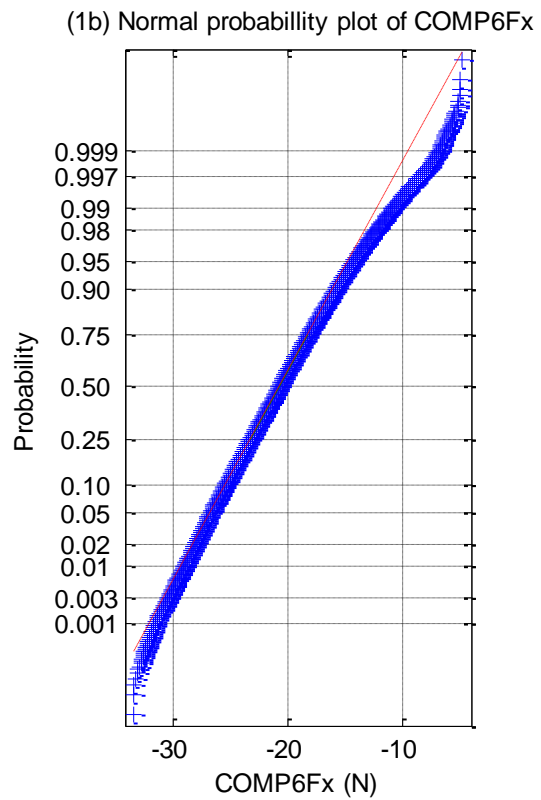
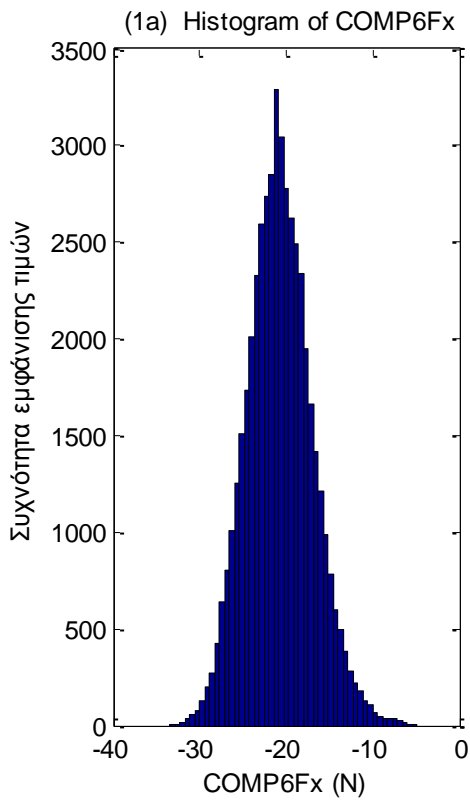


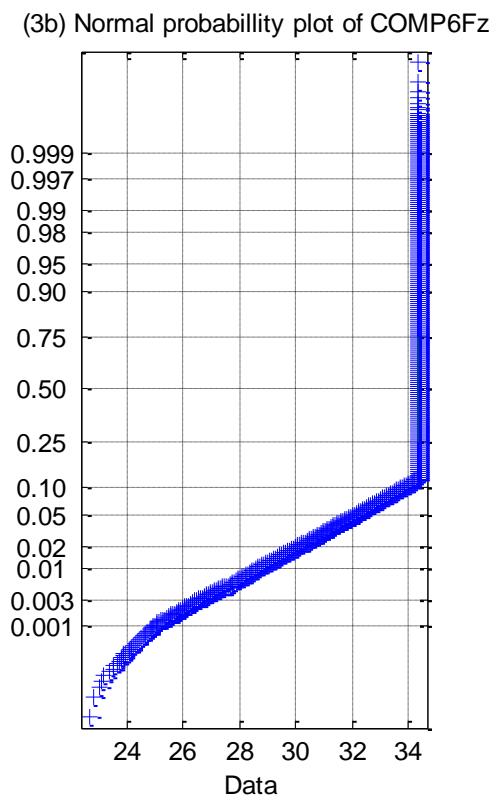
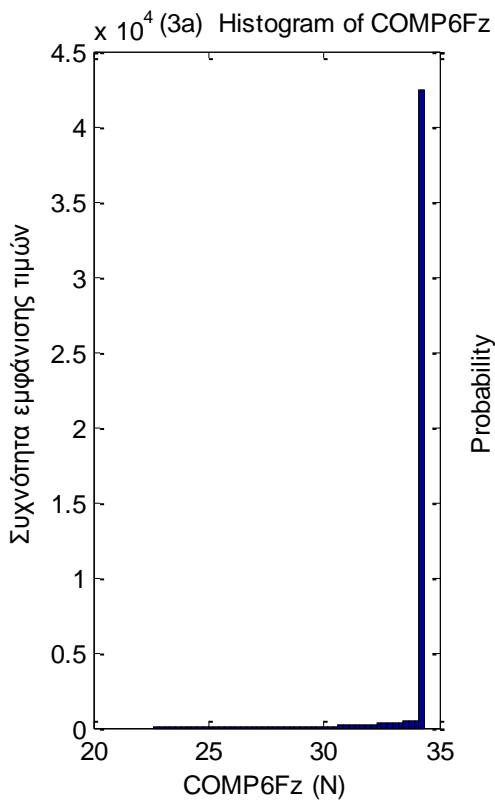
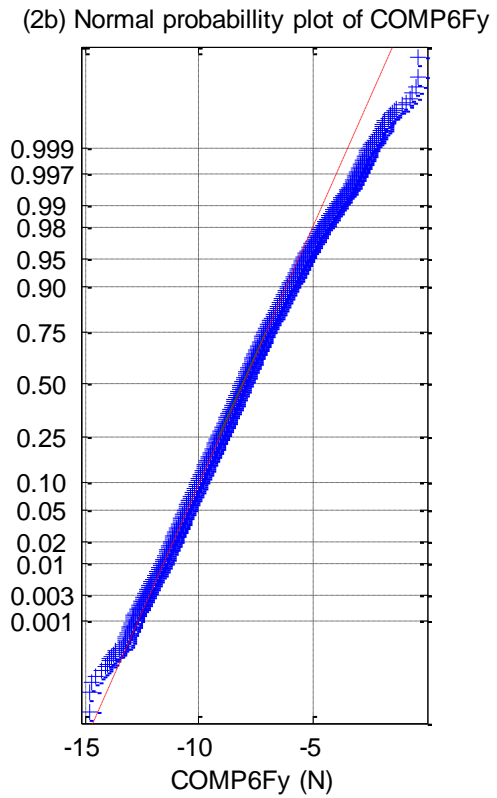
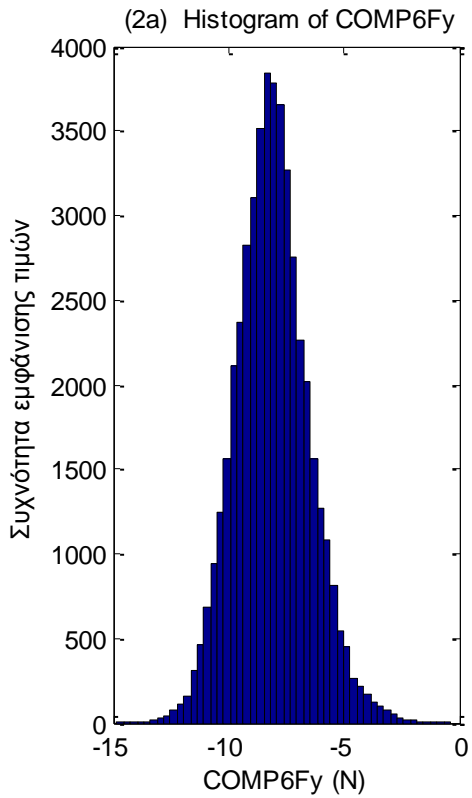
(10b) Normal probability plot of WG10



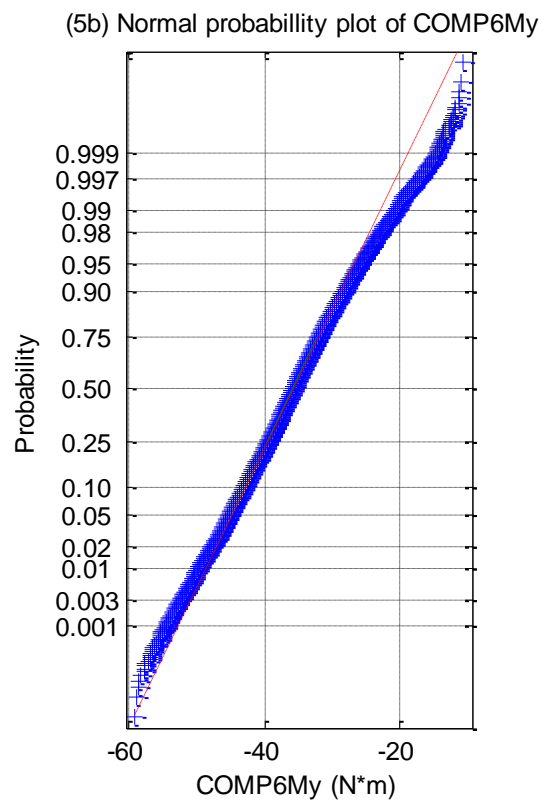
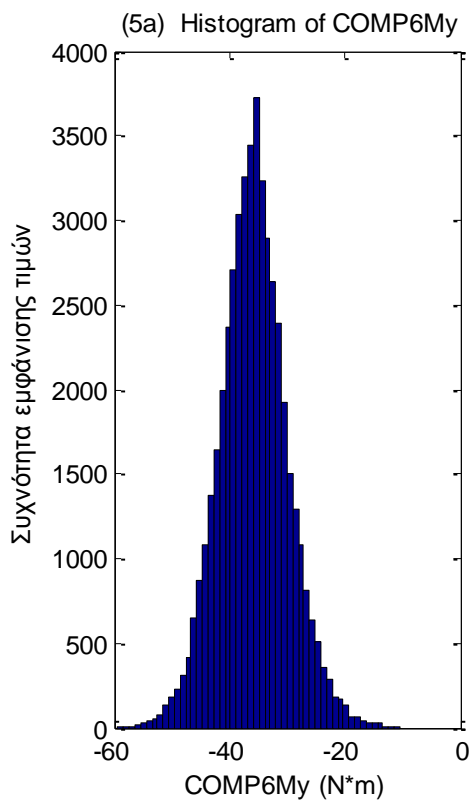
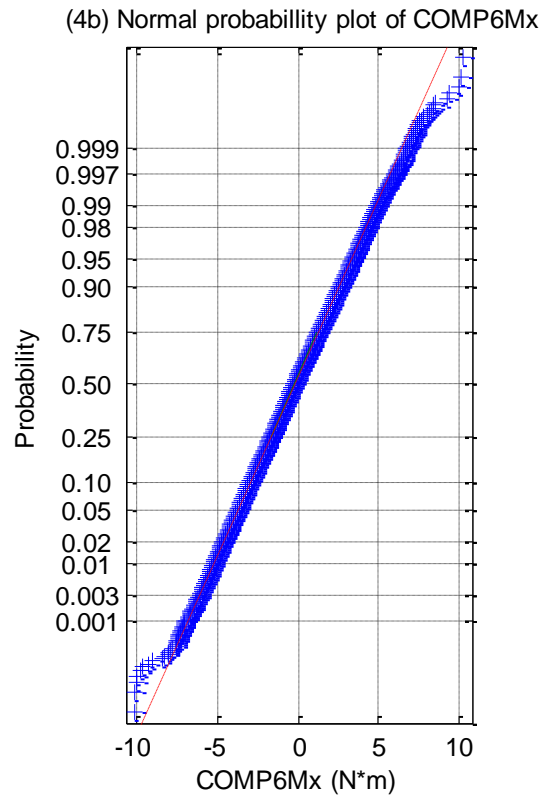
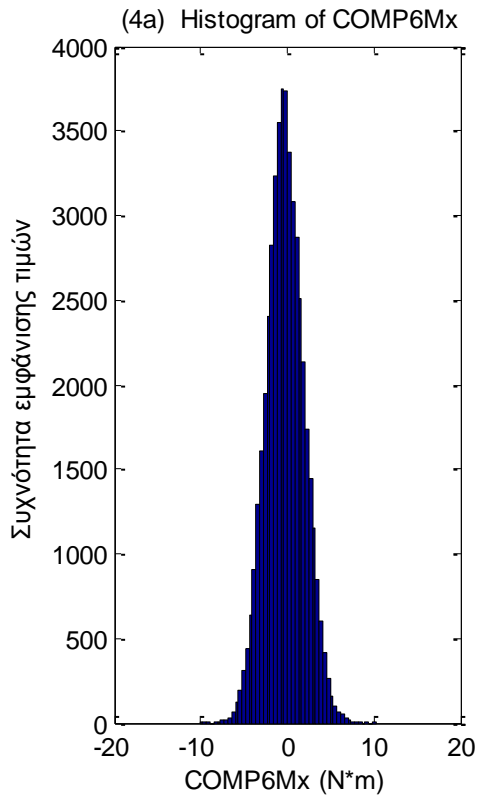


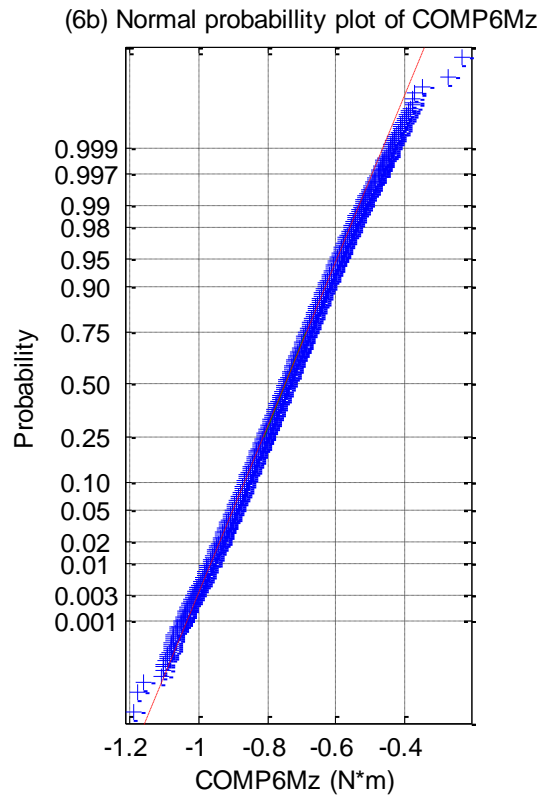
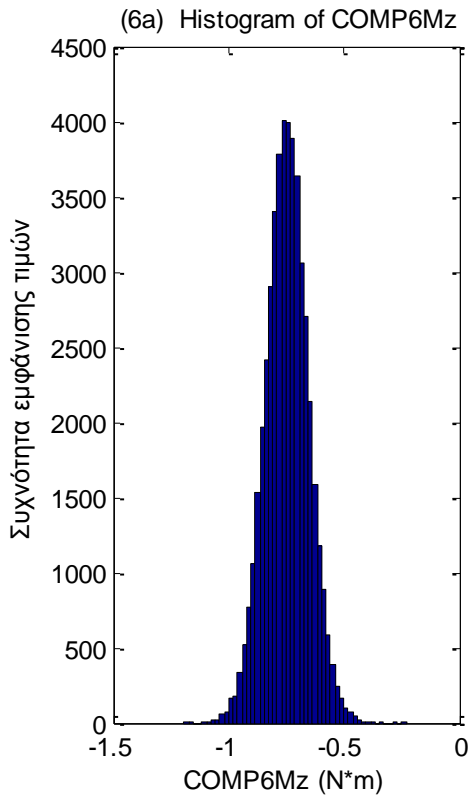
**Σχήματα 2.8.2.1 (1-11)** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος



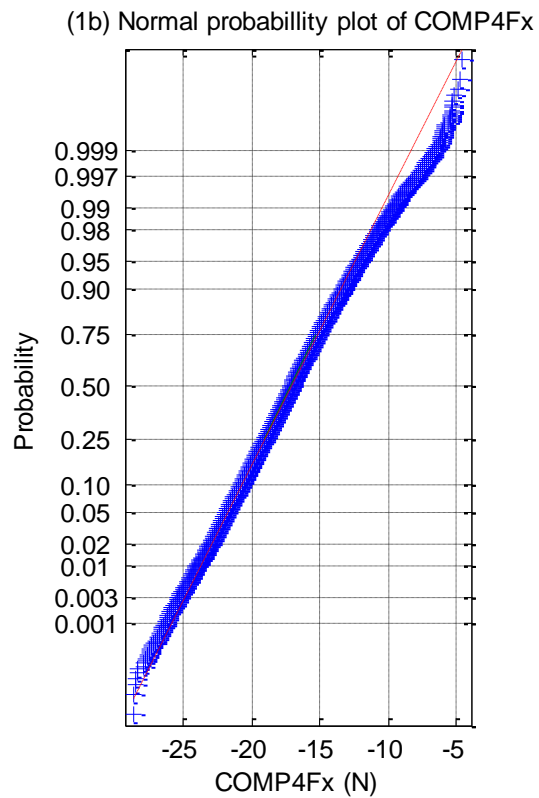
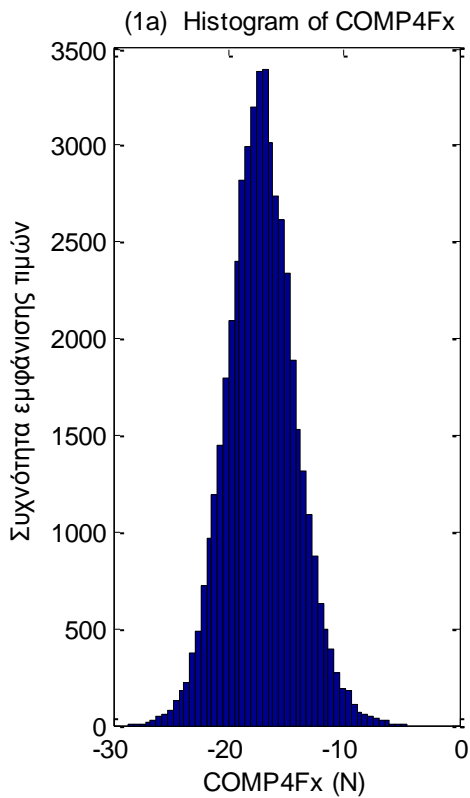


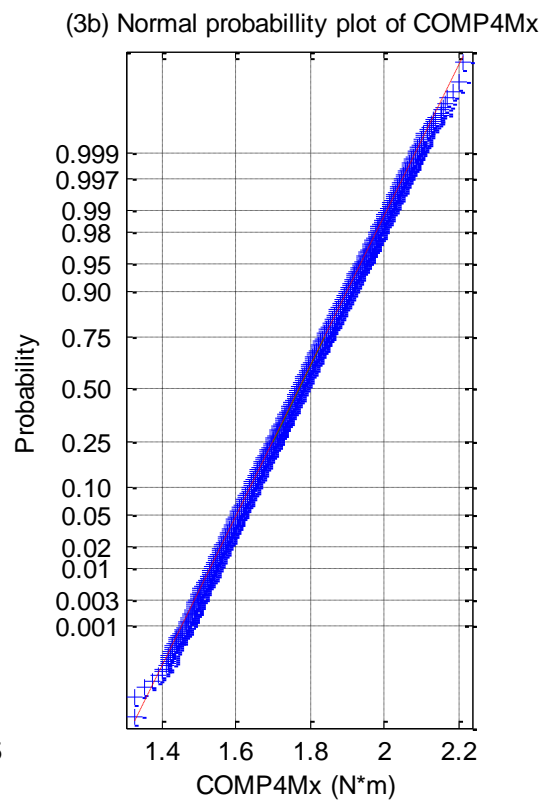
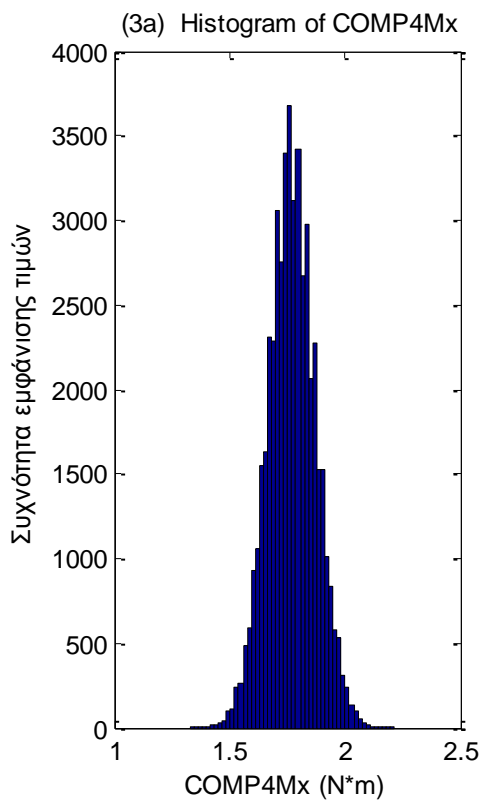
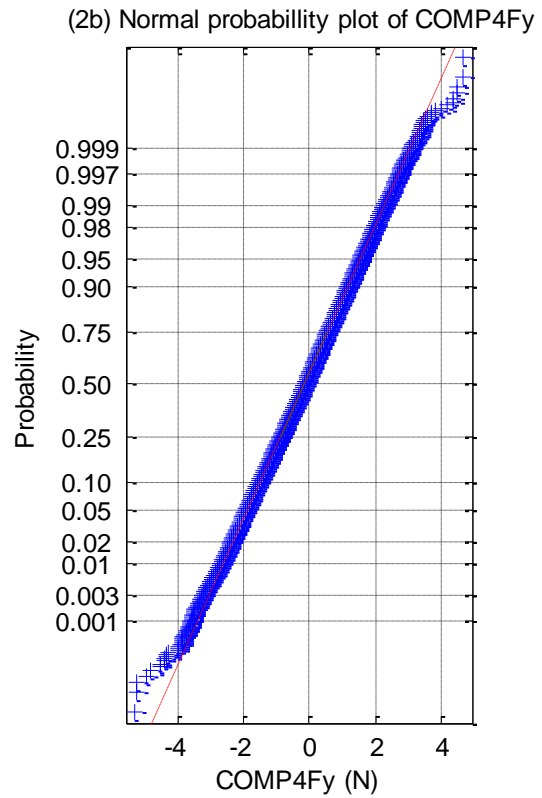
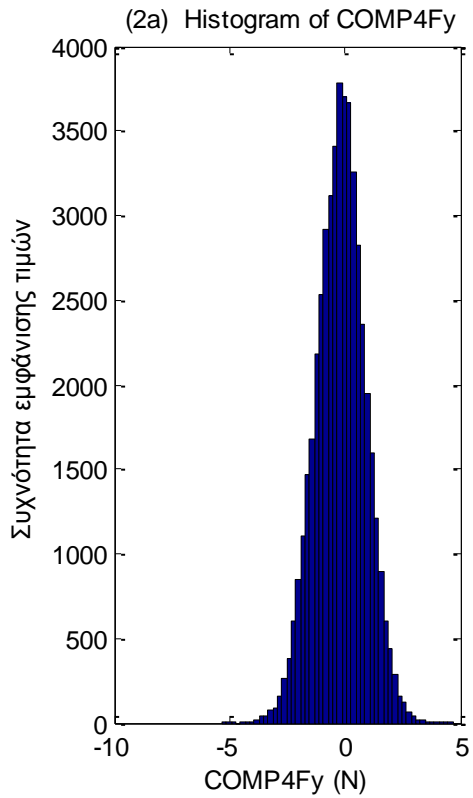


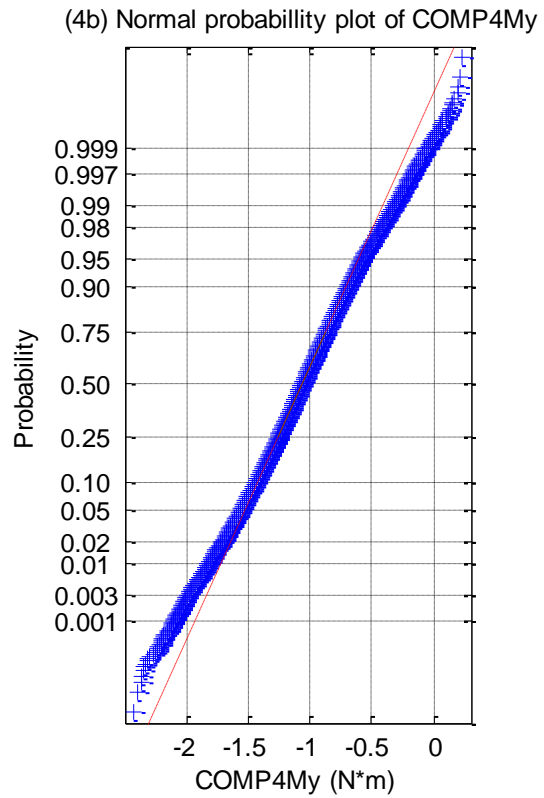
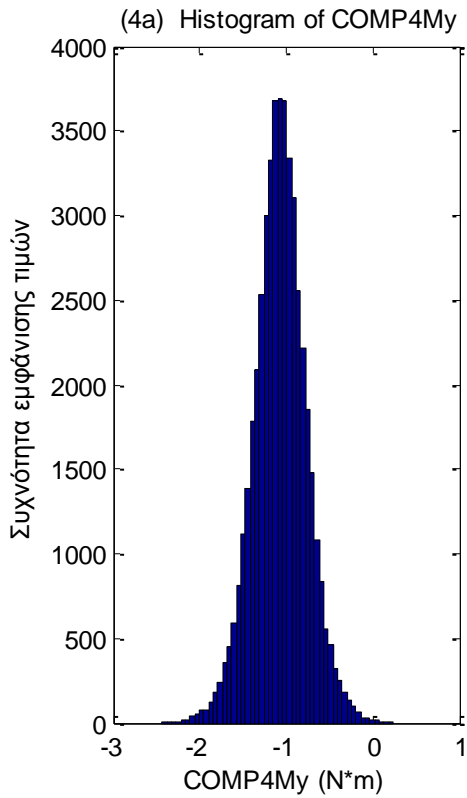




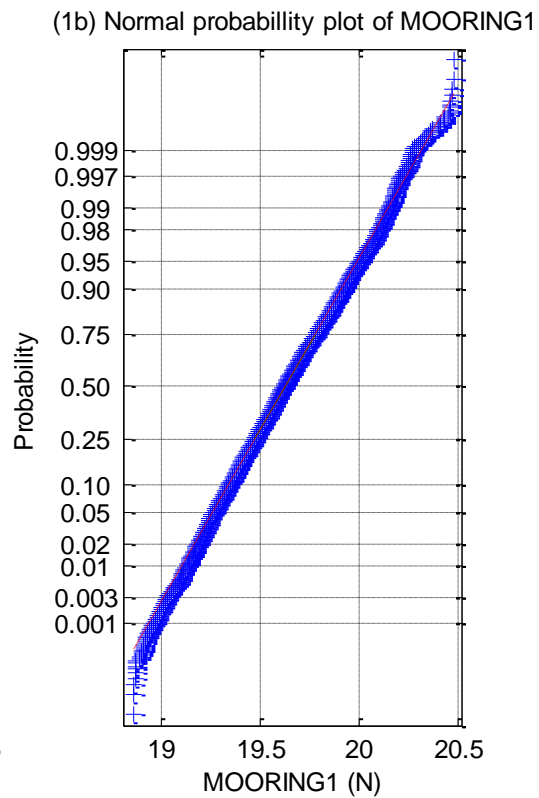
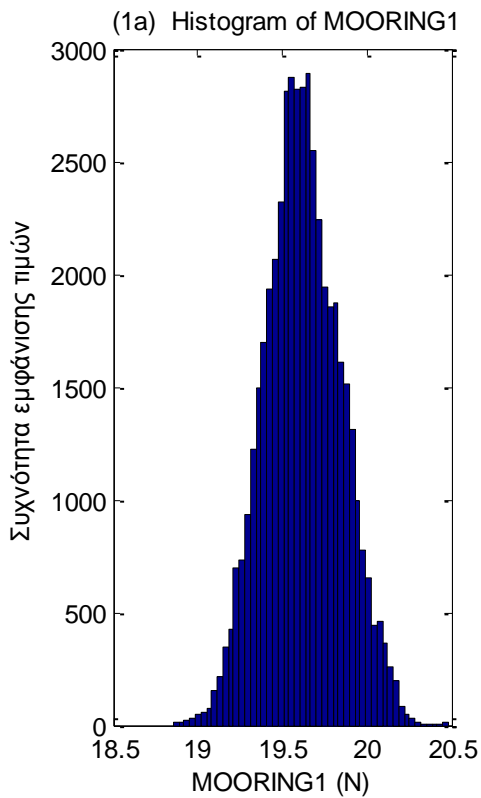
**Σχήματα 2.8.2.2** Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

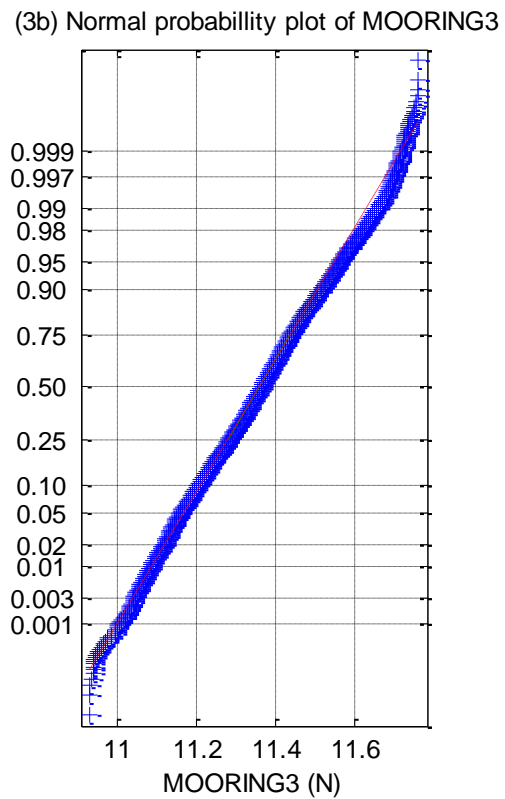
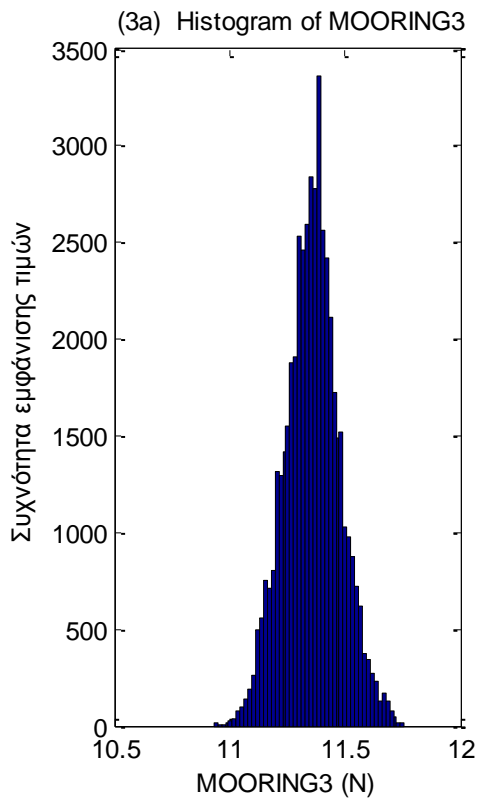
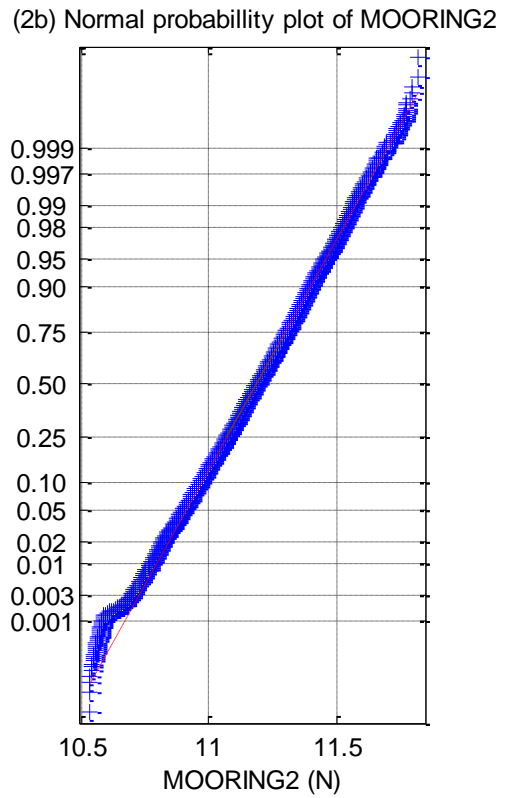
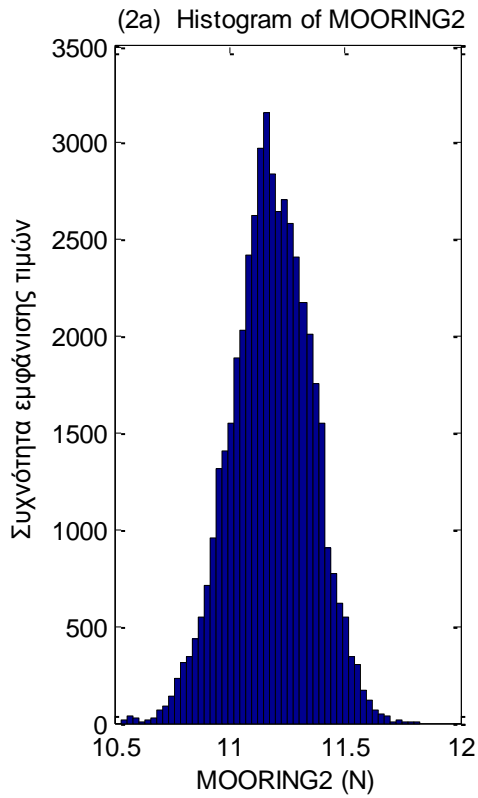




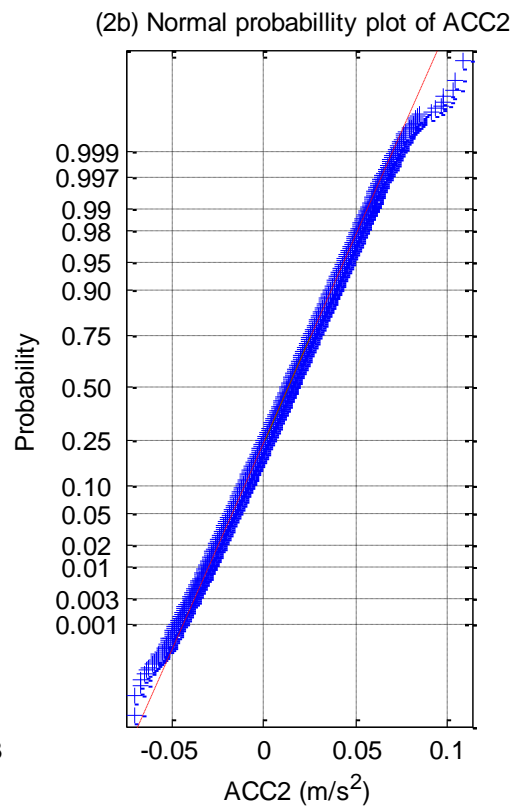
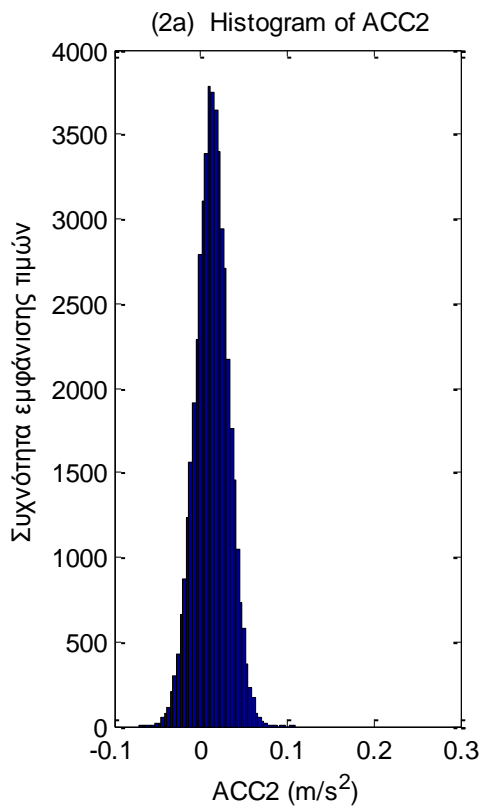
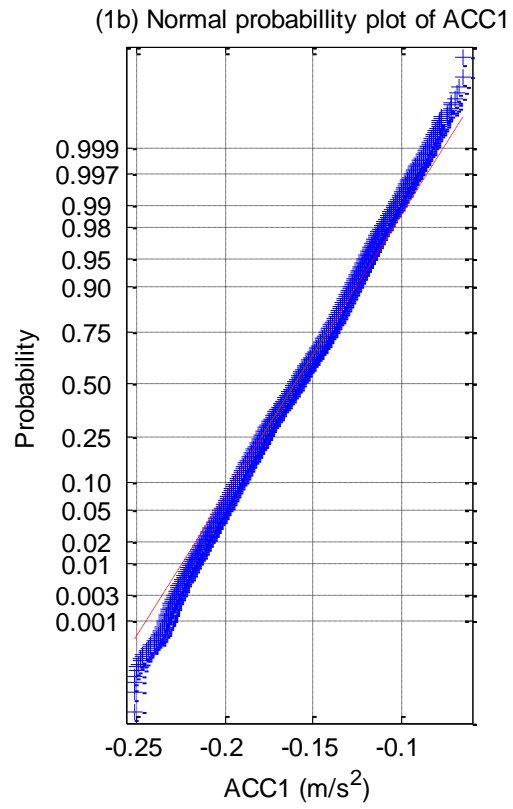
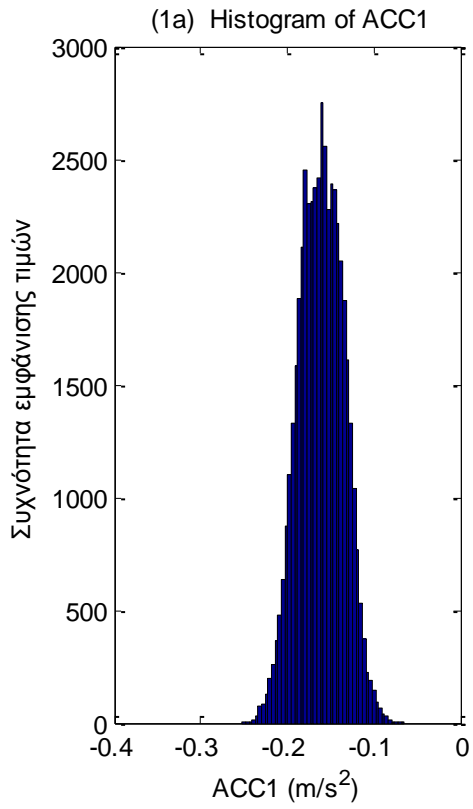


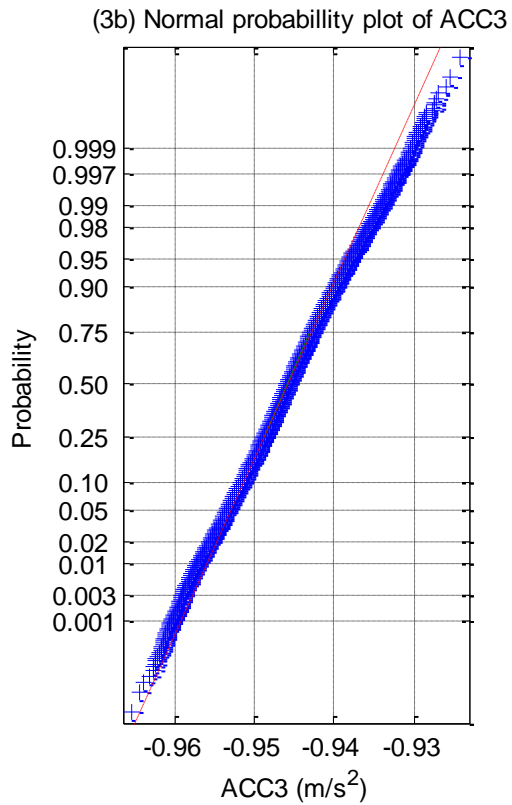
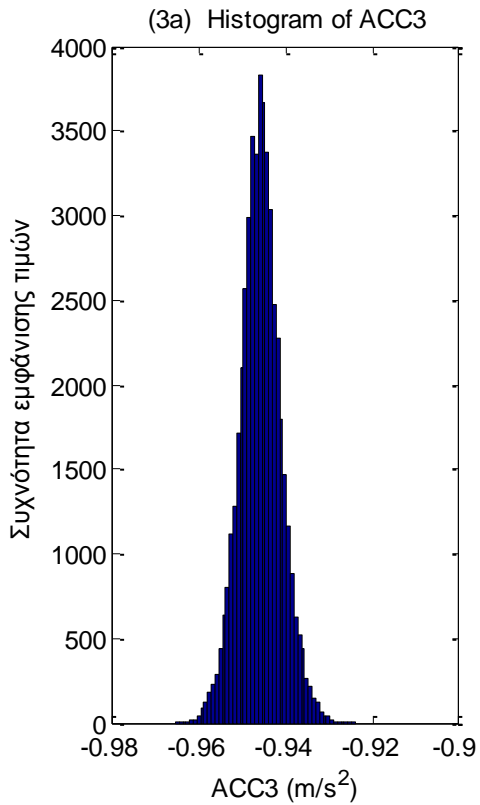
**Σχήματα 2.8.2.3** Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



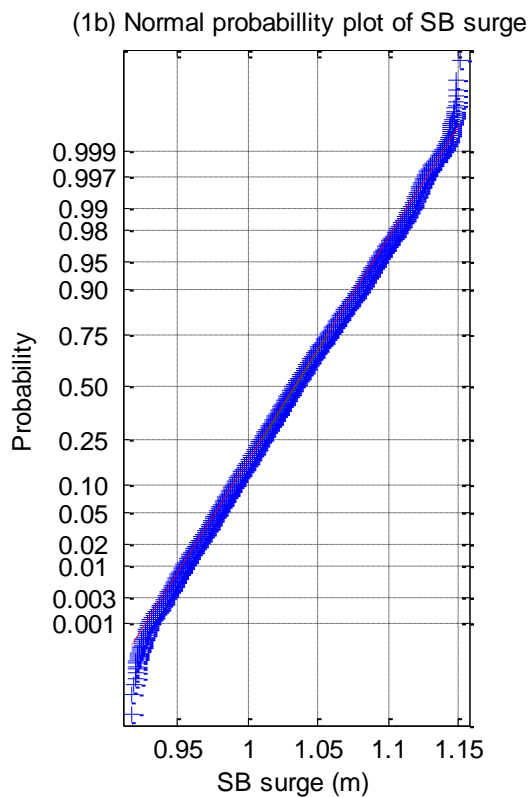
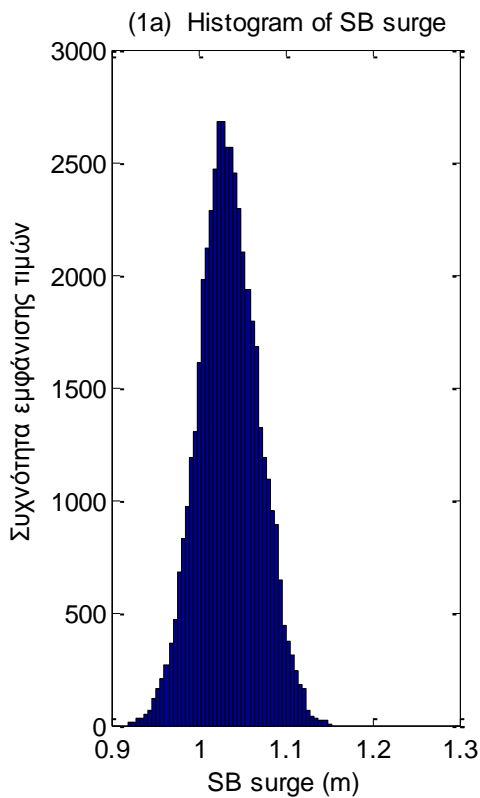


**Σχήματα 2.8.2.4 (1-3)** Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

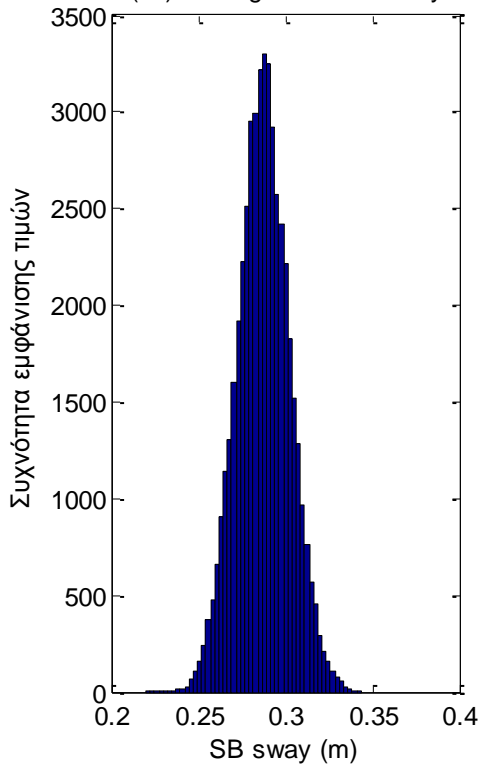




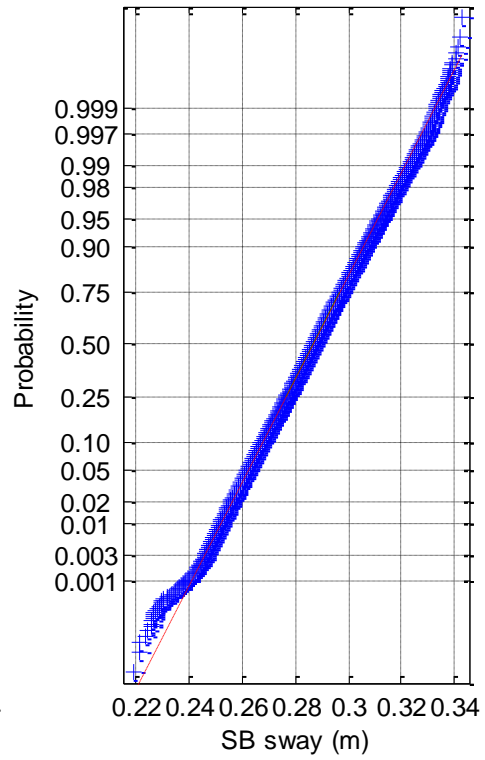
**Σχήματα 2.8.2.5 (1-3)** Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



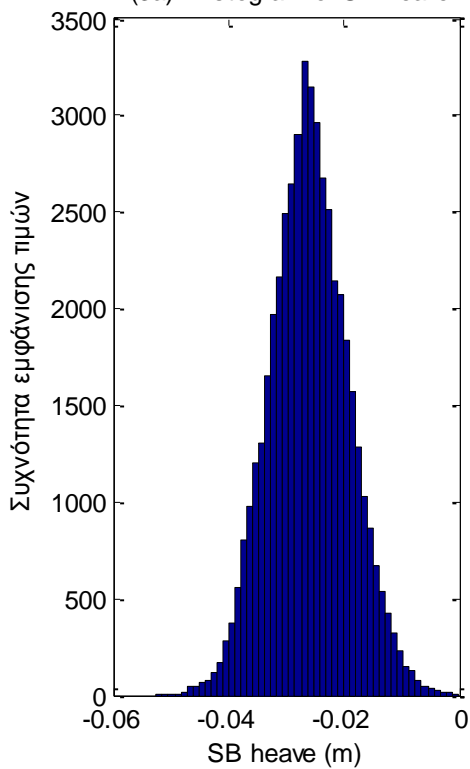
(2a) Histogram of SB sway



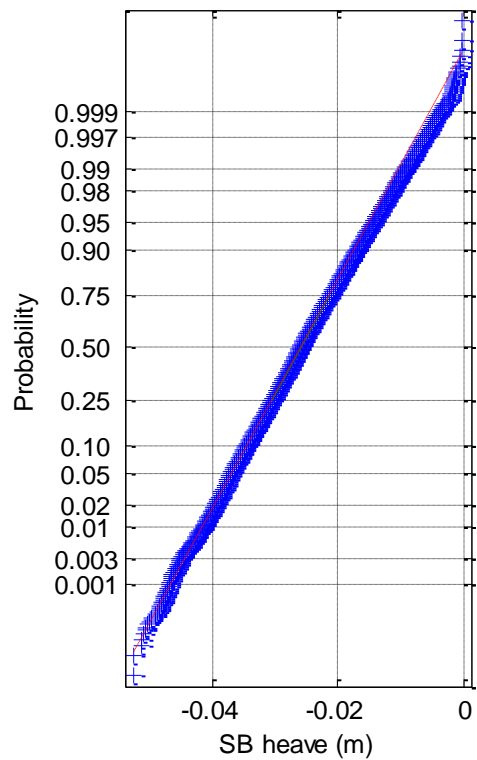
(2b) Normal probability plot of SB sway



(3a) Histogram of SB heave

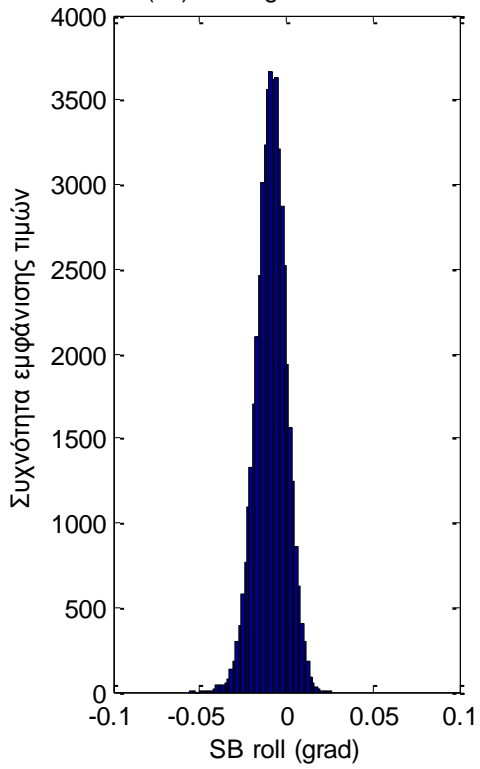


(3b) Normal probability plot of SB heave

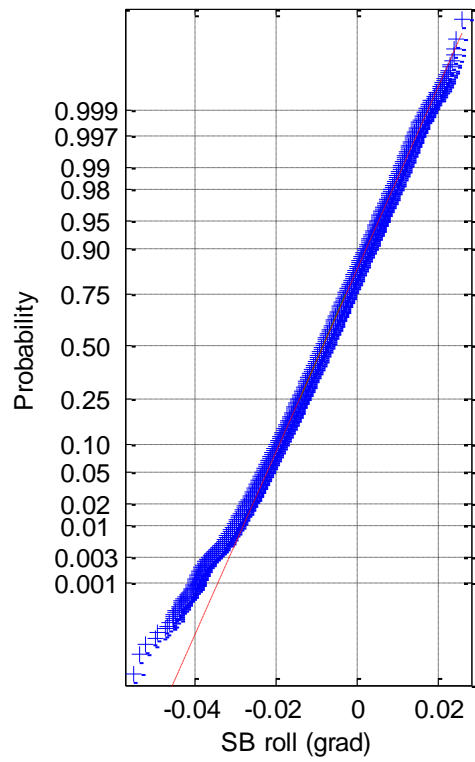




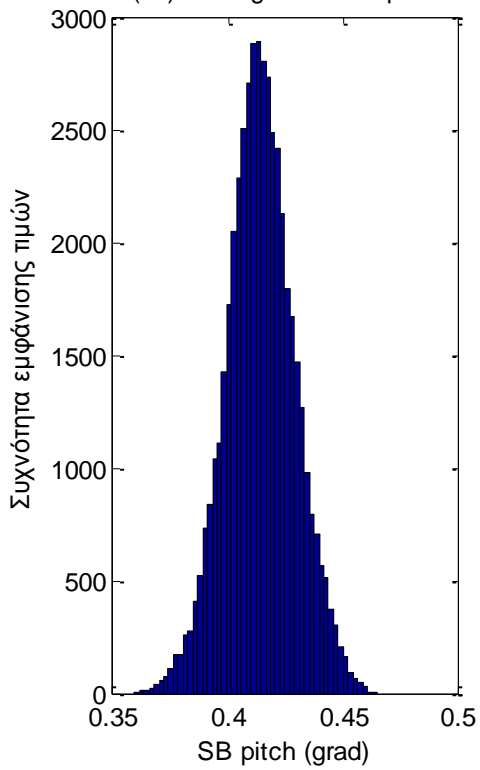
(4a) Histogram of SB roll



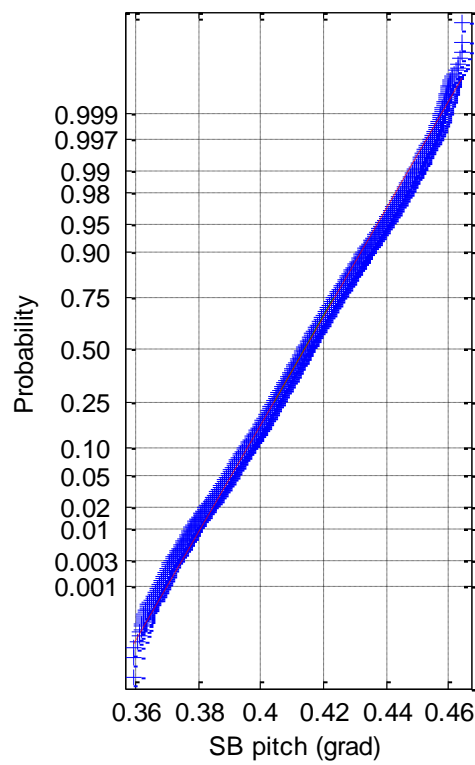
(4b) Normal probability plot of SB roll

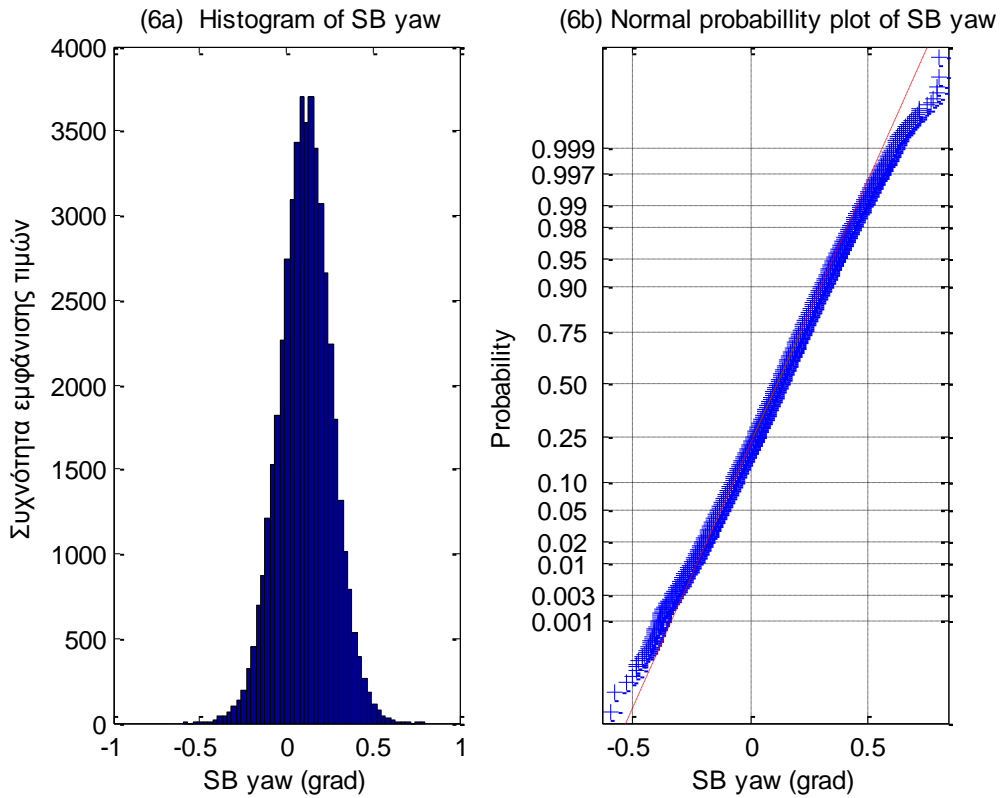


(5a) Histogram of SB pitch

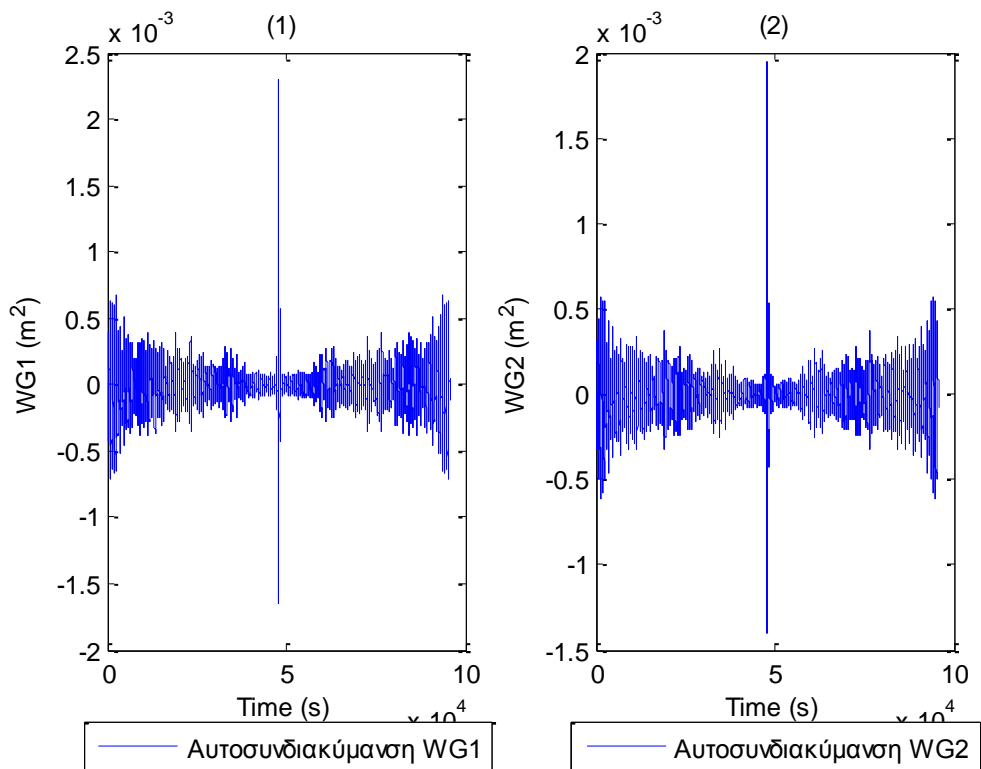


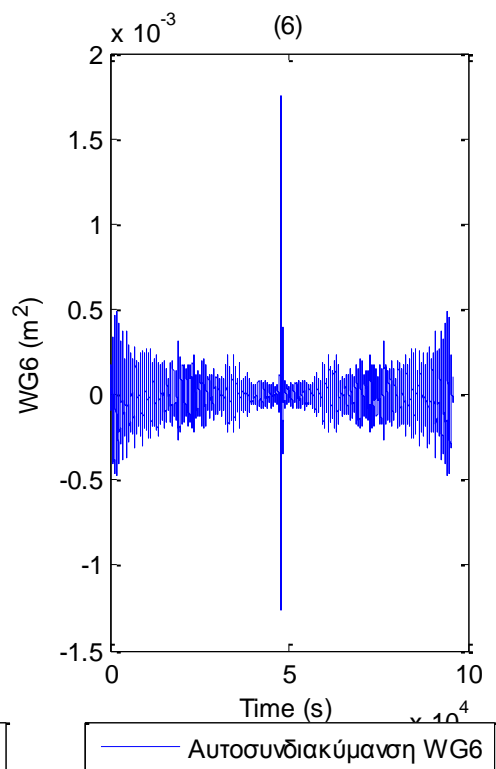
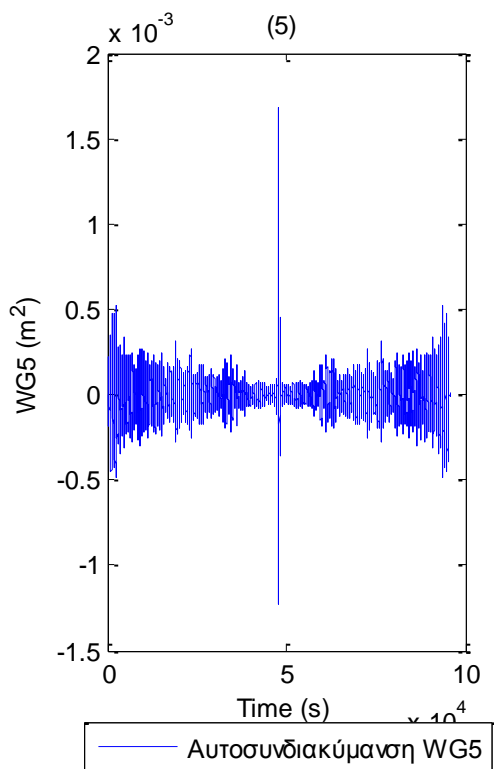
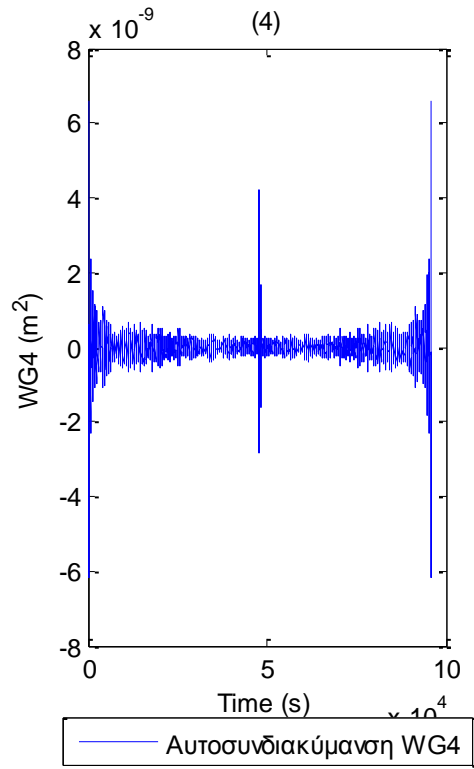
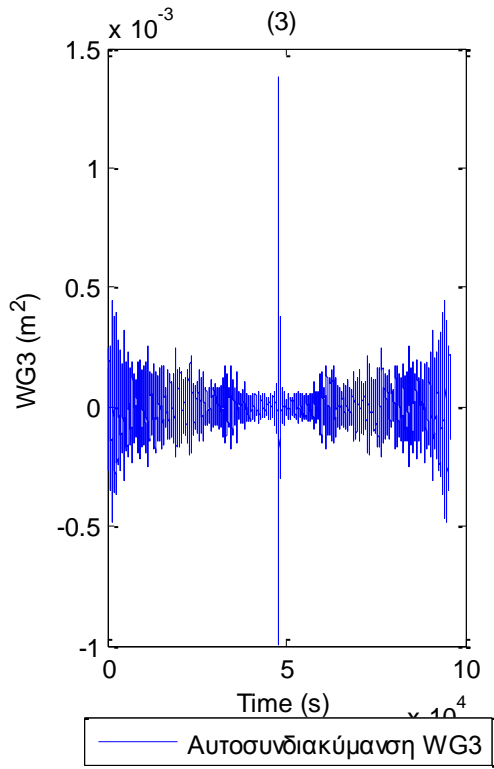
(5b) Normal probability plot of SB pitch

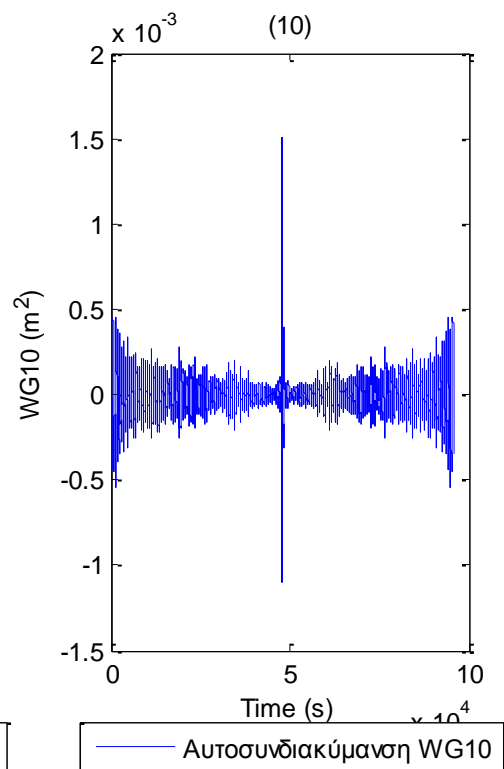
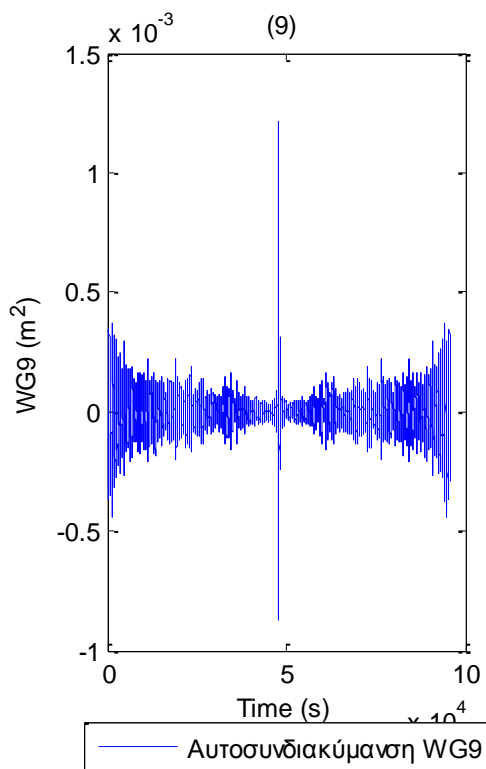
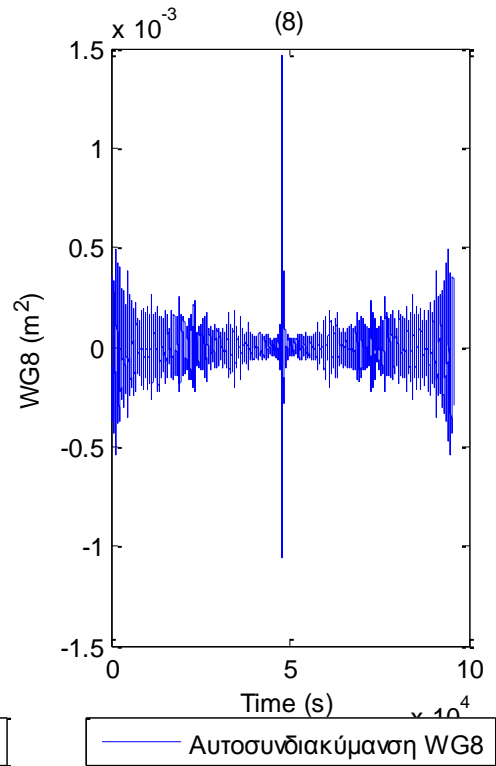
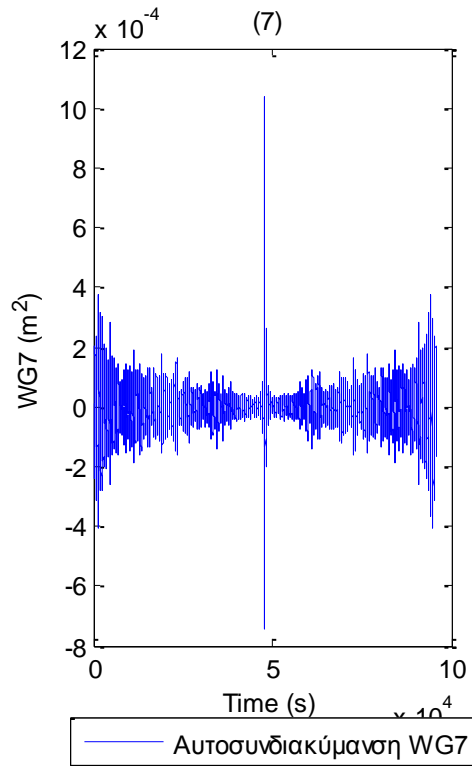


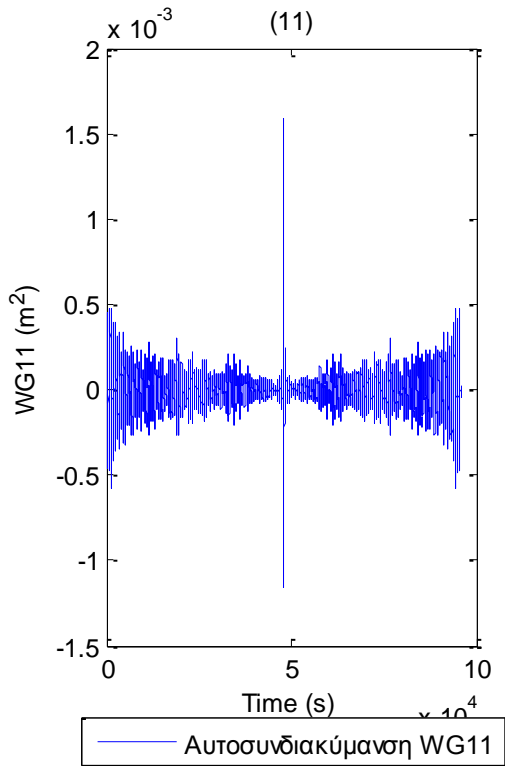


**Σχήματα 2.8.2.6** α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

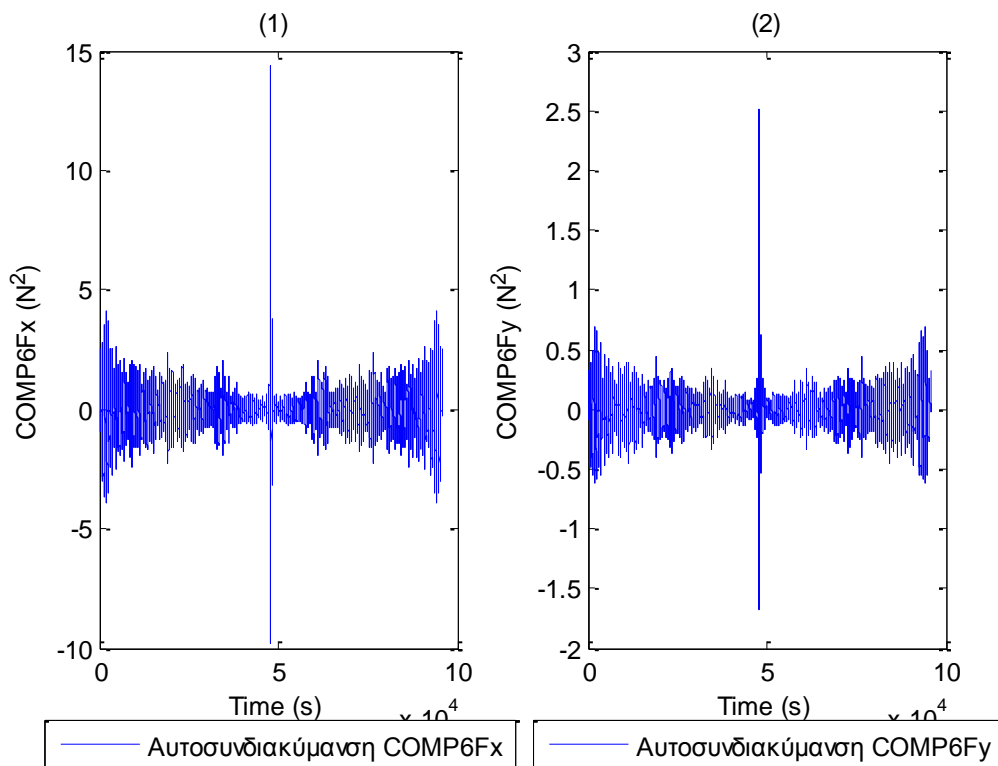


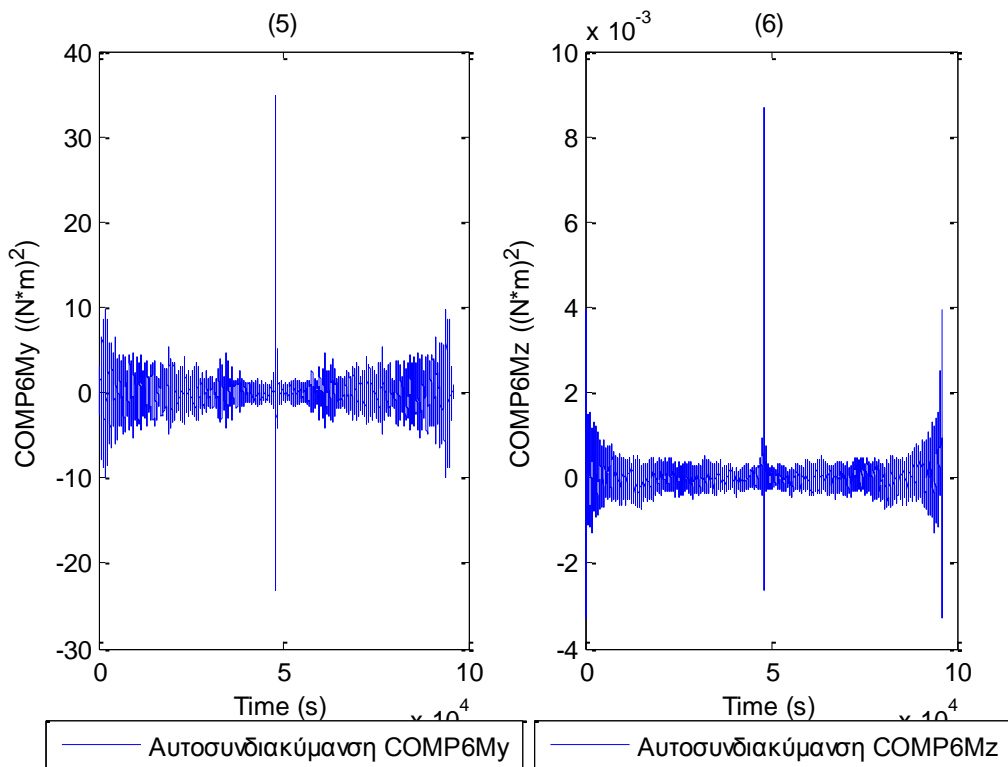
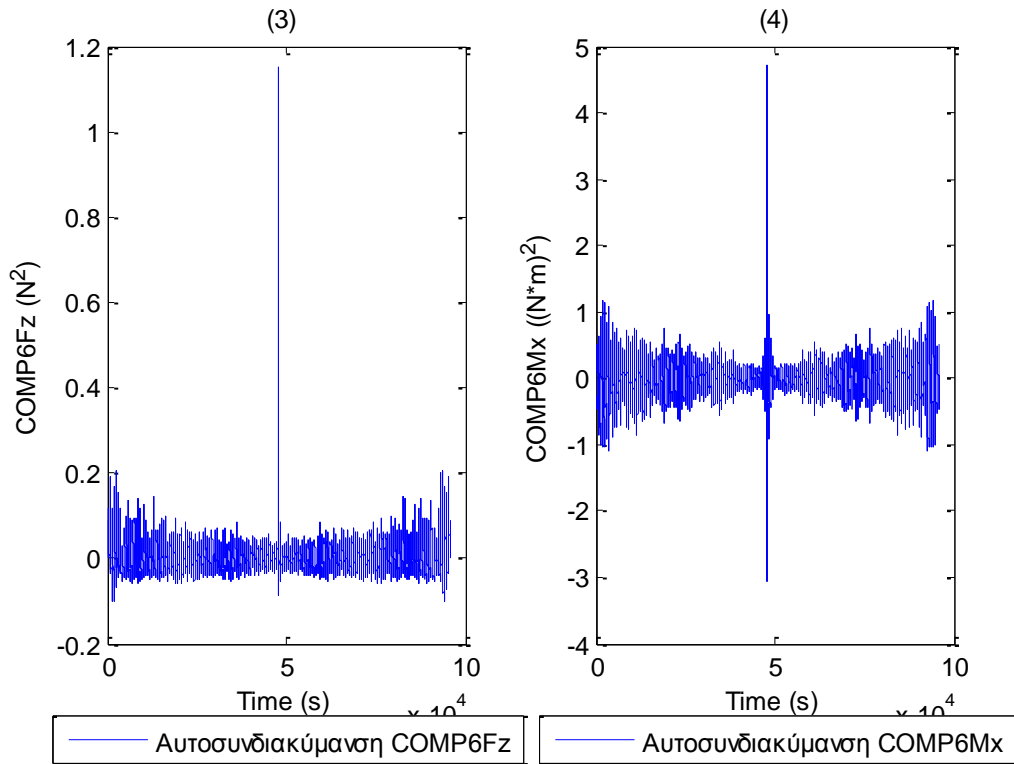




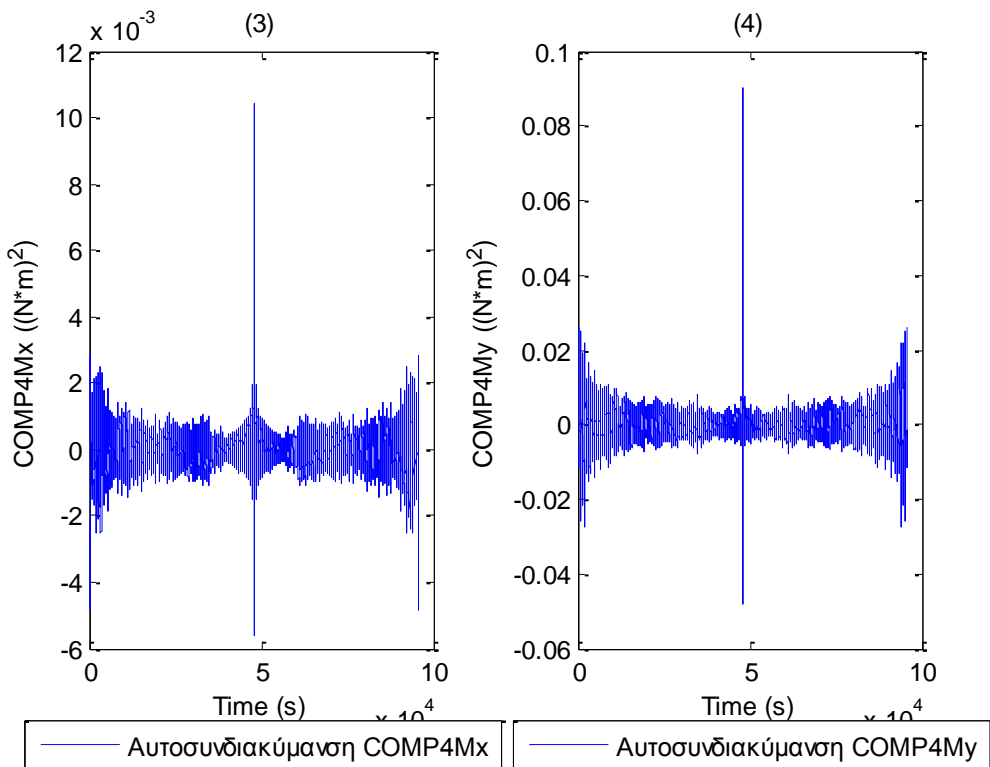
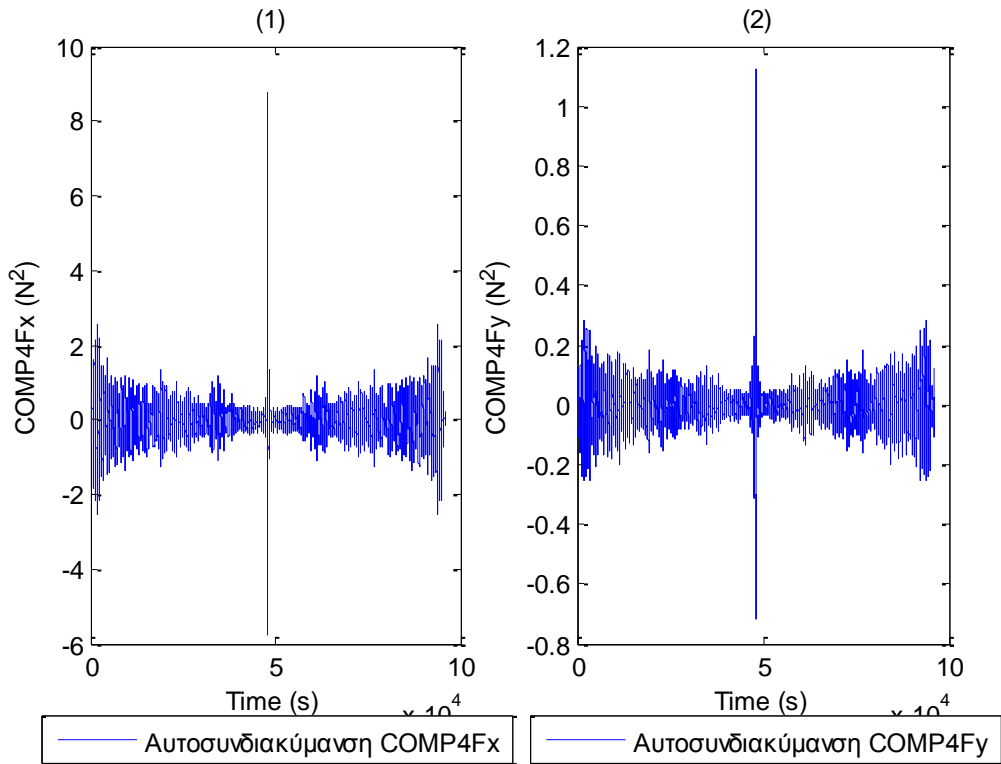


**Σχήματα 2.8.3.1 (1-11)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος

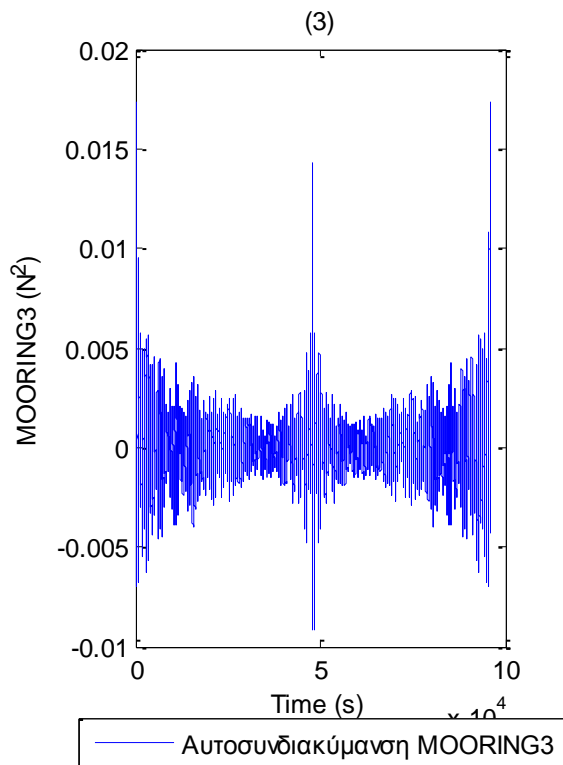
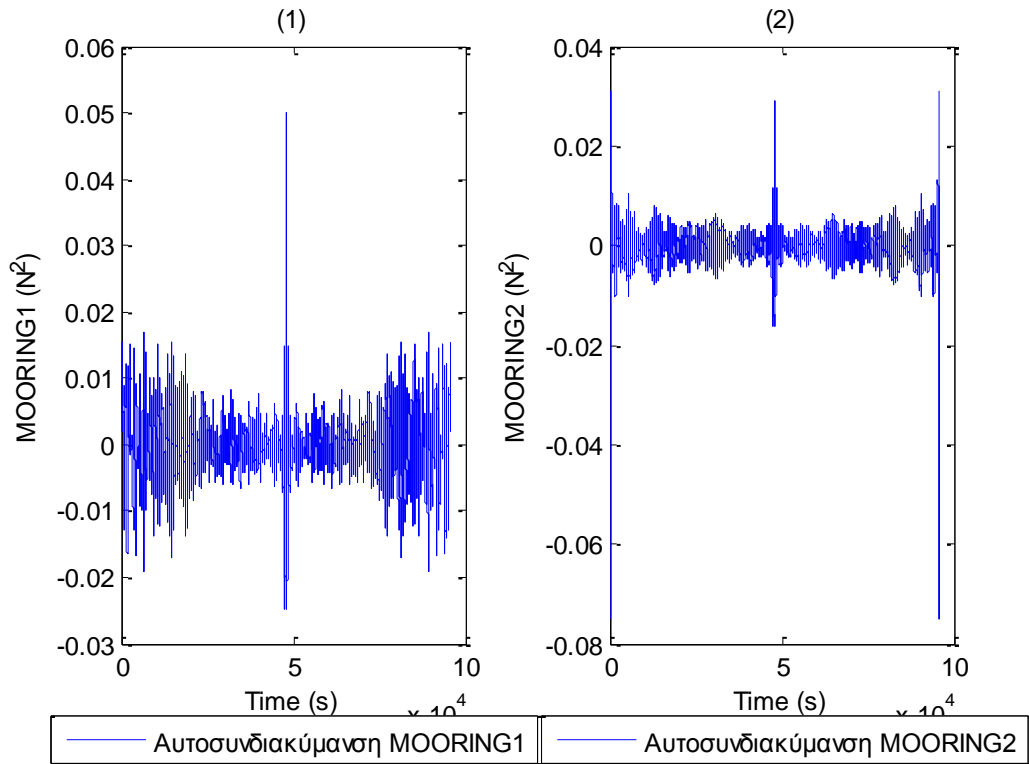




**Σχήματα 2.8.3.2** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

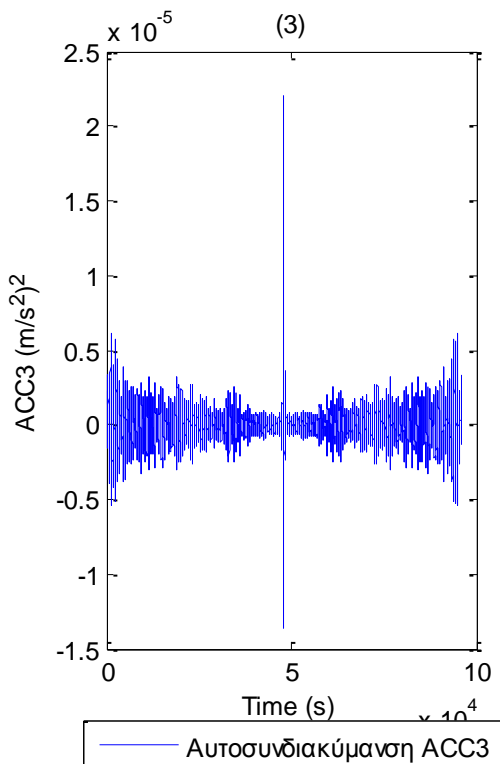
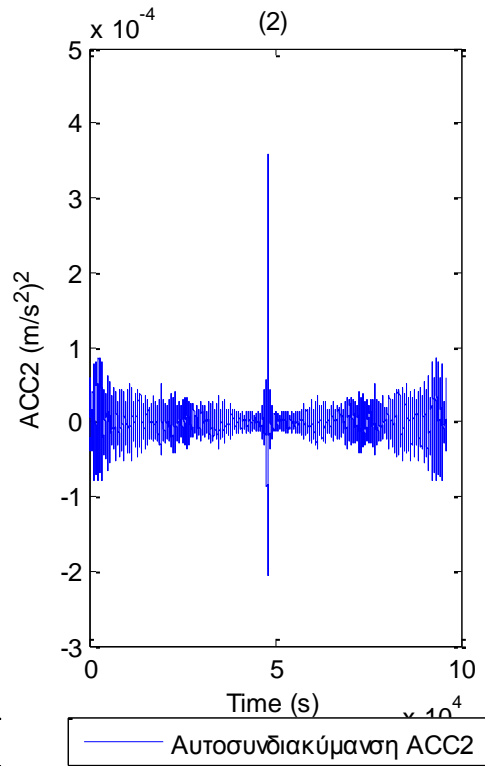
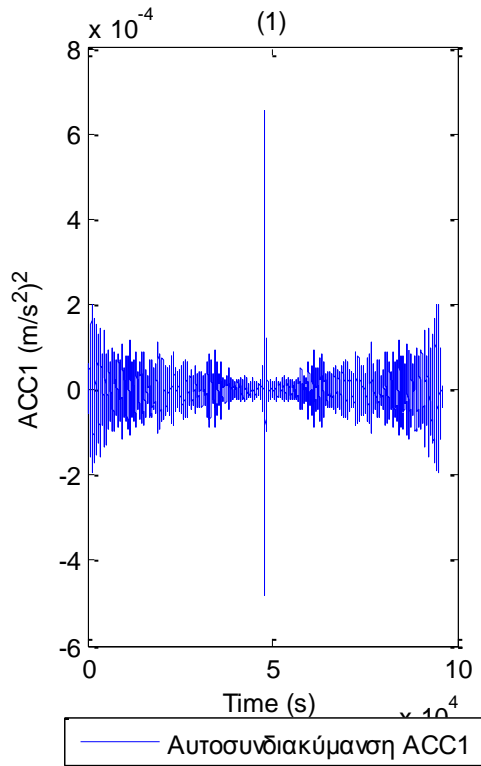


**Σχήματα 2.8.3.3** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

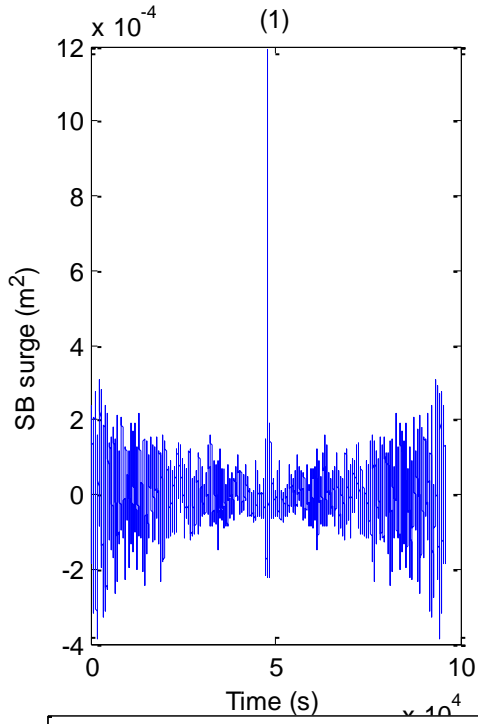


**Σχήματα 2.8.3.4 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τρεις γραμμές αγκύρωσης

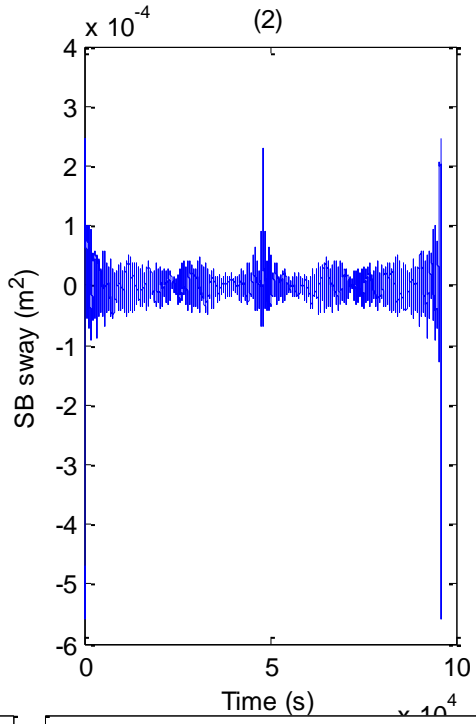




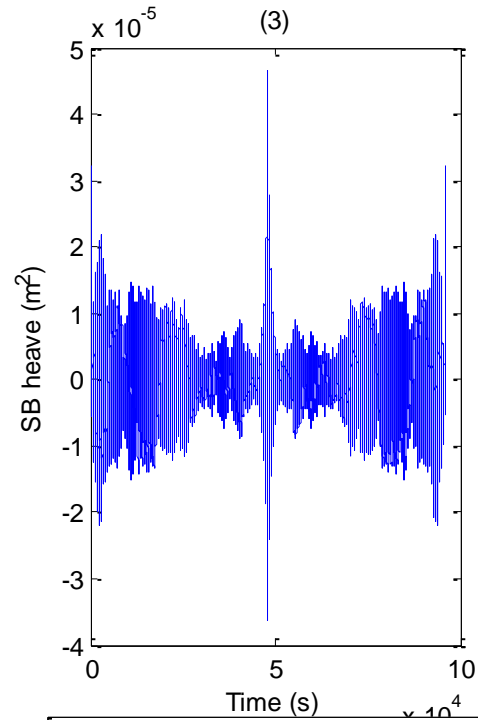
**Σχήματα 2.8.3.5 (1-3)** Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



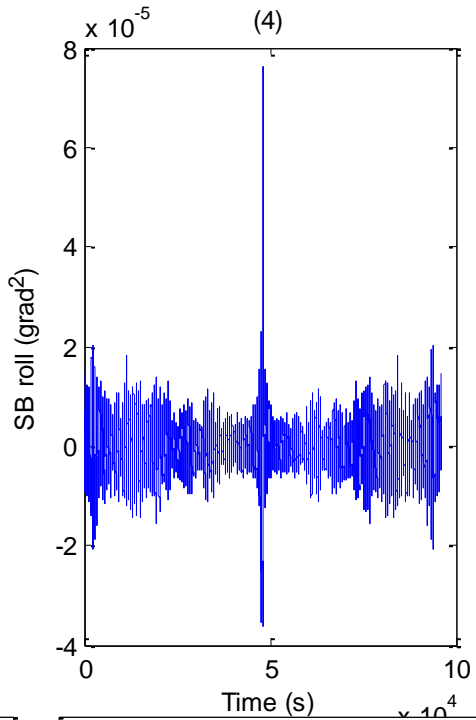
— Αυτοσυνδιακύμανση SB surge



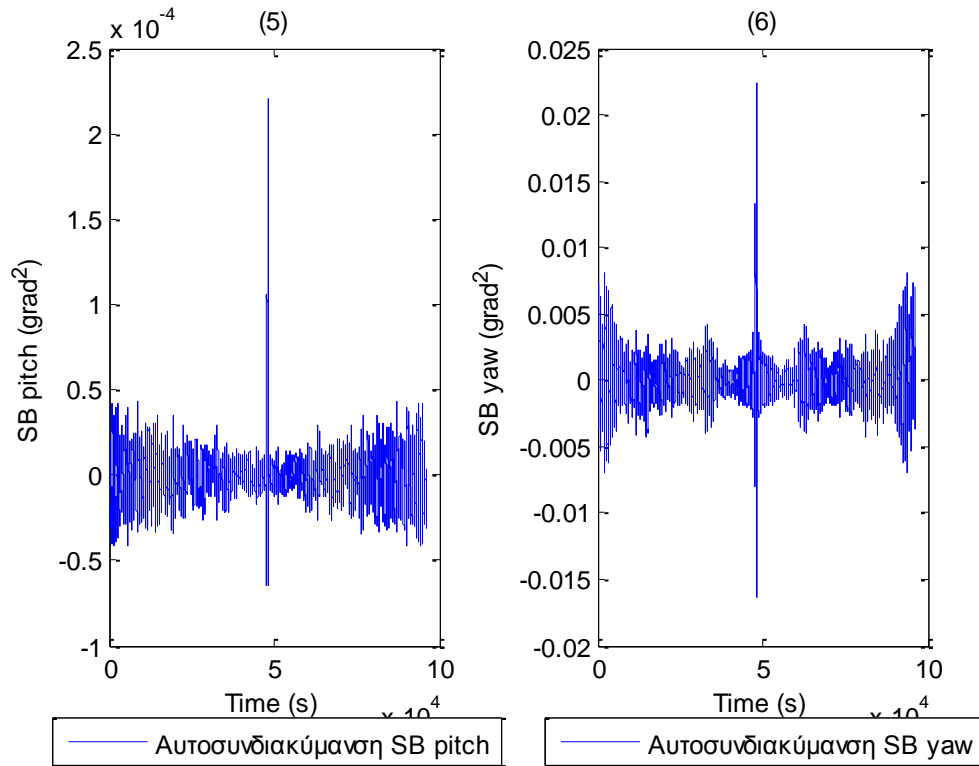
— Αυτοσυνδιακύμανση SB sway



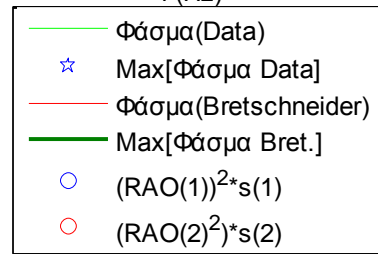
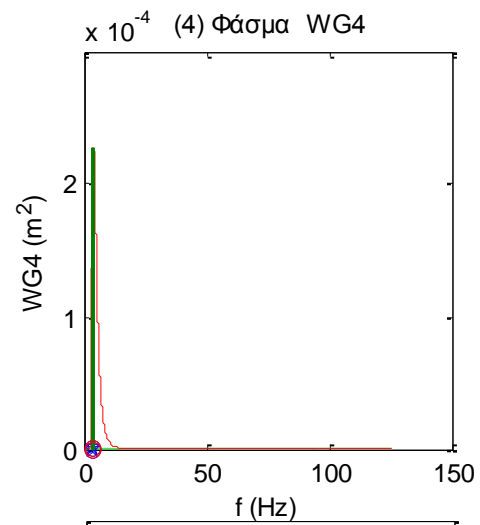
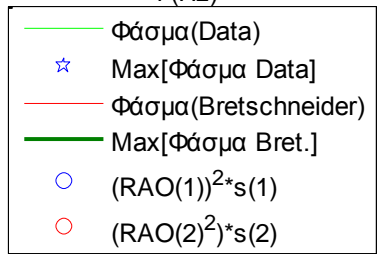
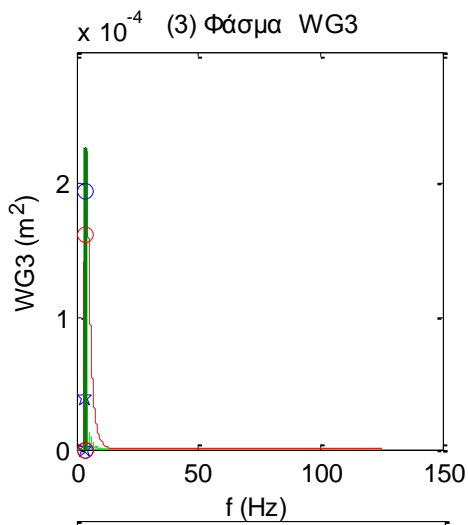
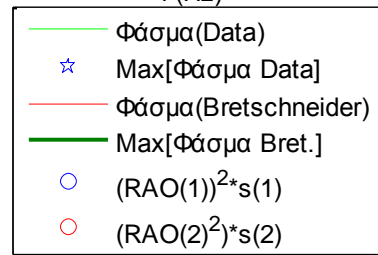
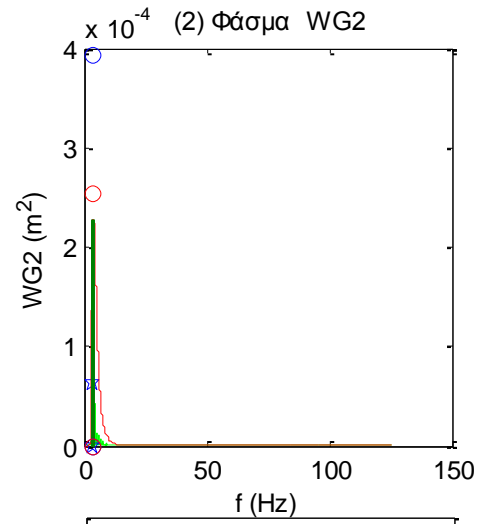
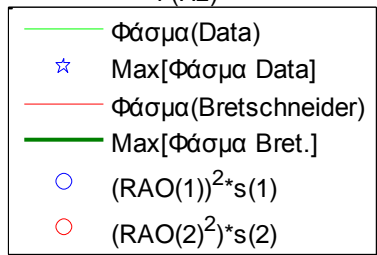
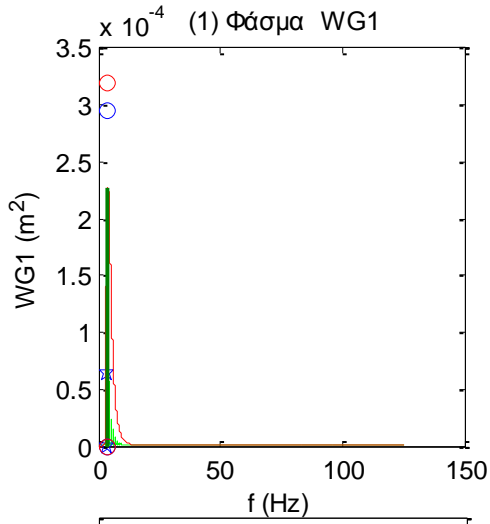
— Αυτοσυνδιακύμανση SB heave

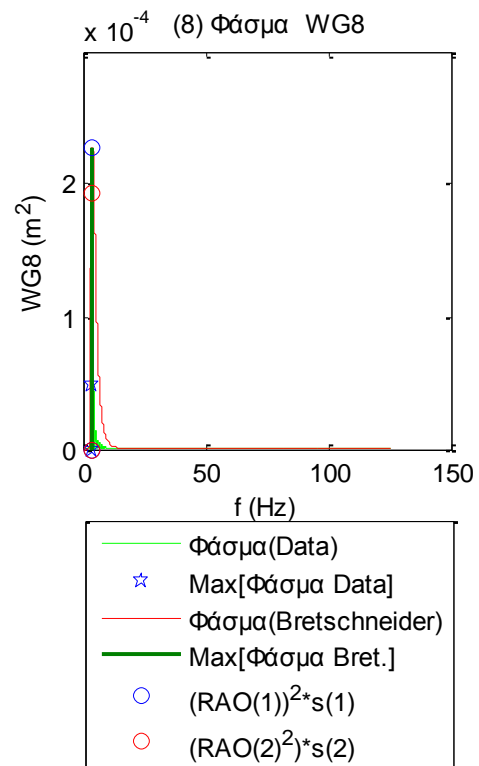
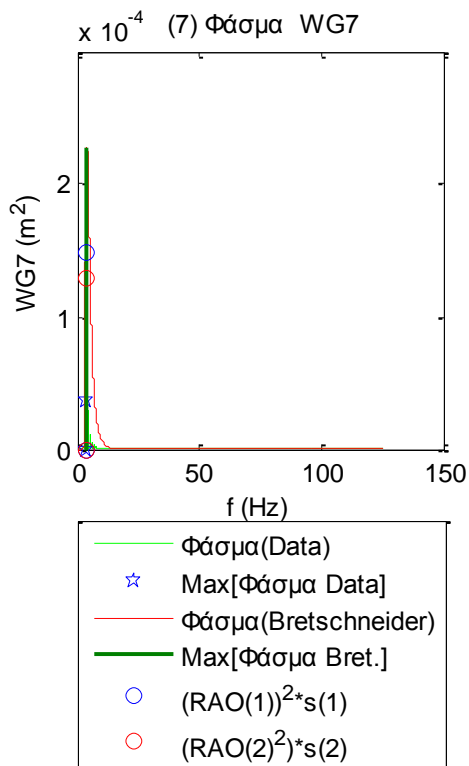
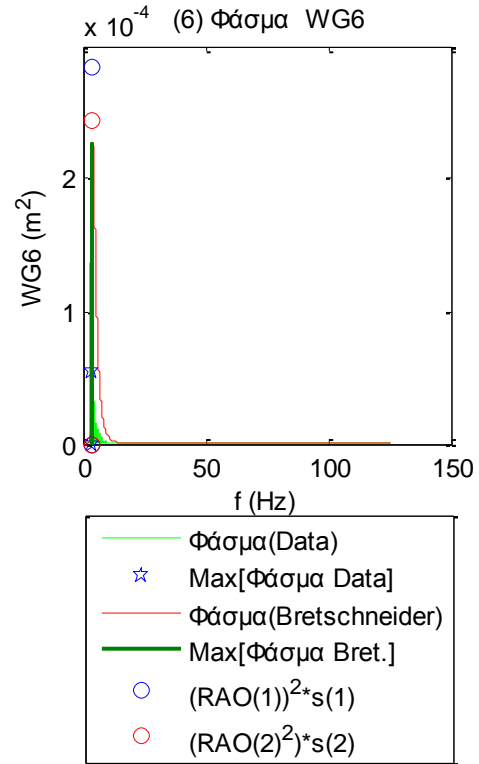
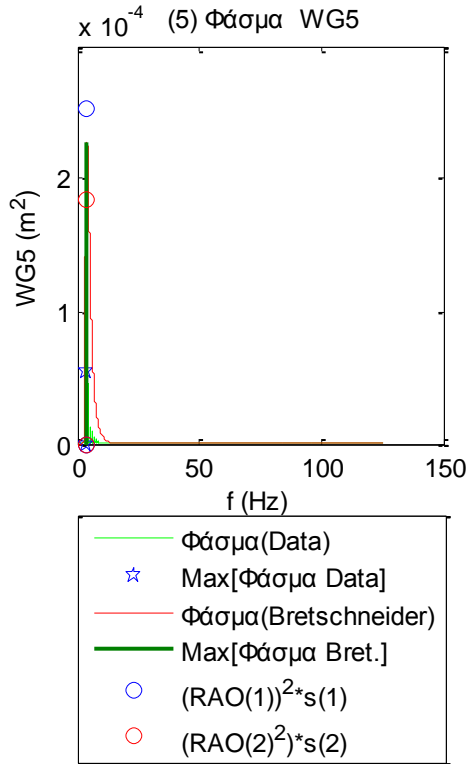


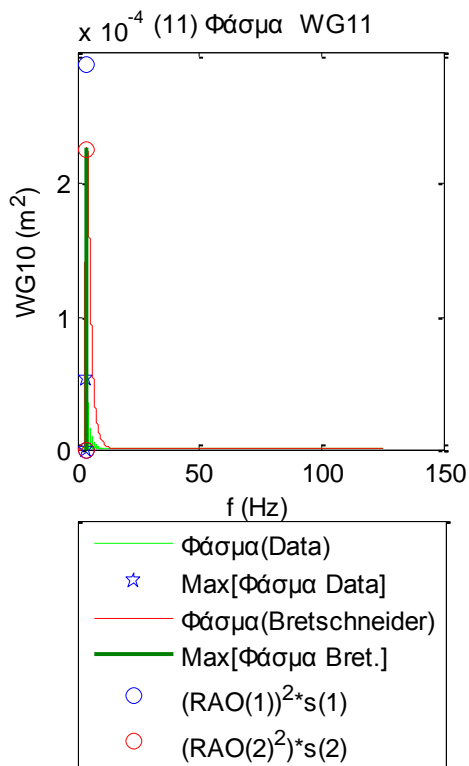
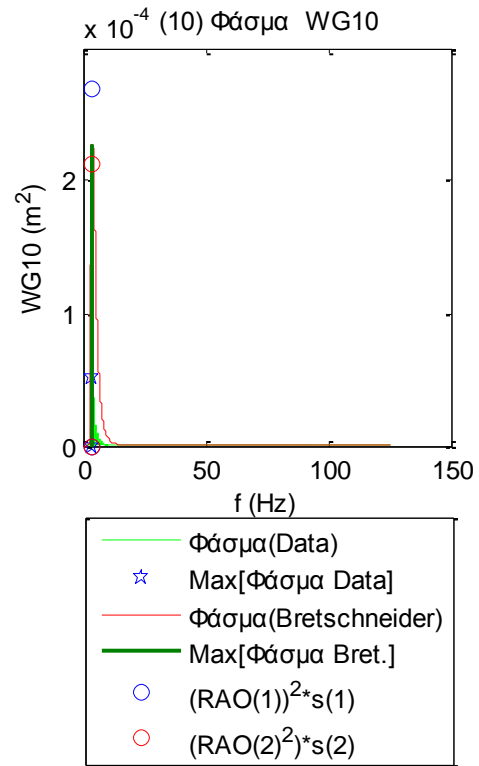
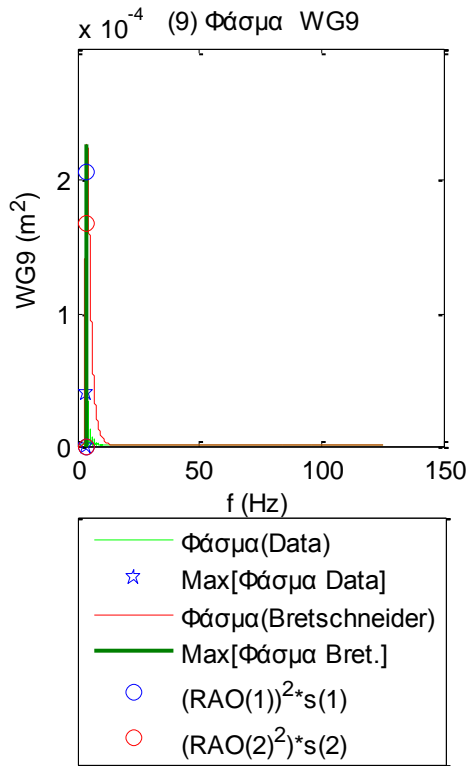
— Αυτοσυνδιακύμανση SB roll



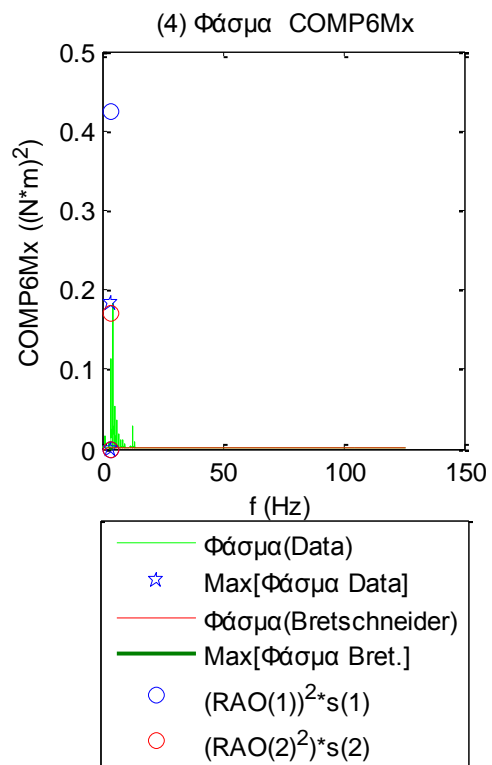
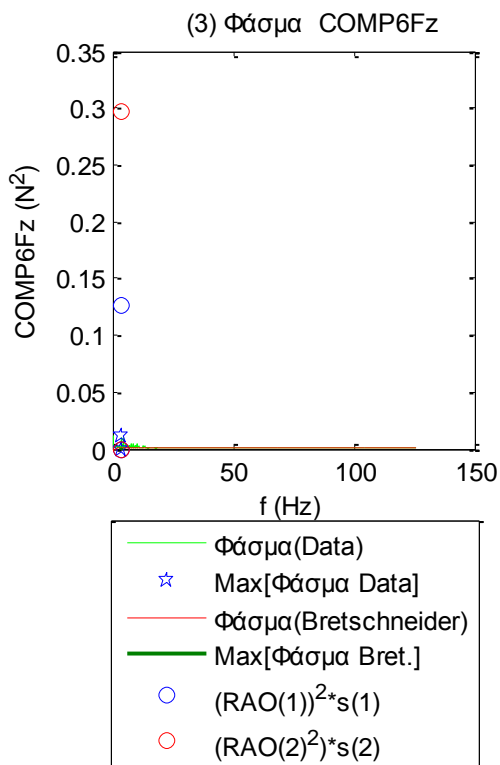
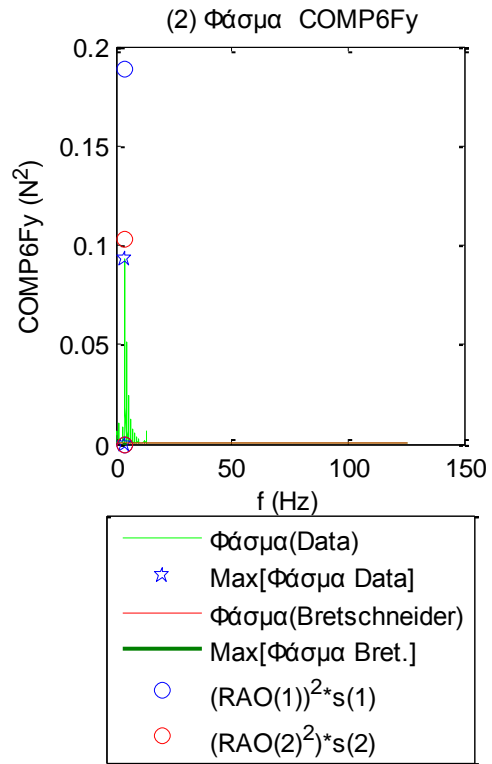
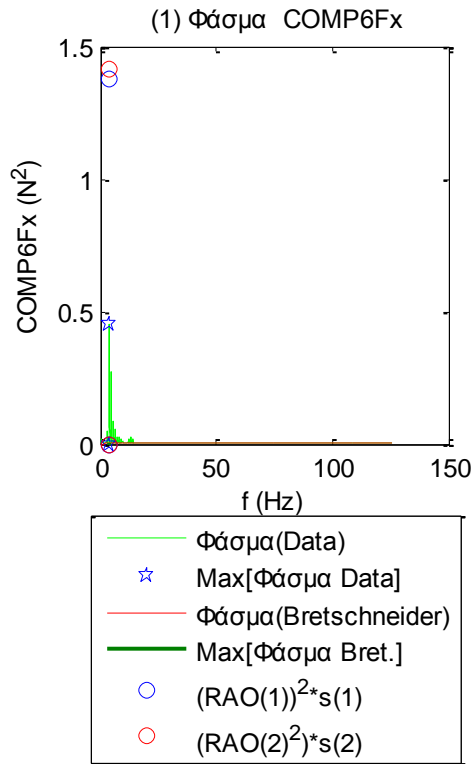
**Σχήμα 2.8.3.6** Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

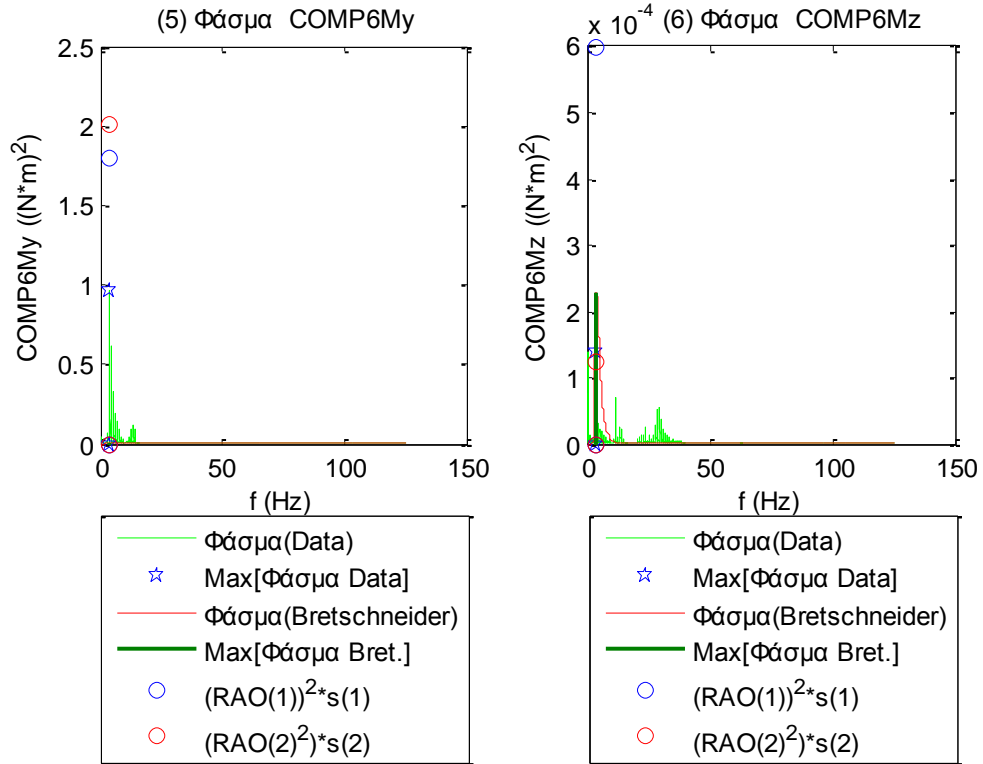




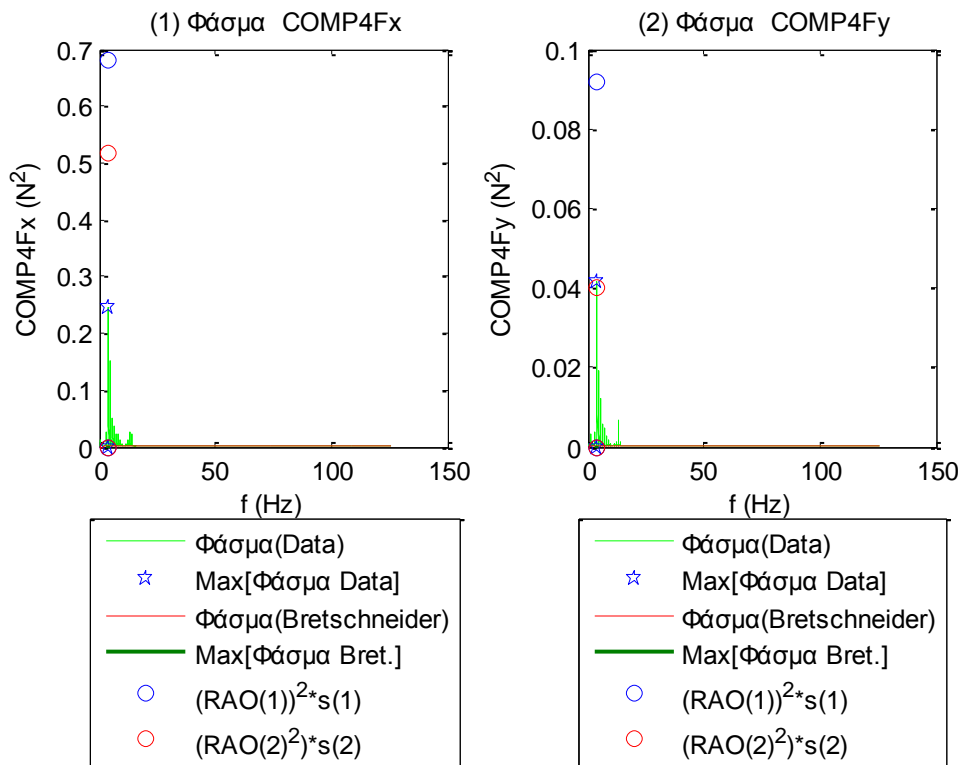


Σχήματα 2.8.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος

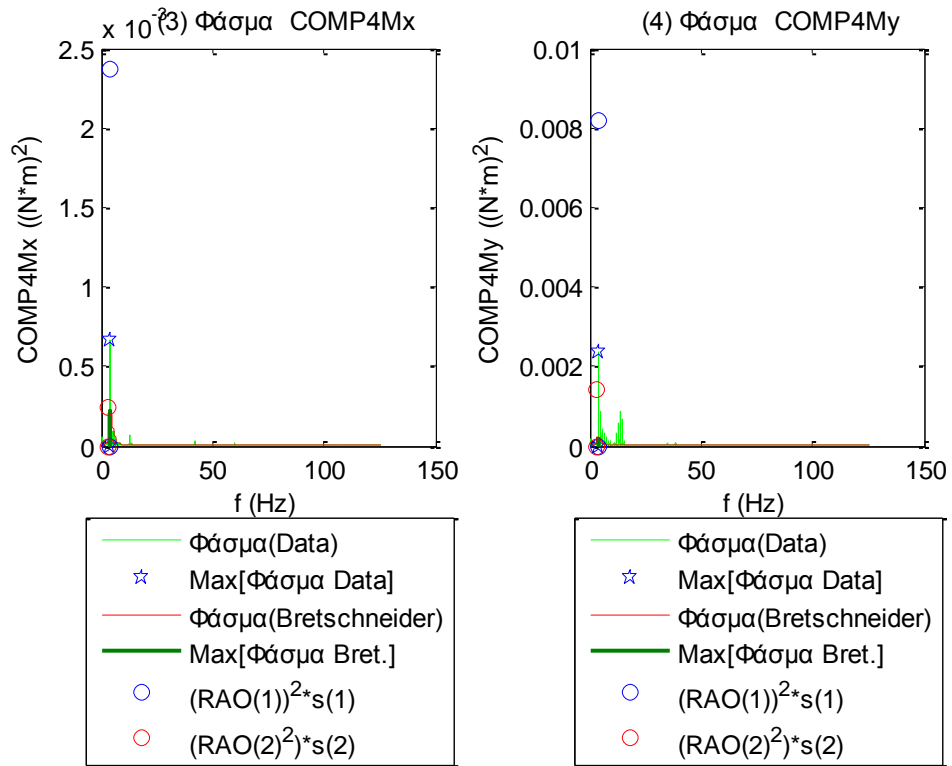




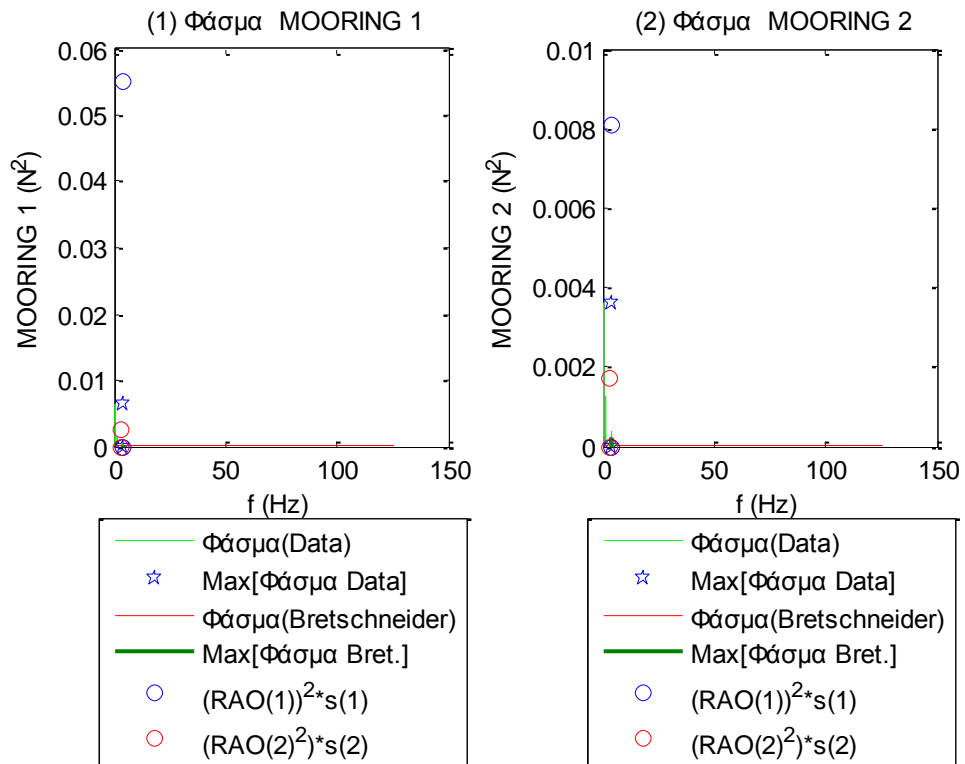
**Σχήματα 2.8.4.2** Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

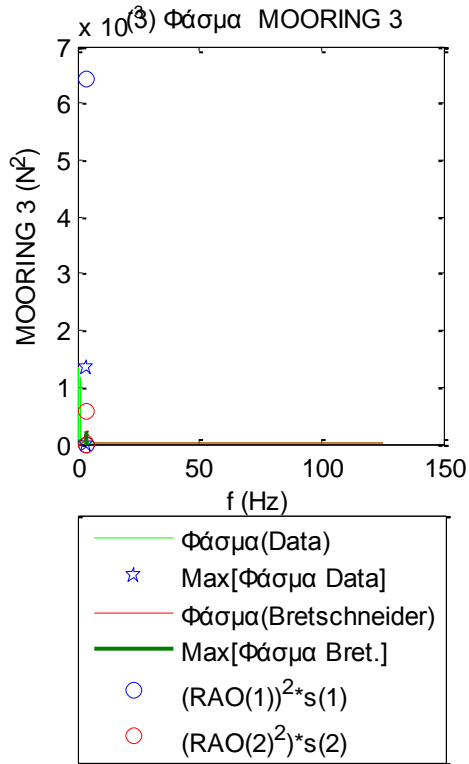




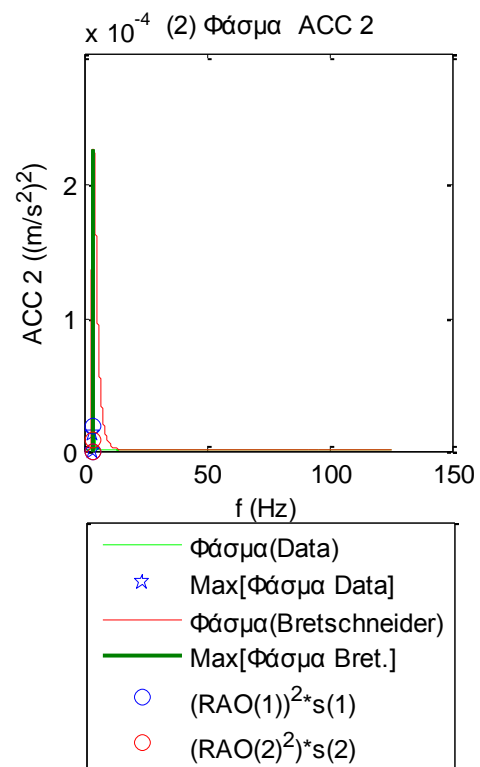
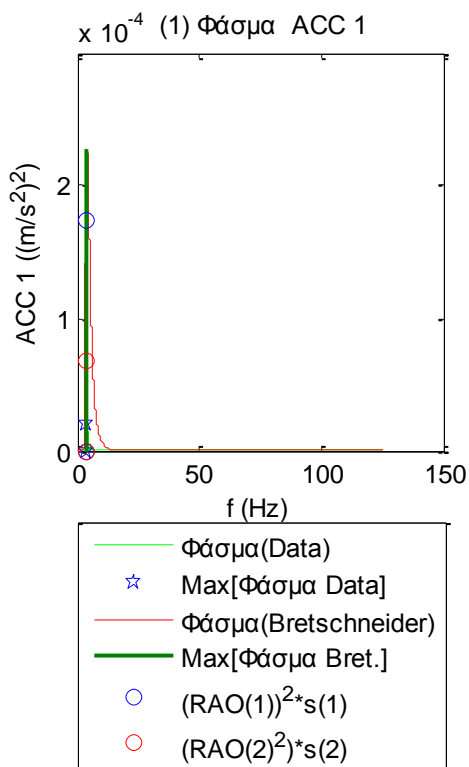


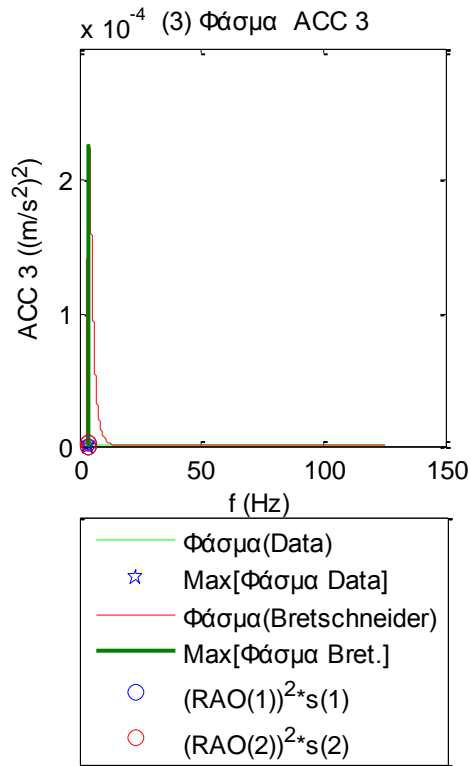
**Σχήματα 2.8.4.3** Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



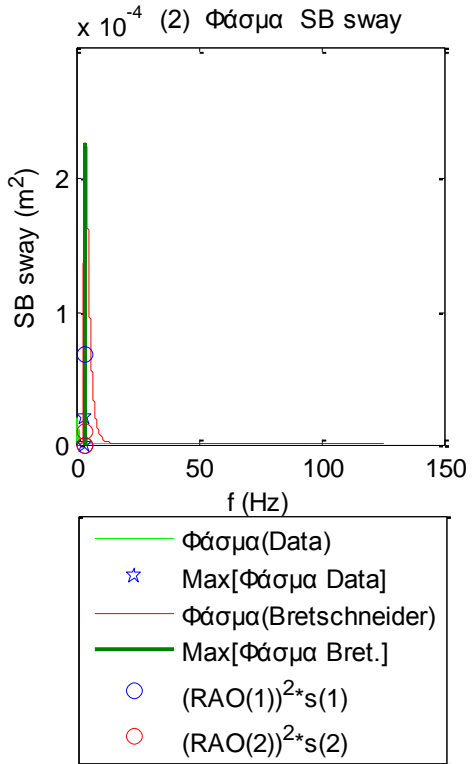
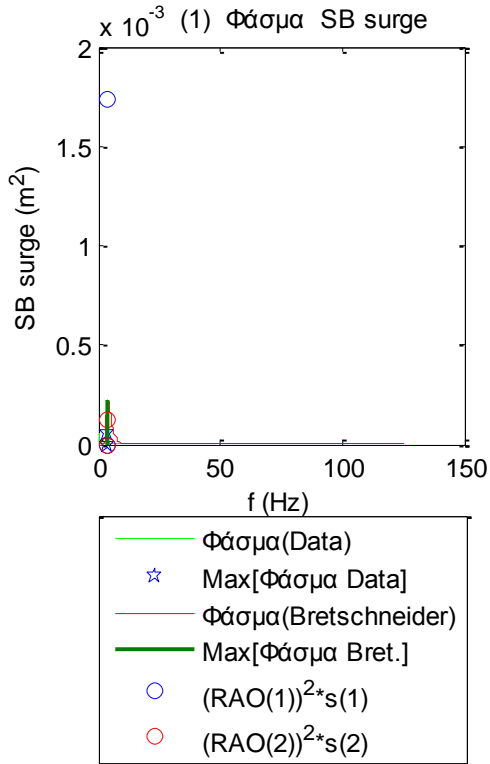


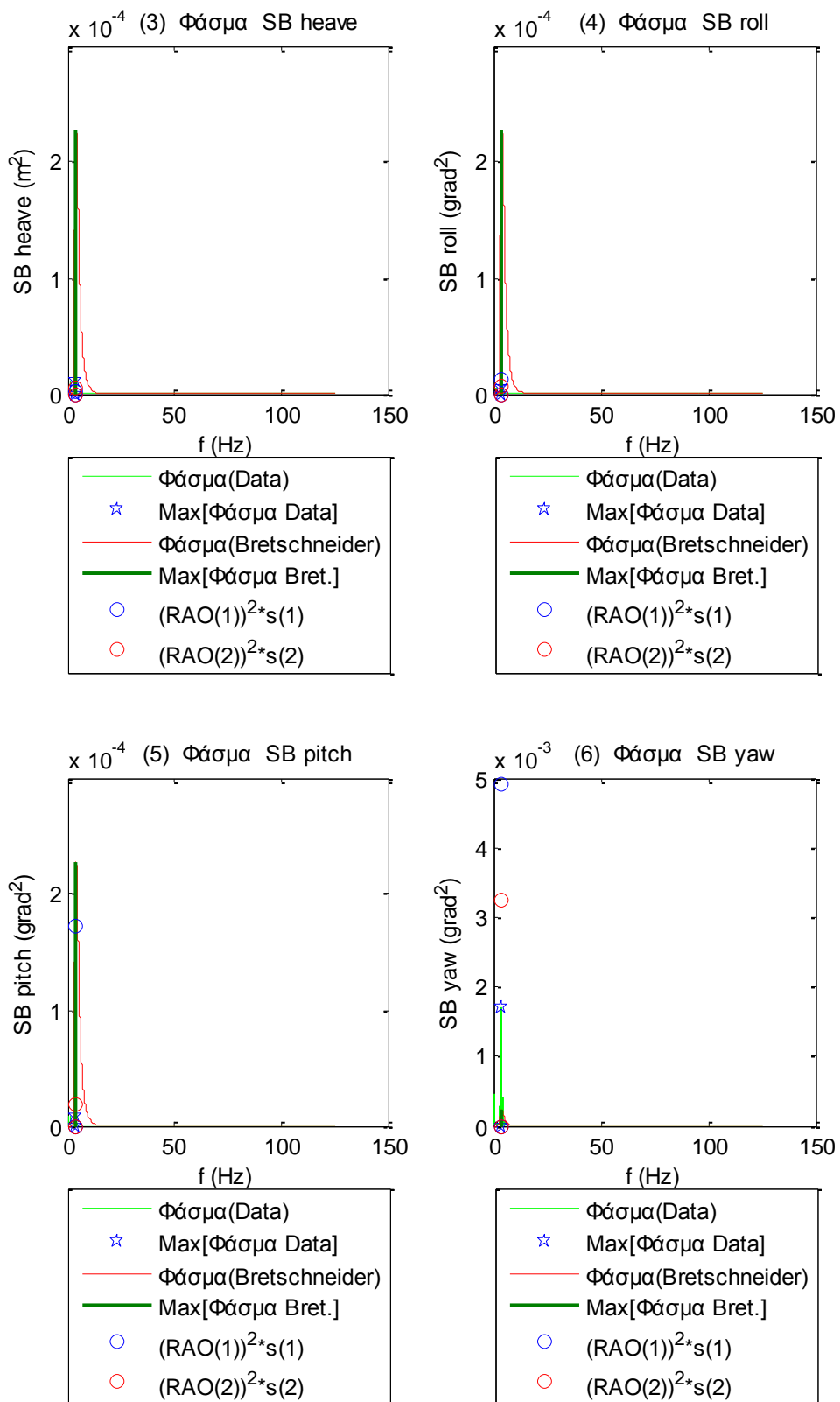
Σχήματα 2..8.4.4 (1-4) Φάσματα για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



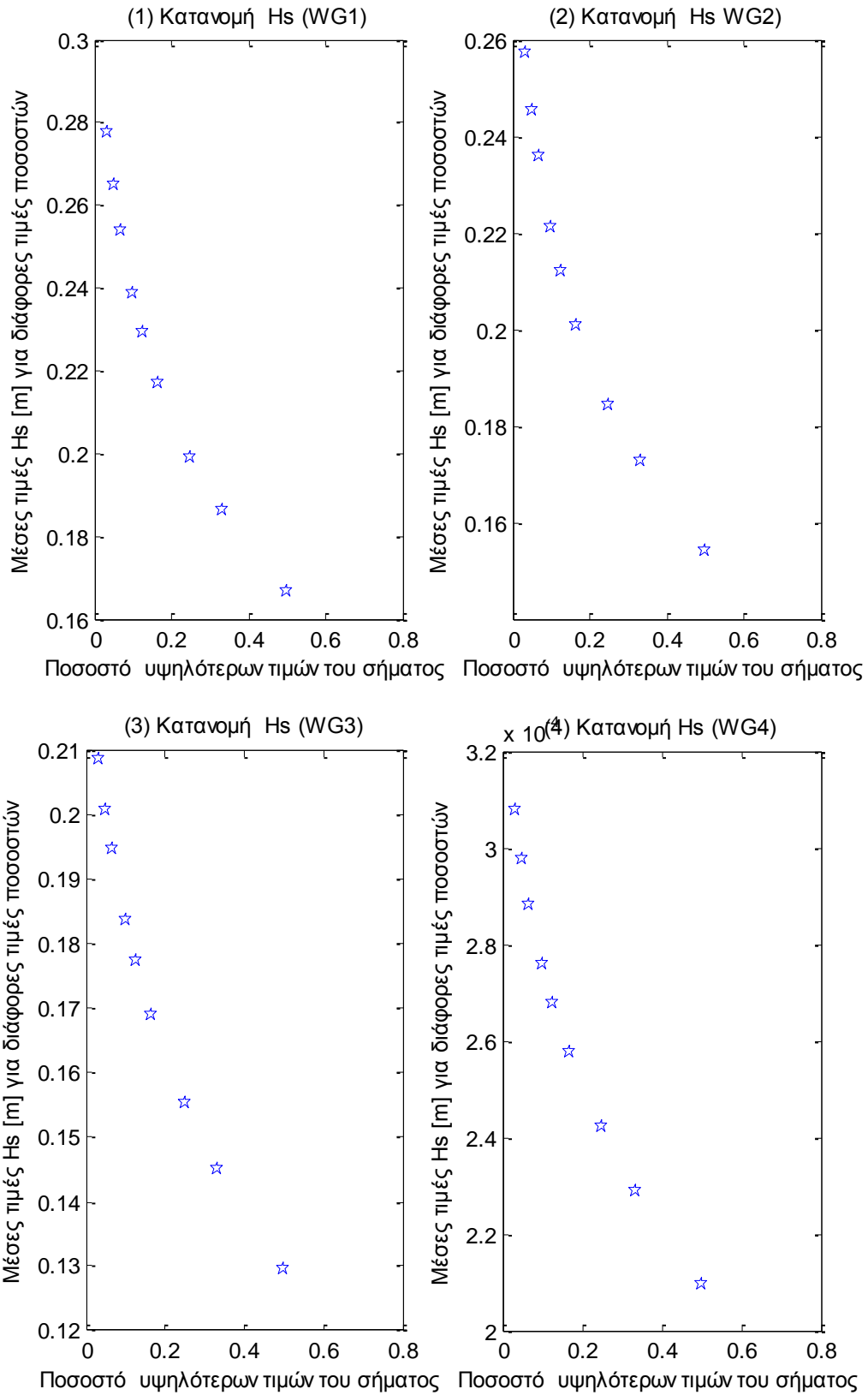


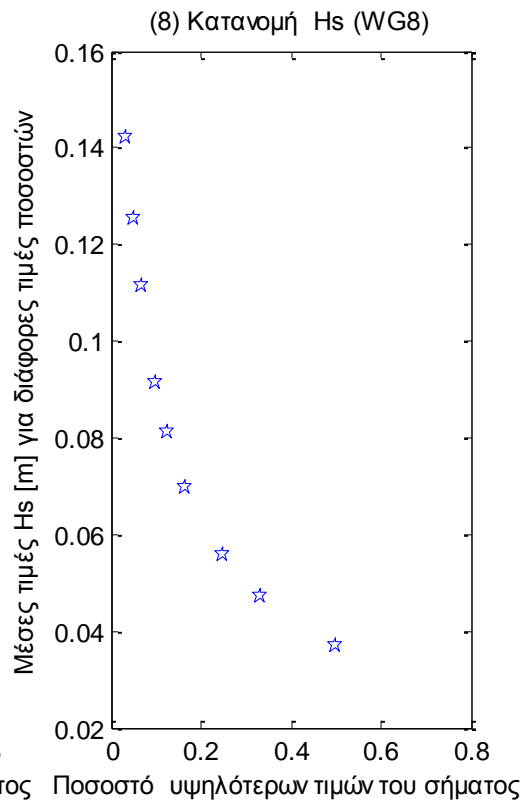
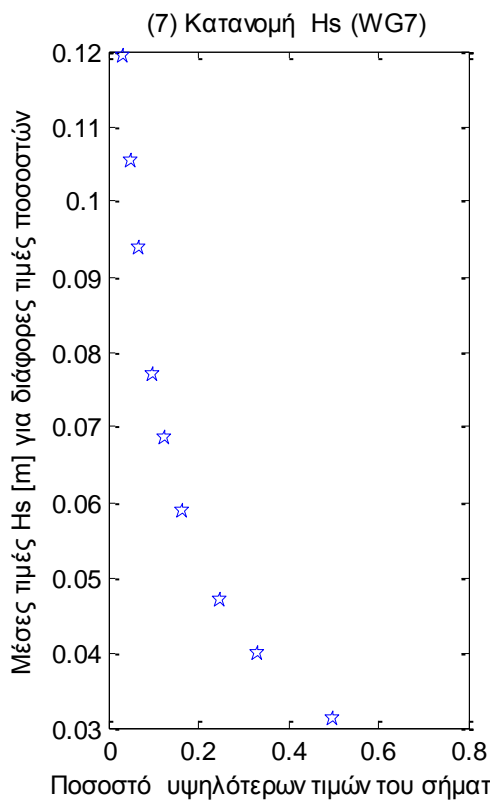
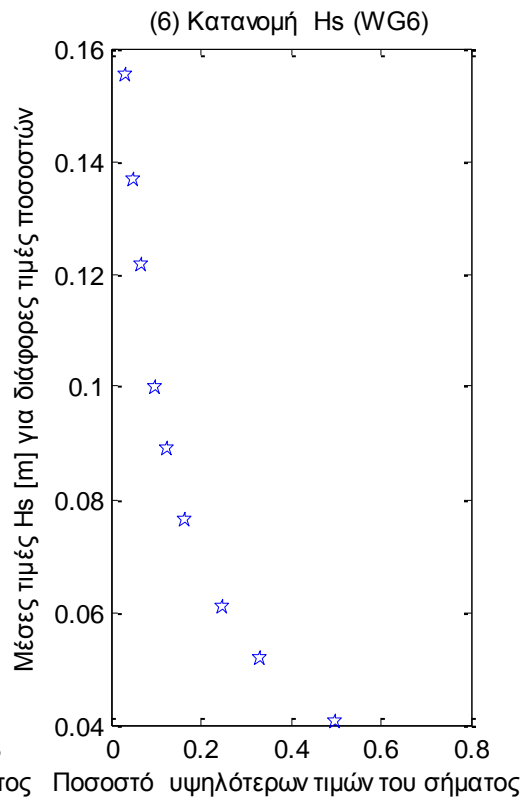
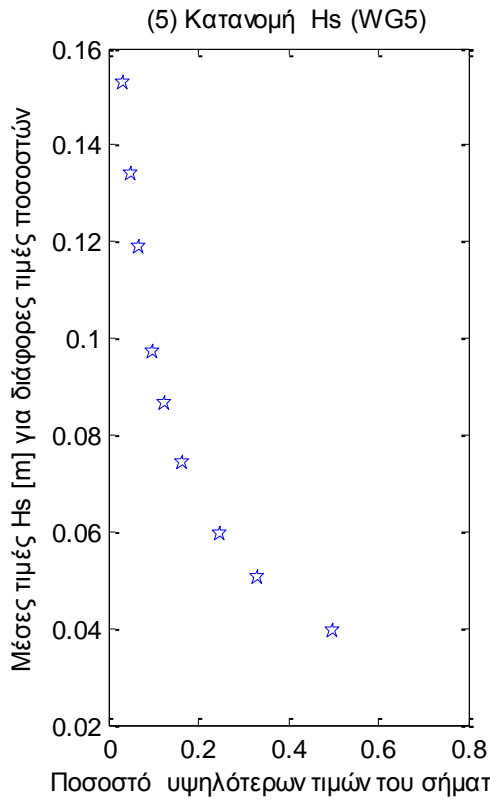
**Σχήματα 2.8.4.5 (1-3)** Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

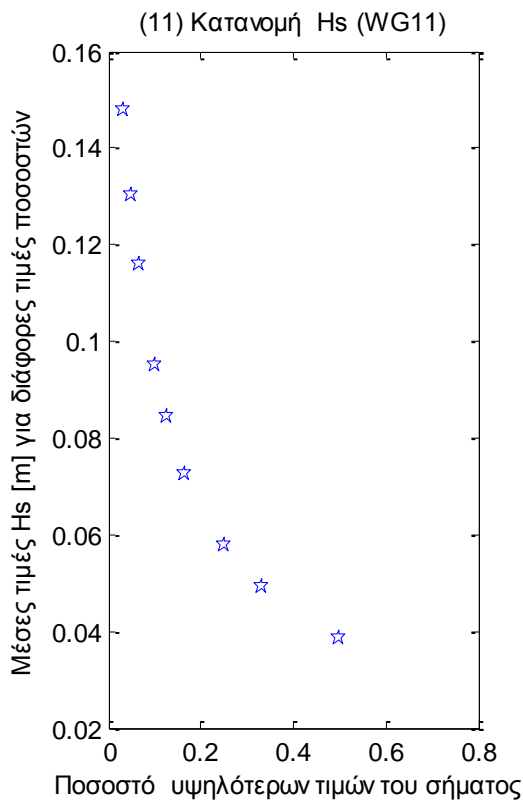
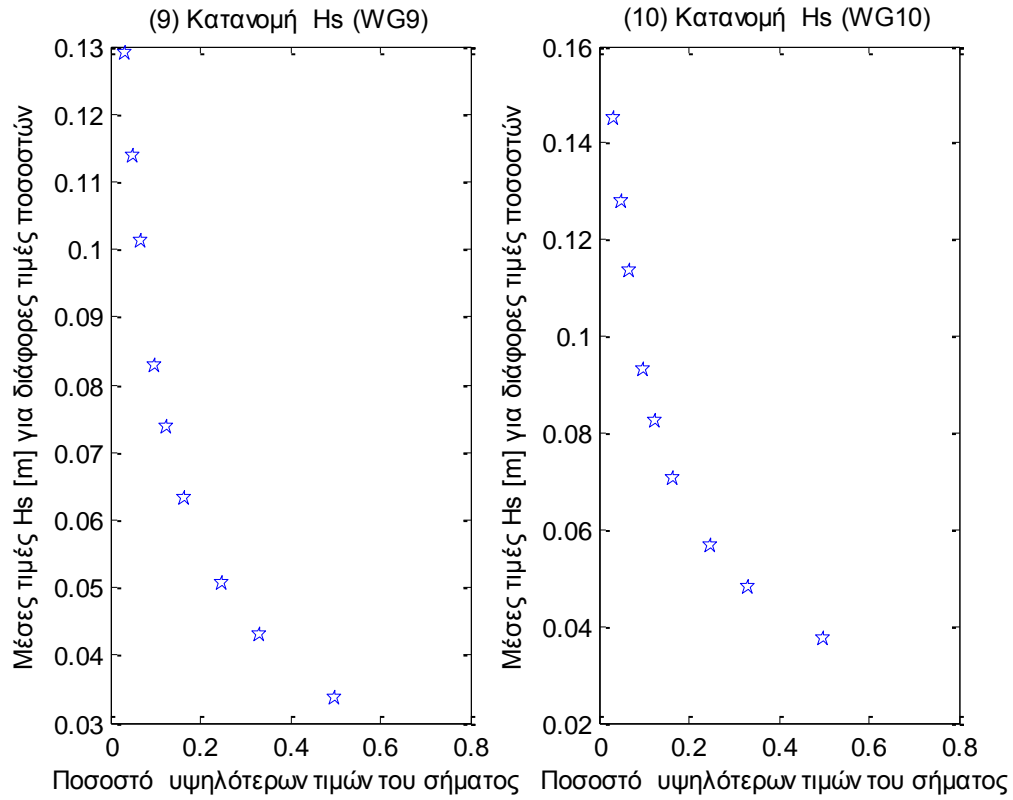




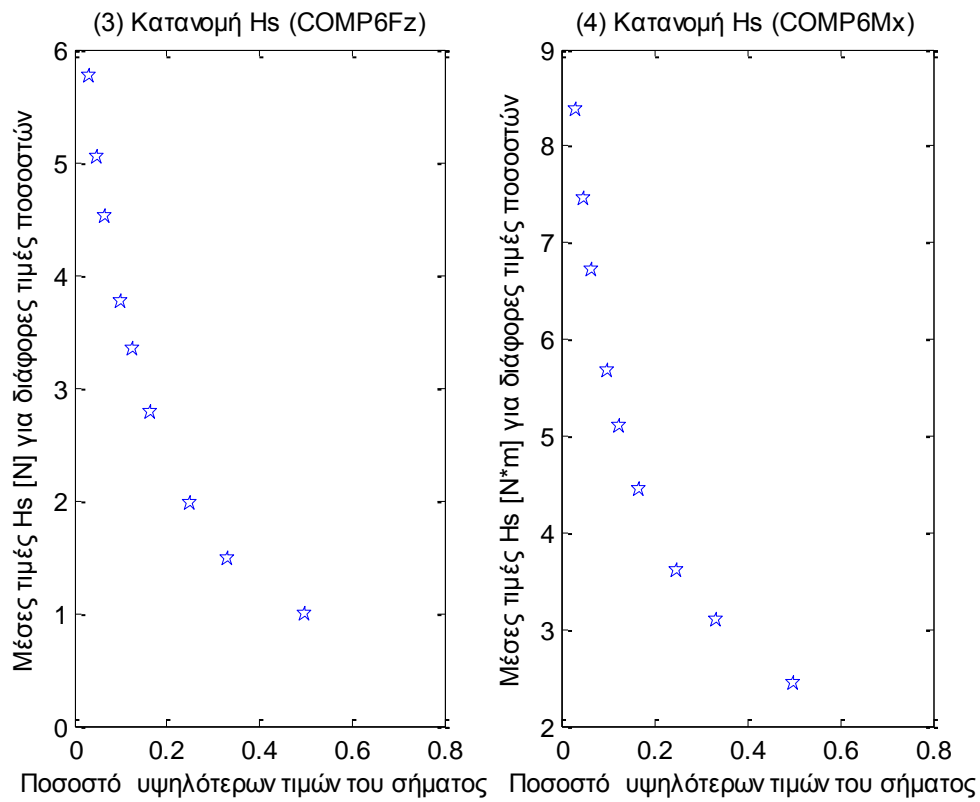
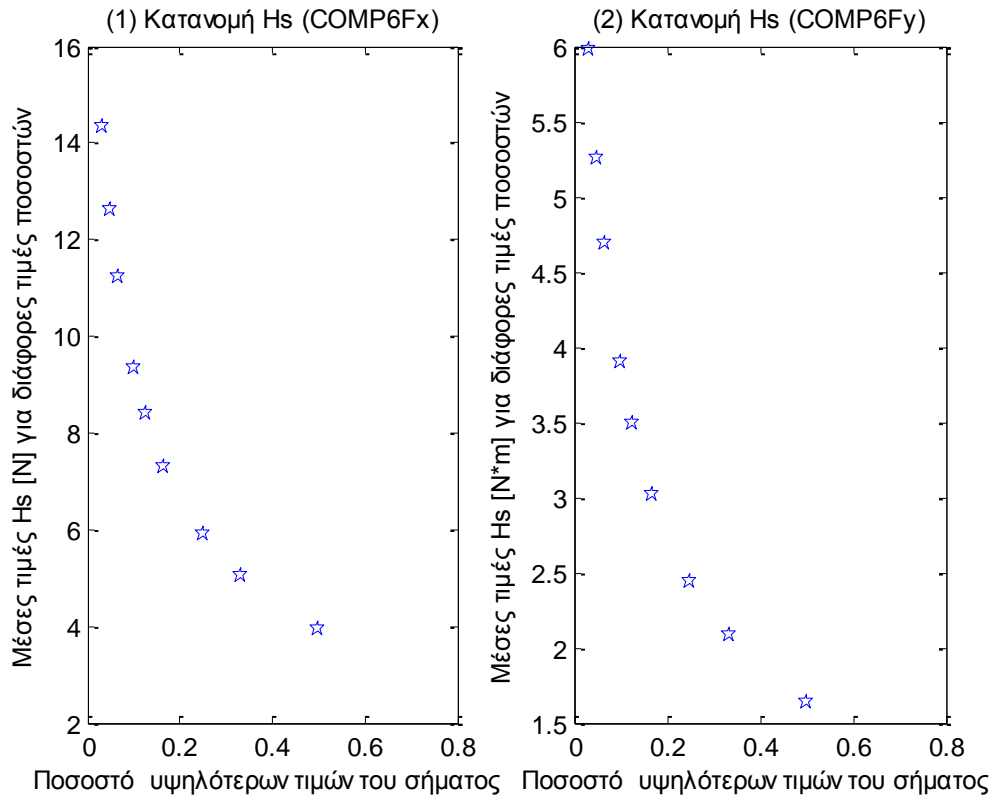
**Σχήματα 2.8.4.6** Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



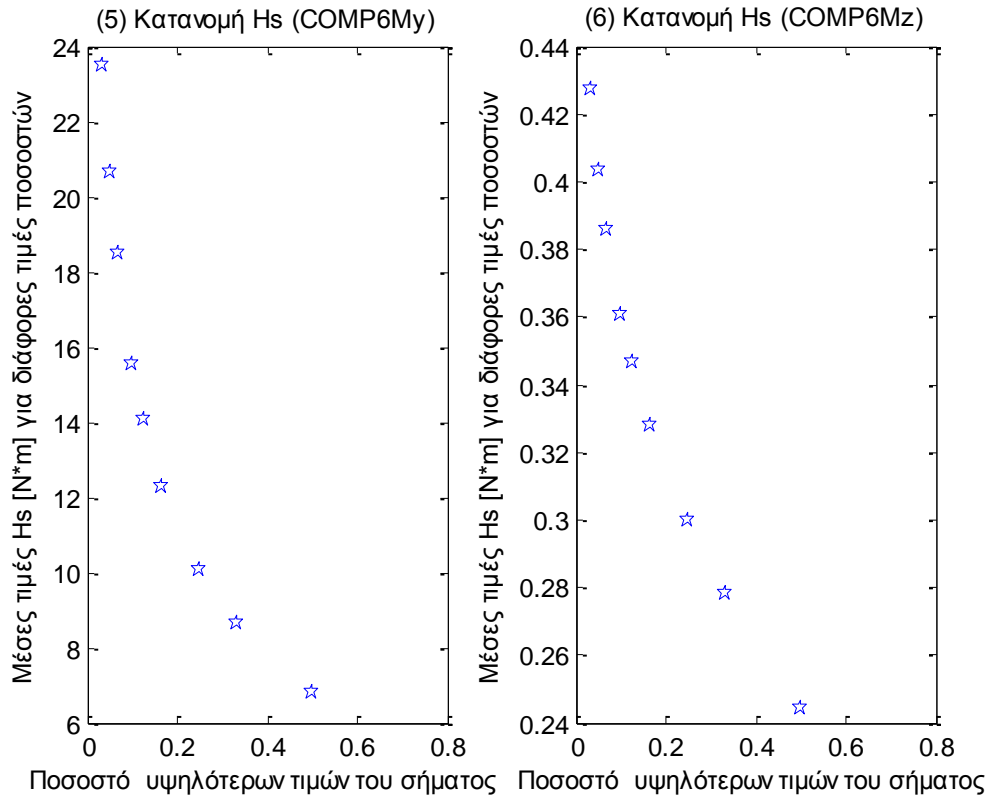




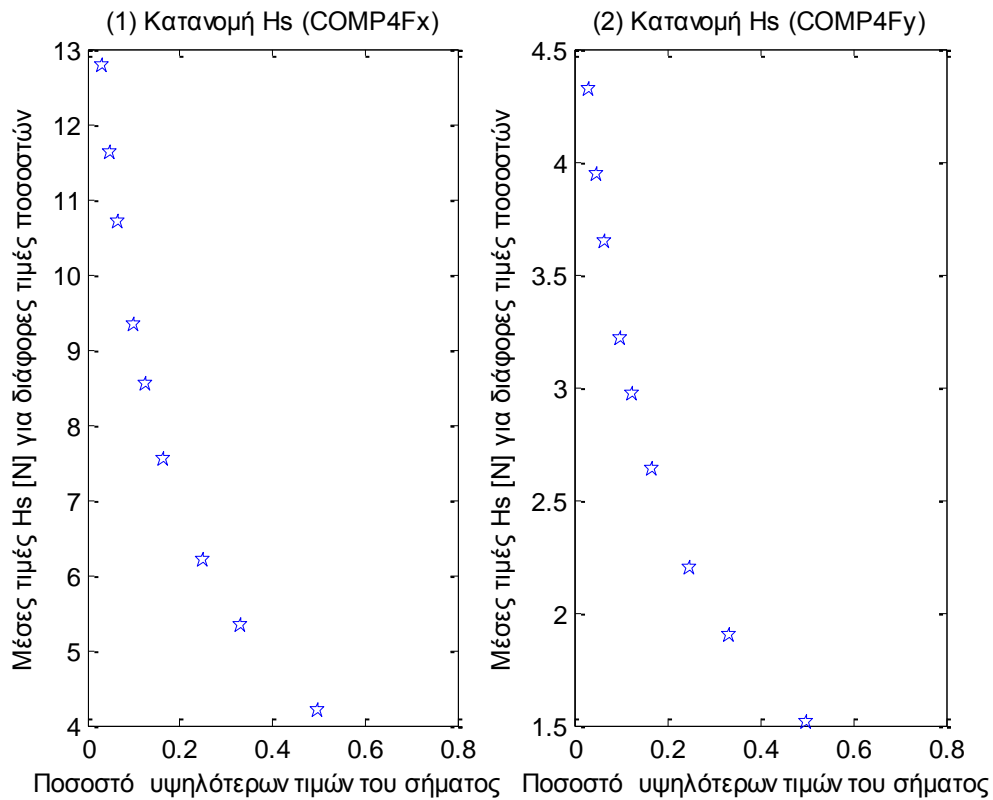
**Σχήματα 2.8.5.1 (1-11)** Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος

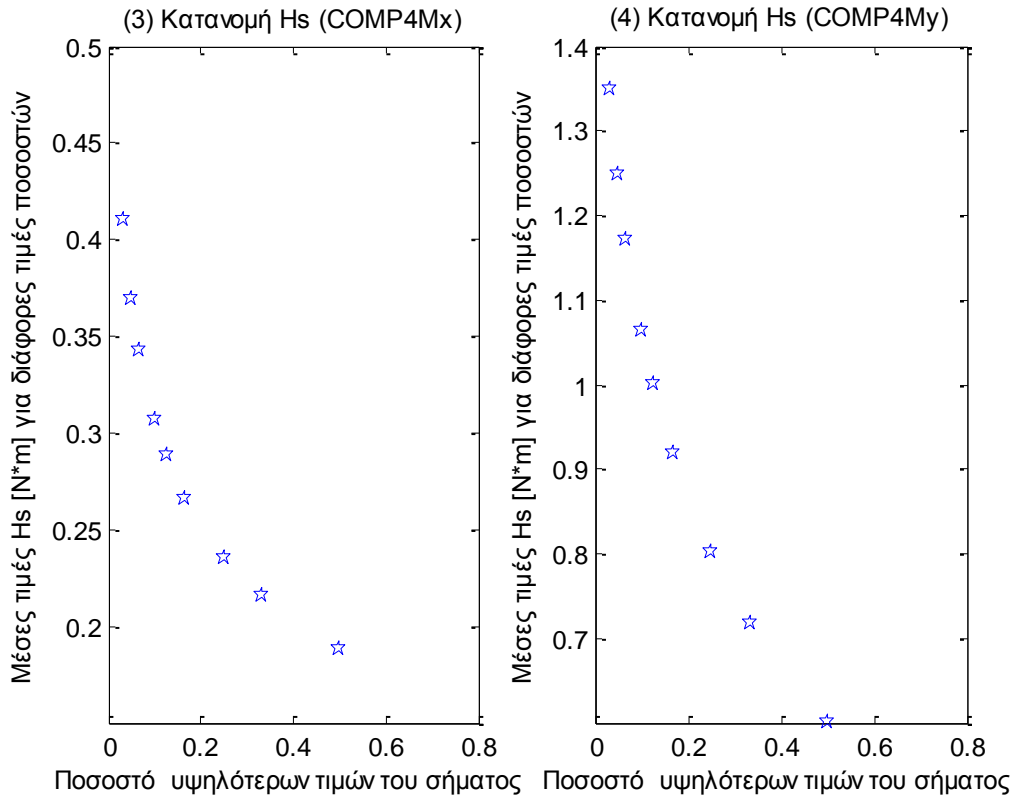




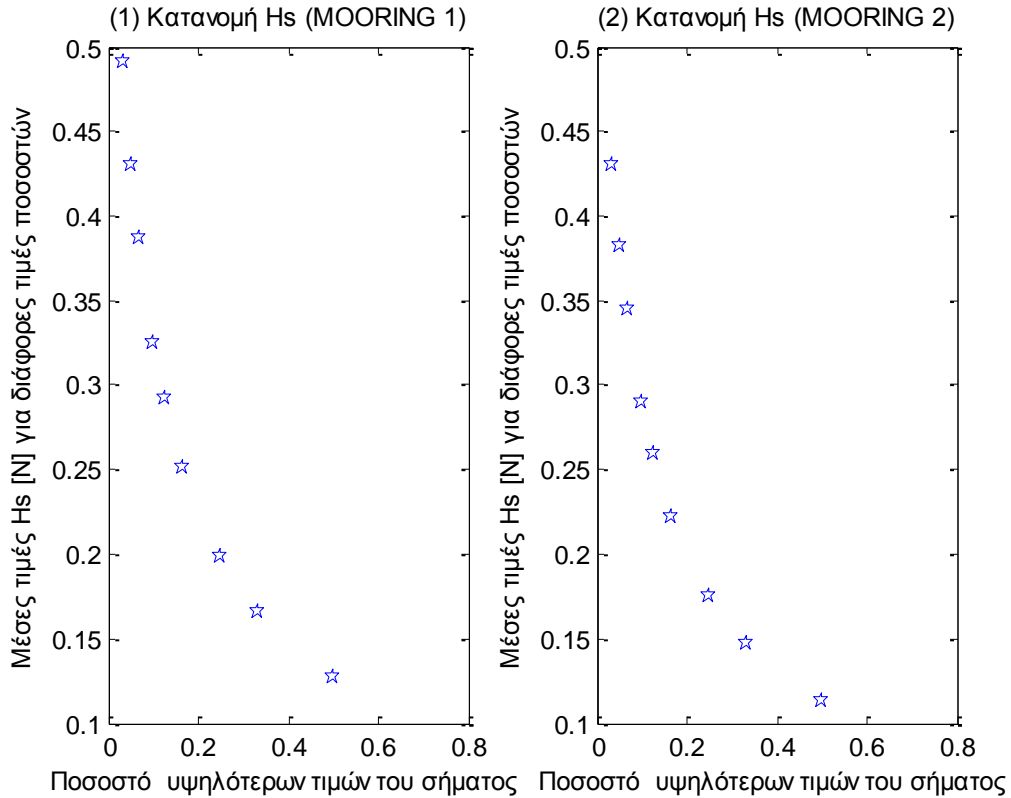


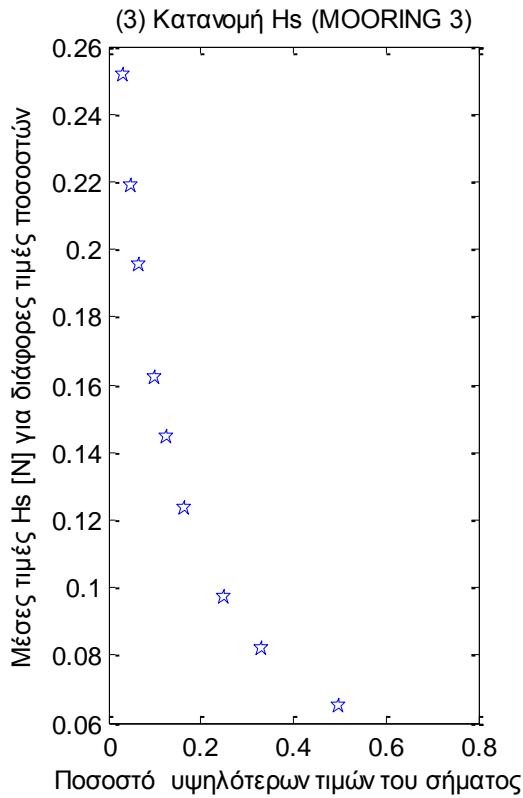
**Σχήματα 2.8.5.2** Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



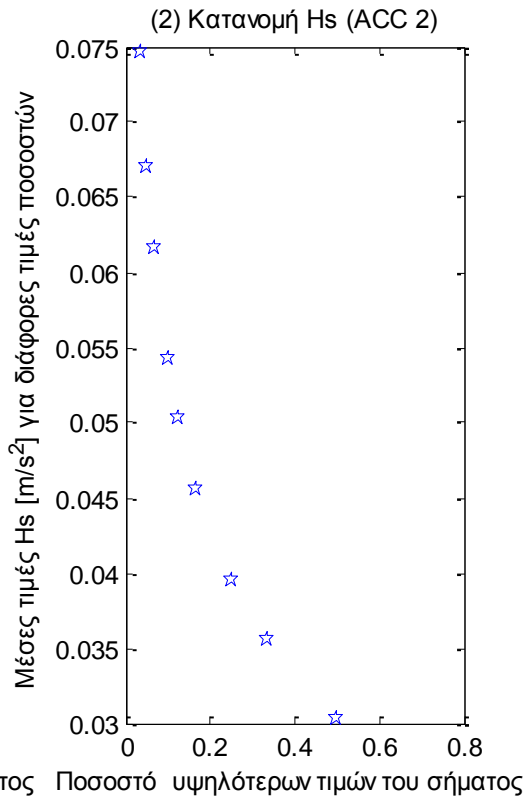
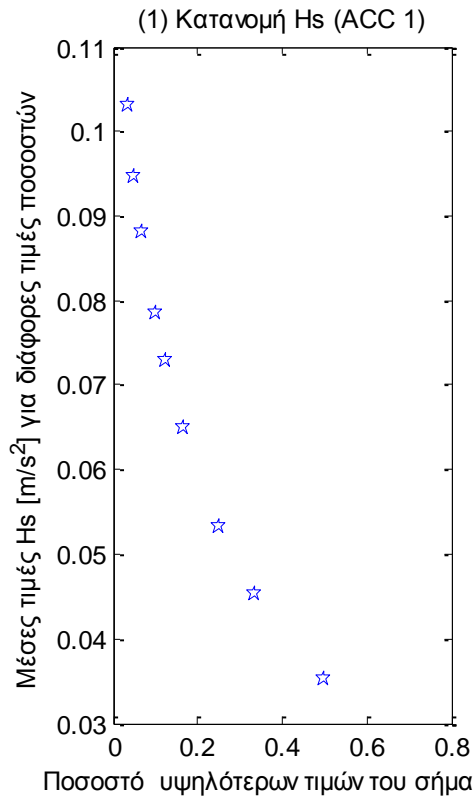


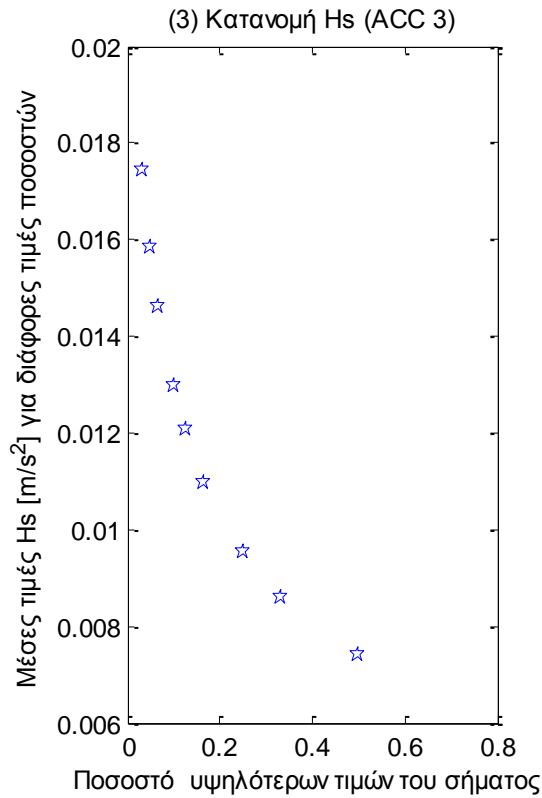
**Σχήματα 2.8.5.3** Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροές (3-4) στο Ρότορα της A/Γ



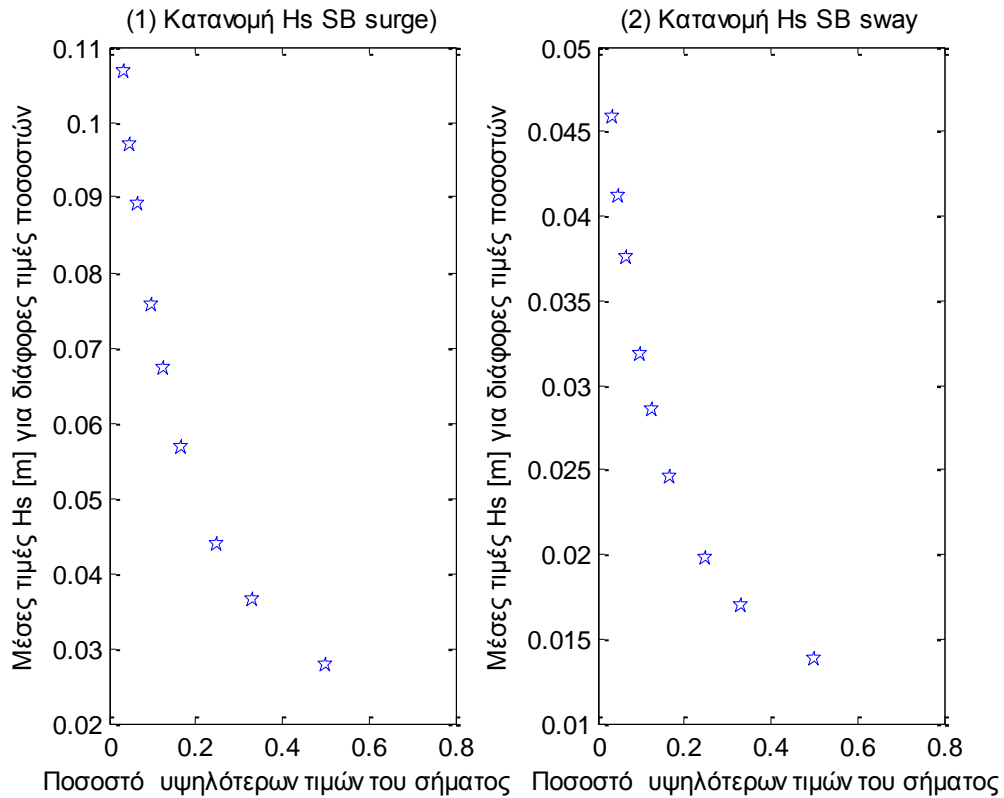


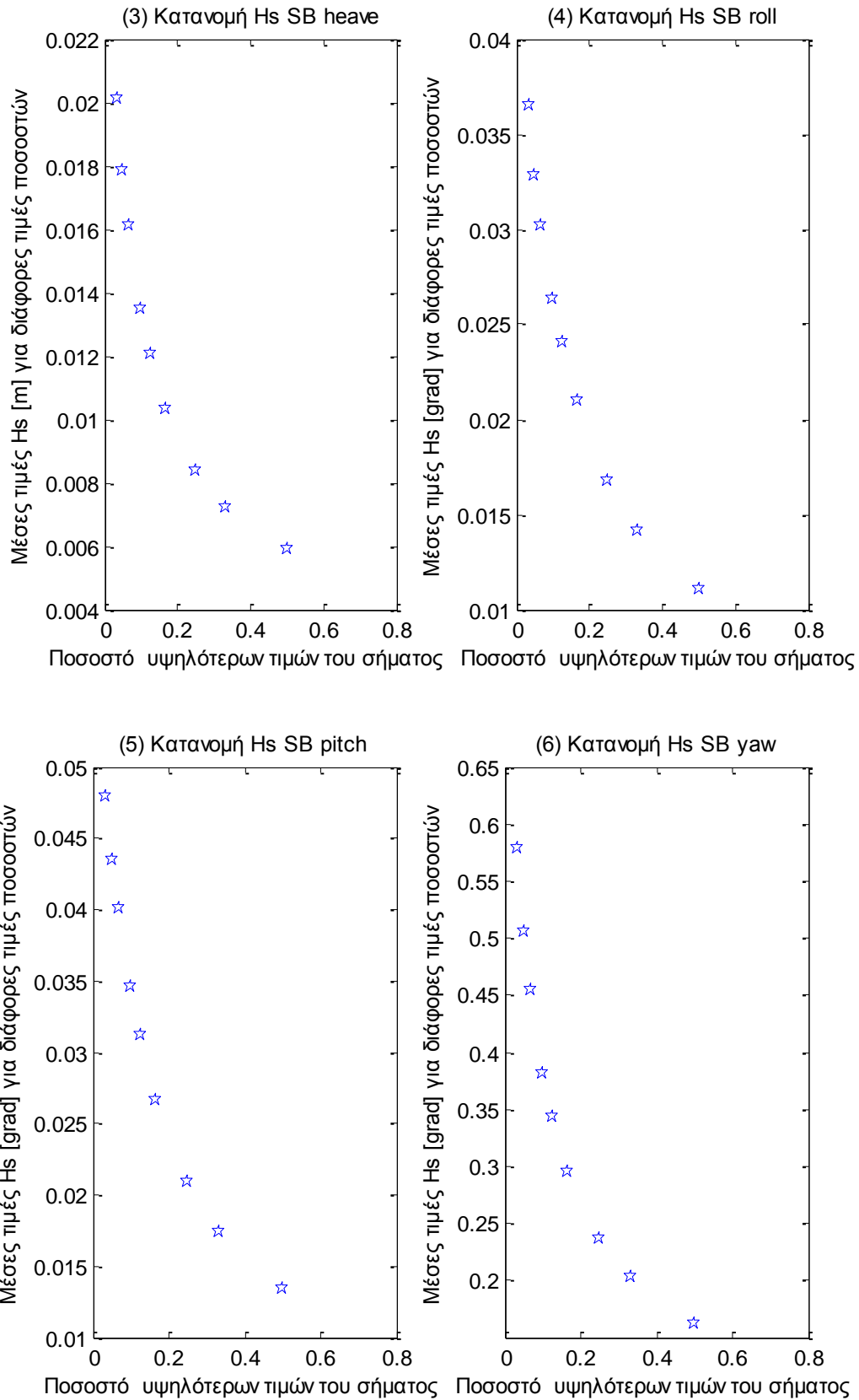
**Σχήματα 2.8.5.4 (1-4)** Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τρεις γραμμές αγκύρωσης



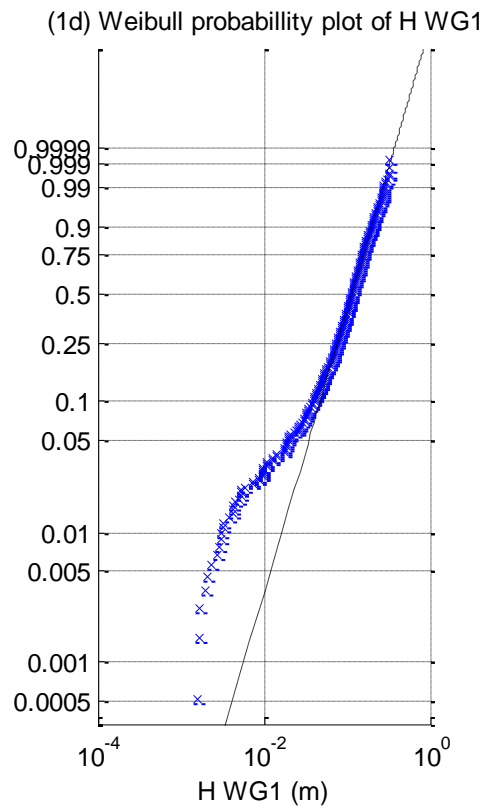
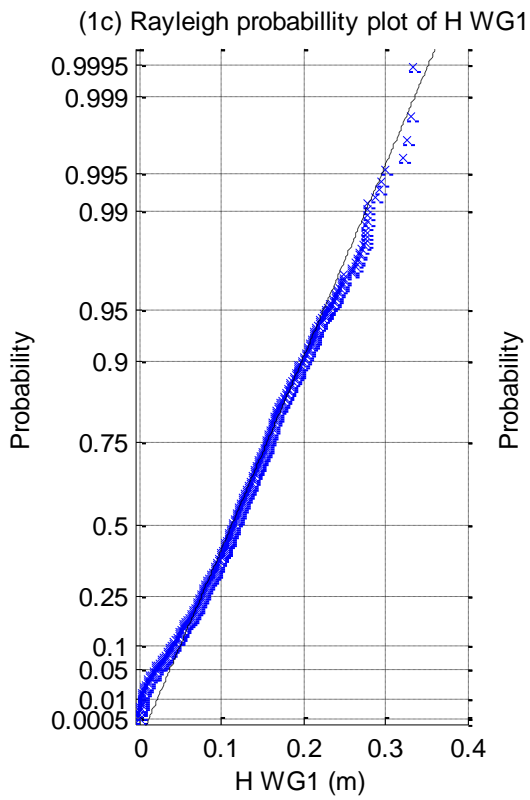
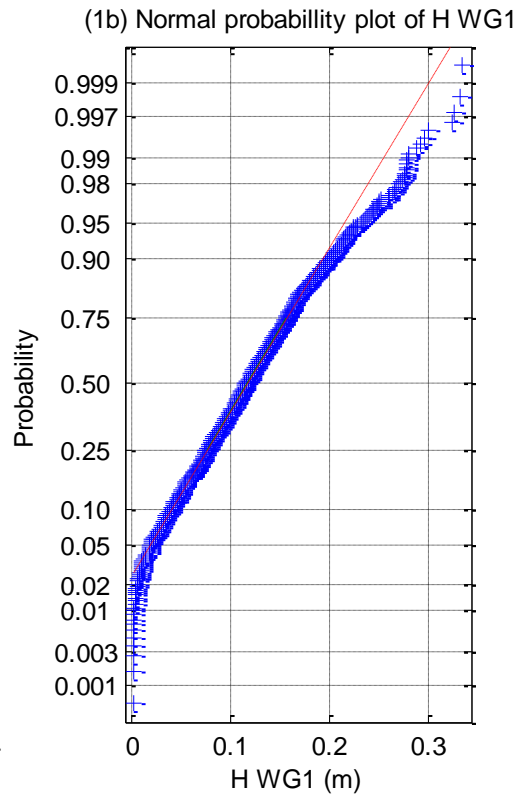
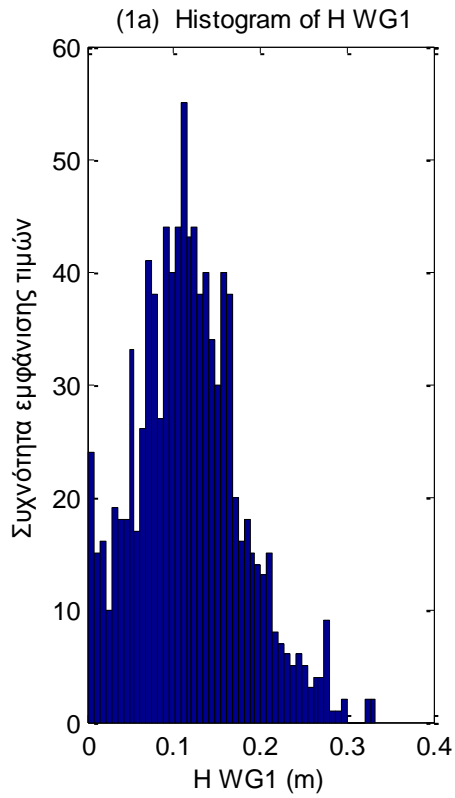


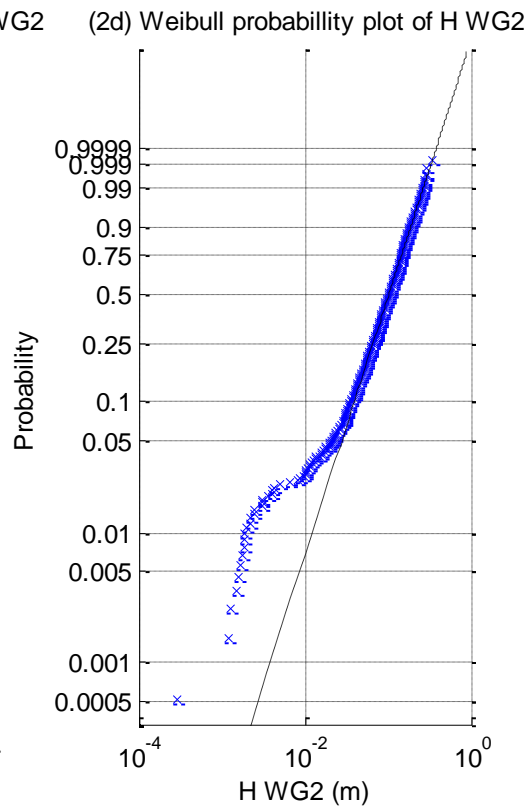
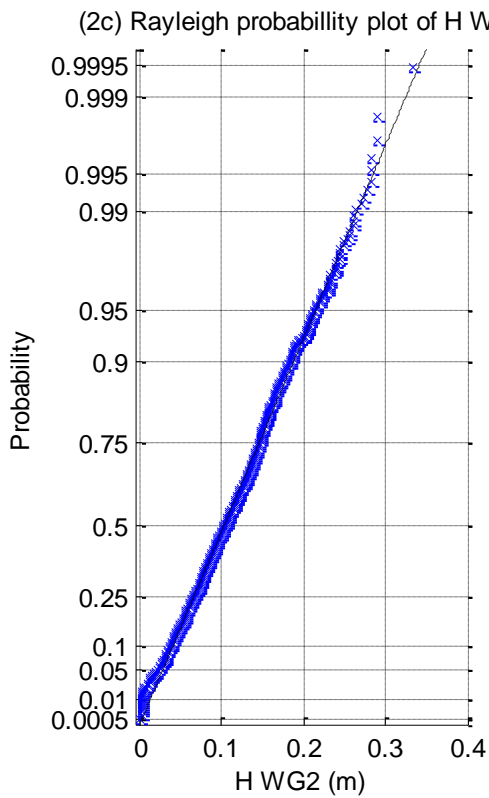
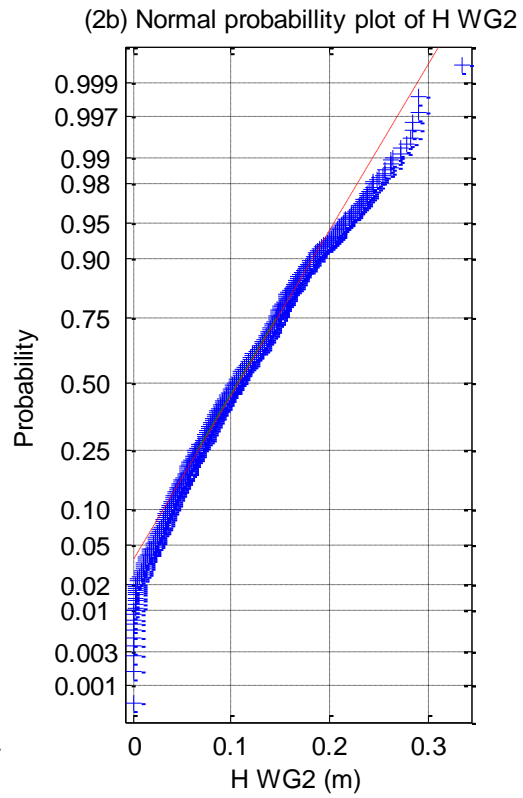
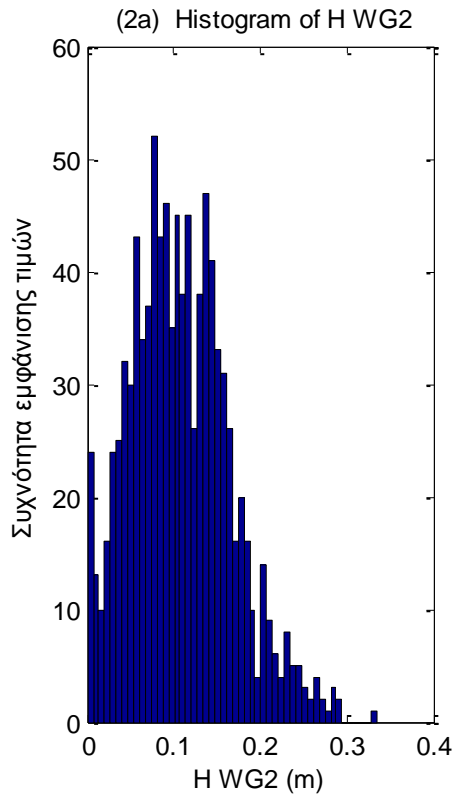
**Σχήματα 2.8.5.5 (1-3)** Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

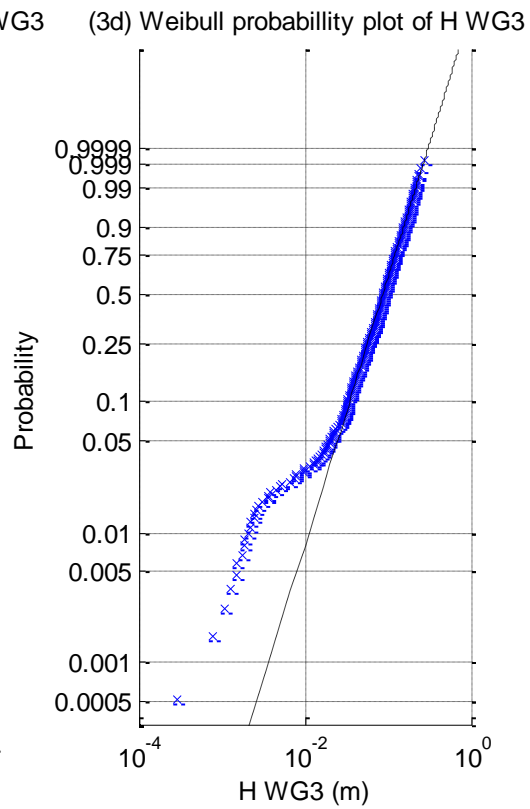
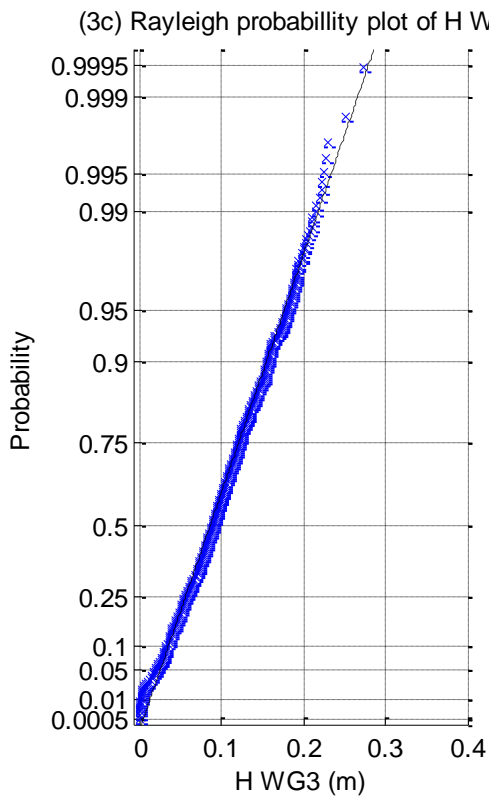
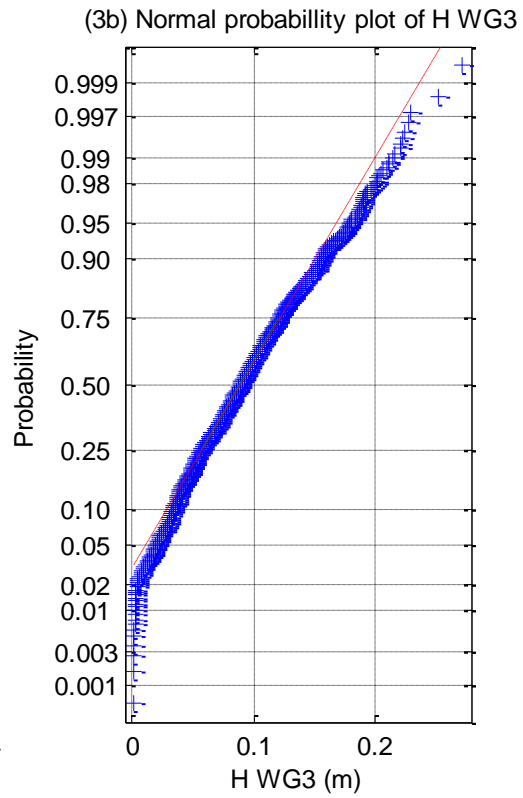
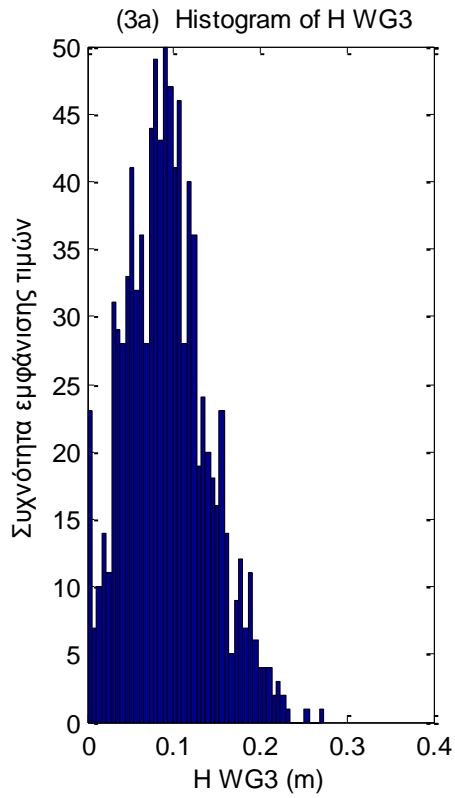




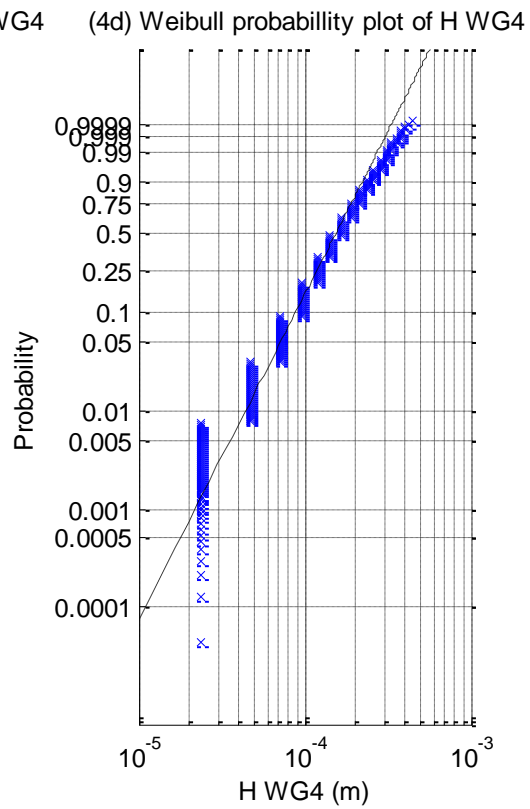
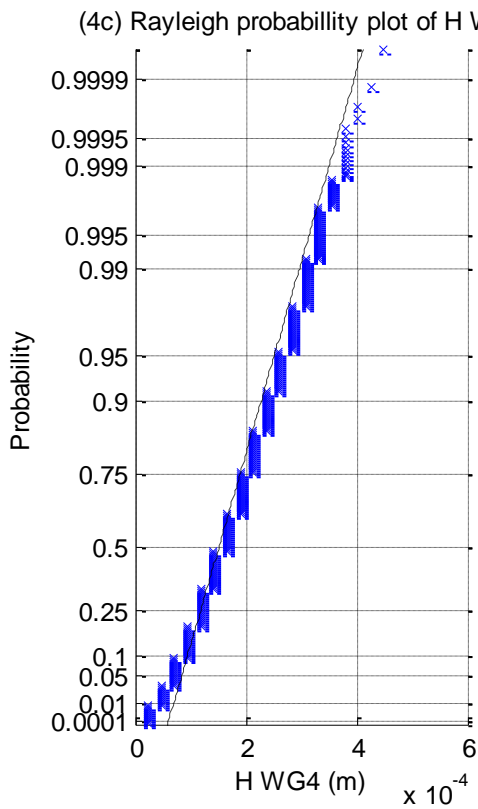
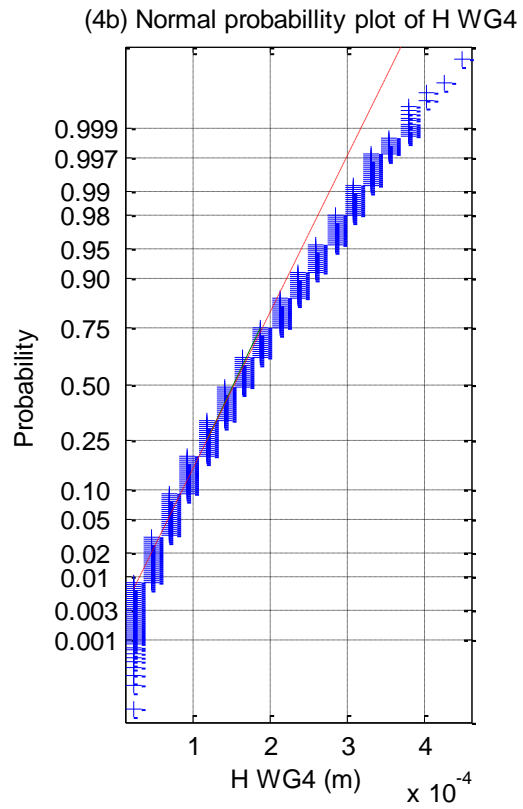
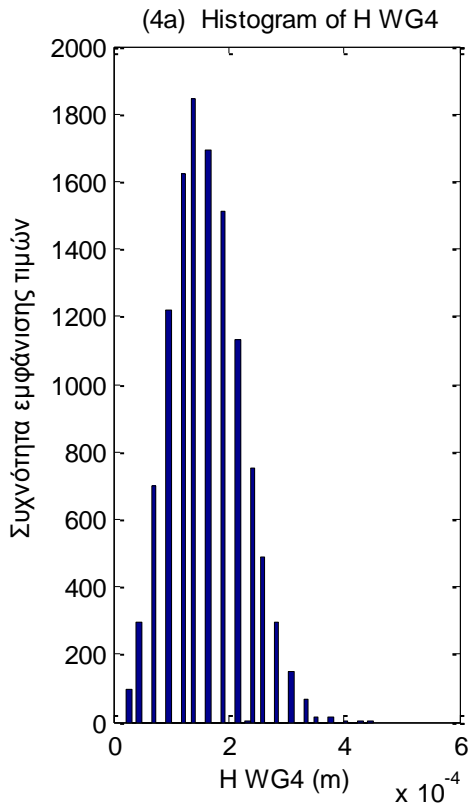
**Σχήματα 2.8.5.6** Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

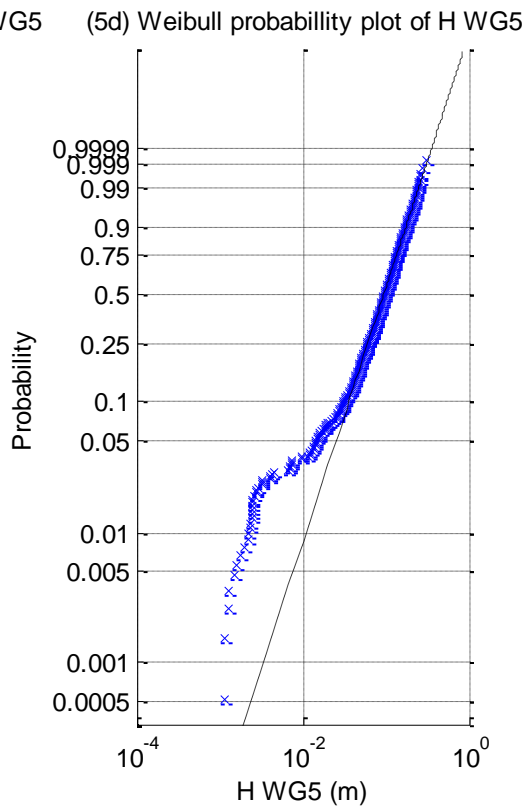
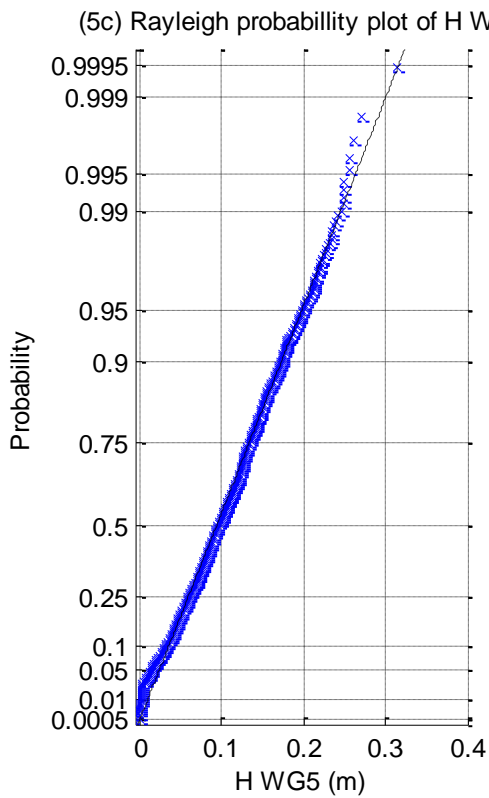
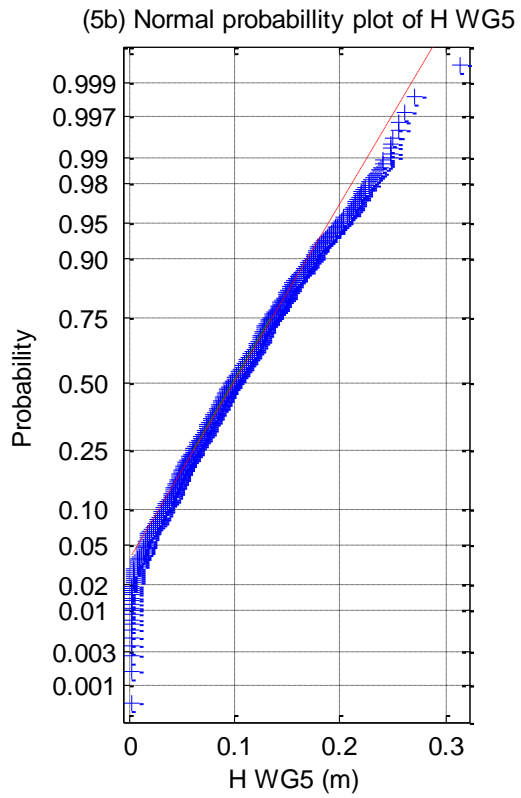
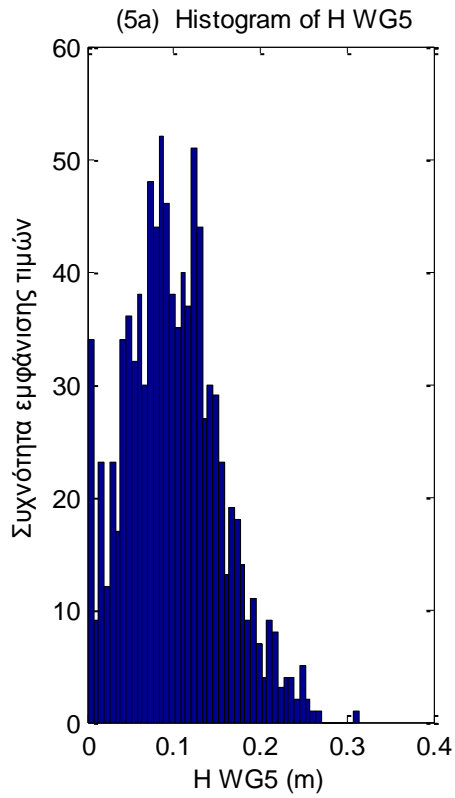


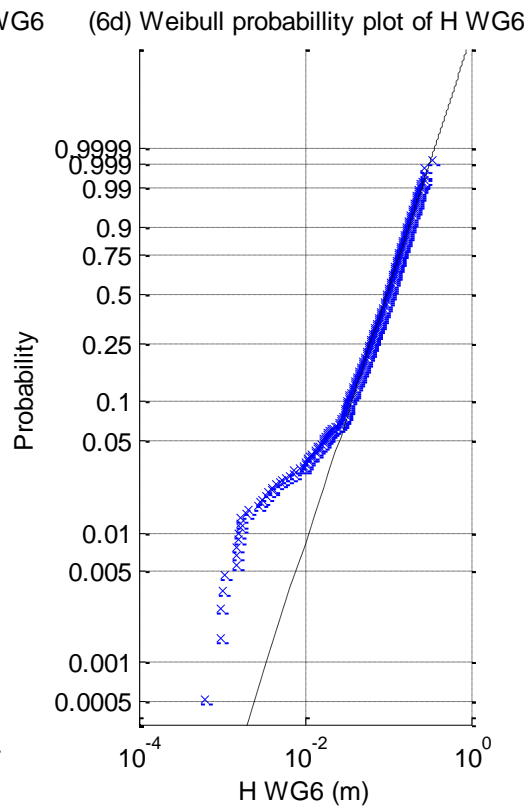
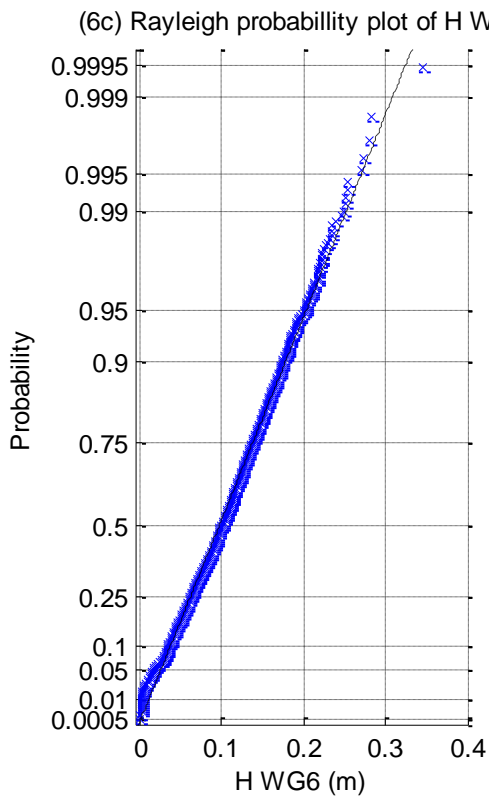
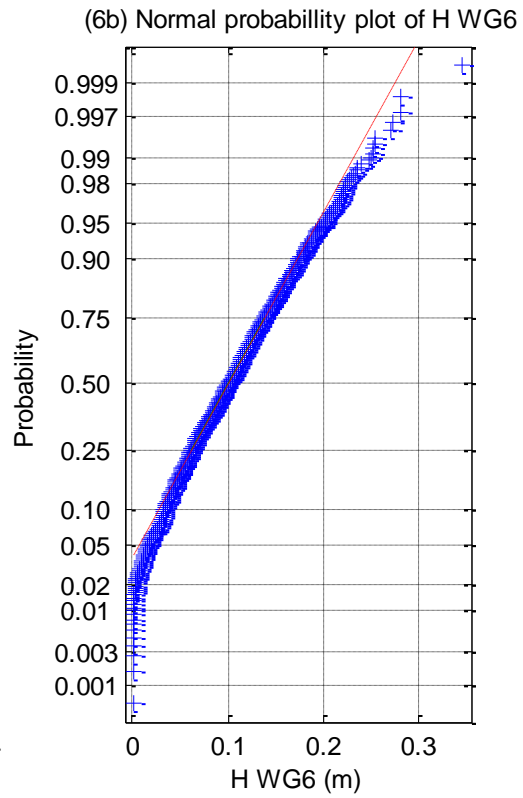
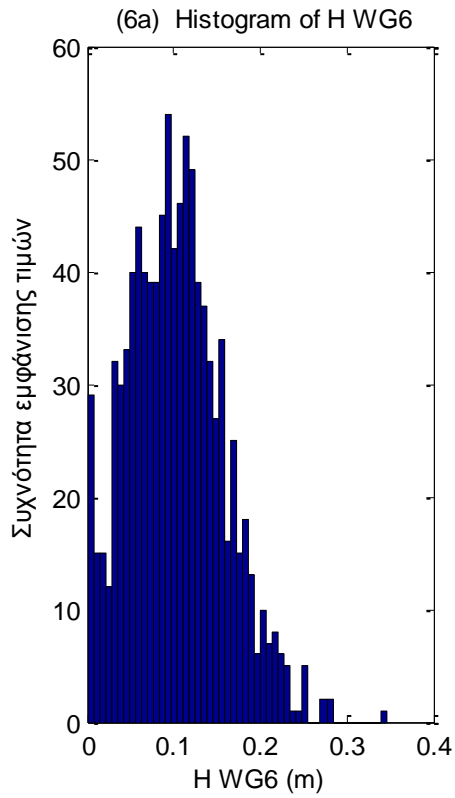


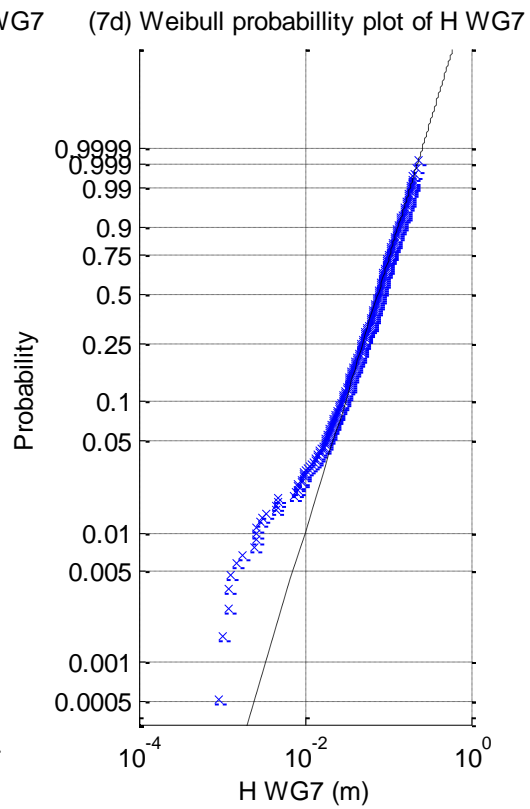
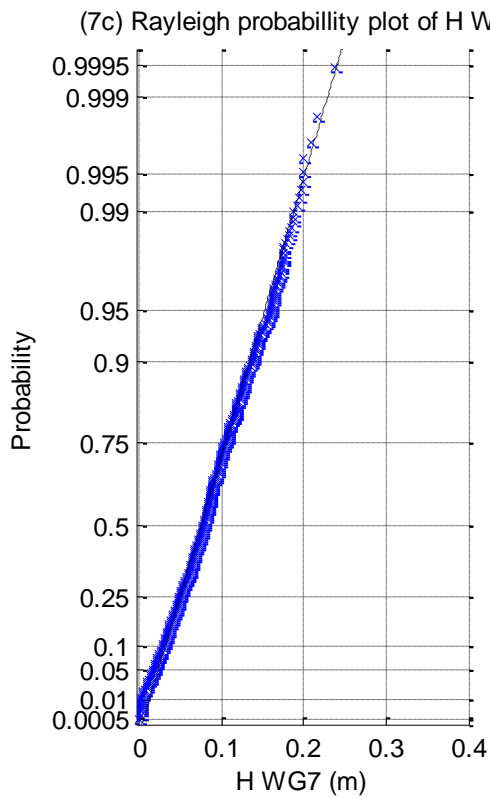
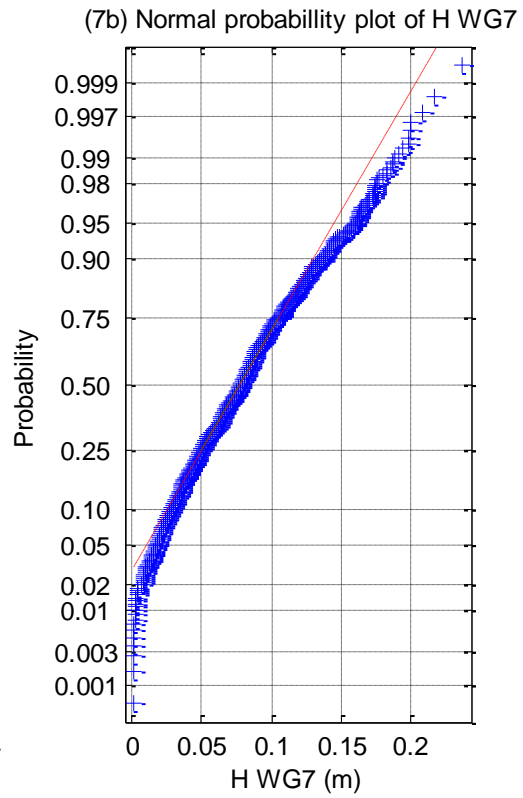
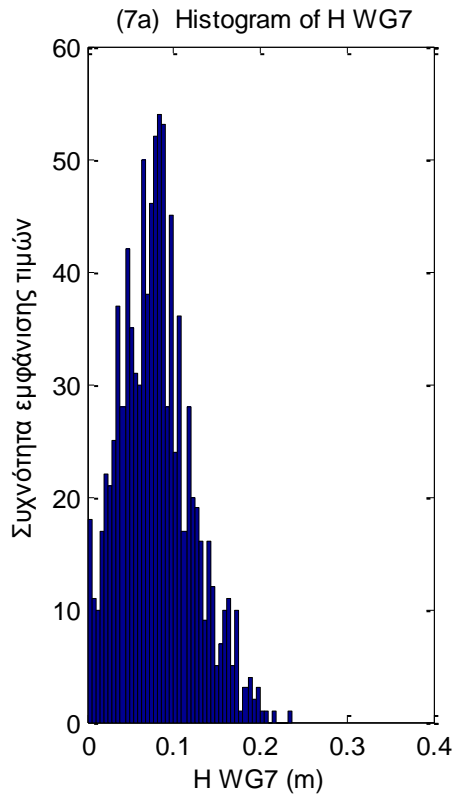


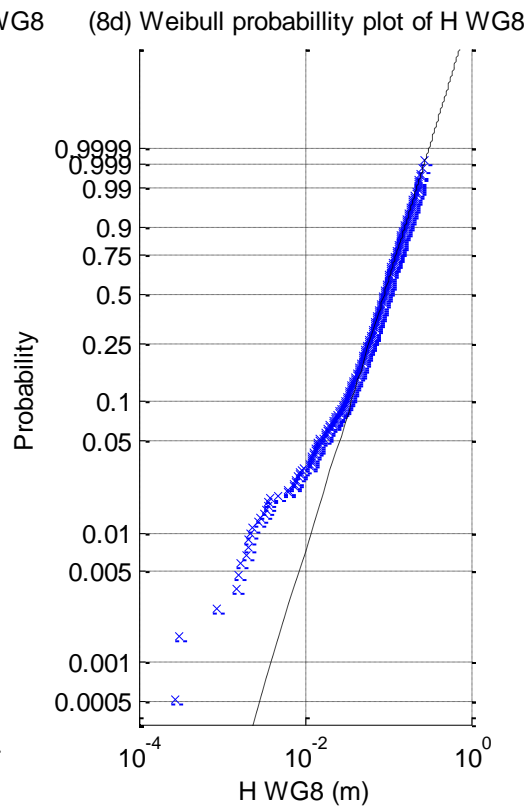
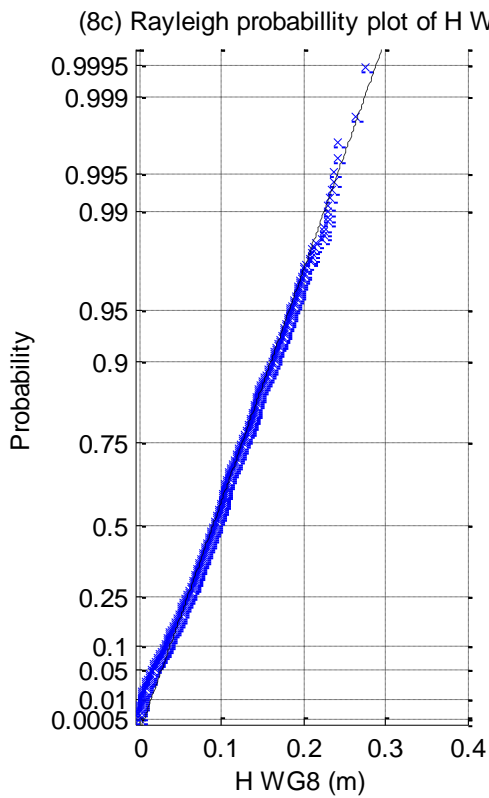
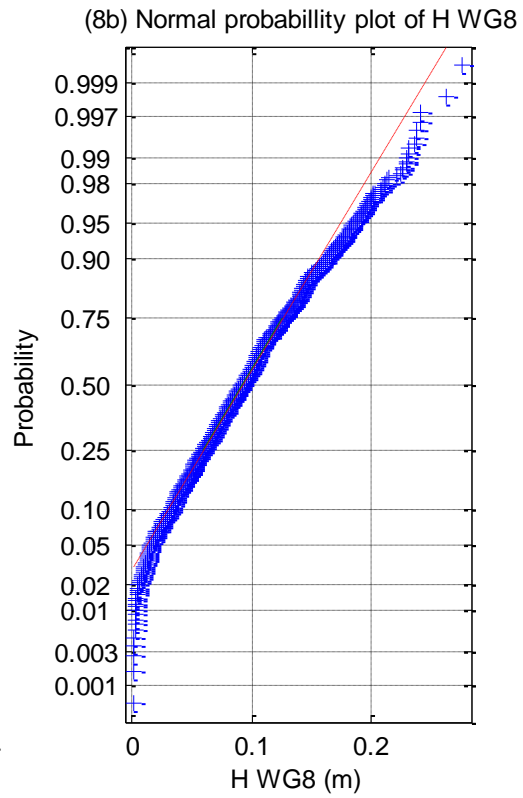
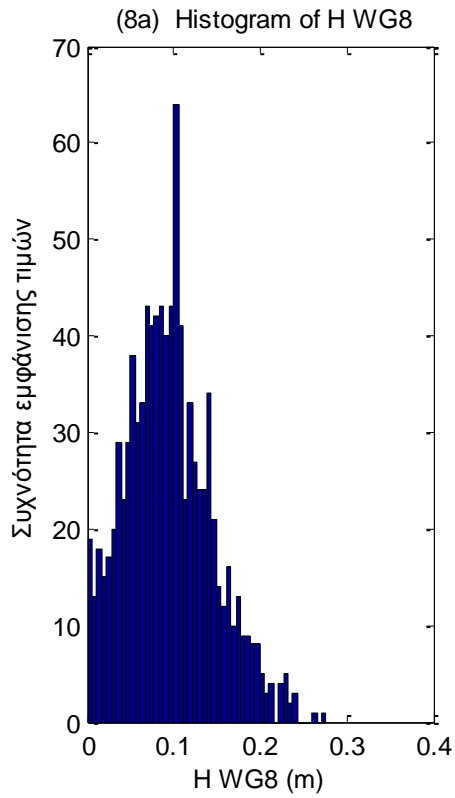


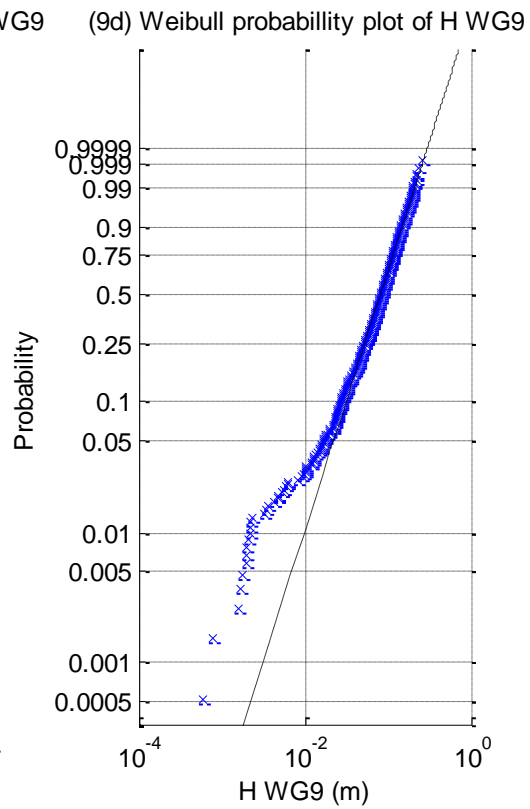
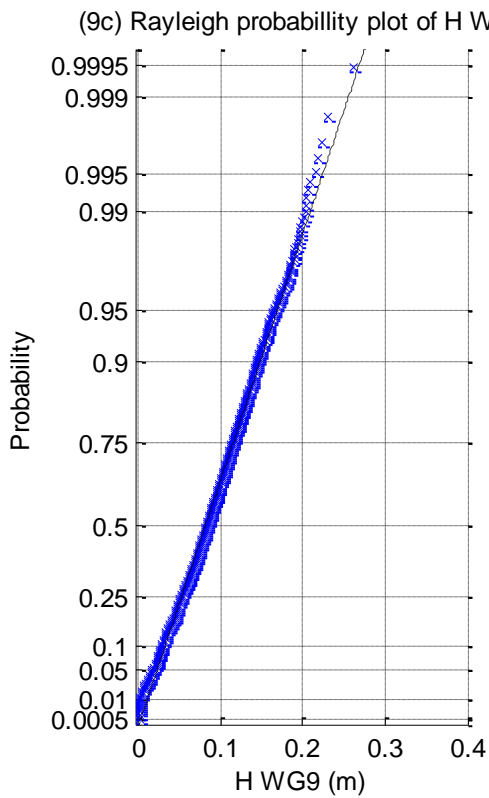
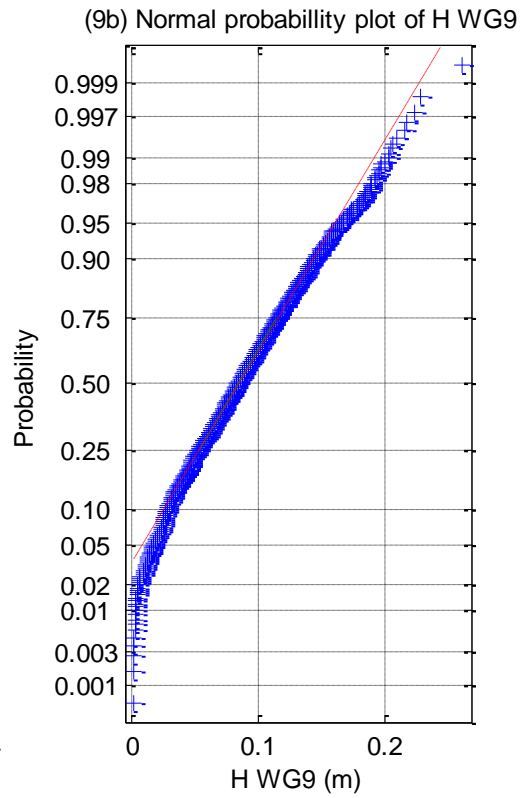
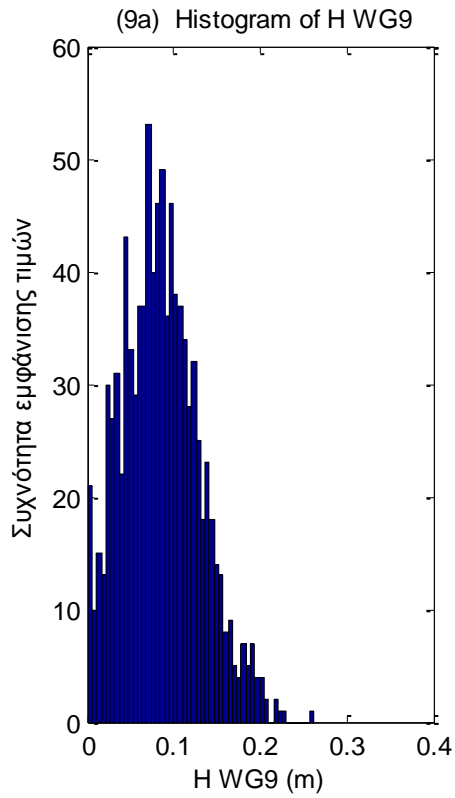


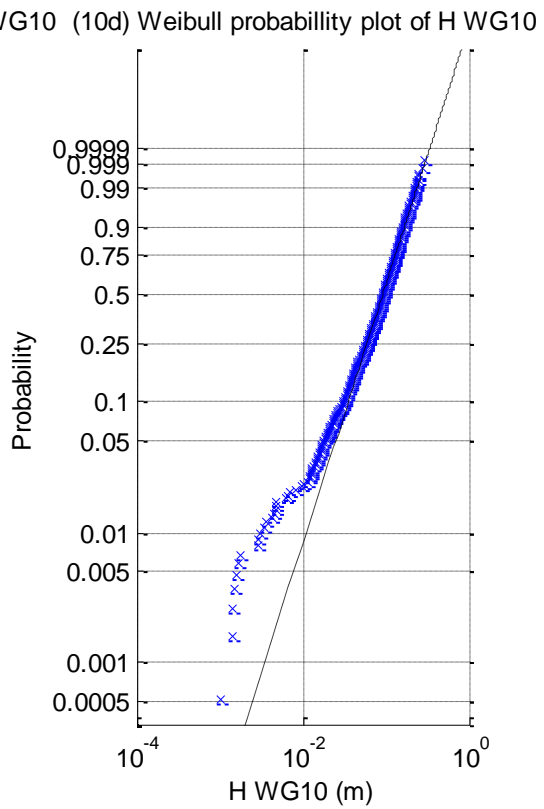
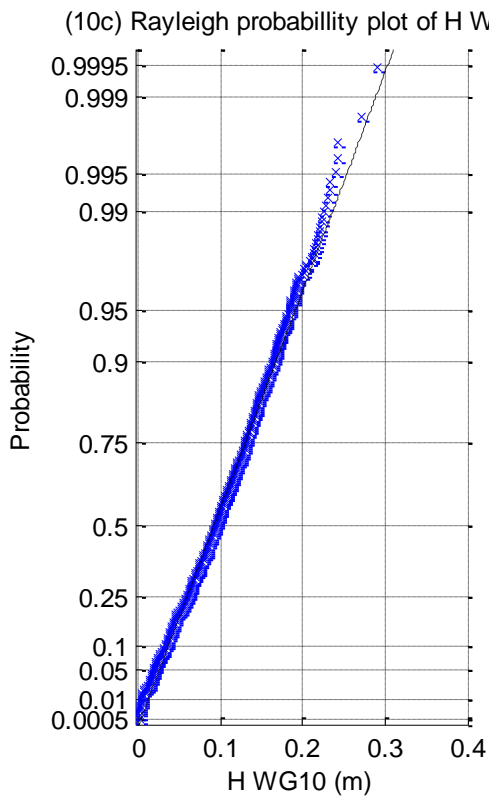
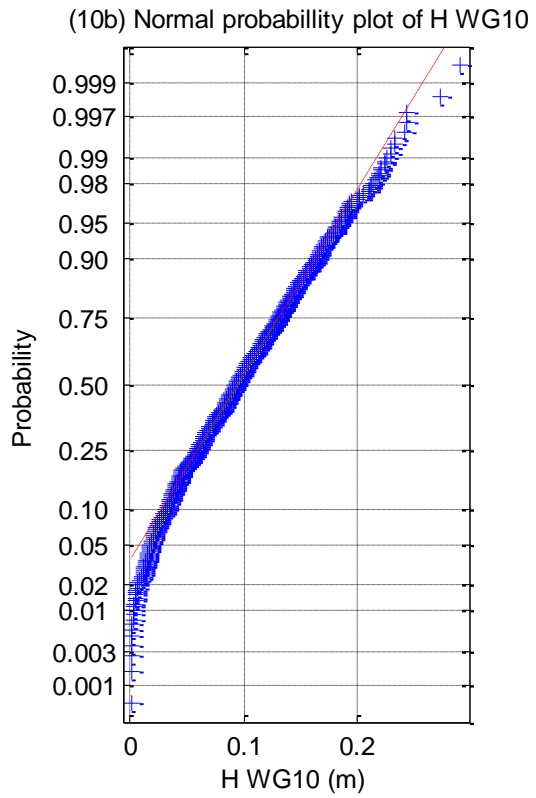
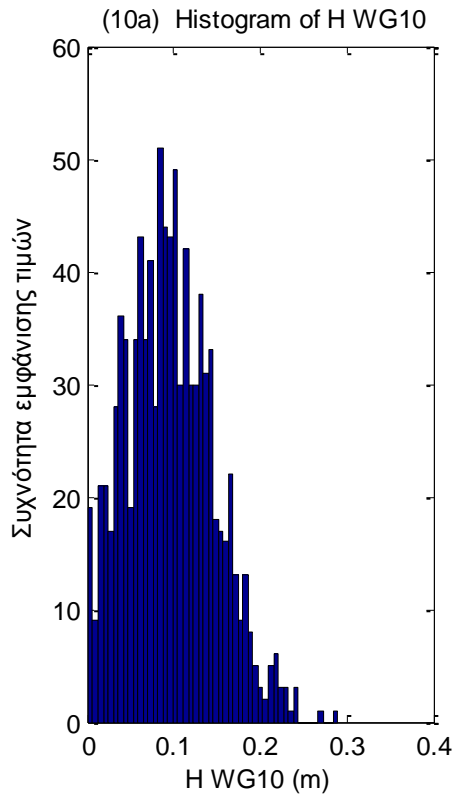


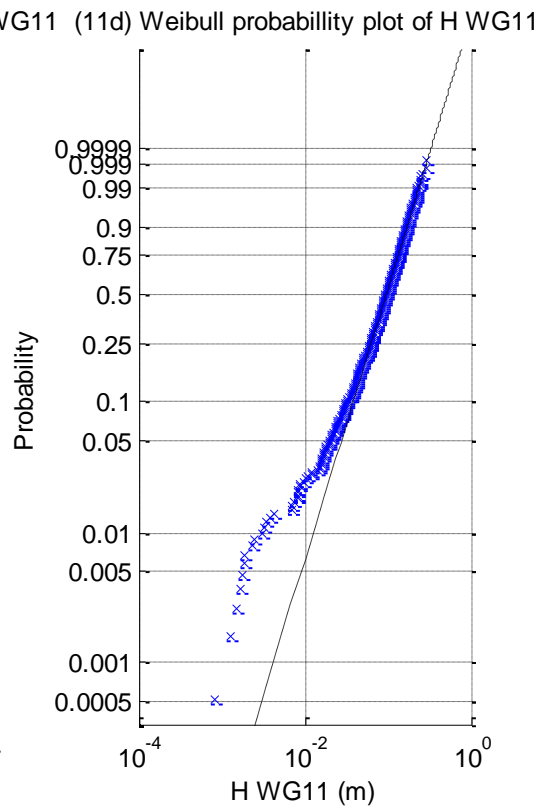
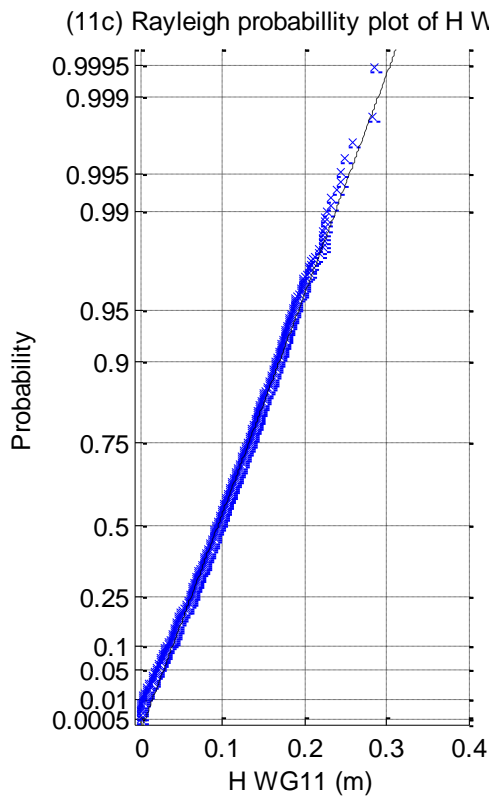
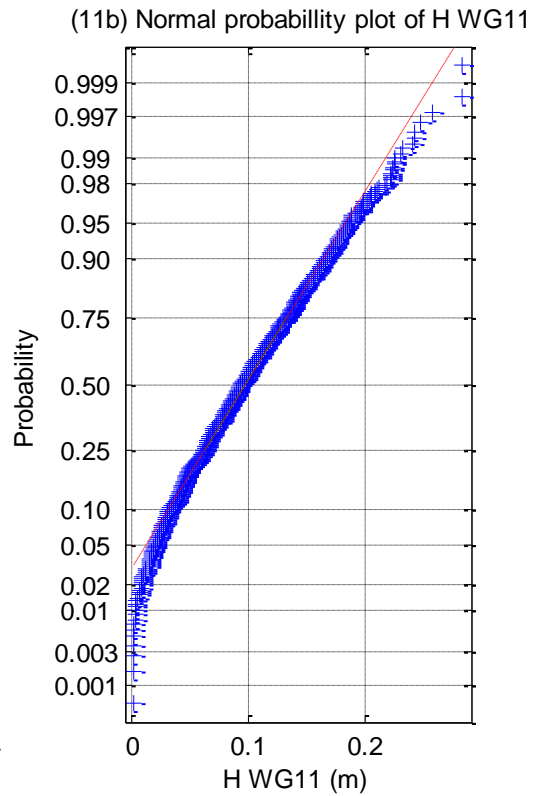
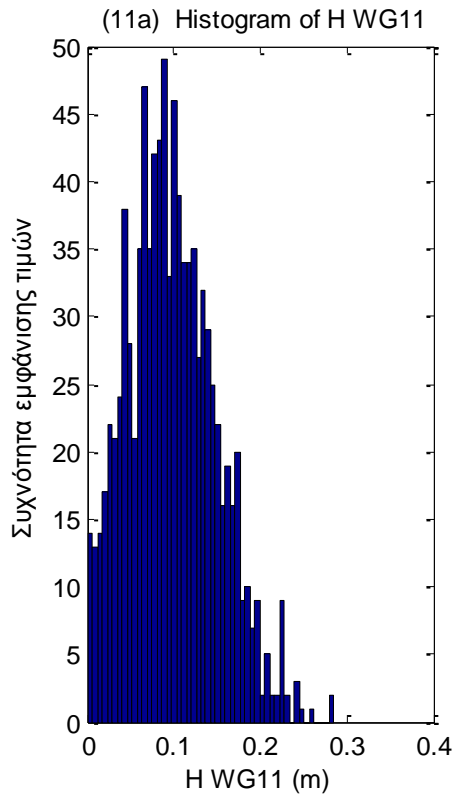






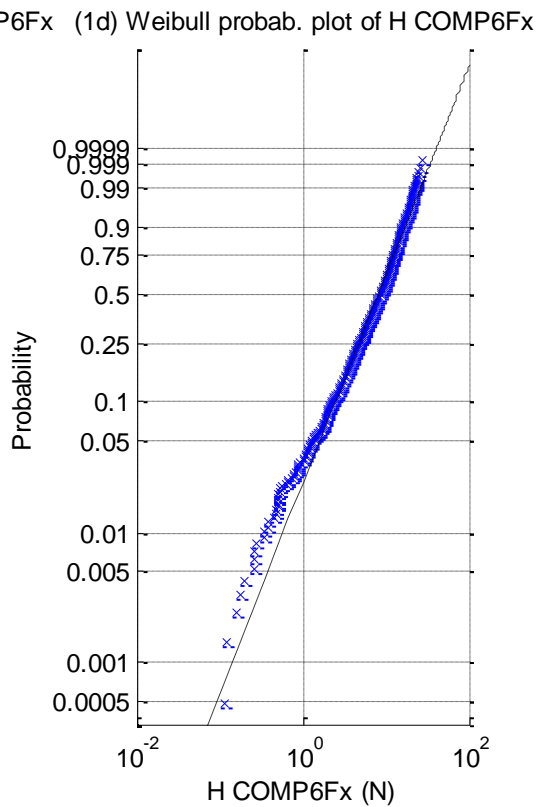
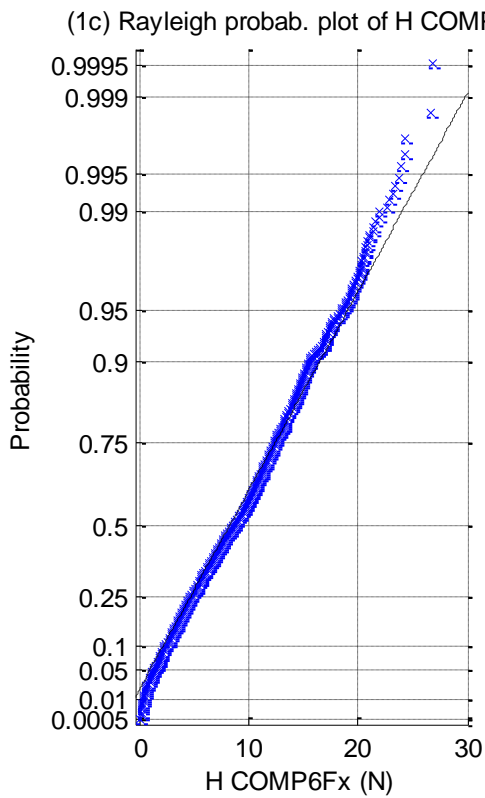
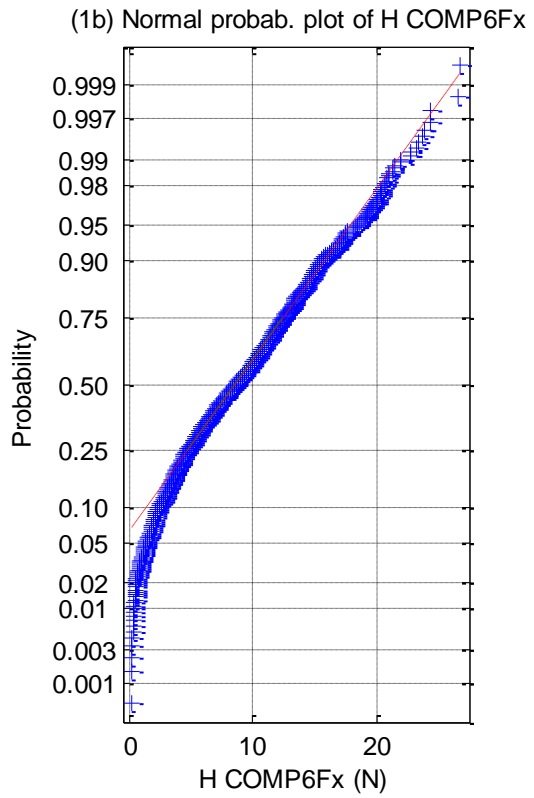
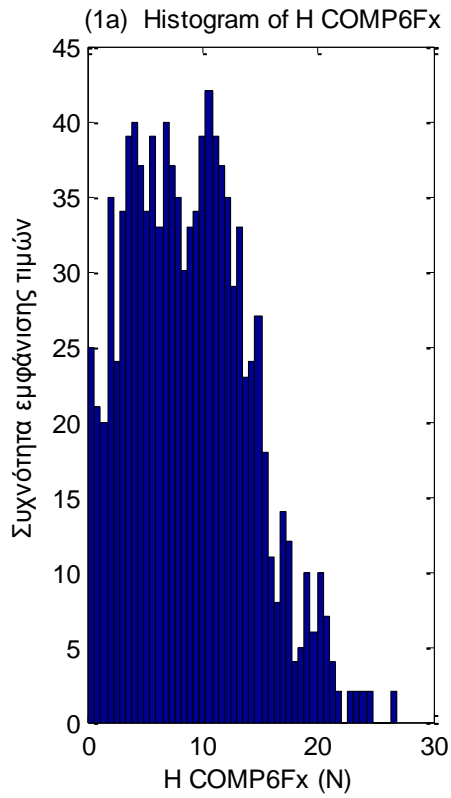


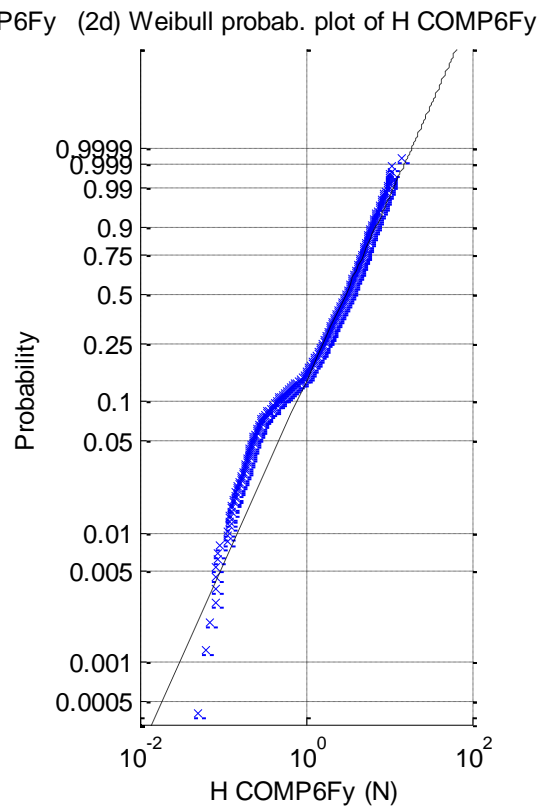
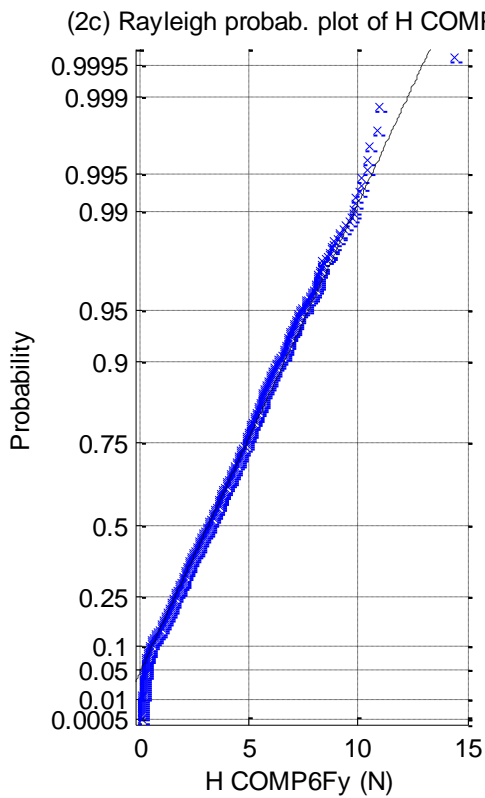
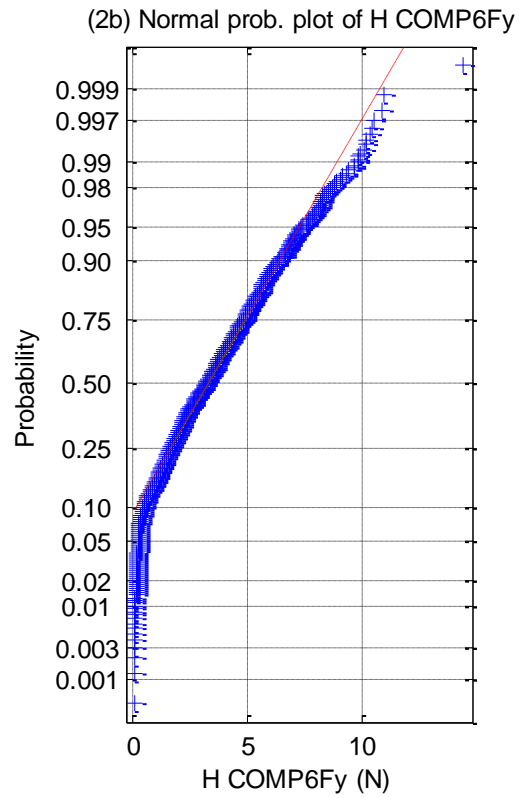
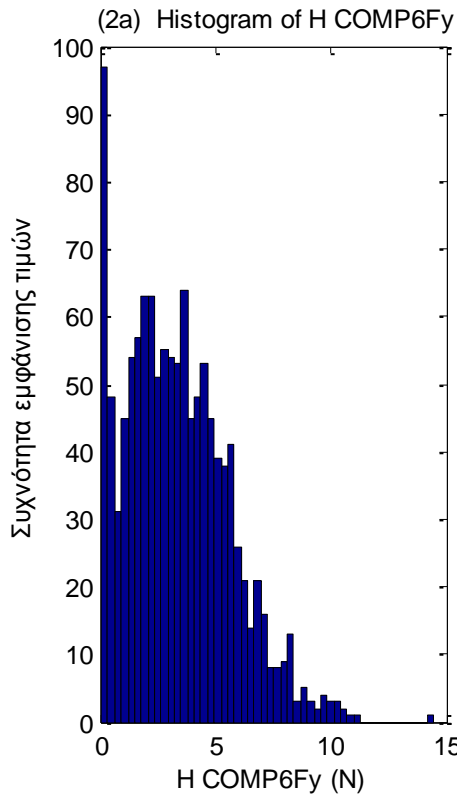


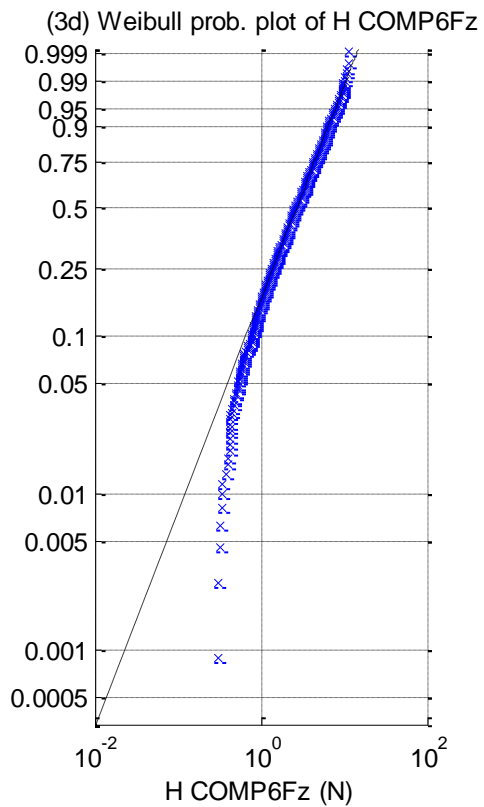
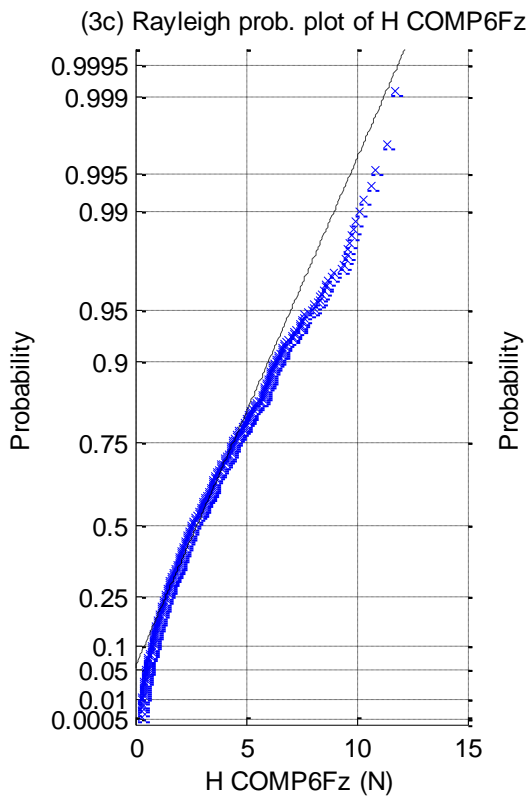
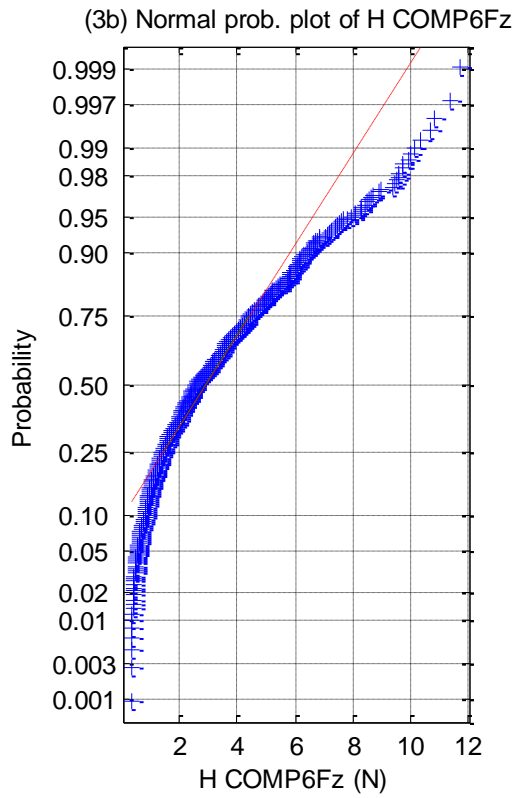
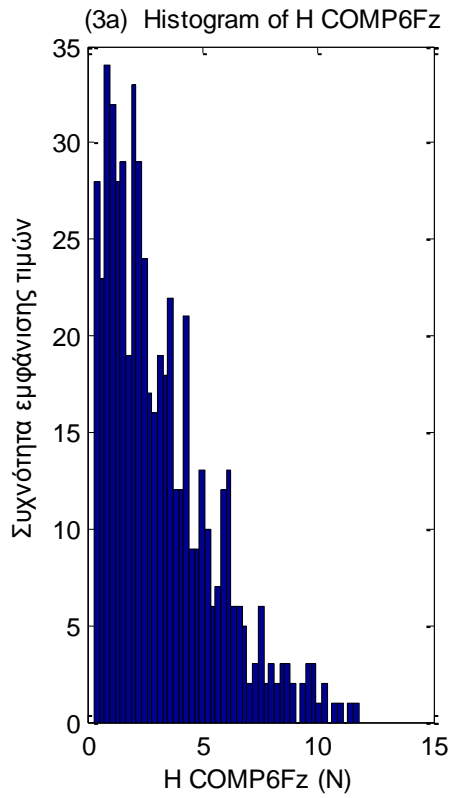


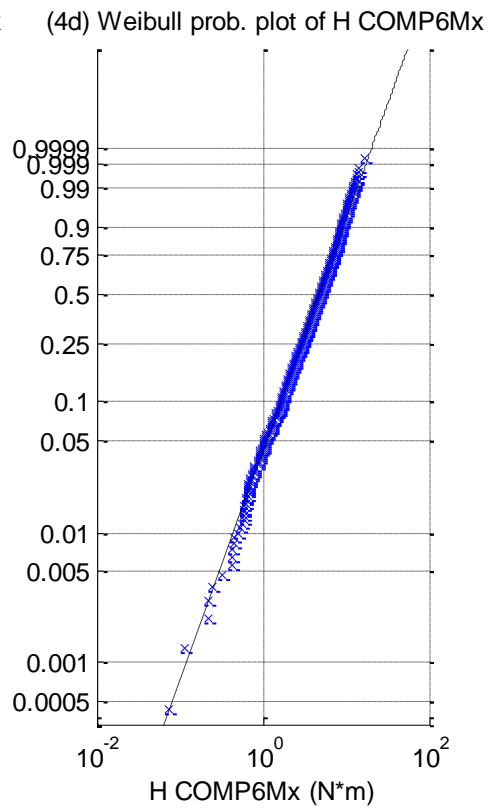
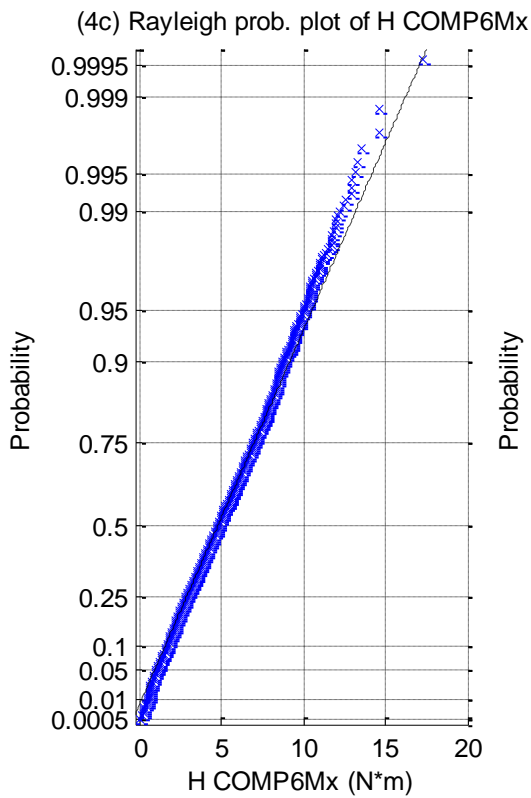
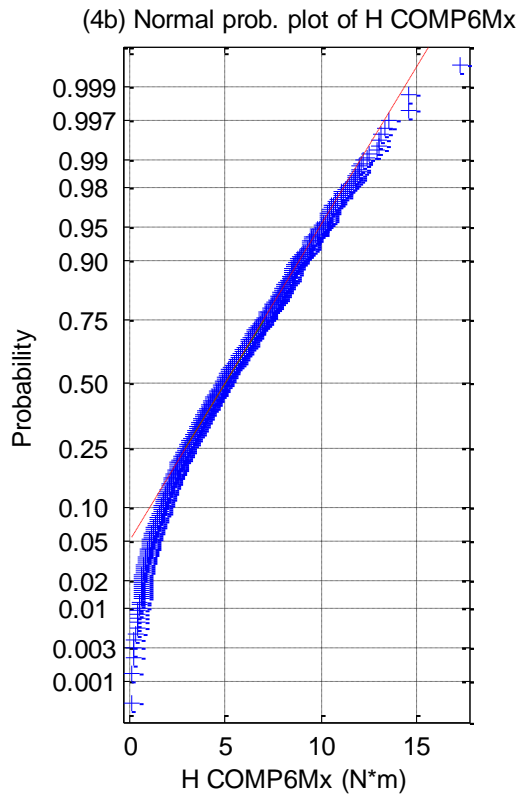
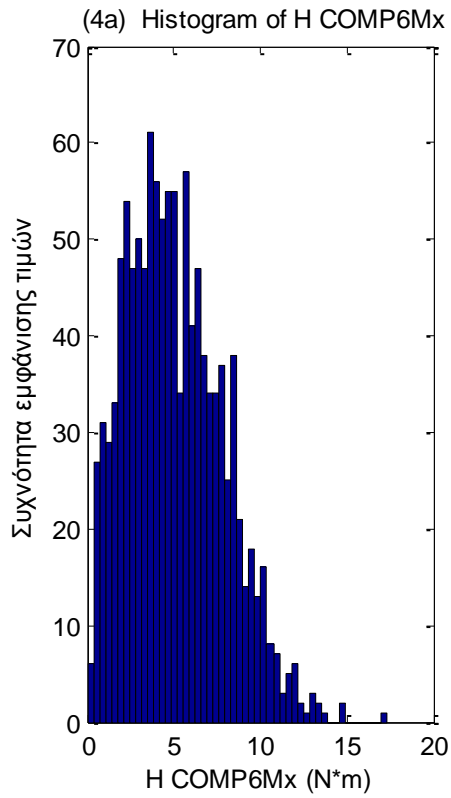
**Σχήματα 2.8.6.1 (1-11)** a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος

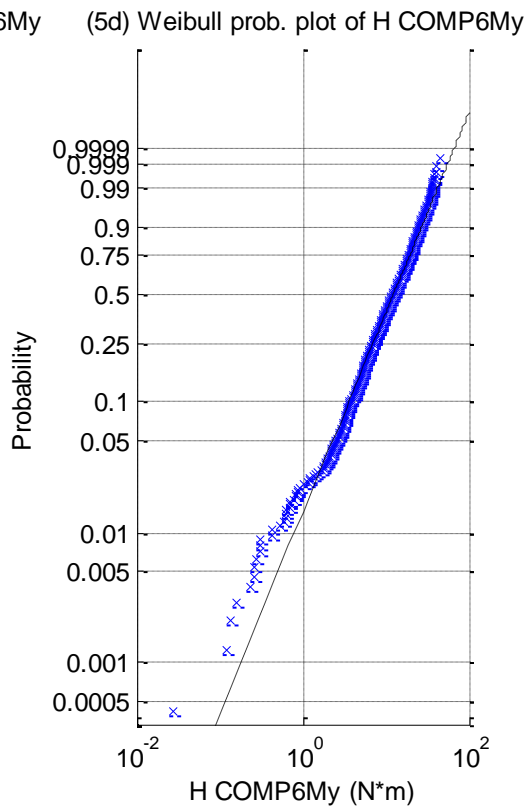
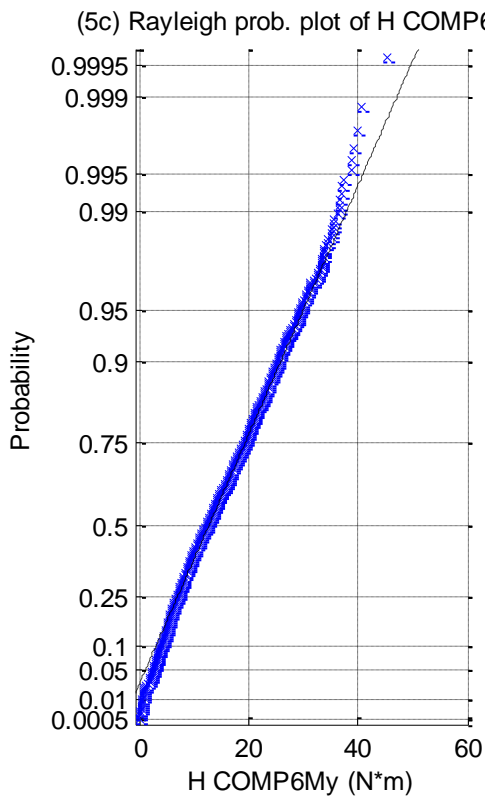
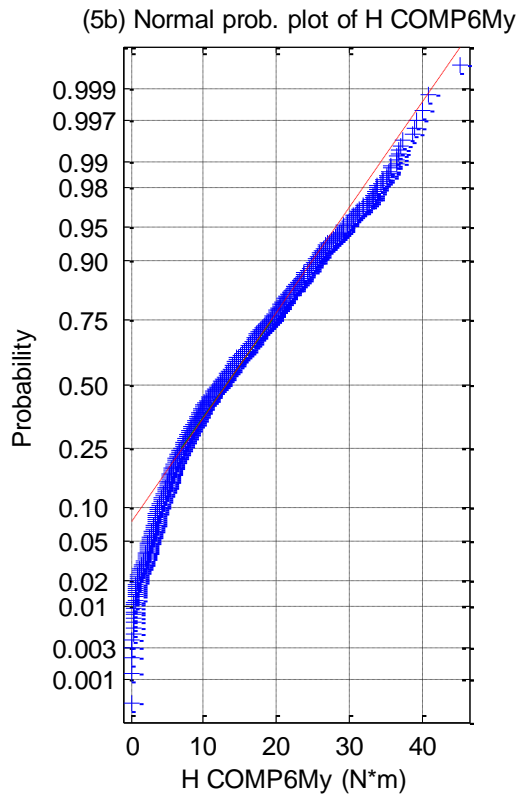
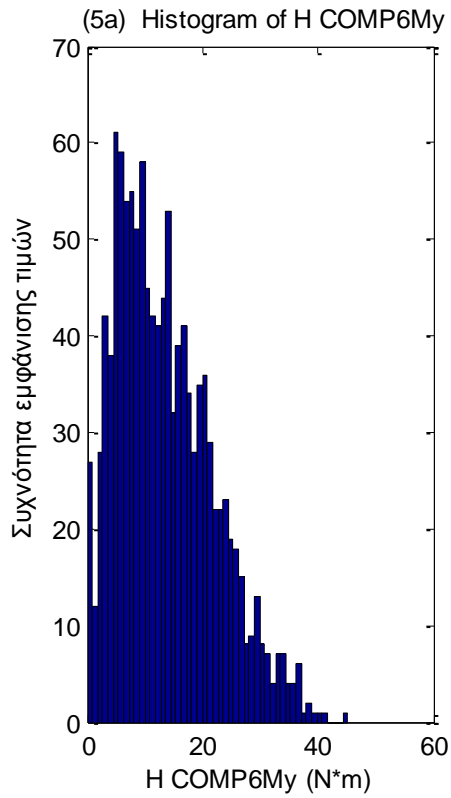


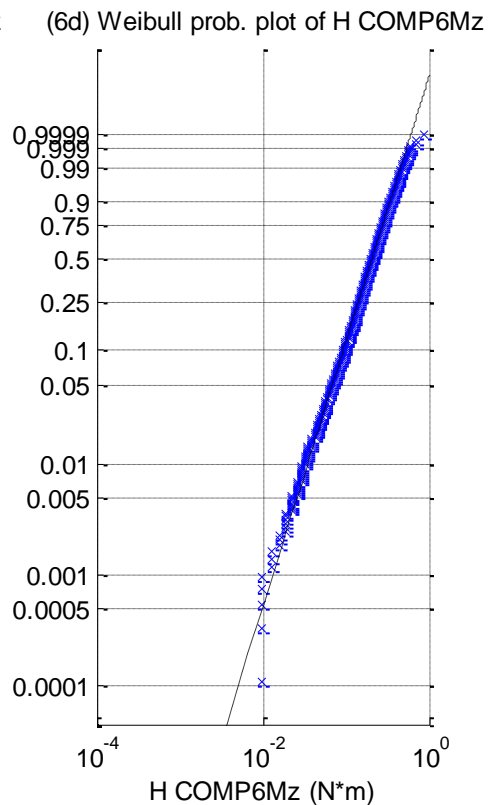
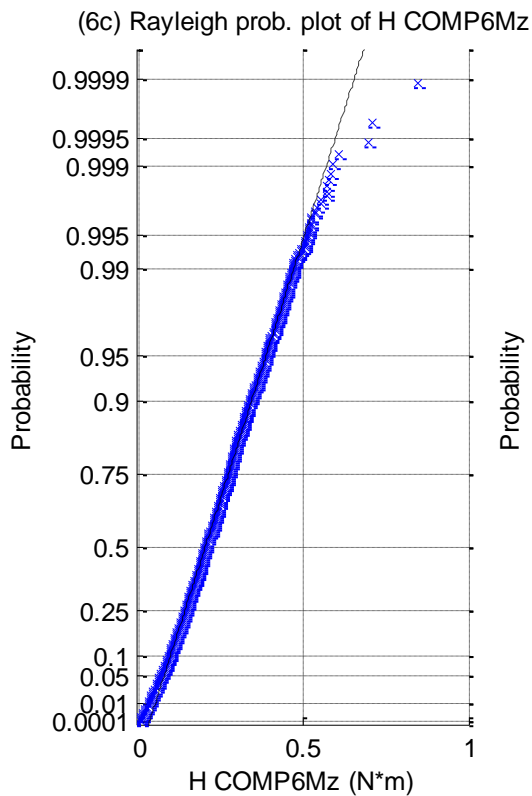
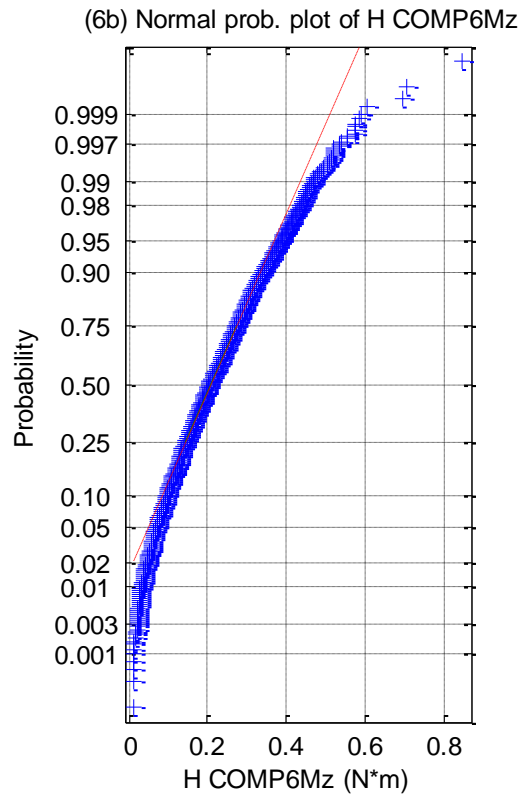
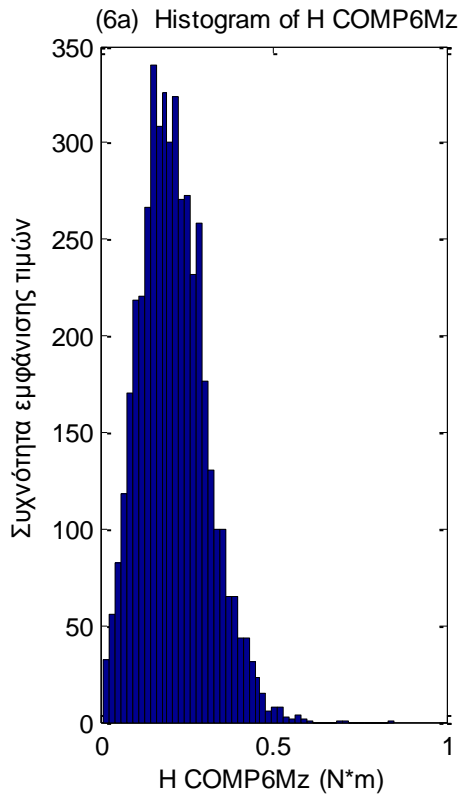




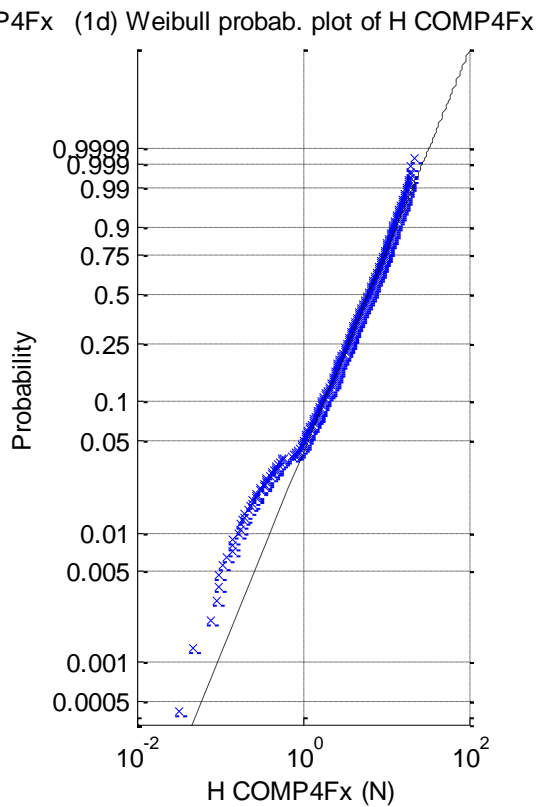
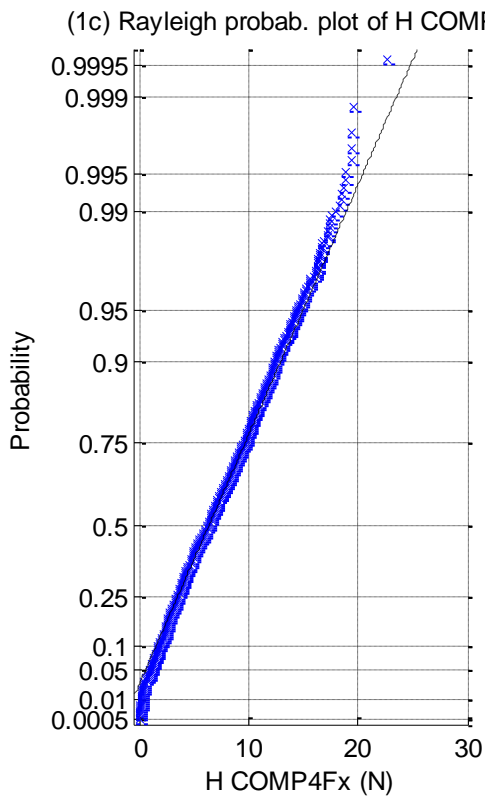
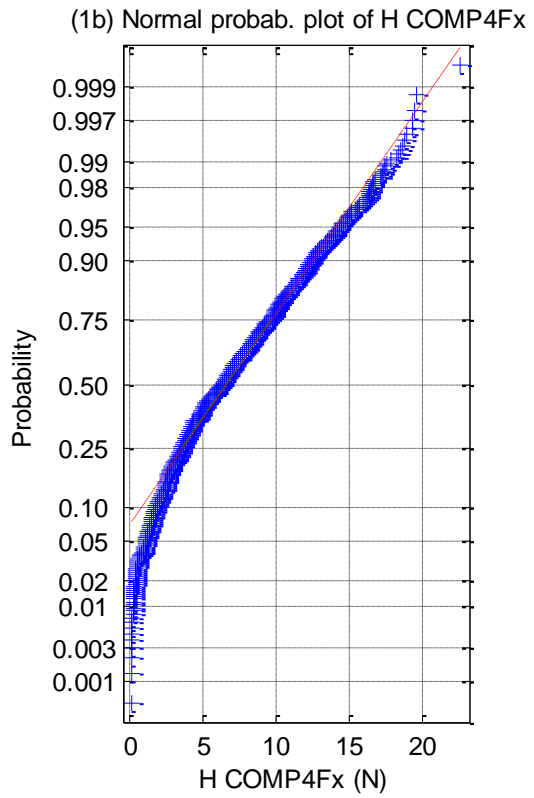
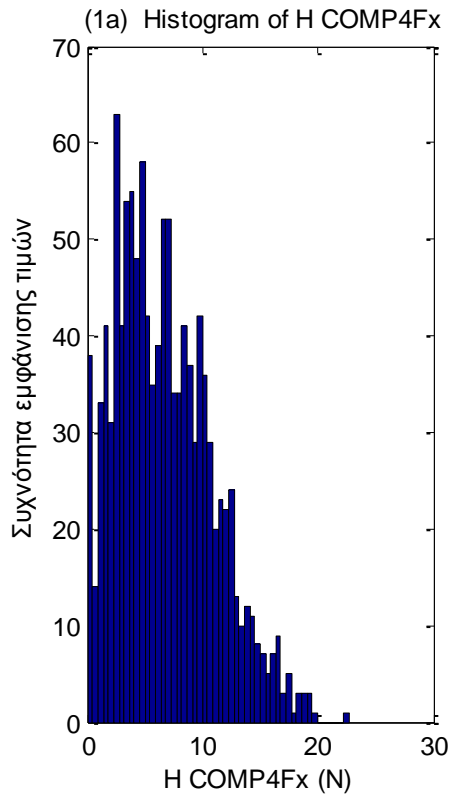


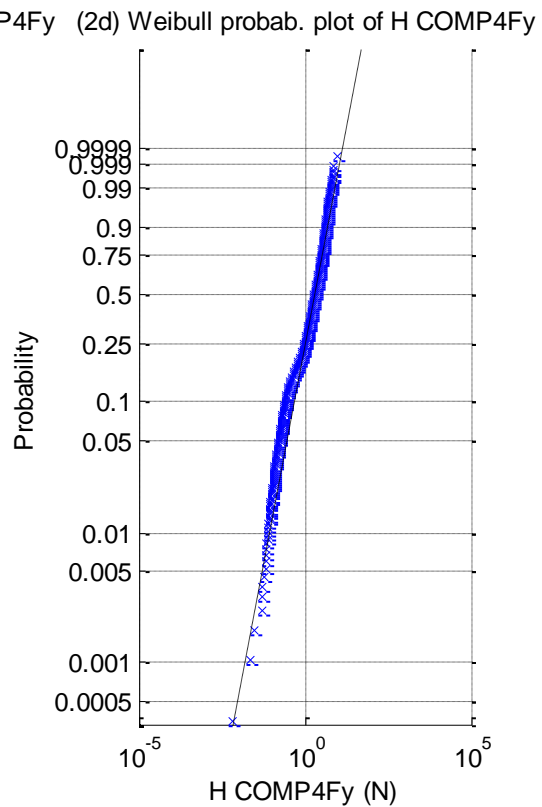
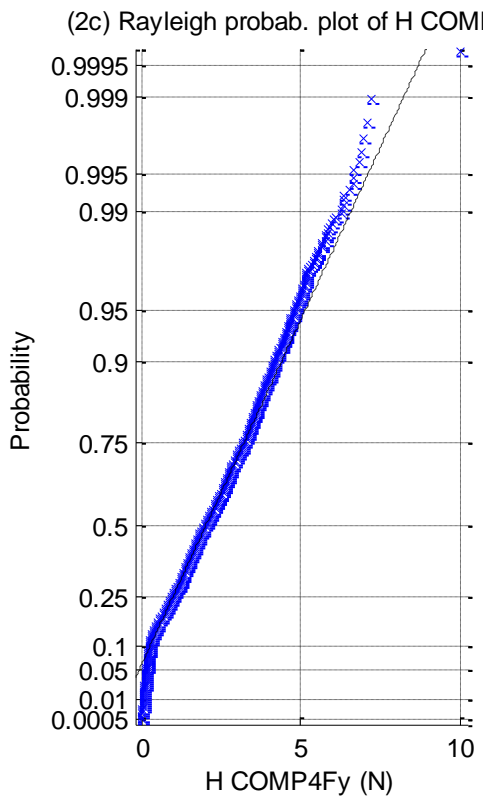
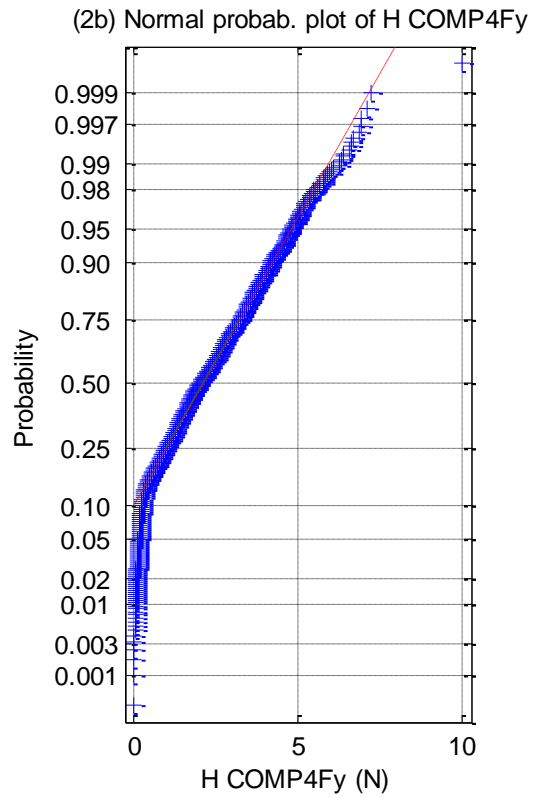
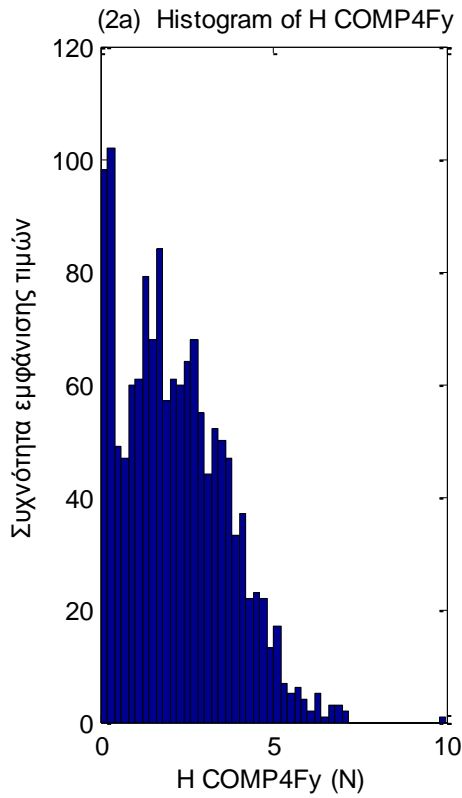






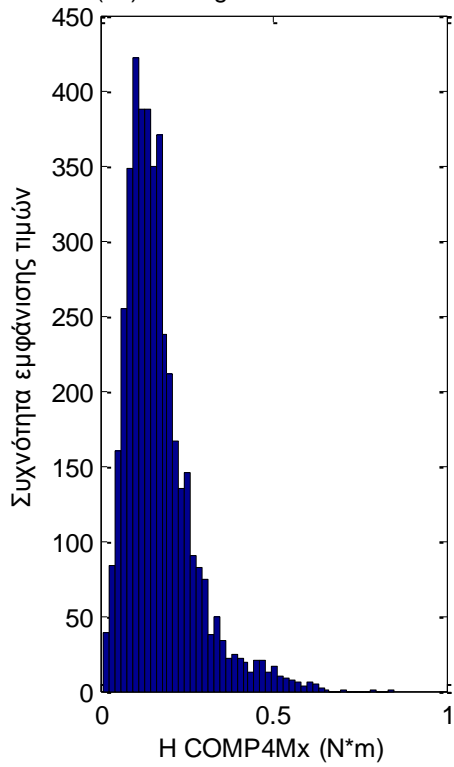
**Σχήματα 2.8.6.2 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



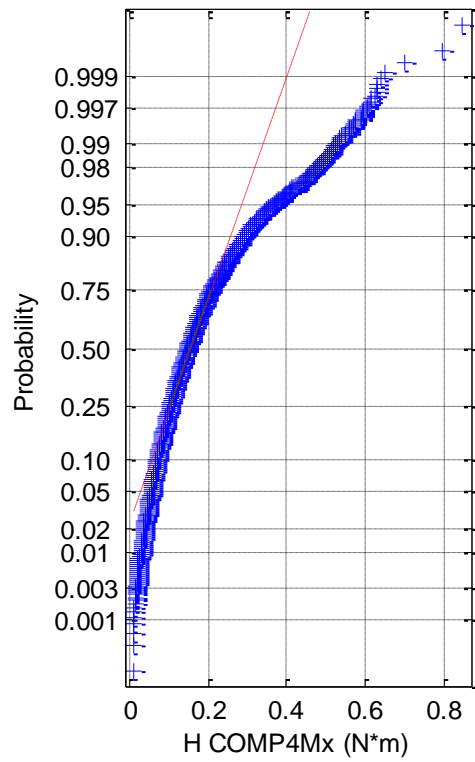




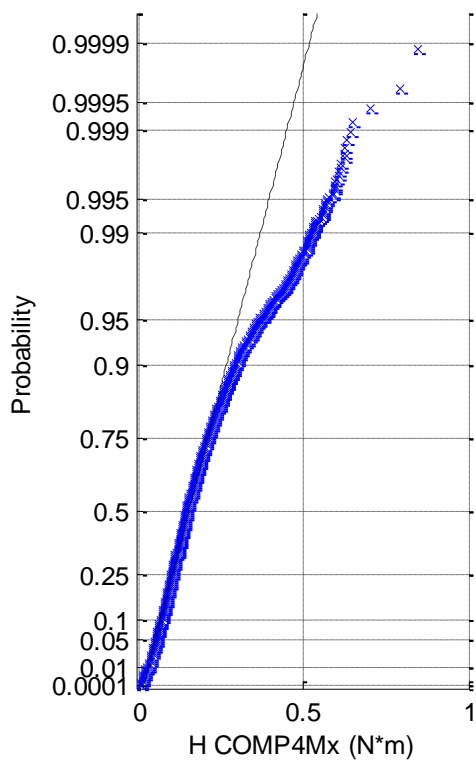
(3a) Histogram of H COMP4Mx



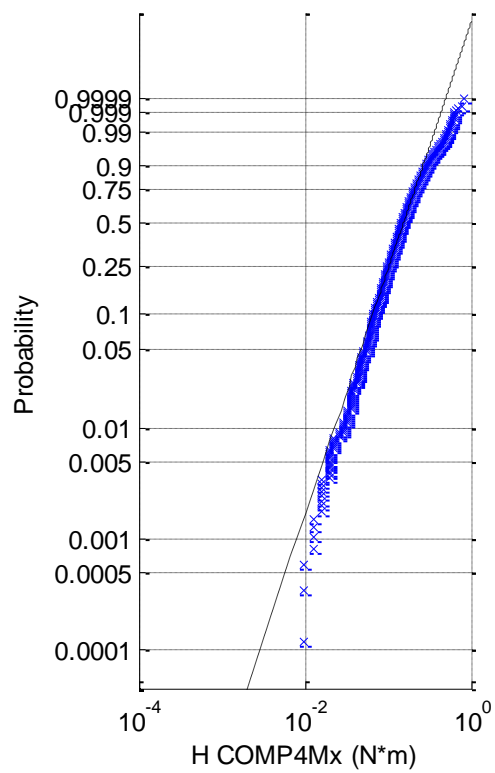
(3b) Normal prob. plot of H COMP4Mx

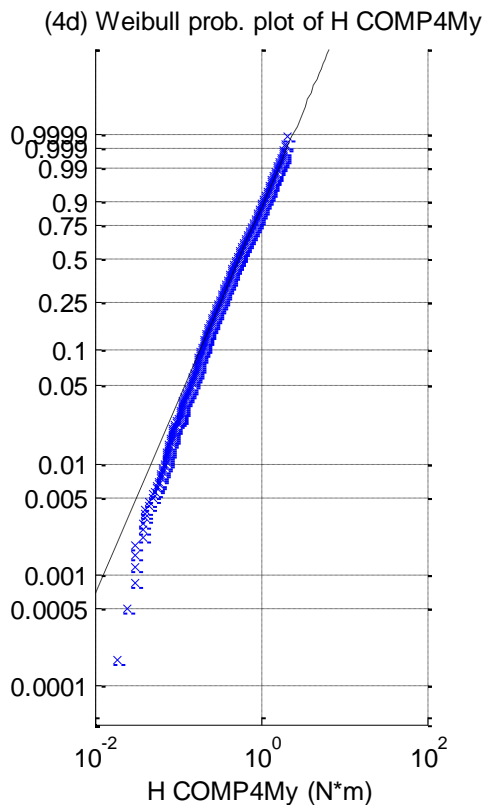
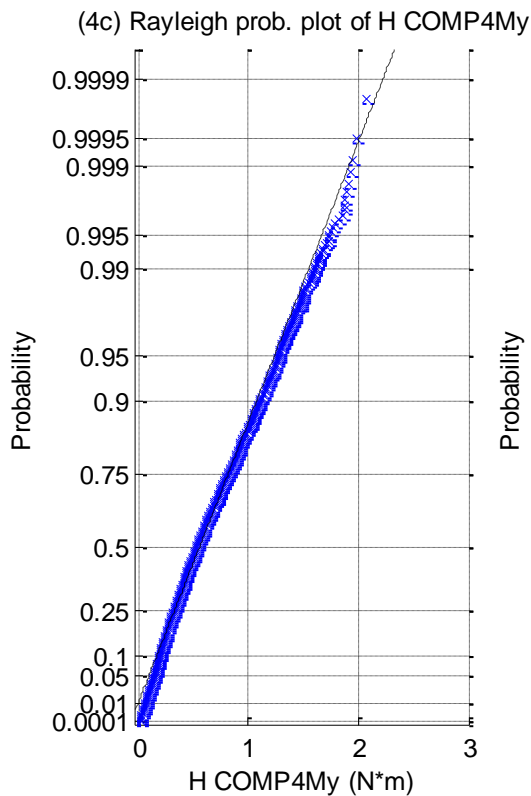
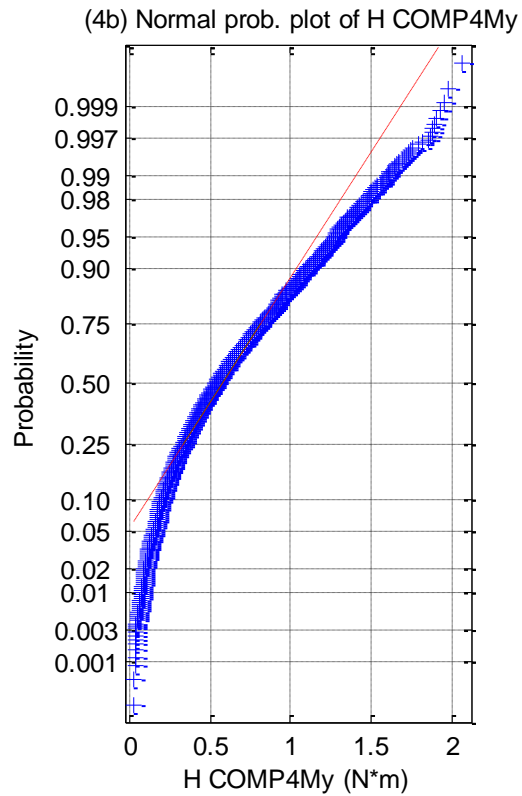
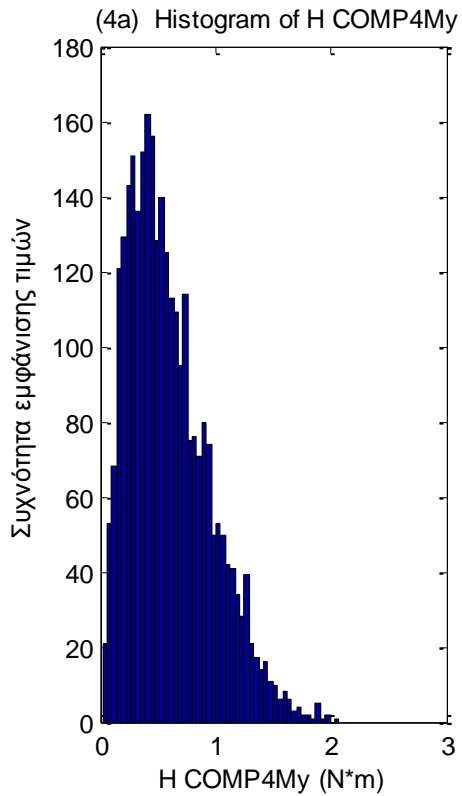


(3c) Rayleigh prob. plot of H COMP4Mx

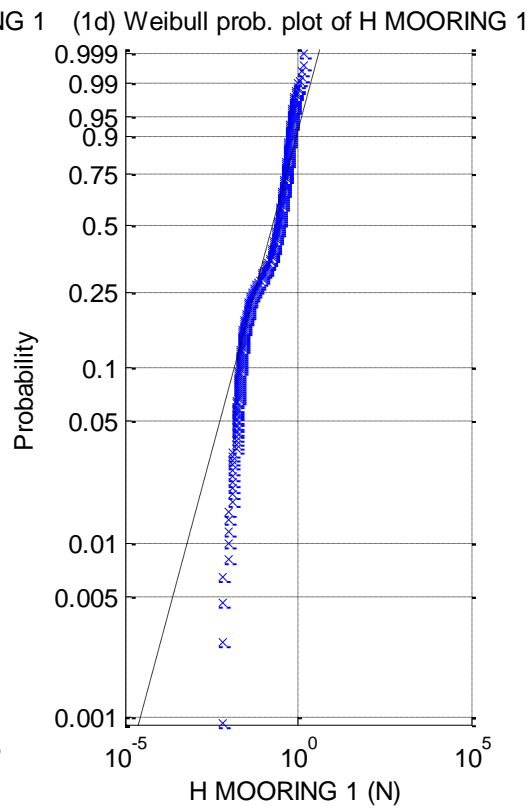
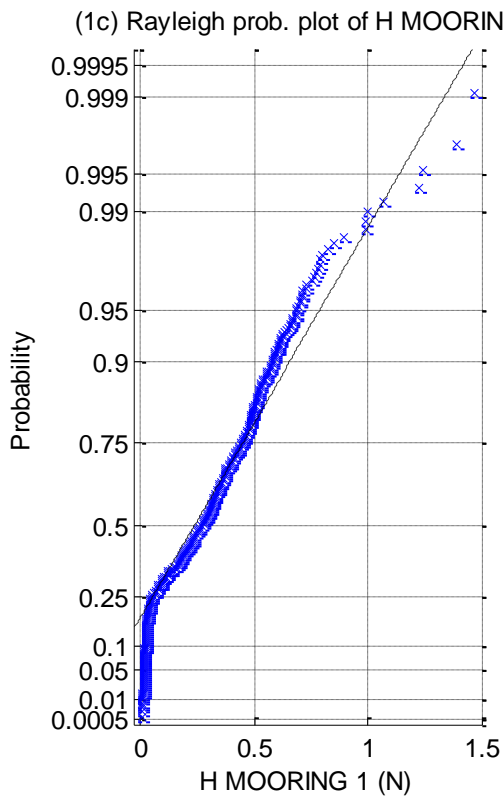
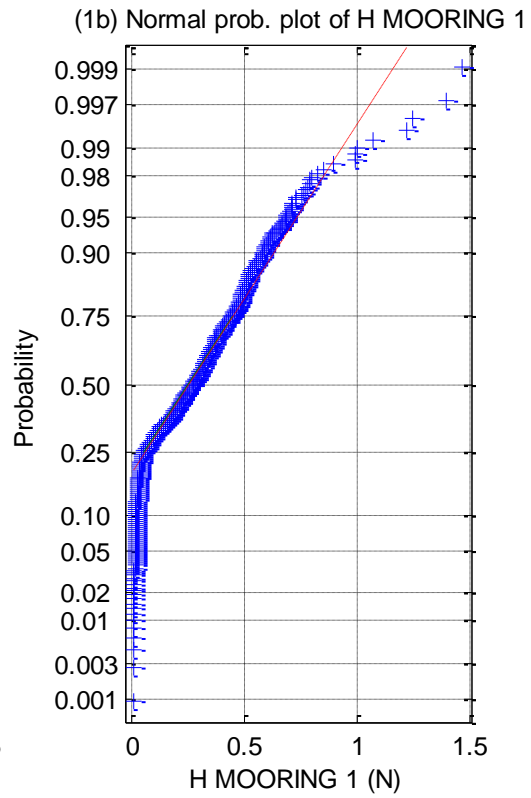
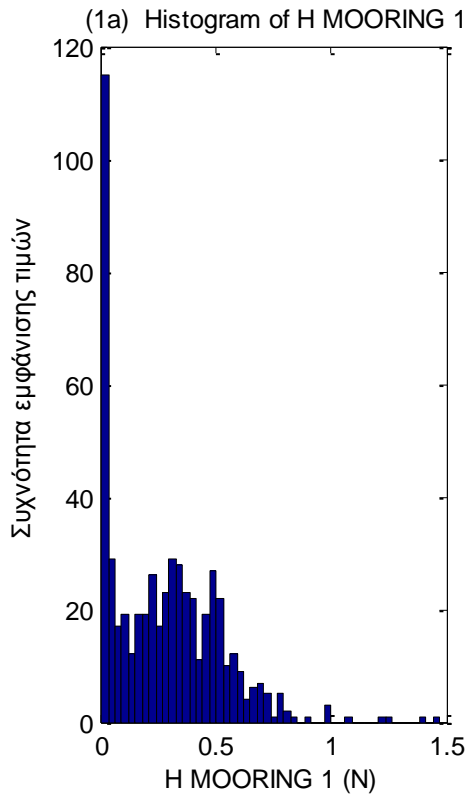


(3d) Weibull prob. plot of H COMP4Mx

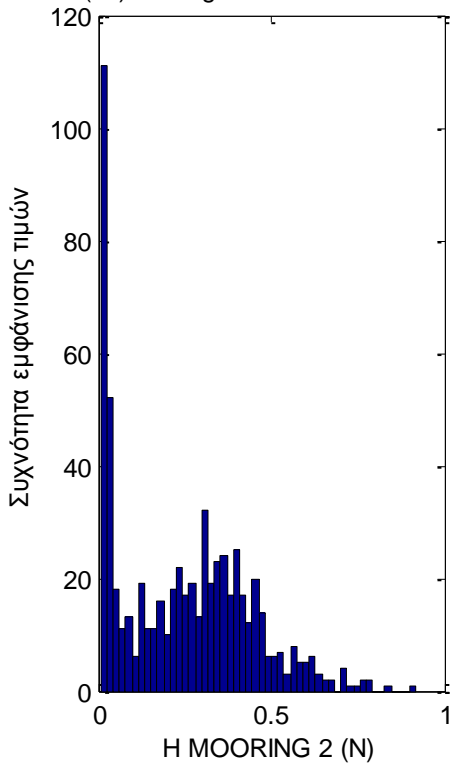




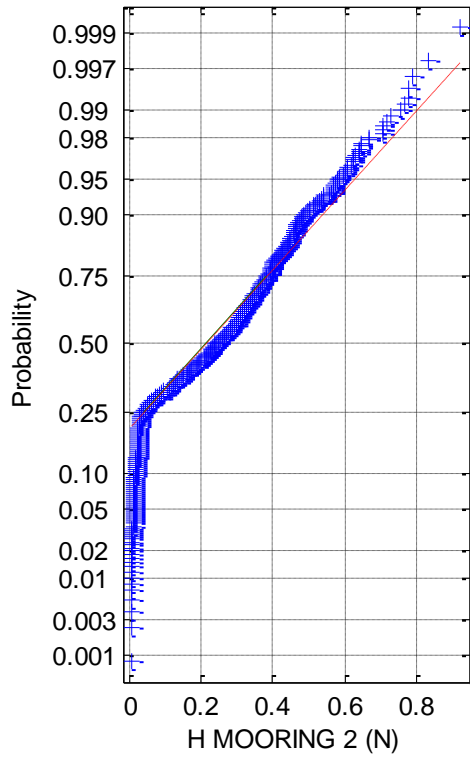
**Σχήματα 2.8.6.3 (1-4)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και για τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



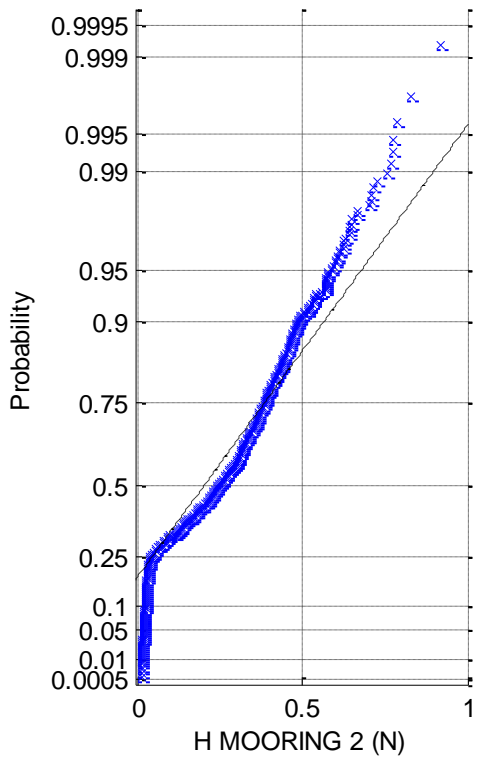
(2a) Histogram of H MOORING 2



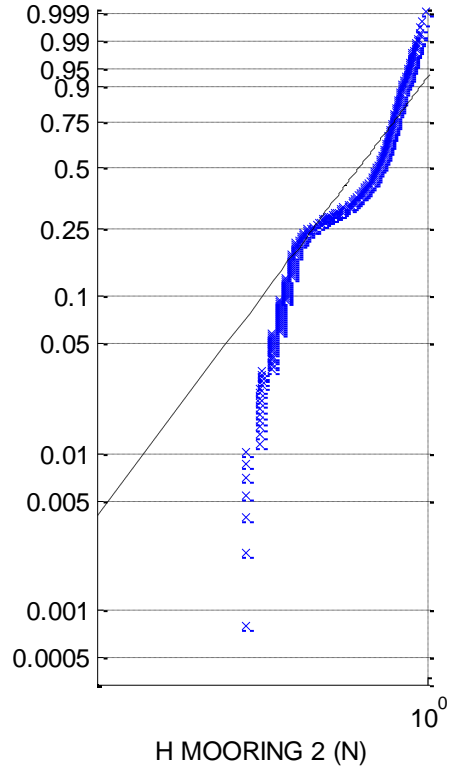
(2b) Normal prob. plot of H MOORING 2

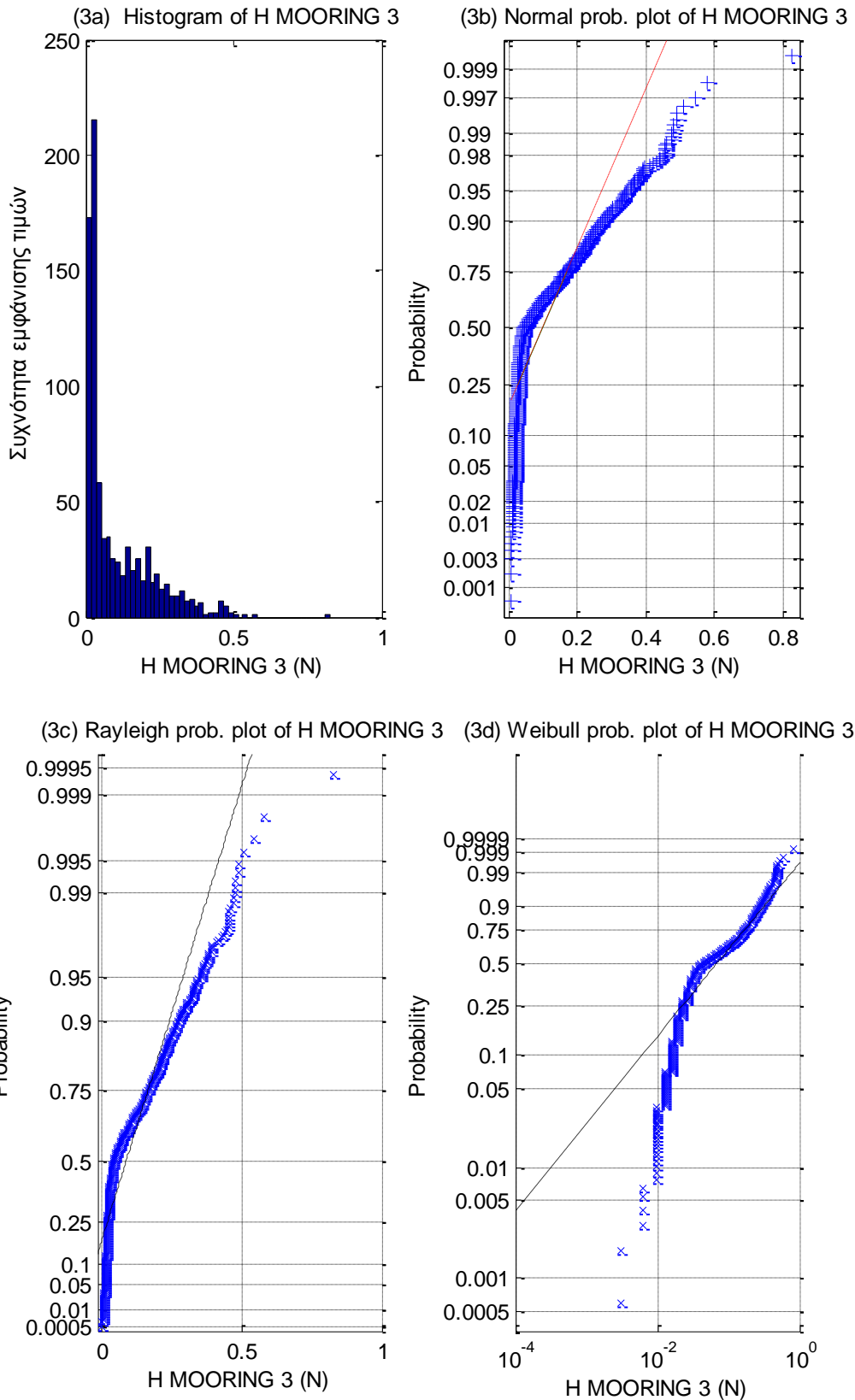


(2c) Rayleigh prob. plot of H MOORING 2

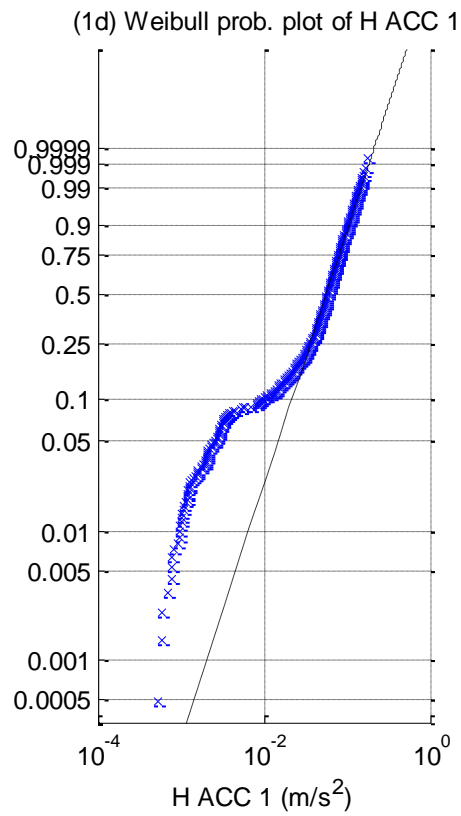
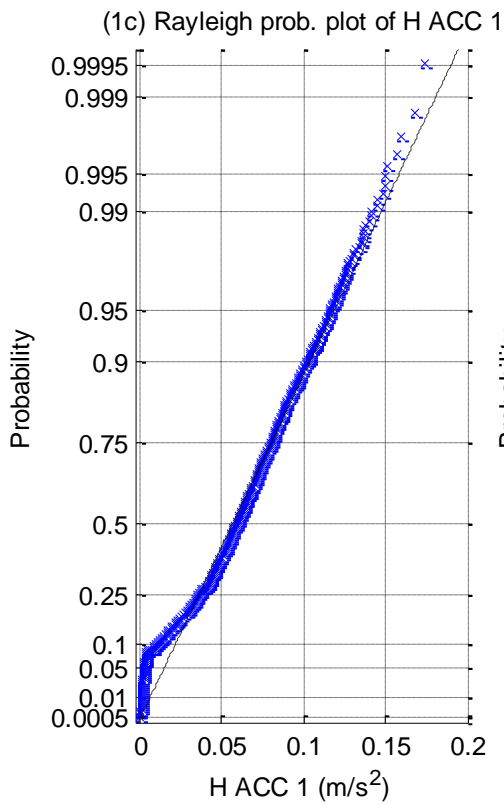
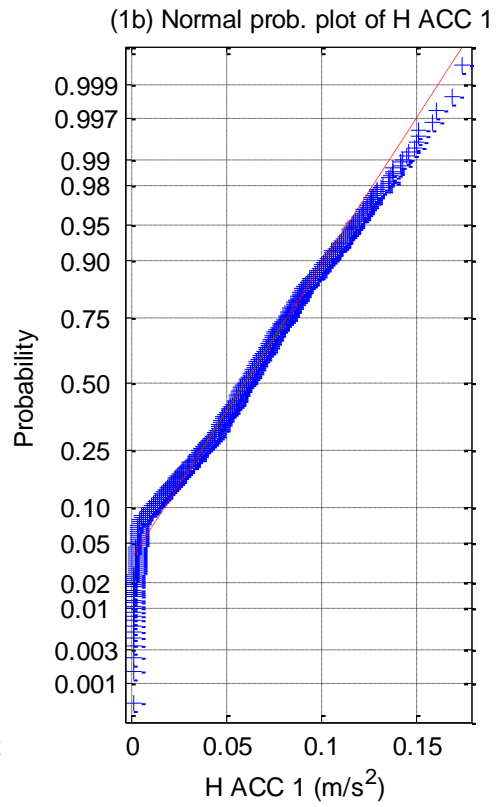
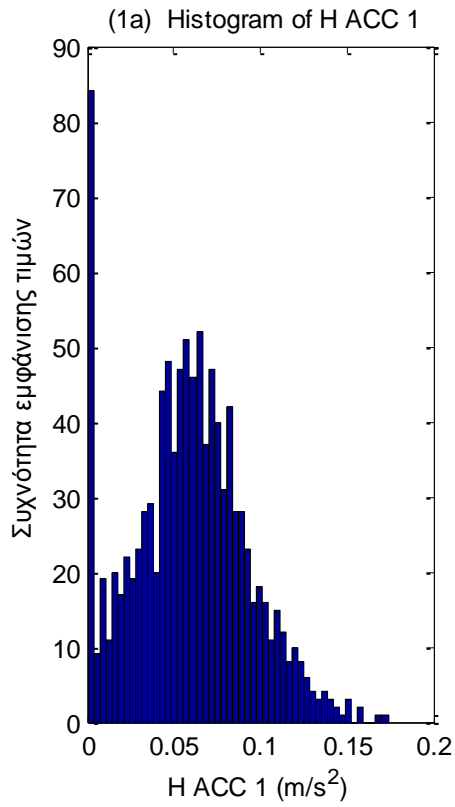


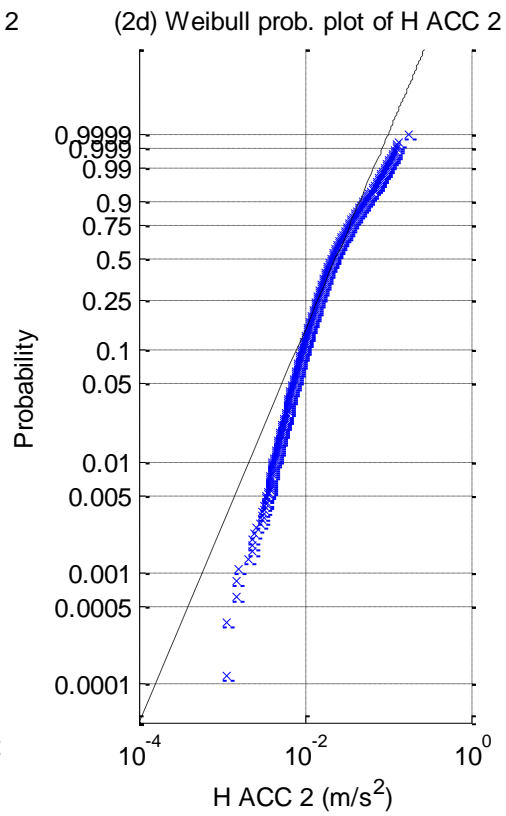
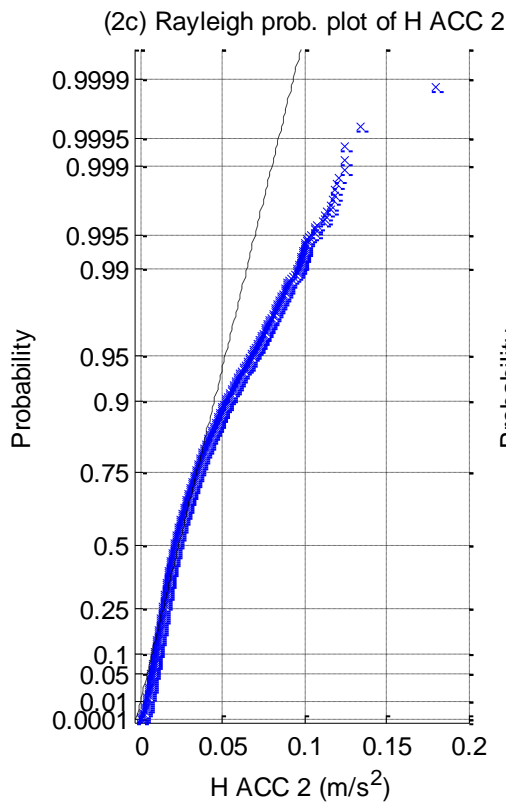
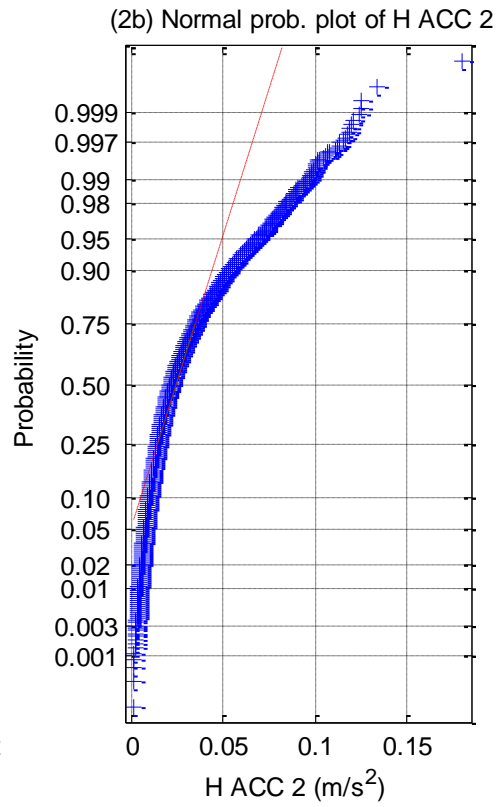
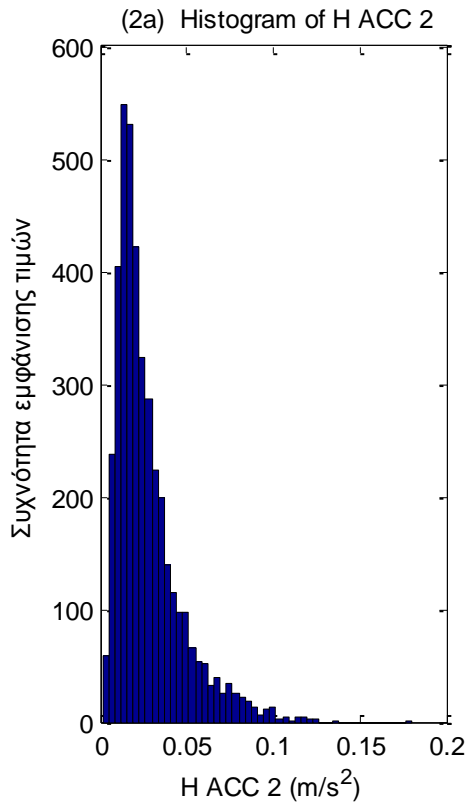
(2d) Weibull prob. plot of H MOORING 2

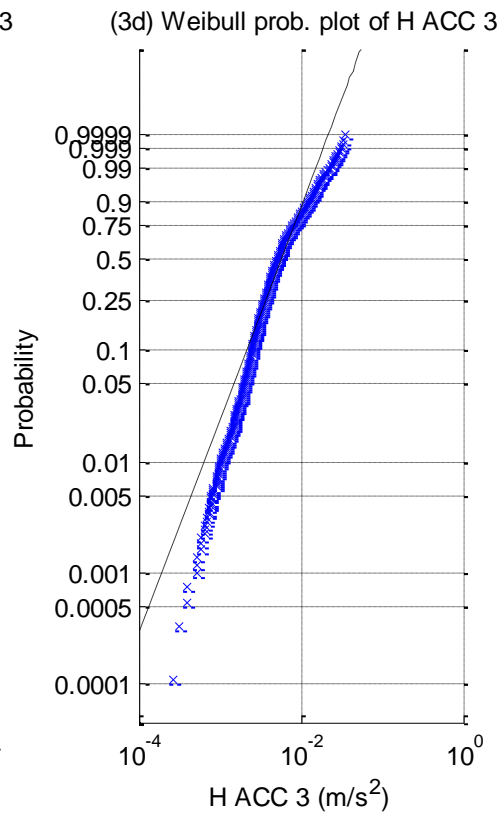
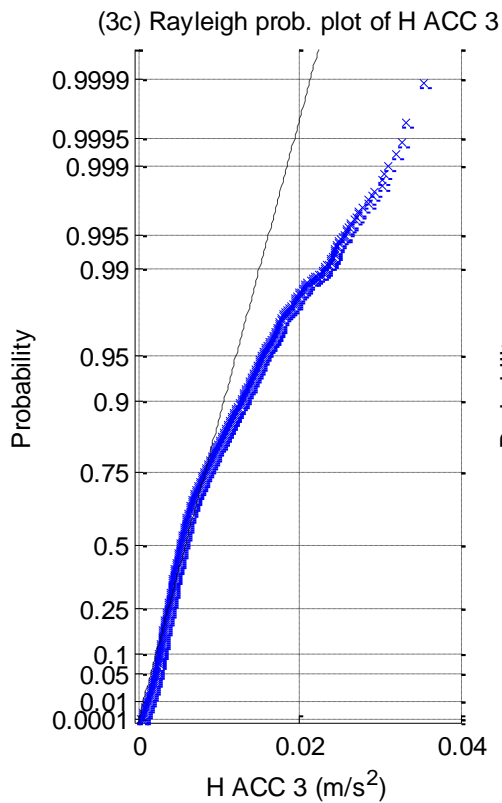
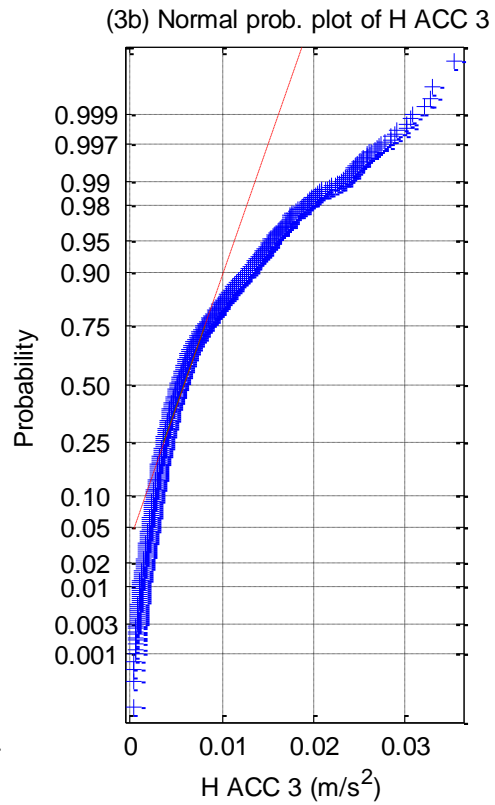
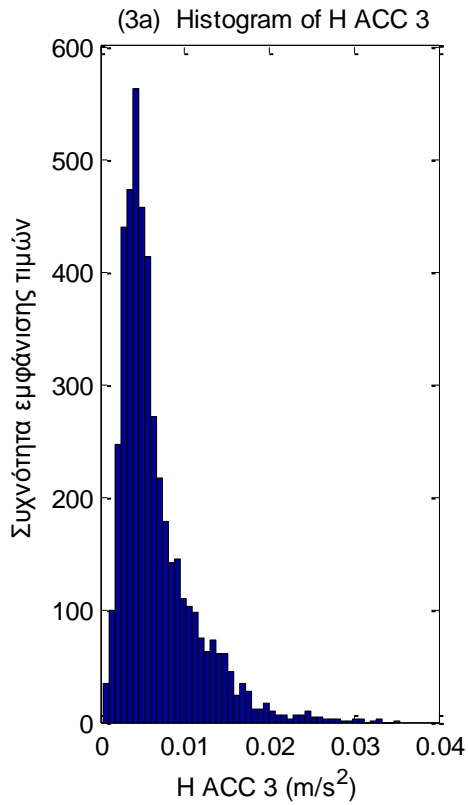




**Σχήματα 2.8.6.4 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις 3 γραμμές αγκύρωσης

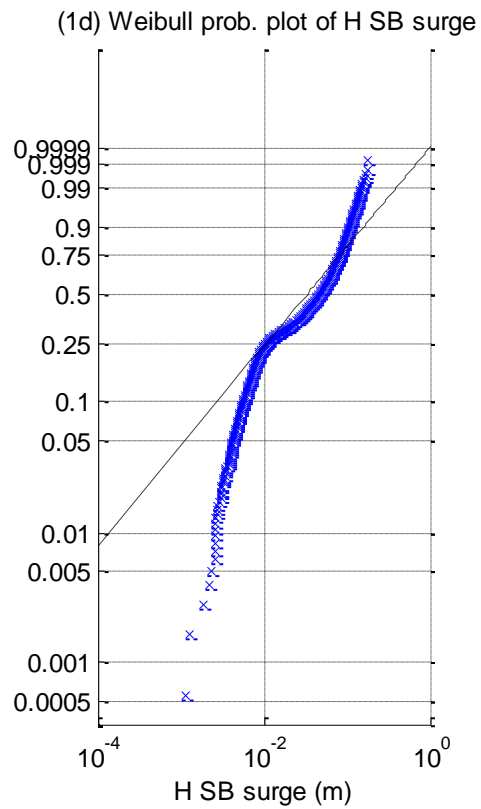
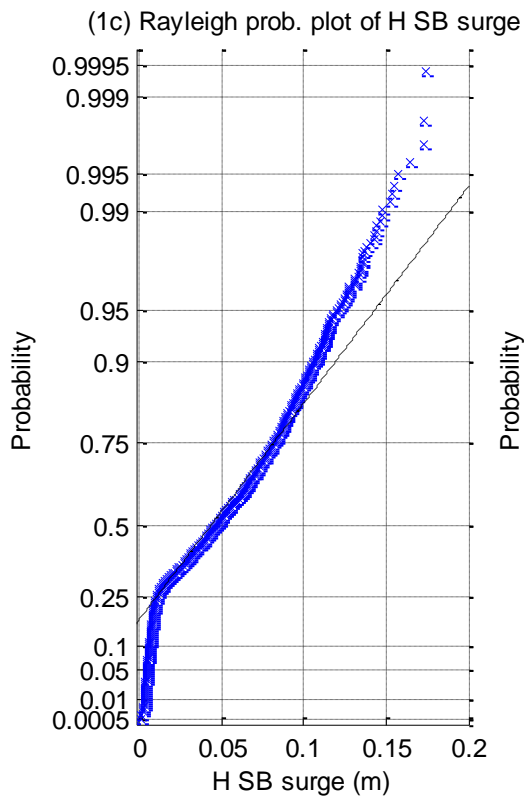
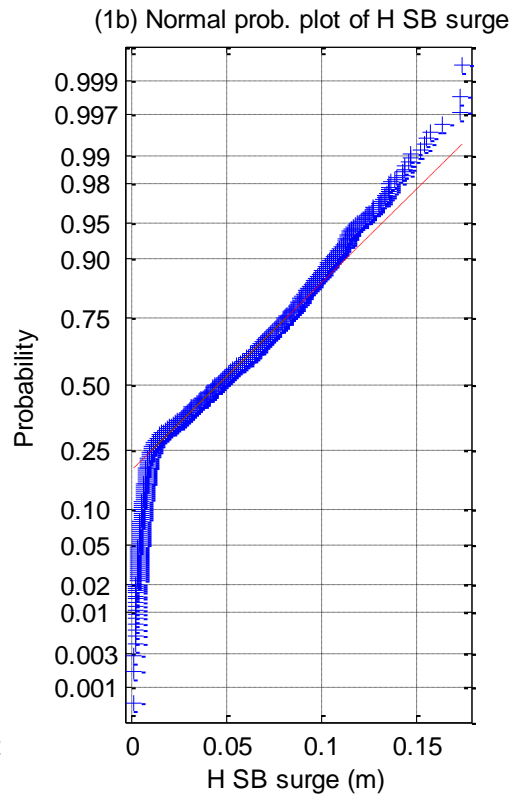
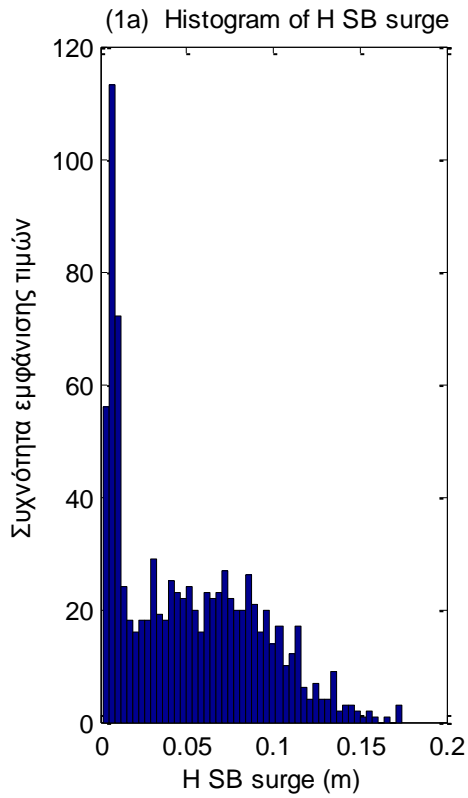


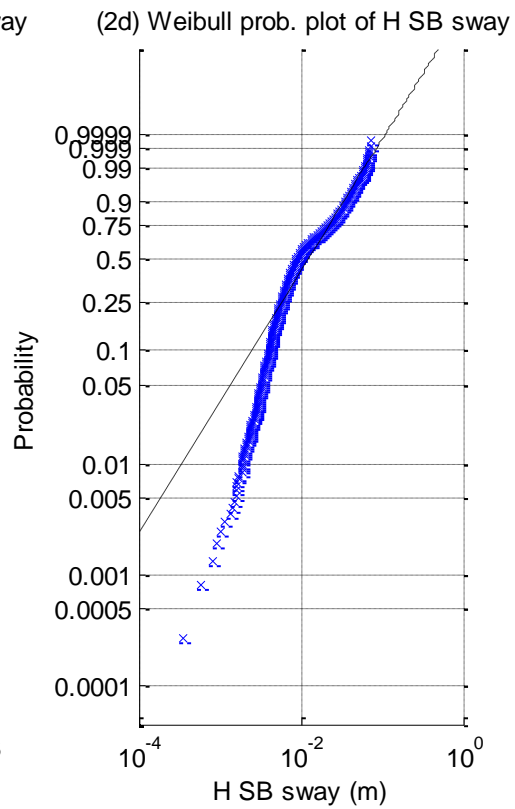
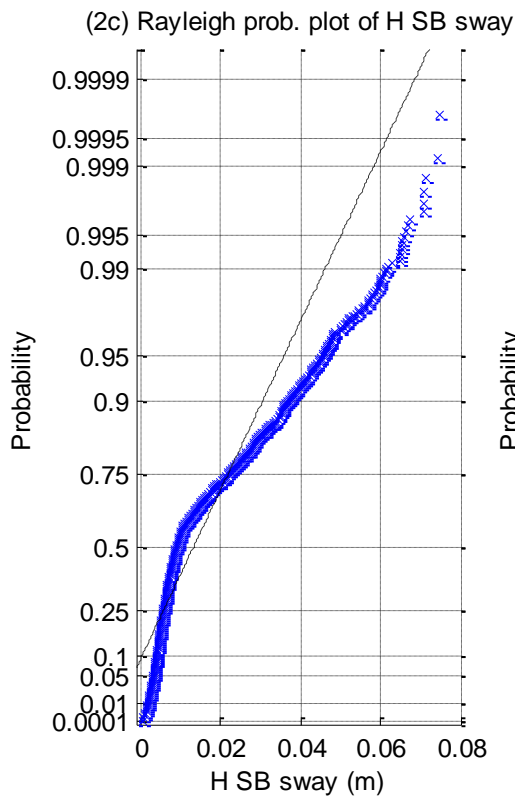
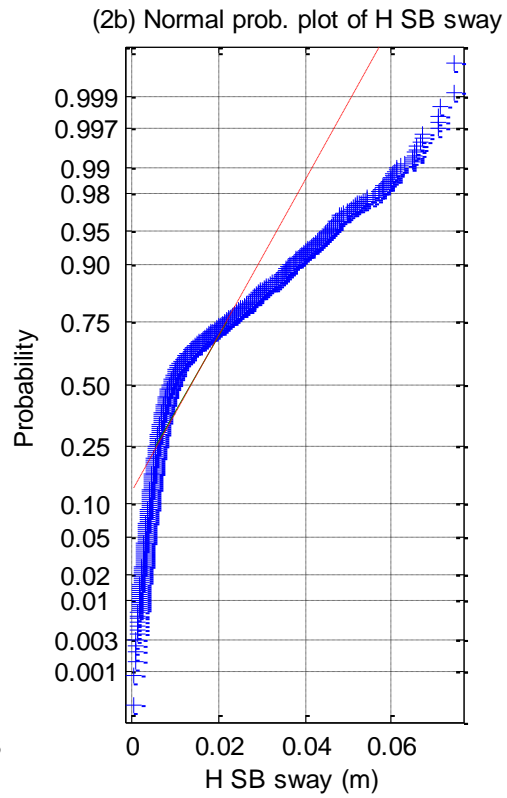
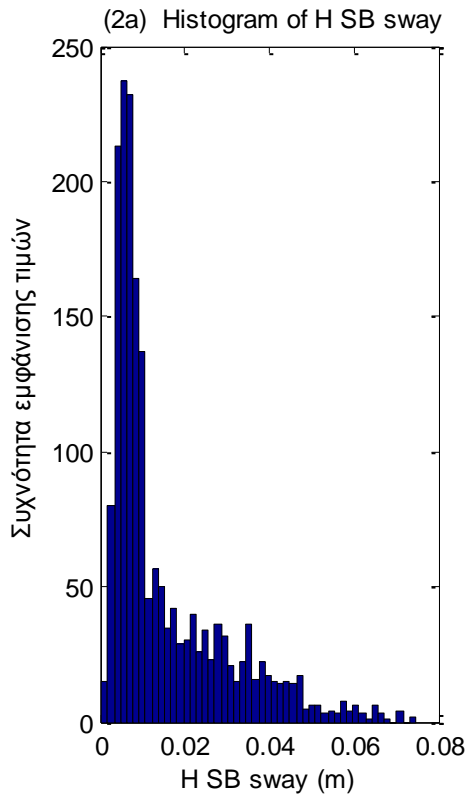


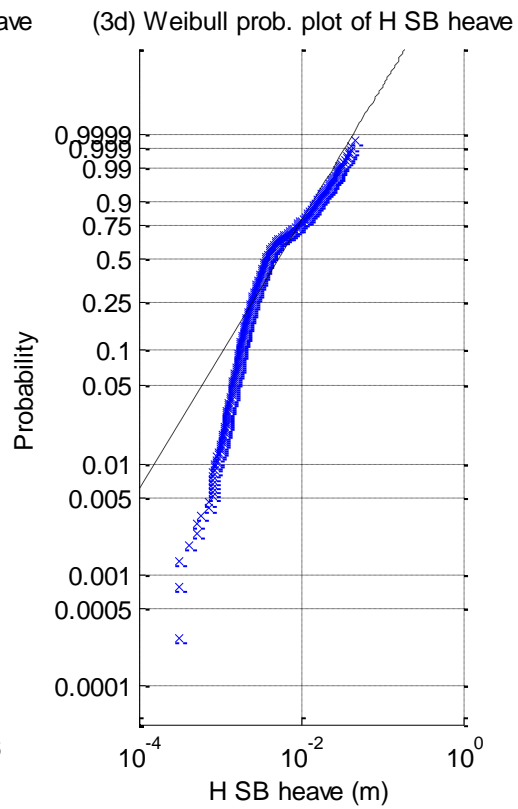
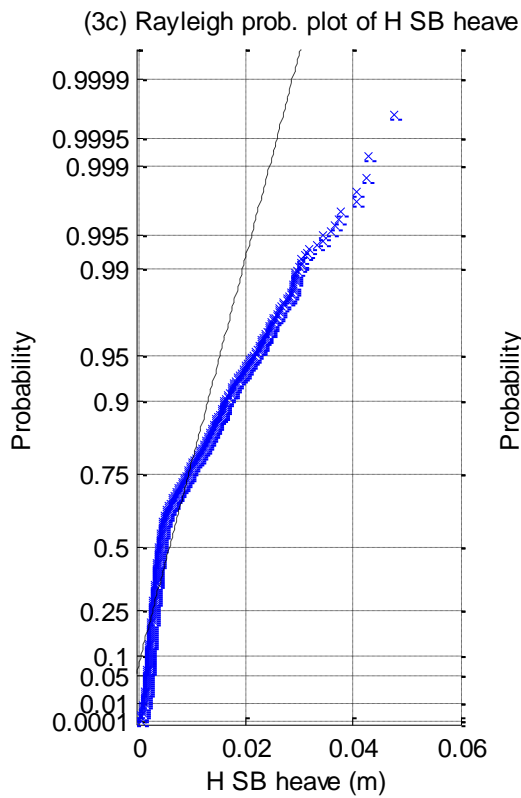
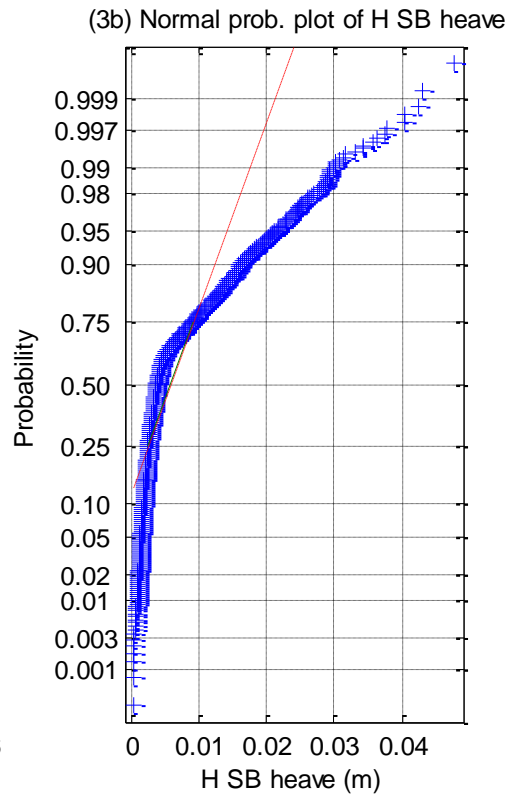
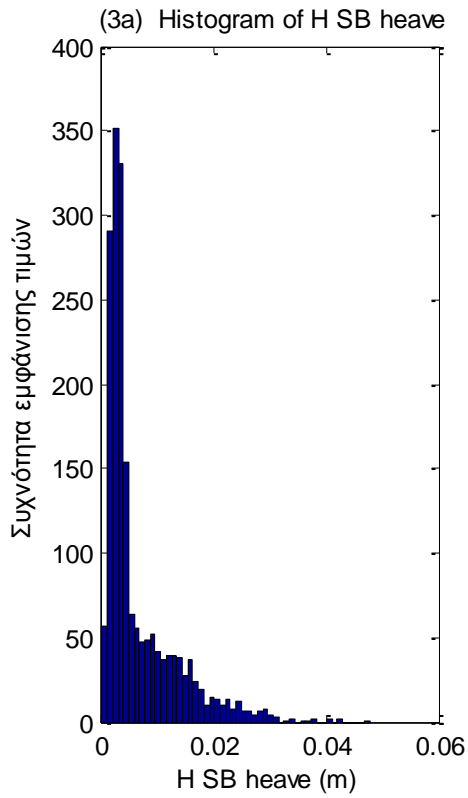


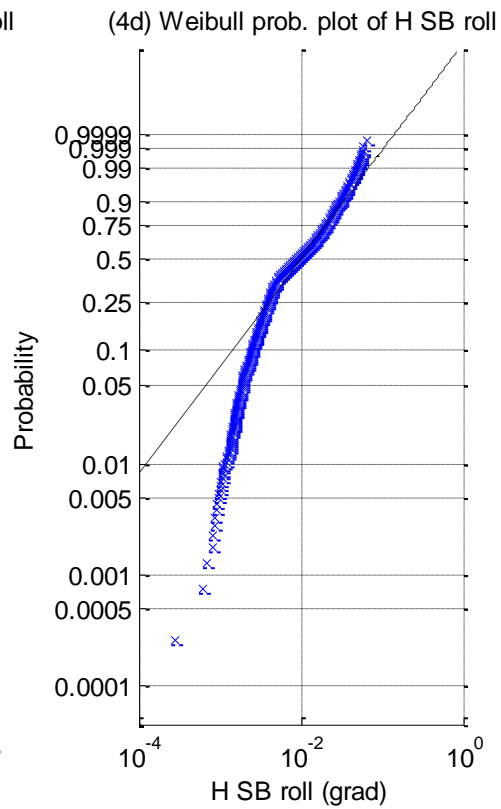
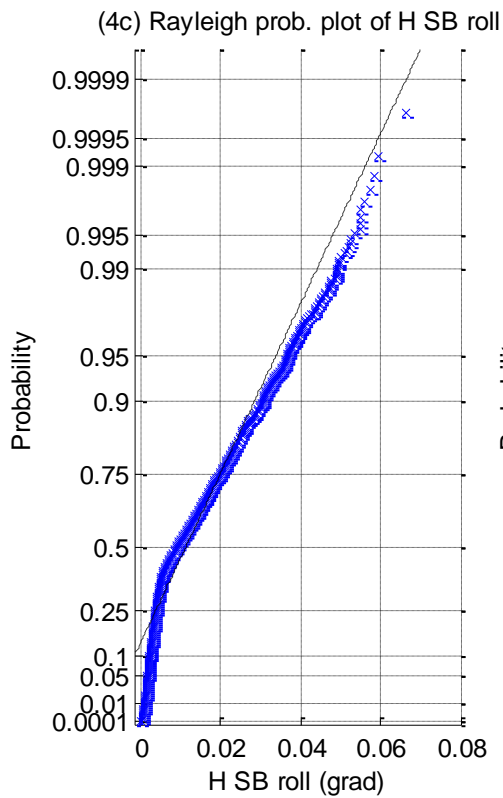
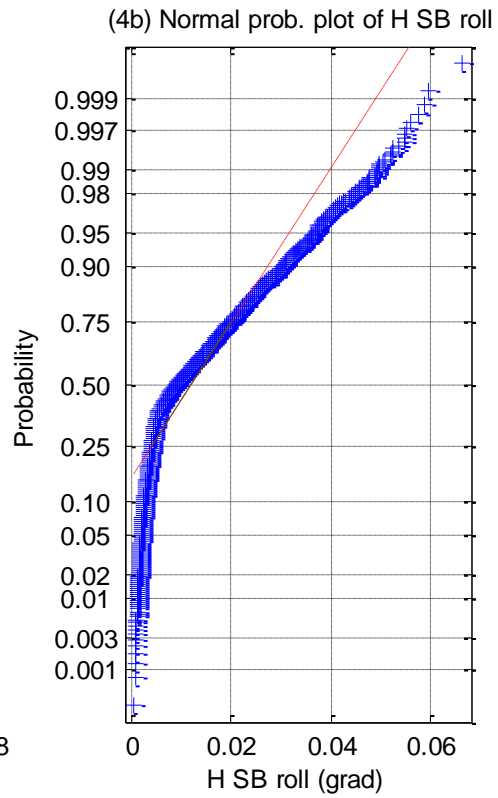
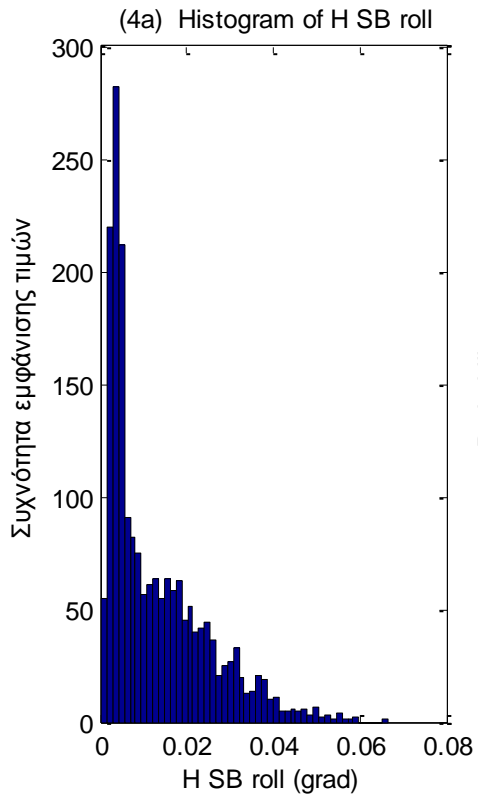
**Σχήματα 2.8.6.5 (1-3)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης

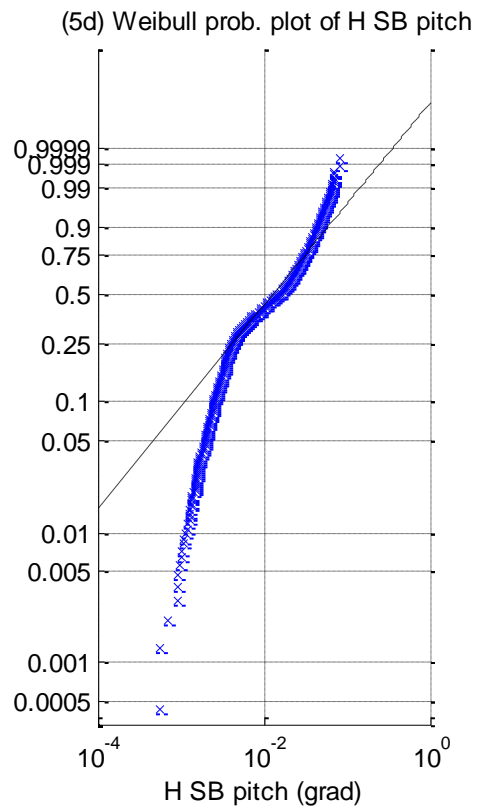
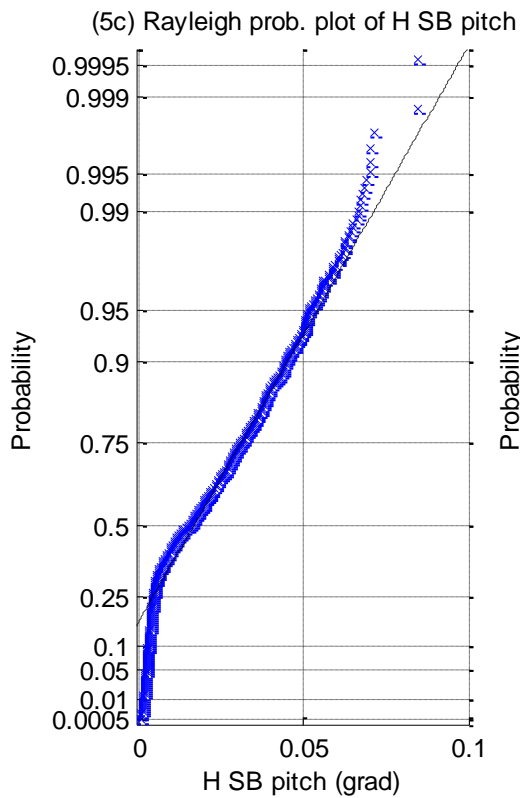
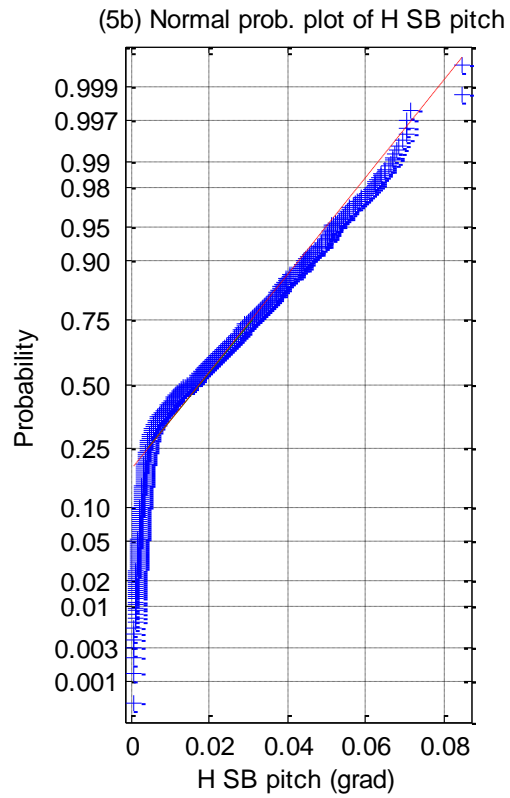
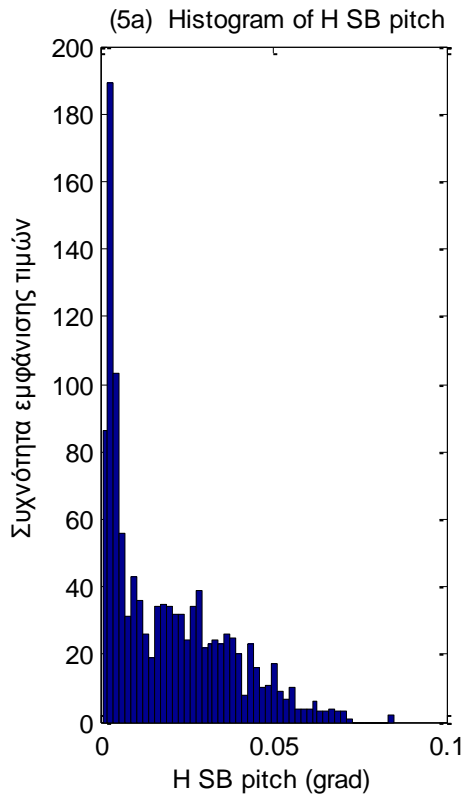


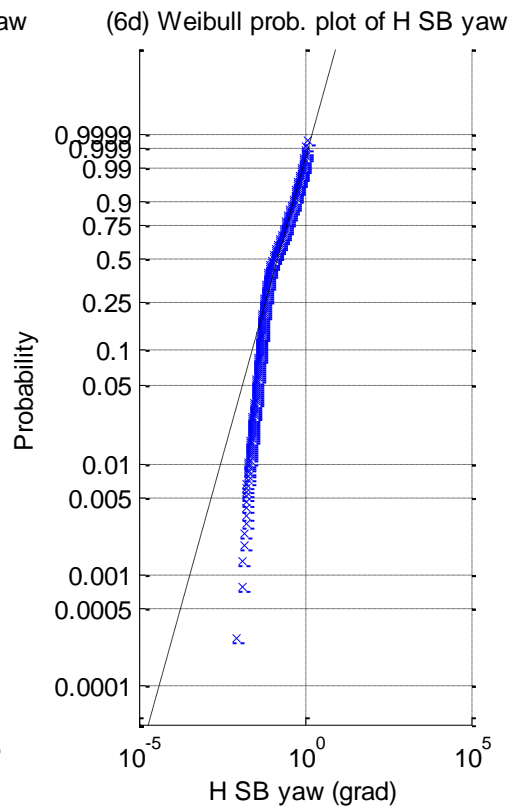
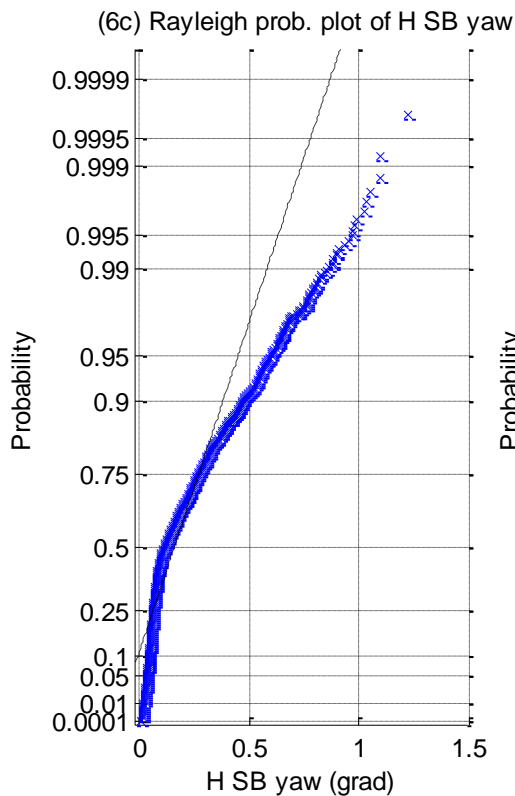
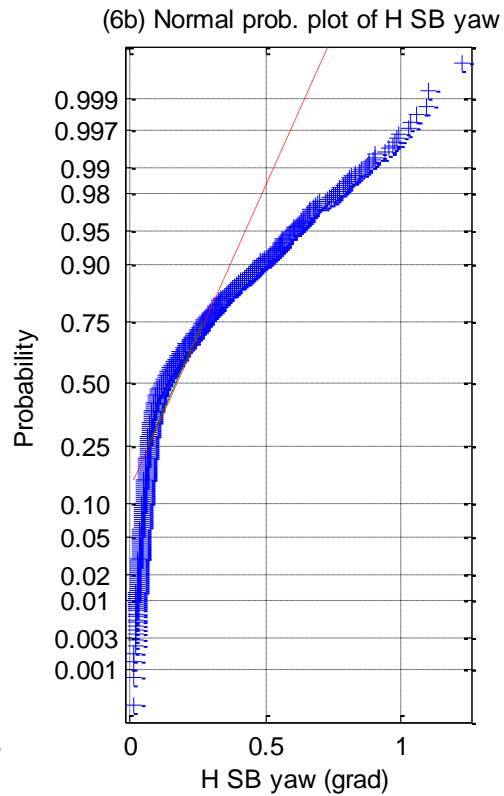
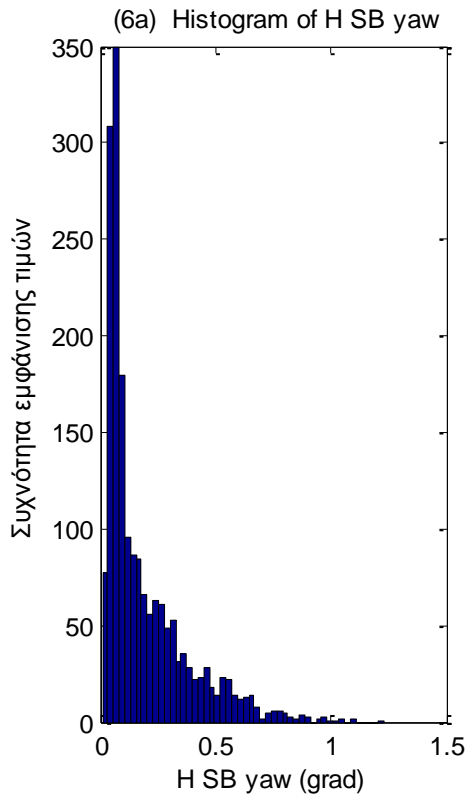






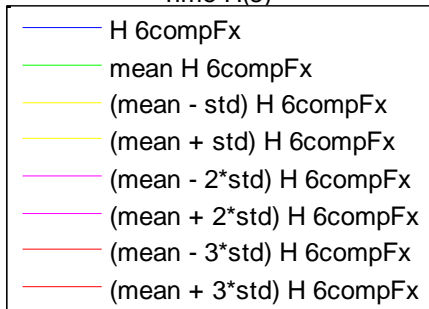
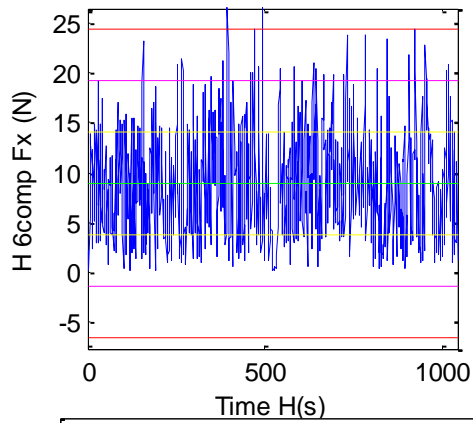




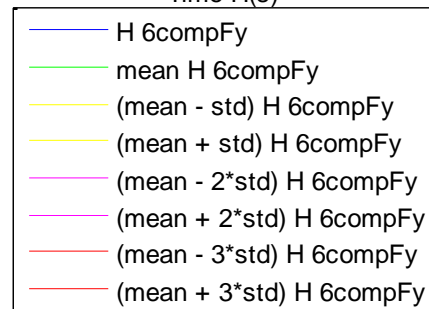
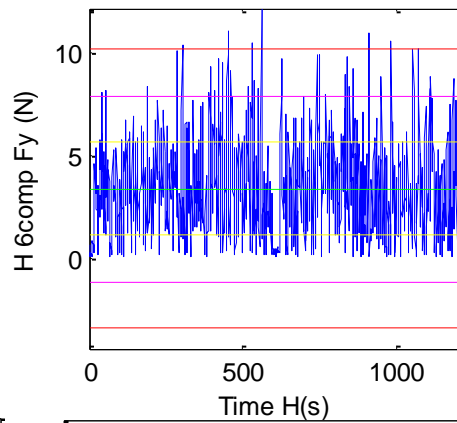


**Σχήματα 2.8.6.6 (1-6)** a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

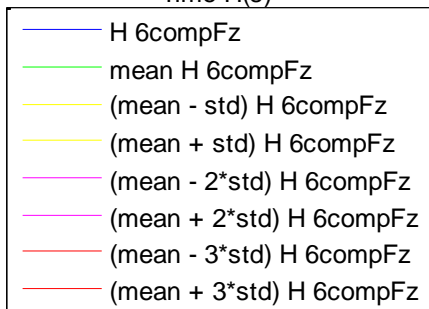
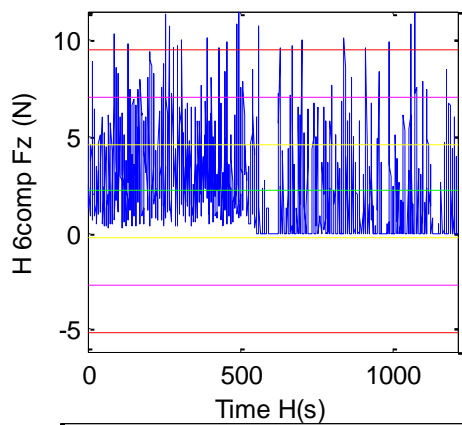
1) Time History of H 6comp Fx



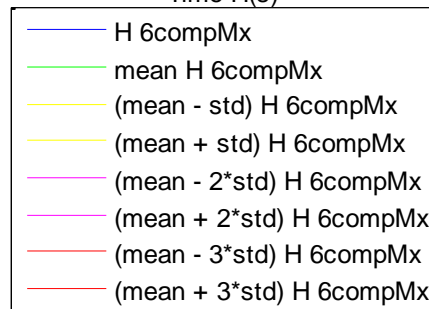
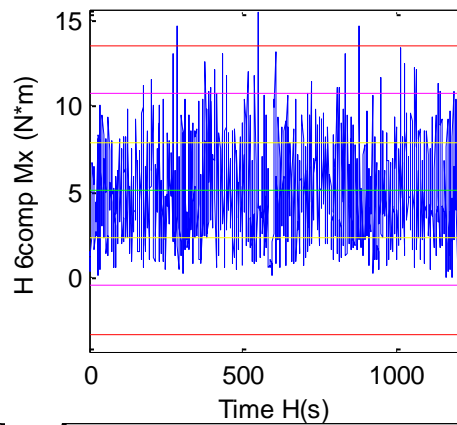
2) Time History of H 6comp Fy

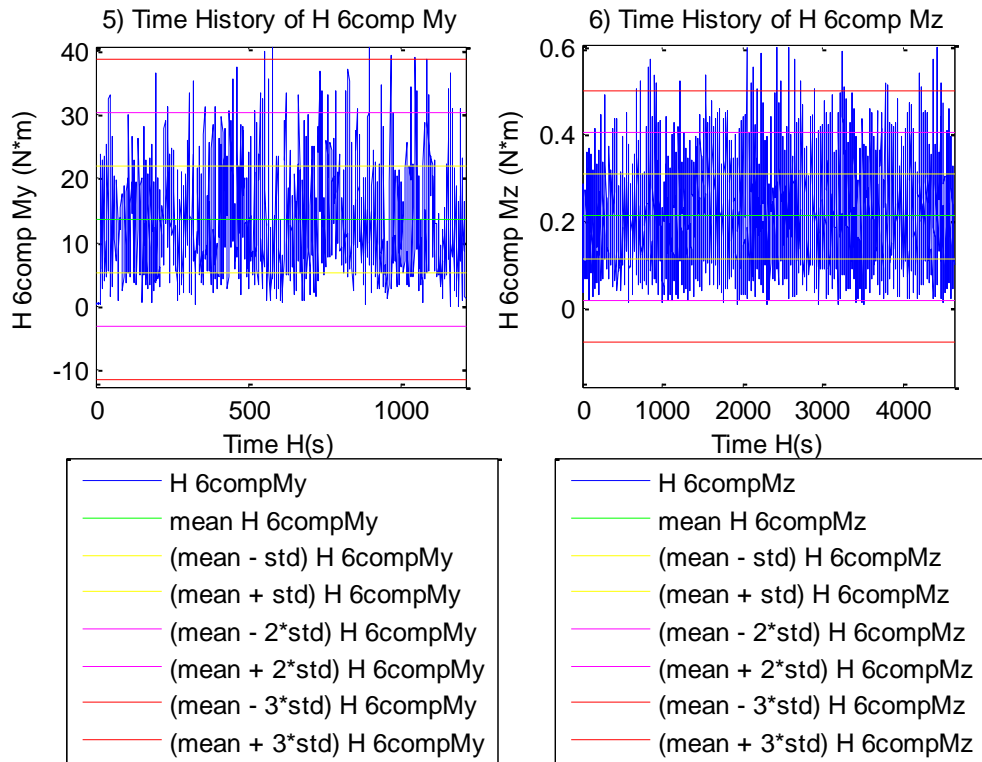


3) Time History of H 6comp Fz

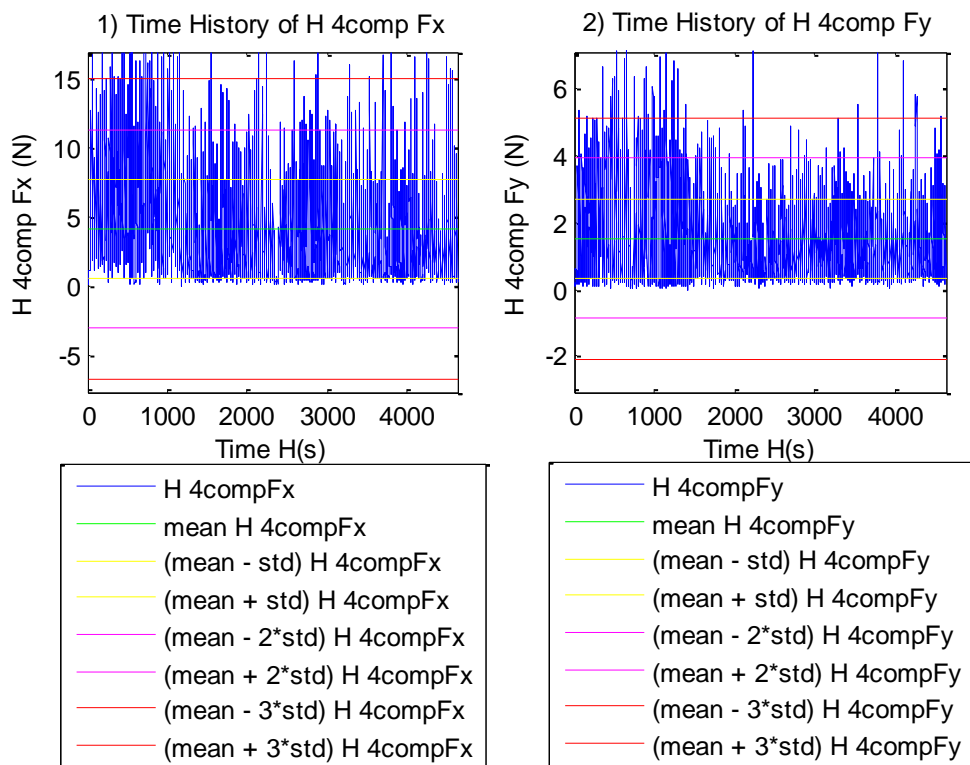


4) Time History of H 6comp Mx

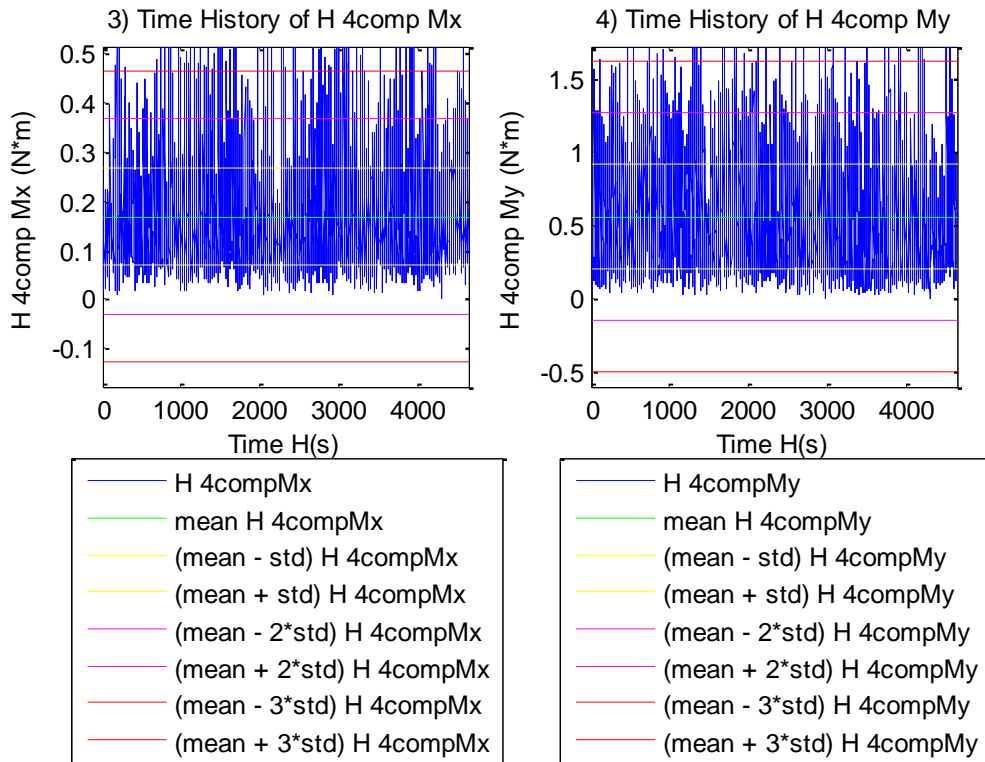




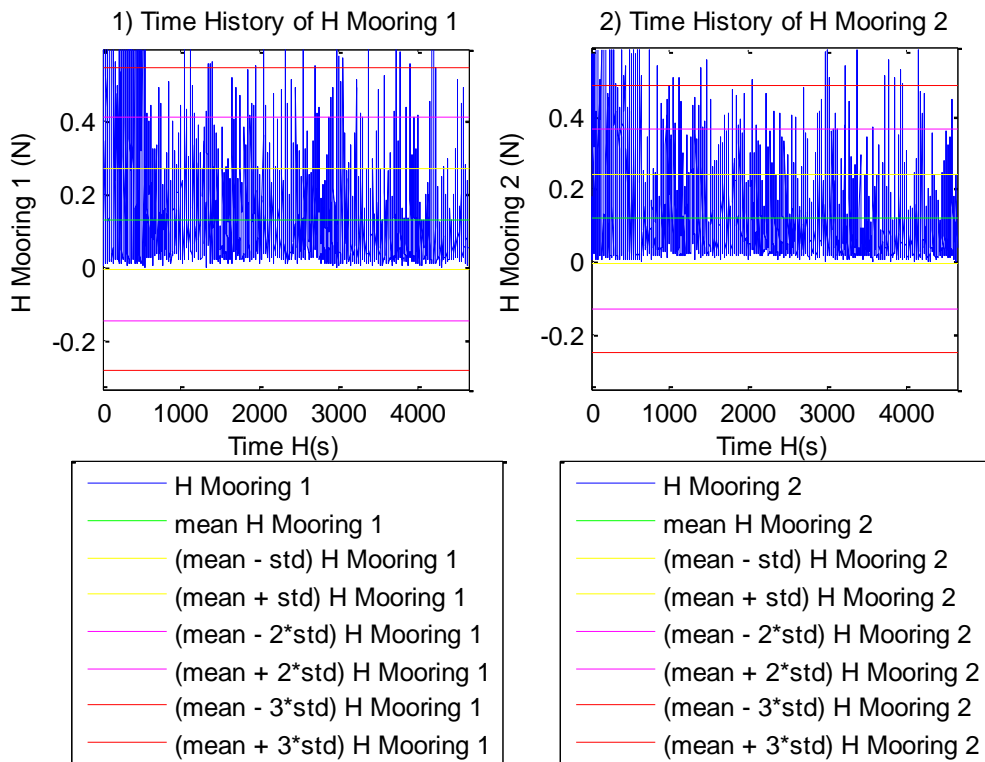
**Σχήματα 2.8.7.1 (1-6)** Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

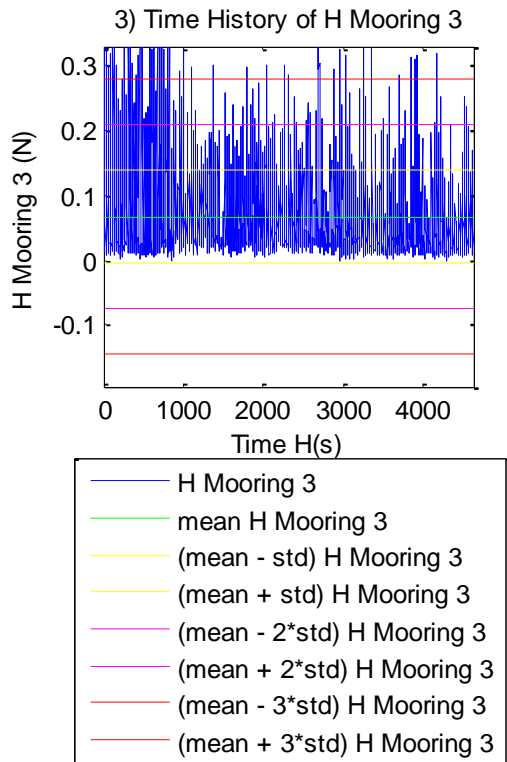




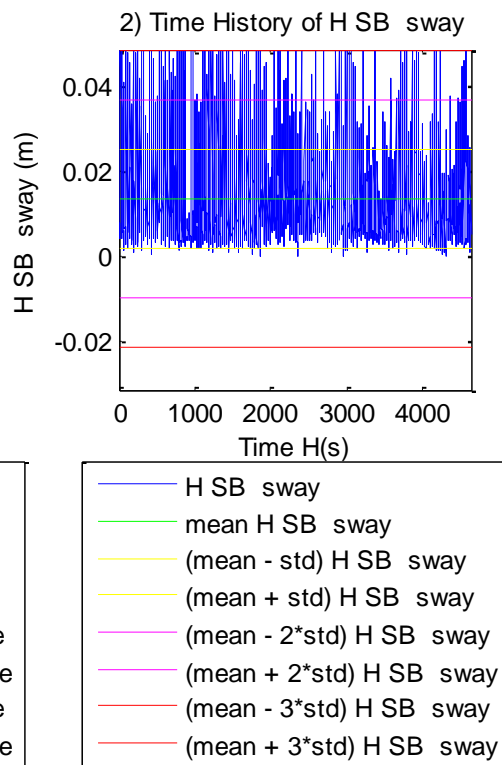
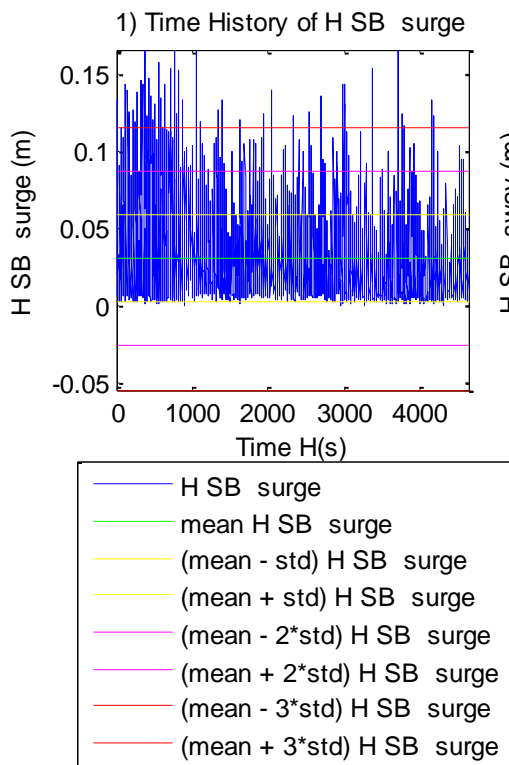


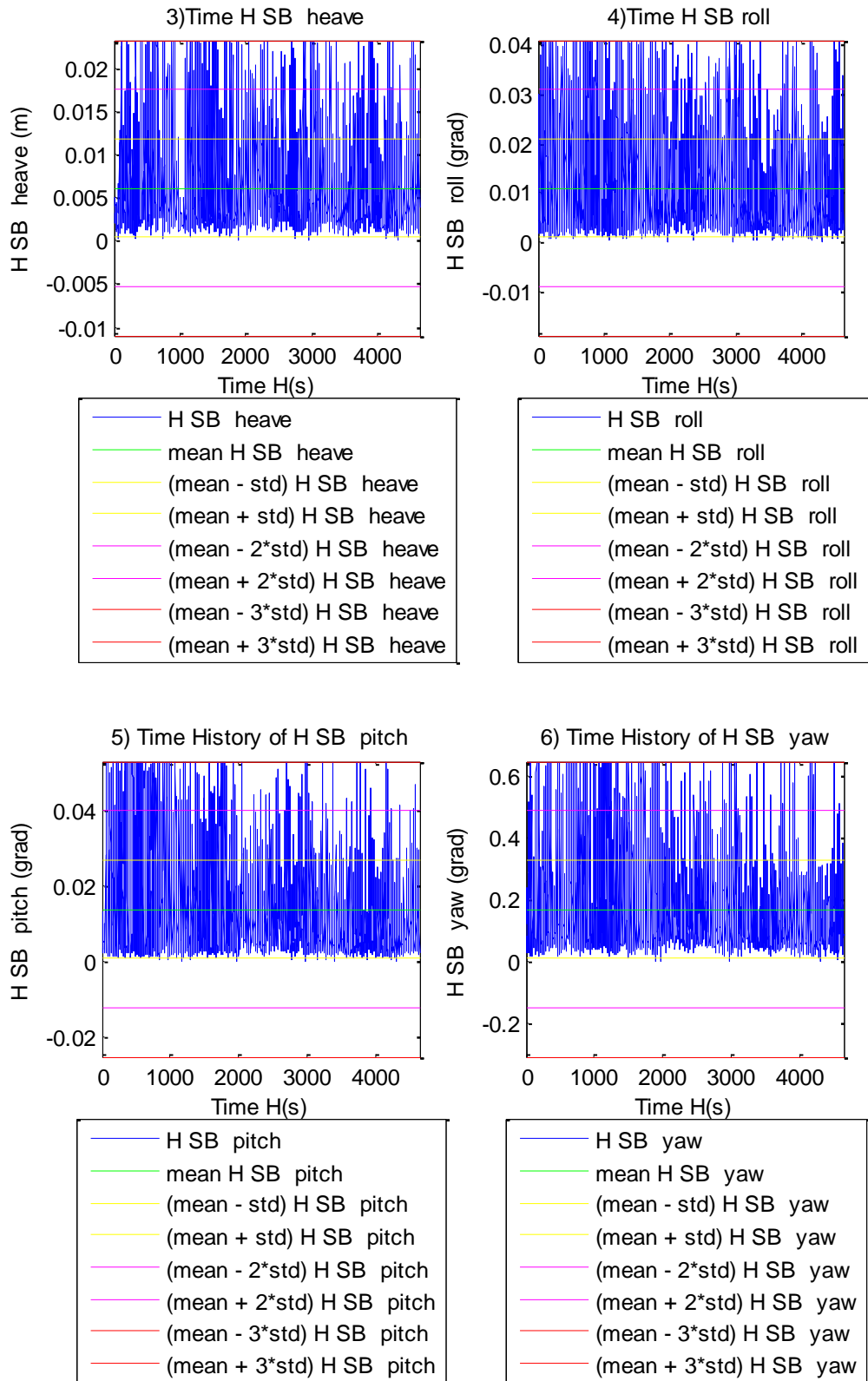
**Σχήματα 2.8.7.2 (1-4)** Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch





**Σχήματα 2.8.7.3 (1-3)** Διαγράμματα διάταξης του H για τις τρεις δυνάμεις στις τρεις γραμμές αγκύρωσης της Α/Γ





**Σχήματα 2.8.7.4 (1-6)** Διαγράμματα διάταξης του H για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

**Μητρώα ΜΚΝ για τα 11 όργανα μέτρησης (WG) για K=100**

4.2188	1.2745	1.2498	0.9513	0.7548	1.9183	1.3207	1.8734	1.7007	1.5462	1.4293
1.1675	3.9848	0.7439	0.8954	1.1517	1.5030	2.0167	1.9992	1.4732	1.2674	1.2144
1.1216	1.5347	4.6058	1.5319	1.1027	1.1284	1.5560	1.0912	1.2270	1.7098	2.1006
1.0035	1.0031	1.0508	1.1463	0.9995	1.0040	1.0026	0.9988	0.9974	1.0013	1.0047
1.2844	1.1354	1.3884	0.9073	4.3377	1.1605	0.9081	0.9584	1.0301	0.9765	1.0462
1.7761	1.3403	1.0071	1.0141	0.9617	4.5225	0.9817	1.1168	1.3811	1.4535	1.3888
1.0724	1.6514	1.1986	0.9639	0.9029	1.0497	4.6282	2.0142	0.9454	0.8183	0.9818
1.5807	1.8430	1.0178	1.0842	0.7147	1.5028	1.8763	4.4720	2.3369	1.2435	1.0593
1.7133	1.5046	0.7995	1.0459	1.0399	1.3868	0.8402	2.6843	4.5022	3.1882	2.4571
1.8301	0.9058	1.3296	1.1154	0.9205	1.2122	0.9521	1.3566	3.0905	4.3778	4.0718
1.7718	0.7896	1.9409	1.1627	0.9370	1.1510	1.1669	1.1033	2.3181	3.9954	4.3351

**Μητρώα ΜΚΝ για τα 11 όργανα μέτρησης (WG) για K=100**

3.3441	1.4337	1.0652	0.9982	1.0786	1.5873	1.2613	1.5442	1.5796	1.5336	1.4787
1.3616	3.2235	1.0128	1.0011	0.9703	1.2792	1.6115	1.5378	1.4840	1.2215	1.1365
1.0719	1.2515	3.5322	1.2336	1.1484	0.9487	1.2827	1.1503	1.1100	1.5330	1.9422
1.0007	1.0004	1.0234	1.1128	1.0003	1.0002	1.0002	1.0012	0.9992	1.0010	1.0045
1.1835	1.0724	1.1511	0.9979	3.3945	1.1802	0.9979	0.9944	0.9493	1.0306	1.0914
1.6258	1.1923	0.9971	0.9822	1.1951	3.4455	1.0293	1.0011	1.1651	1.2617	1.2138
1.2337	1.6016	1.1576	1.0225	0.8694	1.0545	3.5539	1.8733	0.9815	0.9987	1.0738
1.4999	1.5755	1.0566	1.0143	0.9381	1.2066	1.7733	3.4540	2.0957	1.3014	1.1084
1.5982	1.3766	1.0323	1.0427	1.0459	1.1907	0.9991	2.1562	3.4697	2.6981	2.1647
1.5617	1.1233	1.4142	1.0559	1.0968	1.1014	1.0460	1.2734	2.6486	3.4517	3.2479
1.4718	1.0558	1.8042	1.0808	1.1155	1.0714	1.1224	1.0864	2.1058	3.2338	3.4337

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz]  
για K=100**

1.5270	1.4238	1.0158	0.9065	1.5110	1.0656
1.5061	1.6126	1.0271	0.9062	1.5354	1.1277
1.0087	1.0086	1.0087	0.9113	1.0087	1.0001
2.9518	3.9917	0.1605	4.3858	3.2809	1.3951
1.5165	1.4309	0.9994	0.9542	1.5382	1.0903
1.0518	1.0584	0.9578	0.9609	1.0996	1.4138

**Μητρώα MKN για τις έξι δυνάμεις και ροπές 6comp [ Fx, Fy, Fz, Mx, My, Mz]  
για K=1000**

1.4111	1.3418	1.0346	0.9055	1.3963	1.0515
1.3669	1.4554	1.0301	0.8762	1.3757	1.0952
1.0087	1.0086	1.0087	0.9371	1.0087	1.0023
2.0536	2.8782	0.5617	3.3510	2.2000	1.1411
1.3862	1.3350	1.0236	0.9464	1.4040	1.0691
1.0407	1.0511	0.9910	0.9675	1.0702	1.3051

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=100**

1.5509	1.2792	1.3612	1.4735
3.6710	4.4995	3.9354	3.1528
1.1257	1.1072	1.1840	1.1014
1.8651	1.4299	1.4848	1.9910

**Μητρώα MKN για τις τέσσερις δυνάμεις και ροπές 4comp [ Fx, Fy, Mx, My]  
για K=1000**

1.4140	1.1451	1.2568	1.3466
2.5651	3.4246	2.8794	2.3938
1.0860	1.0576	1.1399	1.0759
1.6031	1.2360	1.3399	1.7288

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2, 3] για K=100**

1.0349	0.9822	0.9855
0.9705	1.0466	1.0140
1.0033	1.0070	1.0318

**Μητρώα MKN για τις τρεις δυνάμεις στις γραμμές αγκύρωσης Mooring [ 1, 2, 3] για K=1000**

1.0274	0.9850	0.9921
0.9773	1.0353	1.0112
0.9945	1.0048	1.0262

**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=100**

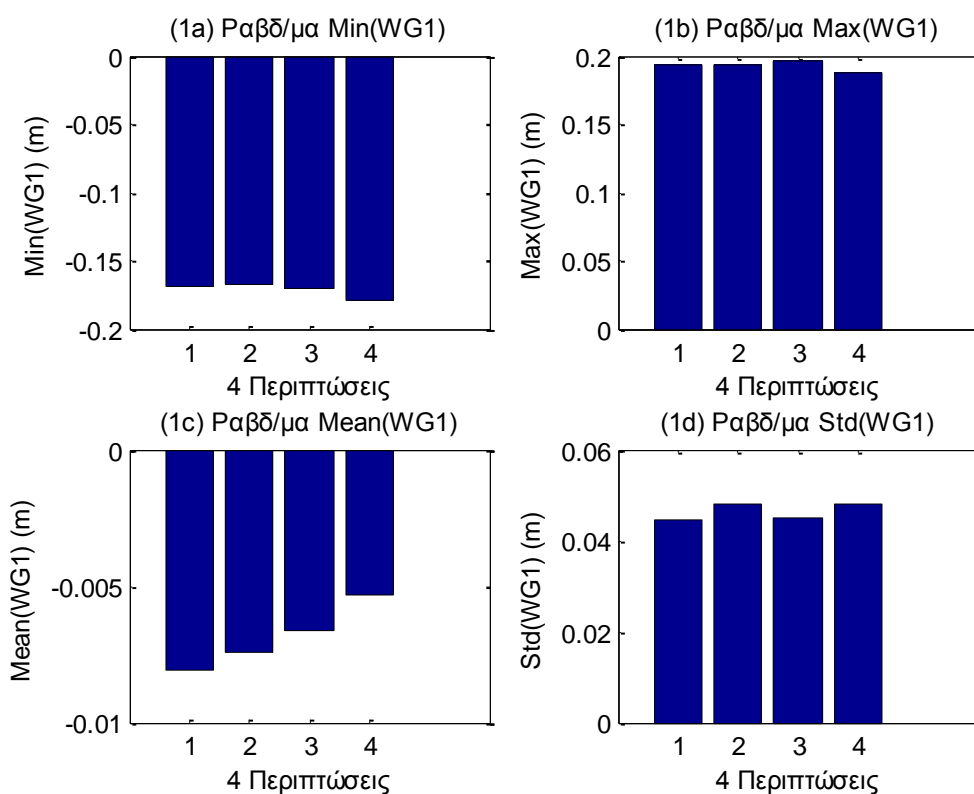
1.1015	1.0587	1.0167	1.0438	1.0840	0.9777
1.0996	1.1644	1.0417	1.0715	1.0767	0.9694
1.1206	1.1419	1.8209	0.9483	1.1773	1.0367
2.5536	2.2685	1.1058	4.1310	2.5926	1.2737
1.0904	1.0366	1.0220	1.0547	1.1069	0.9776
0.7763	0.8122	1.3430	1.2212	0.5793	4.1028

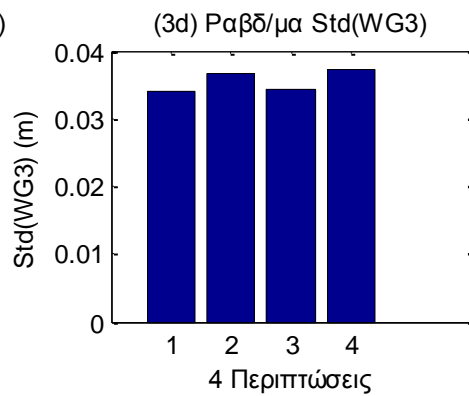
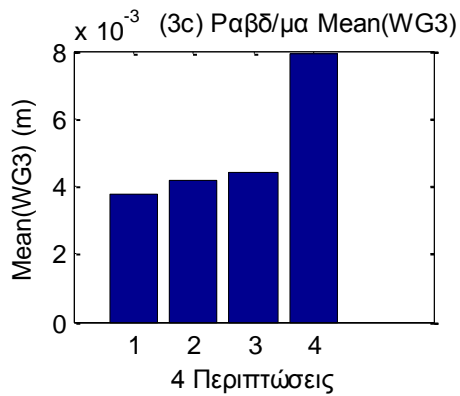
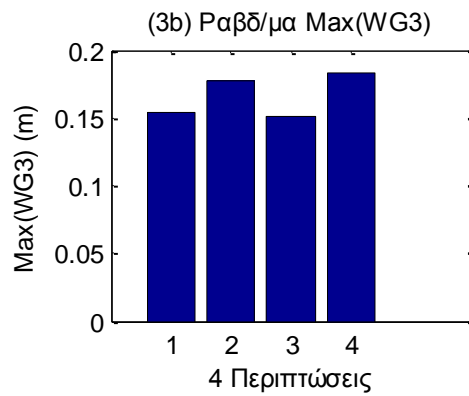
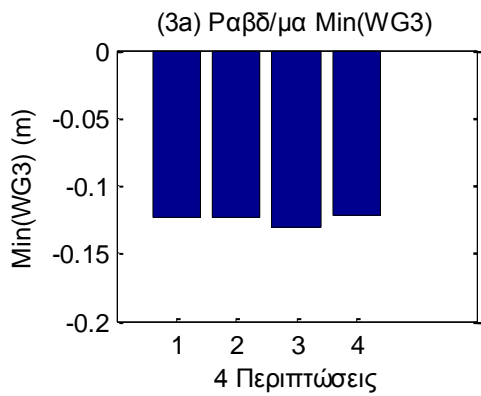
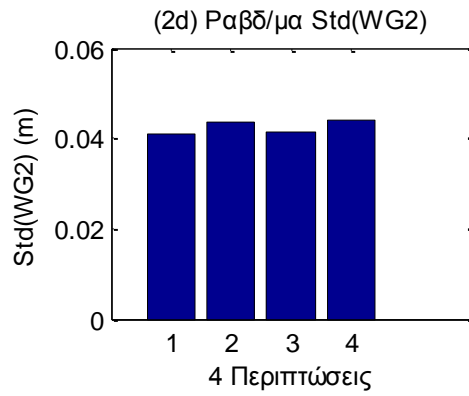
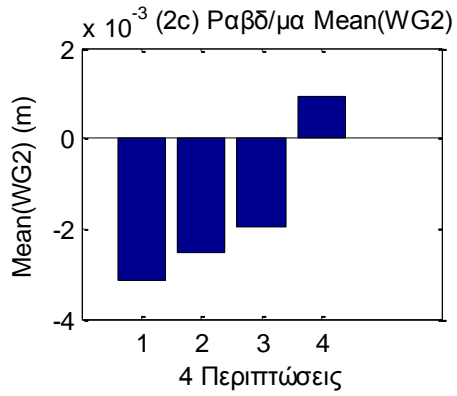
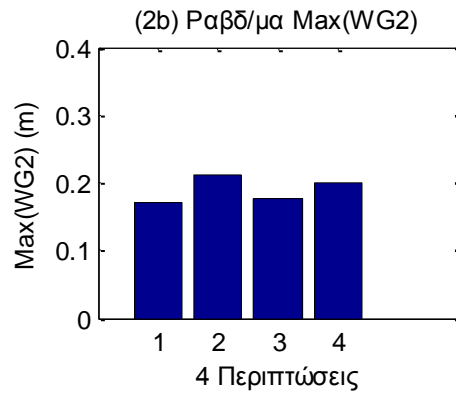
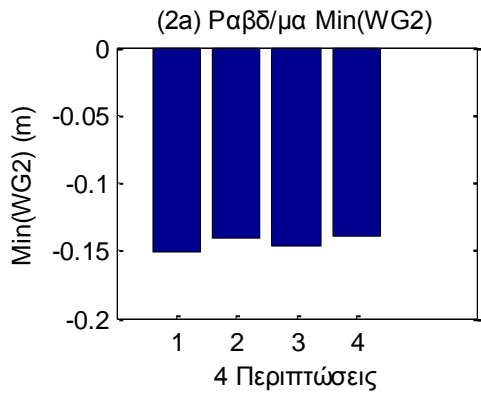
**Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[ Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000**

1.0809	1.0492	1.0186	1.0438	1.0682	0.9697
1.0725	1.1290	1.0303	1.0738	1.0596	0.9672
1.1563	1.1175	1.6202	0.9848	1.1741	1.0054
2.0974	2.1551	1.1827	3.1508	2.0797	0.8351
1.0752	1.0367	1.0196	1.0463	1.0867	0.9705
0.6802	0.8145	1.1074	1.1440	0.6469	3.1951

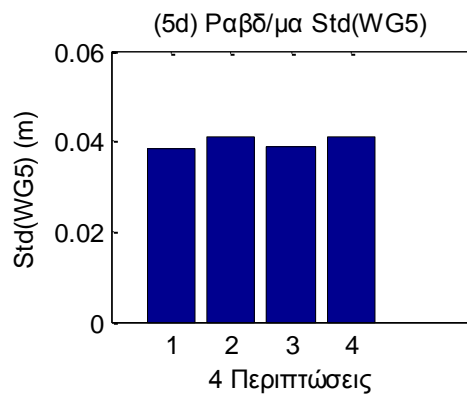
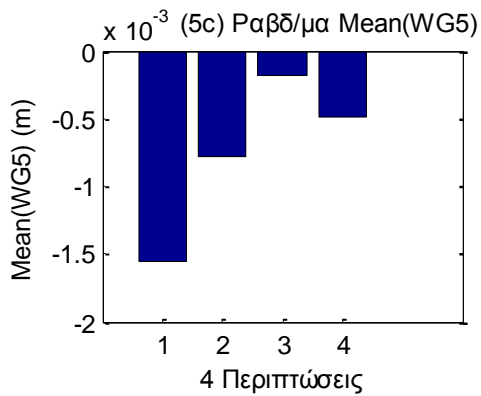
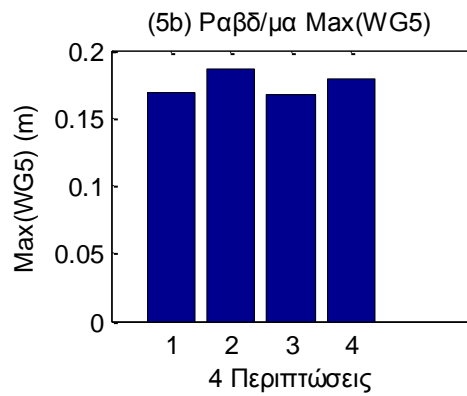
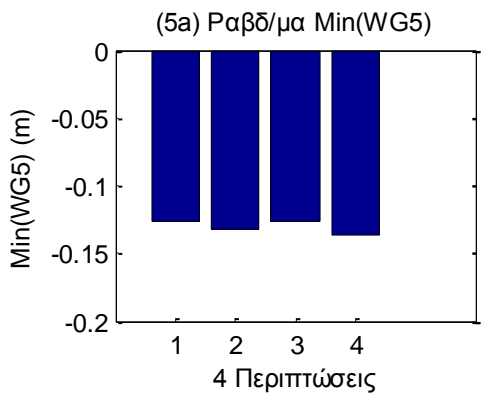
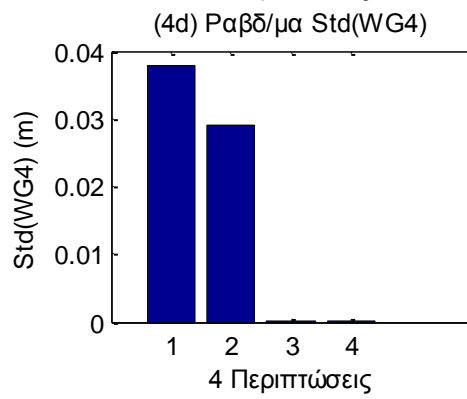
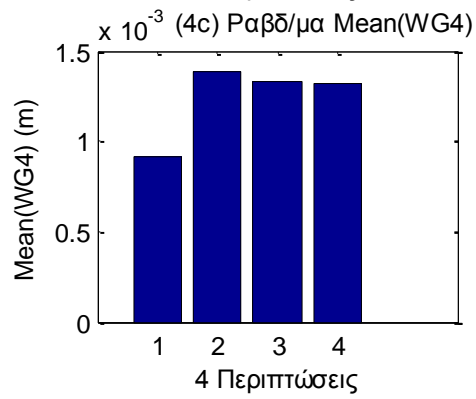
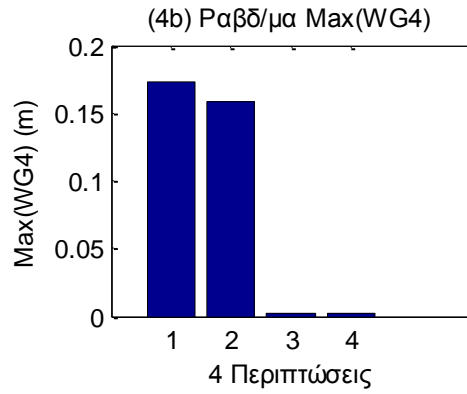
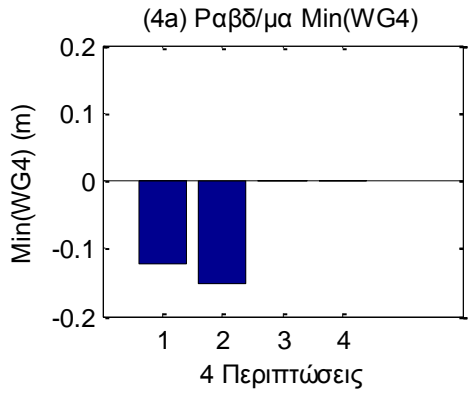
## 2.9 Σύγκριση ελάχιστης, μέγιστης, μέσης τιμής και διακύμανσης για τέσσερις περιπτώσεις (αρχεία C5-C6-C7-C8)

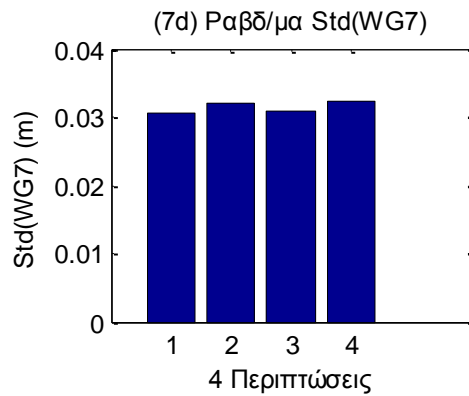
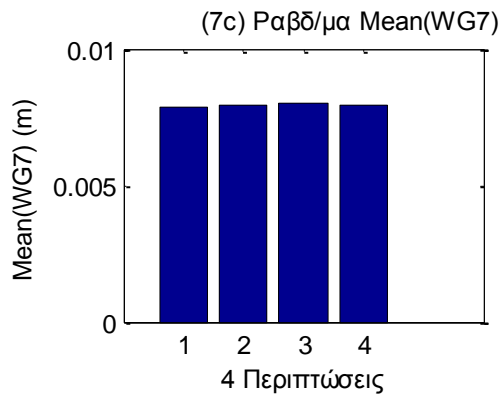
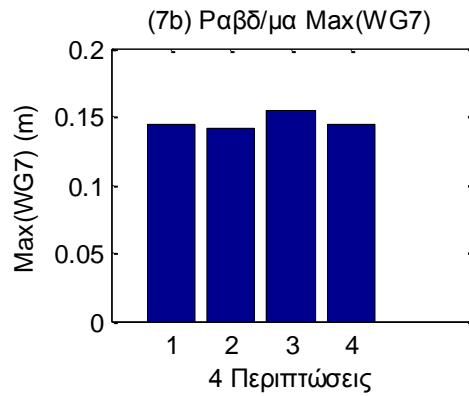
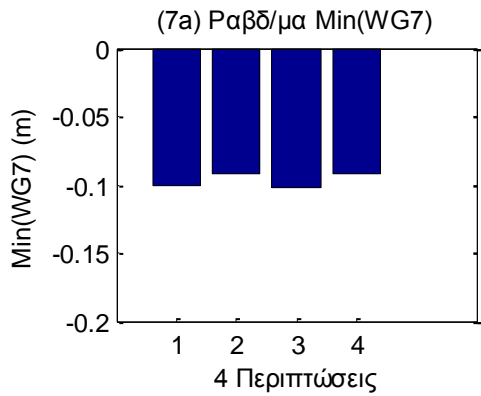
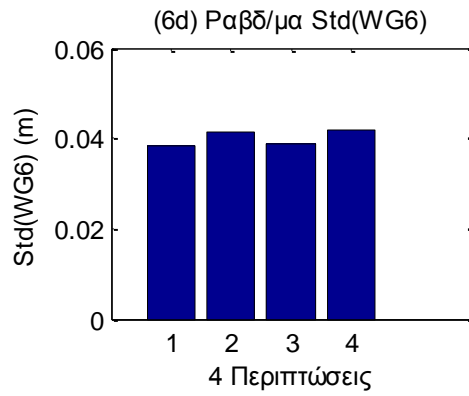
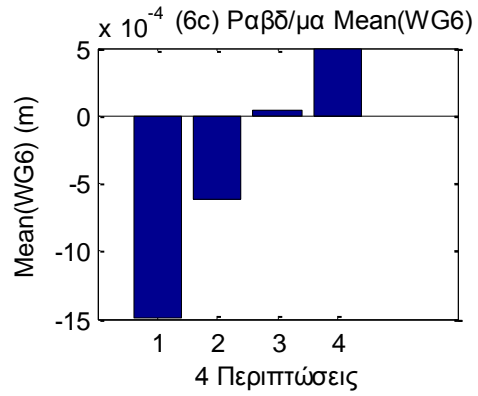
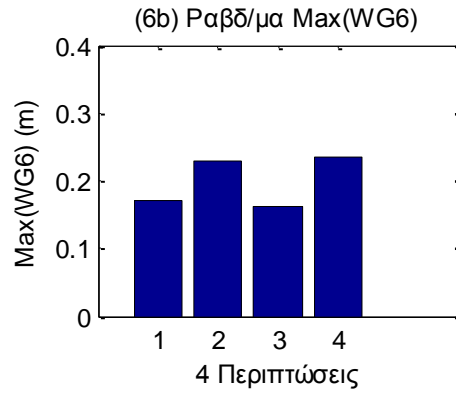
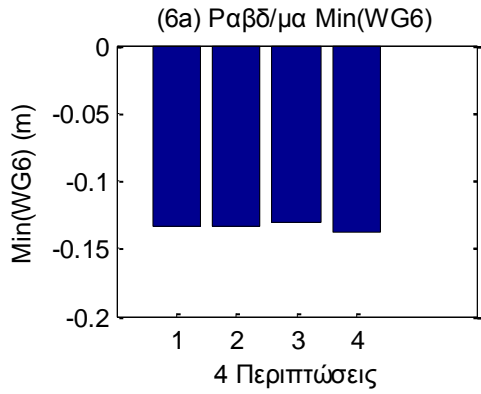
Στην παρούσα ενότητα παρουσιάσουμε τη μεταβολή της ελάχιστης, μέγιστης, μέσης τιμής και διακύμανσης σε σχέση με τέσσερις περιπτώσεις. Συγκεκριμένα, για την SB θα μελετήσουμε τις περιπτώσεις SB\_00\_NR, SB\_20\_NR, SB\_00\_R και SB\_20\_R. Ακολουθώντας την ίδια διαδικασία με την προηγούμενη ενότητα, παραθέτουμε στα επόμενα γραφήματα αρχικά, τα ραβδοδιαγράμματα, και στη συνέχεια με τα κοινά γραφήματα για κάθε χρονοσειρά που προκύπτει από τα δεδομένα κάθε οργάνου μέτρησης.

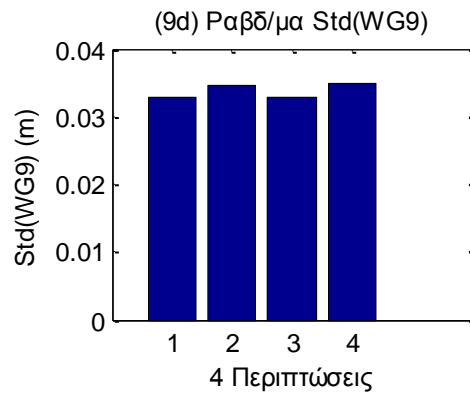
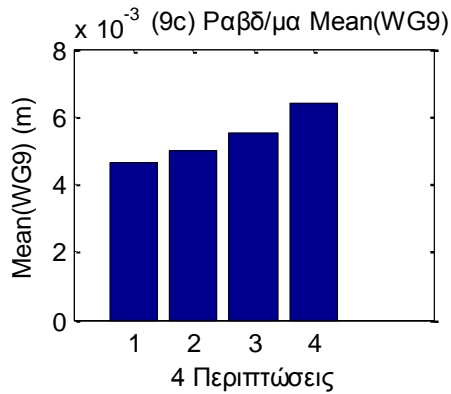
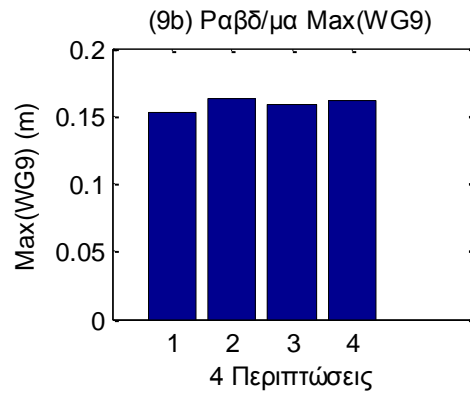
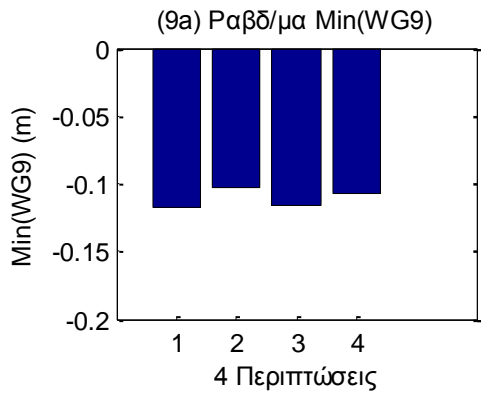
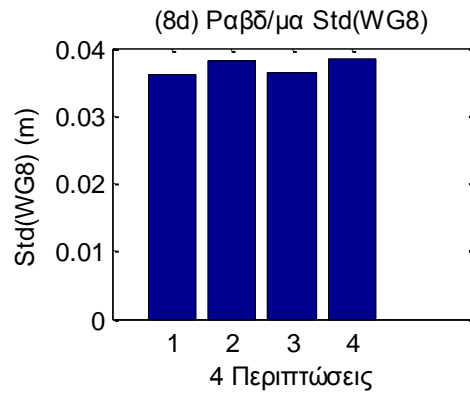
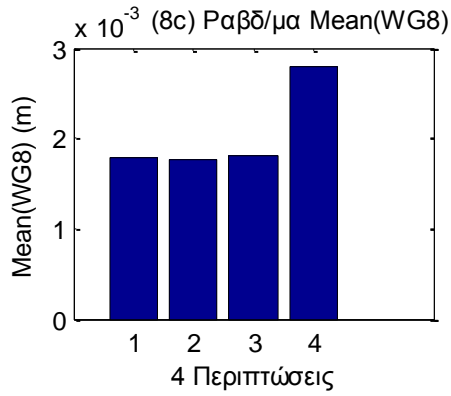
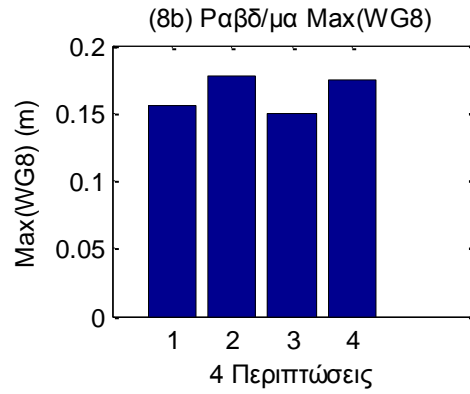
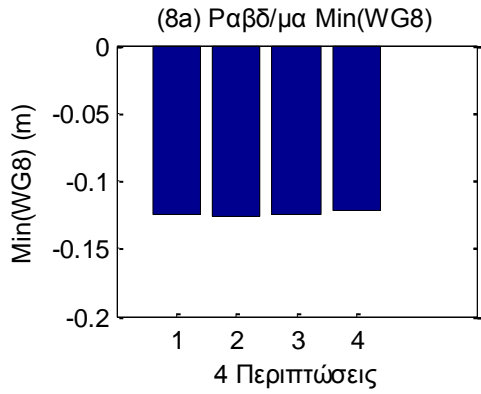


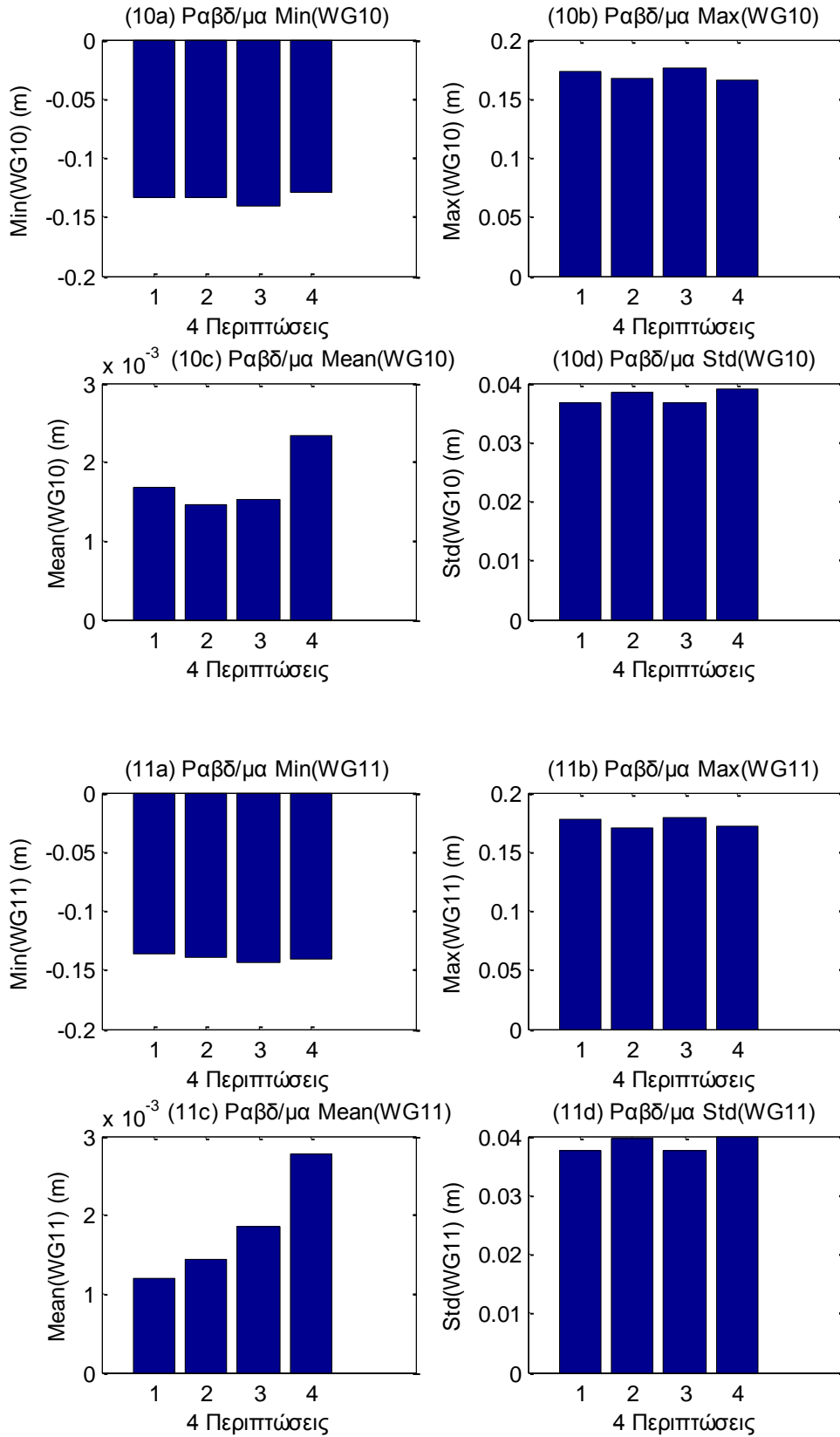




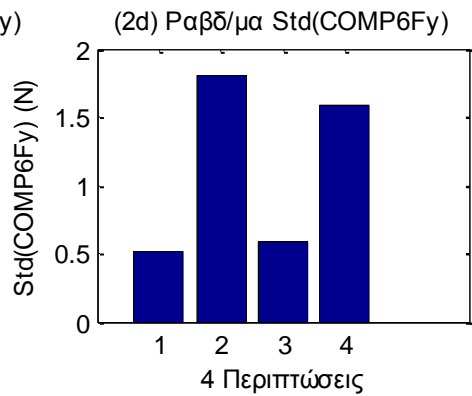
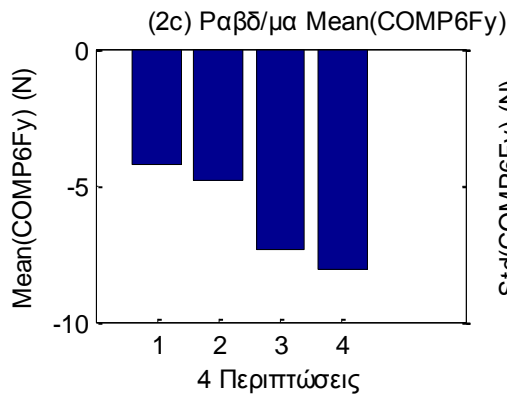
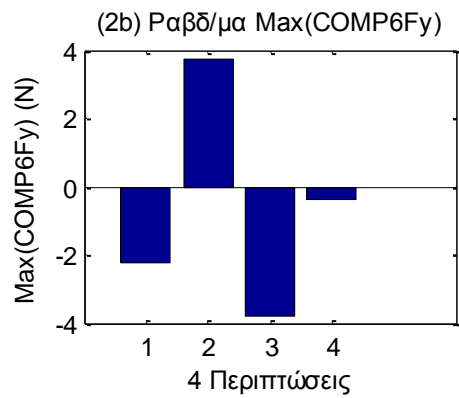
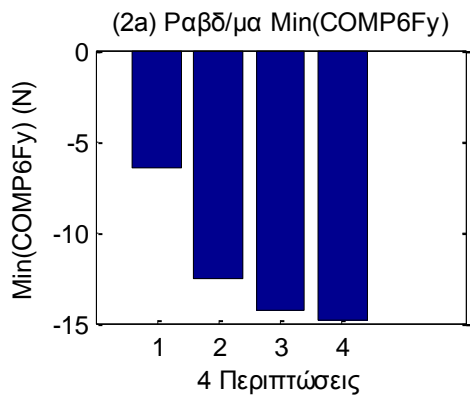
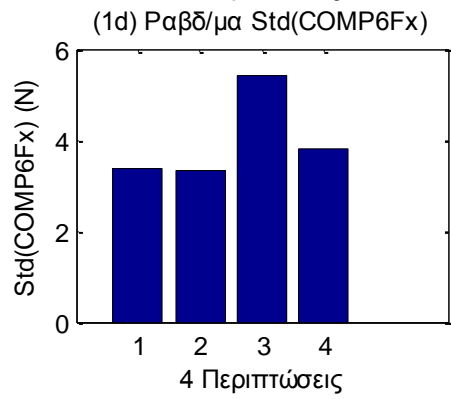
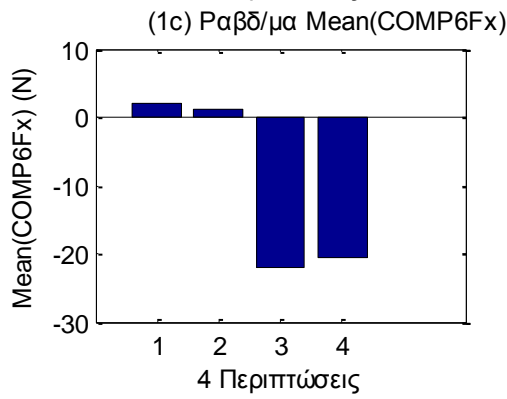
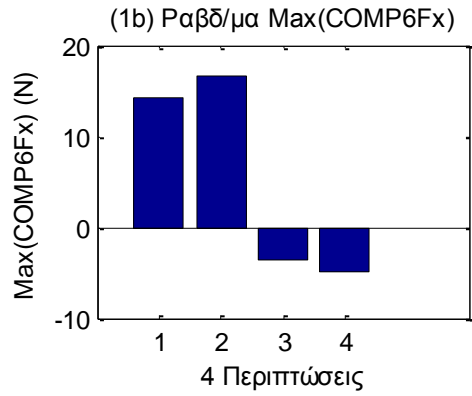
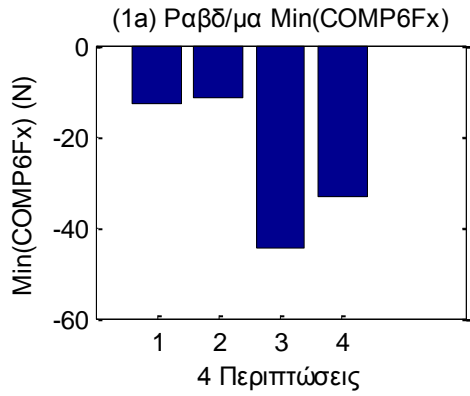


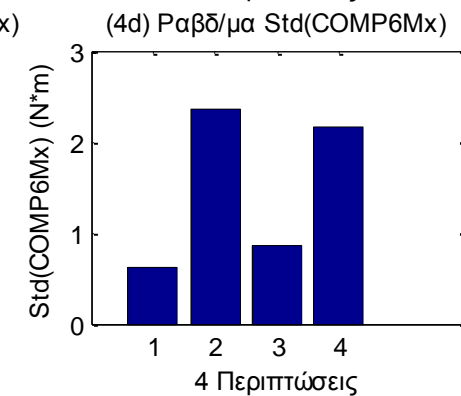
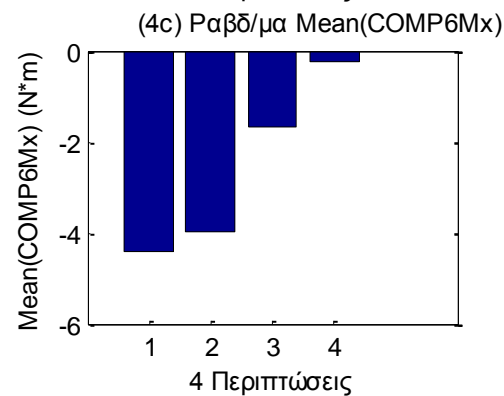
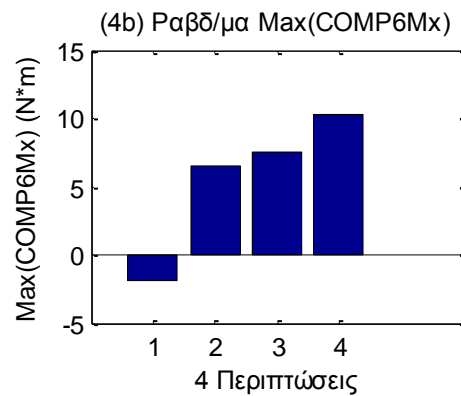
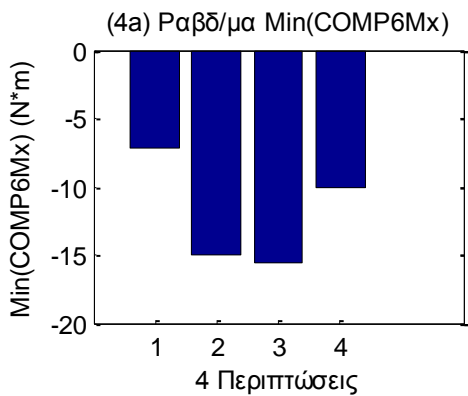
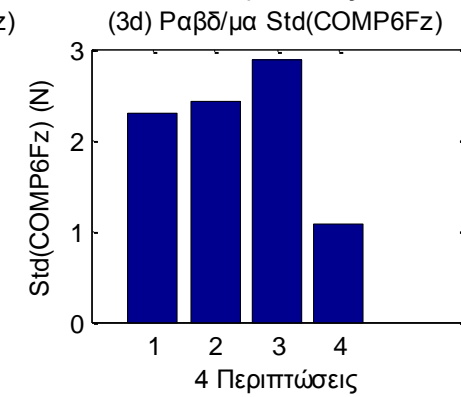
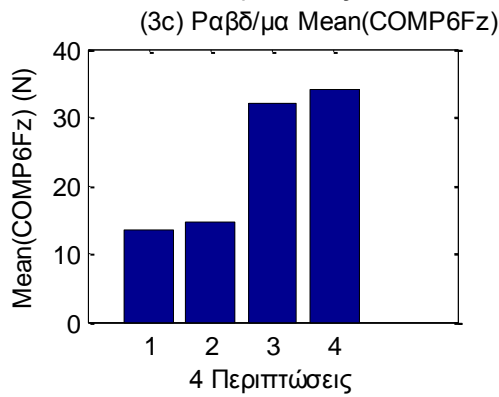
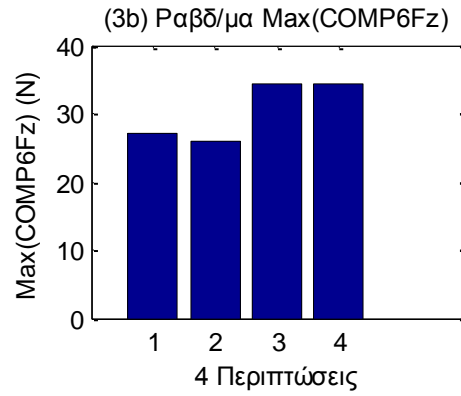
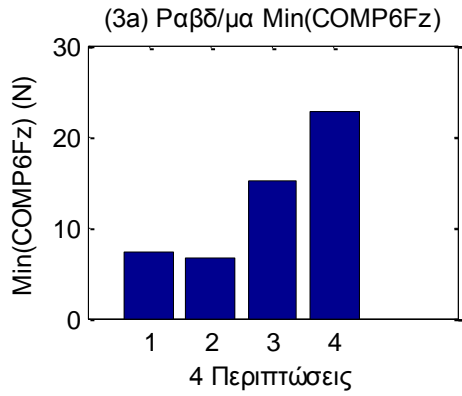


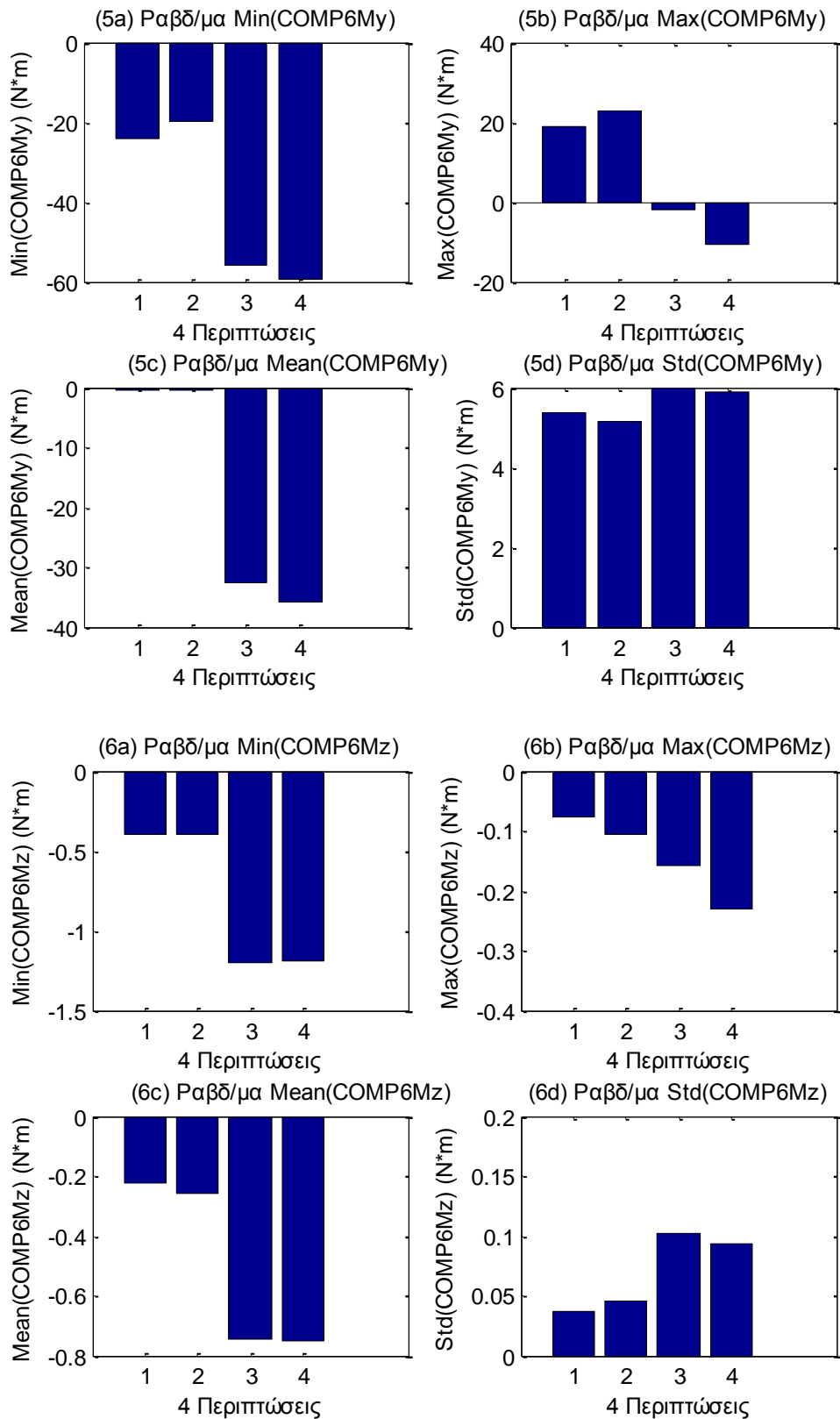




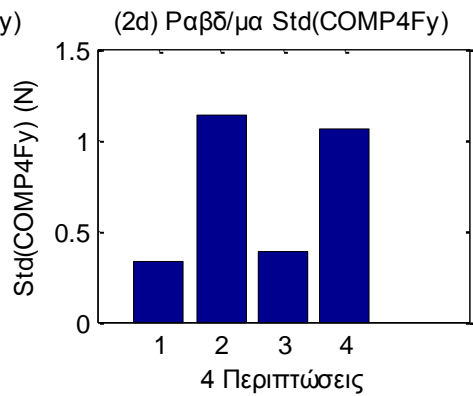
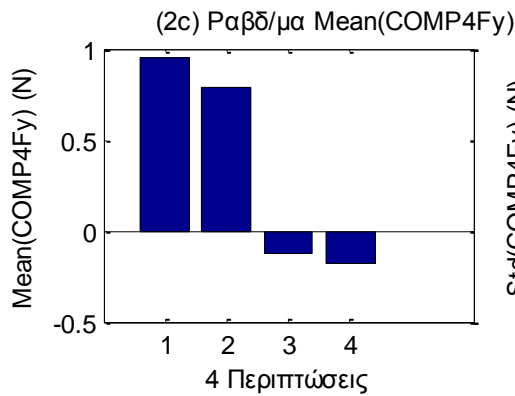
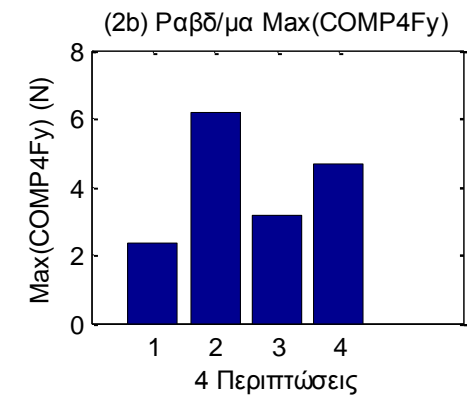
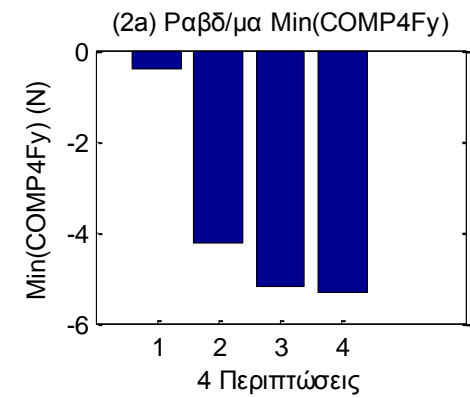
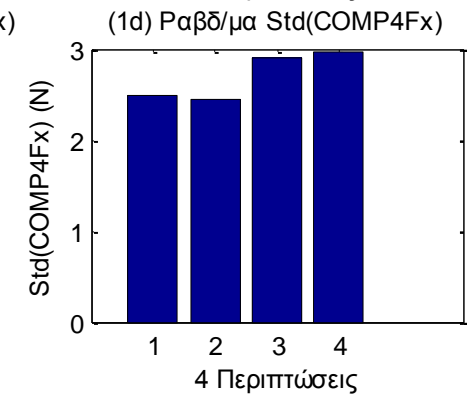
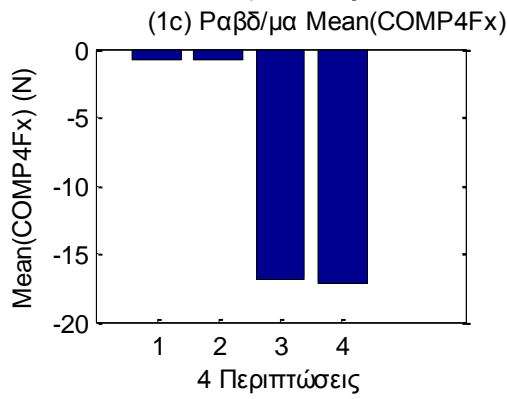
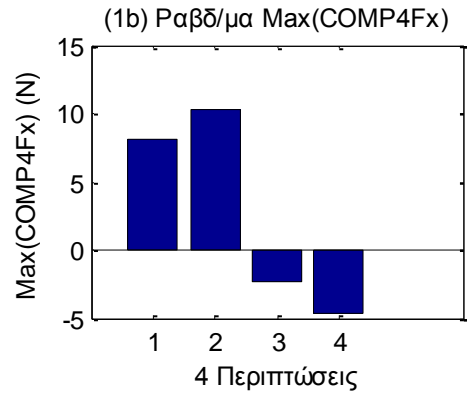
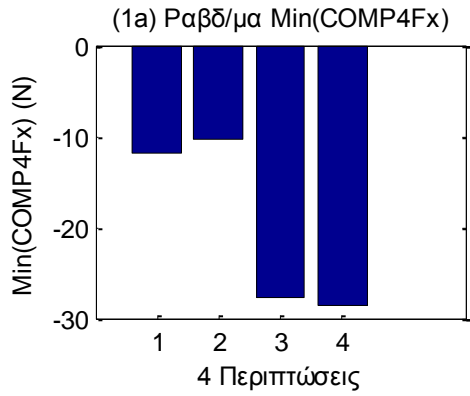
**Σχήματα 2.9.1.1 (1-11)** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τα 11 όργανα μέτρησης του ύψους κύματος



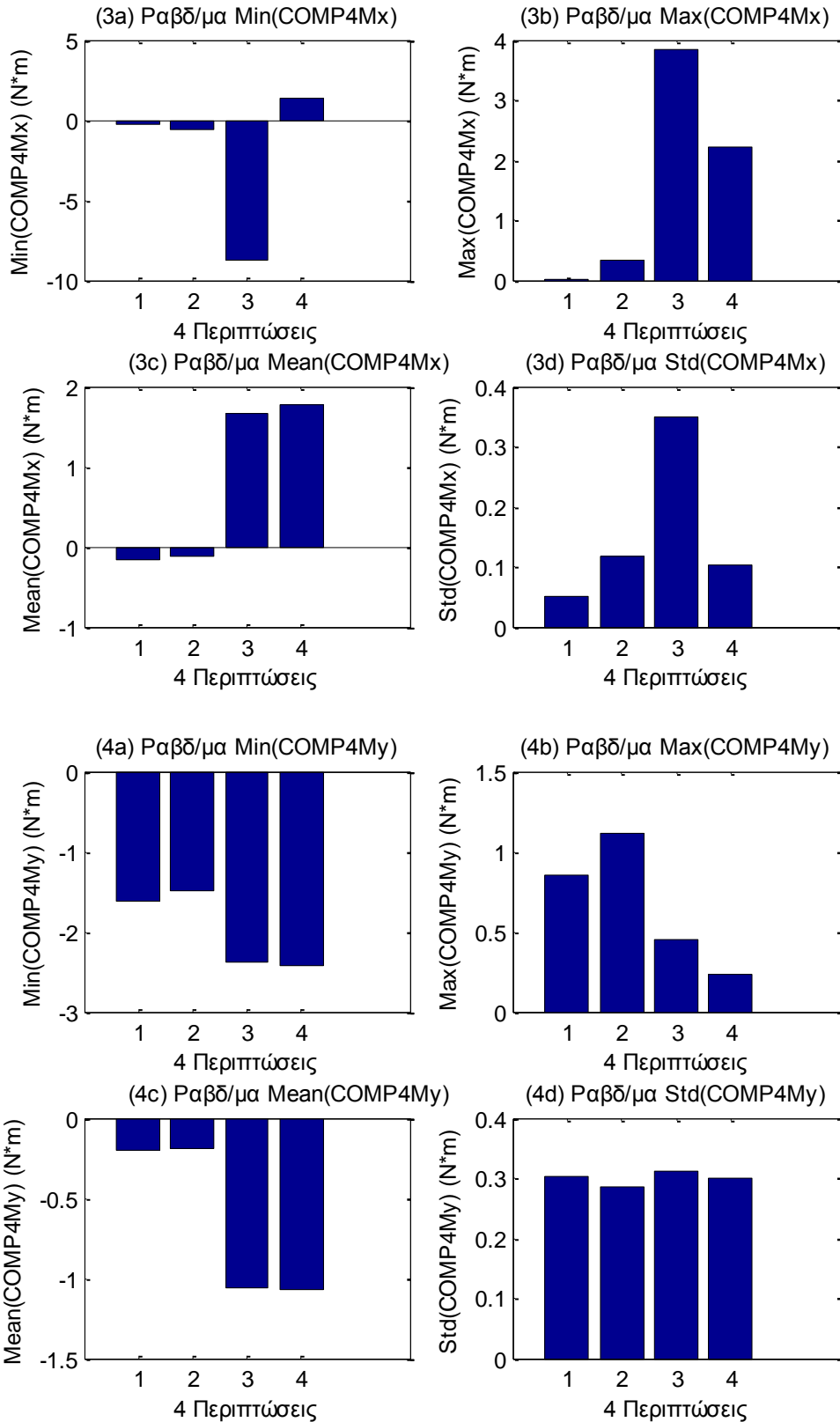




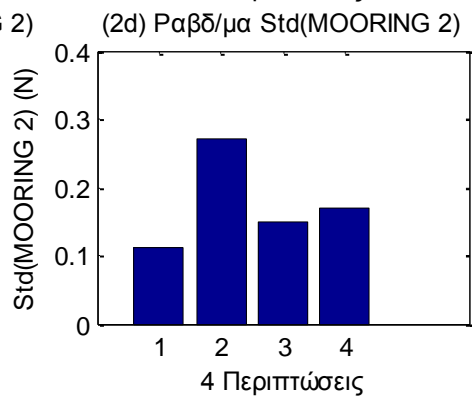
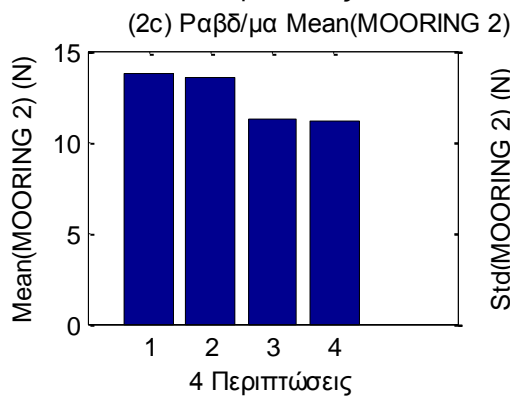
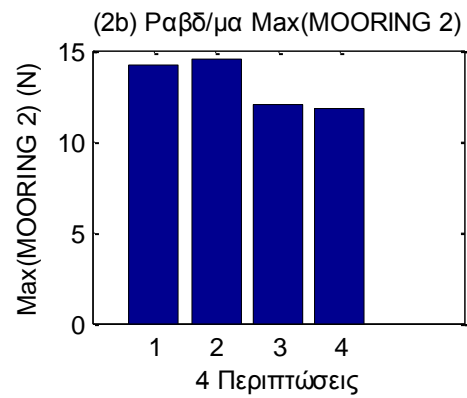
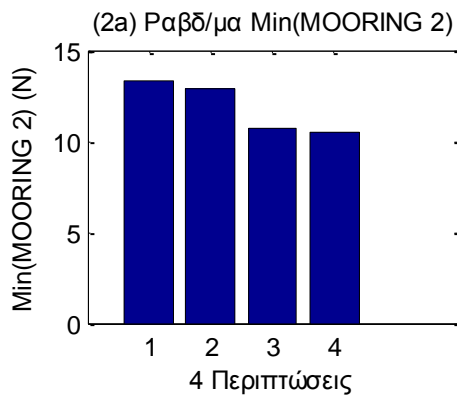
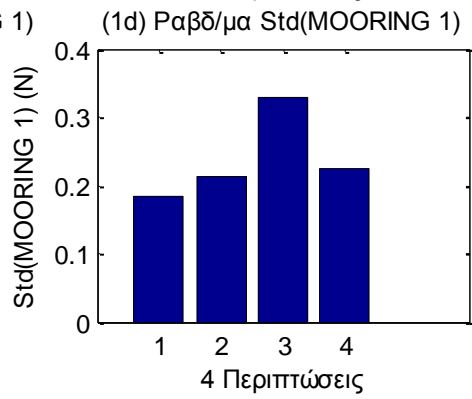
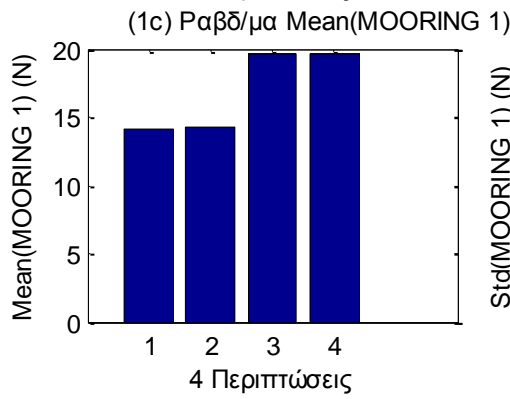
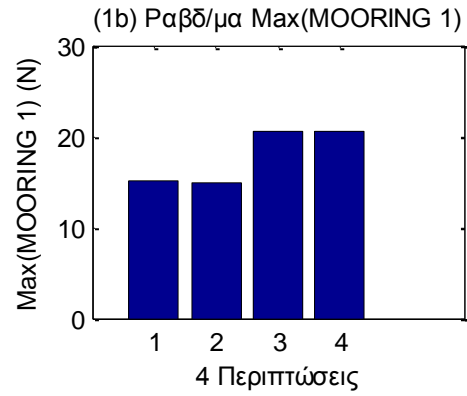
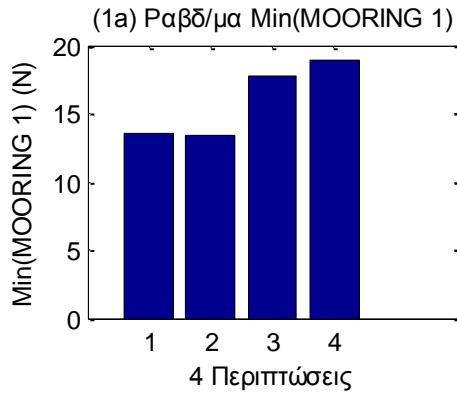
**Σχήματα 2.9.1.2** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις, για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

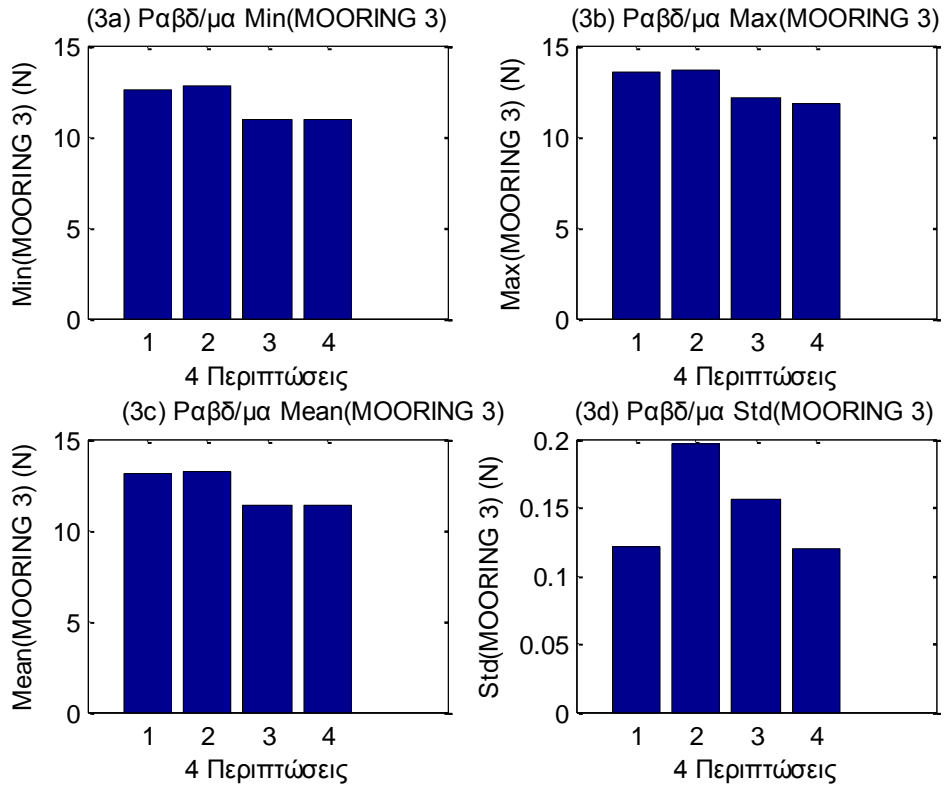




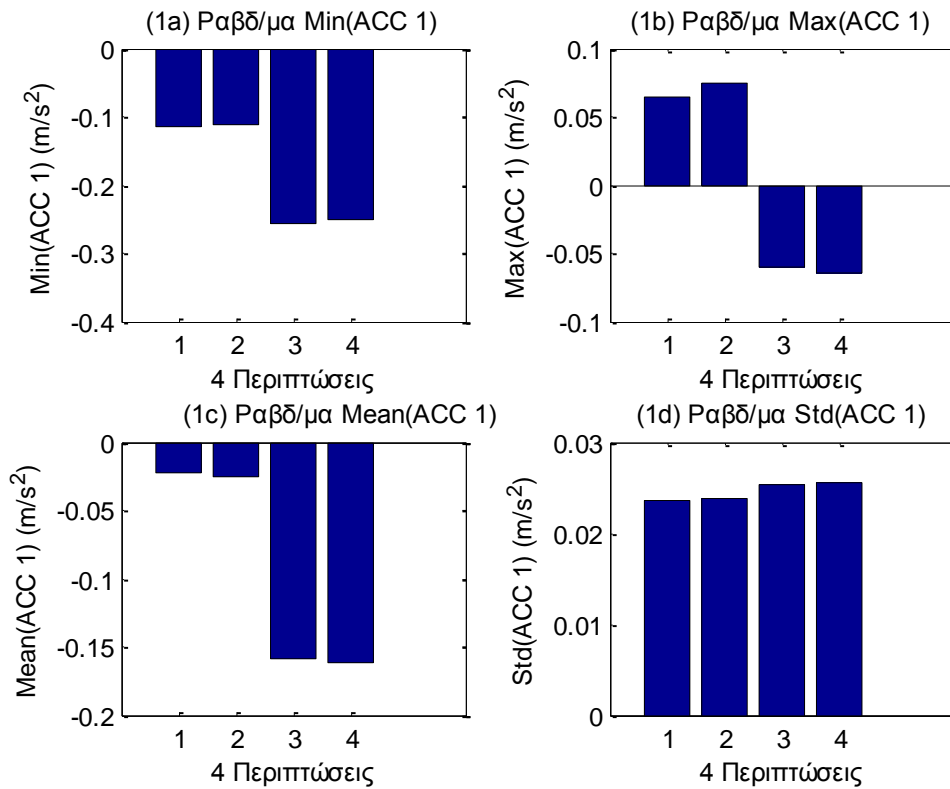


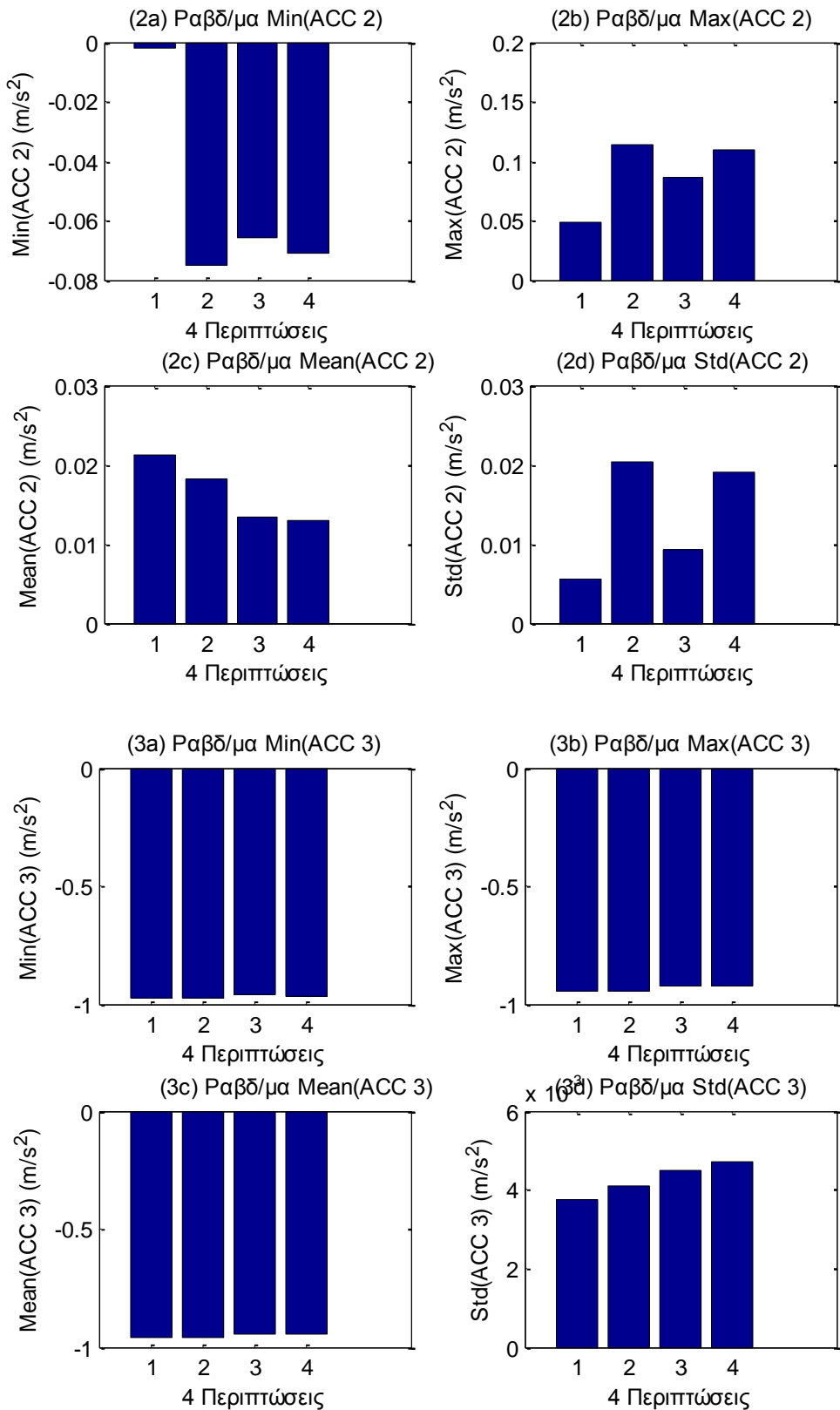
**Σχήματα 2.9.1.3** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις, για τις δυο δυνάμεις στις δυο διευθύνσεις (1) surge και (2) sway και των δυο ροπών στους αντίστοιχους δυο άξονες (3) roll και (4) pitch



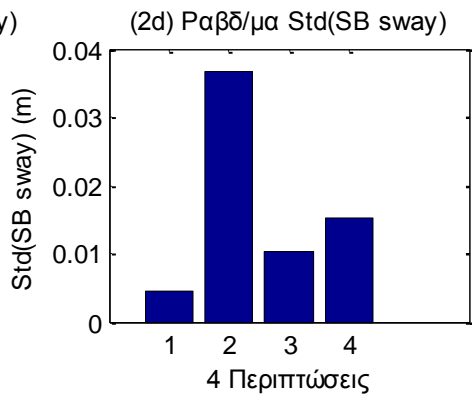
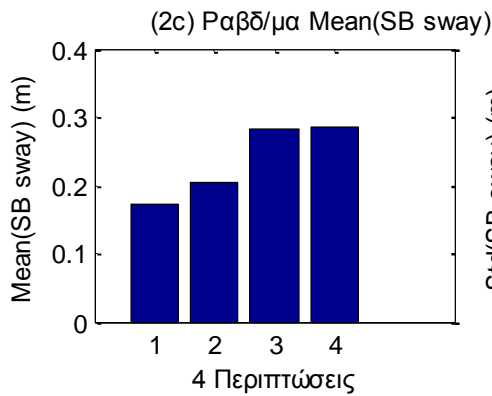
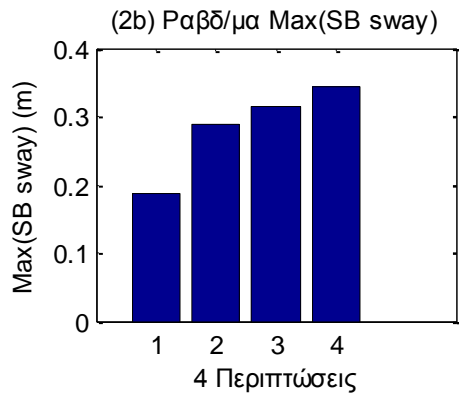
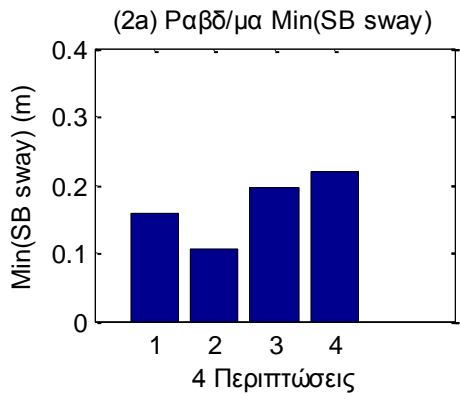
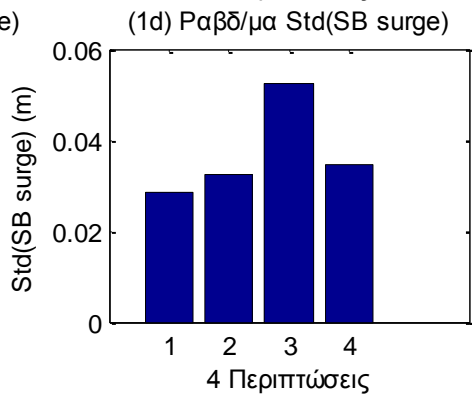
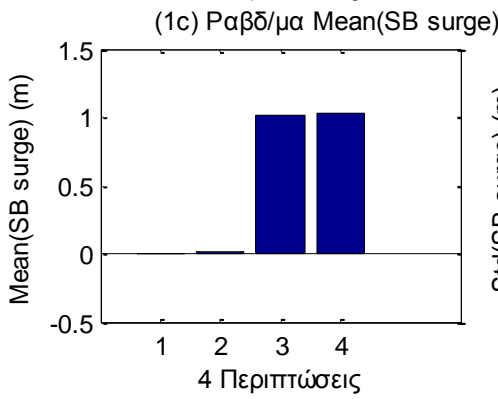
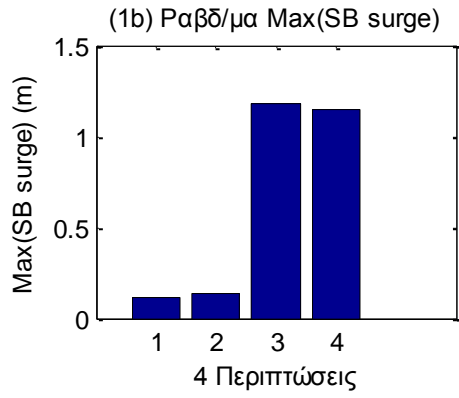
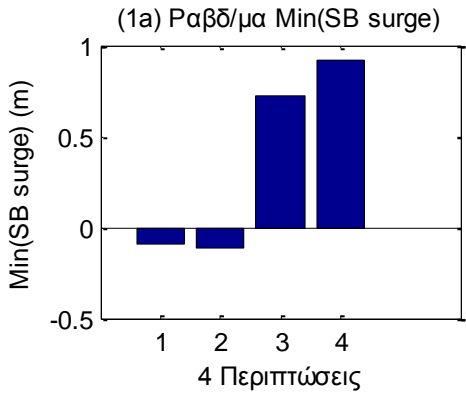


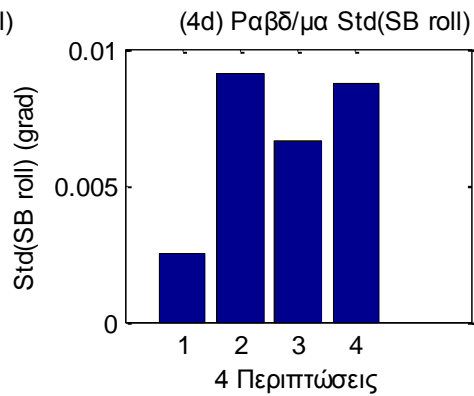
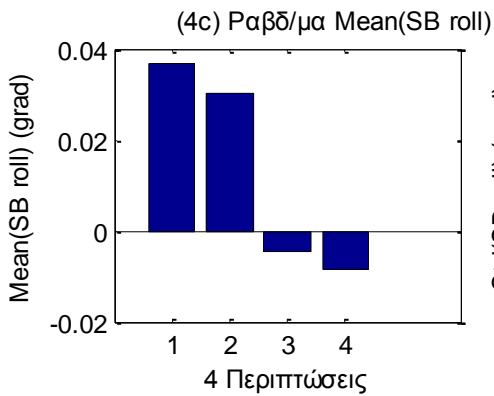
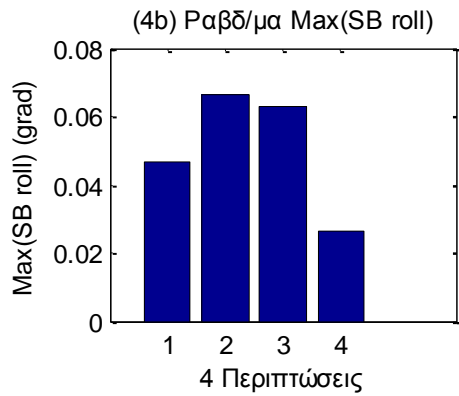
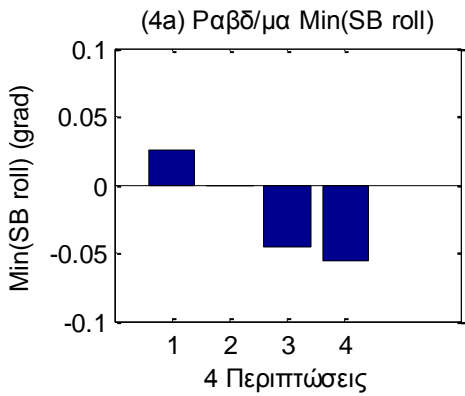
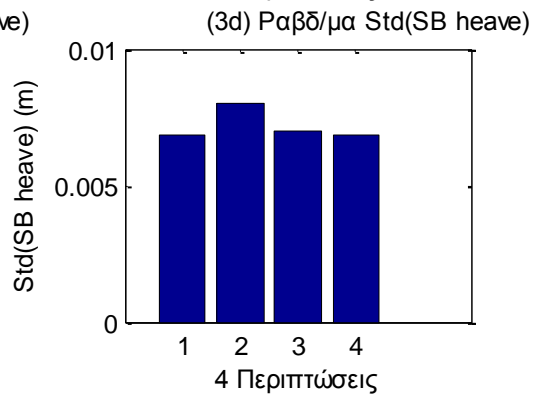
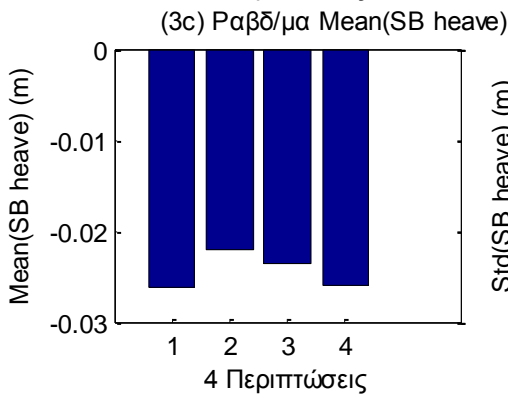
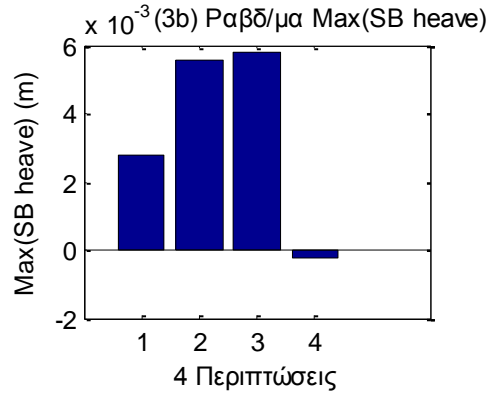
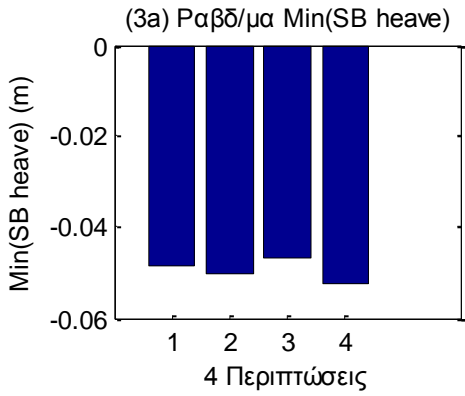
**Σχήματα 2.9.1.4** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τις δυνάμεις στις 3 γραμμές αγκύρωσης

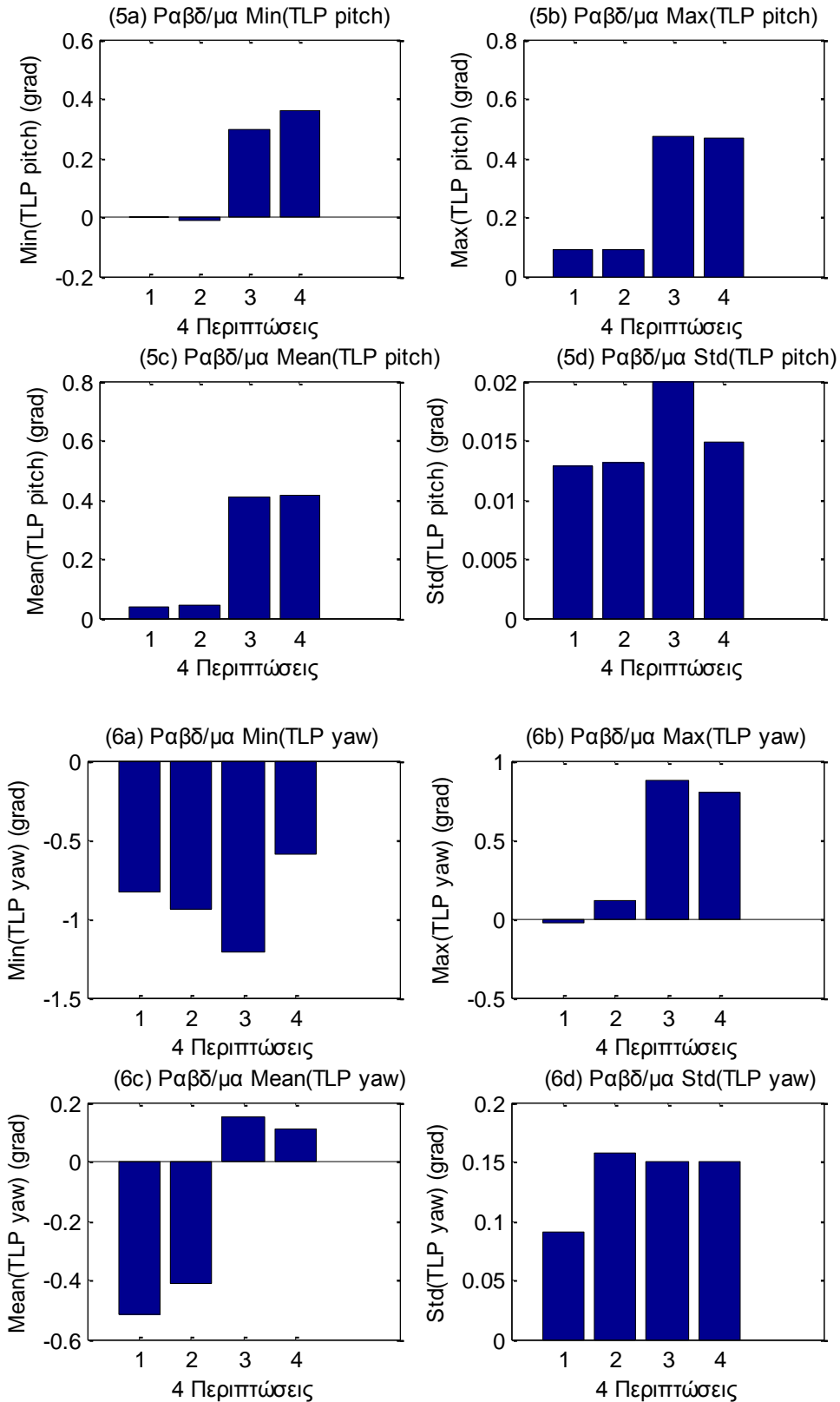




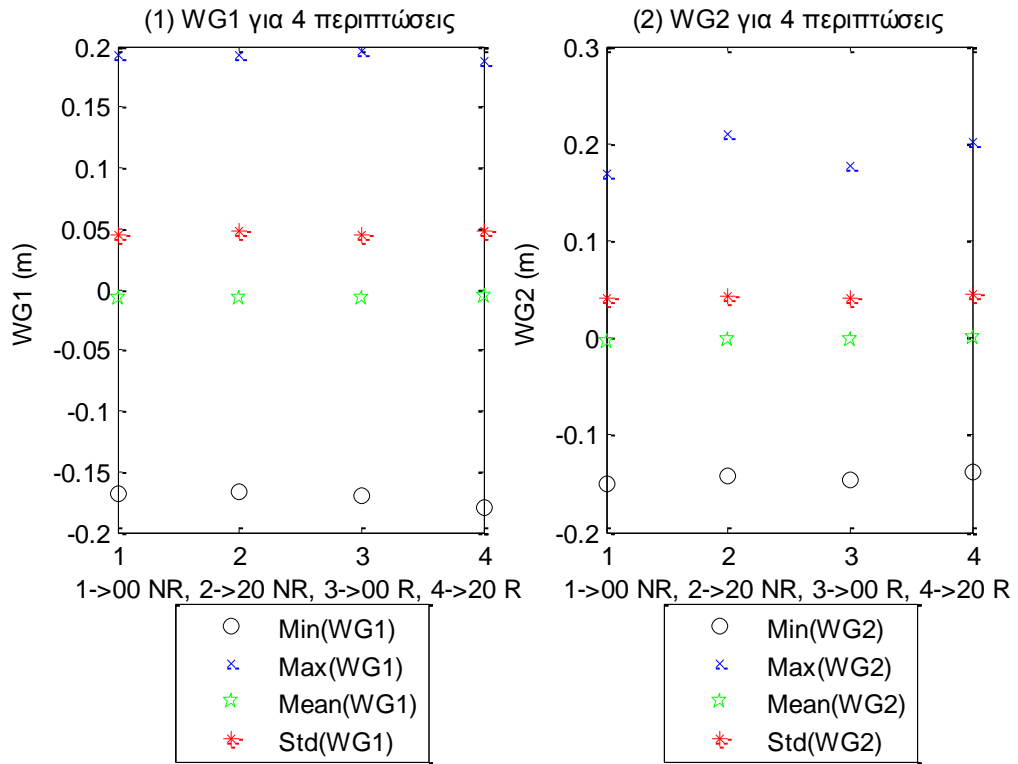
**Σχήματα 2.9.1.5 (1-3)** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc 1, (2) Acc 2 και (3) Acc 3



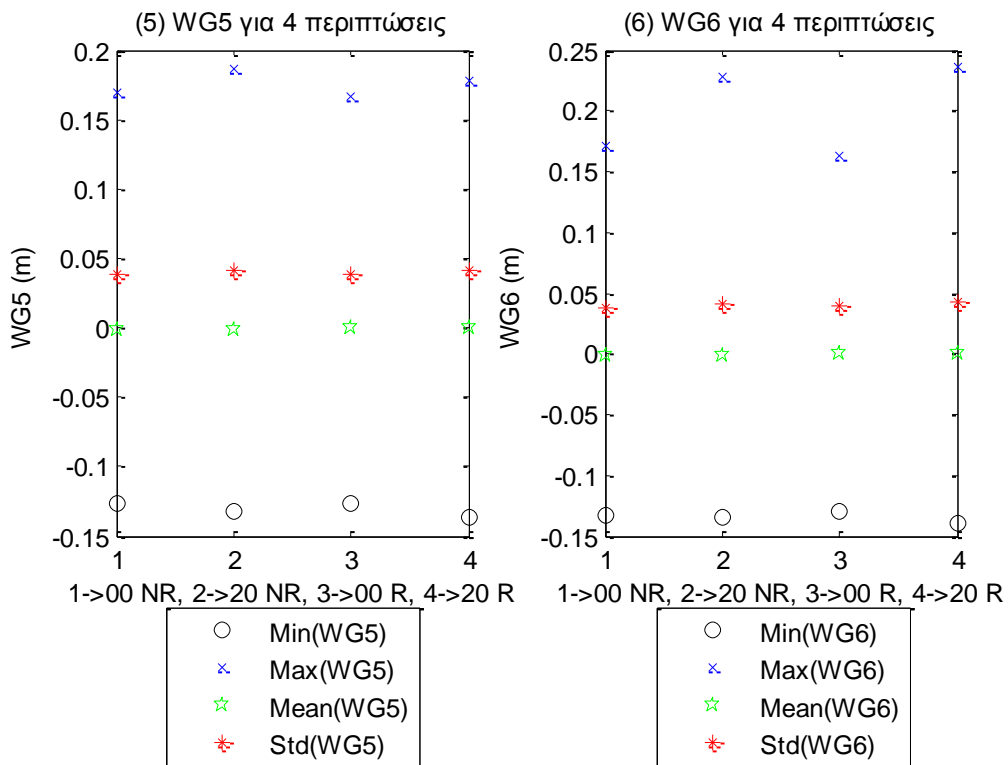
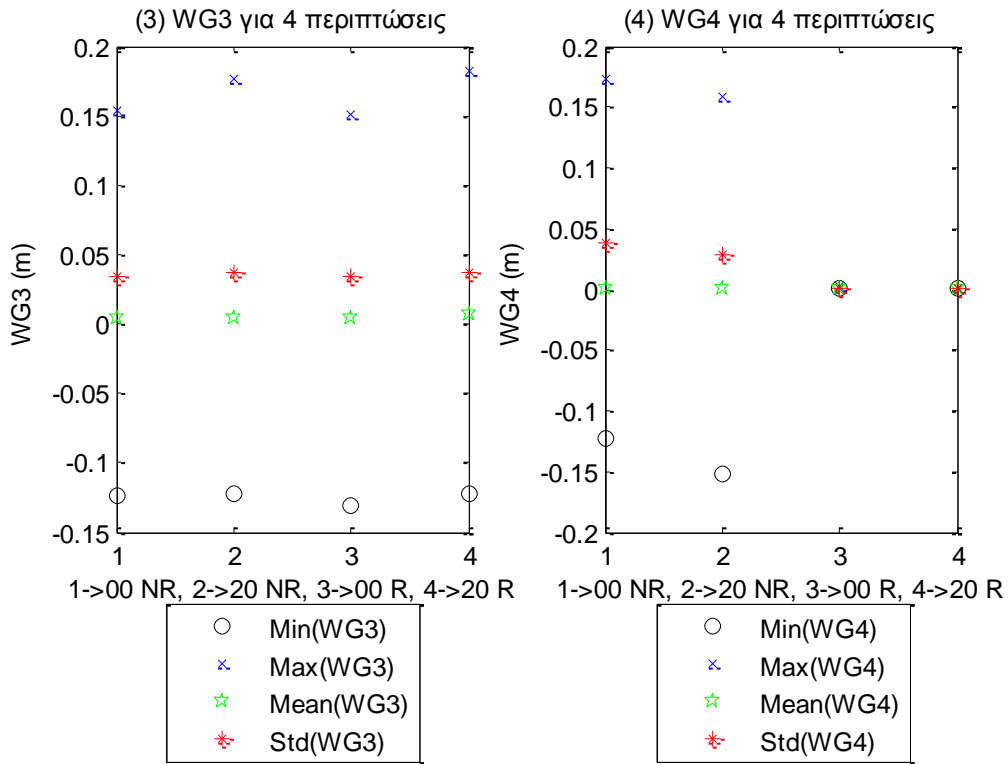


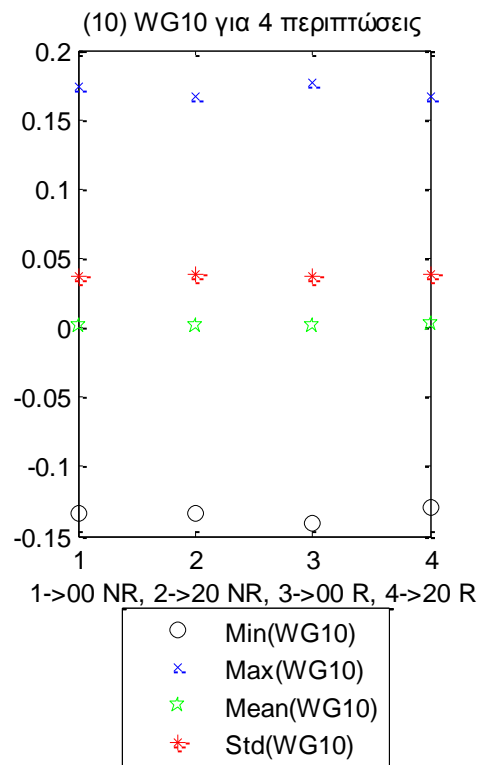
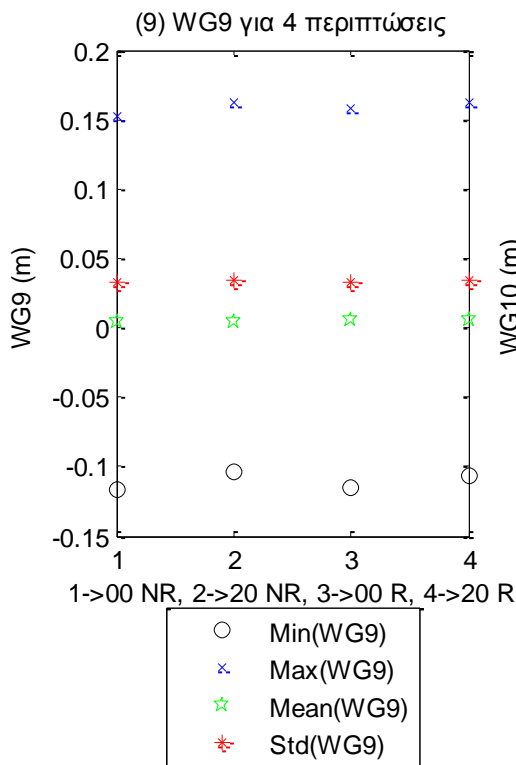
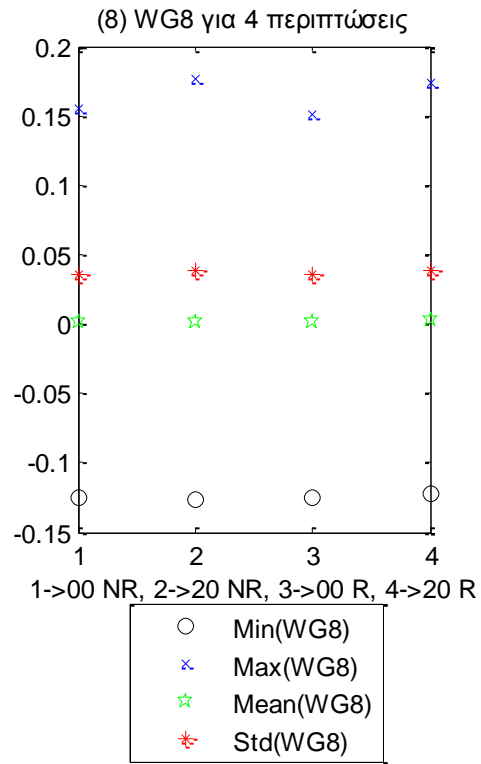
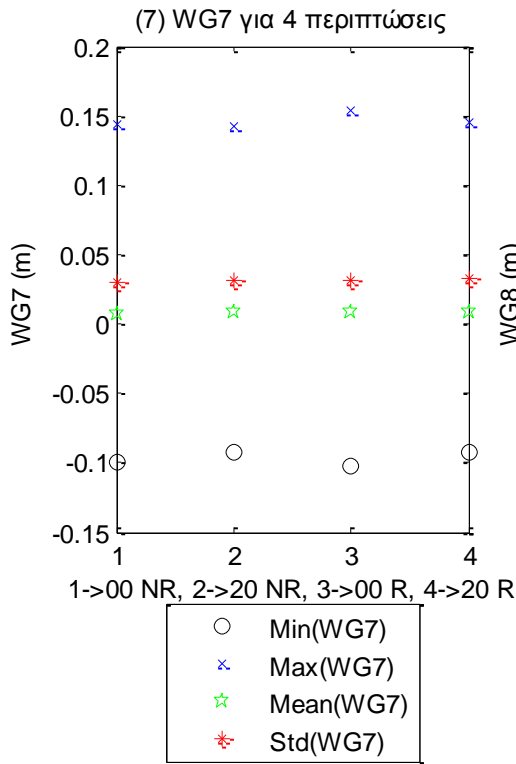


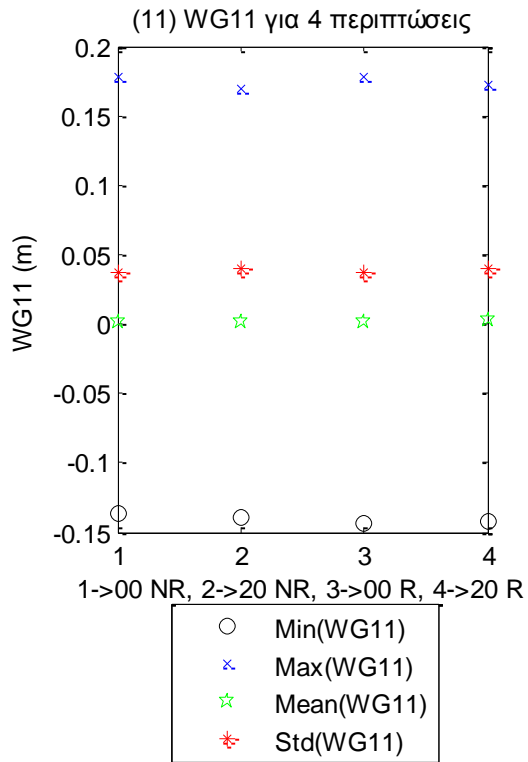
**Σχήματα 2.9.1.6** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



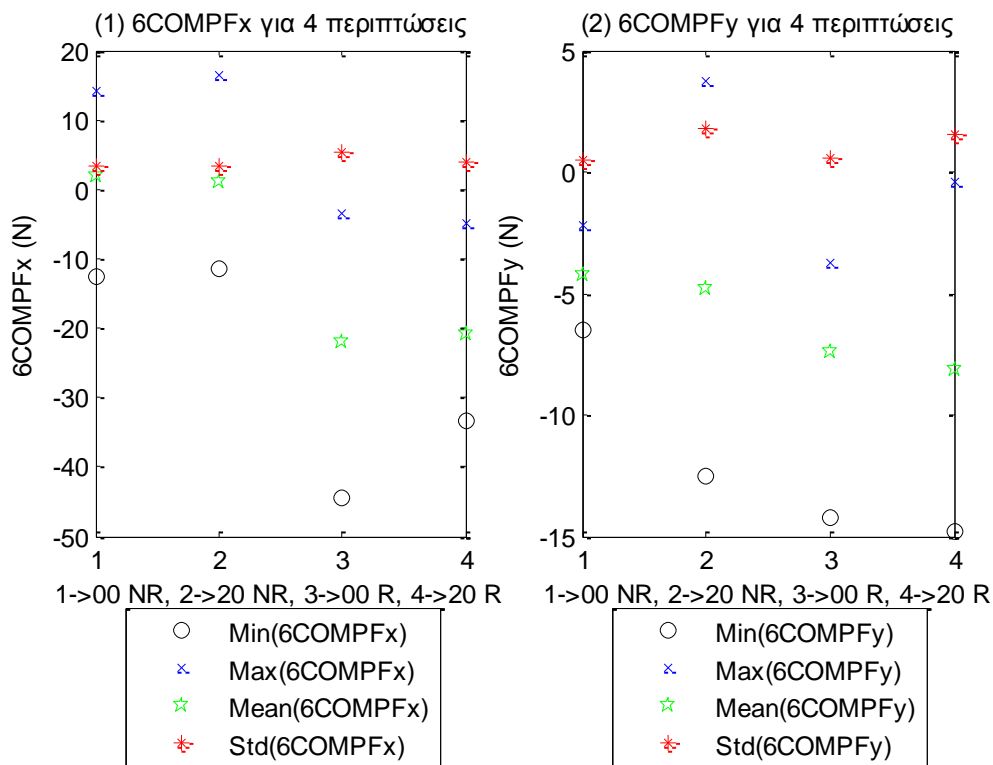


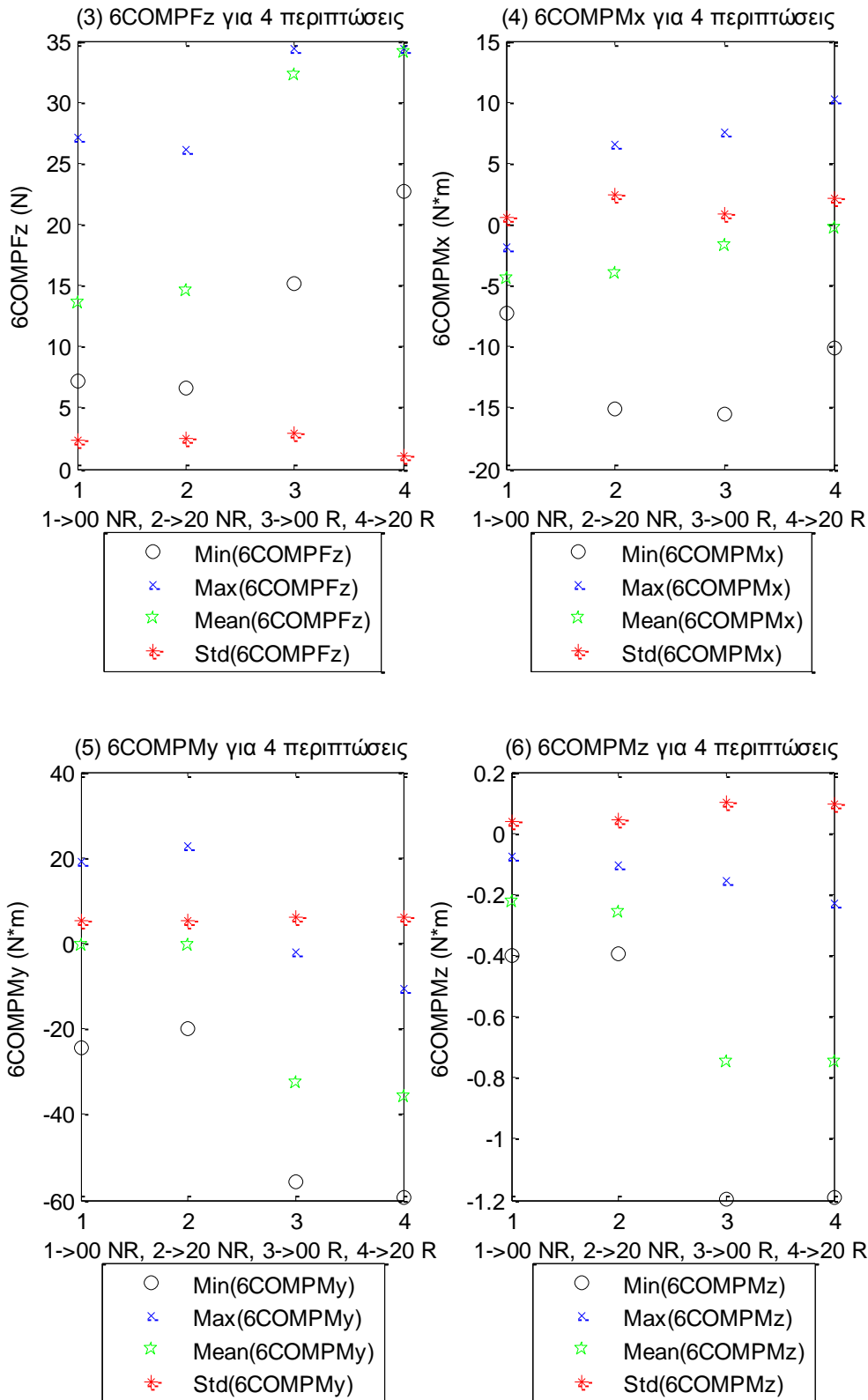




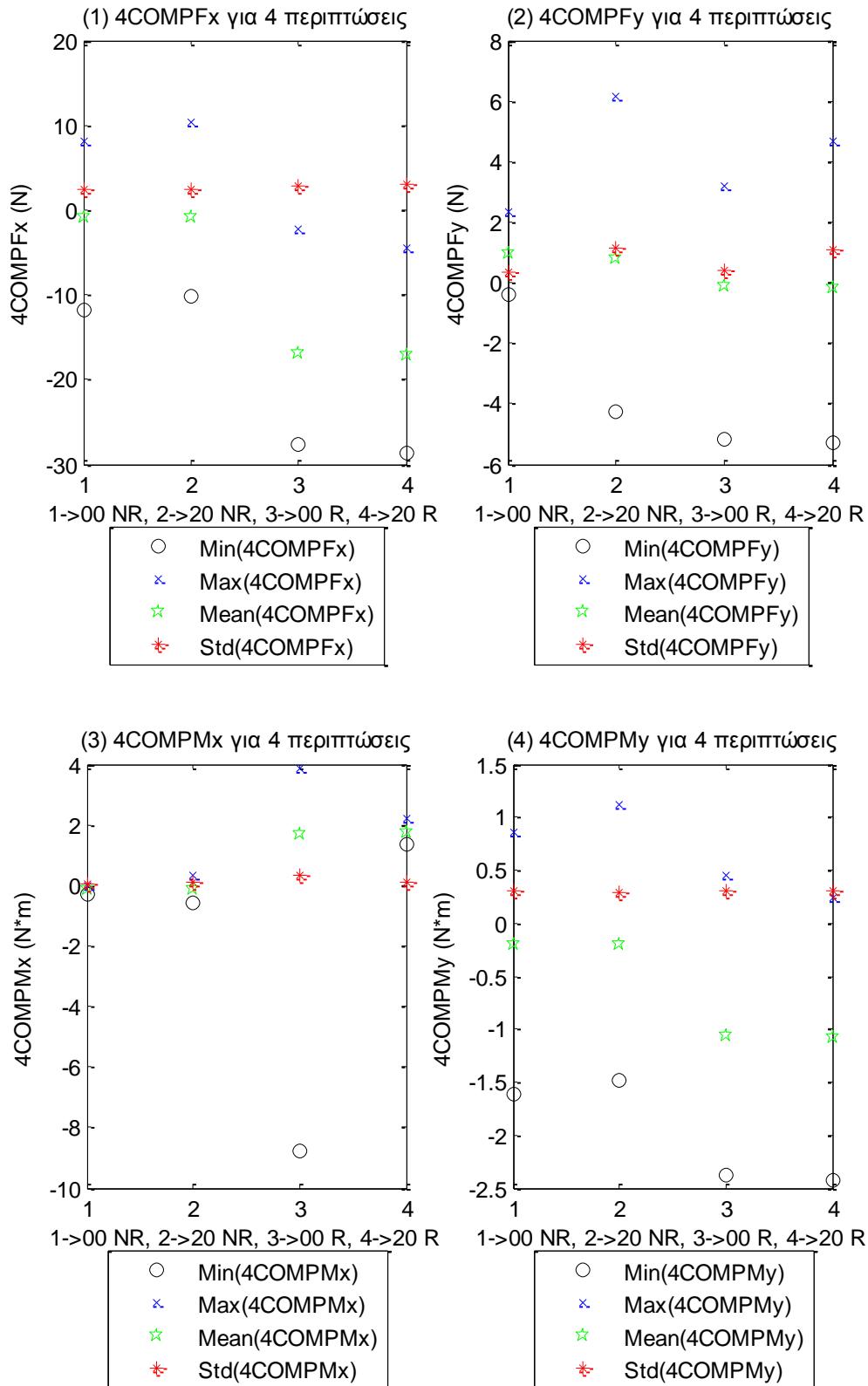


**Σχήματα 2.9.2.1 (1-11)** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τα 11 όργανα μέτρησης του ύψους κύματος

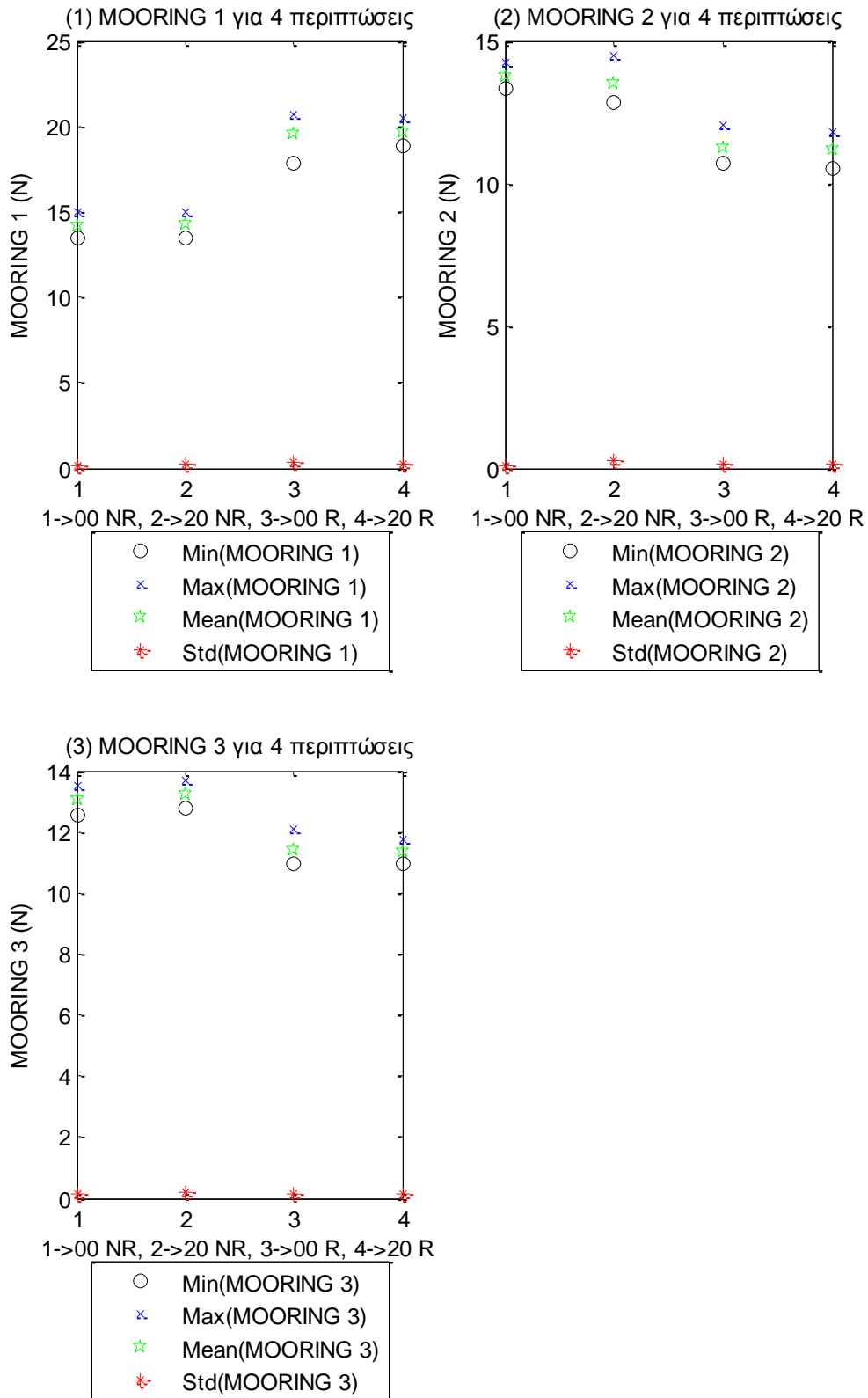




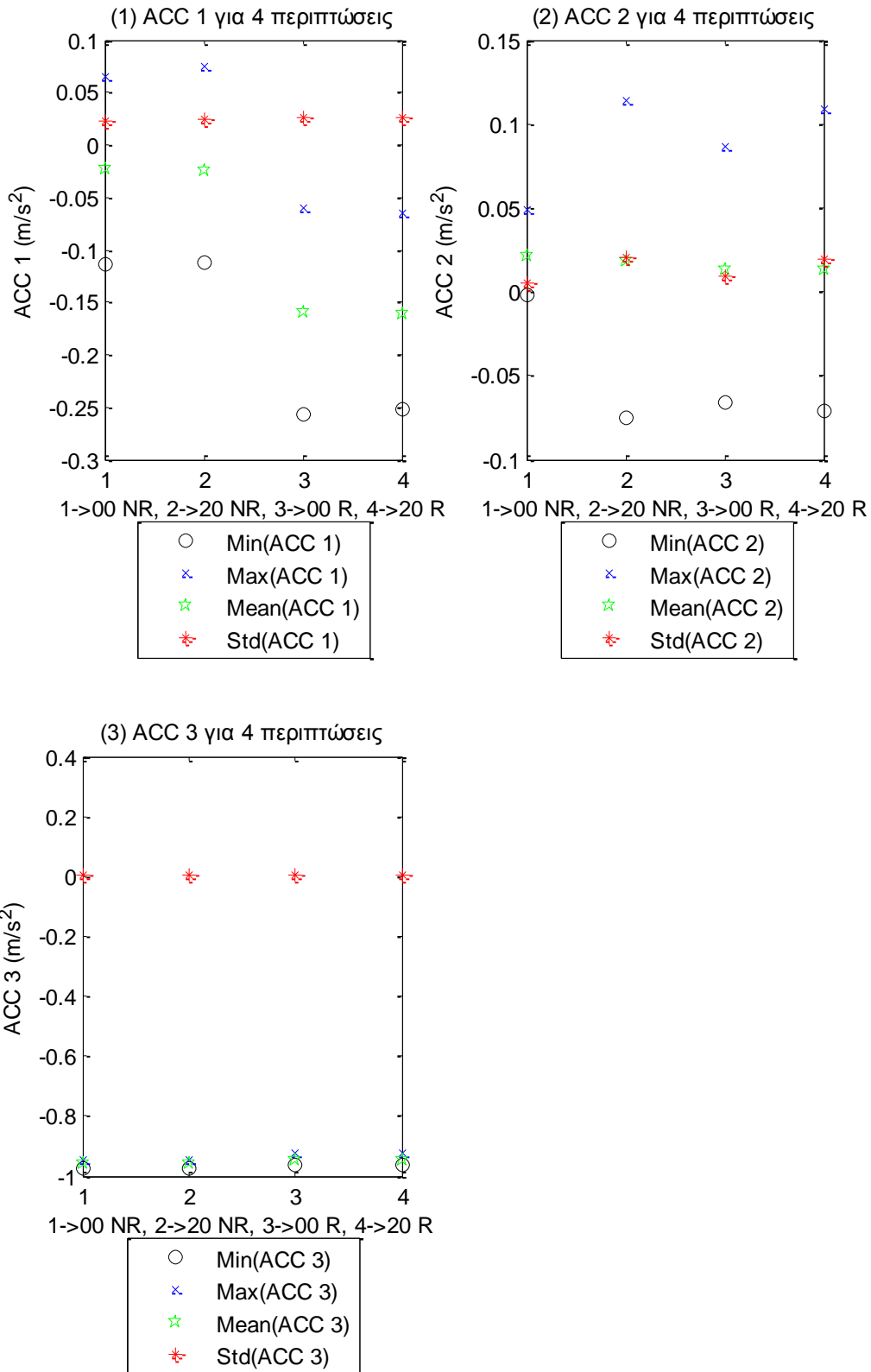
**Σχήματα 2.9.2.2** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



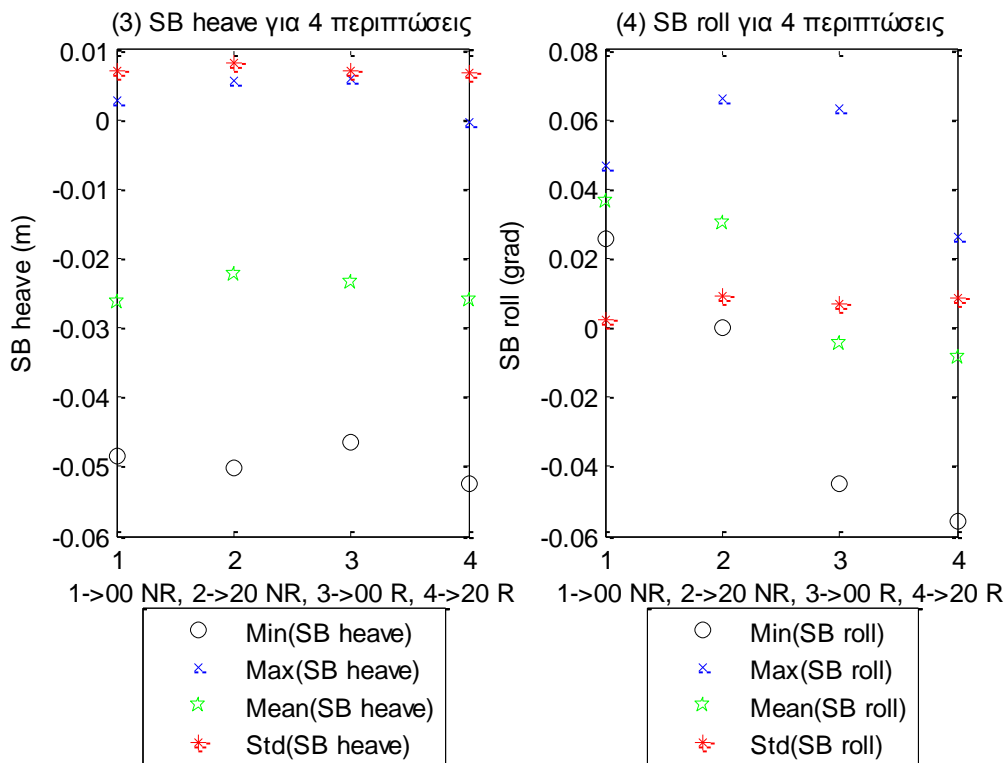
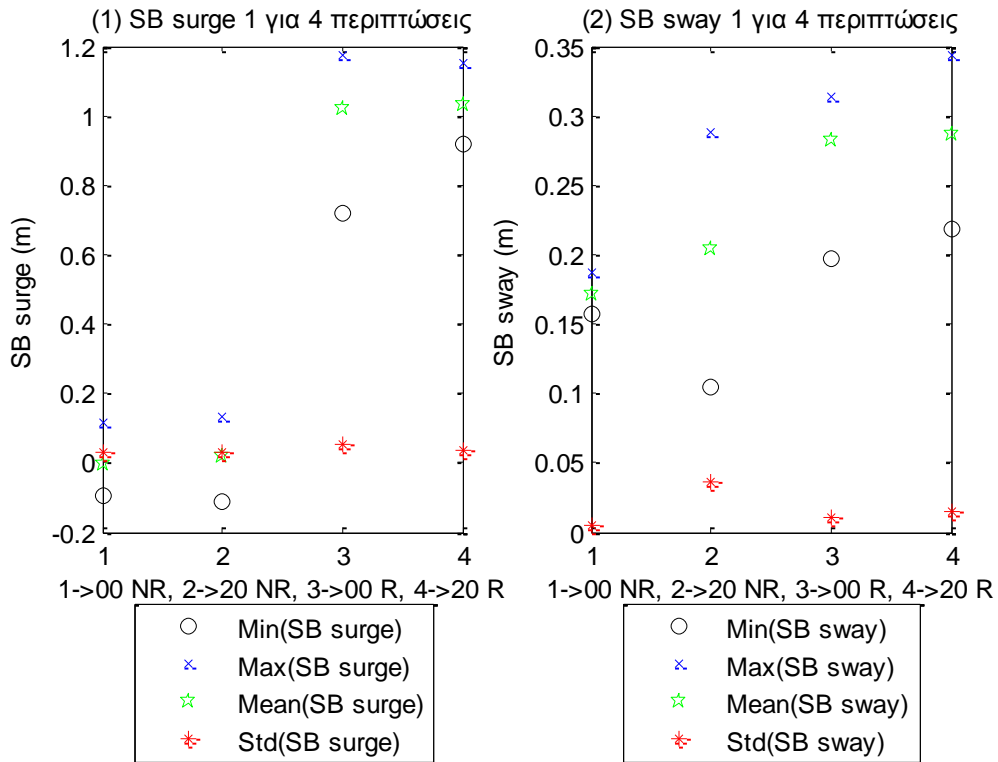
**Σχήματα 2.9.2.3** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



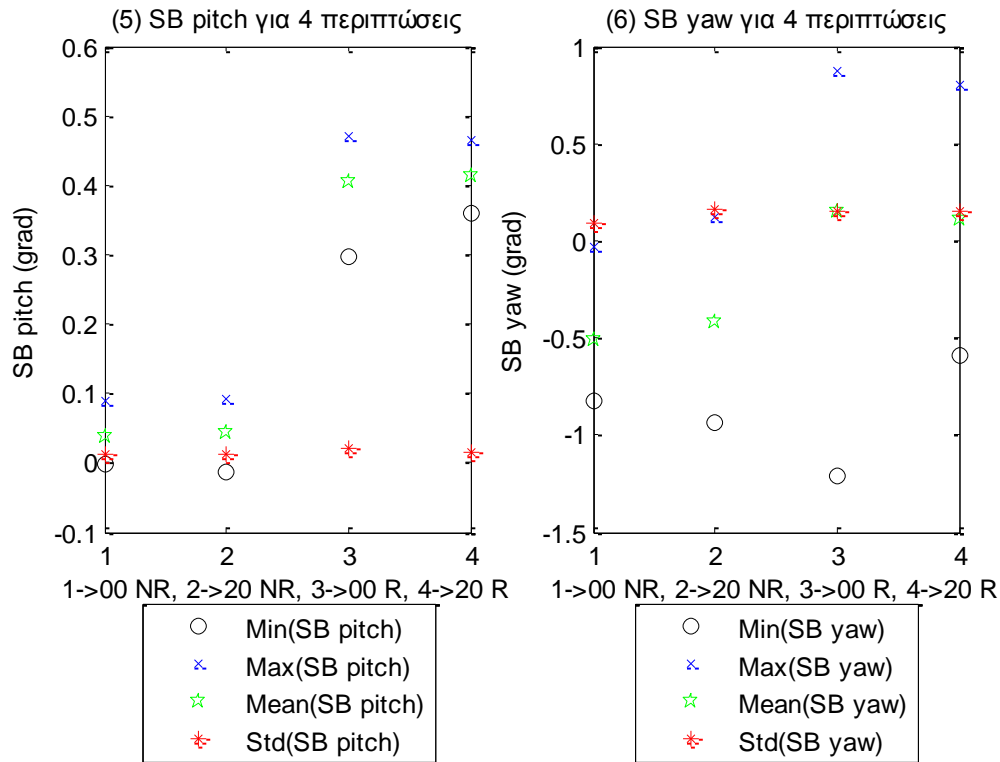
Σχήματα 2.9.2.4 (1-3) Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις δυνάμεις στις 3 γραμμές αγκύρωσης



**Σχήματα 2.9.2.5 (1-3)** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc 1, (2) Acc 2 και (3) Acc 3



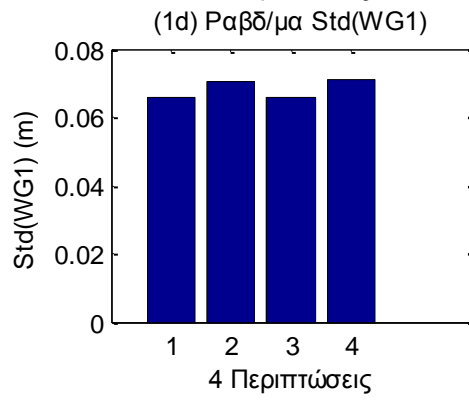
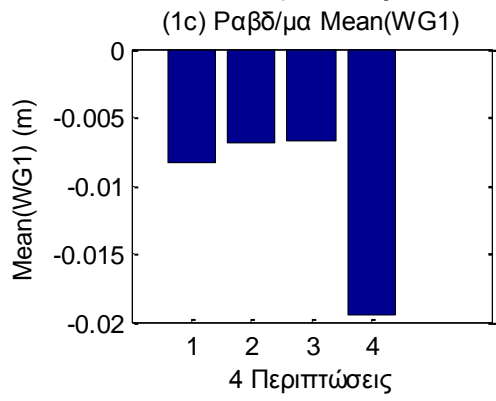
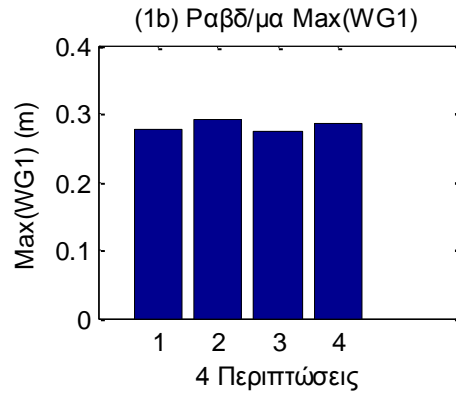
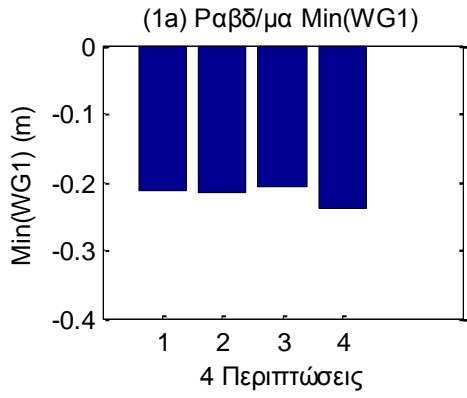


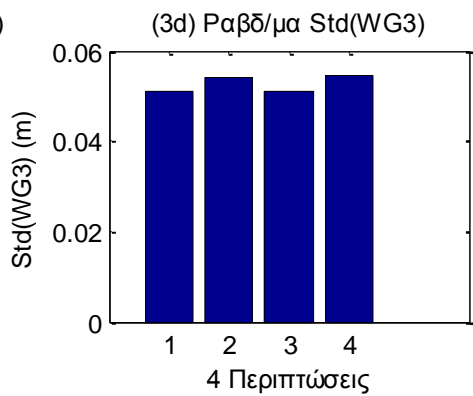
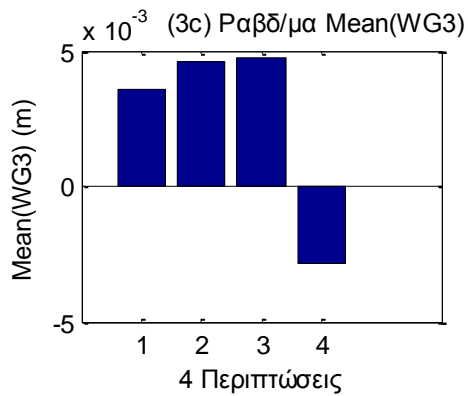
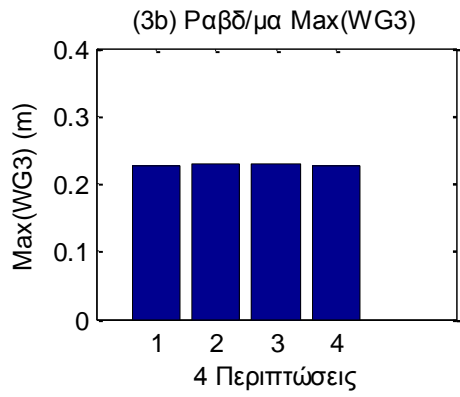
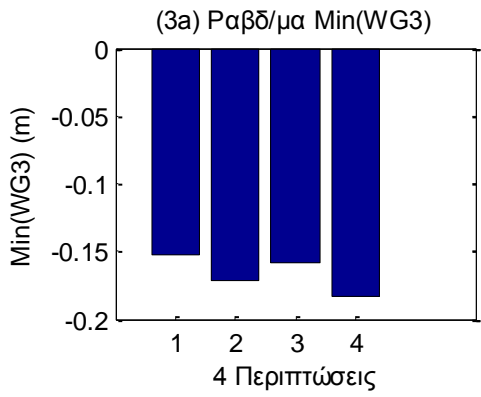
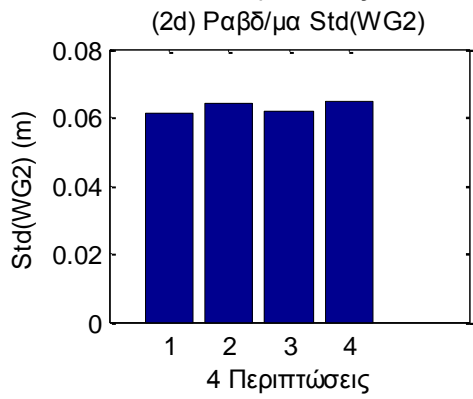
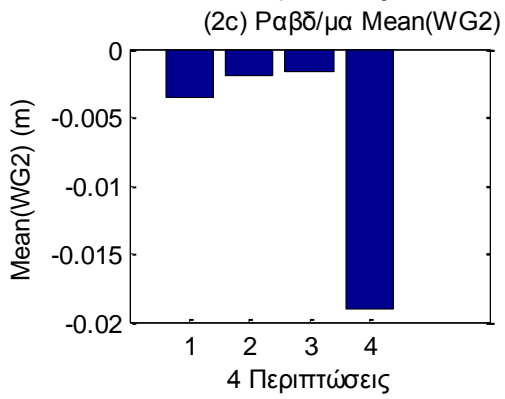
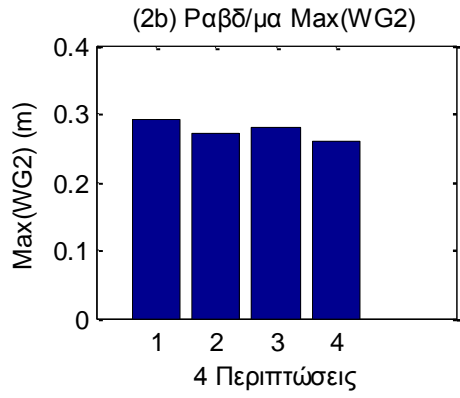
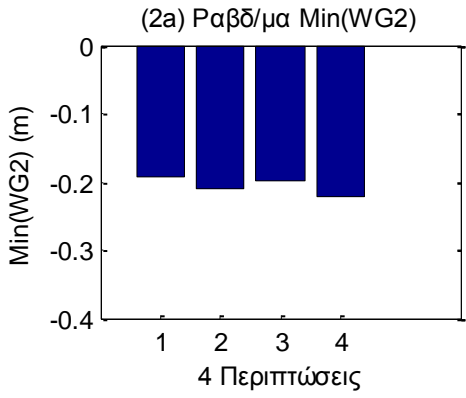


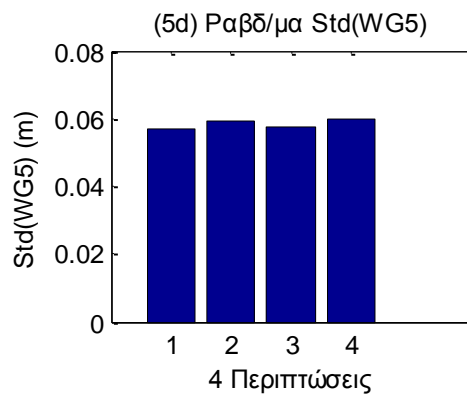
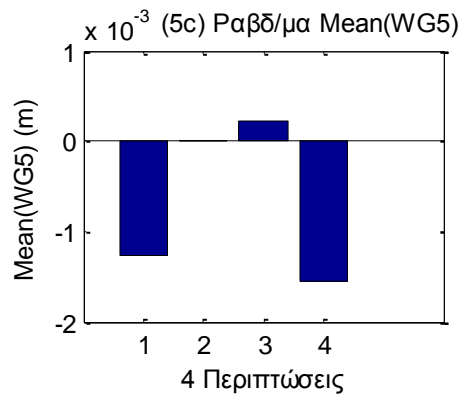
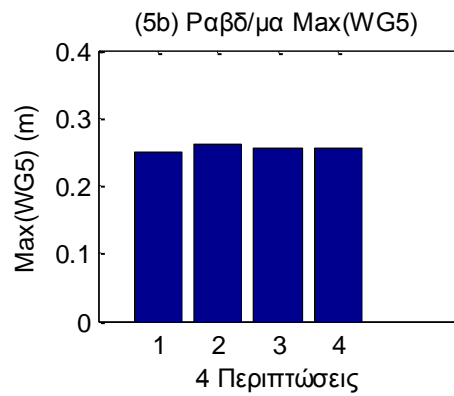
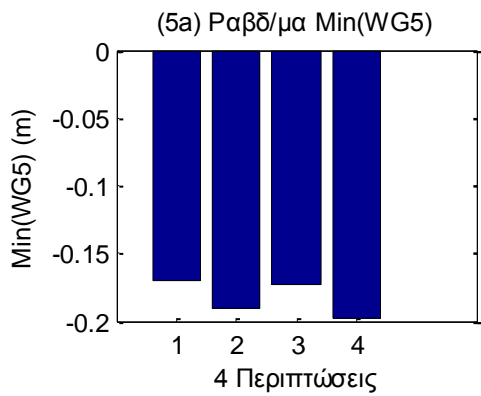
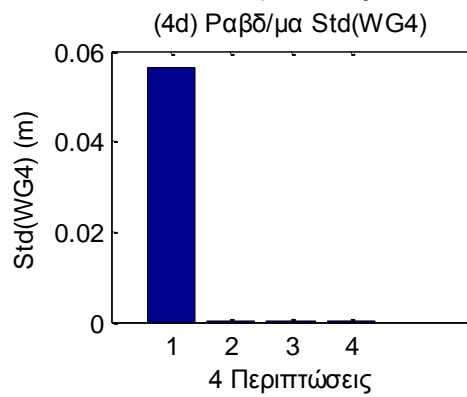
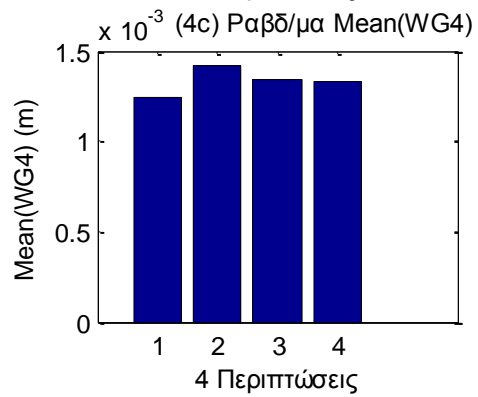
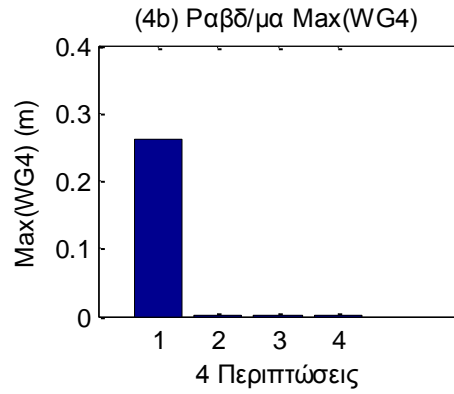
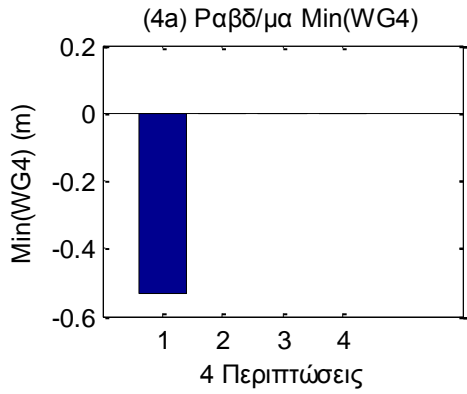
**Σχήματα 2.9.2.6** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

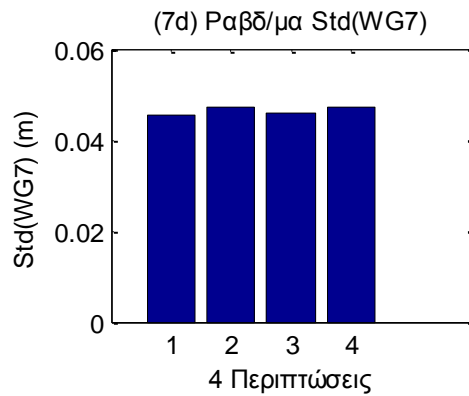
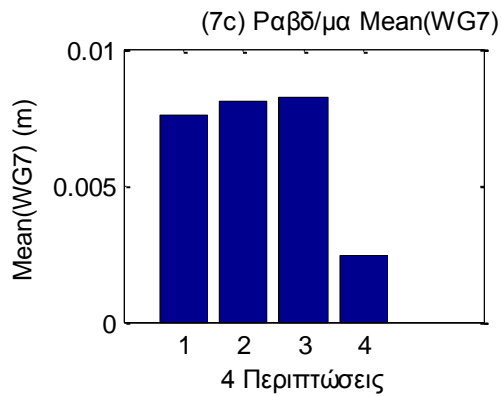
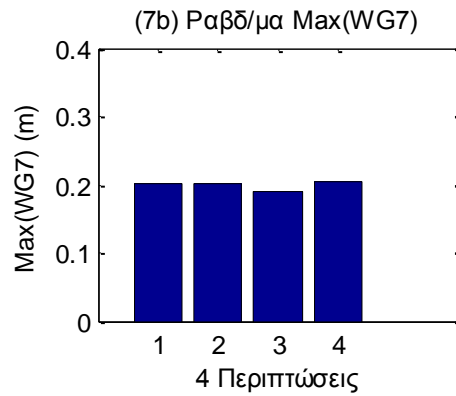
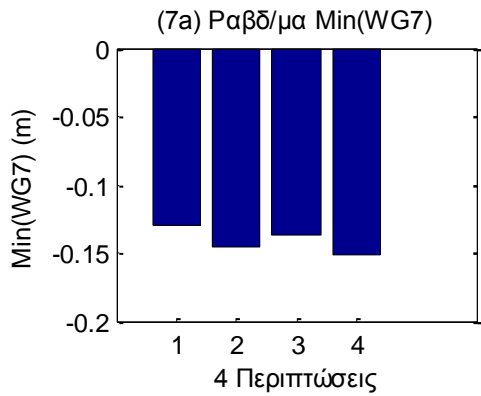
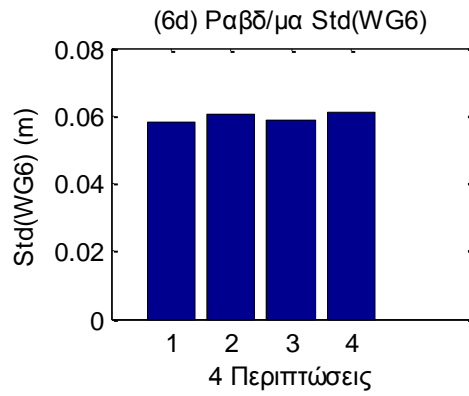
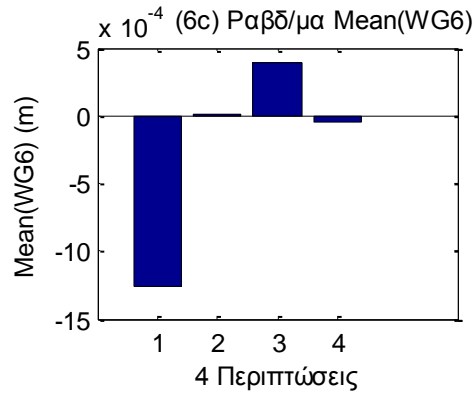
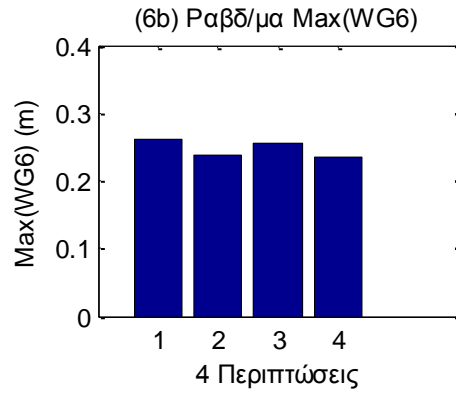
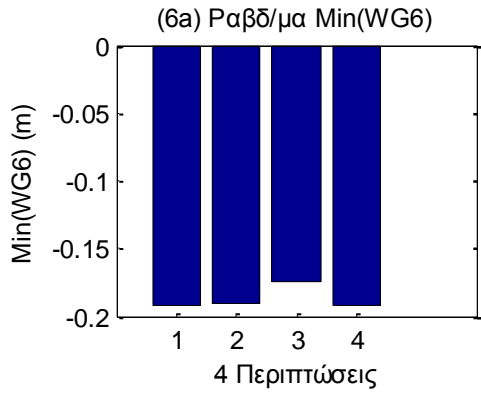
## 2.10 Σύγκριση ελάχιστης, μέγιστης, μέσης τιμής και διακύμανσης για τέσσερις περιπτώσεις (αρχεία C10-C11-C12-C13)

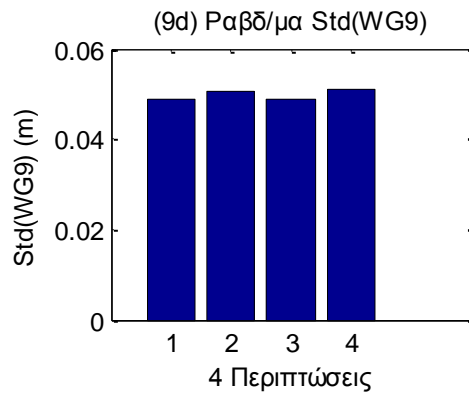
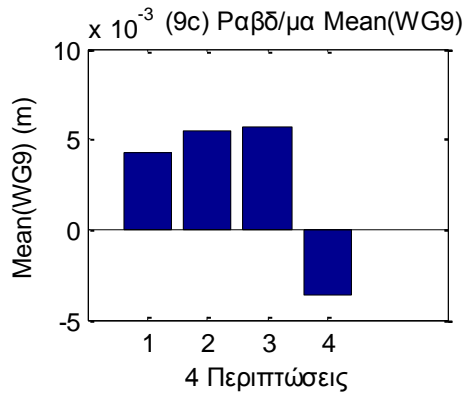
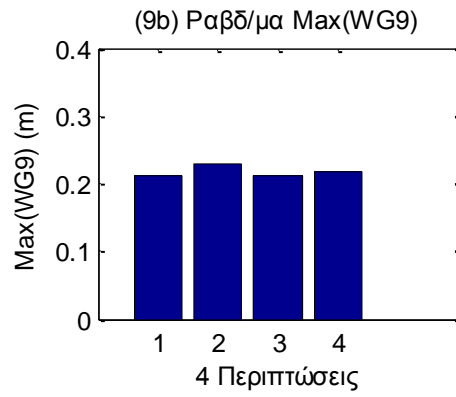
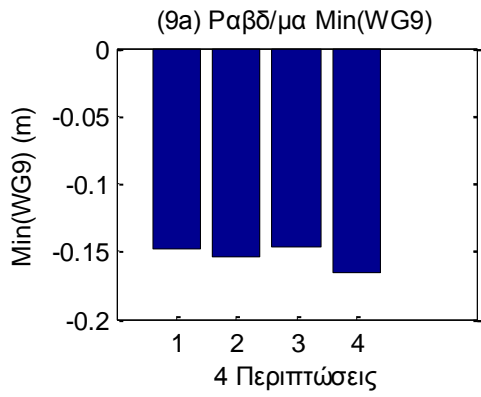
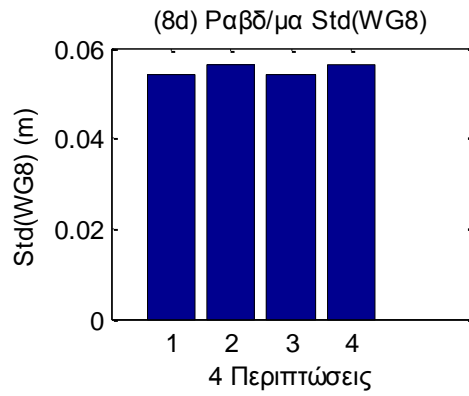
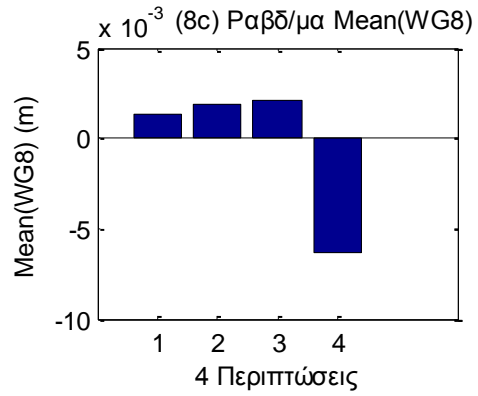
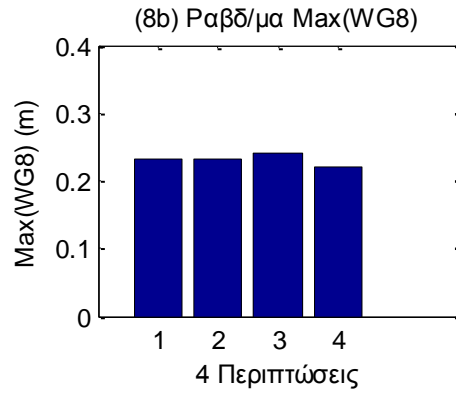
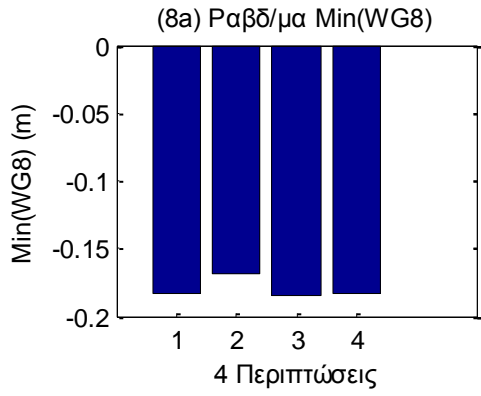
Στην παρούσα ενότητα παρουσιάσουμε τη μεταβολή της ελάχιστης, μέγιστης, μέσης τιμής και διακύμανσης σε σχέση με τέσσερις περιπτώσεις. Συγκεκριμένα, για την SB θα μελετήσουμε τις περιπτώσεις SB\_00\_NR, SB\_20\_NR, SB\_00\_R και SB\_20\_R. Ακολουθώντας την ίδια διαδικασία με την προηγούμενη ενότητα, παραθέτουμε στα επόμενα γραφήματα αρχικά, τα ραβδοδιαγράμματα, και στη συνέχεια με τα κοινά γραφήματα για κάθε χρονοσειρά που προκύπτει από τα δεδομένα κάθε οργάνου μέτρησης.

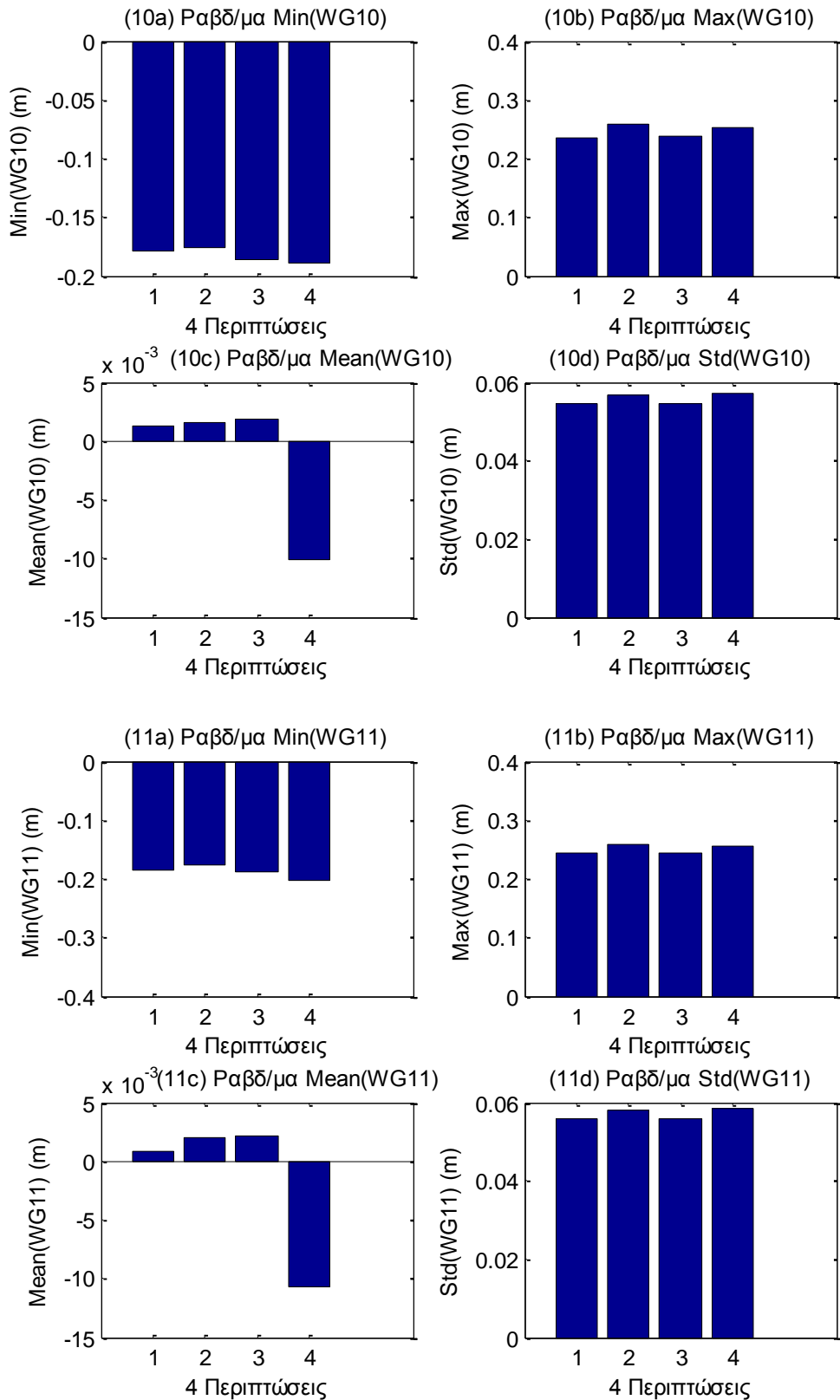




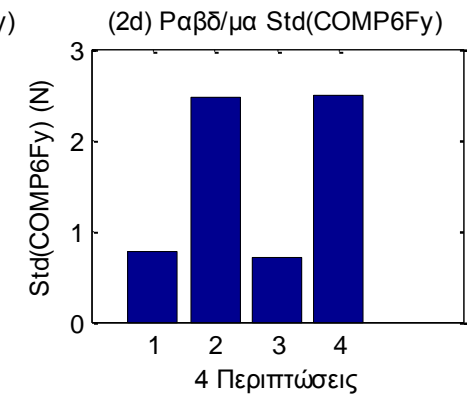
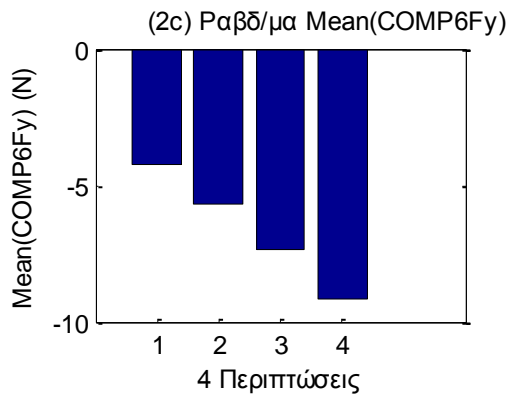
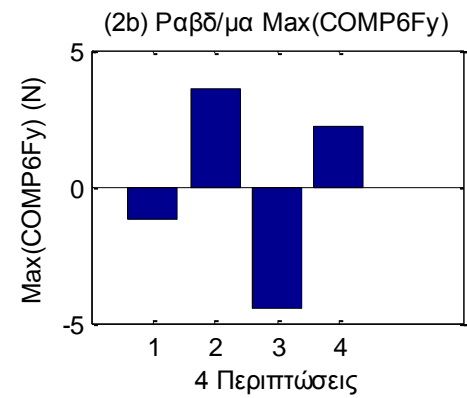
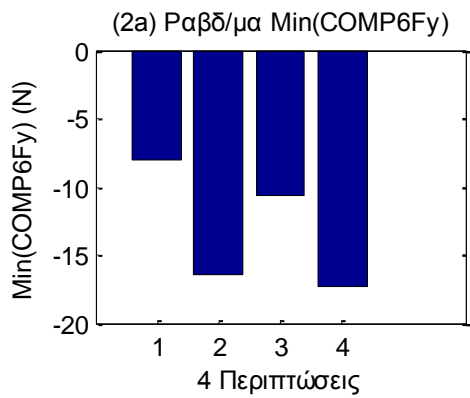
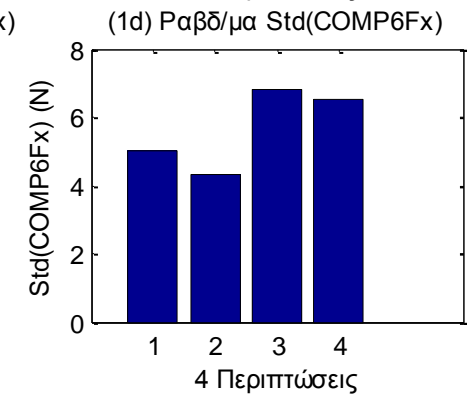
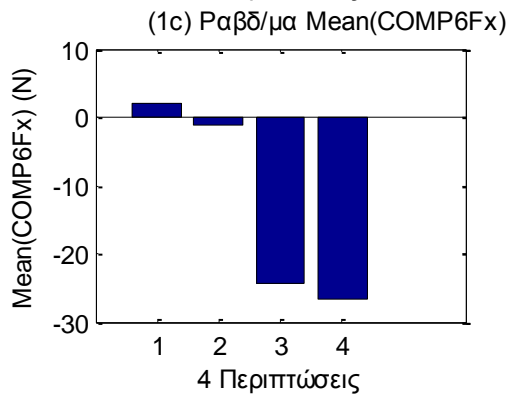
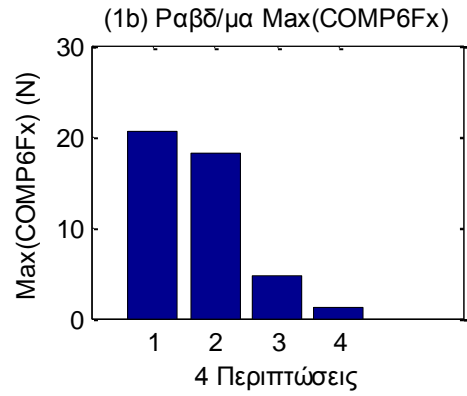
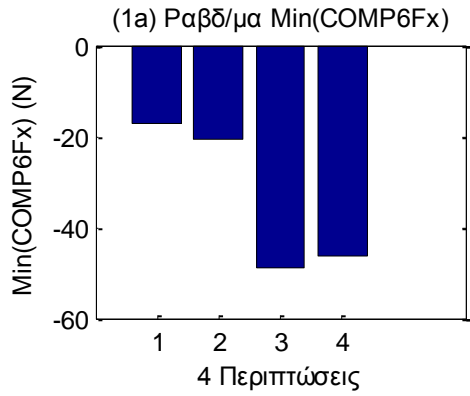




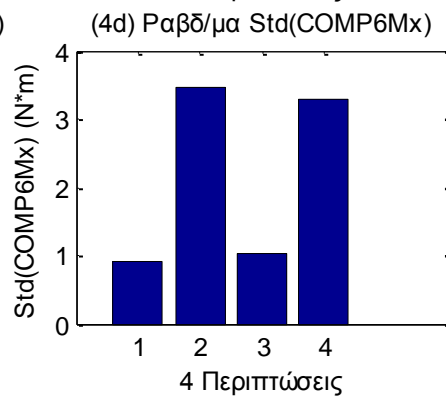
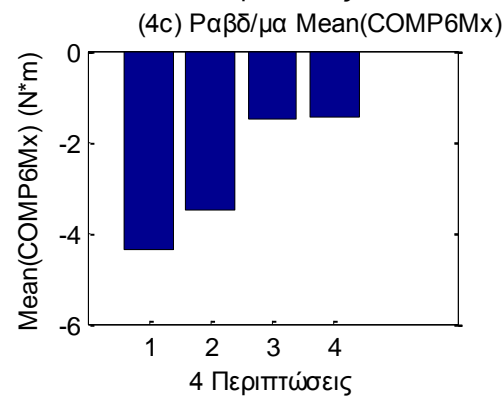
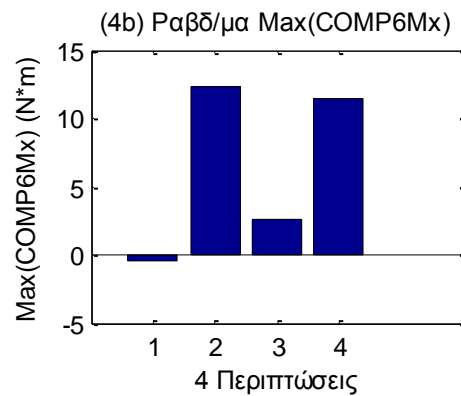
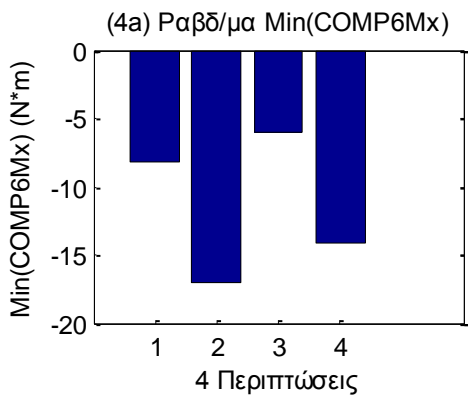
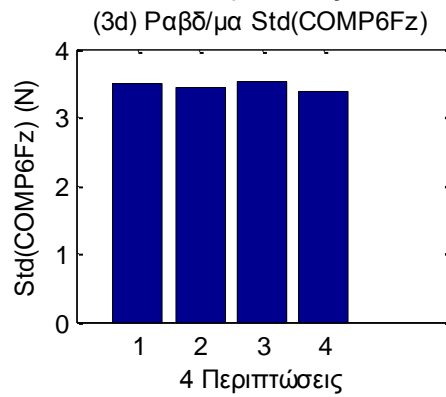
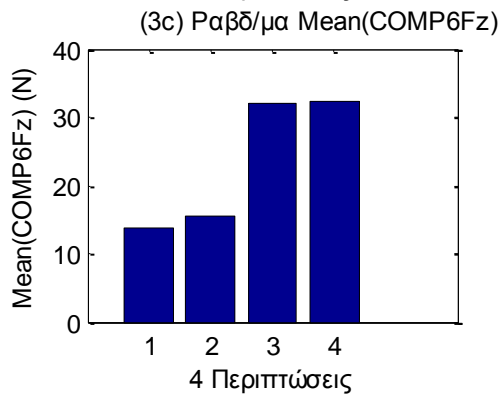
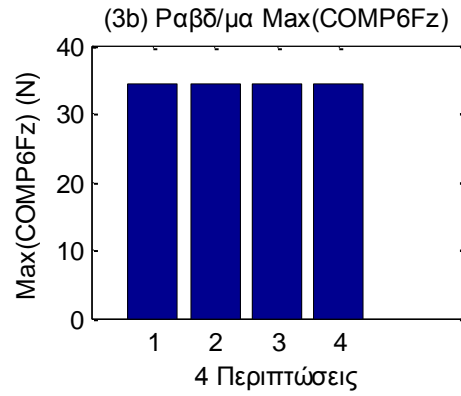
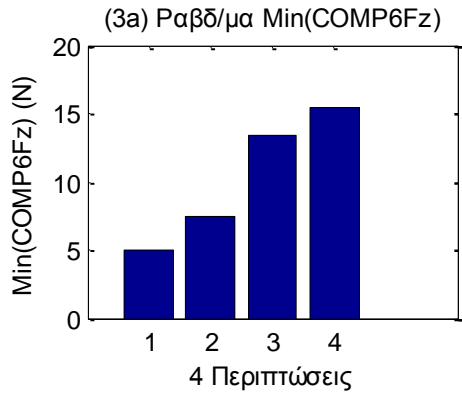


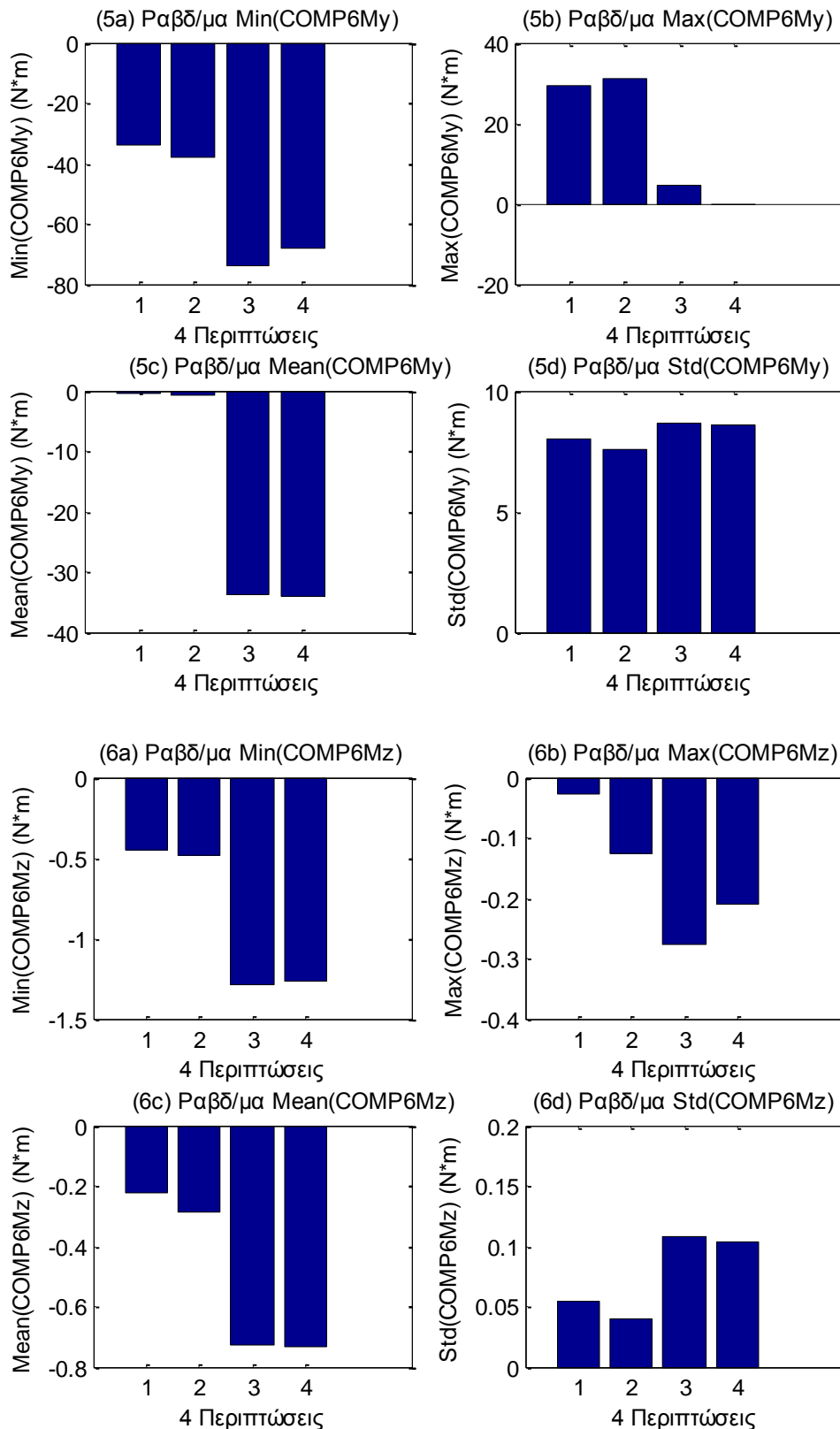


**Σχήματα 2.10.1.1 (1-11)** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τα 11 όργανα μέτρησης του ύψους κύματος

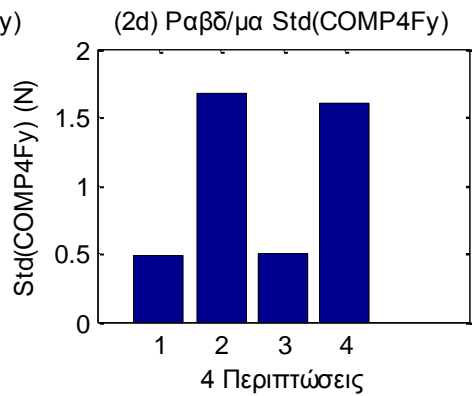
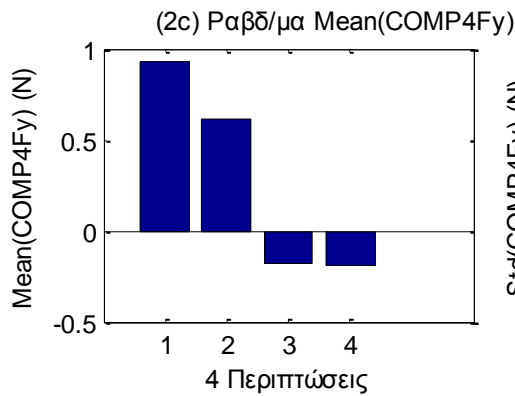
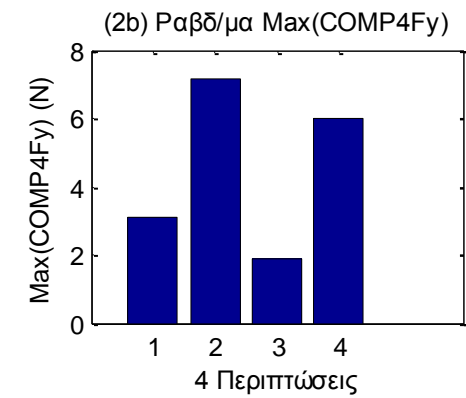
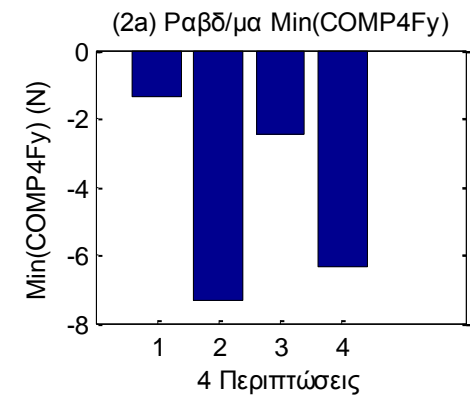
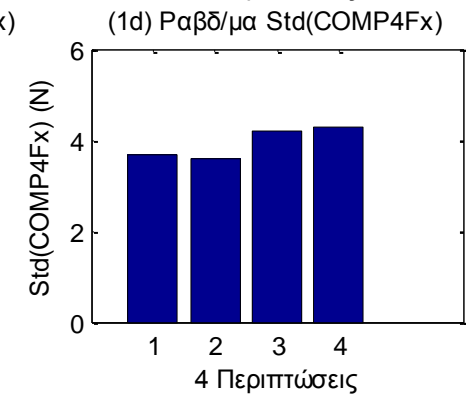
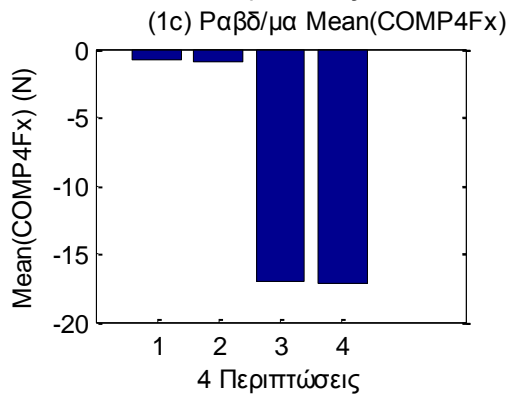
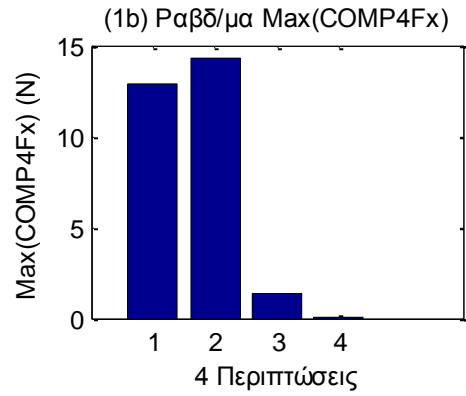
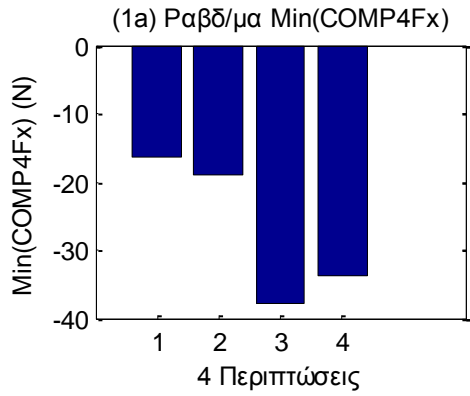


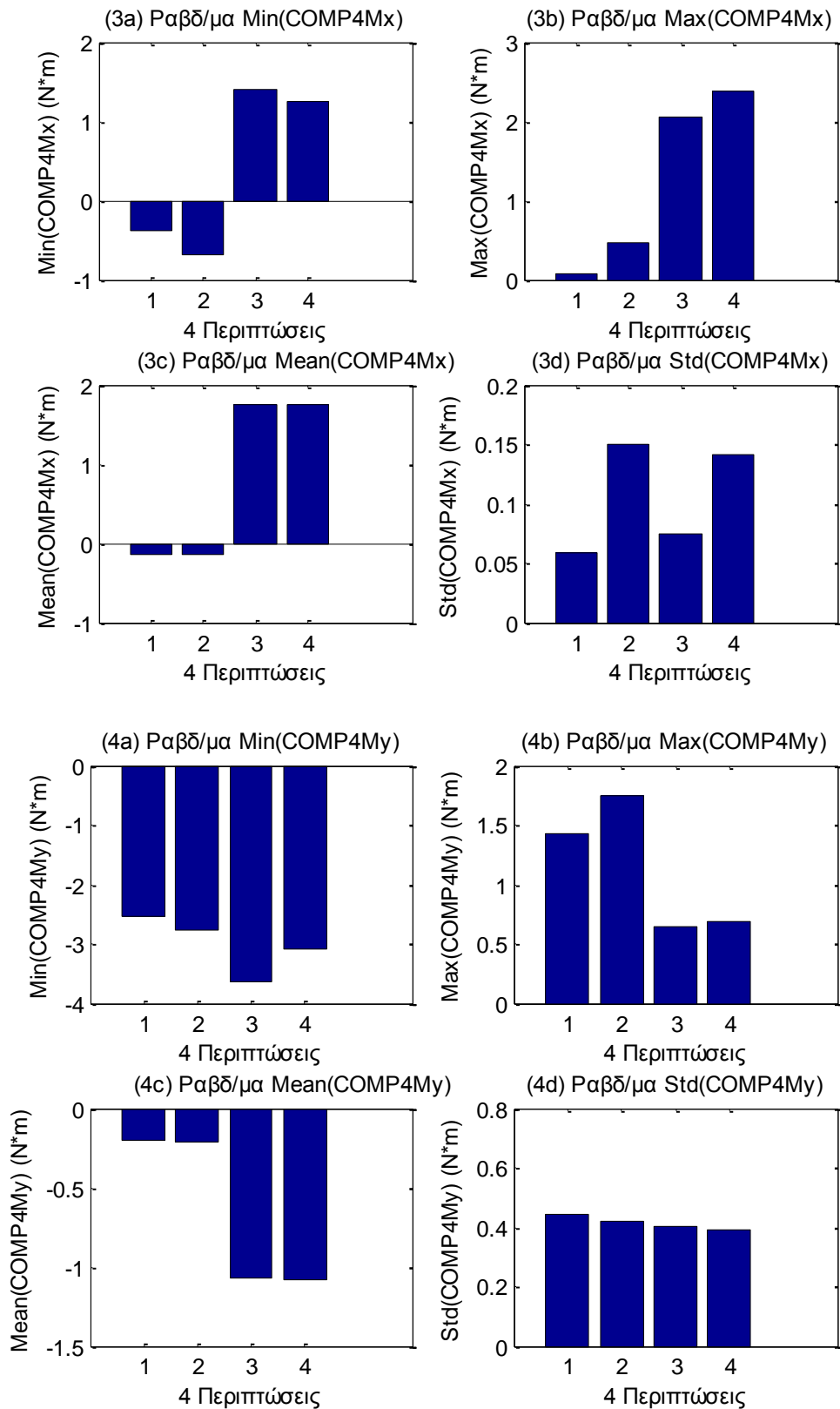




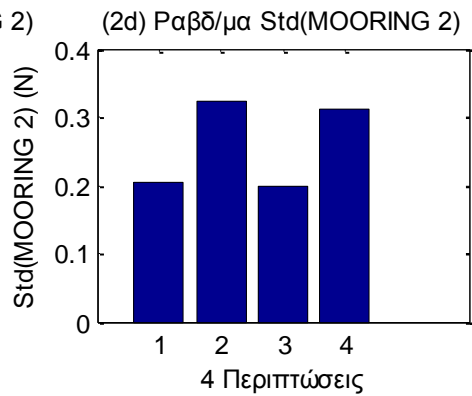
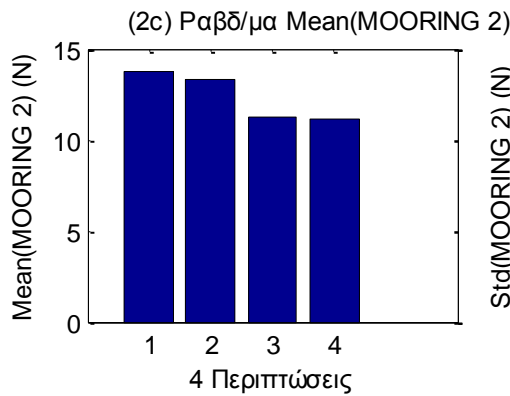
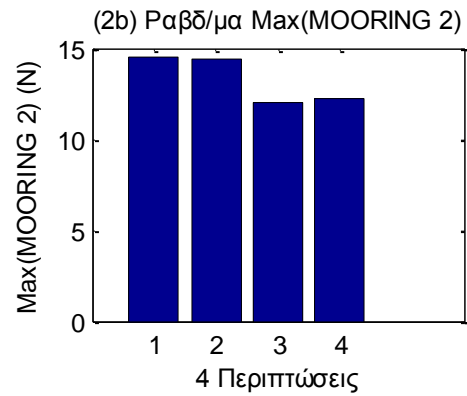
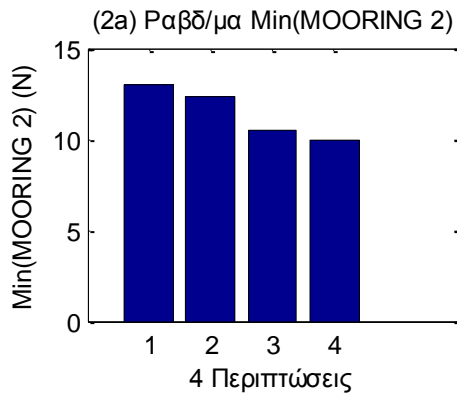
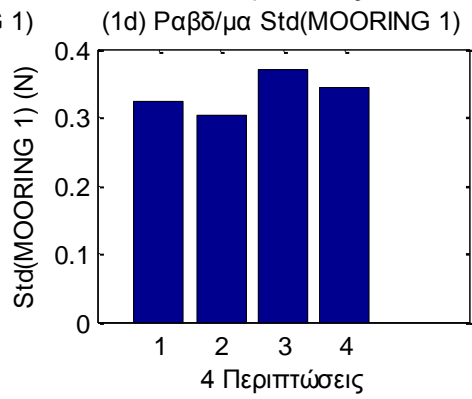
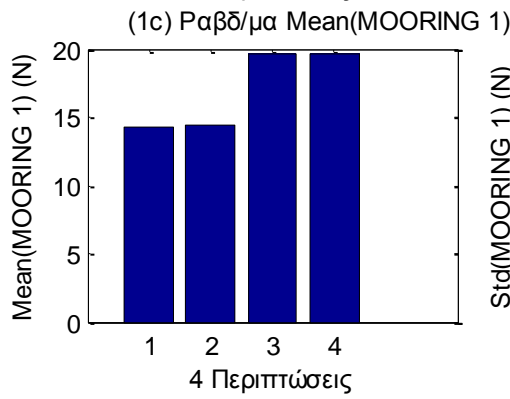
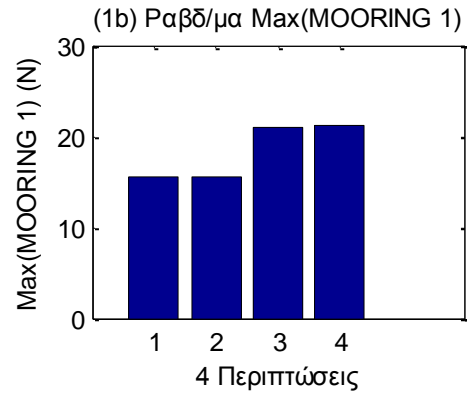
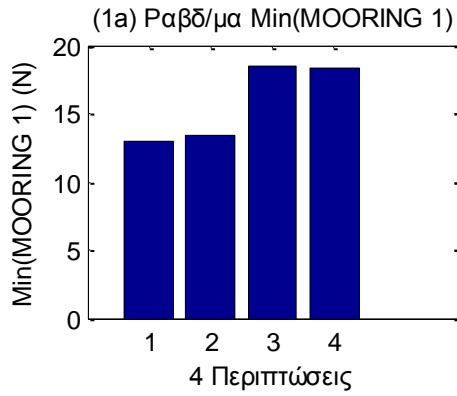


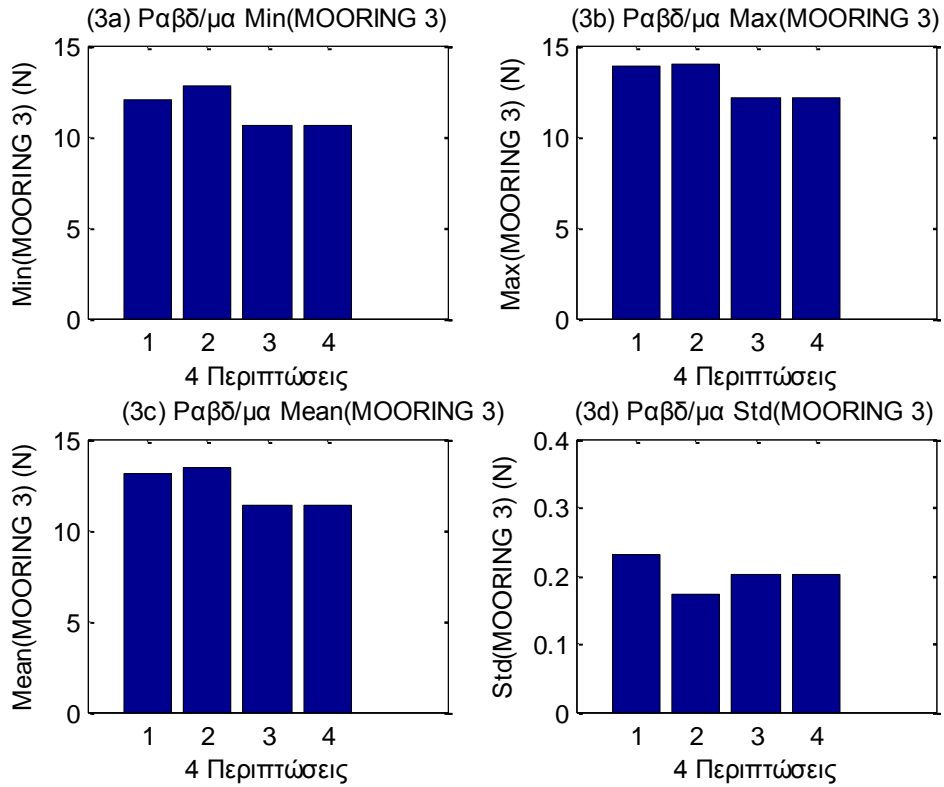
**Σχήματα 2.10.1.2** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις, για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



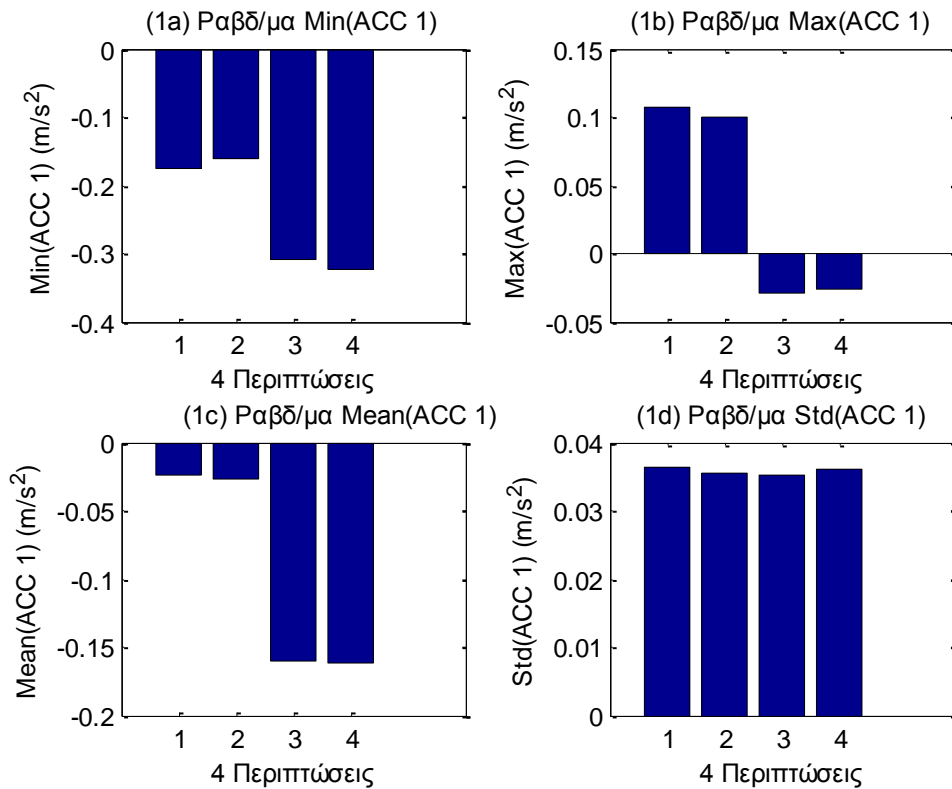


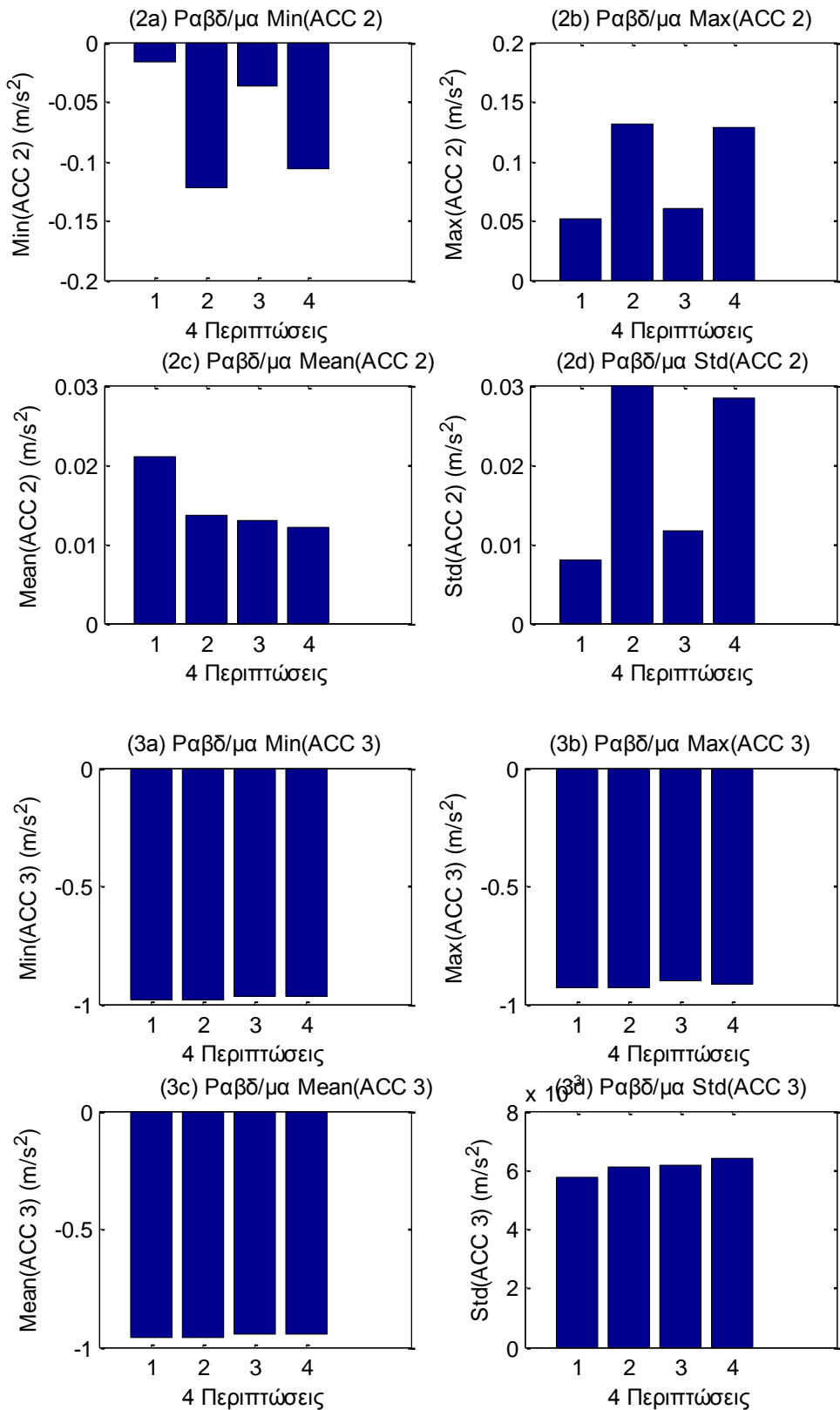
**Σχήματα 2.10.1.3** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις, για τις δυο δυνάμεις στις δυο διευθύνσεις (1) surge και (2) sway και των δυο ροπών στους αντίστοιχους δυο άξονες (3) roll και (4) pitch



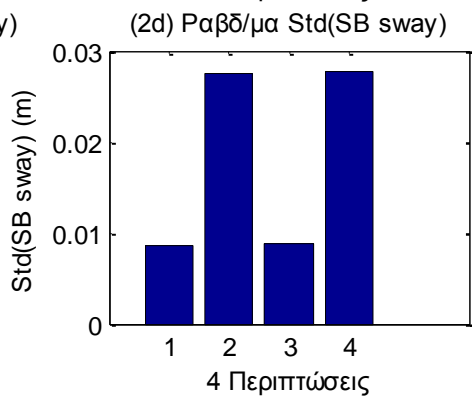
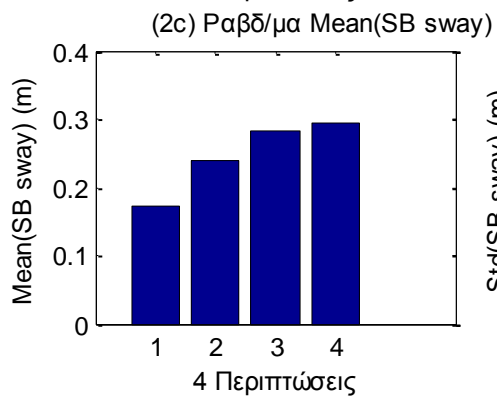
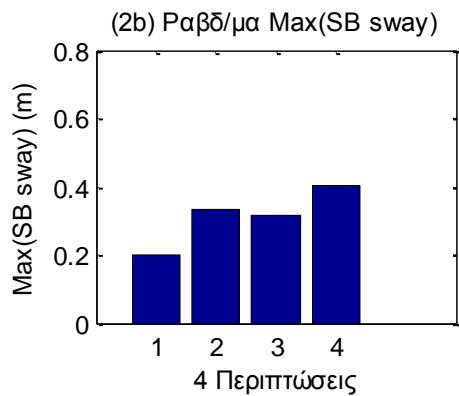
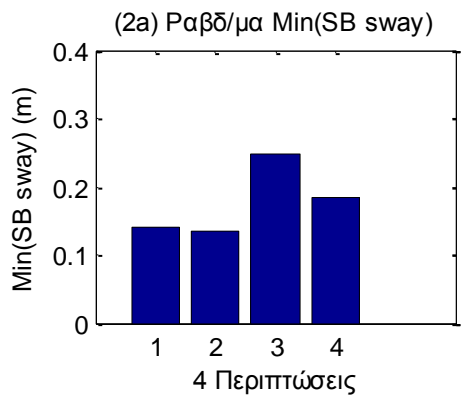
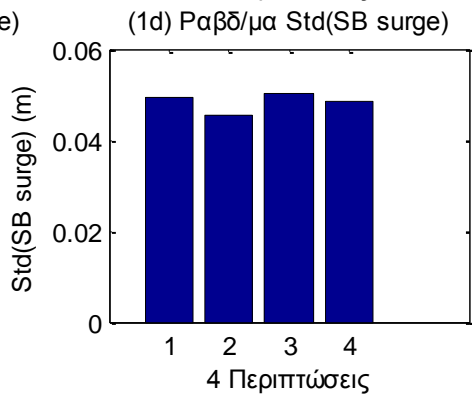
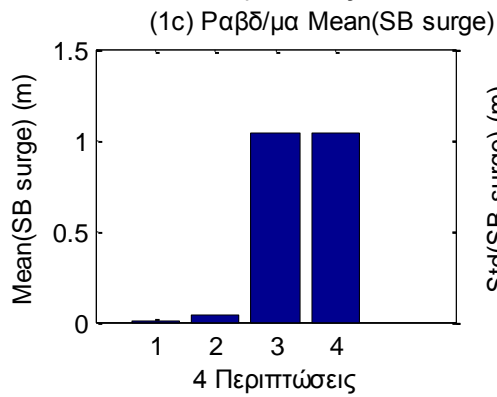
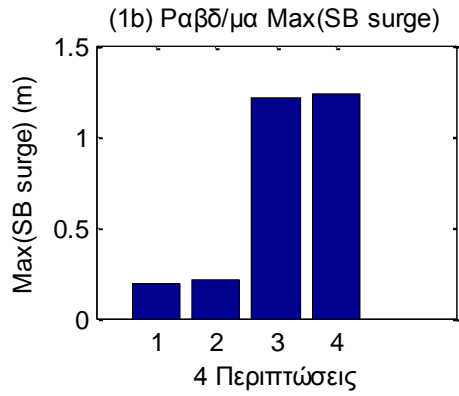
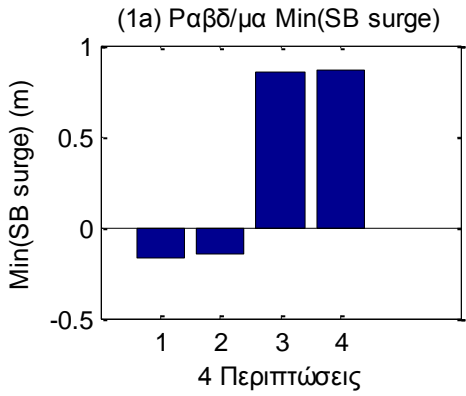


**Σχήματα 2.10.1.4** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τις δυνάμεις στις 3 γραμμές αγκύρωσης

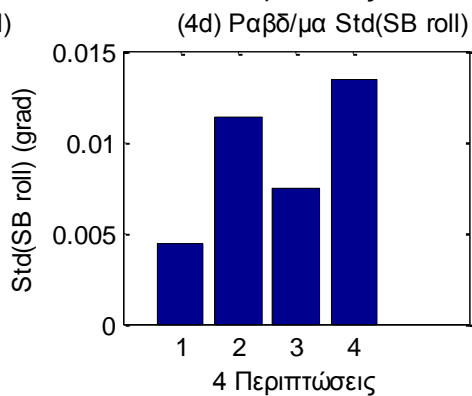
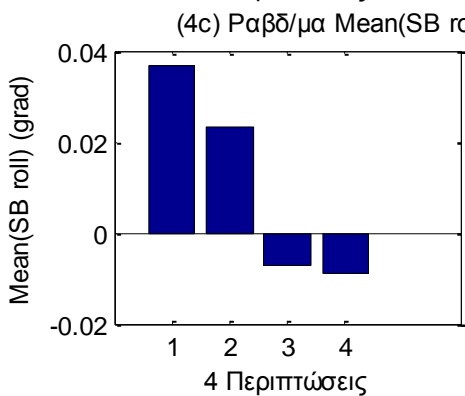
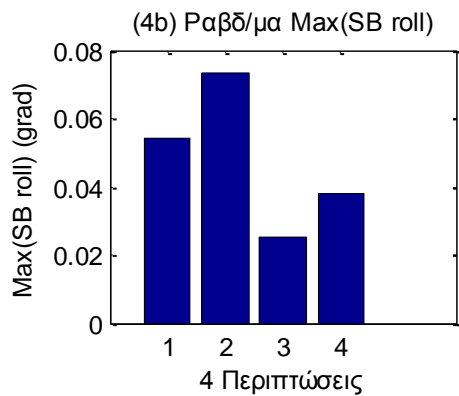
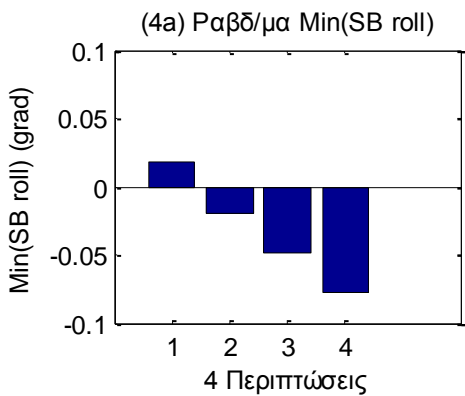
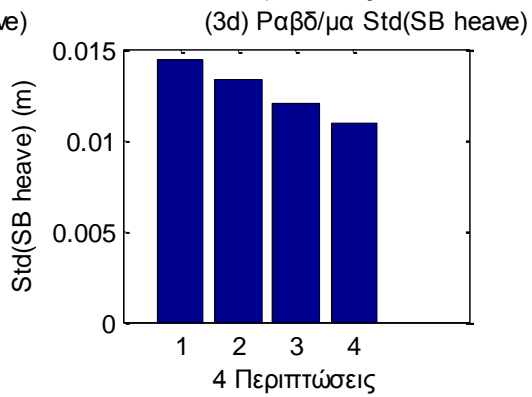
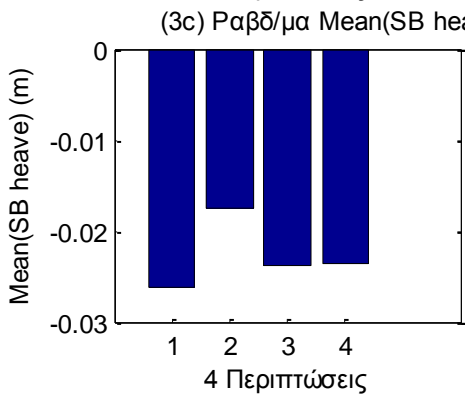
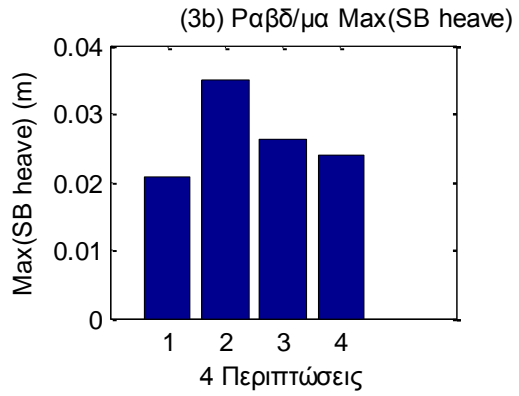
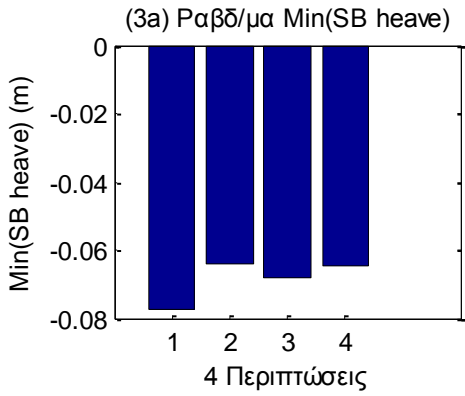


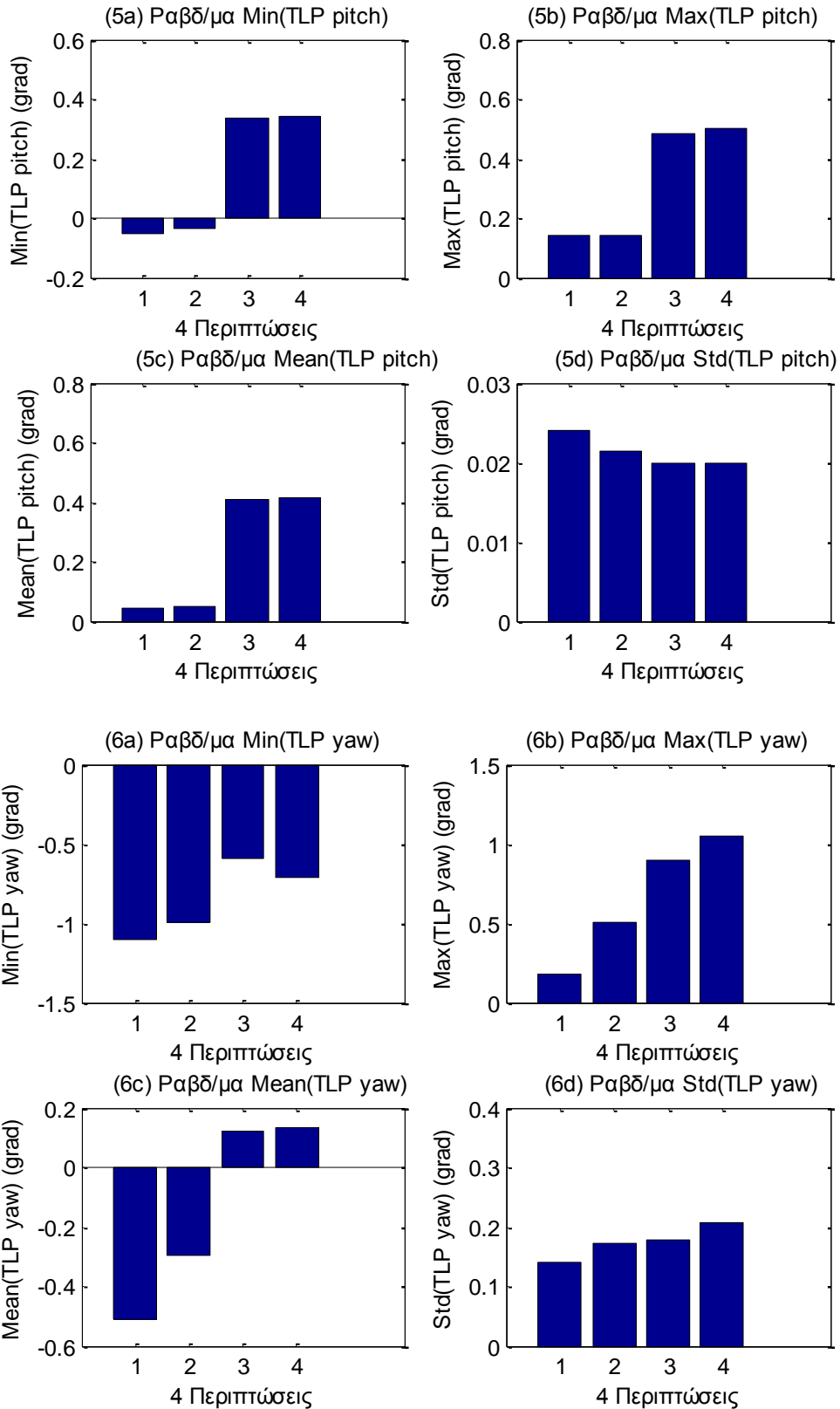


**Σχήματα 2.10.1.5 (1-3)** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc 1, (2) Acc 2 και (3) Acc 3

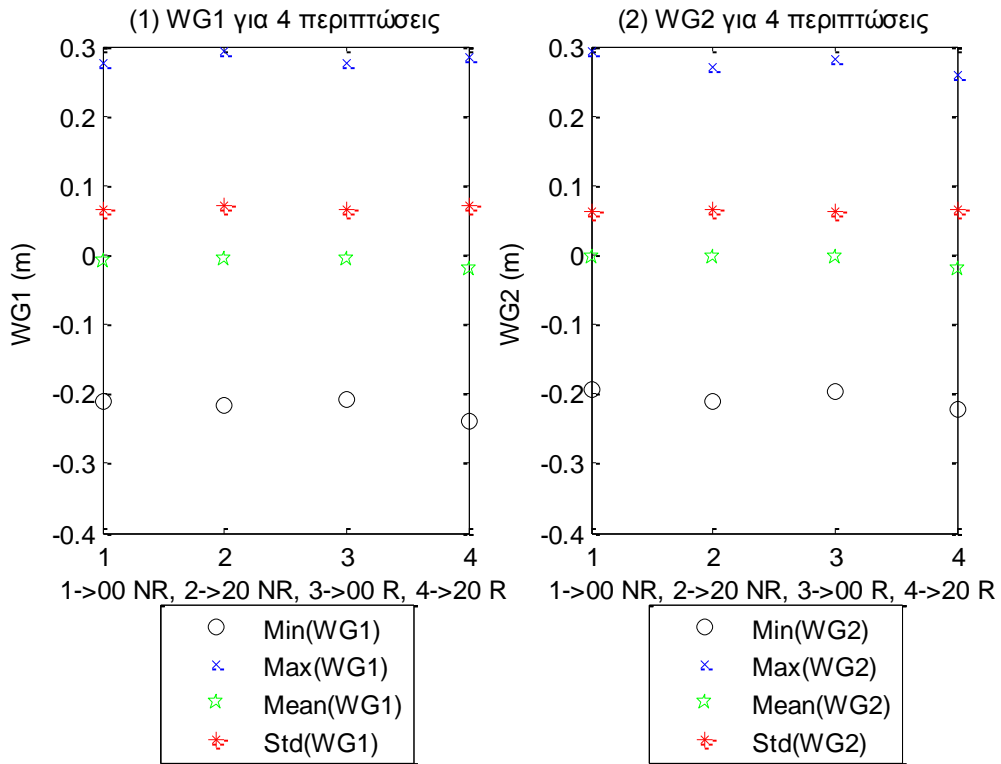


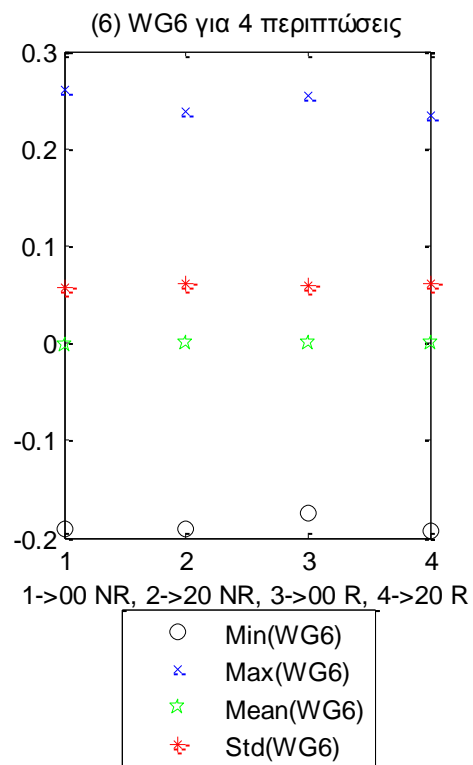
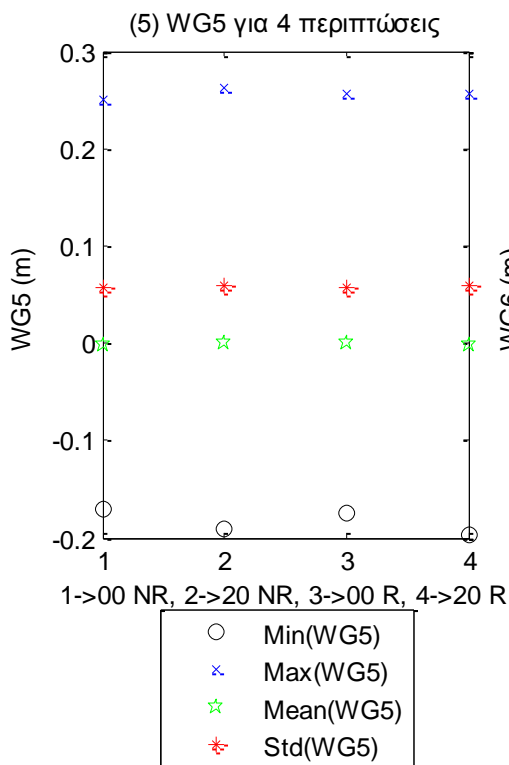
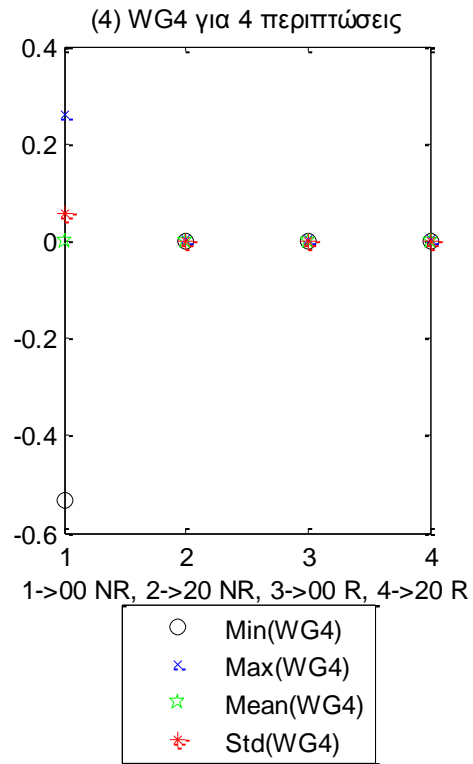
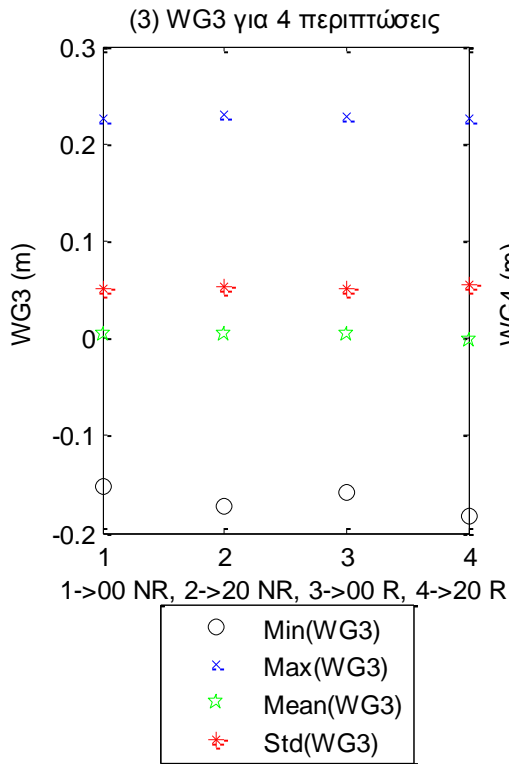


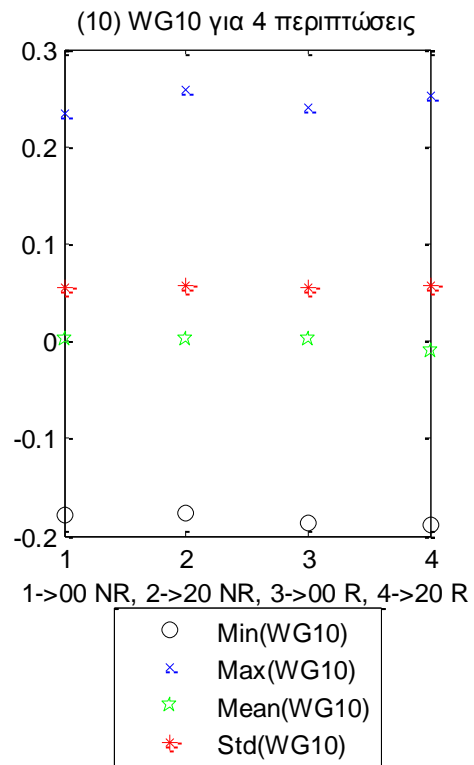
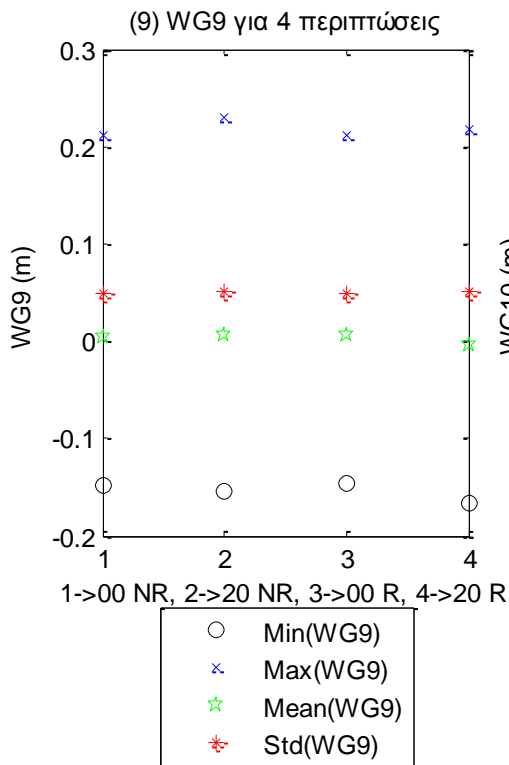
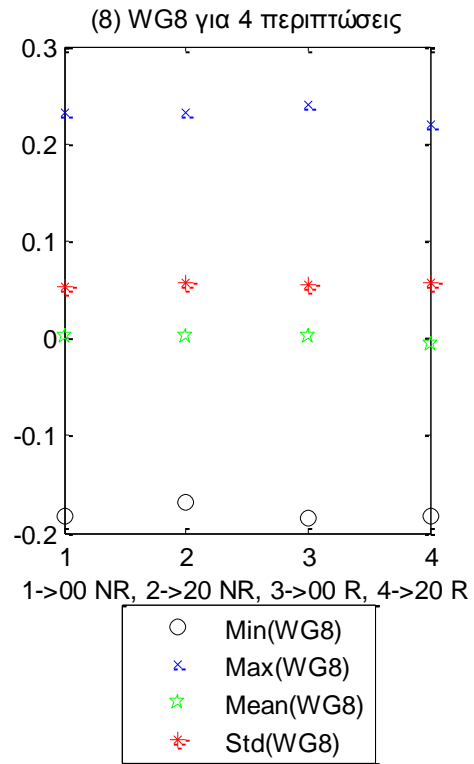
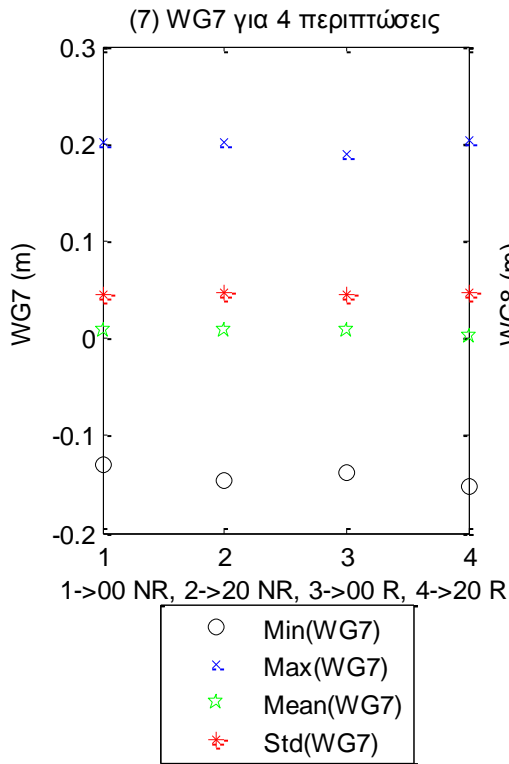


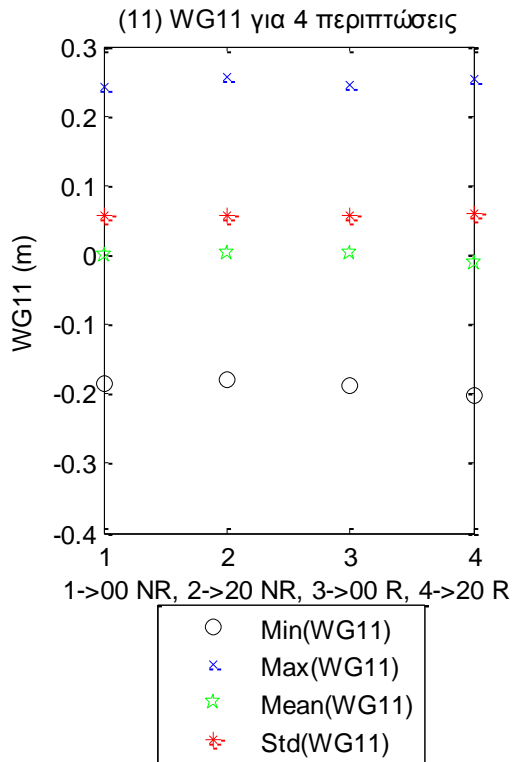


**Σχήματα 2.10.1.6** Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

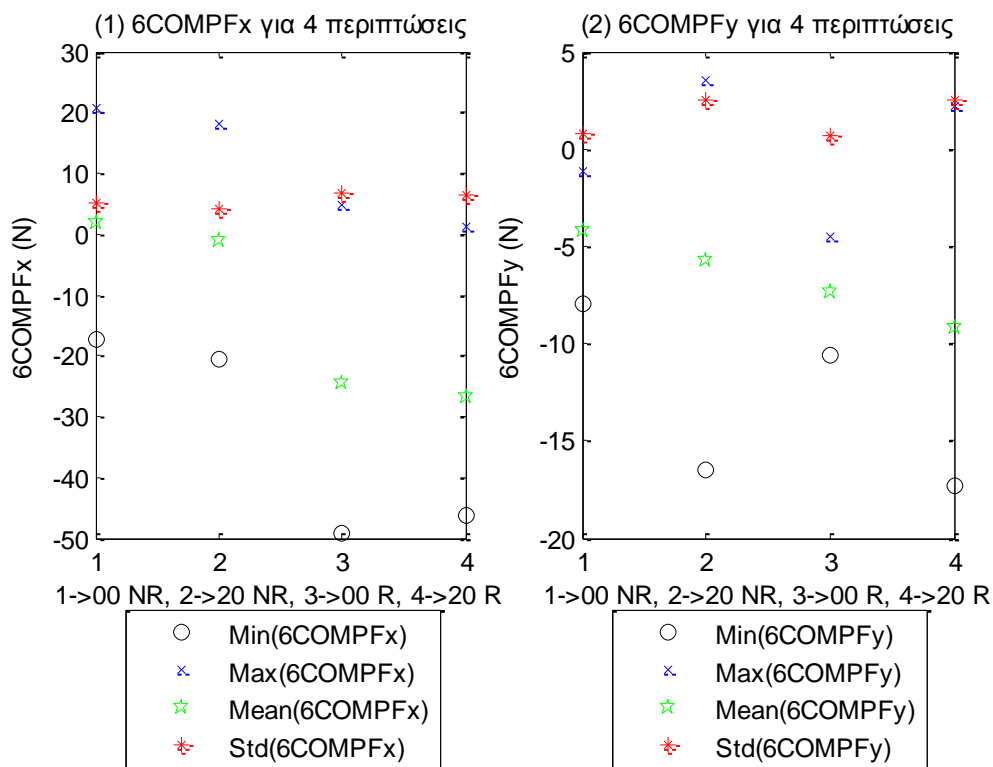


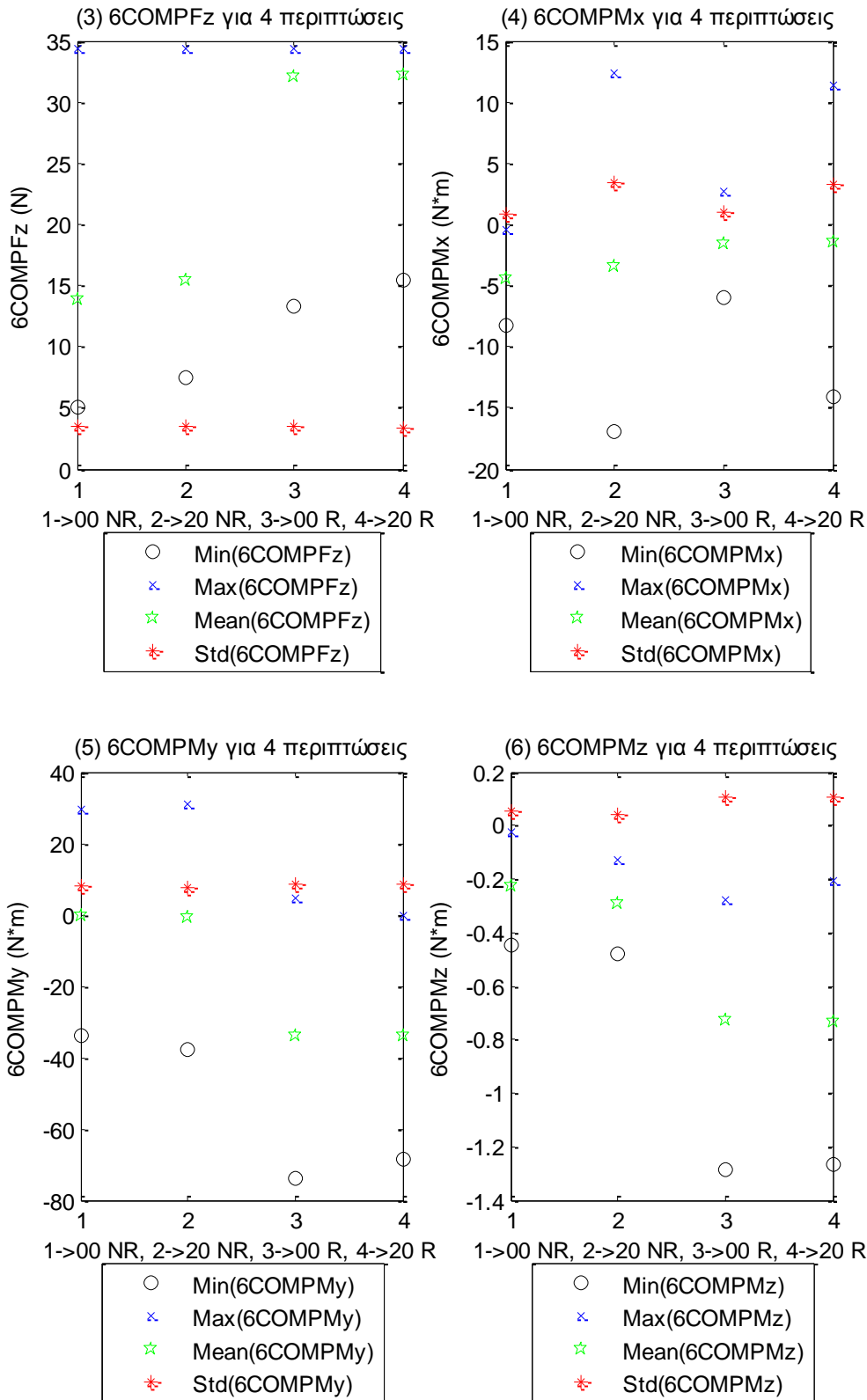




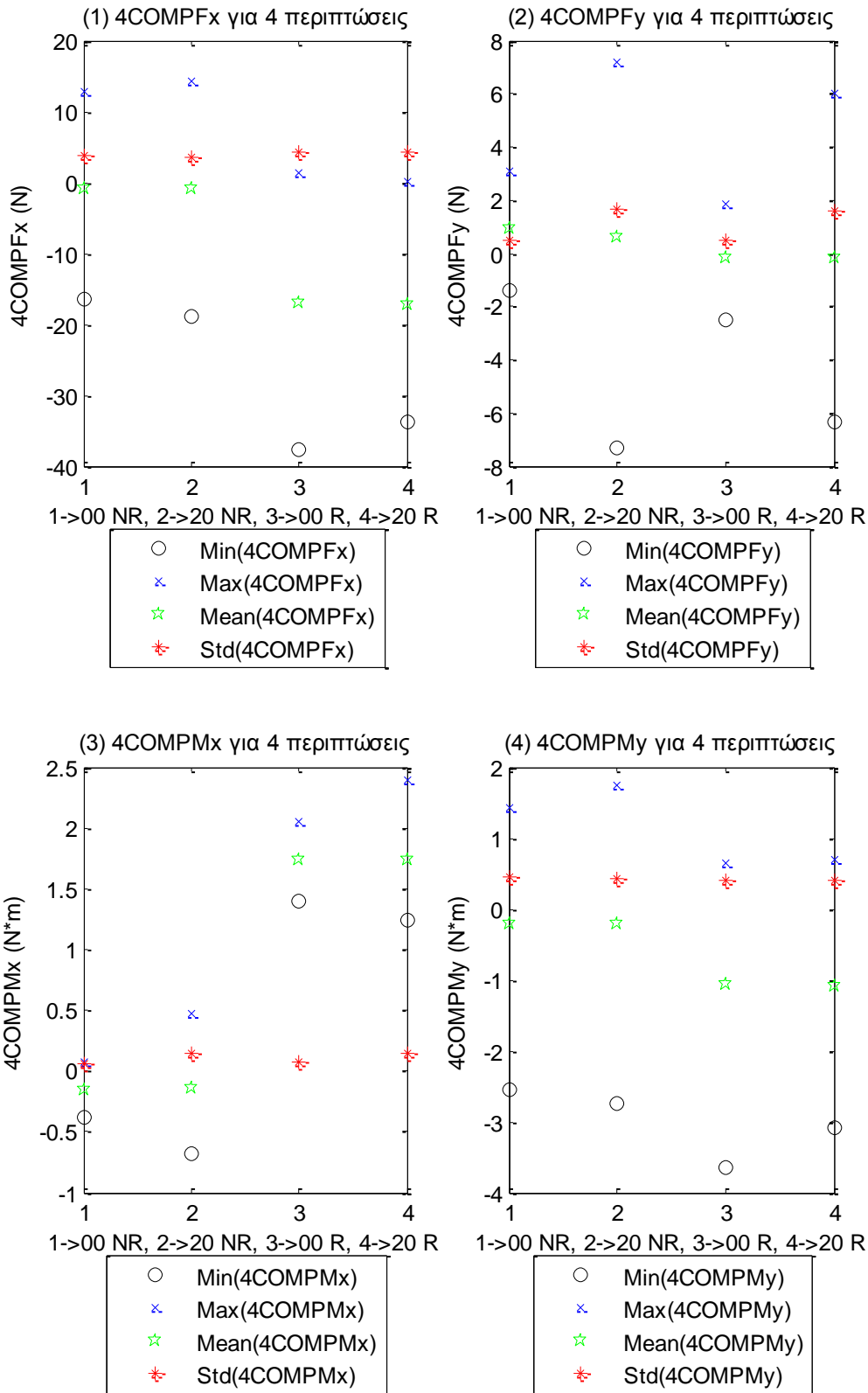


**Σχήματα 2.10.2.1 (1-11)** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τα 11 όργανα μέτρησης του ύψους κύματος



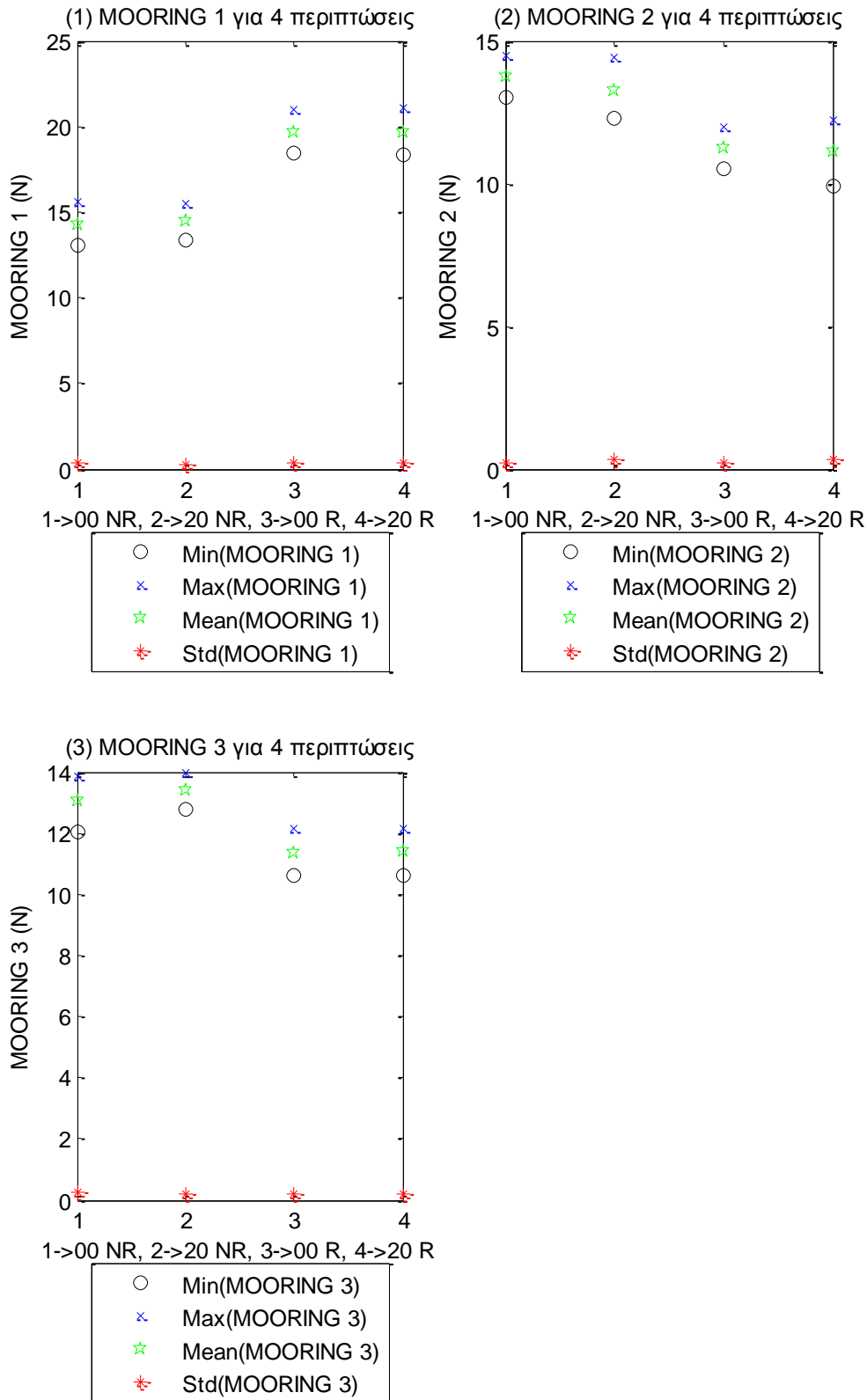


**Σχήματα 2.10.2.2** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

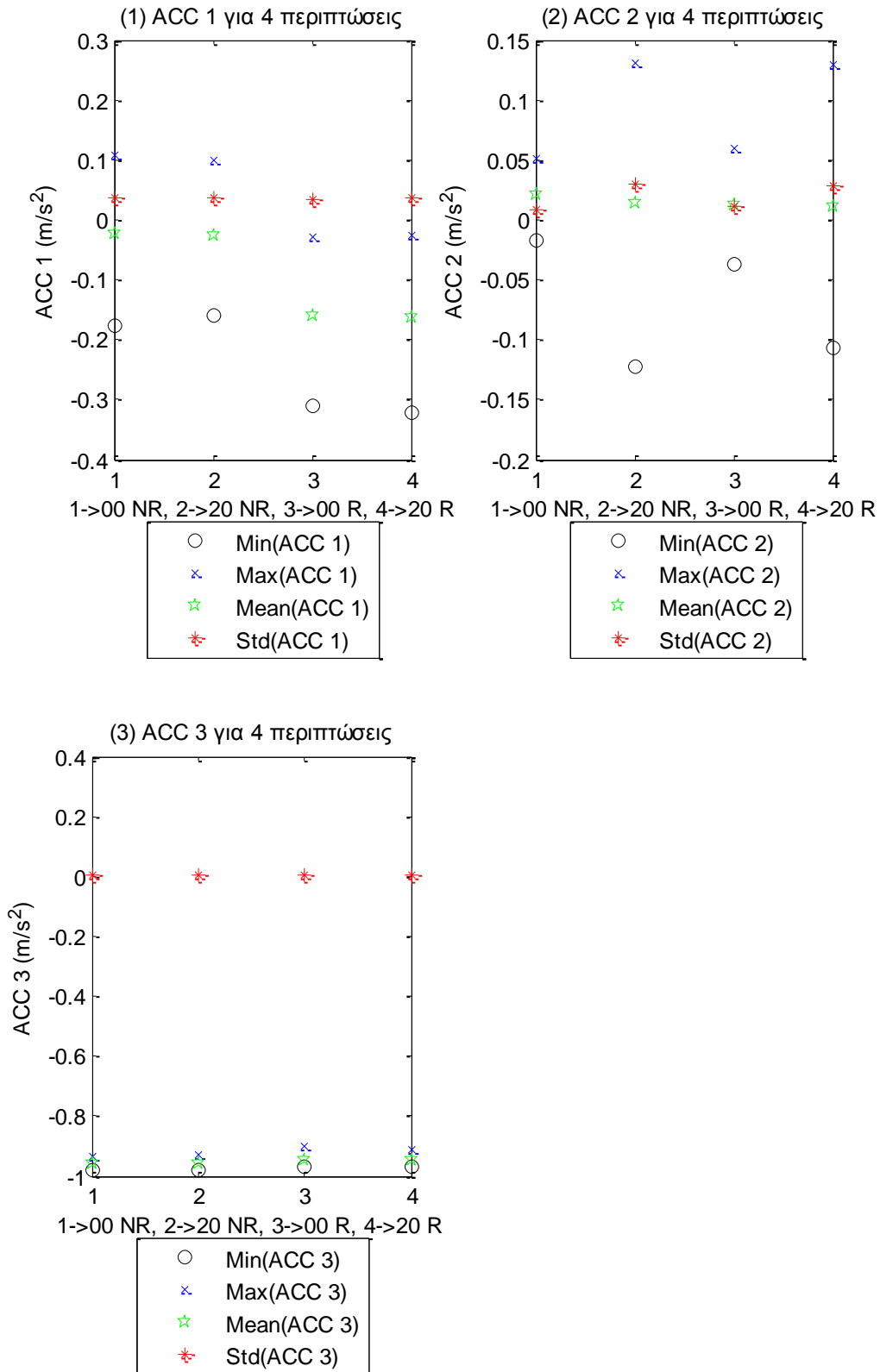


**Σχήμα 2.10.2.3** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της A/I

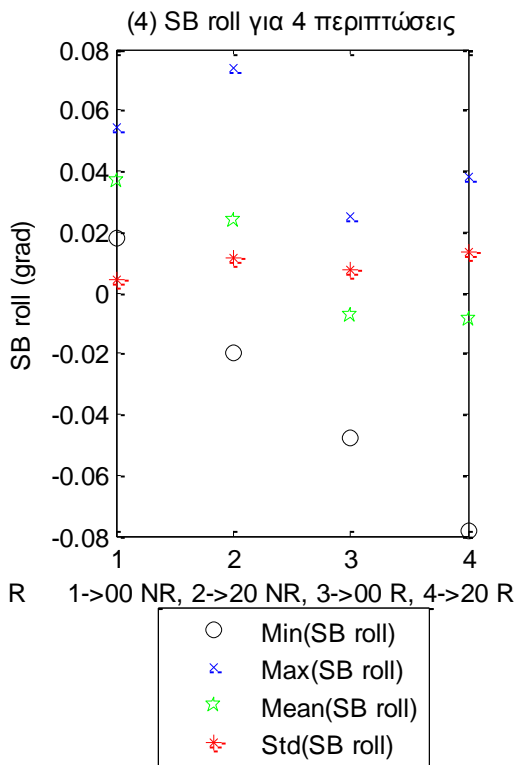
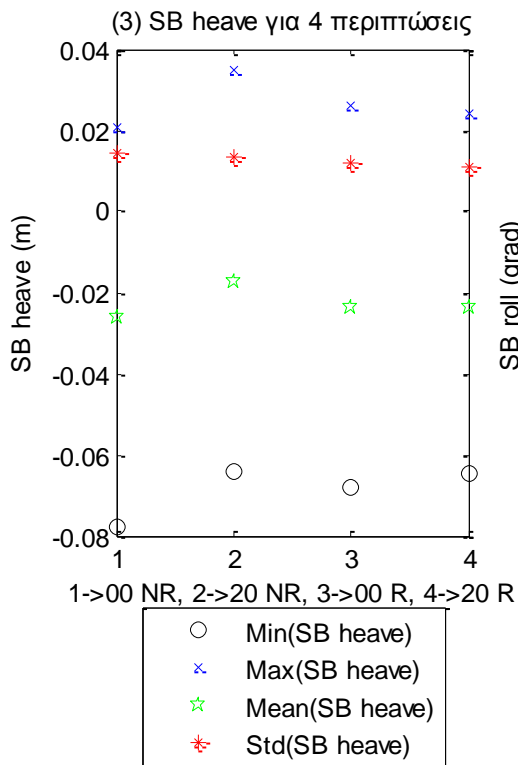
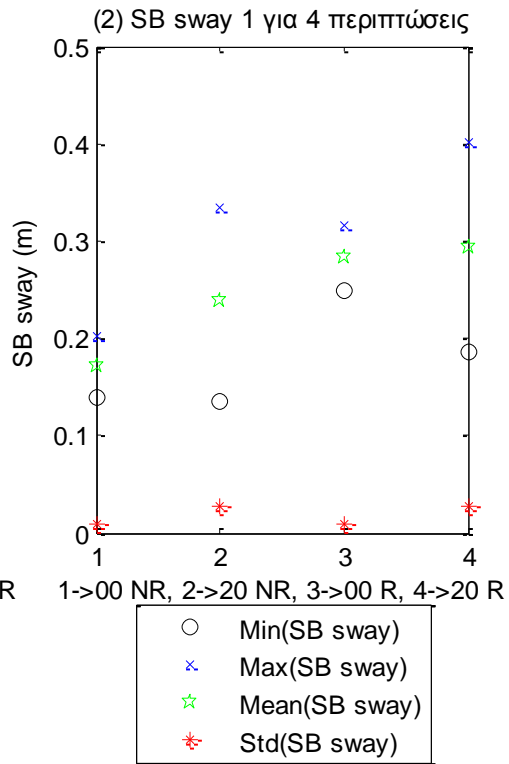
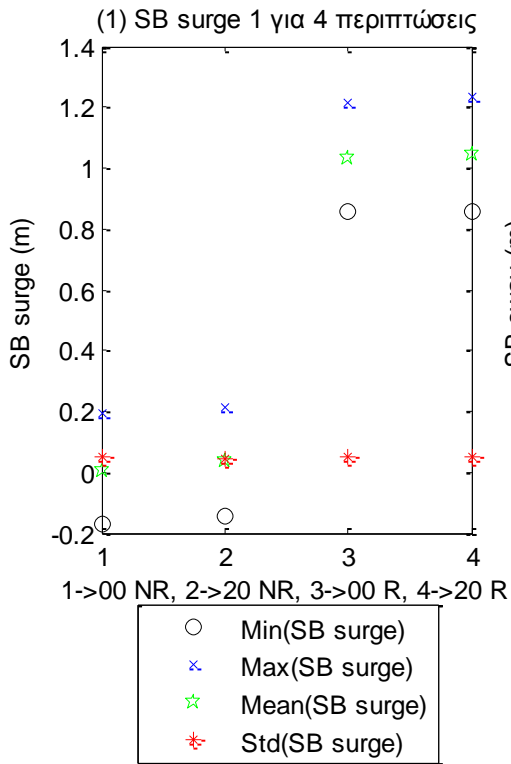


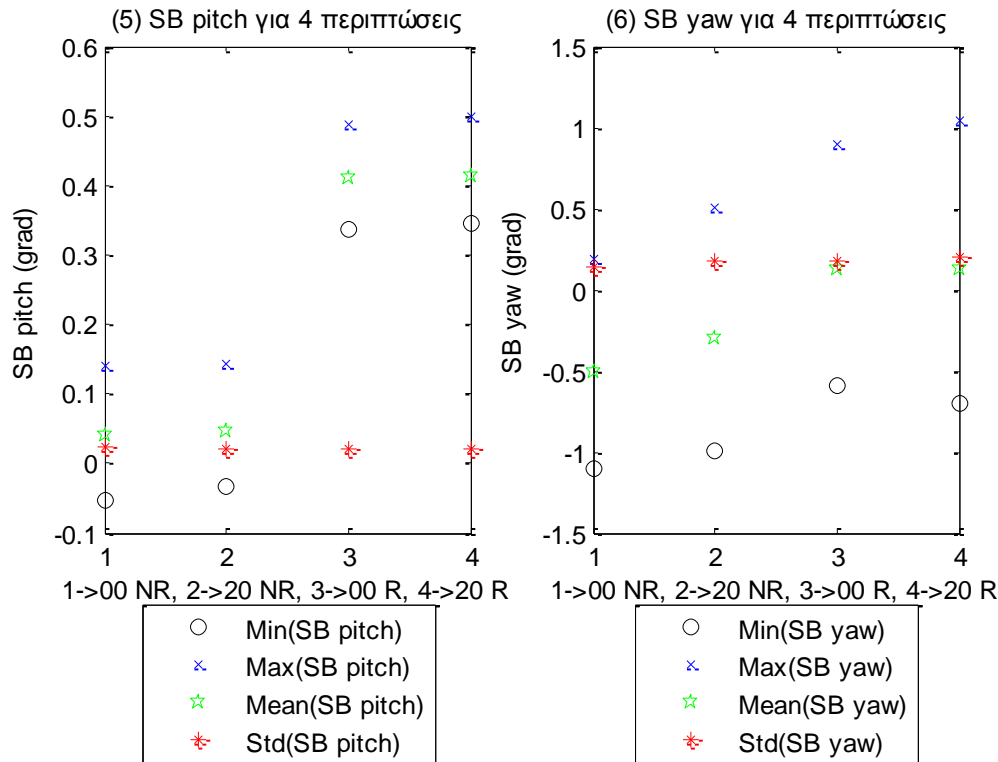


Σχήματα 2.10.2.4 (1-3) Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις δυνάμεις στις 3 γραμμές αγκύρωσης



**Σχήματα 2.10.2.5 (1-3)** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc 1, (2) Acc 2 και (3) Acc 3



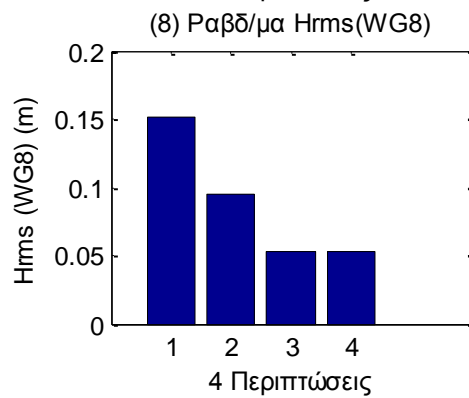
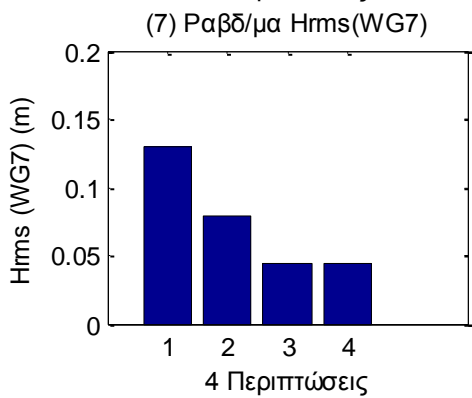
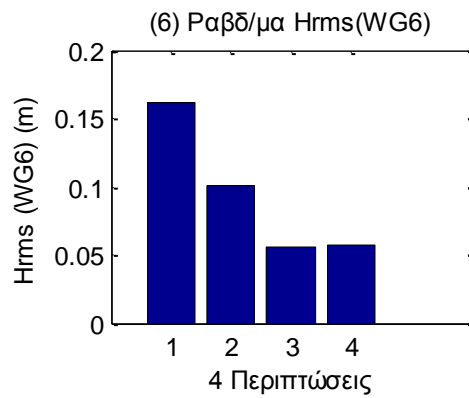
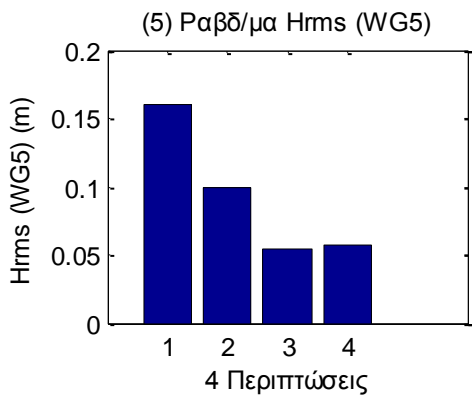
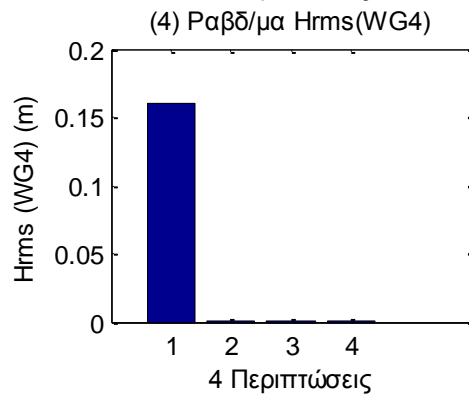
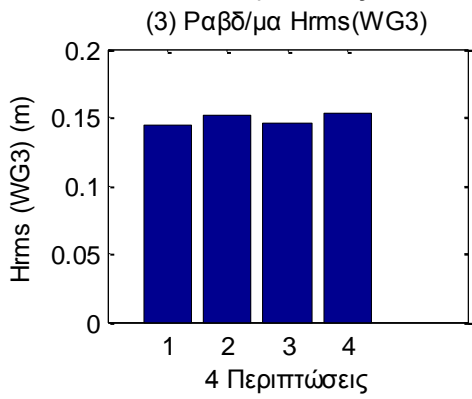
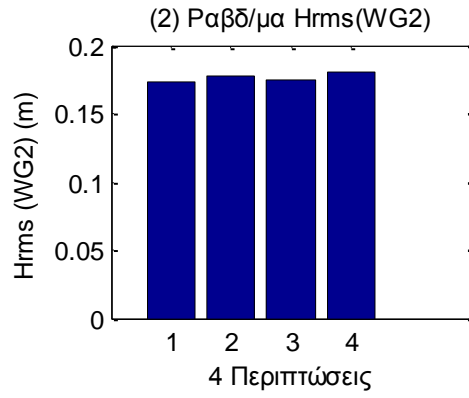
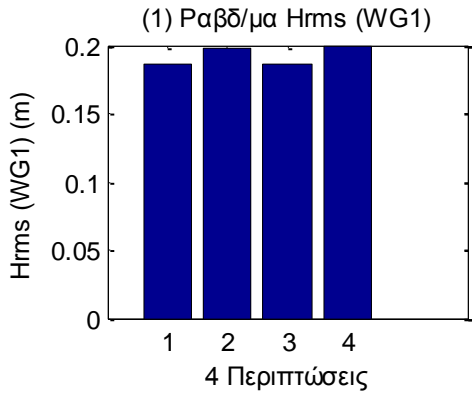


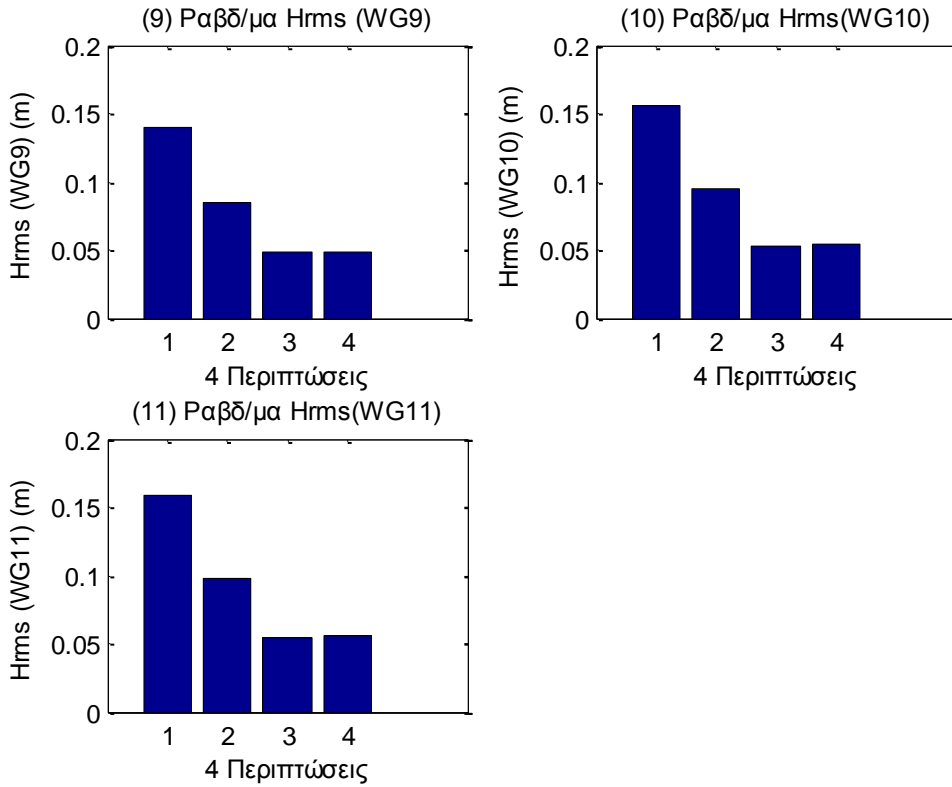
**Σχήματα 2.10.2.6** Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

Στα παραπάνω σχήματα παρουσιάζουμε την ελάχιστη (min), την μέγιστη (max), την μέση τιμή (mean) και την διακύμανση (std) για τα 11 όργανα μέτρησης του ύψους κύματος (Σχήματα 2.10.2.1) (1—11), για τις τρεις δυνάμεις και τις τρεις ροπές στη βάση της Α/Γ (Σχήματα 2.10.2.2) (1-6), για τις δύο δυνάμεις και τις δύο ροπές στο Ρότορα της Α/Γ (Σχήματα 2.10.2.3) (1-4), τις τρεις γραμμές αγκύρωσης (Σχήματα 2.10.2.4) (1-4), τις χρονοσειρές για τα τρία επιταχυνσιόμετρα (Σχήματα 2.10.2.5) (1-3), και, τέλος, για τις τρεις μετατοπίσεις και τις τρεις περιστροφές (Σχήματα 2.10.2.6) (1-6).

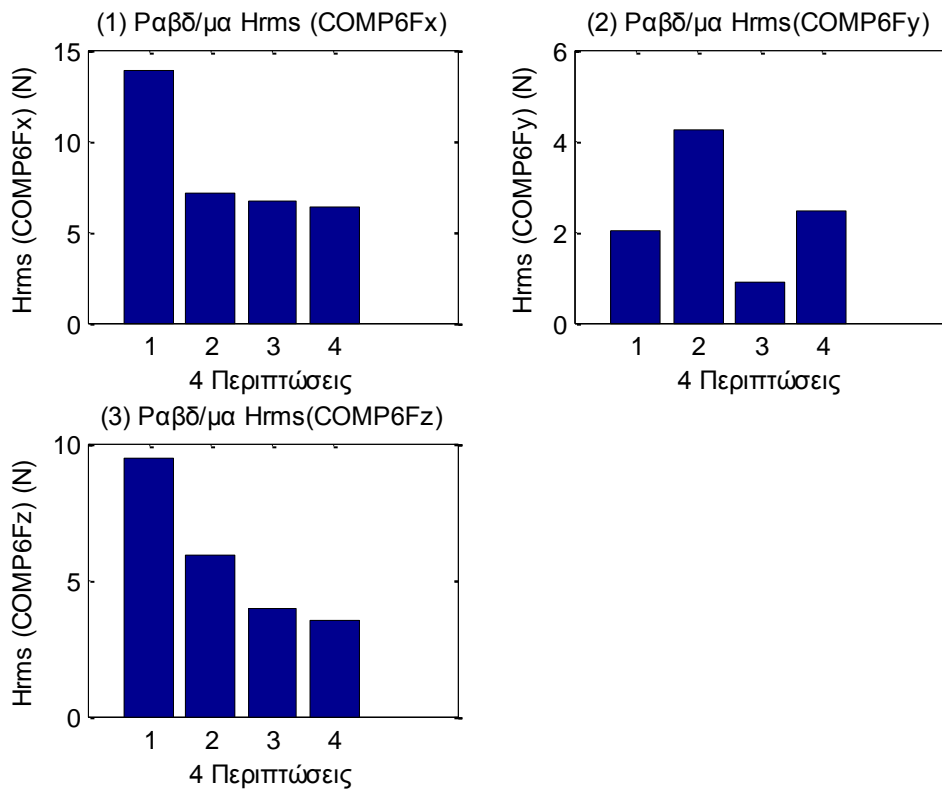
Στη συνέχεια, θα παρουσιάσουμε μέσω ραβδοδιαγραμμάτων, τη μεταβολή της τετραγωνικής ρίζας της μέσης τιμής των τετραγώνων του ύψους κύματος (Hrms) σε σχέση με τέσσερις περιπτώσεις.

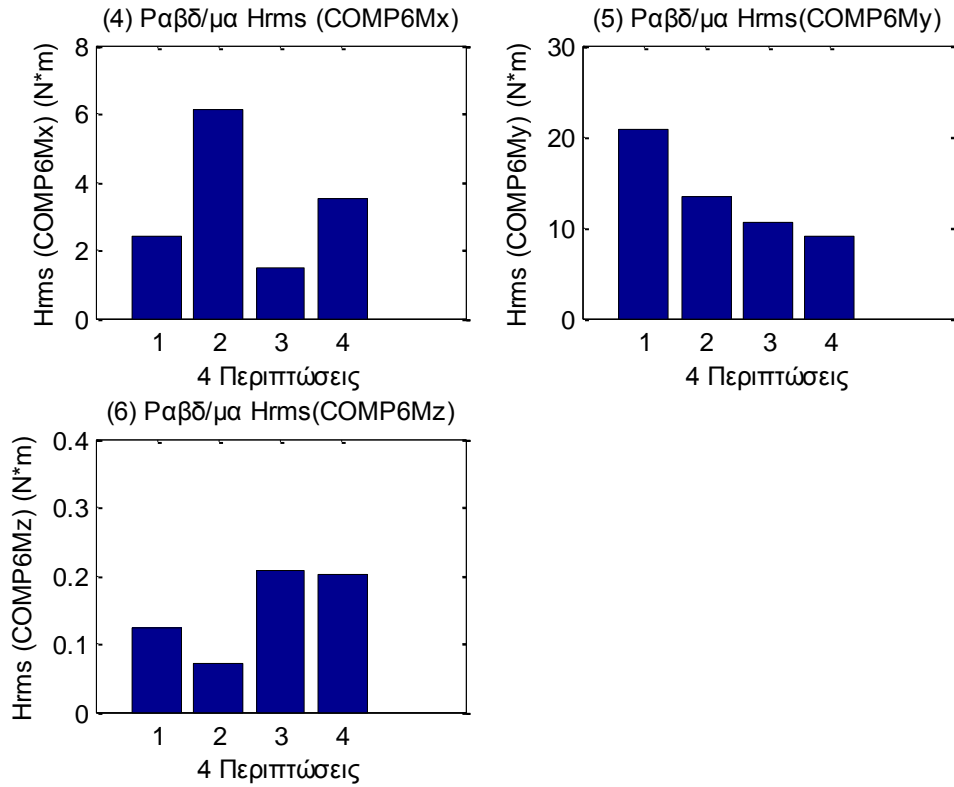
Συγκεκριμένα, για την TLP θα μελετήσουμε τις περιπτώσεις (1) SB\_00\_NR, (2) SB\_20\_NR, (3) SB\_00\_R και (4) SB\_20\_R.



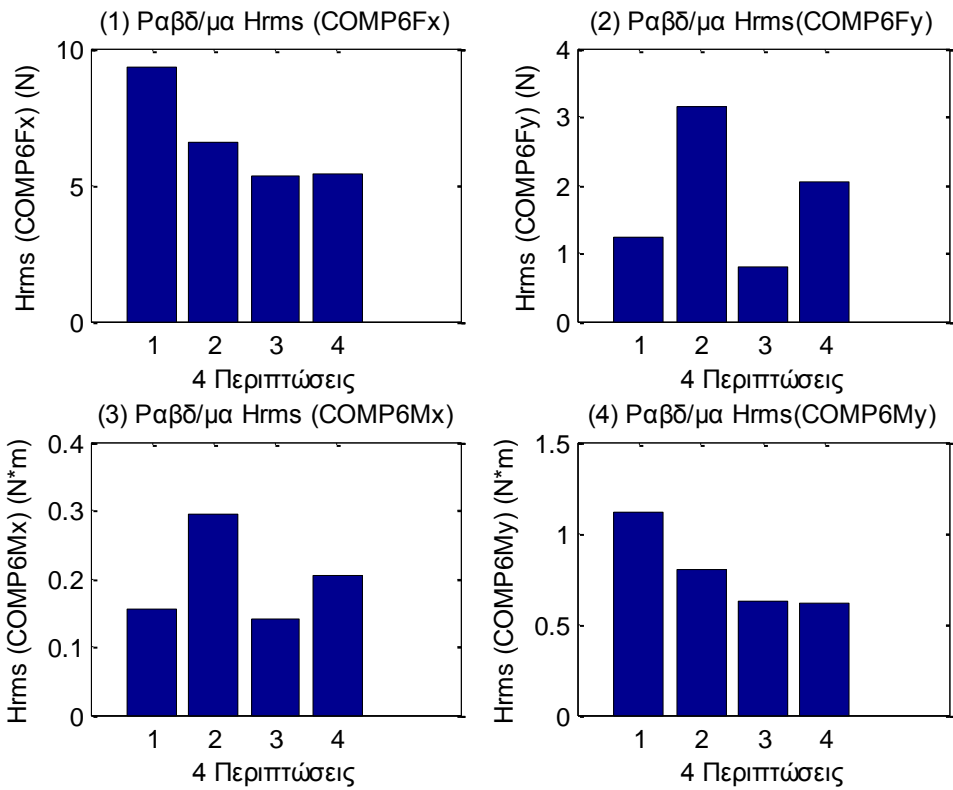


**Σχήματα 2.10.3.1 (1-11)** Ραβδοδιαγράμματα  $H_{rms}$  για τέσσερις περιπτώσεις για τα 11 όργανα μέτρησης του ύψους κύματος



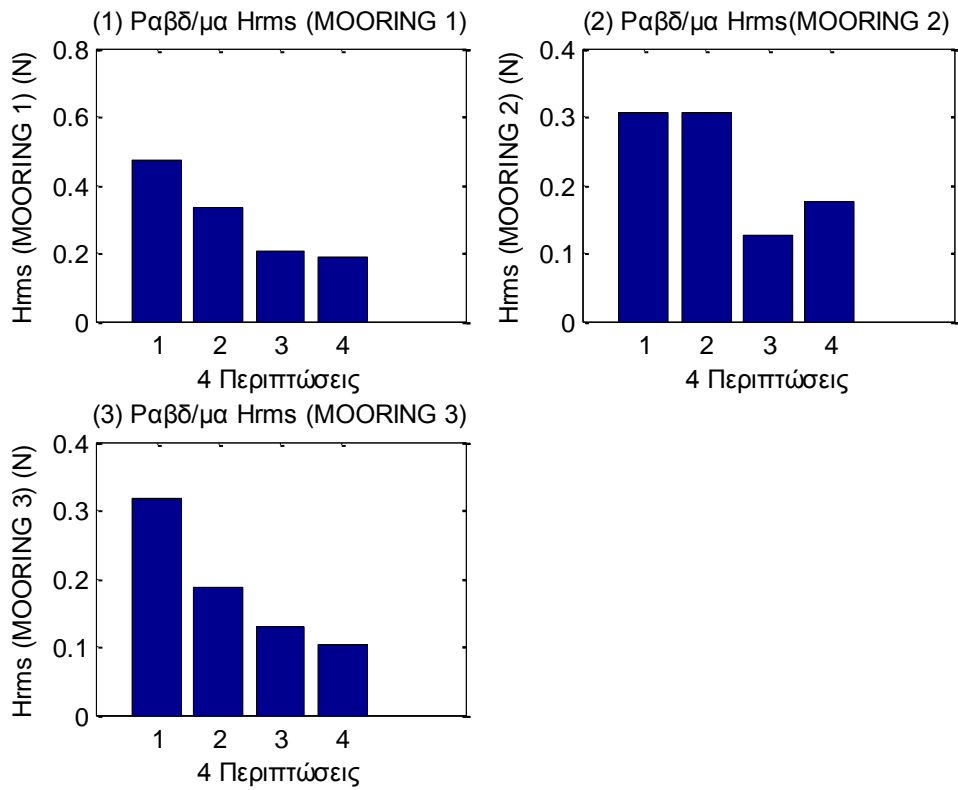


**Σχήματα 2.10.3.2** Ραβδοδιαγράμματα  $H_{rms}$  για τέσσερις περιπτώσεις, για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

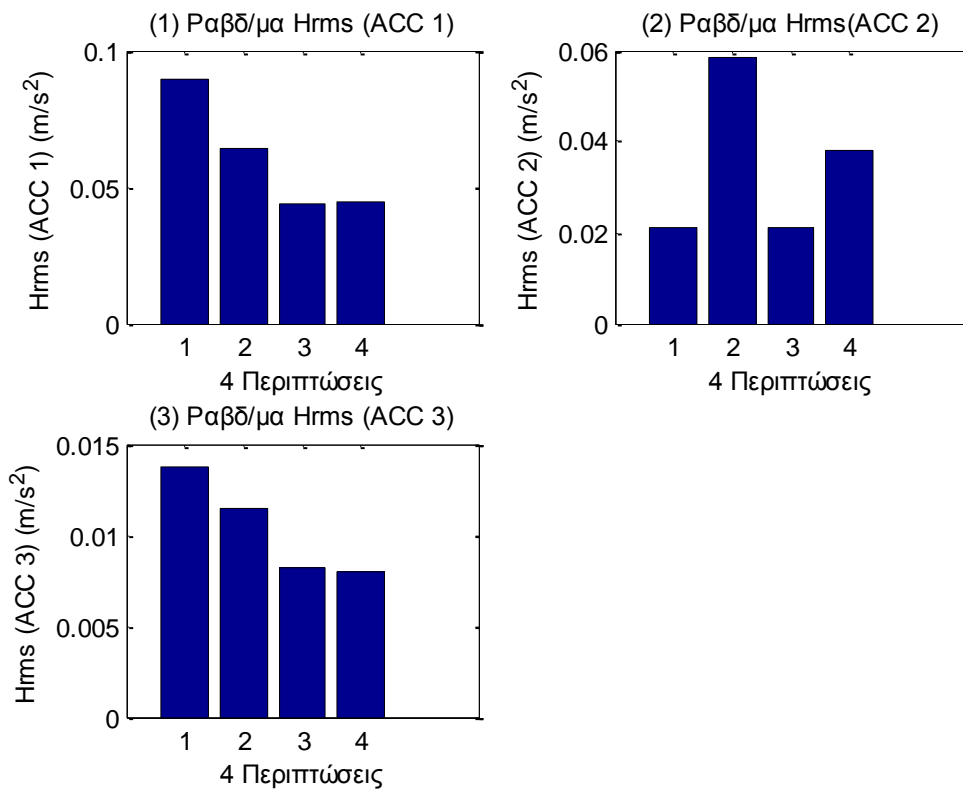


**Σχήματα 2.10.3.3** Ραβδοδιαγράμματα  $H_{rms}$  για τέσσερις περιπτώσεις, για τις δυο δυνάμεις στις δυο διευθύνσεις (1) surge και (2) sway και των δυο ροπών στους αντίστοιχους δυο άξονες (3) roll και (4) pitch

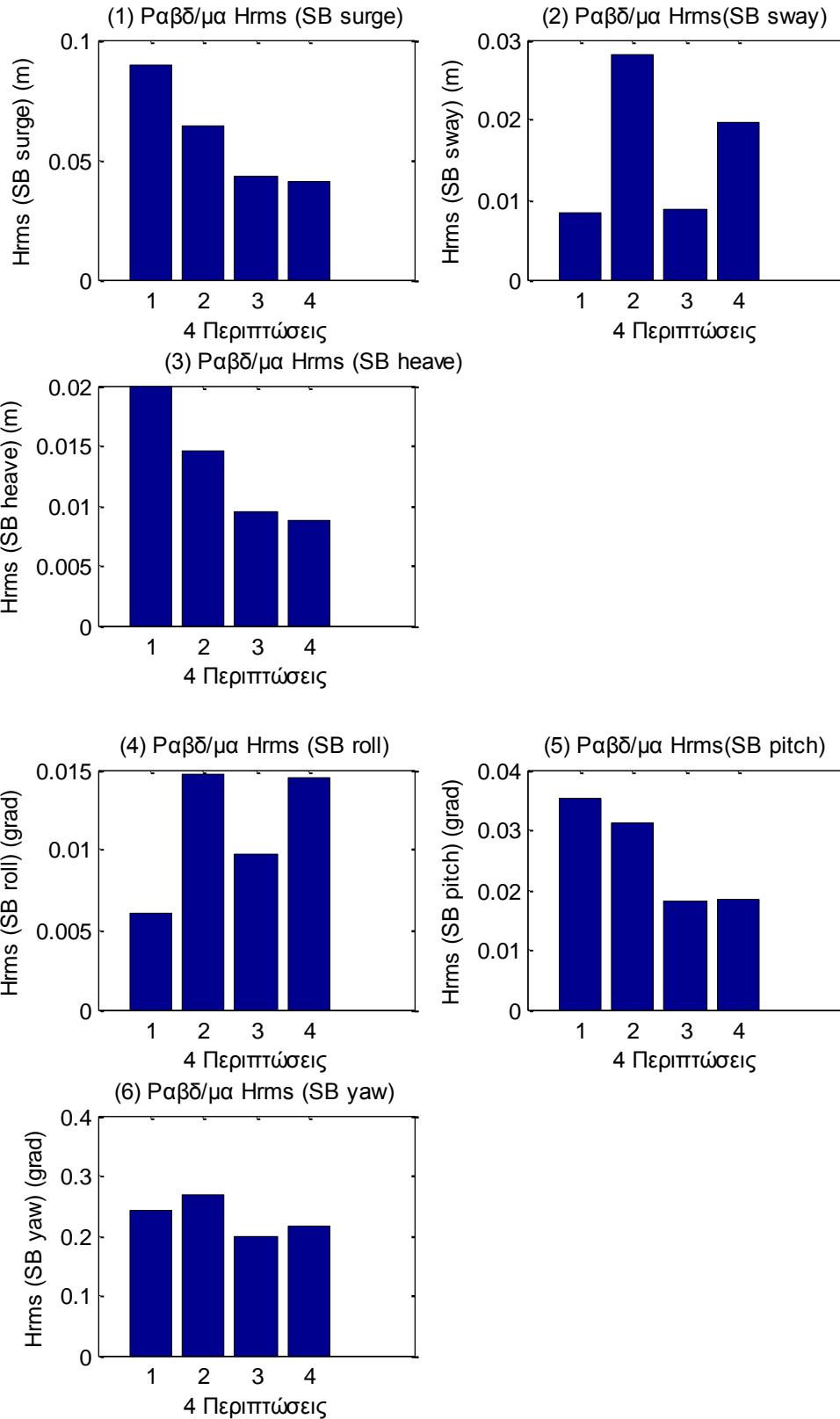




**Σχήματα 2.10.3.4** Ραβδοδιαγράμματα  $H_{rms}$  για τέσσερις περιπτώσεις για τις δυνάμεις στις 3 γραμμές αγκύρωσης



**Σχήματα 2.10.3.5 (1-3)** Ραβδοδιαγράμματα  $H_{rms}$  για τέσσερις περιπτώσεις για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc 1, (2) Acc 2 και (3) Acc 3



**Σχήματα 2.10.3.7** Ραβδοδιαγράμματα  $H_{rms}$  για τέσσερις περιπτώσεις για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

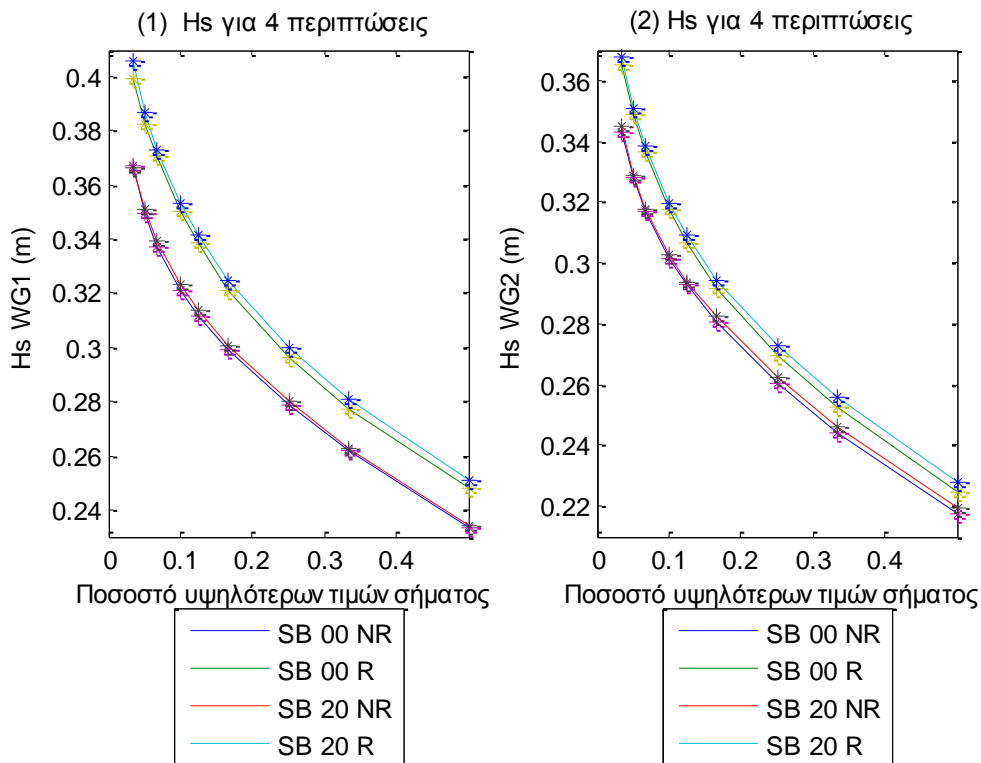
Στα παραπάνω σχήματα παρουσιάζουμε τα Ραβδοδιαγράμματα για την τιμή της  $H_{rms}$  για τα 11 όργανα μέτρησης του ύψους κύματος (Σχήματα 2.10.3.1) (1—11), για τις τρεις δυνάμεις και τις τρεις ροπές στη βάση της Α/Γ (Σχήματα 2.10.3.2) (1-6), για τις δύο δυνάμεις και τις δύο ροπές στο Ρότορα της Α/Γ (Σχήματα 2.10.3.3) (1-4), τις τρεις γραμμές αγκύρωσης (Σχήματα 2.10.3.4) (1-3), για τα τρία επιταχυνσιόμετρα (Σχήματα 2.10.3.5) (1-3), και, τέλος, για τις τρεις μετατοπίσεις και τις τρεις περιστροφές (Σχήματα 2.10.3.6) (1-6).

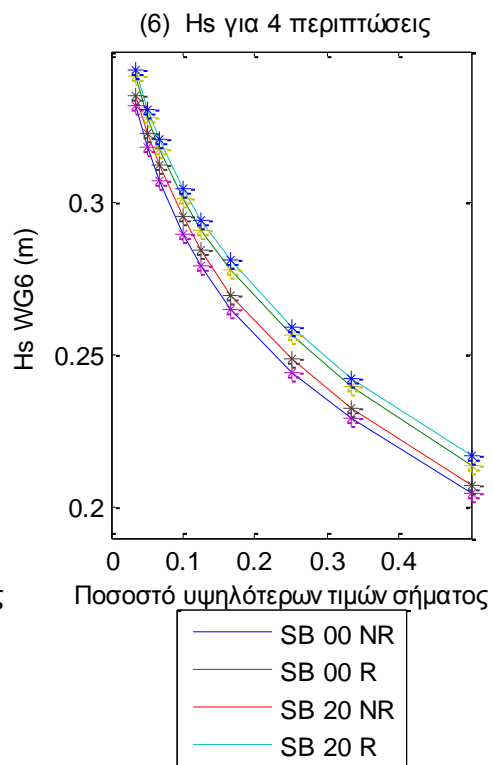
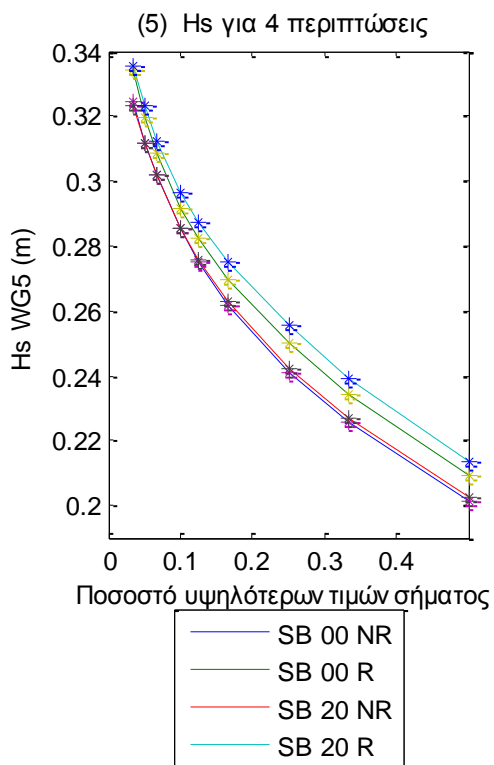
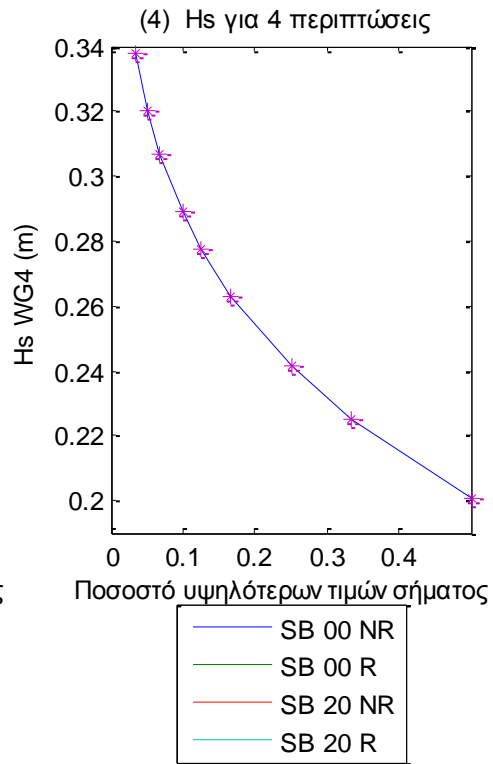
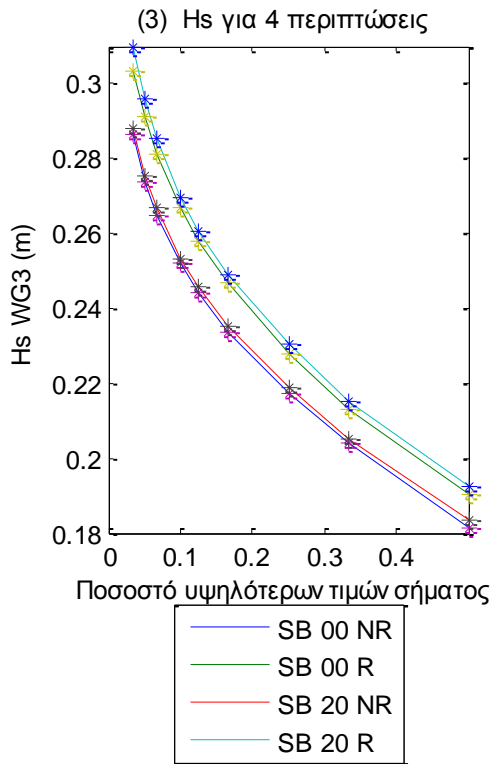
## 2.11 Κατανομές σημαντικού ύψους $H_s$ για τέσσερις περιπτώσεις για τη SB

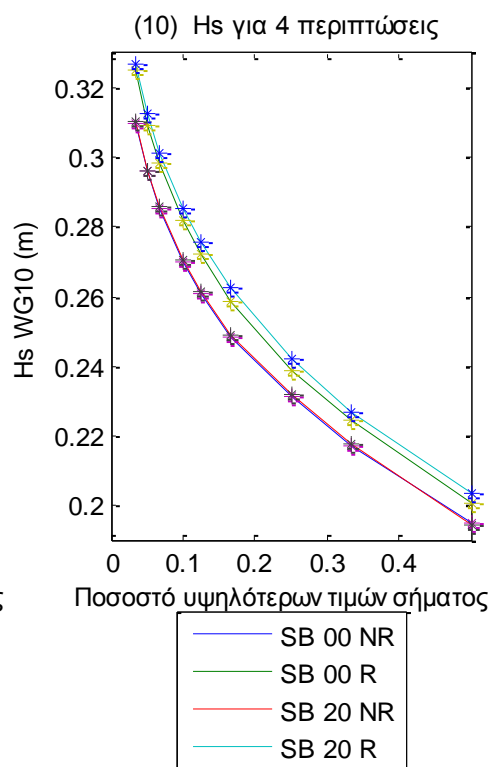
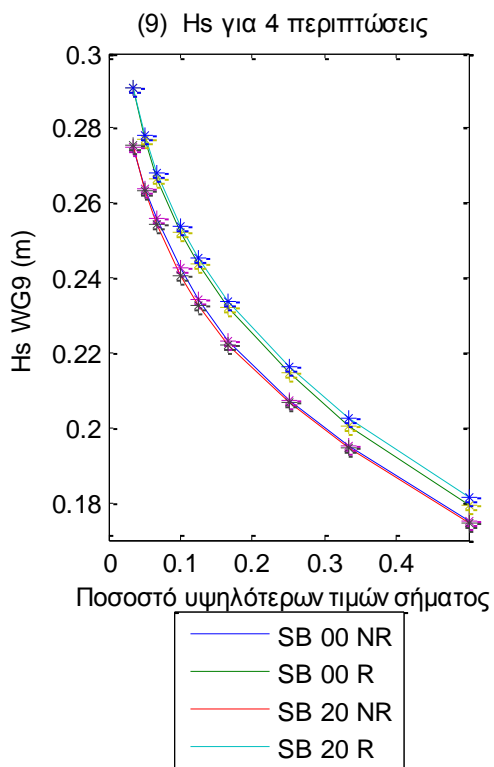
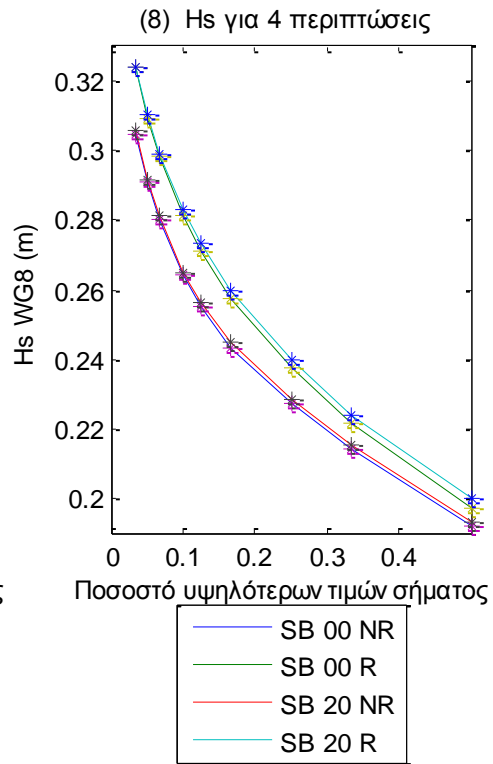
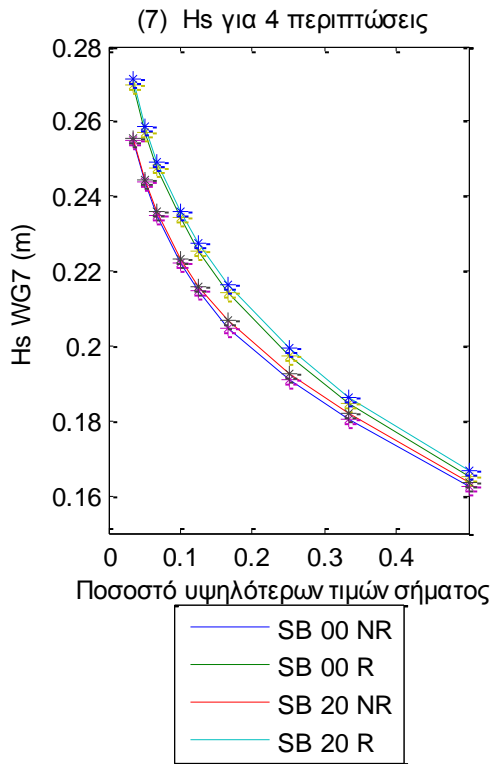
Σε αυτή την ενότητα θα παρουσιάσουμε τη μεταβολή της κατανομής του σημαντικού ύψους σε σχέση με τέσσερις περιπτώσεις που αφορούν τη SB. Πιο συγκεκριμένα, θα μελετήσουμε τις περιπτώσεις SB\_00\_NR, SB\_20\_NR, SB\_00\_R και SB\_20\_R.

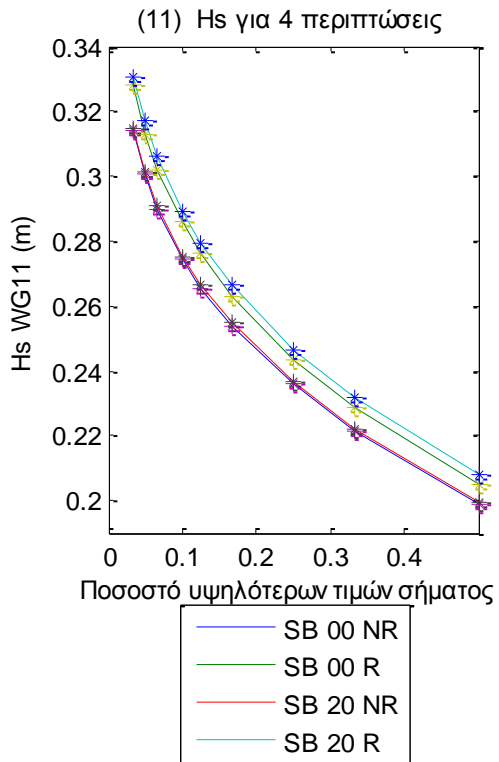
Υπολογίζουμε (μέσω MATLAB) για κάθε περίπτωση την κατανομή του σημαντικού ύψους των υψηλότερων τιμών για κάθε όργανο μέτρησης και τις παραθέτουμε όλες σε κοινά γραφήματα. Ισχύουν τα ίδια ποσοστά σήματος [1/2, 1/3, 1/4, 1/6, 1/8, 1/10, 1/15, 1/30] που χρησιμοποιήσαμε στις αντίστοιχες προηγούμενες ενότητες.

Συνεχίζουμε με την παρουσίαση, στις επόμενες ενότητες, των γραφημάτων για τις κατανομές του σημαντικού ύψους  $H_s$  για κάθε χρονοσειρά που προκύπτει βάσει των δεδομένων από κάθε όργανο μέτρησης.

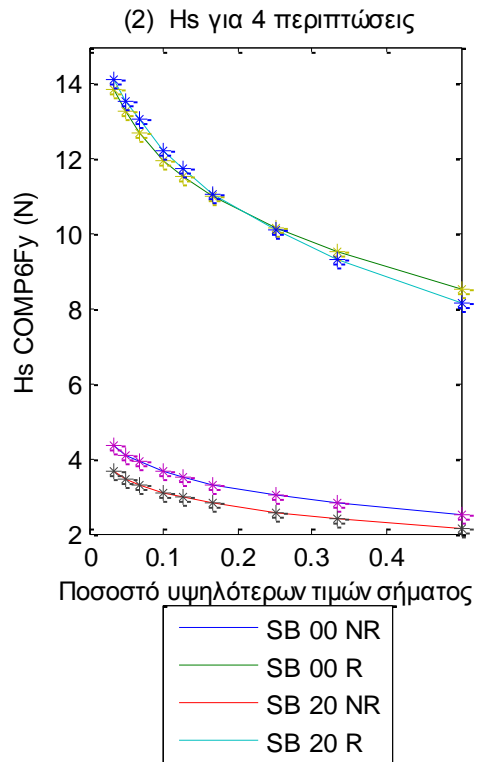
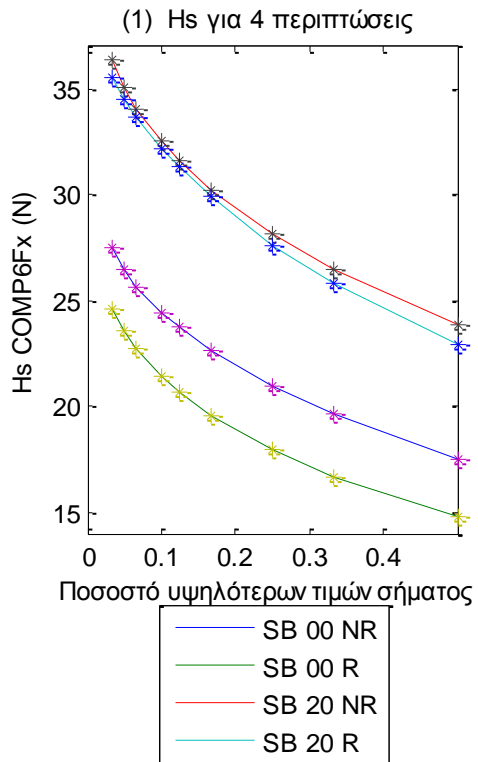


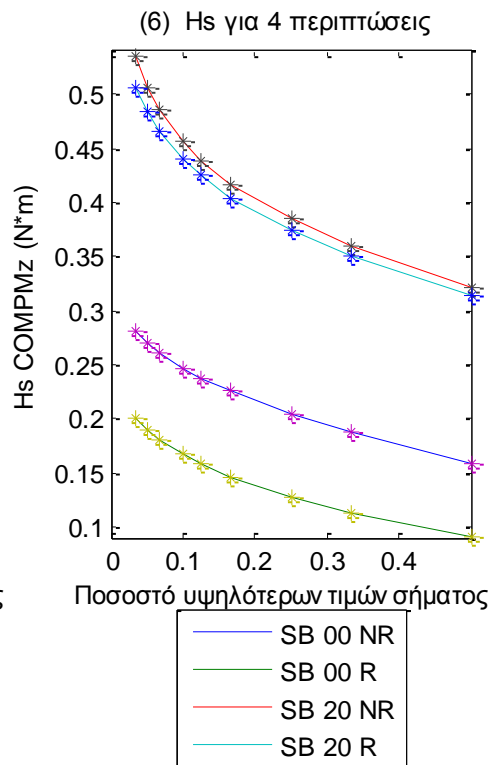
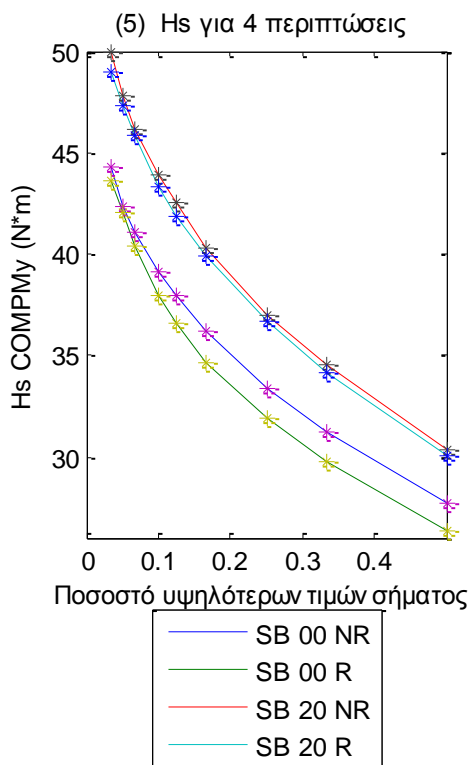
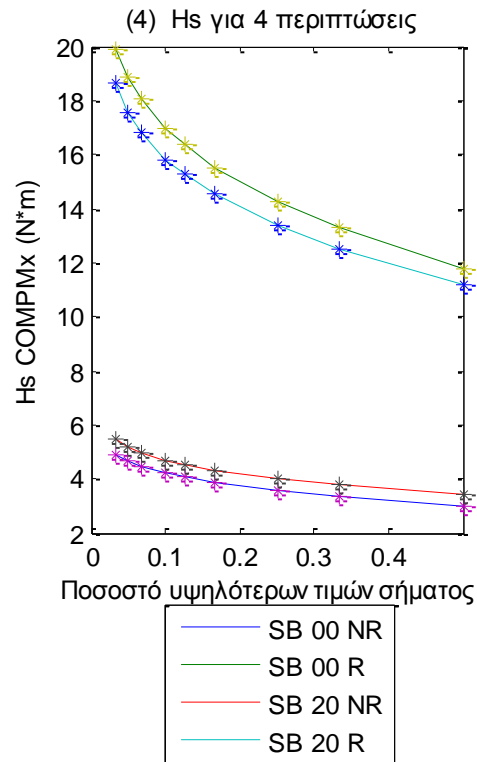
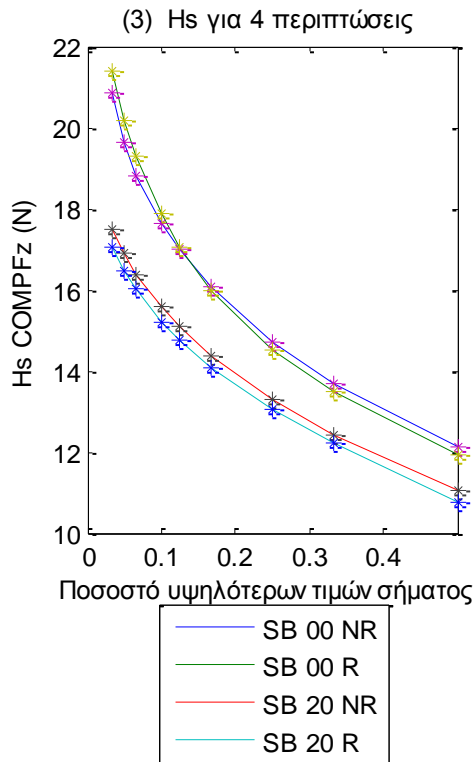




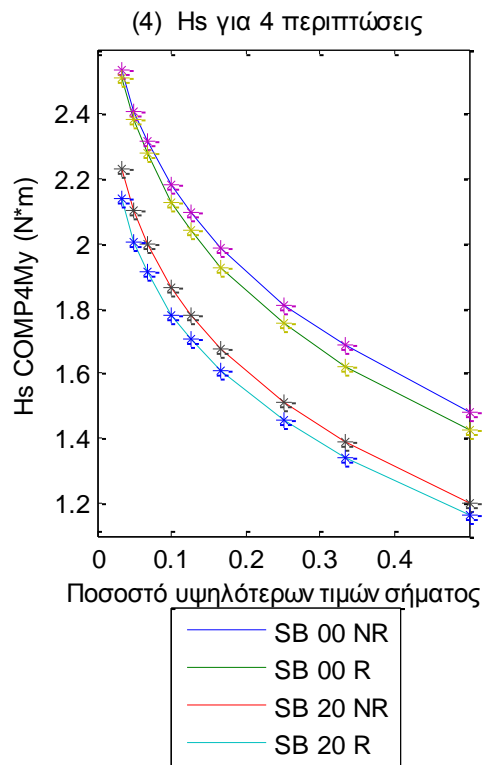
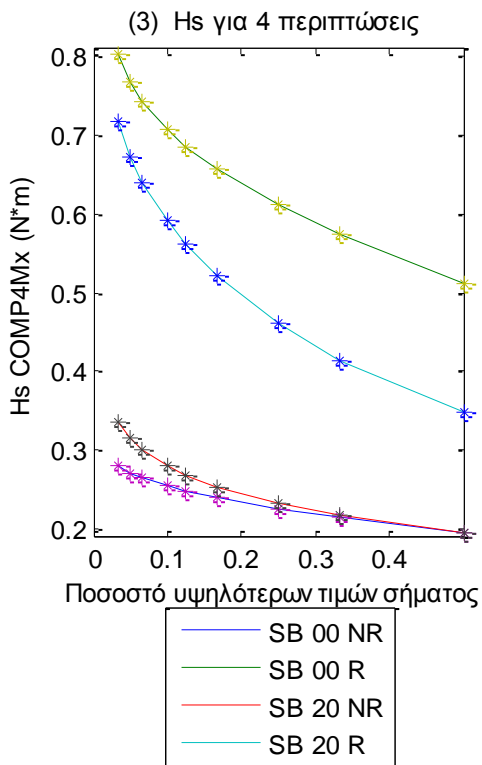
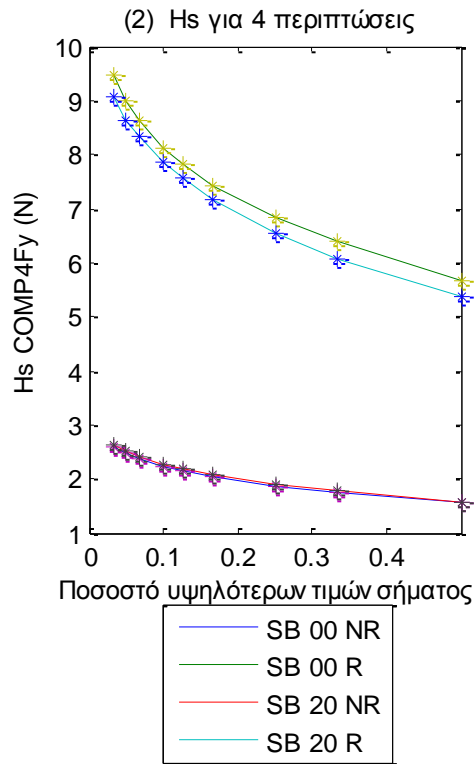
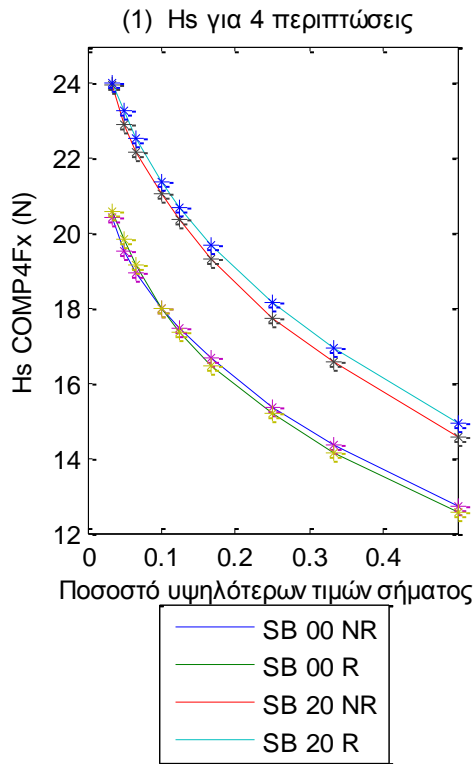


**Σχήματα 2.11.1 (1-11)** Κατανομές σημαντικού ύψους Hs για τέσσερις περιπτώσεις για τα 11 όργανα μέτρησης του ύψους κύματος



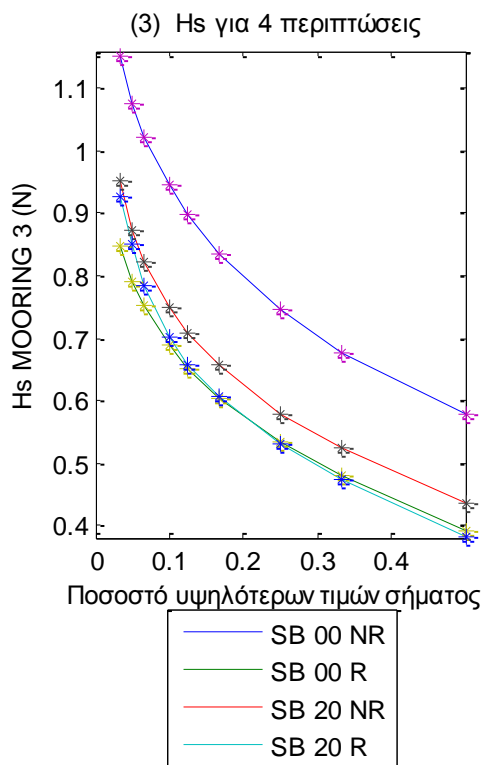
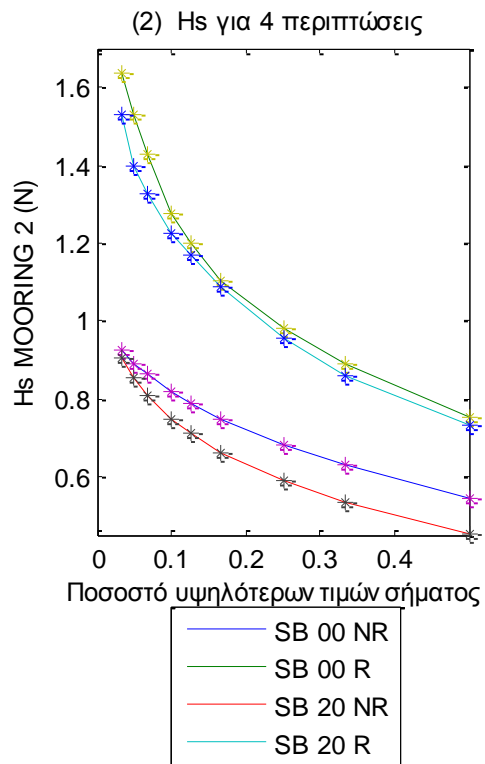
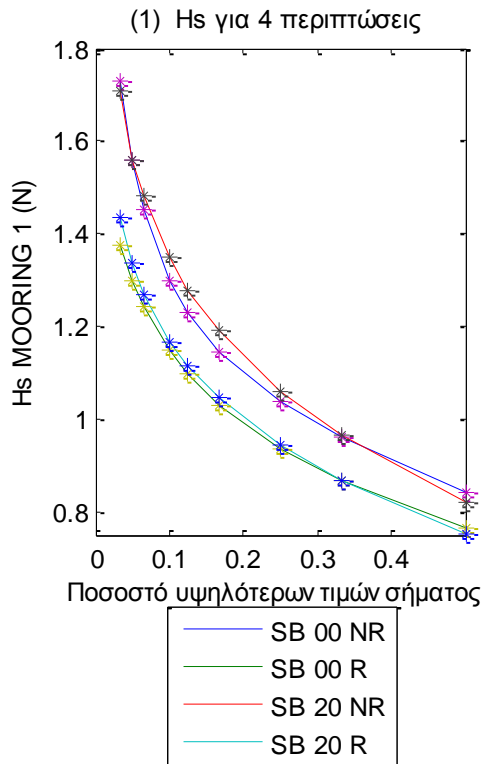


**Σχήματα 2.11.2** Κατανομές σημαντικού ύψους Hs για τέσσερις περιπτώσεις για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

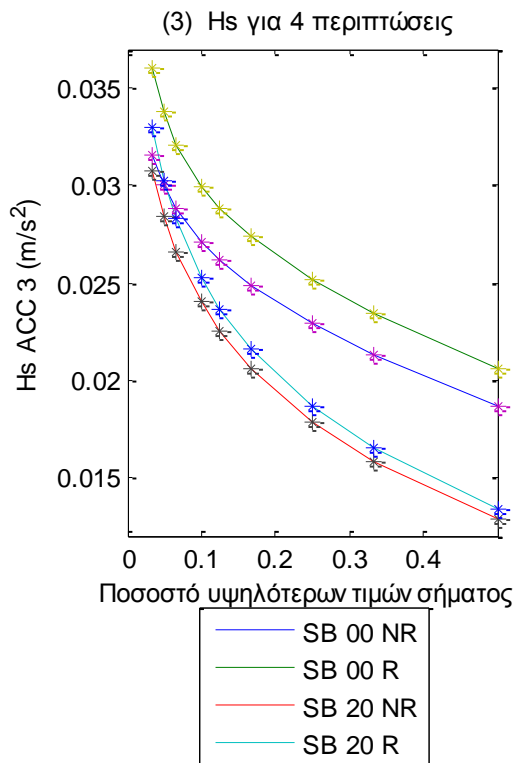
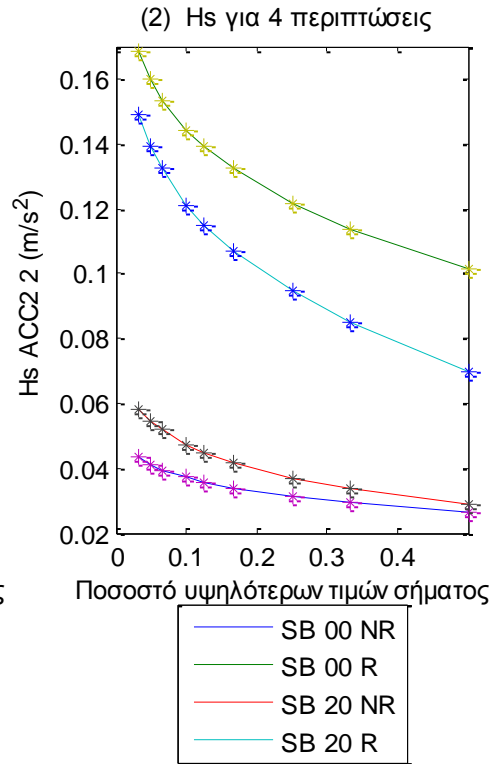
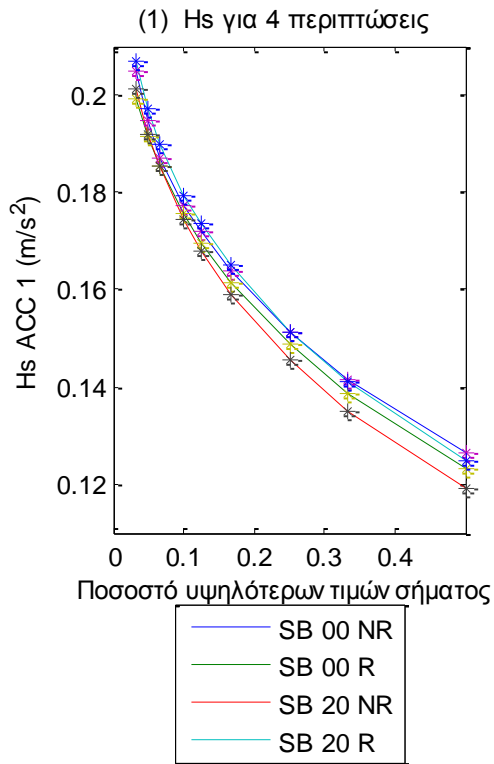


**Σχήματα 2.11.3** Κατανομές σημαντικού ύψους Hs για τέσσερις περιπτώσεις για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ

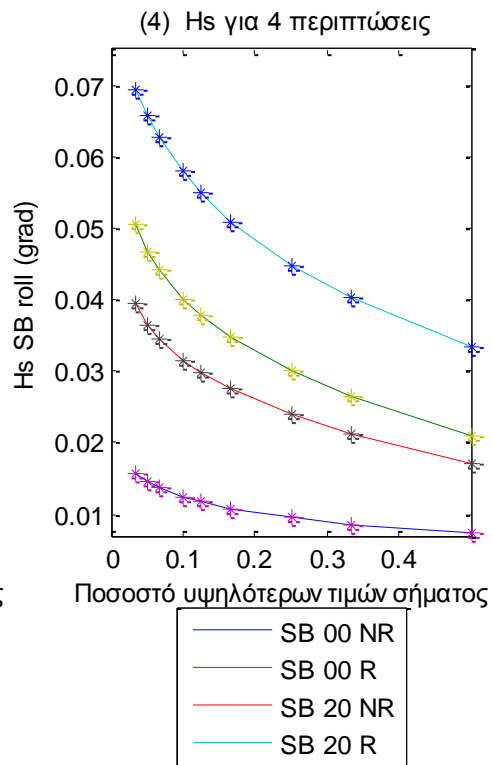
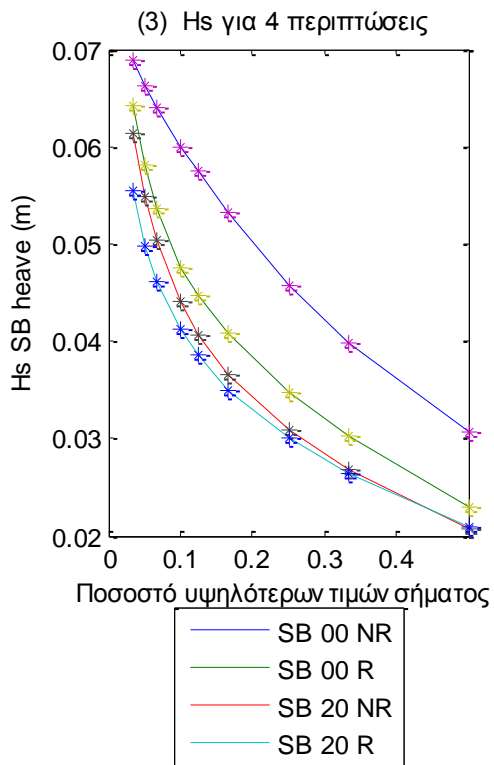
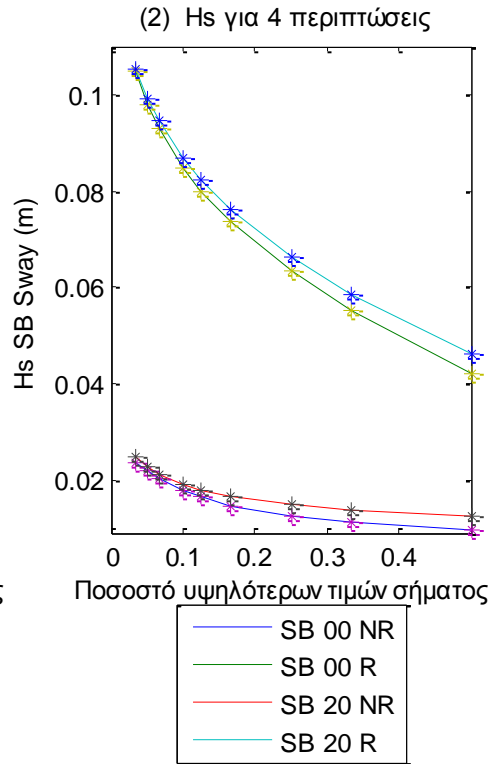
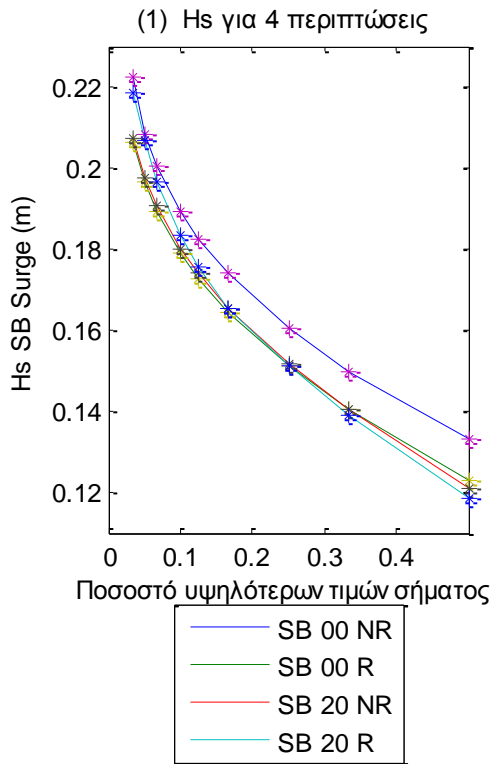


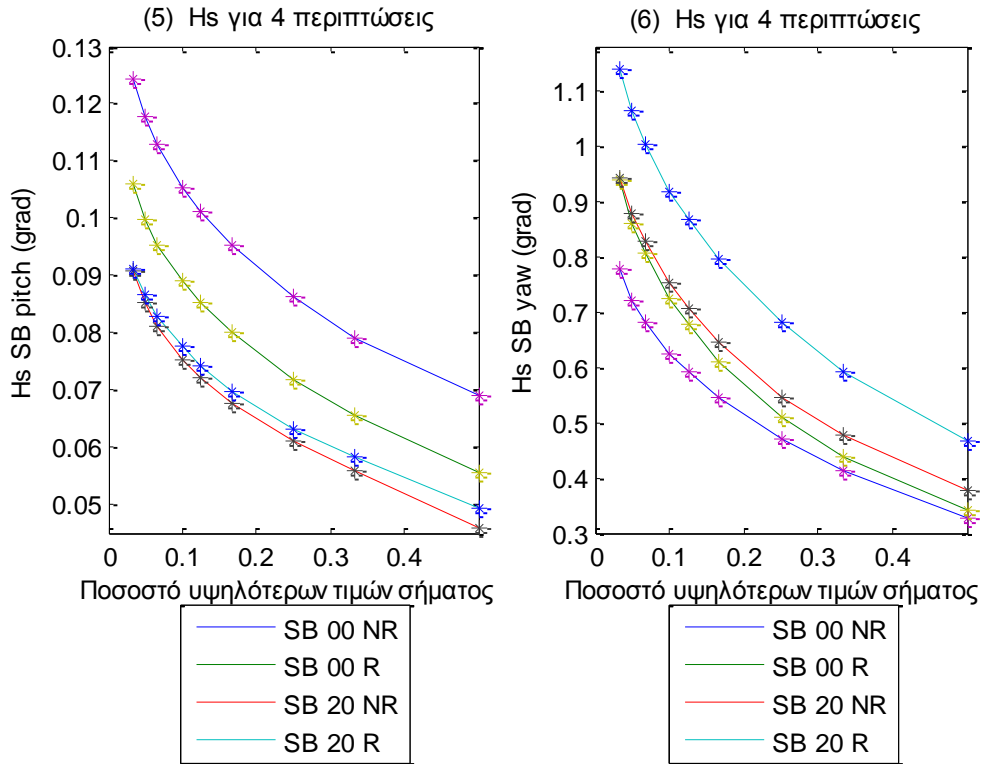


**Σχήματα 2.11.4 (1-3)** Κατανομές σημαντικού ύψους Hs για τέσσερις περιπτώσεις για τις δυνάμεις στις 3 γραμμές αγκύρωσης



**Σχήματα 2.11.5 (1-3)** Κατανομές σημαντικού ύψους Hs για τέσσερις περιπτώσεις για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3





**Σχήματα 2.11.6** Κατανομές σημαντικού ύψους Hs για τέσσερις περιπτώσεις για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

Στα παραπάνω σχήματα παρουσιάζουμε τις κατανομές του σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος (Σχήματα 2.11.1) (1—11), για τις τρεις δυνάμεις και τις τρεις ροπές στη βάση της Α/Γ (Σχήματα 2.11.2) (1-6), για τις δύο δυνάμεις και τις δύο ροπές στο Ρότορα της Α/Γ (Σχήματα 2.11.3) (1-4), τις τρεις γραμμές αγκύρωσης (Σχήματα 2.11.4) (1-4), τις χρονοσειρές για τα τρία επιταχυνσιόμετρα (Σχήματα 2.11.5) (1-3) και, τέλος, για τις τρεις μετατοπίσεις και τις τρεις περιστροφές (Σχήματα 2.11.6) (1-6).

Στον πίνακα 5.1 παρατίθενται οι τιμές από τις κατανομές σημαντικού ύψους για όλα τα όργανα μέτρησης από τα τέσσερα πειράματα (C10, C11, C12, C13)

<b>Πίνακας 5.11</b>				
	C10	C11	C12	C13
WG1 (m)	0.2335	0.2476	0.2340	0.2505
	0.2619	0.2772	0.2625	0.2808
	0.2788	0.2959	0.2798	0.2997
	0.2993	0.3210	0.3005	0.3248
	0.3119	0.3384	0.3135	0.3414
	0.3213	0.3504	0.3232	0.3535
	0.3375	0.3712	0.3393	0.3734
	0.3499	0.3826	0.3508	0.3866

	0.3671	0.3995	0.3665	0.4062
WG2 (m)	0.2172	0.2248	0.2196	0.2277
	0.2440	0.2523	0.2464	0.2557
	0.2606	0.2693	0.2625	0.2728
	0.2803	0.2916	0.2822	0.2943
	0.2927	0.3064	0.2939	0.3089
	0.3011	0.3178	0.3026	0.3197
	0.3171	0.3367	0.3179	0.3387
	0.3280	0.3486	0.3290	0.3511
	0.3431	0.3649	0.3450	0.3677
WG3 (m)	0.1815	0.1903	0.1832	0.1925
	0.2039	0.2129	0.2053	0.2154
	0.2172	0.2280	0.2187	0.2303
	0.2337	0.2466	0.2351	0.2487
	0.2444	0.2580	0.2459	0.2604
	0.2519	0.2667	0.2534	0.2694
	0.2649	0.2813	0.2670	0.2853
	0.2738	0.2913	0.2756	0.2959
	0.2866	0.3035	0.2882	0.3095
WG4 (m)	0.2006	0.0003	0.0003	0.0002
	0.2253	0.0003	0.0003	0.0003
	0.2415	0.0003	0.0003	0.0003
	0.2627	0.0004	0.0003	0.0003
	0.2773	0.0004	0.0003	0.0003
	0.2888	0.0004	0.0003	0.0003
	0.3070	0.0004	0.0004	0.0003
	0.3202	0.0004	0.0004	0.0003
	0.3381	0.0004	0.0004	0.0003
WG5 (m)	0.2013	0.2095	0.2026	0.2135
	0.2255	0.2342	0.2267	0.2393
	0.2411	0.2499	0.2424	0.2554
	0.2614	0.2697	0.2629	0.2749
	0.2751	0.2824	0.2758	0.2873
	0.2852	0.2916	0.2857	0.2965
	0.3016	0.3085	0.3018	0.3122
	0.3118	0.3196	0.3116	0.3232
	0.3245	0.3344	0.3234	0.3356
WG6 (m)	0.2046	0.2139	0.2073	0.2167
	0.2291	0.2397	0.2326	0.2424
	0.2443	0.2566	0.2486	0.2594
	0.2650	0.2781	0.2698	0.2812
	0.2793	0.2912	0.2845	0.2944
	0.2897	0.3013	0.2954	0.3047

	0.3072	0.3175	0.3127	0.3208
	0.3183	0.3279	0.3227	0.3308
	0.3320	0.3417	0.3352	0.3441
WG7 (m)	0.1622	0.1651	0.1634	0.1666
	0.1804	0.1846	0.1819	0.1864
	0.1908	0.1974	0.1926	0.1992
	0.2049	0.2142	0.2066	0.2162
	0.2148	0.2253	0.2159	0.2273
	0.2220	0.2342	0.2230	0.2359
	0.2348	0.2477	0.2360	0.2493
	0.2436	0.2568	0.2443	0.2586
	0.2551	0.2695	0.2553	0.2714
WG8 (m)	0.1919	0.1973	0.1931	0.1998
	0.2142	0.2215	0.2155	0.2239
	0.2270	0.2378	0.2284	0.2400
	0.2434	0.2572	0.2448	0.2598
	0.2553	0.2710	0.2561	0.2734
	0.2641	0.2812	0.2650	0.2832
	0.2804	0.2985	0.2811	0.2991
	0.2912	0.3092	0.2918	0.3102
	0.3044	0.3238	0.3058	0.3241
WG9 (m)	0.1751	0.1792	0.1744	0.1814
	0.1952	0.2006	0.1946	0.2027
	0.2073	0.2147	0.2065	0.2163
	0.2230	0.2322	0.2218	0.2335
	0.2342	0.2438	0.2326	0.2455
	0.2426	0.2521	0.2406	0.2539
	0.2560	0.2667	0.2542	0.2681
	0.2640	0.2771	0.2633	0.2780
	0.2748	0.2907	0.2752	0.2908
WG10 (m)	0.1946	0.2007	0.1945	0.2034
	0.2172	0.2243	0.2176	0.2269
	0.2310	0.2388	0.2316	0.2421
	0.2484	0.2588	0.2491	0.2625
	0.2606	0.2722	0.2613	0.2755
	0.2699	0.2818	0.2704	0.2851
	0.2856	0.2983	0.2857	0.3010
	0.2962	0.3090	0.2959	0.3124
	0.3100	0.3250	0.3105	0.3267
WG11 (m)	0.1986	0.2050	0.1992	0.2079
	0.2217	0.2286	0.2223	0.2318
	0.2359	0.2433	0.2365	0.2467
	0.2538	0.2629	0.2548	0.2664

	0.2655	0.2762	0.2665	0.2795
	0.2744	0.2862	0.2753	0.2891
	0.2900	0.3017	0.2910	0.3061
	0.3007	0.3129	0.3012	0.3169
	0.3141	0.3281	0.3144	0.3303
6COMPF <sub>x</sub> (N)	17.4813	14.7523	23.8835	22.9422
	19.6207	16.7064	26.5255	25.8629
	20.9574	17.9723	28.1296	27.6448
	22.6946	19.5864	30.2377	29.9300
	23.7240	20.6462	31.6249	31.3302
	24.4662	21.4232	32.5728	32.2308
	25.6235	22.7730	34.0295	33.7206
	26.4640	23.6174	35.0423	34.5597
	27.5373	24.6244	36.4212	35.5410
6COMPF <sub>y</sub> (N)	2.5175	8.5076	2.1161	8.1710
	2.8417	9.5378	2.4001	9.3239
	3.0498	10.1764	2.5755	10.0932
	3.3206	10.9920	2.8083	11.0682
	3.5142	11.5488	2.9689	11.7303
	3.6594	11.9722	3.0914	12.2410
	3.9124	12.7192	3.3134	13.0497
	4.0983	13.2629	3.4585	13.5415
	4.3302	13.8381	3.6663	14.1206
6COMPF <sub>z</sub> (N)	12.1365	11.9360	11.0306	10.7767
	13.6905	13.4931	12.4026	12.2003
	14.7068	14.5313	13.2785	13.0386
	16.0845	15.9639	14.3810	14.0750
	17.0060	17.0429	15.0994	14.7374
	17.6476	17.8583	15.6041	15.2030
	18.8261	19.2727	16.3895	16.0165
	19.6523	20.1589	16.8905	16.4843
	20.8356	21.3965	17.4797	17.0691
6compM <sub>x</sub> (N*m)	2.9831	11.7582	3.3950	11.1526
	3.3390	13.2797	3.7841	12.5145
	3.5675	14.2413	4.0331	13.3852
	3.8589	15.5064	4.3395	14.5216
	4.0577	16.3510	4.5384	15.2706
	4.2088	16.9642	4.6891	15.8068
	4.4729	18.0889	4.9581	16.8076
	4.6481	18.8556	5.1711	17.5502
	4.9013	19.8613	5.4876	18.6445
6compM <sub>y</sub> (N*m)	27.7384	26.3650	30.3134	30.0631
	31.1988	29.7966	34.4999	34.1943

	33.3986	31.9501	37.0190	36.6861
	36.2333	34.6780	40.2580	39.8630
	37.9046	36.5890	42.5016	41.8435
	39.1091	37.9689	43.8936	43.3583
	41.0725	40.4023	46.1217	45.8590
	42.3583	42.0036	47.7899	47.3298
	44.2668	43.5718	49.9332	49.0082
6compMz	0.1589	0.0914	0.3207	0.3138
(N*m)	0.1870	0.1123	0.3598	0.3505
	0.2045	0.1268	0.3849	0.3742
	0.2255	0.1458	0.4173	0.4045
	0.2376	0.1584	0.4393	0.4248
	0.2461	0.1674	0.4561	0.4400
	0.2610	0.1811	0.4862	0.4658
	0.2700	0.1896	0.5068	0.4834
	0.2806	0.2000	0.5346	0.5070
4compFx (N)	12.7261	12.5317	14.5672	14.9474
	14.3383	14.1598	16.5476	16.9315
	15.3491	15.1739	17.7563	18.1514
	16.6723	16.4661	19.3045	19.7102
	17.4643	17.3476	20.3540	20.6832
	18.0230	17.9909	21.0487	21.3861
	18.9586	19.1438	22.1614	22.5614
	19.5524	19.8301	22.9098	23.2645
	20.4148	20.5864	23.9540	24.0378
4compFy (N)	1.5691	5.6764	1.5668	5.3542
	1.7561	6.3798	1.7830	6.0814
	1.8778	6.8464	1.9124	6.5447
	2.0361	7.4296	2.0719	7.1709
	2.1410	7.8109	2.1791	7.5571
	2.2224	8.1026	2.2620	7.8556
	2.3673	8.6375	2.4068	8.3245
	2.4656	9.0097	2.5056	8.6414
	2.5858	9.4580	2.6462	9.0679
4compMx	0.1947	0.5126	0.1937	0.3487
(N*m)	0.2132	0.5752	0.2165	0.4142
	0.2245	0.6127	0.2318	0.4599
	0.2382	0.6565	0.2529	0.5205
	0.2468	0.6853	0.2679	0.5615
	0.2531	0.7067	0.2797	0.5908
	0.2638	0.7441	0.3006	0.6398
	0.2703	0.7687	0.3149	0.6735
	0.2787	0.8031	0.3338	0.7178



4compMy	1.4837	1.4249	1.2010	1.1639
(N*m)	1.6860	1.6231	1.3898	1.3417
	1.8131	1.7579	1.5124	1.4583
	1.9849	1.9289	1.6733	1.6090
	2.0991	2.0447	1.7819	1.7068
	2.1800	2.1267	1.8623	1.7795
	2.3137	2.2800	1.9987	1.9136
	2.4067	2.3834	2.1020	2.0084
	2.5369	2.5132	2.2337	2.1369
Mooring 1 (N)	0.8419	0.7631	0.8212	0.7527
	0.9615	0.8689	0.9646	0.8694
	1.0394	0.9371	1.0594	0.9452
	1.1434	1.0292	1.1897	1.0473
	1.2295	1.0965	1.2777	1.1154
	1.3003	1.1483	1.3481	1.1676
	1.4502	1.2425	1.4807	1.2667
	1.5591	1.3006	1.5590	1.3359
	1.7312	1.3764	1.7061	1.4359
Mooring 2 (N)	0.5435	0.7544	0.4513	0.7309
	0.6305	0.8895	0.5345	0.8566
	0.6808	0.9796	0.5883	0.9533
	0.7459	1.1045	0.6622	1.0862
	0.7898	1.1990	0.7116	1.1692
	0.8200	1.2738	0.7481	1.2254
	0.8661	1.4303	0.8107	1.3273
	0.8918	1.5285	0.8531	1.3957
	0.9236	1.6376	0.9062	1.5305
Mooring 3 (N)	0.5767	0.3918	0.4365	0.3816
	0.6778	0.4793	0.5251	0.4750
	0.7447	0.5336	0.5788	0.5299
	0.8341	0.6045	0.6559	0.6058
	0.8992	0.6519	0.7092	0.6582
	0.9474	0.6891	0.7507	0.7021
	1.0228	0.7532	0.8229	0.7853
	1.0765	0.7919	0.8735	0.8503
	1.1511	0.8471	0.9509	0.9273
Acc1 (G)	0.1266	0.1234	0.1190	0.1247
	0.1416	0.1387	0.1352	0.1409
	0.1511	0.1489	0.1454	0.1513
	0.1638	0.1616	0.1589	0.1649
	0.1718	0.1697	0.1678	0.1735
	0.1772	0.1755	0.1746	0.1795
	0.1870	0.1855	0.1854	0.1897
	0.1946	0.1916	0.1921	0.1971

	0.2049	0.1992	0.2013	0.2070
Acc2 (G)	0.0266	0.1012	0.0290	0.0700
	0.0296	0.1135	0.0335	0.0849
	0.0315	0.1217	0.0367	0.0944
	0.0340	0.1324	0.0415	0.1070
	0.0358	0.1391	0.0448	0.1151
	0.0371	0.1439	0.0474	0.1212
	0.0395	0.1531	0.0518	0.1323
	0.0411	0.1599	0.0547	0.1395
	0.0432	0.1685	0.0584	0.1488
Acc3 (G)	0.0187	0.0206	0.0129	0.0134
	0.0213	0.0234	0.0158	0.0165
	0.0229	0.0252	0.0178	0.0187
	0.0249	0.0274	0.0206	0.0216
	0.0262	0.0288	0.0225	0.0236
	0.0271	0.0299	0.0240	0.0253
	0.0288	0.0321	0.0266	0.0283
	0.0300	0.0338	0.0284	0.0302
	0.0316	0.0360	0.0308	0.0330
Surge (m)	0.1334	0.1228	0.1211	0.1184
	0.1499	0.1407	0.1403	0.1390
	0.1604	0.1512	0.1517	0.1513
	0.1740	0.1645	0.1655	0.1656
	0.1824	0.1727	0.1741	0.1756
	0.1891	0.1789	0.1801	0.1836
	0.2007	0.1892	0.1905	0.1968
	0.2085	0.1968	0.1978	0.2067
	0.2223	0.2062	0.2072	0.2183
Sway (m)	0.0098	0.0421	0.0124	0.0461
	0.0114	0.0553	0.0138	0.0583
	0.0126	0.0636	0.0149	0.0661
	0.0147	0.0735	0.0166	0.0762
	0.0164	0.0800	0.0179	0.0824
	0.0179	0.0848	0.0191	0.0869
	0.0202	0.0929	0.0213	0.0944
	0.0218	0.0980	0.0229	0.0990
	0.0237	0.1050	0.0247	0.1051
Heave (m)	0.0306	0.0230	0.0208	0.0209
	0.0399	0.0302	0.0269	0.0265
	0.0458	0.0348	0.0309	0.0301
	0.0533	0.0408	0.0366	0.0350
	0.0574	0.0446	0.0407	0.0385
	0.0600	0.0475	0.0440	0.0412

	0.0640	0.0537	0.0504	0.0462
	0.0663	0.0582	0.0549	0.0498
	0.0689	0.0643	0.0614	0.0554
Roll (grad)	0.0073	0.0209	0.0172	0.0333
	0.0086	0.0265	0.0213	0.0402
	0.0095	0.0301	0.0240	0.0448
	0.0108	0.0347	0.0275	0.0509
	0.0118	0.0378	0.0299	0.0550
	0.0125	0.0401	0.0315	0.0579
	0.0137	0.0441	0.0344	0.0627
	0.0145	0.0468	0.0365	0.0658
	0.0156	0.0506	0.0394	0.0693
Pitch (grad)	0.0691	0.0557	0.0460	0.0494
	0.0792	0.0657	0.0558	0.0582
	0.0862	0.0717	0.0612	0.0632
	0.0952	0.0799	0.0677	0.0698
	0.1011	0.0851	0.0720	0.0741
	0.1053	0.0890	0.0754	0.0775
	0.1130	0.0953	0.0811	0.0830
	0.1177	0.0999	0.0852	0.0866
	0.1244	0.1061	0.0909	0.0910
Yaw (grad)	0.3284	0.3415	0.3775	0.4665
	0.4129	0.4392	0.4759	0.5927
	0.4702	0.5099	0.5451	0.6794
	0.5439	0.6090	0.6435	0.7953
	0.5901	0.6762	0.7049	0.8678
	0.6236	0.7235	0.7508	0.9182
	0.6797	0.8045	0.8282	1.0045
	0.7193	0.8611	0.8793	1.0627
	0.7775	0.9376	0.9427	1.1397