

ΠΑΡΑΡΤΗΜΑ Ι (TLP)

Κεφάλαιο 5

1 ΜΕΡΟΣ

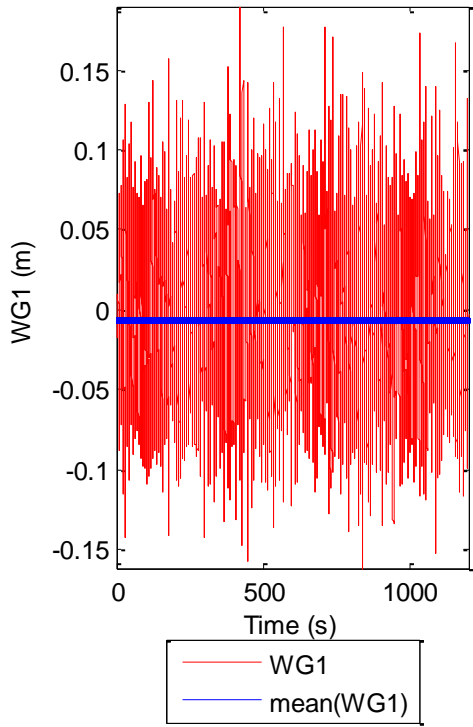
Με οδηγό την ανάλυση του πέμπτου κεφαλαίου θα μελετήσουμε τα πειράματα (IRREGULAR WAVES) για την TLP με παραμέτρους την περιστροφή ή μη της έλικας και για γωνία πρόσπτωσης 00 και 20 μοιρών, ακολουθώντας την εξής διαδικασία για την ανάλυση των τυχαίων κυματισμών:

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 τεσσάρων δυνάμεων στις γραμμές αγκύρωσης και των έξι μετατοπίσεων και περιστροφών στη βάση της Α/Γ (και για τιμές του K 100 και 1000).

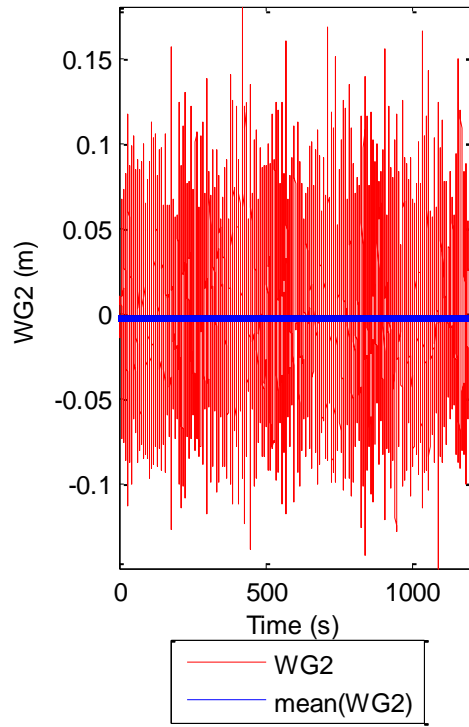
1.1 Παρουσίαση χρονοσειρών (C2) T1253+T1254_1.6_0.1_TLP_00_R

Πίνακας 1.1.1	Χαρακτηριστικά Πειράματος
Τύπος μοντέλου	TLP
Ύψος κύματος (m)	0.100
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	0
Περιστροφή ή μη του Ρότορα	Περιστροφή

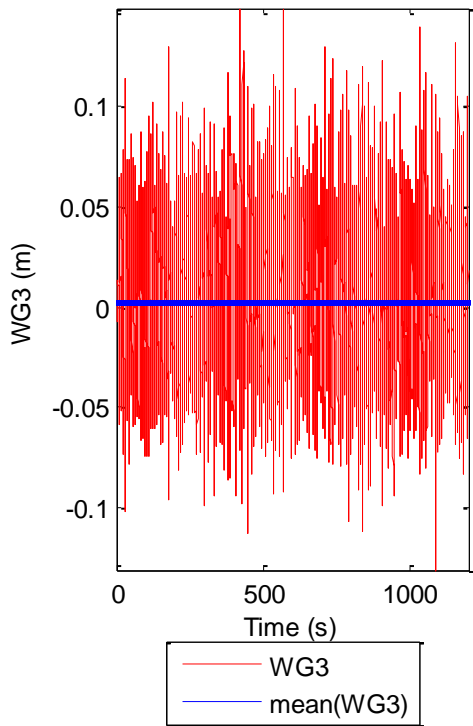
(1) Time History of WG1



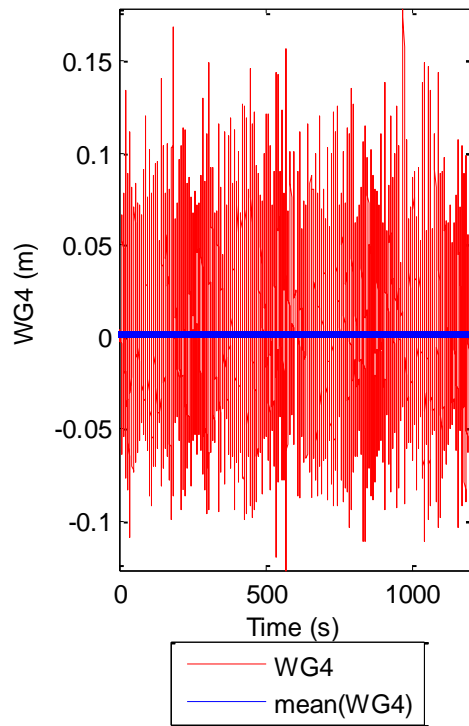
(2) Time History of WG2



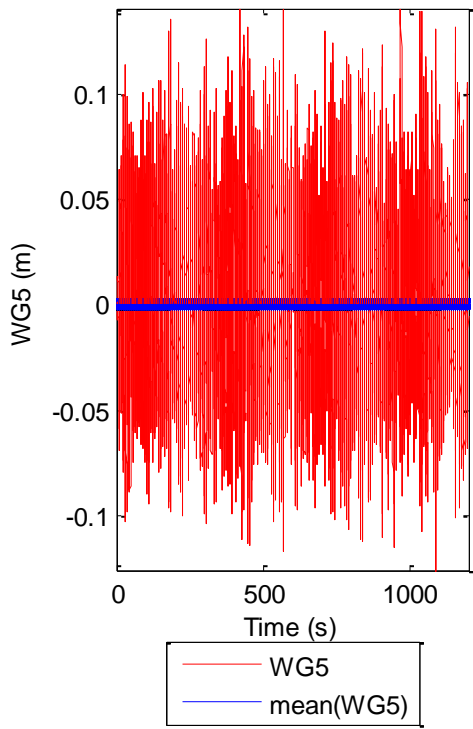
(3) Time History of WG3



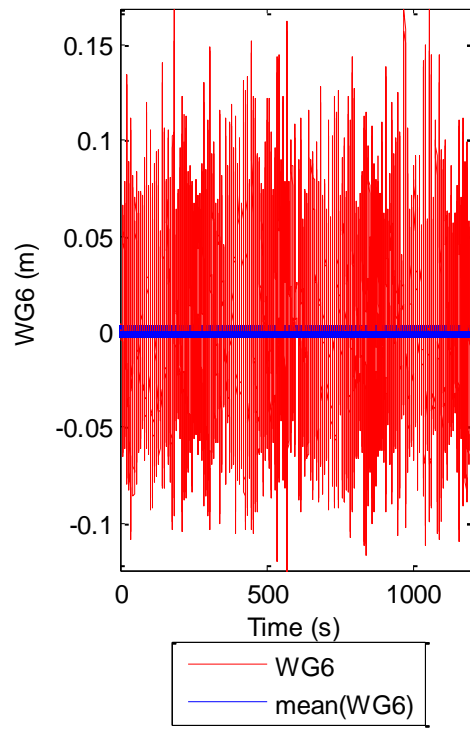
(4) Time History of WG4



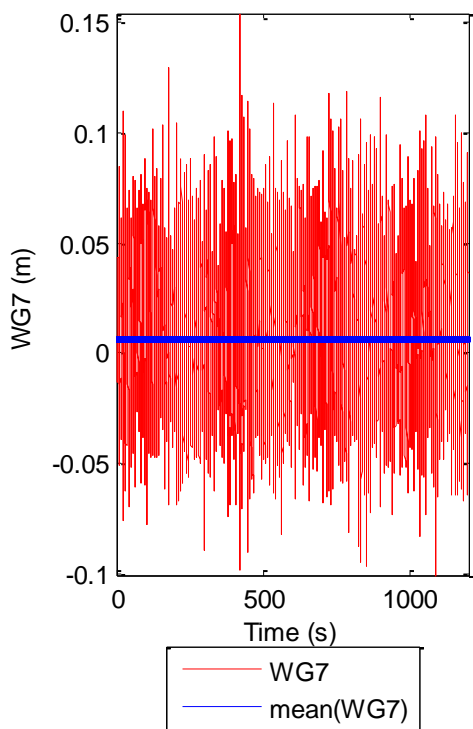
(5) Time History of WG5



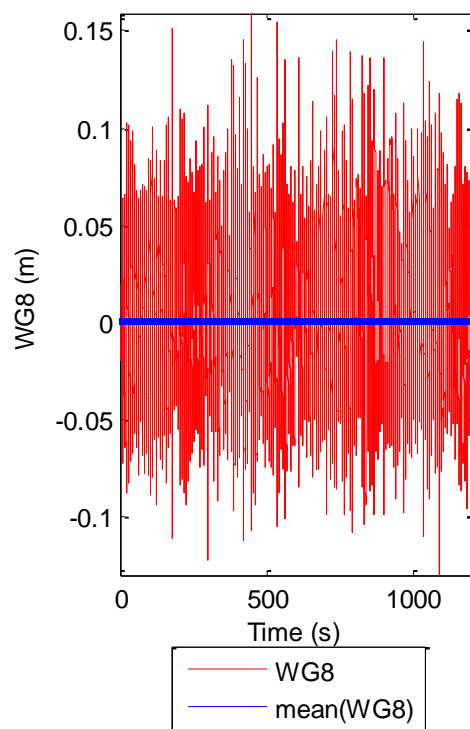
(6) Time History of WG6

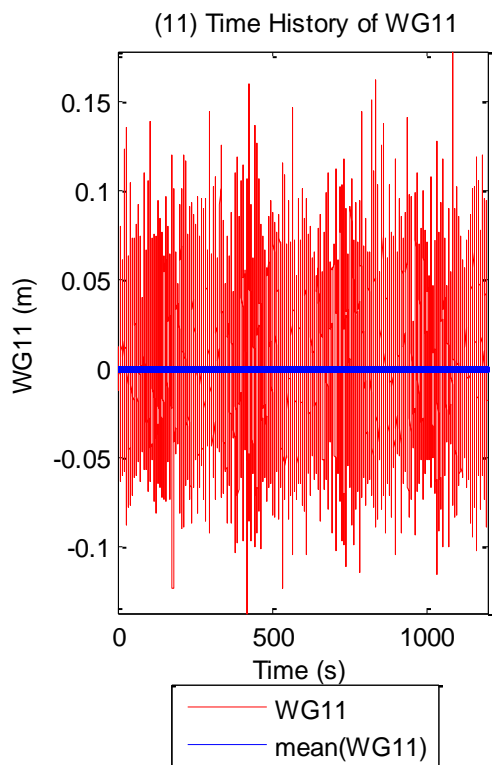
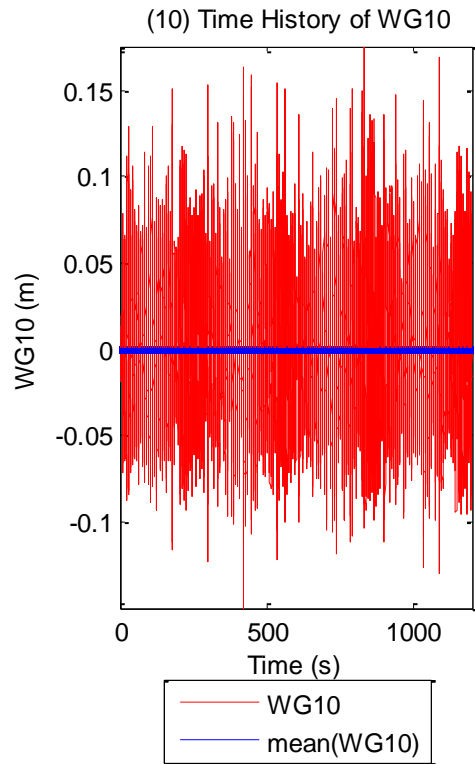
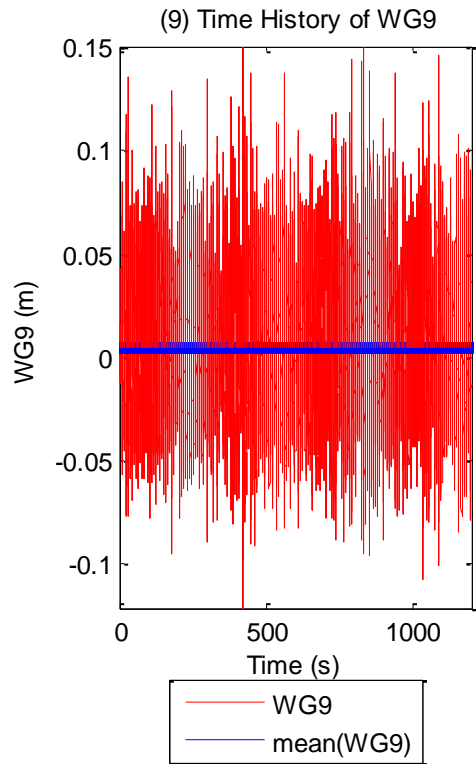


(7) Time History of WG7



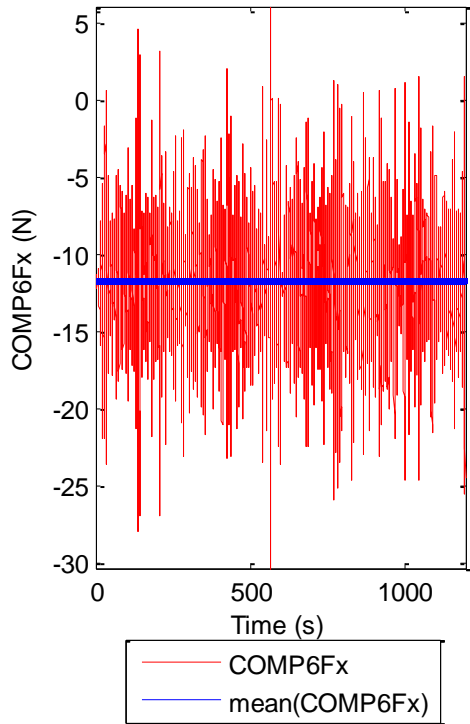
(8) Time History of WG8



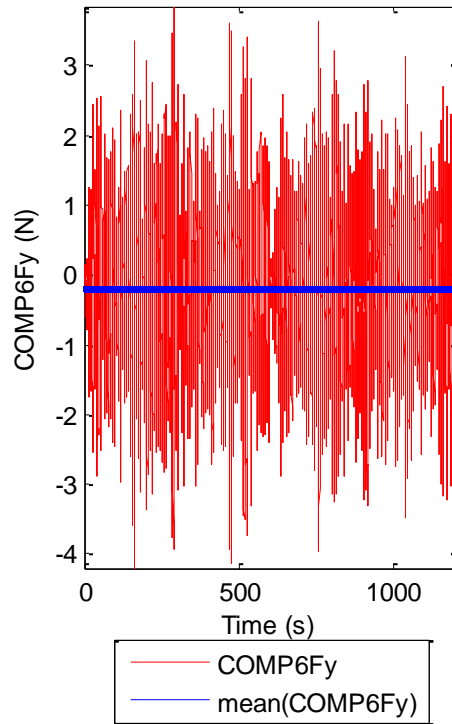


Σχήματα 1.1.1.1 (1-6) Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

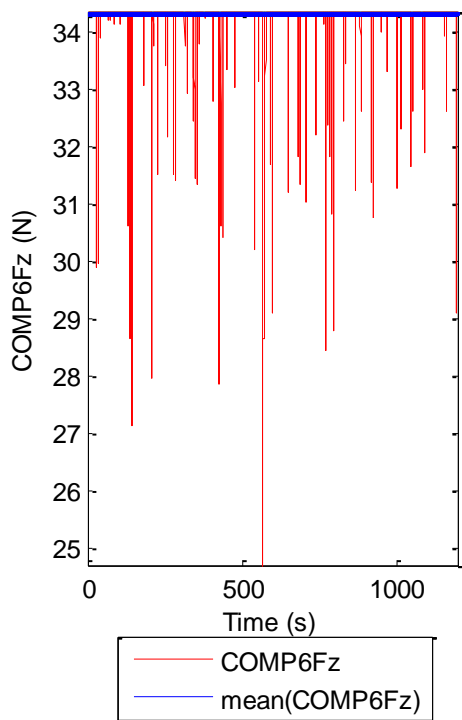
(1) Time History of COMP6Fx



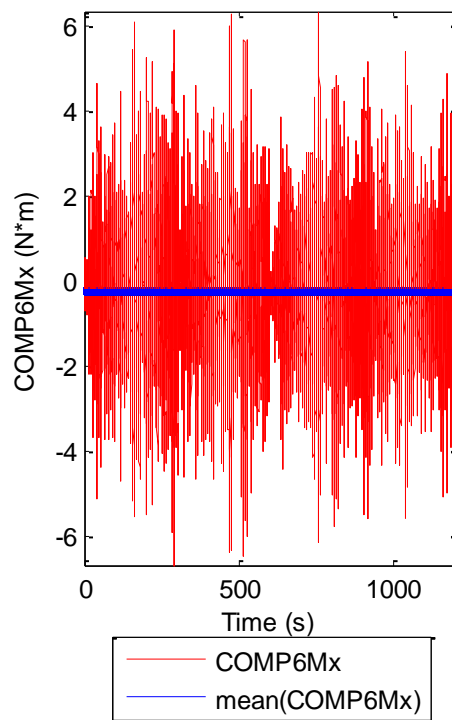
(2) Time History of COMP6Fy

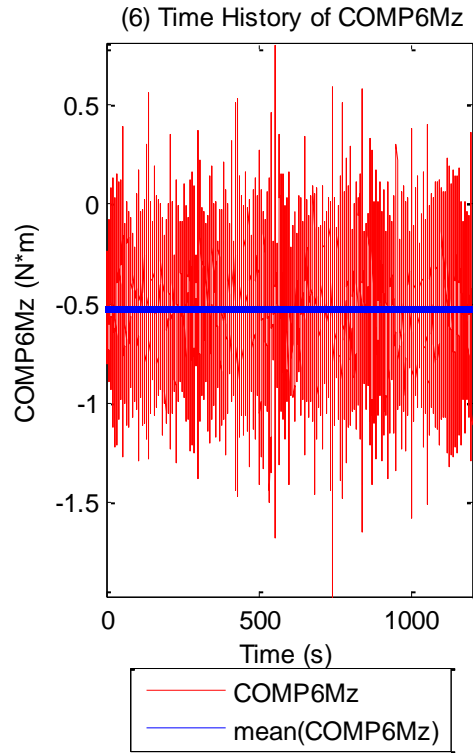
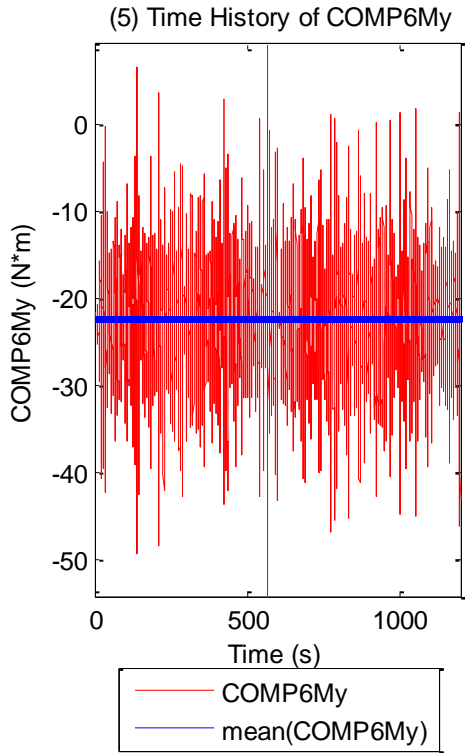


(3) Time History of COMP6Fz

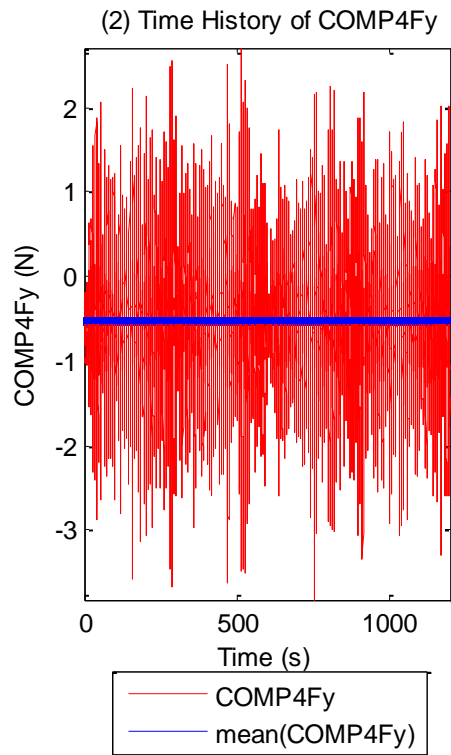
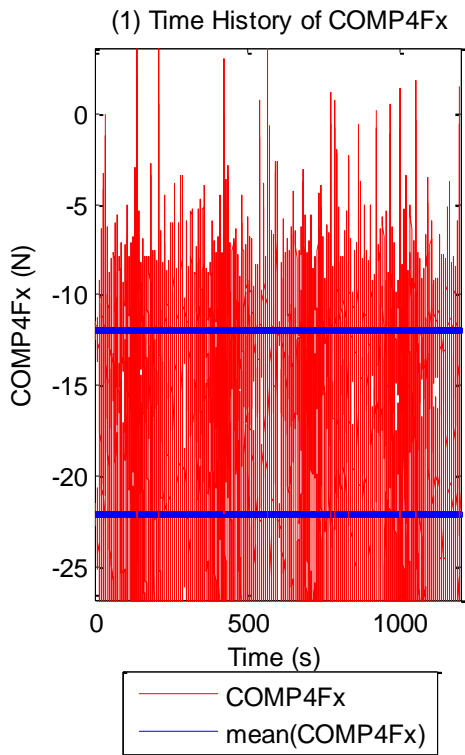


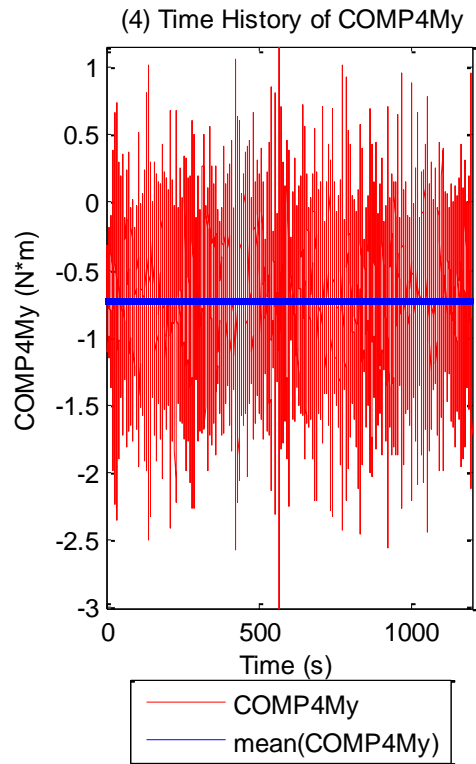
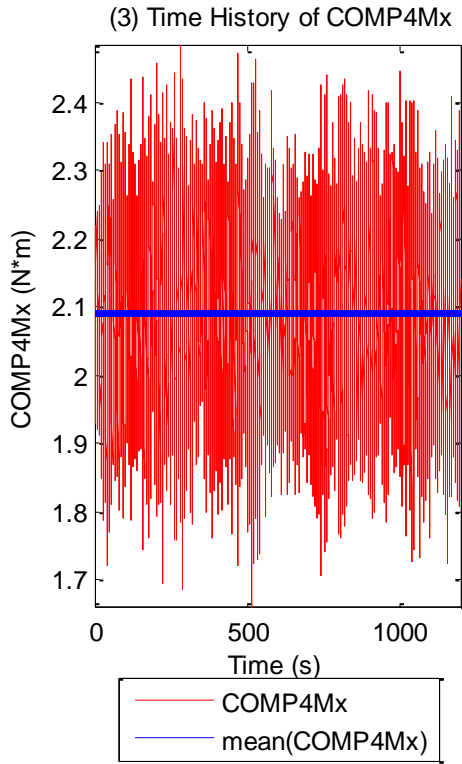
(4) Time History of COMP6Mx



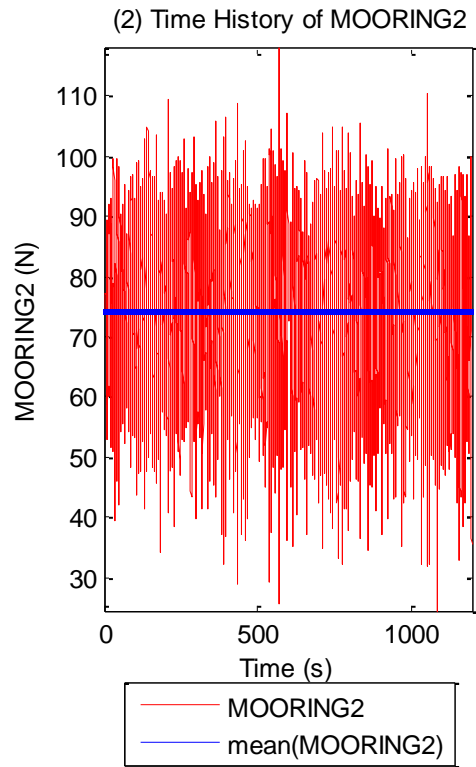
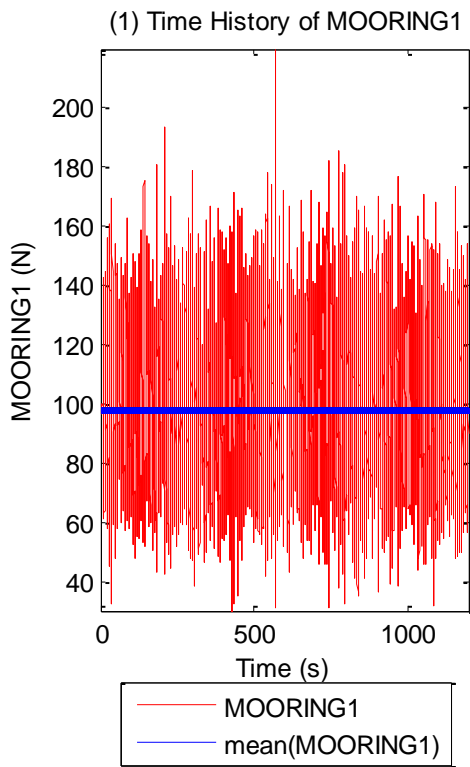


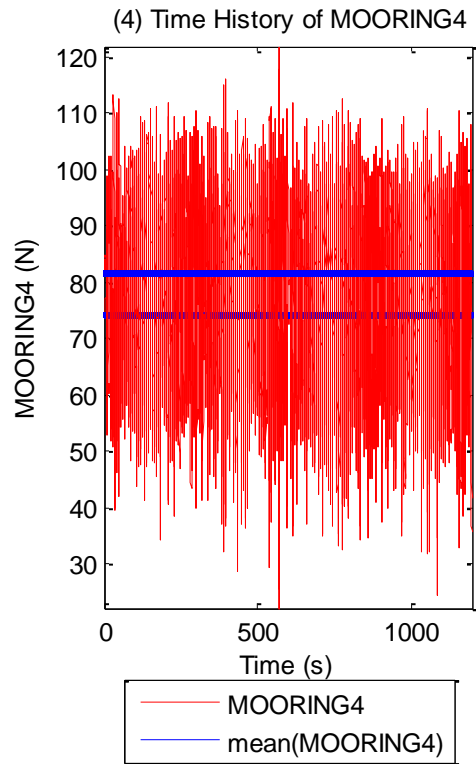
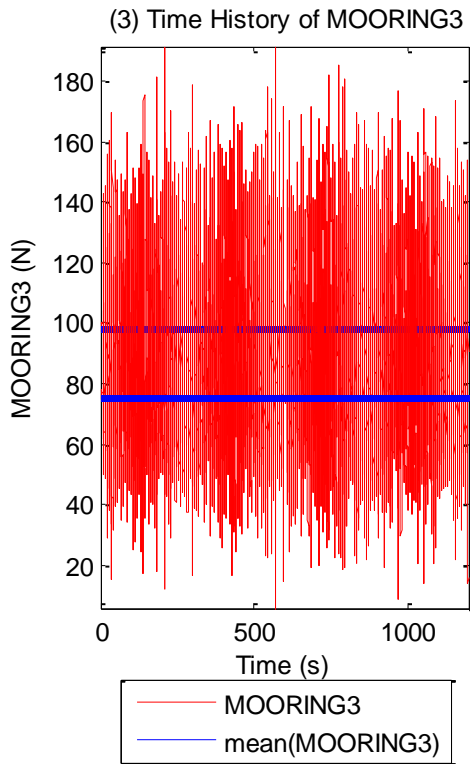
Σχήματα 1.1.1.2 Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



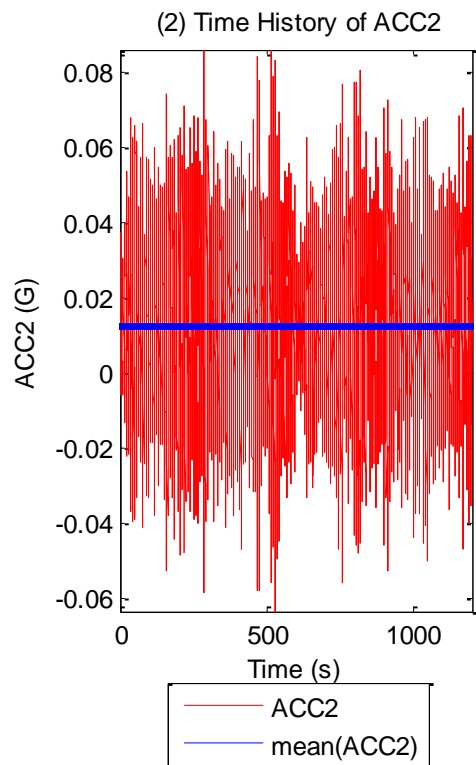
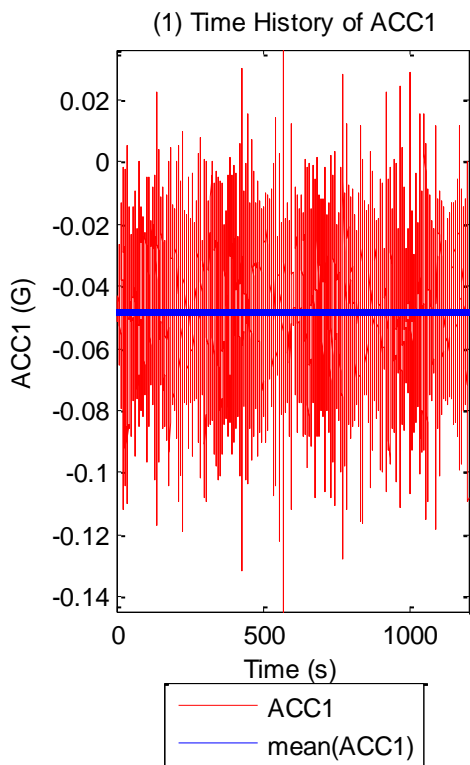


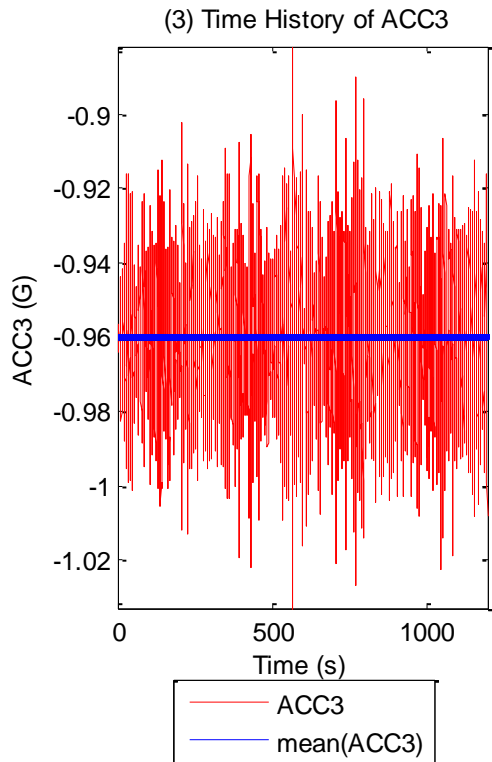
Σχήματα 1.1.1.3 Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



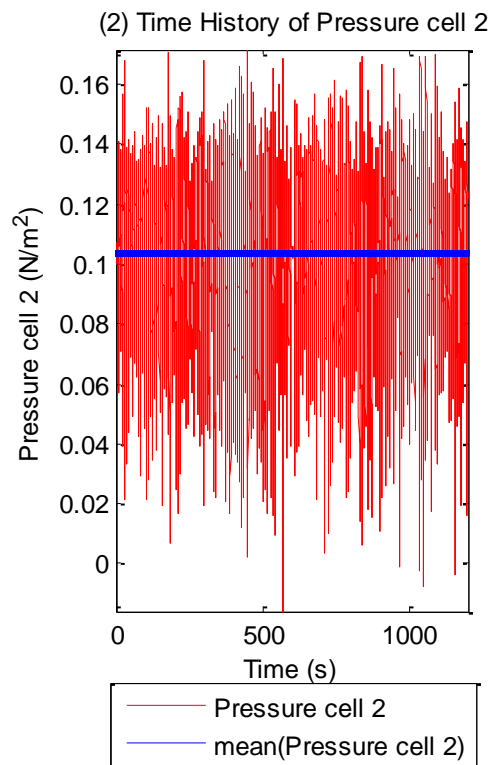
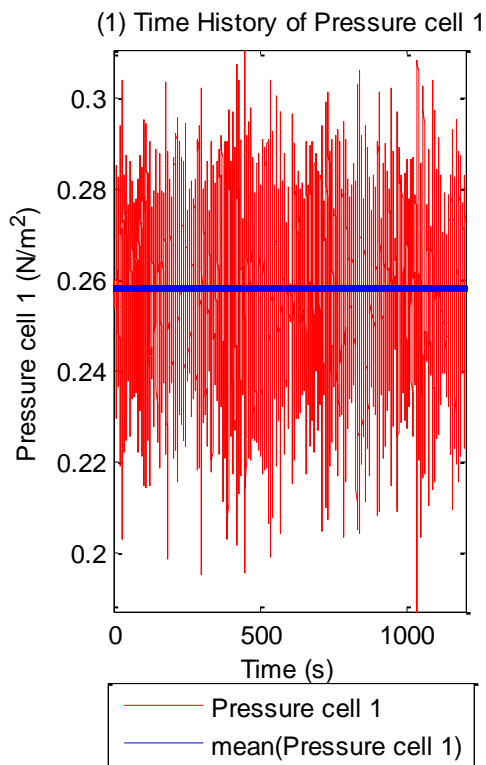


Σχήματα 1.1.1.4 Χρονοσειρές για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης (1-4) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές



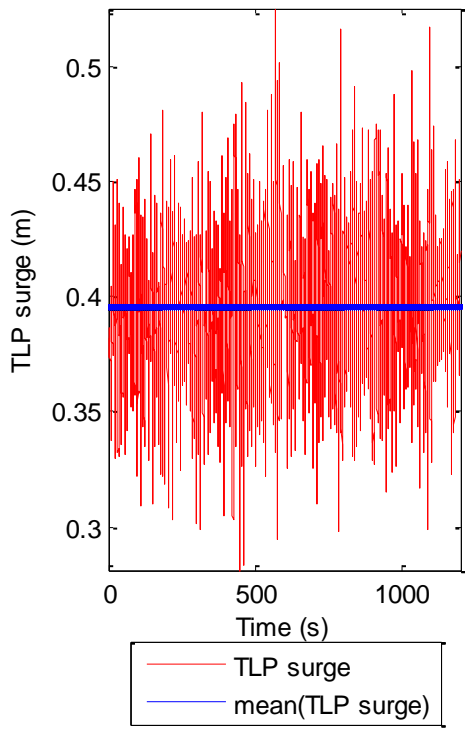


Σχήματα 1.1.1.5 (1-3) Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

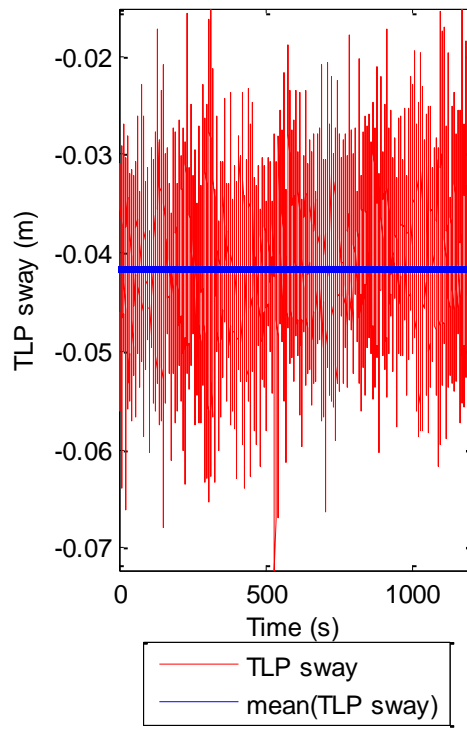


Σχήματα 1.1.1.6 (1-2) Χρονοσειρές από τα δυο όργανα μέτρησης της πίεσης

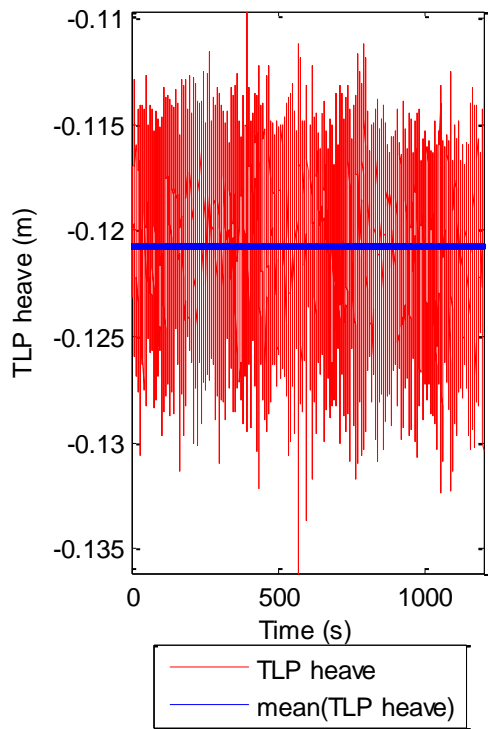
(1) Time History of TLP surge



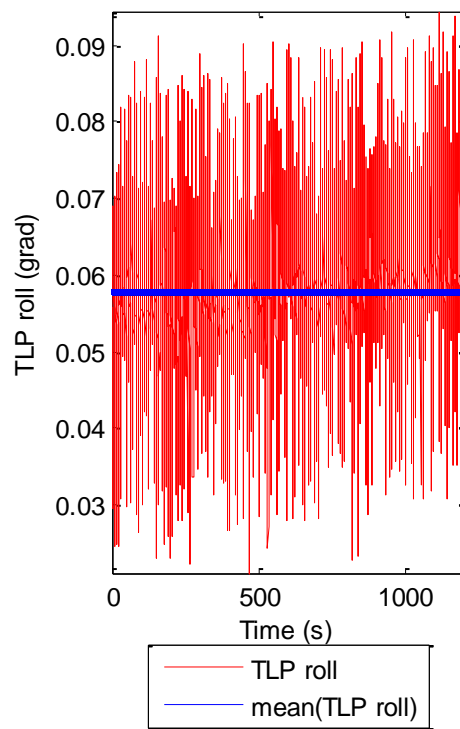
(2) Time History of TLP sway

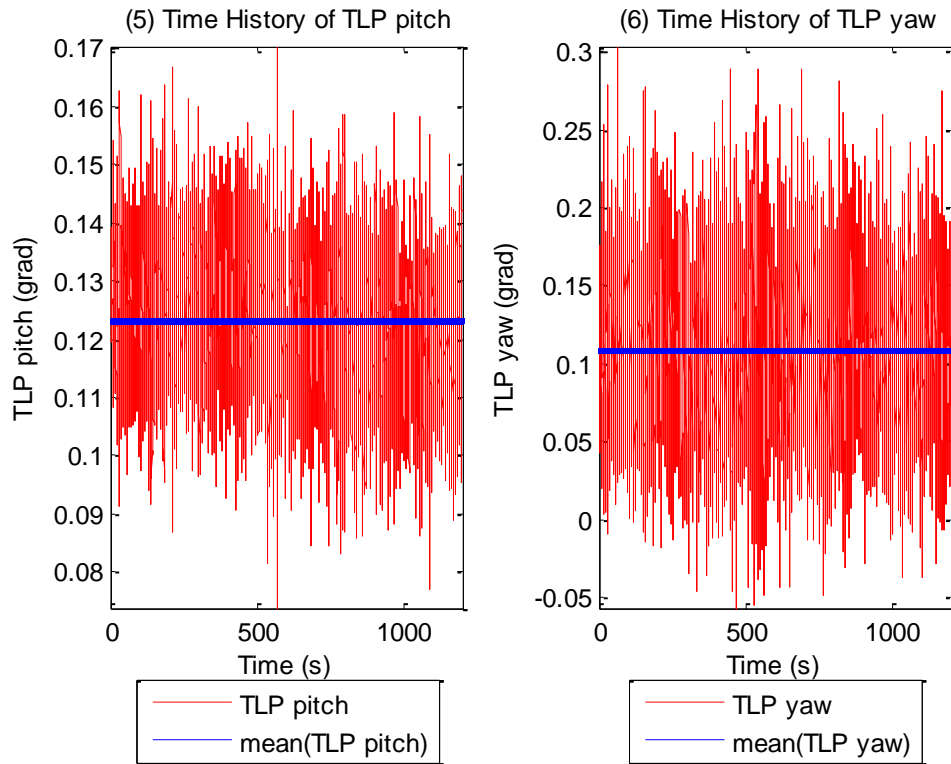


(3) Time History of TLP heave



(4) Time History of TLP roll





Σχήματα 1.1.1.7 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 1.1.2					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H_{rms}
Wg1 (m)	-0.0067	0.0452	-0.1617	0.1899	0.1251
Wg2 (m)	-0.0029	0.0418	-0.1500	0.1814	0.1154
Wg3 (m)	0.0026	0.0342	-0.1313	0.1493	0.0952
Wg4 (m)	0.0021	0.0373	-0.1268	0.1789	0.1041
Wg5 (m)	-0.0003	0.0366	-0.1258	0.1406	0.1014
Wg6 (m)	-0.0005	0.0374	-0.1247	0.1691	0.1033
Wg7 (m)	0.0070	0.0306	-0.1003	0.1541	0.0850
Wg8 (m)	0.0006	0.0368	-0.1296	0.1590	0.1029
Wg9 (m)	0.0042	0.0331	-0.1212	0.1507	0.0941

Wg10 (m)	0.0002	0.0373	-0.1499	0.1756	0.1042
Wg11 (m)	0.0003	0.0374	-0.1367	0.1783	0.1040
6comp_Fx (N)	-11.7005	3.2143	-30.3032	6.0640	8.7096
6comp_Fy(N)	-0.1839	1.0716	-4.2004	3.8488	2.8892
6comp_Fz (N)	34.3476	0.3161	24.7113	34.3768	1.1389
6comp_Mx (N*m)	-0.2124	1.7587	-6.6739	6.3484	4.8698
6comp_My (N*m)	-22.0641	5.5113	-54.1226	9.3160	15.3819
6comp_Mz (N*m)	-0.5237	0.2239	-1.9673	0.8031	0.5855
4comp_Fx (N)	-11.9312	2.6053	-26.8494	3.6441	5.9112
4comp_Fy (N)	-0.5162	0.8485	-3.8201	2.7066	1.9213
4comp_Mx (N*m)	2.0917	0.1024	1.6578	2.4823	0.2124
4comp_My (N*m)	-0.7196	0.3955	-3.0047	1.1564	0.8651
Mooring_1 (N)	98.5213	24.2152	30.5629	219.9762	47.1187
Mooring_2(N)	74.3012	11.1339	24.4714	117.8879	23.4992
Mooring_3 (N)	75.1455	19.2549	5.6198	191.7348	39.5222
Mooring_4(N)	81.5655	11.7223	22.1516	121.8052	24.5343
Acc_1 (G)	-0.0479	0.0168	-0.1445	0.0361	0.0376
Acc_2 (G)	0.0128	0.0184	-0.0633	0.0862	0.0365
Acc_3 (G)	-0.9597	0.0155	-1.0330	-0.8817	0.0370
Pres.cell_1 (N/m^2)	0.2581	0.0154	0.1869	0.3108	0.0274
Pres.cell_2 (N/m^2)	0.1039	0.0225	-0.0159	0.1717	0.0432

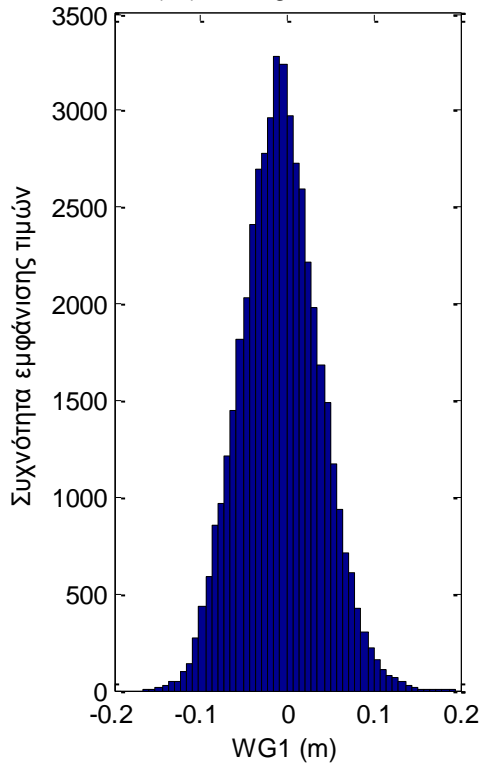
TLP_x (m)	0.3961	0.0308	0.2811	0.5251	0.0355
TLP_y (m)	-0.0416	0.0062	-0.0722	-0.0152	0.0081
TLP_z (m)	-0.1207	0.0029	-0.1361	-0.1097	0.0056
TLP_roll (grad)	0.0579	0.0047	0.0212	0.0944	0.0132
TLP_pitch (grad)	0.1233	0.0107	0.0738	0.1702	0.0194
TLP_yaw (grad)	0.1086	0.0407	-0.0571	0.3036	0.0713

Πίνακας 1.1.3				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1482	3.0739	1	1
Wg2 (m)	0.1732	3.0859	1	1
Wg3 (m)	0.1650	3.1441	1	1
Wg4 (m)	0.2185	3.2870	1	1
Wg5 (m)	0.0773	3.1015	1	1
Wg6 (m)	0.1973	3.2700	1	1
Wg7 (m)	0.1865	3.1257	1	1
Wg8 (m)	0.2076	3.1902	1	1
Wg9 (m)	0.2022	3.1705	1	1
Wg10 (m)	0.1686	3.1536	1	1
Wg11 (m)	0.1902	3.1392	1	1
6comp_Fx (N)	-0.0599	5.0639	1	1
6comp_Fy(N)	-0.0114	3.0635	1	1

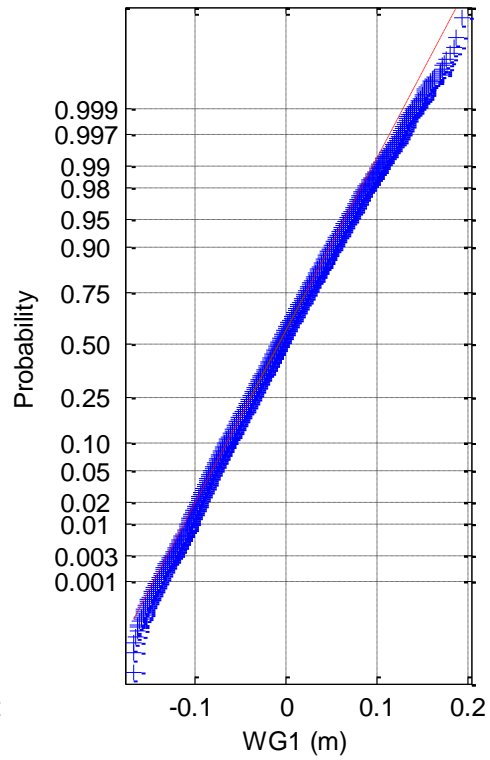
6comp_Fz (N)	-14.4708	254.0144	1	1
6comp_Mx (N*m)	0.0063	3.0935	1	1
6comp_My (N*m)	-0.0567	5.2444	1	1
6comp_Mz (N*m)	-0.0192	3.9766	1	1
4comp_Fx (N)	-0.0160	5.4708	1	1
4comp_Fy (N)	-0.0019	3.1139	1	1
4comp_Mx (N*m)	-0.0122	3.0571	1	1
4comp_My (N*m)	-0.1383	4.2893	1	1
Mooring_1 (N)	0.3202	2.7693	1	1
Mooring_2 (N)	-0.3580	3.1452	1	1
Mooring_3 (N)	0.2711	3.4669	1	1
Mooring_4 (N)	-0.3778	3.0930	1	1
Acc_1 (G)	-0.0627	3.8565	1	1
Acc_2 (G)	0.0052	3.0647	1	1
Acc_3 (G)	-0.0097	3.2327	1	1
Pres.cell_1 (N/m)	-0.2284	3.2956	1	1
Pres.cell_2 (N/m)	-0.4921	3.7041	1	1
TLP_x (m)	0.0705	3.4029	1	1
TLP_y (m)	-0.0382	3.0141	1	1
TLP_z (m)	-0.2894	3.0171	1	1
TLP_roll (grad)	0.5388	12.1844	1	1
TLP_pitch (grad)	-0.0004	3.2047	1	1

TLP_yaw (grad)	0.1416	3.1471	1	1
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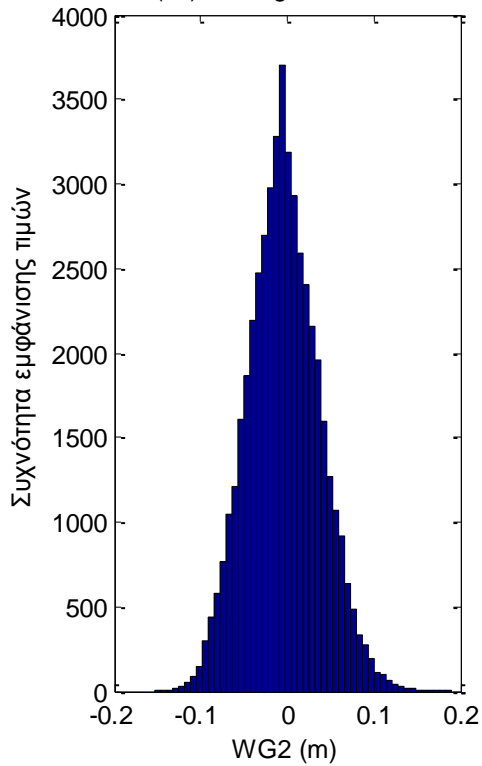
(1a) Histogram of WG1



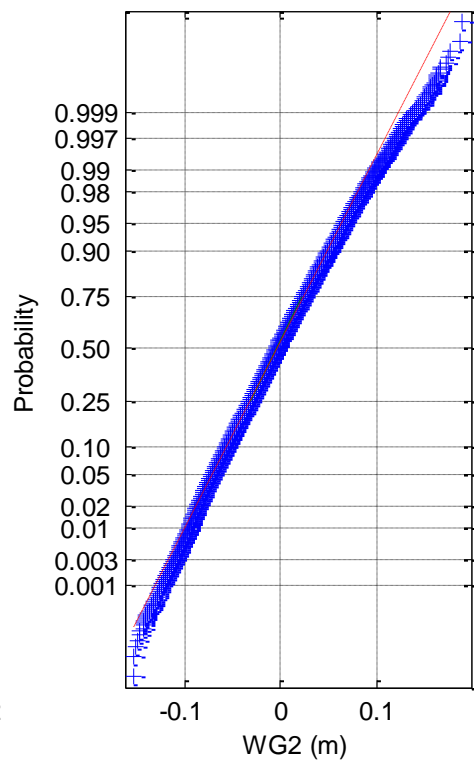
(1b) Normal probability plot of WG1



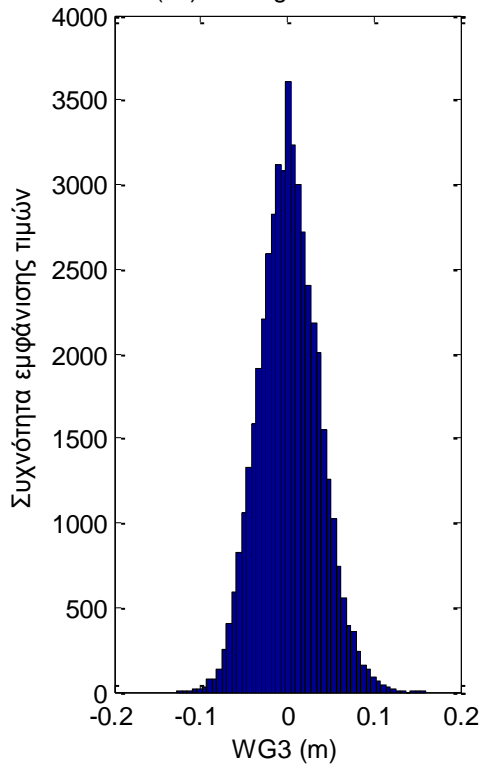
(2a) Histogram of WG2



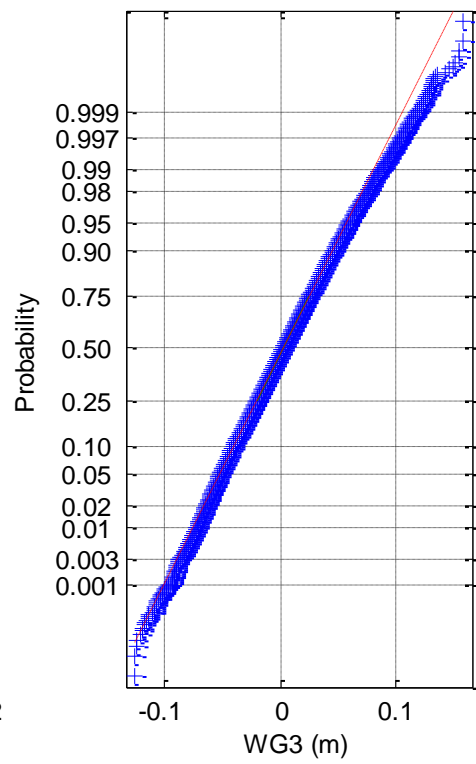
(2b) Normal probability plot of WG2



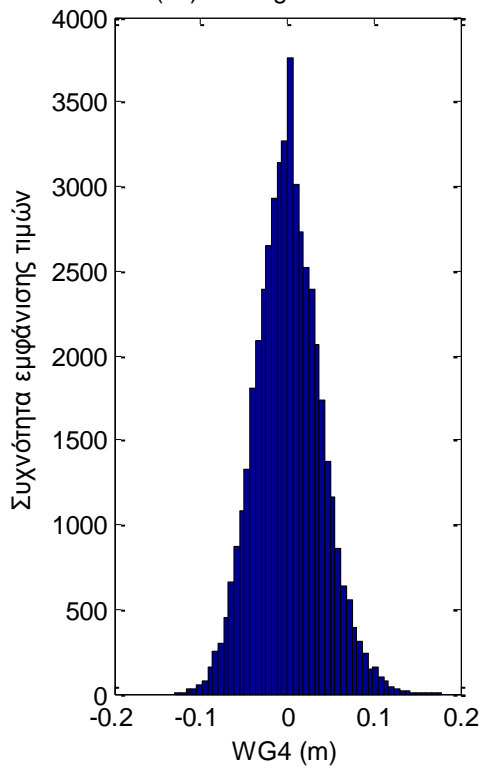
(3a) Histogram of WG3



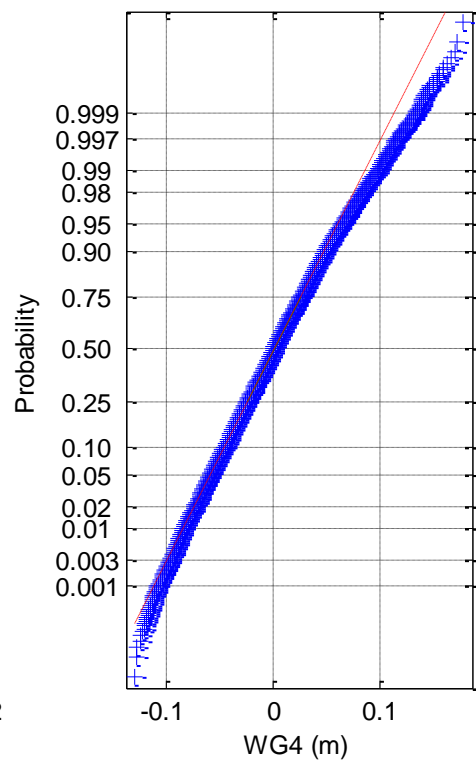
(3b) Normal probability plot of WG3



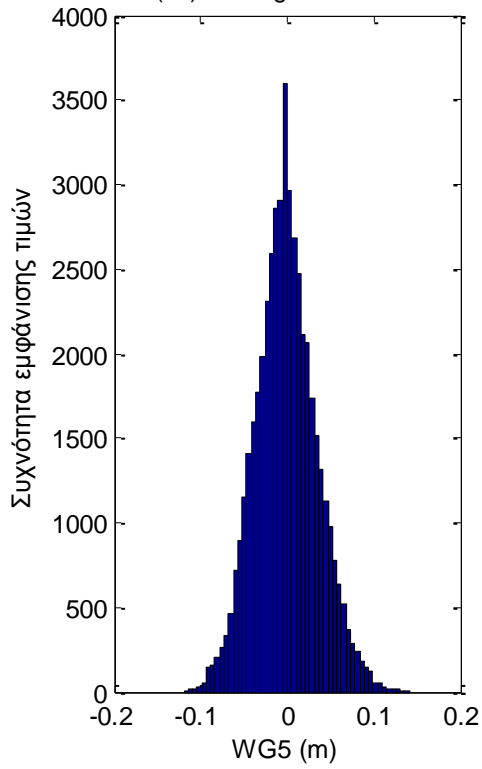
(4a) Histogram of WG4



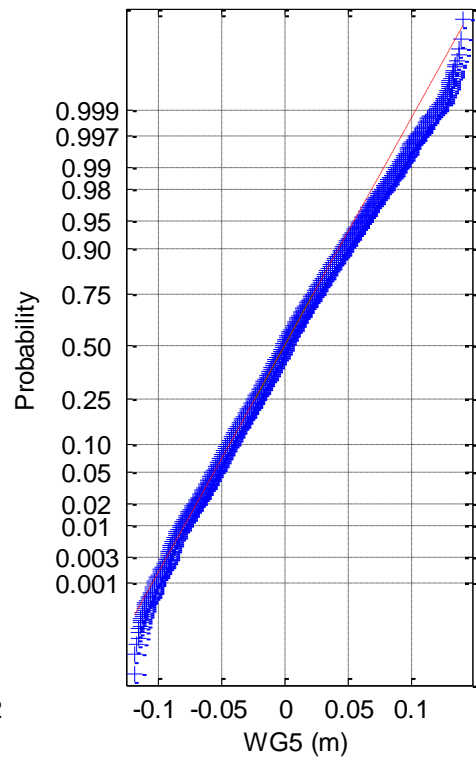
(4b) Normal probability plot of WG4



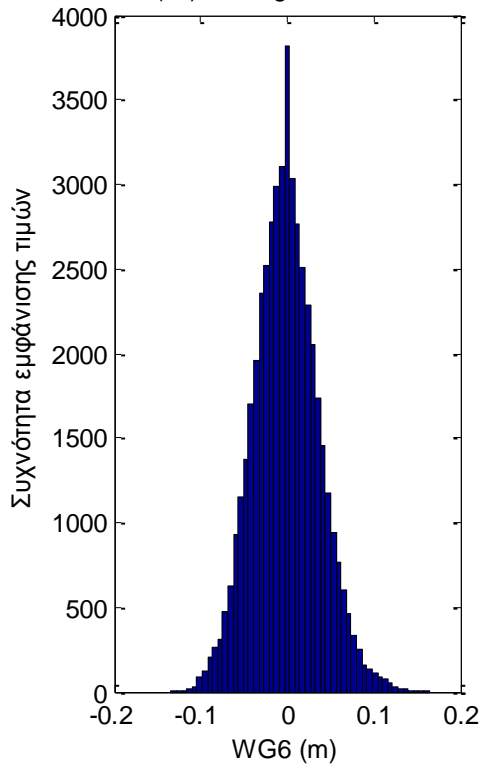
(5a) Histogram of WG5



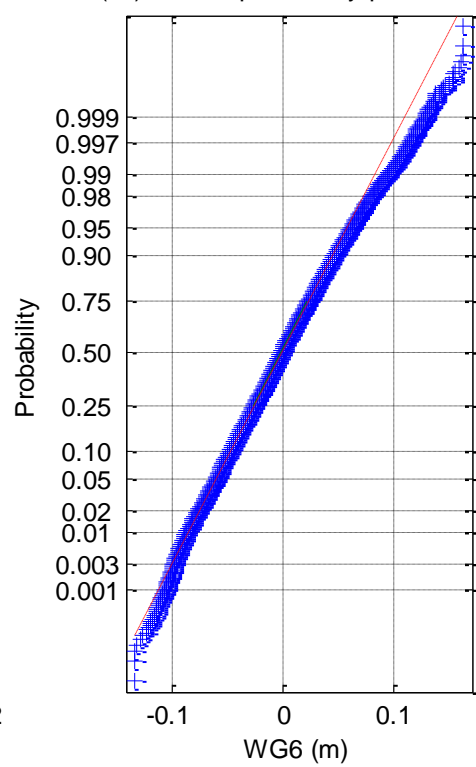
(5b) Normal probability plot of WG5



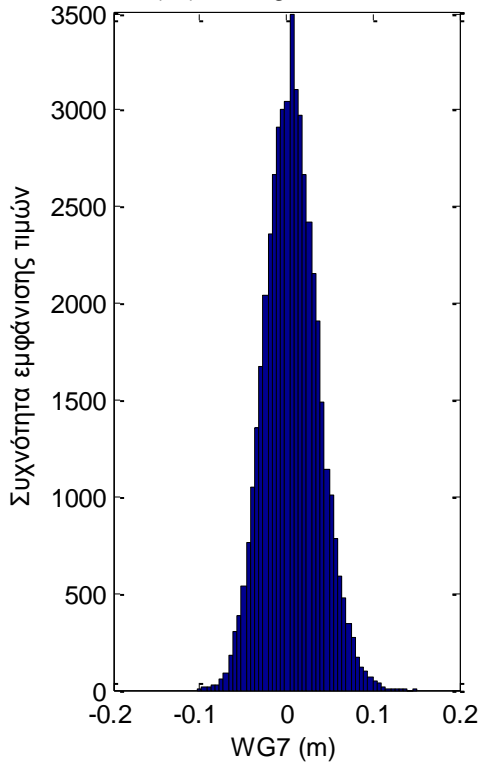
(6a) Histogram of WG6



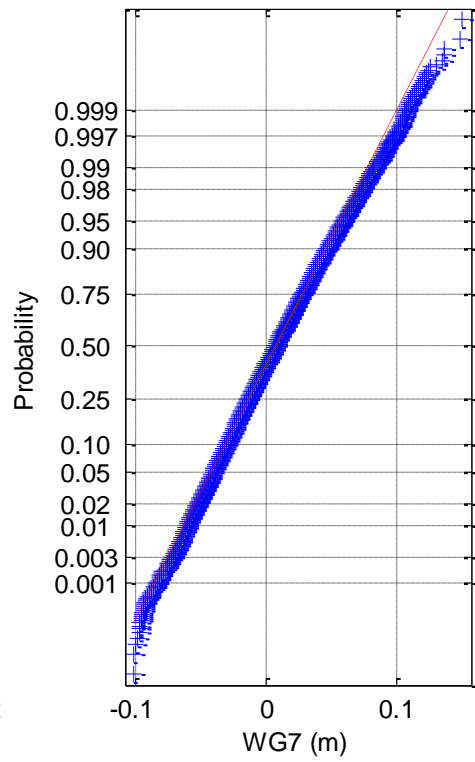
(6b) Normal probability plot of WG6



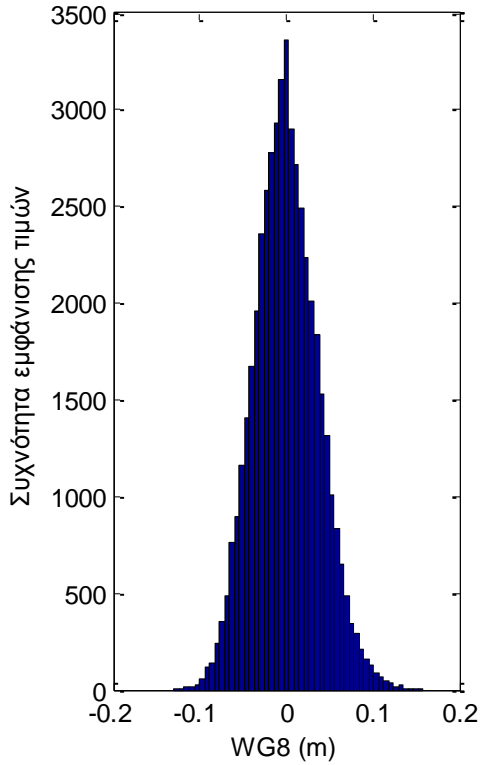
(7a) Histogram of WG7



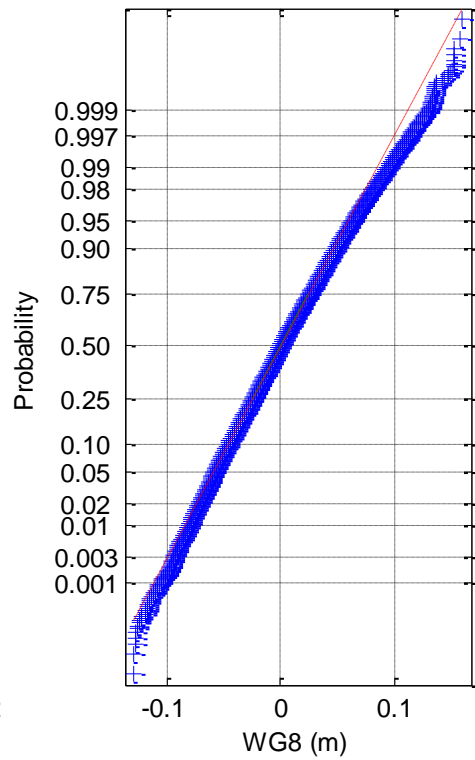
(7b) Normal probability plot of WG7



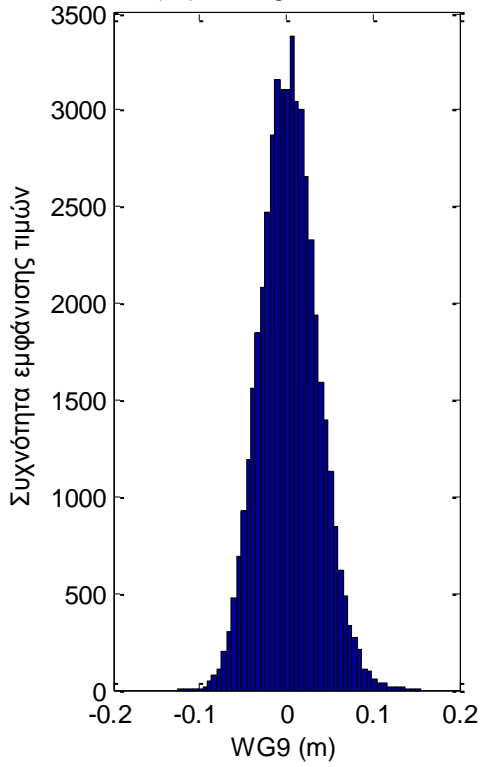
(8a) Histogram of WG8



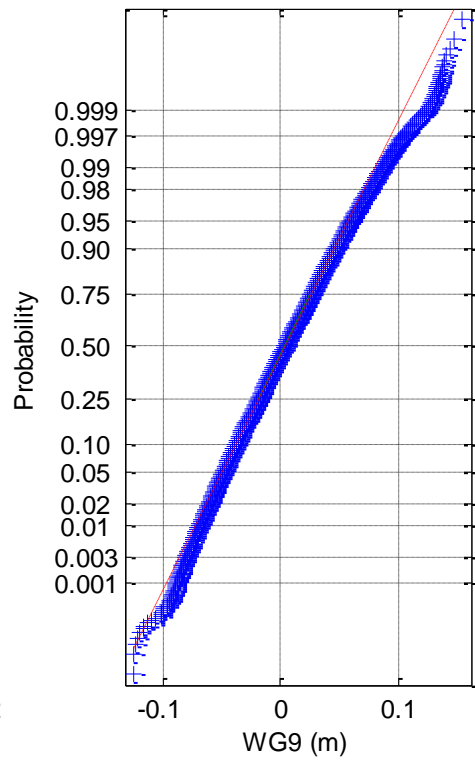
(8b) Normal probability plot of WG8



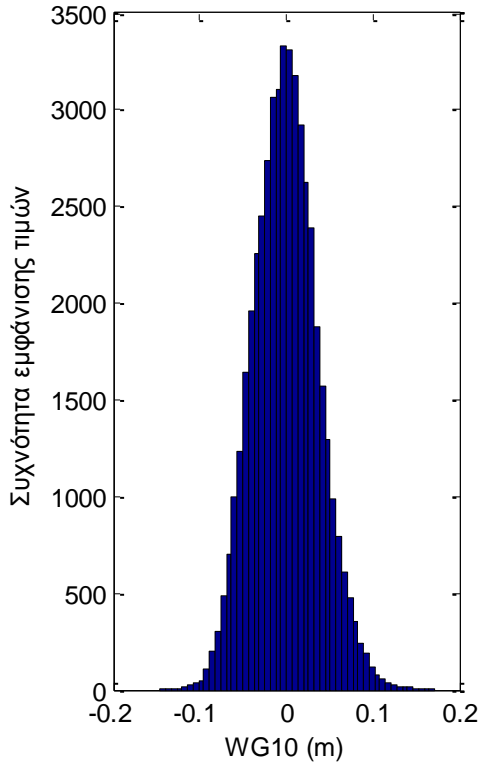
(9a) Histogram of WG9



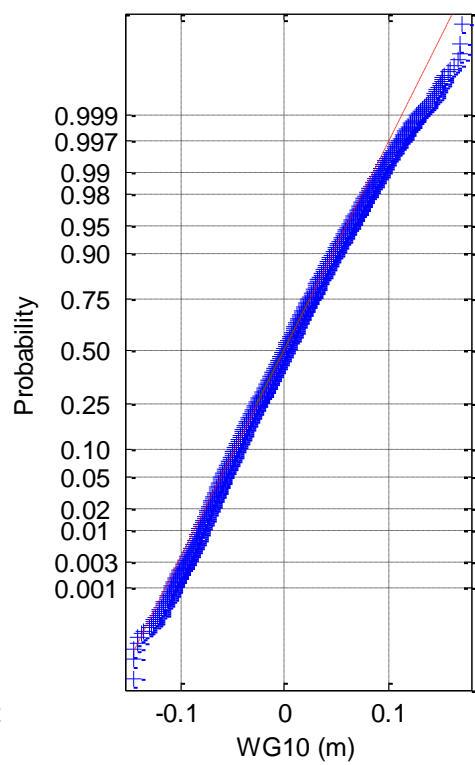
(9b) Normal probability plot of WG9

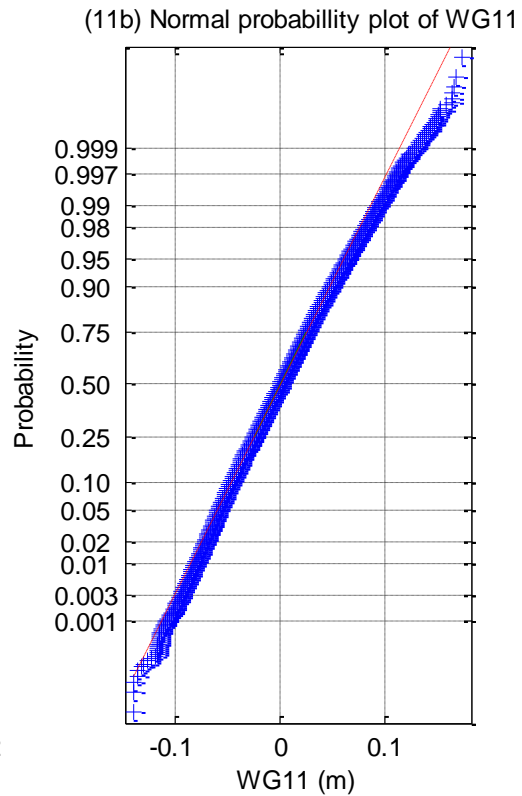
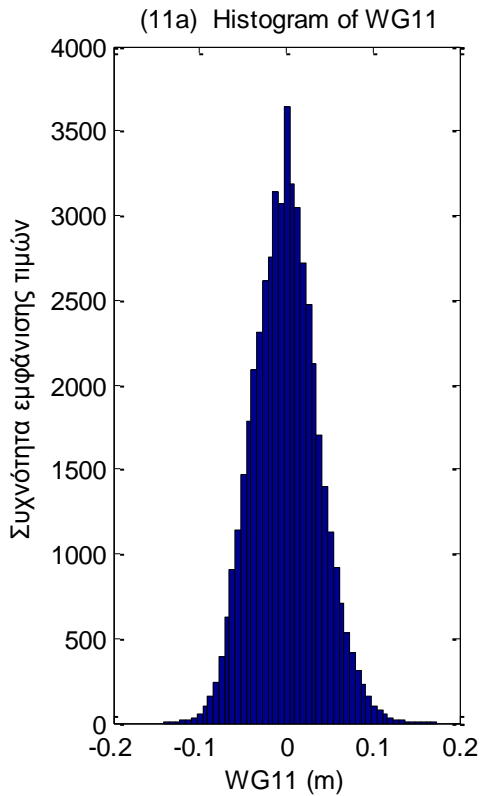


(10a) Histogram of WG10

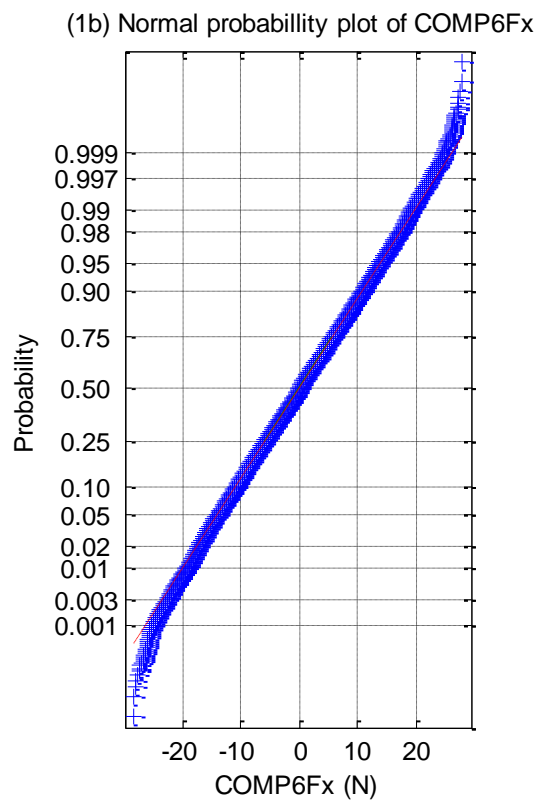
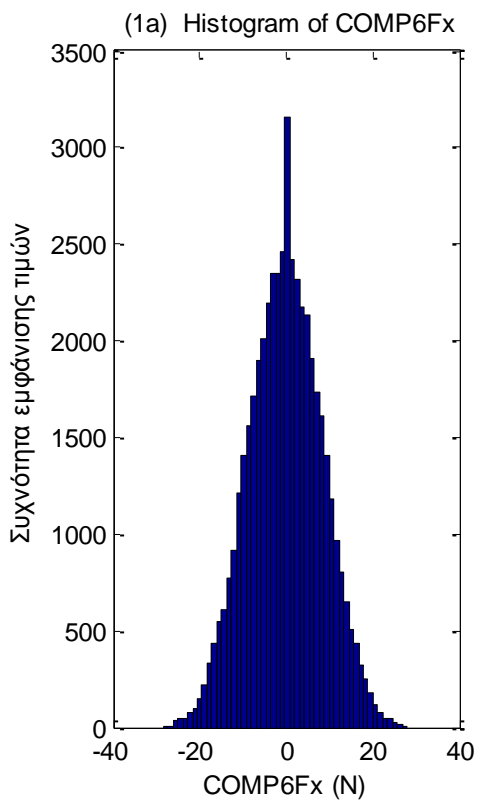


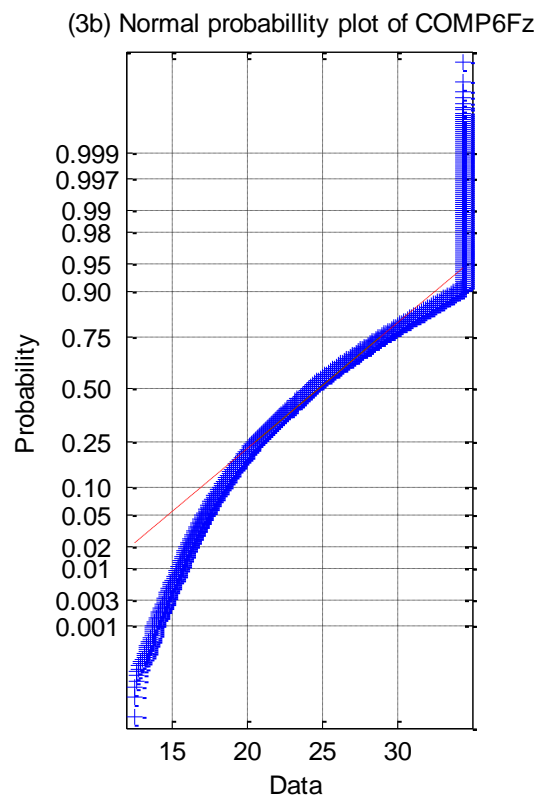
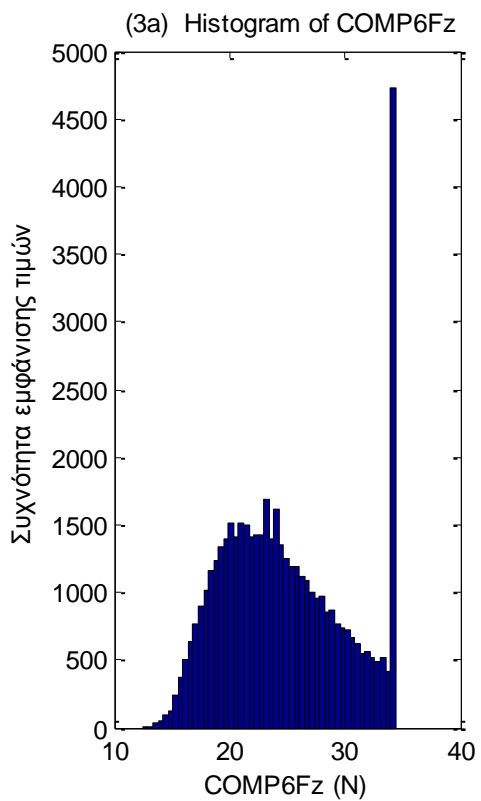
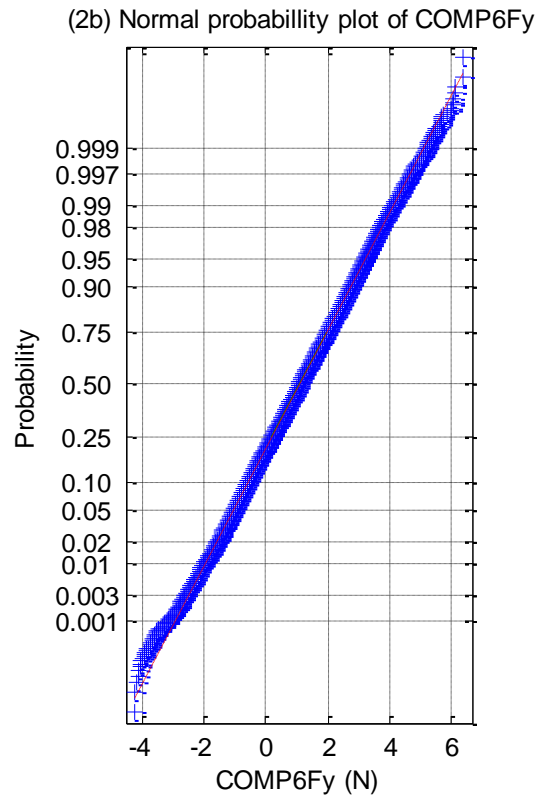
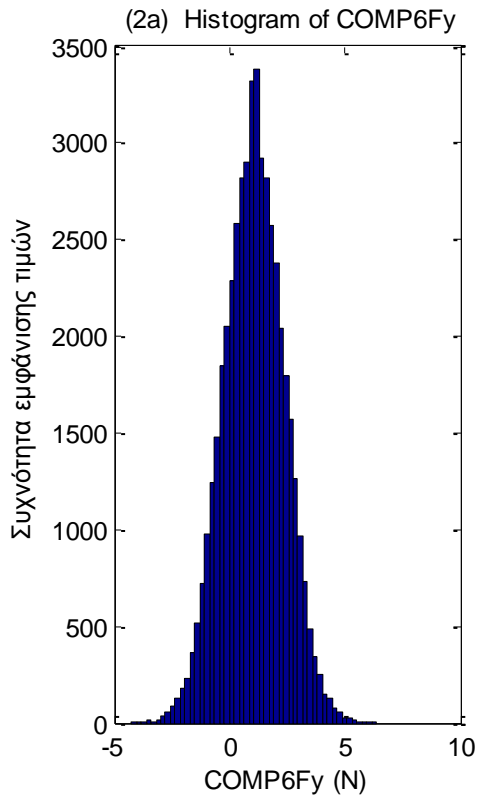
(10b) Normal probability plot of WG10

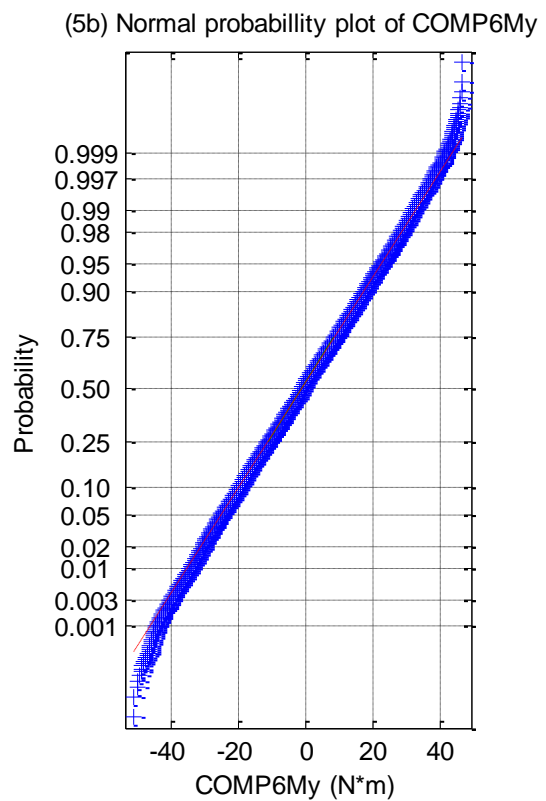
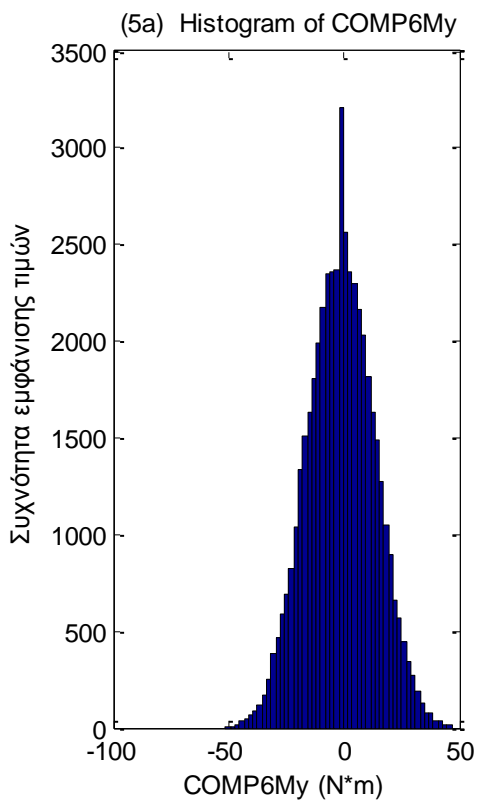
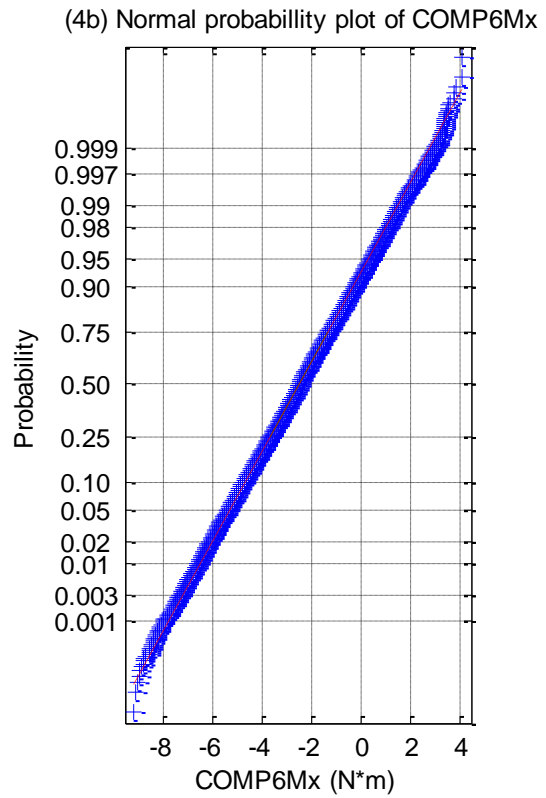
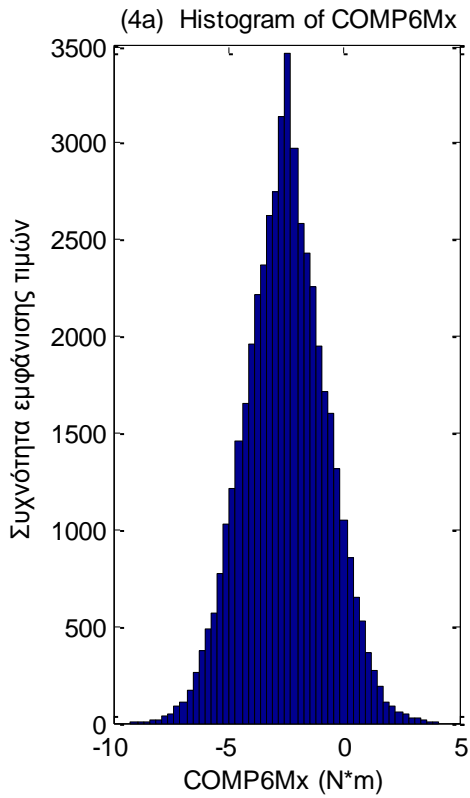


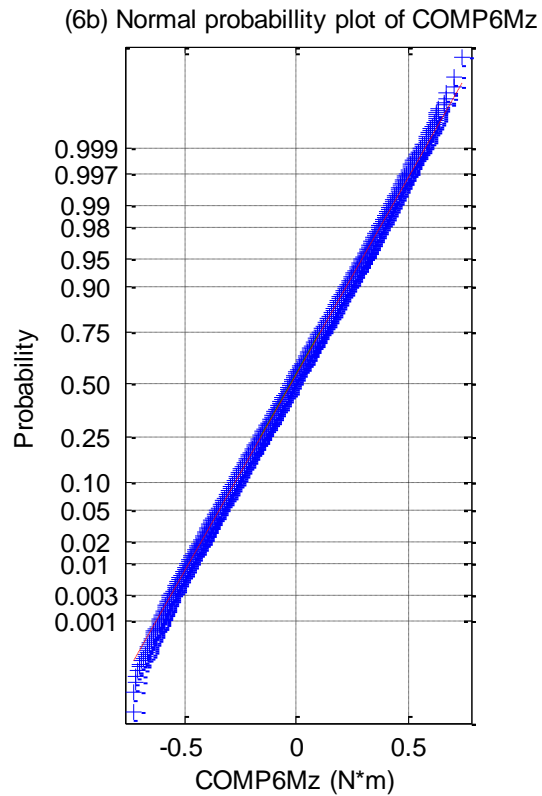
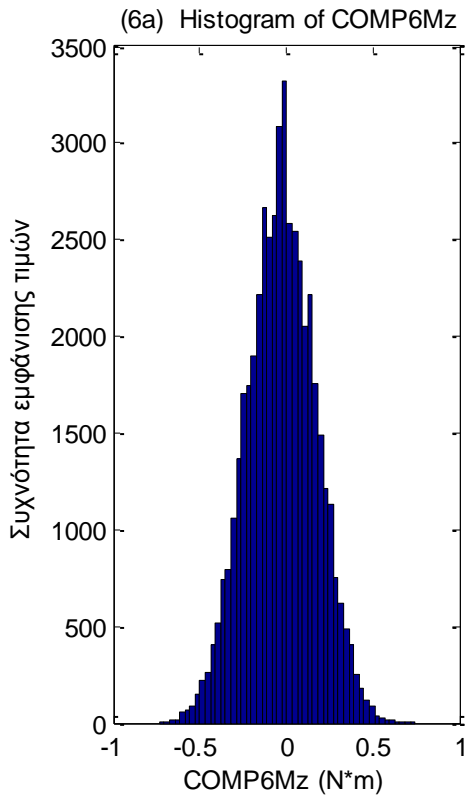


Σχήματα 1.1.2.1 (1-11) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

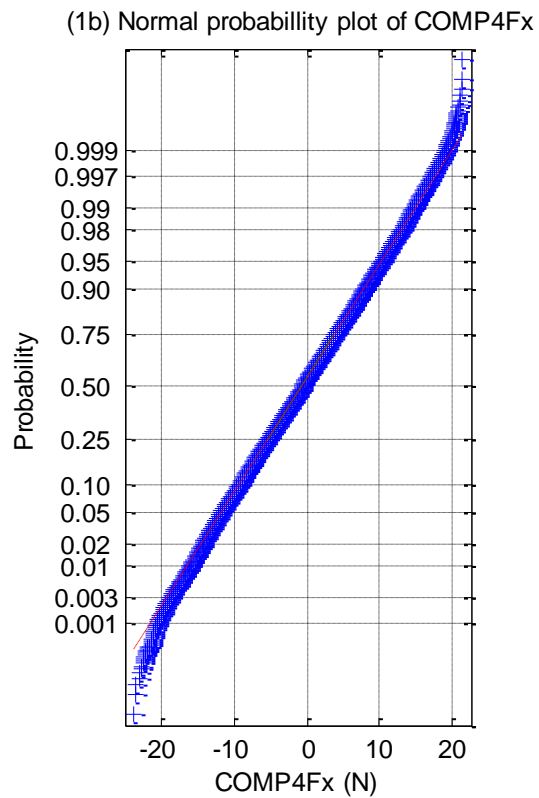
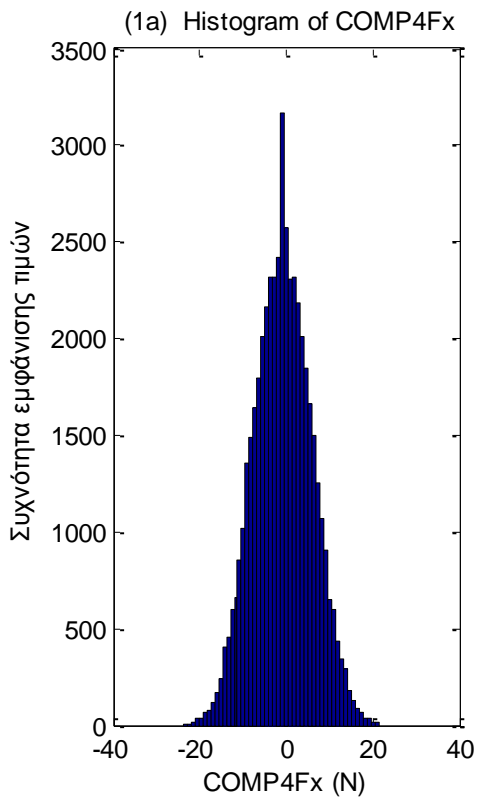


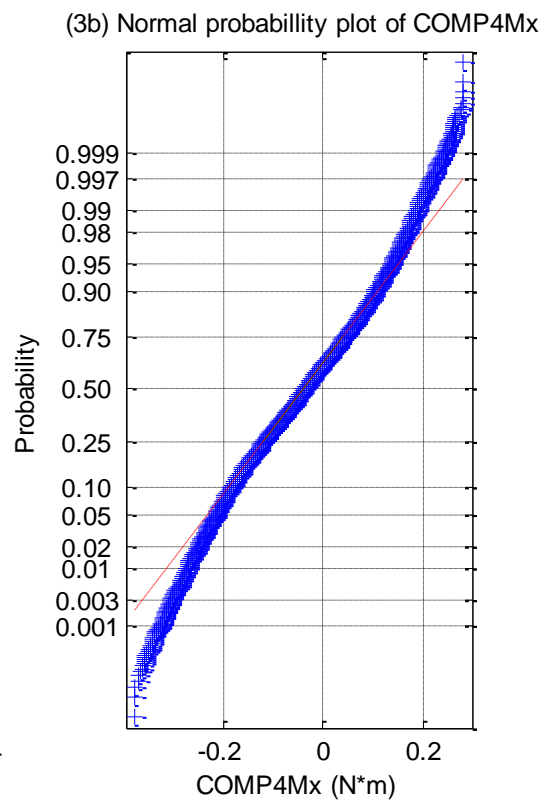
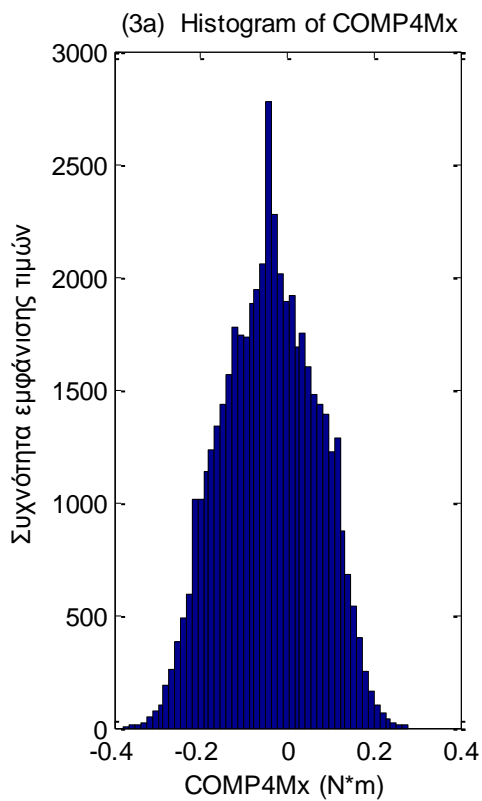
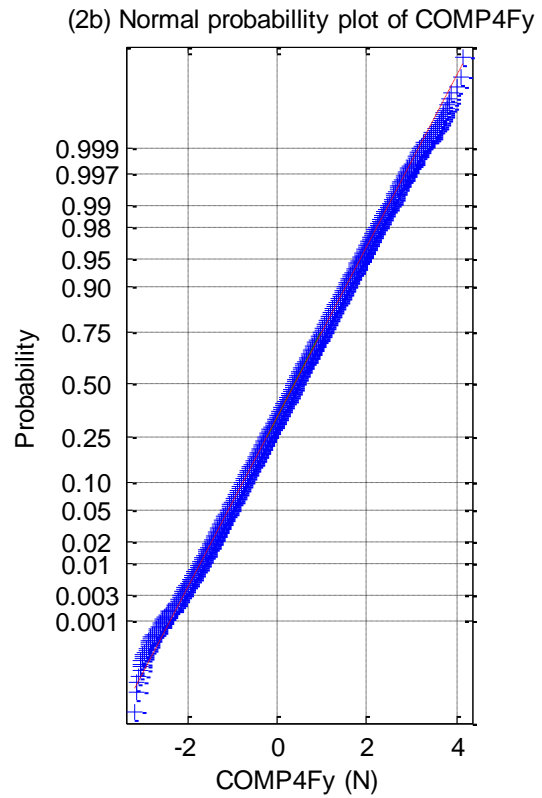
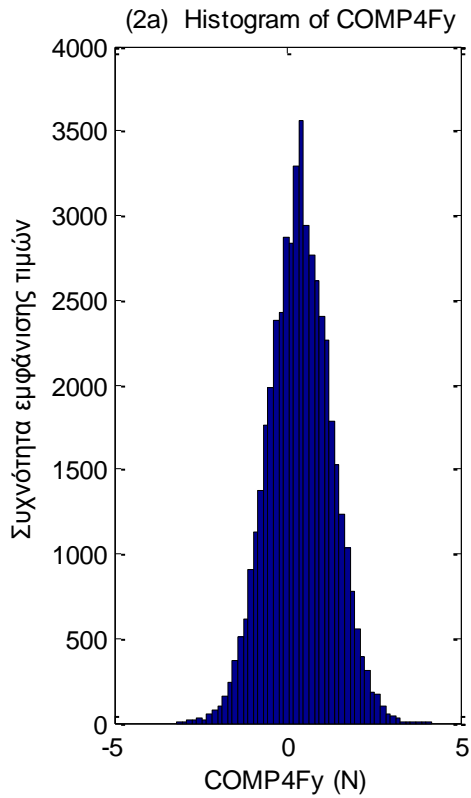


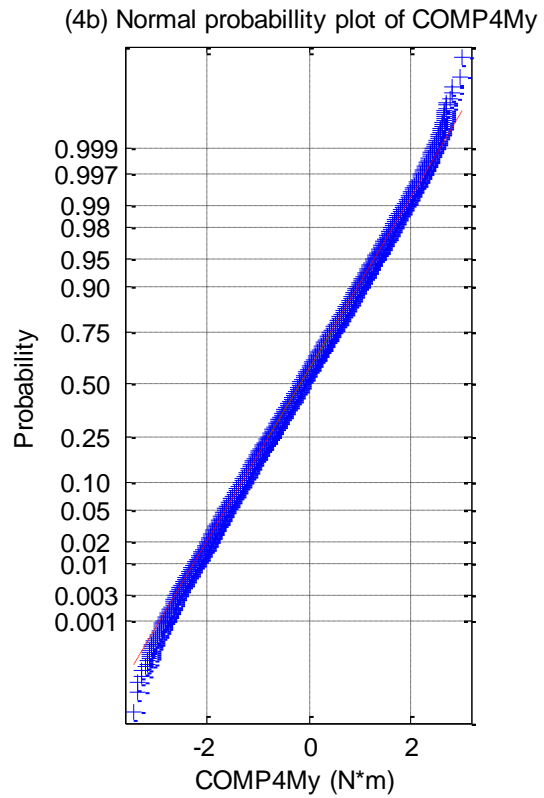
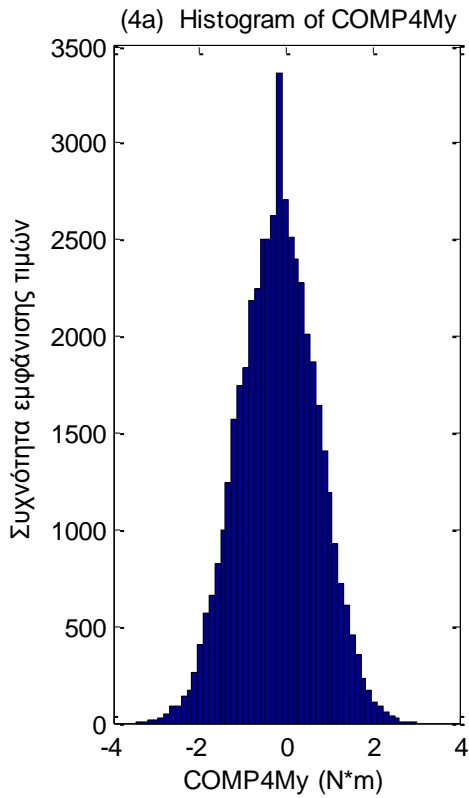




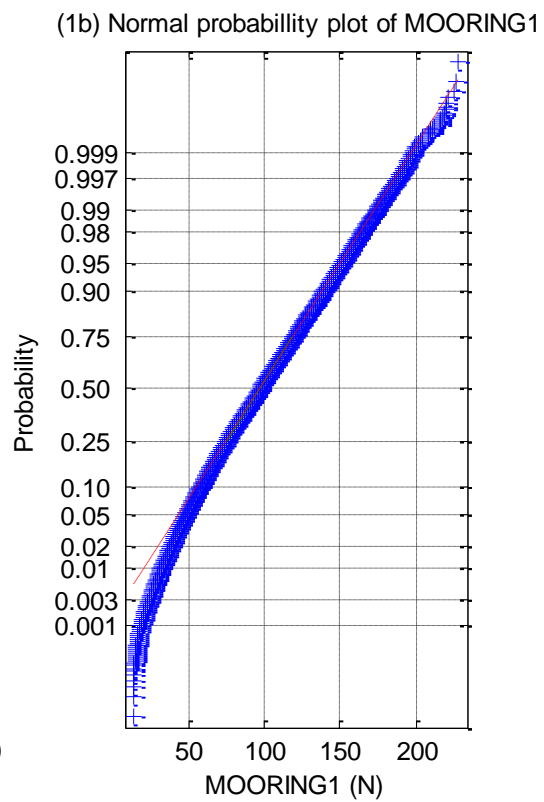
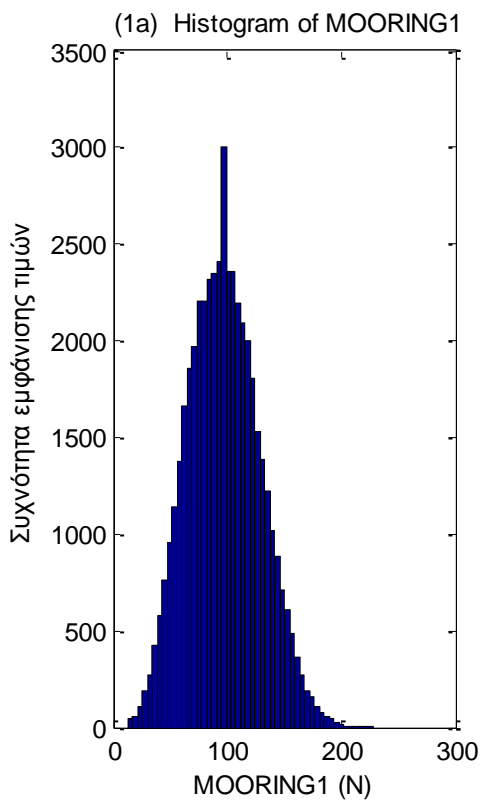
Σχήματα 1.1.2.2 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



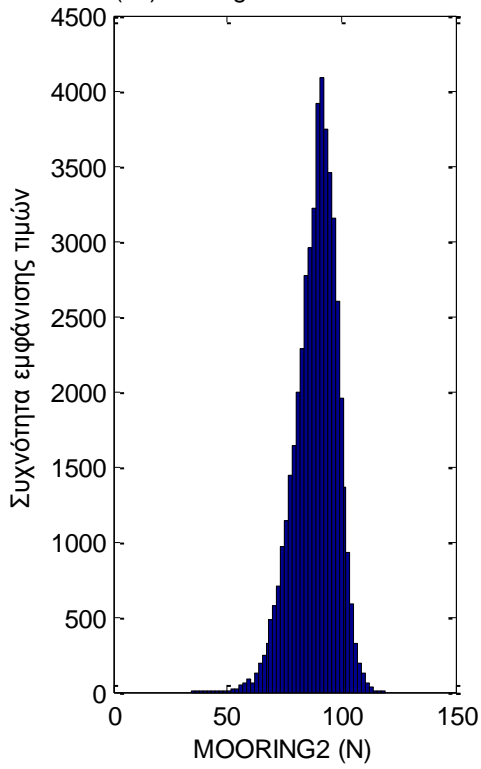




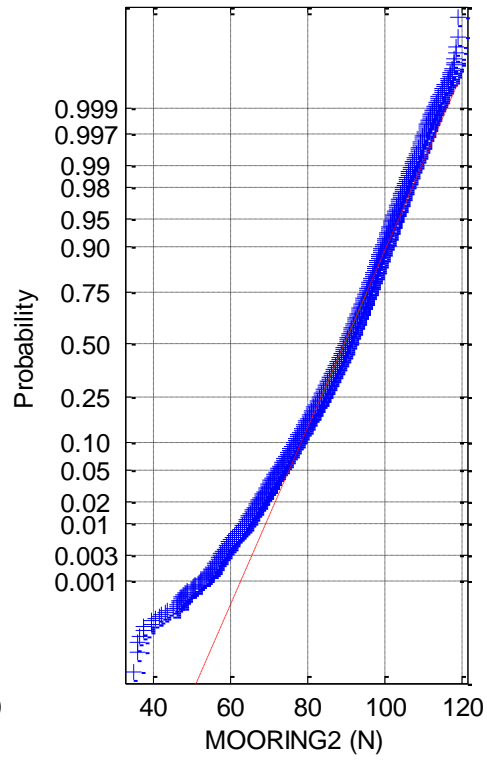
Σχήματα 1.1.2.3 α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



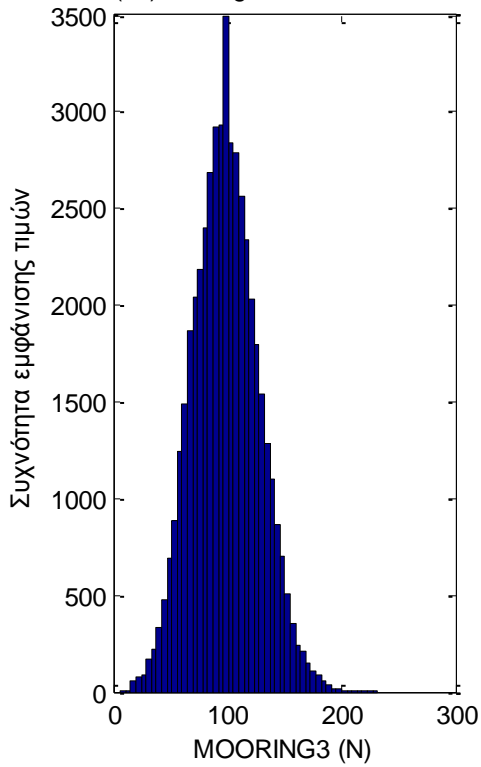
(2a) Histogram of MOORING2



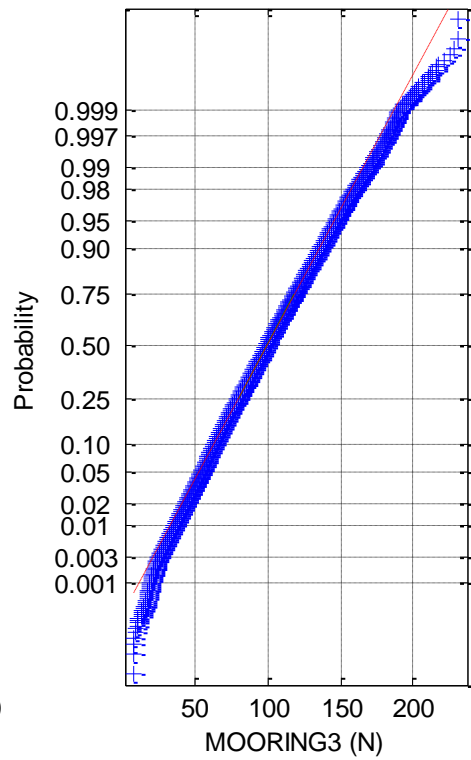
(2b) Normal probability plot of MOORING2

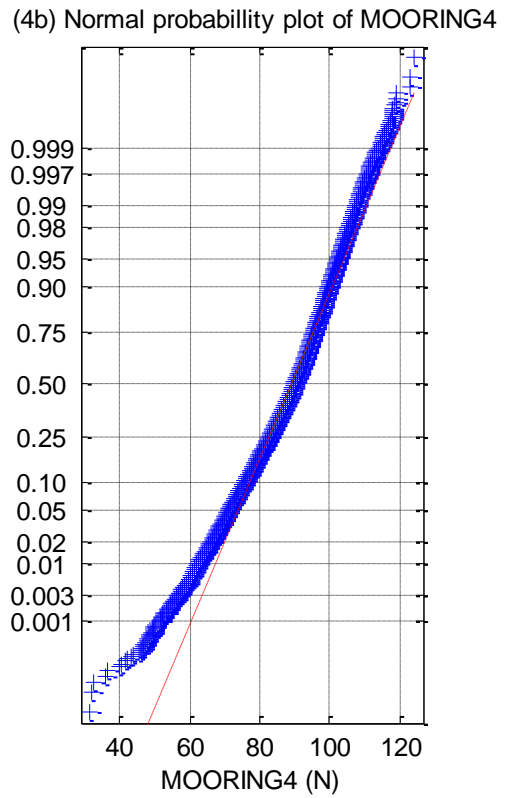
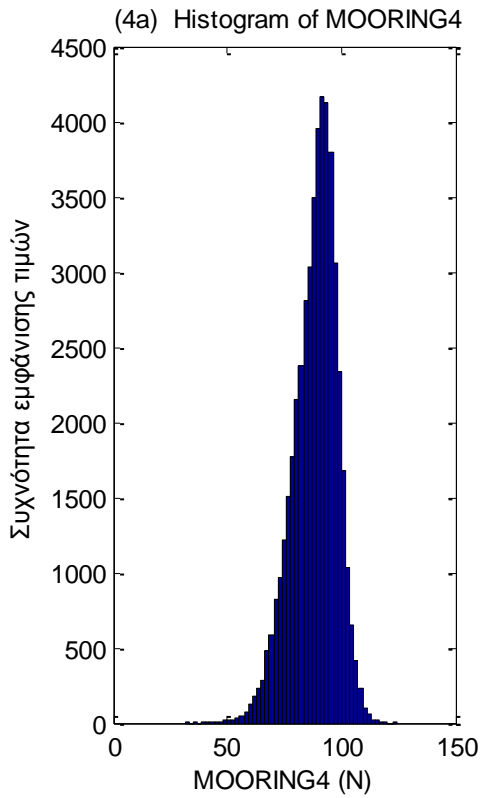


(3a) Histogram of MOORING3

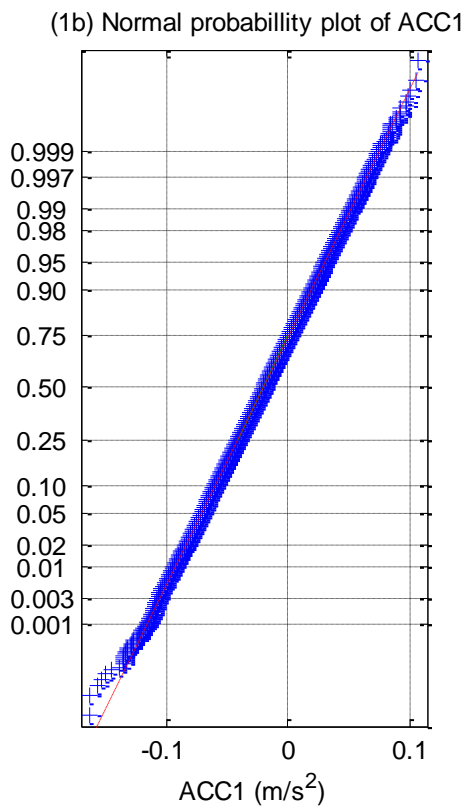
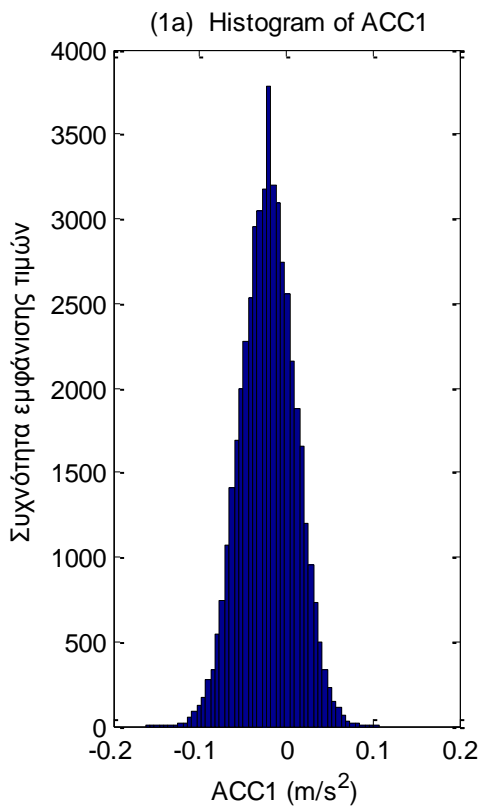


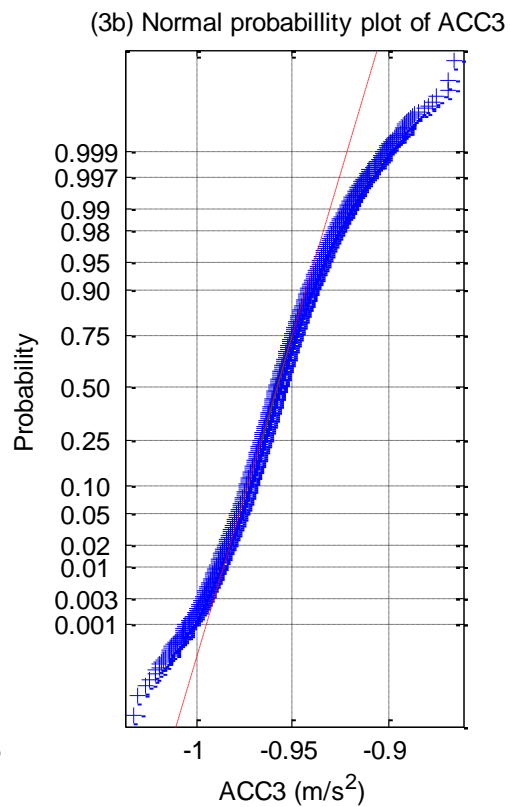
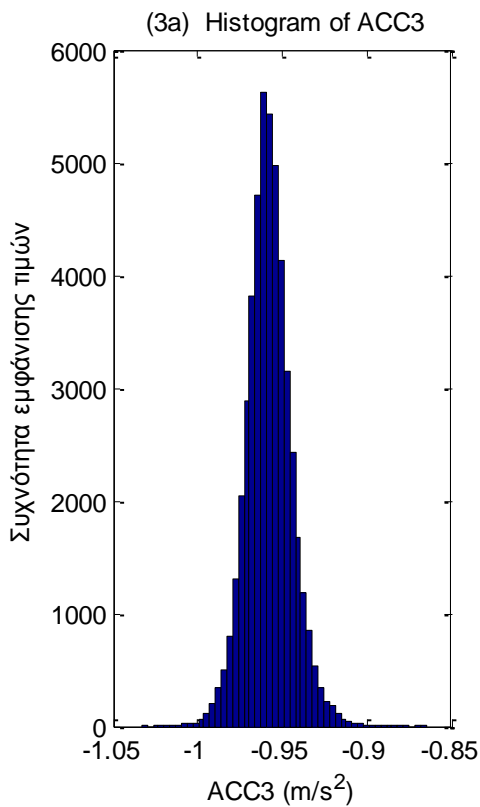
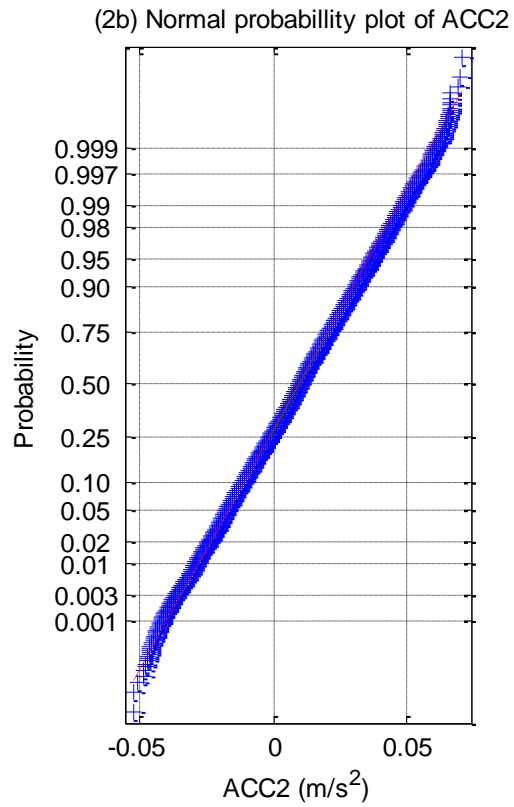
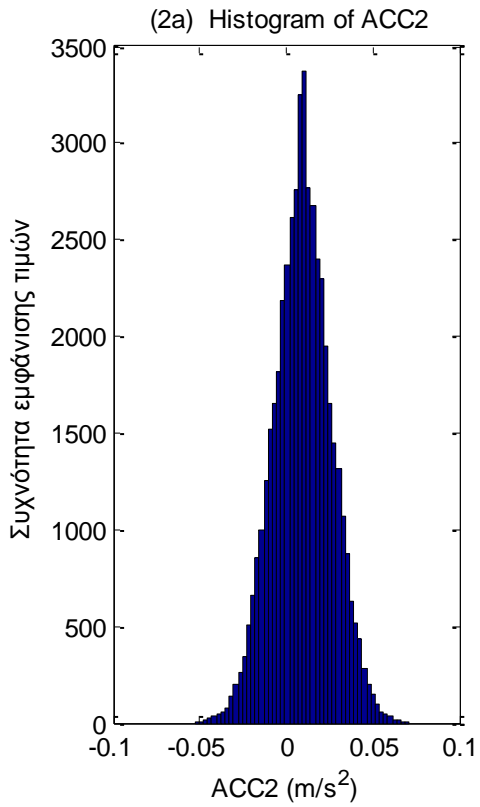
(3b) Normal probability plot of MOORING3



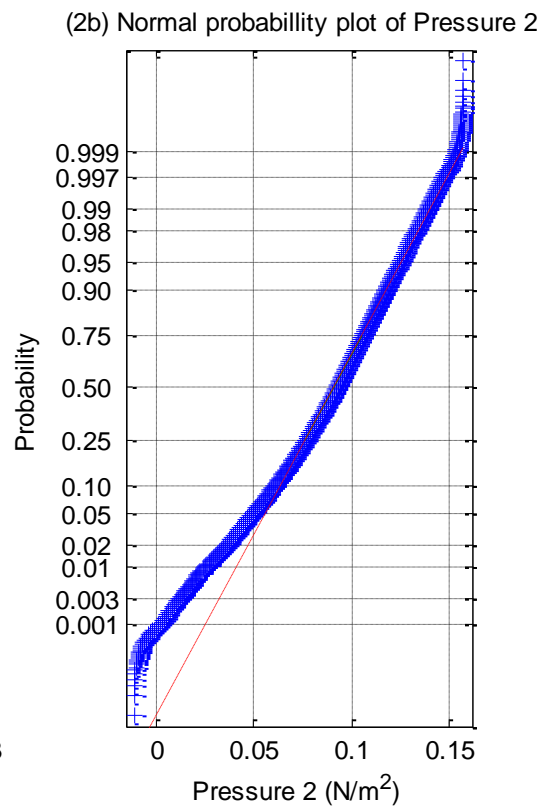
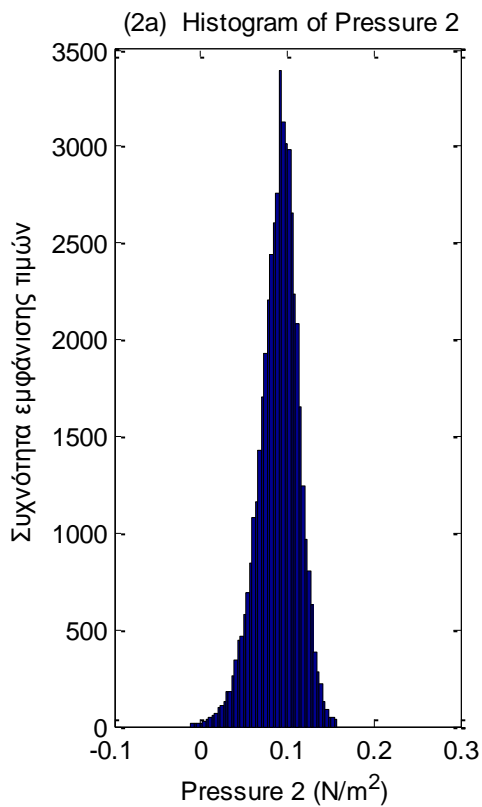
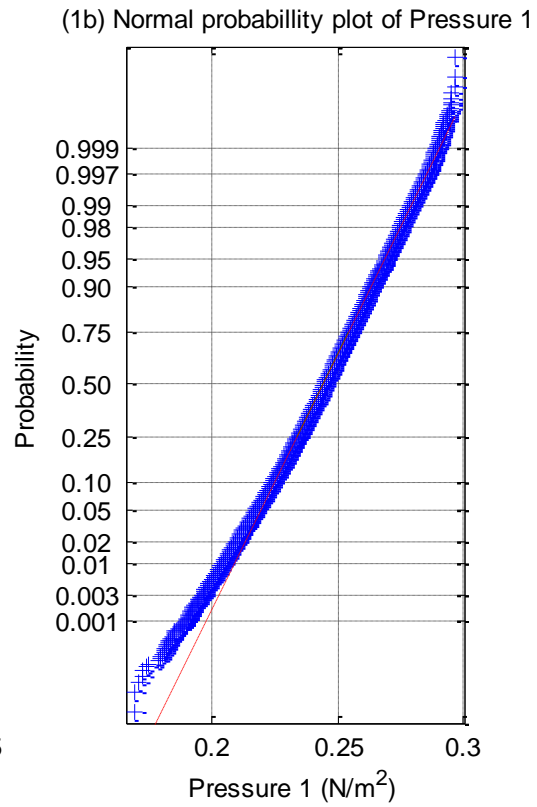
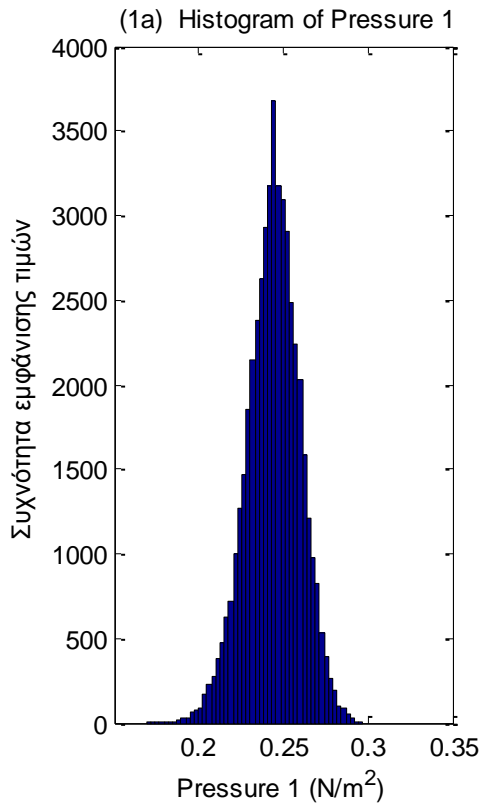


Σχήματα 1.1.2.4 (1-4) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης



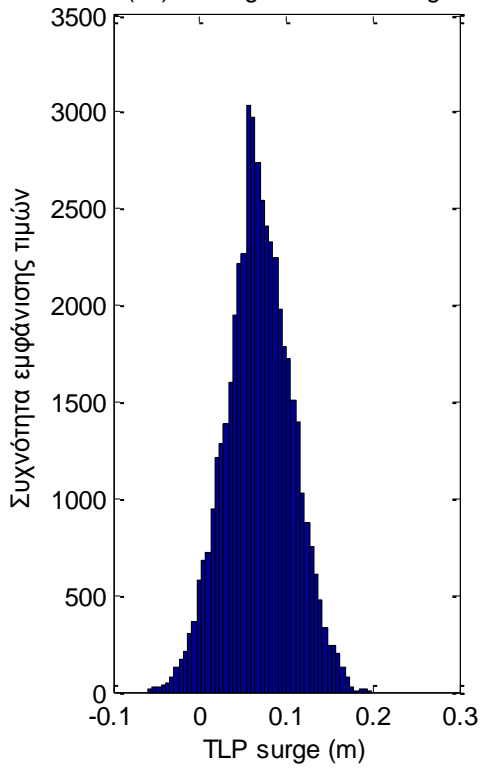


Σχήματα 1.1.2.5 (1-3) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

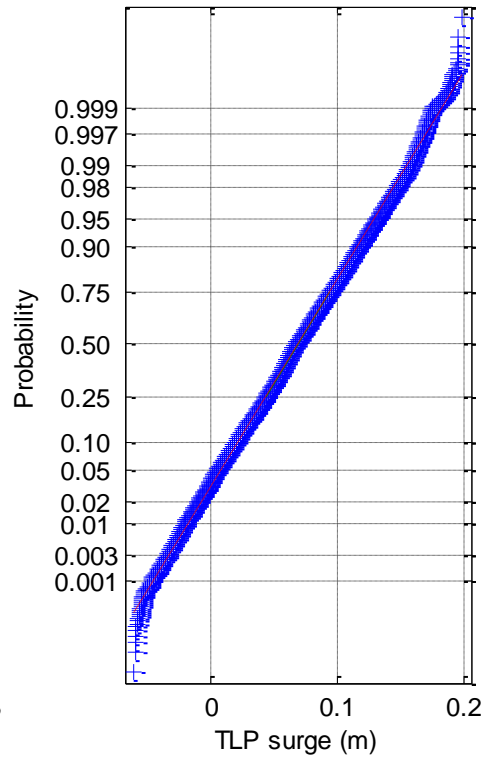


Σχήματα 1.1.2.6 (1-2) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα δυο όργανα μέτρησης της πίεσης

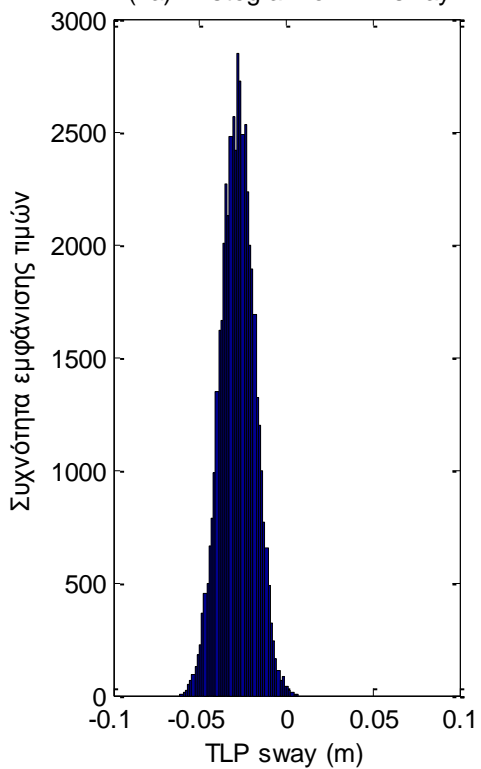
(1a) Histogram of TLP surge



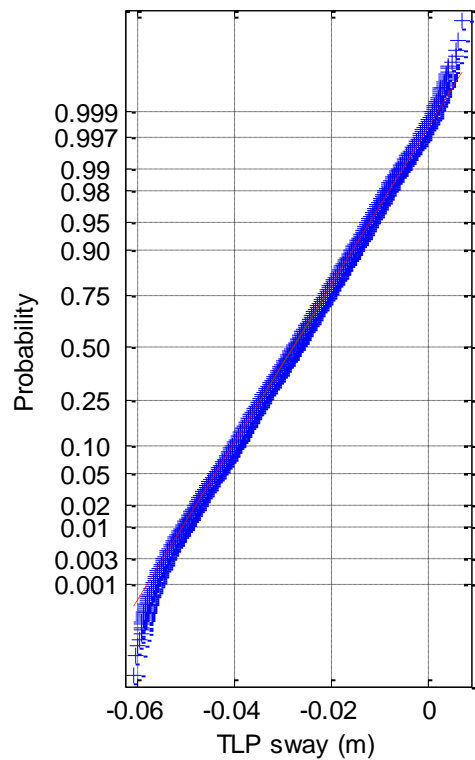
(1b) Normal probability plot of TLP surge

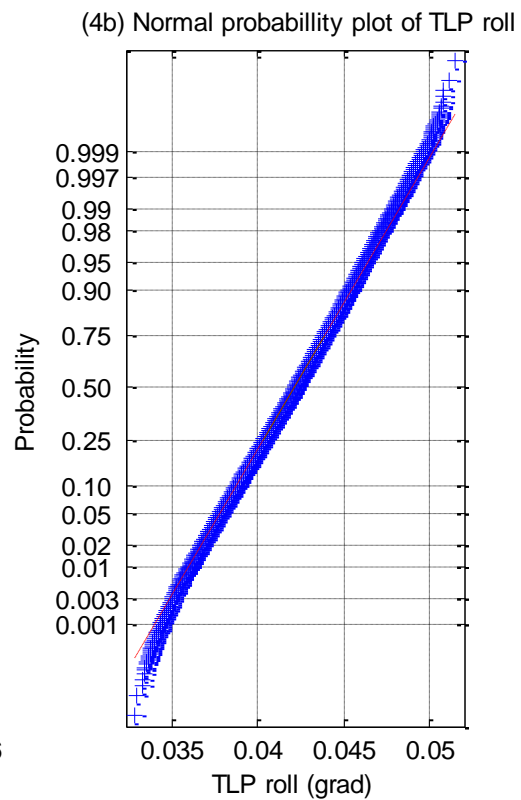
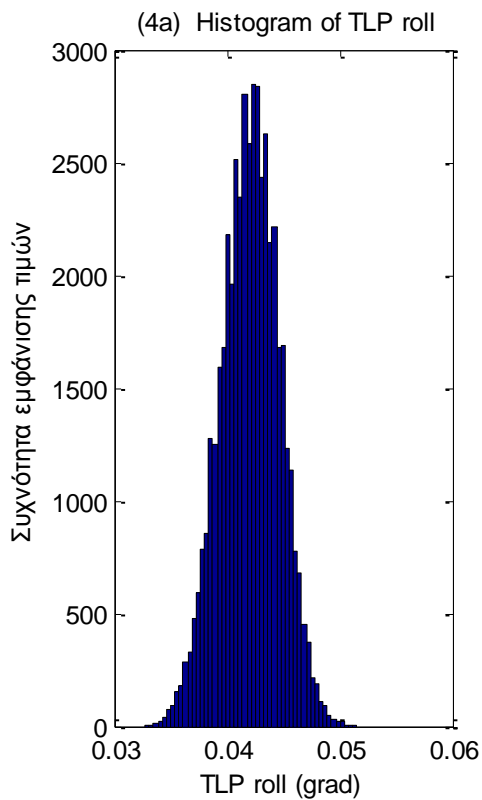
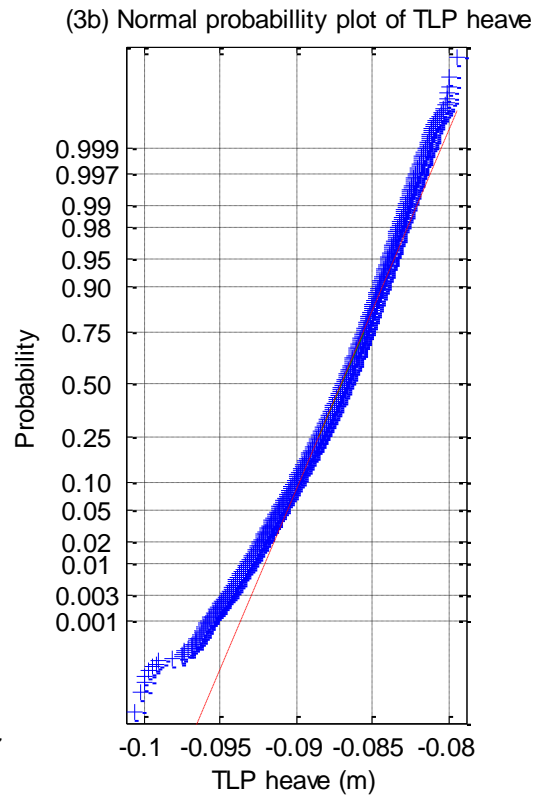
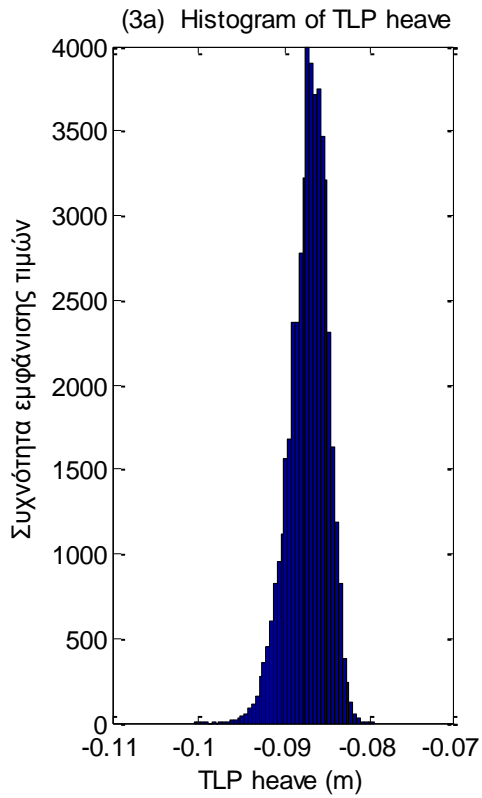


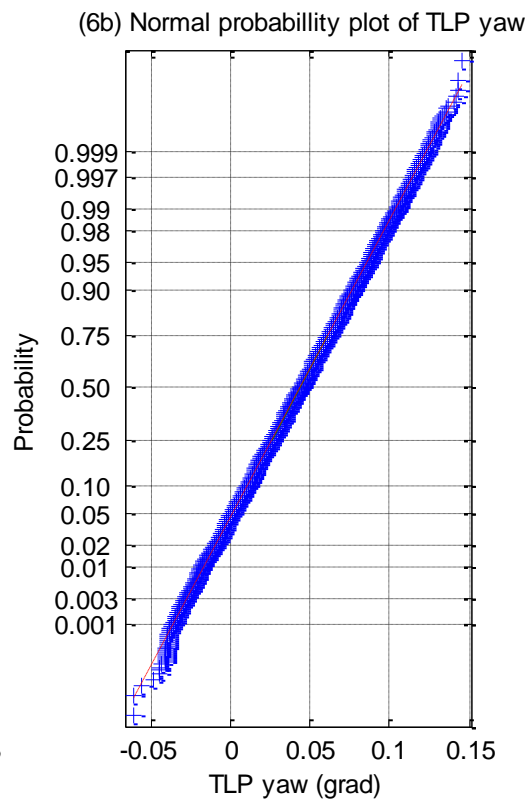
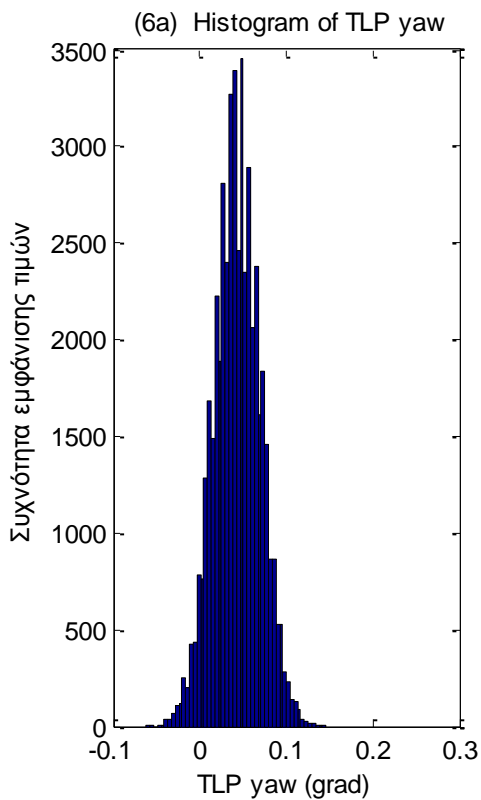
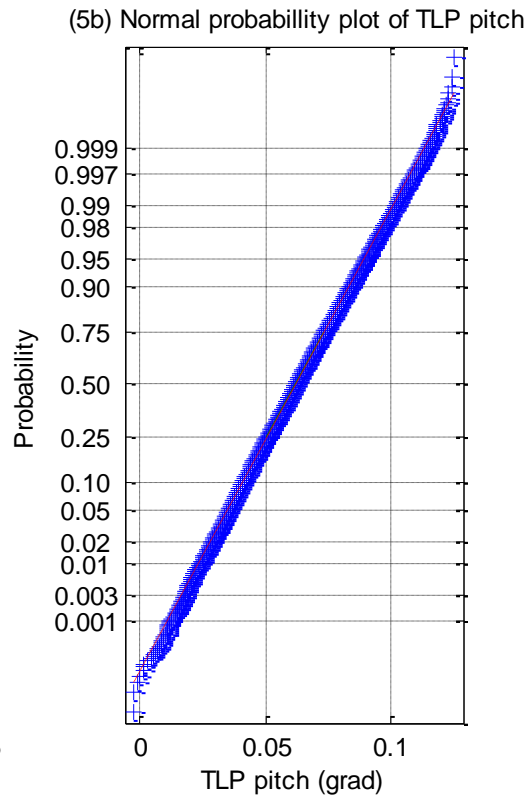
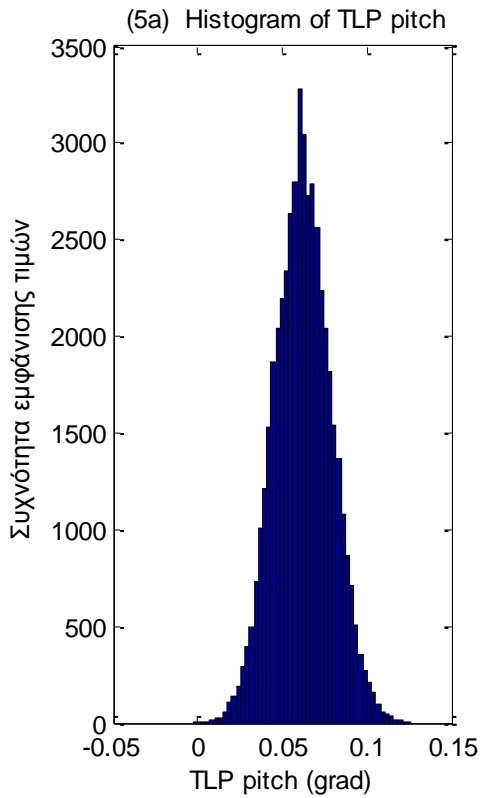
(2a) Histogram of TLP sway



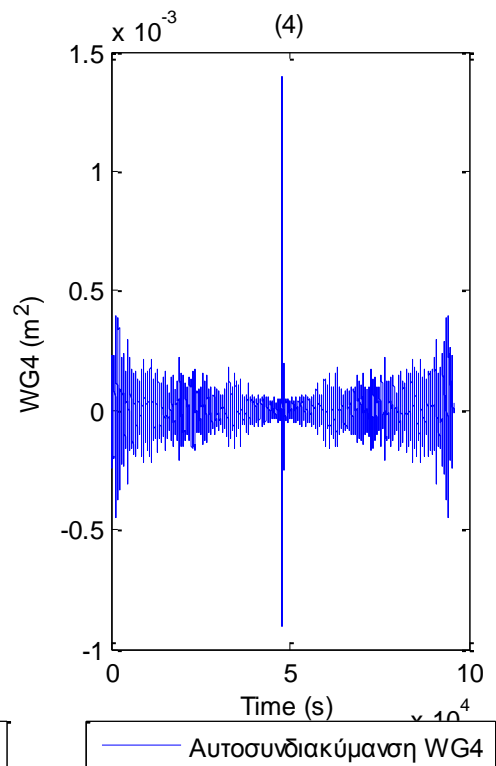
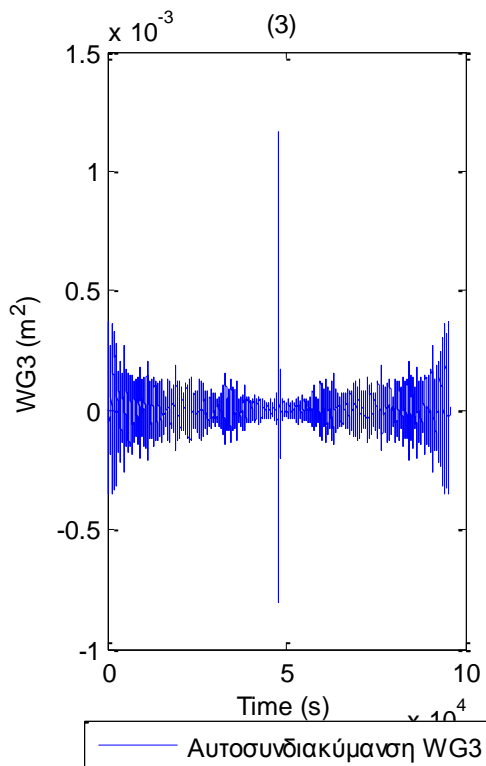
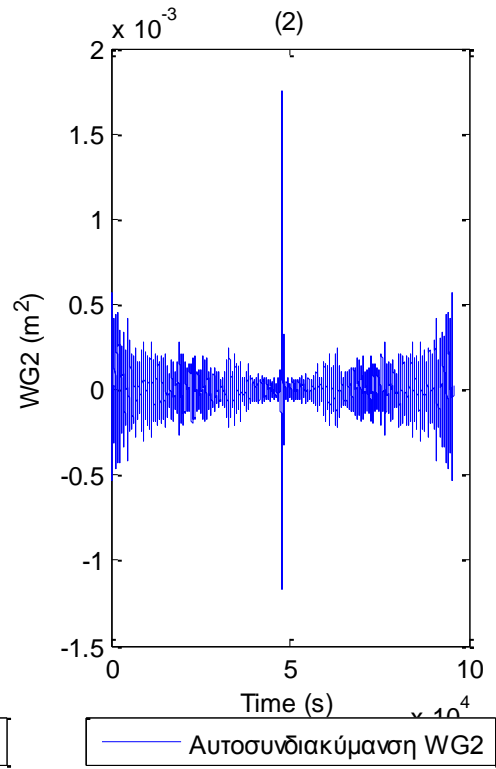
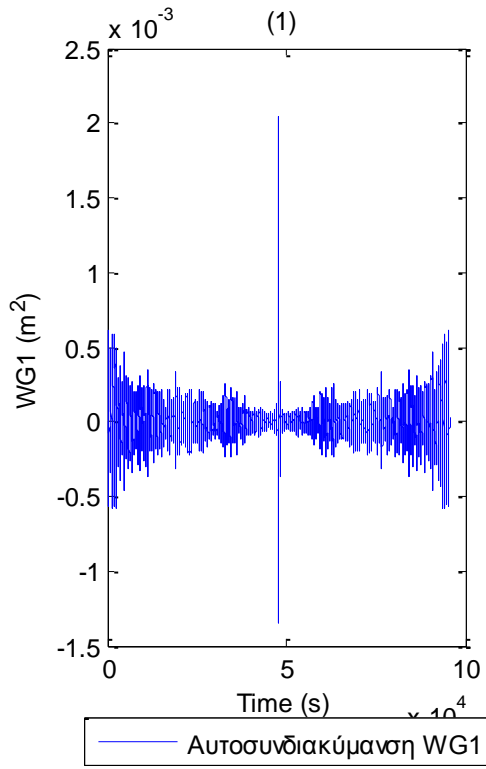
(2b) Normal probability plot of TLP sway

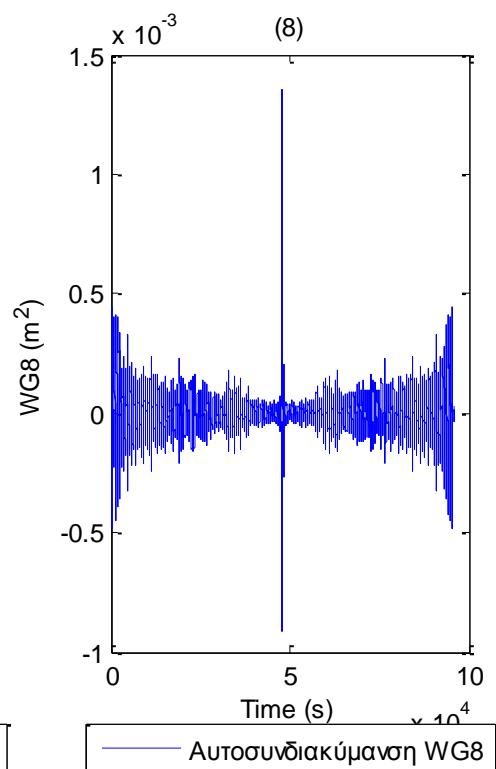
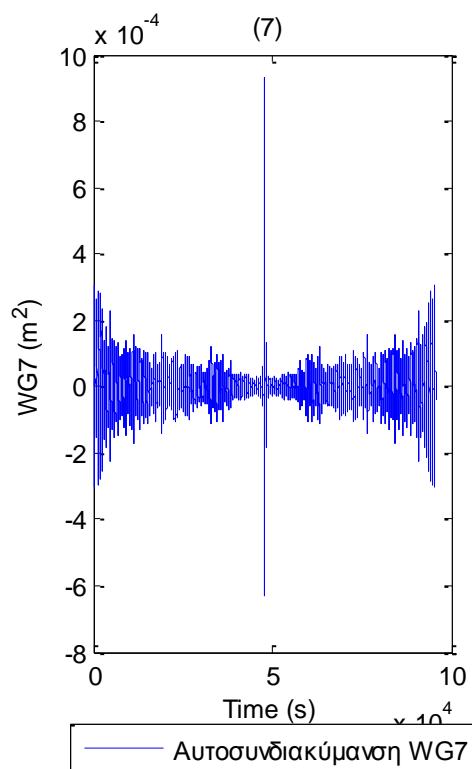
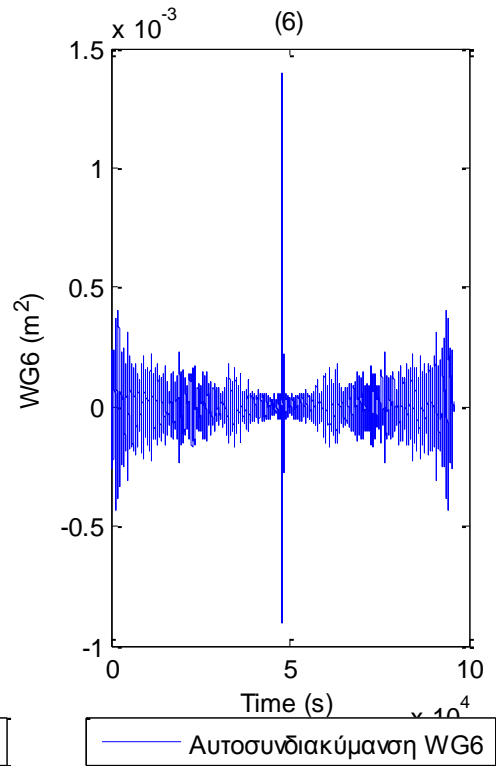
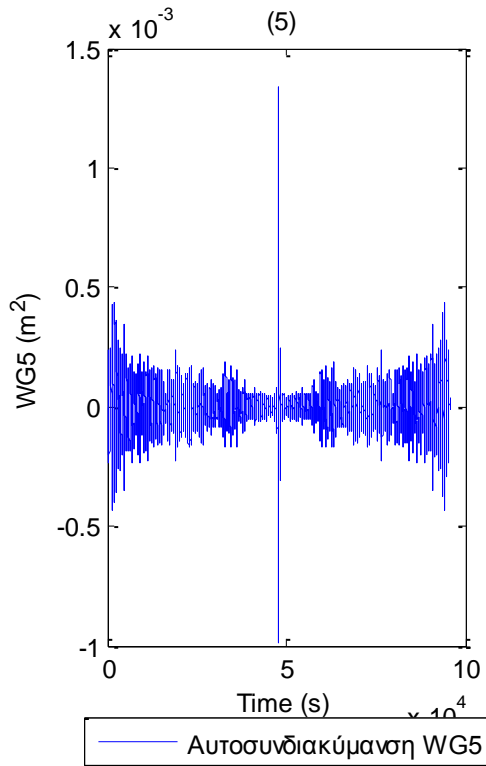


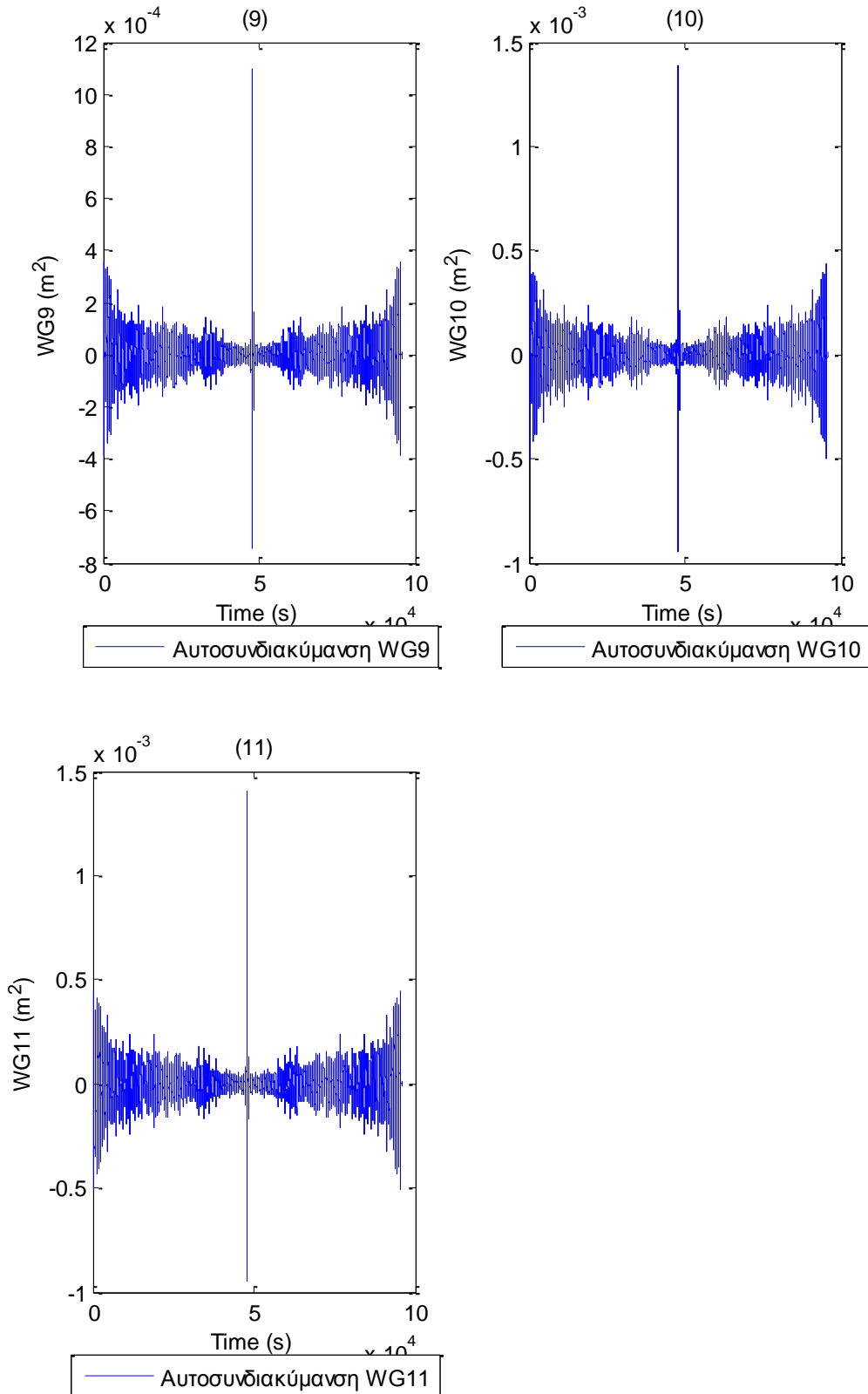




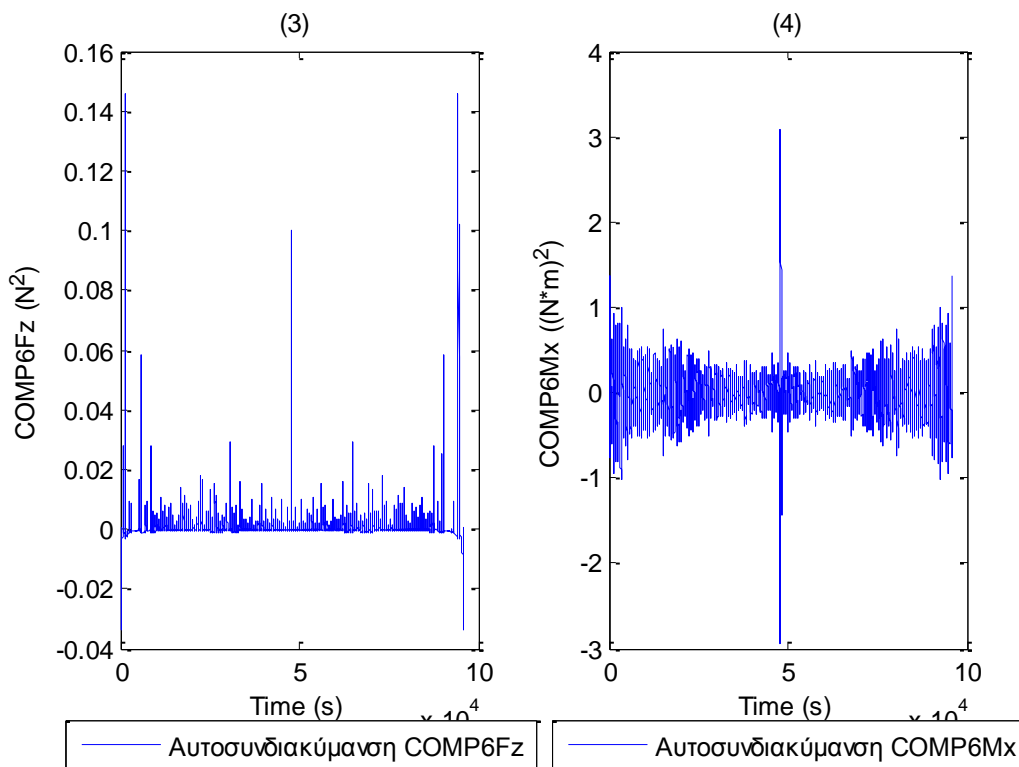
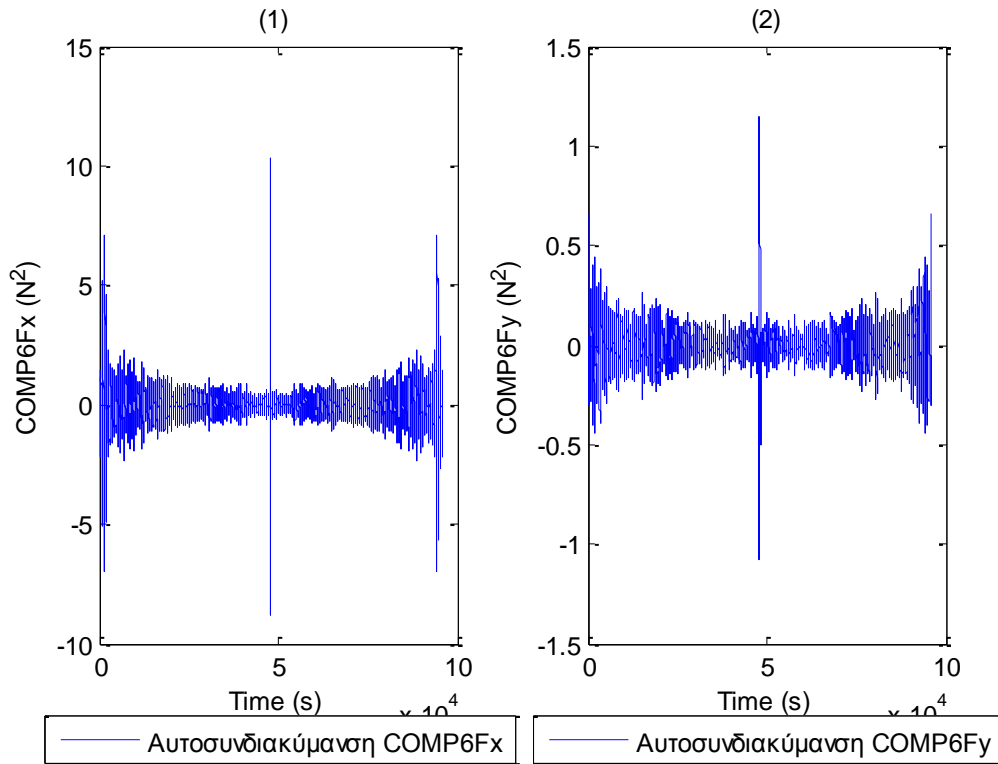
Σχήματα 1.1.2.7 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

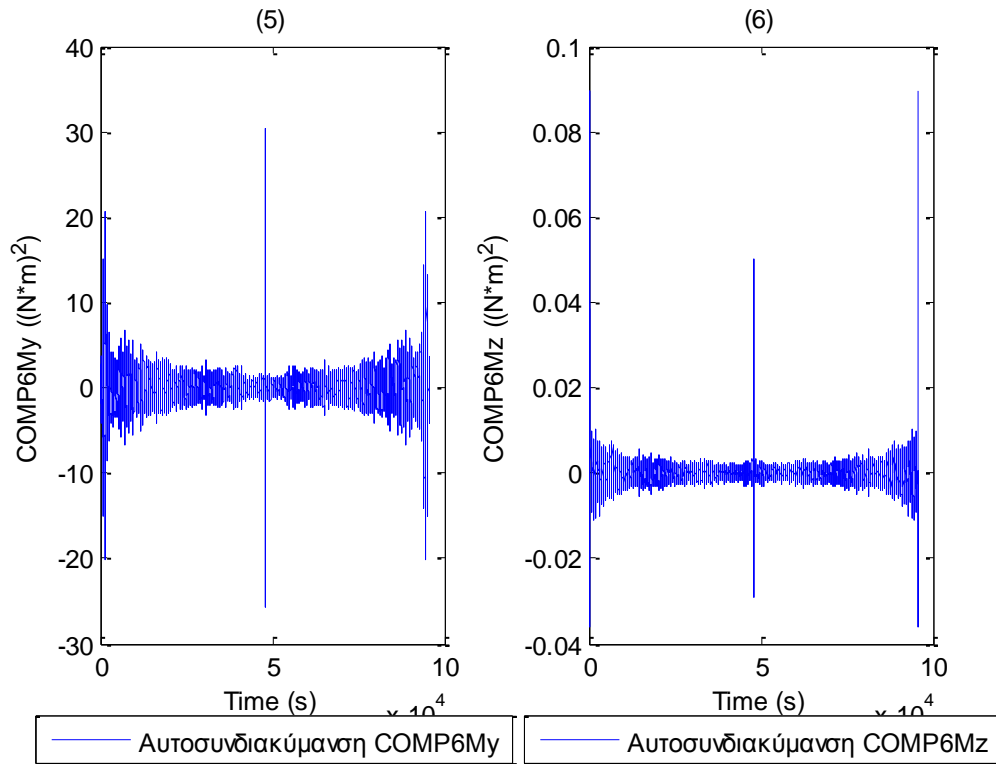




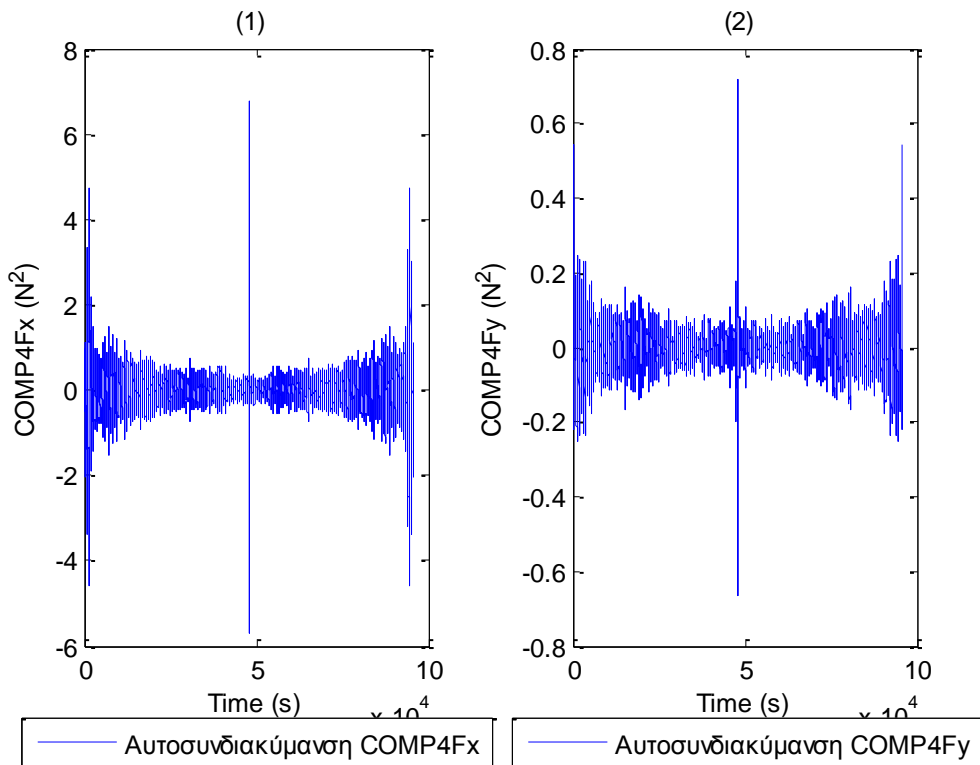


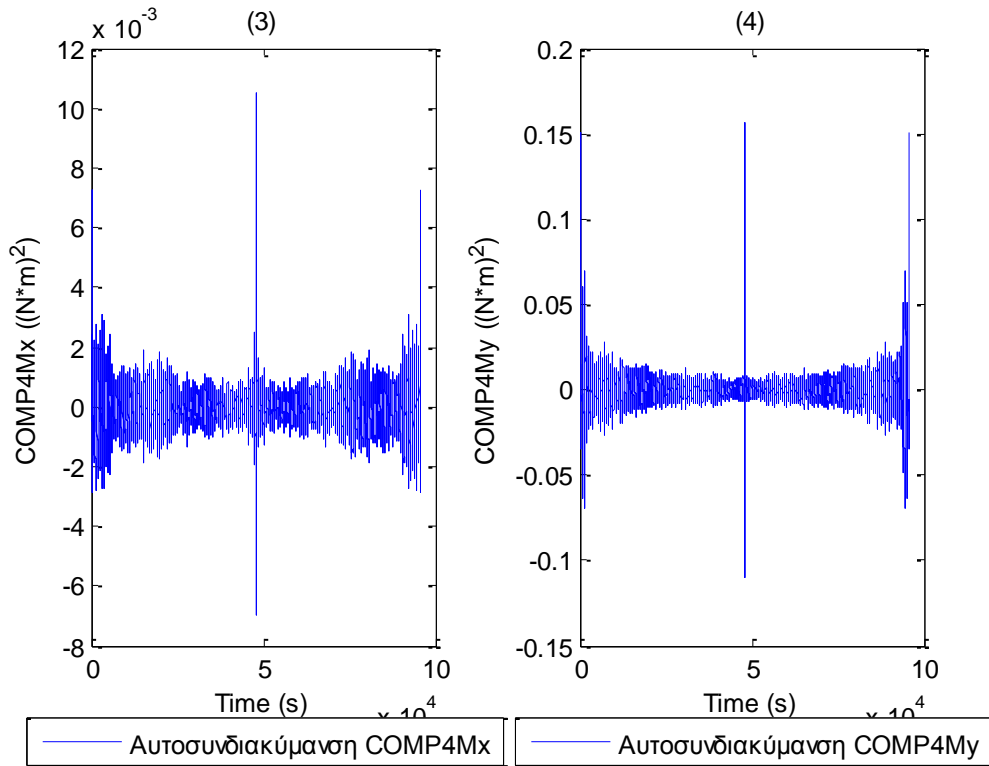
Σχήματα 1.1.3.1 (1-11) Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



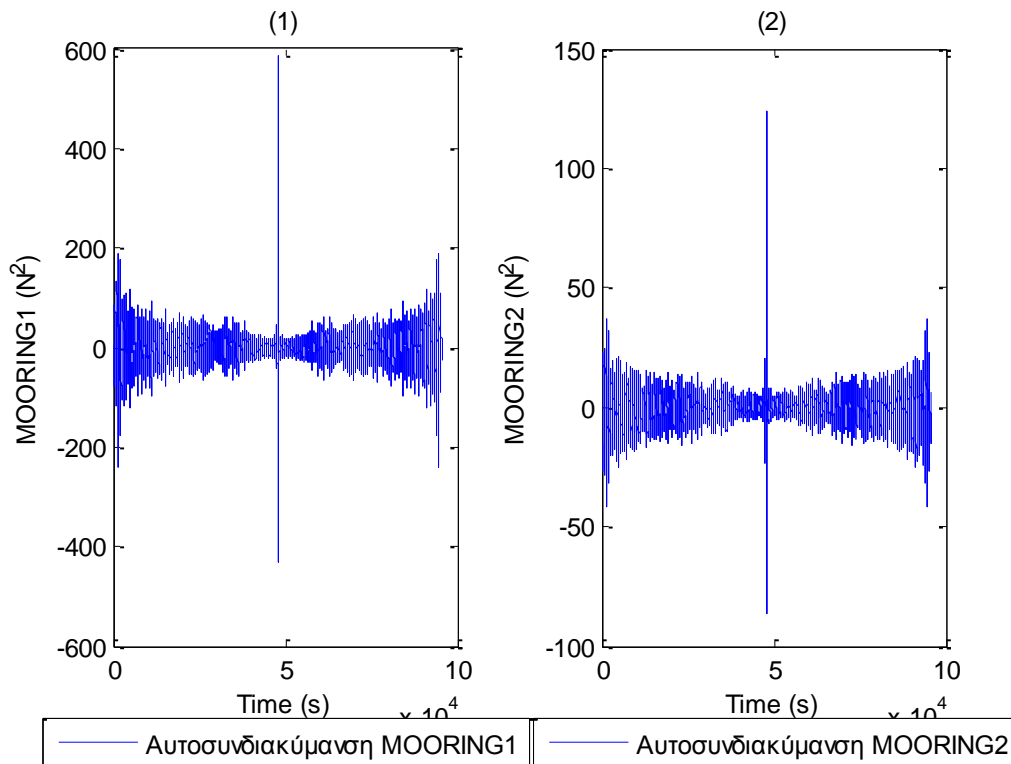


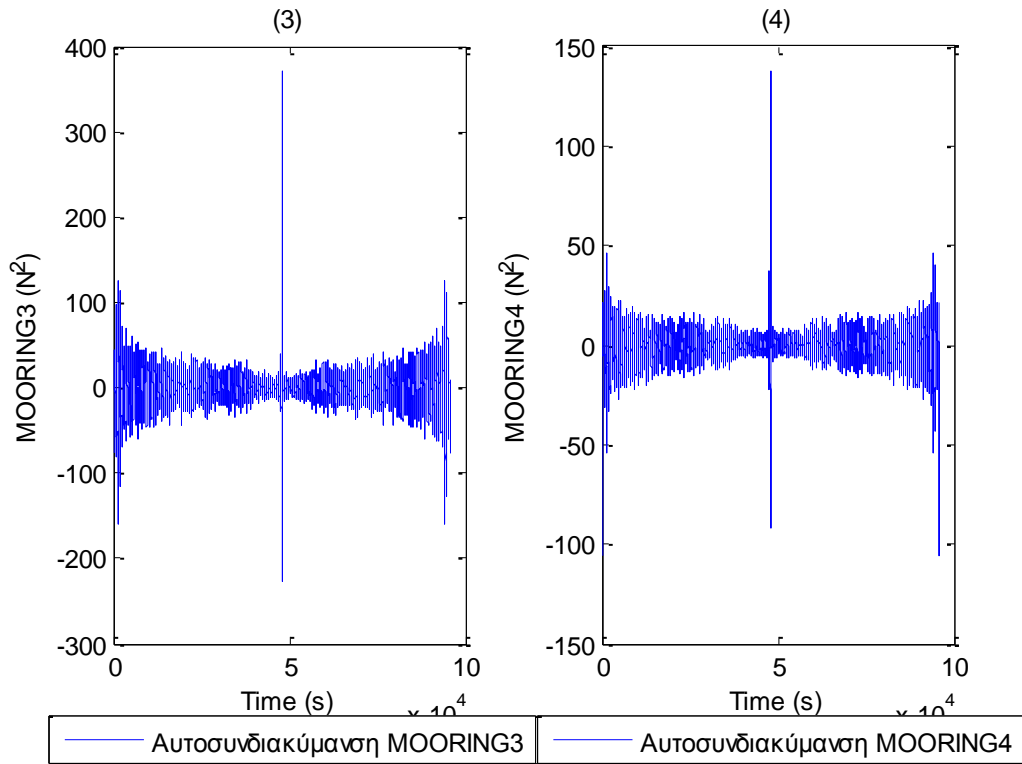
Σχήματα 1.1.3.2 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



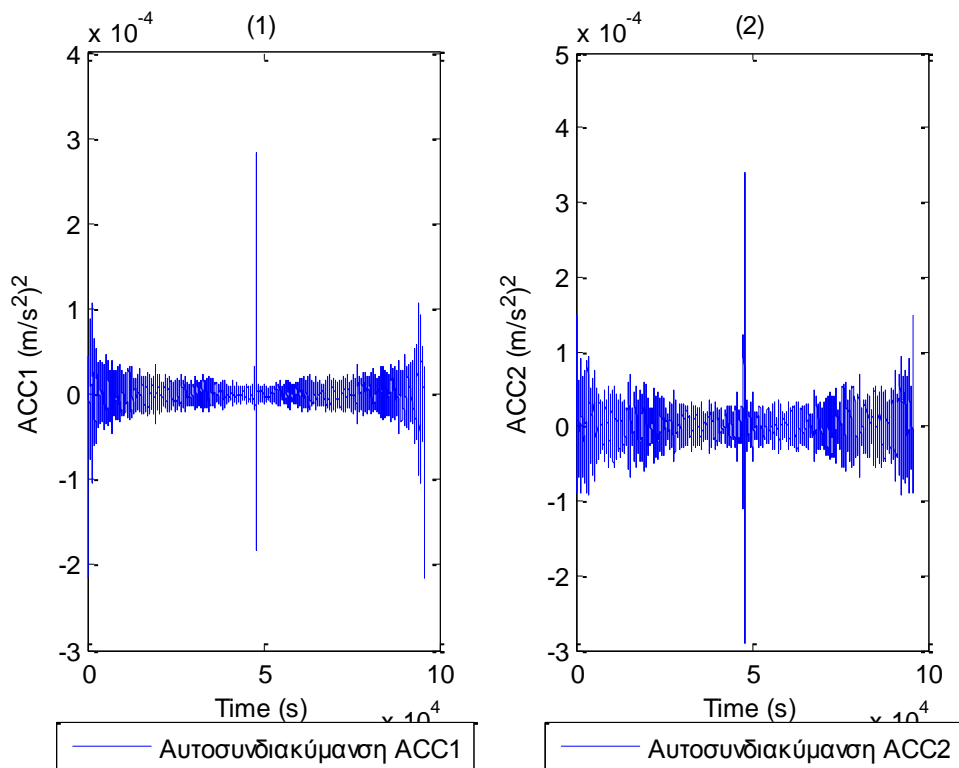


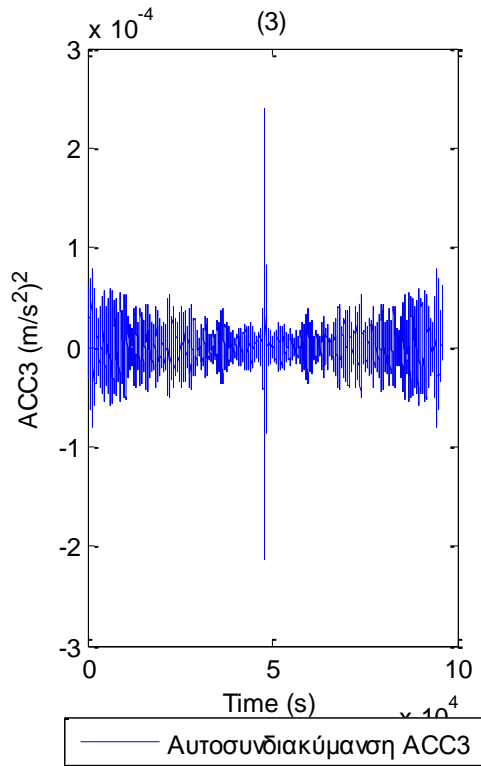
Σχήματα 1.1.3.3 Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



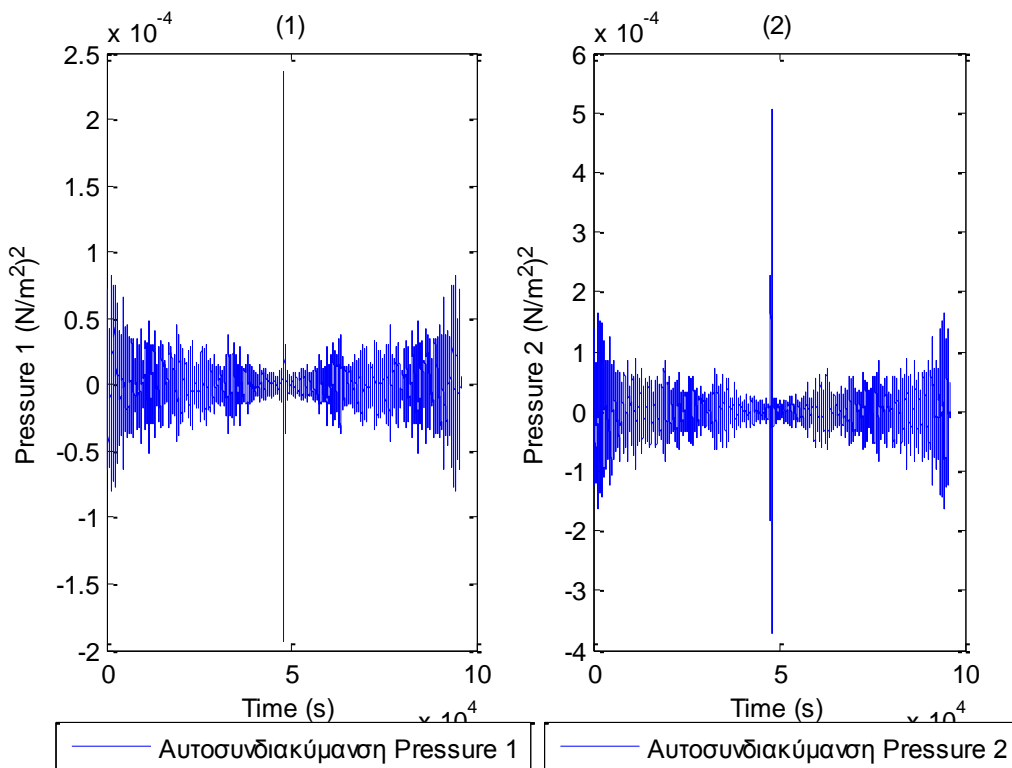


Σχήματα 1.1.3.4 (1-4) Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

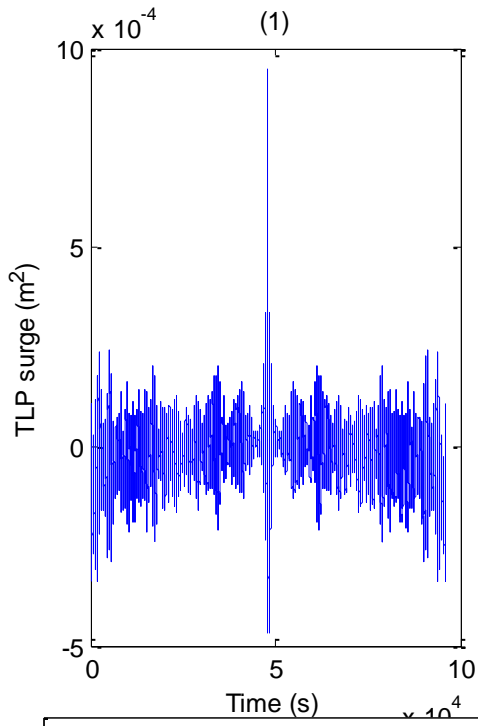




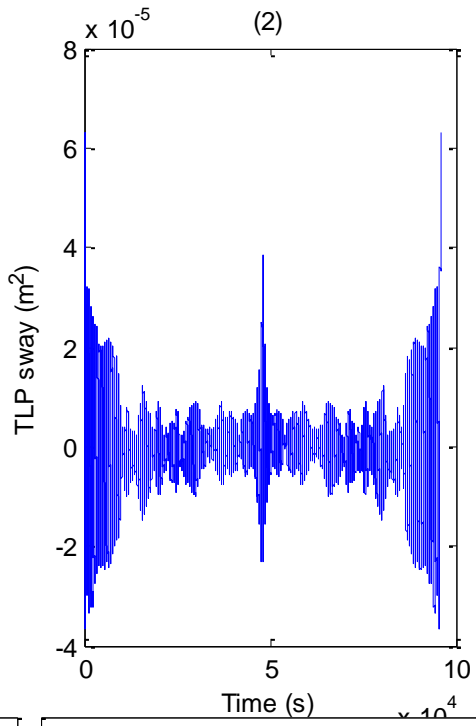
Σχήματα 1.1.3.5 (1-3) Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



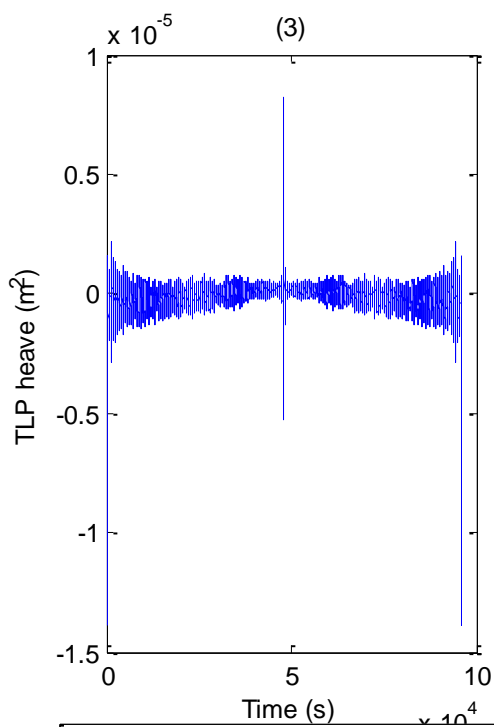
Σχήματα 1.1.3.6 (1-2) Συναρτήσεις Αυτοσυνδιακύμανσης για τα δυο όργανα μέτρησης της πίεσης



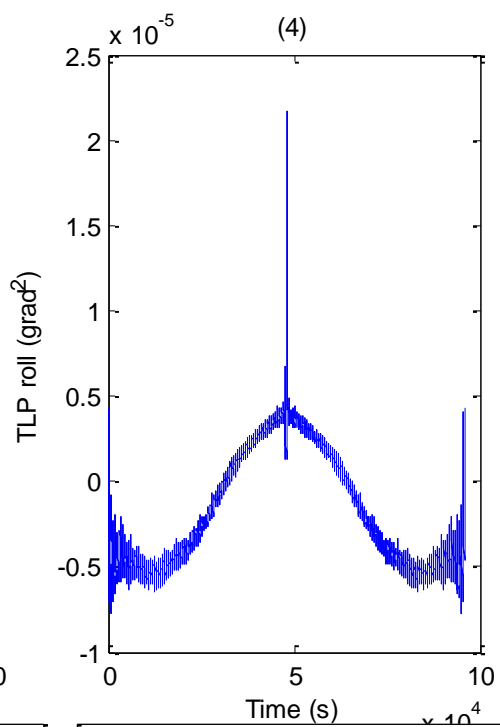
— Αυτοσυνδιακύμανση TLP surge



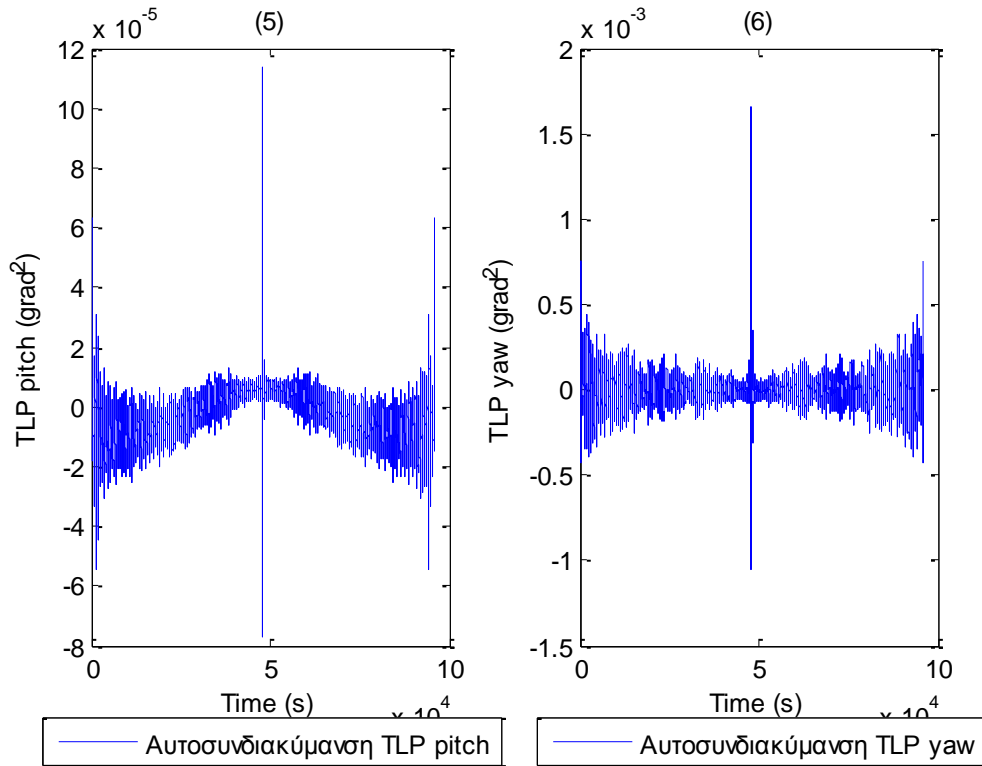
— Αυτοσυνδιακύμανση TLP sway



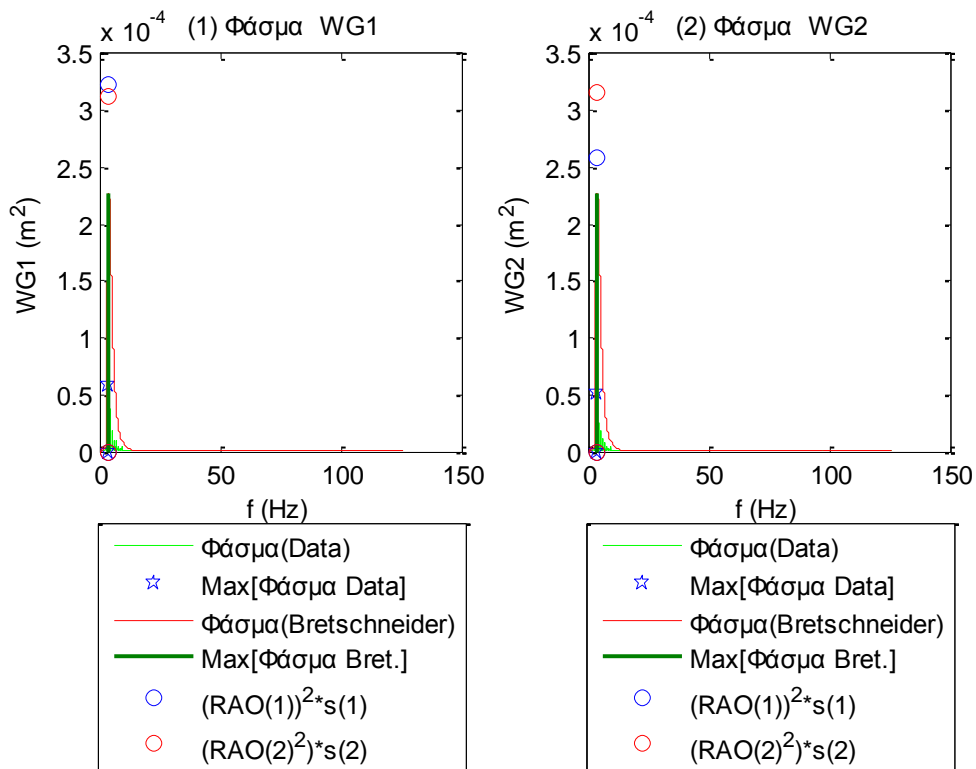
— Αυτοσυνδιακύμανση TLP heave

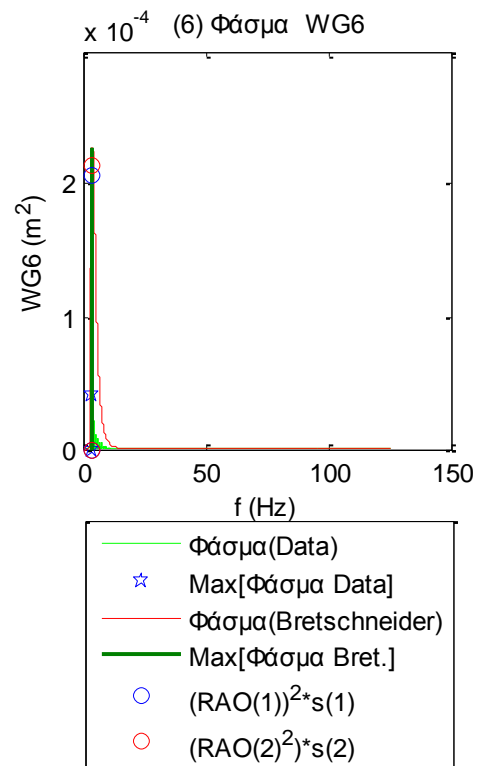
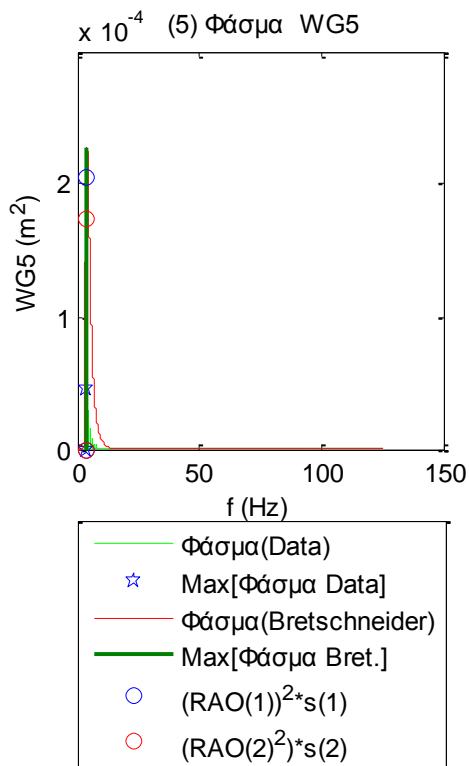
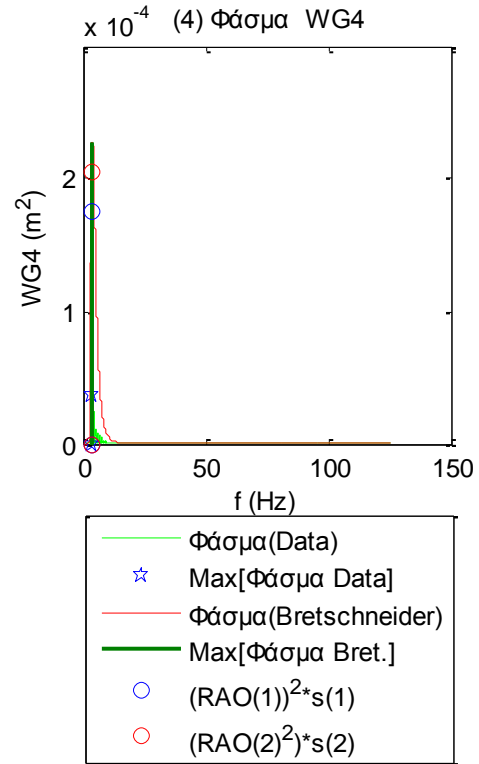
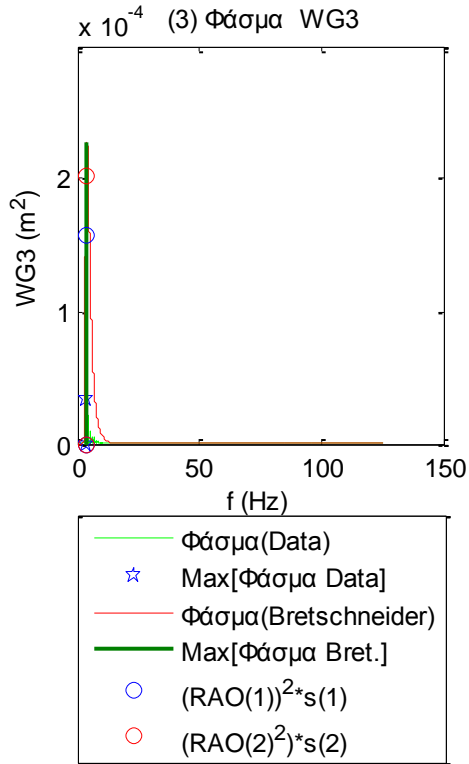


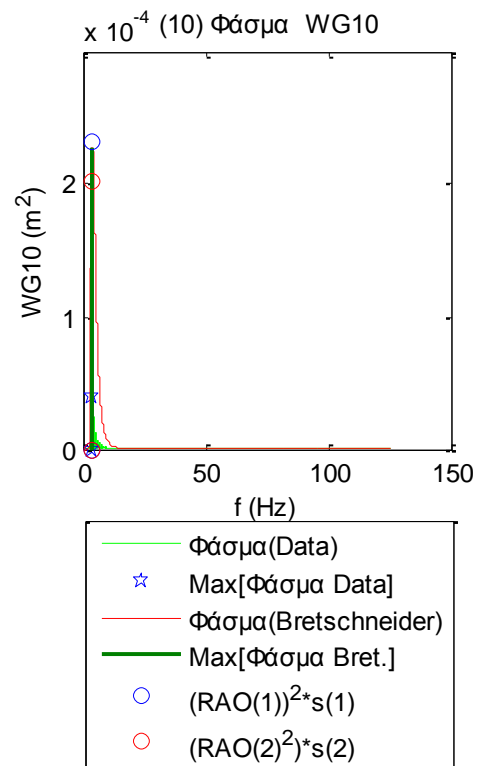
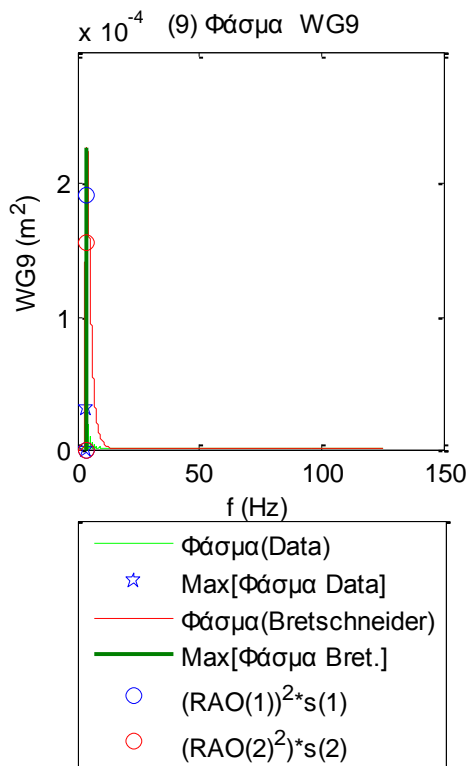
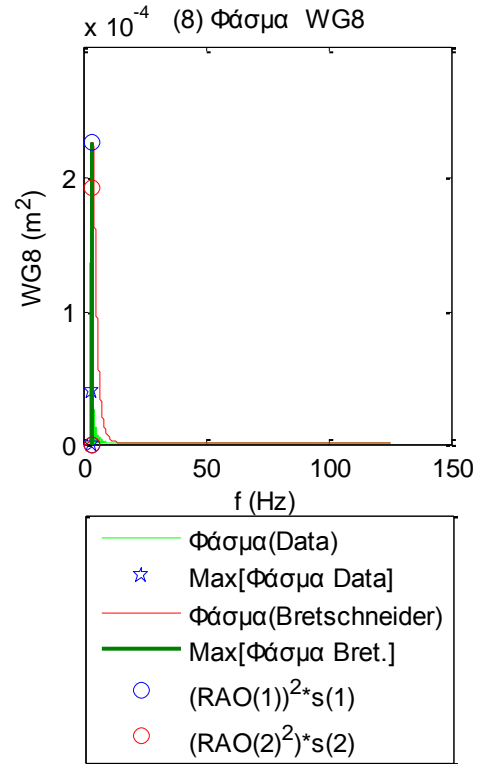
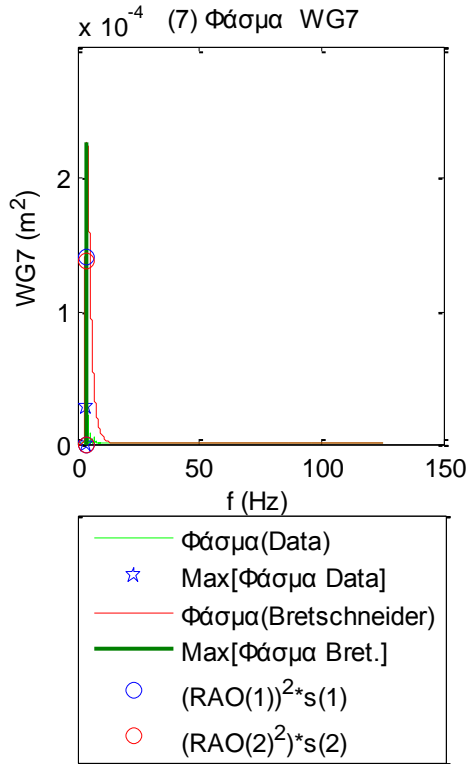
— Αυτοσυνδιακύμανση TLP roll

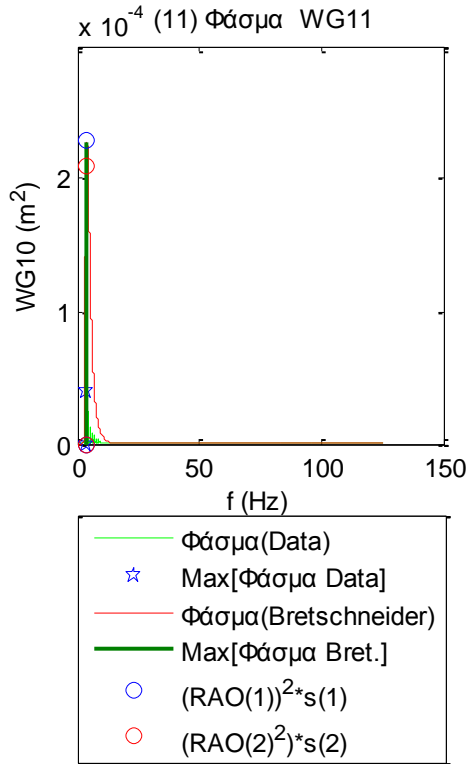


Σχήματα 1.1.3.7 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

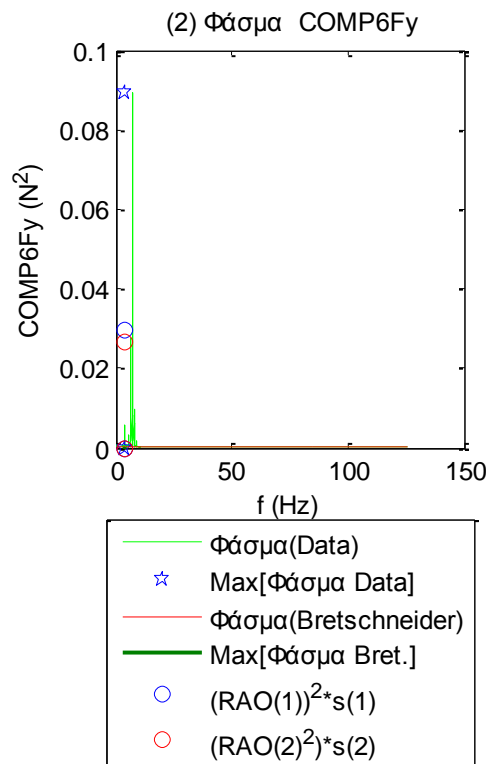
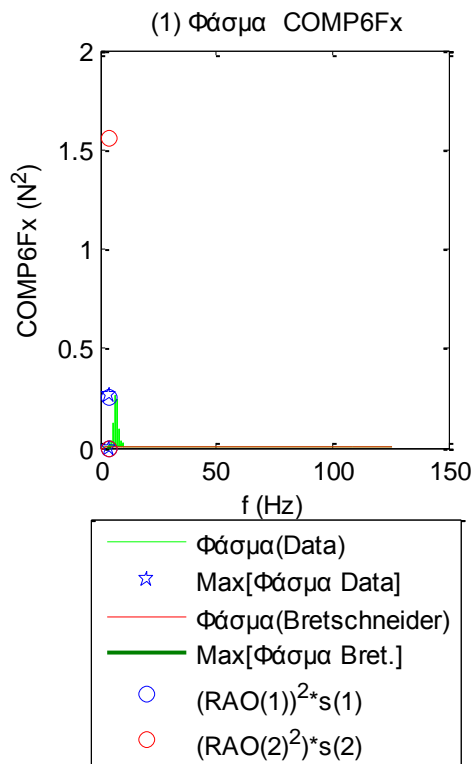


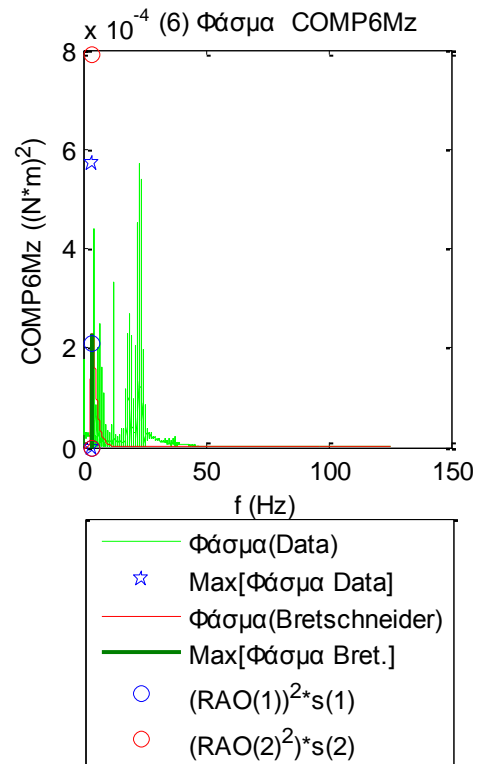
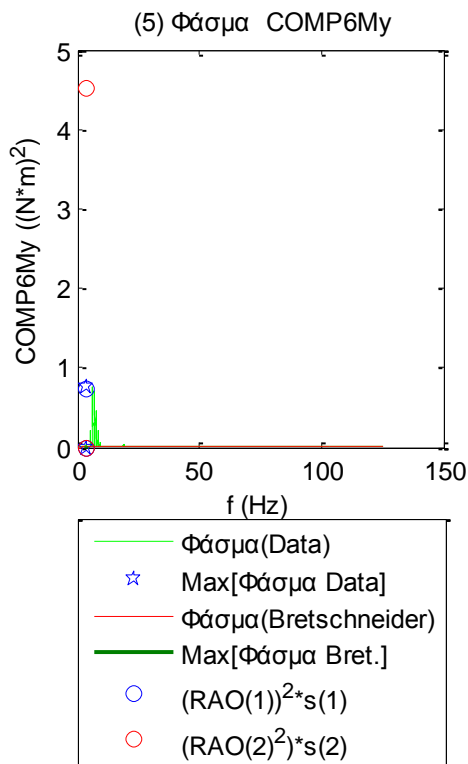
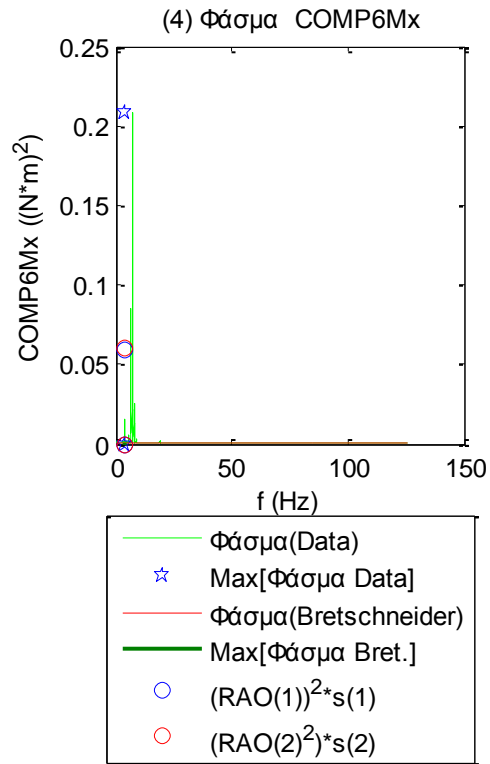
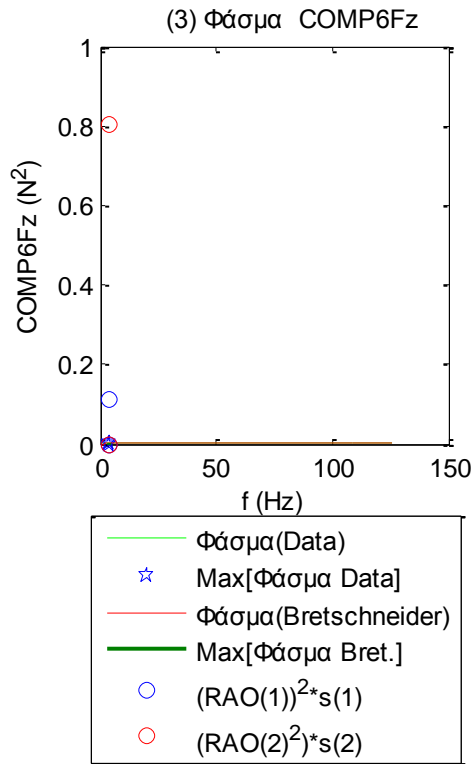




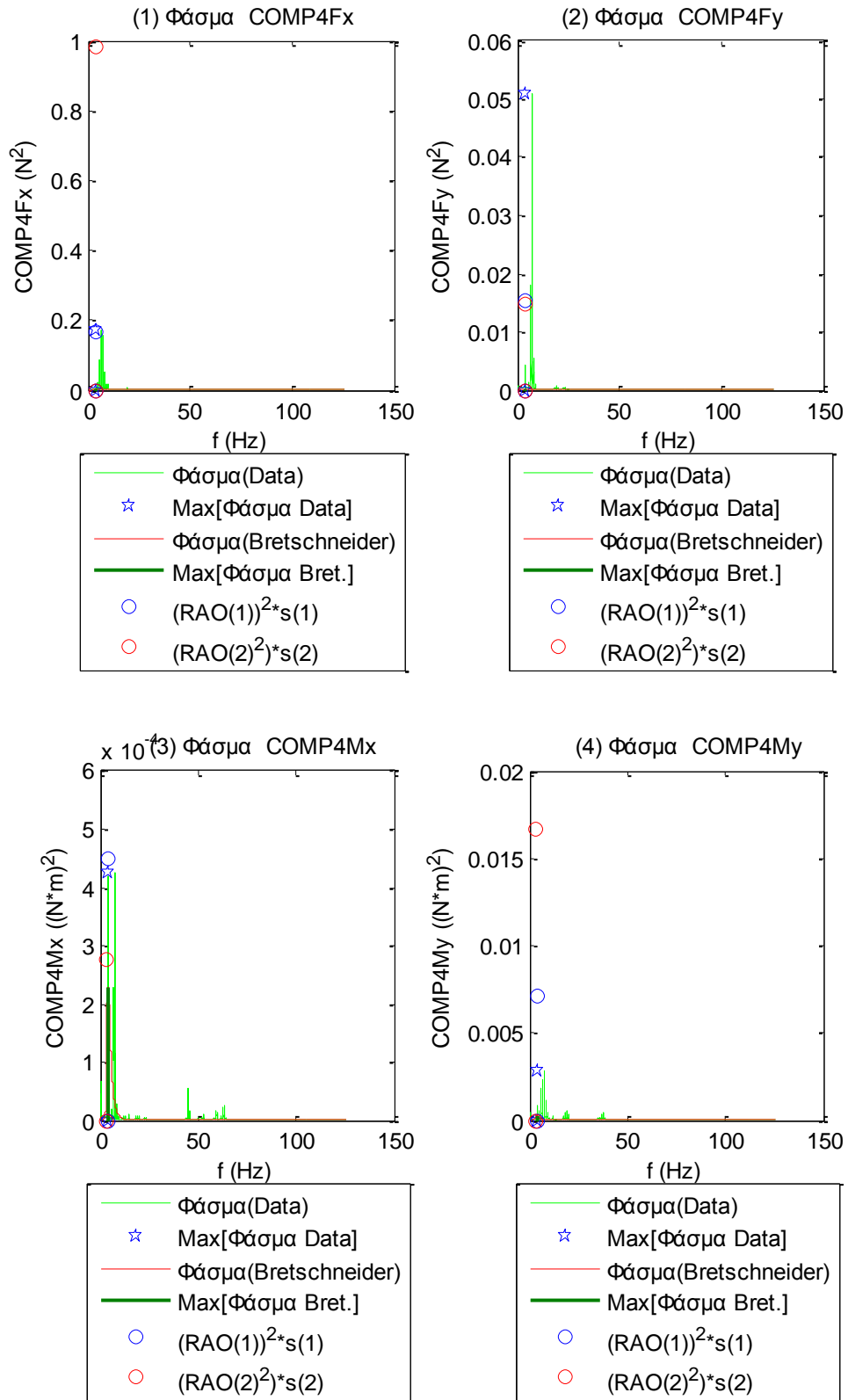


Σχήματα 1.1.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος

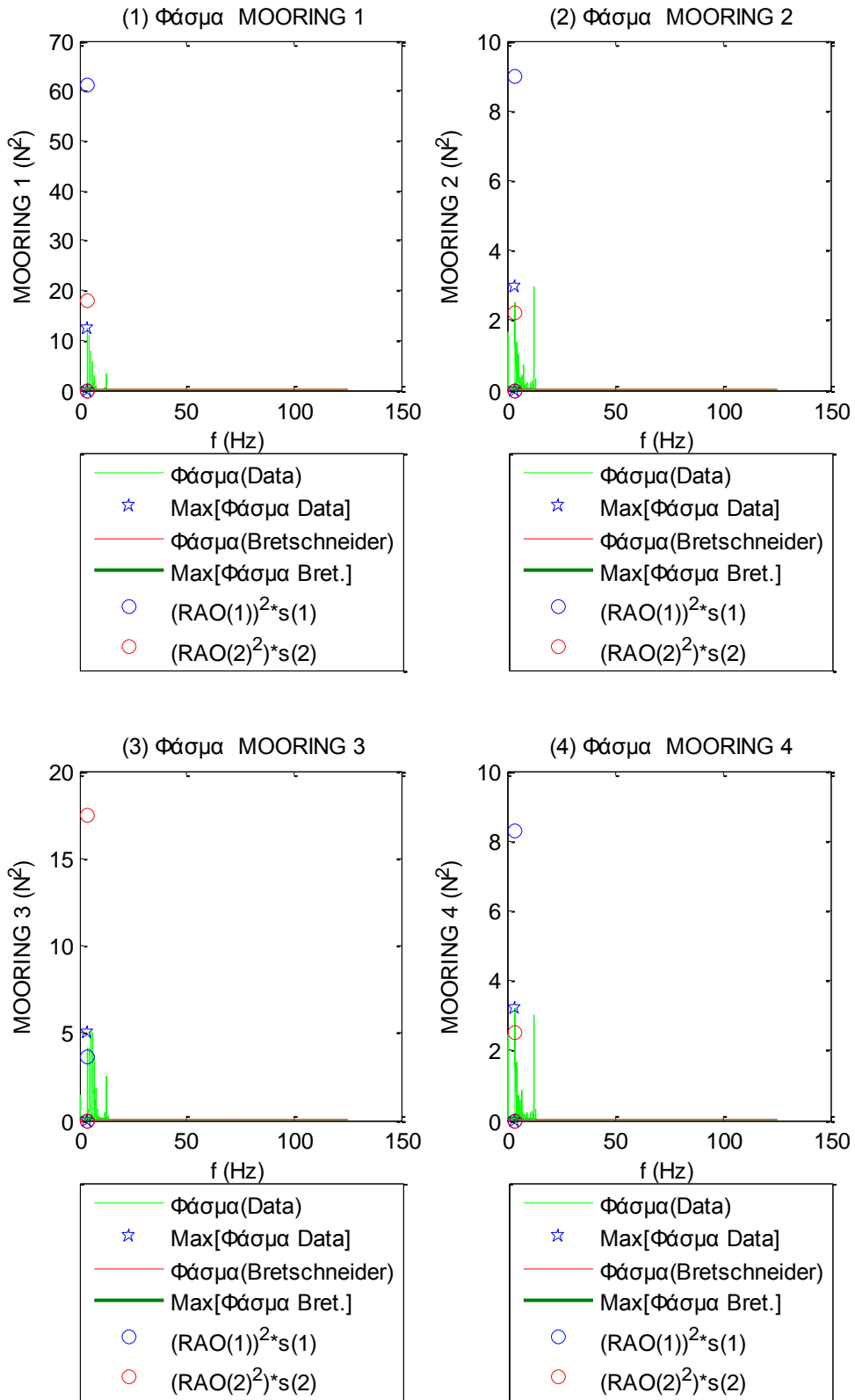




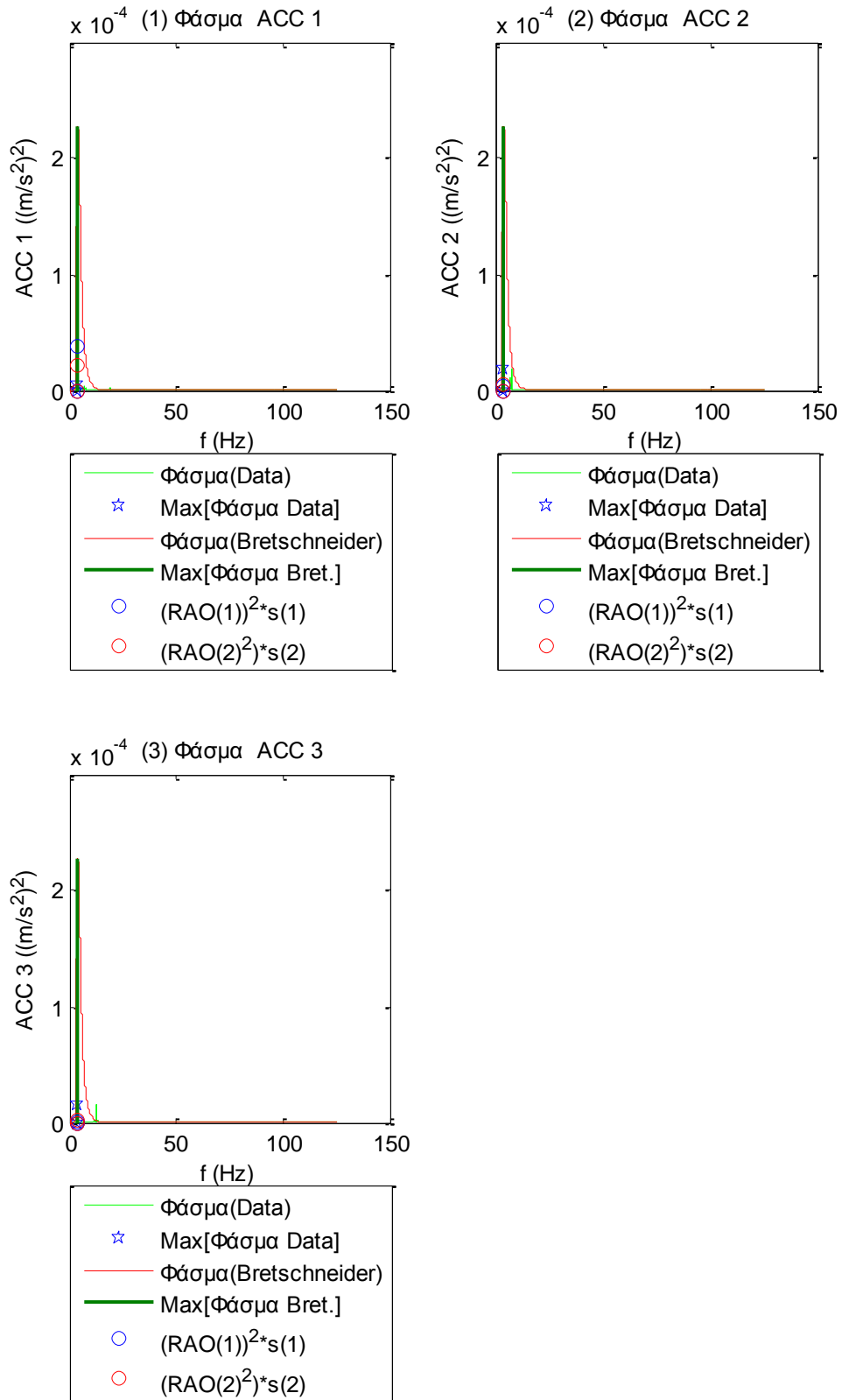
Σχήματα 1.1.4.2 Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



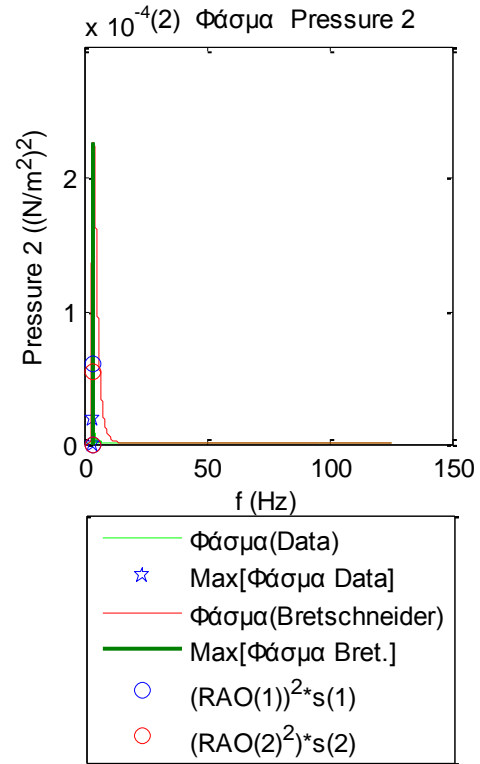
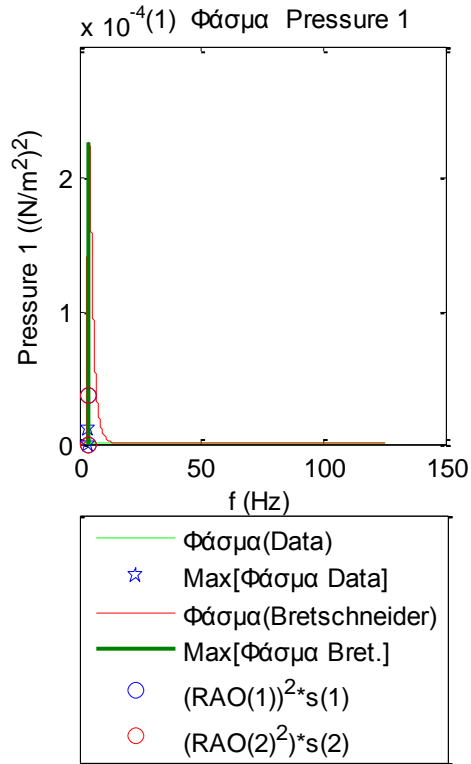
Σχήματα 1.1.4.3 Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



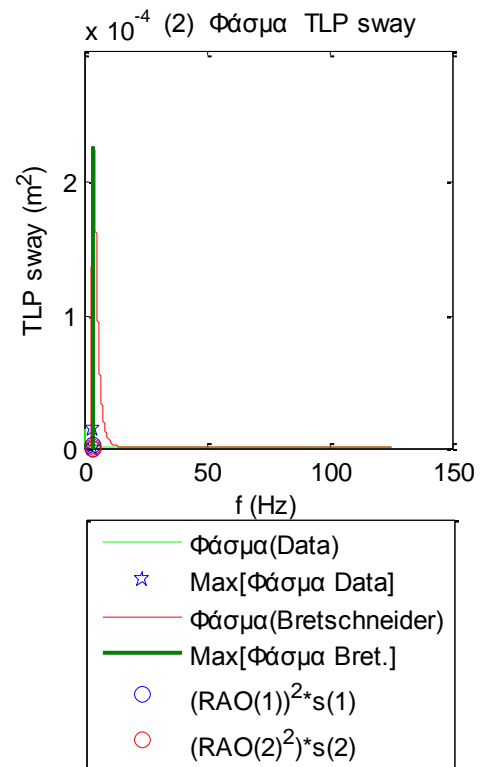
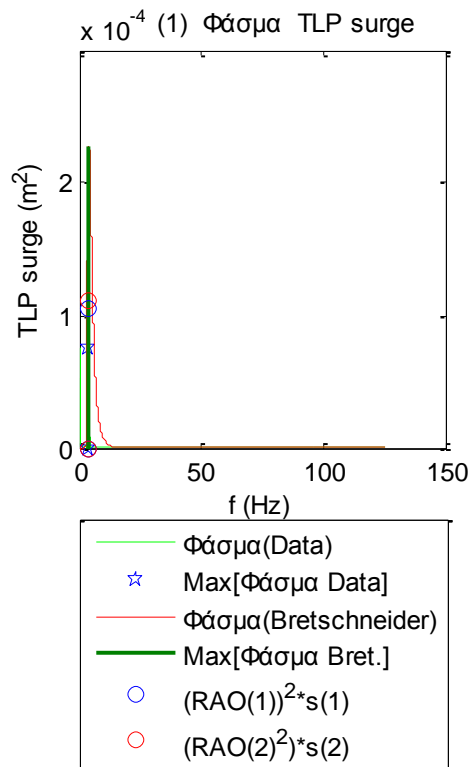
Σχήματα 1.1.4.4 (1-4) Φάσματα για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

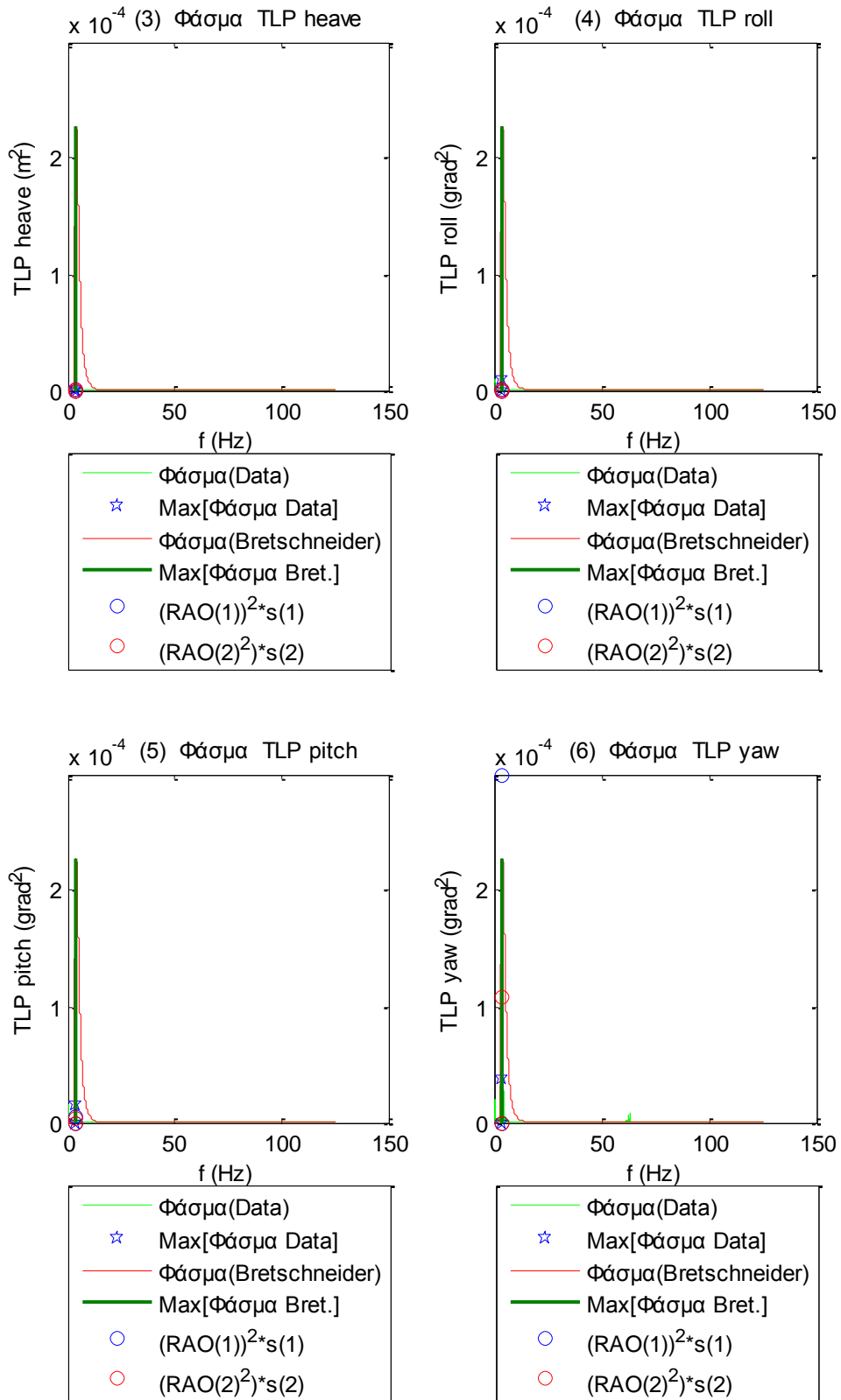


Σχήματα 1.1.4.5 (1-3) Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

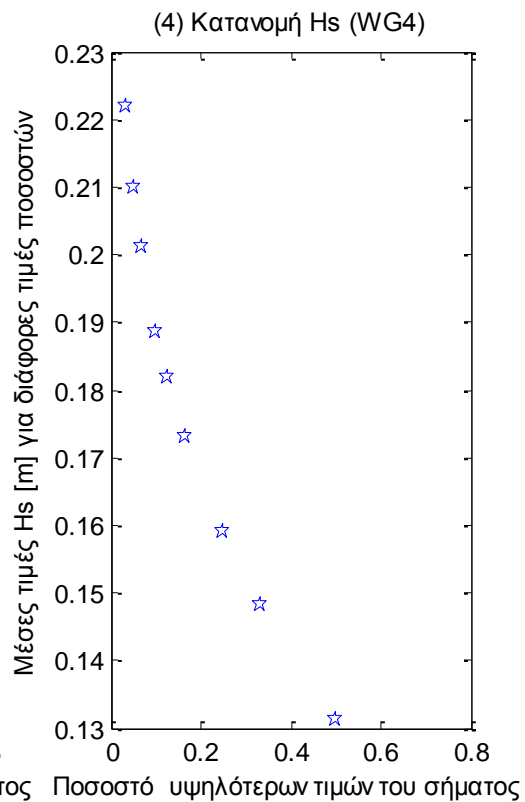
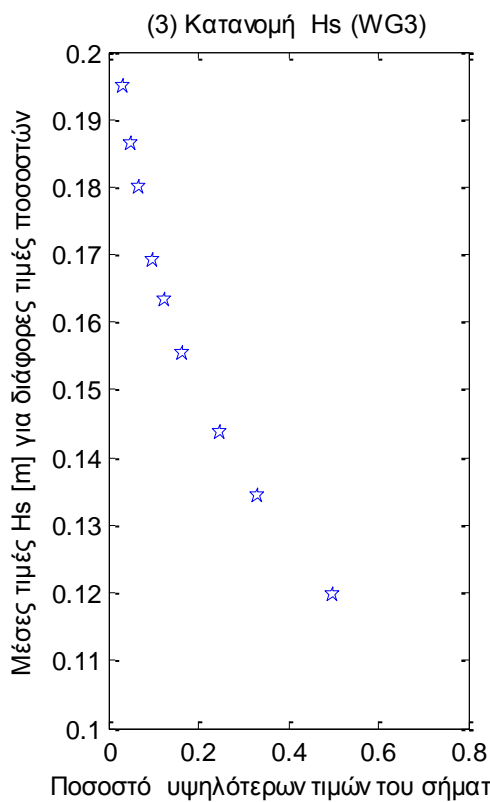
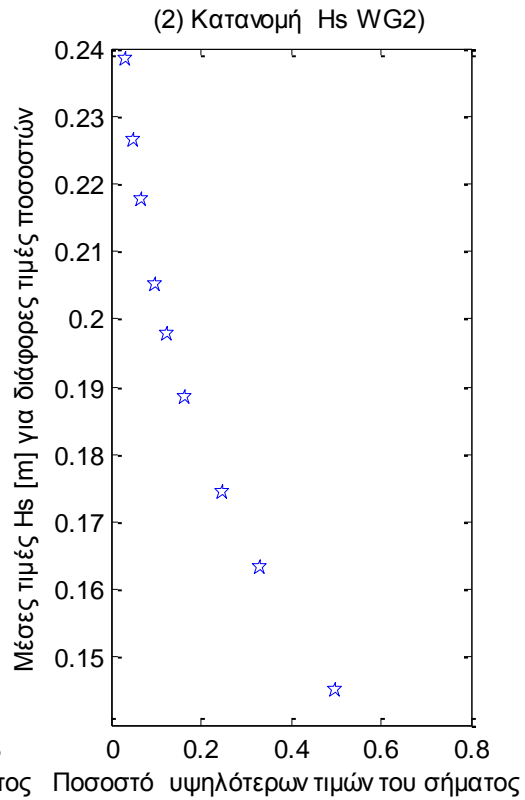
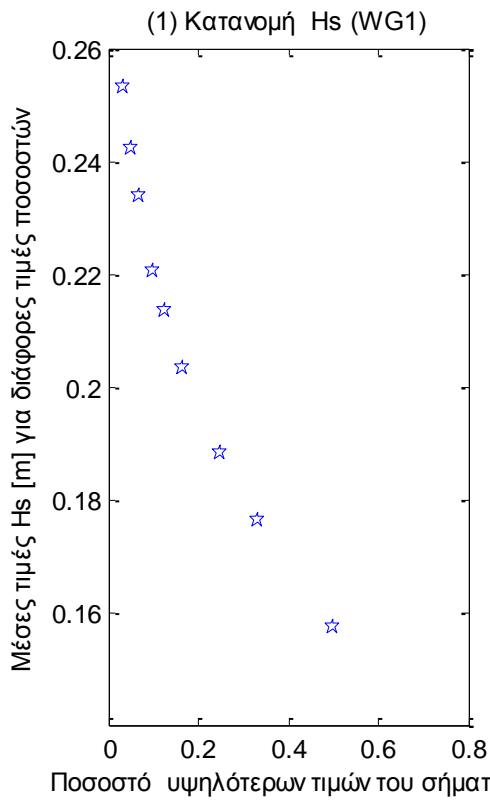


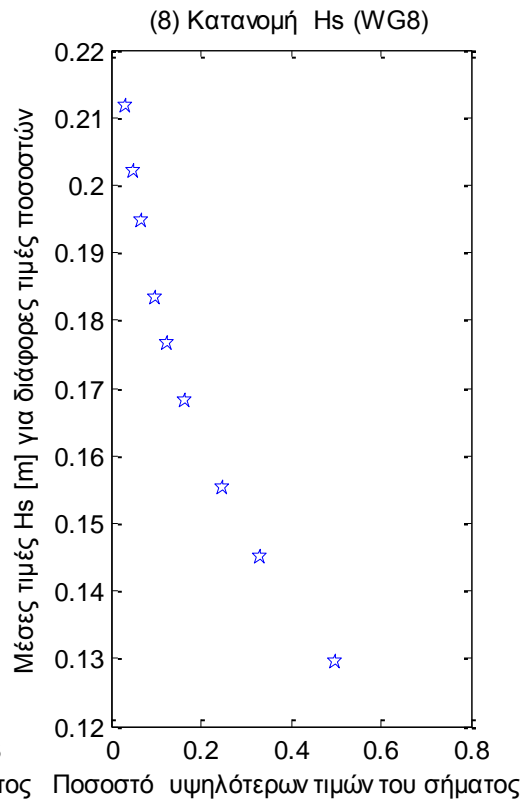
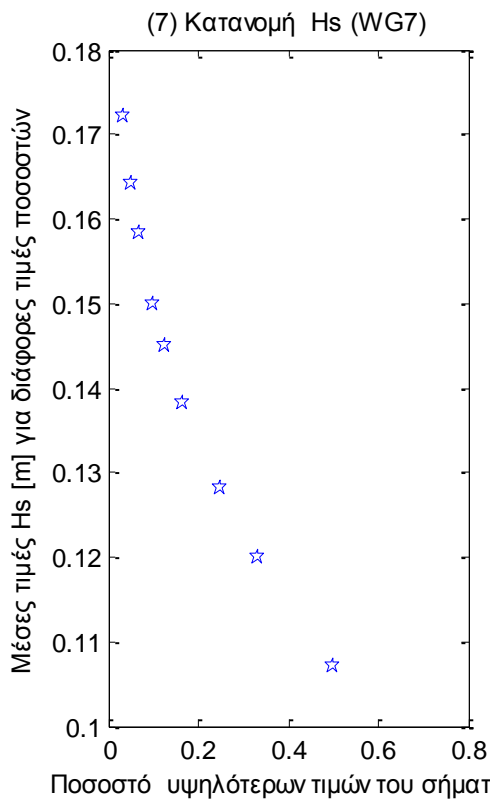
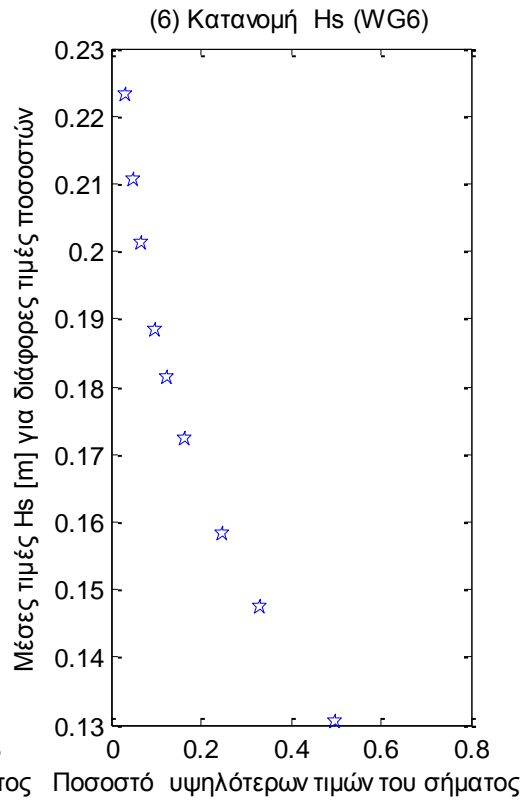
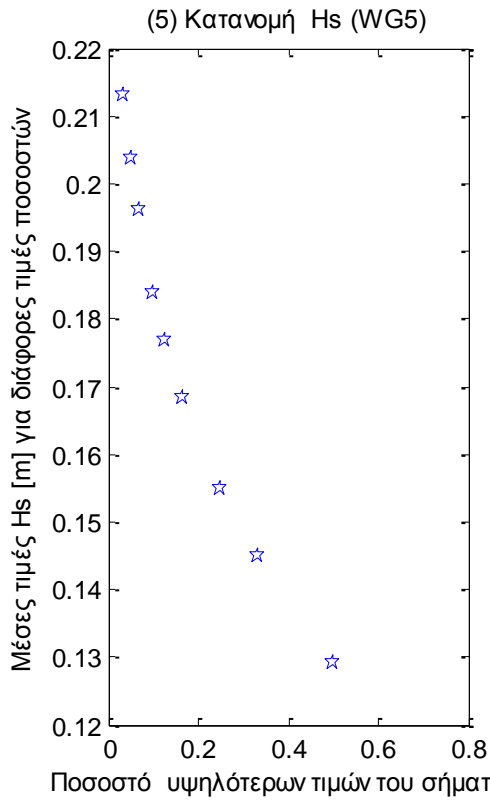
Σχήματα 1.1.4.6 (1-2) Φάσματα για τα δυο όργανα μέτρησης της πίεσης

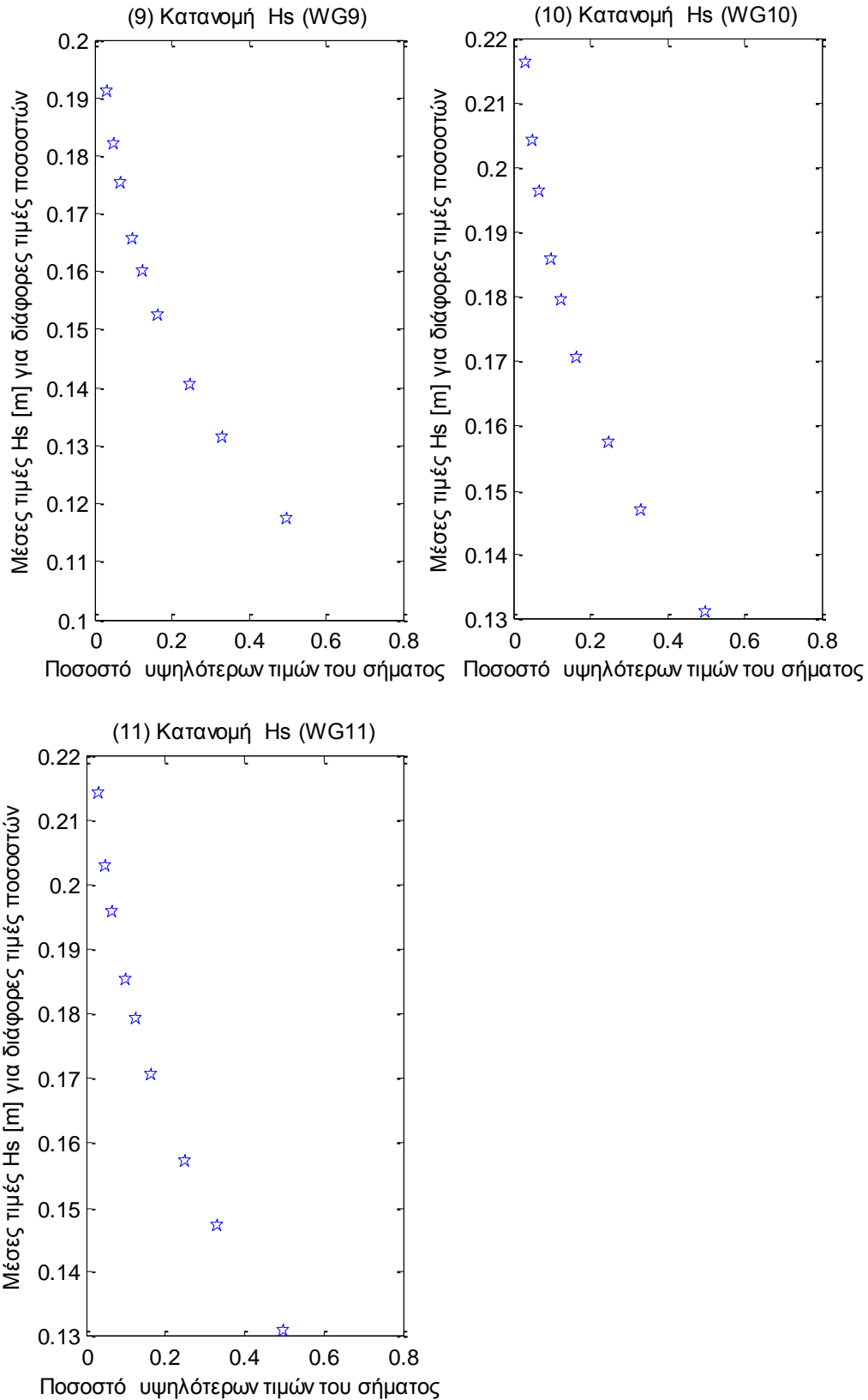




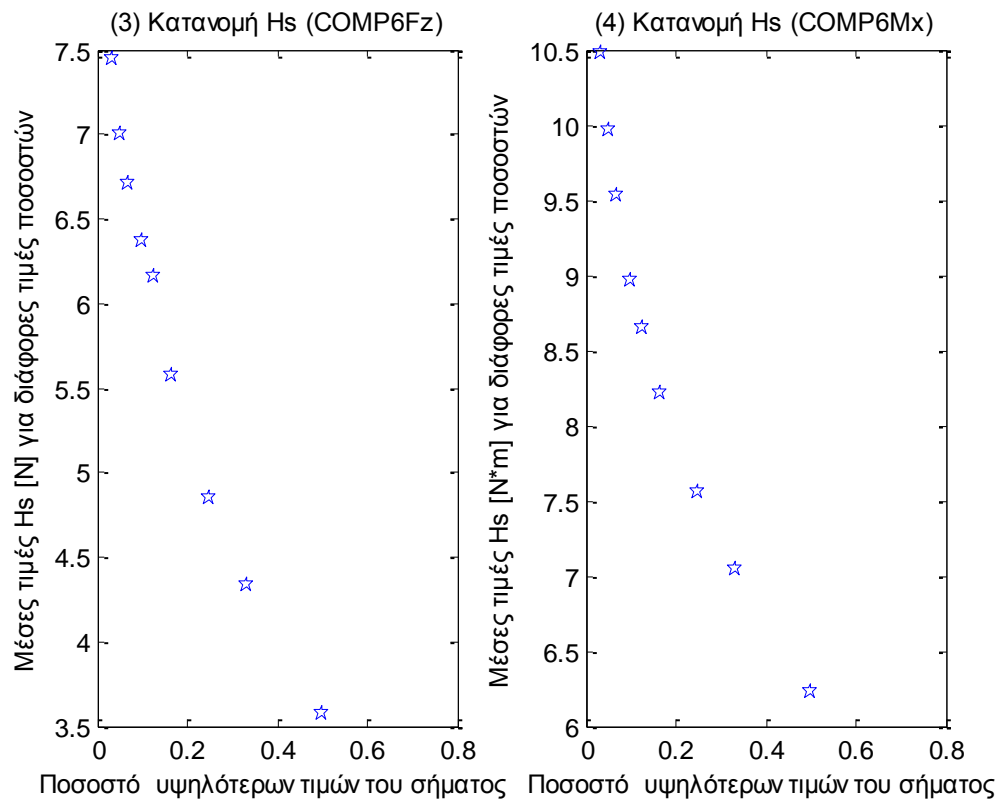
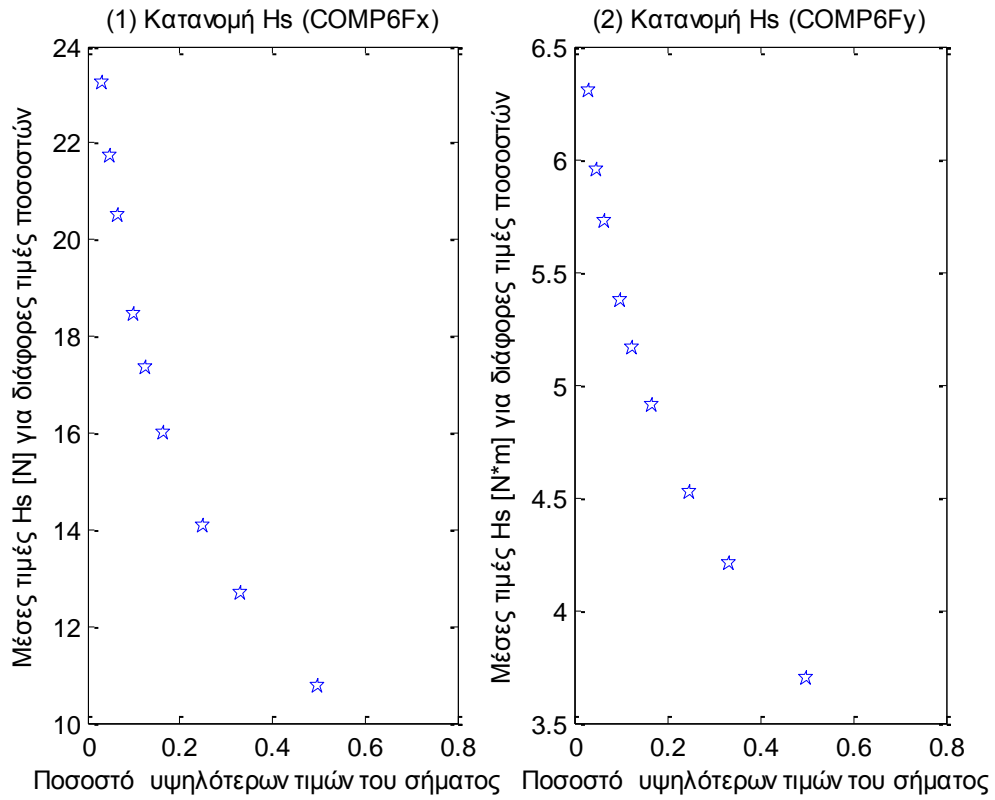
Σχήματα 1.1.4.7 Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

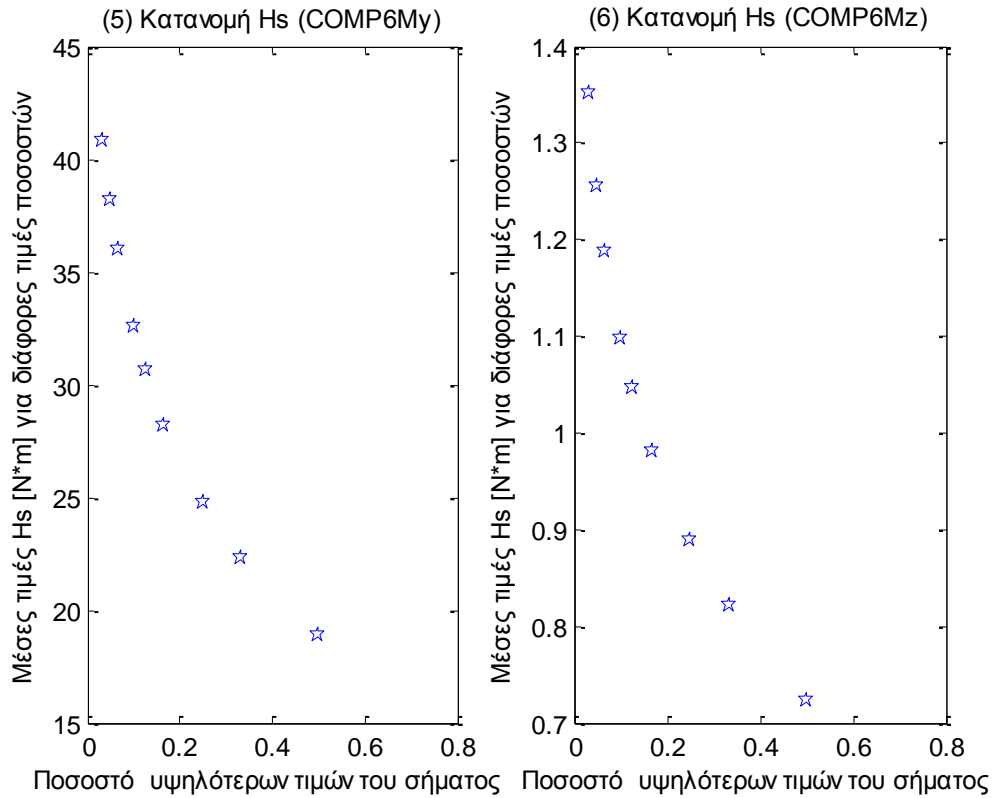




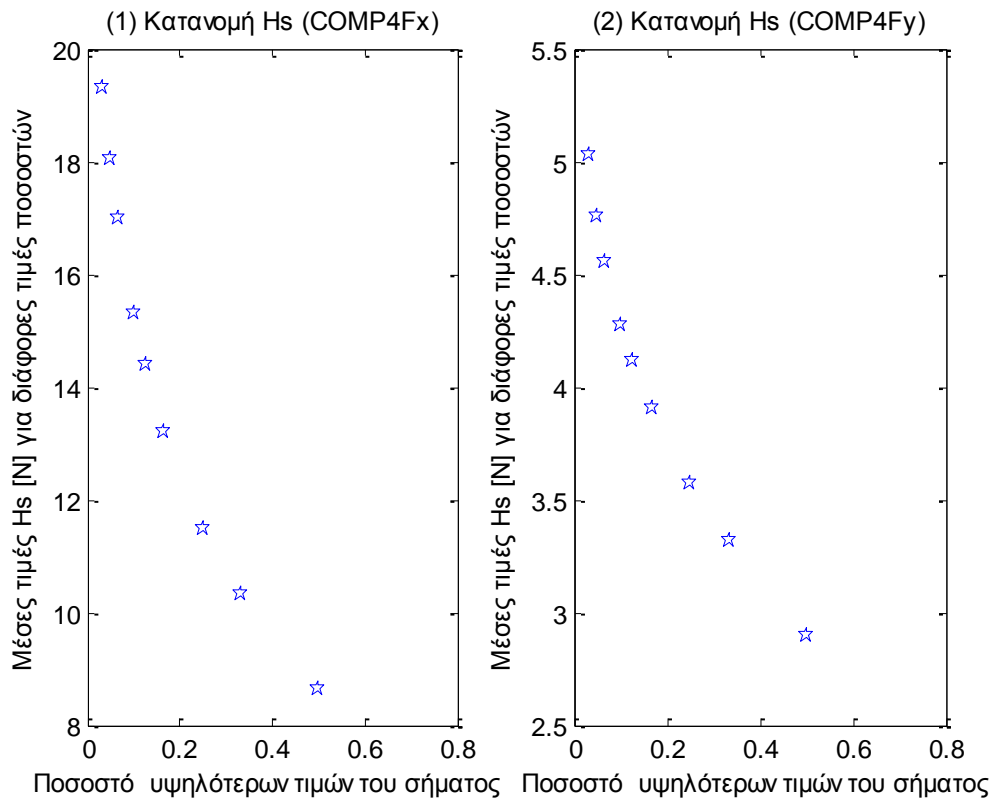


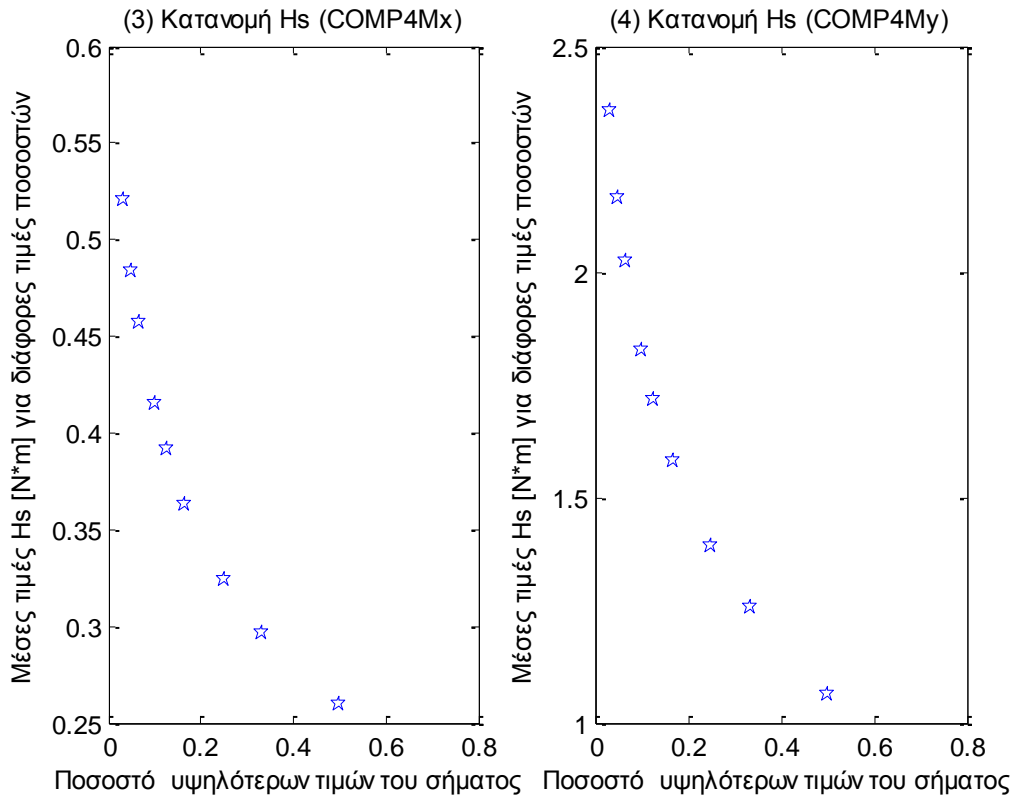
Σχήματα 1.1.5.1 (1-11) Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



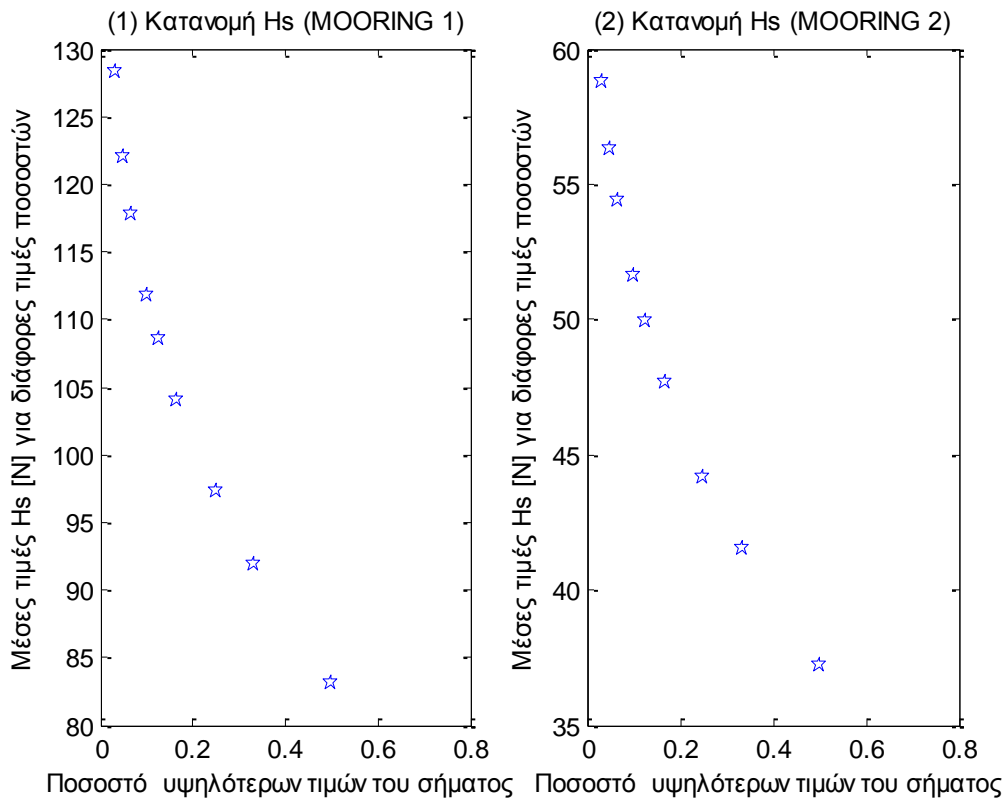


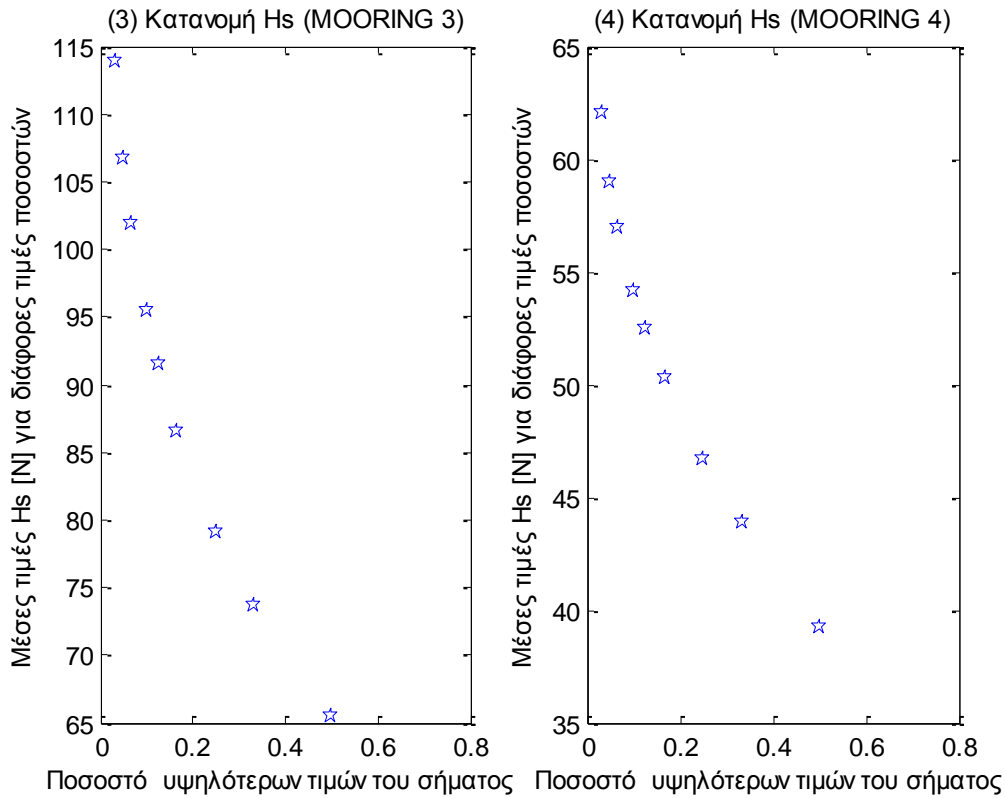
Σχήματα 1.1.5.2 Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



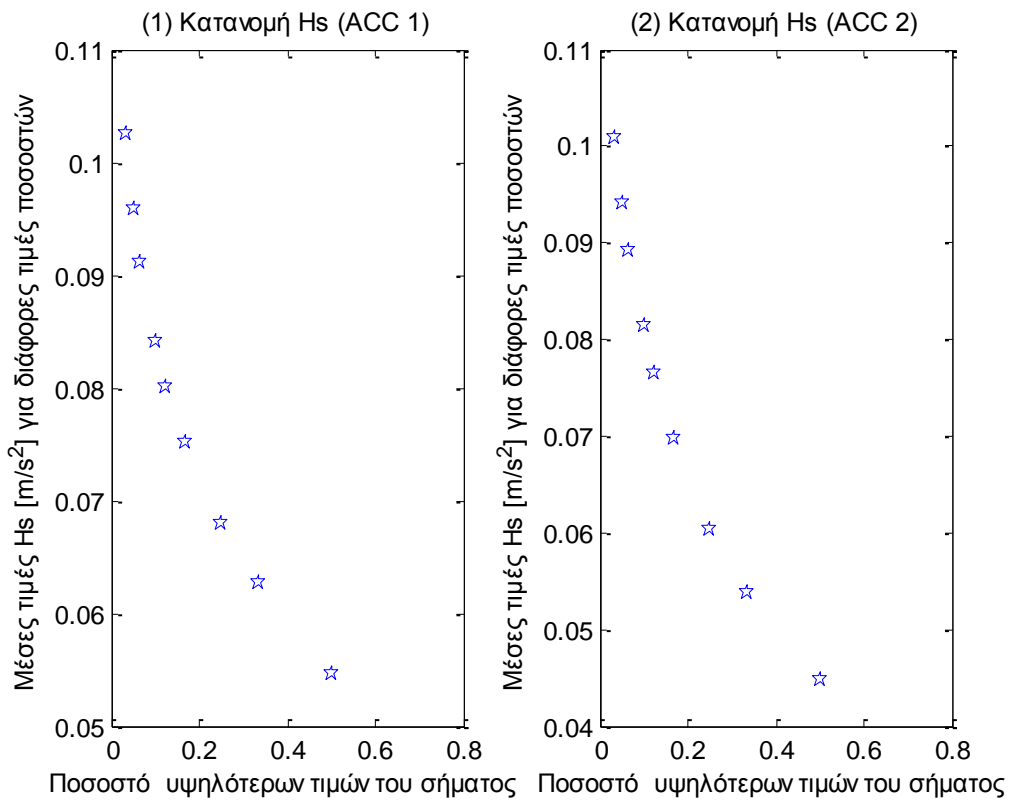


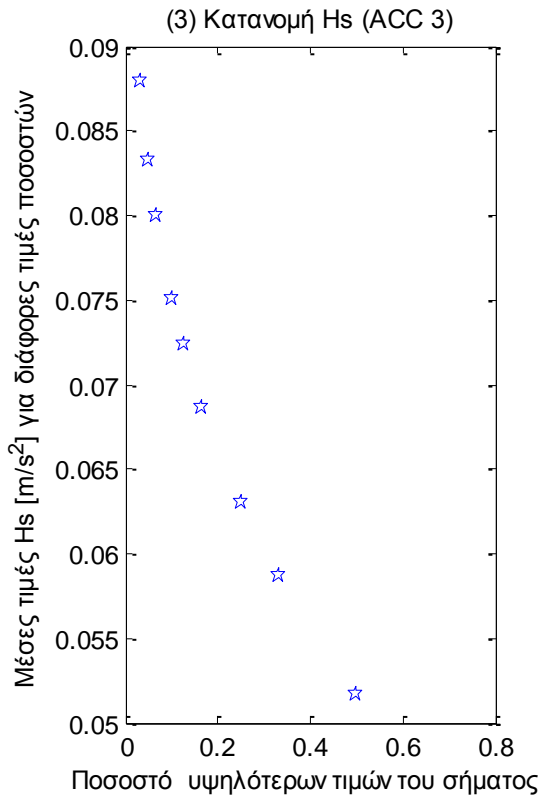
Σχήματα 1.1.5.3 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



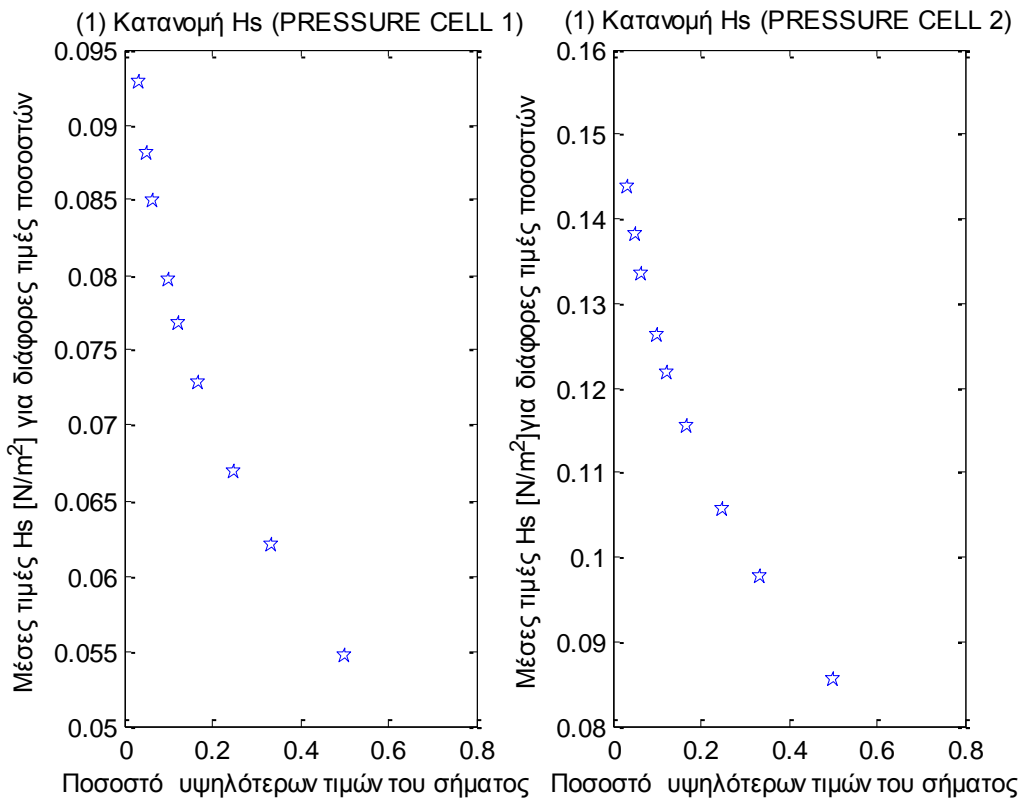


Σχήματα 1.1.5.4 (1-4) Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

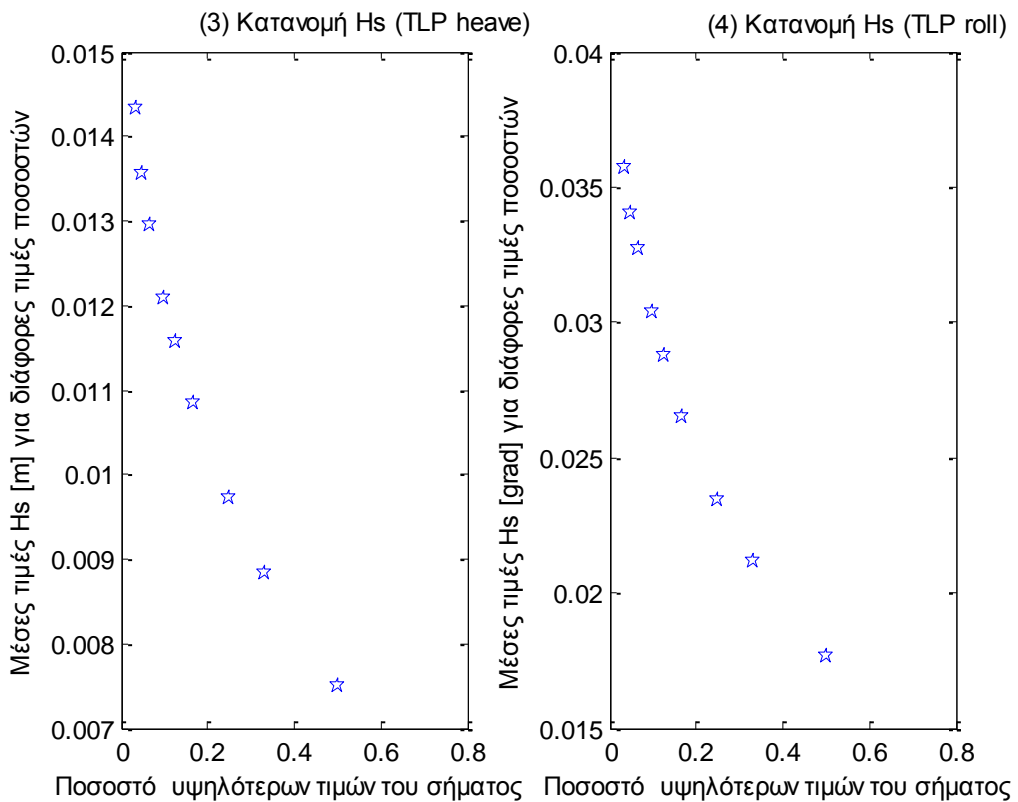
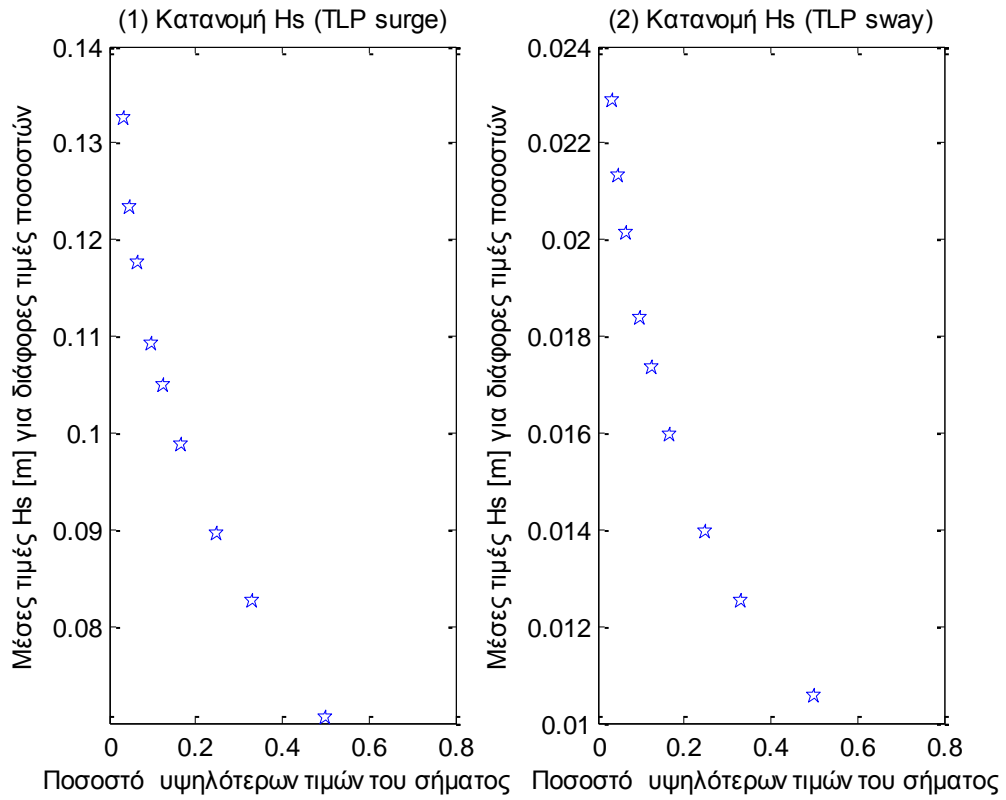


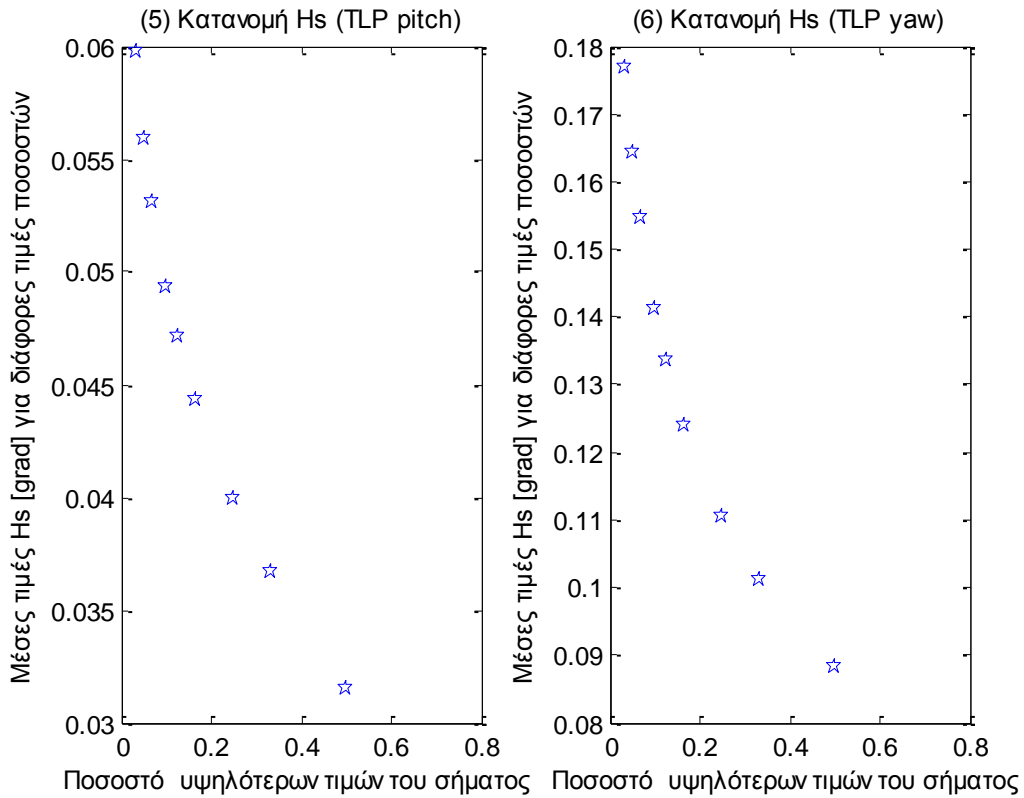


Σχήματα 1.1.5.5 (1-3) Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

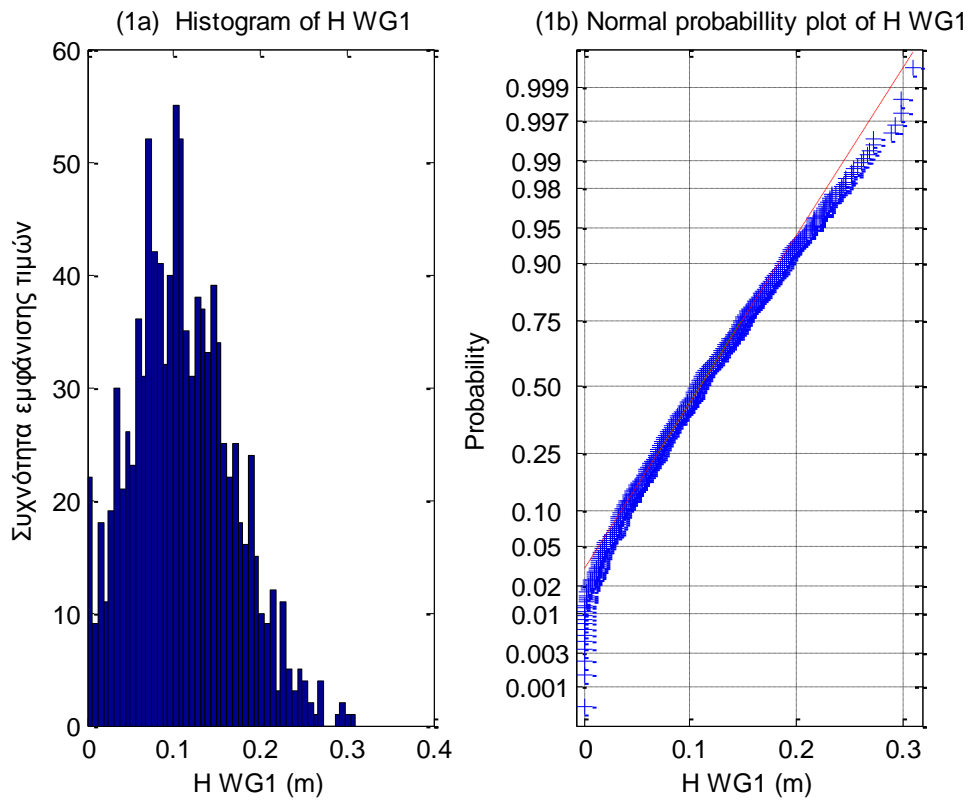


Σχήματα 1.1.5.6 (1-2) Κατανομή σημαντικού ύψους Hs για τα δυο όργανα μέτρησης της πίεσης

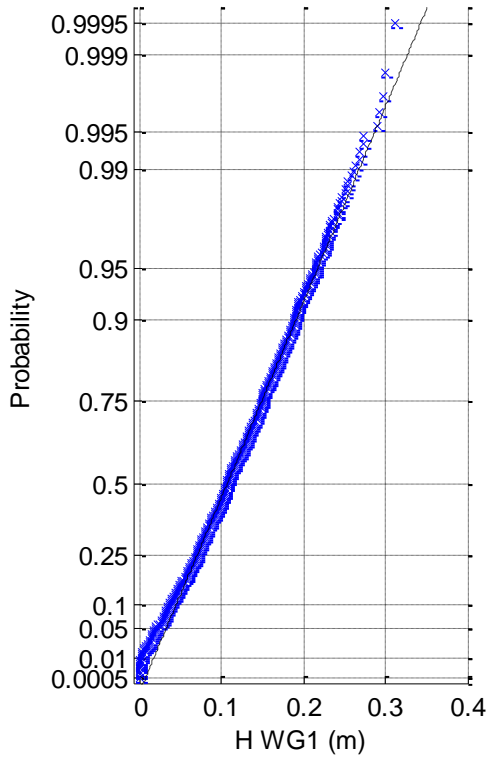




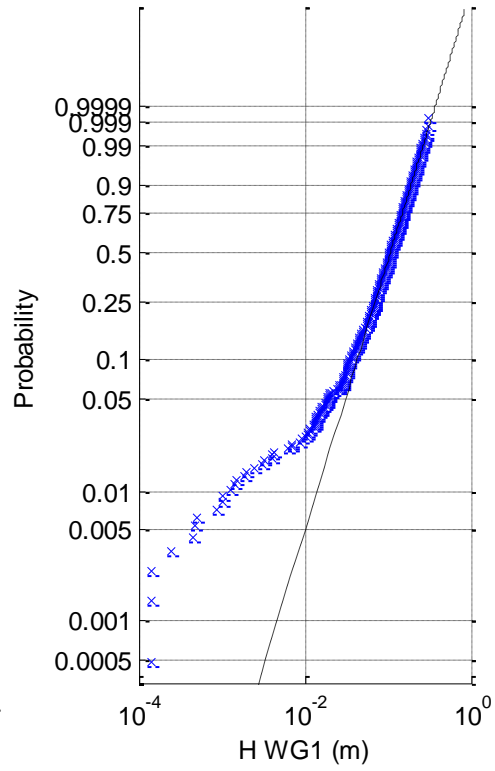
Σχήματα 1.1.5.7 Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



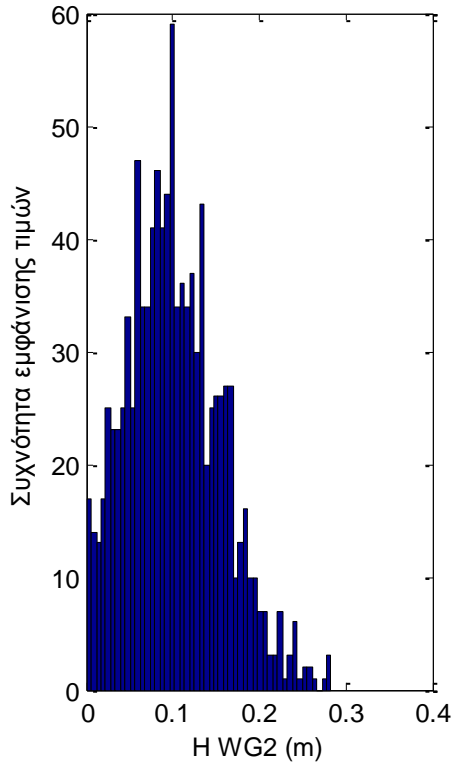
(1c) Rayleigh probability plot of H WG1



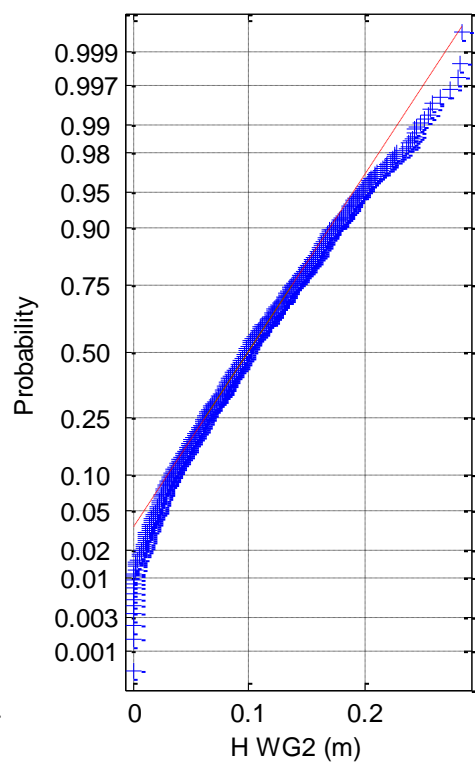
(1d) Weibull probability plot of H WG1



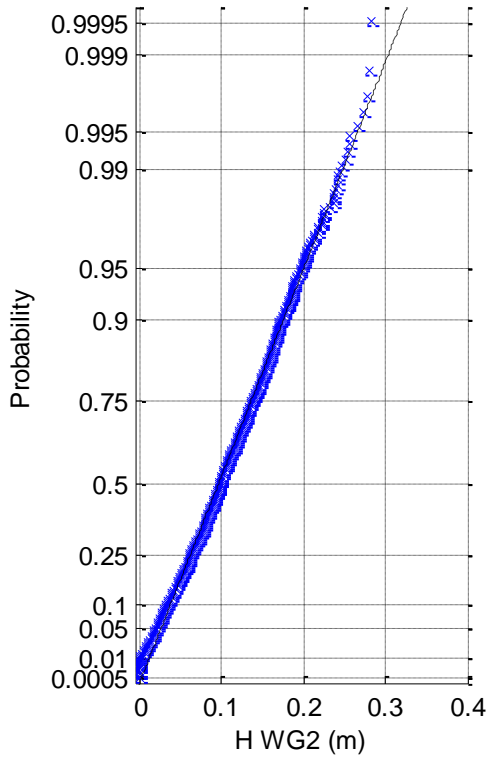
(2a) Histogram of H WG2



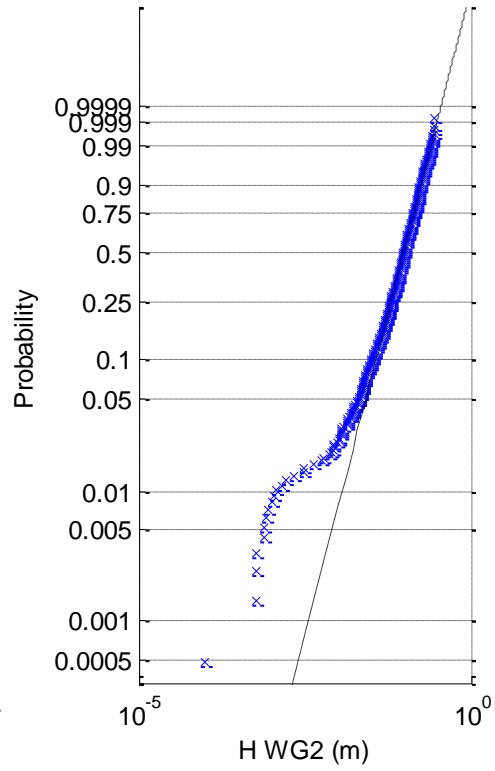
(2b) Normal probability plot of H WG2



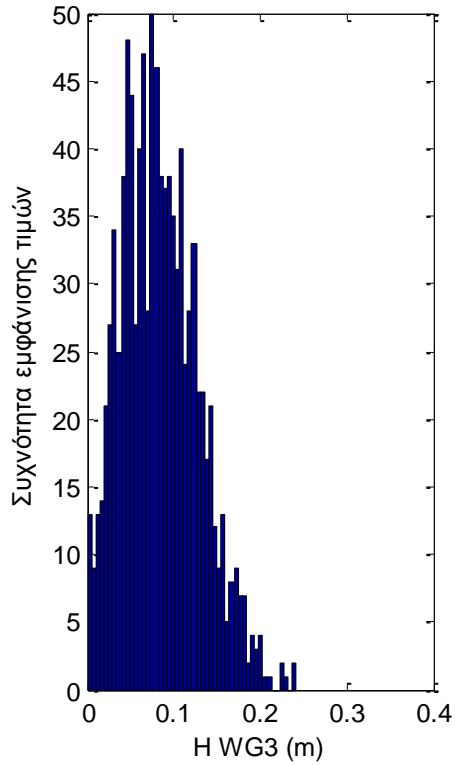
(2c) Rayleigh probability plot of H WG2



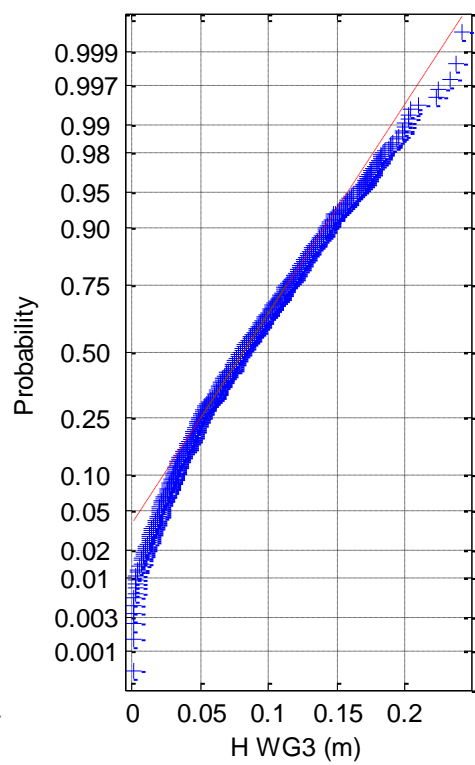
(2d) Weibull probability plot of H WG2



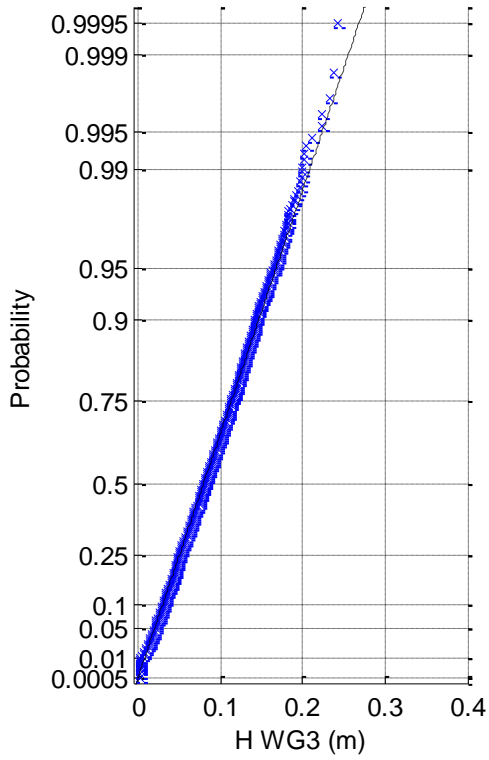
(3a) Histogram of H WG3



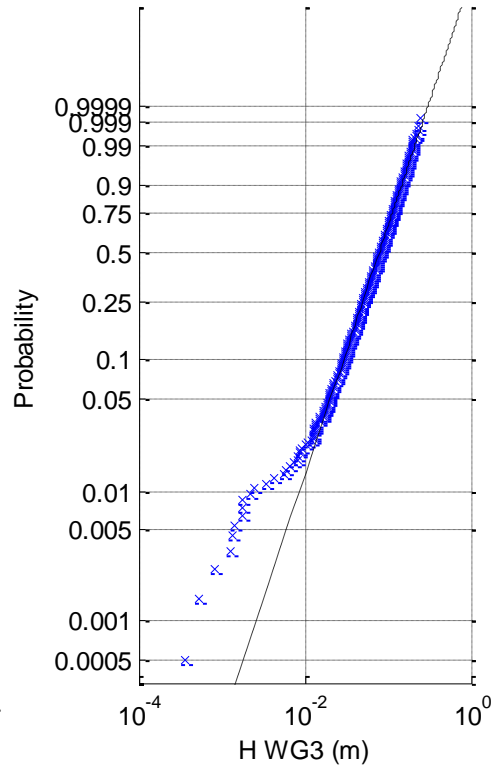
(3b) Normal probability plot of H WG3



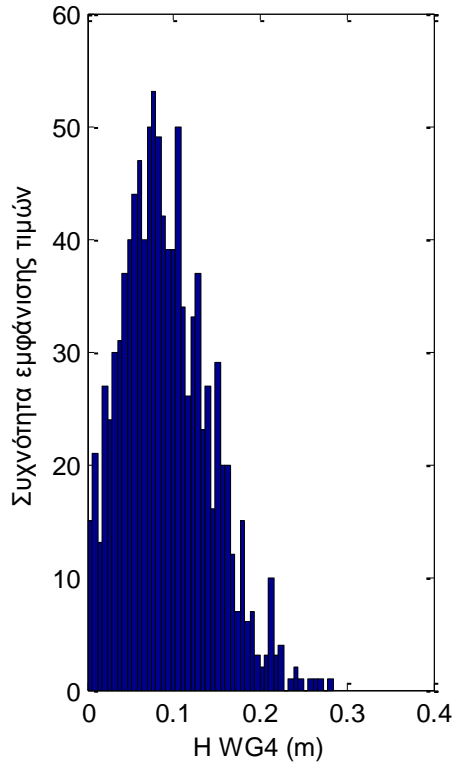
(3c) Rayleigh probability plot of H WG3



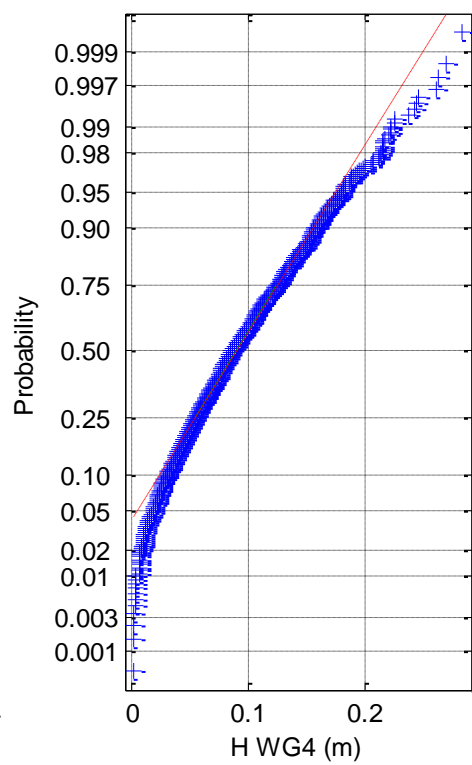
(3d) Weibull probability plot of H WG3



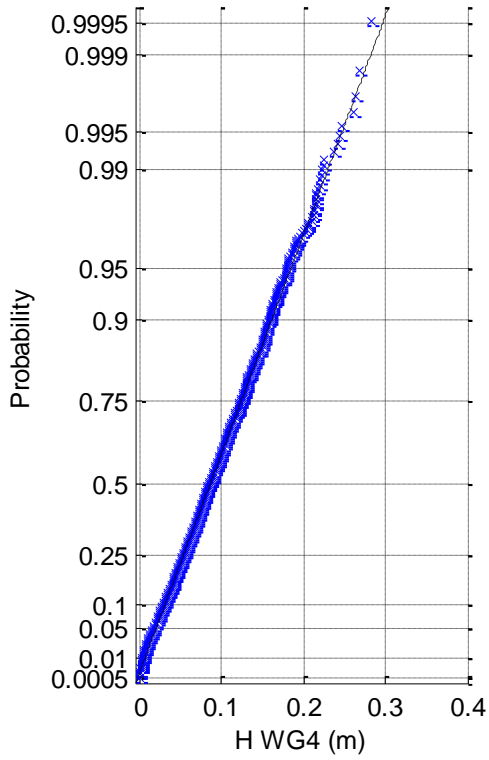
(4a) Histogram of H WG4



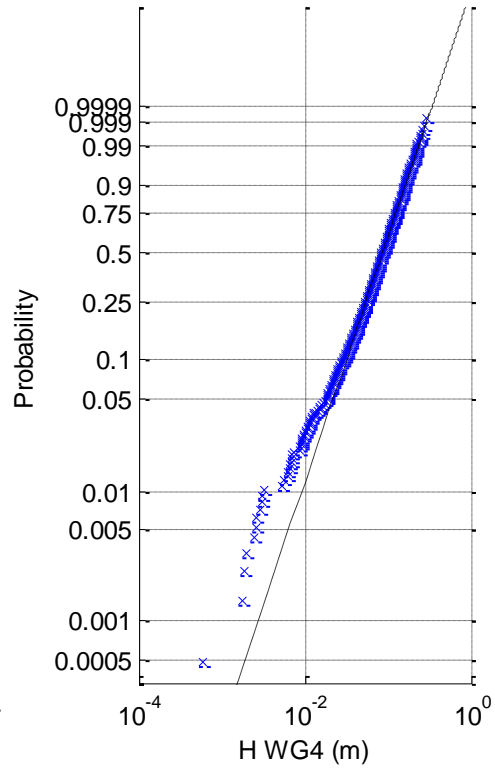
(4b) Normal probability plot of H WG4



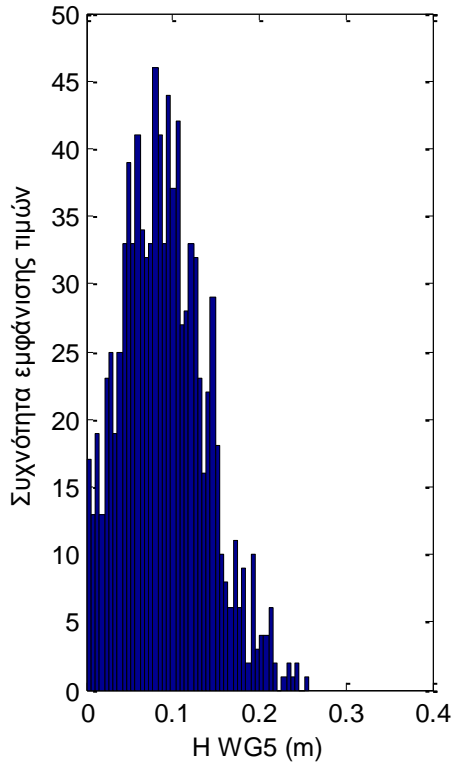
(4c) Rayleigh probability plot of H WG4



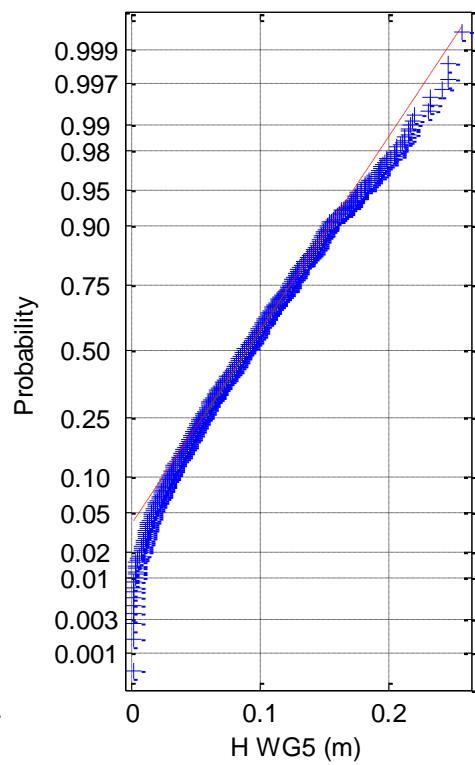
(4d) Weibull probability plot of H WG4



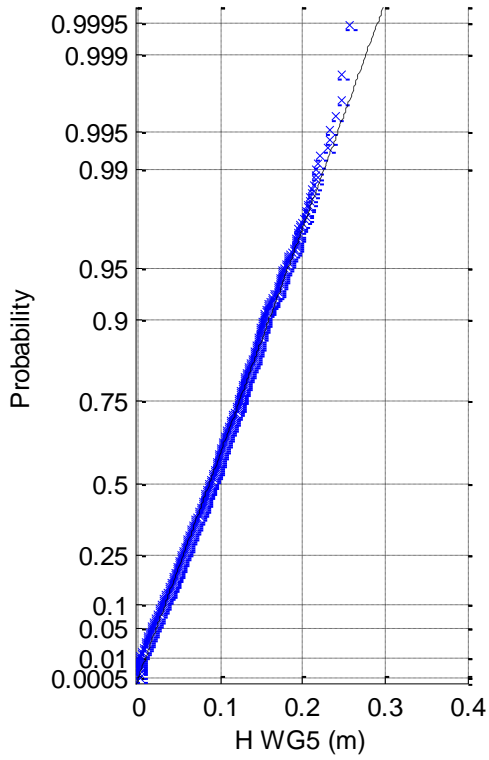
(5a) Histogram of H WG5



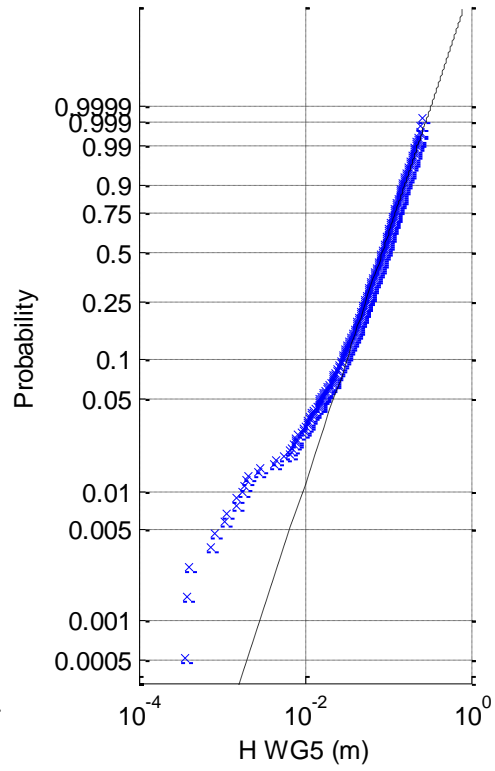
(5b) Normal probability plot of H WG5



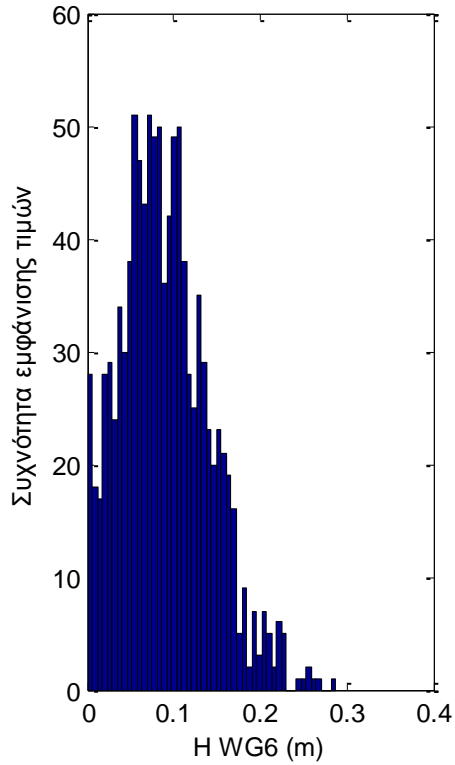
(5c) Rayleigh probability plot of H WG5



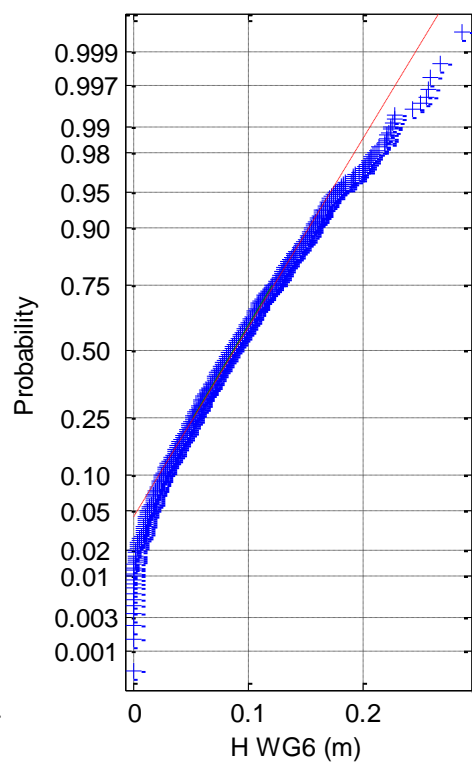
(5d) Weibull probability plot of H WG5



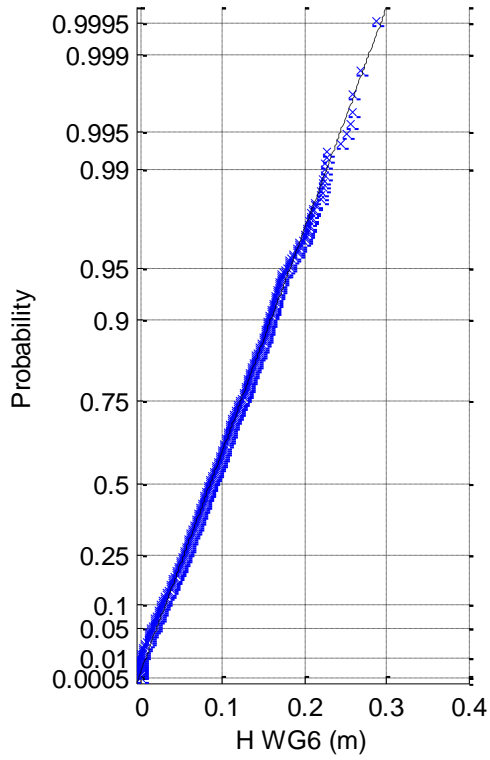
(6a) Histogram of H WG6



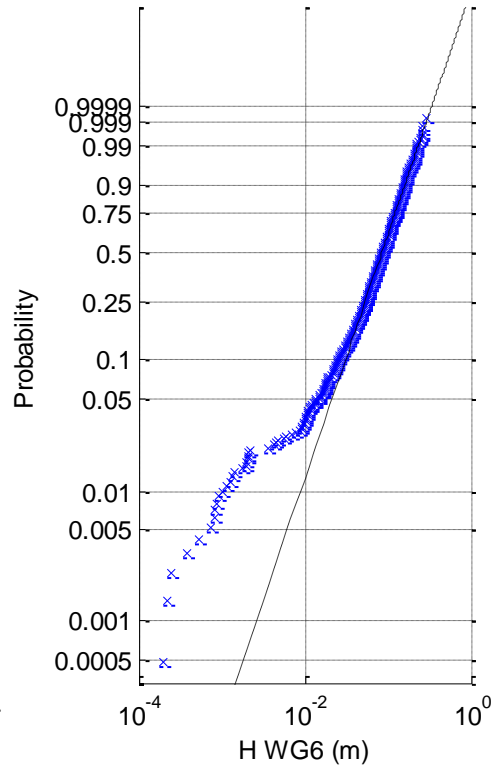
(6b) Normal probability plot of H WG6



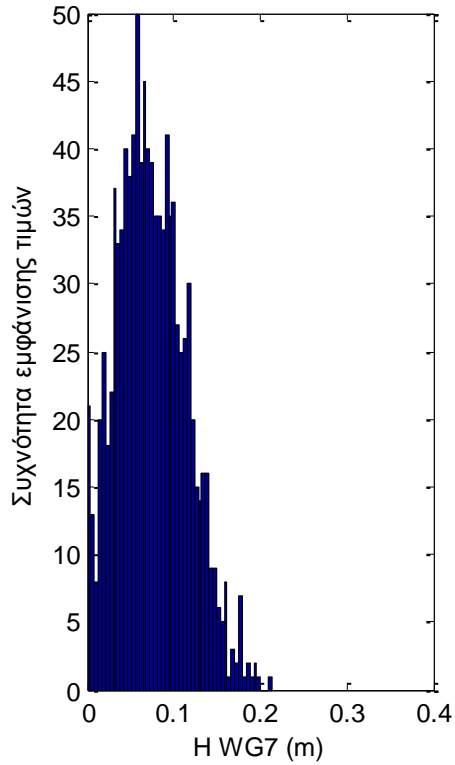
(6c) Rayleigh probability plot of H WG6



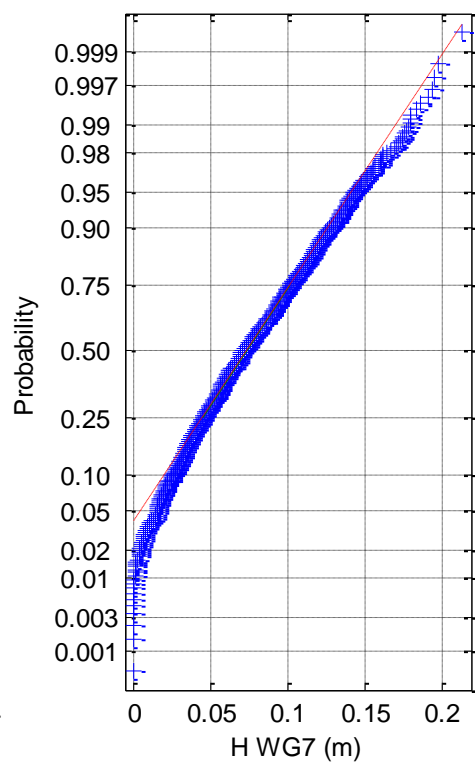
(6d) Weibull probability plot of H WG6



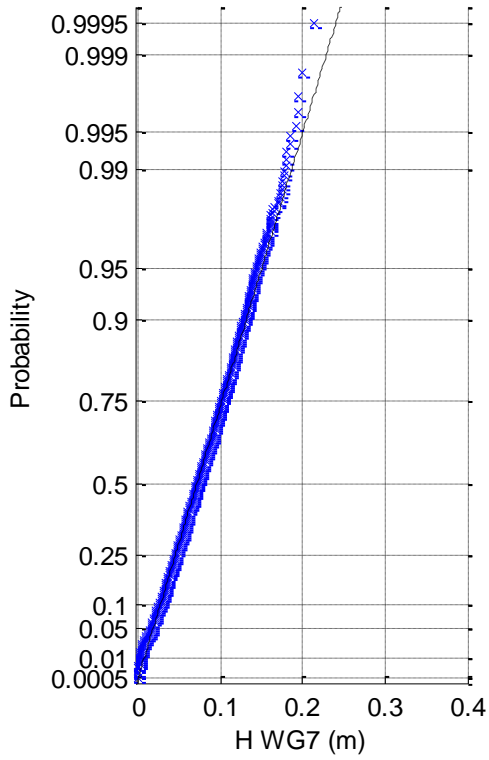
(7a) Histogram of H WG7



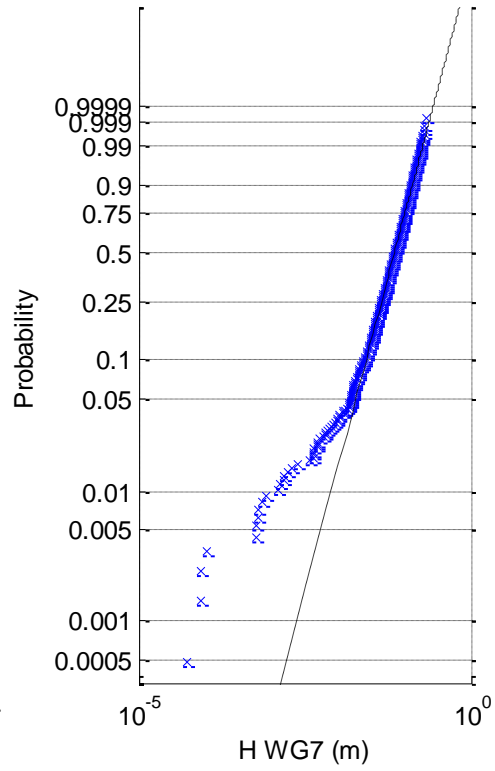
(7b) Normal probability plot of H WG7



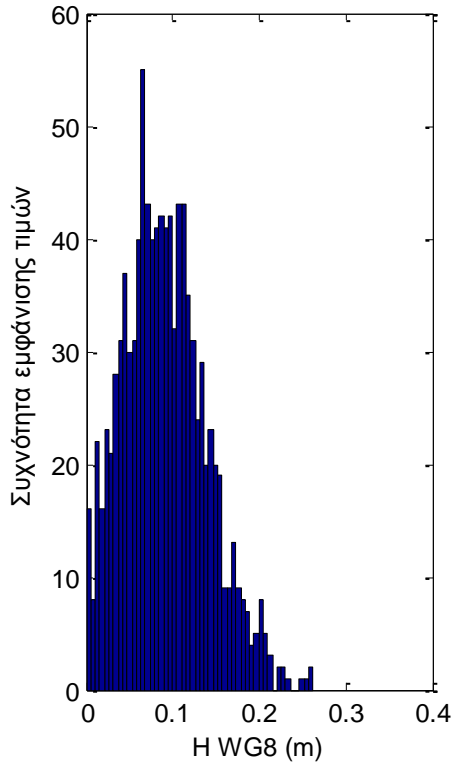
(7c) Rayleigh probability plot of H WG7



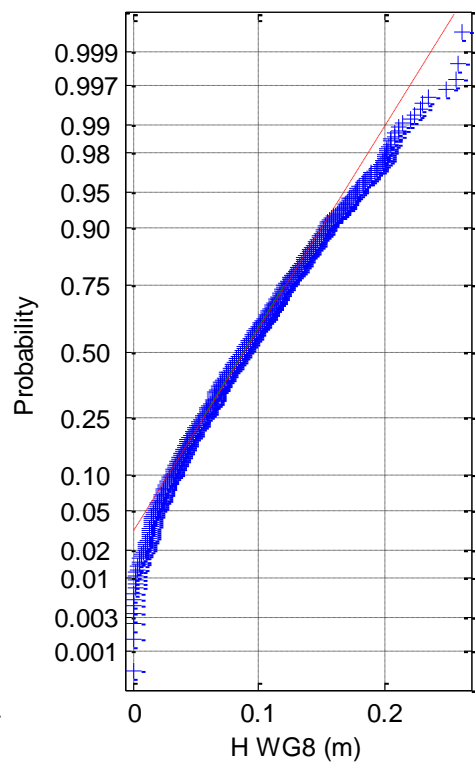
(7d) Weibull probability plot of H WG7



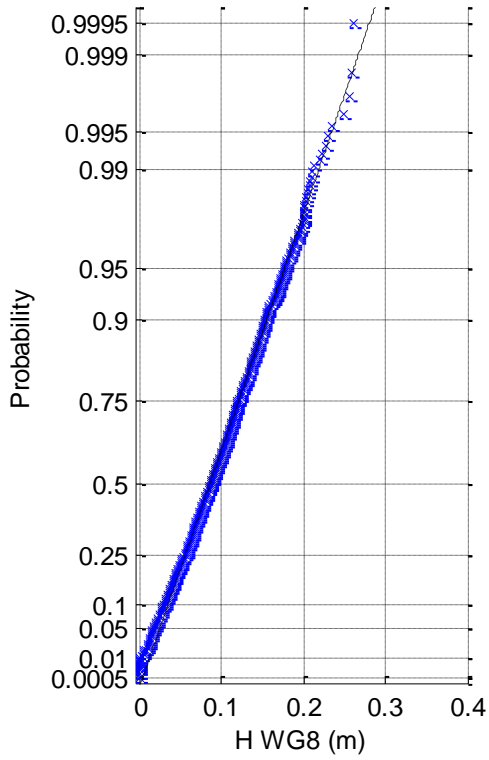
(8a) Histogram of H WG8



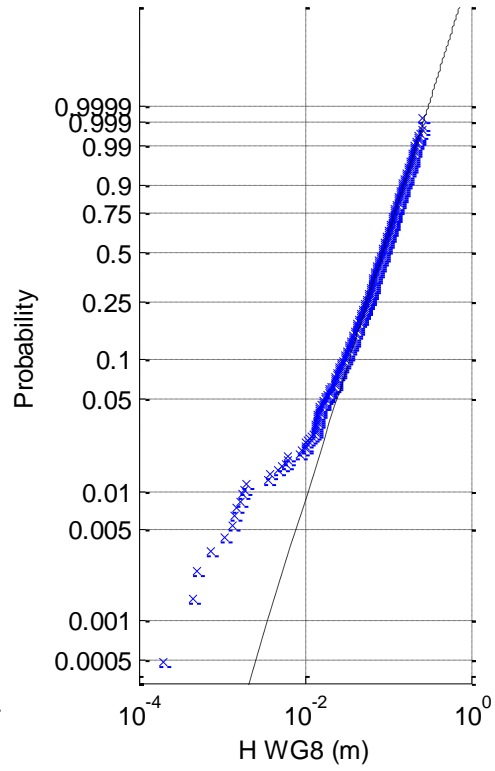
(8b) Normal probability plot of H WG8



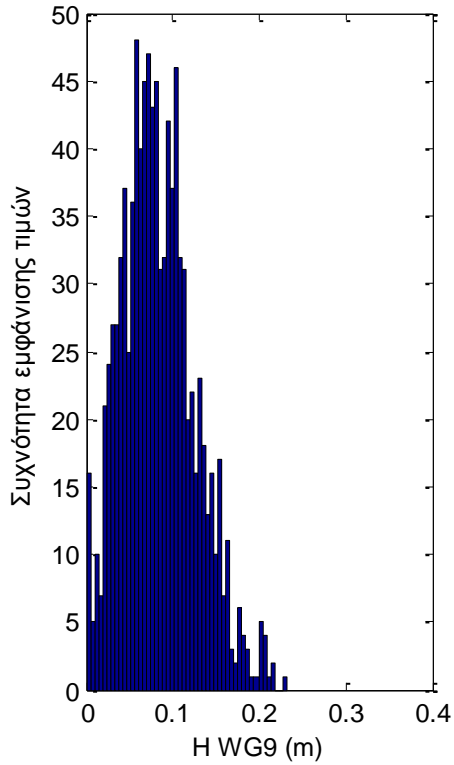
(8c) Rayleigh probability plot of H WG8



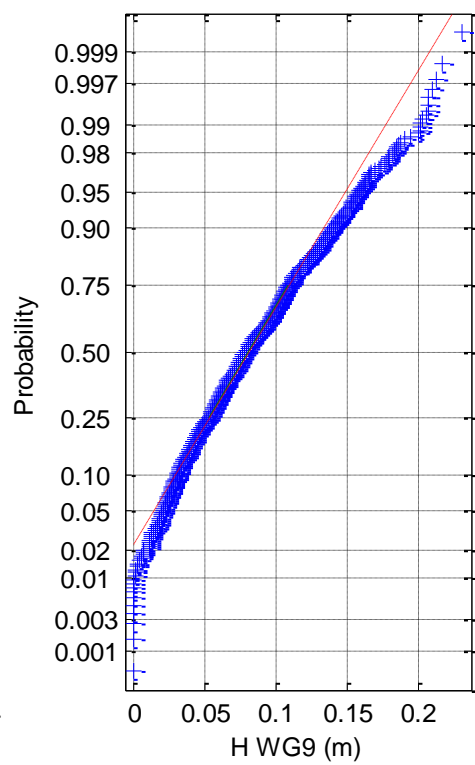
(8d) Weibull probability plot of H WG8



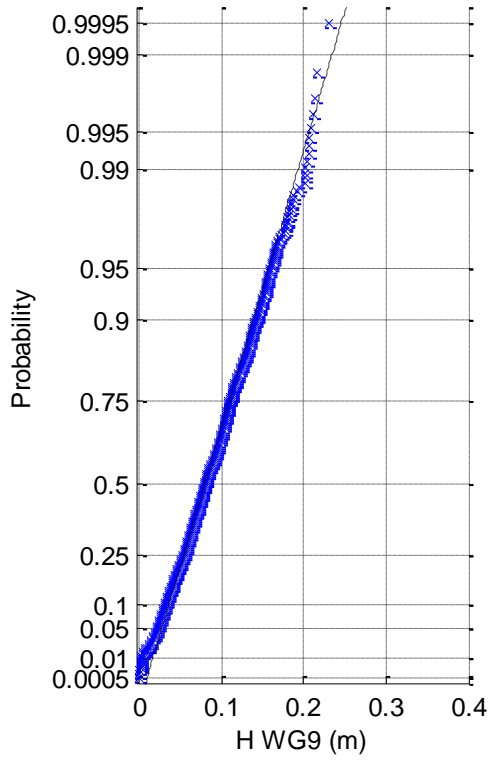
(9a) Histogram of H WG9



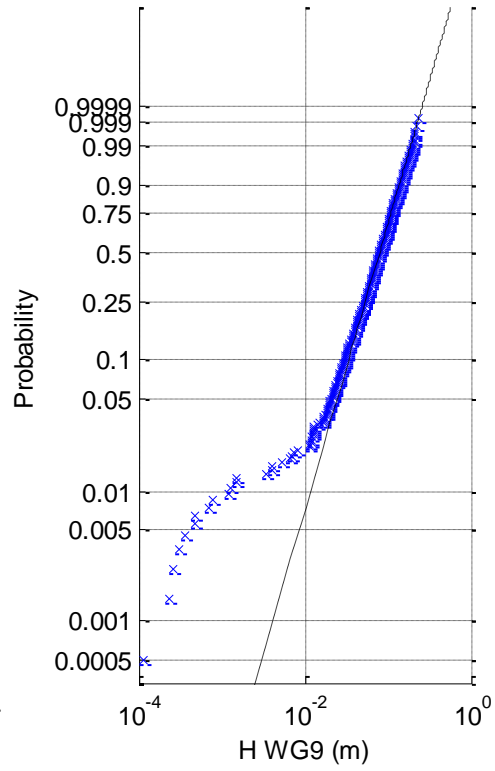
(9b) Normal probability plot of H WG9



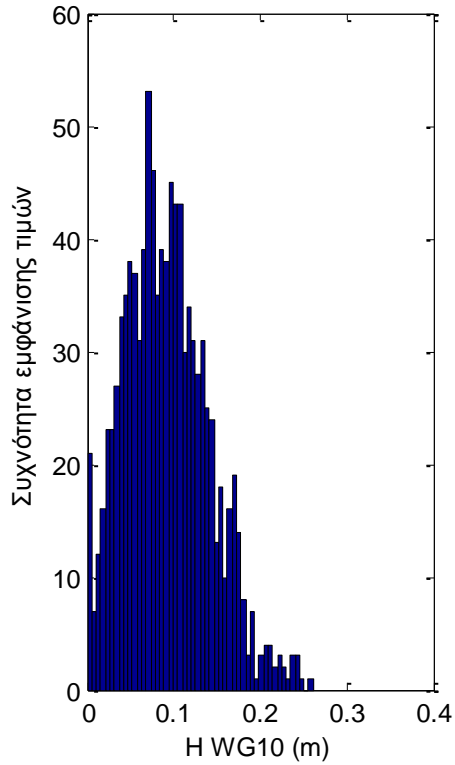
(9c) Rayleigh probability plot of H WG9



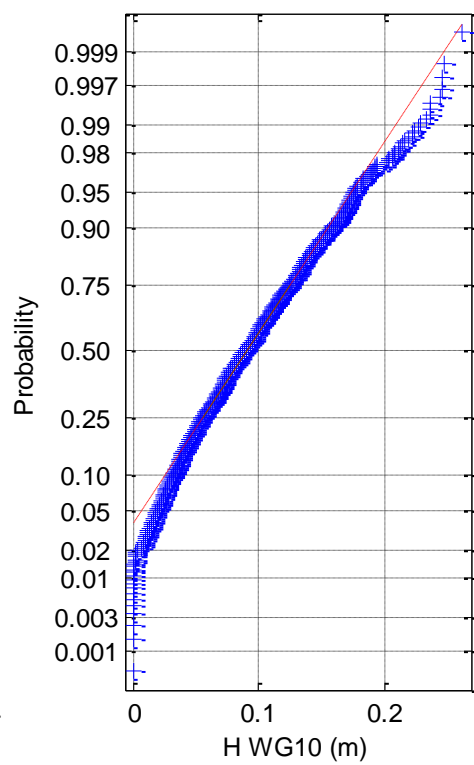
(9d) Weibull probability plot of H WG9



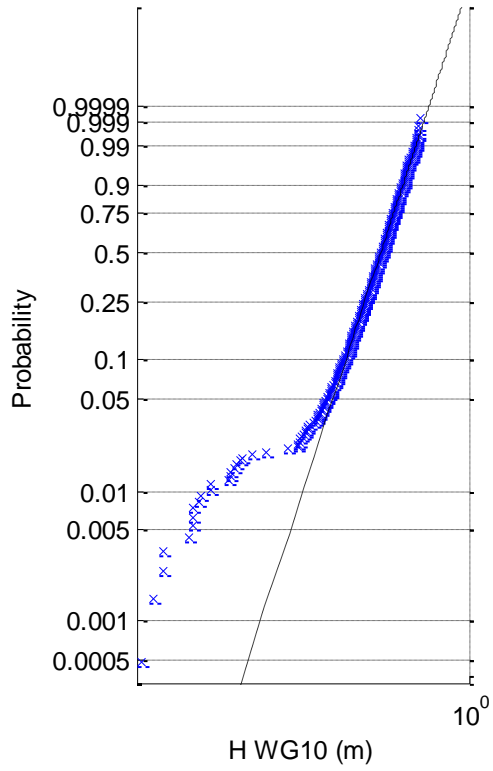
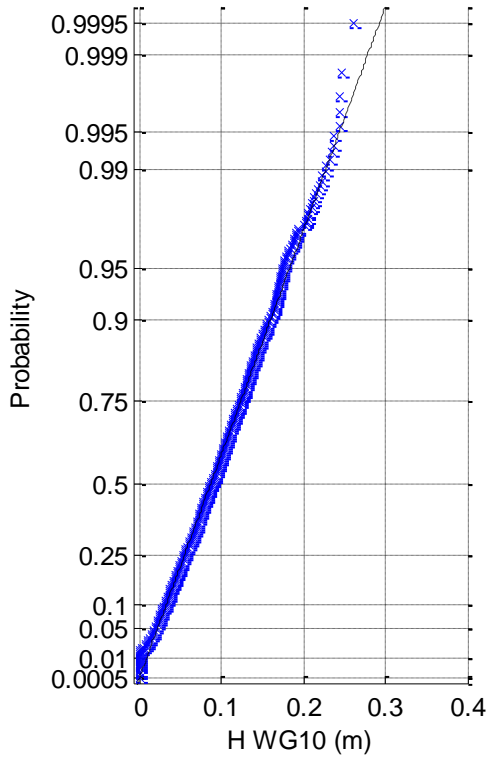
(10a) Histogram of H WG10



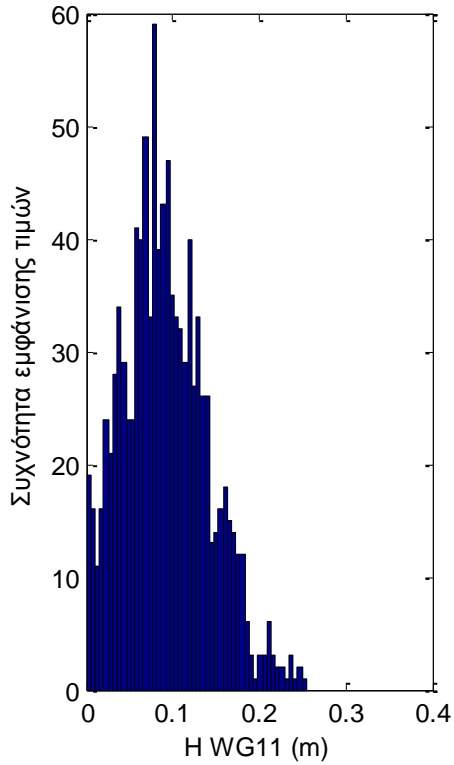
(10b) Normal probability plot of H WG10



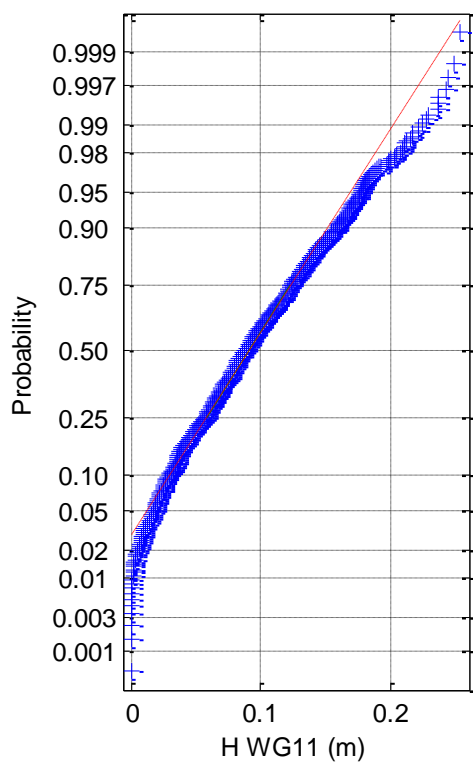
(10c) Rayleigh probability plot of H WG10 (10d) Weibull probability plot of H WG10

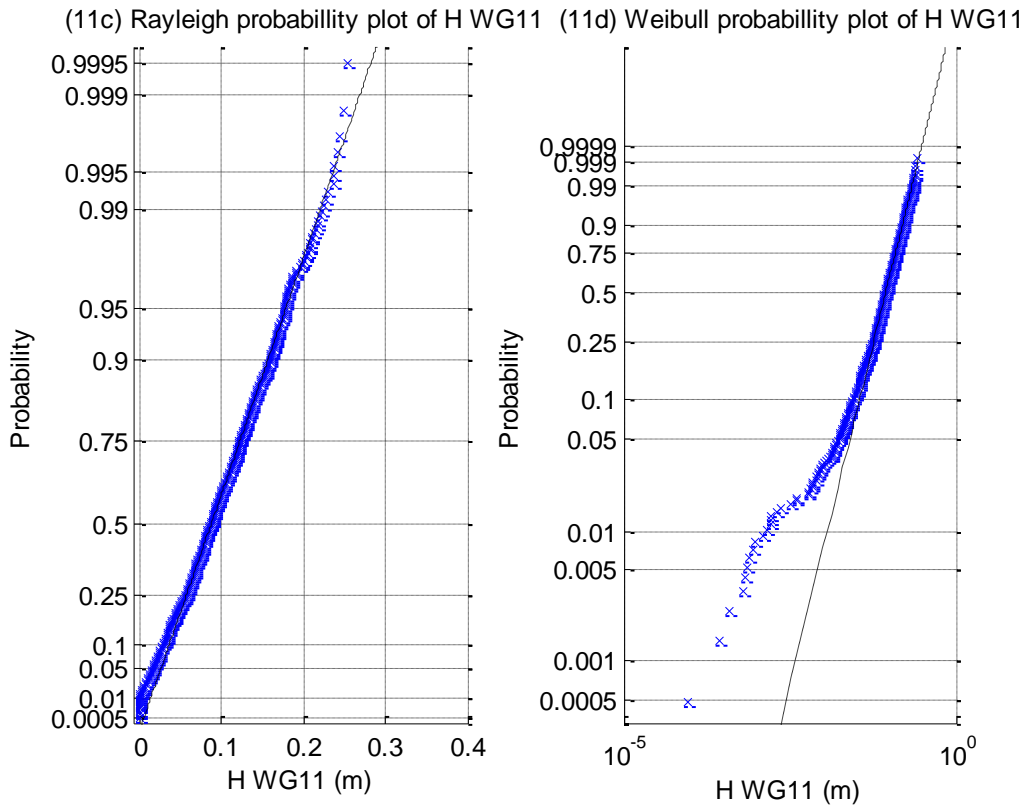


(11a) Histogram of H WG11

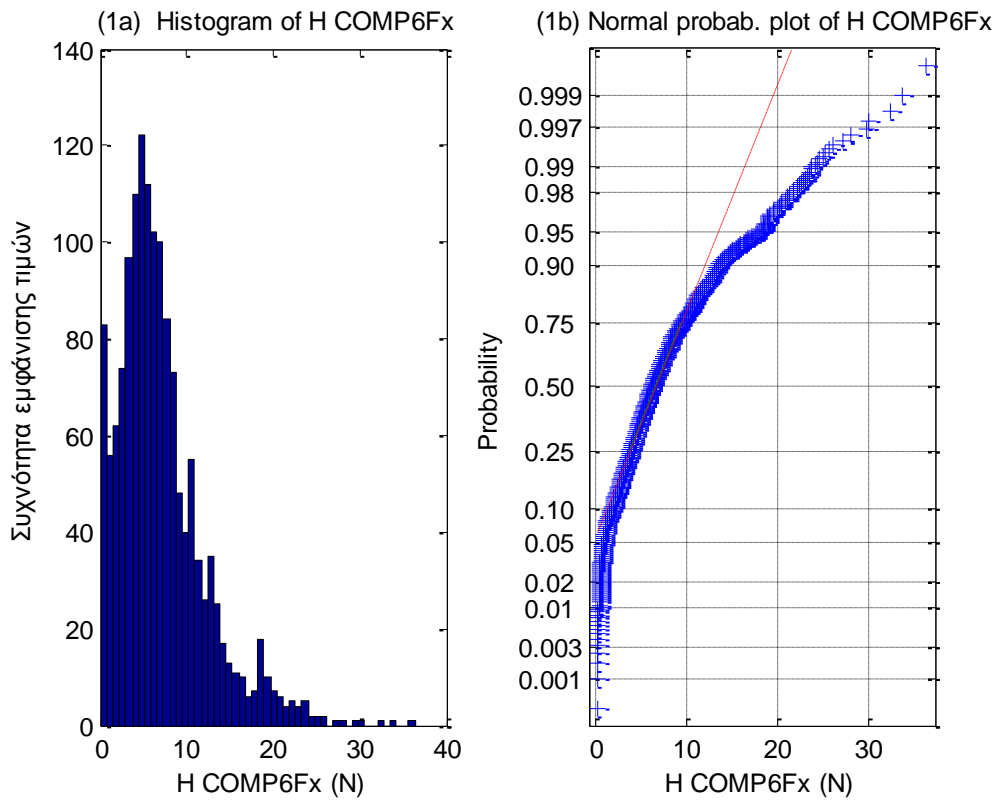


(11b) Normal probability plot of H WG11

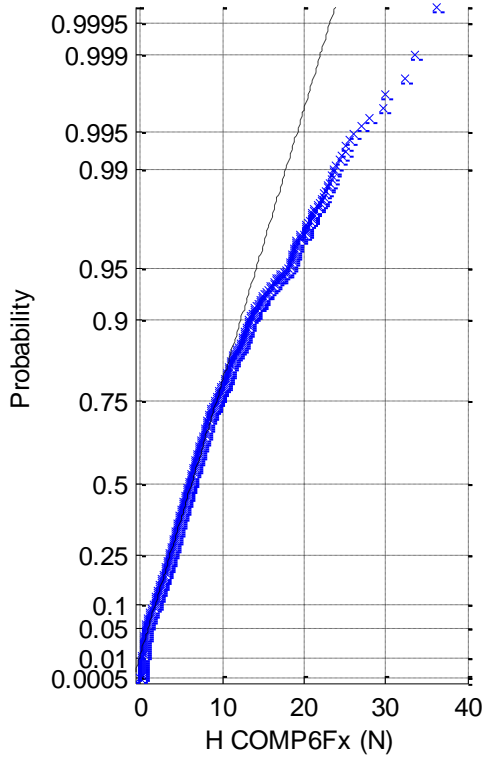




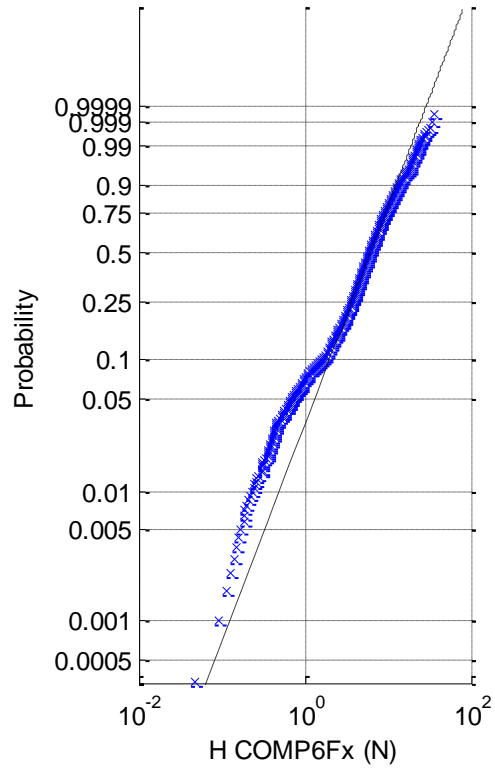
Σχήματα 1.1.6.1 (1-11) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος



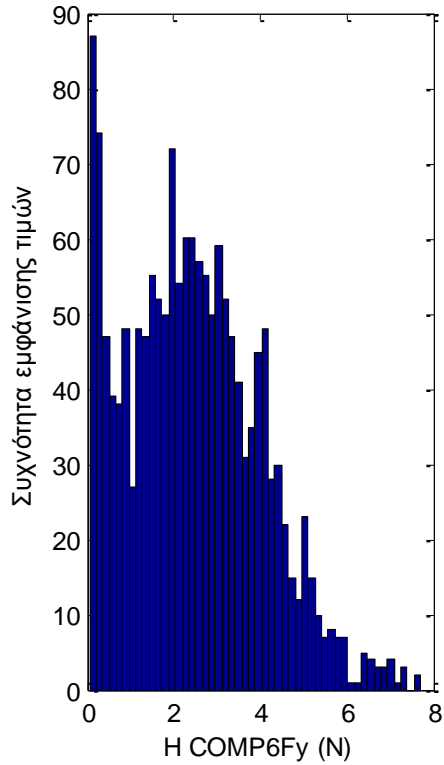
(1c) Rayleigh probab. plot of H COMP6Fx



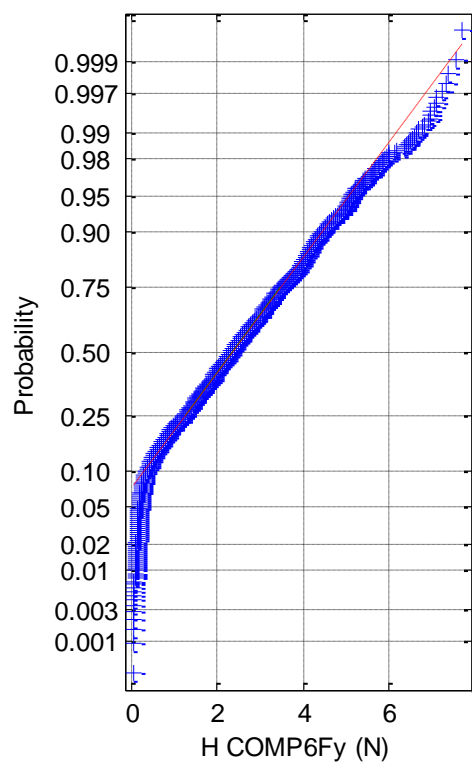
(1d) Weibull probab. plot of H COMP6Fx



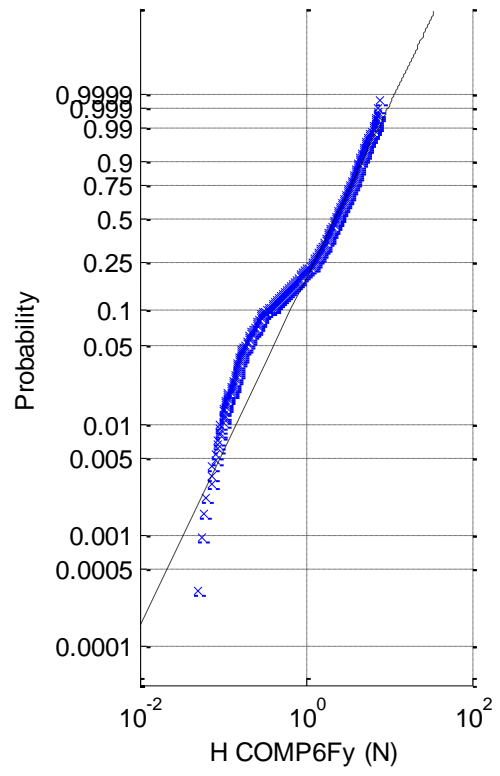
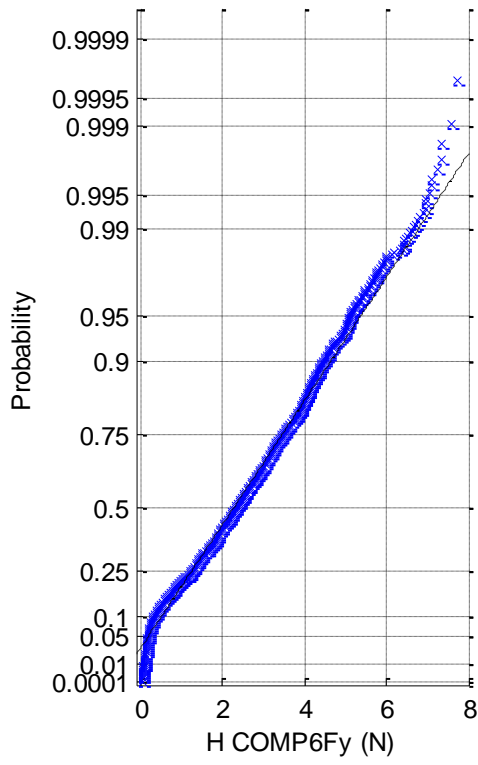
(2a) Histogram of H COMP6Fy



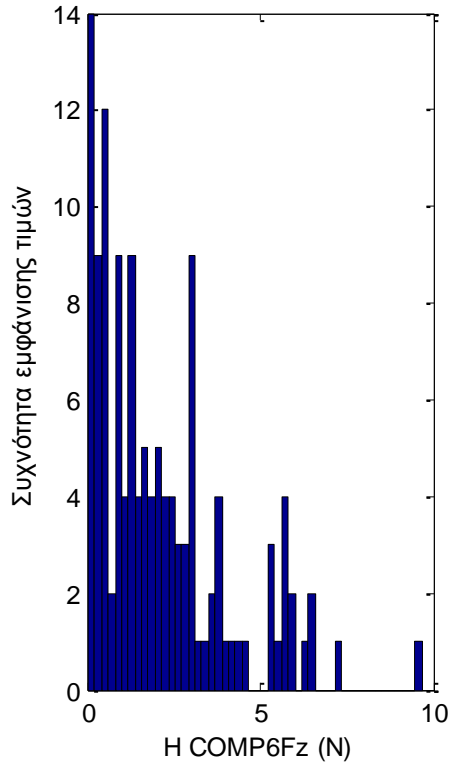
(2b) Normal probab. plot of H COMP6Fy



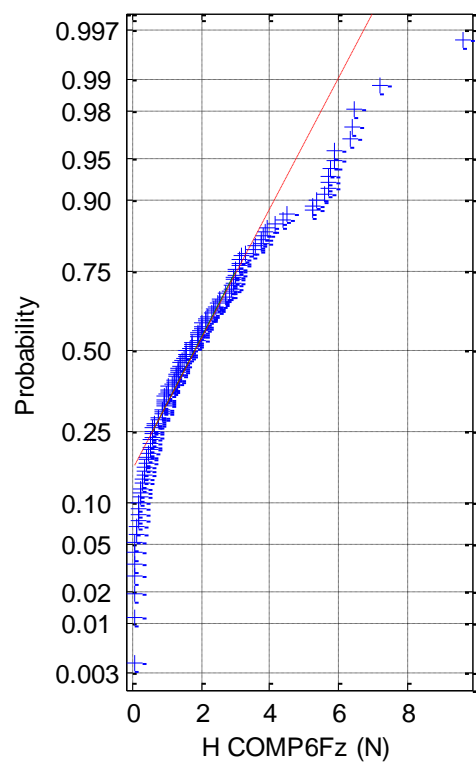
(2c) Rayleigh probab. plot of H COMP6Fy (2d) Weibull probab. plot of H COMP6Fy



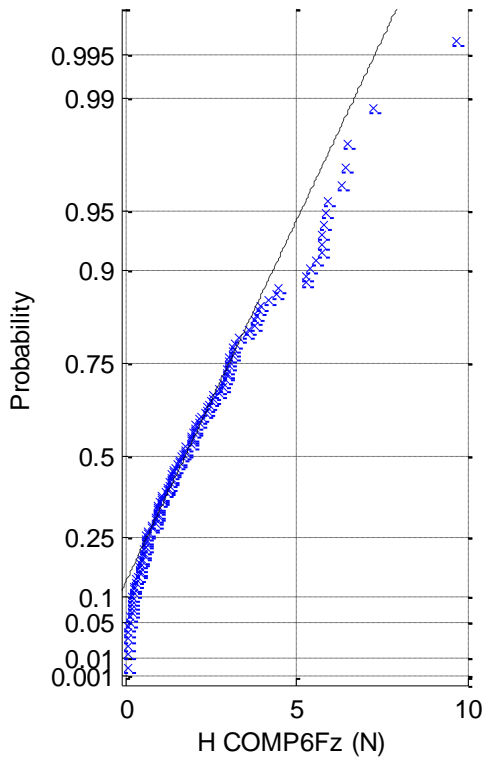
(3a) Histogram of H COMP6Fz



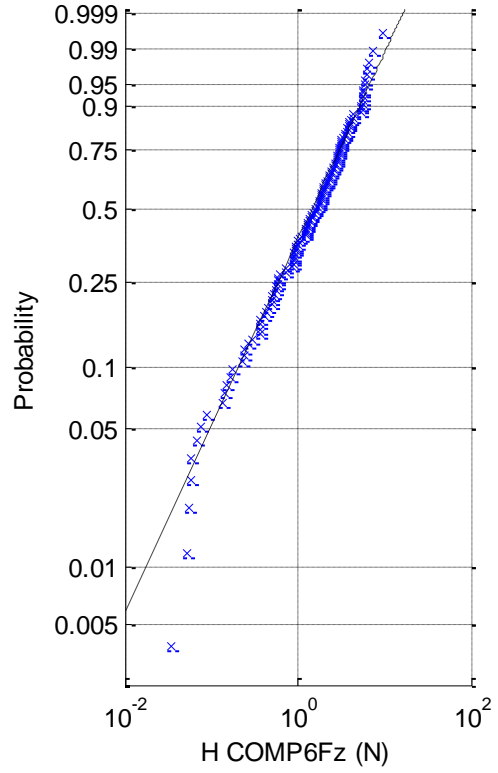
(3b) Normal probab. plot of H COMP6Fz



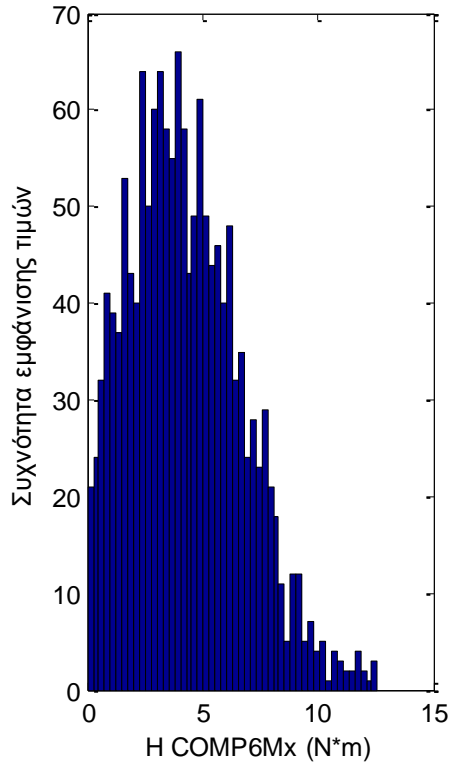
(3c) Rayleigh prob. plot of H COMP6Fz



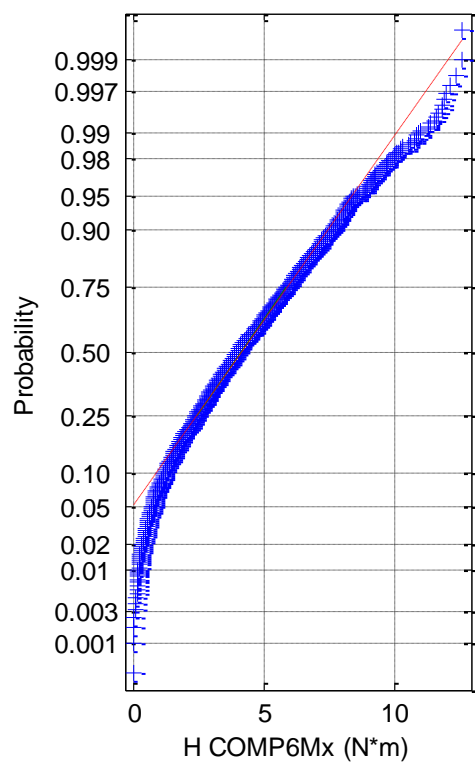
(3d) Weibull prob. plot of H COMP6Fz



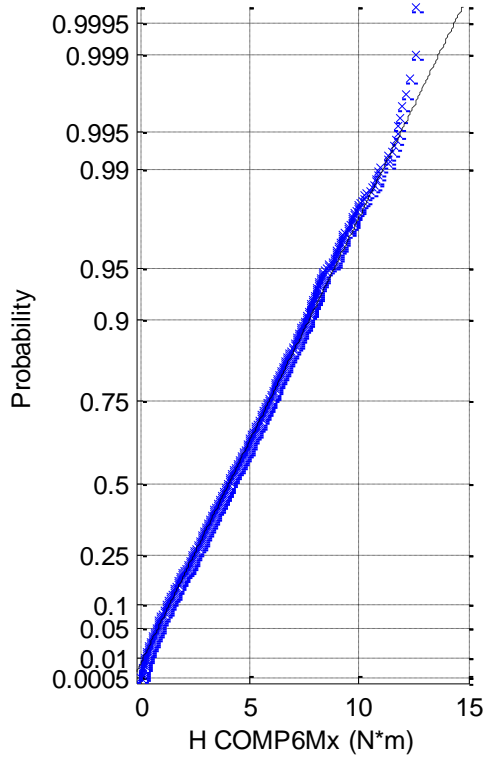
(4a) Histogram of H COMP6Mx



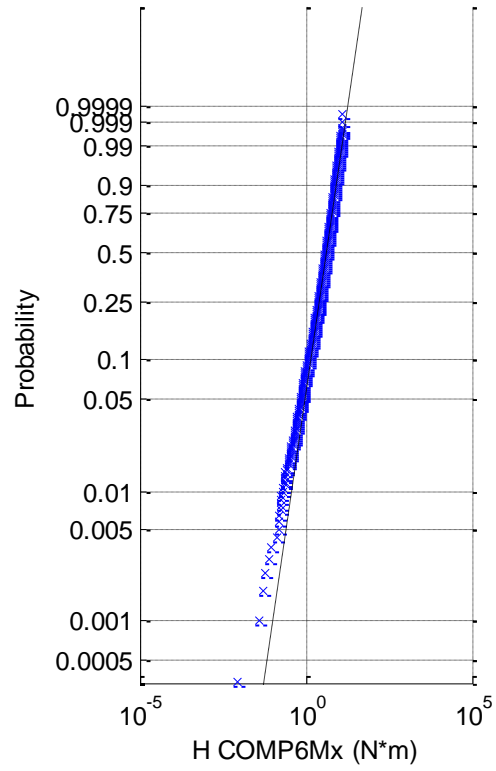
(4b) Normal prob. plot of H COMP6Mx



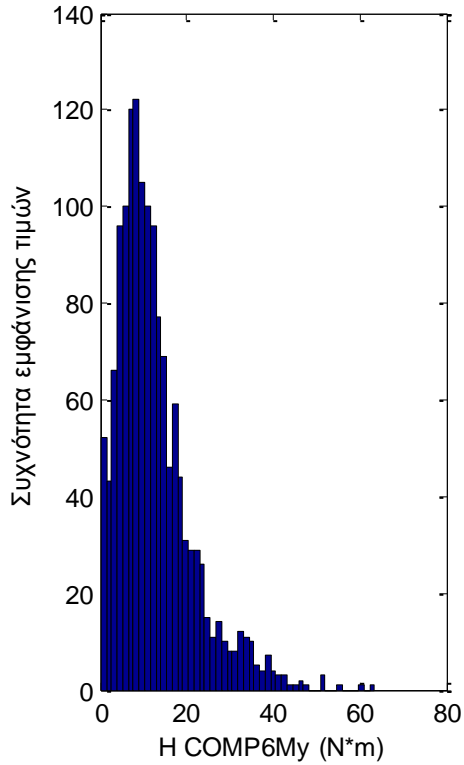
(4c) Rayleigh prob. plot of H COMP6Mx



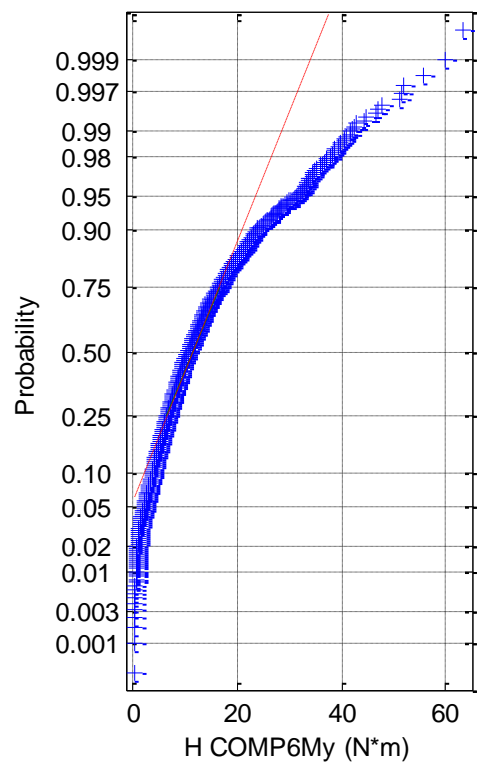
(4d) Weibull prob. plot of H COMP6Mx



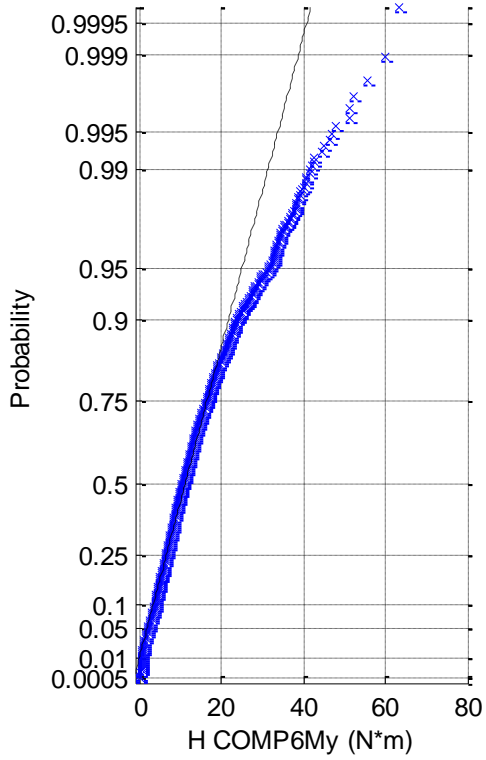
(5a) Histogram of H COMP6My



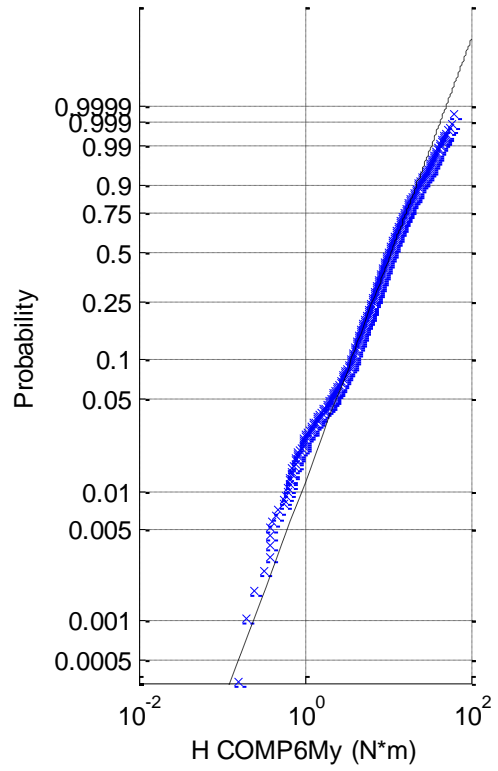
(5b) Normal prob. plot of H COMP6My



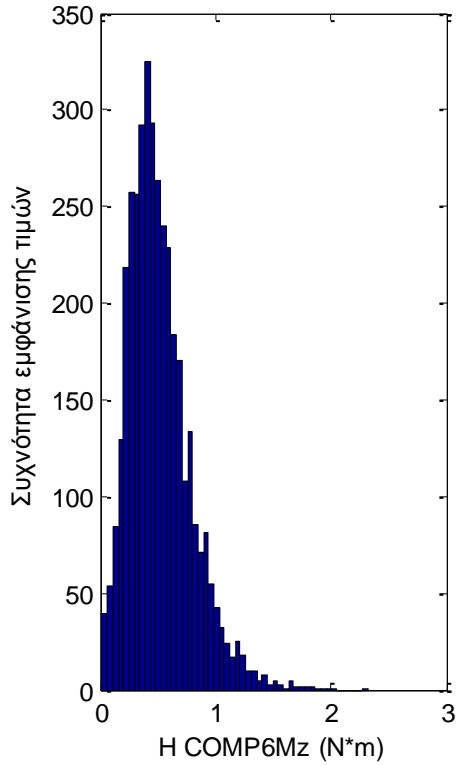
(5c) Rayleigh prob. plot of H COMP6My



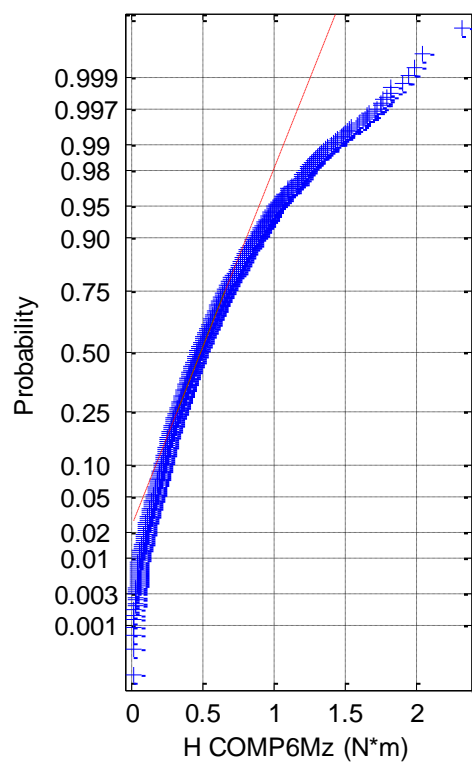
(5d) Weibull prob. plot of H COMP6My

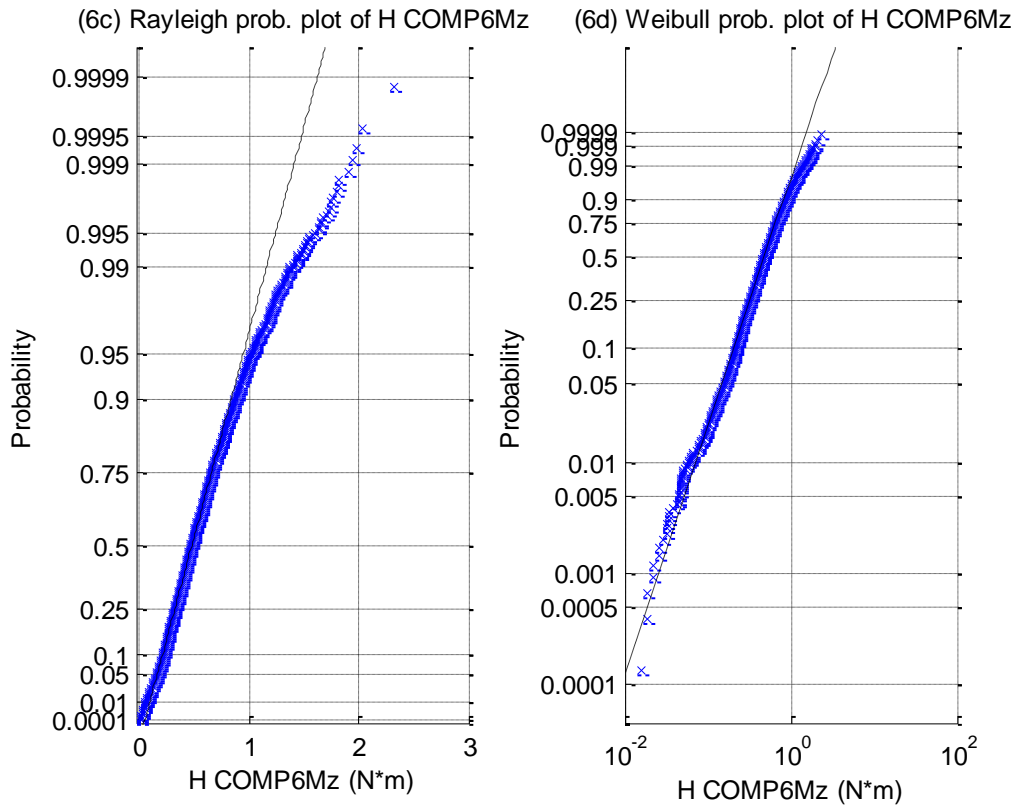


(6a) Histogram of H COMP6Mz

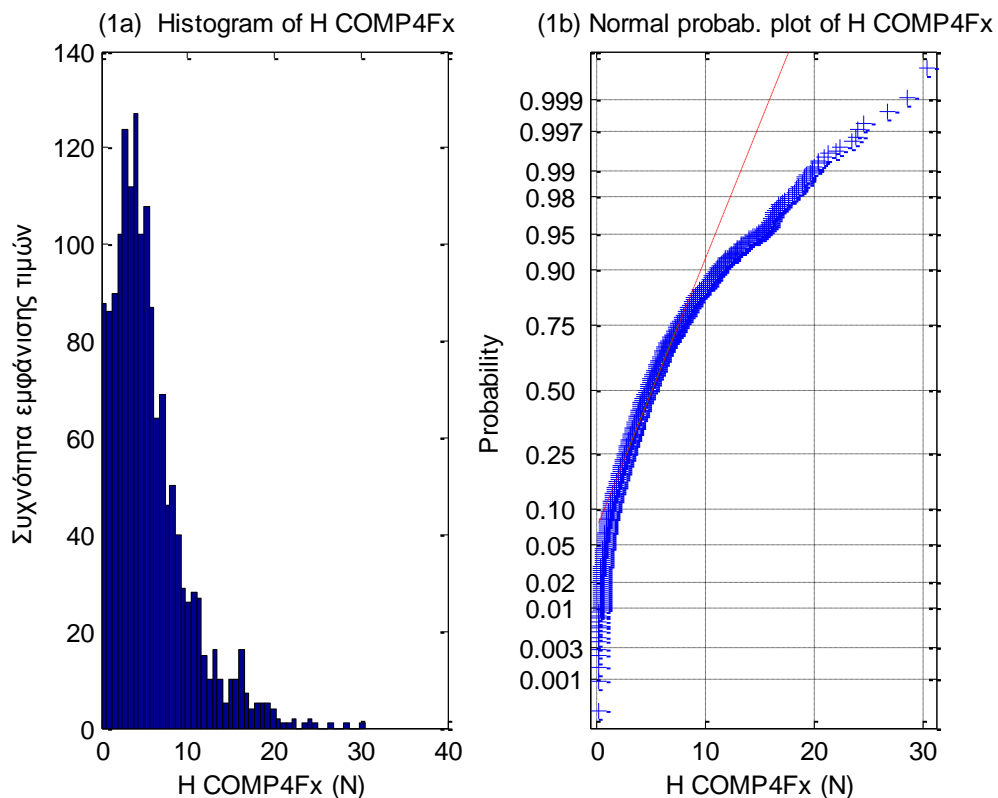


(6b) Normal prob. plot of H COMP6Mz

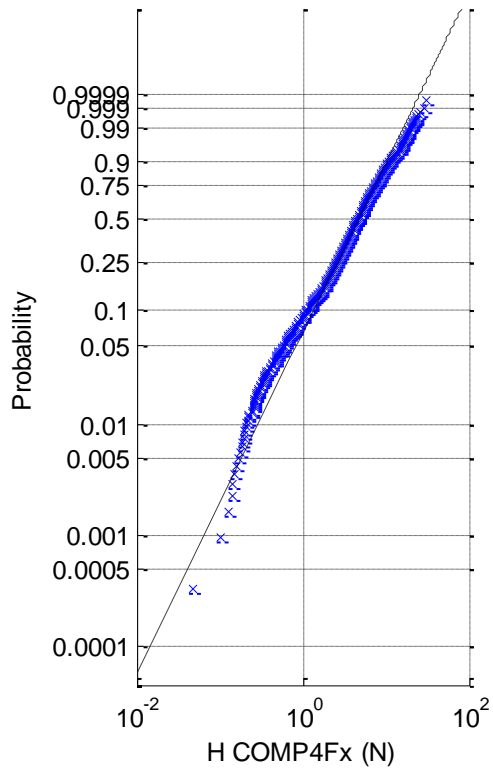
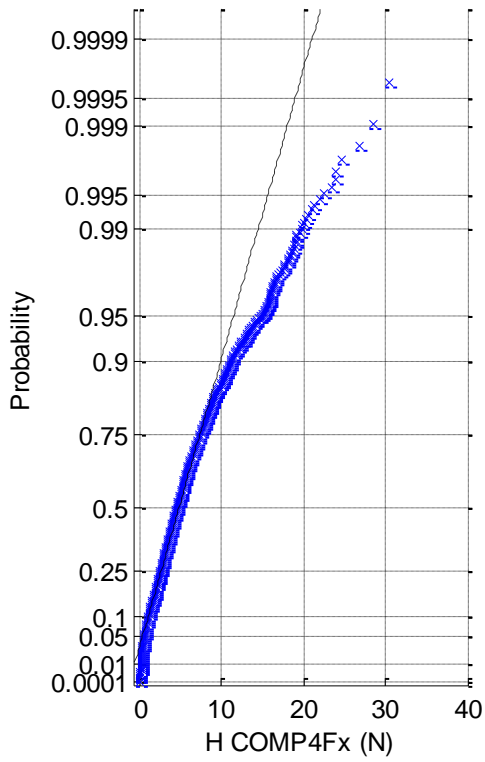




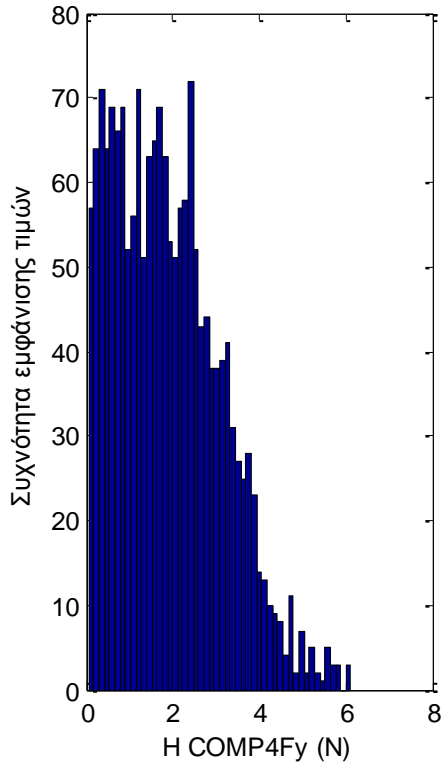
Σχήματα 1.1.6.2 (1-6) a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



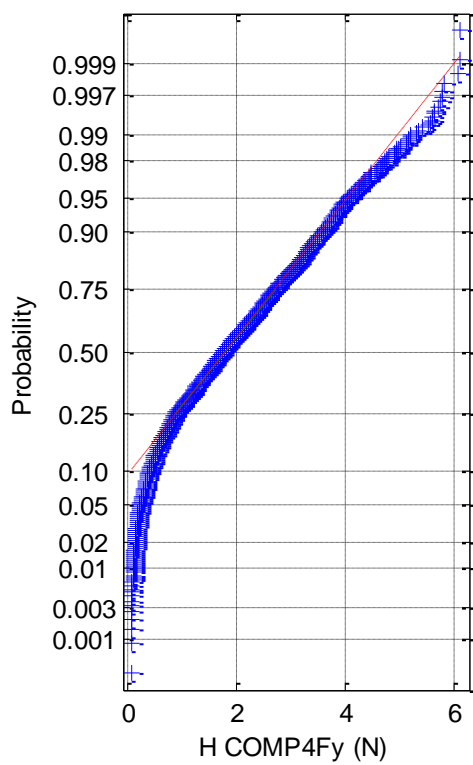
(1c) Rayleigh probab. plot of H COMP4Fx (1d) Weibull probab. plot of H COMP4Fx



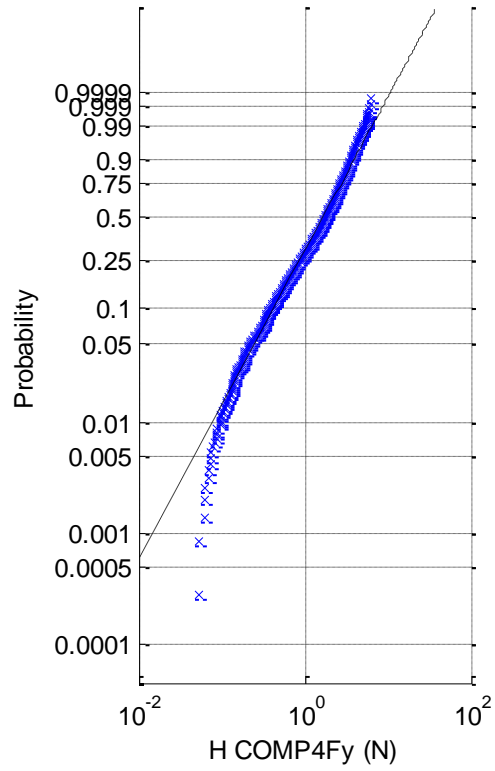
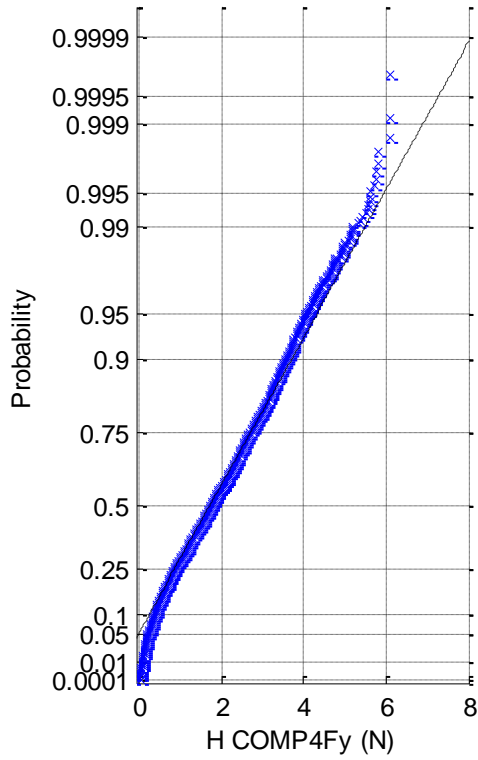
(2a) Histogram of H COMP4Fy



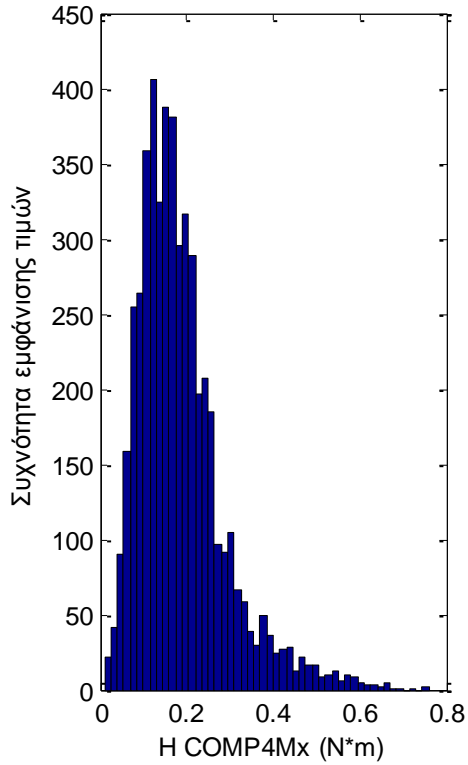
(2b) Normal probab. plot of H COMP4Fy



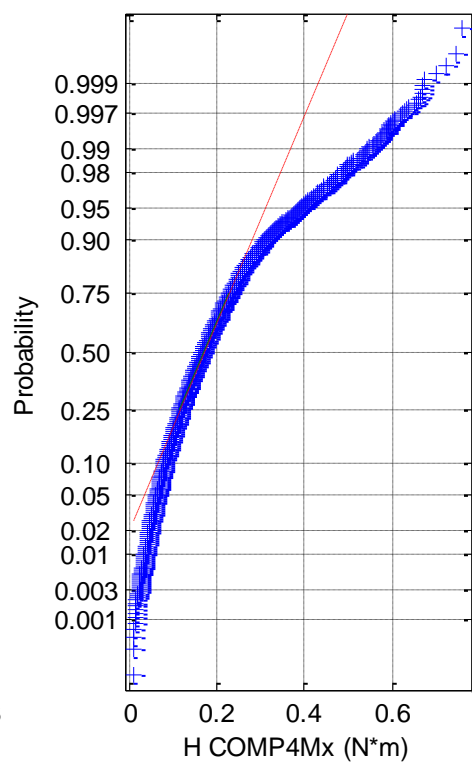
(2c) Rayleigh probab. plot of H COMP4Fy (2d) Weibull probab. plot of H COMP4Fy



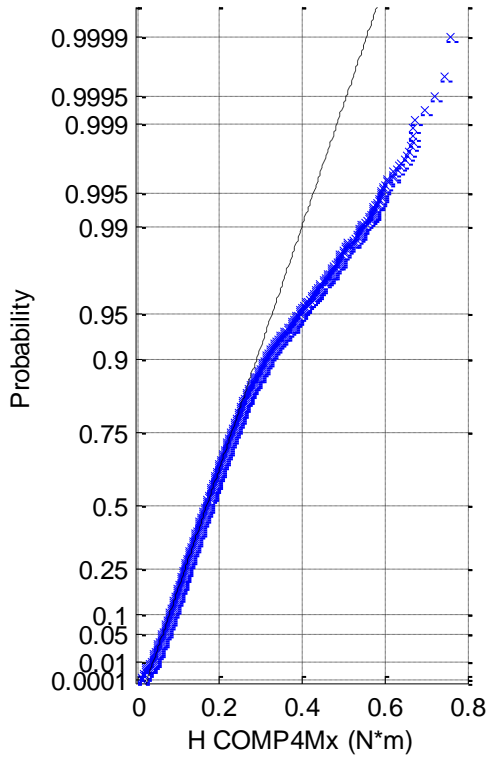
(3a) Histogram of H COMP4Mx



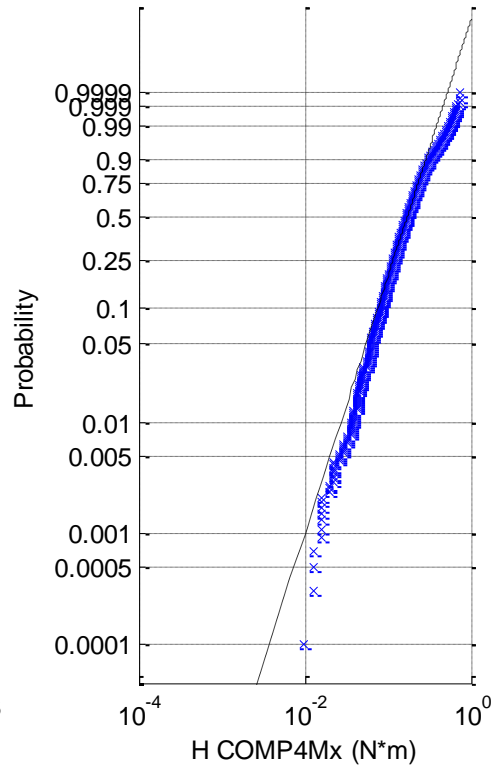
(3b) Normal probab. plot of H COMP4Mx



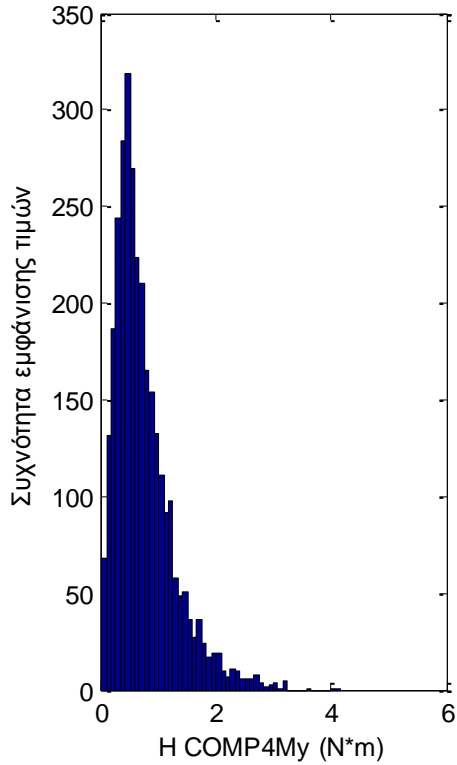
(3c) Rayleigh prob. plot of H COMP4Mx



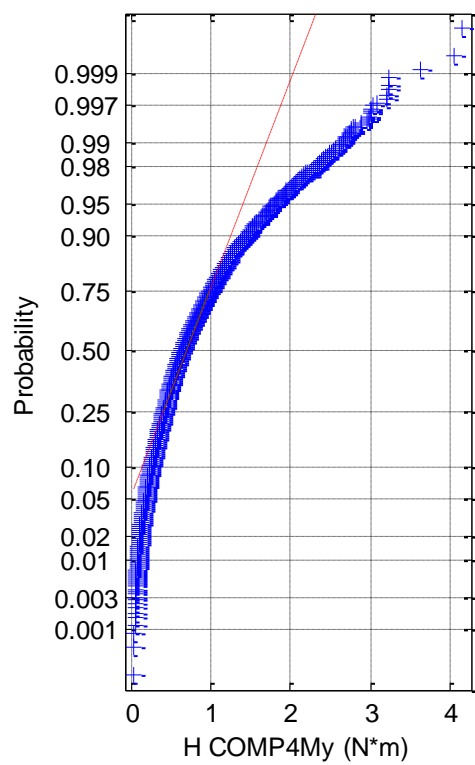
(3d) Weibull prob. plot of H COMP4Mx

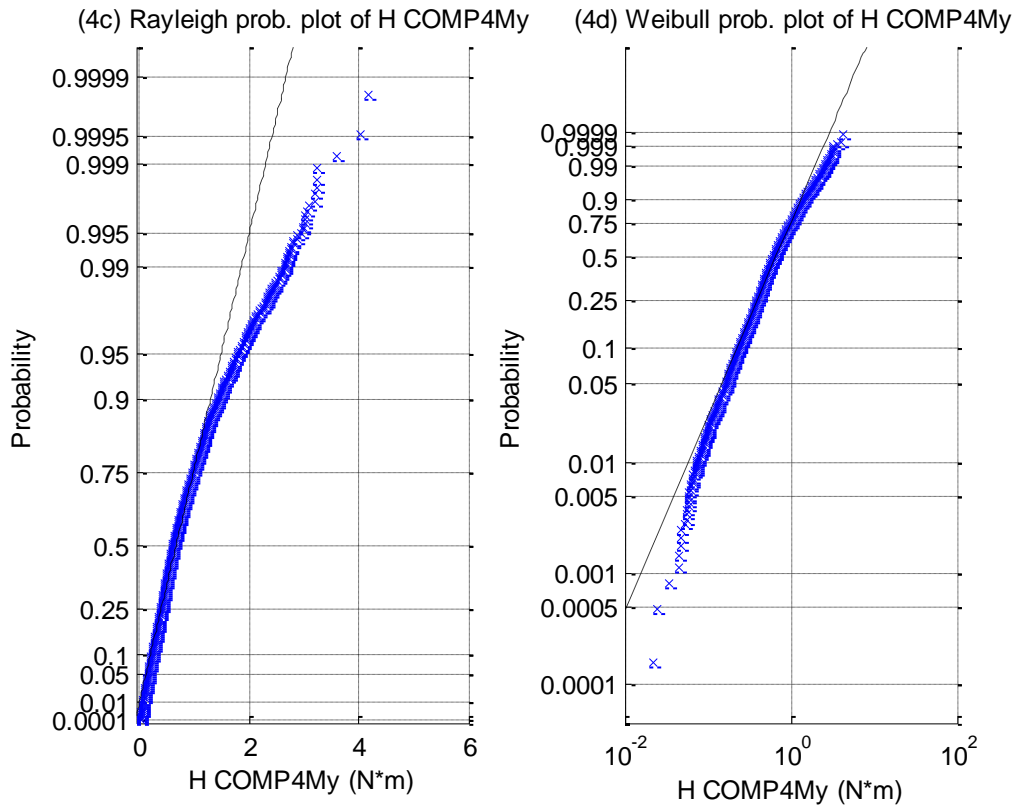


(4a) Histogram of H COMP4My

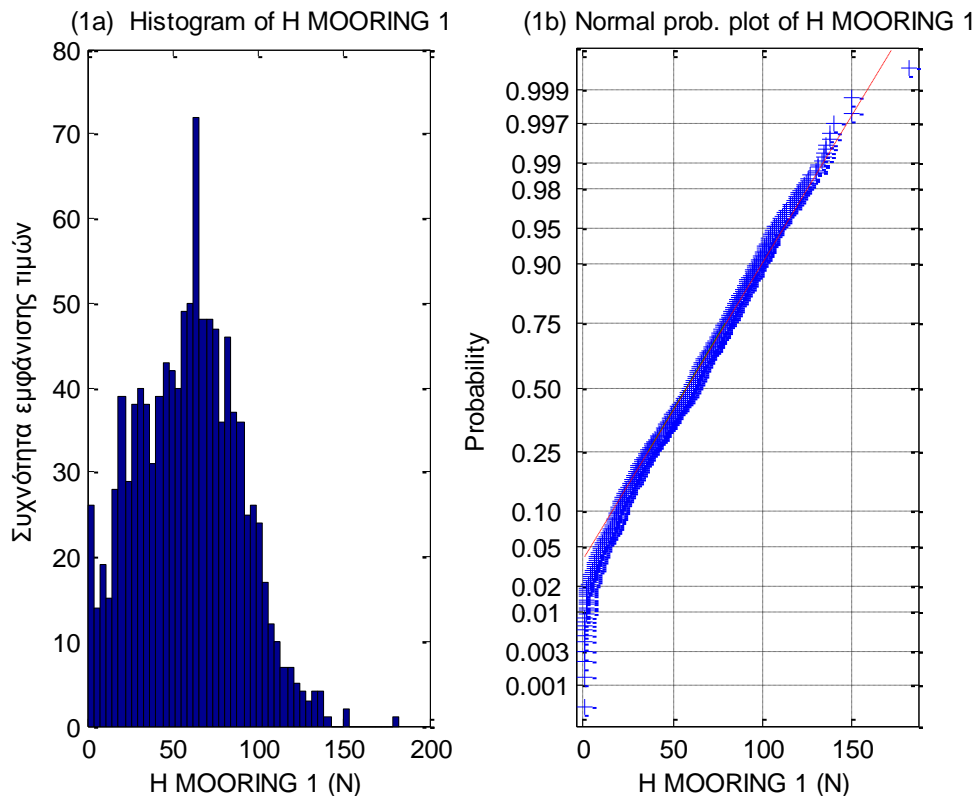


(4b) Normal prob. plot of H COMP4My

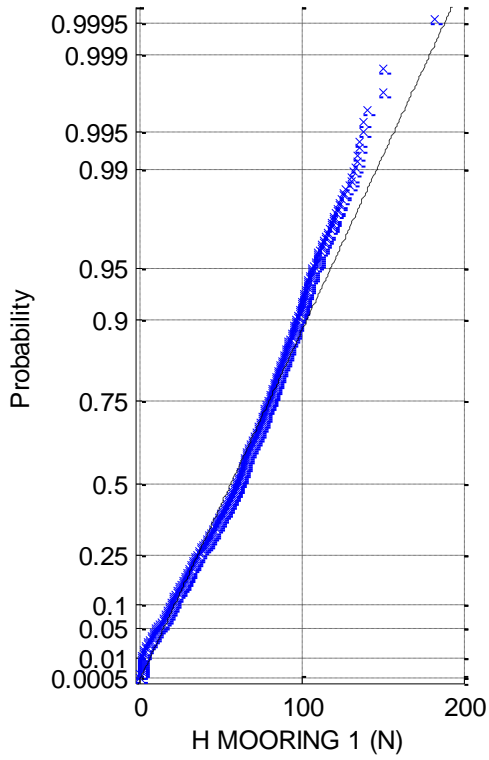




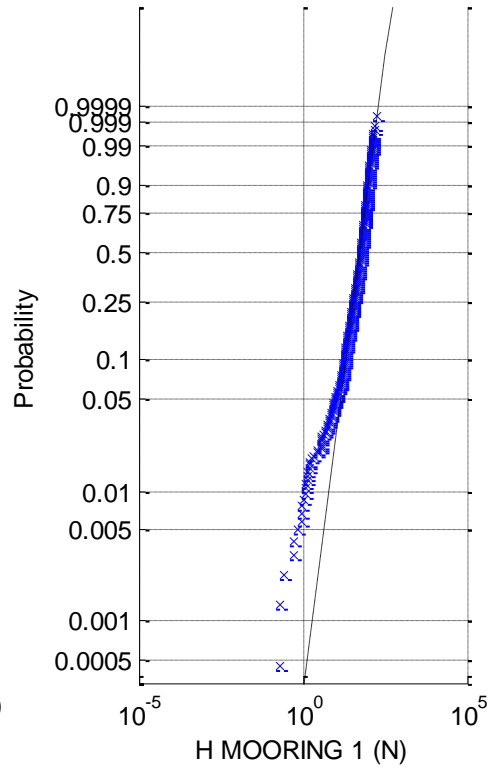
Σχήματα 1.1.6.3 (1-4) a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



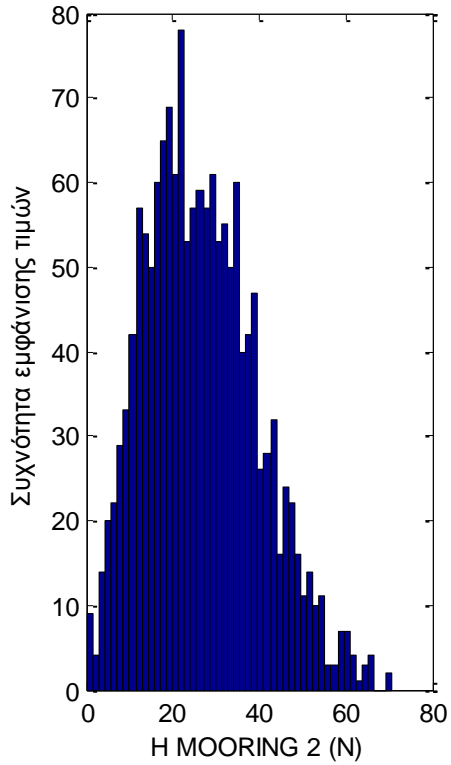
(1c) Rayleigh prob. plot of H MOORING 1



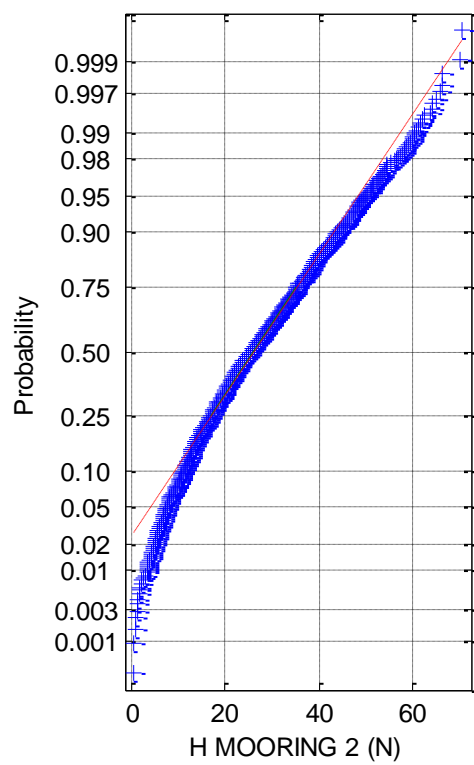
(1d) Weibull prob. plot of H MOORING 1



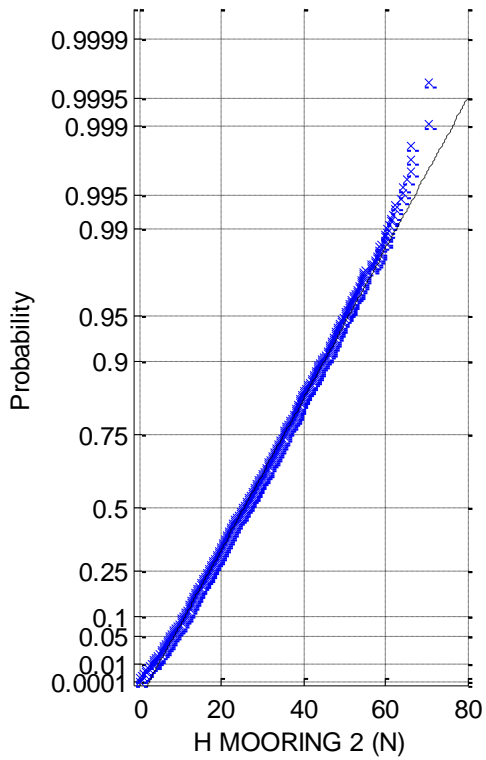
(2a) Histogram of H MOORING 2



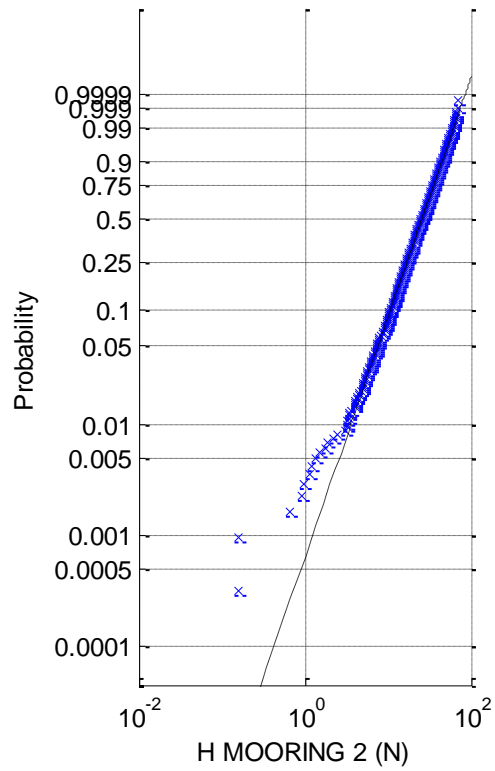
(2b) Normal prob. plot of H MOORING 2



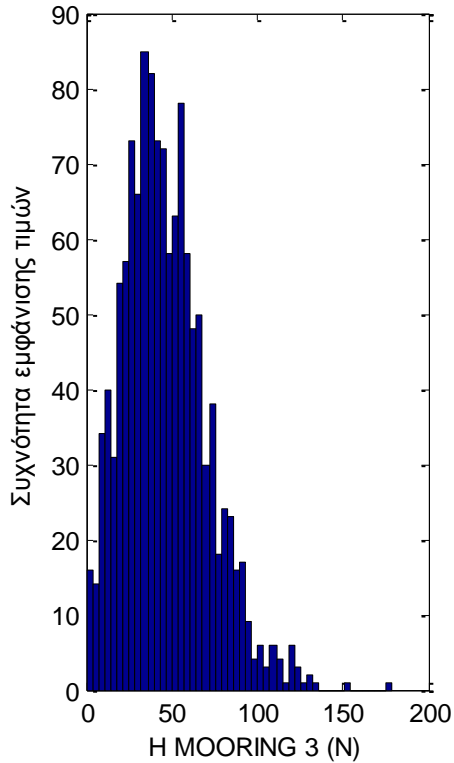
(2c) Rayleigh prob. plot of H MOORING 2



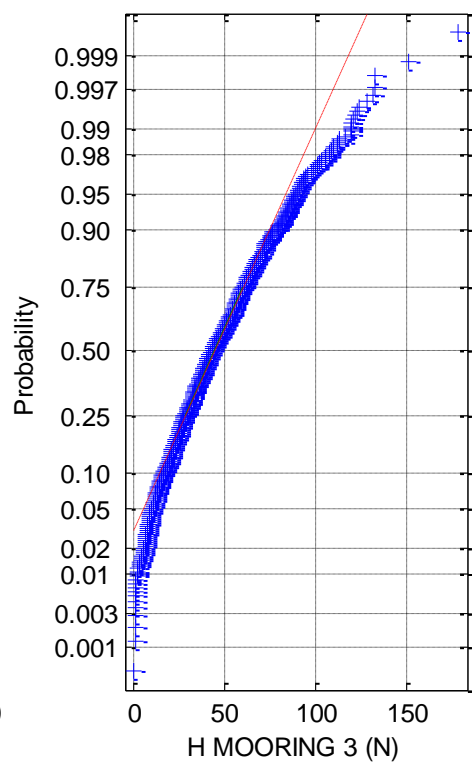
(2d) Weibull prob. plot of H MOORING 2



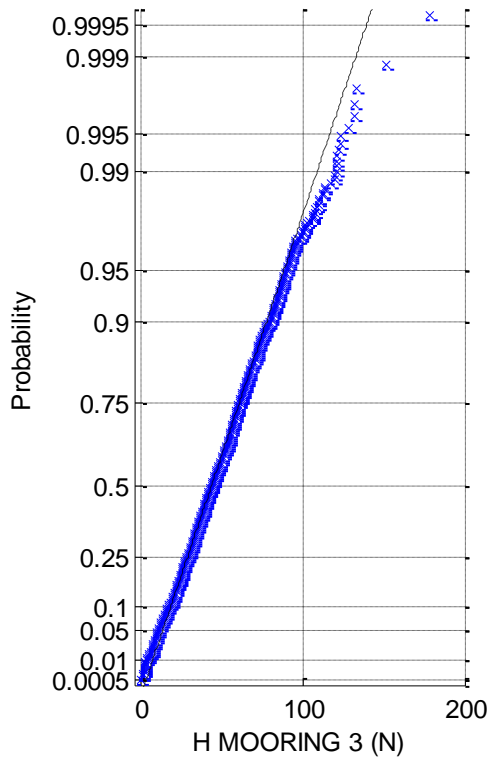
(3a) Histogram of H MOORING 3



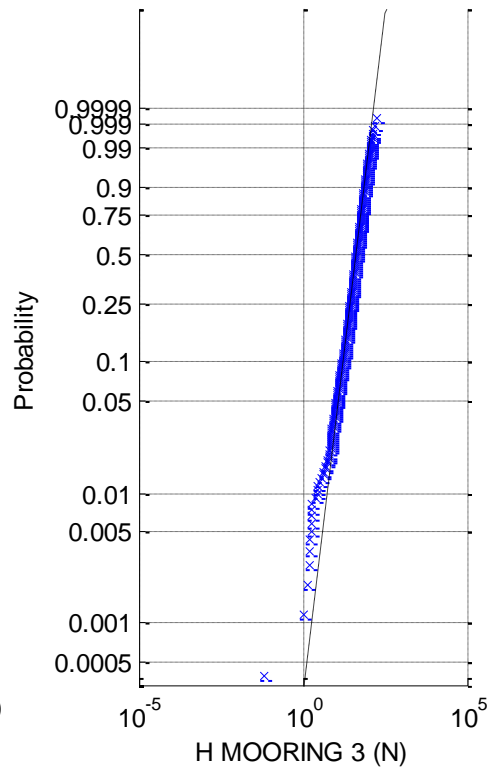
(3b) Normal prob. plot of H MOORING 3



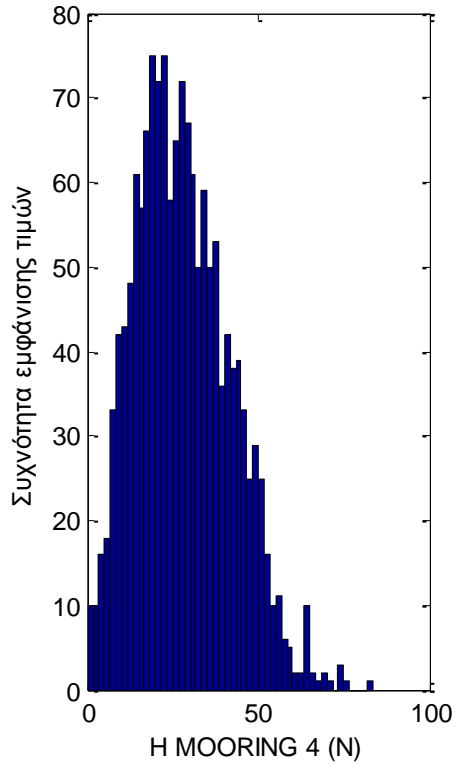
(3c) Rayleigh prob. plot of H MOORING 3



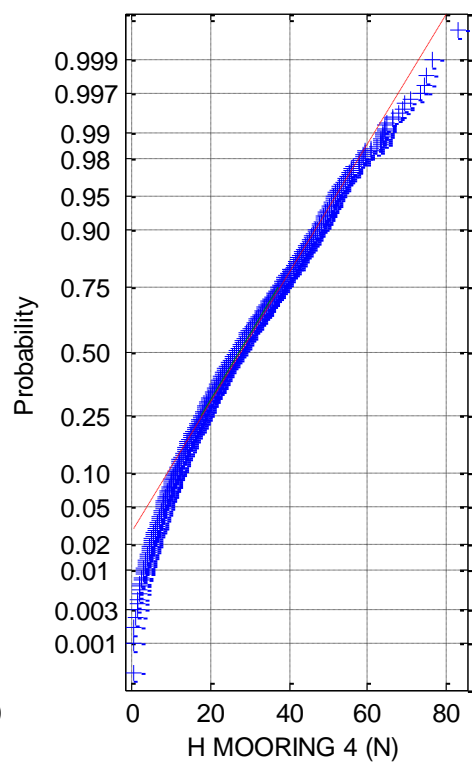
(3d) Weibull prob. plot of H MOORING 3



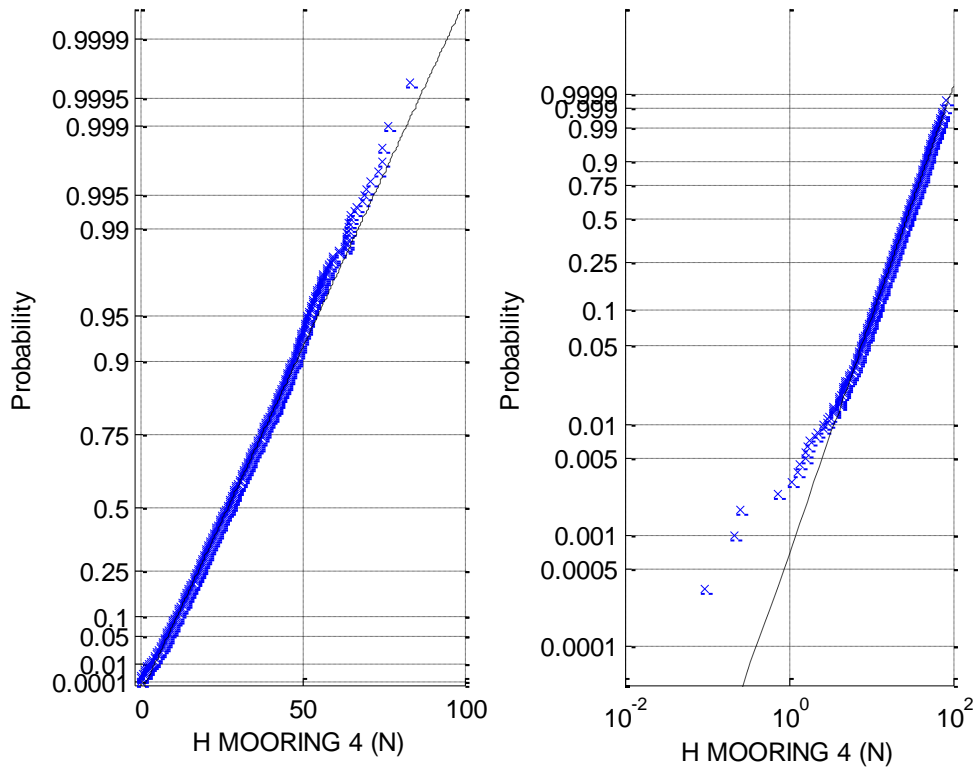
(4a) Histogram of H MOORING 4



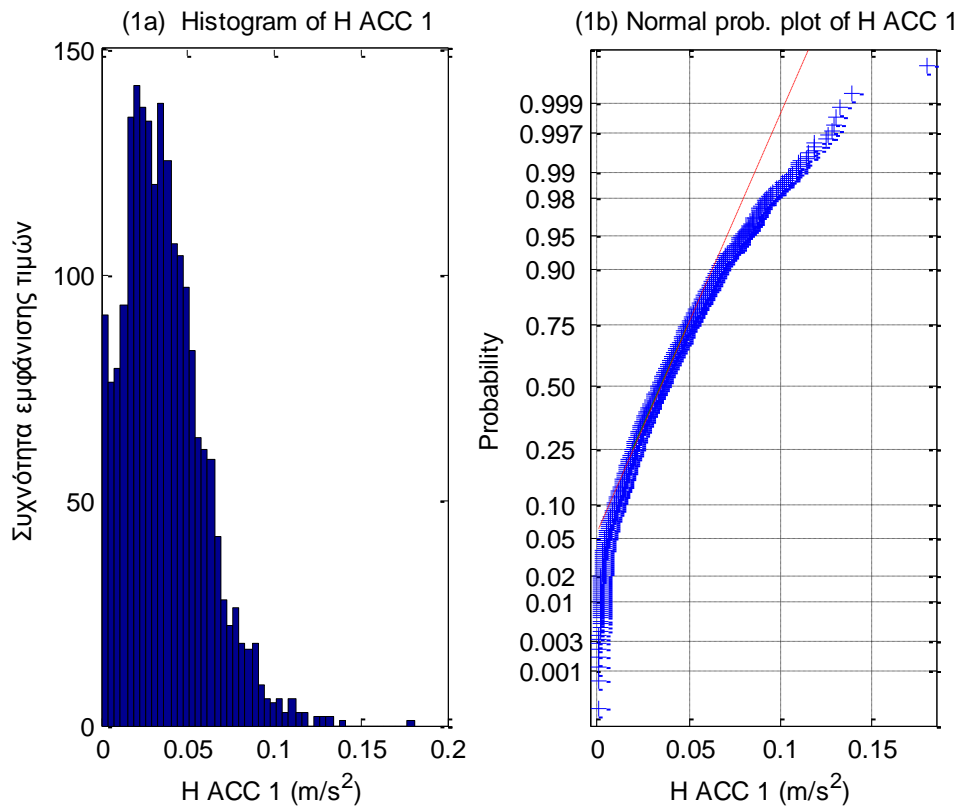
(4b) Normal prob. plot of H MOORING 4



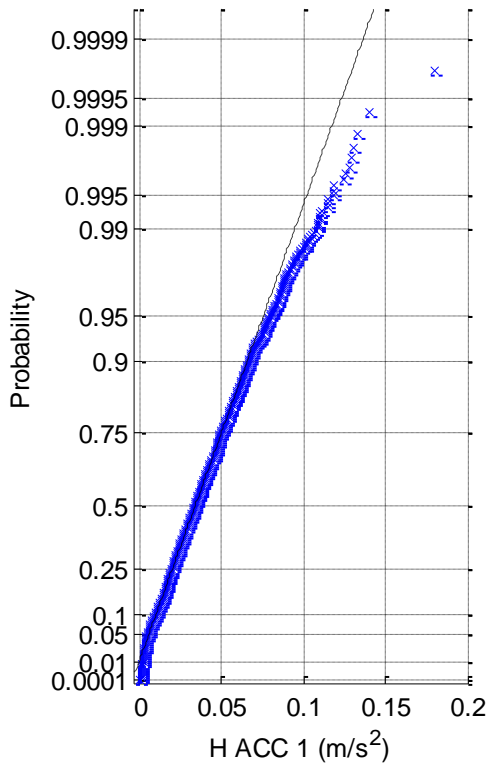
(4c) Rayleigh prob. plot of H MOORING 4 (4d) Weibull prob. plot of H MOORING 4



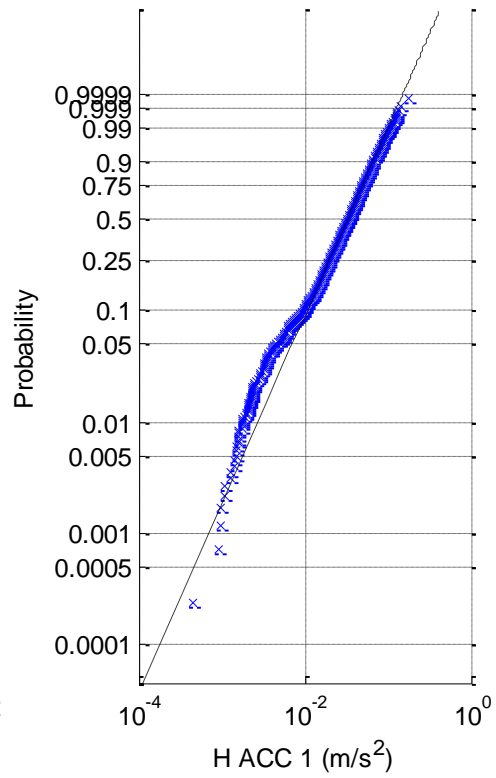
Σχήματα 1.1.6.4 (1-4) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις 4 γραμμές αγκύρωσης



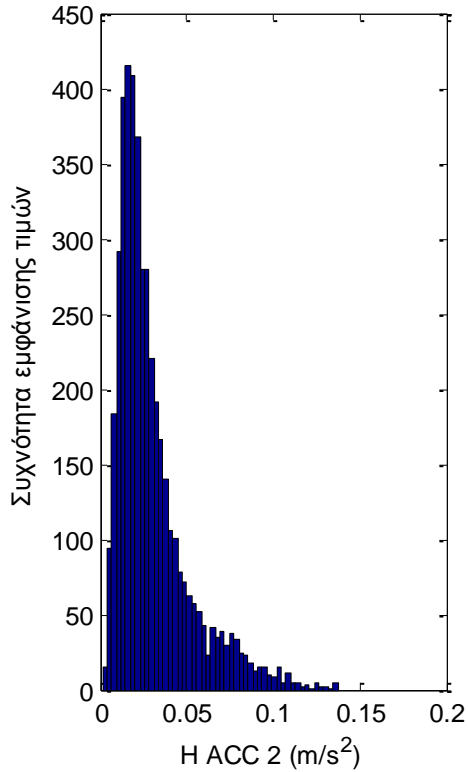
(1c) Rayleigh prob. plot of H ACC 1



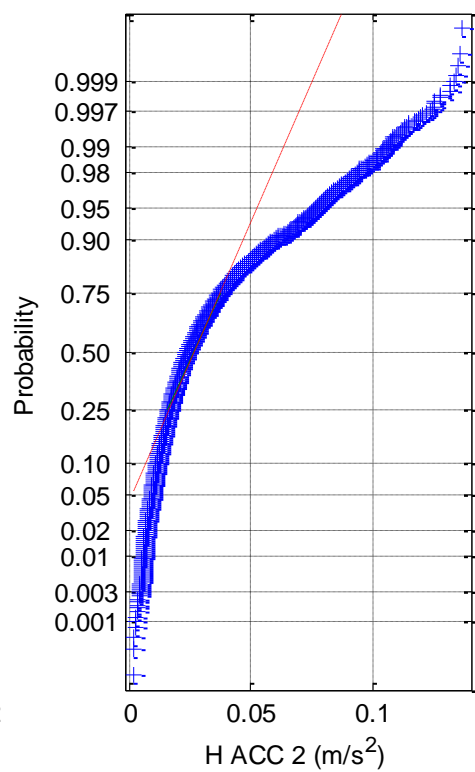
(1d) Weibull prob. plot of H ACC 1



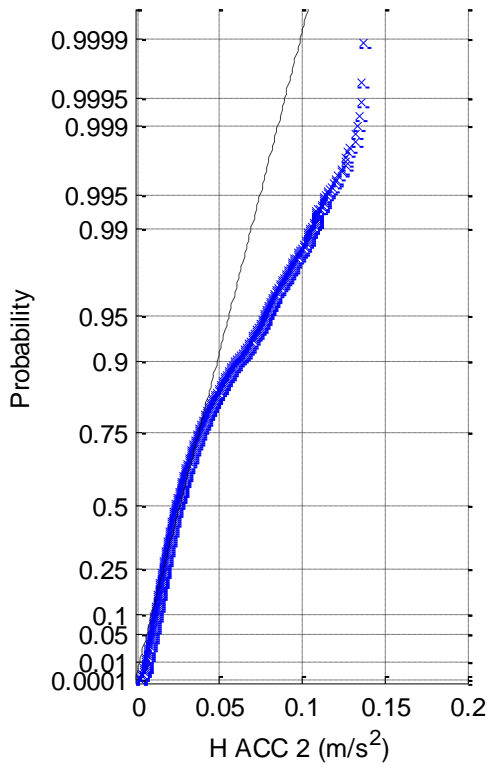
(2a) Histogram of H ACC 2



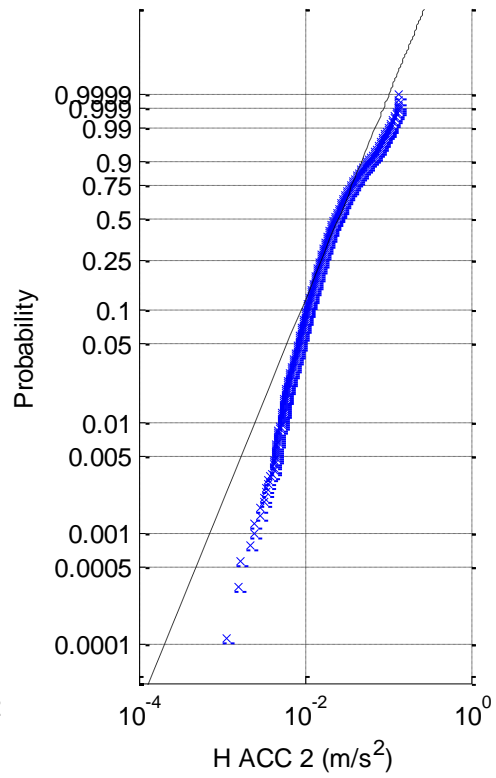
(2b) Normal prob. plot of H ACC 2



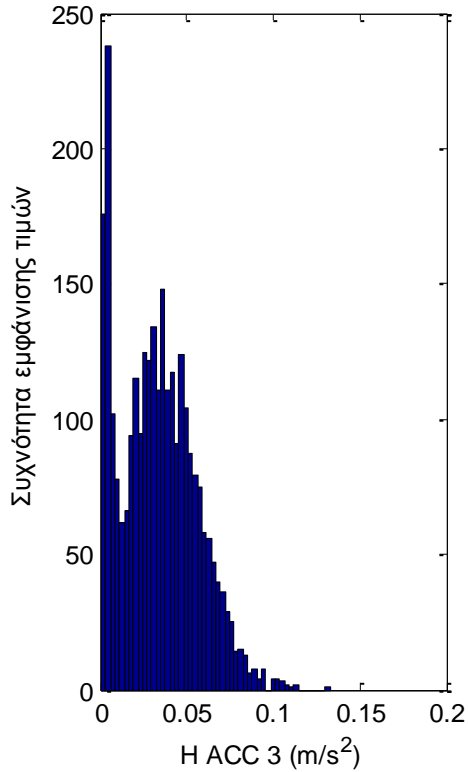
(2c) Rayleigh prob. plot of H ACC 2



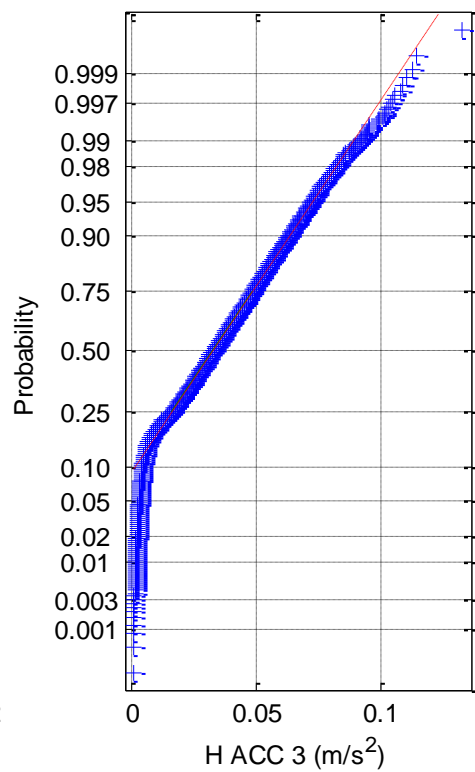
(2d) Weibull prob. plot of H ACC 2

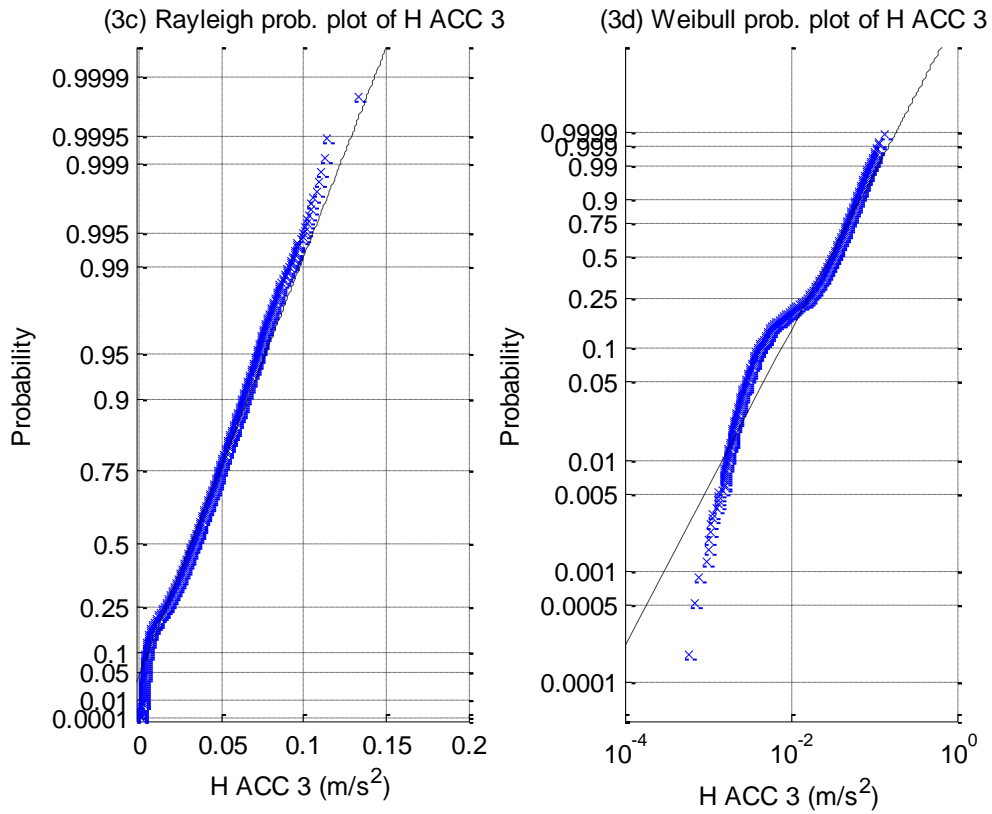


(3a) Histogram of H ACC 3

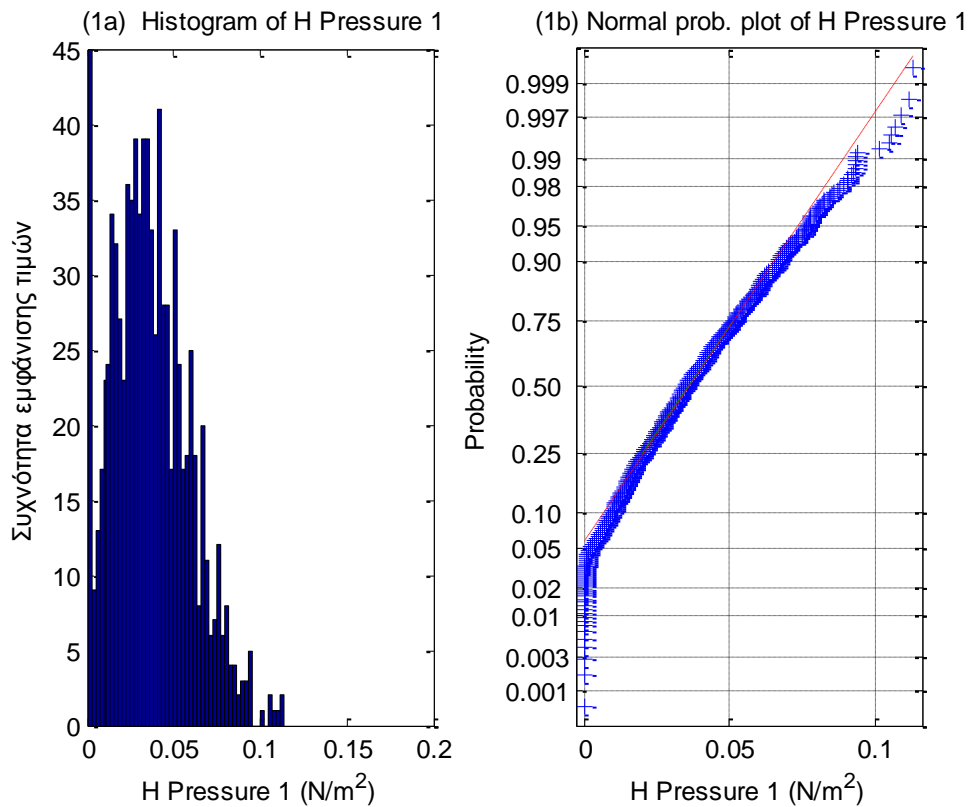


(3b) Normal prob. plot of H ACC 3

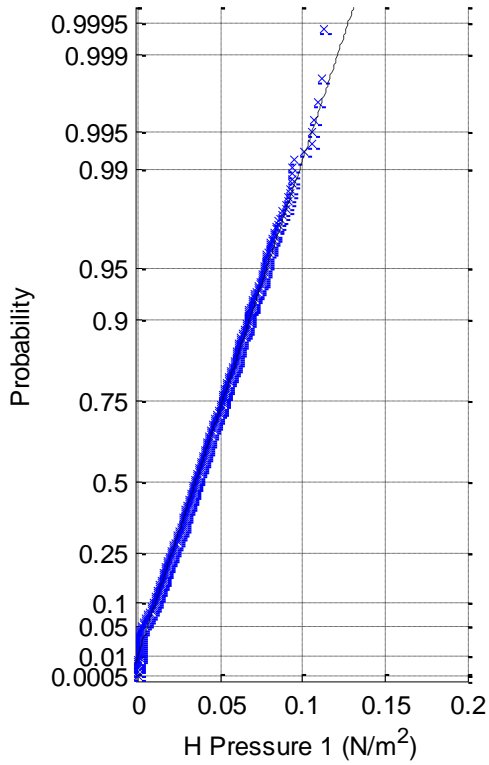




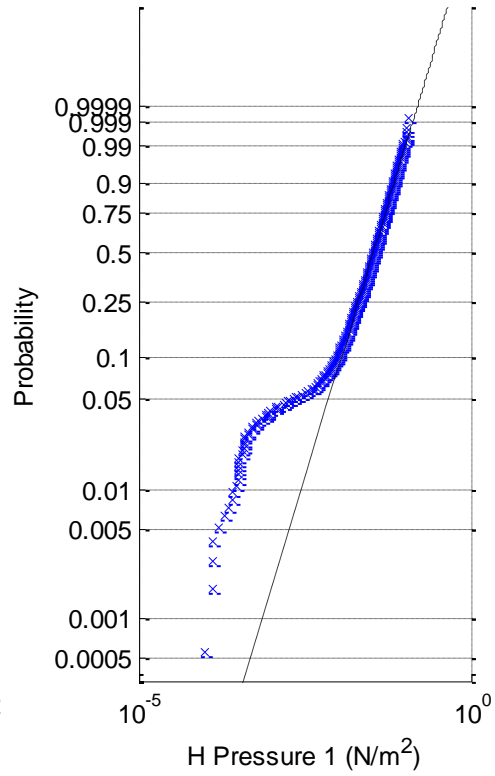
Σχήματα 1.1.6.5 (1-3) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



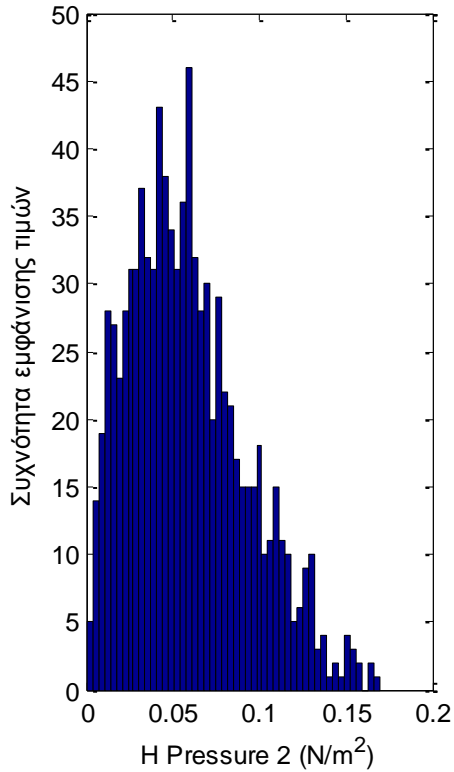
(1c) Rayleigh prob. plot of H Pressure 1



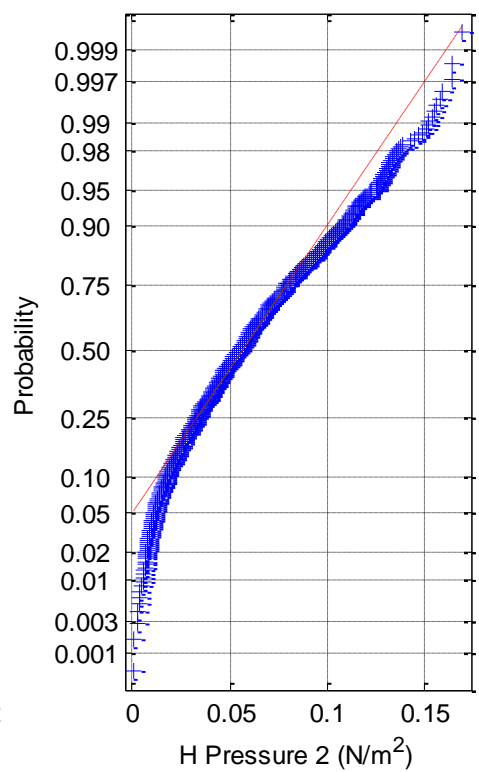
(1d) Weibull prob. plot of H Pressure 1

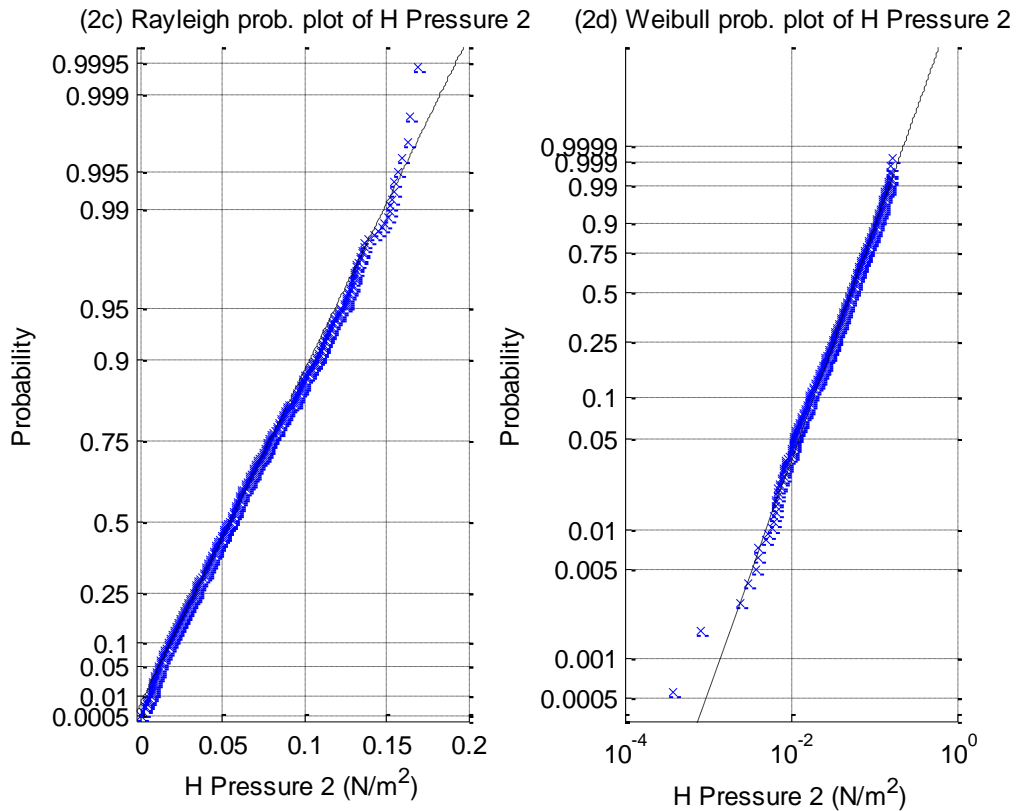


(2a) Histogram of H Pressure 2

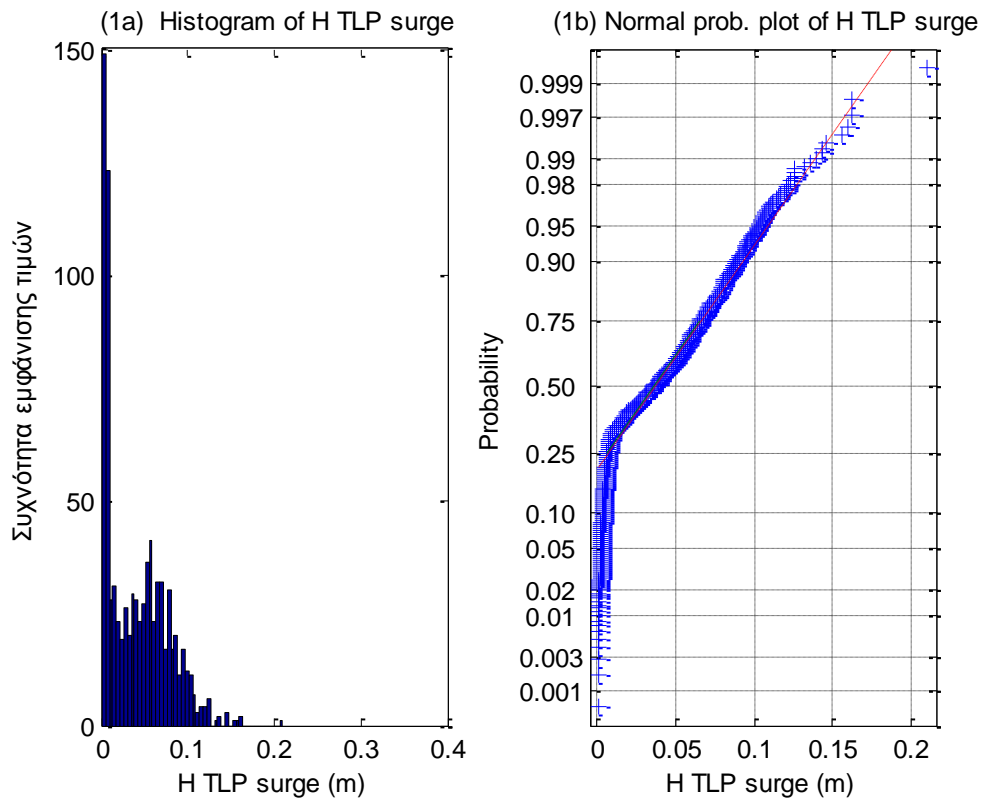


(2b) Normal prob. plot of H Pressure 2

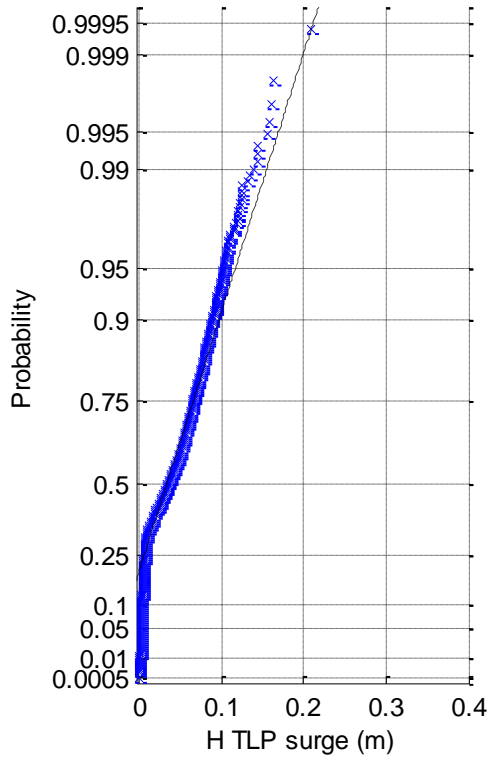




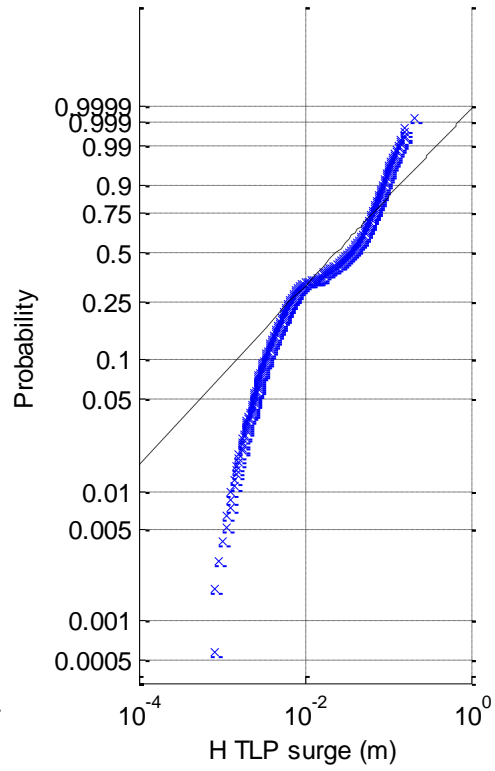
Σχήματα 1.1.6.6 (1-2) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα δύο όργανα μέτρησης της πίεσης



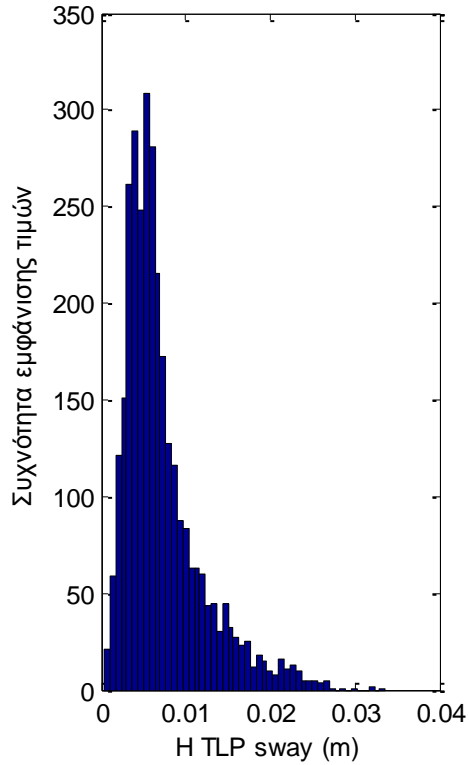
(1c) Rayleigh prob. plot of H TLP surge



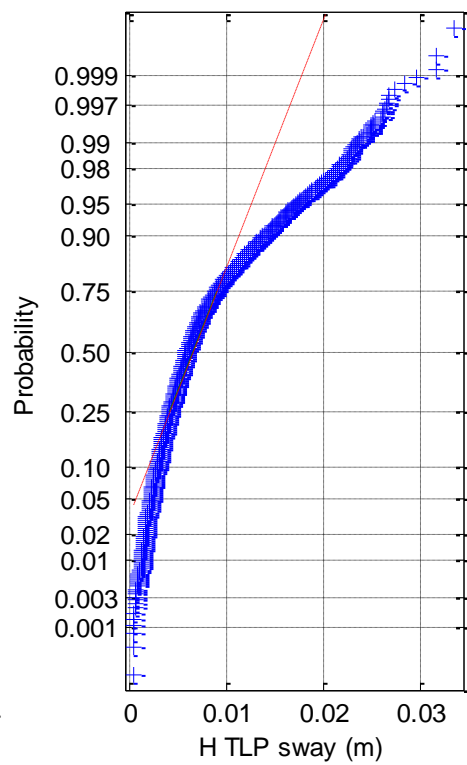
(1d) Weibull prob. plot of H TLP surge



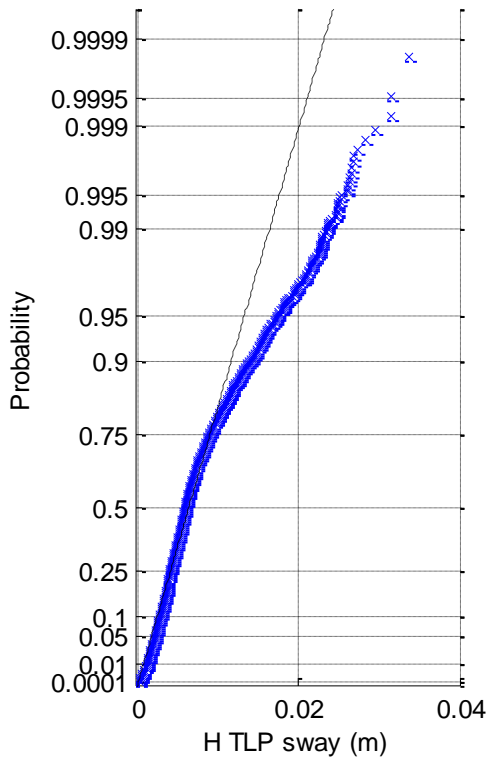
(2a) Histogram of H TLP sway



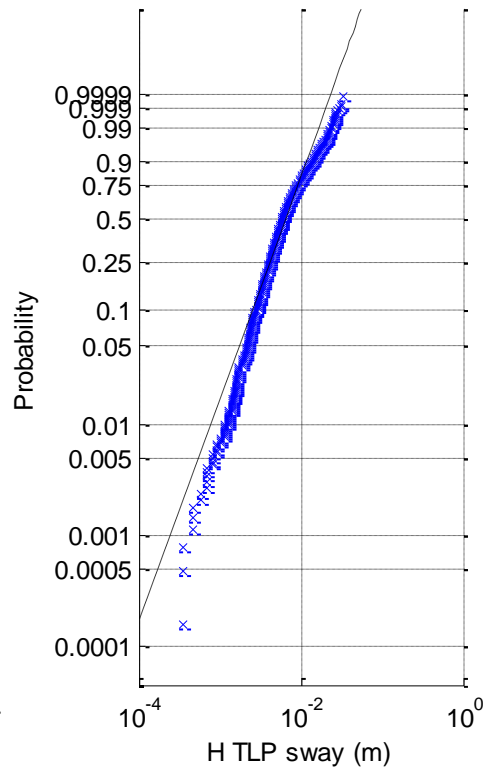
(2b) Normal prob. plot of H TLP sway



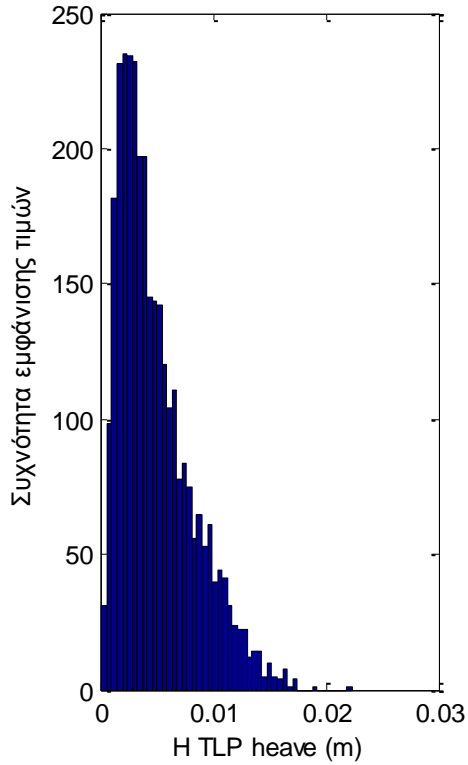
(2c) Rayleigh prob. plot of H TLP sway



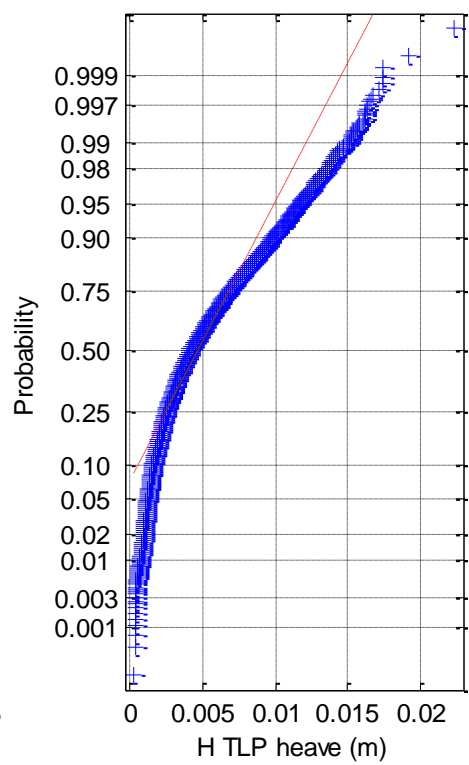
(2d) Weibull prob. plot of H TLP sway



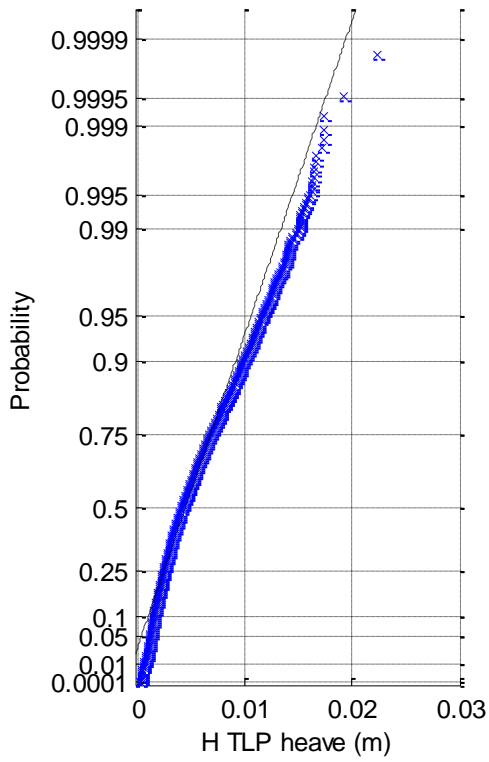
(3a) Histogram of H TLP heave



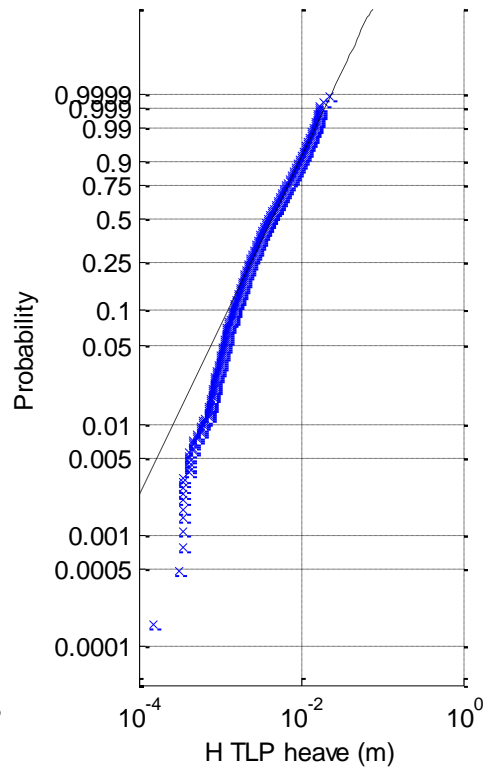
(3b) Normal prob. plot of H TLP heave



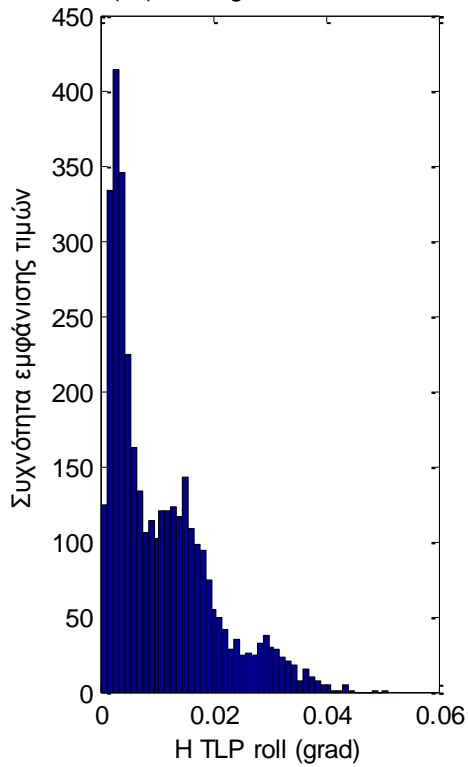
(3c) Rayleigh prob. plot of H TLP heave



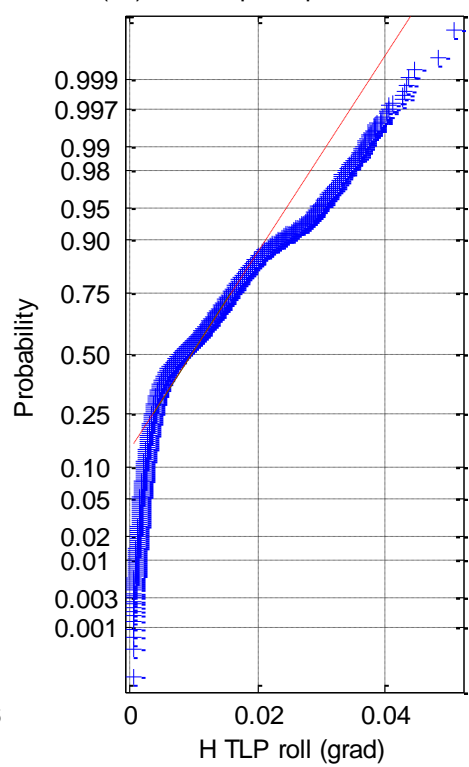
(3d) Weibull prob. plot of H TLP heave



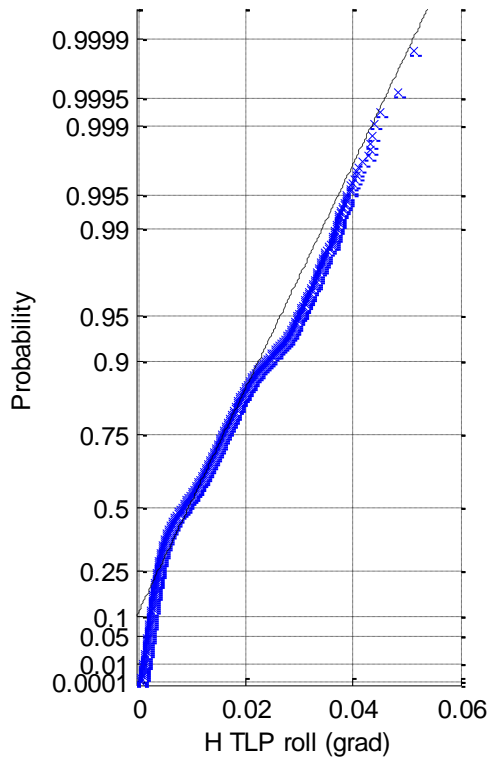
(4a) Histogram of H TLP roll



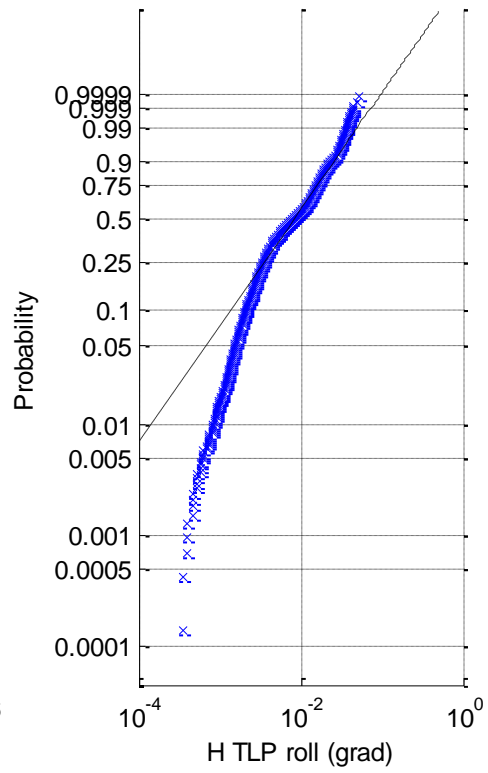
(4b) Normal prob. plot of H TLP roll



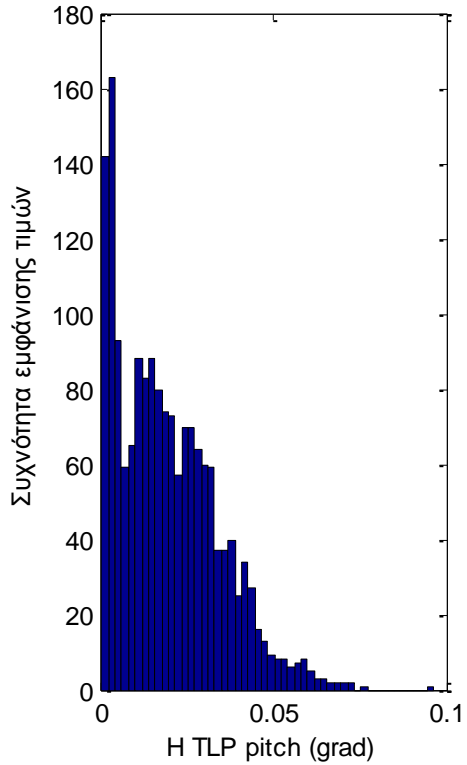
(4c) Rayleigh prob. plot of H TLP roll



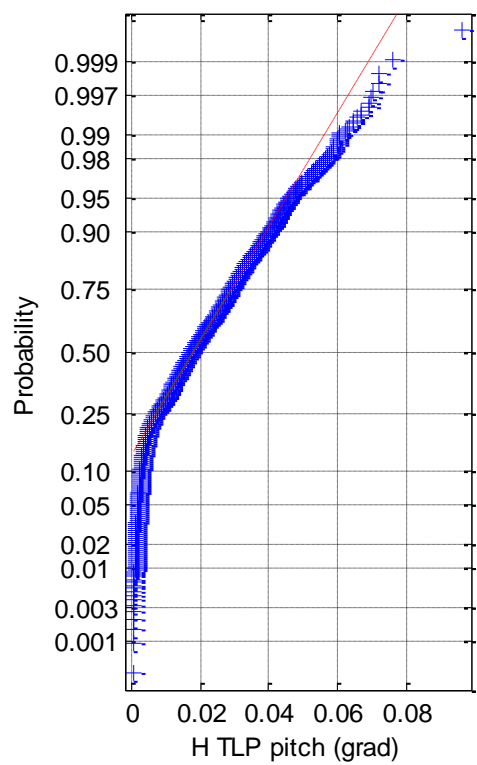
(4d) Weibull prob. plot of H TLP roll



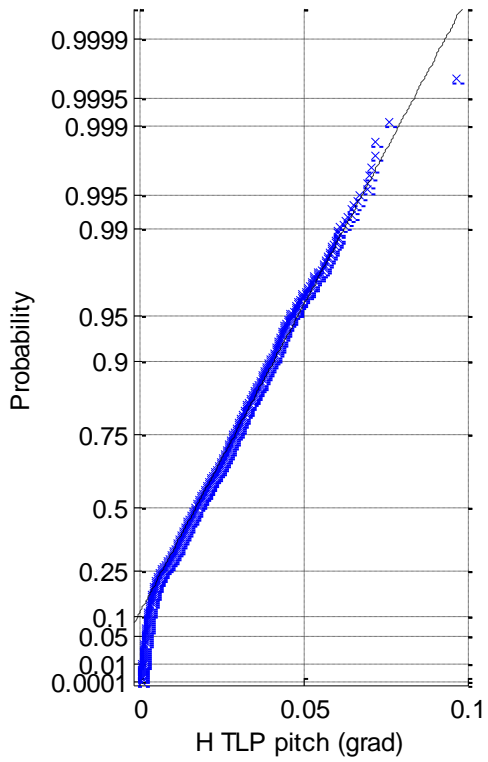
(5a) Histogram of H TLP pitch



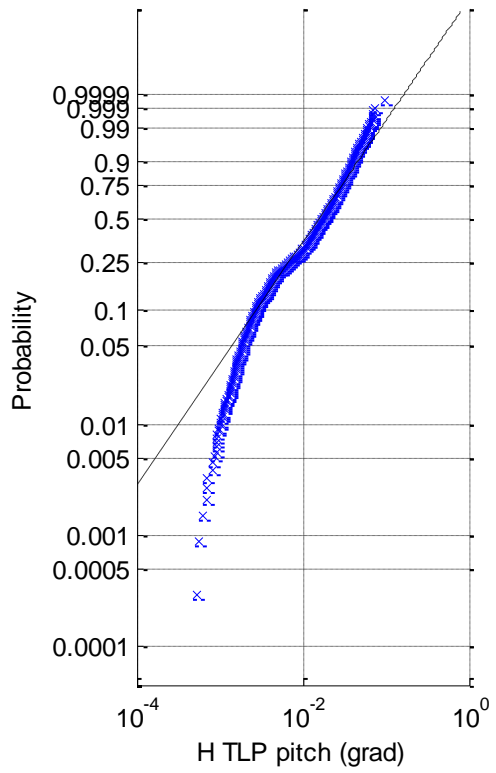
(5b) Normal prob. plot of H TLP pitch



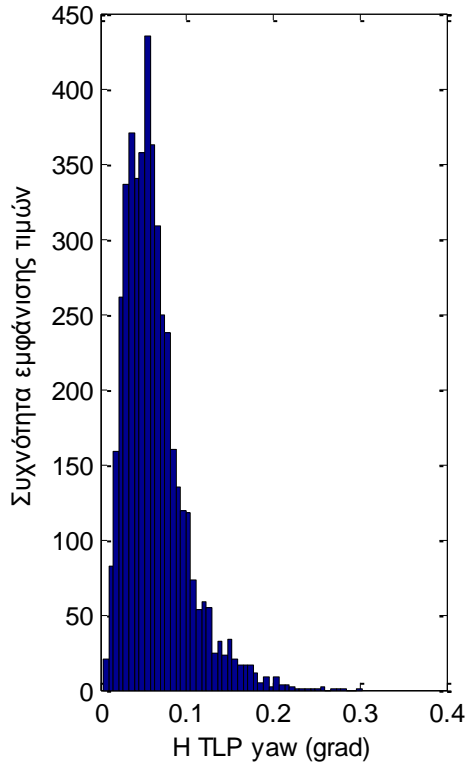
(5c) Rayleigh prob. plot of H TLP pitch



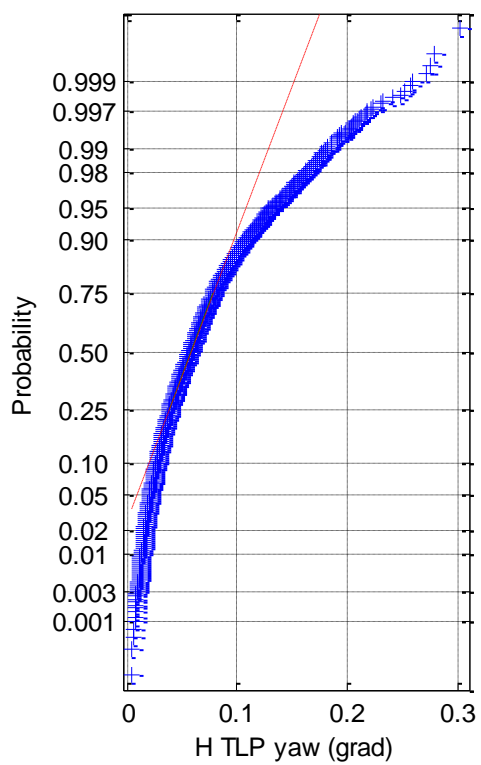
(5d) Weibull prob. plot of H TLP pitch

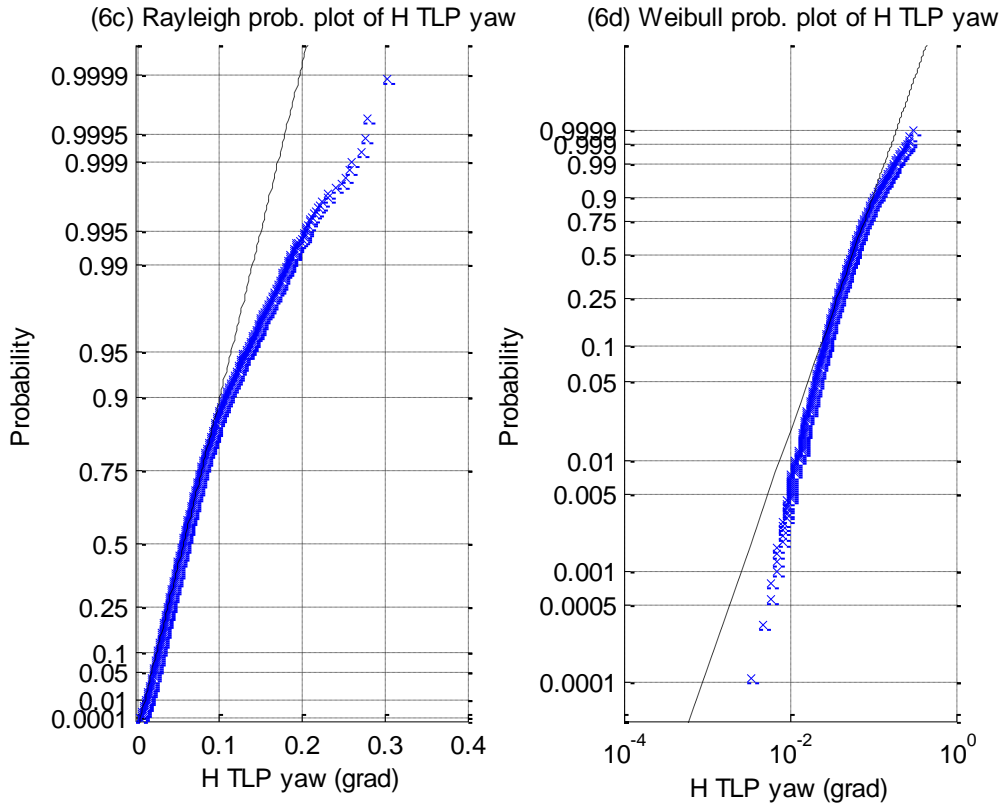


(6a) Histogram of H TLP yaw

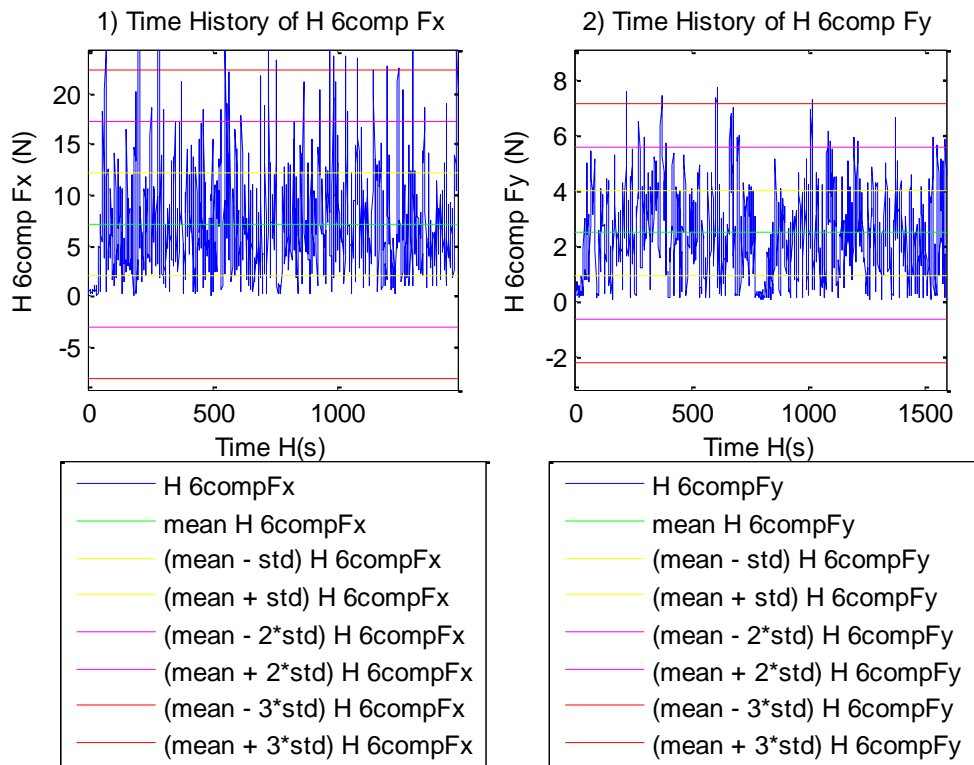


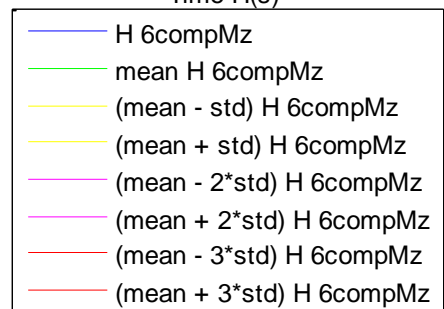
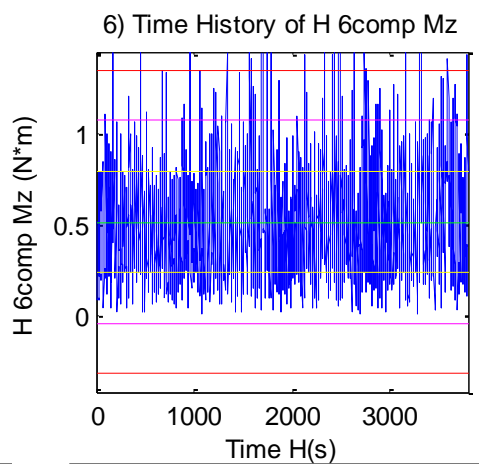
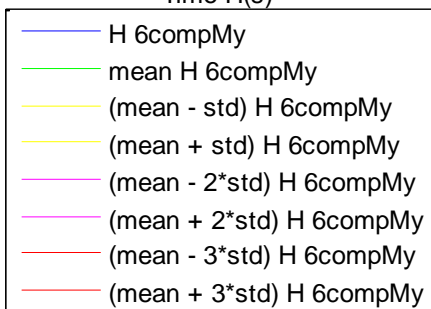
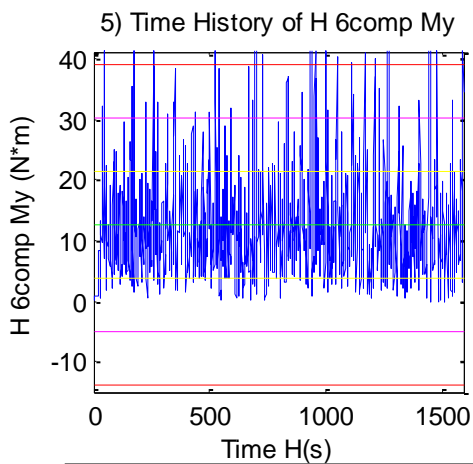
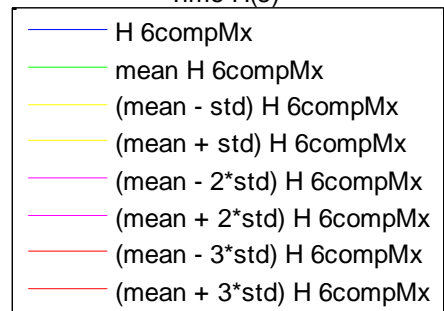
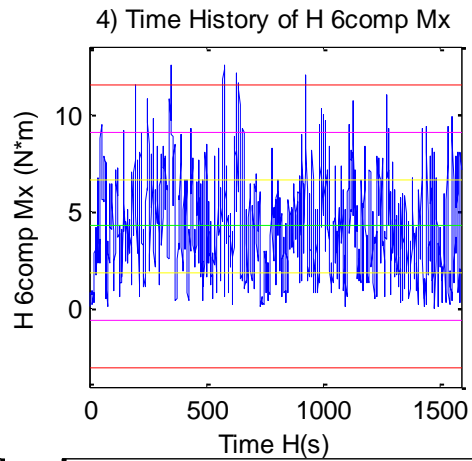
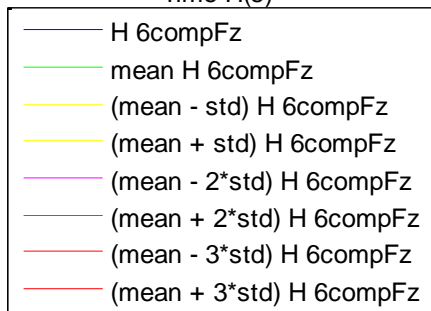
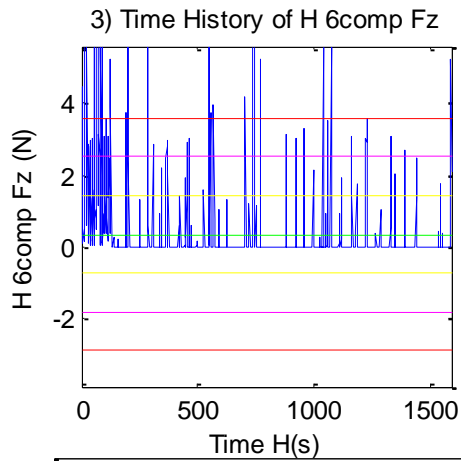
(6b) Normal prob. plot of H TLP yaw



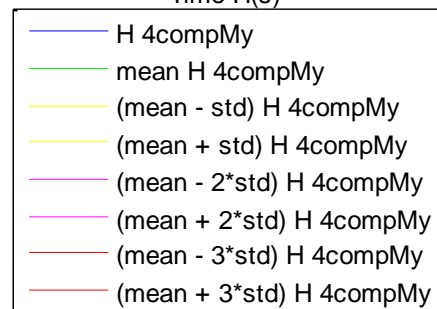
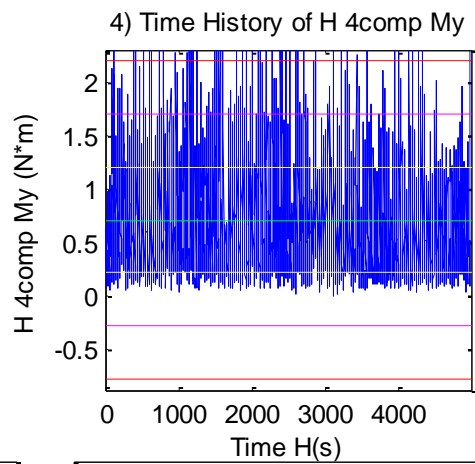
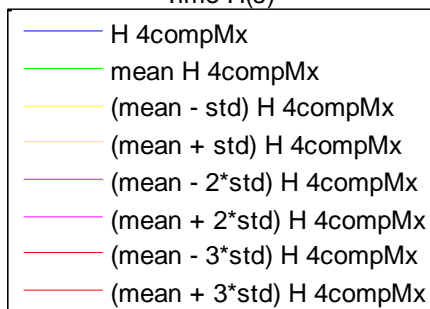
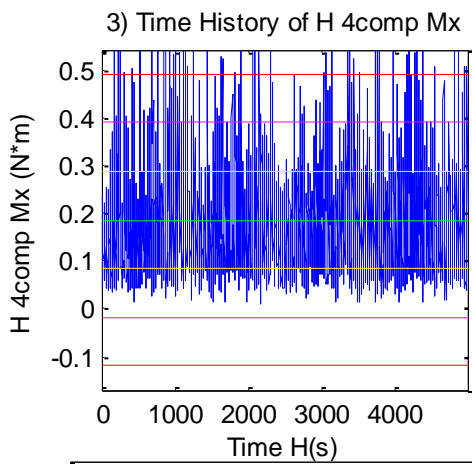
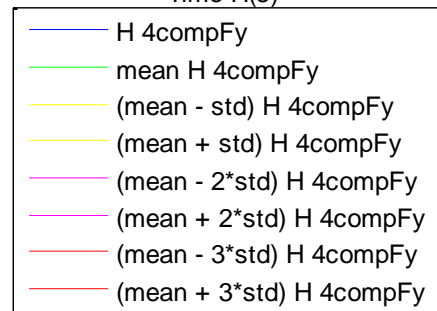
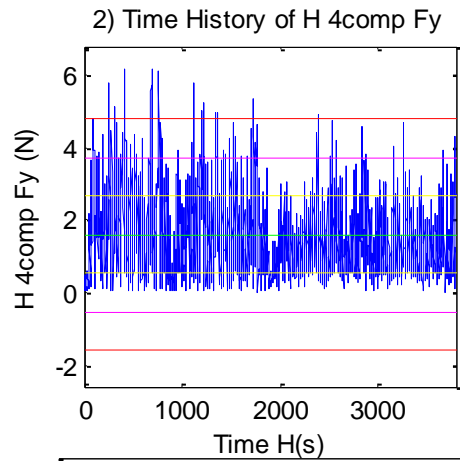
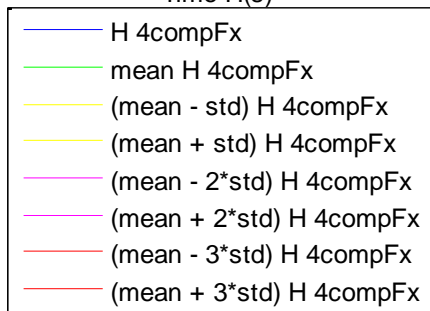
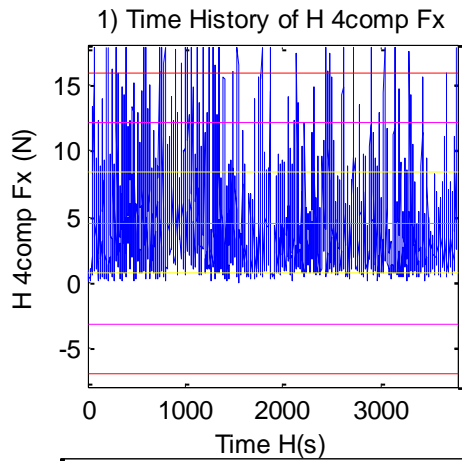


Σχήματα 1.1.6.7 (1-6) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

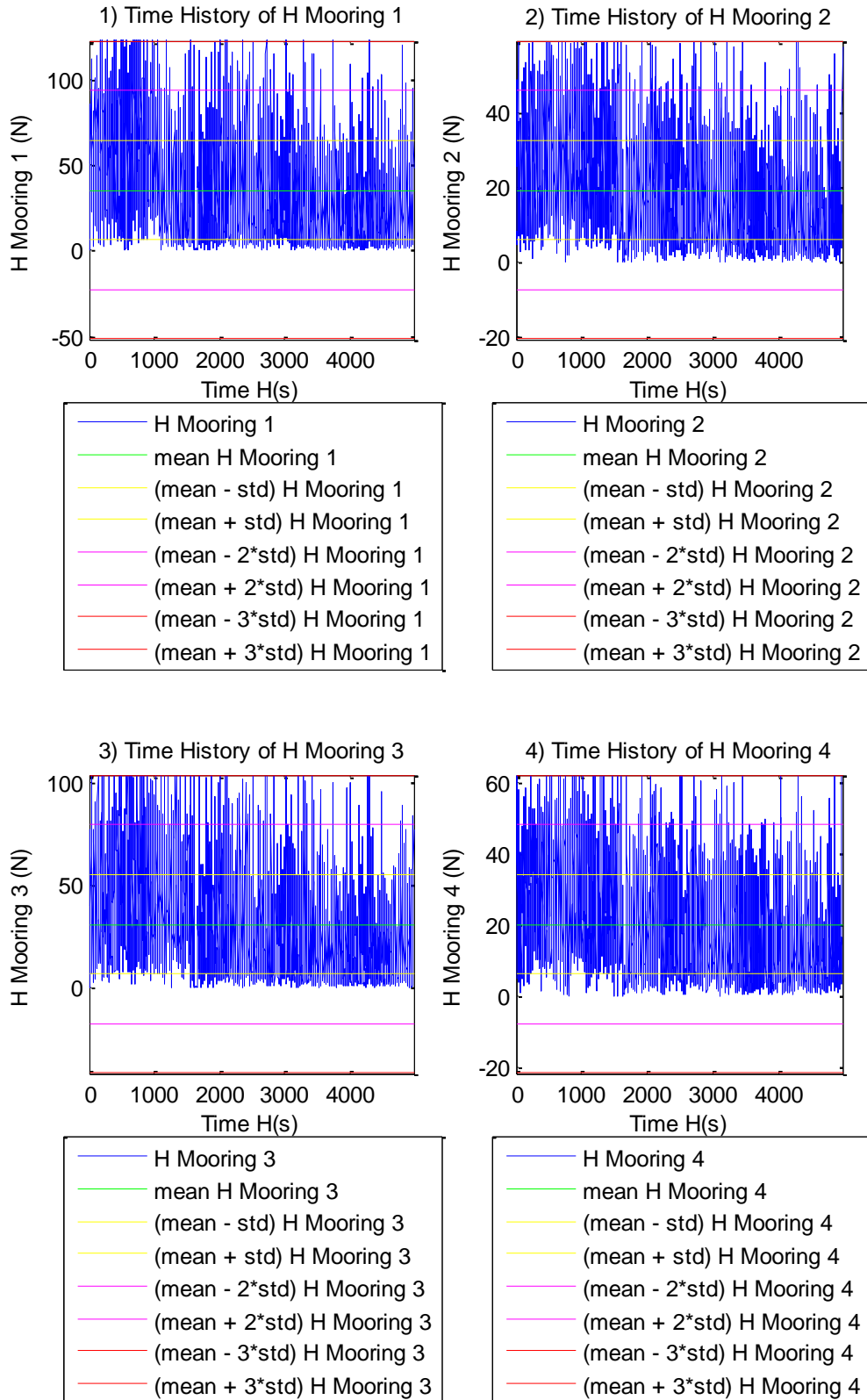




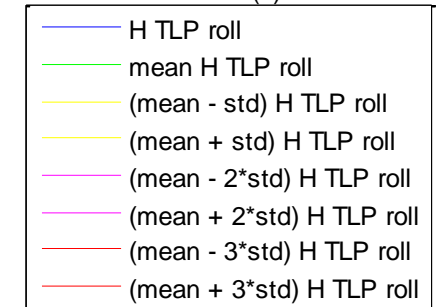
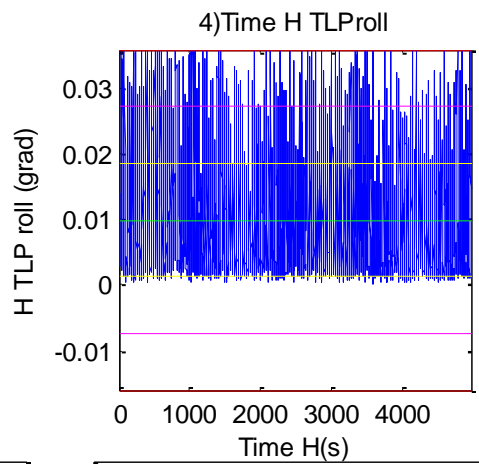
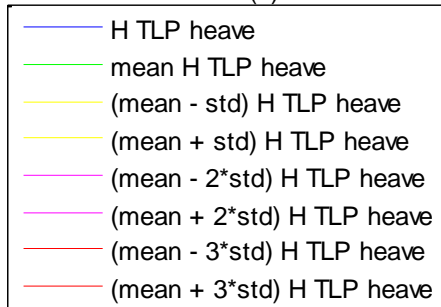
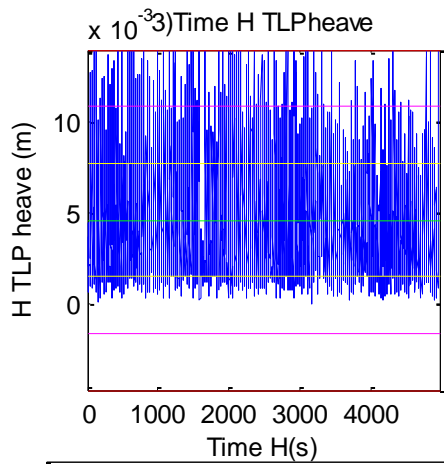
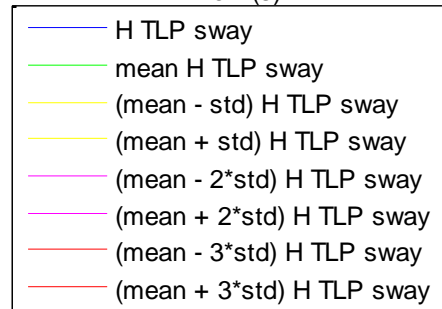
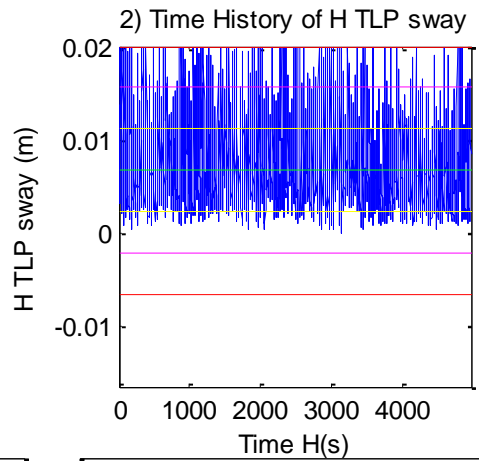
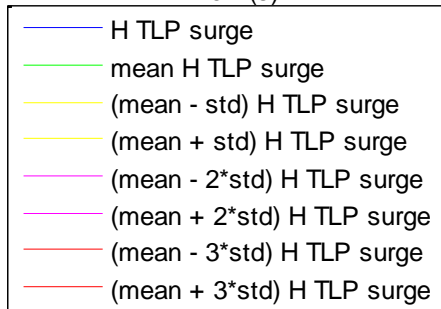
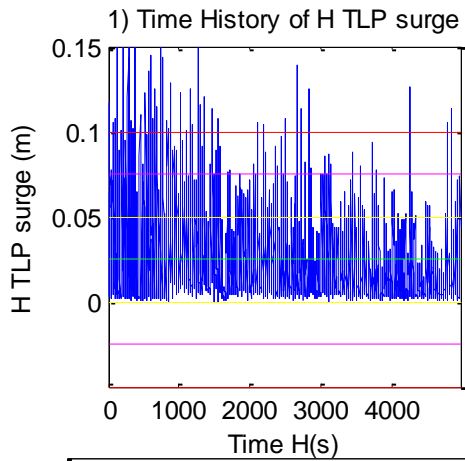
Σχήματα 1.1.7.1 (1-6) Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

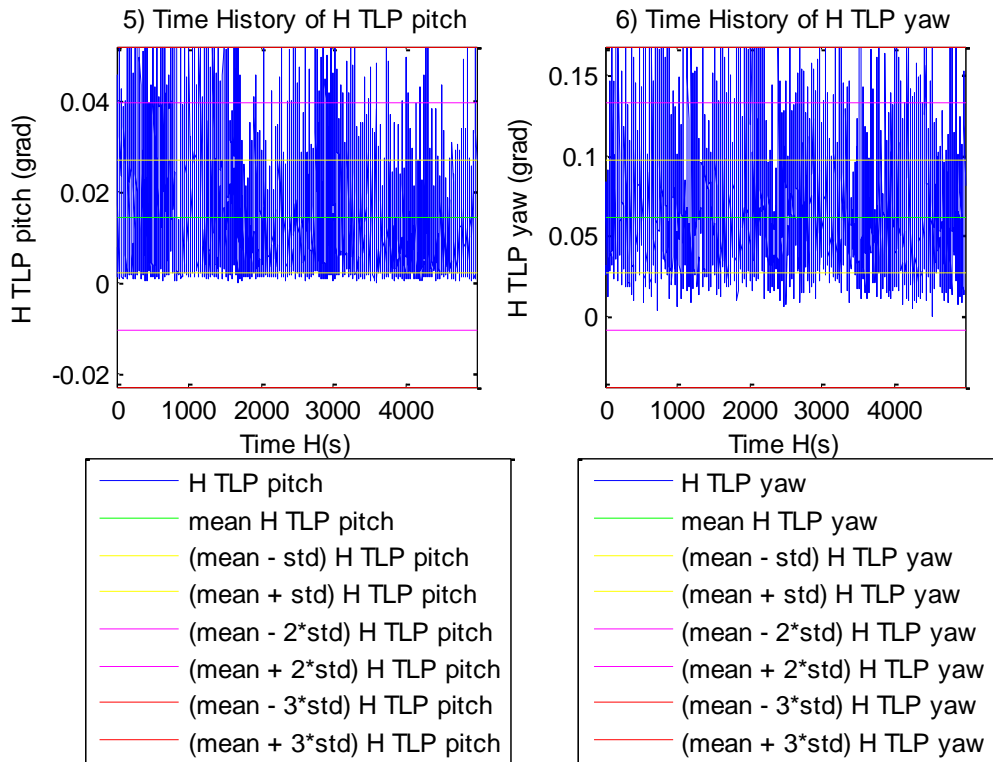


Σχήματα 1.1.7.2 (1-4) Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch



Σχήματα 1.1.7.3 (1-4) Διαγράμματα διάταξης του H για τις τέσσερις δυνάμεις στις τέσσερις γραμμές αγκύρωσης της Α/Γ





Σχήματα 1.1.7.4 (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 ΜΚΝ για τα 11 όργανα μέτρησης (WG) για Κ=100

4.2067	3.9618	3.9075	0.9833	1.0549	0.9049	1.8972	1.9646	1.7607	1.3068	1.0948
3.5648	3.8464	3.3477	0.8931	0.9518	0.8605	2.0492	2.0019	1.8233	1.4218	1.2280
4.1945	3.9325	4.4981	1.1953	1.1330	1.0881	1.6301	1.7531	1.6084	1.1465	1.1044
1.0842	1.0299	1.2129	4.6818	4.2024	4.5217	0.9774	0.9989	0.9875	1.1445	1.0724
1.0398	0.9637	1.0235	3.9001	4.2336	3.8373	0.8878	1.0166	0.8992	0.9904	0.8850
1.0961	1.0207	1.1736	4.4276	4.0920	4.5987	1.0128	0.9685	0.8559	1.1434	1.0893
1.4535	1.7315	1.2307	0.8240	0.7927	0.9718	4.4660	1.9602	0.9873	0.9666	1.0819
2.0463	2.2706	1.8334	0.9944	0.8866	0.9597	1.7956	4.6070	2.1734	0.8762	0.7027
1.5821	1.7491	1.5403	1.0339	0.8588	0.9659	0.9091	2.1370	4.7580	2.7284	1.6920
1.2814	1.1914	1.4262	1.2481	1.0142	1.3511	1.1449	1.2226	2.6151	4.5988	3.8795
1.1202	1.0419	1.2361	1.2169	0.9529	1.2950	1.4190	1.1112	1.9131	3.9162	4.5123

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

3.3128	3.0631	3.1086	0.9776	0.9740	0.9791	1.4313	1.5798	1.4796	1.2479	1.1300
2.8409	3.0995	2.5712	0.9487	0.9788	0.9530	1.5289	1.5780	1.5106	1.2587	1.1760
3.2701	2.9211	3.4854	1.0183	1.0041	1.0380	1.2823	1.5335	1.4023	1.2502	1.1262
1.0299	0.9864	1.0950	3.5668	3.3115	3.4455	0.9475	0.9077	1.0428	1.0969	1.0901
1.0343	0.9708	1.0762	3.1883	3.4136	3.1895	0.9569	0.9186	1.0266	1.0393	1.0318
1.0429	0.9959	1.0970	3.4020	3.2934	3.5159	0.9622	0.8952	1.0279	1.0976	1.0888
1.3249	1.4172	1.1527	0.8255	0.9332	0.8504	3.5173	1.7140	0.9400	1.0700	1.1925
1.5685	1.4653	1.5746	0.8714	0.8870	0.8447	1.5423	3.4767	1.7259	1.1033	0.9869
1.5511	1.5123	1.5057	0.9415	0.9269	0.9599	1.0251	1.8543	3.4778	2.3205	1.7489
1.3044	1.2011	1.3399	1.1278	1.0923	1.1423	1.0800	1.1499	2.2782	3.4218	3.0729
1.1781	1.1084	1.1743	1.1489	1.1424	1.1588	1.1579	1.0531	1.7382	3.0835	3.4326

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

2.1688	1.1019	1.0077	0.9956	2.1615	1.1822
1.5339	4.2305	0.2448	3.9172	1.6090	1.0128
1.0009	1.0006	1.0009	1.0008	1.0009	1.0000
0.7493	3.9095	0.1640	4.2454	0.7306	0.9608
2.0659	1.1016	1.0054	0.9975	2.0731	1.1763
1.5878	1.0624	1.0031	0.9745	1.5880	2.6162

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

1.7974	1.0671	1.0077	1.0115	1.7936	1.1975
1.2189	3.3838	0.4070	3.1574	1.2334	1.0462
1.0009	1.0004	1.0009	1.0007	1.0009	1.0004
0.8401	3.1827	0.3640	3.3996	0.8351	0.9363
1.7280	1.0634	1.0042	1.0112	1.7313	1.1791
1.3247	1.0225	0.9606	0.9697	1.3281	2.1193

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

1.9382	1.0675	0.9728	1.8518
1.2510	4.1047	3.4784	1.2346
0.9848	1.1246	1.1531	0.9888
3.0093	1.1256	0.9287	3.1748

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

1.6427	1.0522	0.9693	1.5748
1.1084	3.2480	2.7393	1.1643
0.9900	1.0877	1.1175	0.9949
2.3418	1.1247	0.9624	2.5000

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=100**

1.4073	1.2678	1.3384	1.2354
1.5091	1.8144	1.4490	0.6091
1.3169	1.2391	1.3697	1.2457
1.0697	0.5023	1.1359	1.9591

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=1000**

1.3133	1.2137	1.2482	1.1327
1.3797	1.6152	1.3397	0.6655
1.2379	1.1861	1.2965	1.1441
1.0657	0.6347	1.1147	1.6905

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

1.2805	0.9286	1.0424	1.0036	0.9056	1.0239
1.0784	1.4859	0.9566	0.6861	1.1056	1.0234

1.0376 0.9817 1.0834 1.0344 0.9815 1.0140
 1.0254 0.8146 1.0751 1.5059 0.9249 0.8432
 0.9547 1.0649 0.9909 0.8971 1.2963 0.9625
 1.0808 0.8569 1.5375 0.3771 0.8885 2.3033

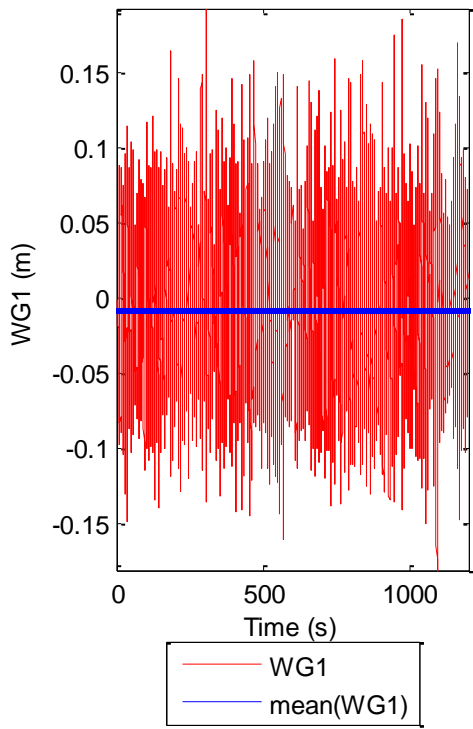
Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000

1.1990 0.9725 1.0627 1.0088 0.9241 1.0232
 0.9979 1.3630 0.9870 0.8095 1.0447 0.9810
 1.0262 0.9946 1.0619 1.0196 0.9792 1.0185
 1.0230 0.9198 1.0483 1.2915 0.9613 0.9489
 0.9511 1.0260 0.9818 0.9373 1.2106 0.9508
 1.0603 0.9182 1.3758 0.6947 0.8324 1.9557

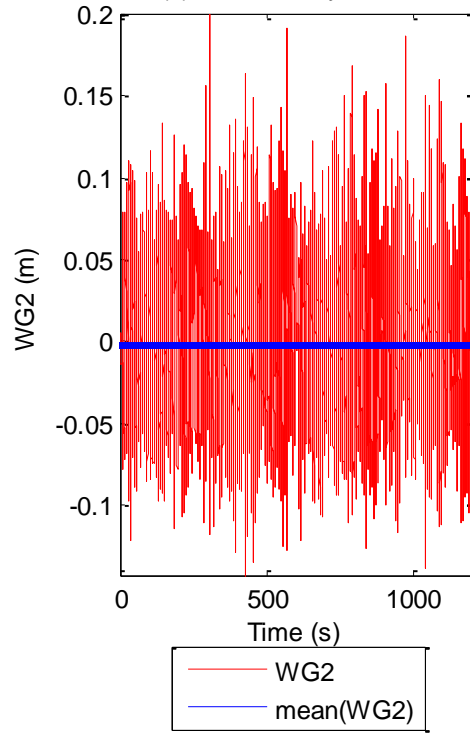
1.2 Παρουσίαση χρονοσειρών (C3) T1294+T1295_1.6_0.1_TLP_20_NR

Πίνακας 1.2.1	Χαρακτηριστικά Πειράματος
Τύπος μοντέλου	TLP
Ύψος κύματος (m)	0.100
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	20
Περιστροφή ή μη του Ρότορα	Χωρίς Περιστροφή

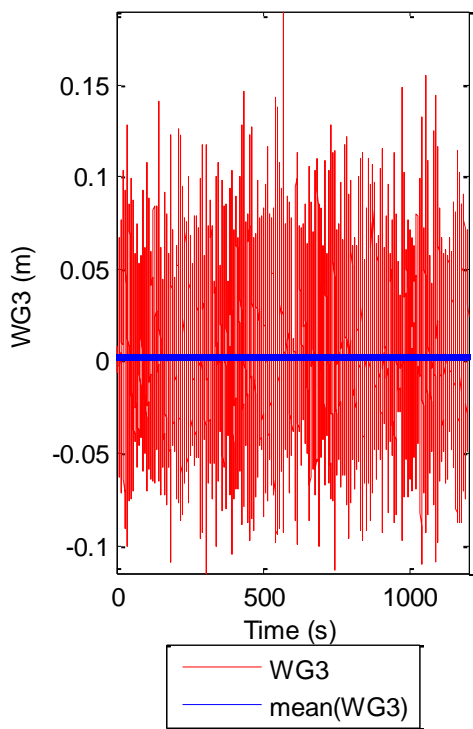
(1) Time History of WG1



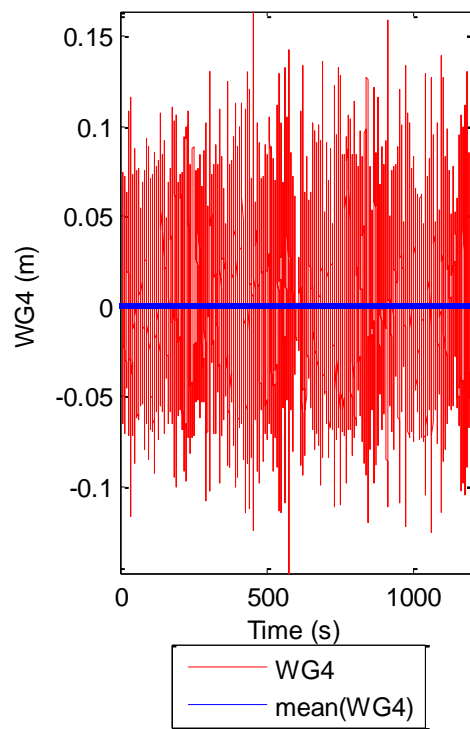
(2) Time History of WG2



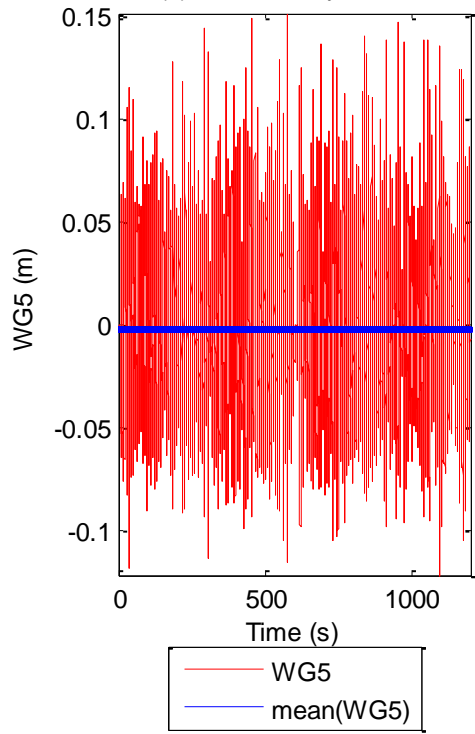
(3) Time History of WG3



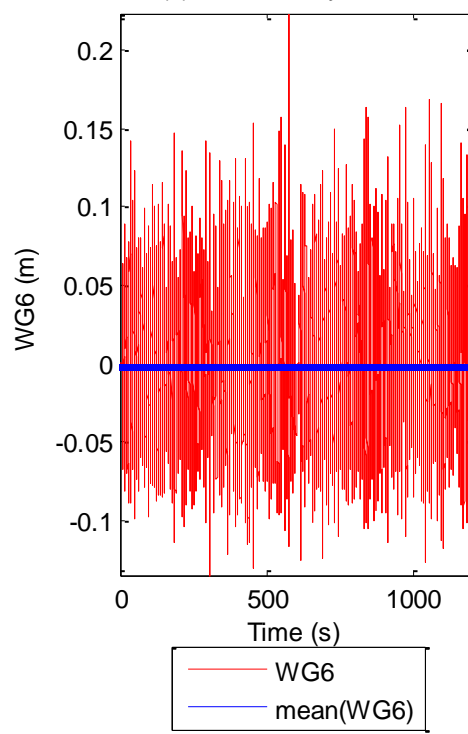
(4) Time History of WG4



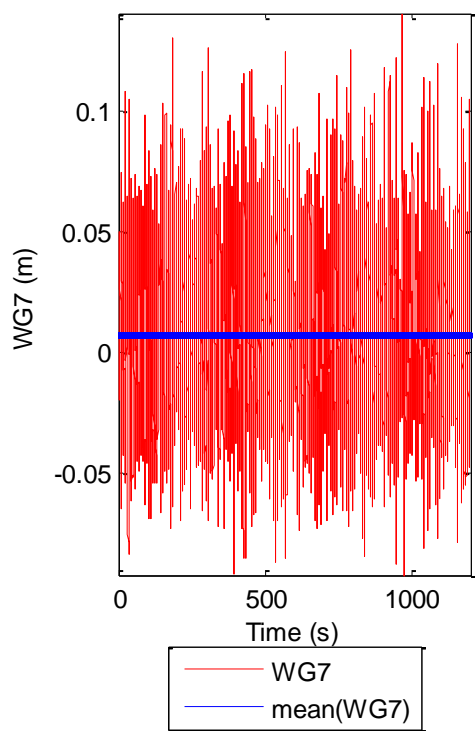
(5) Time History of WG5



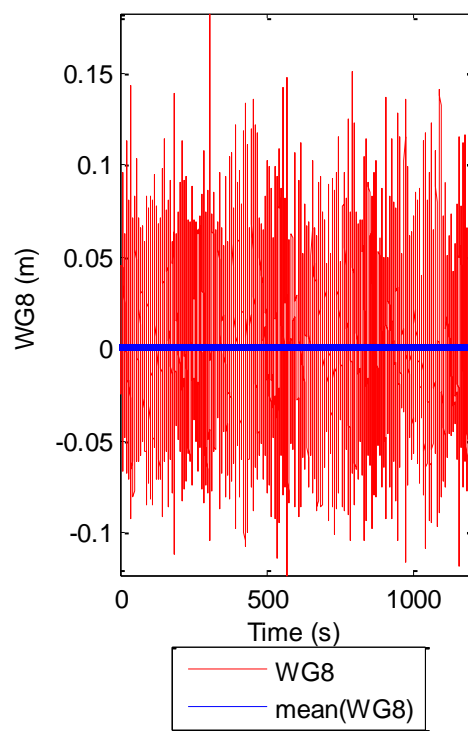
(6) Time History of WG6

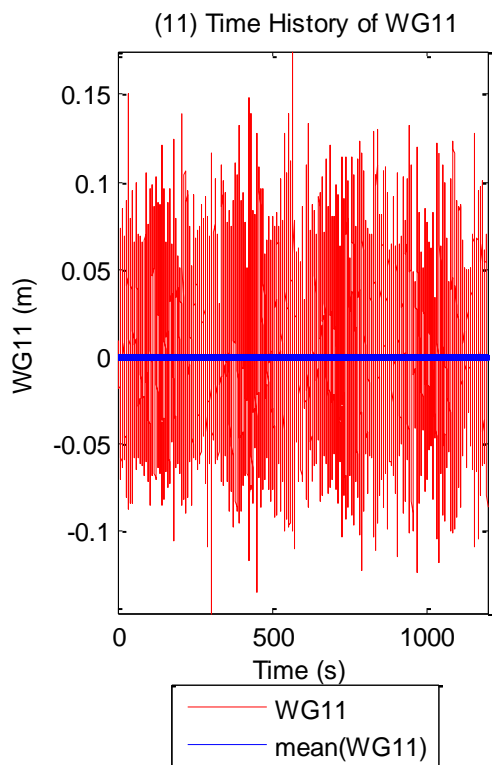
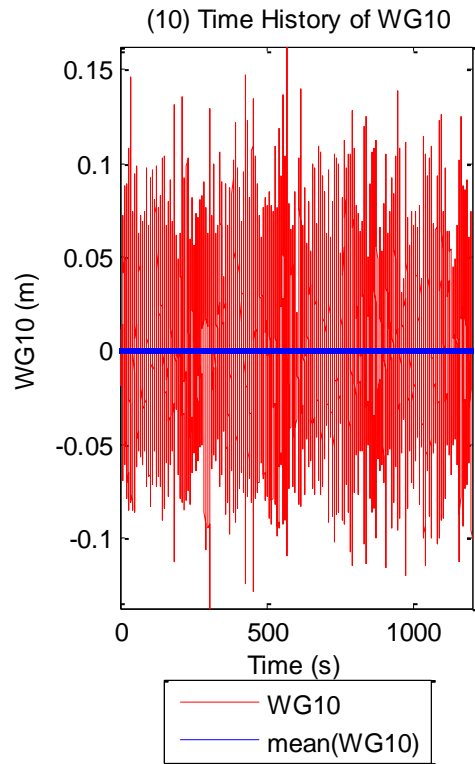
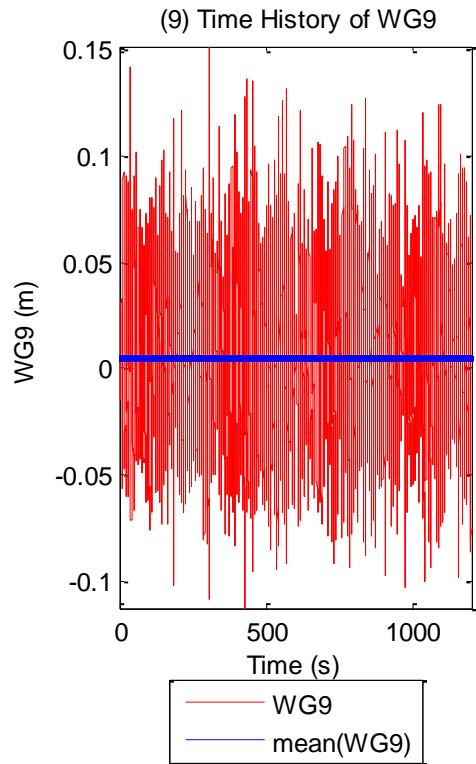


(7) Time History of WG7



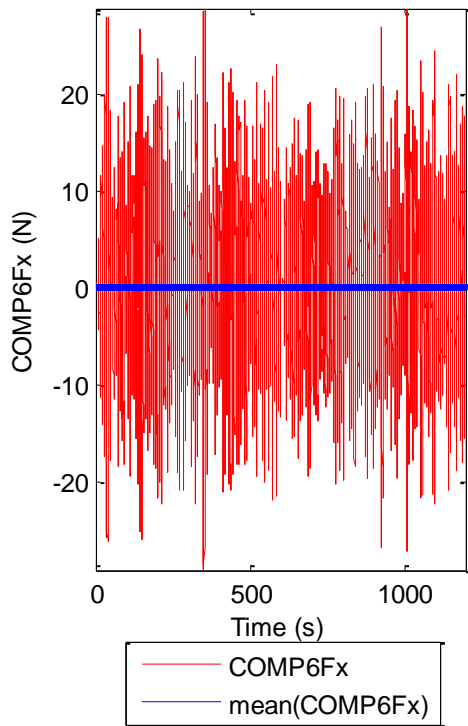
(8) Time History of WG8



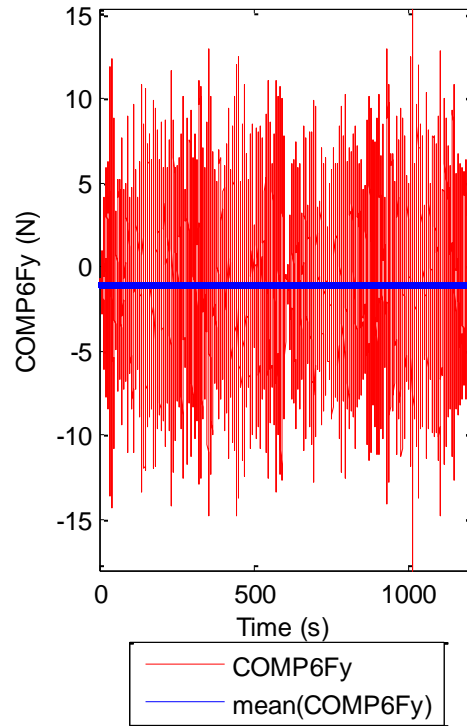


Σχήματα 1.2.1.1 (1-6) Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

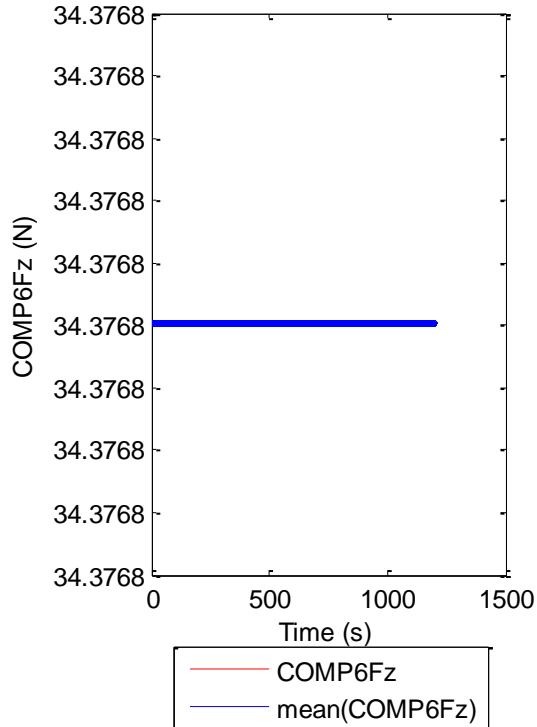
(1) Time History of COMP6Fx



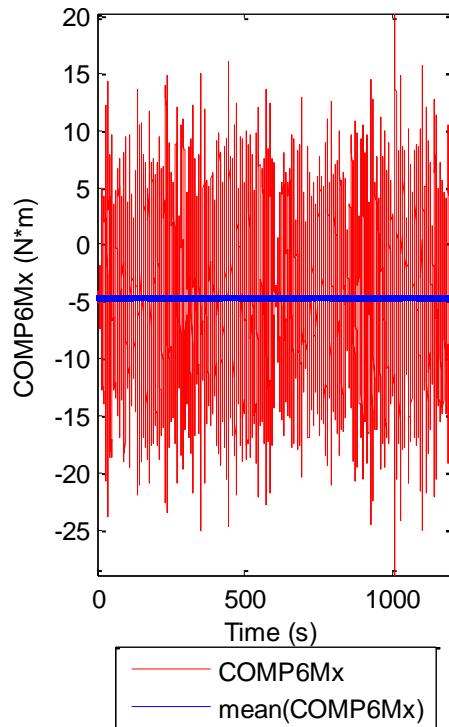
(2) Time History of COMP6Fy

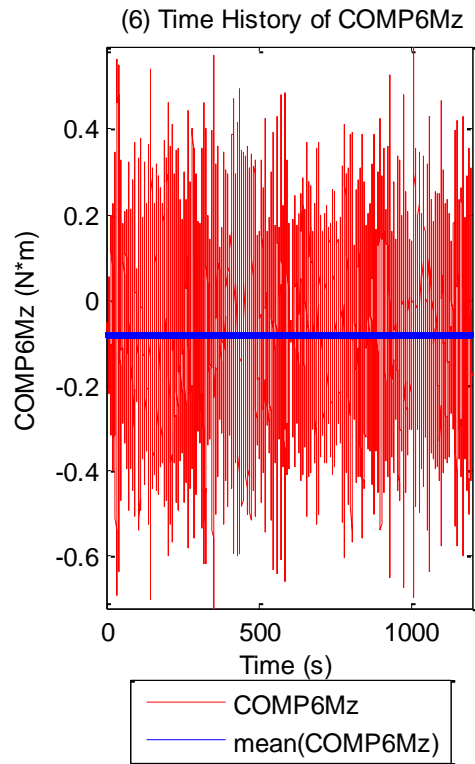
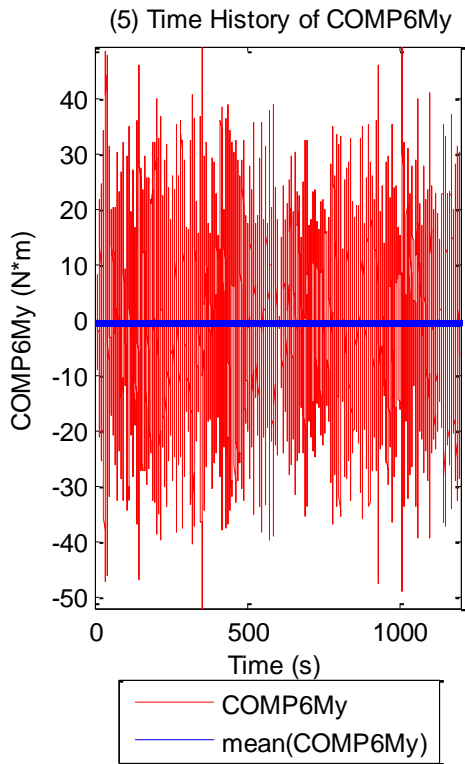


(3) Time History of COMP6Fz

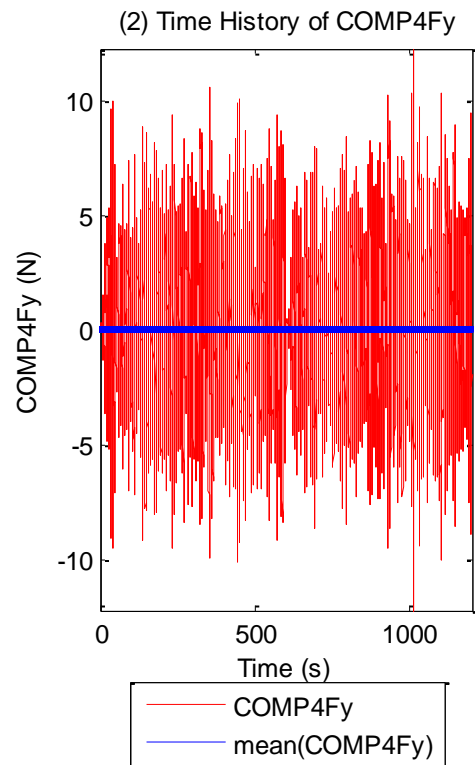
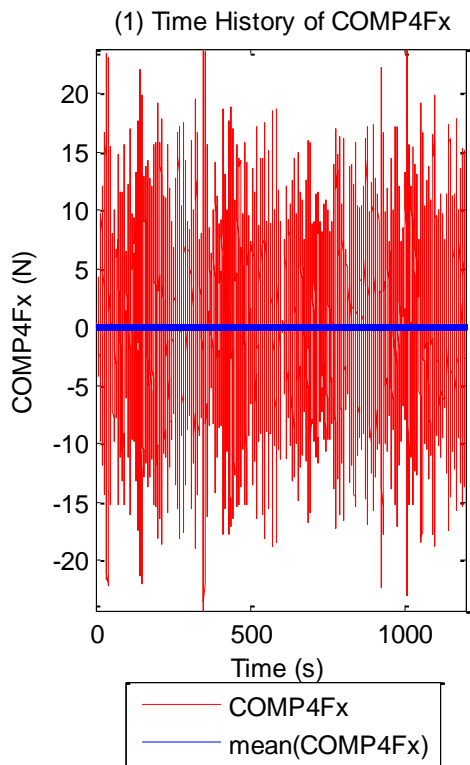


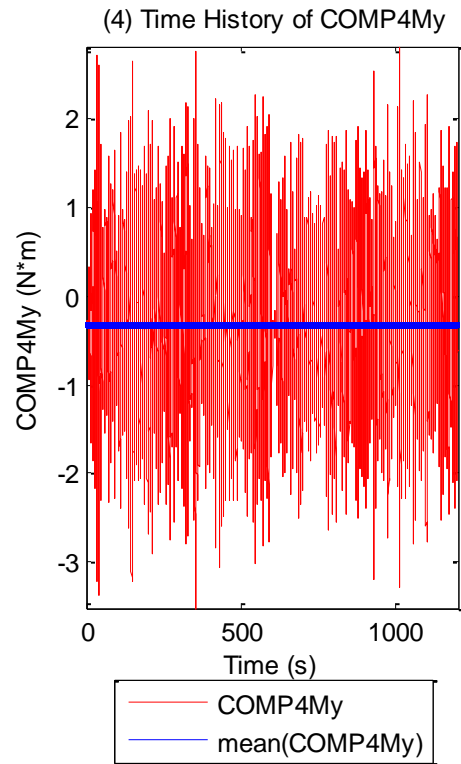
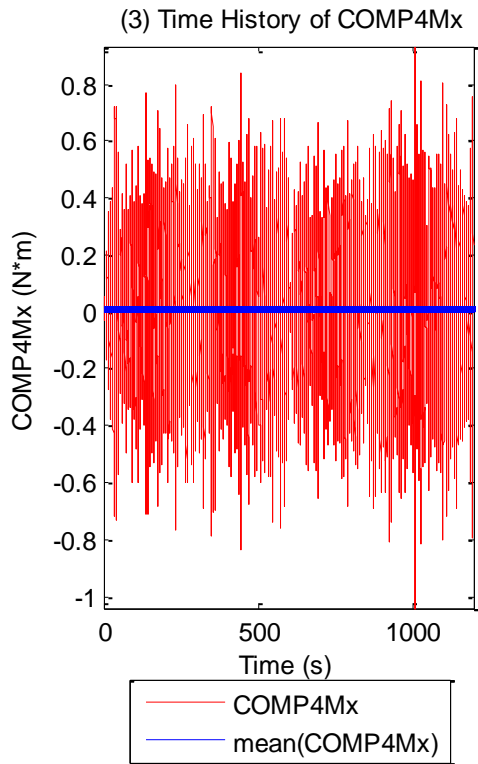
(4) Time History of COMP6Mx



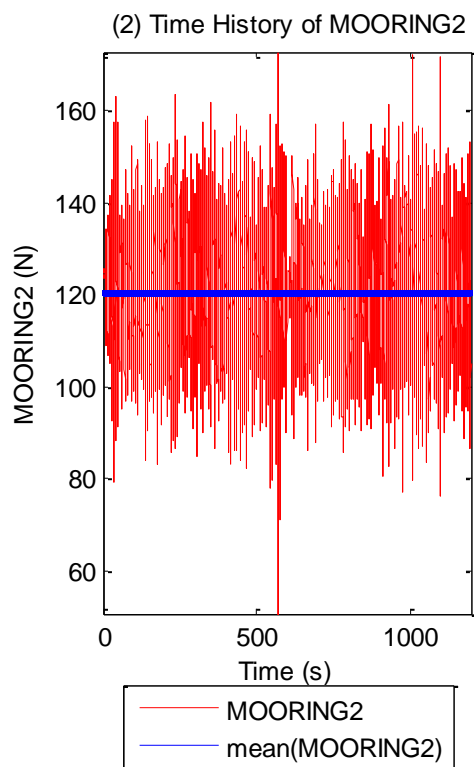
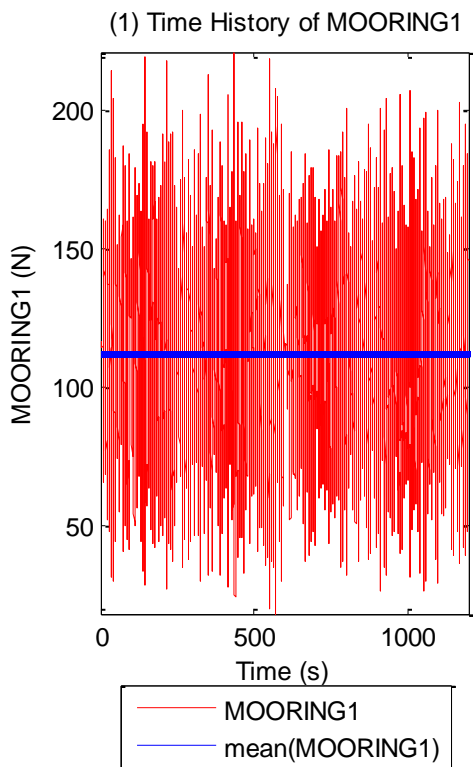


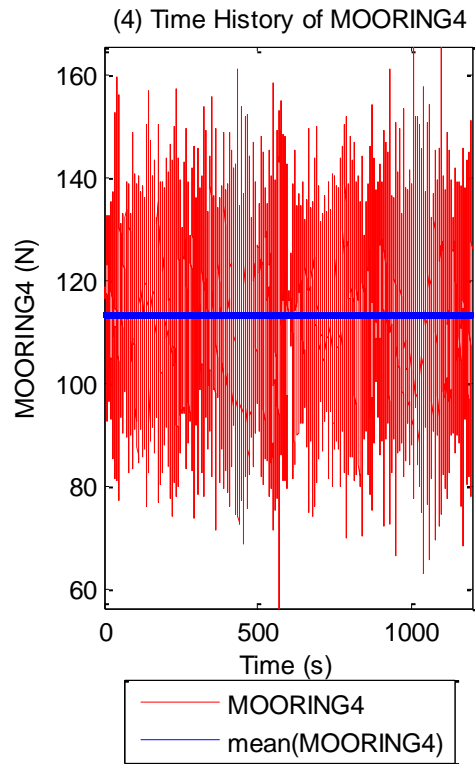
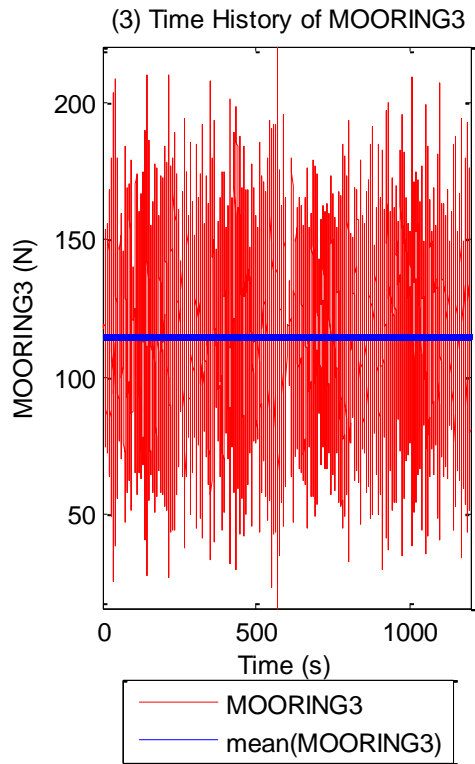
Σχήματα 1.2.1.2 Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



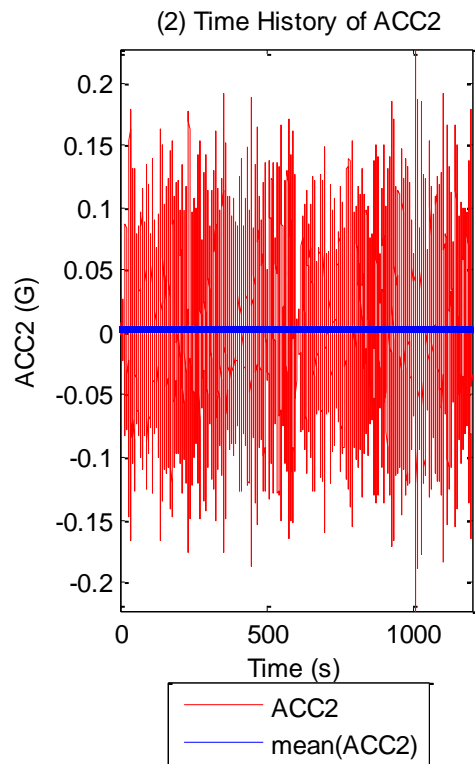
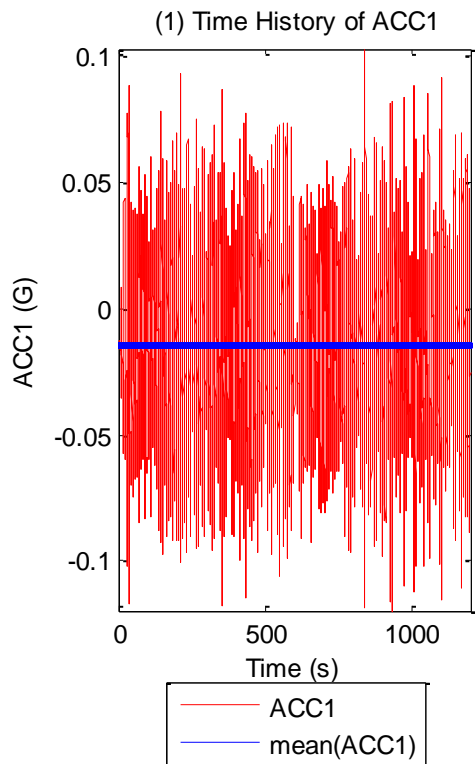


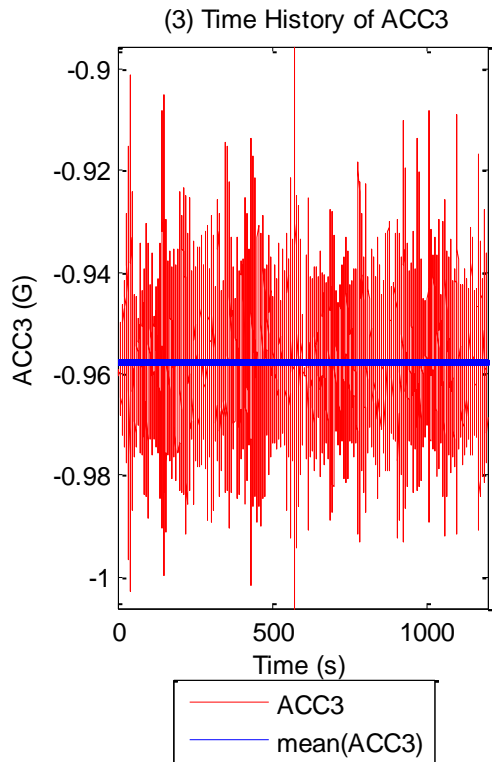
Σχήματα 1.2.1.3 Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



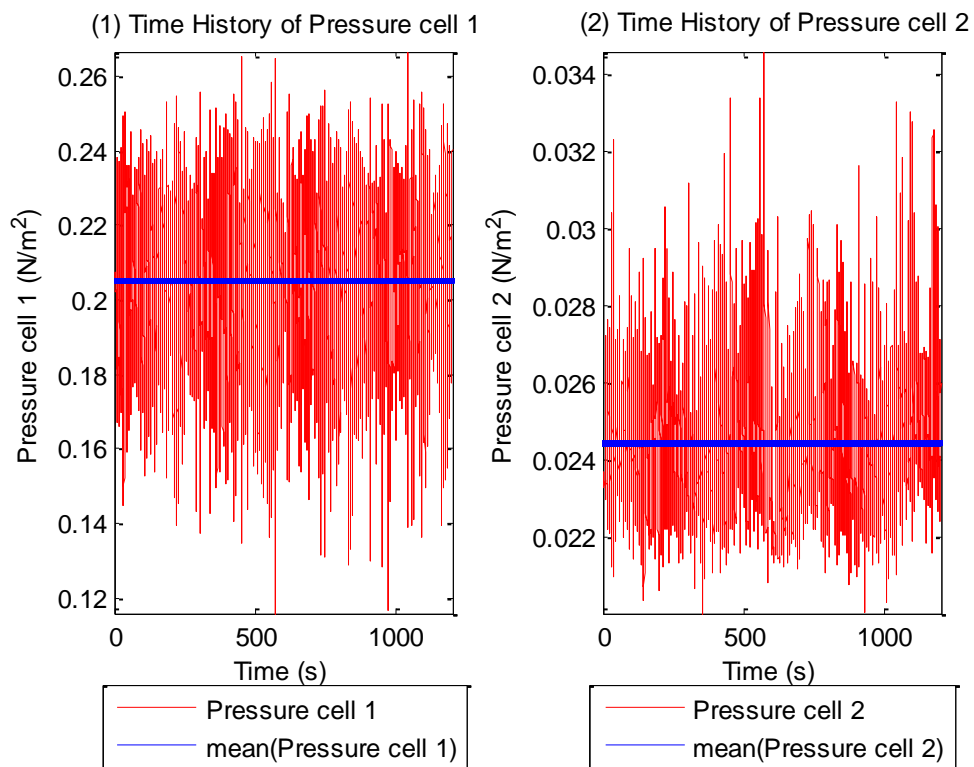


Σχήματα 1.2.1.4 Χρονοσειρές για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης (1-4) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές



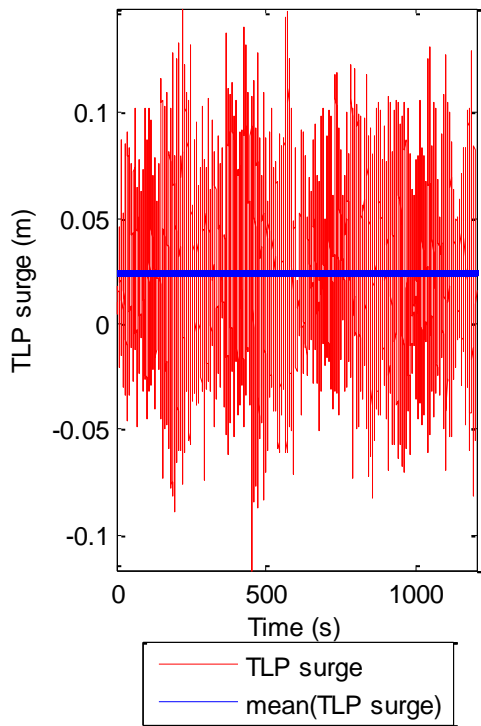


Σχήματα 1.2.1.5 (1-3) Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

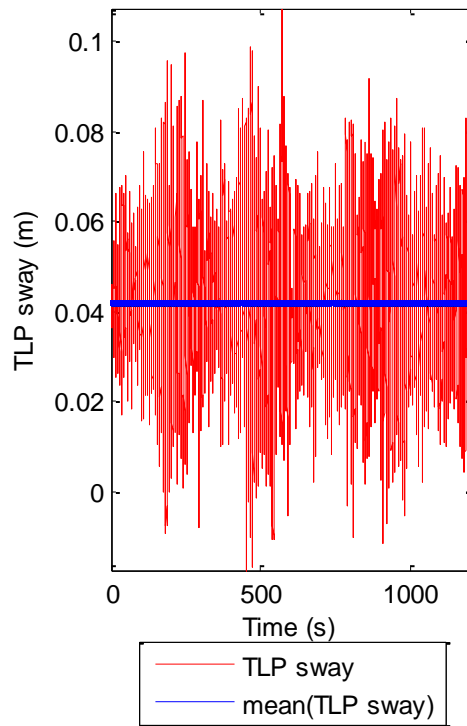


Σχήματα 1.2.1.6 (1-2) Χρονοσειρές από τα δυο όργανα μέτρησης της πίεσης

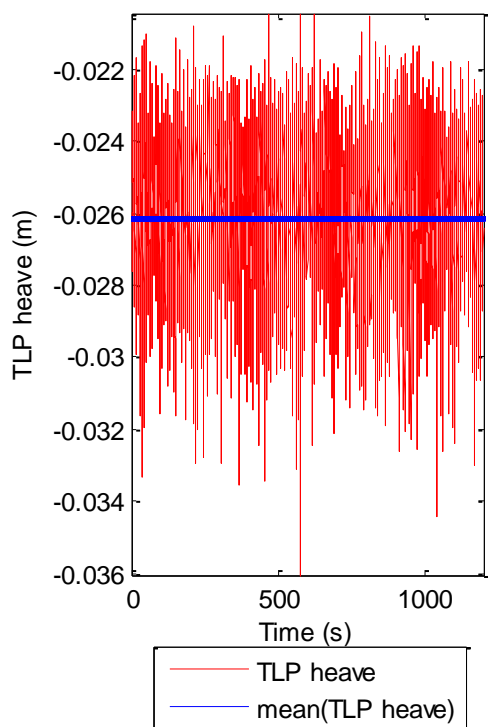
(1) Time History of TLP surge



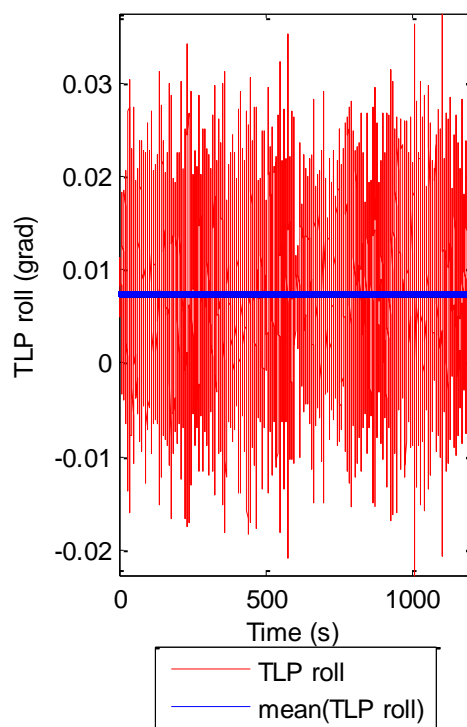
(2) Time History of TLP sway

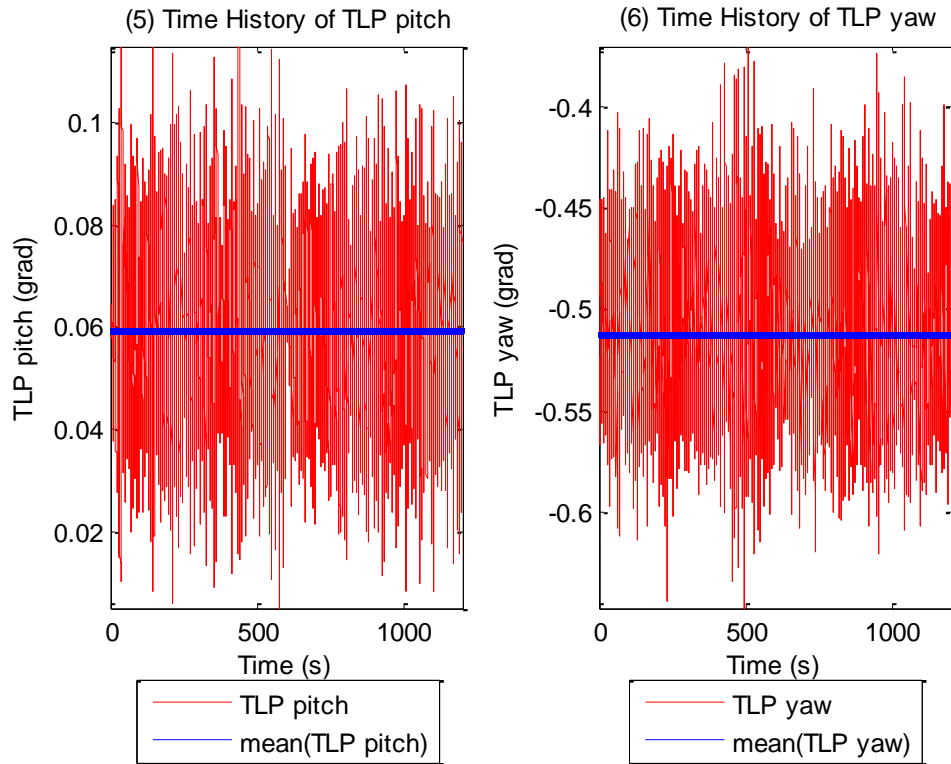


(3) Time History of TLP heave



(4) Time History of TLP roll





Σχήματα 1.2.1.7 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 1.2.2					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H_{rms}
Wg1 (m)	-0.0084	0.0475	-0.1813	0.1930	0.1330
Wg2 (m)	-0.0016	0.0430	-0.1428	0.2003	0.1190
Wg3 (m)	0.0031	0.0368	-0.1148	0.1897	0.1026
Wg4 (m)	0.0007	0.0392	-0.1480	0.1642	0.1077
Wg5 (m)	-0.0017	0.0373	-0.1220	0.1513	0.1034
Wg6 (m)	-0.0017	0.0423	-0.1353	0.2240	0.1170
Wg7 (m)	0.0076	0.0314	-0.0919	0.1403	0.0875
Wg8 (m)	0.0017	0.0373	-0.1231	0.1828	0.1036

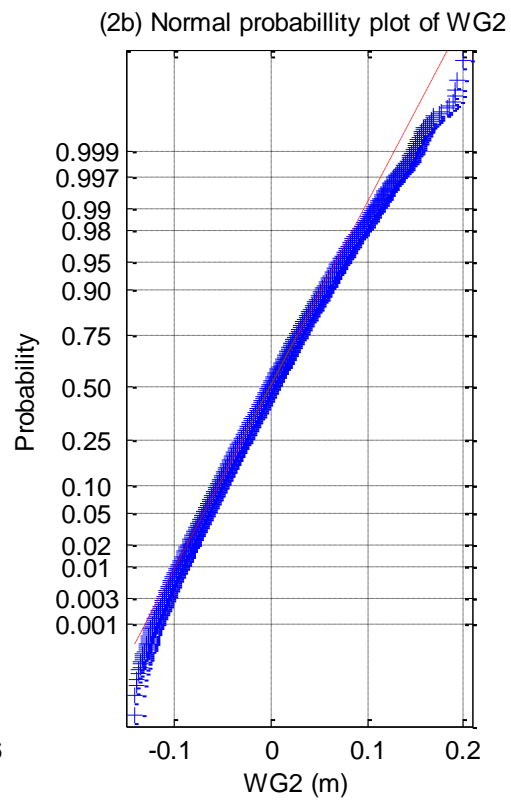
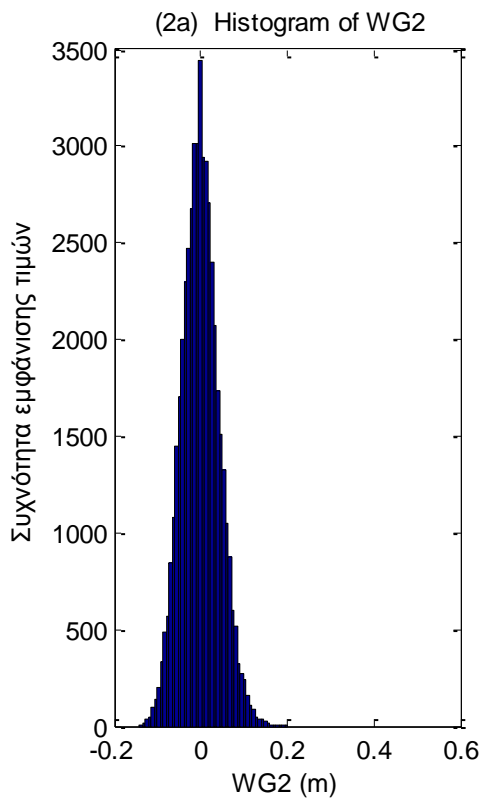
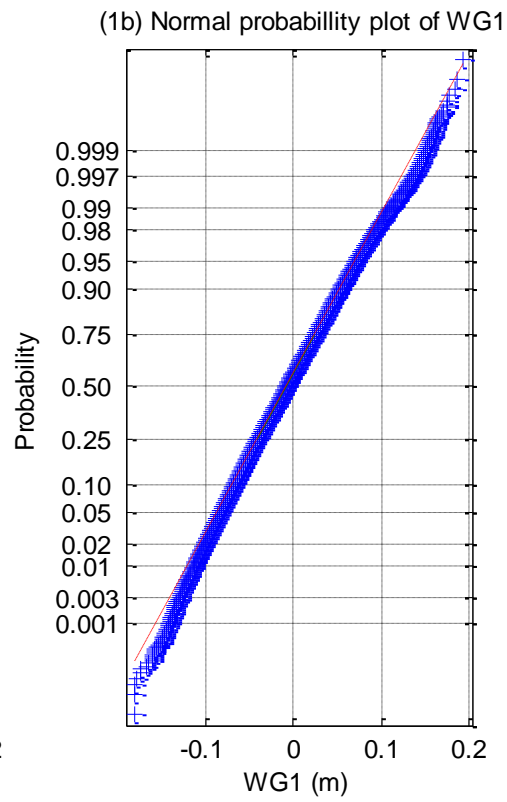
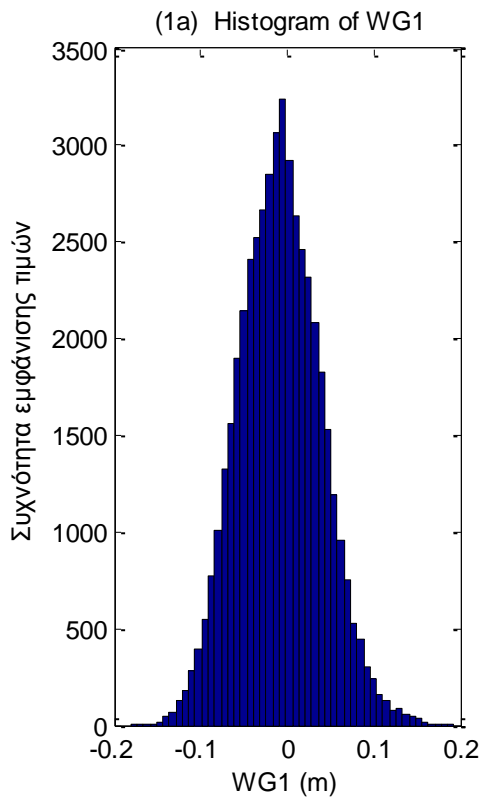
Wg9 (m)	0.0051	0.0346	-0.1128	0.1516	0.0964
Wg10 (m)	0.0001	0.0384	-0.1375	0.1626	0.1063
Wg11 (m)	0.0003	0.0391	-0.1464	0.1746	0.1079
6comp_Fx (N)	0.2732	7.9791	-29.0329	28.7924	22.4966
6comp_Fy(N)	-0.9746	4.3859	-17.9928	15.3885	12.3376
6comp_Fz (N)	34.3768	0.0000	34.3768	34.3768	0.0000
6comp_Mx (N*m)	-4.5317	6.3994	-28.9695	20.2685	17.9522
6comp_My (N*m)	-0.3660	13.9329	-51.8324	49.5004	39.5254
6comp_Mz (N*m)	-0.0791	0.1828	-0.7246	0.5949	0.4854
4comp_Fx (N)	0.0487	6.6854	-24.2548	23.8068	18.8296
4comp_Fy (N)	0.0703	3.2135	-12.1999	12.2406	9.1014
4comp_Mx (N*m)	0.0109	0.2583	-1.0412	0.9331	0.7663
4comp_My (N*m)	-0.3139	0.8679	-3.5154	2.8083	2.4166
Mooring_1 (N)	112.4991	30.0805	18.0500	221.4402	83.3873
Mooring_2(N)	120.4903	12.5685	50.7576	172.7166	35.3884
Mooring_3 (N)	114.7579	27.5476	15.8449	220.6636	76.6986
Mooring_4(N)	113.4644	13.5613	56.2252	165.4833	38.1393
Acc_1 (G)	-0.0140	0.0296	-0.1196	0.1028	0.0808
Acc_2 (G)	0.0027	0.0591	-0.2228	0.2272	0.1663
Acc_3 (G)	-0.9578	0.0108	-1.0062	-0.8956	0.0292
Pres.cell_1 (N/m^2)	0.2052	0.0193	0.1158	0.2666	0.0446

Pres.cell_2 (N/m ²)	0.0245	0.0016	0.0200	0.0346	0.0033
TLP_x (m)	0.0246	0.0365	-0.1166	0.1495	0.0605
TLP_y (m)	0.0422	0.0159	-0.0174	0.1073	0.0219
TLP_z (m)	-0.0261	0.0014	-0.0361	-0.0204	0.0029
TLP_roll (grad)	0.0076	0.0077	-0.0226	0.0374	0.0126
TLP_pitch (grad)	0.0593	0.0156	0.0053	0.1147	0.0257
TLP_yaw (grad)	-0.5121	0.0299	-0.6477	-0.3699	0.0557

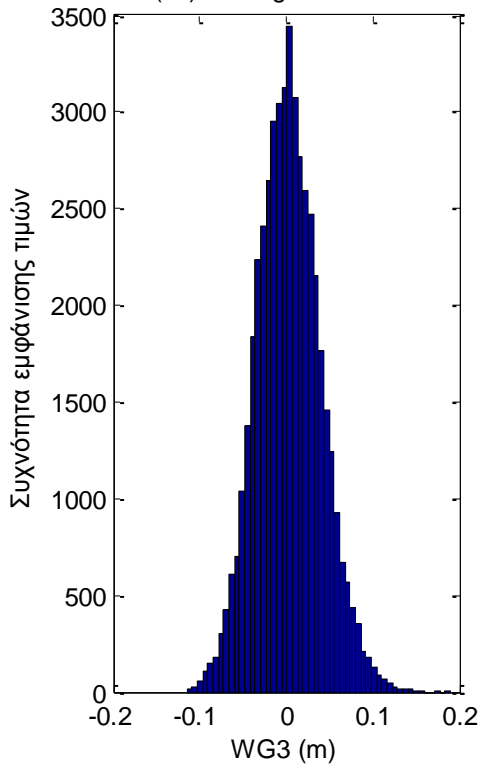
Πίνακας 1.2.3				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1542	3.0520	1	1
Wg2 (m)	0.2026	3.1618	1	1
Wg3 (m)	0.1935	3.1773	1	1
Wg4 (m)	0.1305	3.1335	1	1
Wg5 (m)	0.2482	3.1707	1	1
Wg6 (m)	0.2273	3.1665	1	1
Wg7 (m)	0.2205	3.1359	1	1
Wg8 (m)	0.1873	3.1669	1	1
Wg9 (m)	0.1417	3.0828	1	1
Wg10 (m)	0.1332	3.1009	1	1
Wg11 (m)	0.1510	3.0963	1	1
6comp_Fx (N)	0.0026	2.9490	1	1
6comp_Fy(N)	0.0029	2.8523	1	1

6comp_Fz (N)	-1.0000	1.0000	1	1
6comp_Mx (N*m)	-0.0139	2.8656	1	1
6comp_My (N*m)	0.0057	2.9551	1	1
6comp_Mz (N*m)	0.0295	2.9278	1	1
4comp_Fx (N)	0.0069	2.9287	1	1
4comp_Fy (N)	0.0154	2.8464	1	1
4comp_Mx (N*m)	-0.0367	2.7483	1	1
4comp_My (N*m)	-0.0004	2.9362	1	1
Mooring_1 (N)	0.0373	2.8695	1	1
Mooring_2 (N)	0.0450	3.1642	1	1
Mooring_3 (N)	0.0032	2.9602	1	1
Mooring_4 (N)	-0.0460	3.0186	1	1
Acc_1 (G)	-0.0036	3.0182	1	1
Acc_2 (G)	0.0141	2.8447	1	1
Acc_3 (G)	0.2754	4.0911	1	1
Pres.cell_1 (N/m)	-0.2867	3.2192	1	1
Pres.cell_2 (N/m)	0.9772	5.1563	1	1
TLP_x (m)	0.0940	2.8599	1	1
TLP_y (m)	-0.0215	3.1030	1	1
TLP_z (m)	-0.5378	4.3108	1	1
TLP_roll (grad)	-0.0309	2.9279	1	1
TLP_pitch (grad)	-0.0189	2.9589	1	1

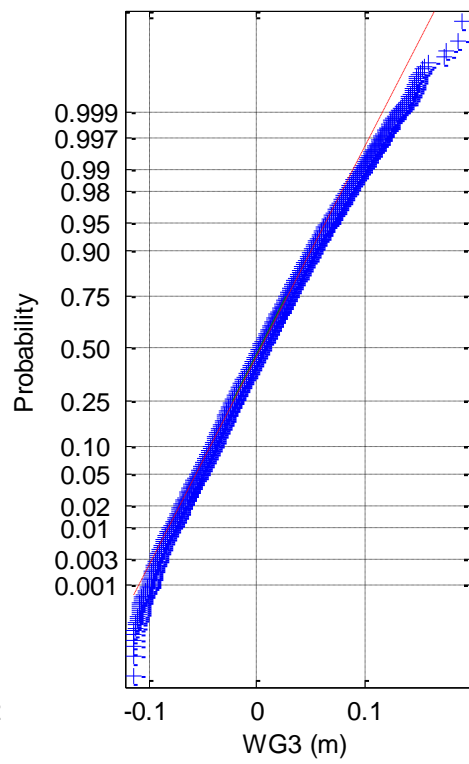
TLP_yaw (grad)	0.0261	3.3710	1	1
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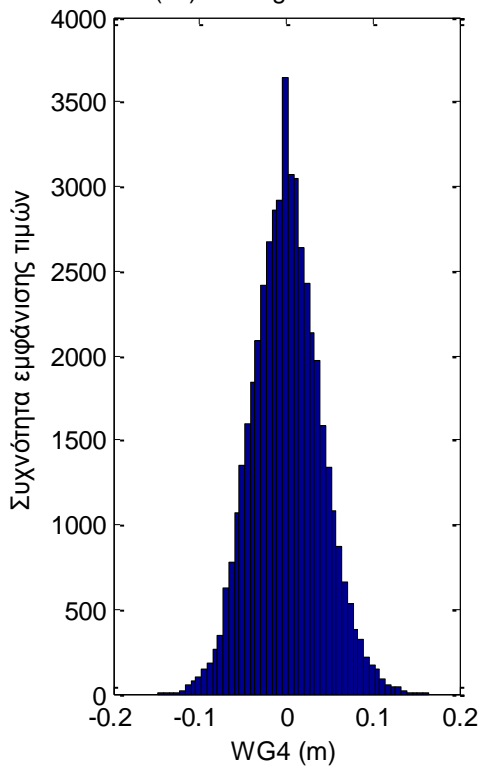
(3a) Histogram of WG3



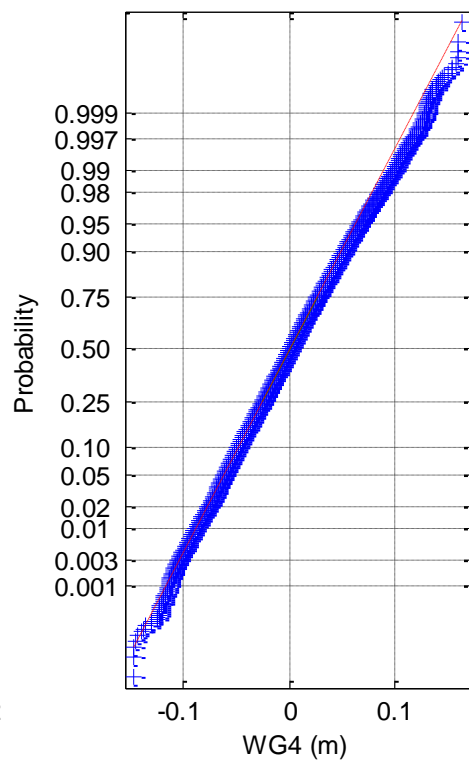
(3b) Normal probability plot of WG3



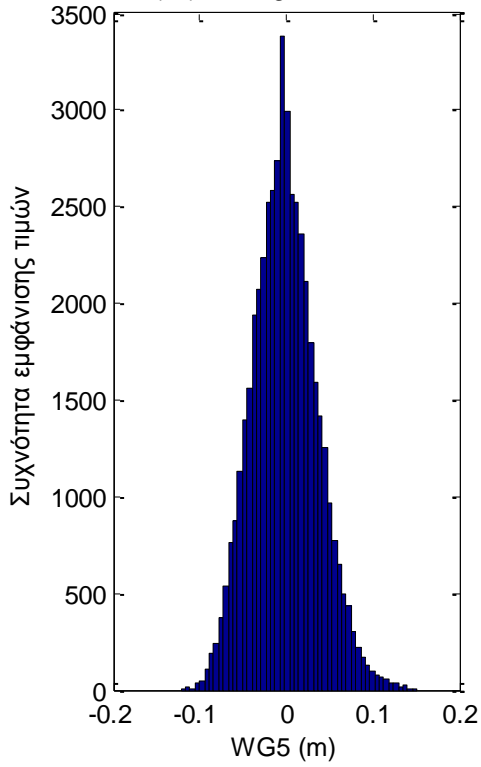
(4a) Histogram of WG4



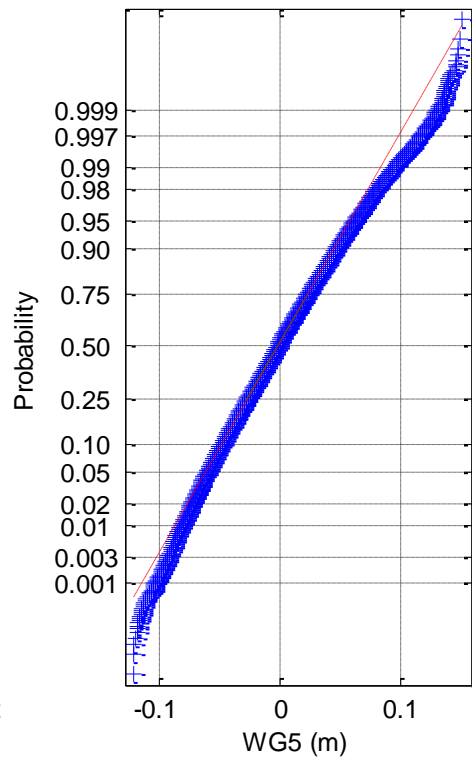
(4b) Normal probability plot of WG4



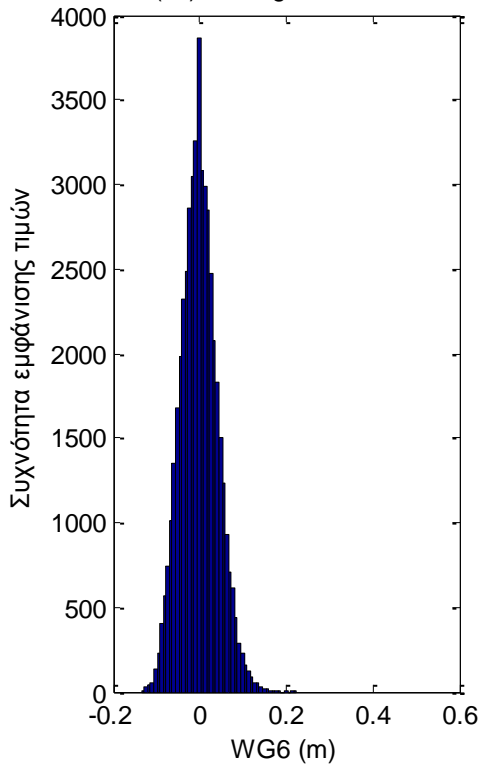
(5a) Histogram of WG5



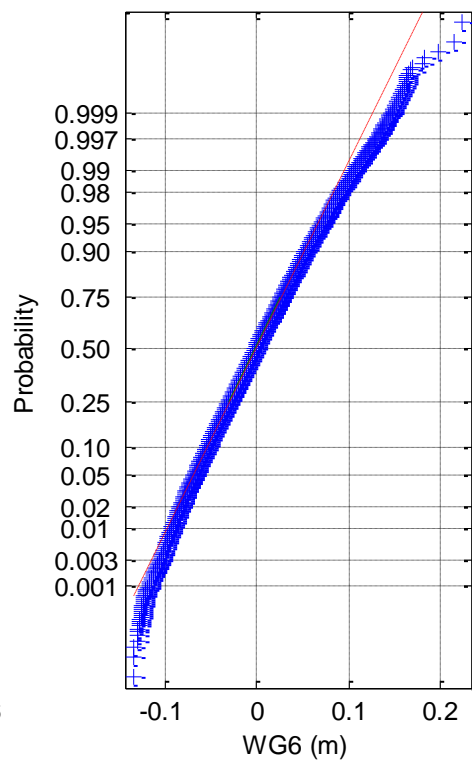
(5b) Normal probability plot of WG5



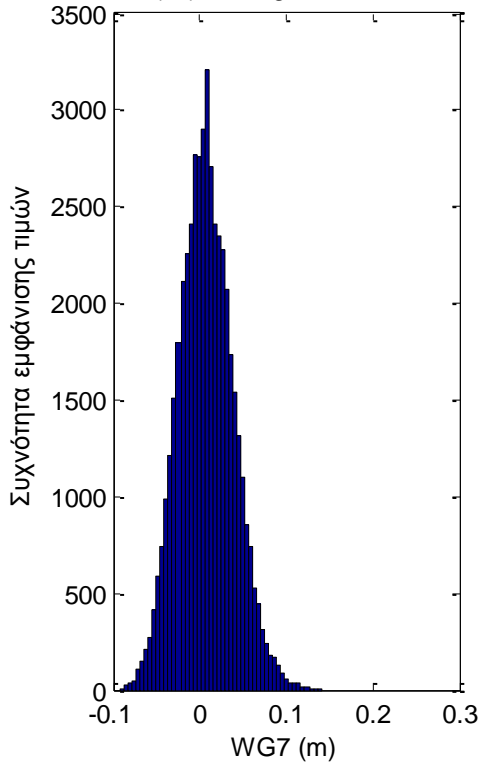
(6a) Histogram of WG6



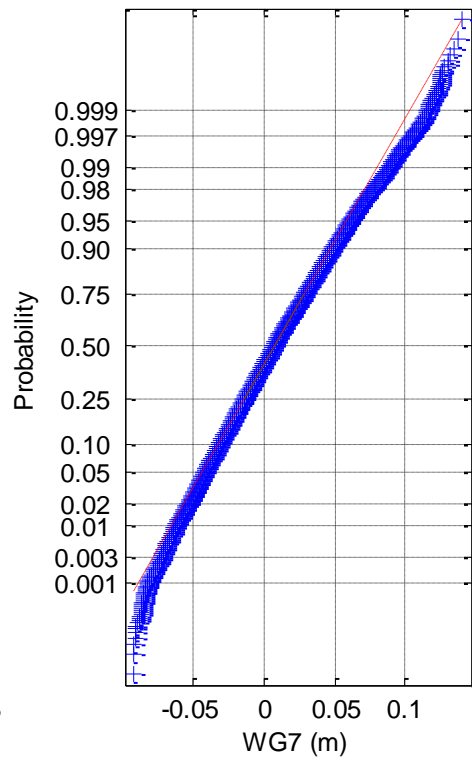
(6b) Normal probability plot of WG6



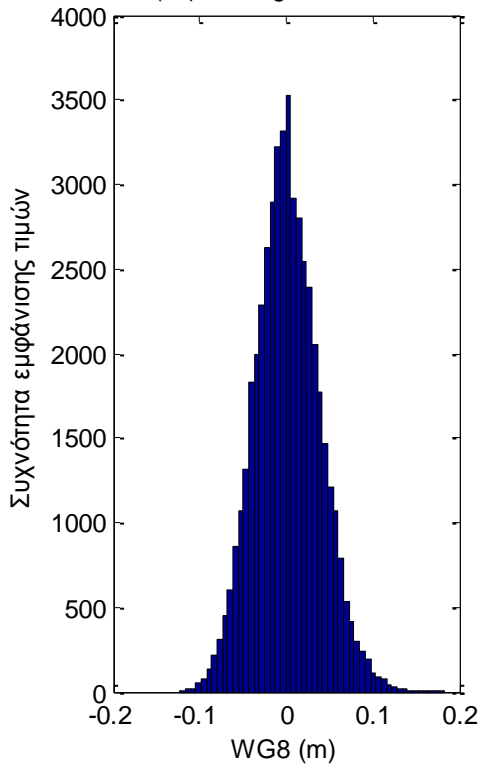
(7a) Histogram of WG7



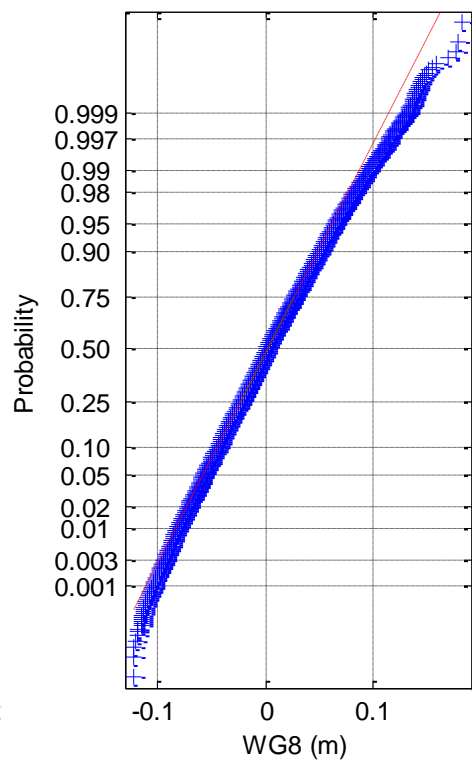
(7b) Normal probability plot of WG7



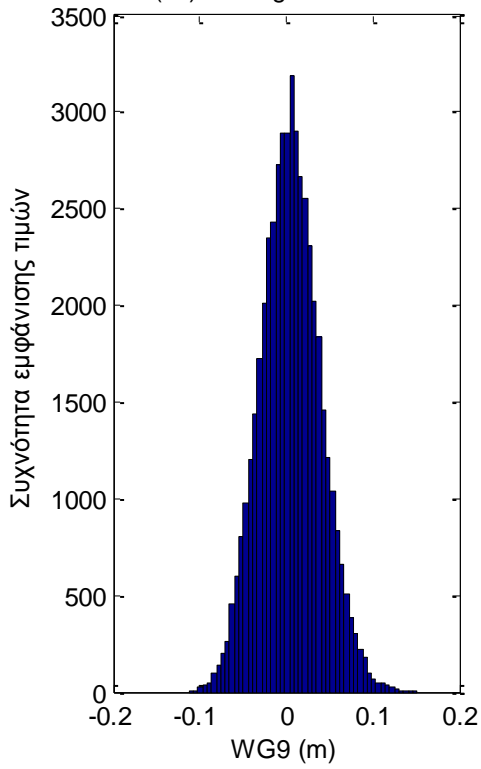
(8a) Histogram of WG8



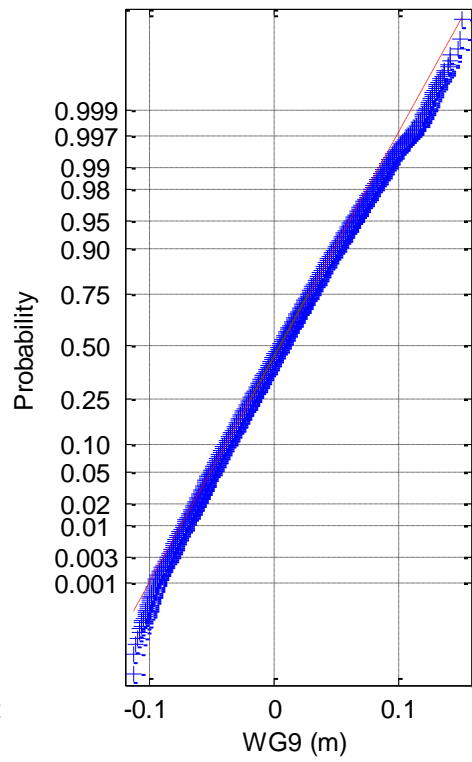
(8b) Normal probability plot of WG8



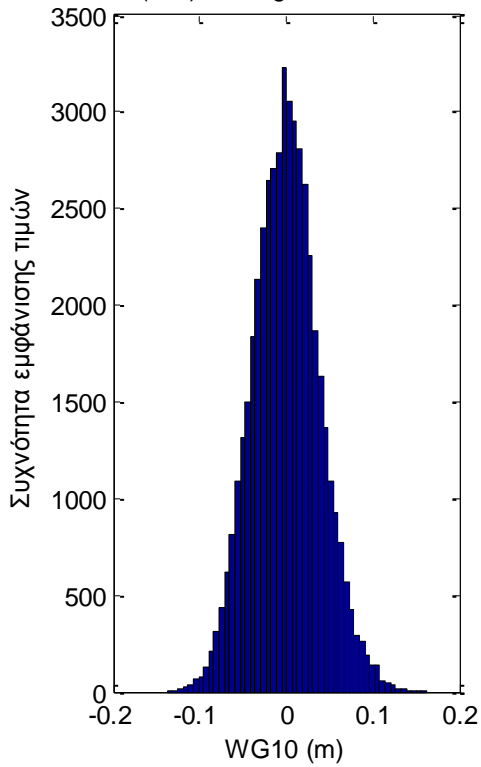
(9a) Histogram of WG9



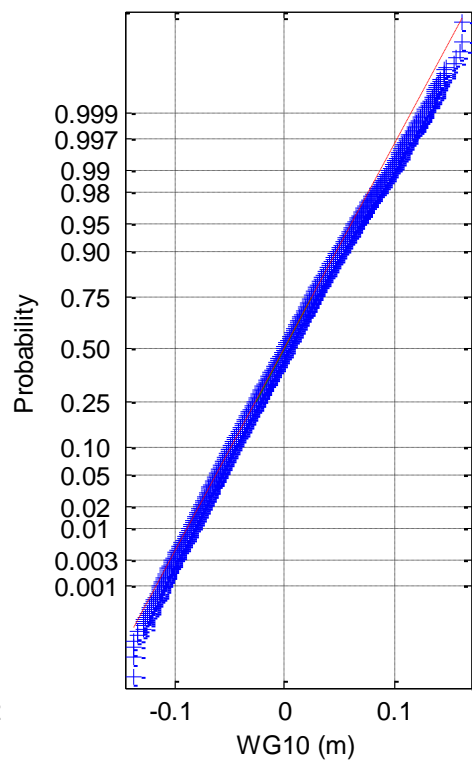
(9b) Normal probability plot of WG9

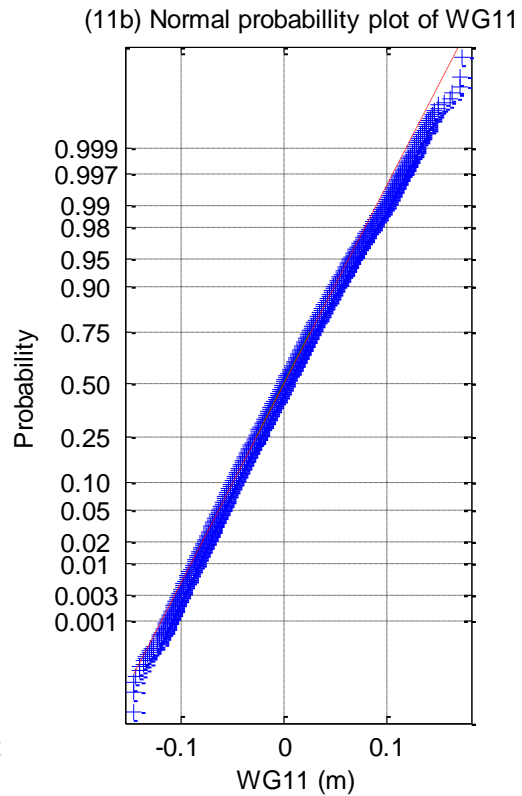
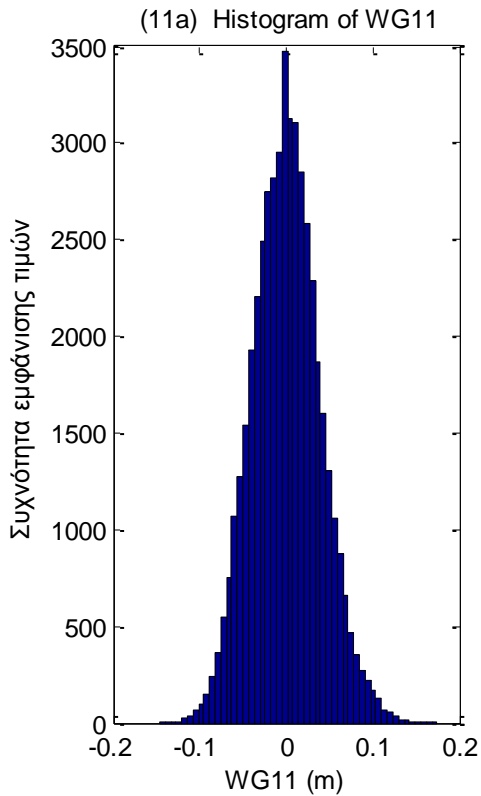


(10a) Histogram of WG10

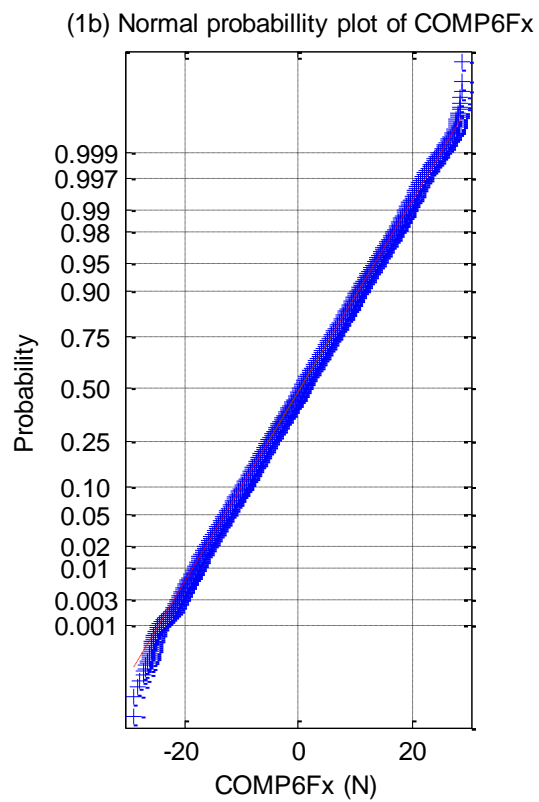
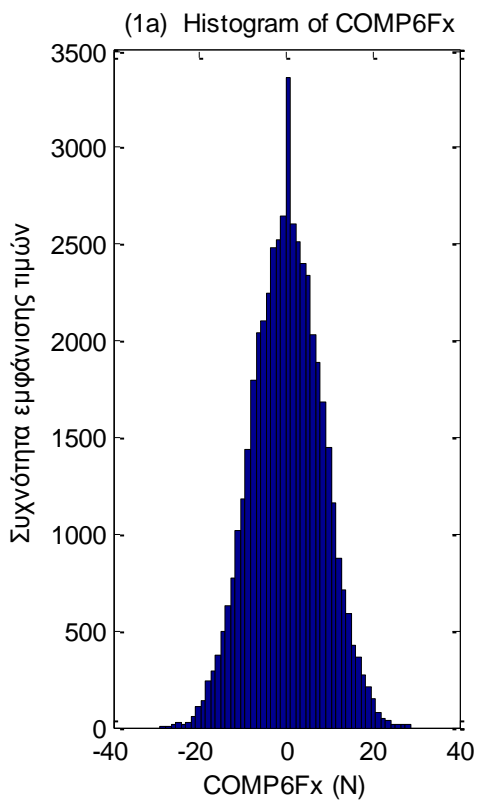


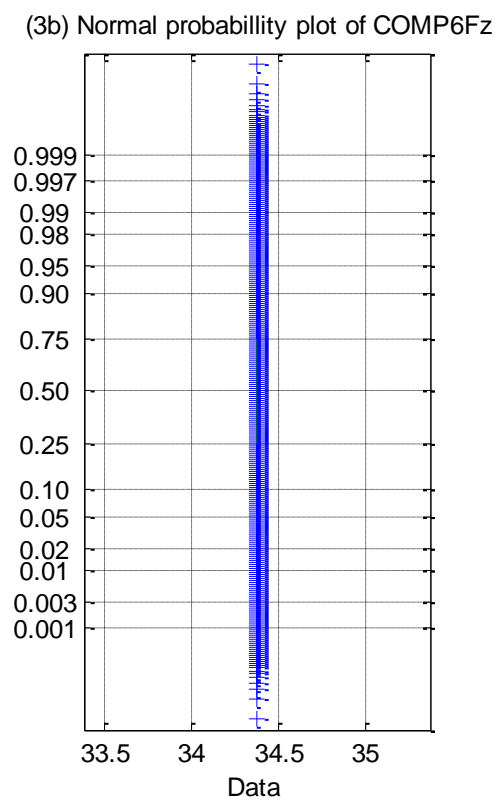
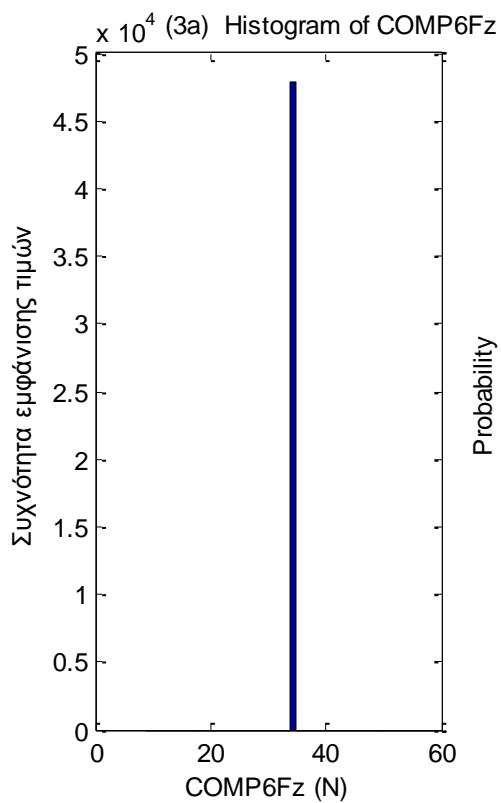
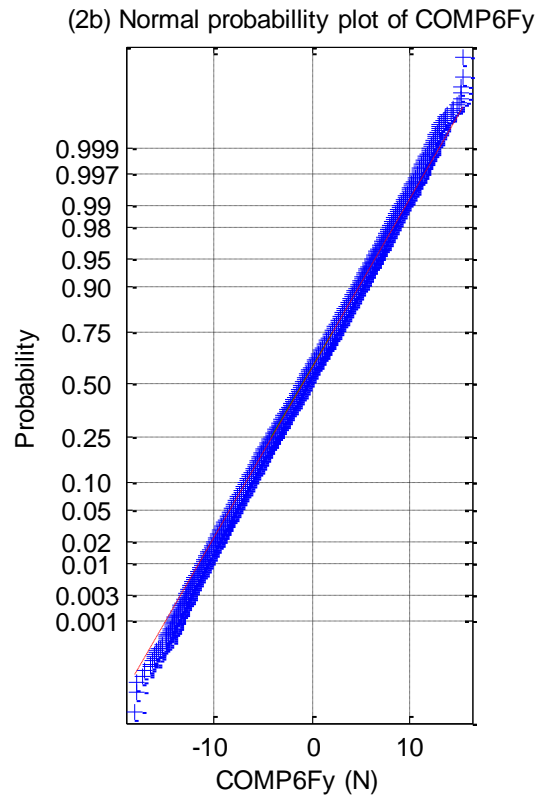
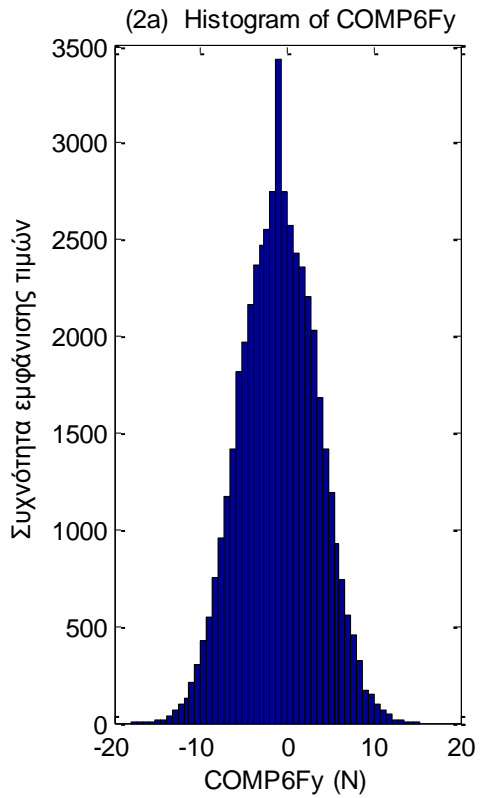
(10b) Normal probability plot of WG10

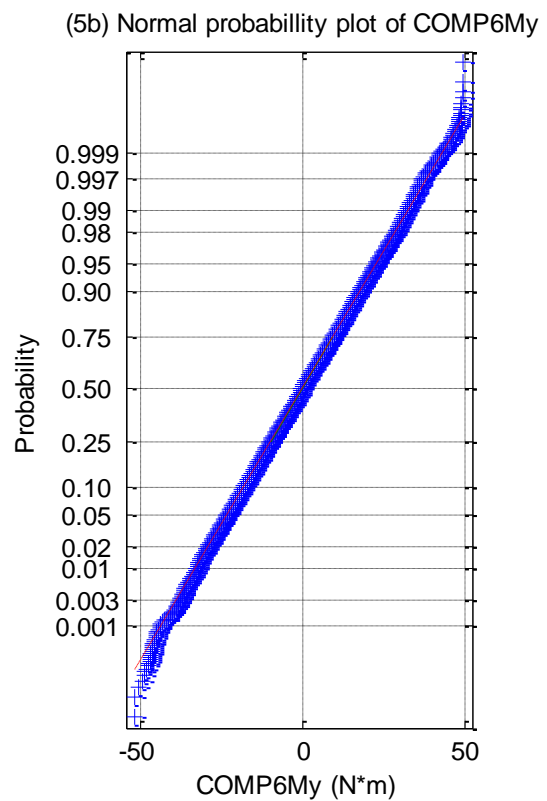
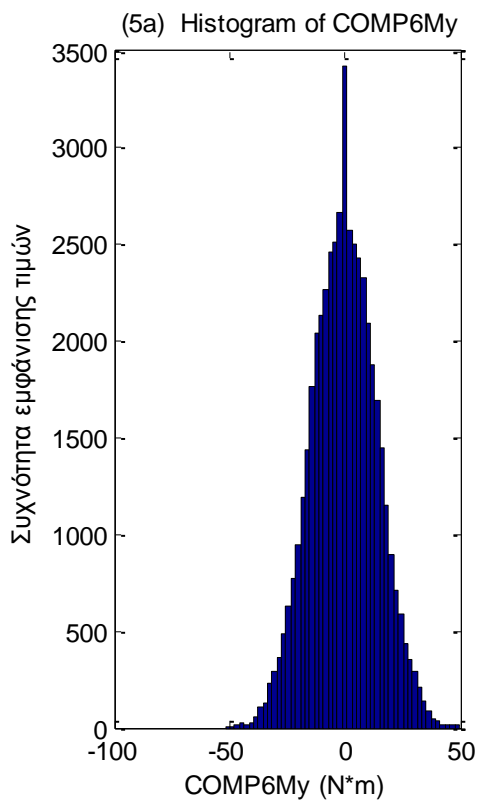
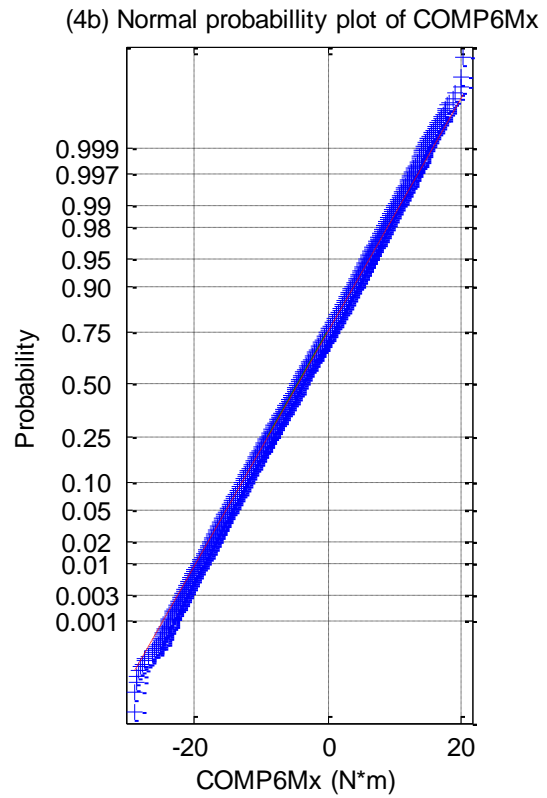
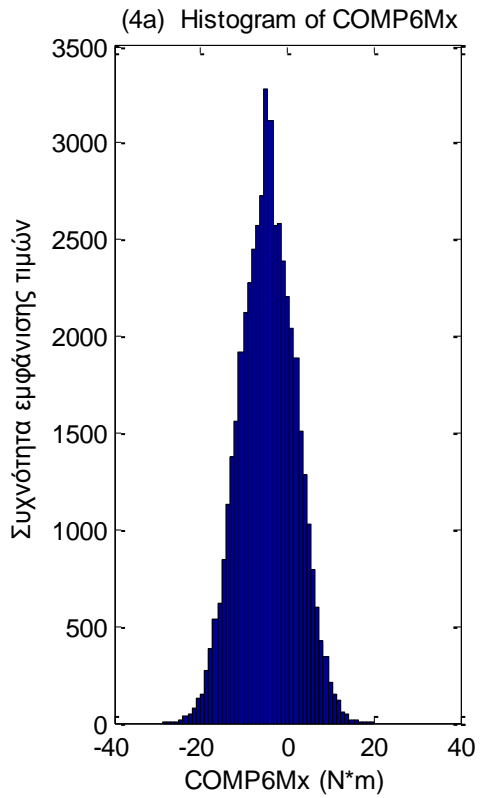


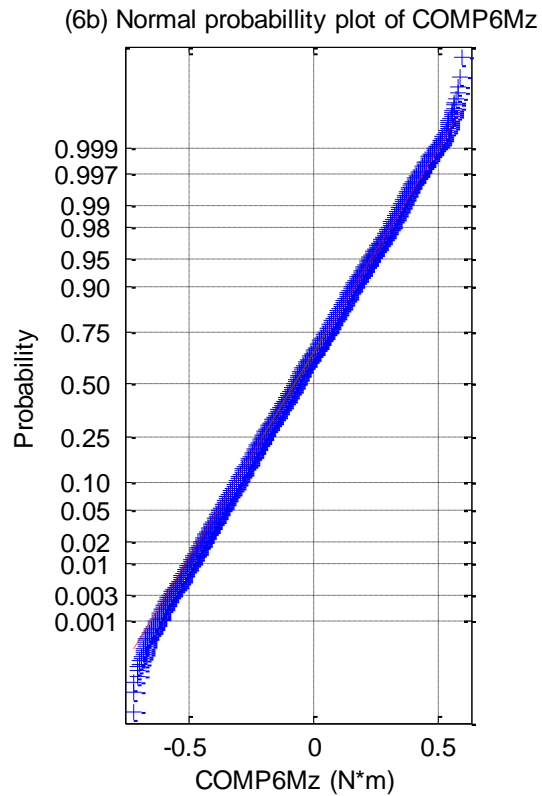
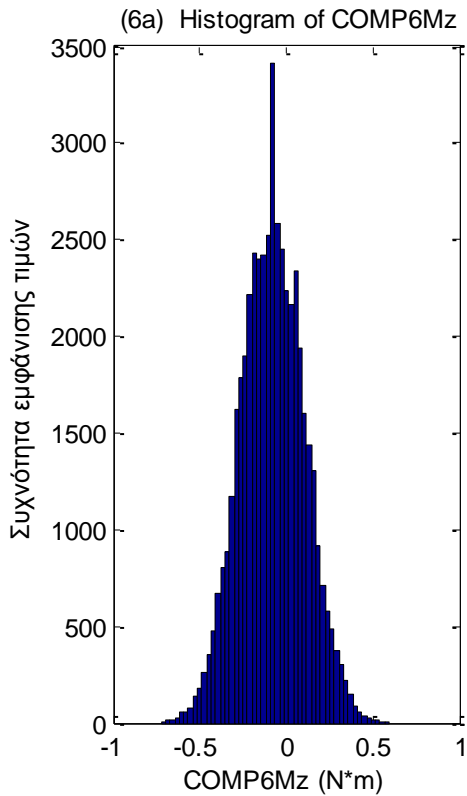


Σχήματα 1.2.2.1 (1-11) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

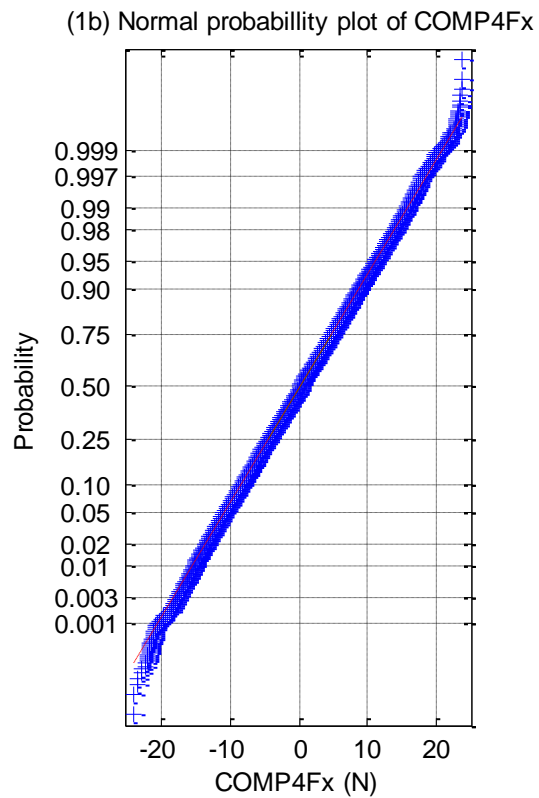
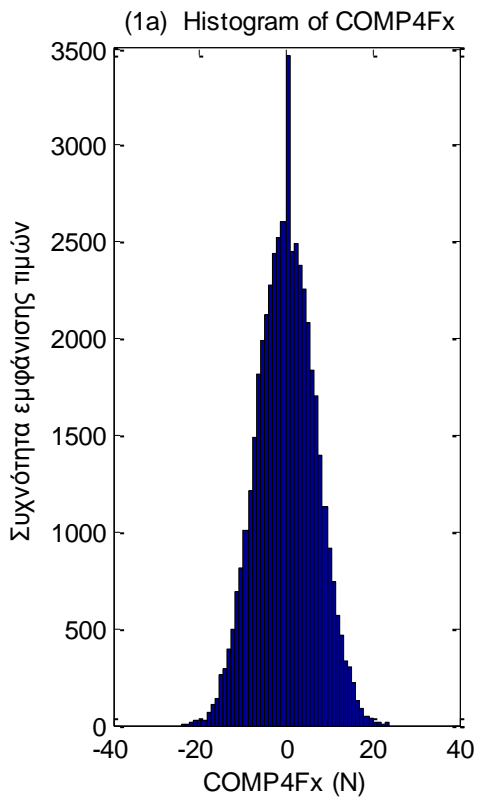


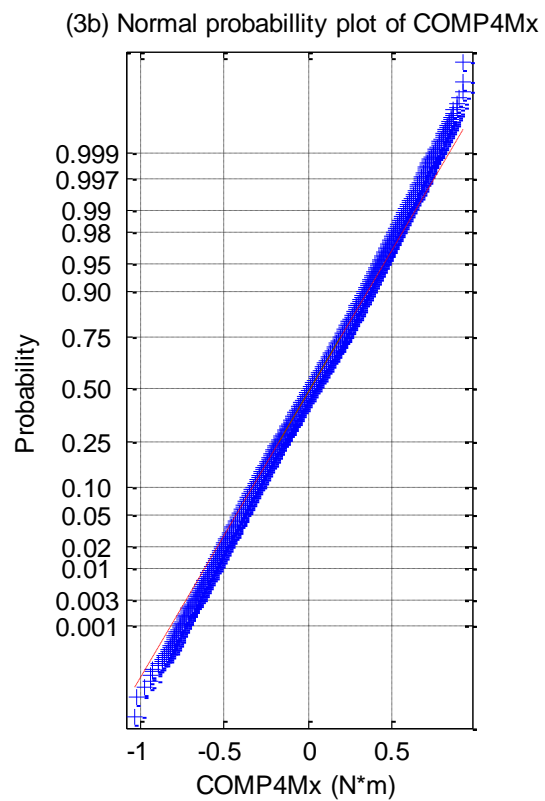
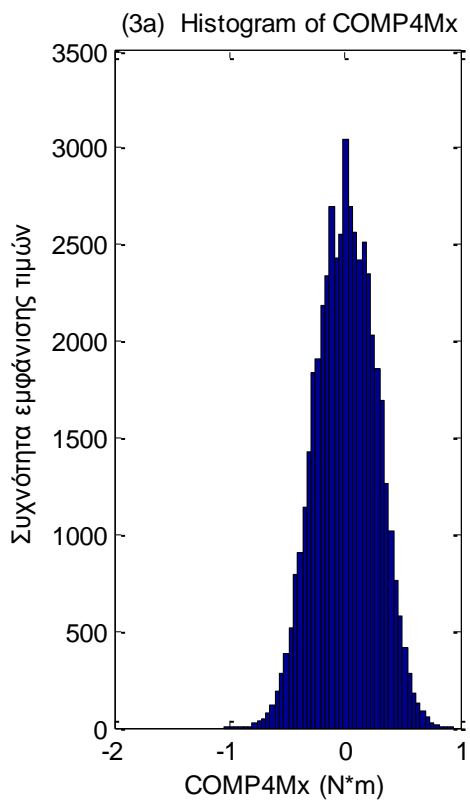
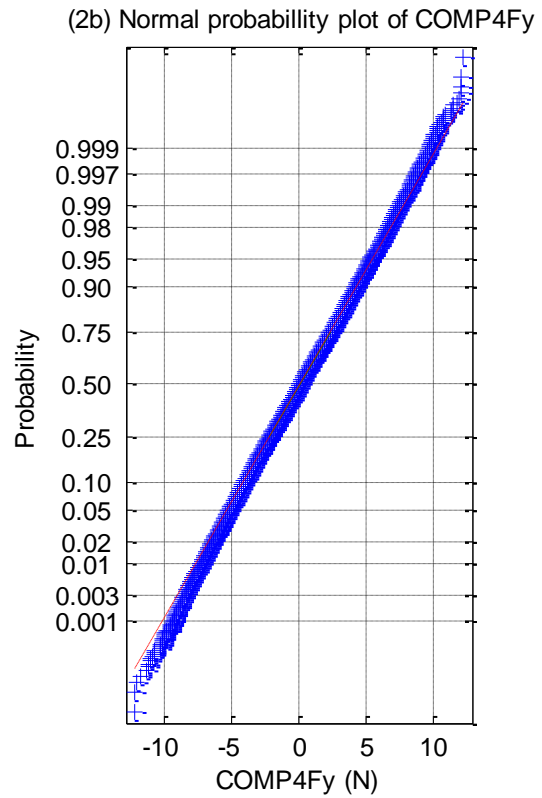
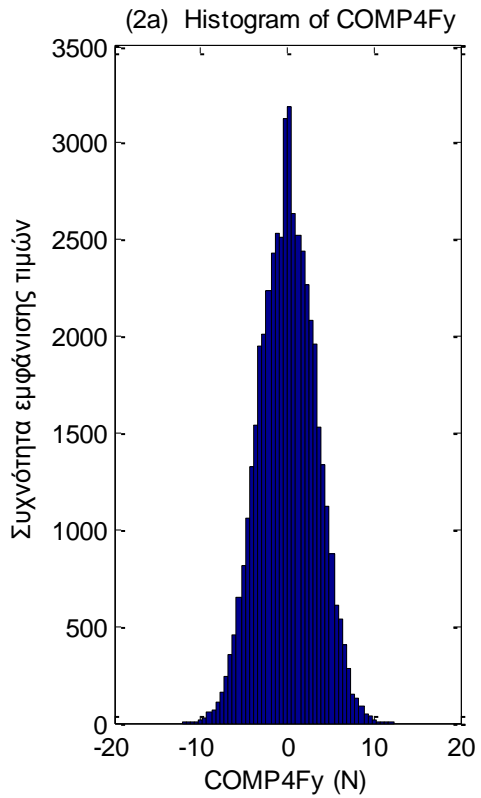


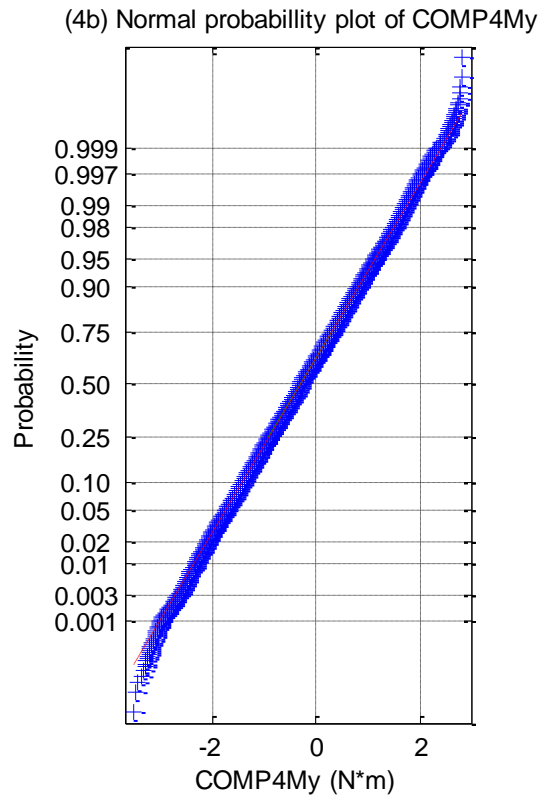
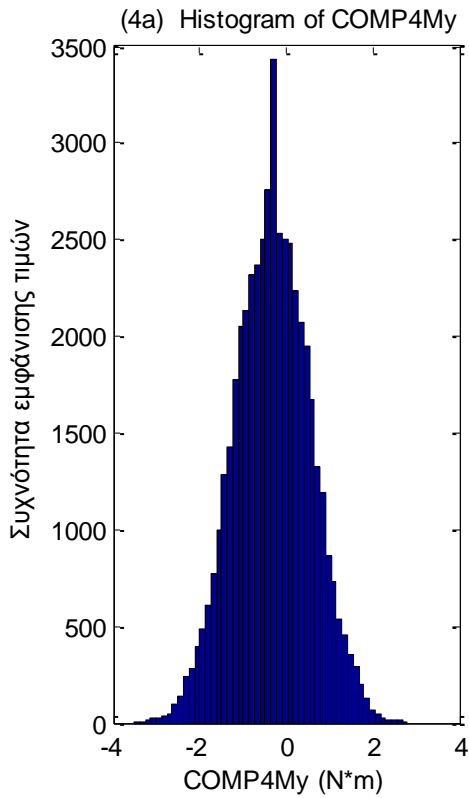




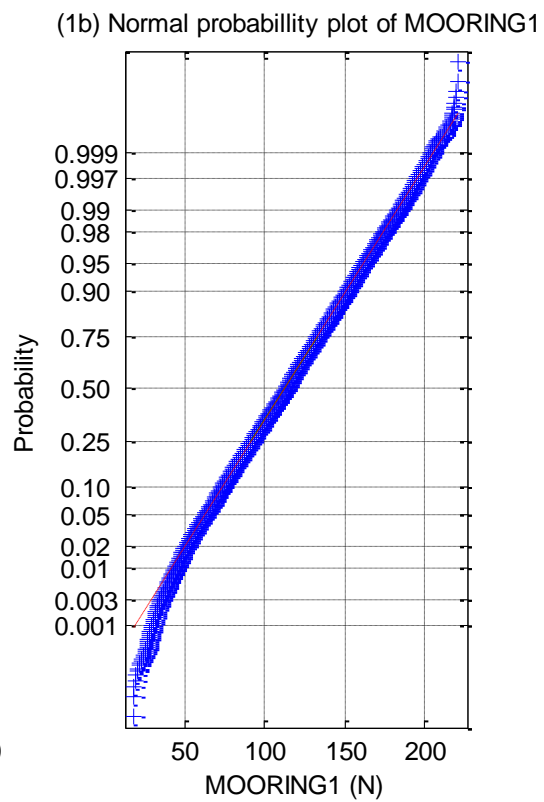
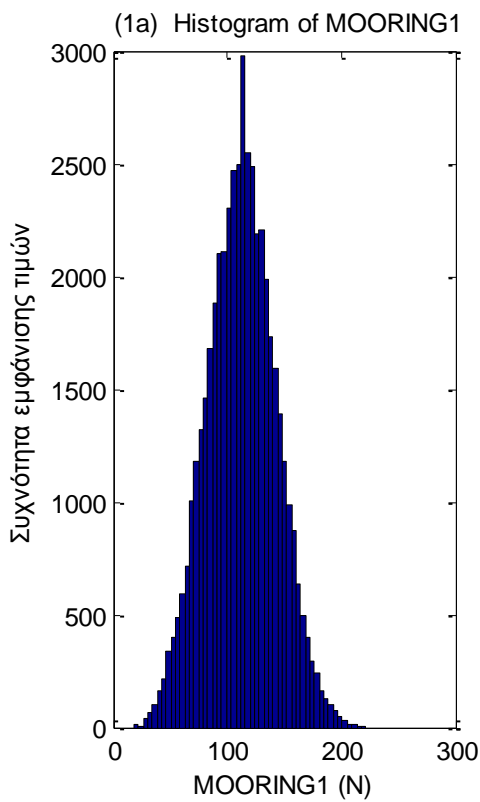
Σχήματα 1.2.2.2 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



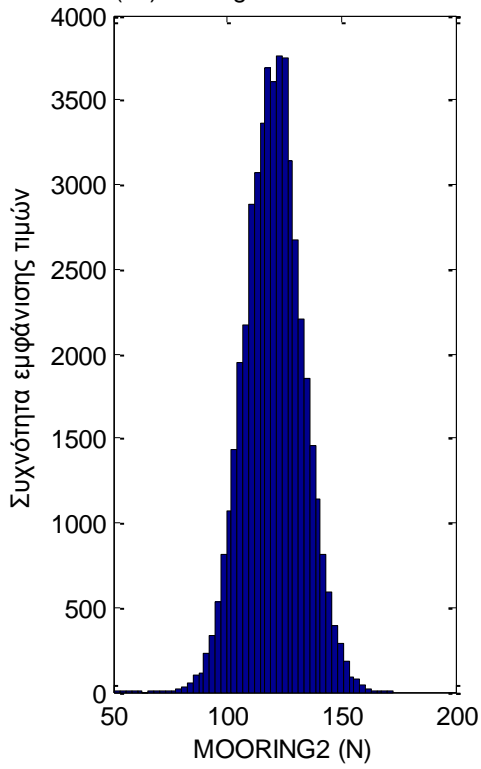




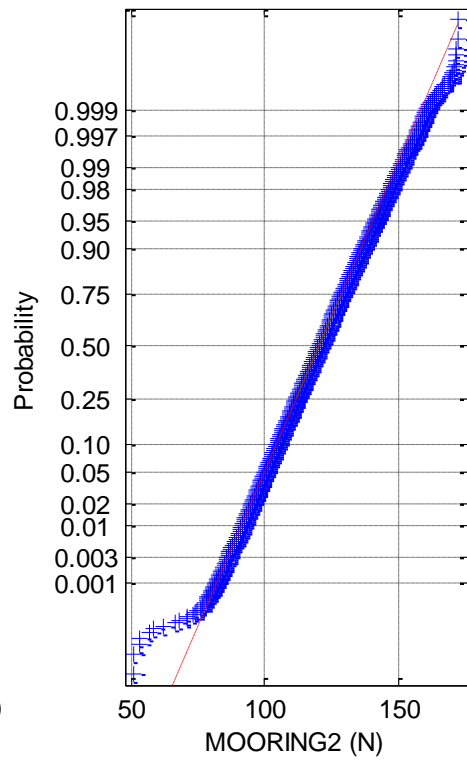
Σχήματα 1.2.2.3 α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



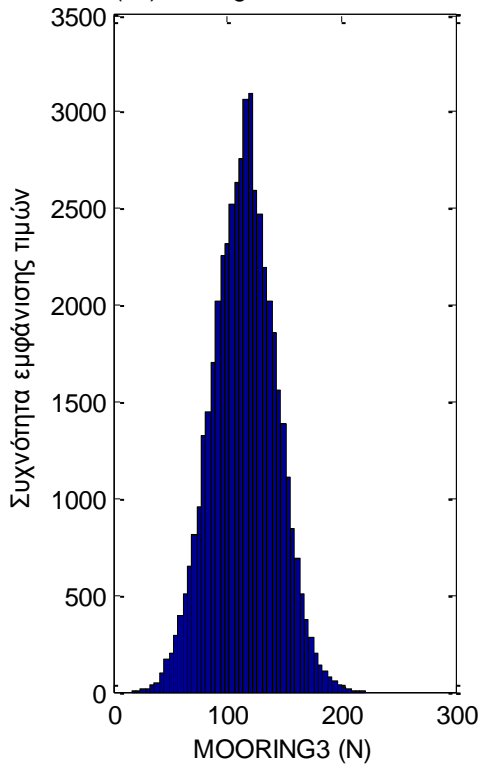
(2a) Histogram of MOORING2



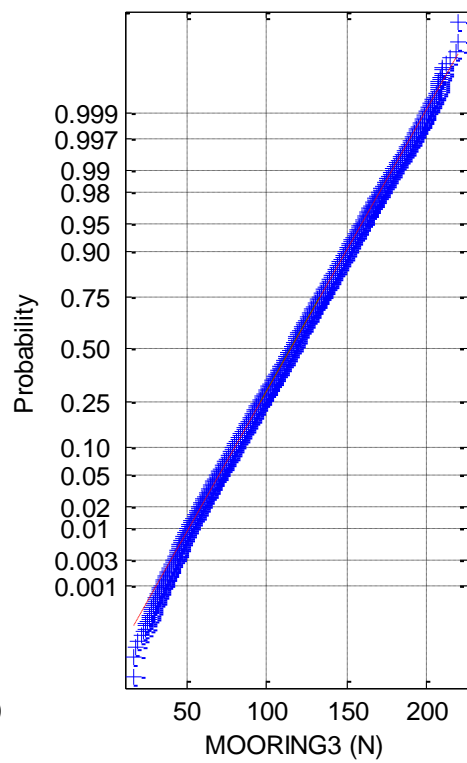
(2b) Normal probability plot of MOORING2

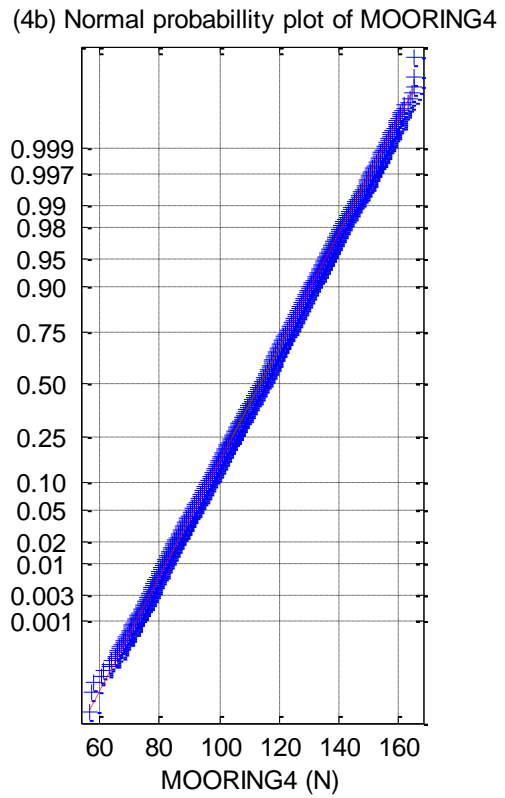
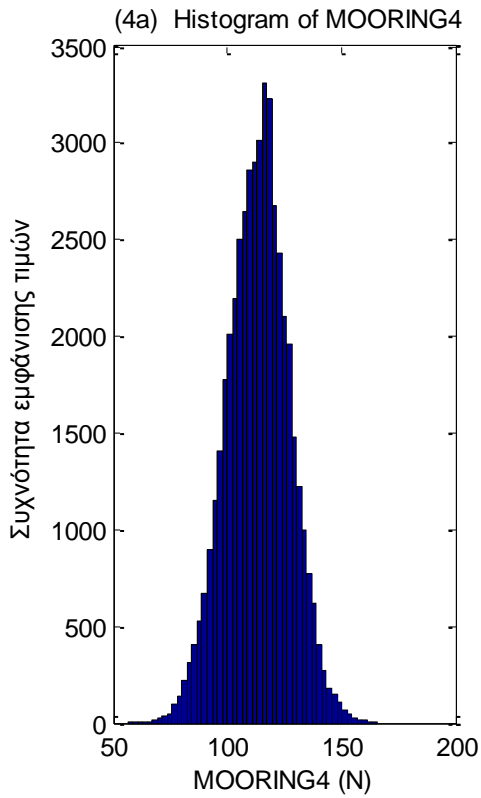


(3a) Histogram of MOORING3

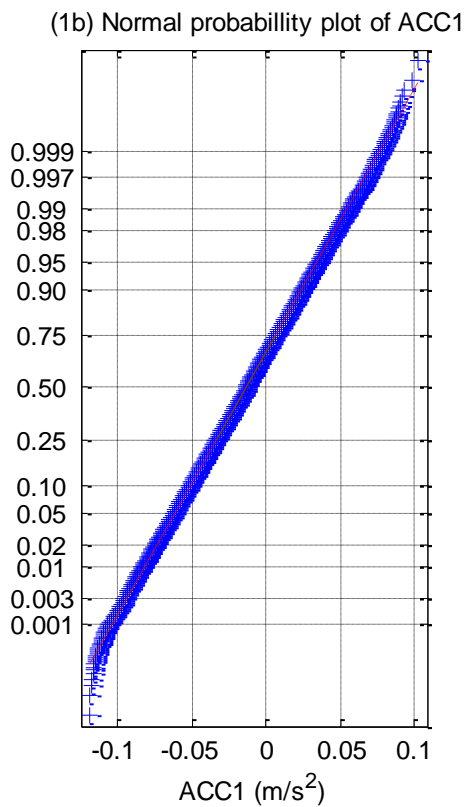
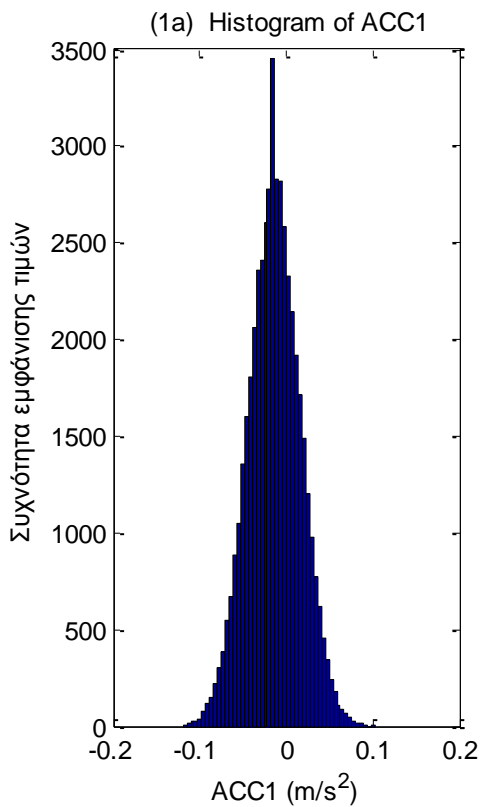


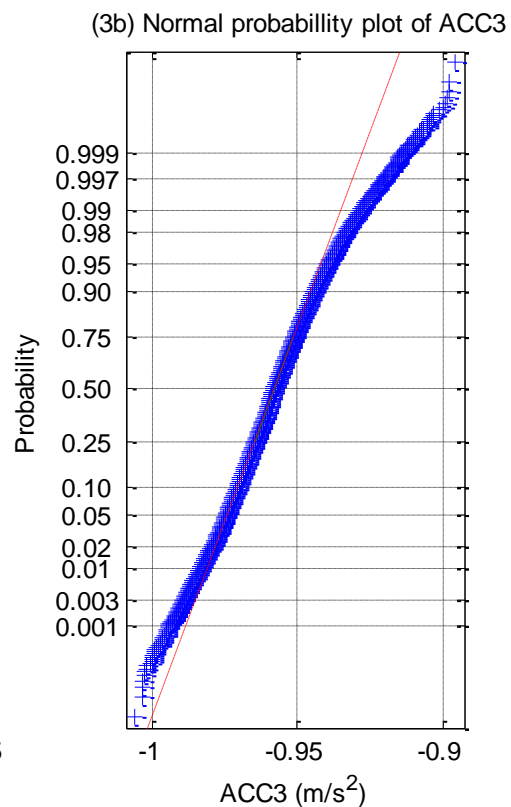
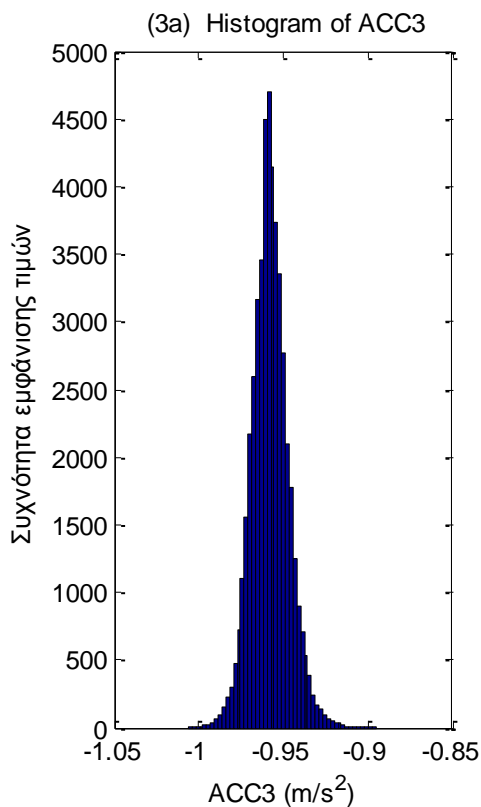
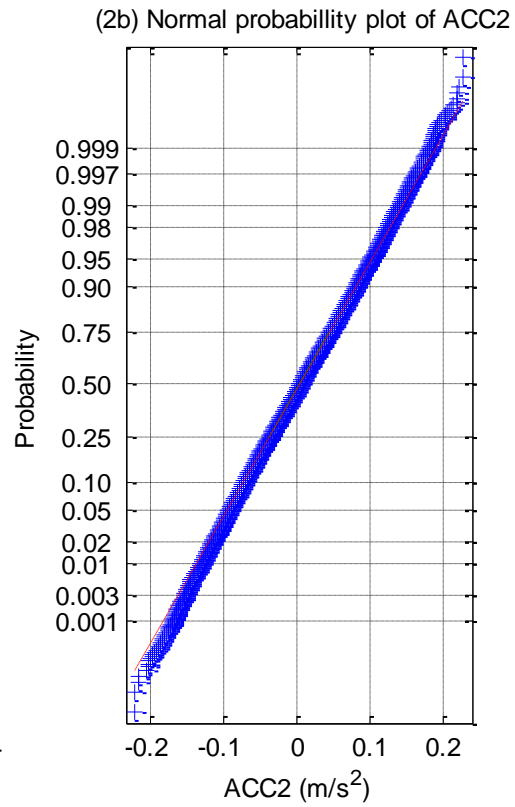
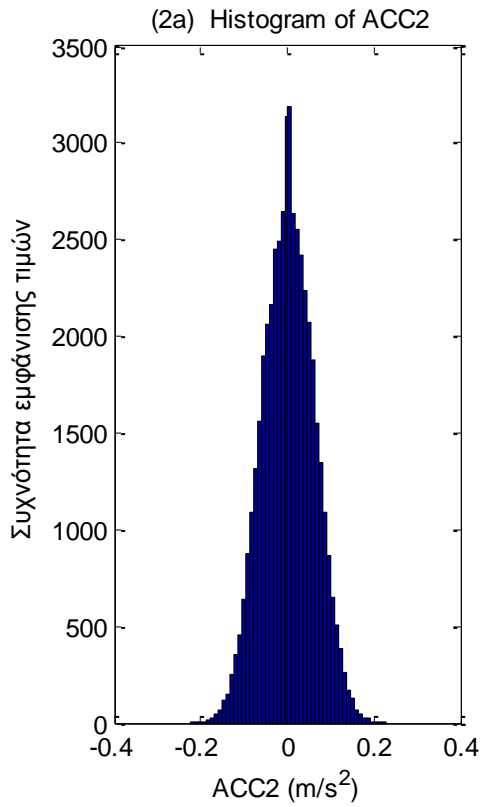
(3b) Normal probability plot of MOORING3



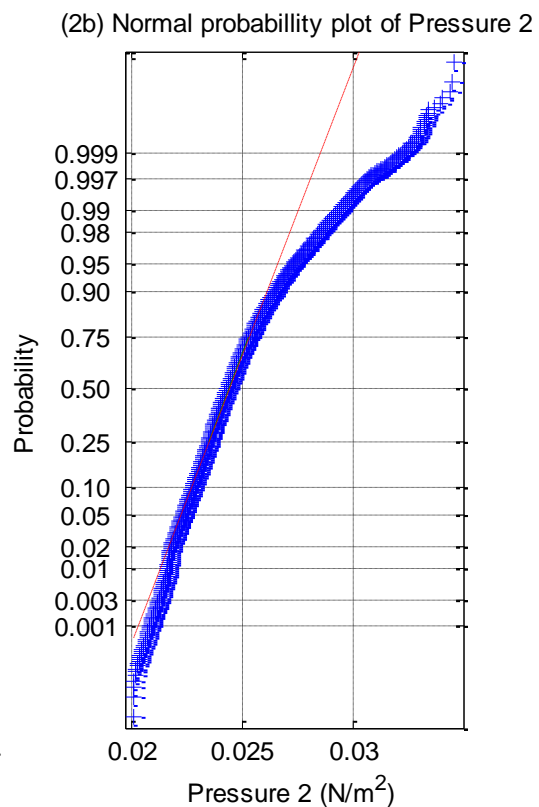
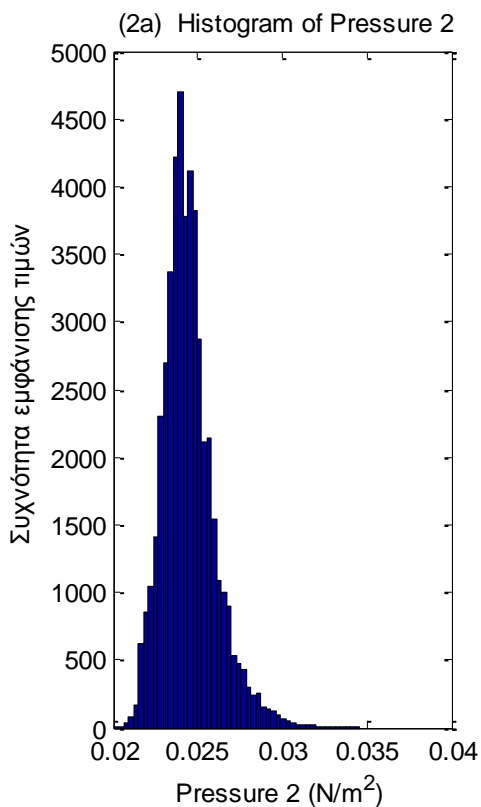
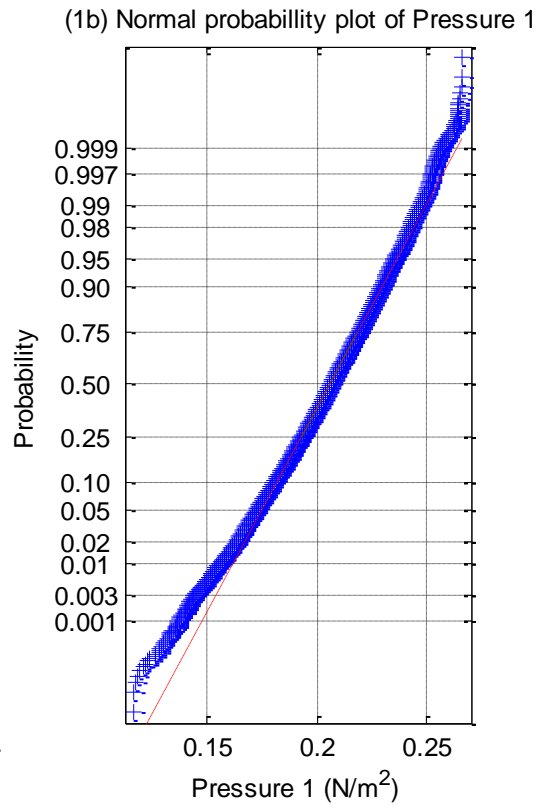
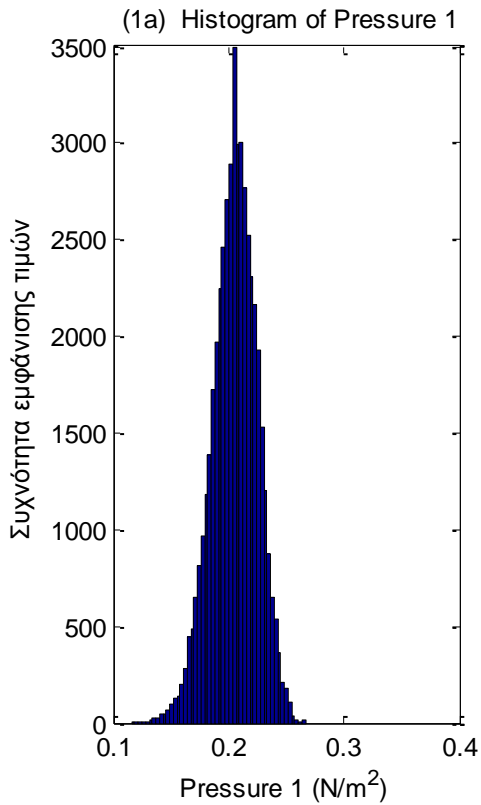


Σχήματα 1.2.2.4 (1-4) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

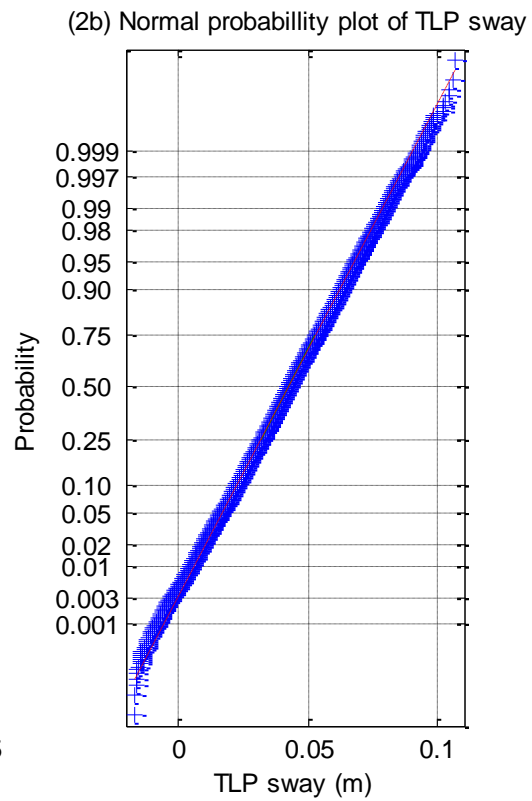
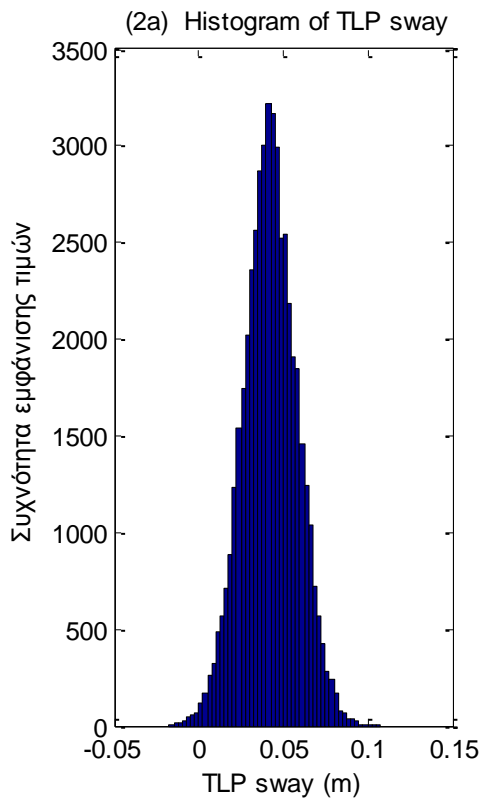
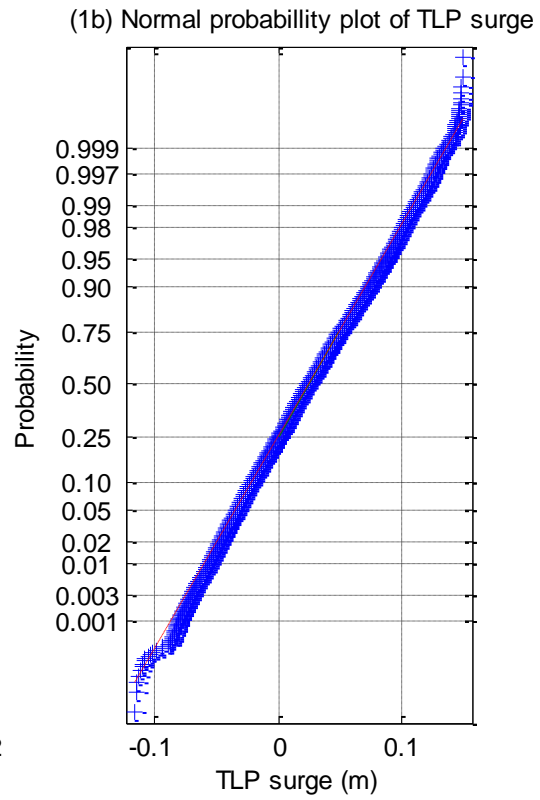
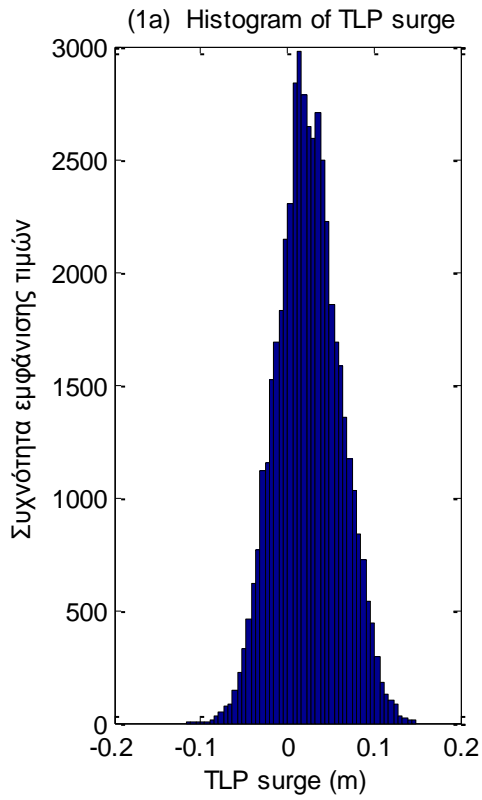


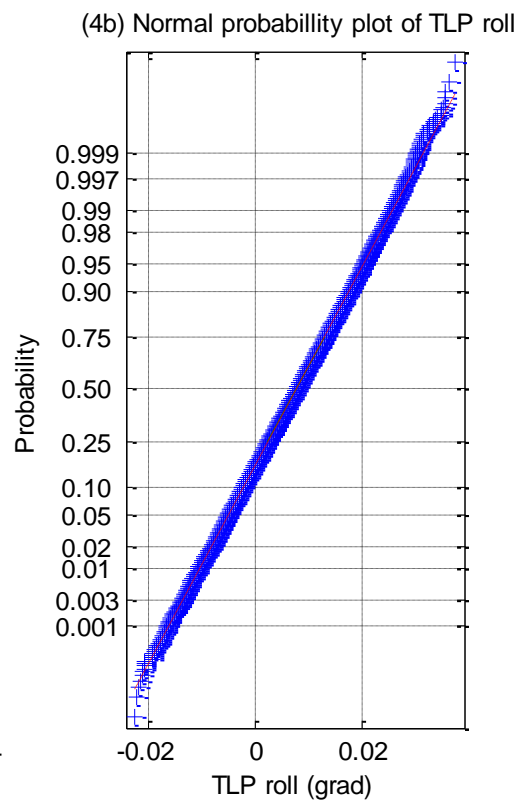
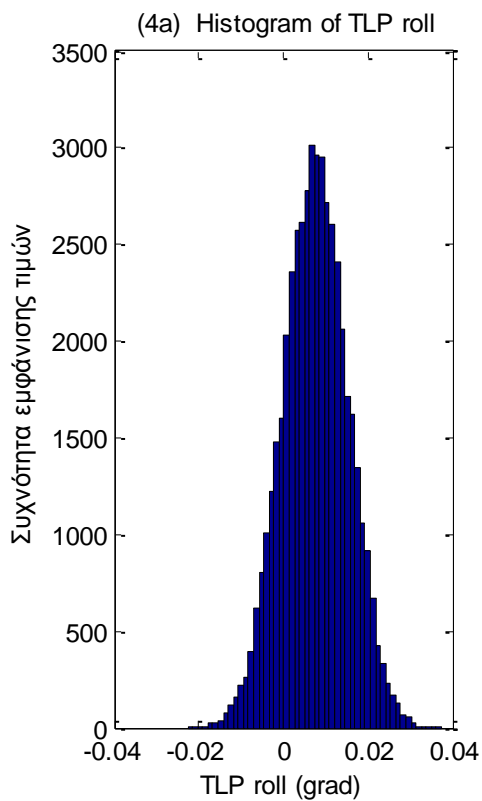
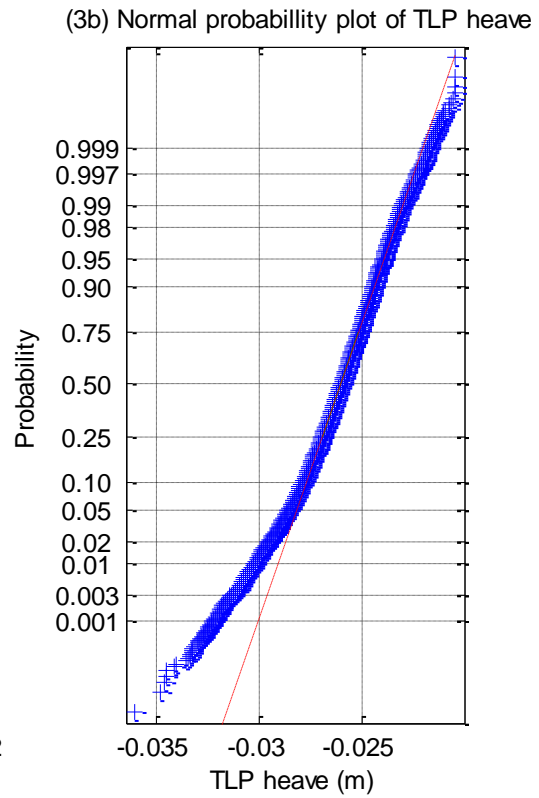
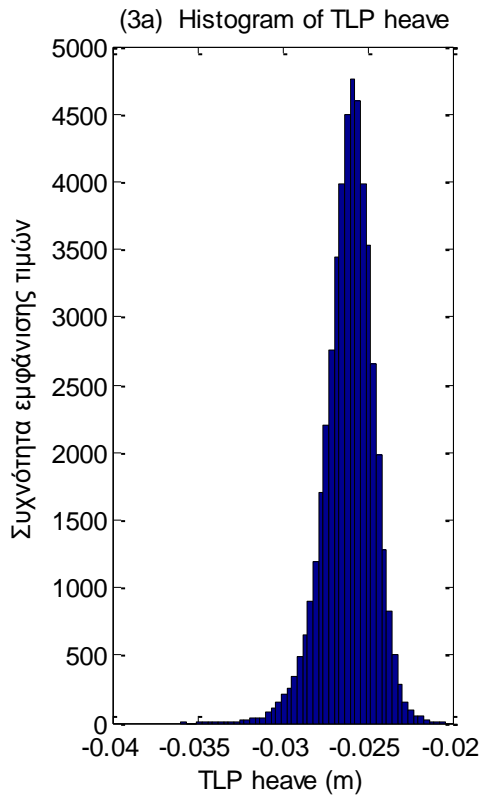


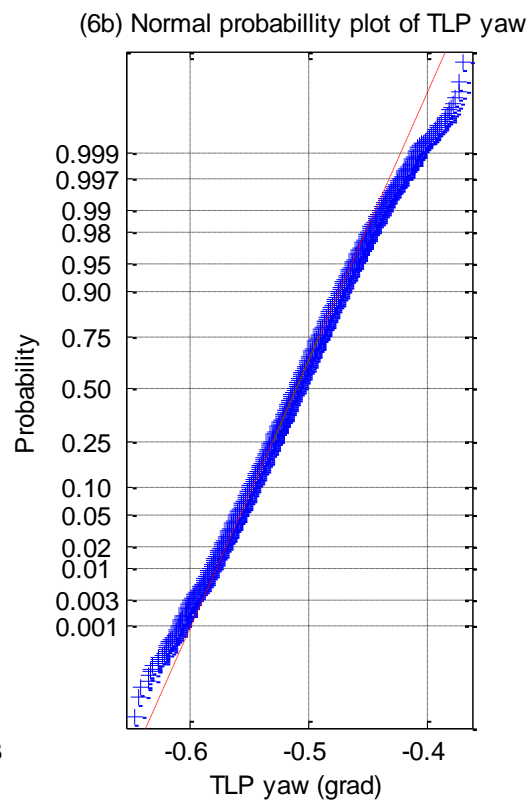
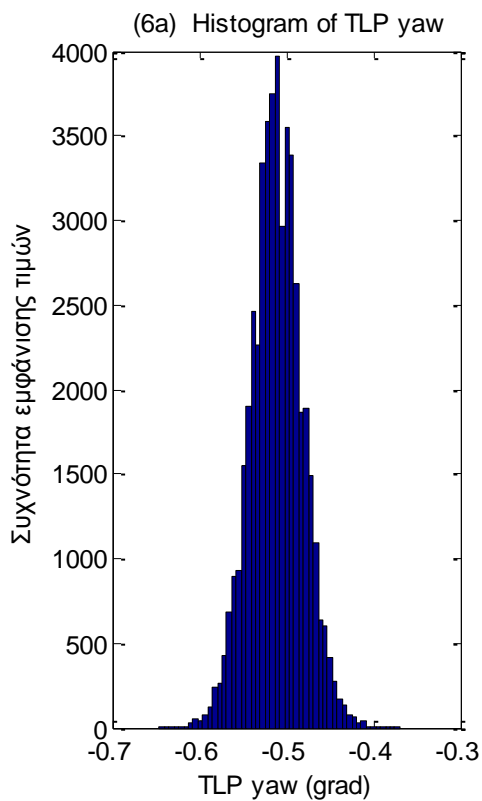
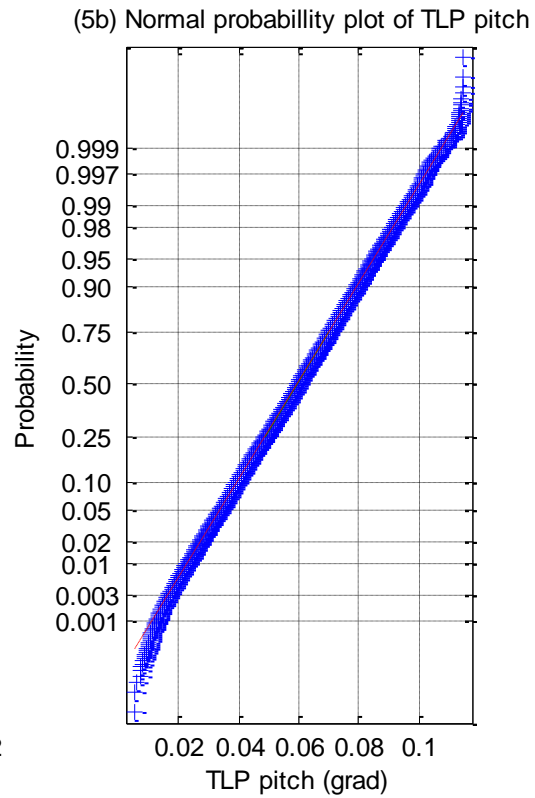
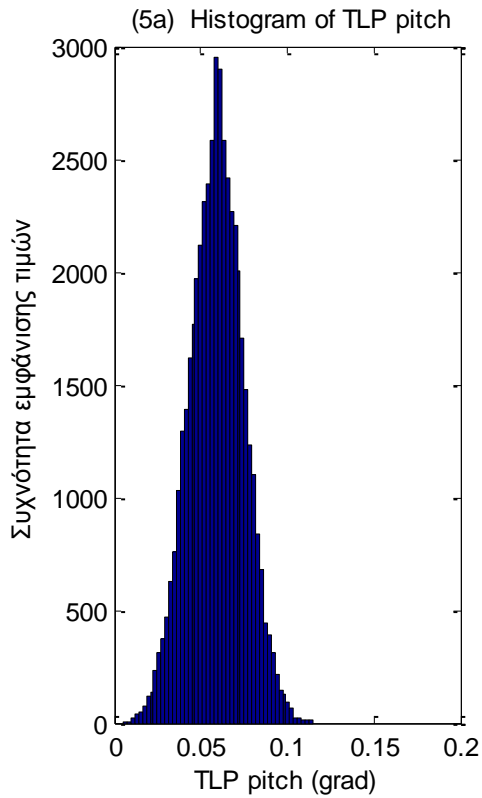
Σχήματα 1.2.2.5 (1-3) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



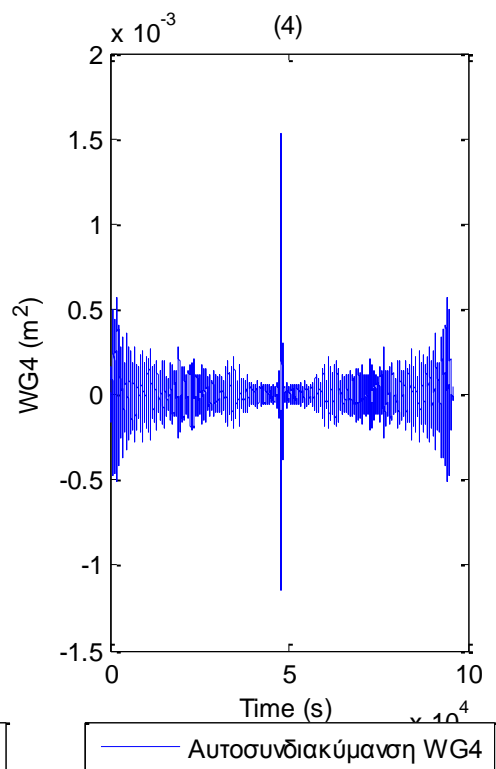
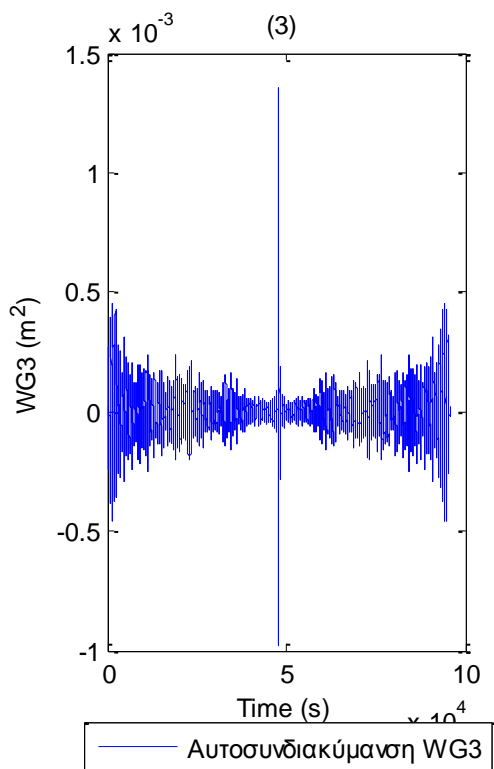
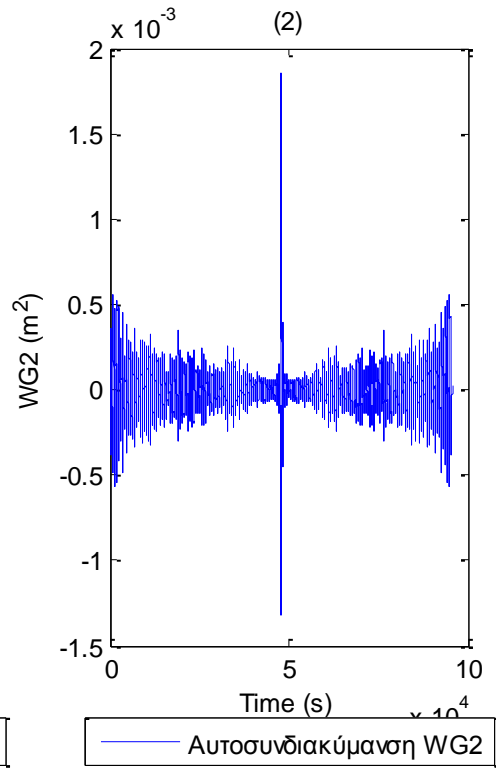
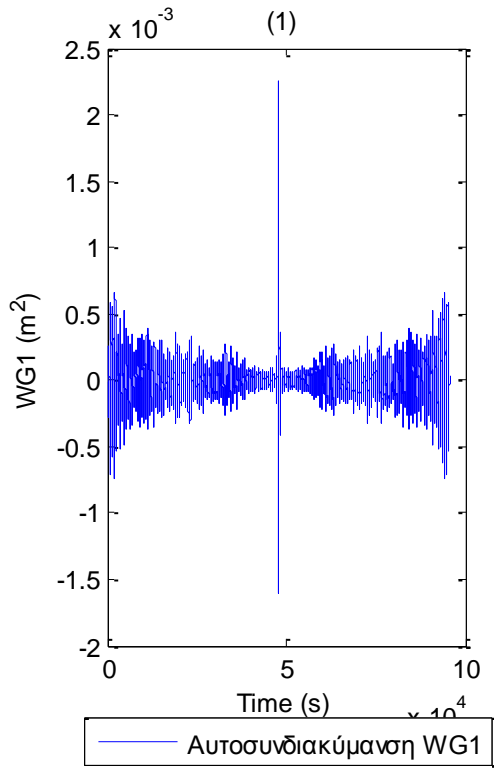
Σχήματα 1.2.2.6 (1-2) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα δυο όργανα μέτρησης της πίεσης

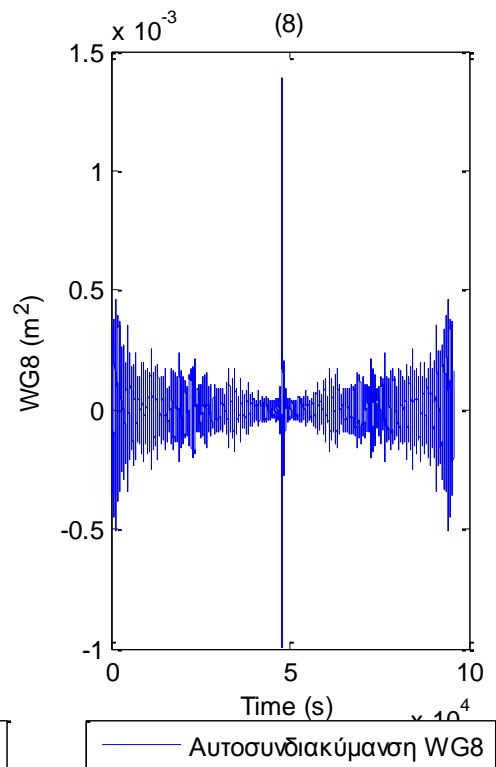
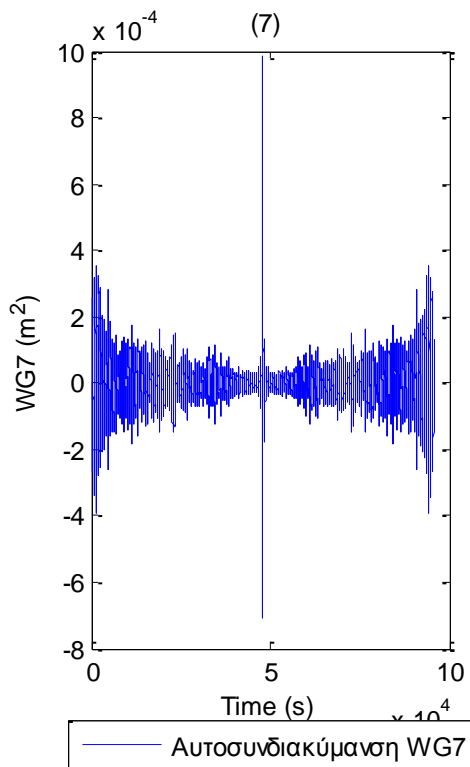
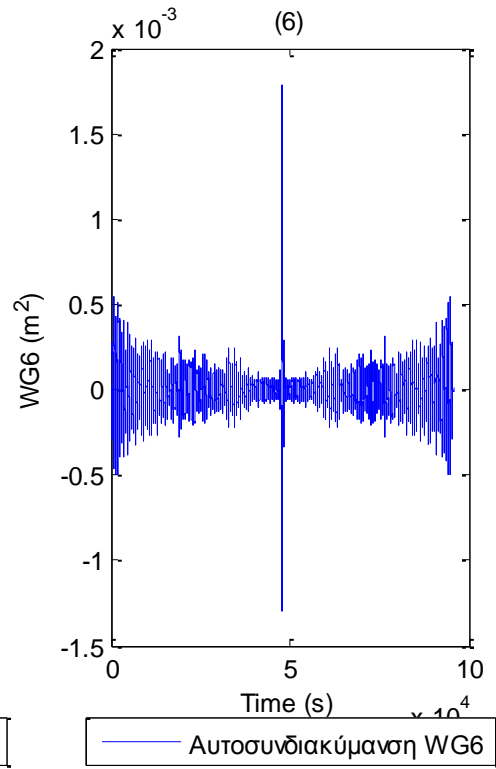
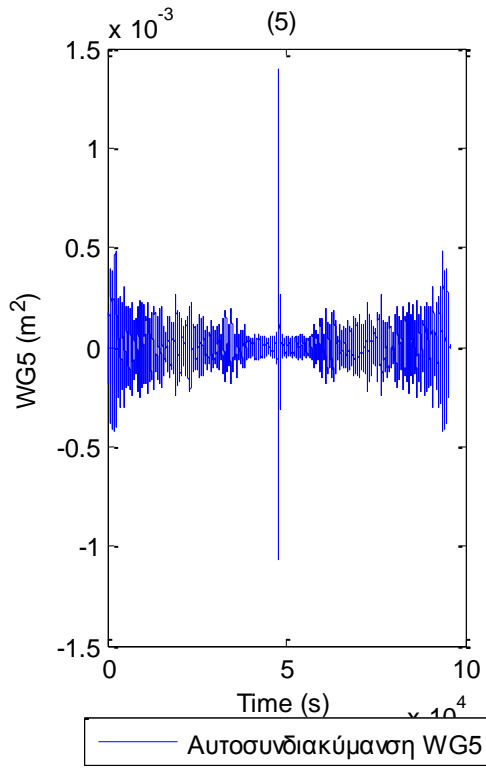


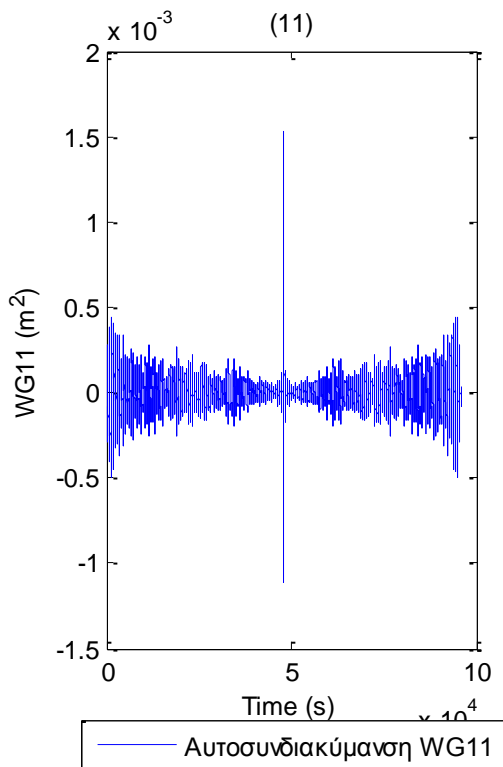
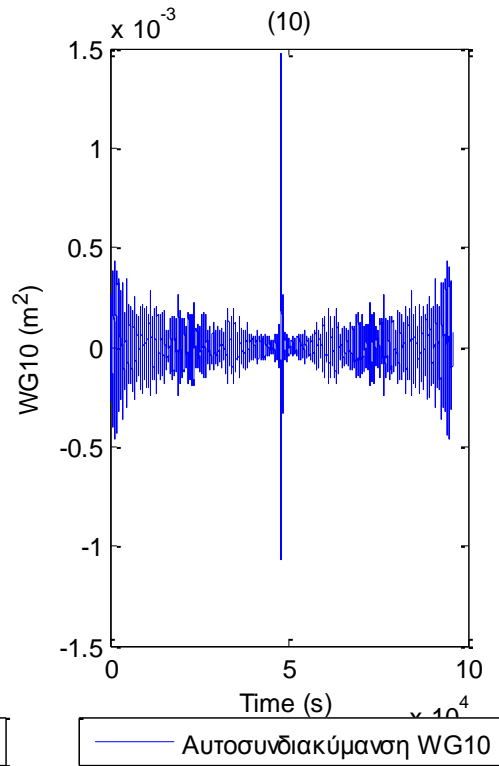
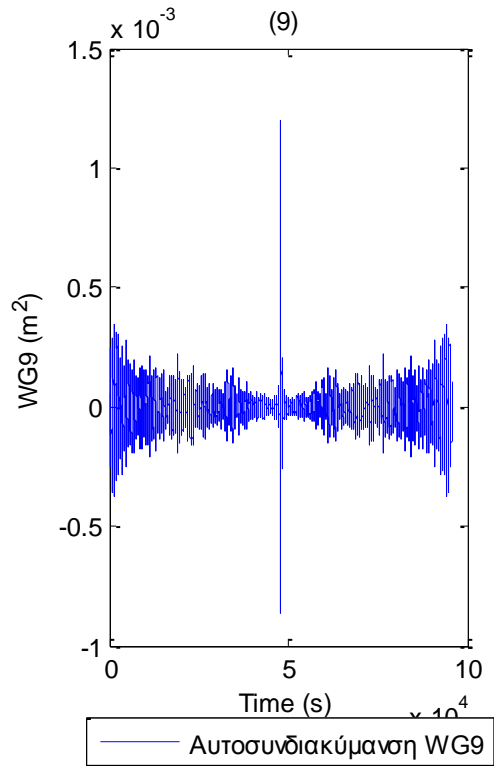




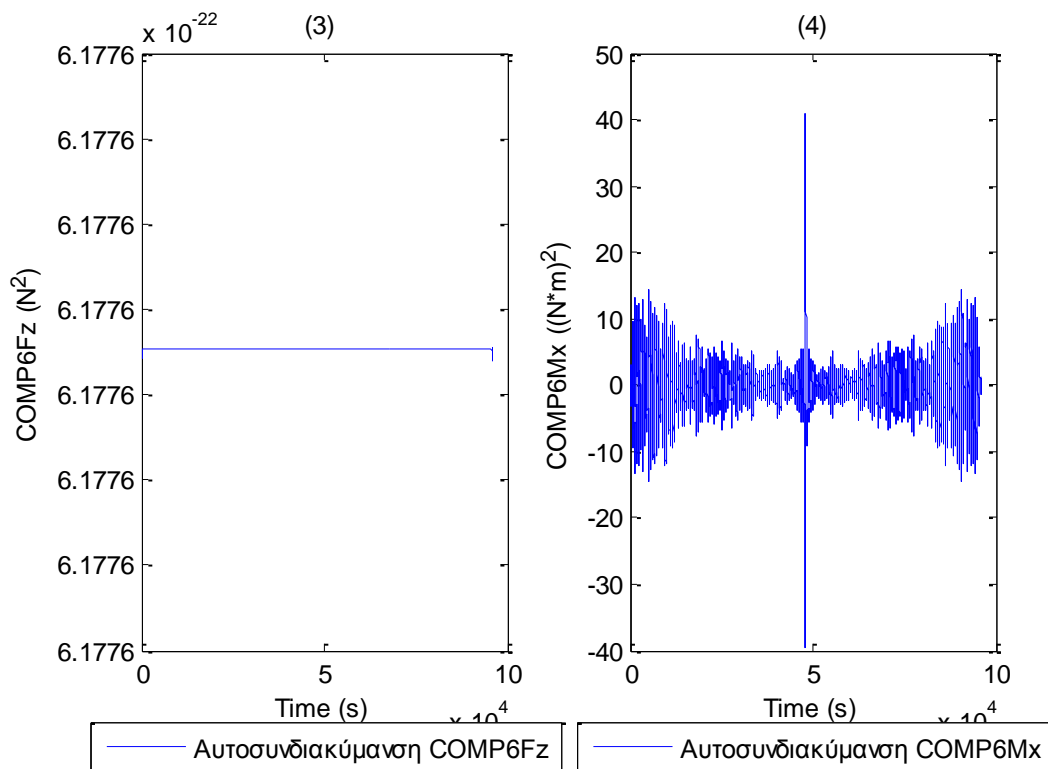
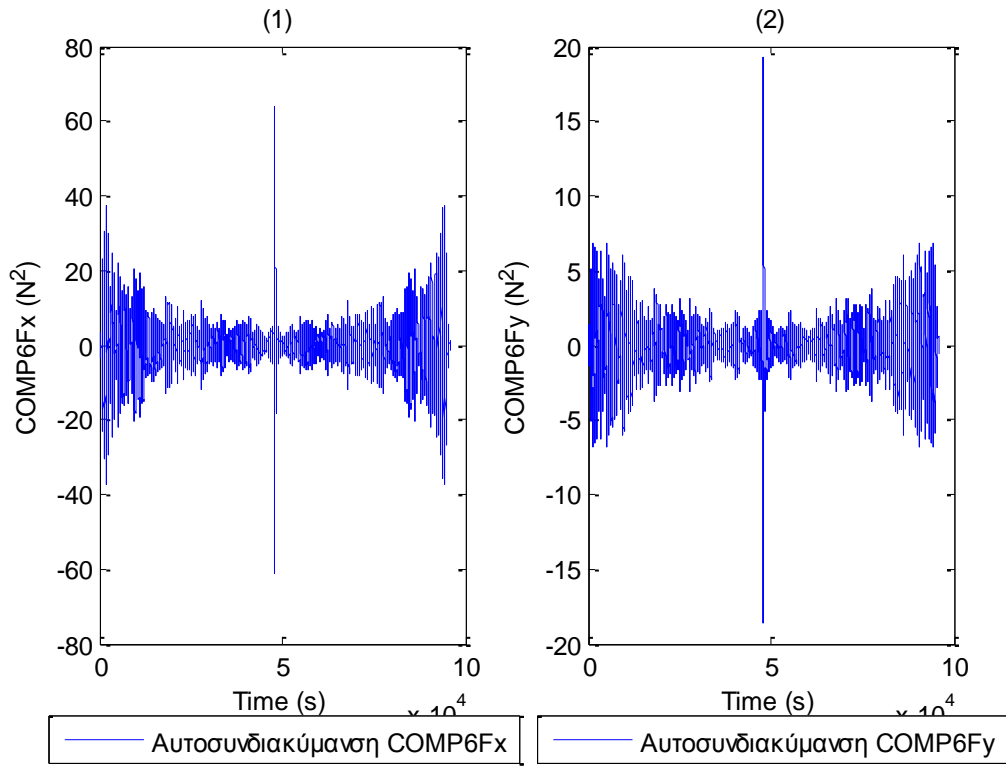
Σχήματα 1.2.2.7 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

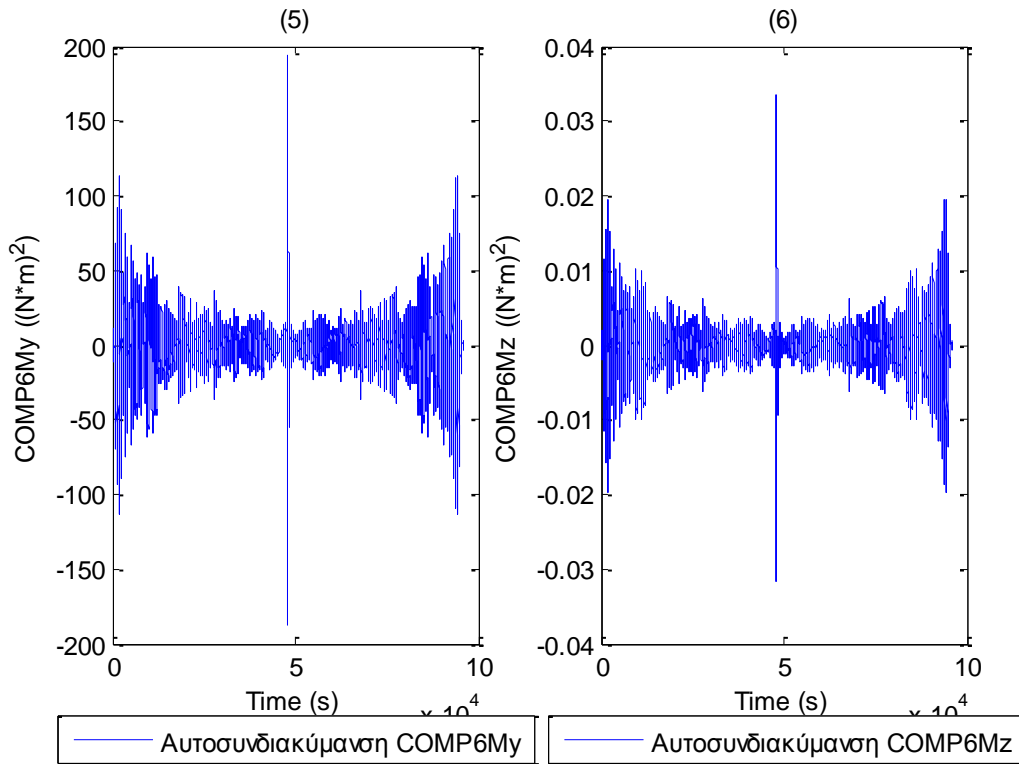




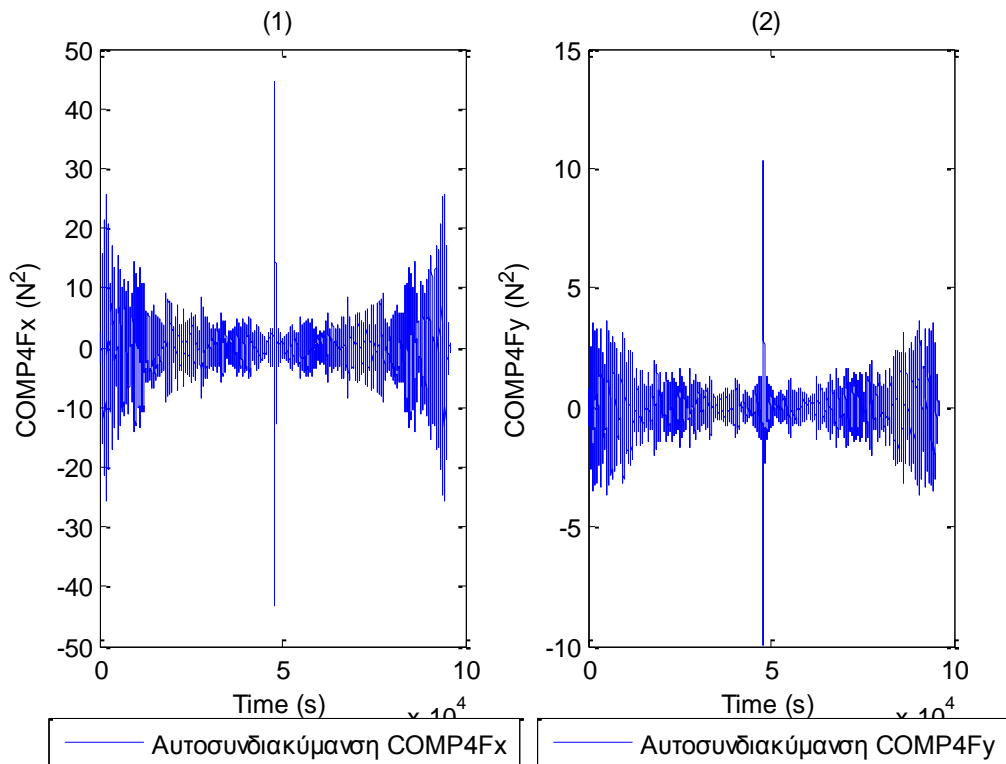


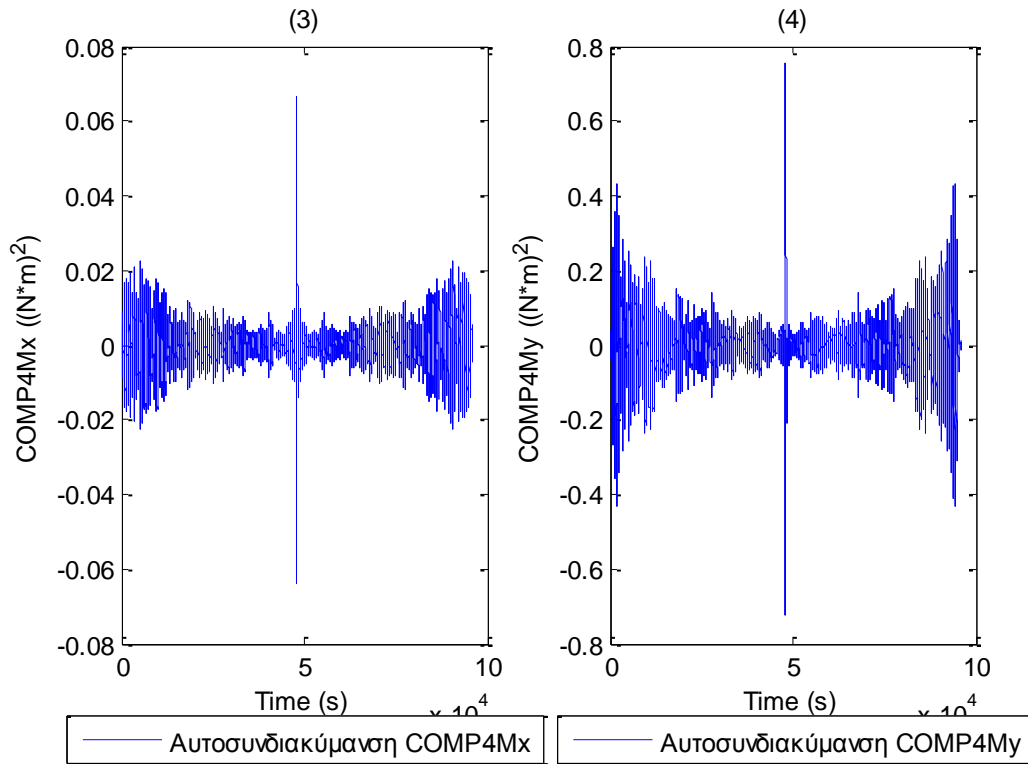
Σχήματα 1.2.3.1 (1-11) Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



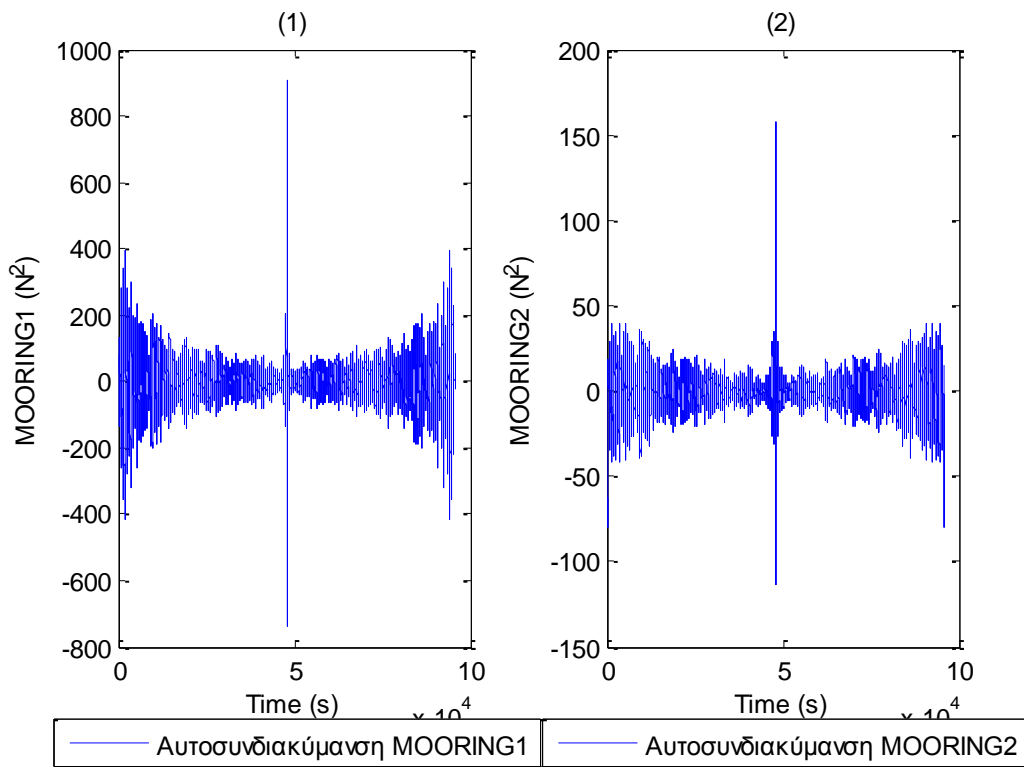


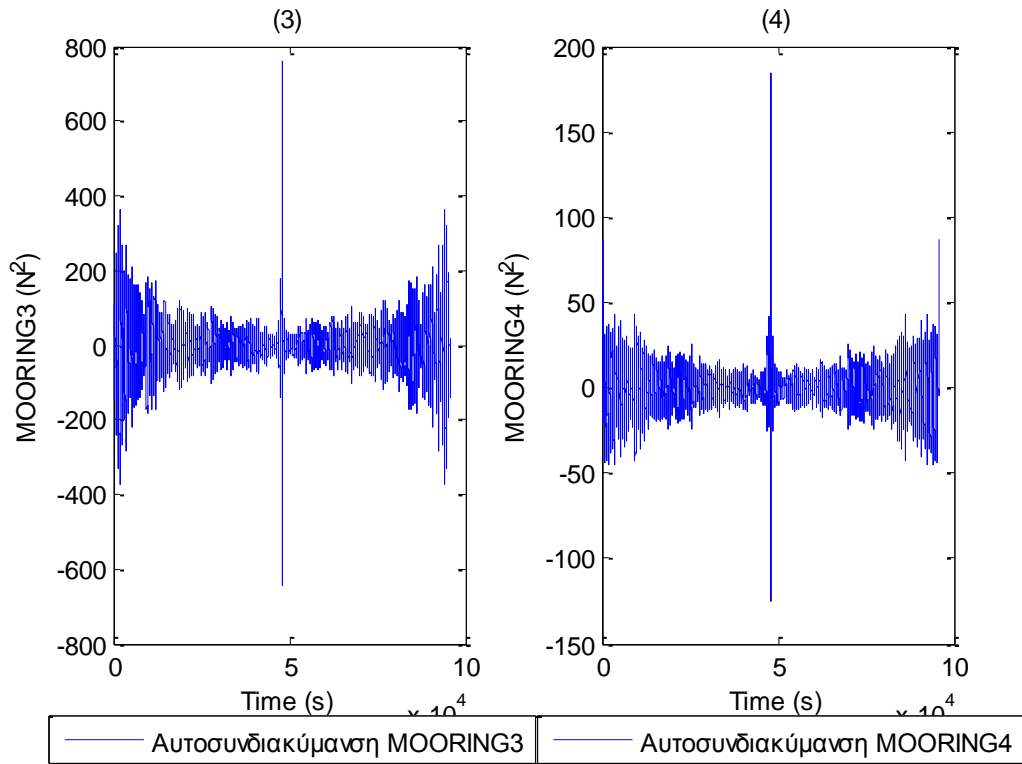
Σχήματα 1.2.3.2 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



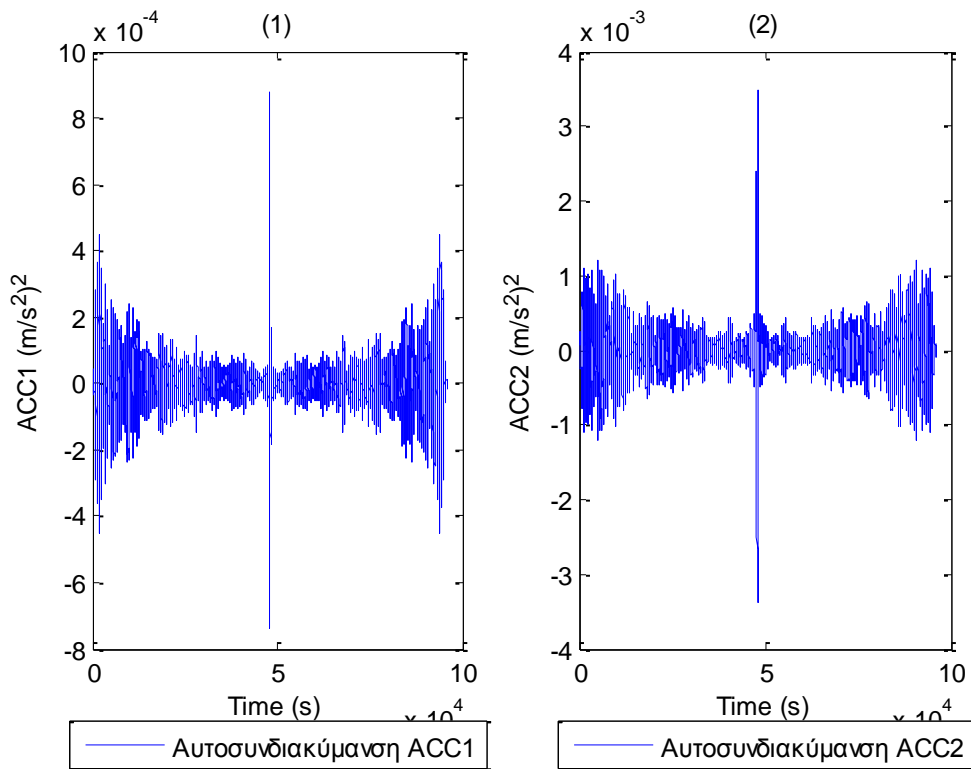


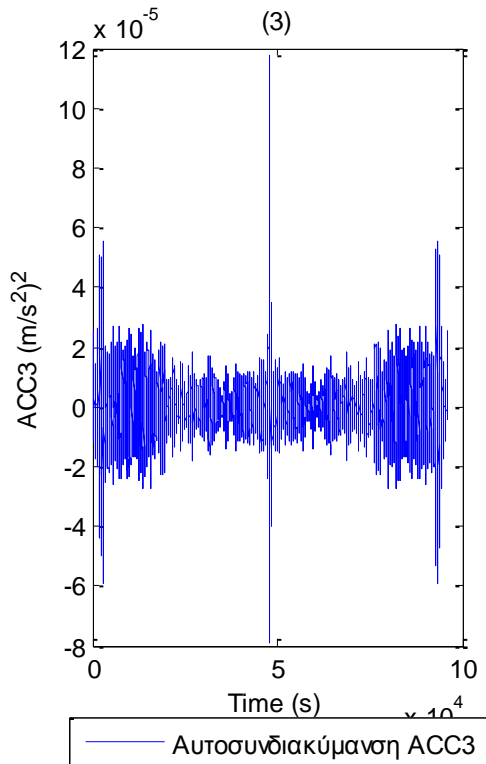
Σχήματα 1.2.3.3 Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



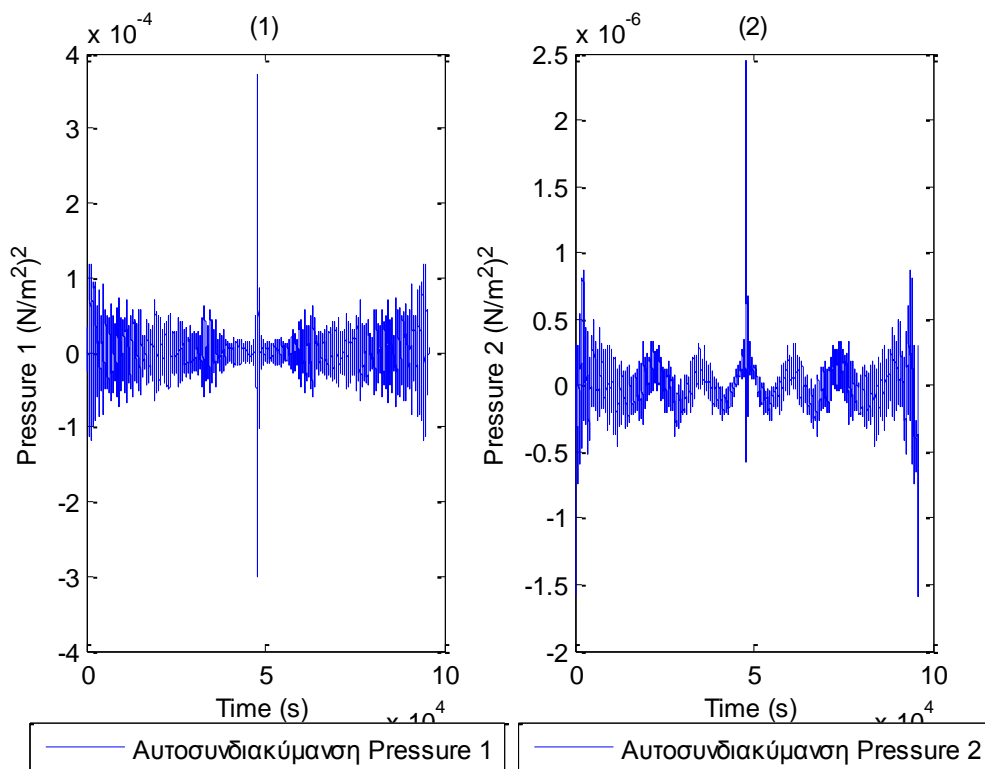


Σχήματα 1.2.3.4 (1-4) Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

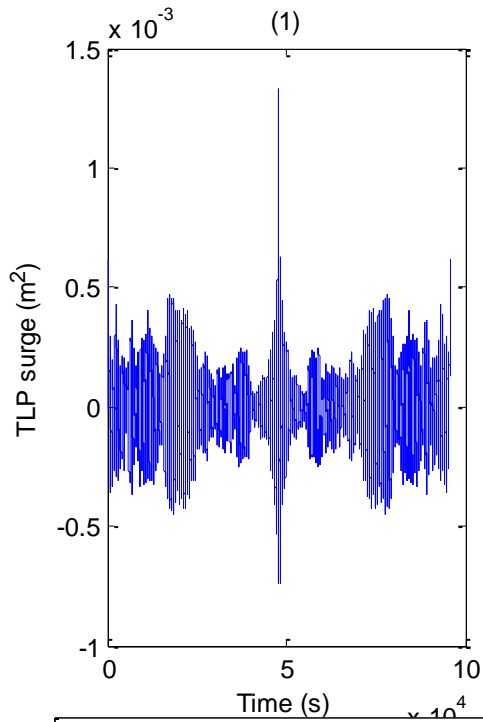




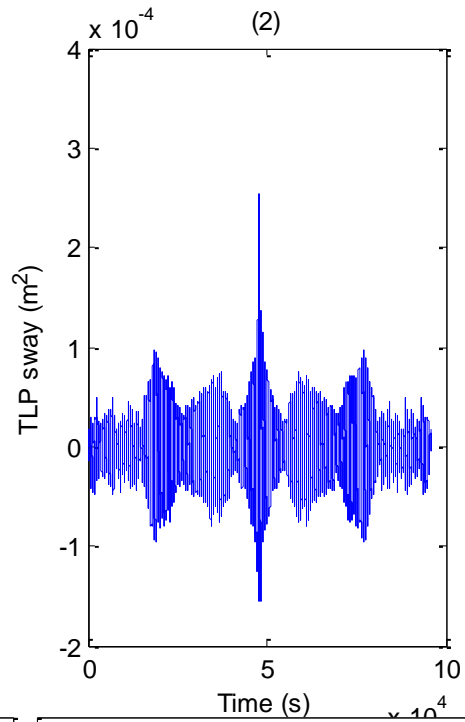
Σχήματα 1.2.3.5 (1-3) Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



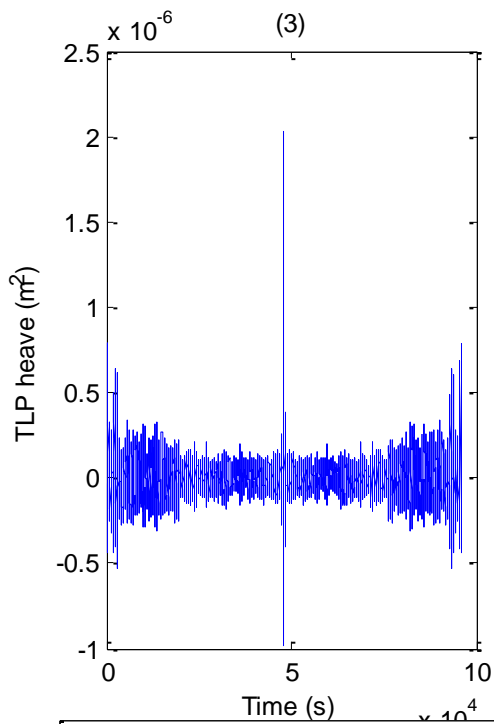
Σχήματα 1.2.3.6 (1-2) Συναρτήσεις Αυτοσυνδιακύμανσης για τα δυο όργανα μέτρησης της πίεσης



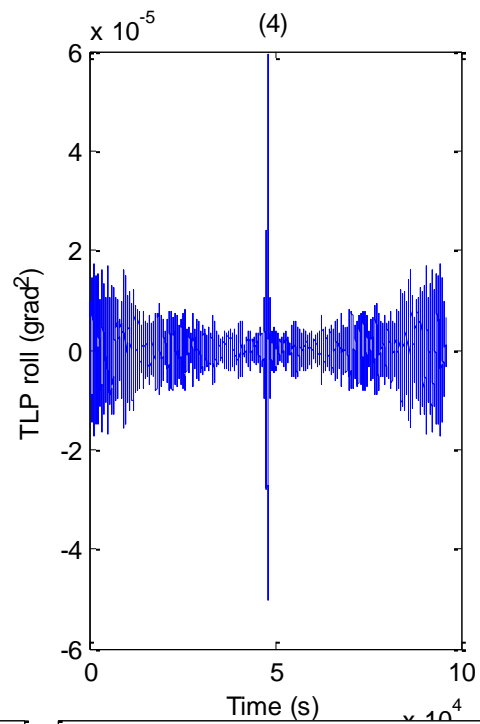
— Αυτοσυνδιακύμανση TLP surge



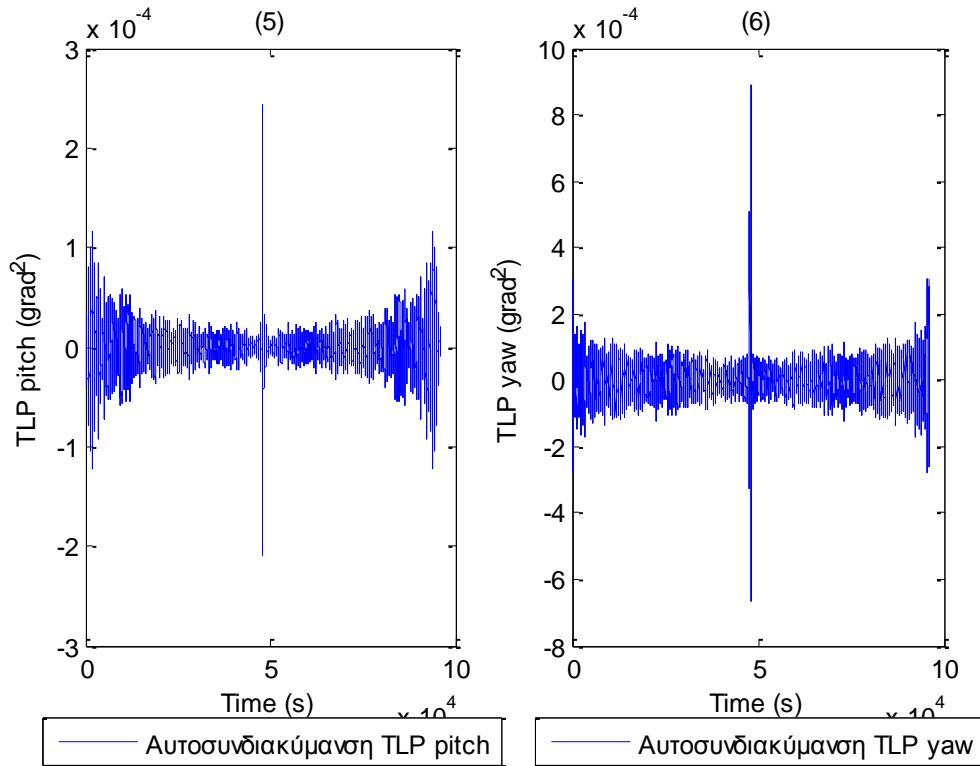
— Αυτοσυνδιακύμανση TLP sway



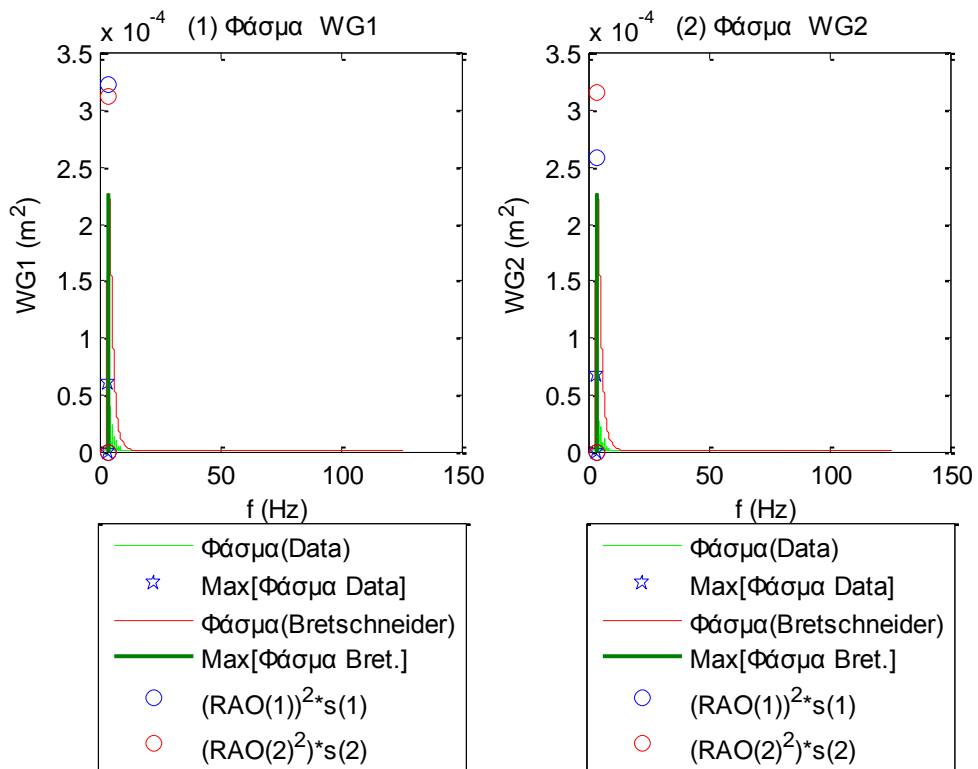
— Αυτοσυνδιακύμανση TLP heave

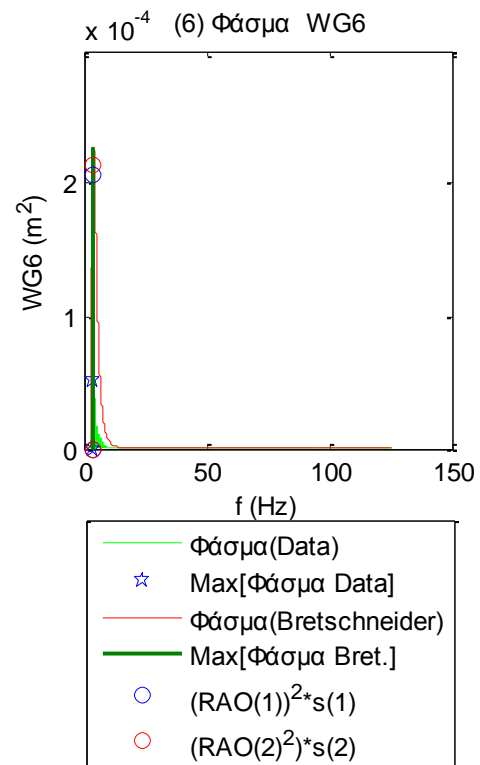
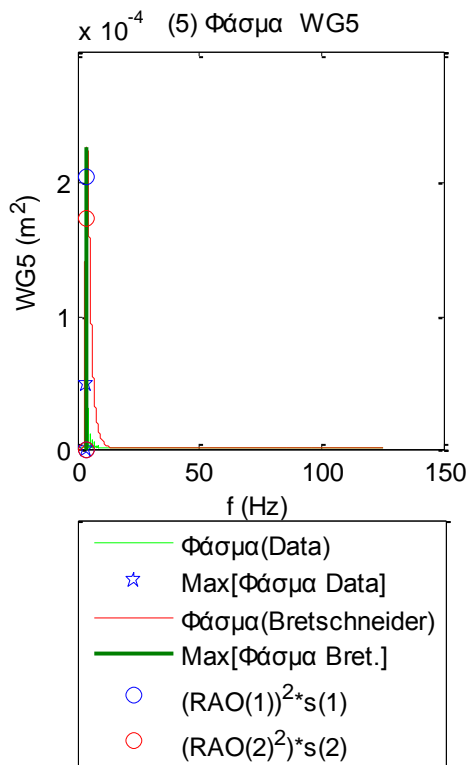
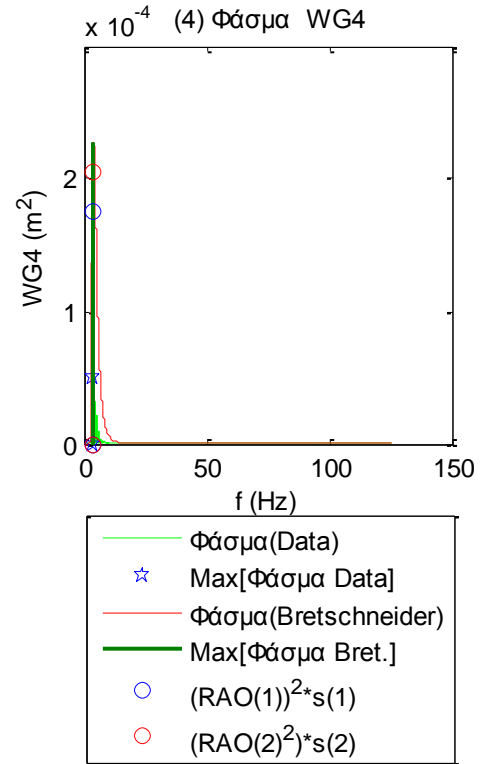
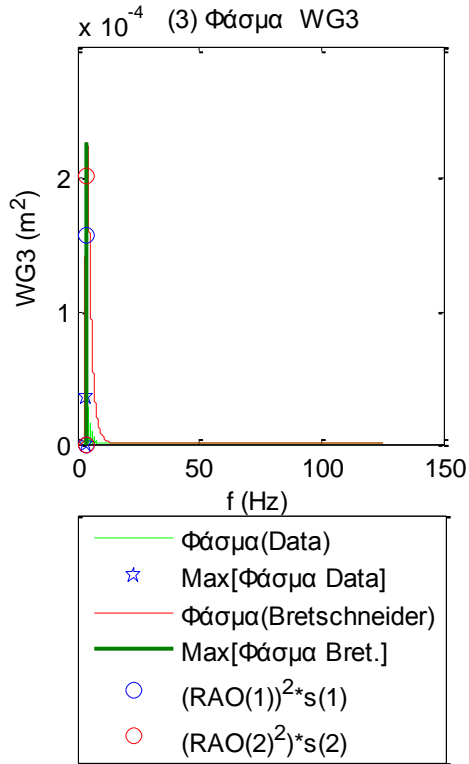


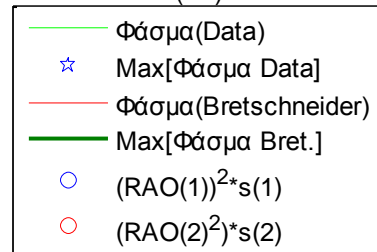
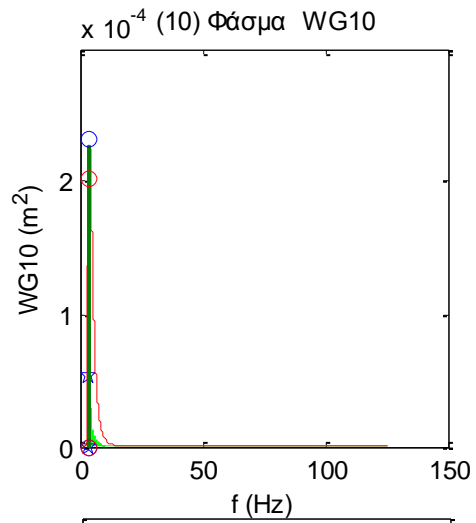
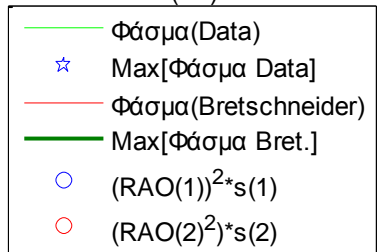
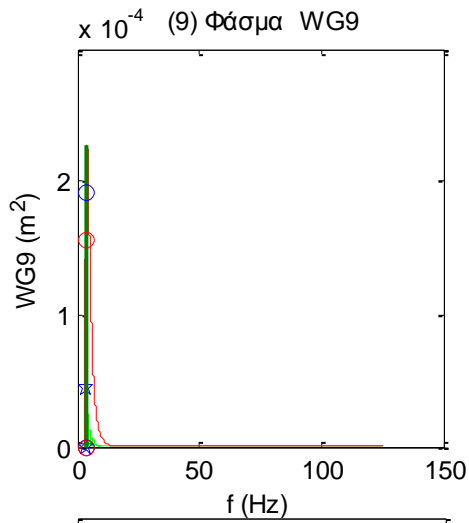
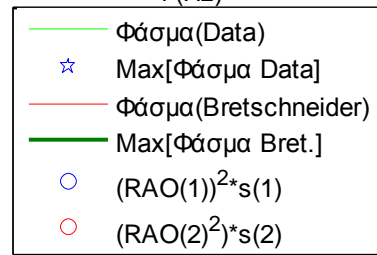
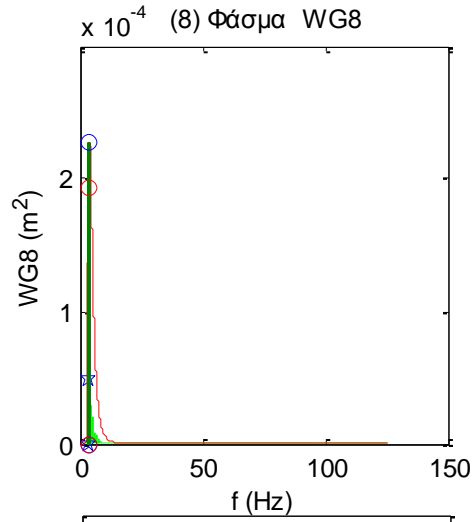
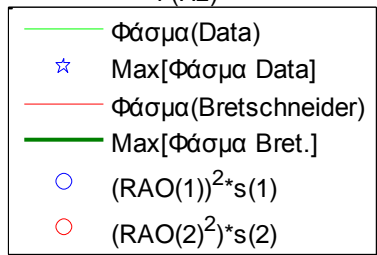
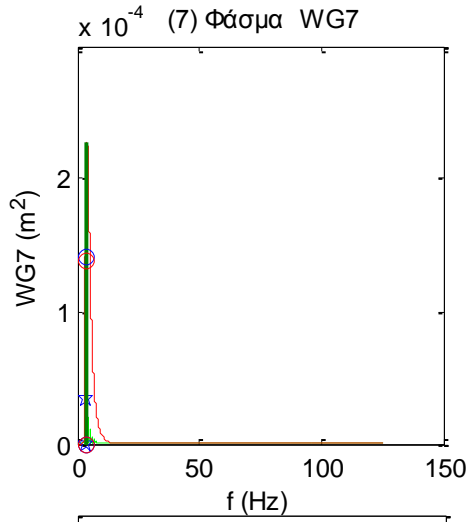
— Αυτοσυνδιακύμανση TLP roll

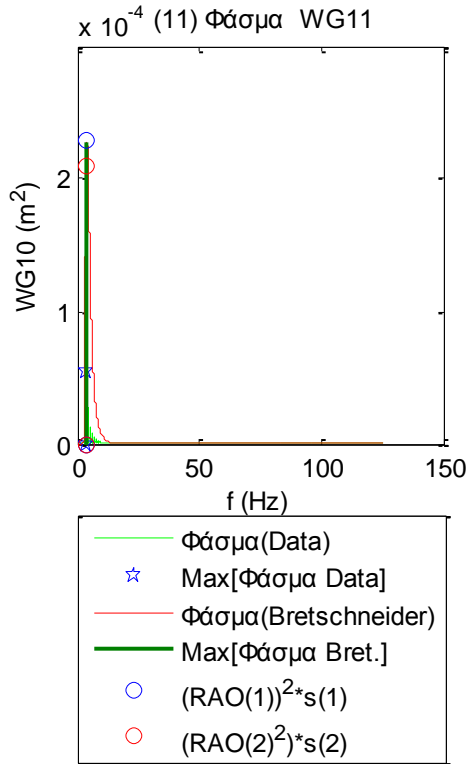


Σχήματα 1.2.3.7 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

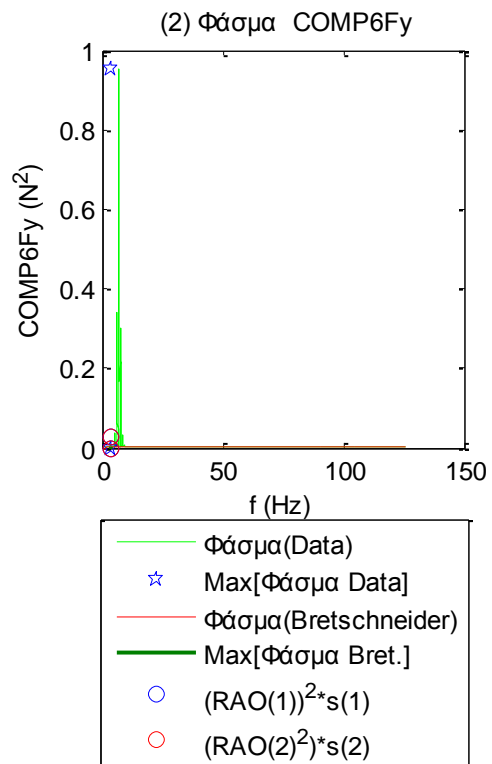
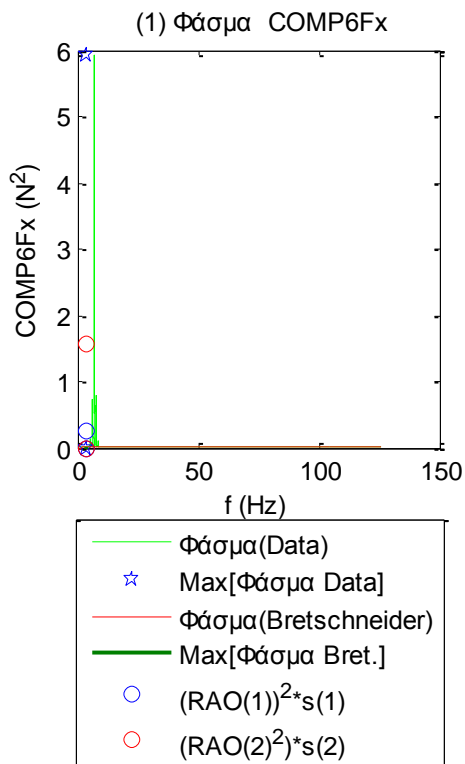


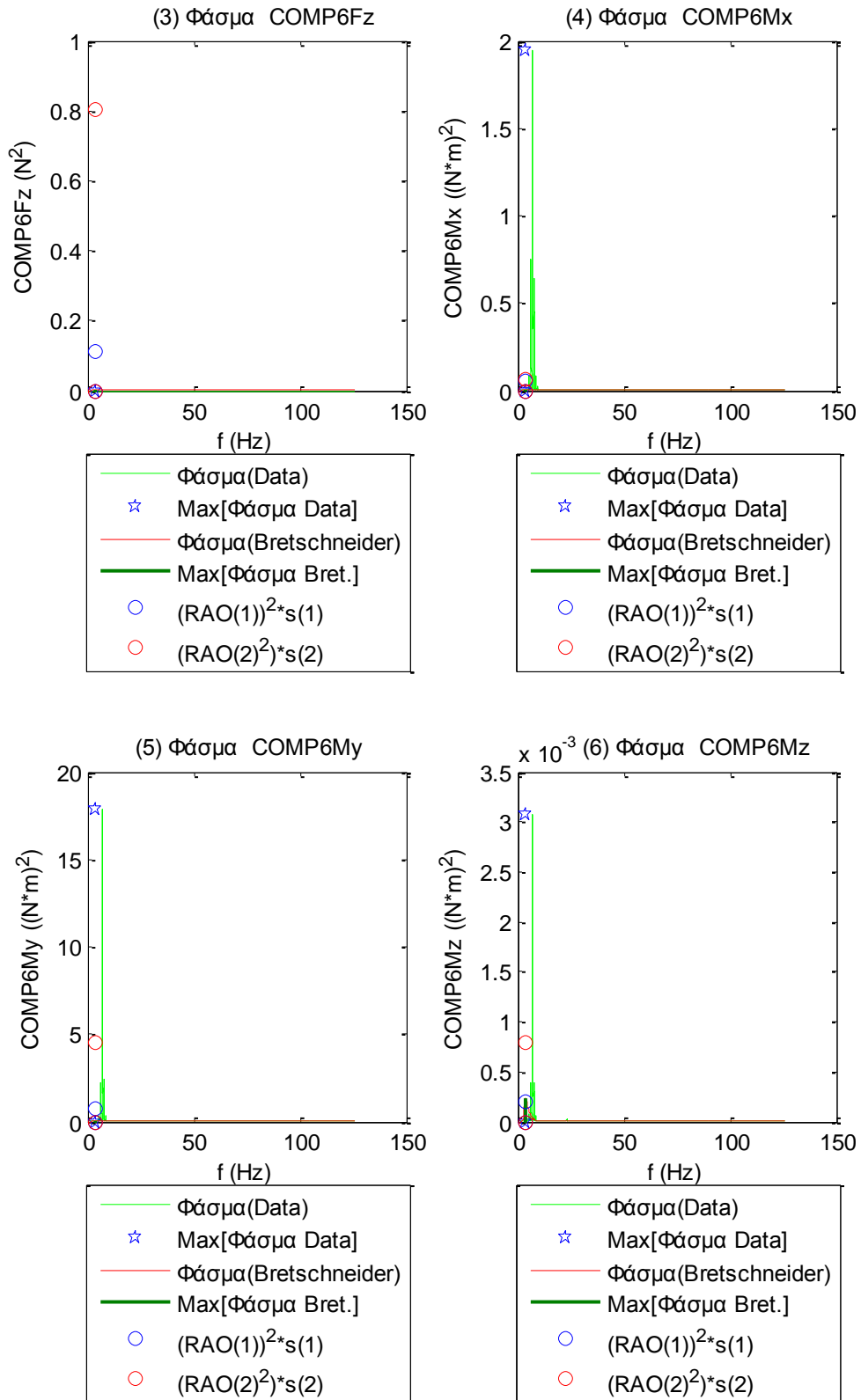




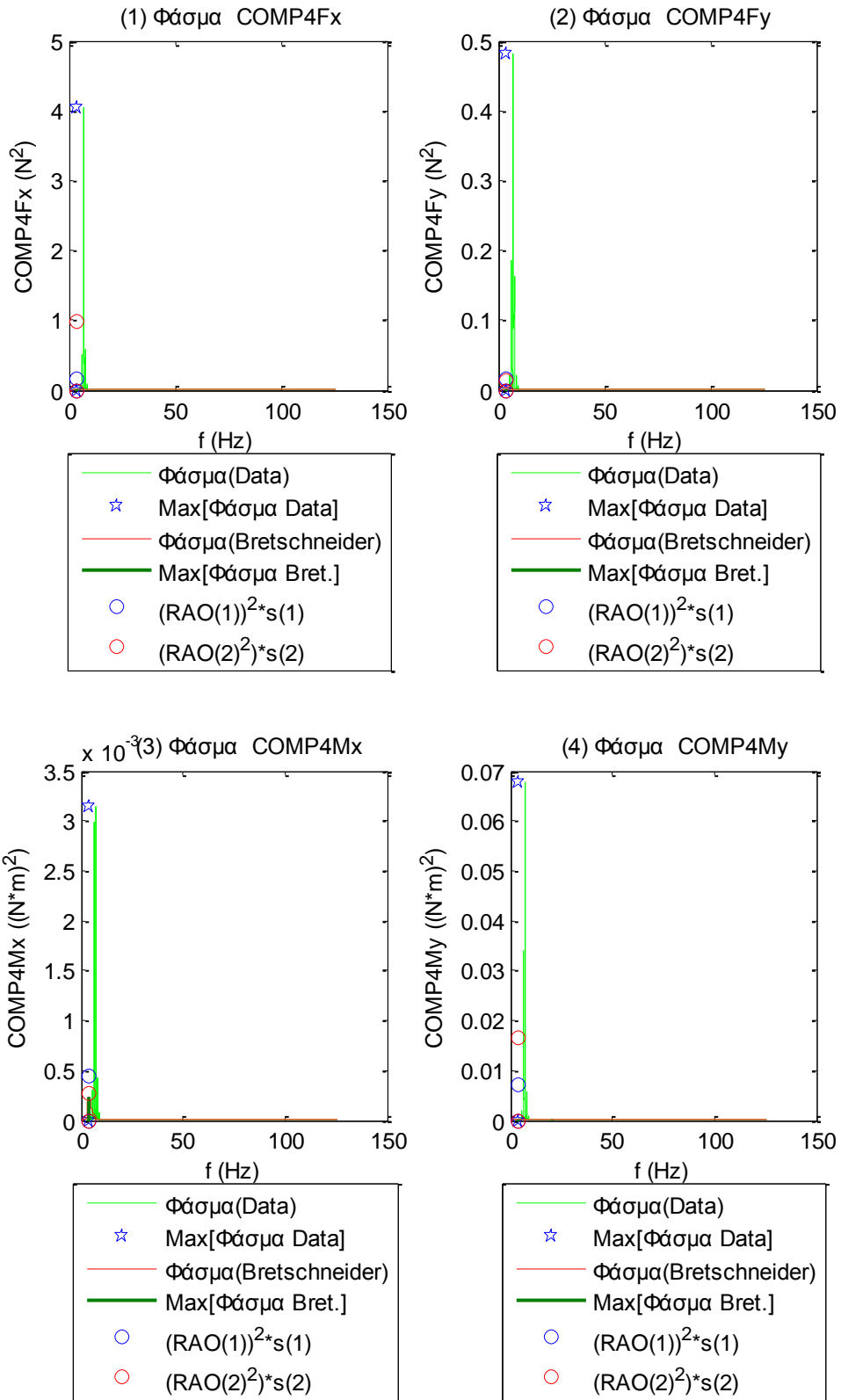


Σχήματα 1.2.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος

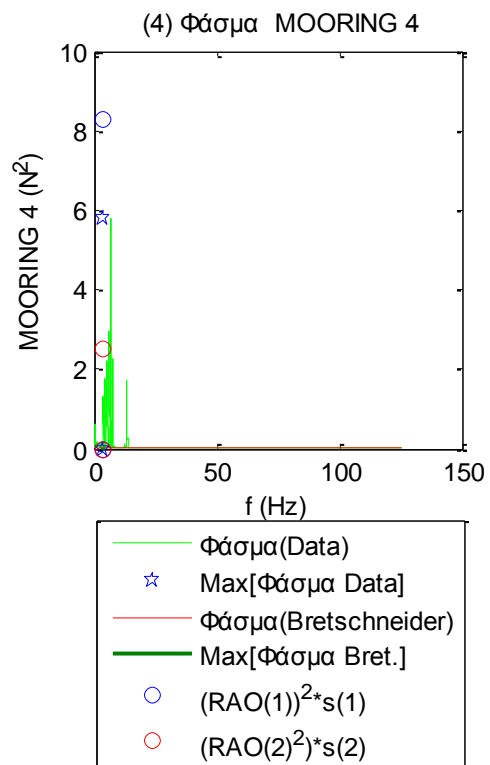
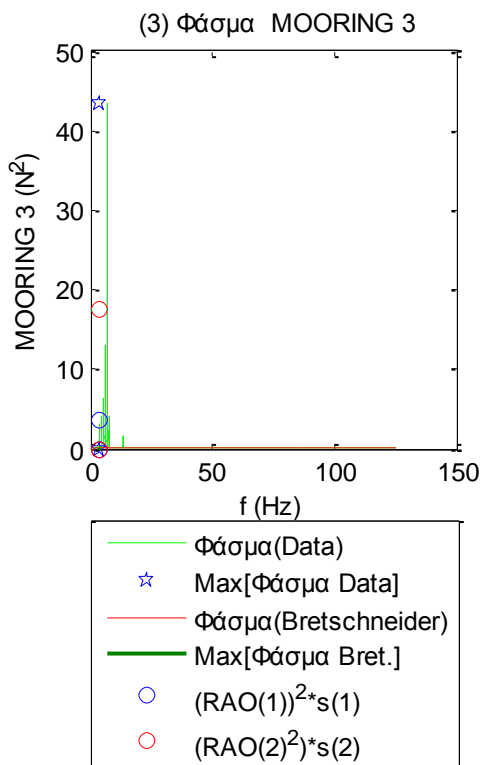
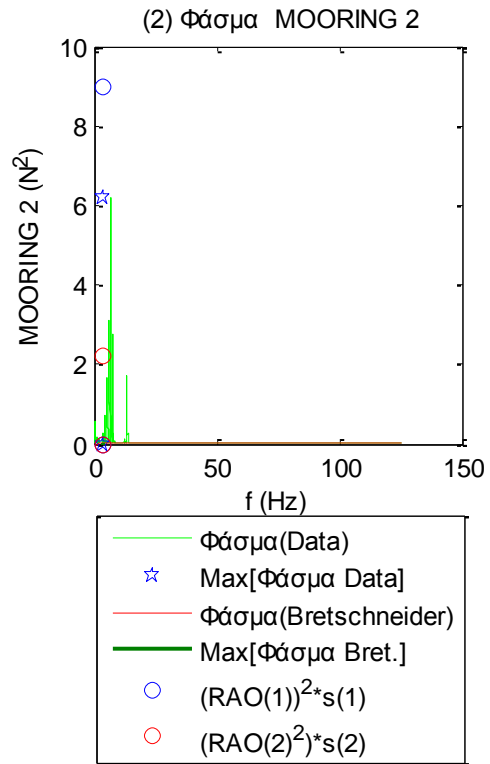
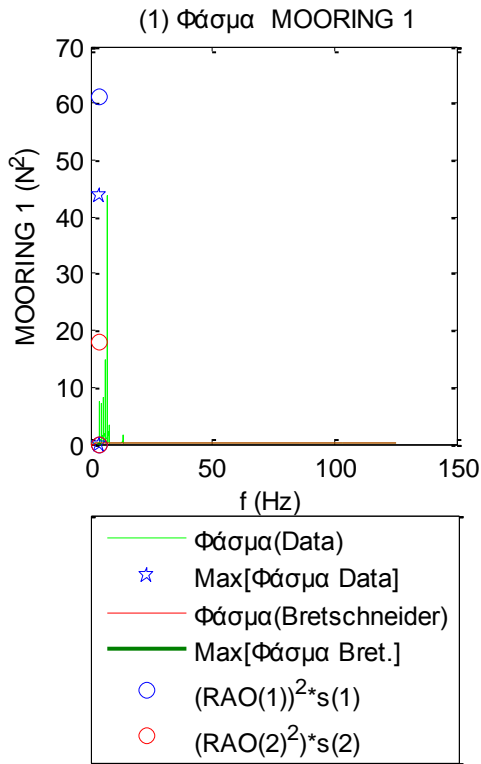




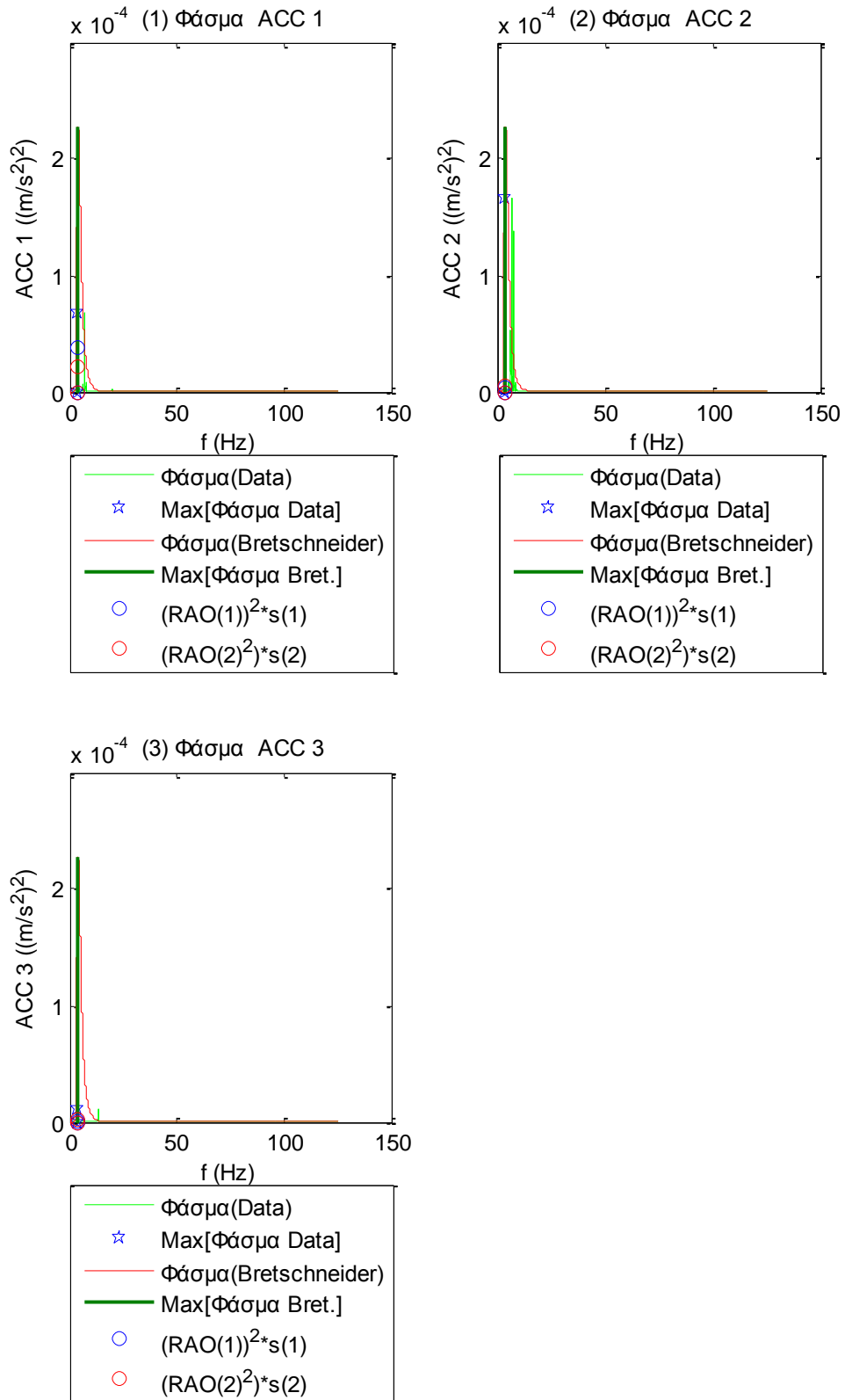
Σχήματα 1.2.4.2 Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



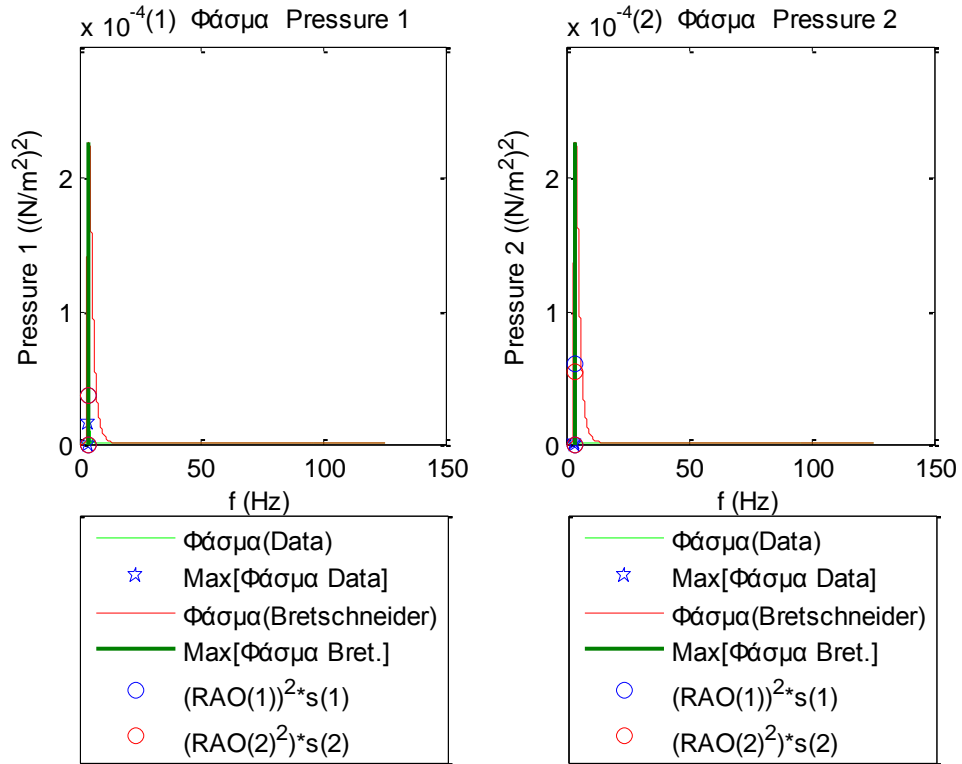
Σχήματα 1.2.4.3 Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



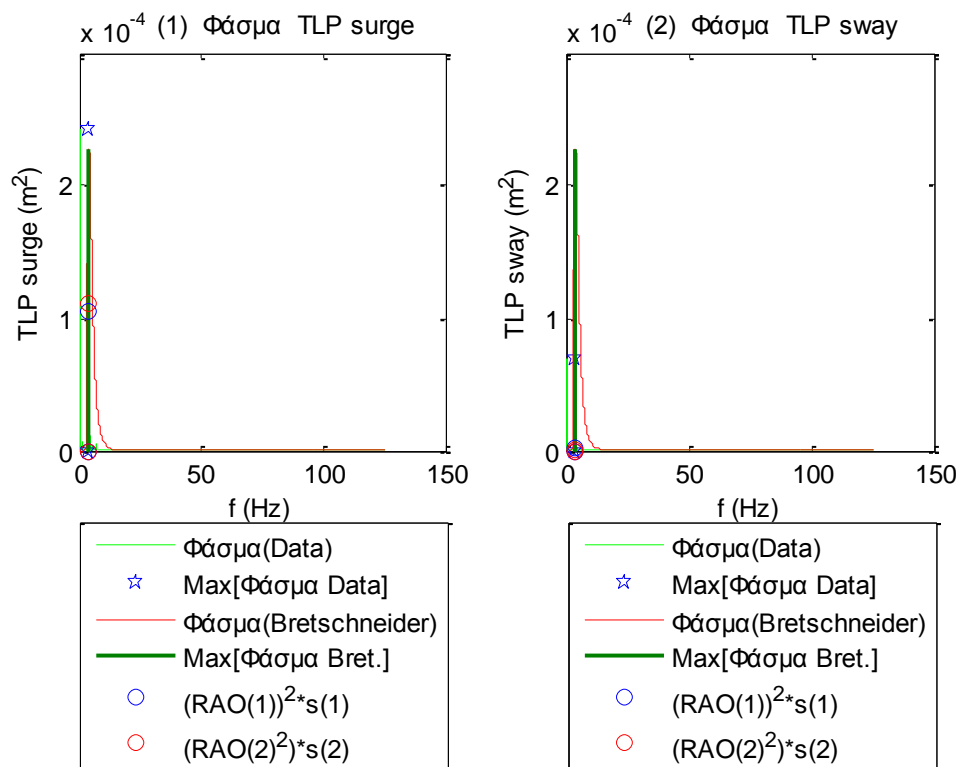
Σχήματα 1.2.4.4 (1-4) Φάσματα για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

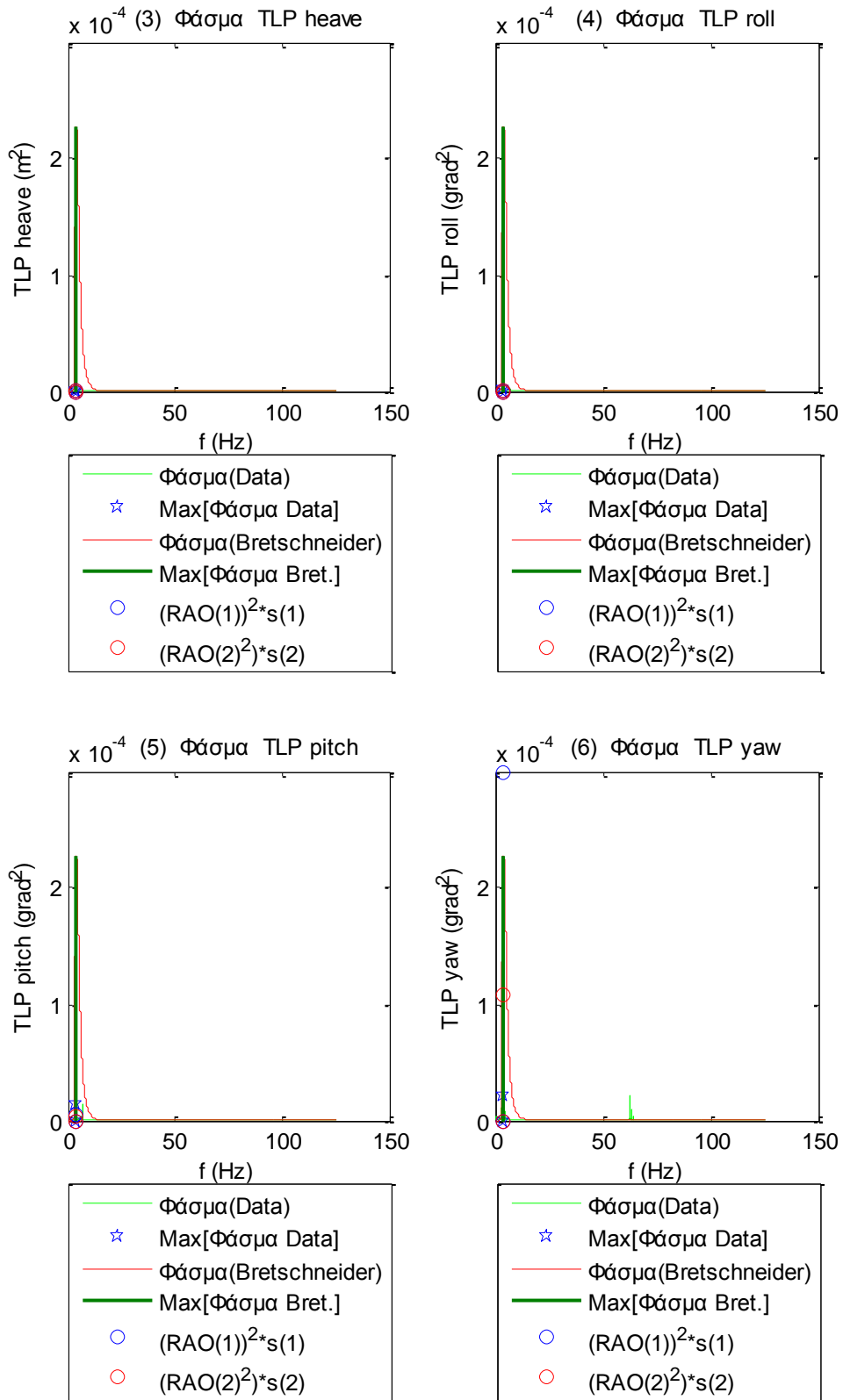


Σχήματα 1.2.4.5 (1-3) Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

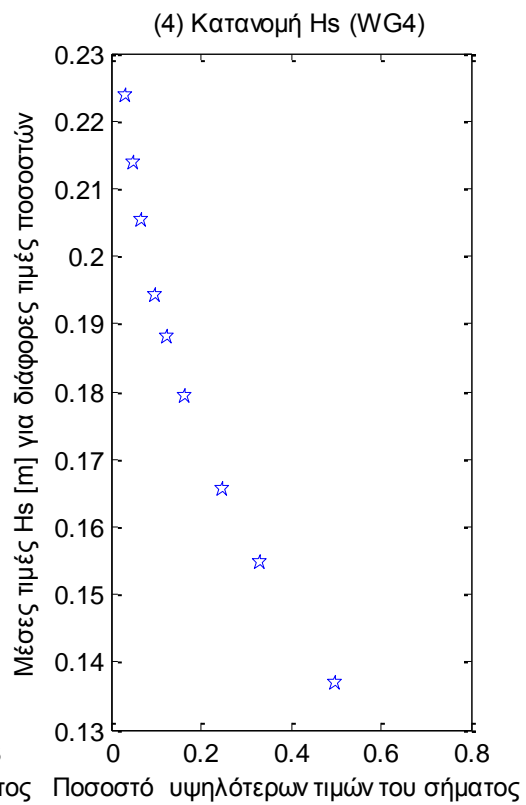
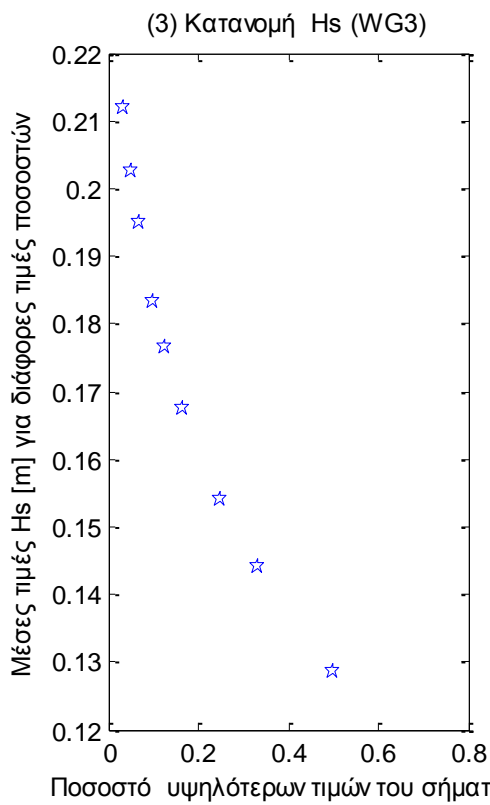
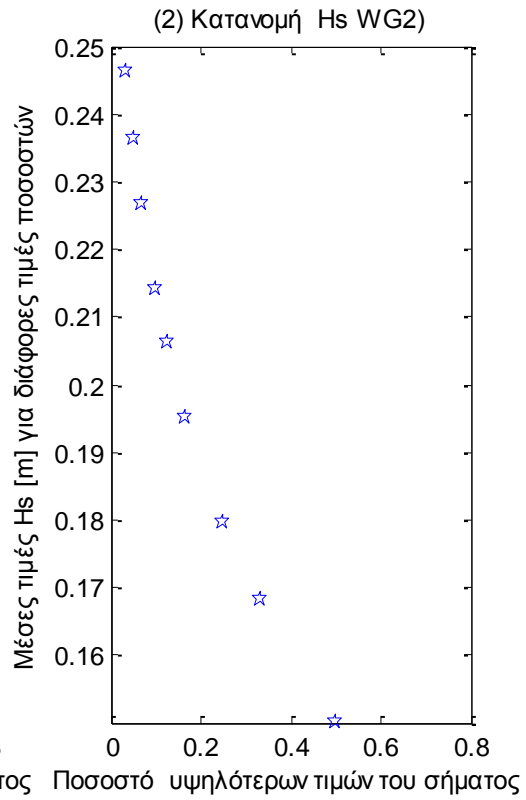
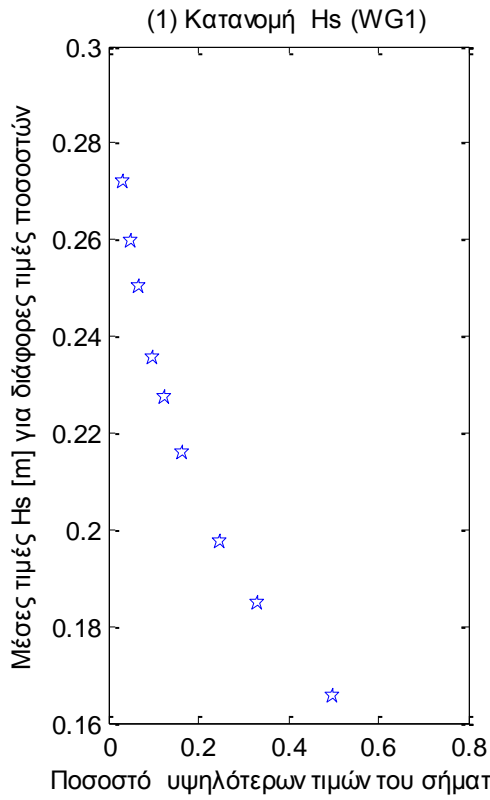


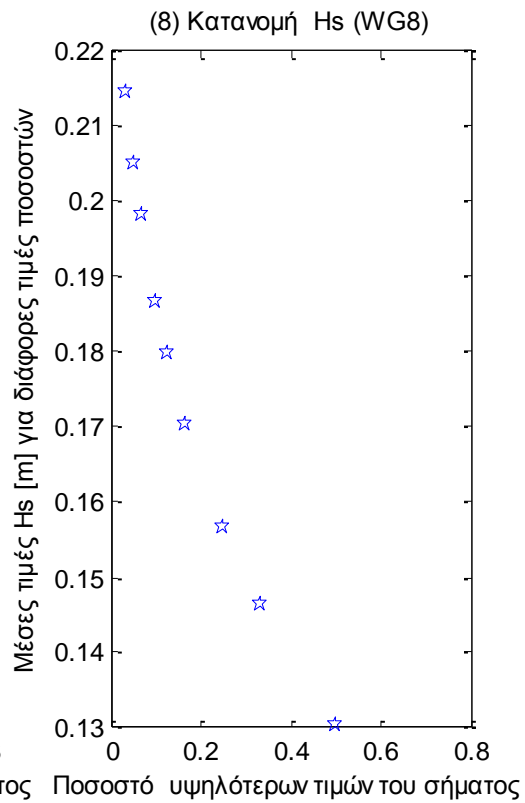
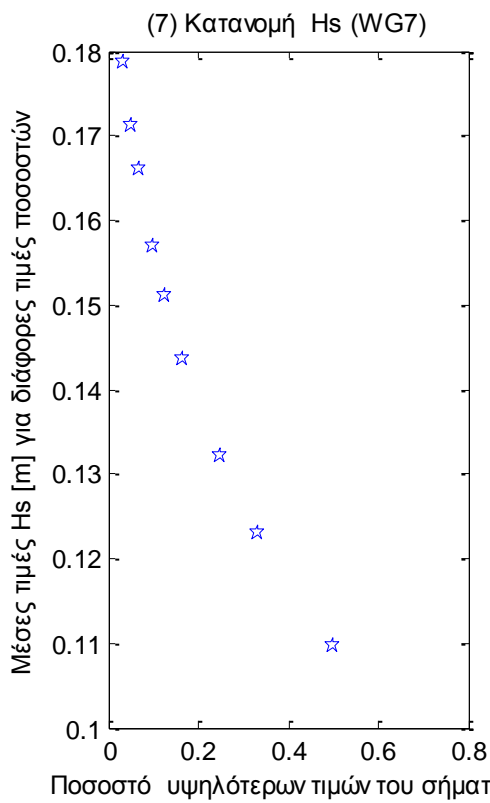
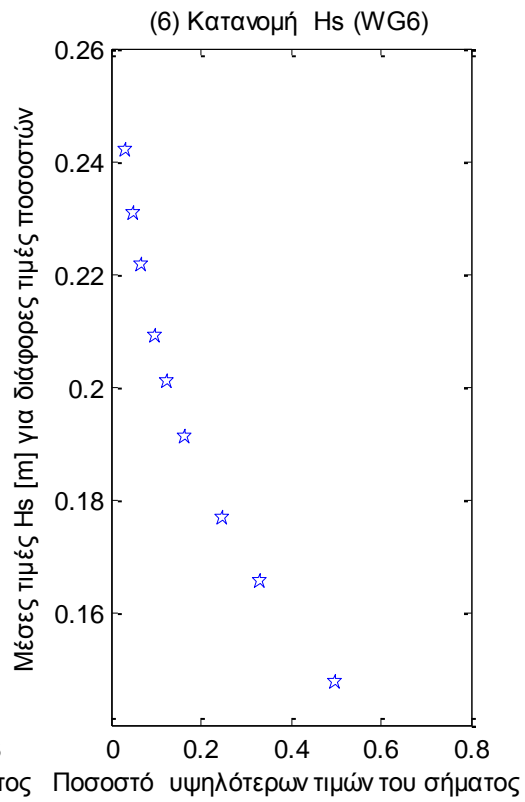
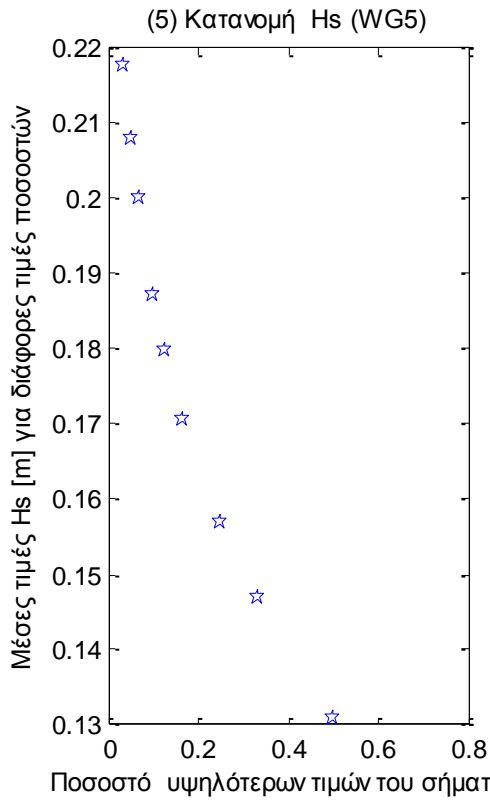
Σχήματα 1.2.4.6 (1-2) Φάσματα για τα δυο όργανα μέτρησης της πίεσης

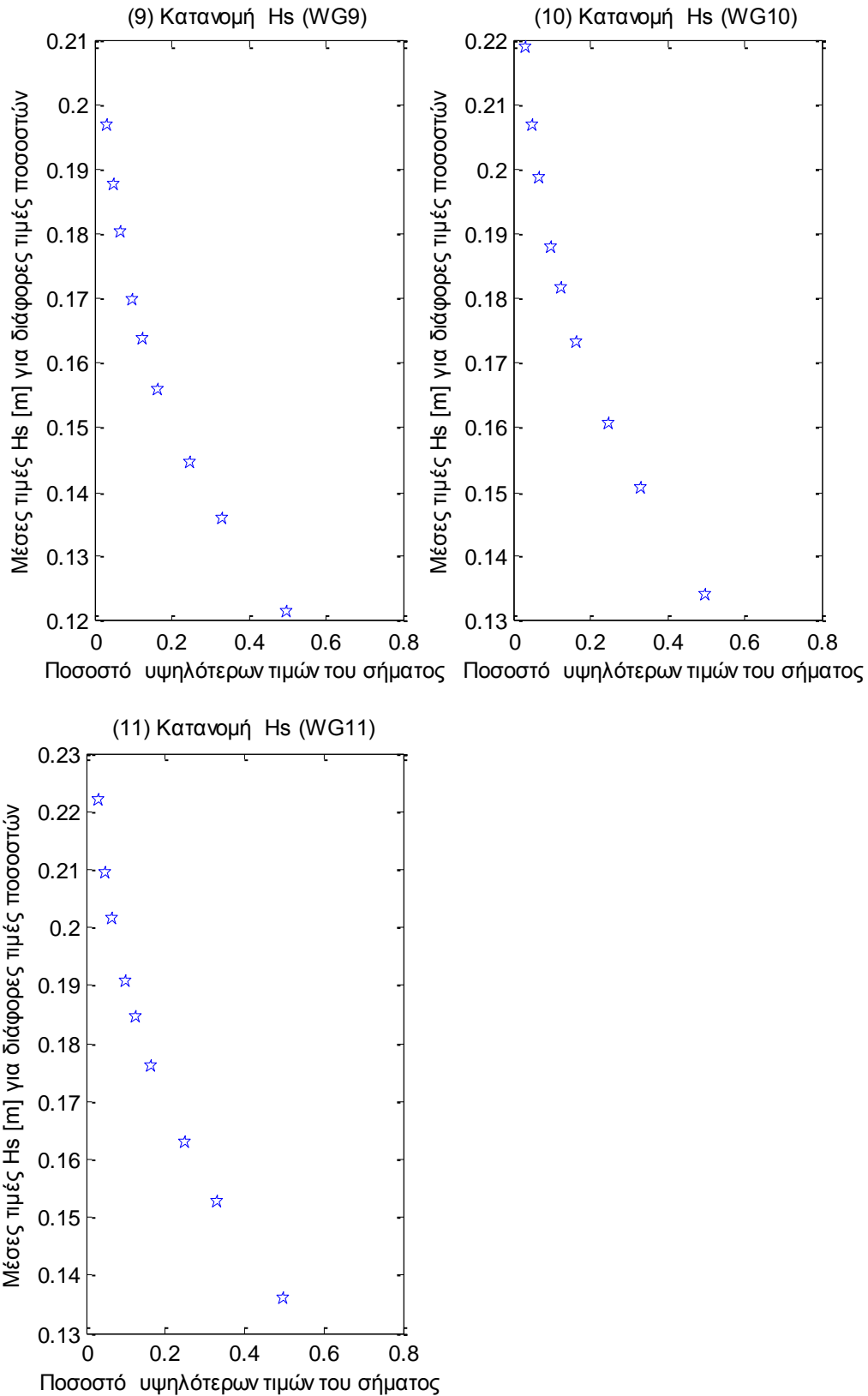




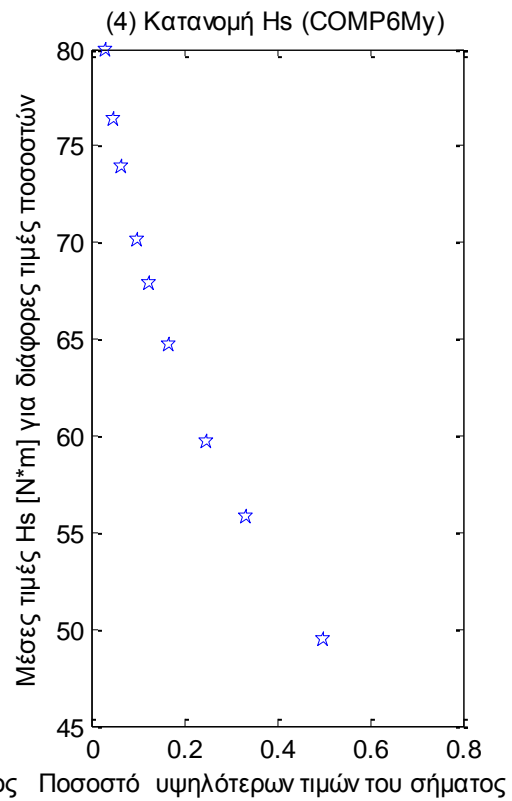
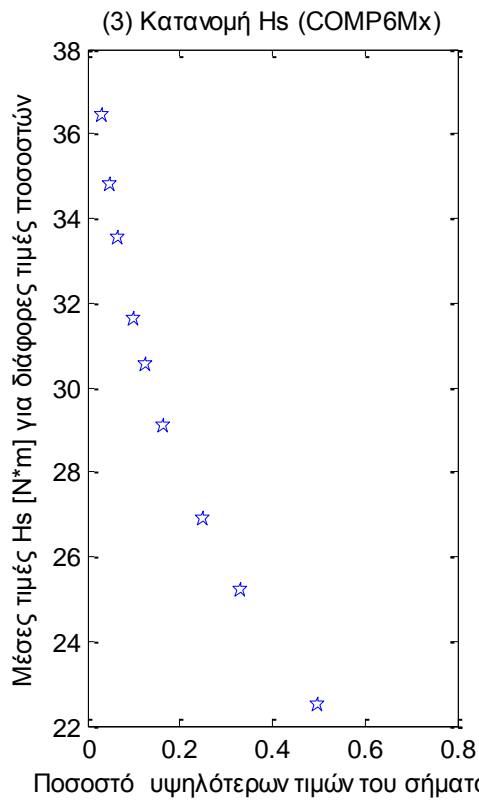
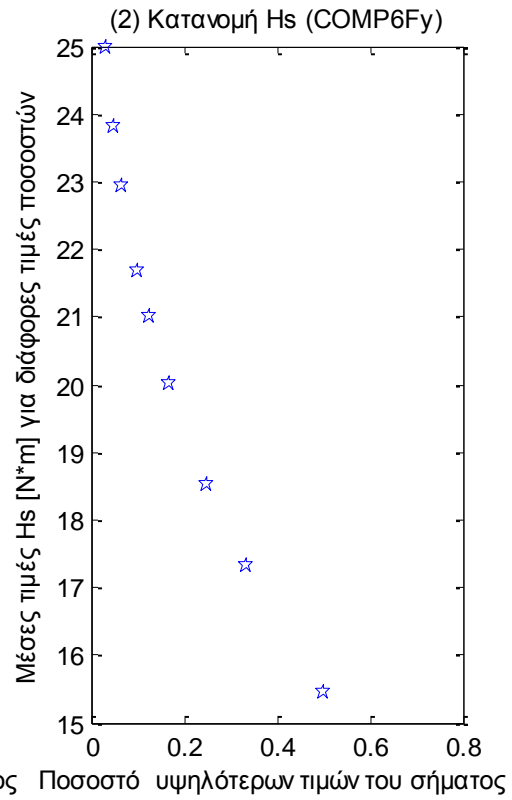
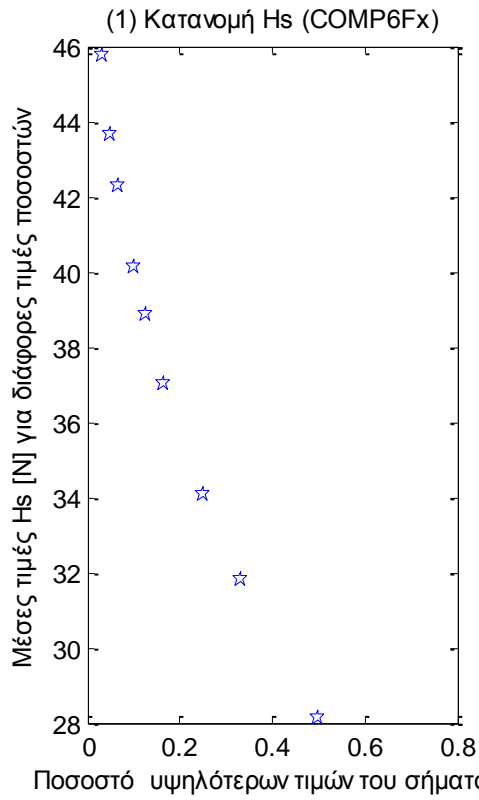
Σχήματα 1.2.4.7 Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

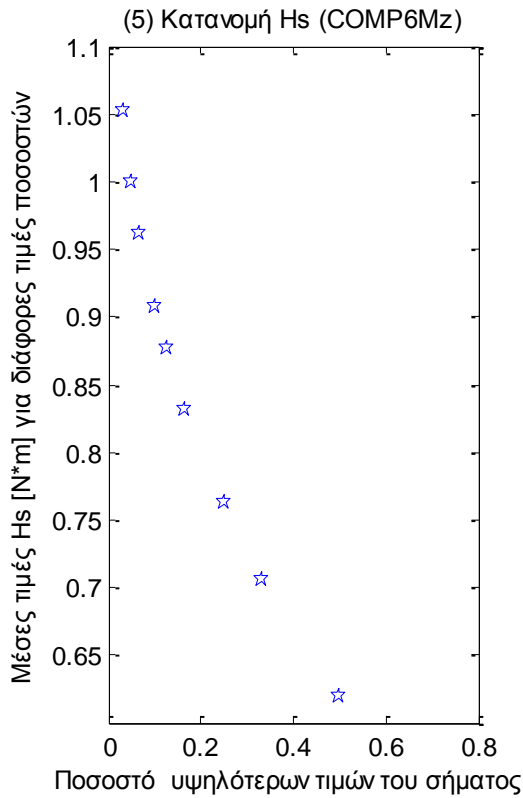




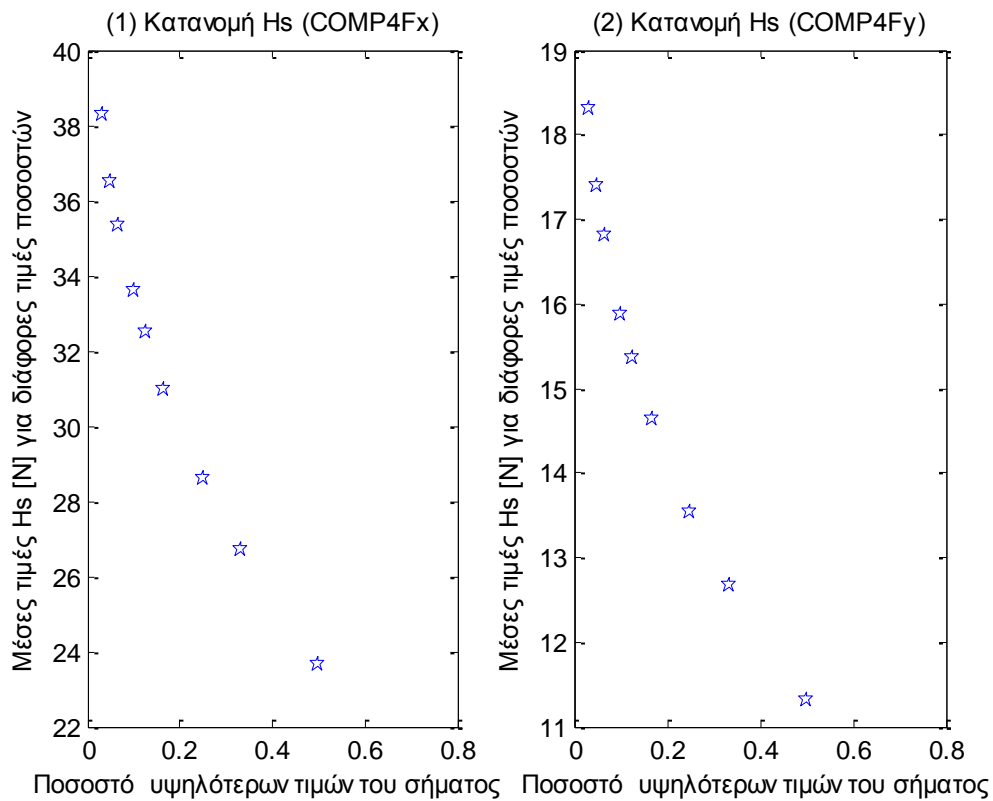


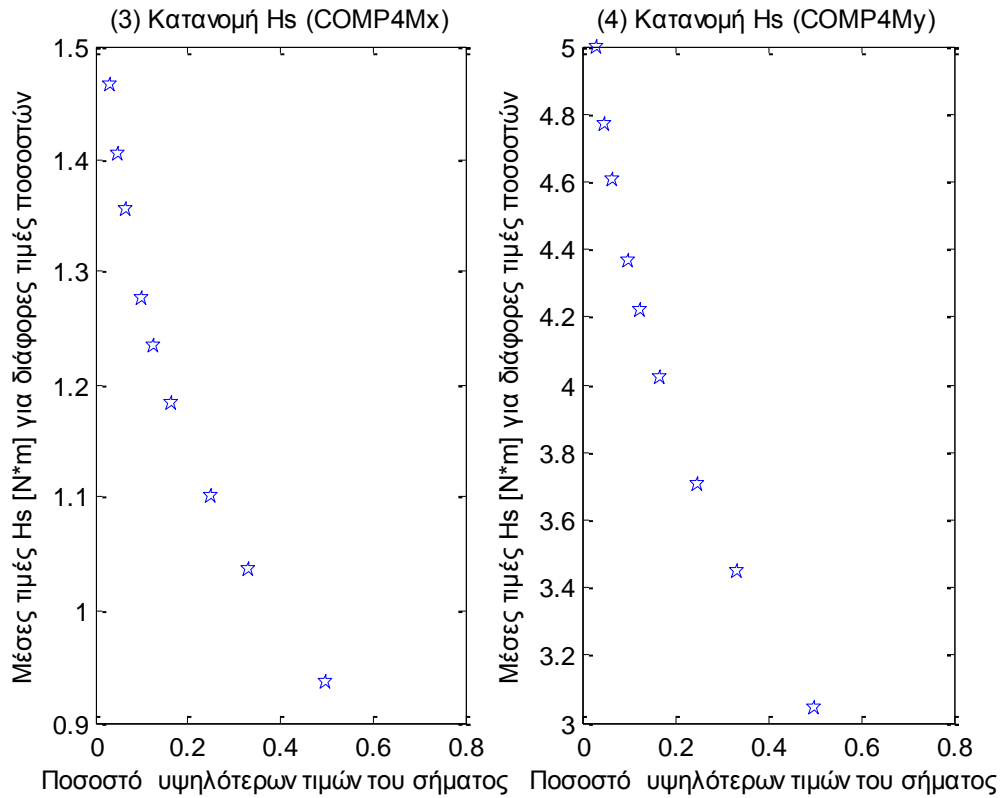
Σχήματα 1.2.5.1 (1-11) Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



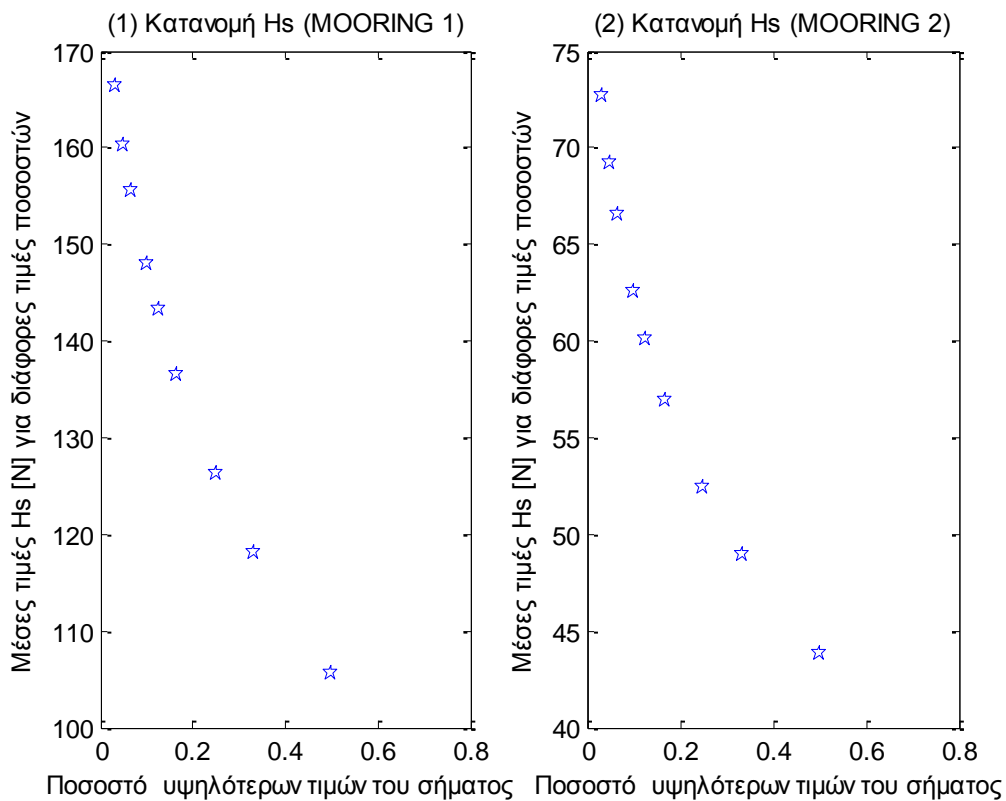


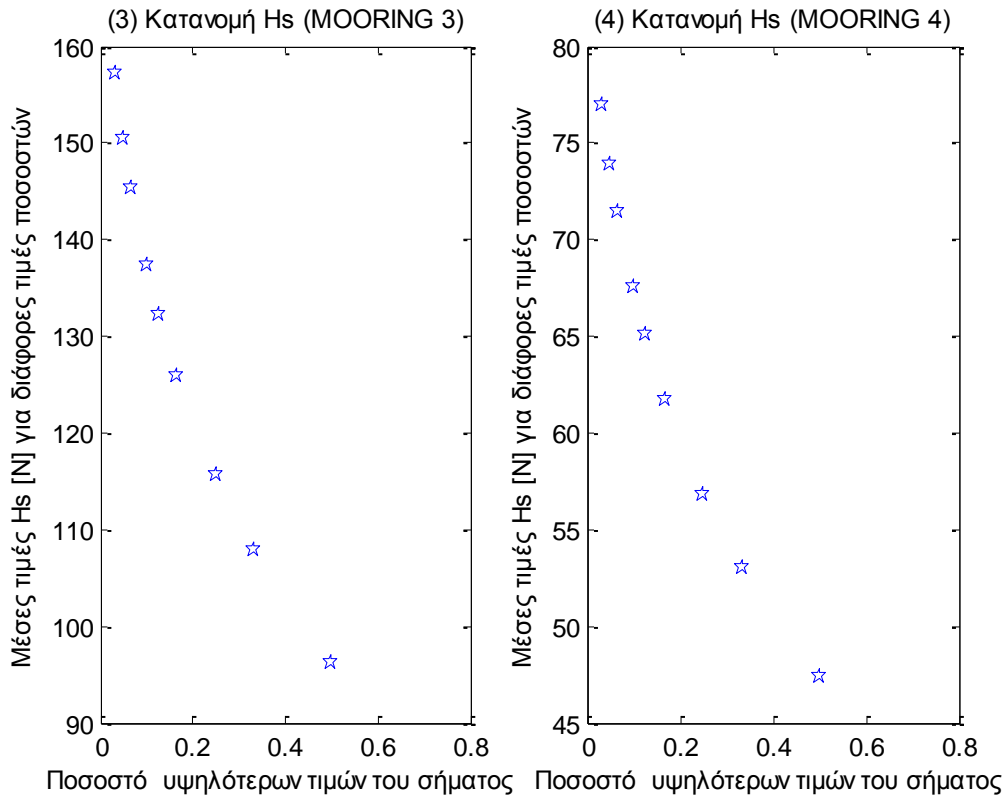
Σχήματα 1.2.5.2 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, και (2) sway και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



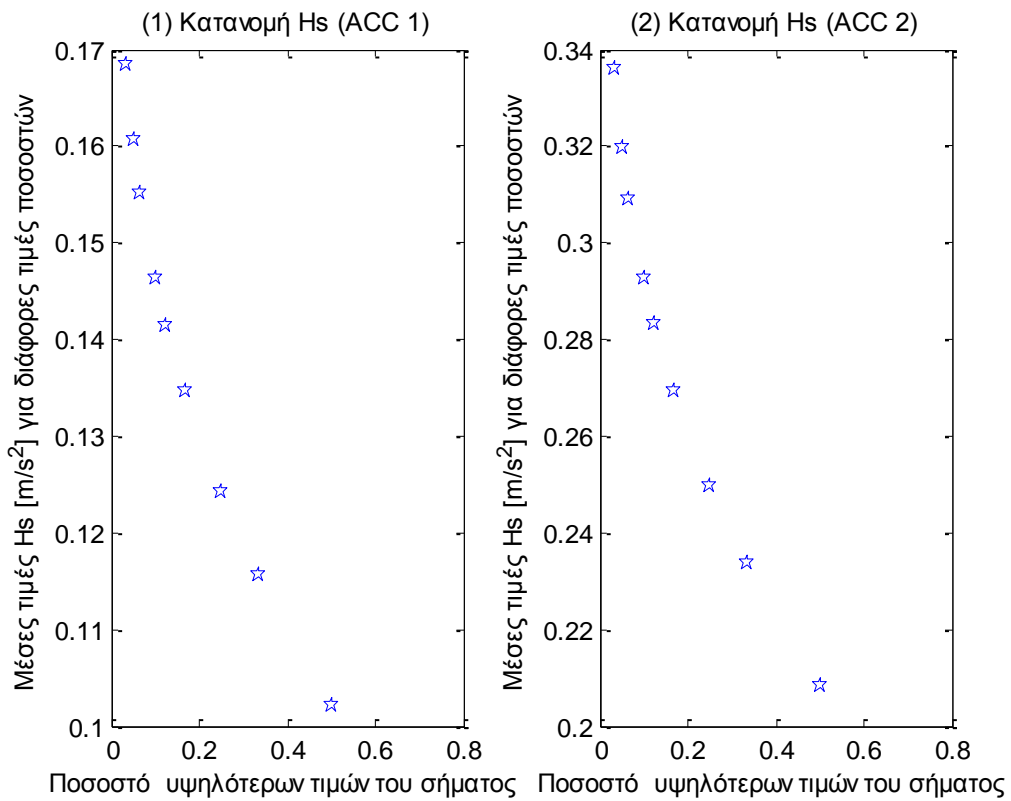


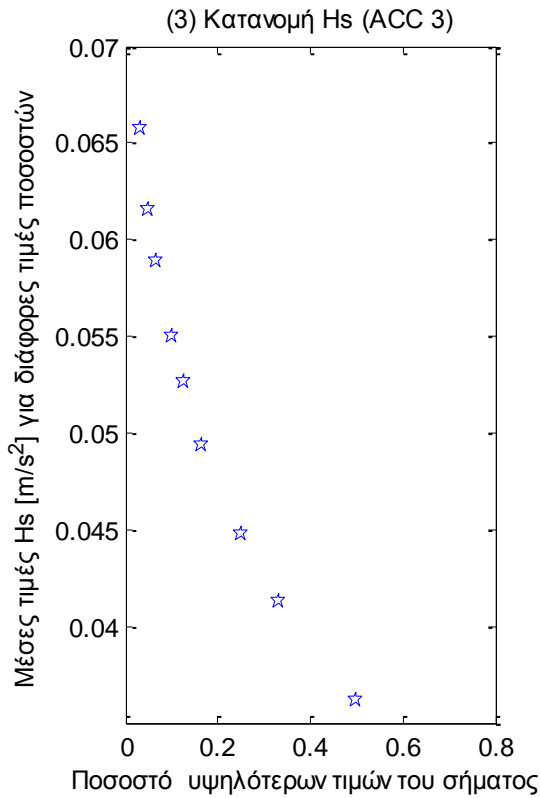
Σχήματα 1.2.5.3 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



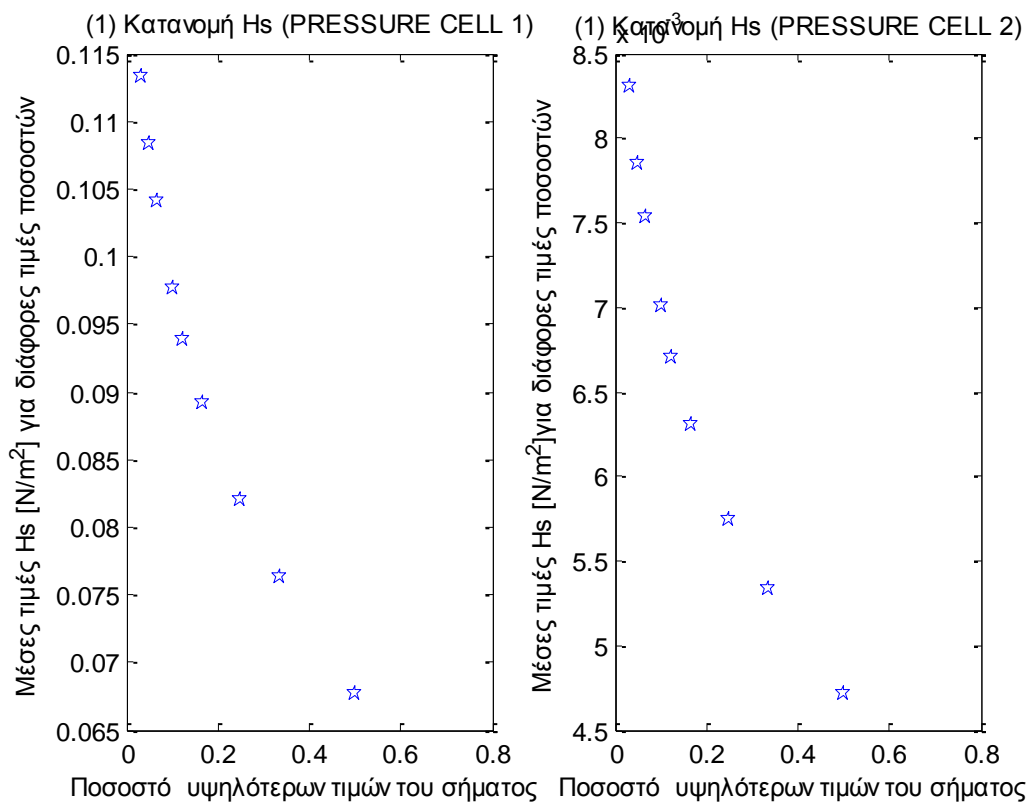


Σχήματα 1.2.5.4 (1-4) Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

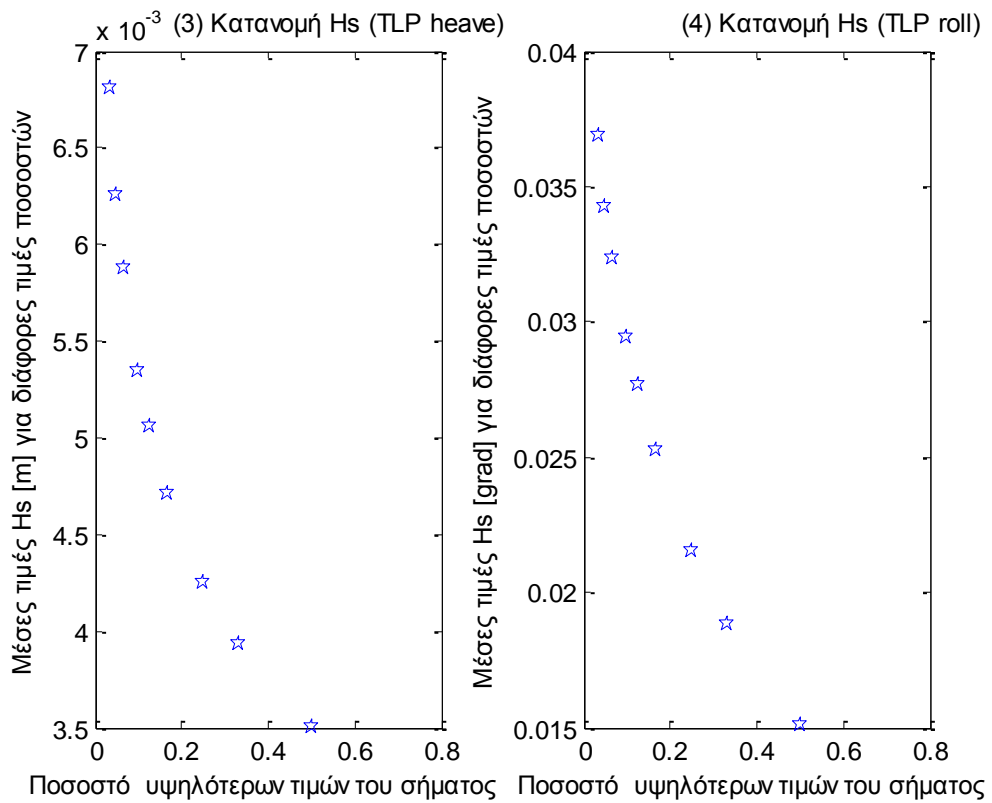
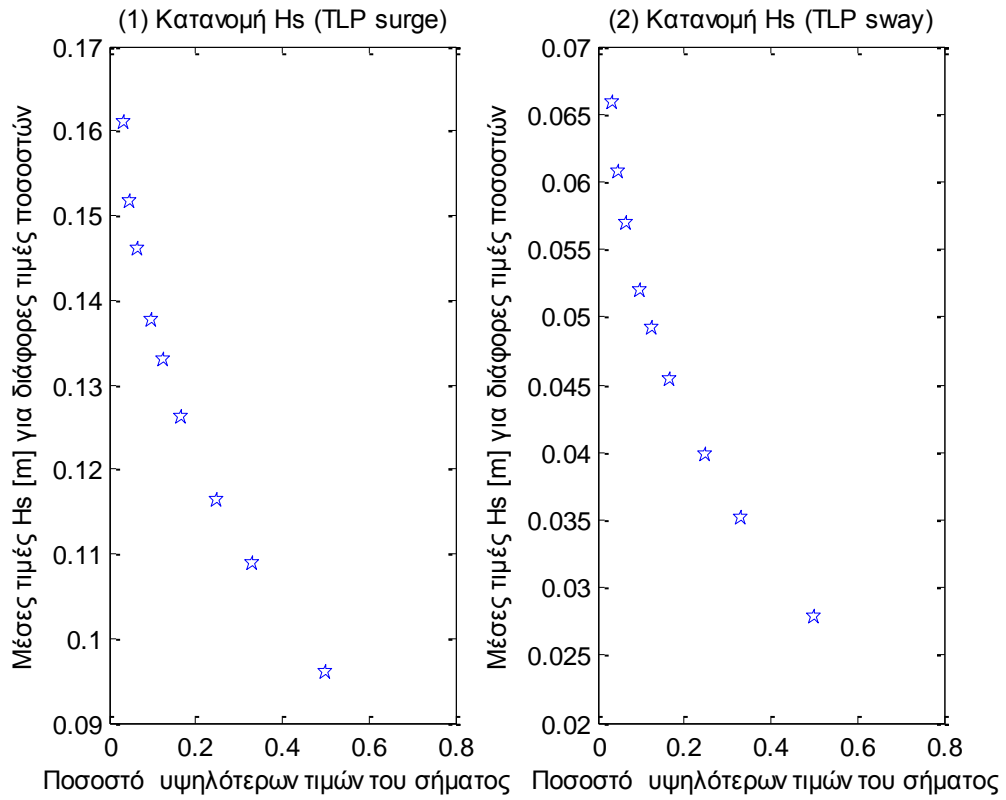


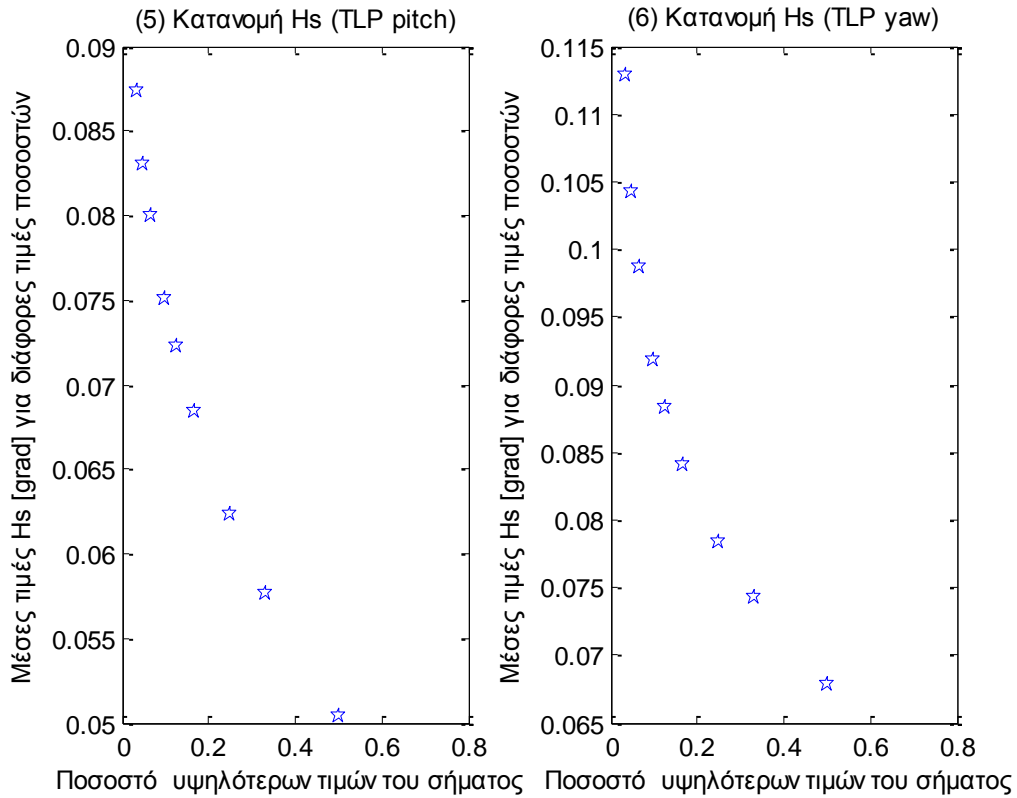


Σχήματα 1.2.5.5 (1-3) Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

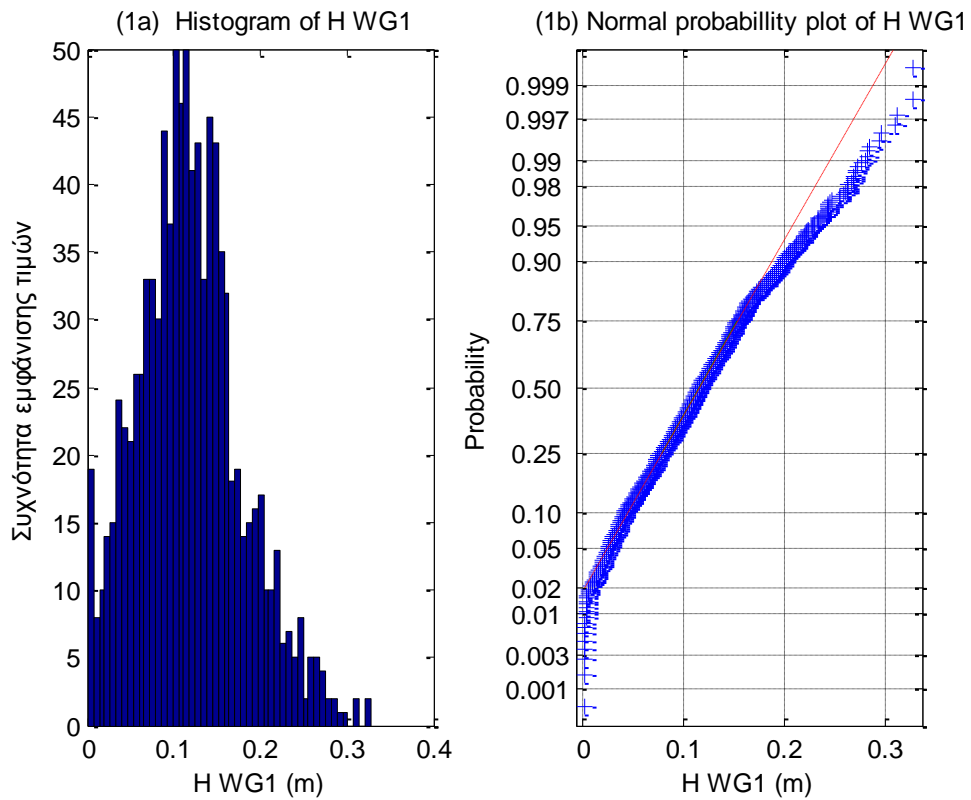


Σχήματα 1.2.5.6 (1-2) Κατανομή σημαντικού ύψους Hs για τα δυο όργανα μέτρησης της πίεσης

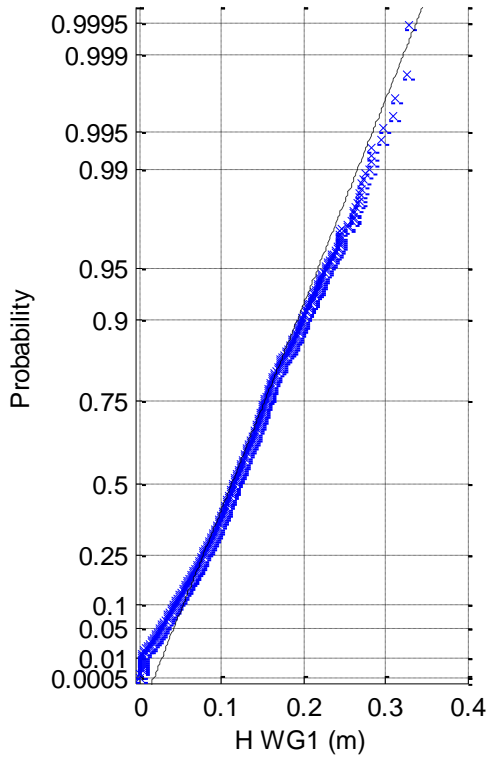




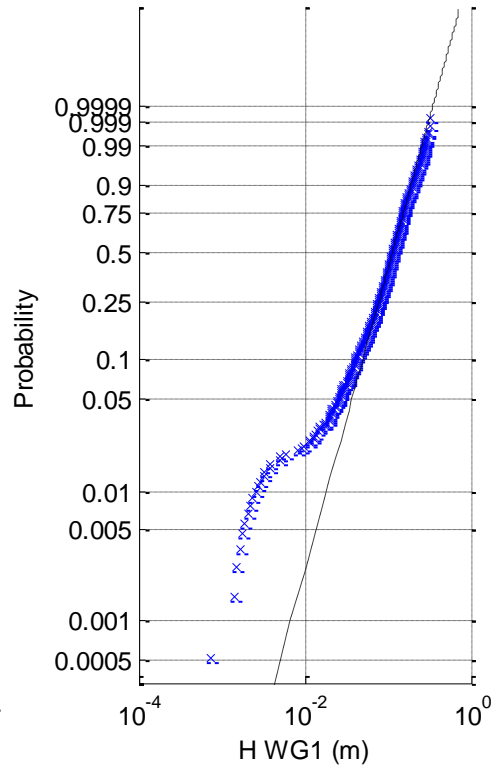
Σχήματα 1.2.5.7 Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



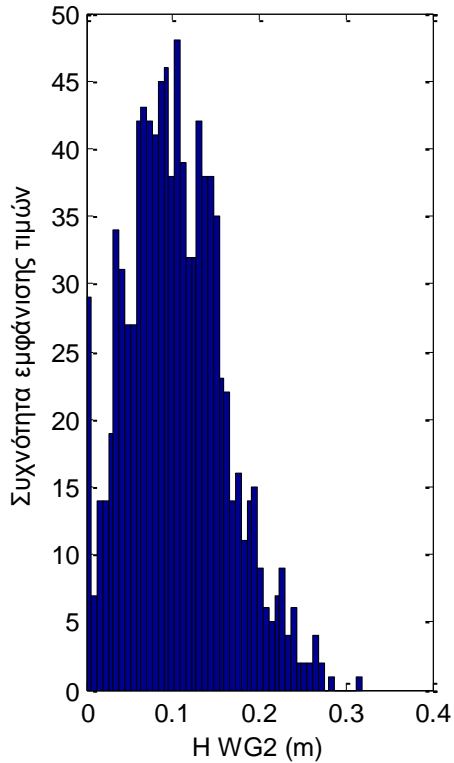
(1c) Rayleigh probability plot of H WG1



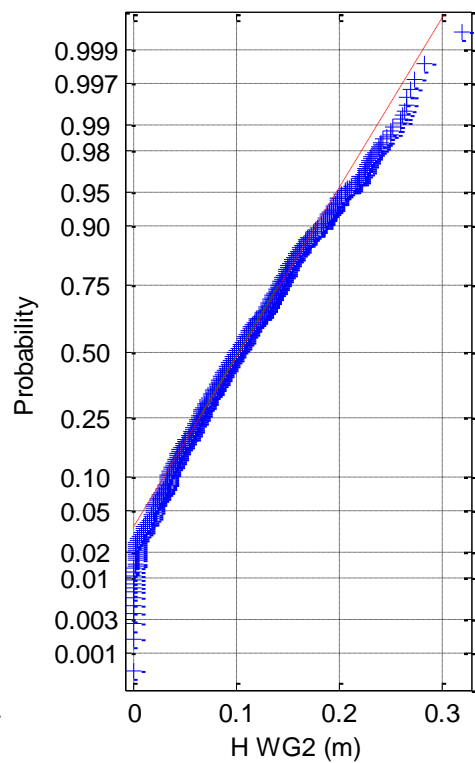
(1d) Weibull probability plot of H WG1



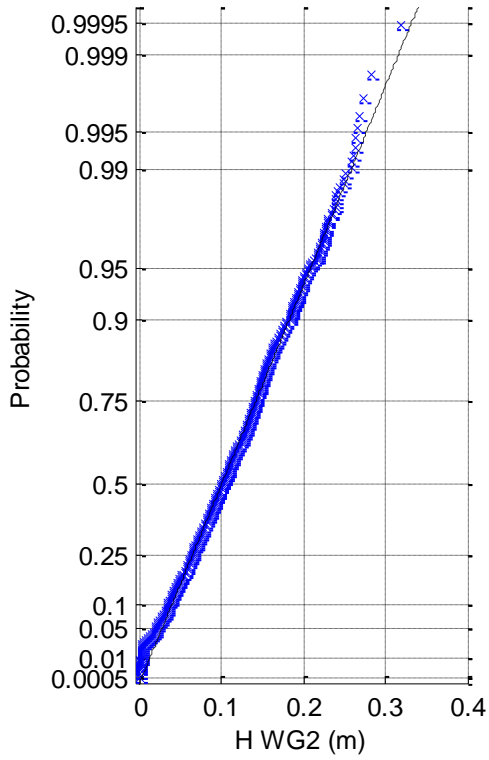
(2a) Histogram of H WG2



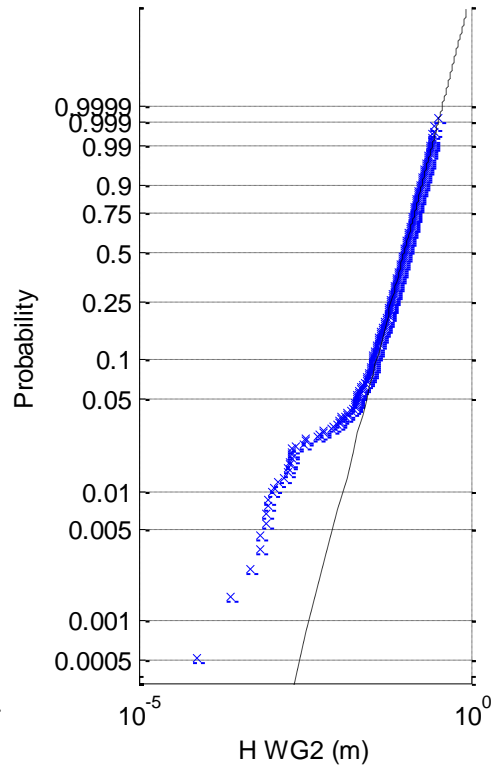
(2b) Normal probability plot of H WG2



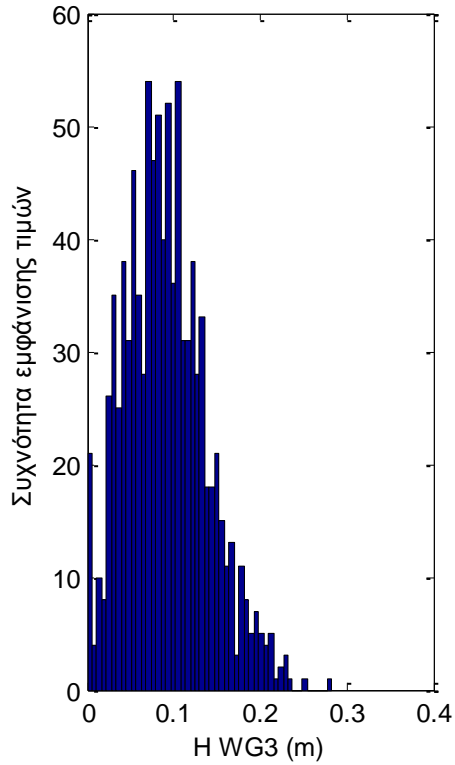
(2c) Rayleigh probability plot of H WG2



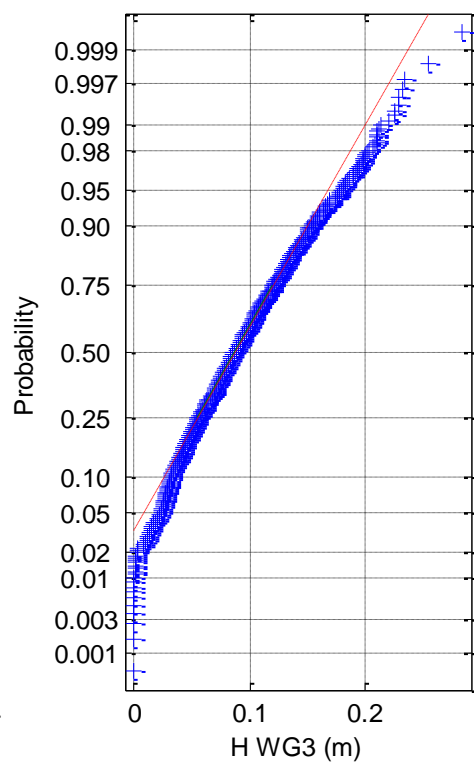
(2d) Weibull probability plot of H WG2



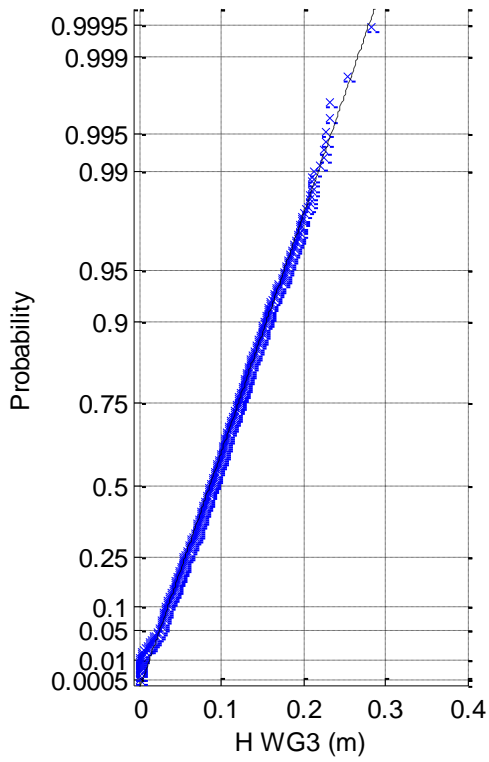
(3a) Histogram of H WG3



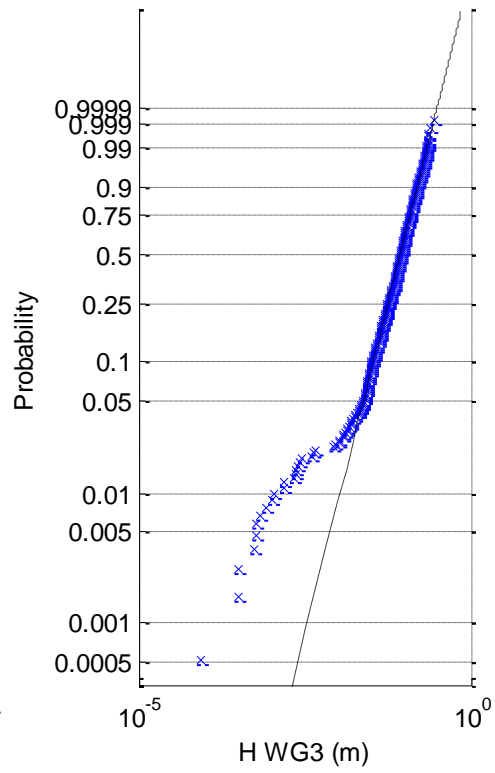
(3b) Normal probability plot of H WG3



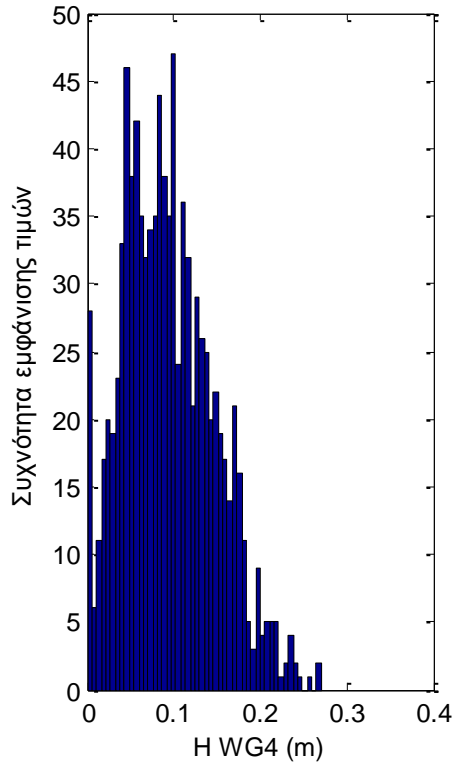
(3c) Rayleigh probability plot of H WG3



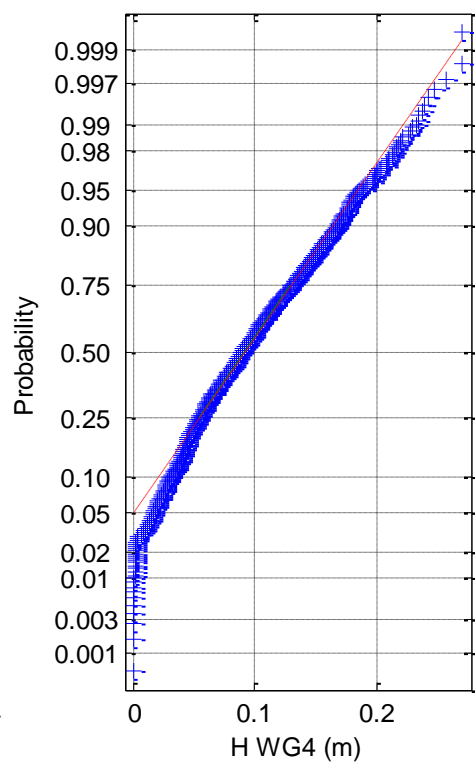
(3d) Weibull probability plot of H WG3



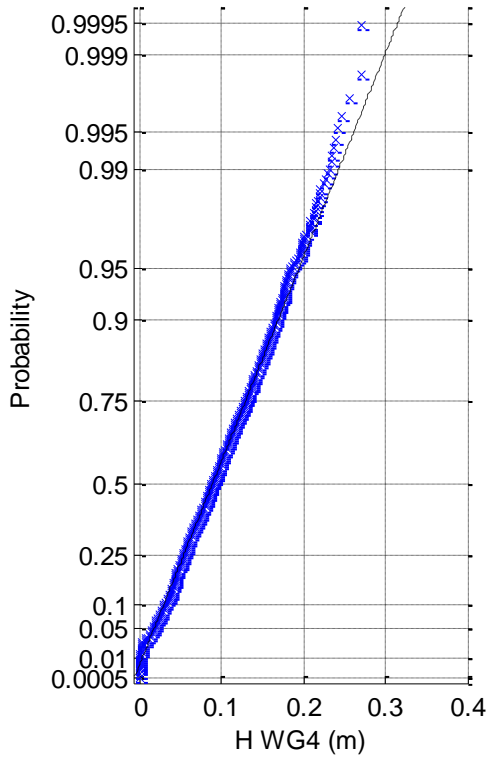
(4a) Histogram of H WG4



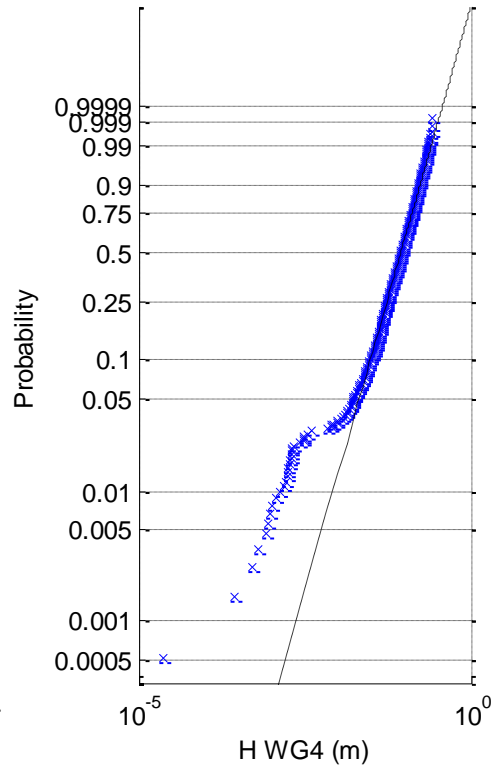
(4b) Normal probability plot of H WG4



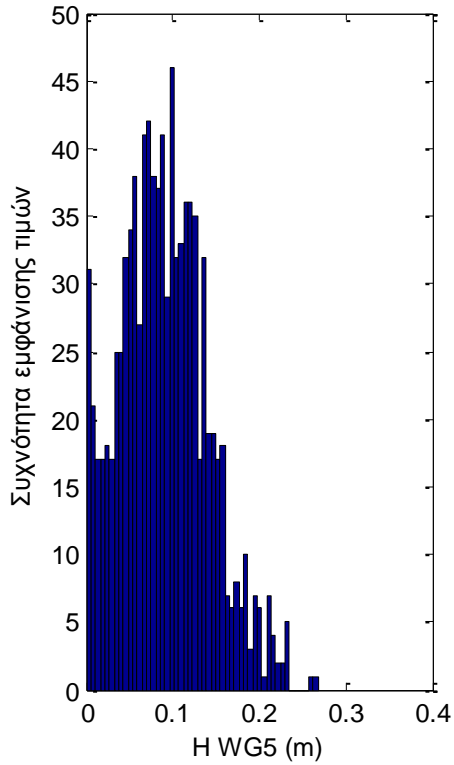
(4c) Rayleigh probability plot of H WG4



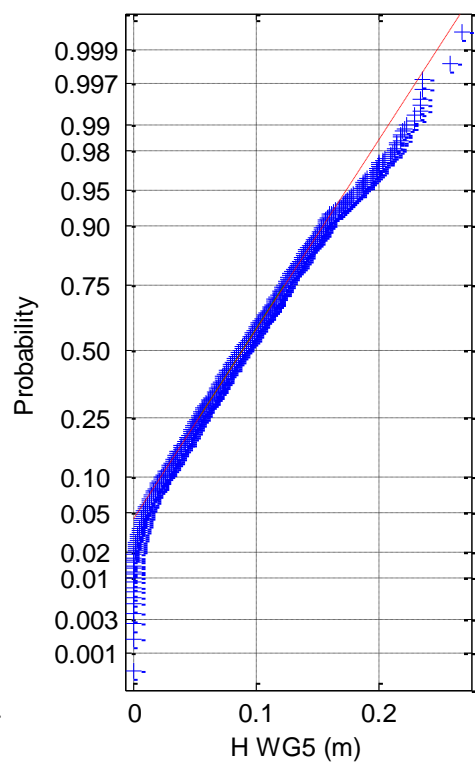
(4d) Weibull probability plot of H WG4



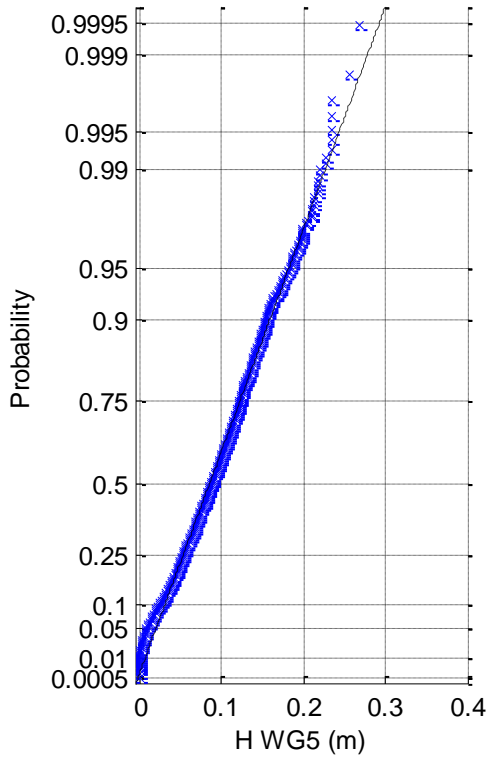
(5a) Histogram of H WG5



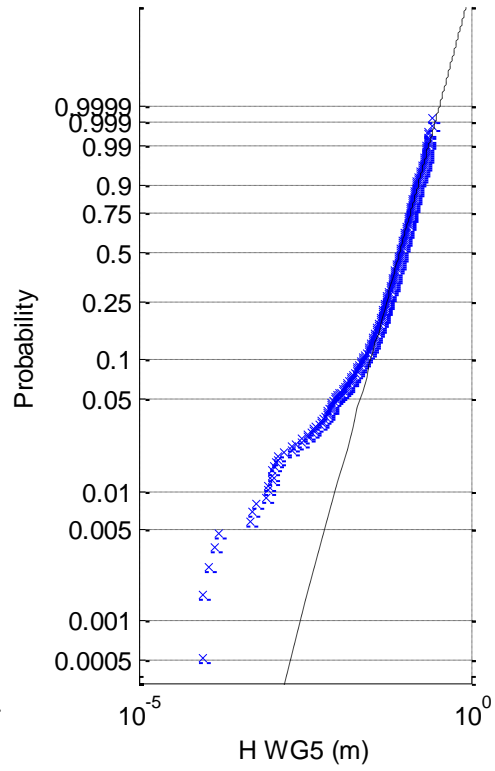
(5b) Normal probability plot of H WG5



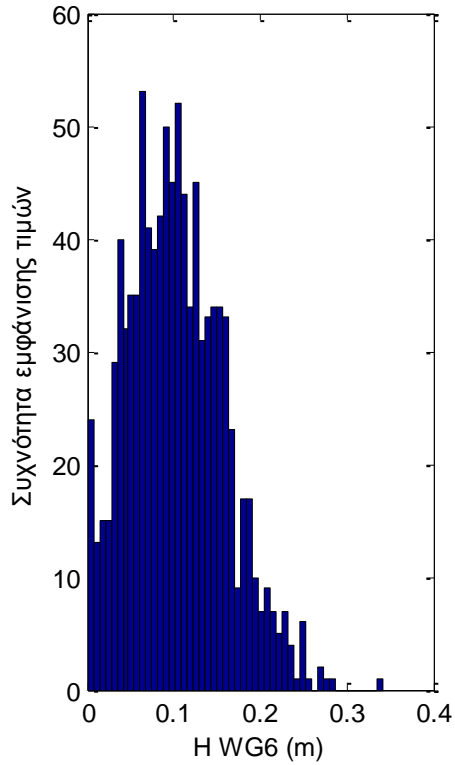
(5c) Rayleigh probability plot of H WG5



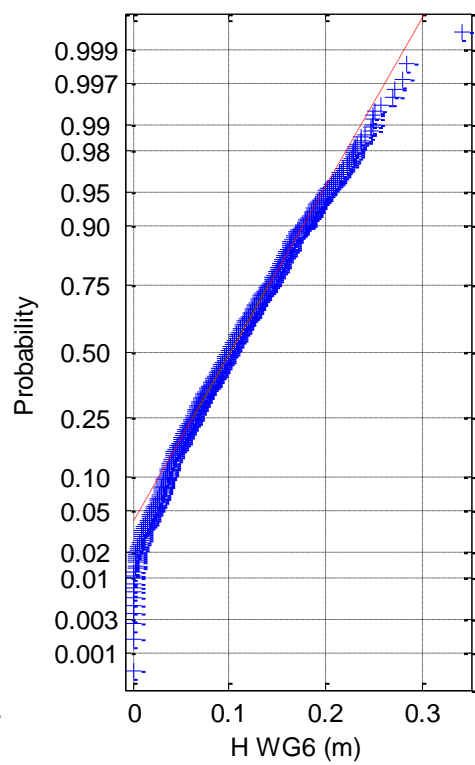
(5d) Weibull probability plot of H WG5



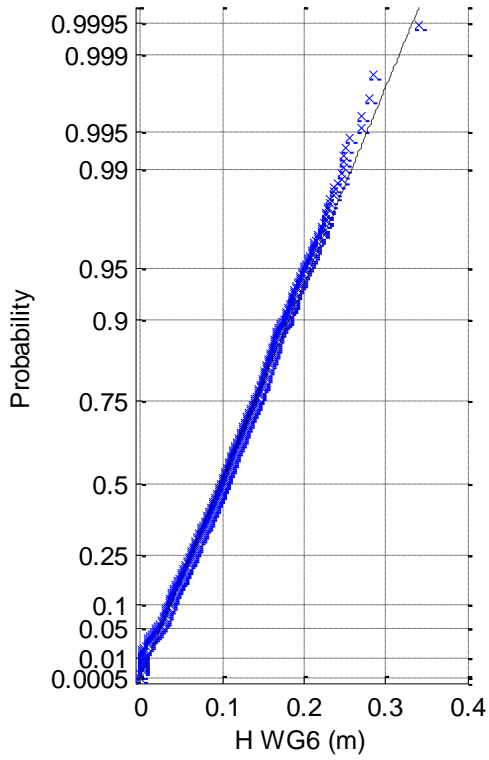
(6a) Histogram of H WG6



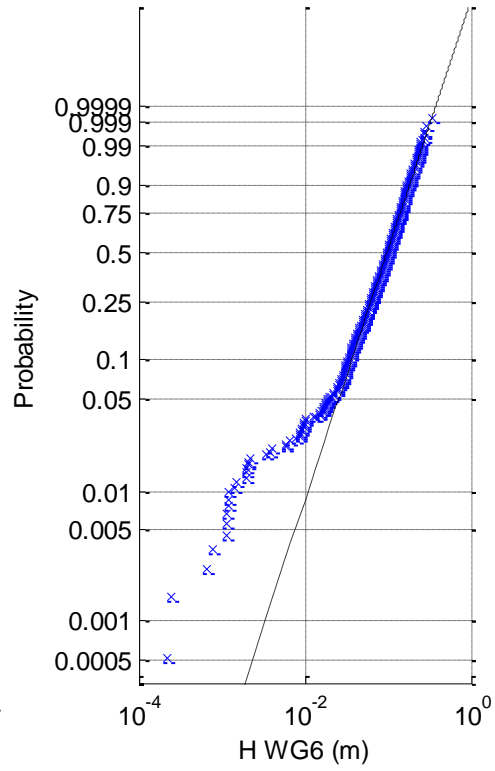
(6b) Normal probability plot of H WG6



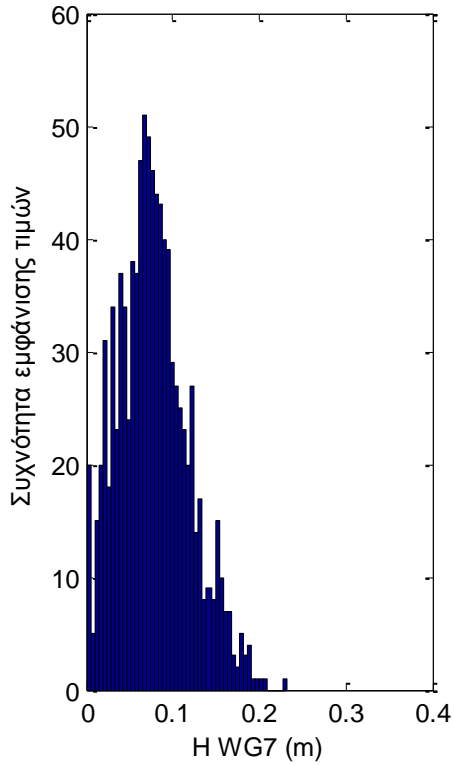
(6c) Rayleigh probability plot of H WG6



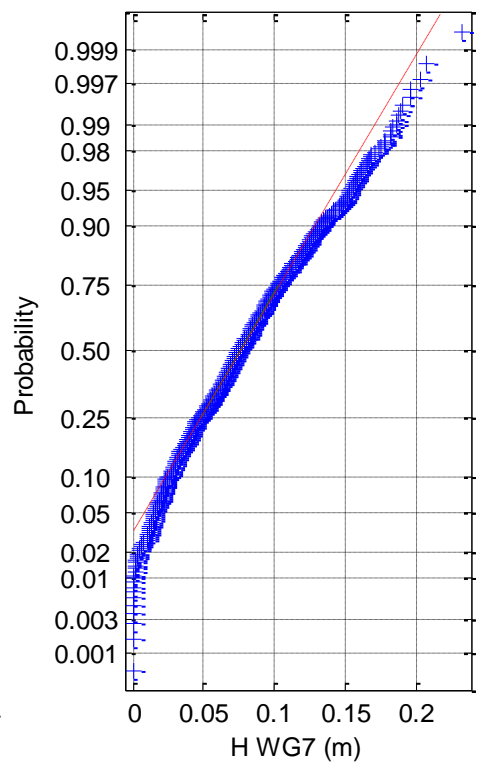
(6d) Weibull probability plot of H WG6



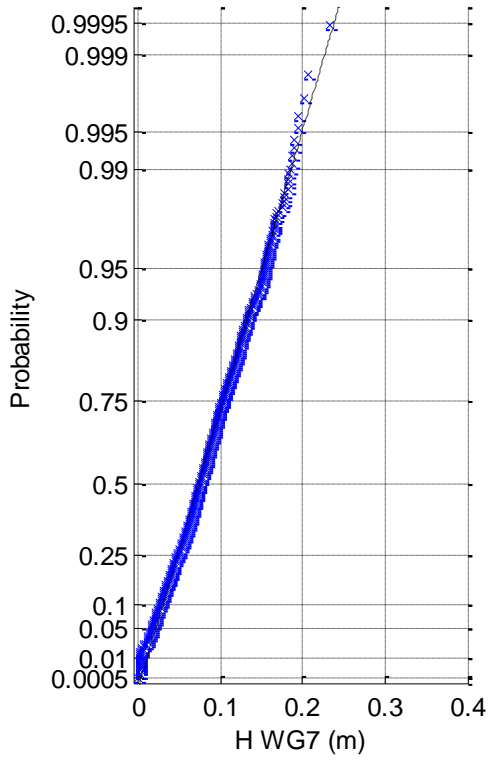
(7a) Histogram of H WG7



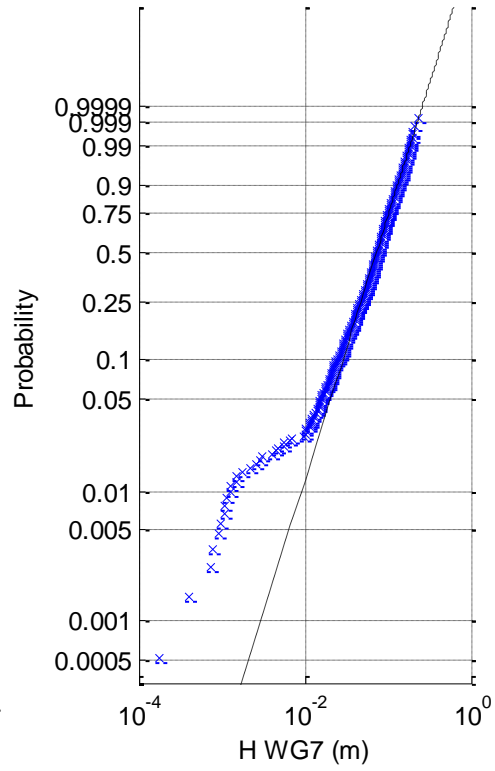
(7b) Normal probability plot of H WG7



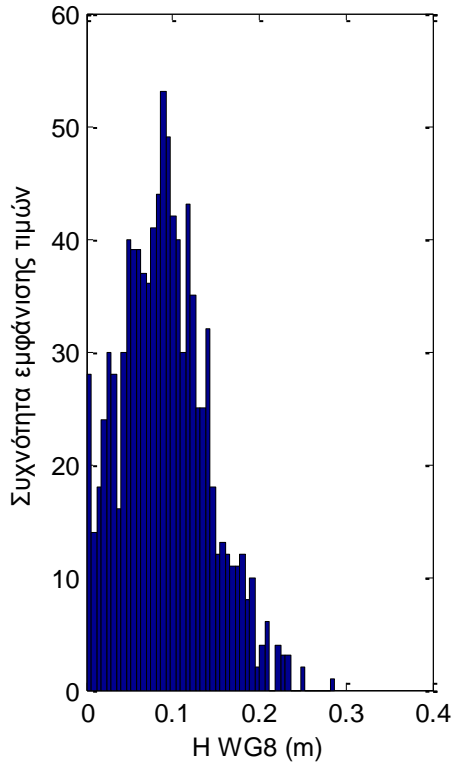
(7c) Rayleigh probability plot of H WG7



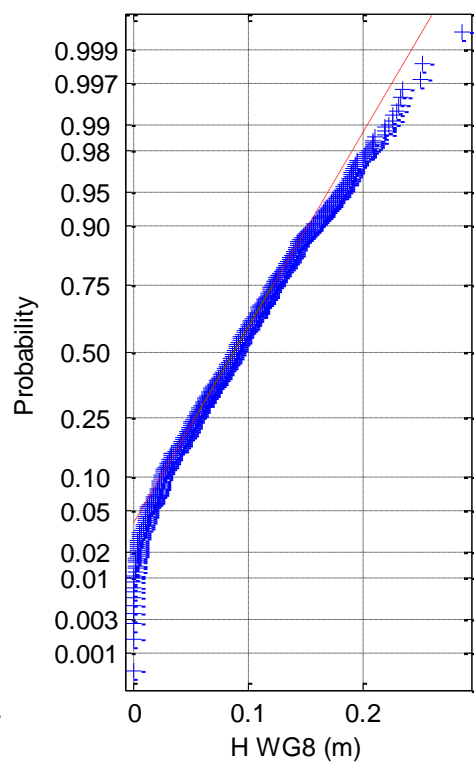
(7d) Weibull probability plot of H WG7



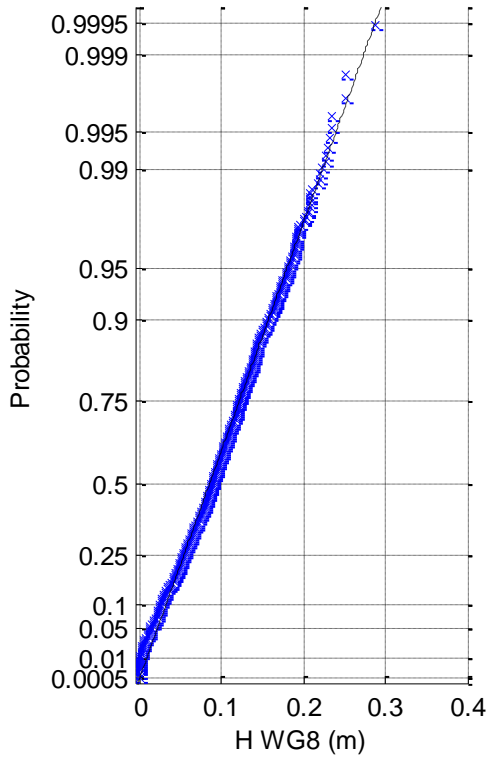
(8a) Histogram of H WG8



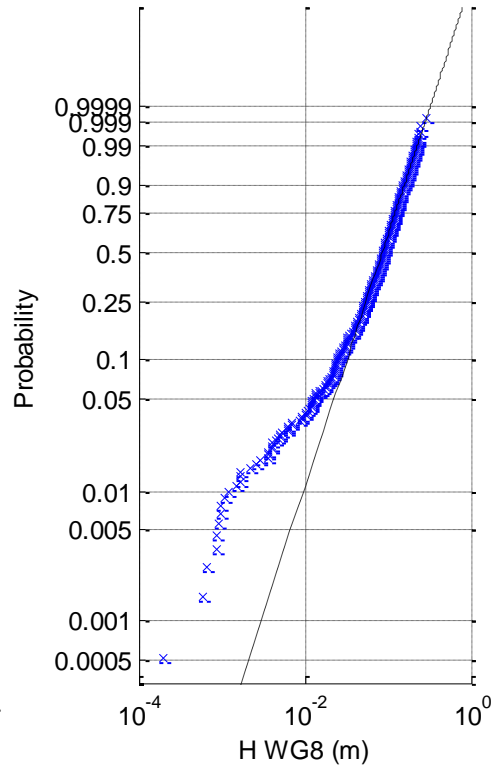
(8b) Normal probability plot of H WG8



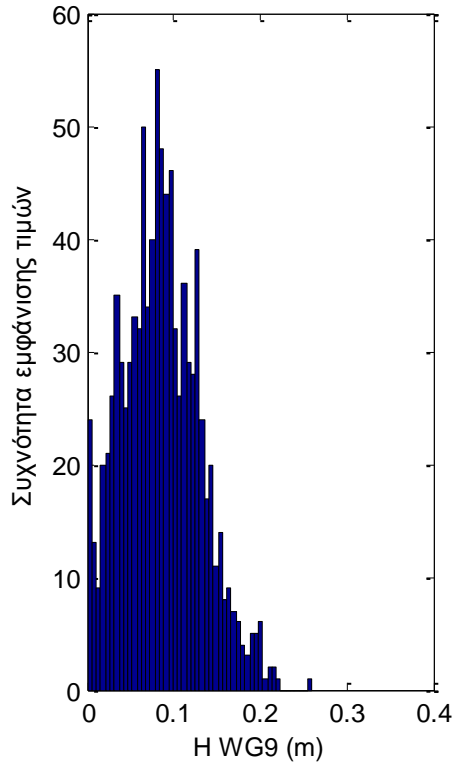
(8c) Rayleigh probability plot of H WG8



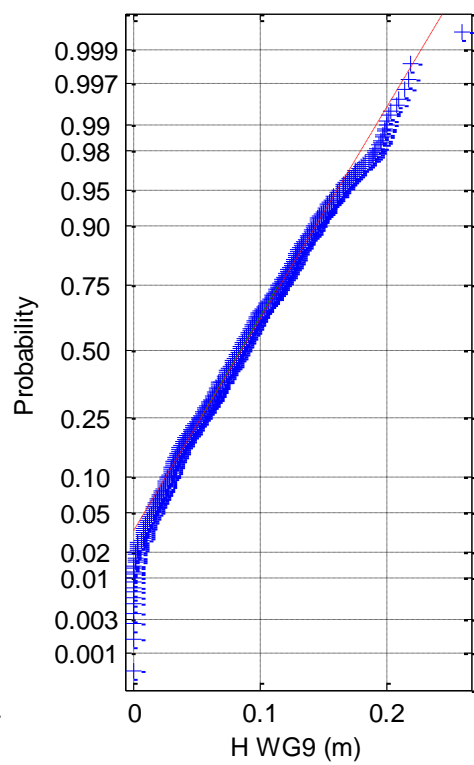
(8d) Weibull probability plot of H WG8



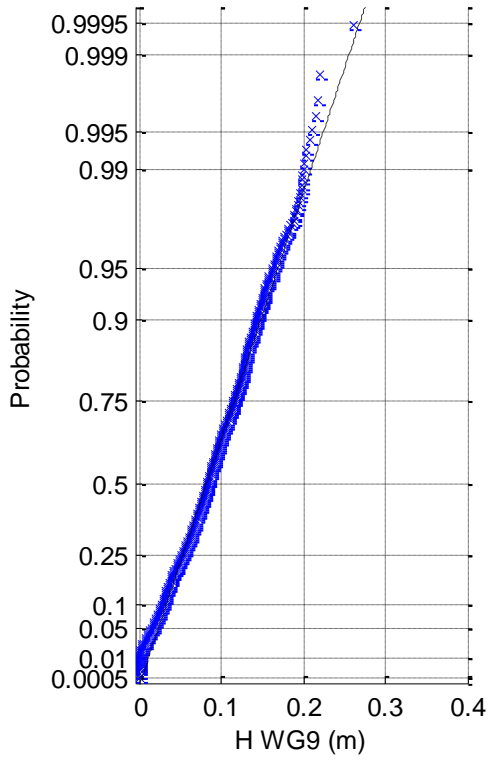
(9a) Histogram of H WG9



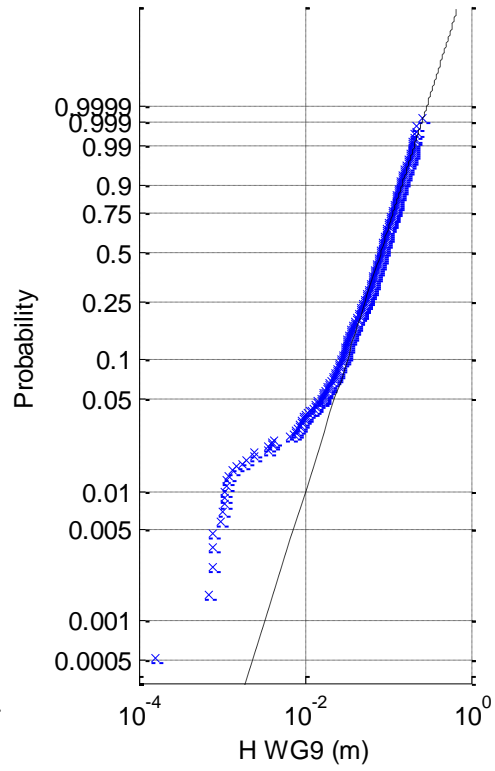
(9b) Normal probability plot of H WG9



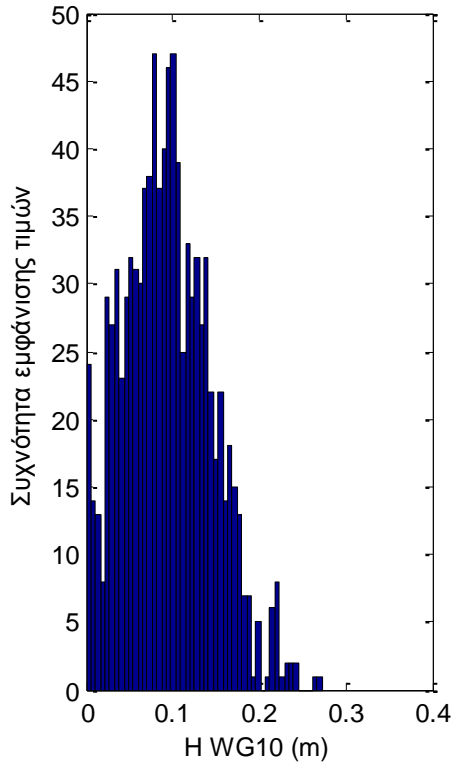
(9c) Rayleigh probability plot of H WG9



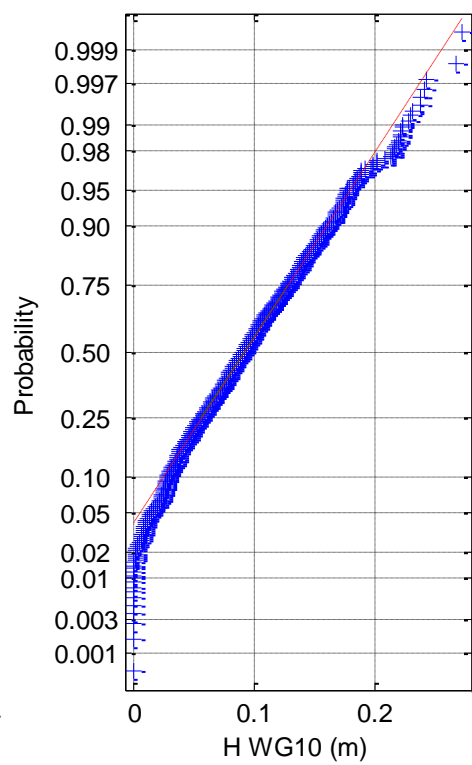
(9d) Weibull probability plot of H WG9



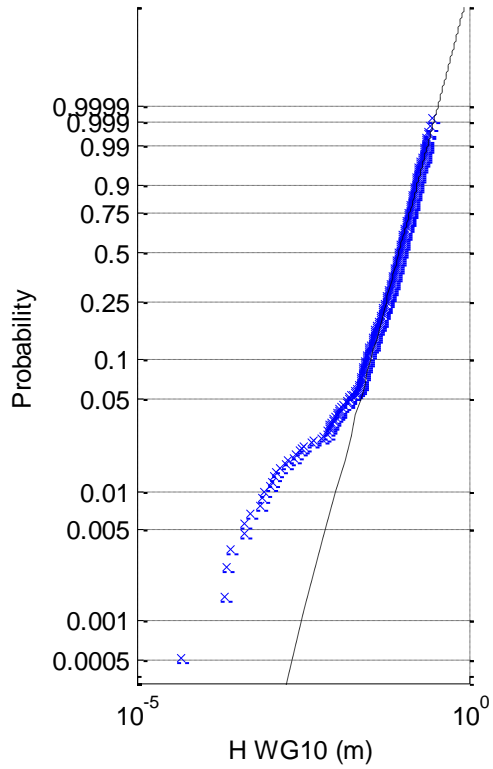
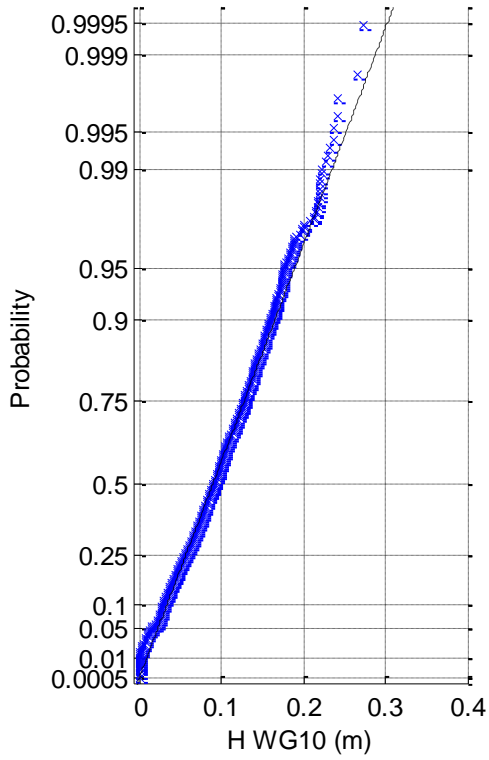
(10a) Histogram of H WG10



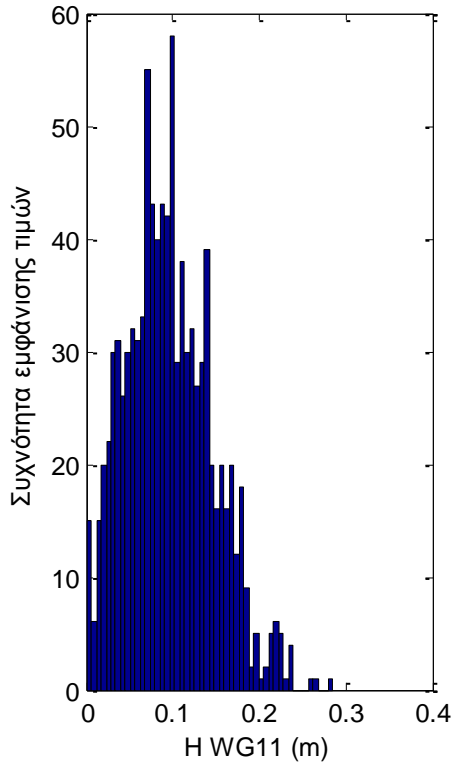
(10b) Normal probability plot of H WG10



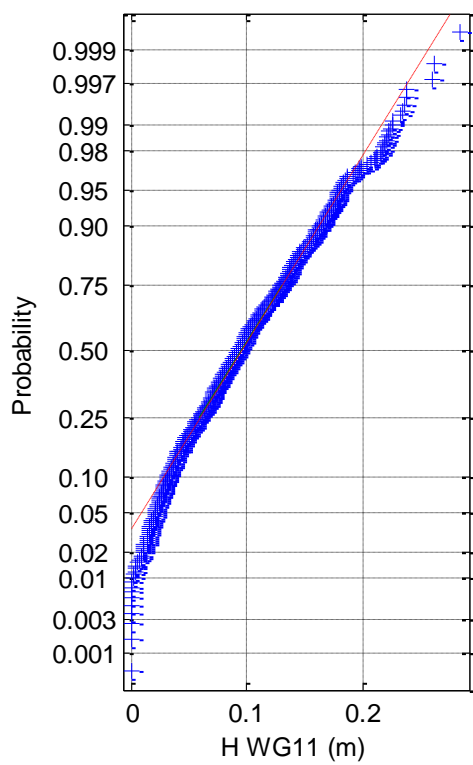
(10c) Rayleigh probability plot of H WG10 (10d) Weibull probability plot of H WG10

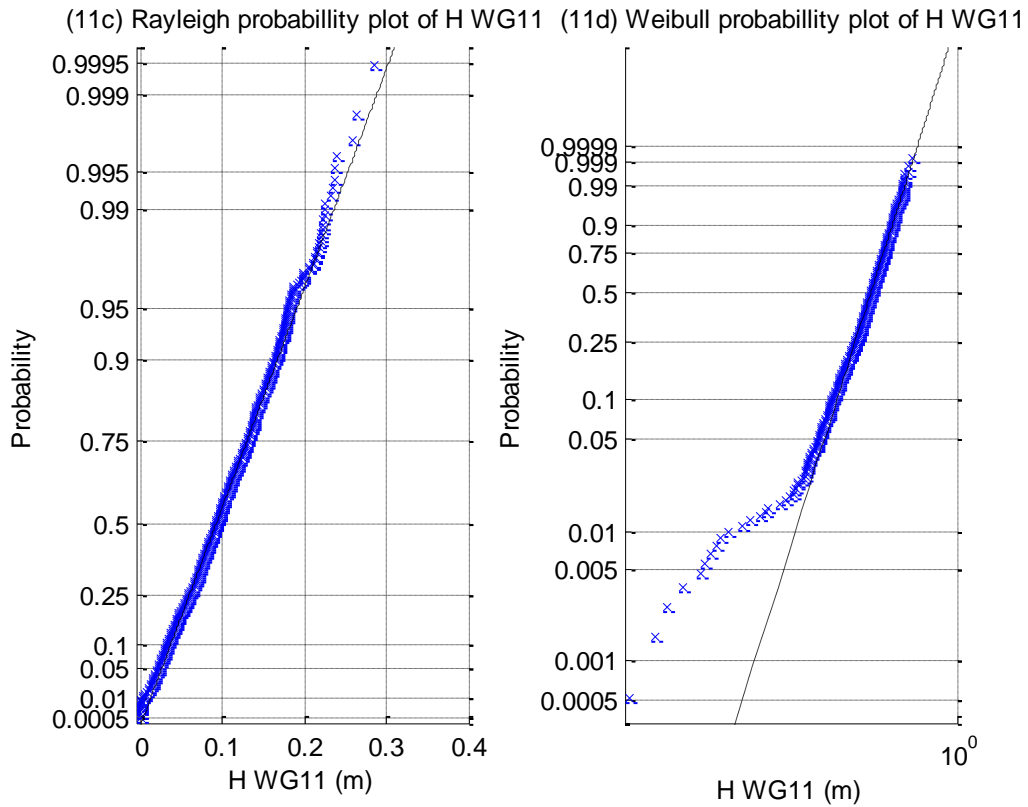


(11a) Histogram of H WG11

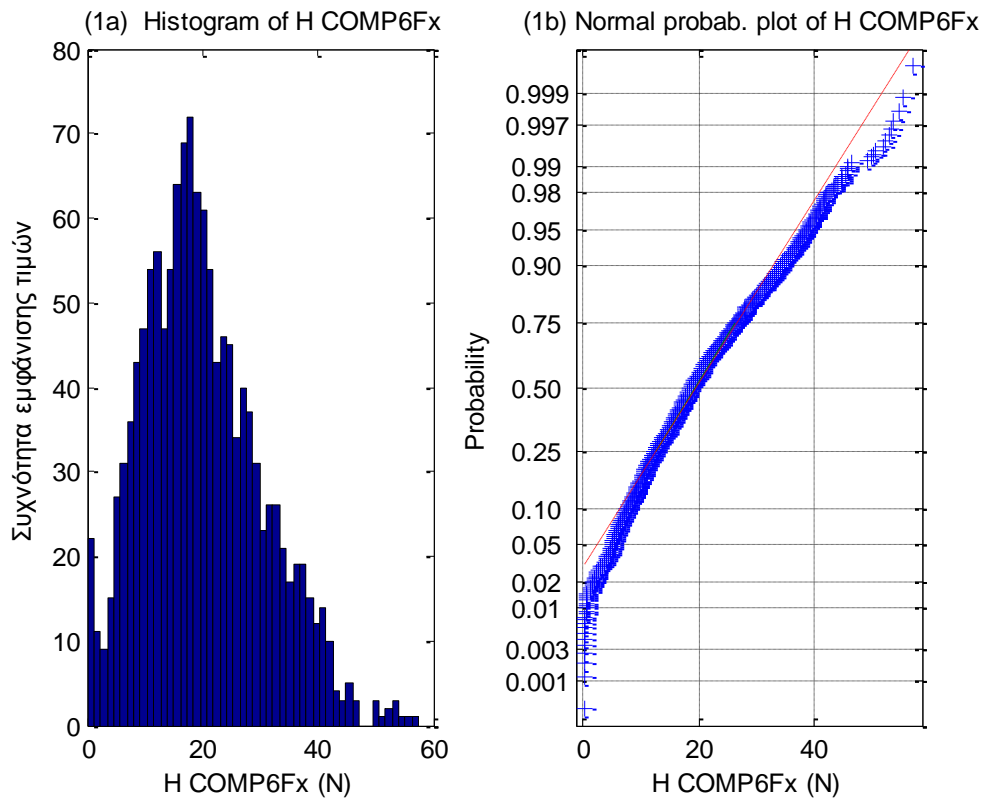


(11b) Normal probability plot of H WG11

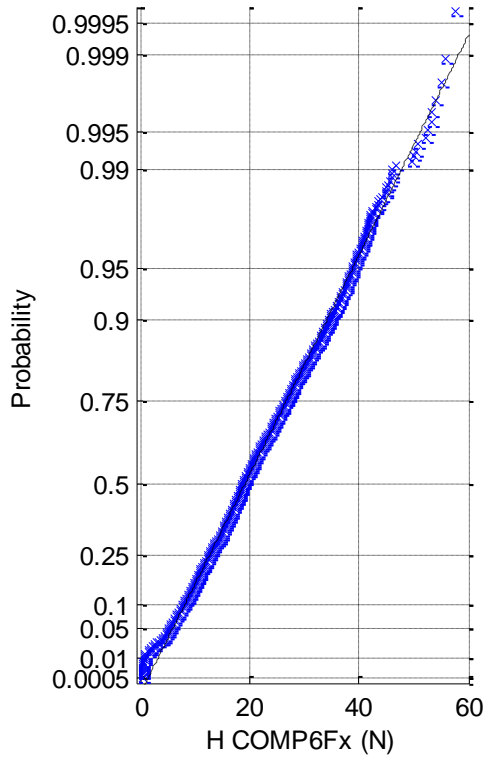




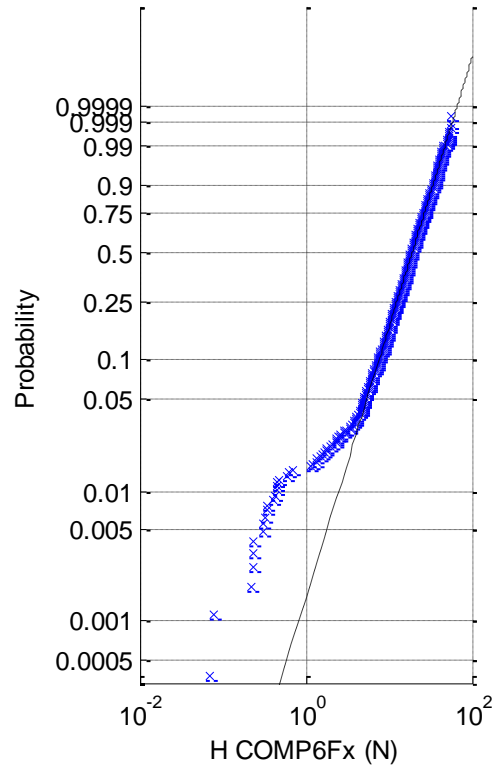
Σχήματα 1.2.6.1 (1-11) α) Ιστογράμματα, β) γραφήματα ελέγχου κανονικότητας, γ) έλεγχος κατανομής Rayleigh και δ) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος



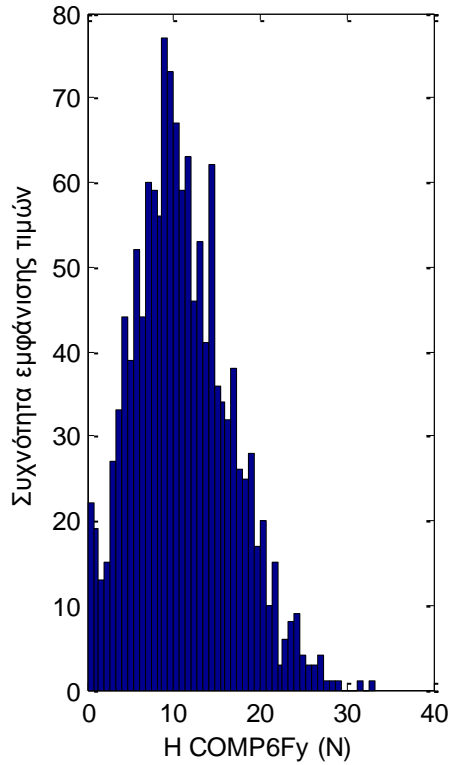
(1c) Rayleigh probab. plot of H COMP6Fx



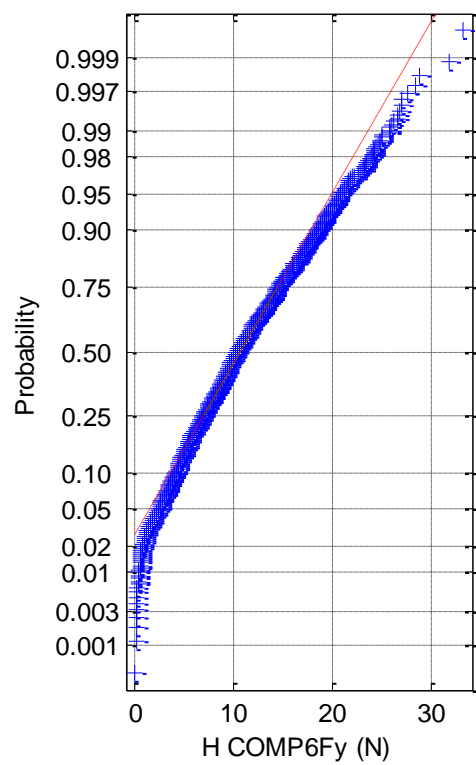
(1d) Weibull probab. plot of H COMP6Fx



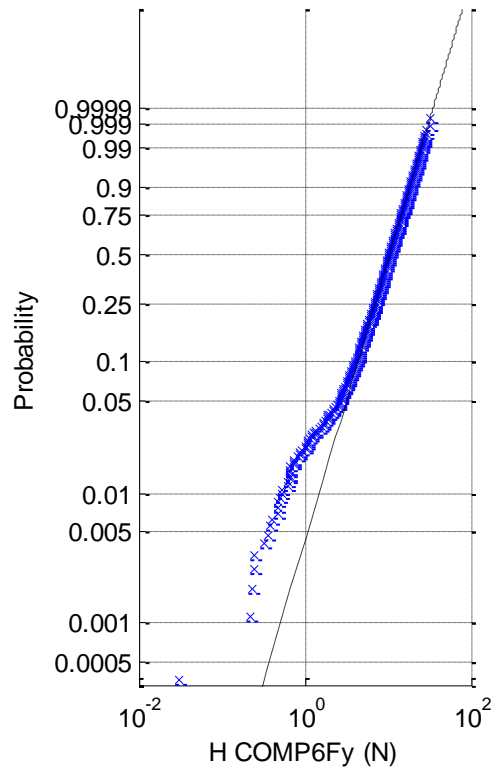
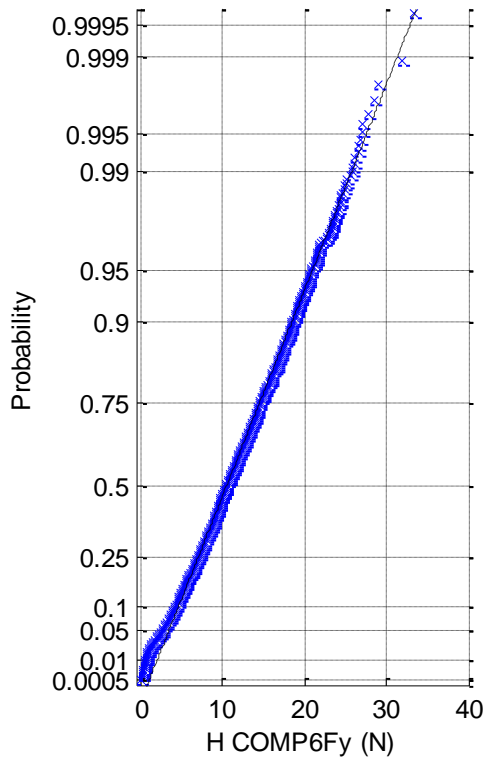
(2a) Histogram of H COMP6Fy



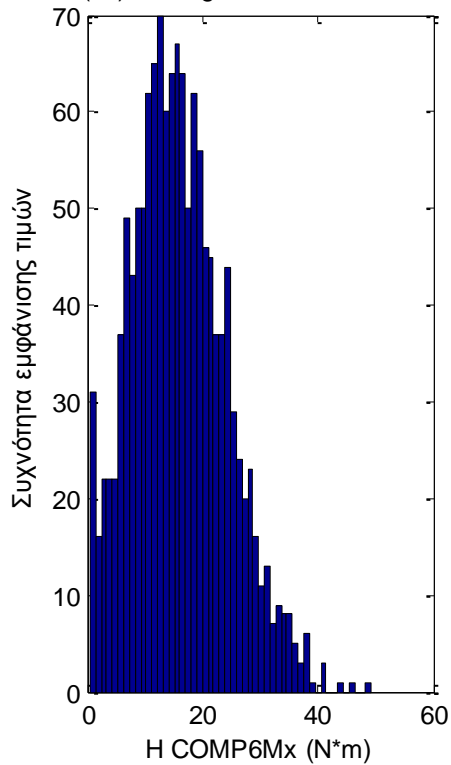
(2b) Normal probab. plot of H COMP6Fy



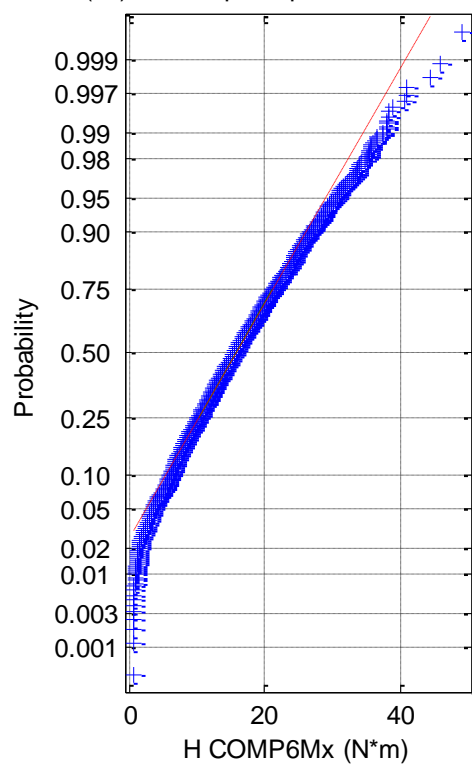
(2c) Rayleigh probab. plot of H COMP6Fy (2d) Weibull probab. plot of H COMP6Fy



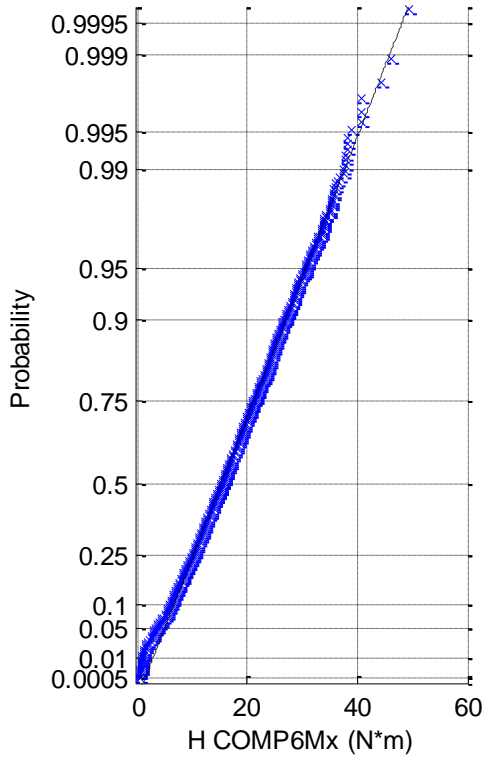
(3a) Histogram of H COMP6Mx



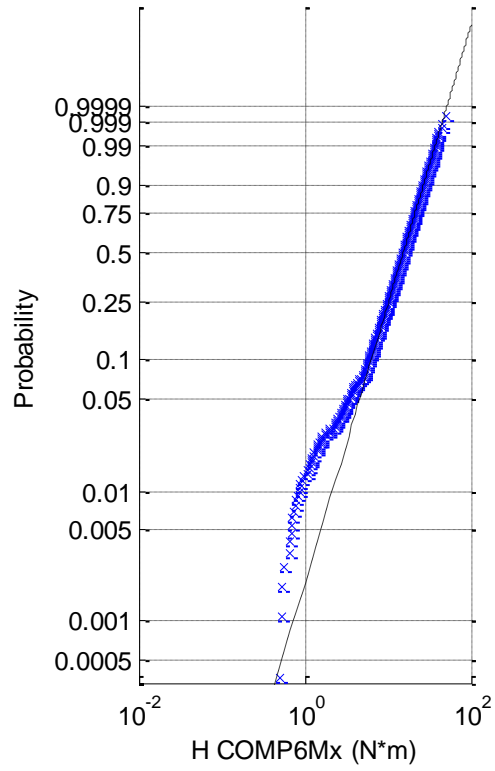
(3b) Normal probab. plot of H COMP6Mx



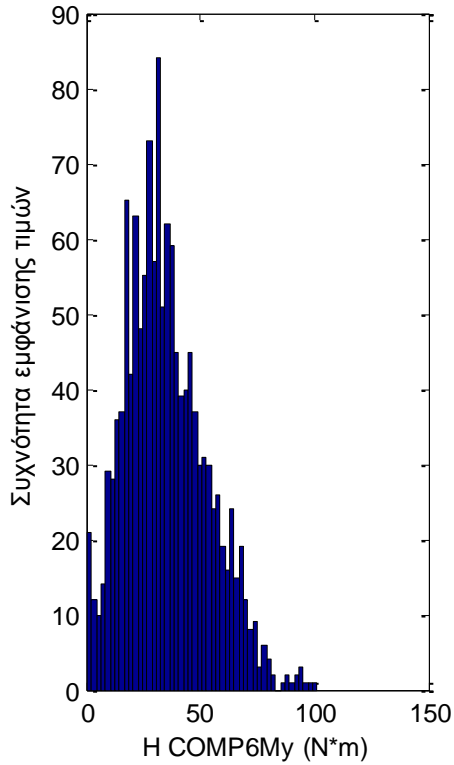
(3c) Rayleigh prob. plot of H COMP6Mx



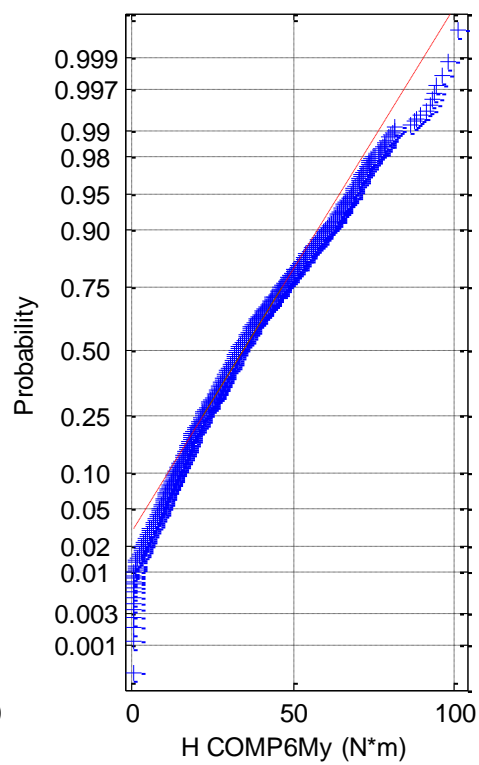
(3d) Weibull prob. plot of H COMP6Mx



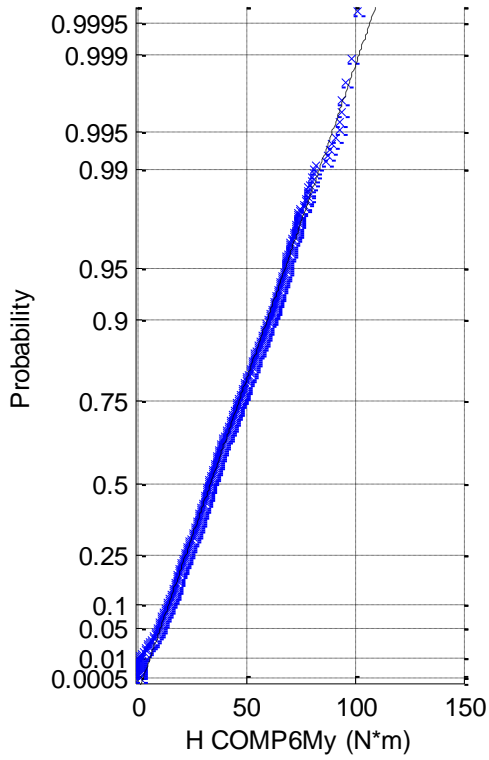
(4a) Histogram of H COMP6My



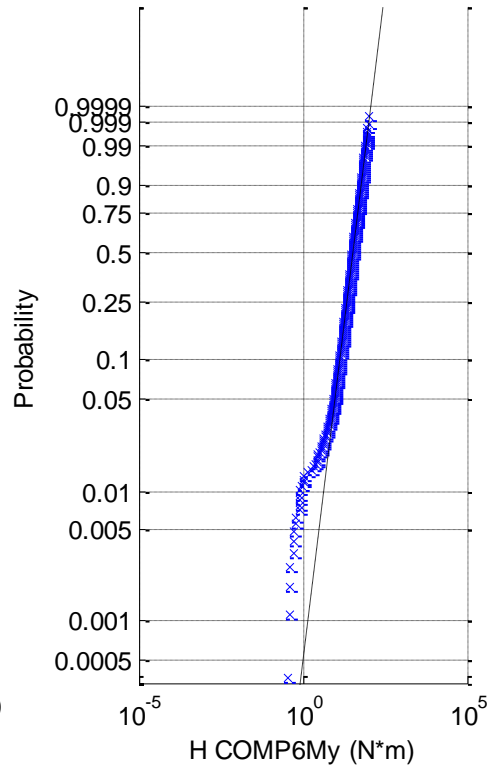
(4b) Normal prob. plot of H COMP6My



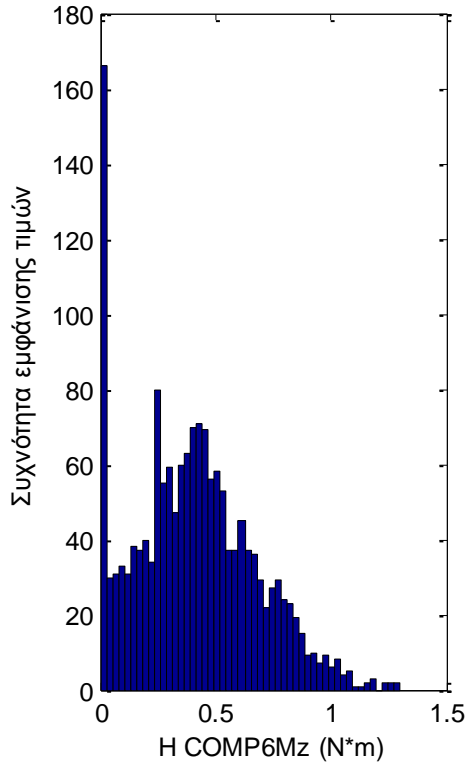
(4c) Rayleigh prob. plot of H COMP6My



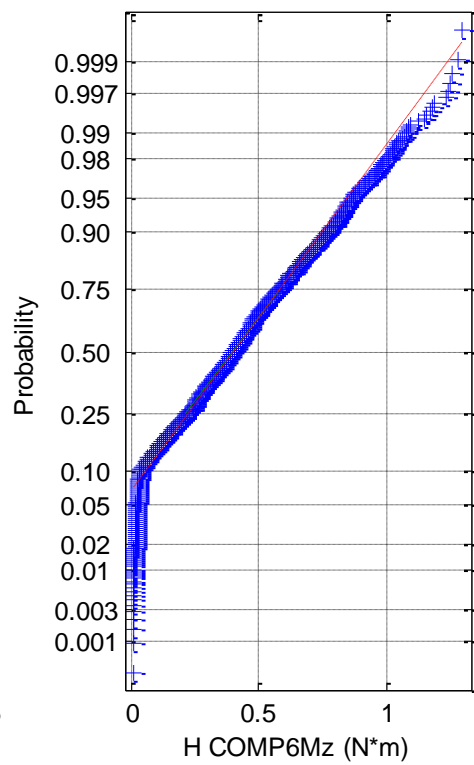
(4d) Weibull prob. plot of H COMP6My

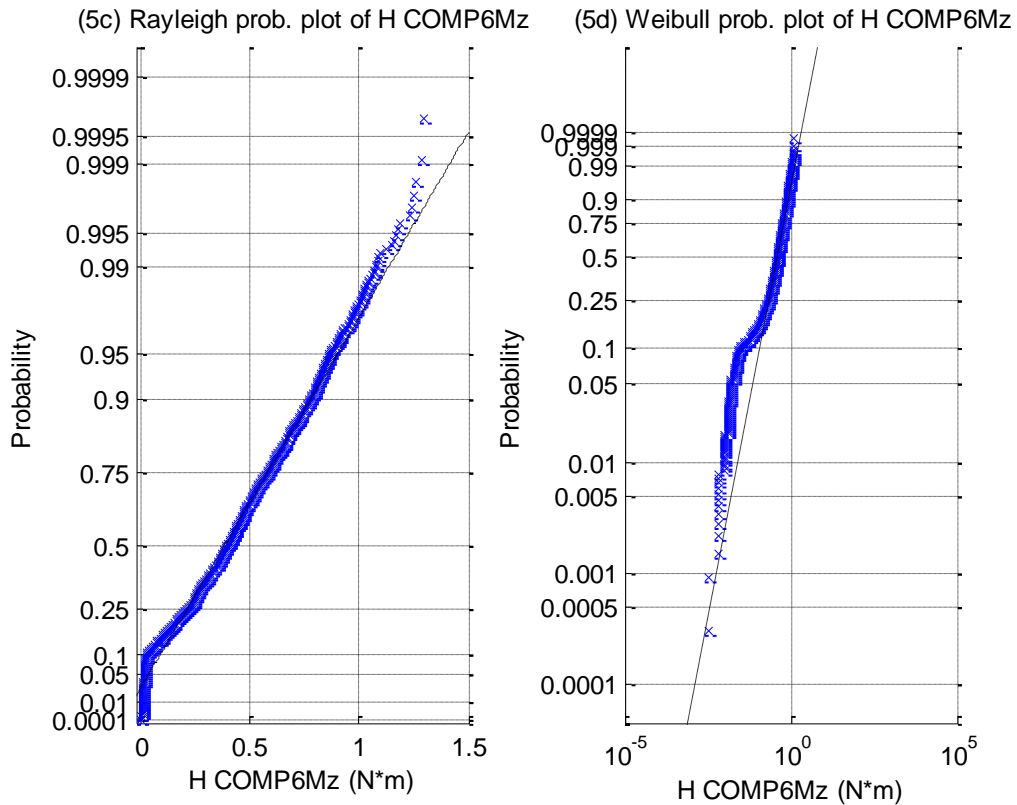


(5a) Histogram of H COMP6Mz

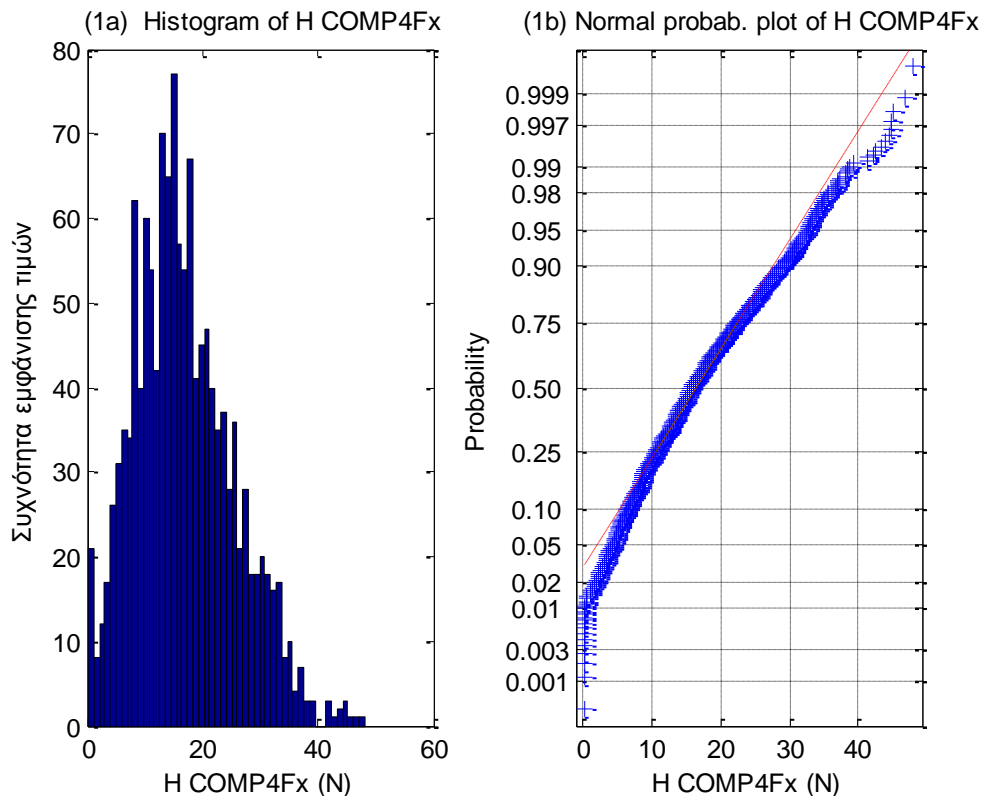


(5b) Normal prob. plot of H COMP6Mz

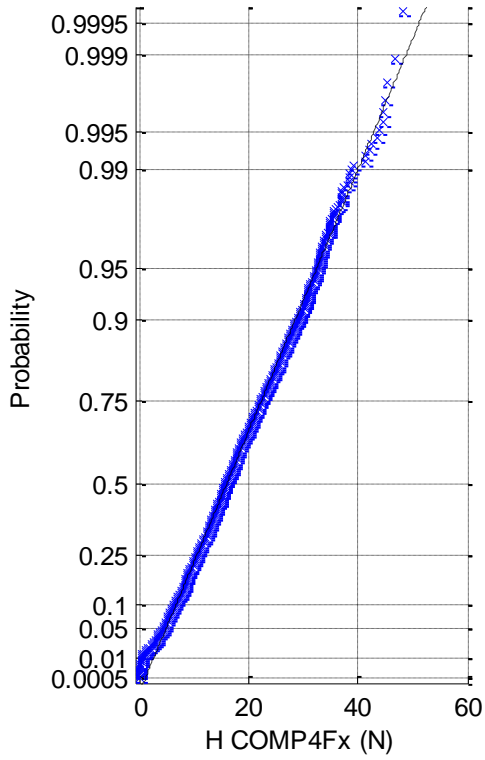




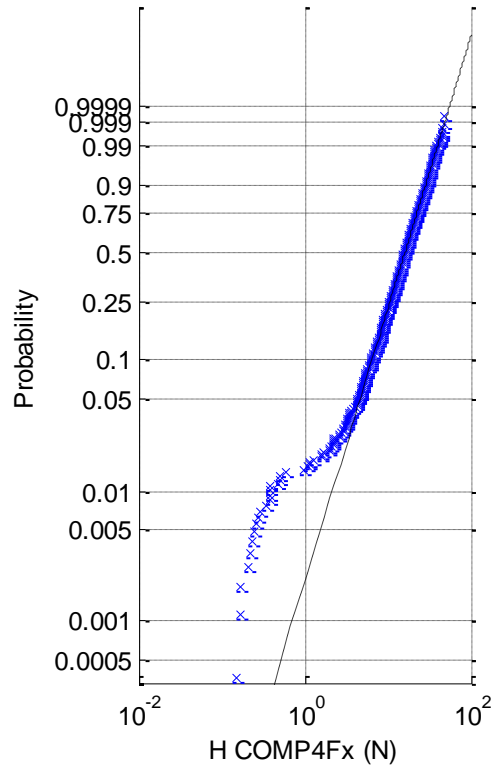
Σχήματα 1.2.6.2 (1-5) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις δύο διευθύνσεις (1) surge, και (2) sway και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



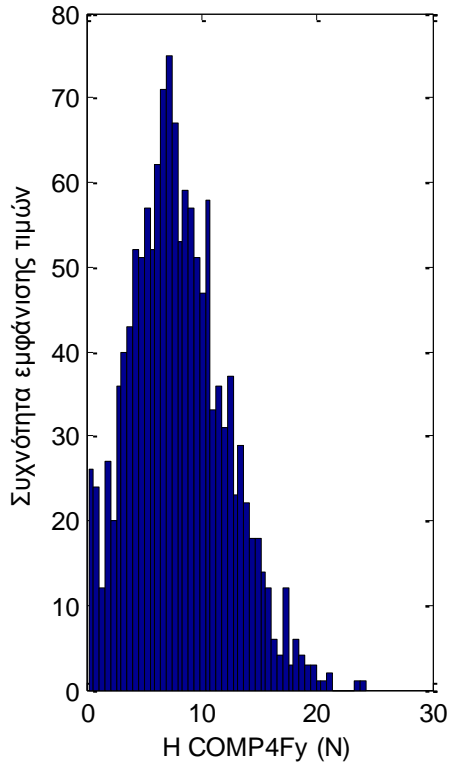
(1c) Rayleigh probab. plot of H COMP4Fx



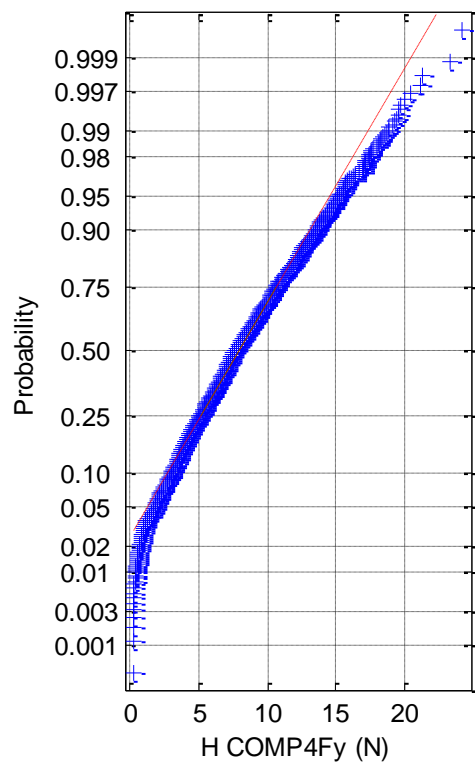
(1d) Weibull probab. plot of H COMP4Fx



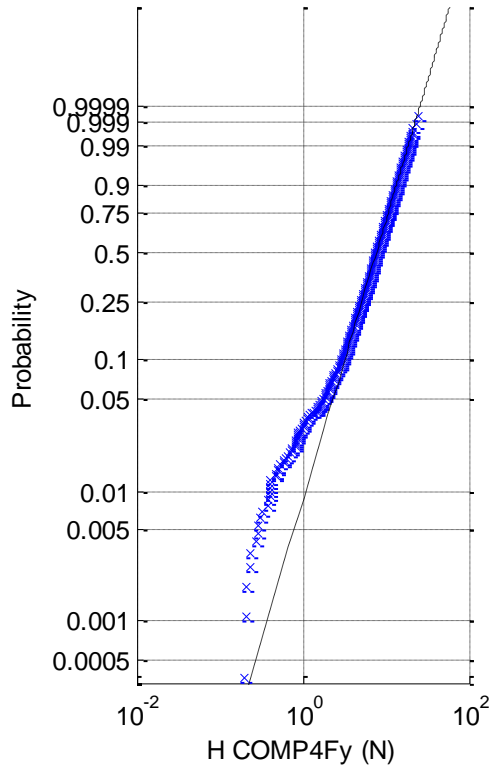
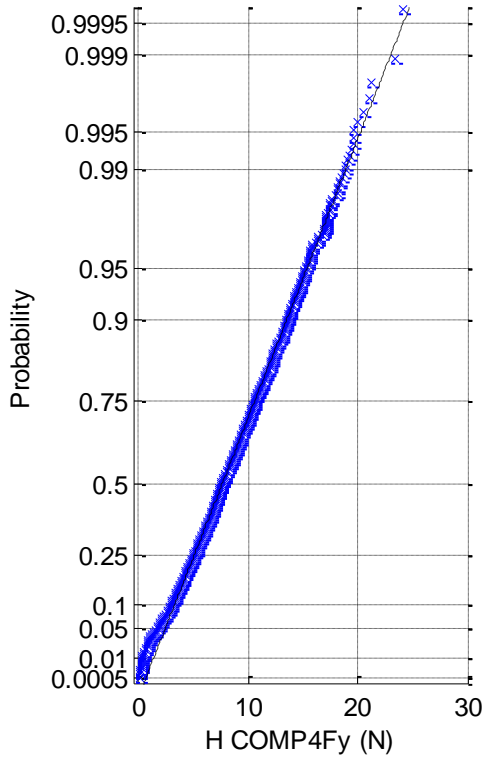
(2a) Histogram of H COMP4Fy



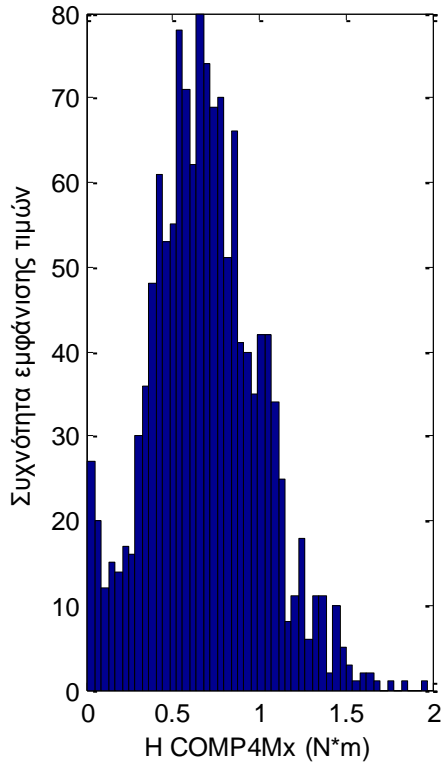
(2b) Normal probab. plot of H COMP4Fy



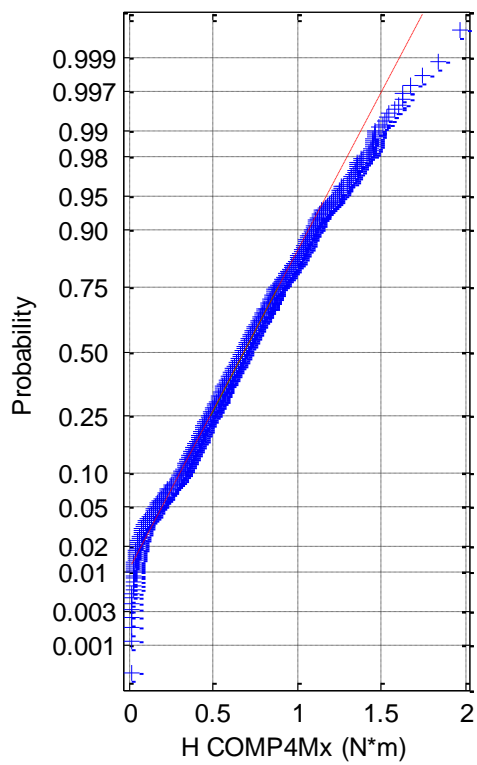
(2c) Rayleigh probab. plot of H COMP4Fy (2d) Weibull probab. plot of H COMP4Fy



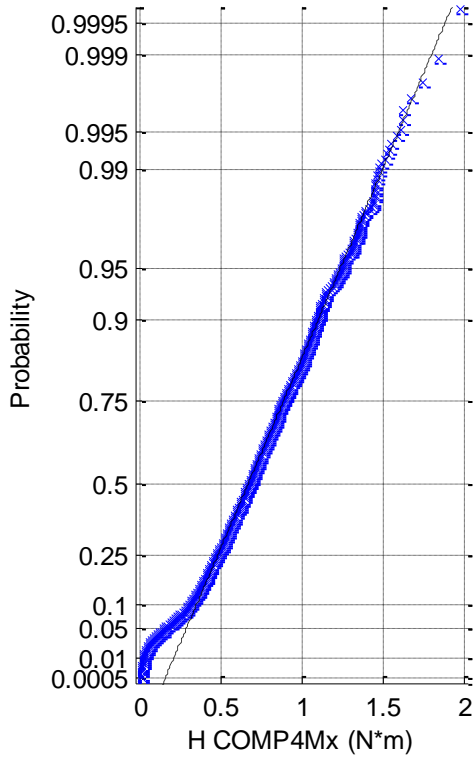
(3a) Histogram of H COMP4Mx



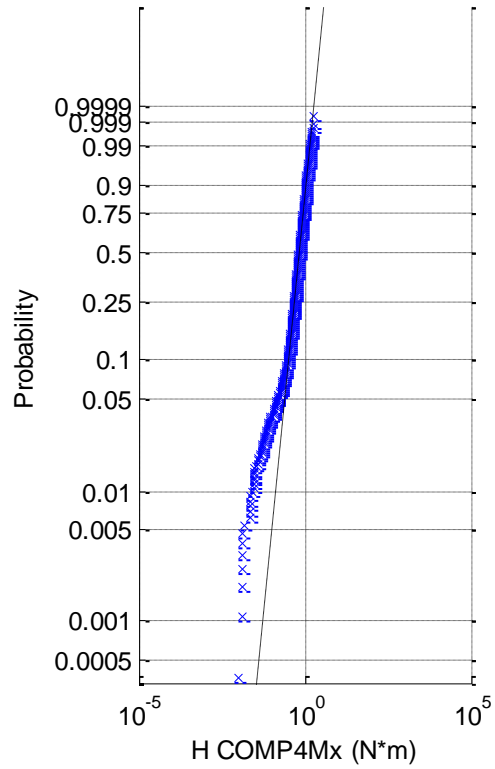
(3b) Normal probab. plot of H COMP4Mx



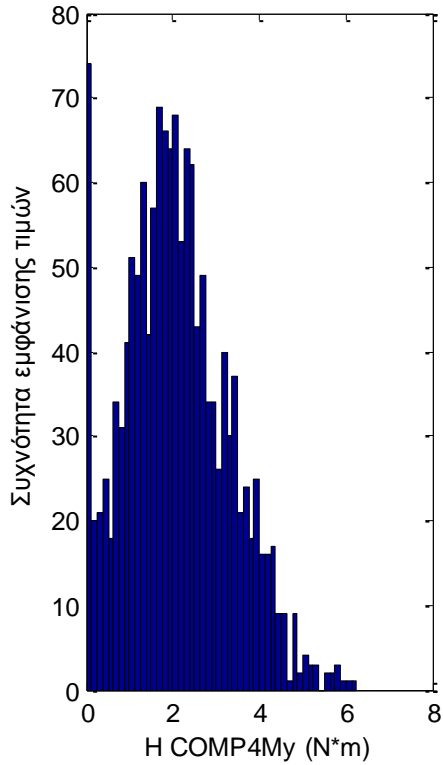
(3c) Rayleigh prob. plot of H COMP4Mx



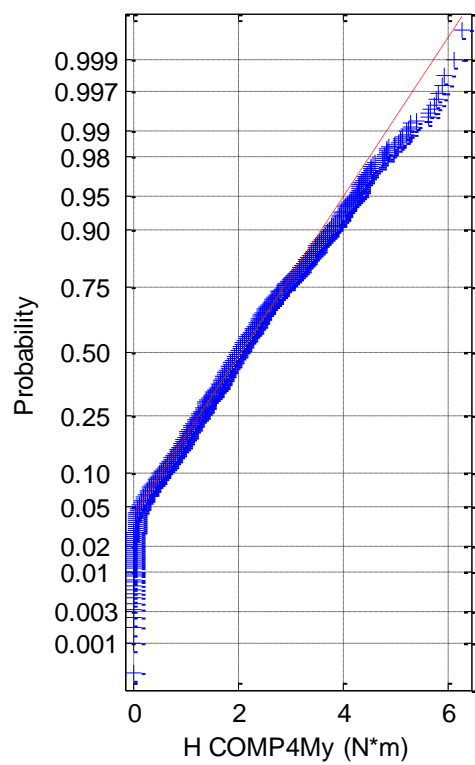
(3d) Weibull prob. plot of H COMP4Mx

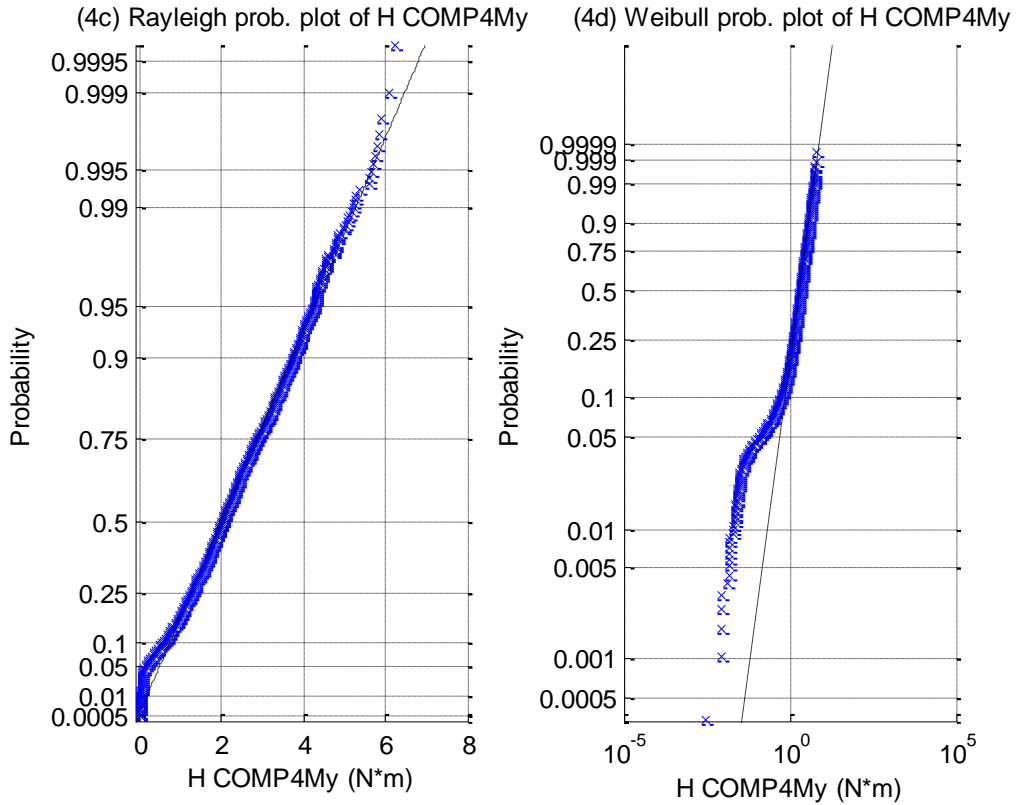


(4a) Histogram of H COMP4My

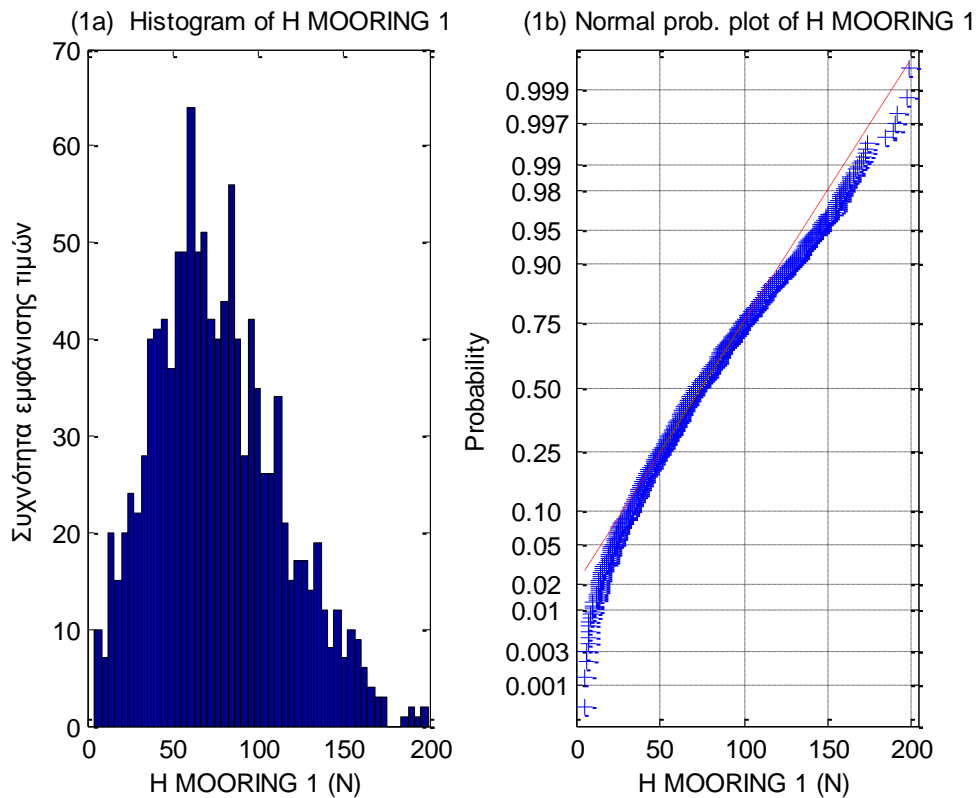


(4b) Normal prob. plot of H COMP4My

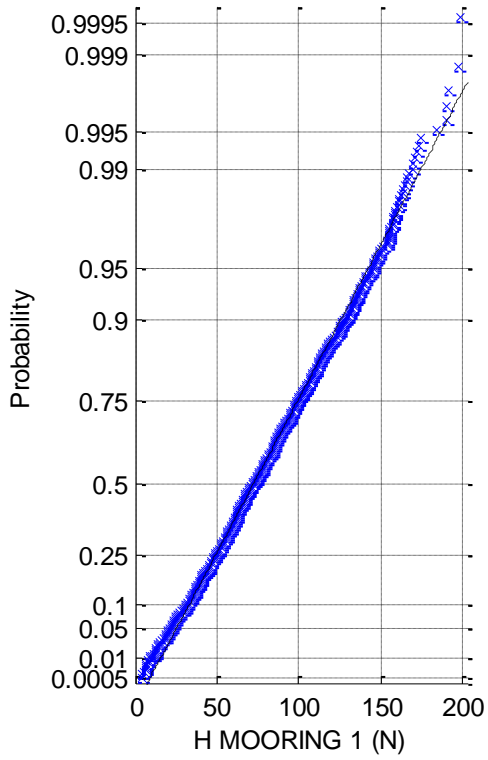




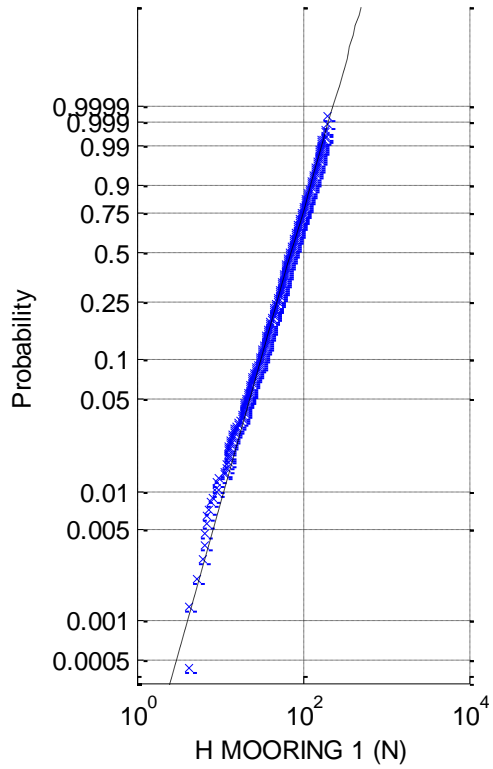
Σχήματα 1.2.6.3 (1-4) a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



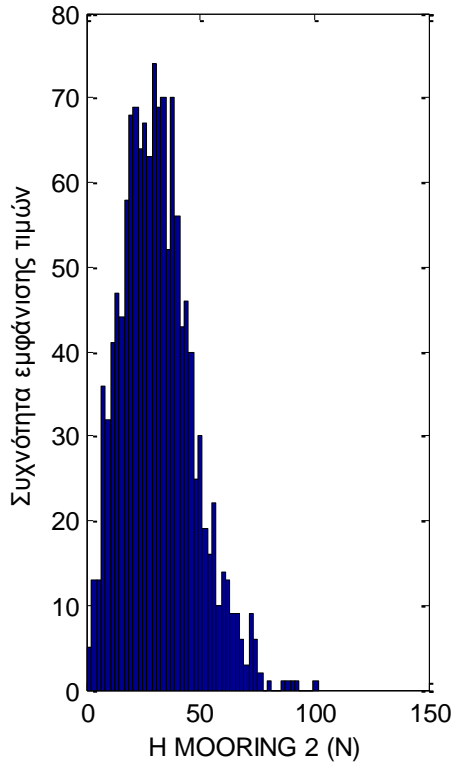
(1c) Rayleigh prob. plot of H MOORING 1



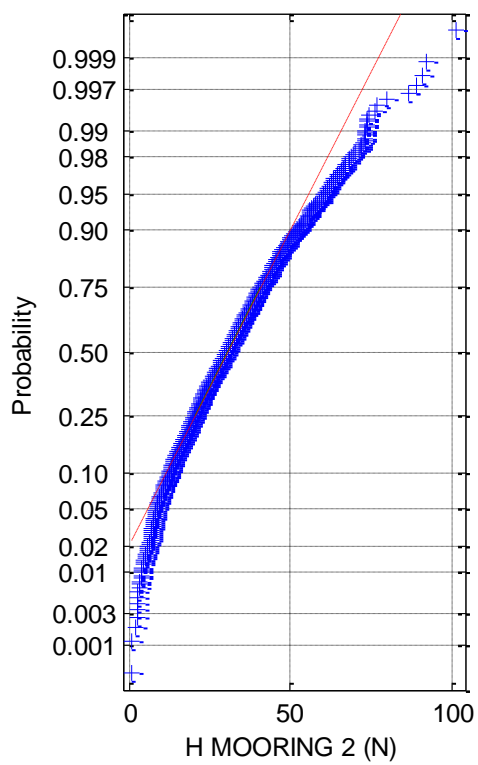
(1d) Weibull prob. plot of H MOORING 1



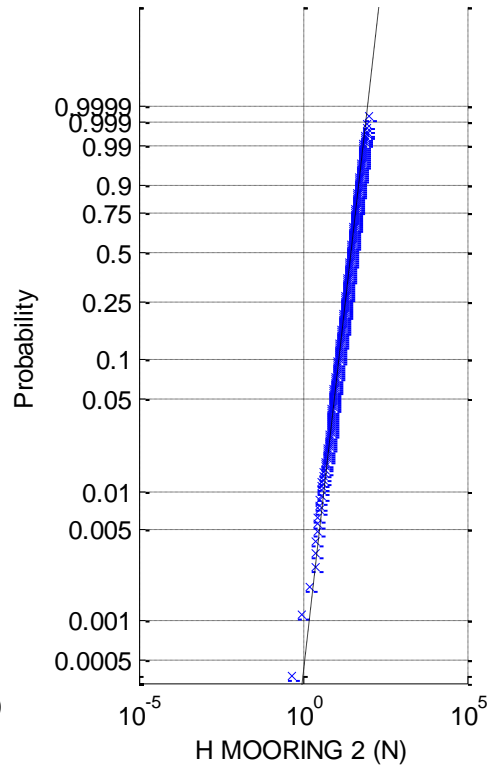
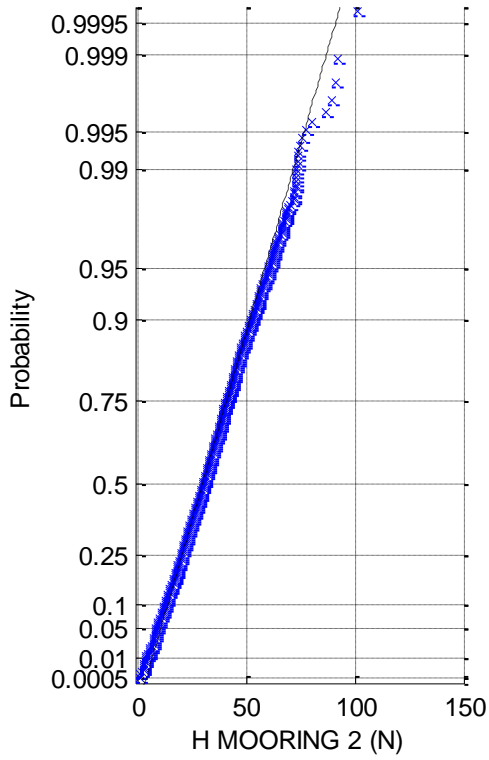
(2a) Histogram of H MOORING 2



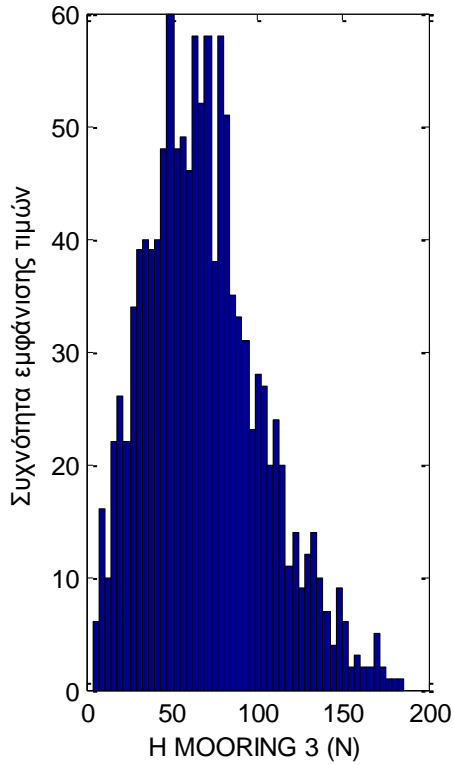
(2b) Normal prob. plot of H MOORING 2



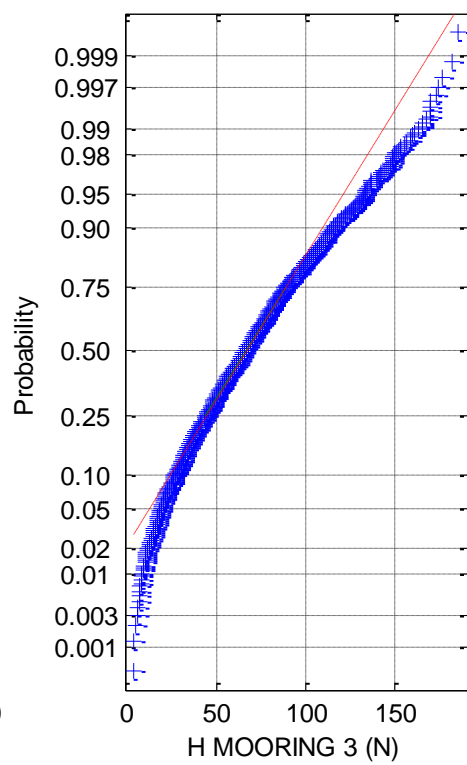
(2c) Rayleigh prob. plot of H MOORING 2 (2d) Weibull prob. plot of H MOORING 2



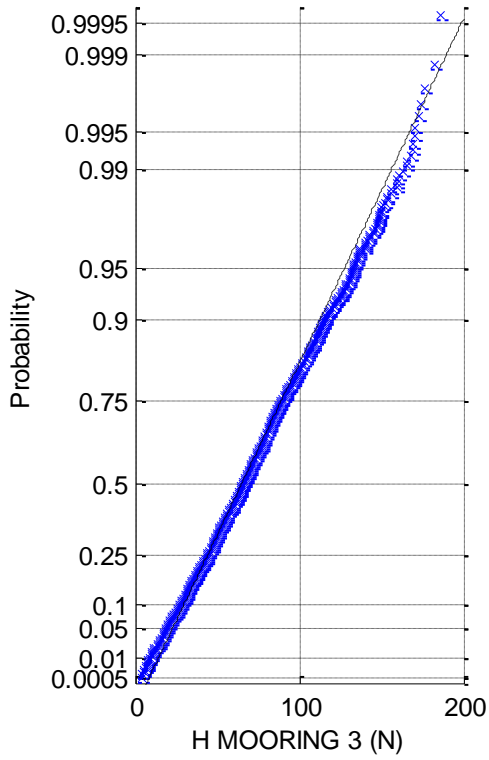
(3a) Histogram of H MOORING 3



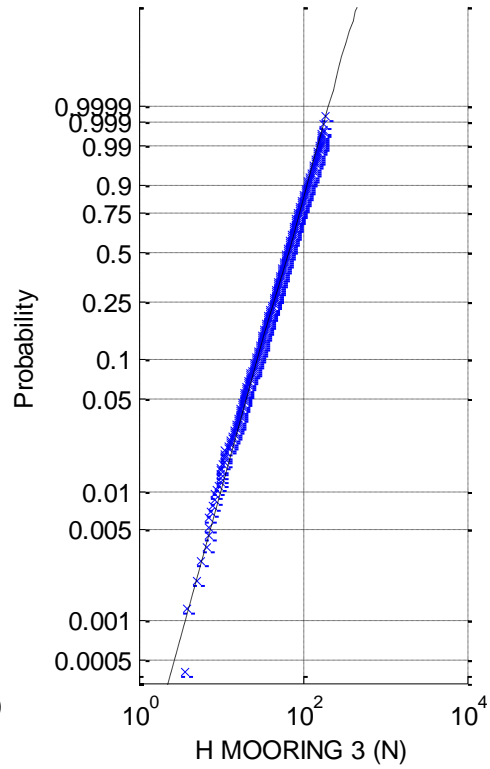
(3b) Normal prob. plot of H MOORING 3



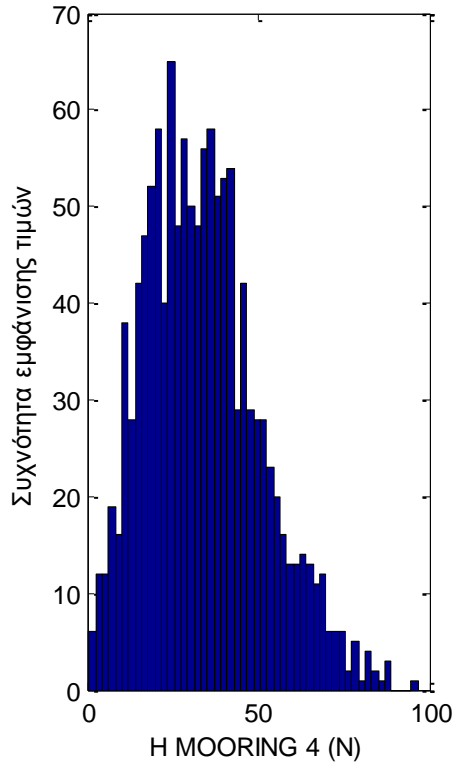
(3c) Rayleigh prob. plot of H MOORING 3



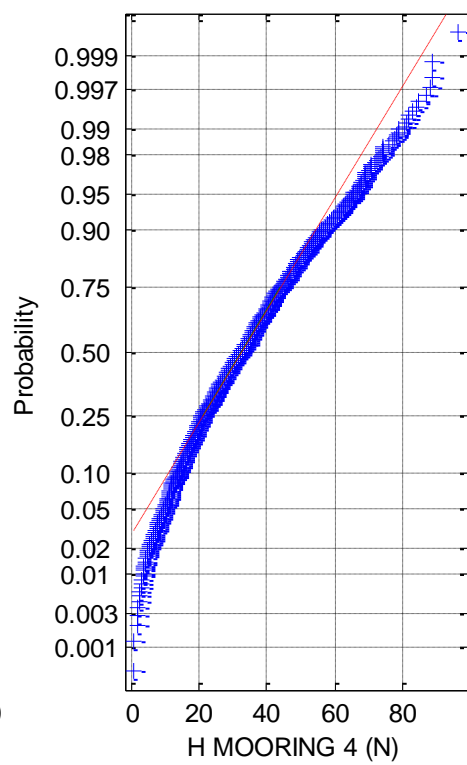
(3d) Weibull prob. plot of H MOORING 3



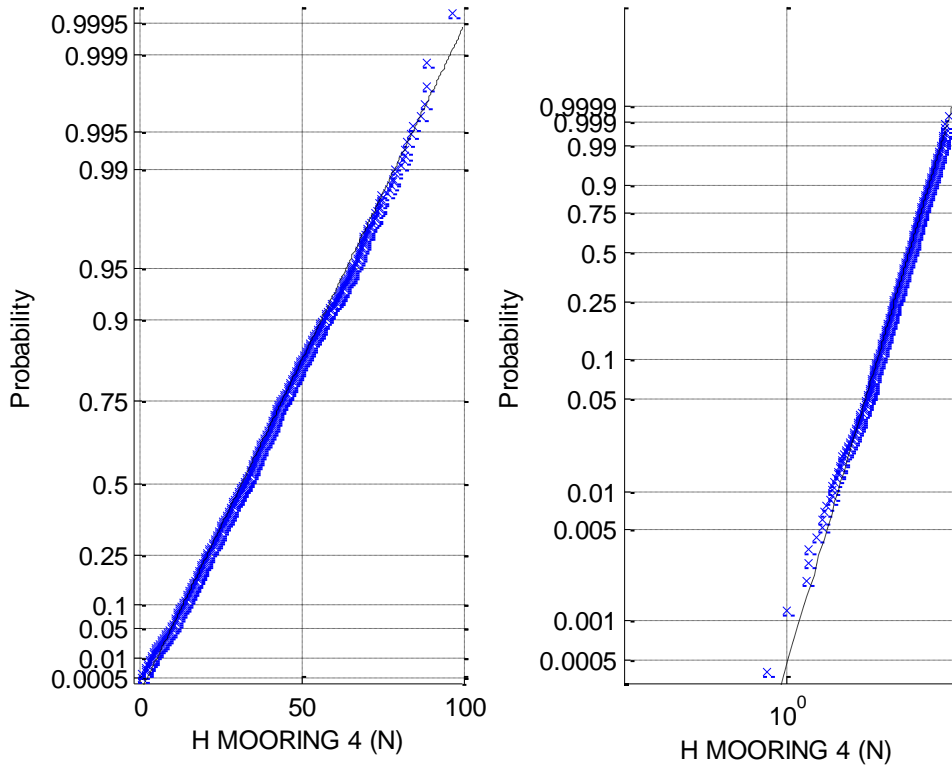
(4a) Histogram of H MOORING 4



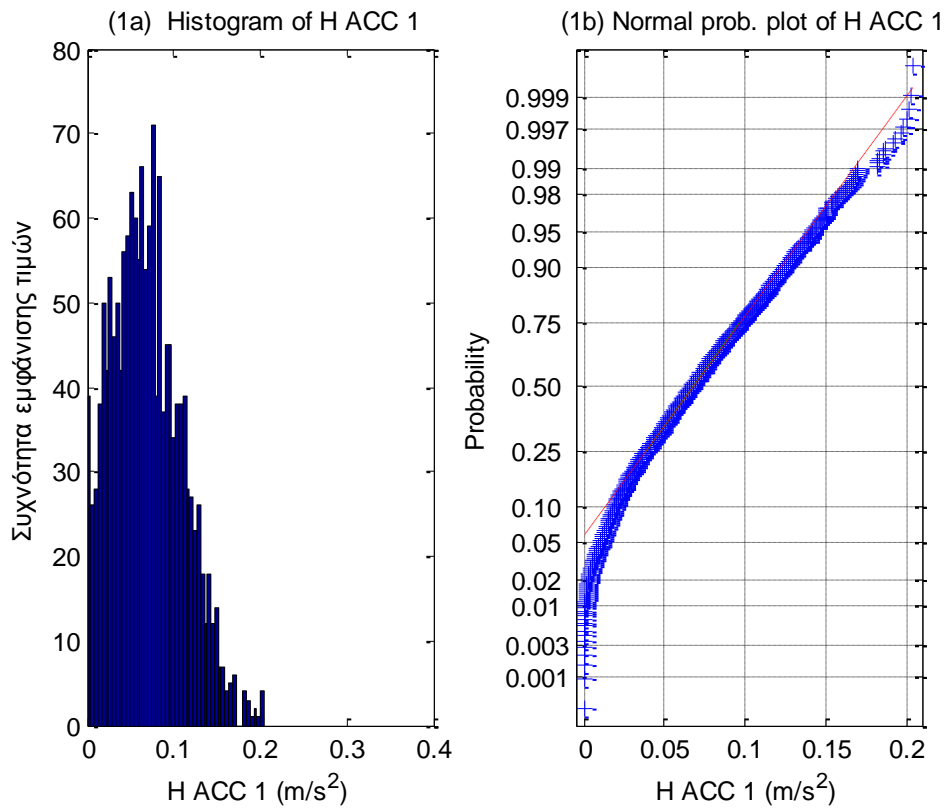
(4b) Normal prob. plot of H MOORING 4



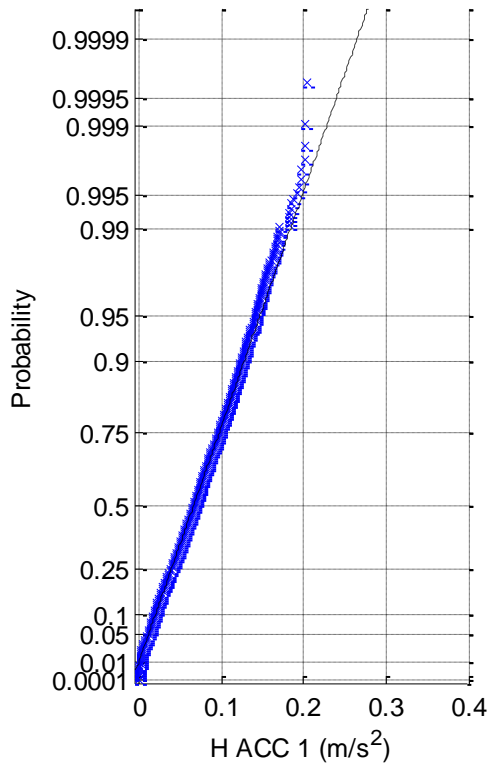
(4c) Rayleigh prob. plot of H MOORING 4 (4d) Weibull prob. plot of H MOORING 4



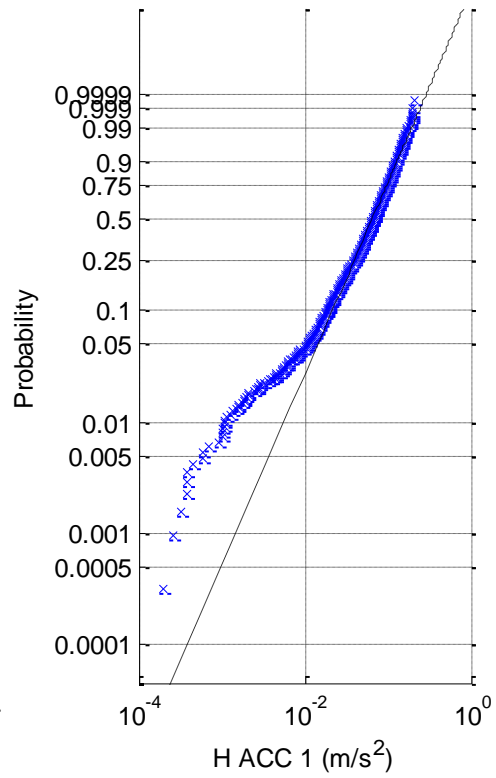
Σχήματα 1.2.6.4 (1-4) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις 4 γραμμές αγκύρωσης



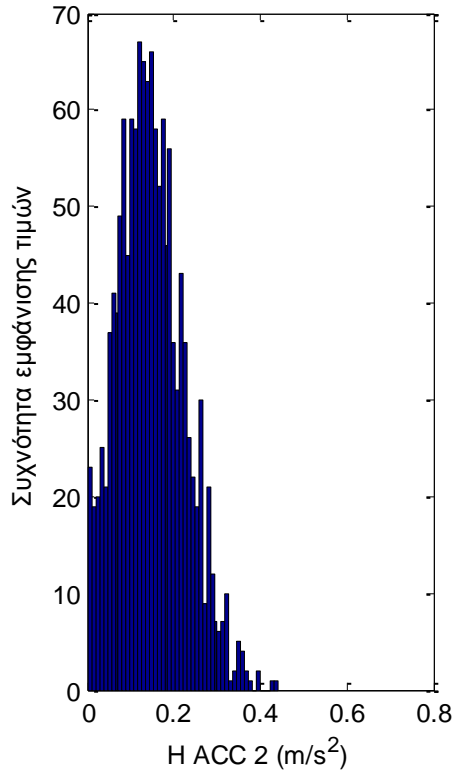
(1c) Rayleigh prob. plot of H ACC 1



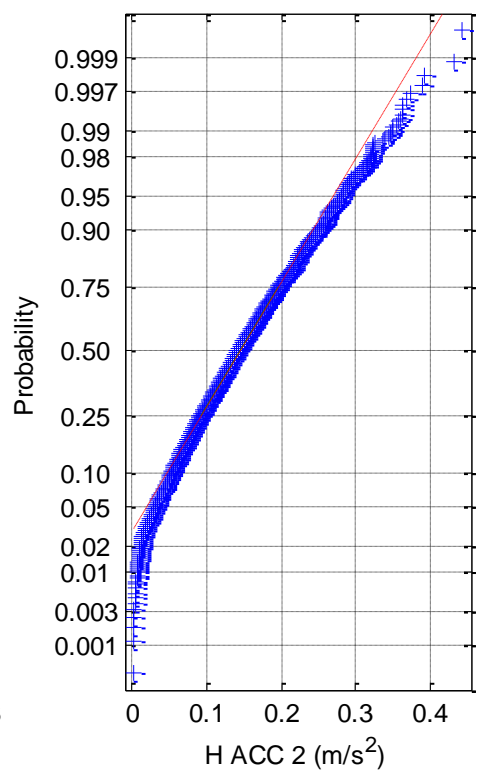
(1d) Weibull prob. plot of H ACC 1



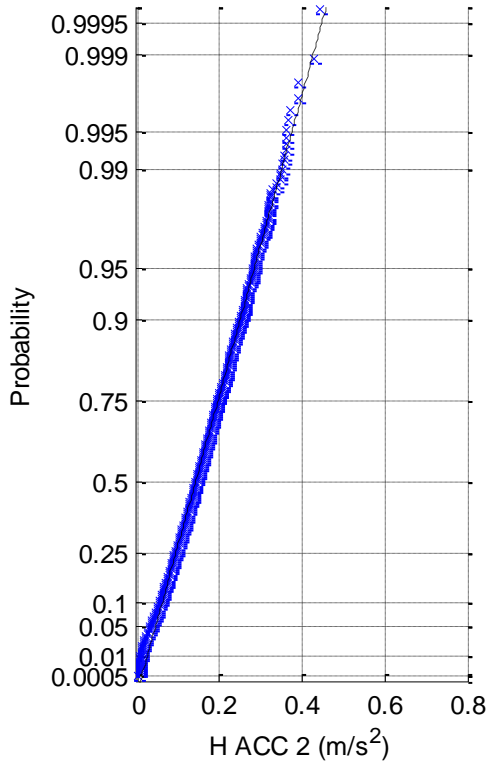
(2a) Histogram of H ACC 2



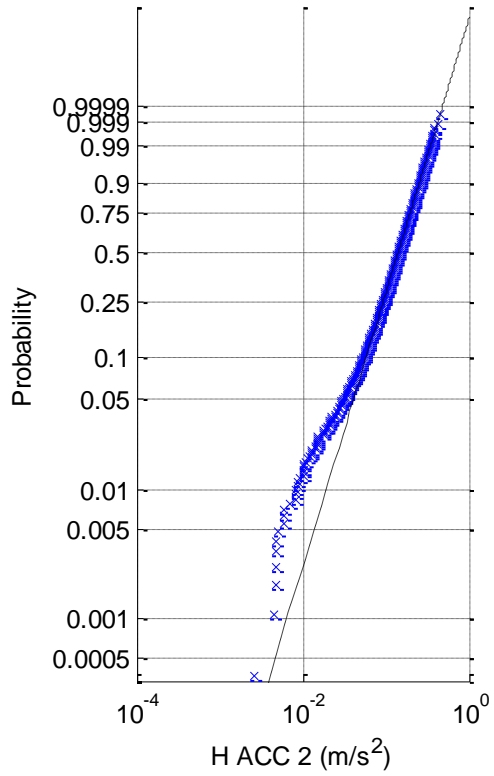
(2b) Normal prob. plot of H ACC 2



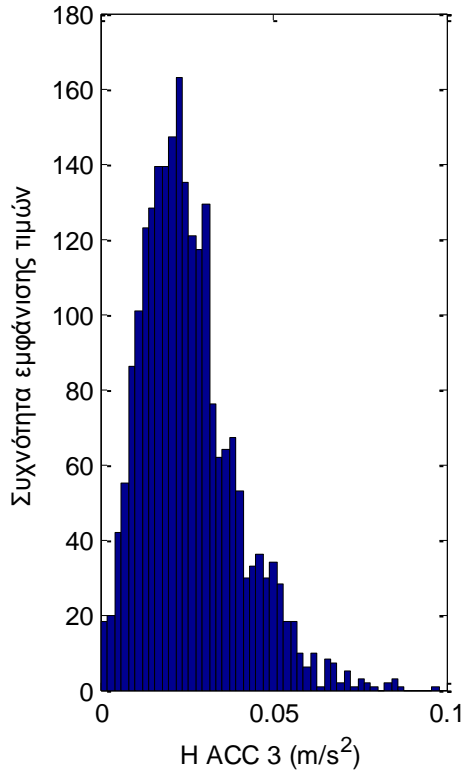
(2c) Rayleigh prob. plot of H ACC 2



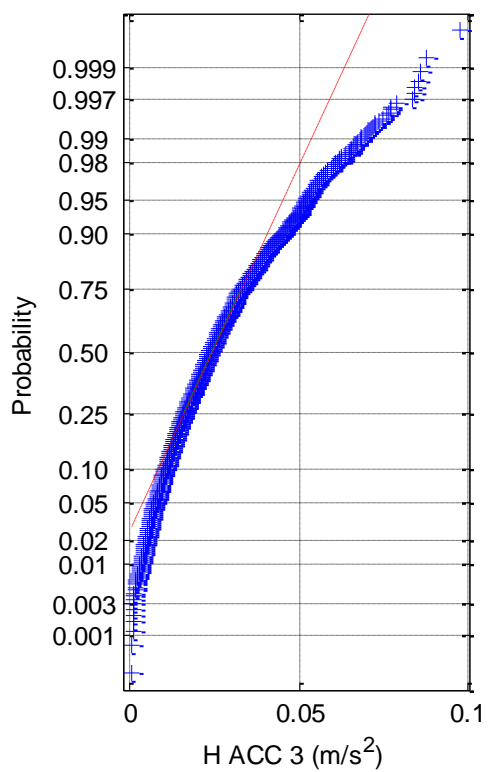
(2d) Weibull prob. plot of H ACC 2

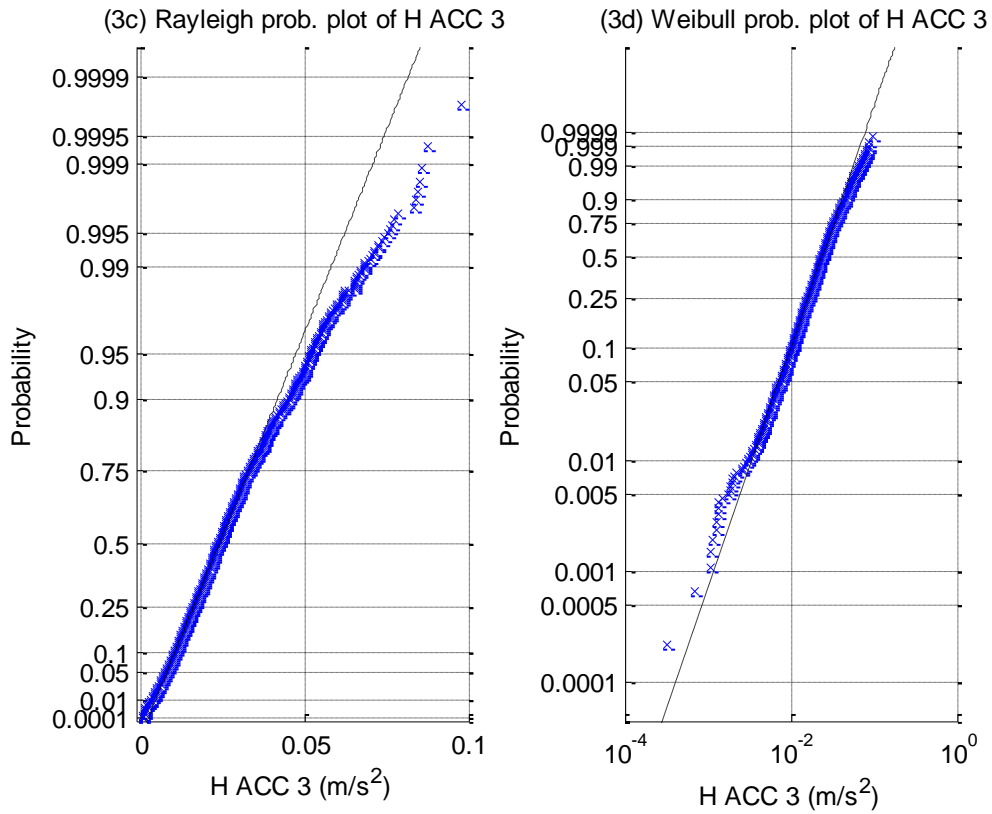


(3a) Histogram of H ACC 3

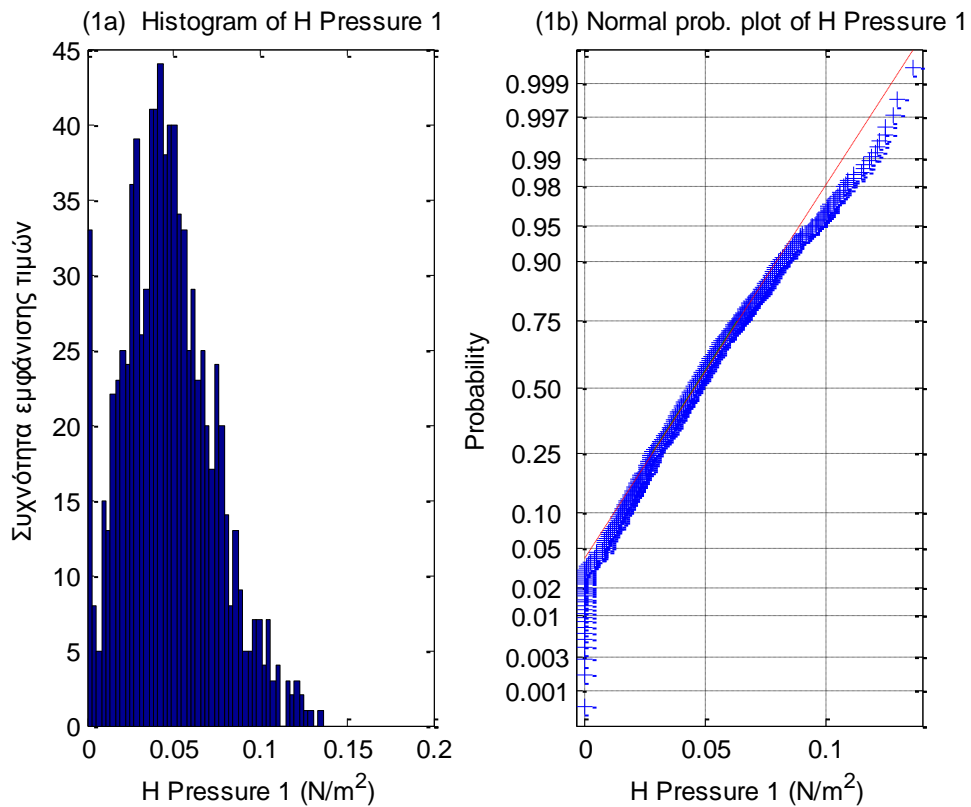


(3b) Normal prob. plot of H ACC 3

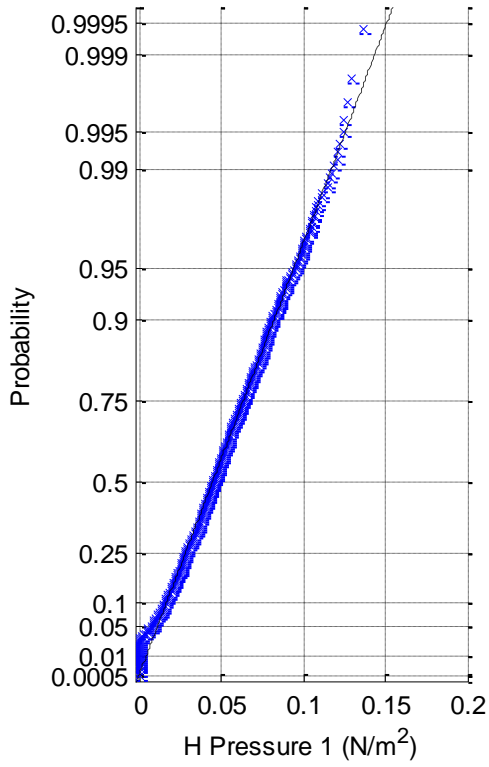




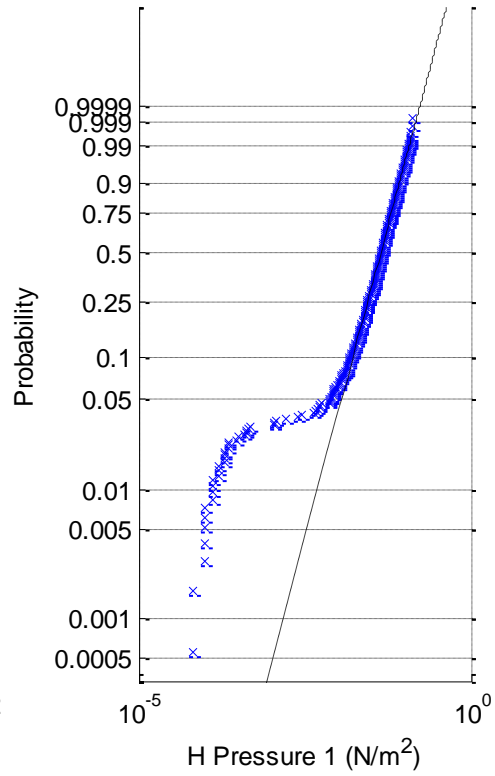
Σχήματα 1.2.6.5 (1-3) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



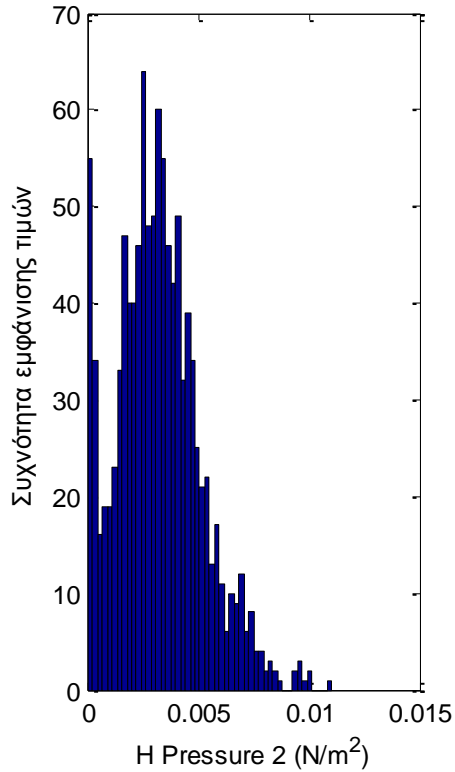
(1c) Rayleigh prob. plot of H Pressure 1



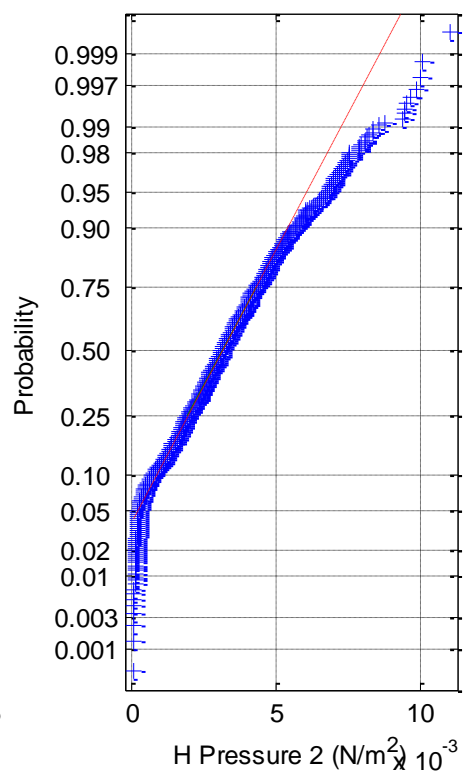
(1d) Weibull prob. plot of H Pressure 1

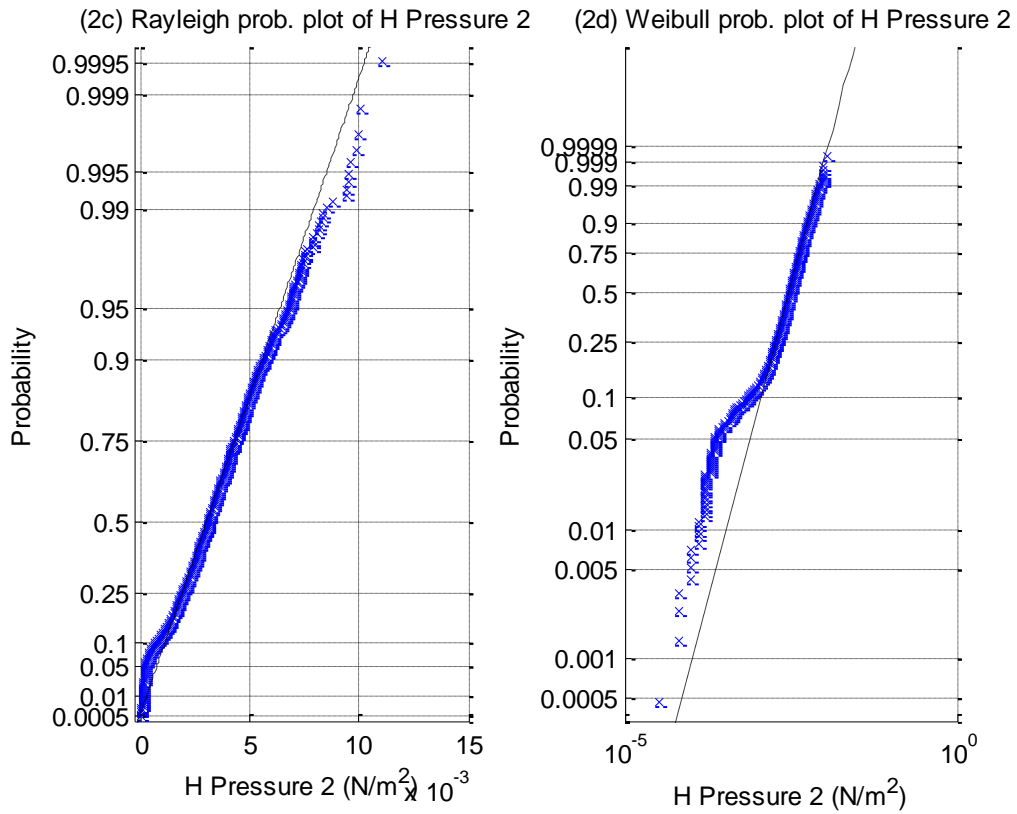


(2a) Histogram of H Pressure 2

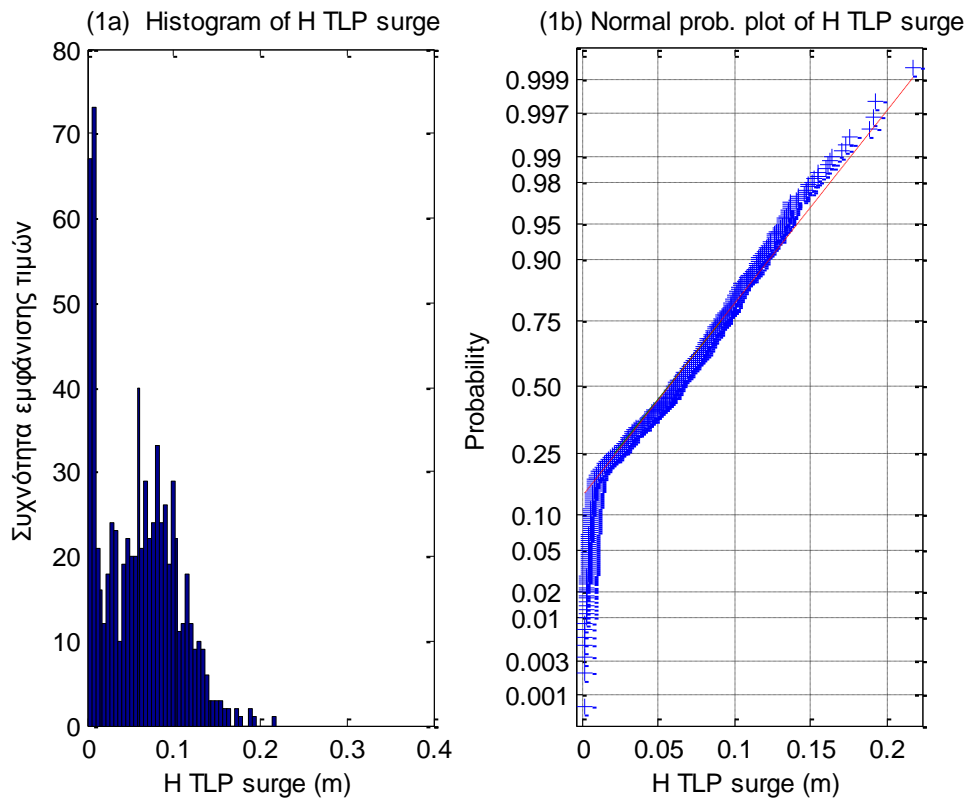


(2b) Normal prob. plot of H Pressure 2

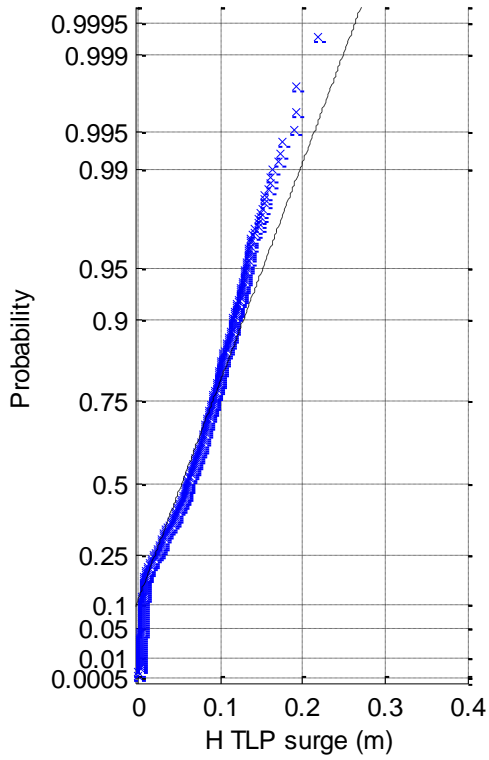




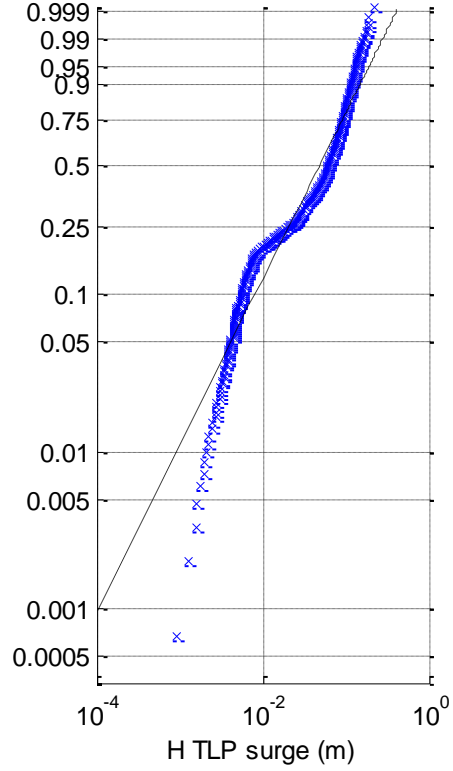
Σχήματα 1.2.6.6 (1-2) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα δύο όργανα μέτρησης της πίεσης



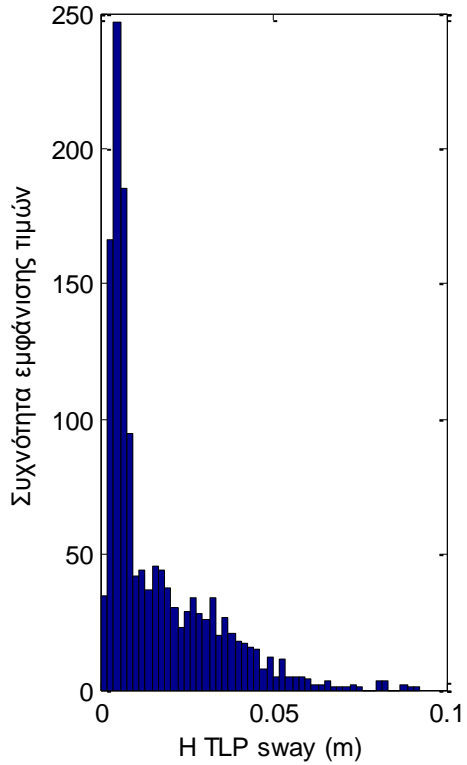
(1c) Rayleigh prob. plot of H TLP surge



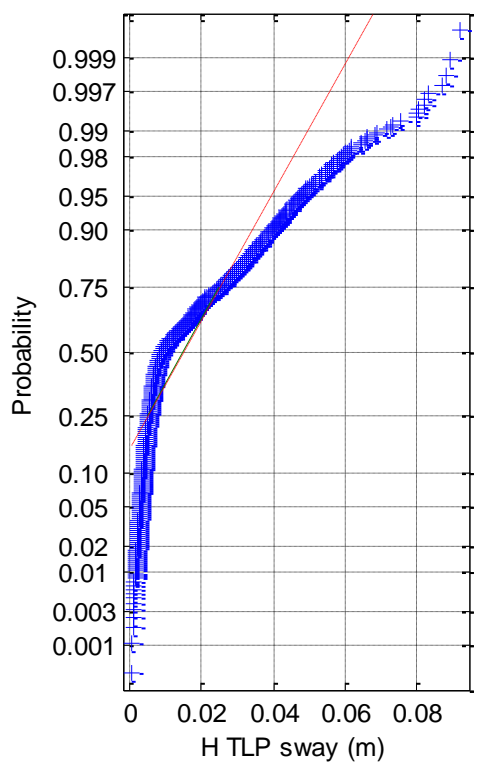
(1d) Weibull prob. plot of H TLP surge



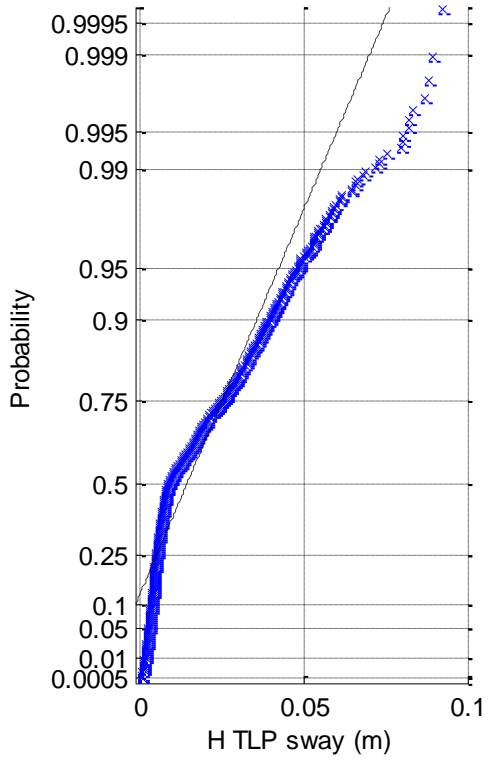
(2a) Histogram of H TLP sway



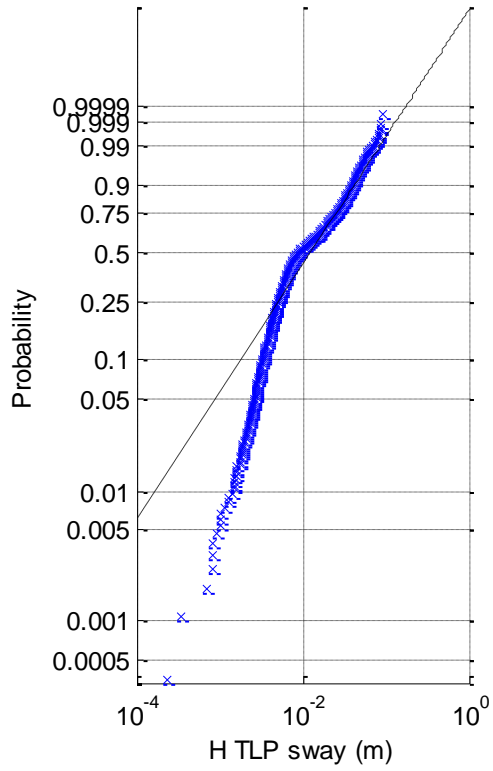
(2b) Normal prob. plot of H TLP sway



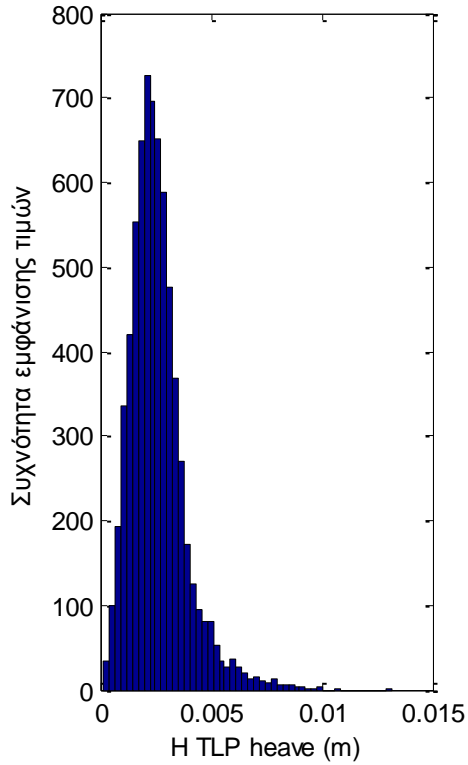
(2c) Rayleigh prob. plot of H TLP sway



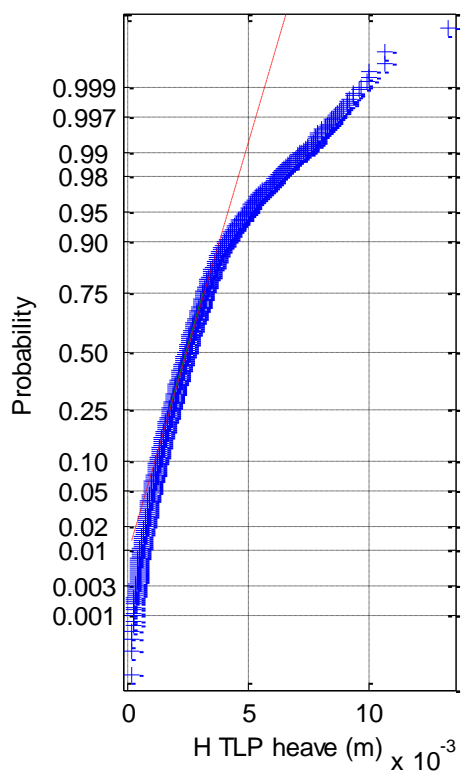
(2d) Weibull prob. plot of H TLP sway



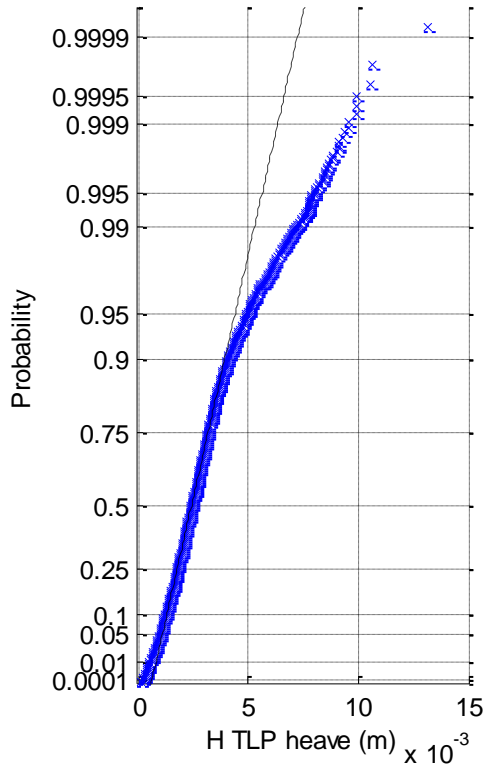
(3a) Histogram of H TLP heave



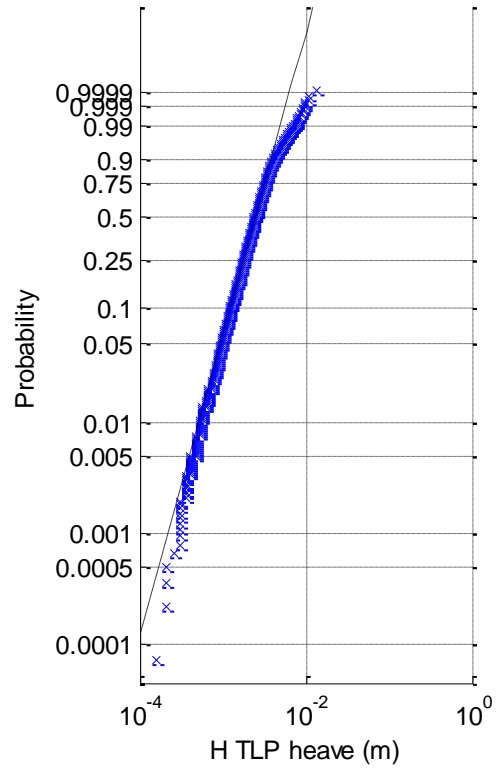
(3b) Normal prob. plot of H TLP heave



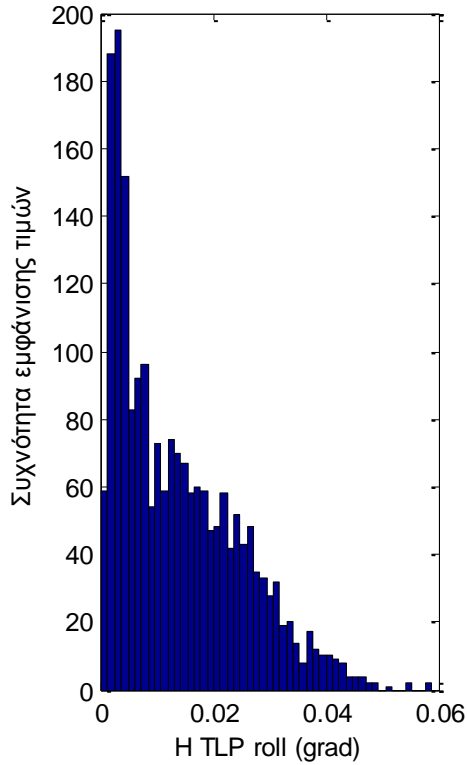
(3c) Rayleigh prob. plot of H TLP heave



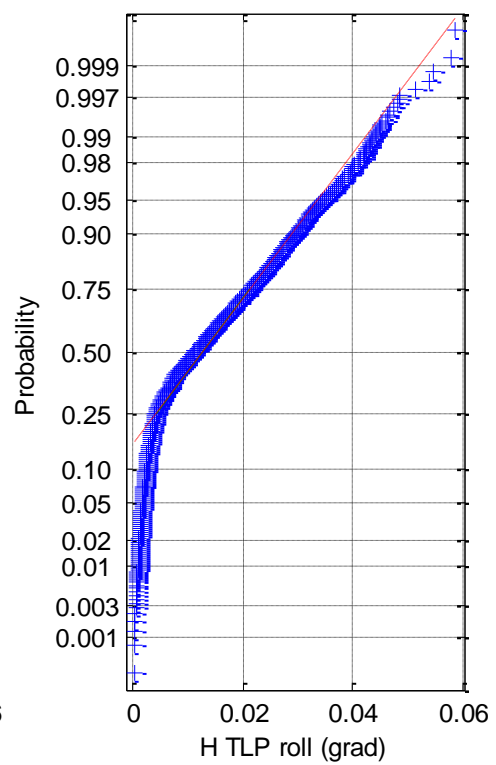
(3d) Weibull prob. plot of H TLP heave



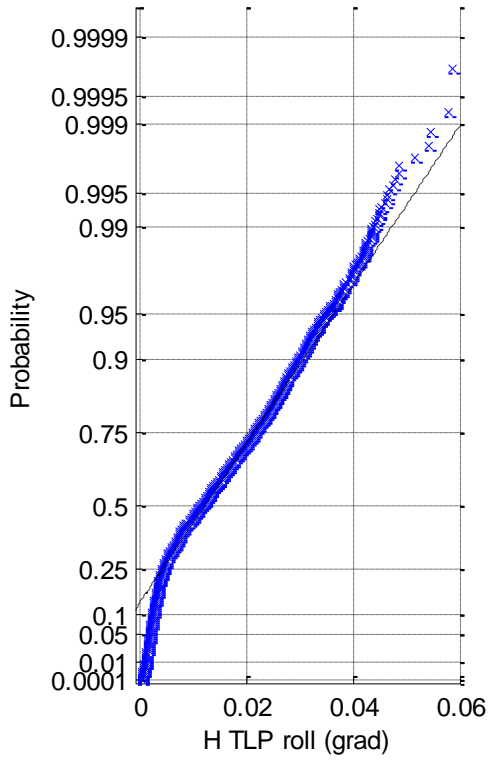
(4a) Histogram of H TLP roll



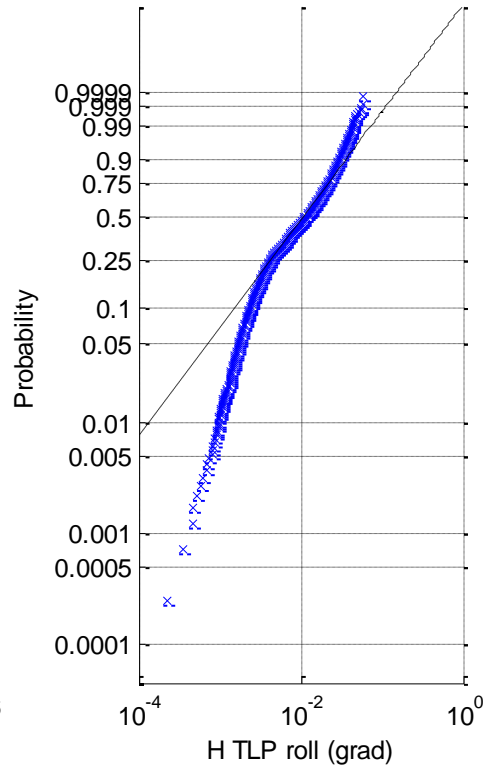
(4b) Normal prob. plot of H TLP roll



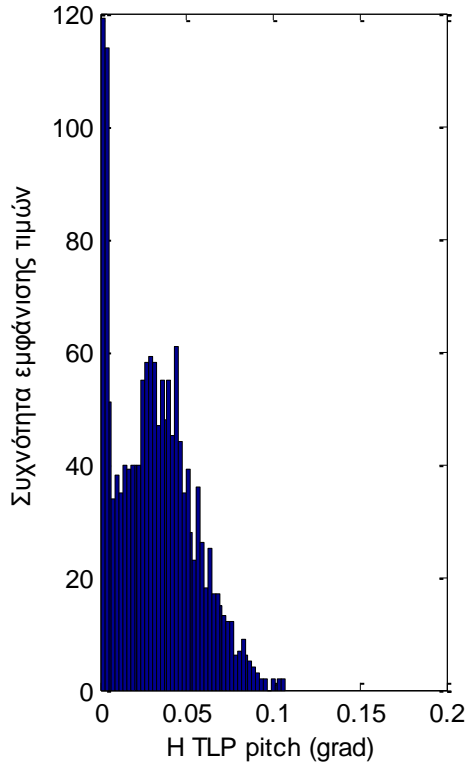
(4c) Rayleigh prob. plot of H TLP roll



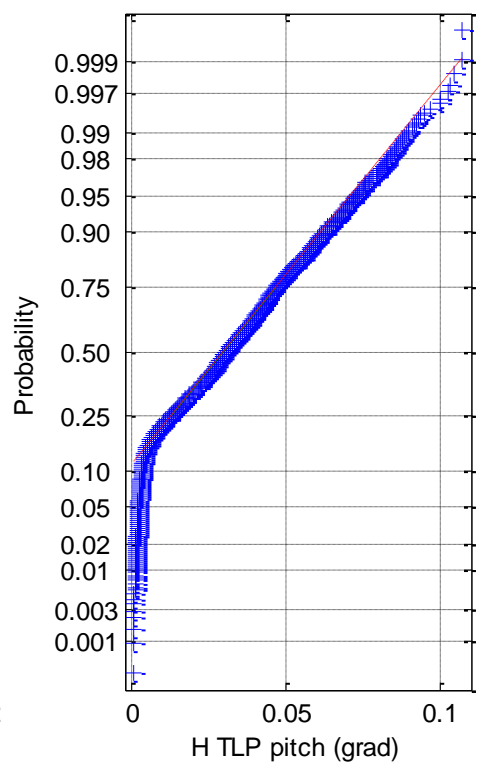
(4d) Weibull prob. plot of H TLP roll



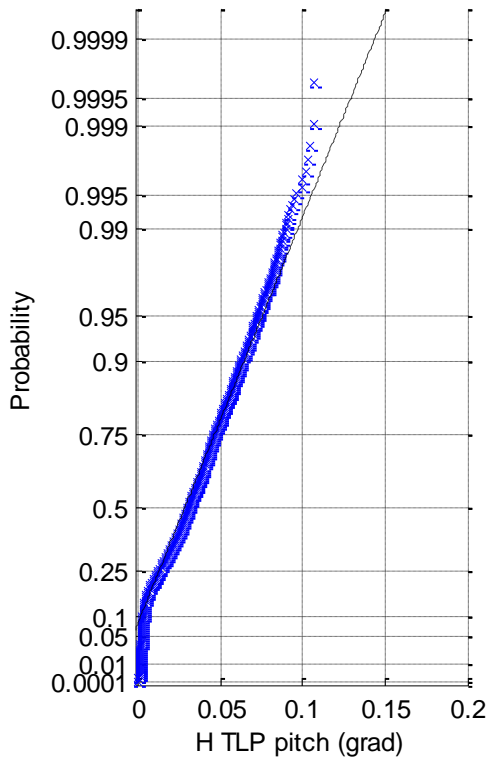
(5a) Histogram of H TLP pitch



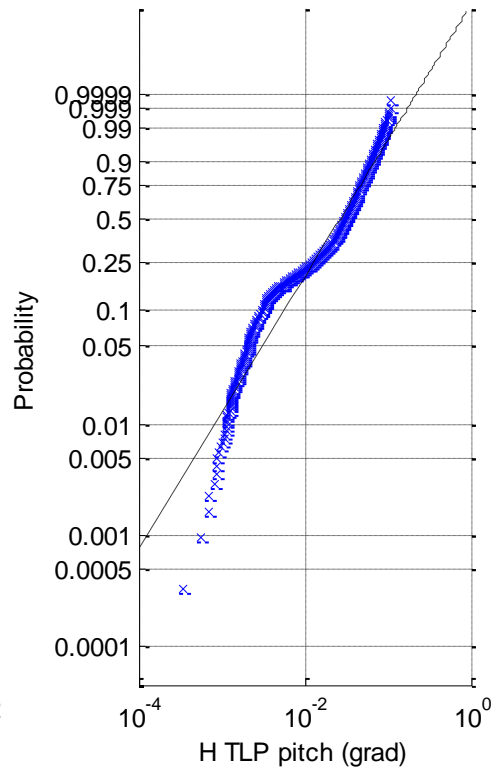
(5b) Normal prob. plot of H TLP pitch



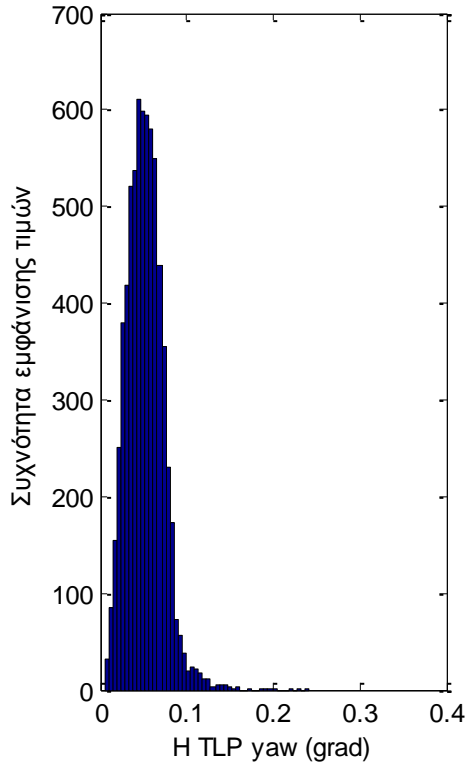
(5c) Rayleigh prob. plot of H TLP pitch



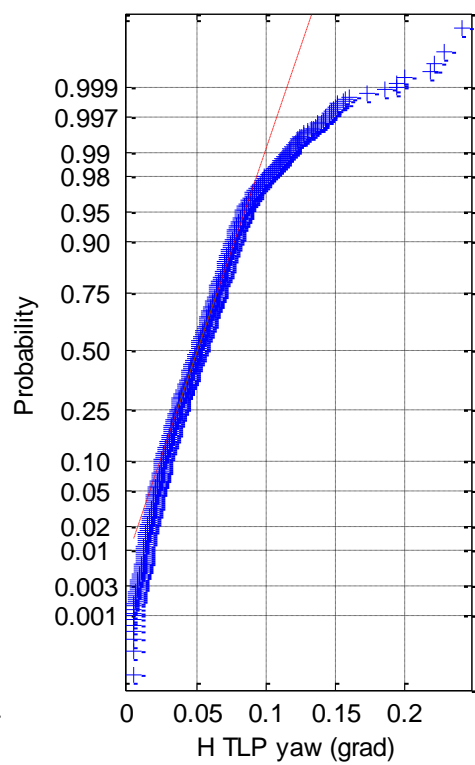
(5d) Weibull prob. plot of H TLP pitch

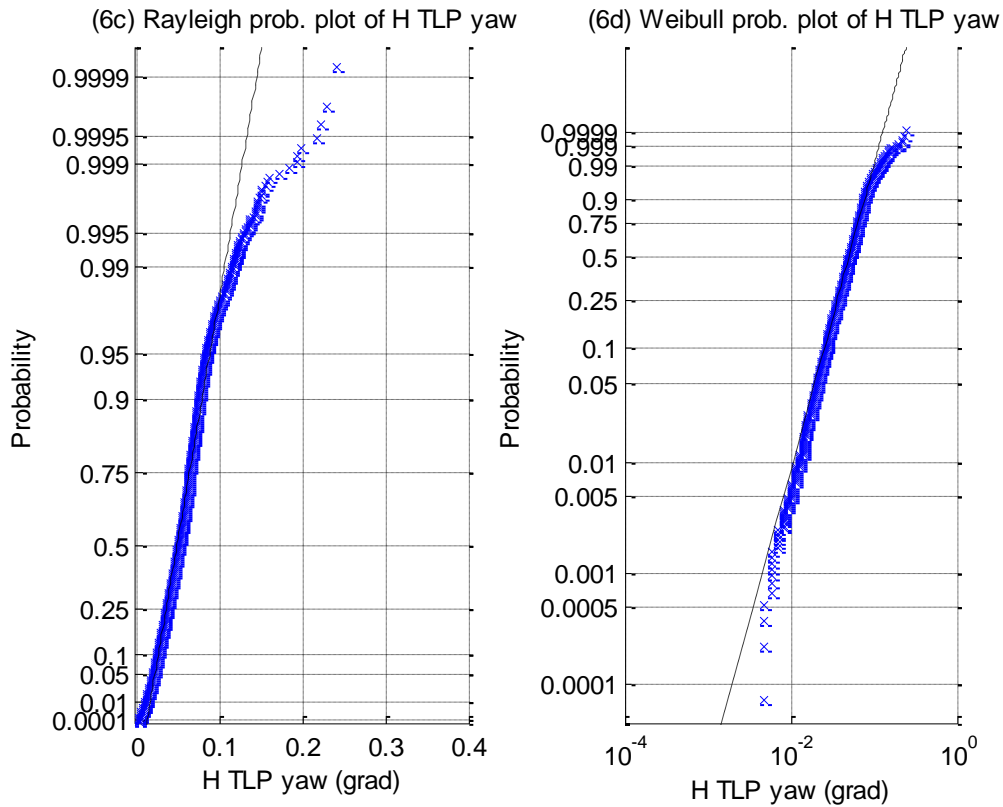


(6a) Histogram of H TLP yaw

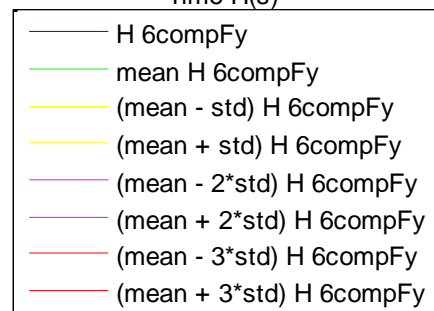
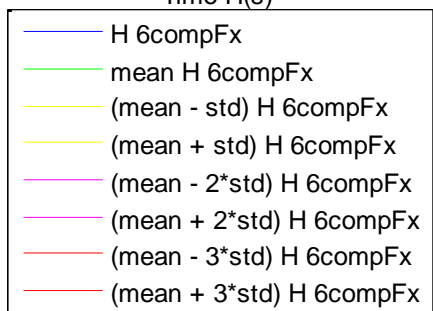
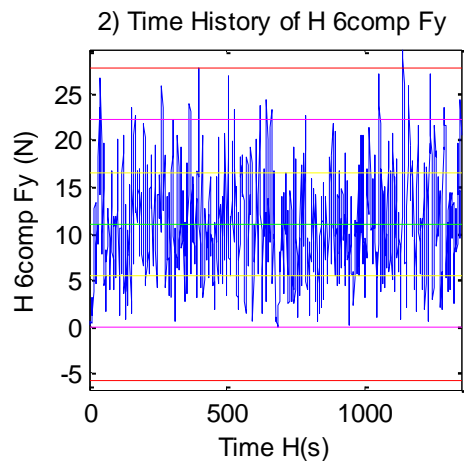
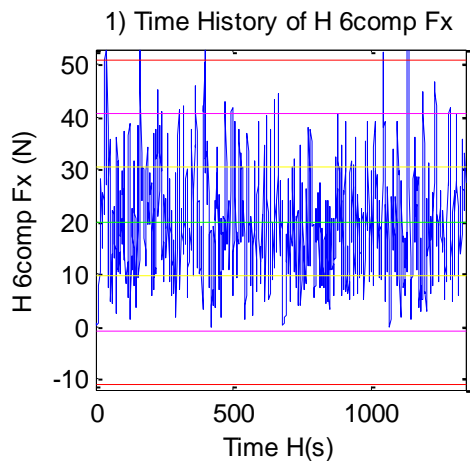


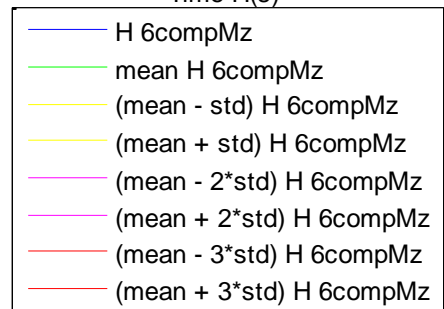
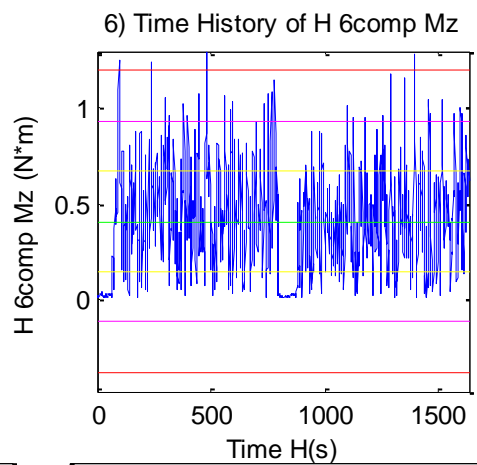
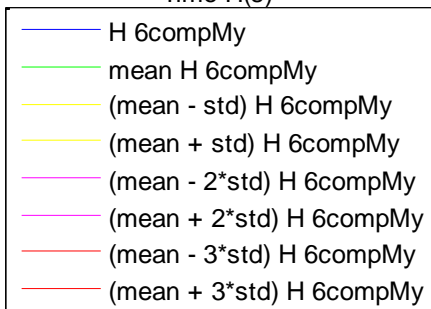
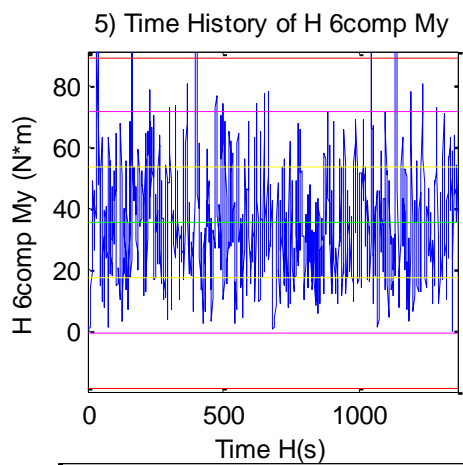
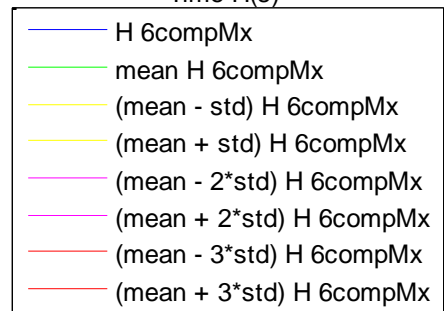
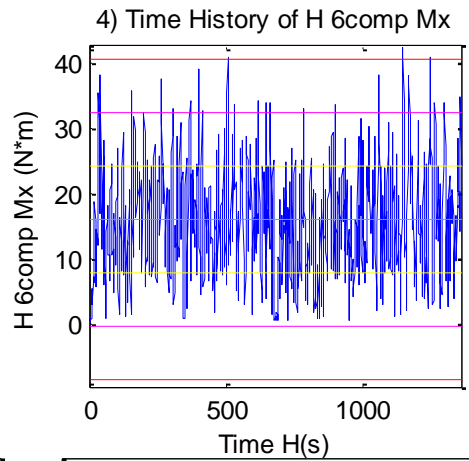
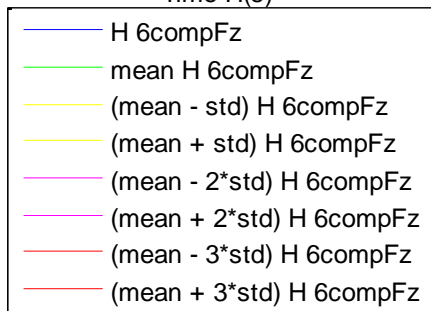
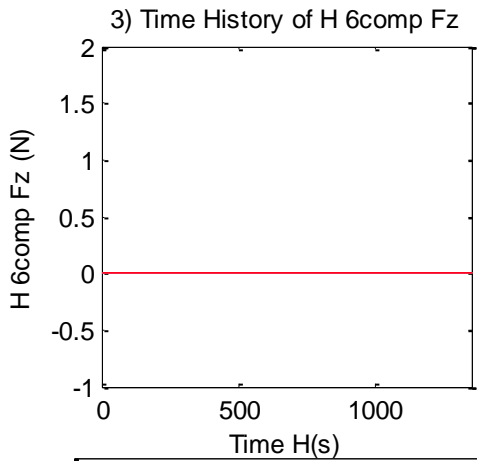
(6b) Normal prob. plot of H TLP yaw



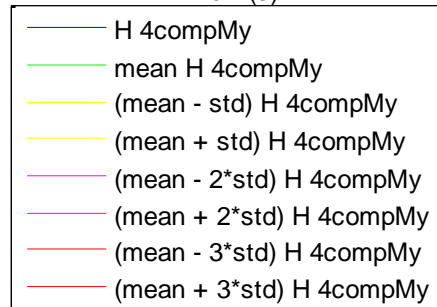
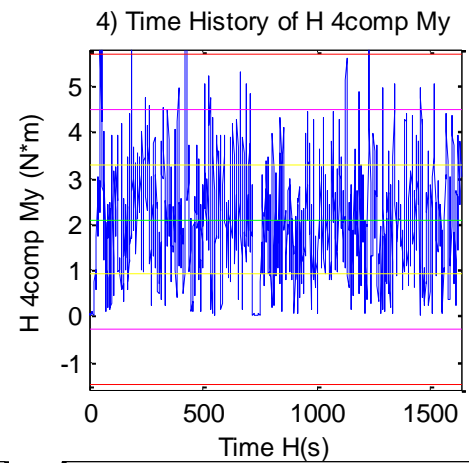
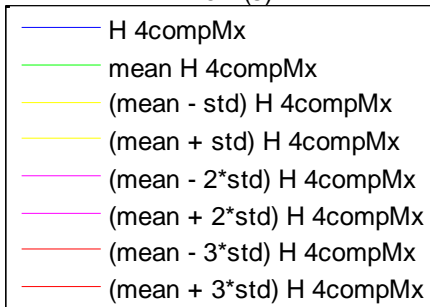
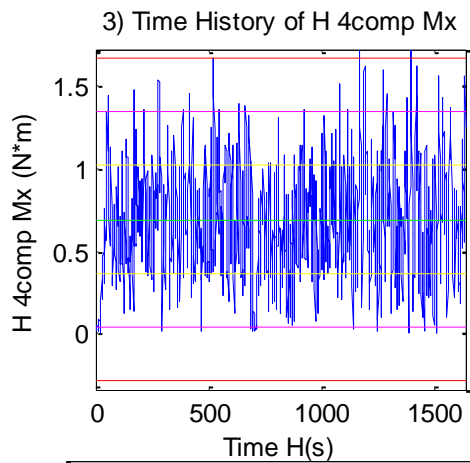
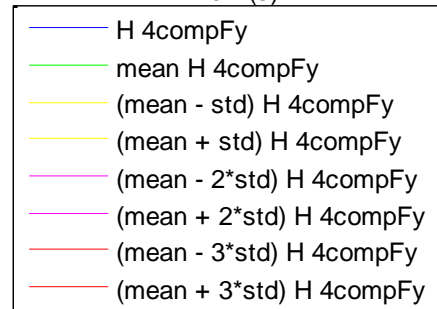
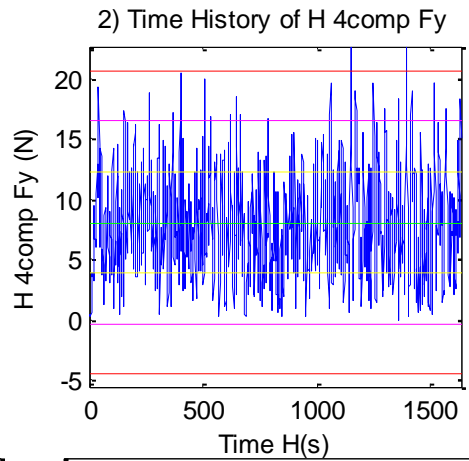
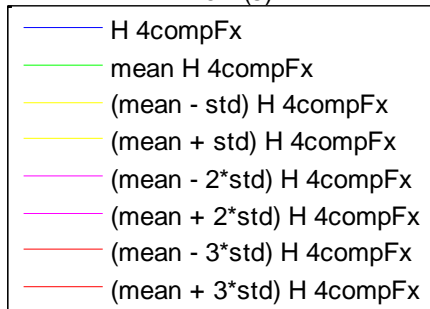
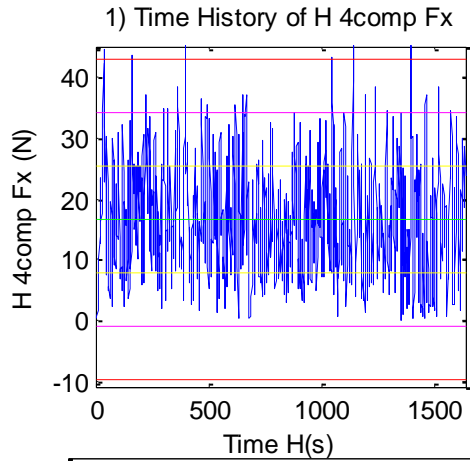


Σχήματα 1.2.6.7 (1-6) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

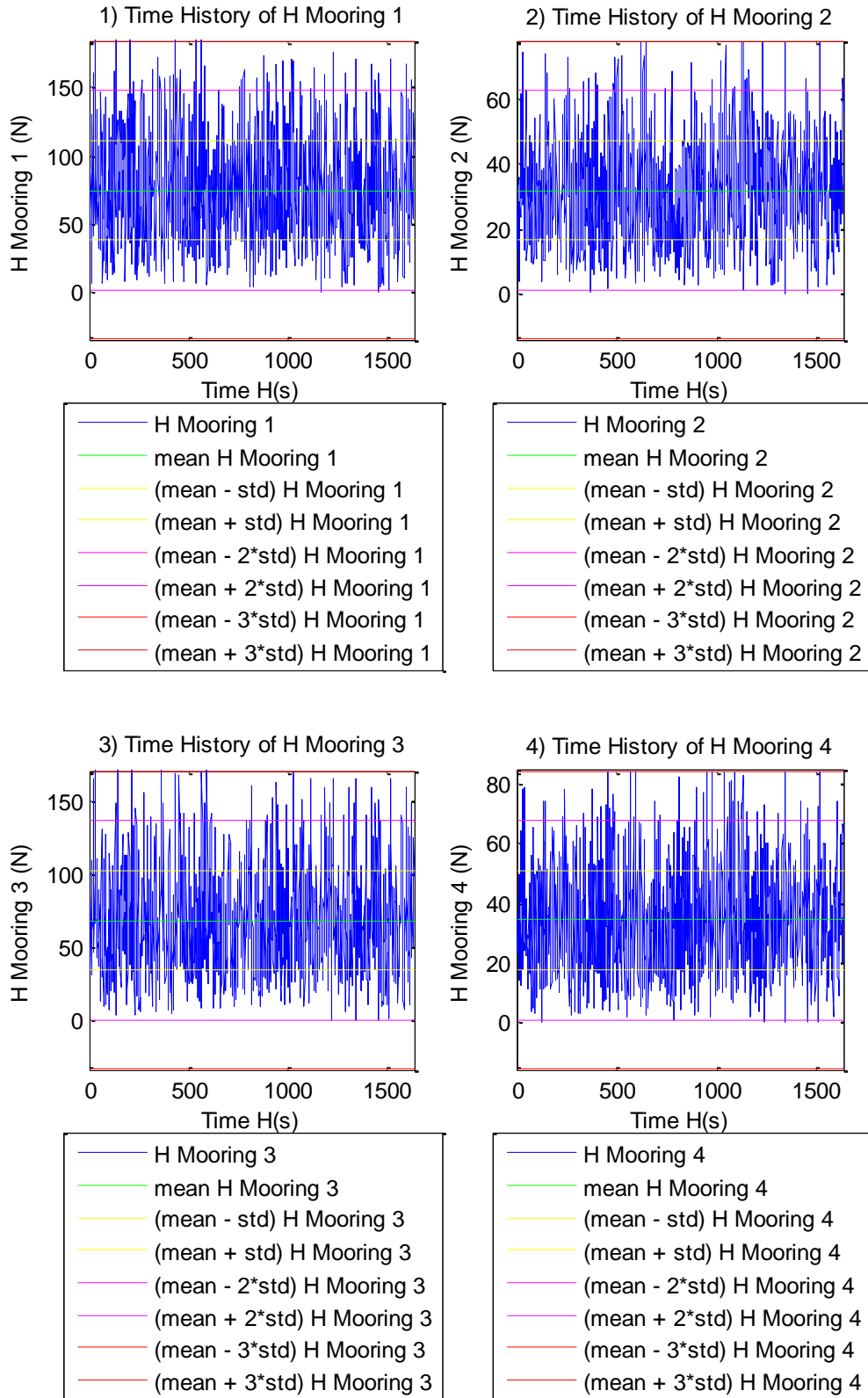




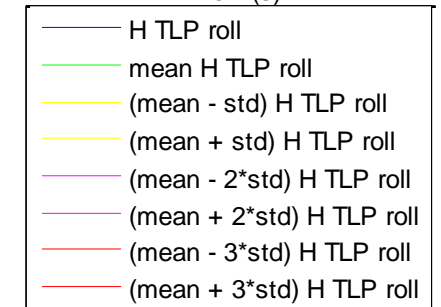
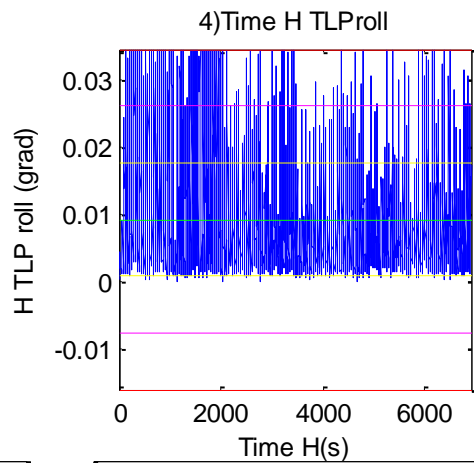
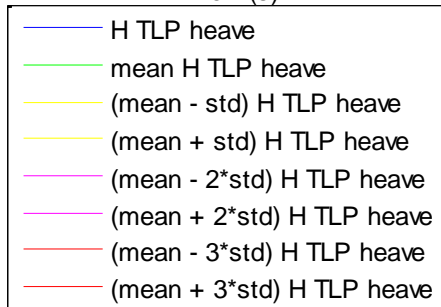
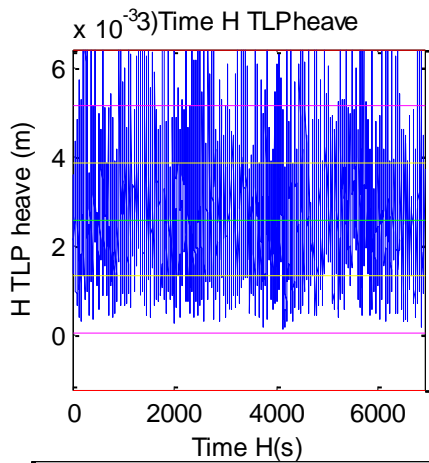
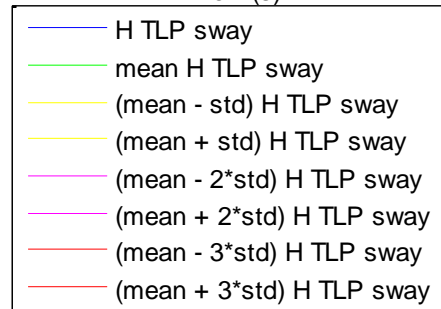
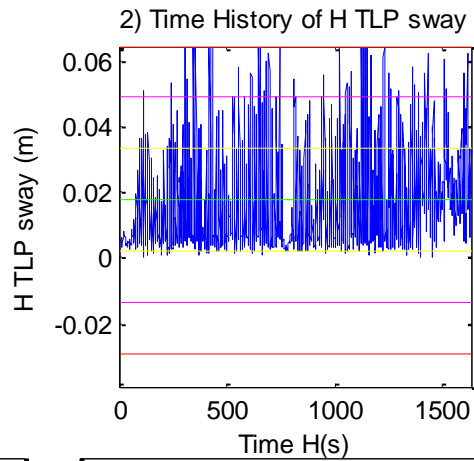
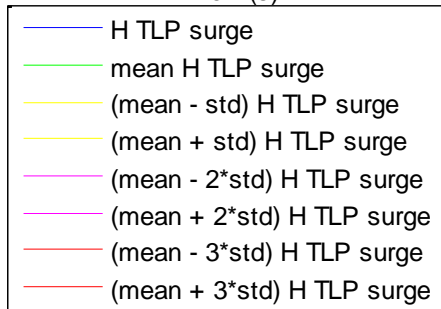
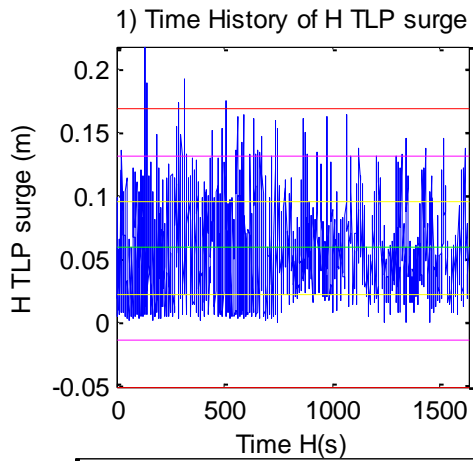
Σχήματα 1.2.7.1 (1-6) Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

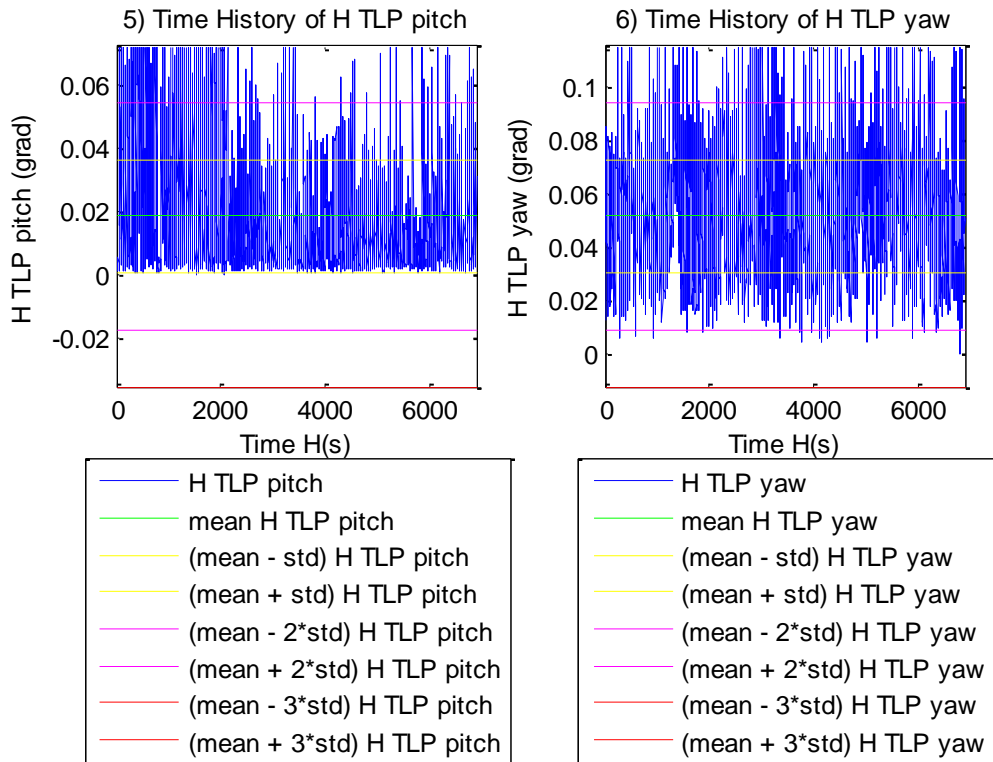


Σχήματα 1.2.7.2 (1-4) Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch



Σχήματα 1.2.7.3 (1-4) Διαγράμματα διάταξης του H για τις τέσσερις δυνάμεις στις τέσσερις γραμμές αγκύρωσης της Α/Γ





Σχήματα 1.2.7.4 (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 ΜΚΝ για τα 11 όργανα μέτρησης (WG) για Κ=100

4.0750	1.4814	1.4152	1.0014	0.8154	1.9025	1.2779	1.9712	1.8896	1.6181	1.5616
1.3027	3.8497	0.7235	0.8071	1.1513	1.6093	1.9871	1.9419	1.5569	1.1476	1.1474
1.2877	1.4483	4.5734	1.1008	1.1166	1.0880	1.7895	1.1222	1.2496	1.8087	2.2557
0.9037	1.1782	0.9172	4.3092	1.4281	0.8291	0.7504	0.7668	0.8908	1.1989	1.1598
1.3671	1.2963	1.4196	1.0821	4.4478	1.0017	0.9051	0.9917	1.1552	1.0978	1.1002
1.9085	1.2651	1.0016	1.3503	0.8982	4.4665	0.9644	1.0779	1.3833	1.1831	1.2195
1.0936	1.8375	1.3438	1.1129	0.9338	1.0873	4.5944	1.9725	0.7983	0.9470	1.0619
1.5131	1.7880	1.0972	0.8024	0.6821	1.3289	1.8786	4.5328	2.2466	1.1549	0.9312
1.8282	1.4787	0.9464	0.8004	0.9829	1.3227	0.8609	2.5379	4.4802	3.1122	2.3794
1.8058	0.9051	1.4196	0.7465	0.8005	1.2995	0.9794	1.2383	2.9083	4.3130	3.9891
1.7794	0.8230	1.9838	0.8272	0.7720	1.2883	1.1883	1.0740	2.2822	3.9662	4.3257

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

3.2982	1.4062	1.1477	0.9936	1.0878	1.5483	1.2796	1.5562	1.6653	1.5784	1.5183
1.3665	3.1640	1.1451	0.9891	0.9907	1.2346	1.6324	1.5572	1.4678	1.2184	1.1382
1.1438	1.3386	3.4838	1.1114	1.1023	0.9563	1.3785	1.1801	1.0873	1.5245	1.9596
1.0722	1.0345	1.0120	3.4567	1.4227	1.1660	0.8821	0.9202	0.9940	1.0627	1.0915
1.2002	1.0588	1.1710	1.3791	3.4315	1.2613	1.0040	1.0506	1.0045	1.0711	1.0952
1.6222	1.1285	0.9938	1.1629	1.2113	3.4130	1.0356	0.9935	1.0837	1.1811	1.1792
1.2689	1.6178	1.3162	1.0177	0.8760	1.0436	3.5648	1.8581	0.9917	1.0086	1.0822
1.5334	1.5592	1.1542	0.9560	0.9433	1.1461	1.7342	3.4702	2.0424	1.2651	1.0709
1.6186	1.3534	1.0440	0.9462	1.0271	1.1181	0.9784	2.0819	3.4404	2.6526	2.1617
1.5506	1.0746	1.4522	0.9219	1.0652	1.1061	1.0324	1.1981	2.5799	3.4151	3.2381
1.4757	1.0250	1.8592	0.9510	1.0691	1.0854	1.1250	1.0371	2.0809	3.2404	3.4142

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

4.1246	3.5636	0.0477	3.4510	4.1148	3.7085
3.5510	3.9956	0.2563	3.4067	3.6138	3.4400
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.9169	2.6413	0.7211	3.8120	2.7994	1.8055
4.1349	3.6188	0.0282	3.3805	4.1437	3.8125
3.6208	3.4156	0.4713	2.4691	3.7164	3.9915

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

3.2784	2.8744	0.4613	2.6768	3.2675	2.9966
2.7971	3.2165	0.4648	2.6057	2.8490	2.7829
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.3604	2.1341	0.7607	3.1020	2.2259	1.4456
3.2702	2.9197	0.4550	2.6072	3.2813	3.0721
2.8379	2.7772	0.6500	1.8172	2.9350	3.2202

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

4.1018	3.6998	3.2963	3.8327
3.6651	3.9993	3.8495	3.3069
3.3771	3.7569	3.9253	3.0748
3.8346	3.2746	3.0323	4.0612

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

3.2633	2.9392	2.7536	3.0871
2.8945	3.2178	3.1061	2.6744
2.6664	3.0255	3.1359	2.5227
3.0164	2.6692	2.5734	3.2606

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=100**

1.3462	0.7966	0.7920	1.3016
0.4643	1.8319	1.7330	0.3155
0.7855	1.3239	1.3761	0.7889
1.6480	0.3399	0.4691	1.7563

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=1000**

1.2583	0.8213	0.8218	1.2189
0.5621	1.6469	1.5671	0.4238
0.8168	1.2519	1.2860	0.8035
1.4961	0.4622	0.5666	1.5805

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

3.8445	3.2986	2.2216	0.9329	1.0826	1.5508
1.9644	2.2089	1.4046	0.9745	0.8847	1.2072

1.0763 1.0408 1.2422 0.9901 0.9911 1.0710
0.9569 0.6690 1.1633 3.4481 1.4445 0.8798
0.9819 1.1031 0.9140 0.3092 1.8232 0.9042
1.0321 0.9953 1.0539 0.9863 0.9481 1.1968

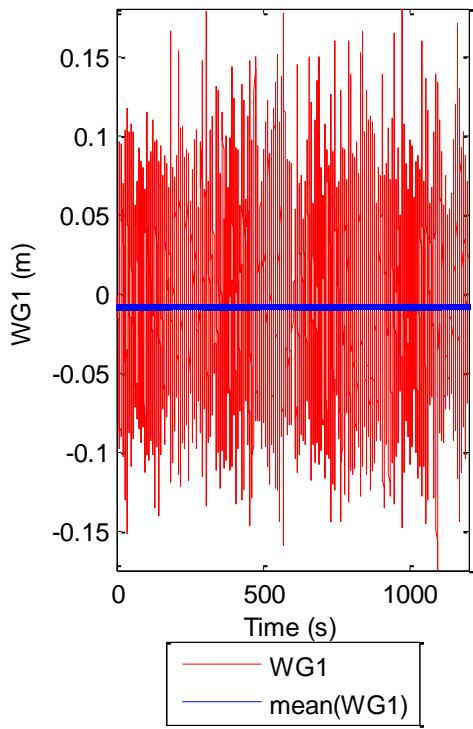
Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000

3.1805 2.8246 1.8869 0.9870 0.9317 1.4379
1.7358 1.9067 1.2946 0.9799 0.9088 1.1752
1.0499 1.0336 1.1648 1.0018 0.9915 1.0649
0.9178 0.9391 1.0795 2.8839 0.9481 0.9583
0.9558 0.9592 0.8833 0.4580 1.6314 0.9019
1.0276 1.0157 1.0580 1.0006 0.9563 1.1447

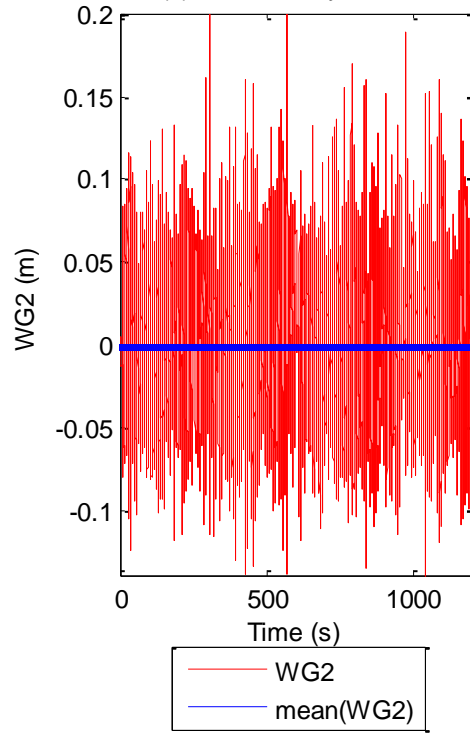
1.3 Παρουσίαση χρονοσειρών (C4) T1317+T1318_1.6_0.1_TLP_20_R

Πίνακας 1.3.1	Χαρακτηριστικά Πειράματος
Τύπος μοντέλου	TLP
Ύψος κύματος (m)	0.100
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	20
Περιστροφή η μη του Ρότορα	Περιστροφή

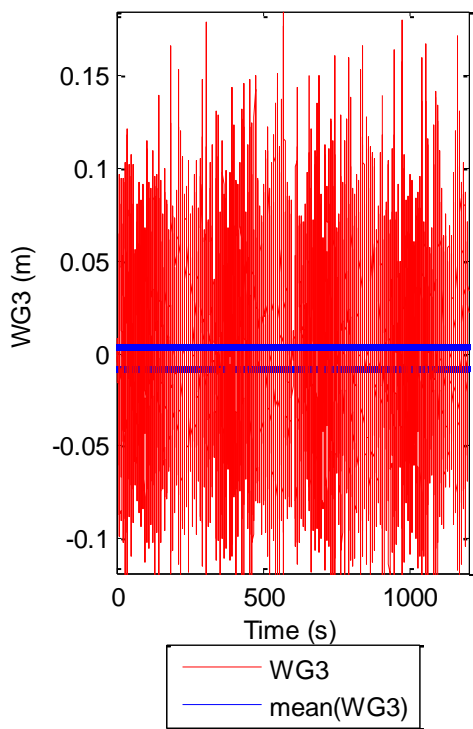
(1) Time History of WG1



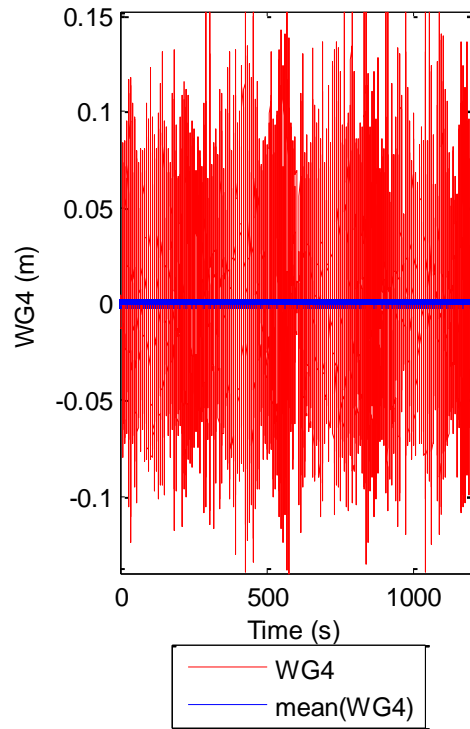
(2) Time History of WG2



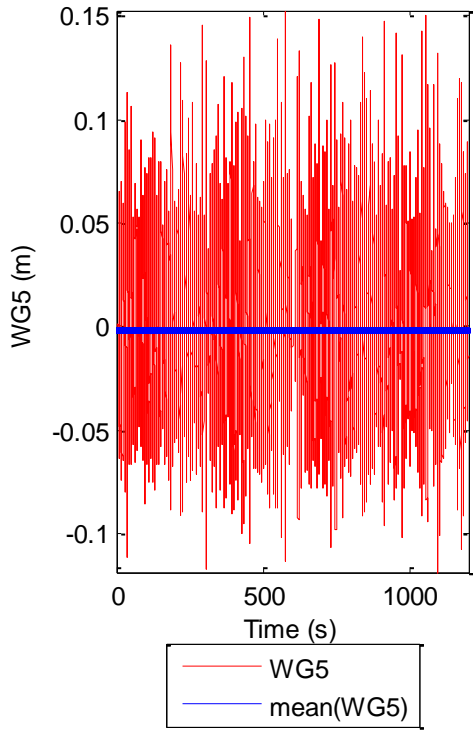
(3) Time History of WG3



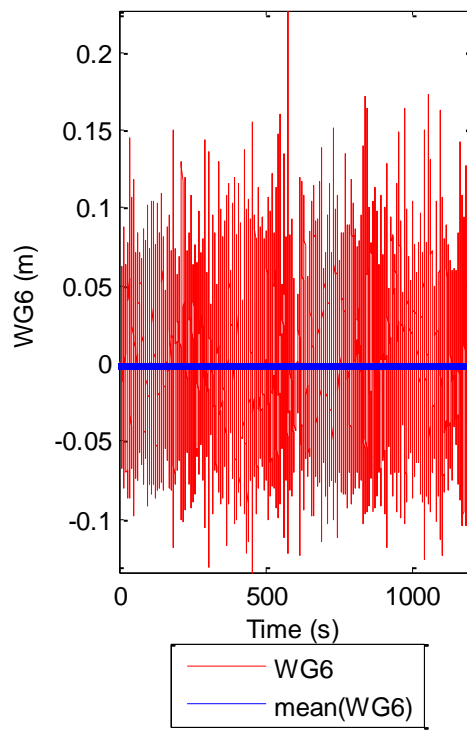
(4) Time History of WG4



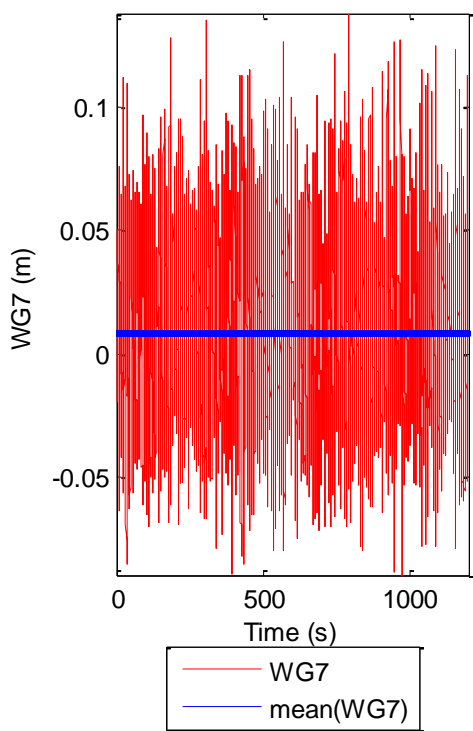
(5) Time History of WG5



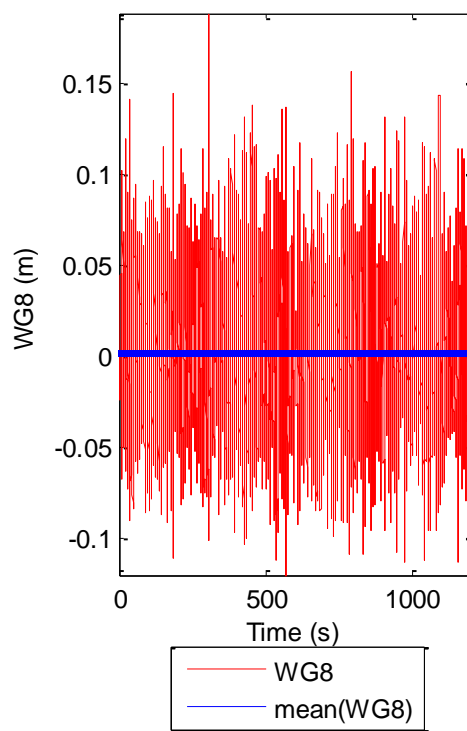
(6) Time History of WG6

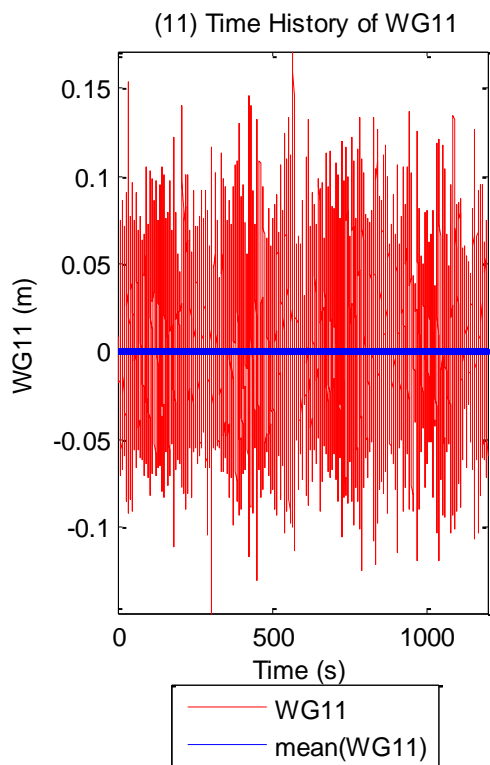
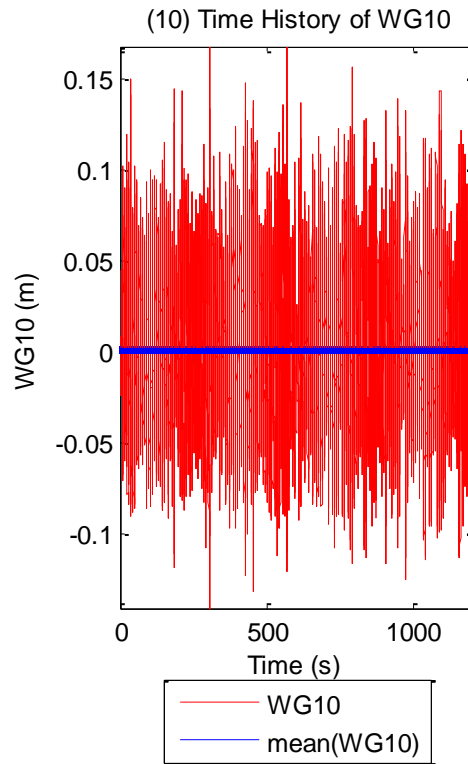
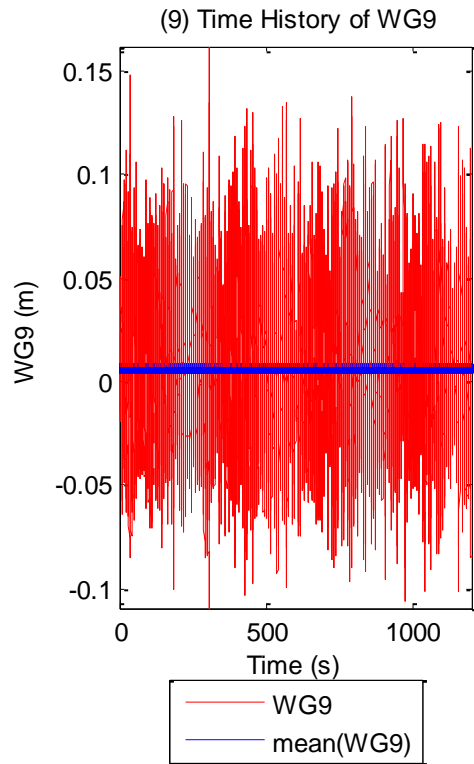


(7) Time History of WG7



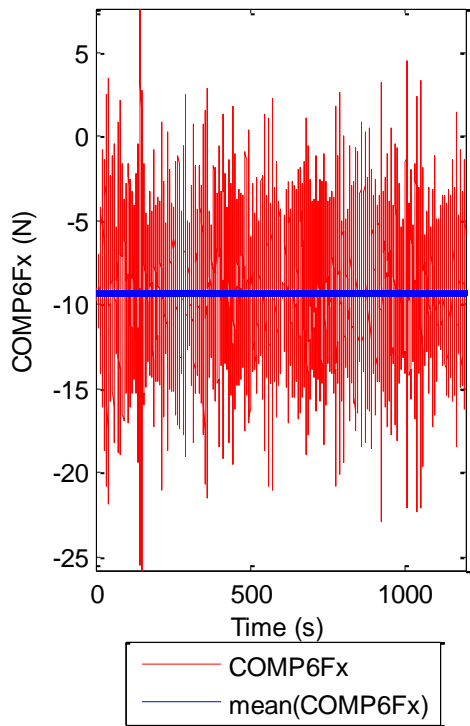
(8) Time History of WG8



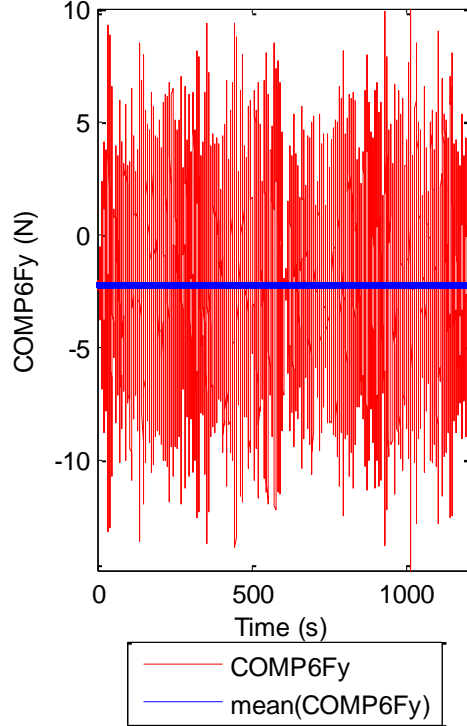


Σχήματα 1.3.1.1 (1-6) Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

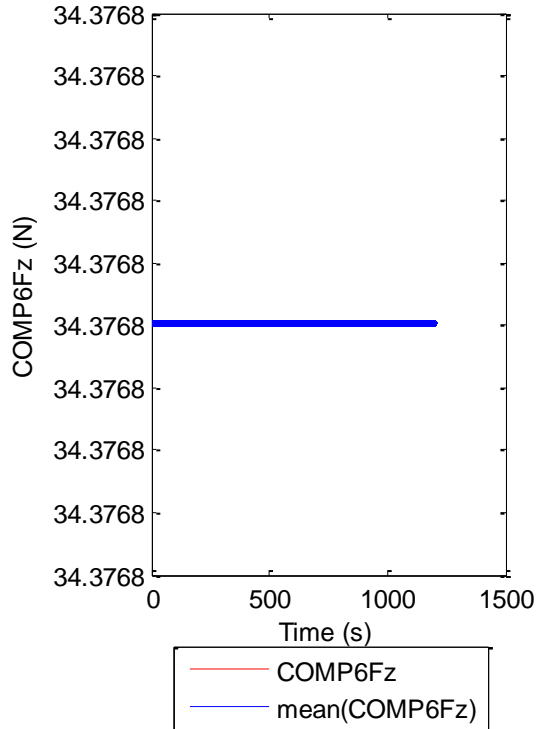
(1) Time History of COMP6Fx



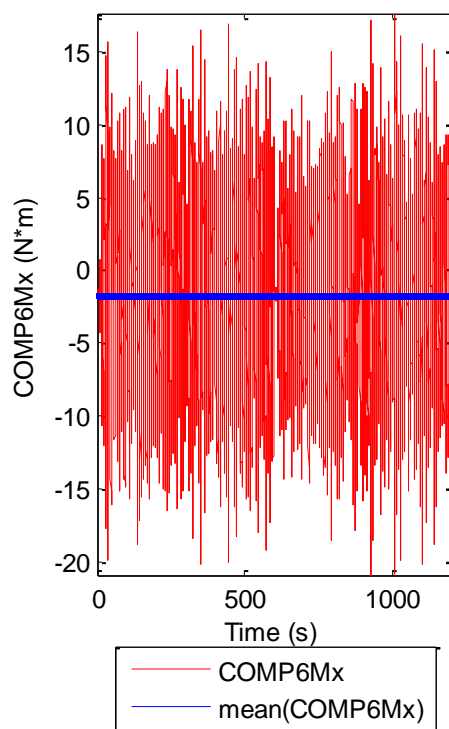
(2) Time History of COMP6Fy

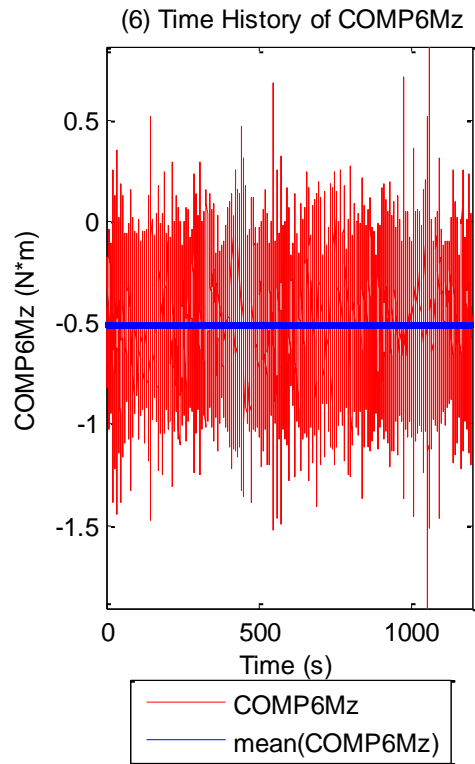
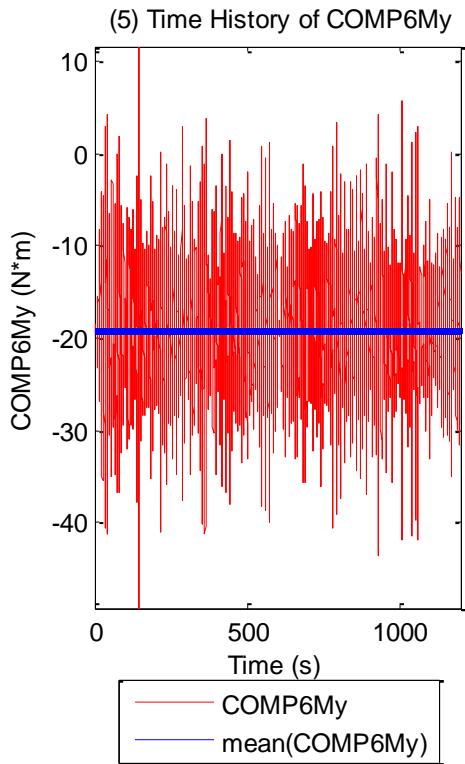


(3) Time History of COMP6Fz

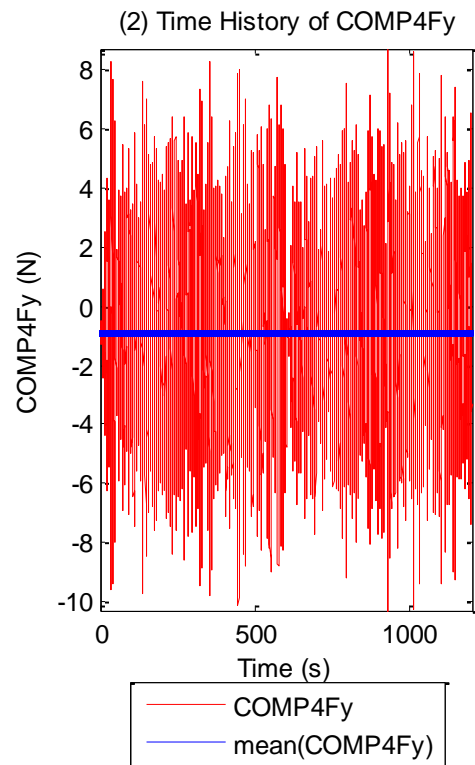
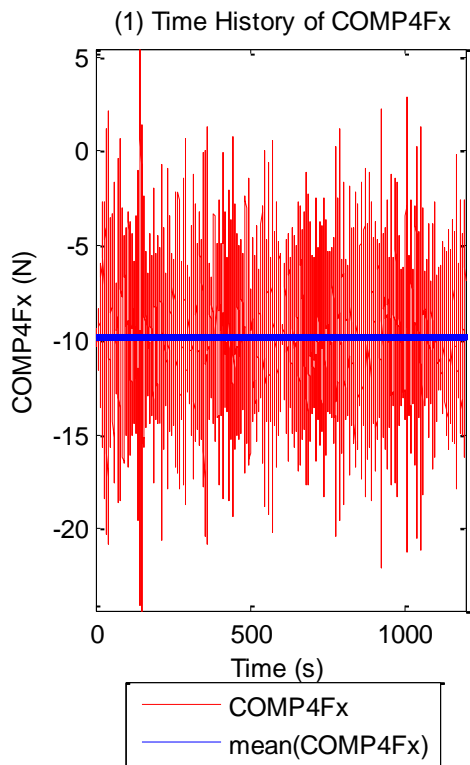


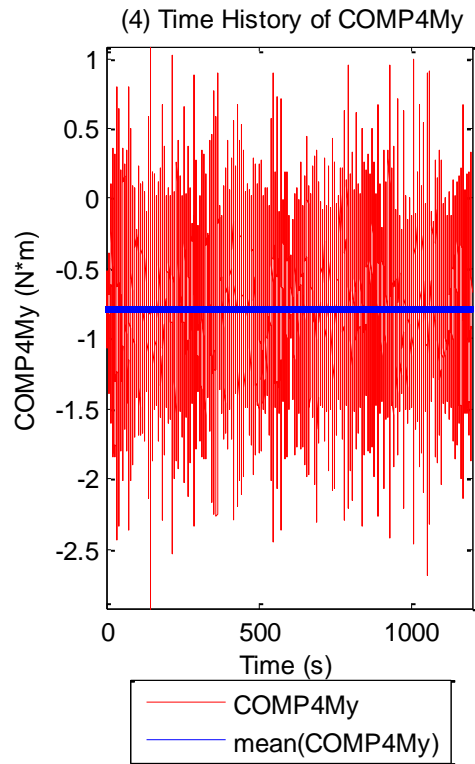
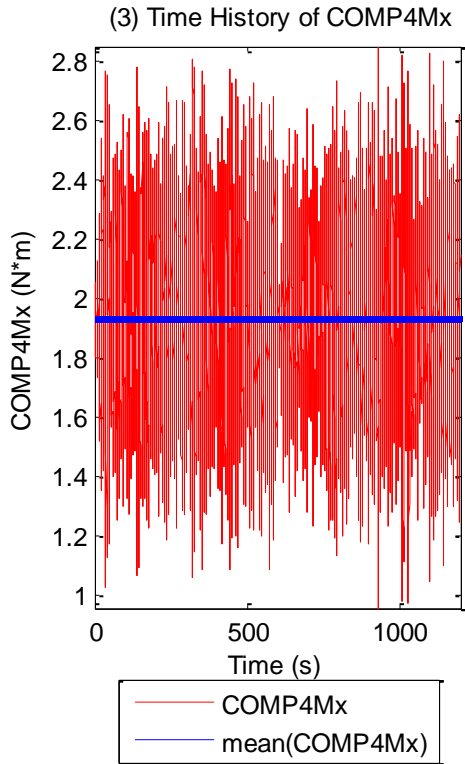
(4) Time History of COMP6Mx



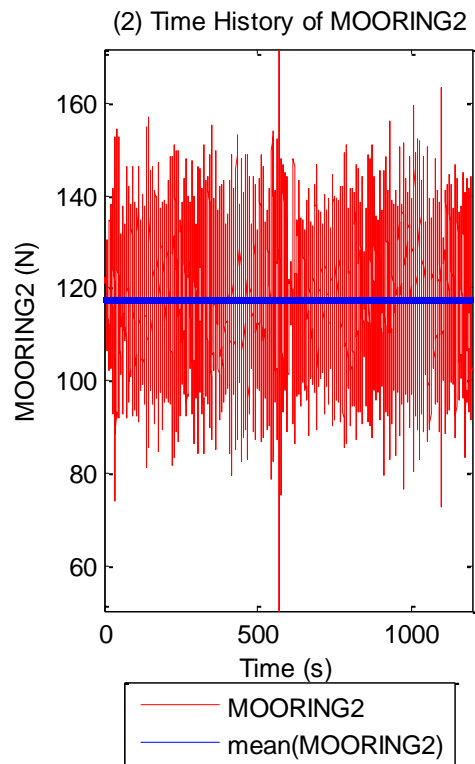
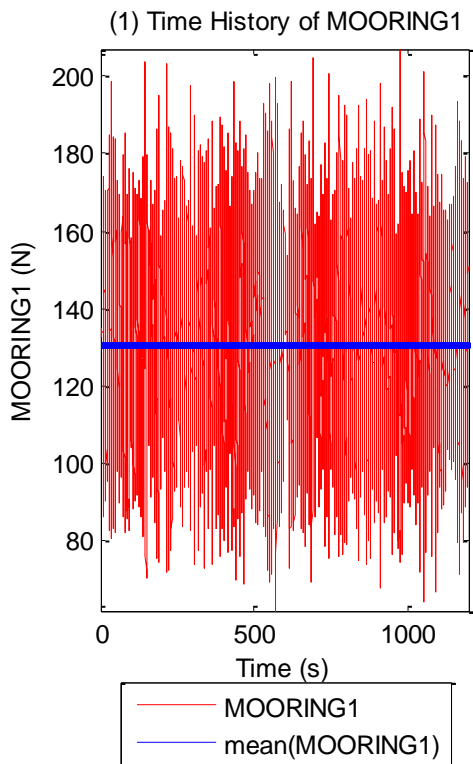


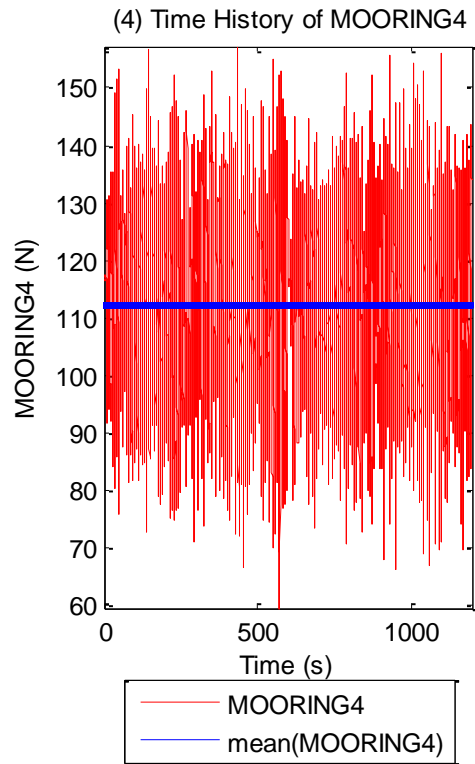
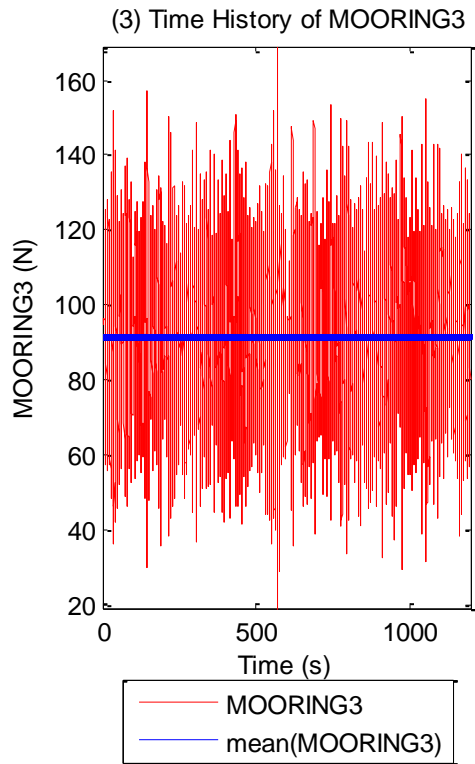
Σχήματα 1.3.1.2 Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



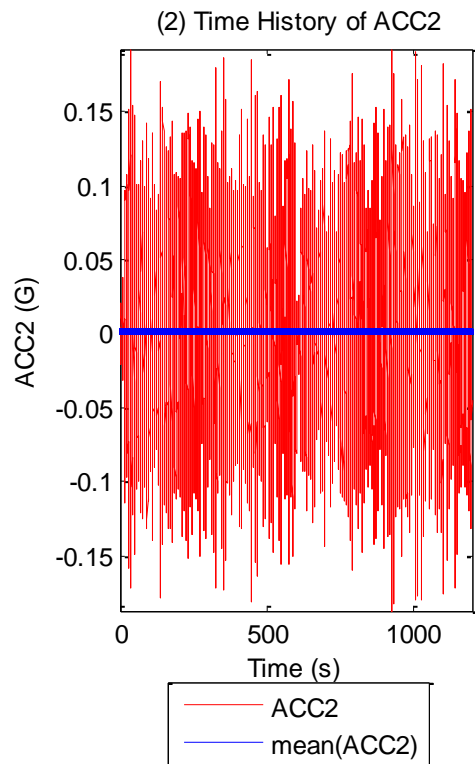
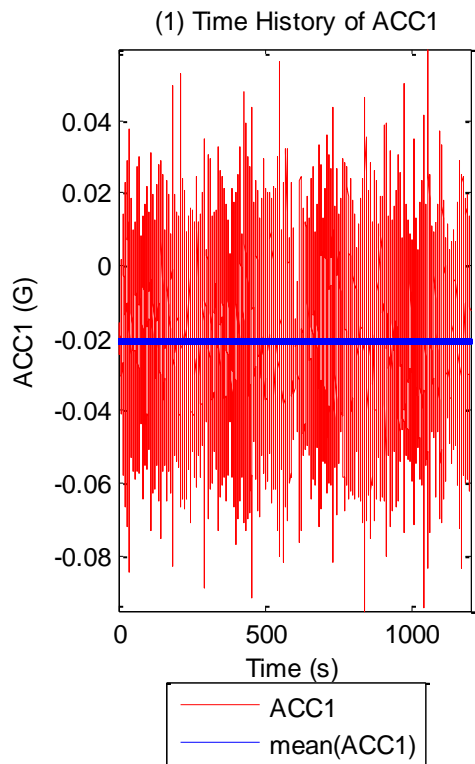


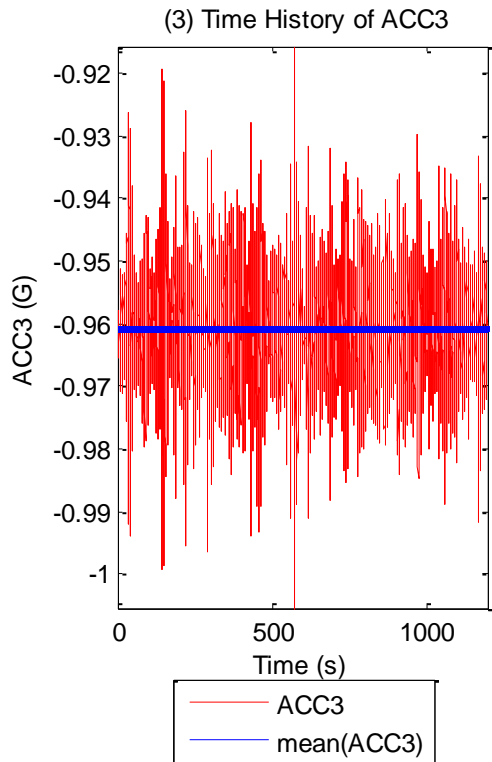
Σχήματα 1.3.1.3 Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



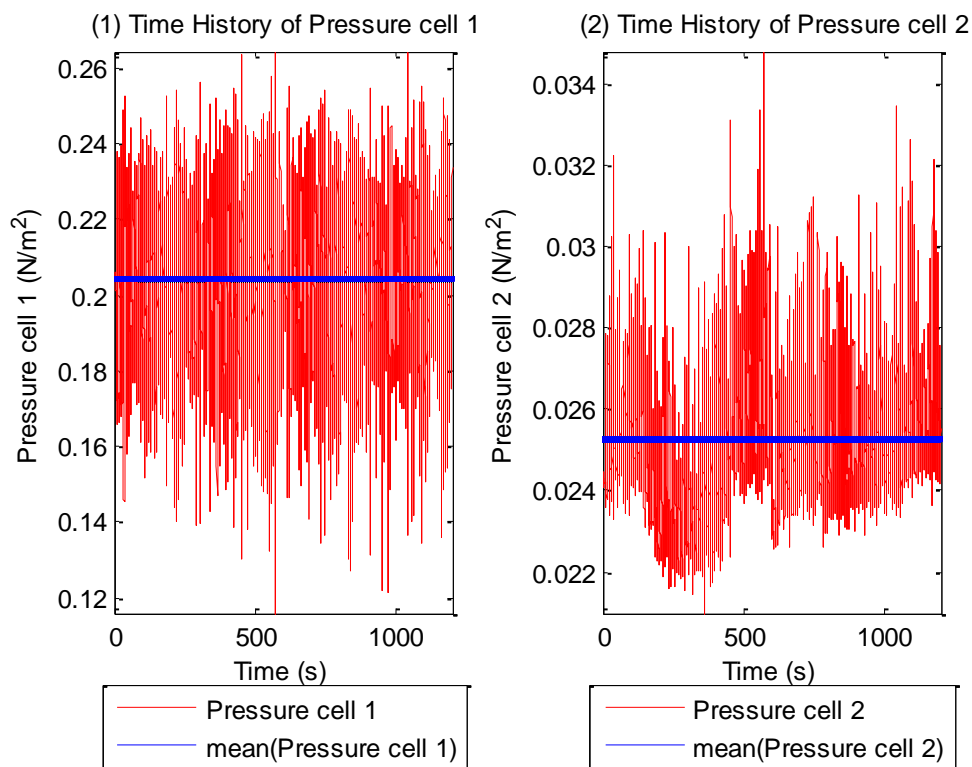


Σχήματα 1.3.1.4 Χρονοσειρές για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης (1-4) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές

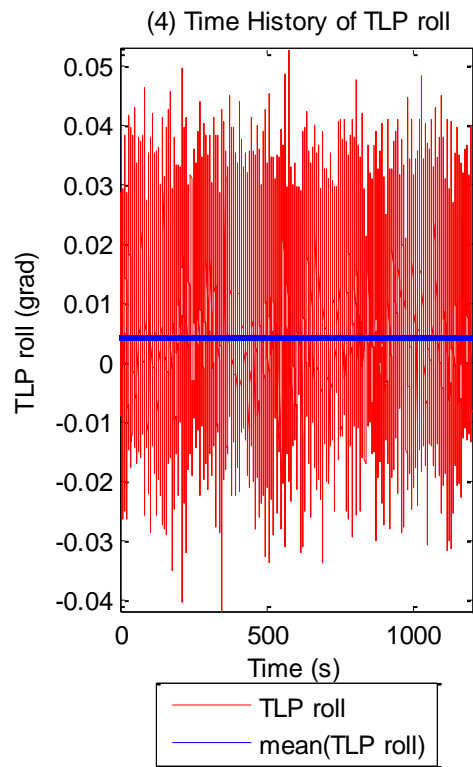
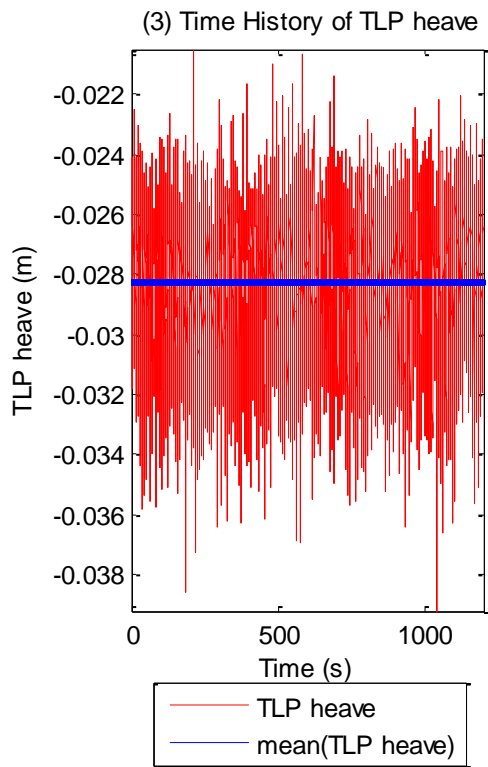
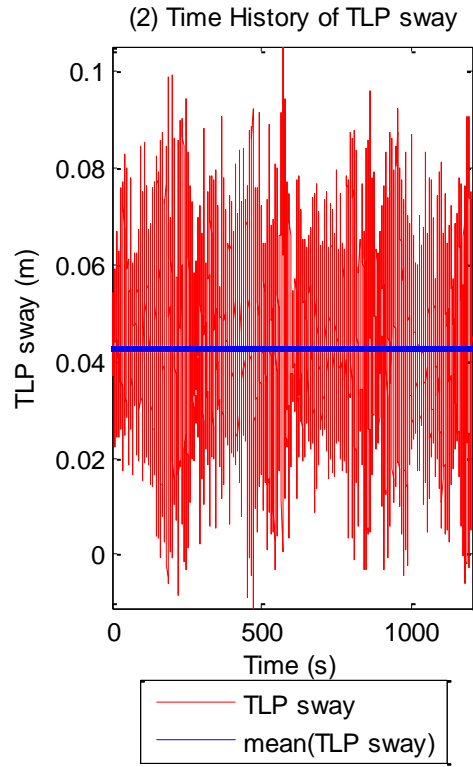
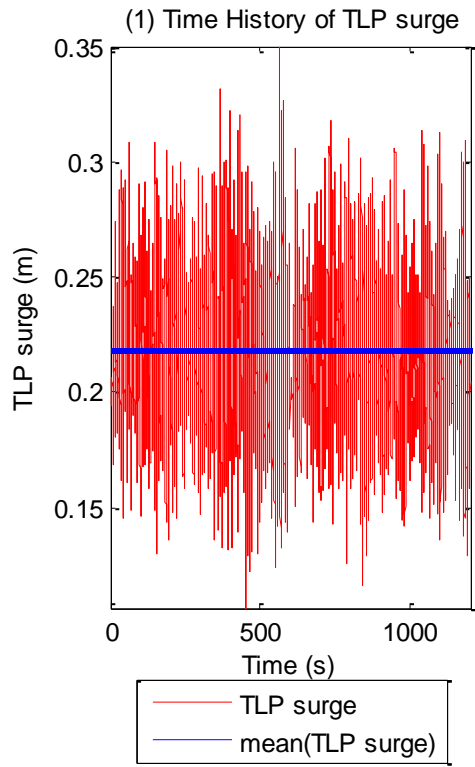


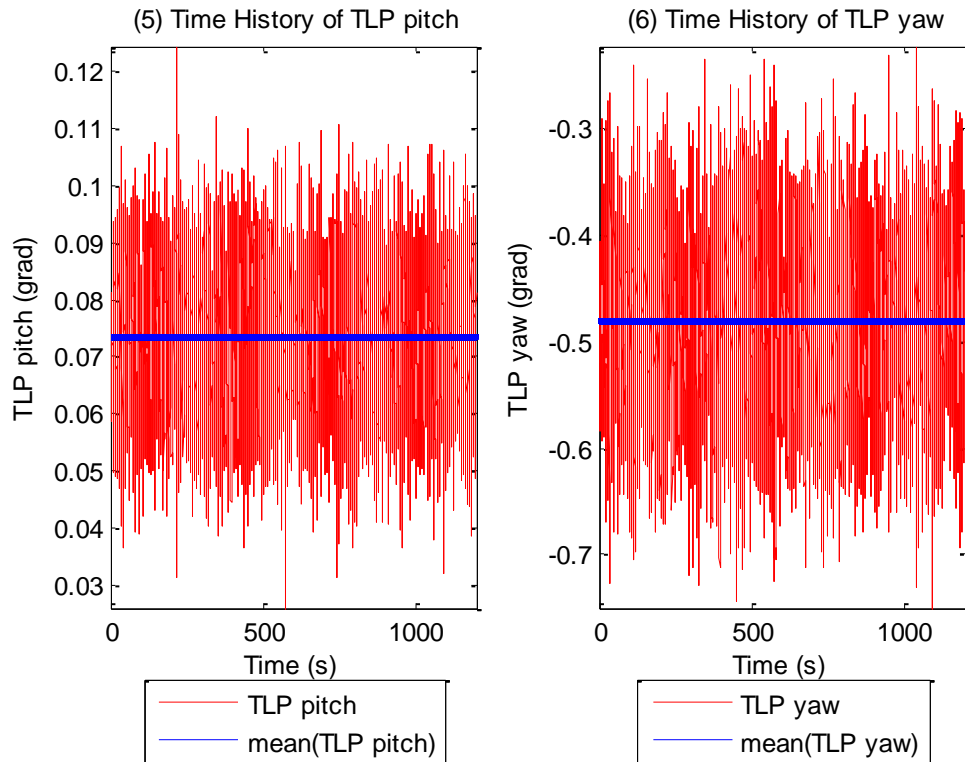


Σχήματα 1.3.1.5 (1-3) Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



Σχήματα 1.3.1.6 (1-2) Χρονοσειρές από τα δυο όργανα μέτρησης της πίεσης





Σχήματα 1.3.1.7 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 1.3.2					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H_{rms}
Wg1 (m)	-0.0077	0.0476	-0.1748	0.1805	0.1336
Wg2 (m)	-0.0010	0.0432	-0.1395	0.2005	0.1198
Wg3 (m)	0.0037	0.0369	-0.1186	0.1849	0.1023
Wg4 (m)	0.0015	0.0394	-0.1400	0.1523	0.1093
Wg5 (m)	-0.0012	0.0373	-0.1188	0.1528	0.1045
Wg6 (m)	-0.0009	0.0423	-0.1340	0.2268	0.1175
Wg7 (m)	0.0080	0.0315	-0.0897	0.1377	0.0878
Wg8 (m)	0.0022	0.0374	-0.1202	0.1888	0.1041

Wg9 (m)	0.0056	0.0348	-0.1093	0.1618	0.0965
Wg10 (m)	0.0007	0.0387	-0.1408	0.1681	0.1070
Wg11 (m)	0.0009	0.0393	-0.1492	0.1713	0.1085
6comp_Fx (N)	-9.2756	3.0674	-25.7537	7.5826	8.1932
6comp_Fy(N)	-2.2216	3.6869	-14.8865	10.0708	10.2075
6comp_Fz (N)	34.3768	0.0000	34.3768	34.3768	0.0000
6comp_Mx (N*m)	-1.6841	5.9931	-20.9439	17.6554	16.8827
6comp_My (N*m)	-19.0409	5.4145	-49.2533	11.6492	14.8564
6comp_Mz (N*m)	-0.5084	0.2274	-1.9064	0.8608	0.5871
4comp_Fx (N)	-9.8569	2.6684	-24.3279	5.4447	6.1912
4comp_Fy (N)	-0.9046	2.8743	-10.2804	8.6863	6.6807
4comp_Mx (N*m)	1.9337	0.2817	0.9556	2.8495	0.6565
4comp_My (N*m)	-0.7779	0.4025	-2.9228	1.0871	0.9766
Mooring_1 (N)	130.9420	21.7127	62.1476	206.9215	47.7734
Mooring_2(N)	117.5492	12.0537	50.2172	171.7628	28.3866
Mooring_3 (N)	91.8837	18.1749	19.2426	168.9668	40.8481
Mooring_4(N)	112.3899	13.3434	59.5534	157.2106	30.8010
Acc_1 (G)	-0.0206	0.0177	-0.0952	0.0597	0.0414
Acc_2 (G)	0.0019	0.0585	-0.1873	0.1925	0.1384
Acc_3 (G)	-0.9607	0.0076	-1.0054	-0.9157	0.0184
Pres.cell_1 (N/m^2)	0.2043	0.0193	0.1160	0.2642	0.0365

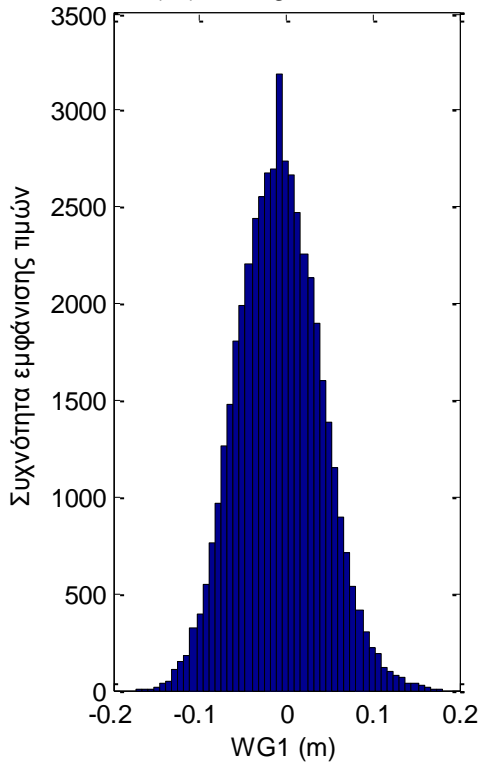
Pres.cell_2 (N/m ²)	0.0253	0.0015	0.0210	0.0348	0.0023
TLP_x (m)	0.2183	0.0331	0.1061	0.3506	0.0462
TLP_y (m)	0.0426	0.0158	-0.0111	0.1052	0.0205
TLP_z (m)	-0.0283	0.0017	-0.0392	-0.0205	0.0035
TLP_roll (grad)	0.0044	0.0089	-0.0418	0.0530	0.0235
TLP_pitch (grad)	0.0736	0.0107	0.0259	0.1244	0.0221
TLP_yaw (grad)	-0.4800	0.0706	-0.7505	-0.2228	0.1207

Πίνακας 1.3.3				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1586	3.0528	1	1
Wg2 (m)	0.2019	3.1721	1	1
Wg3 (m)	0.1924	3.1618	1	1
Wg4 (m)	0.1225	3.1166	1	1
Wg5 (m)	0.2578	3.1850	1	1
Wg6 (m)	0.2309	3.1882	1	1
Wg7 (m)	0.2129	3.1252	1	1
Wg8 (m)	0.1747	3.1554	1	1
Wg9 (m)	0.1399	3.1058	1	1
Wg10 (m)	0.1350	3.1108	1	1
Wg11 (m)	0.1516	3.0931	1	1
6comp_Fx (N)	0.0328	4.3000	1	1
6comp_Fy(N)	0.0141	2.7773	1	1

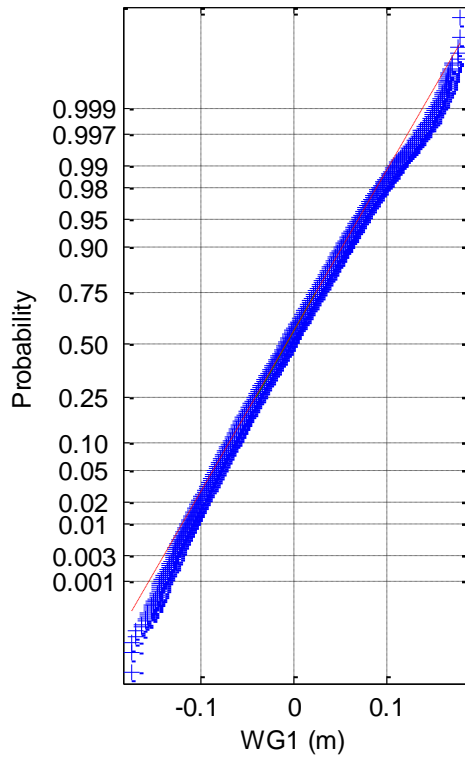
6comp_Fz (N)	-1.0000	1.0000	1	1
6comp_Mx (N*m)	-0.0118	2.7388	1	1
6comp_My (N*m)	0.0444	4.5278	1	1
6comp_Mz (N*m)	-0.0255	3.4968	1	1
4comp_Fx (N)	0.0741	4.6824	1	1
4comp_Fy (N)	0.0129	2.7791	1	1
4comp_Mx (N*m)	-0.0058	2.7590	1	1
4comp_My (N*m)	-0.0025	3.9673	1	1
Mooring_1 (N)	-0.0156	2.7693	1	1
Mooring_2 (N)	-0.0028	3.0317	1	1
Mooring_3 (N)	-0.1277	3.0187	1	1
Mooring_4 (N)	-0.1145	2.9044	1	1
Acc_1 (G)	-0.0444	3.1101	1	1
Acc_2 (G)	0.0108	2.7419	1	1
Acc_3 (G)	0.0337	4.6919	1	1
Pres.cell_1 (N/m)	-0.2831	3.1921	1	1
Pres.cell_2 (N/m)	0.7393	4.4195	1	1
TLP_x (m)	0.1558	2.9017	1	1
TLP_y (m)	0.0642	3.0535	1	1
TLP_z (m)	-0.7990	4.4113	1	1
TLP_roll (grad)	0.5751	4.5181	1	1
TLP_pitch (grad)	0.0683	2.9934	1	1

TLP_yaw (grad)	-0.0033	2.9422	1	1
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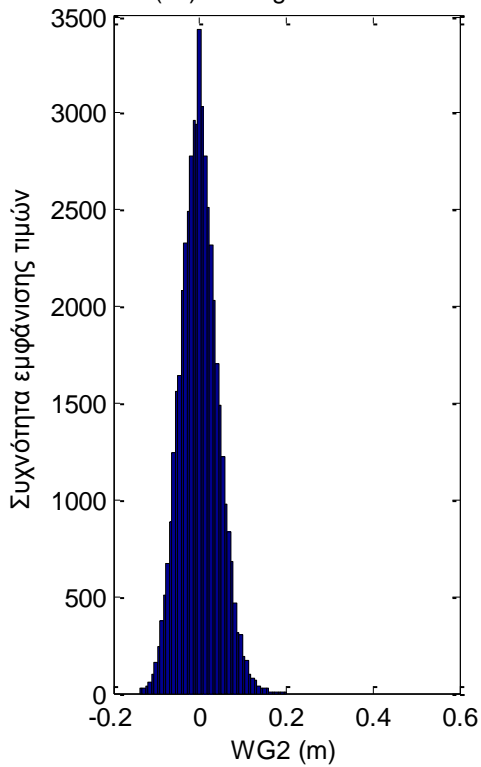
(1a) Histogram of WG1



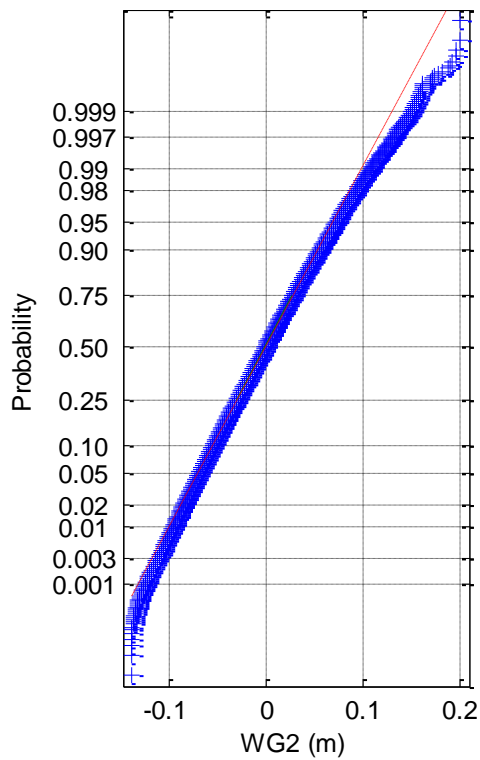
(1b) Normal probability plot of WG1



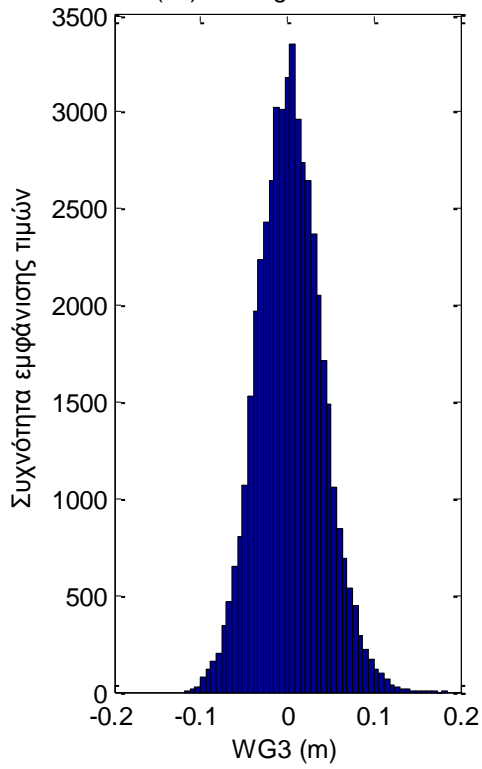
(2a) Histogram of WG2



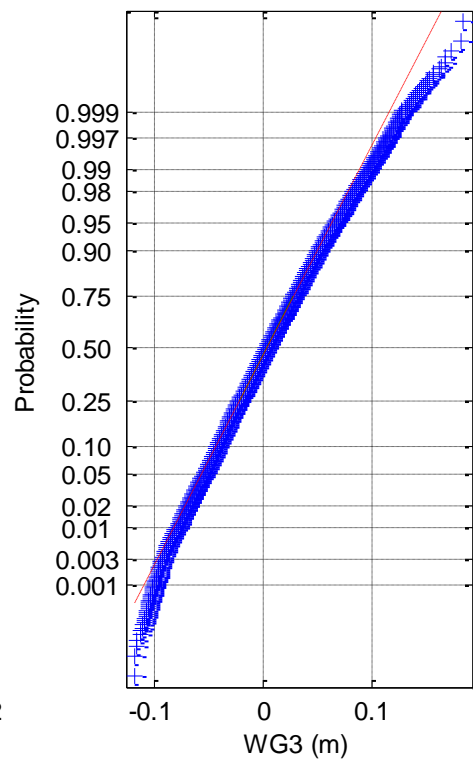
(2b) Normal probability plot of WG2



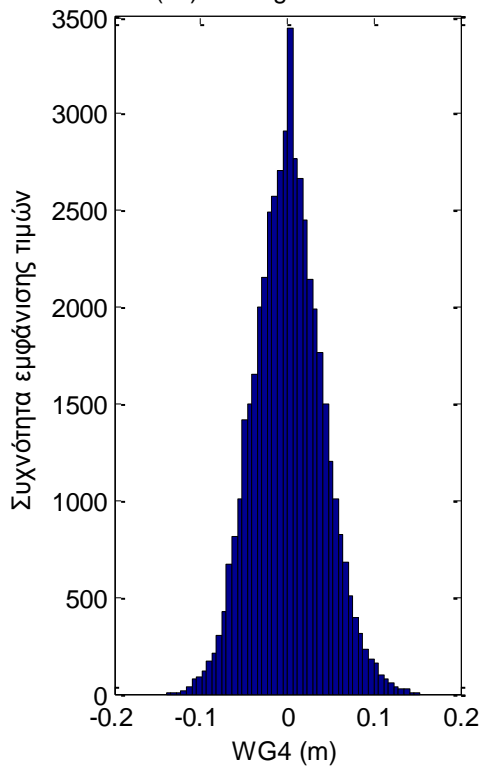
(3a) Histogram of WG3



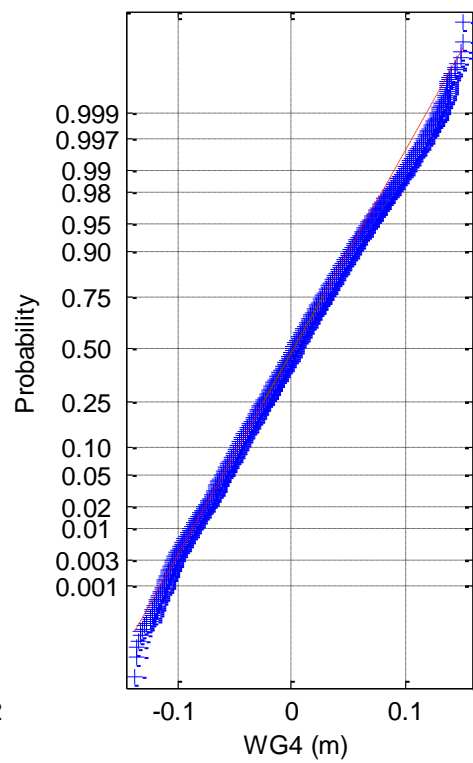
(3b) Normal probability plot of WG3



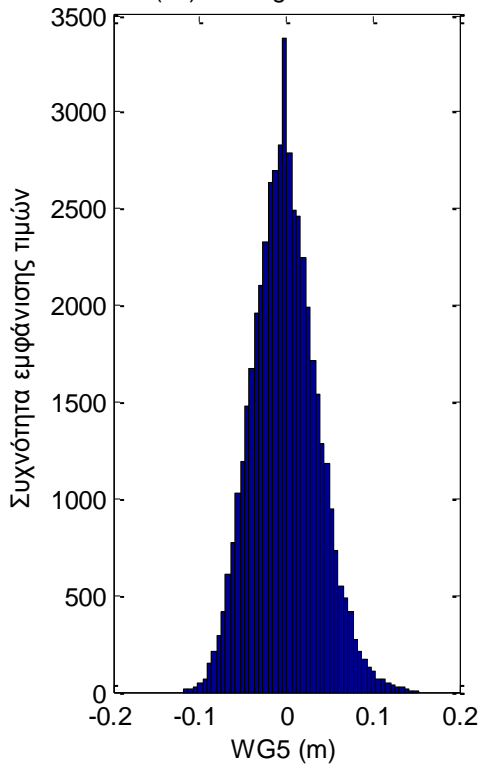
(4a) Histogram of WG4



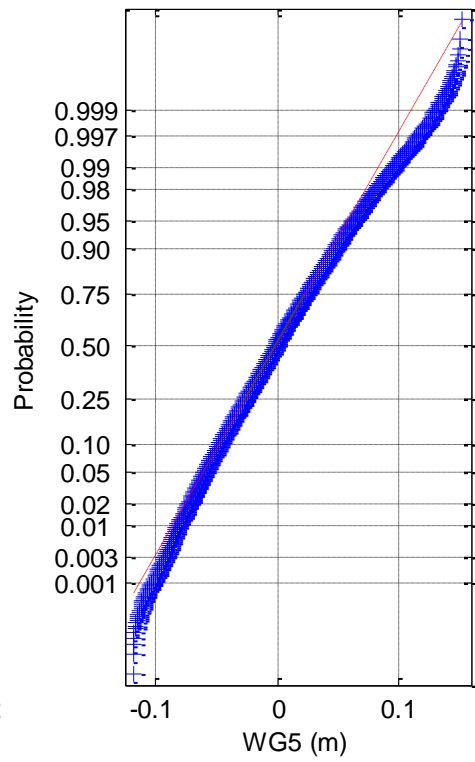
(4b) Normal probability plot of WG4



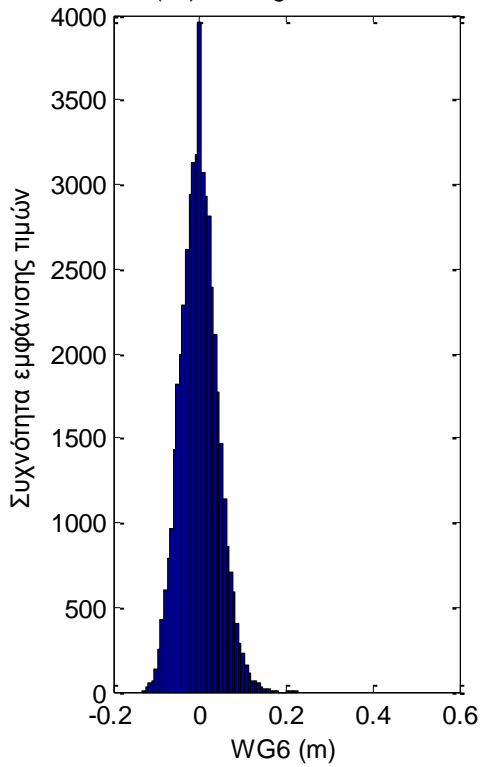
(5a) Histogram of WG5



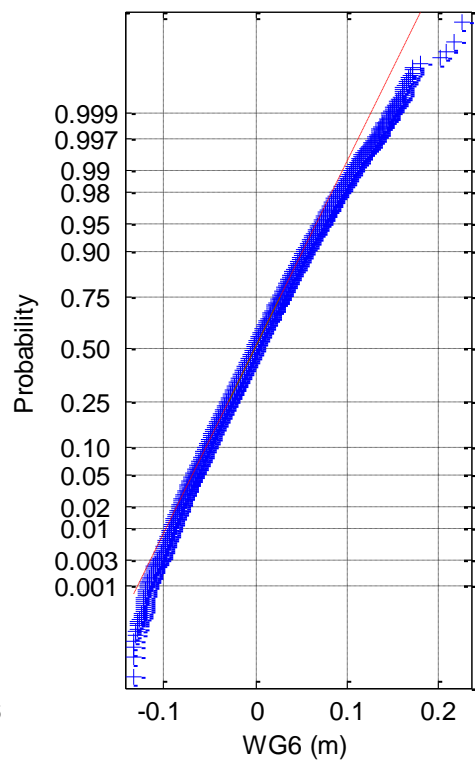
(5b) Normal probability plot of WG5



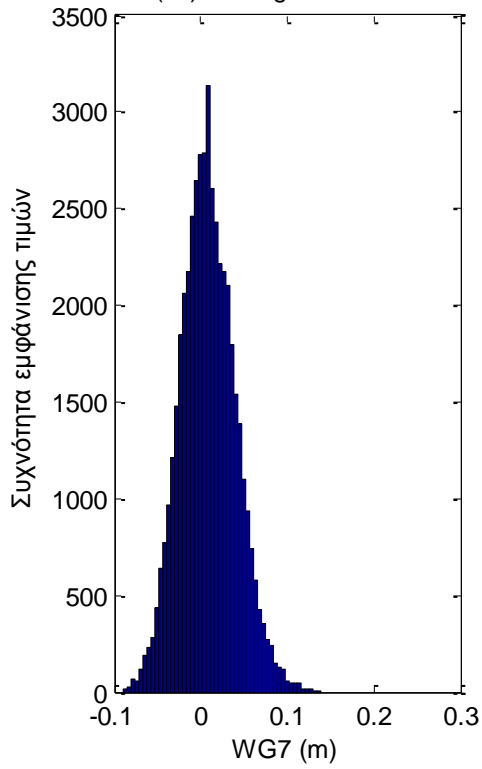
(6a) Histogram of WG6



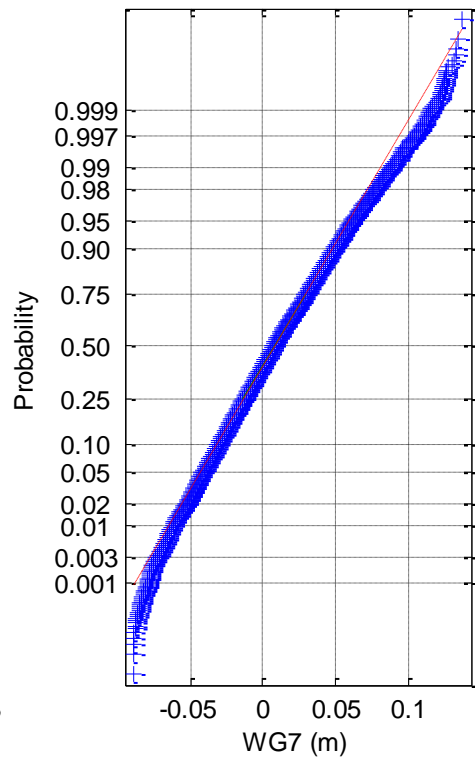
(6b) Normal probability plot of WG6



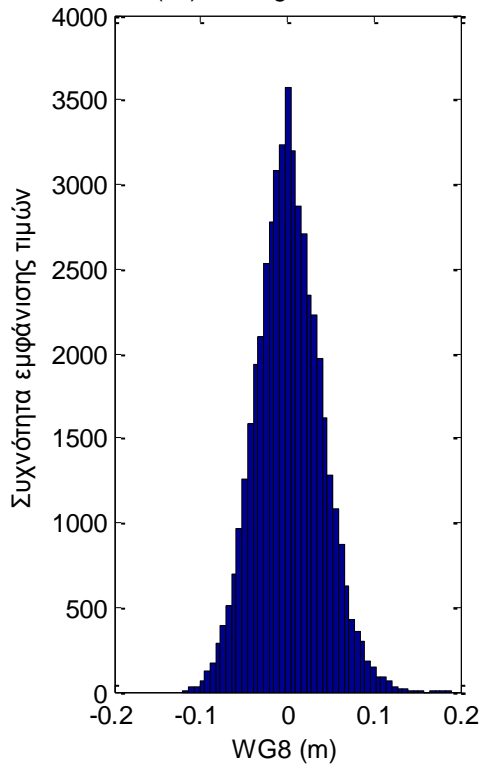
(7a) Histogram of WG7



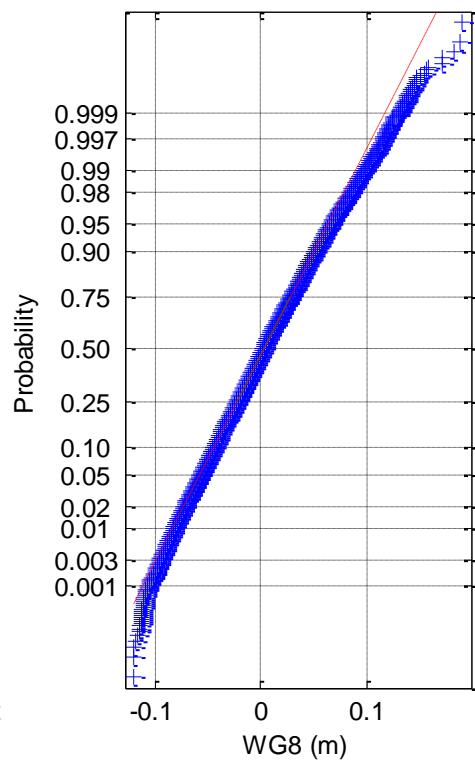
(7b) Normal probability plot of WG7



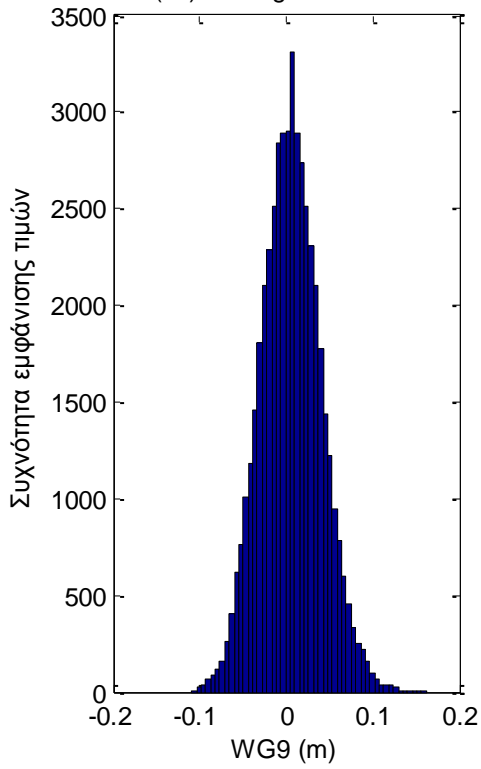
(8a) Histogram of WG8



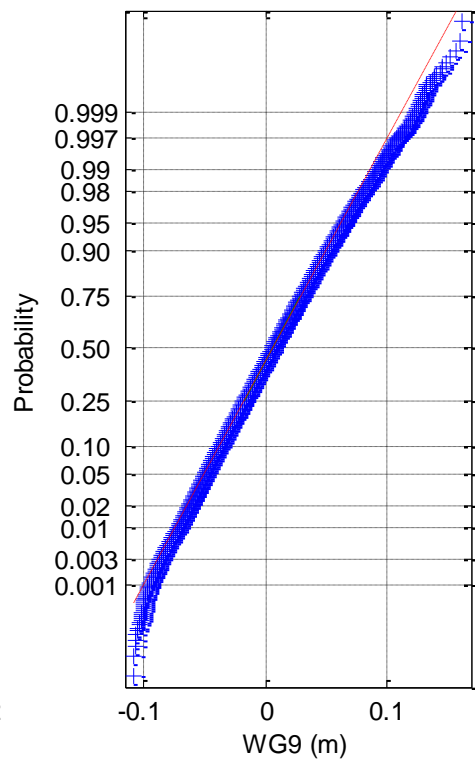
(8b) Normal probability plot of WG8



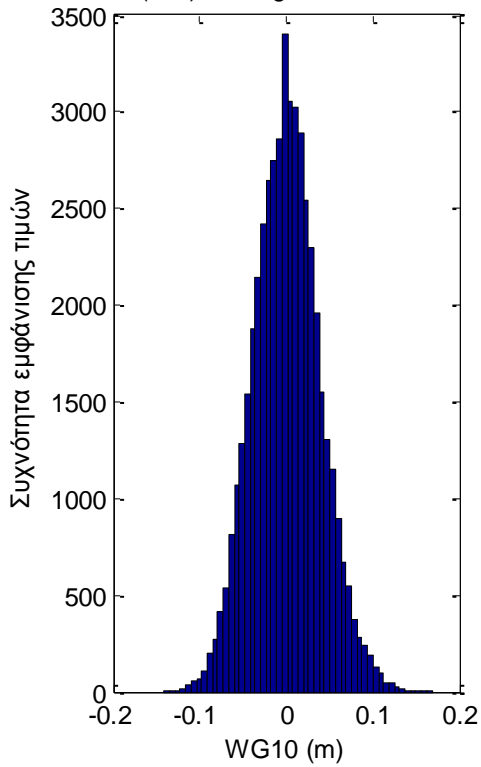
(9a) Histogram of WG9



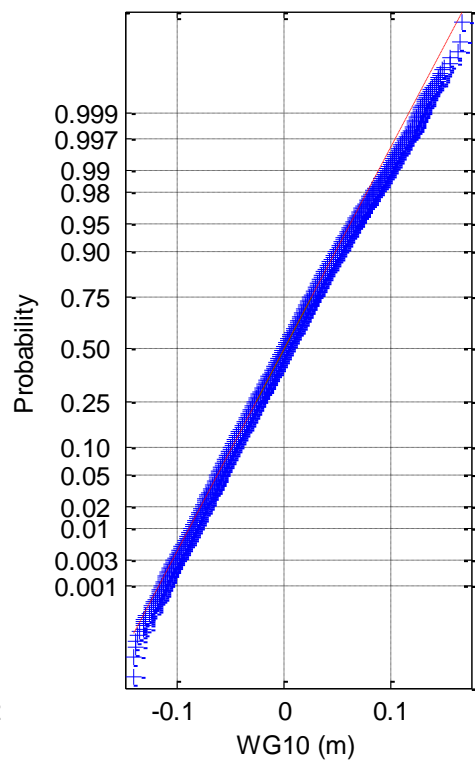
(9b) Normal probability plot of WG9

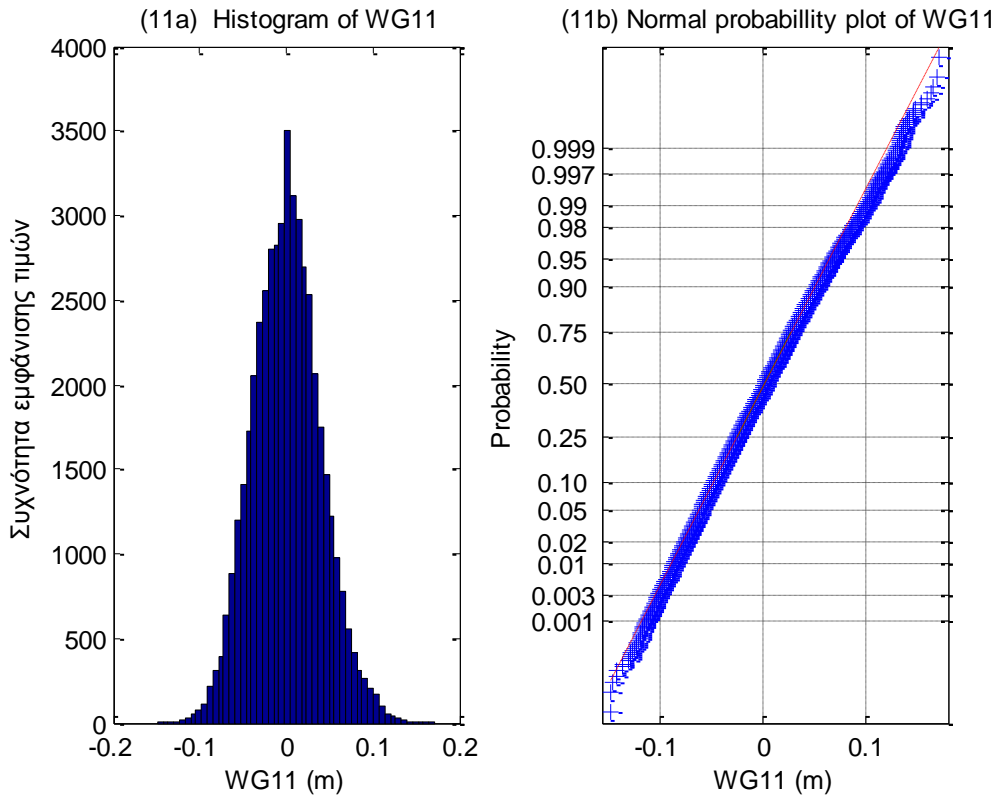


(10a) Histogram of WG10

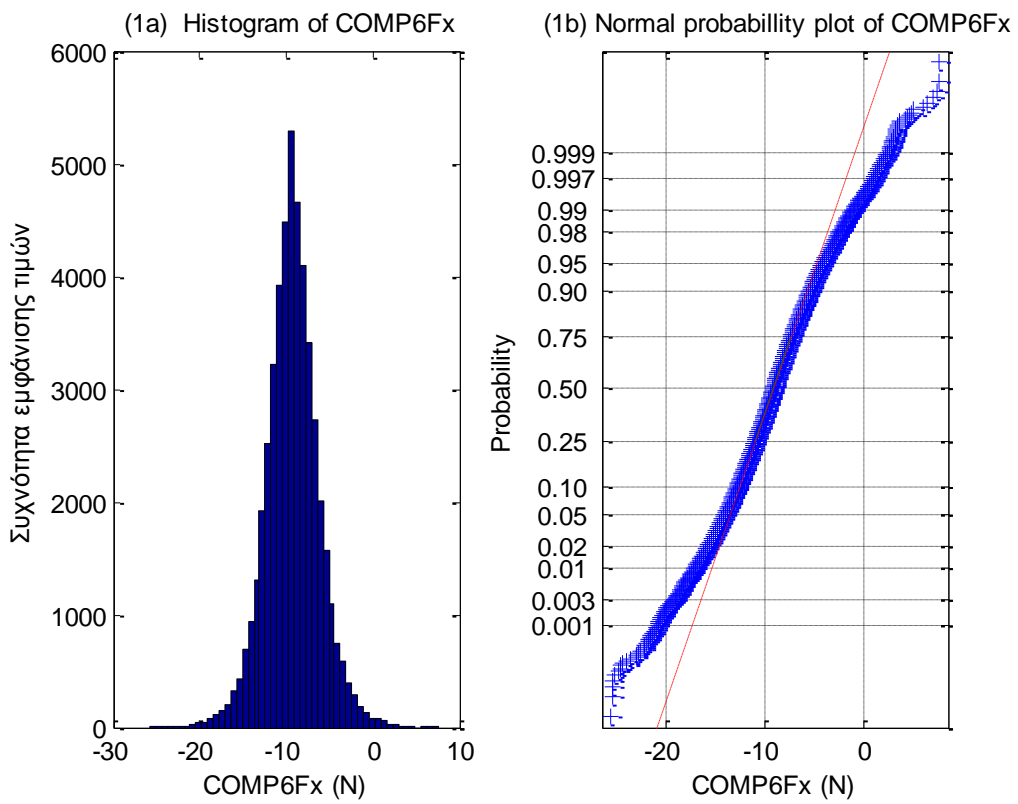


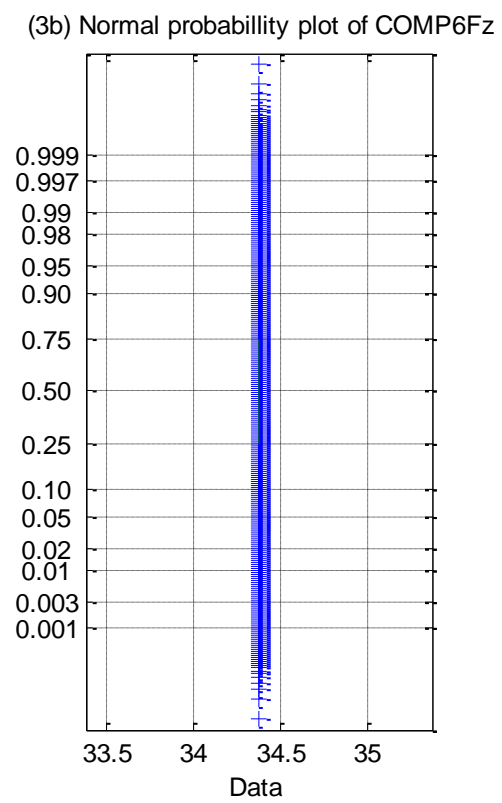
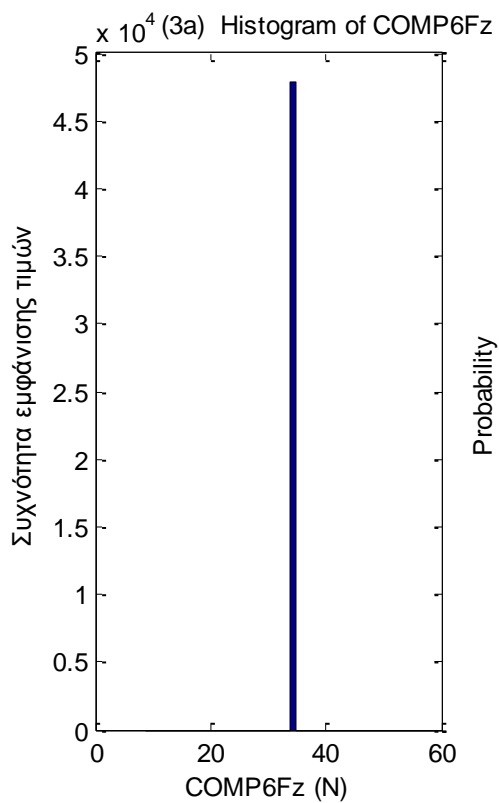
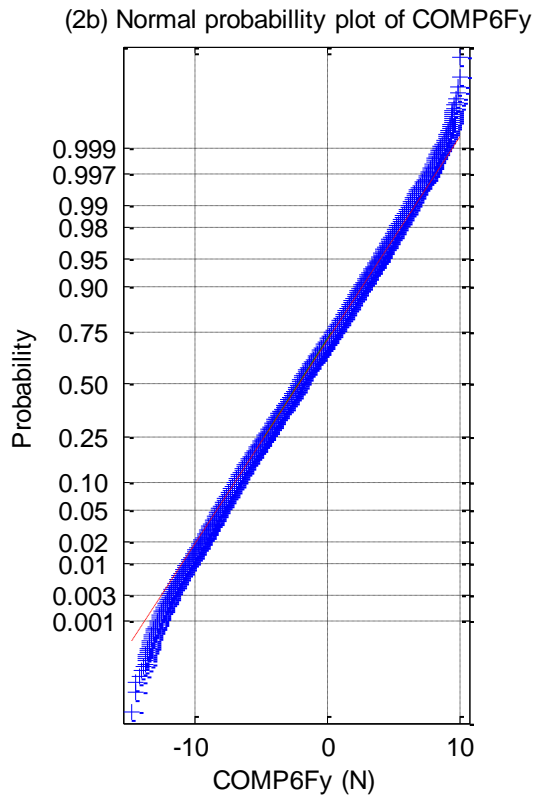
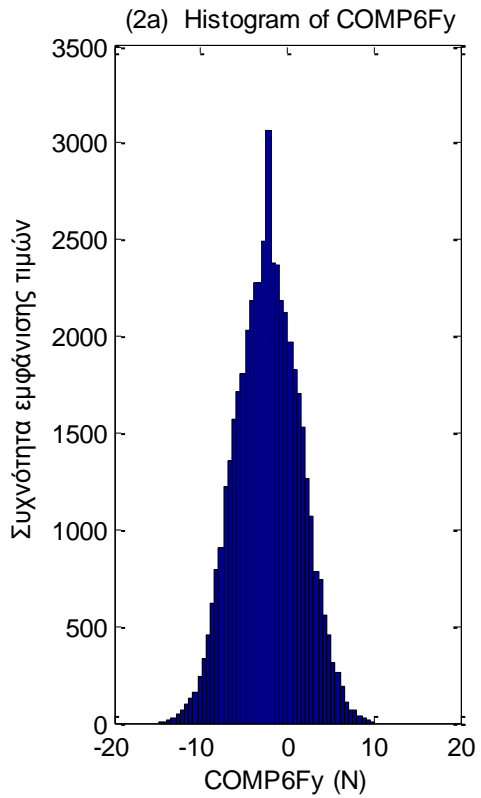
(10b) Normal probability plot of WG10

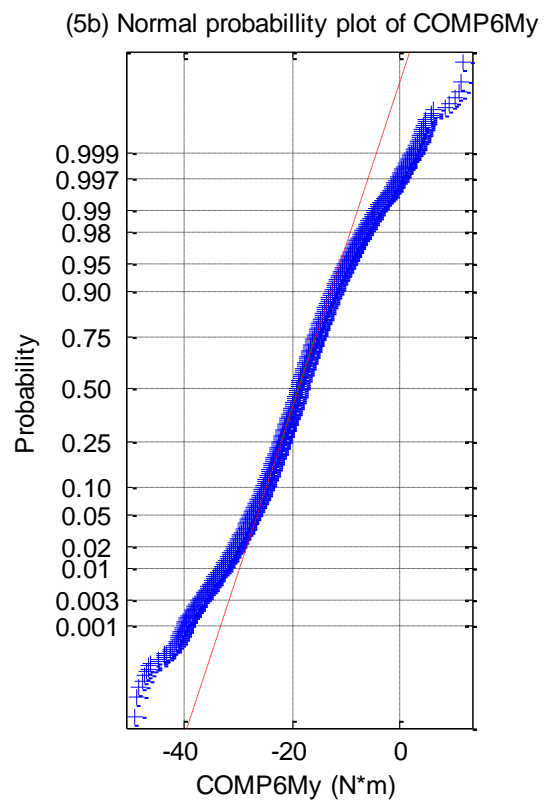
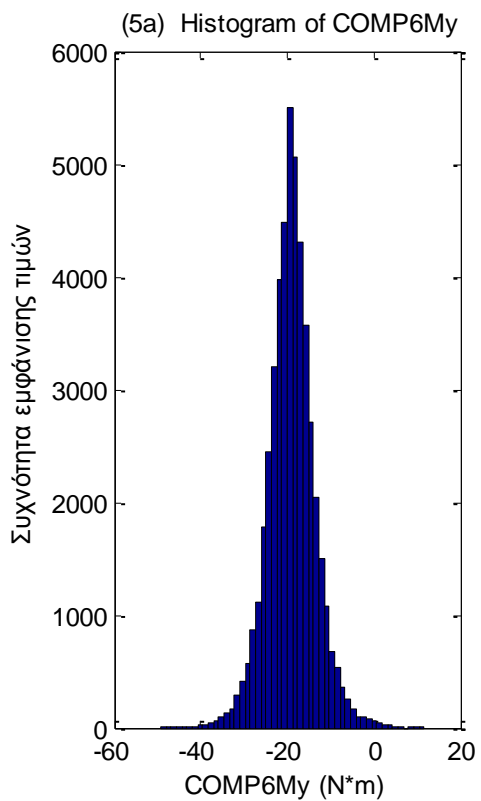
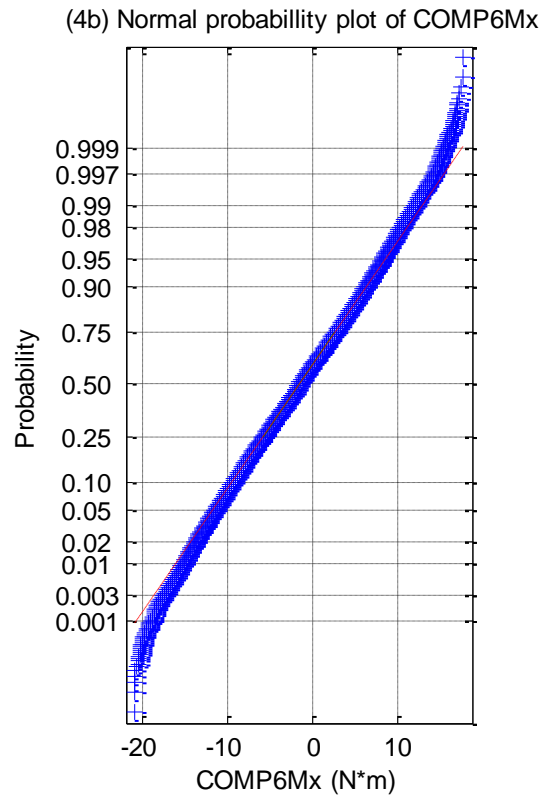
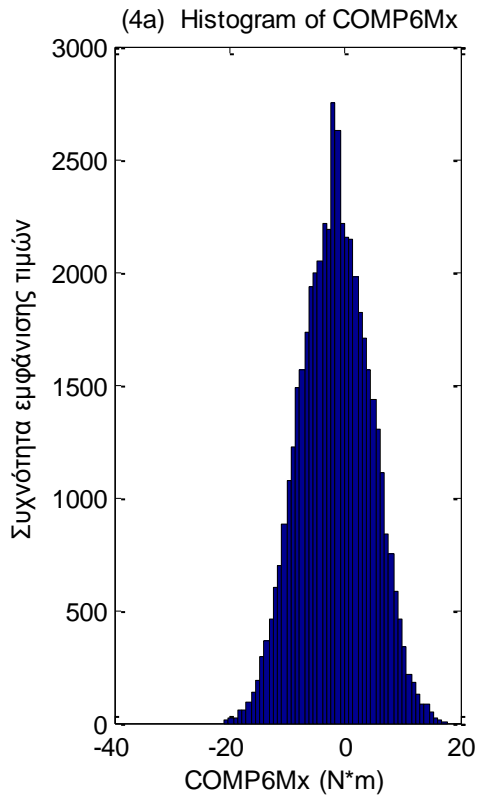


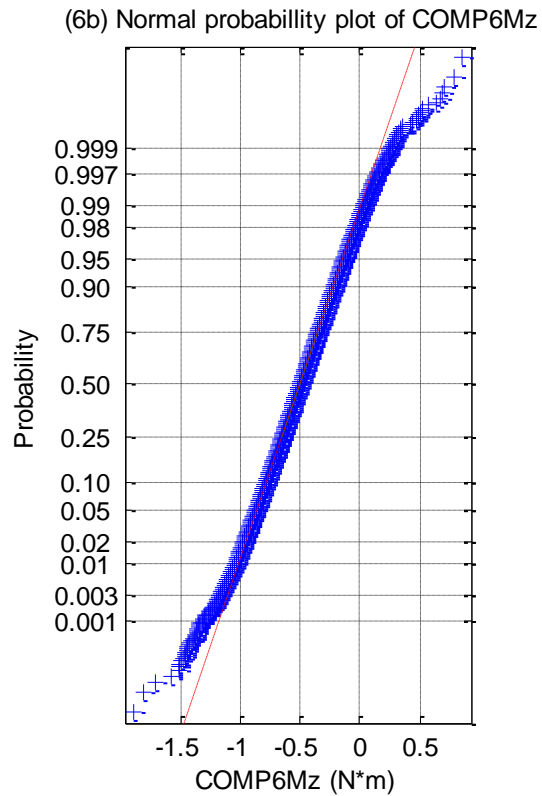
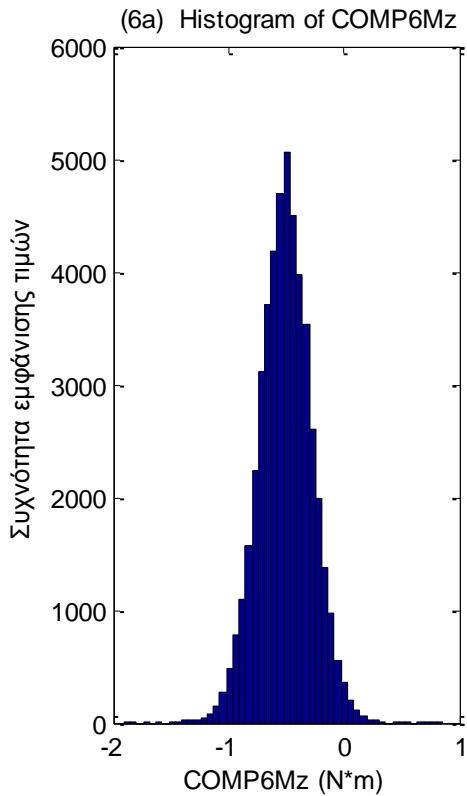


Σχήματα 1.3.2.1 (1-11) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

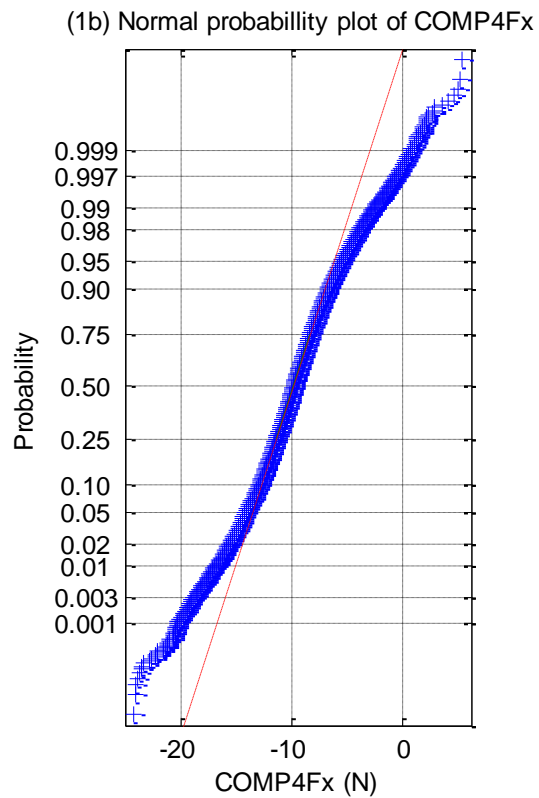
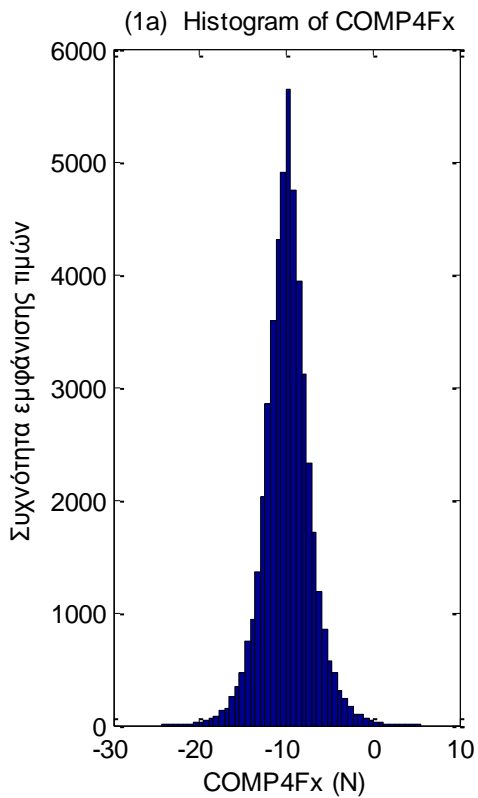


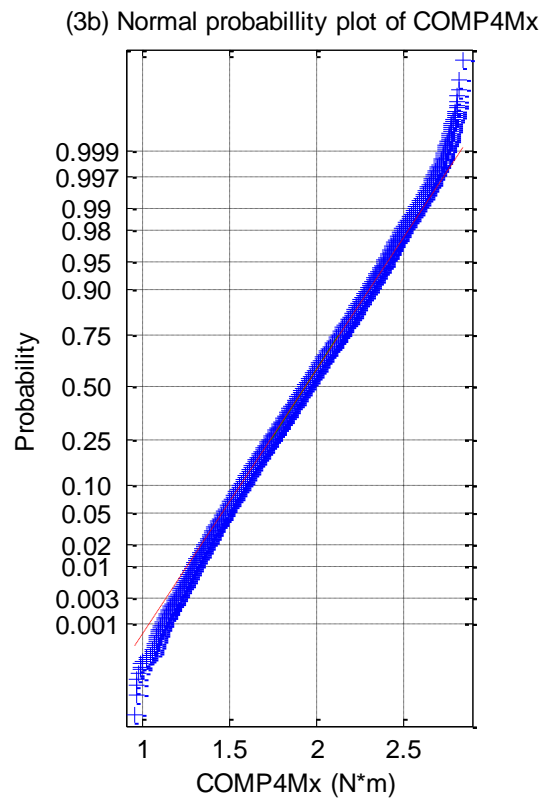
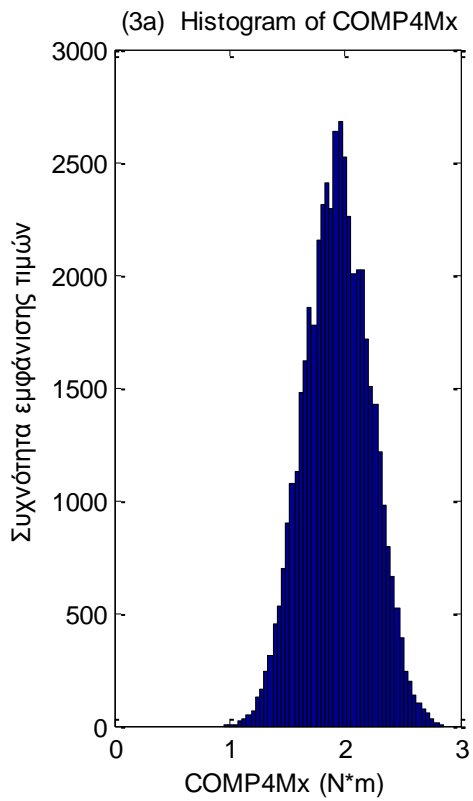
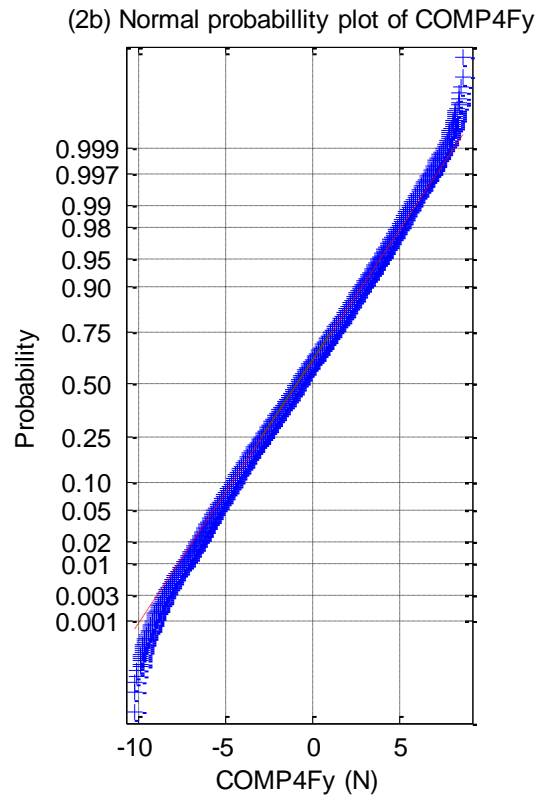
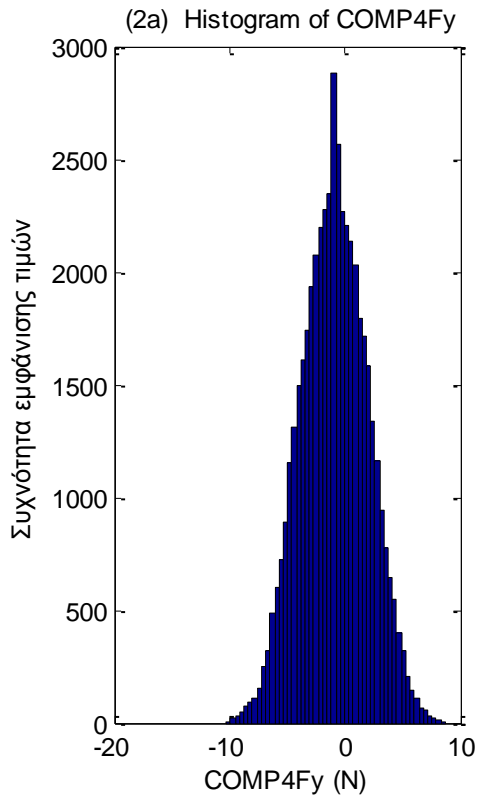


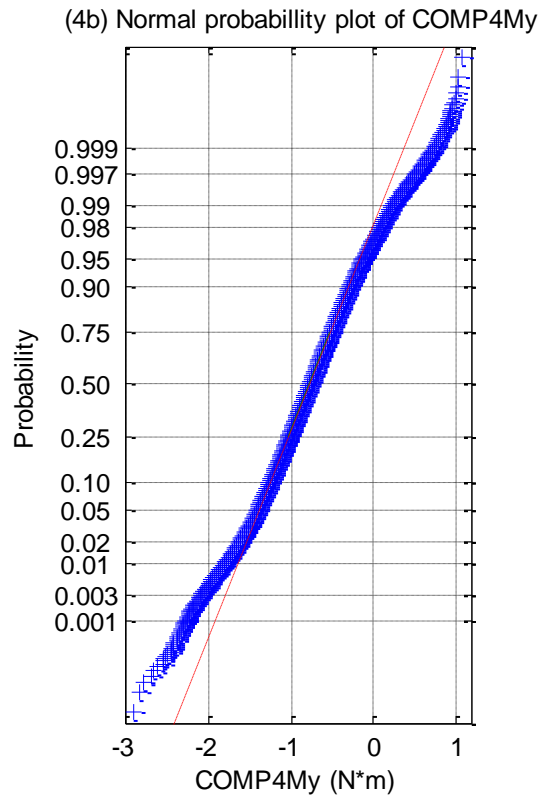
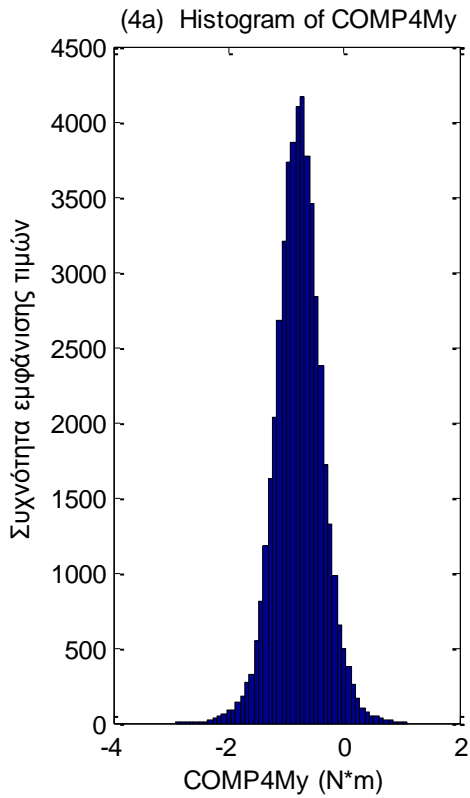




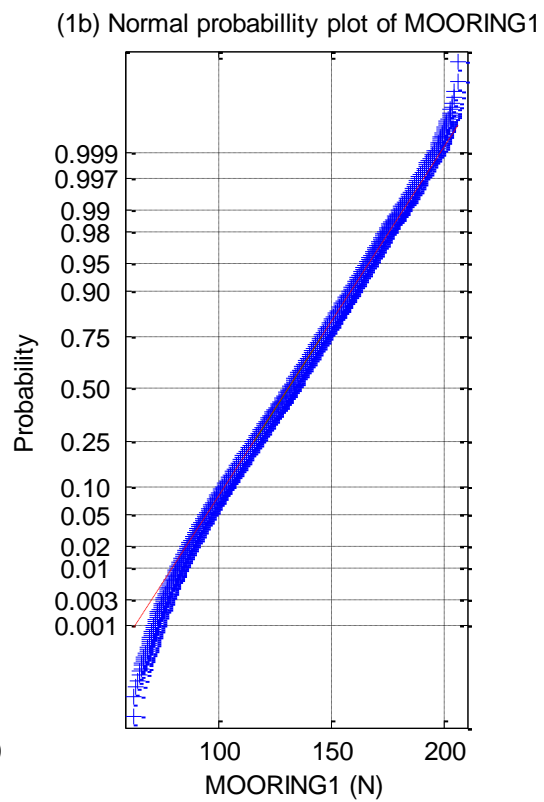
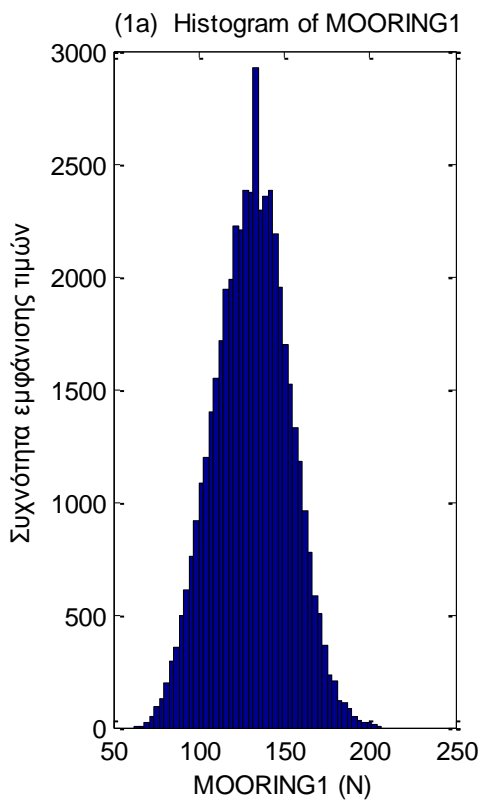
Σχήματα 1.3.2.2 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



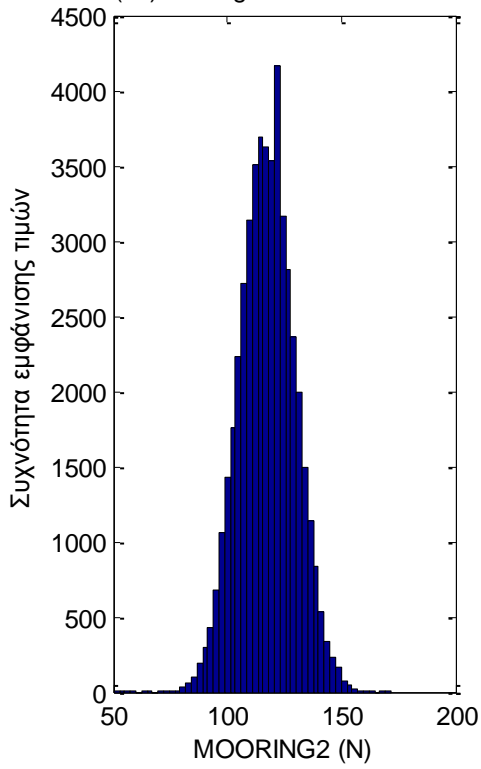




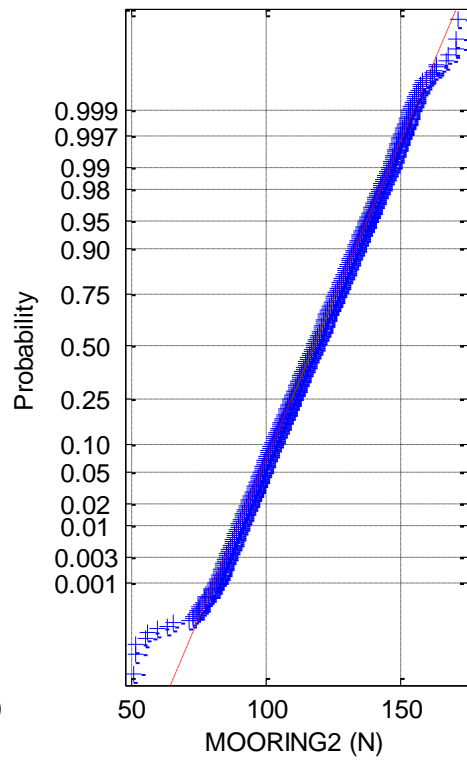
Σχήματα 1.3.2.3 α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



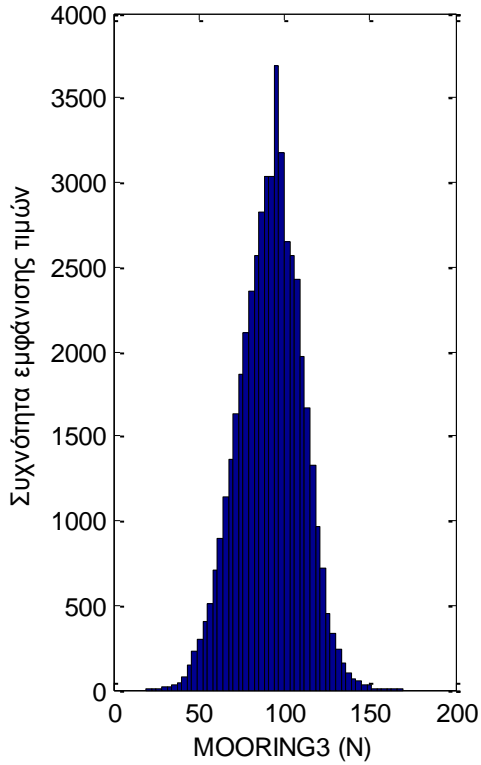
(2a) Histogram of MOORING2



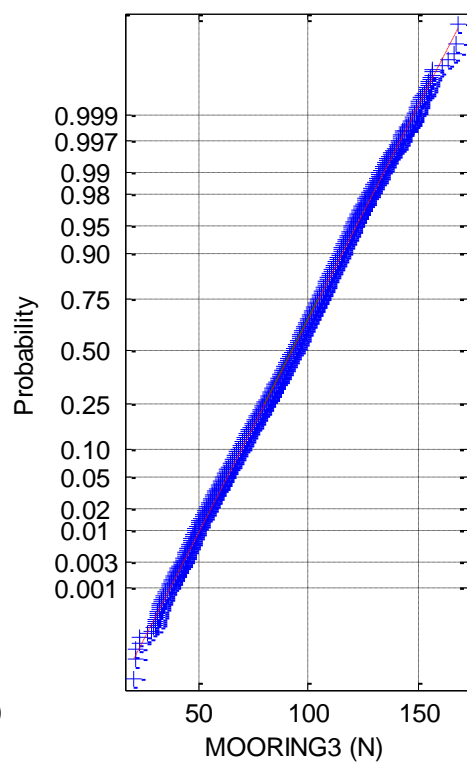
(2b) Normal probability plot of MOORING2

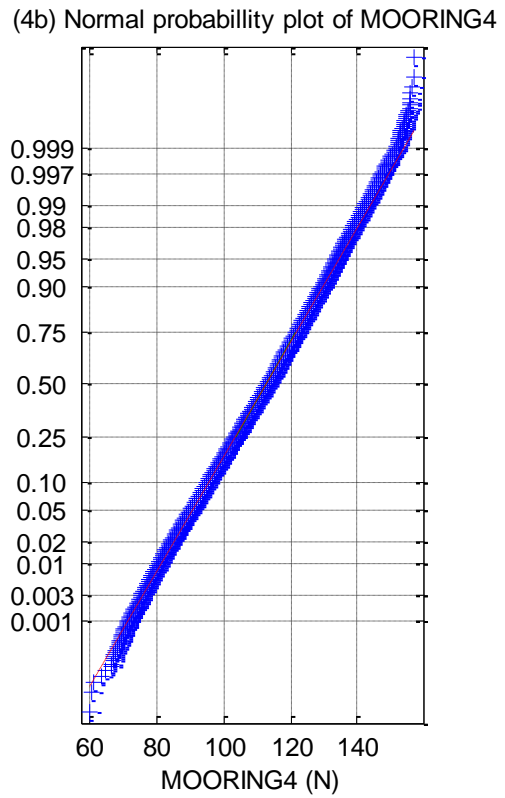
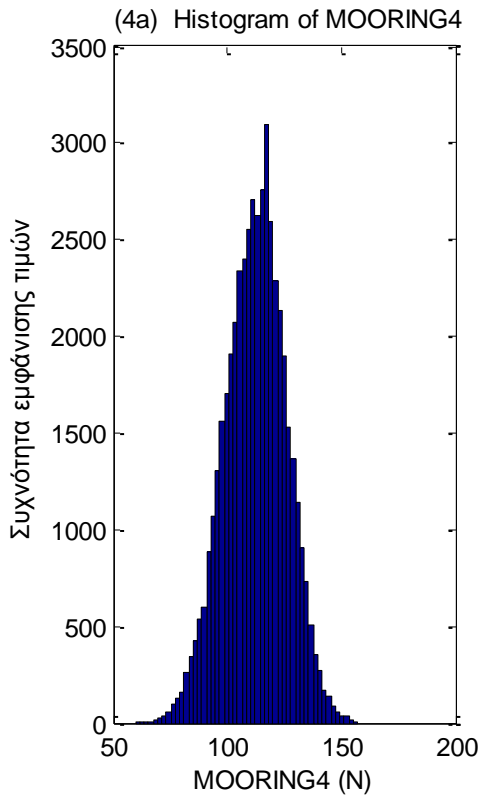


(3a) Histogram of MOORING3

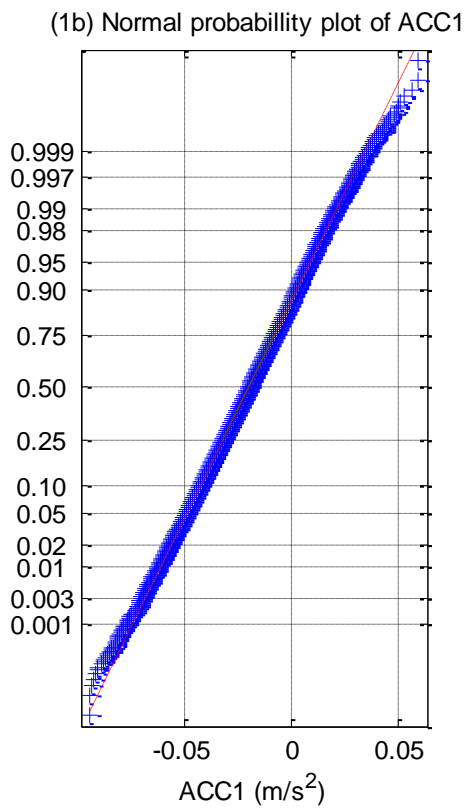
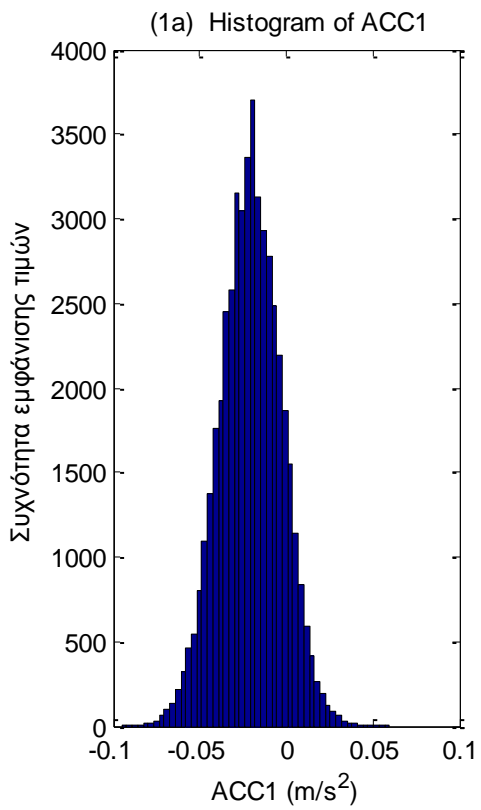


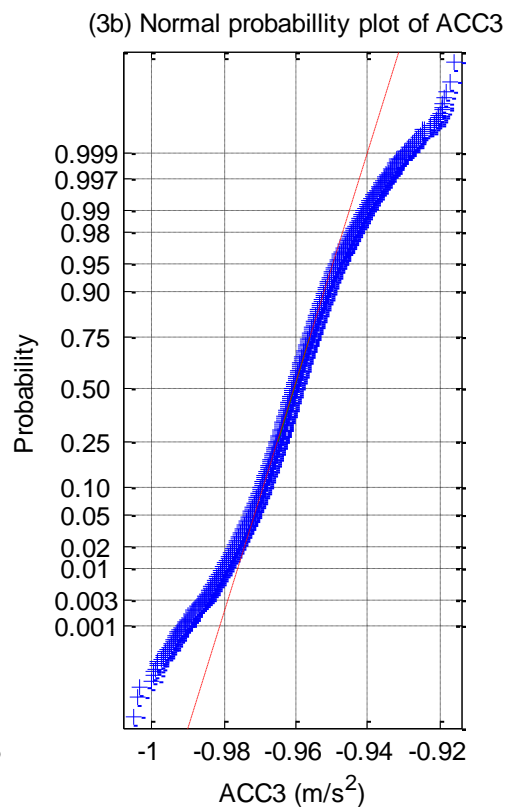
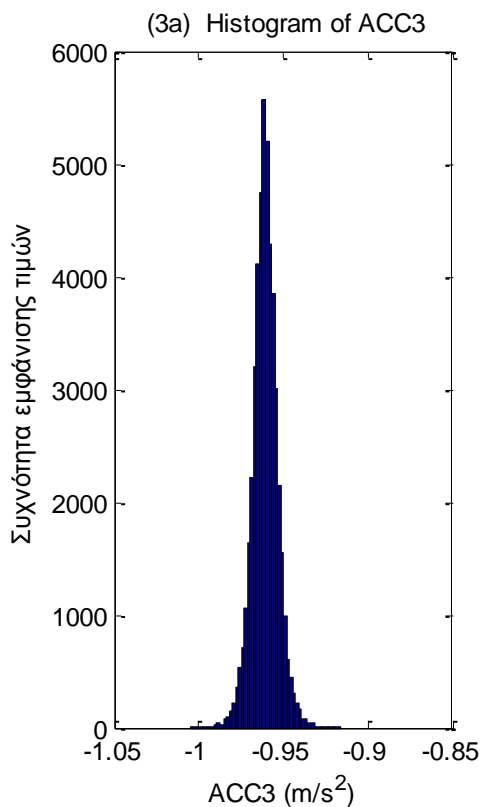
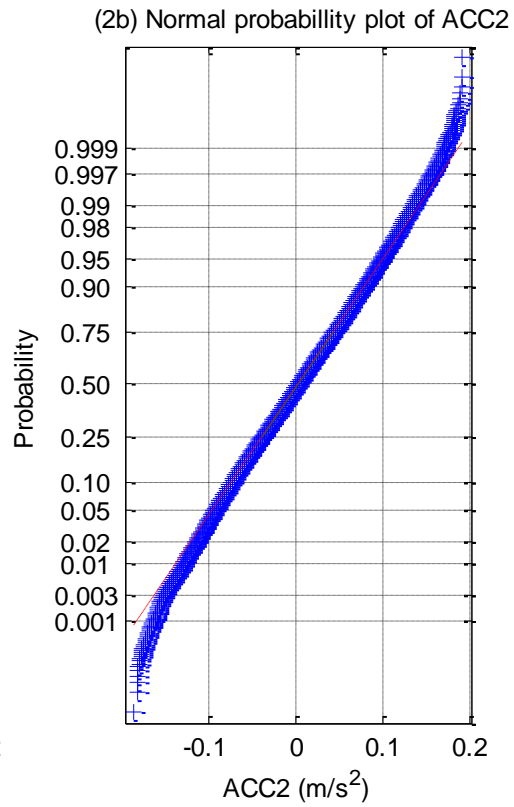
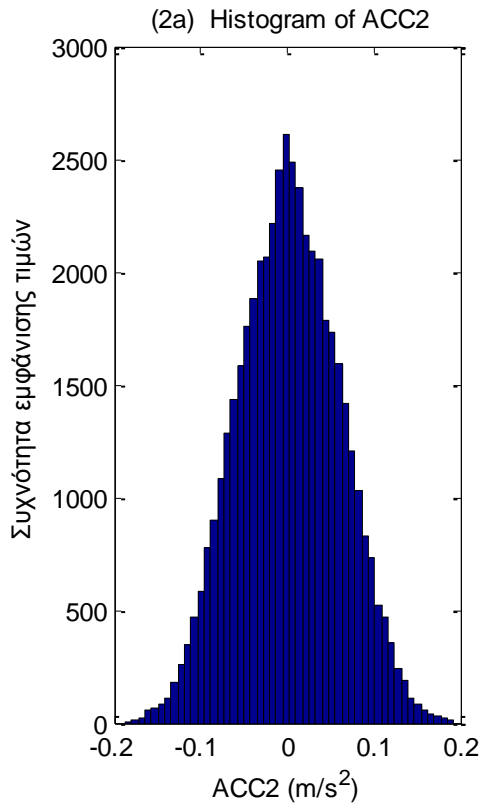
(3b) Normal probability plot of MOORING3



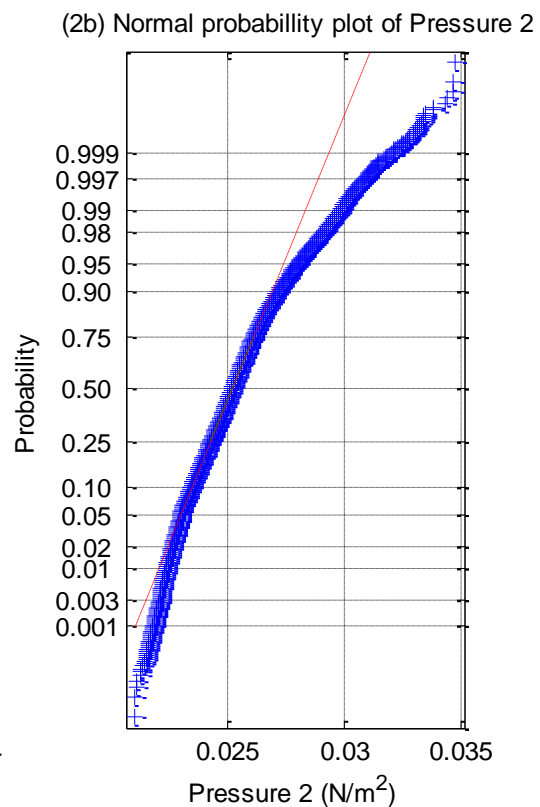
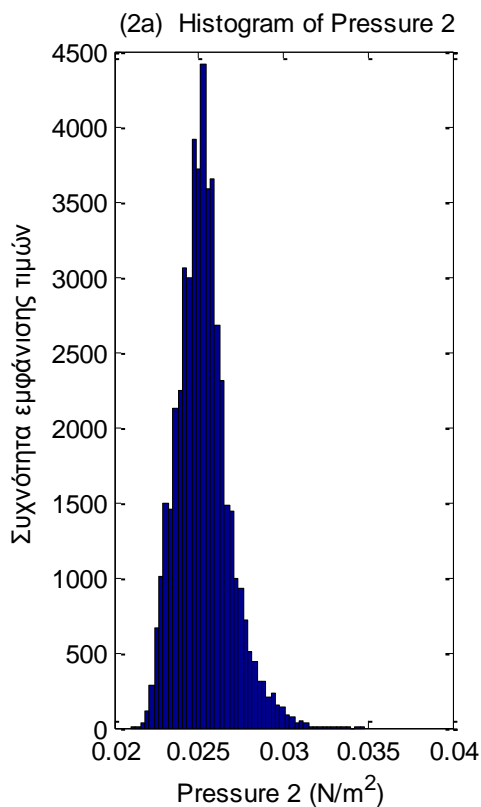
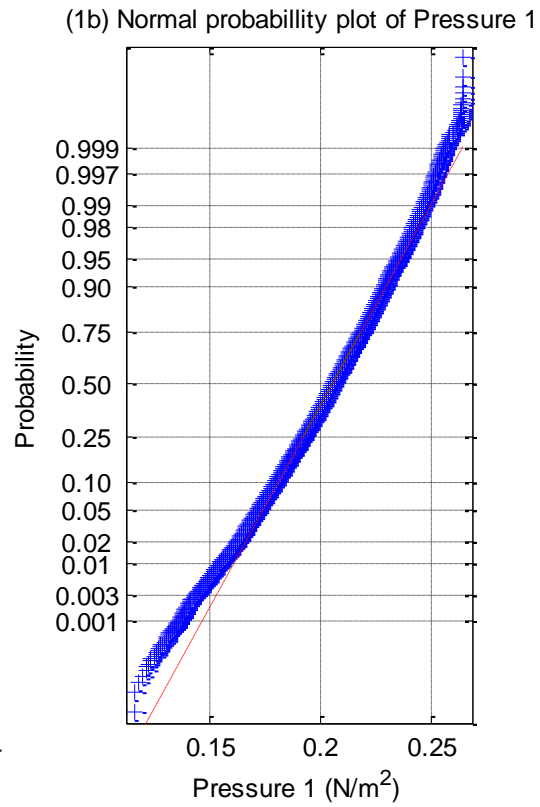
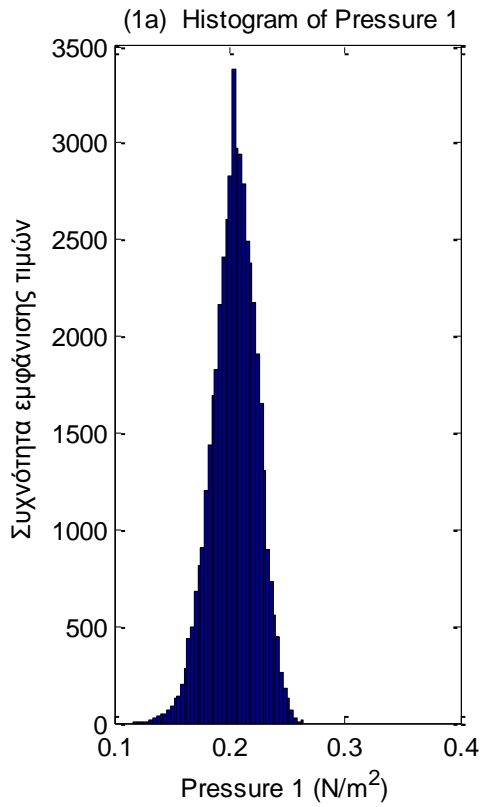


Σχήματα 1.3.2.4 (1-4) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

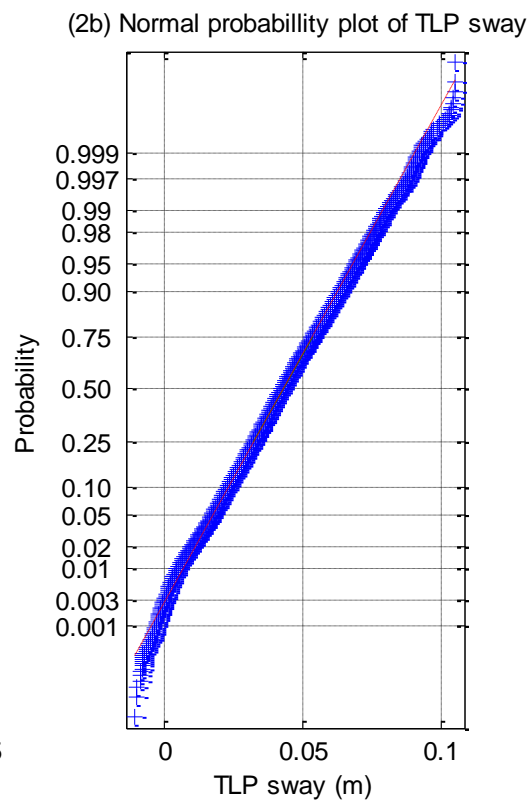
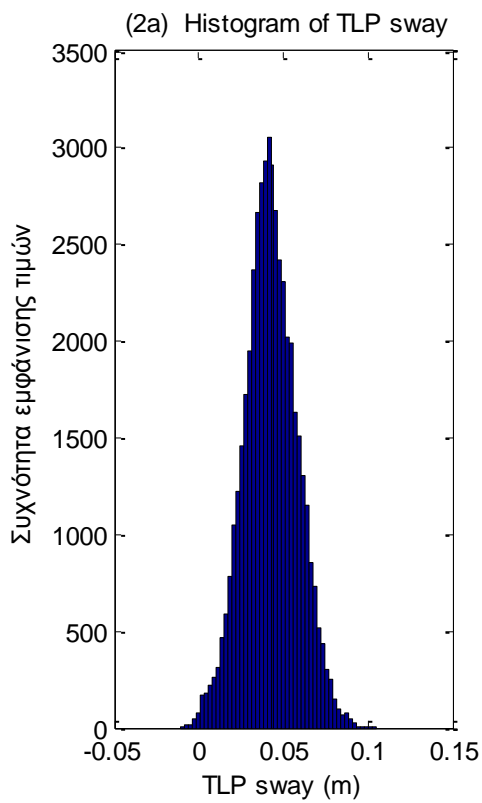
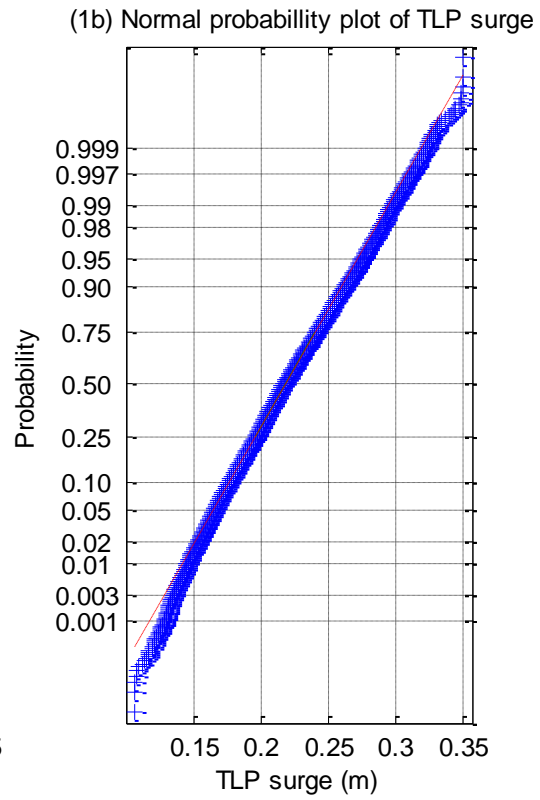
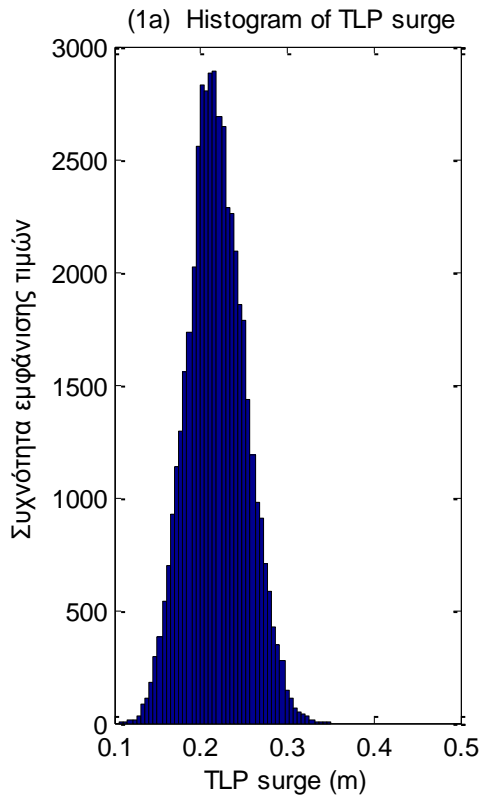


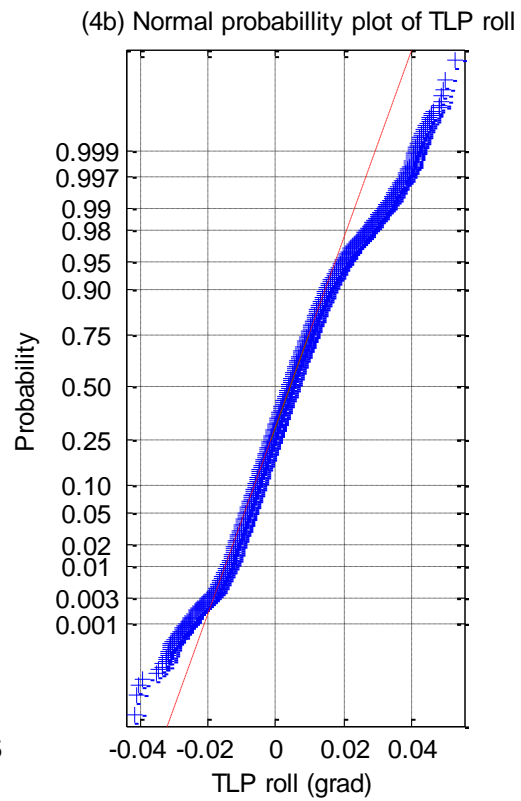
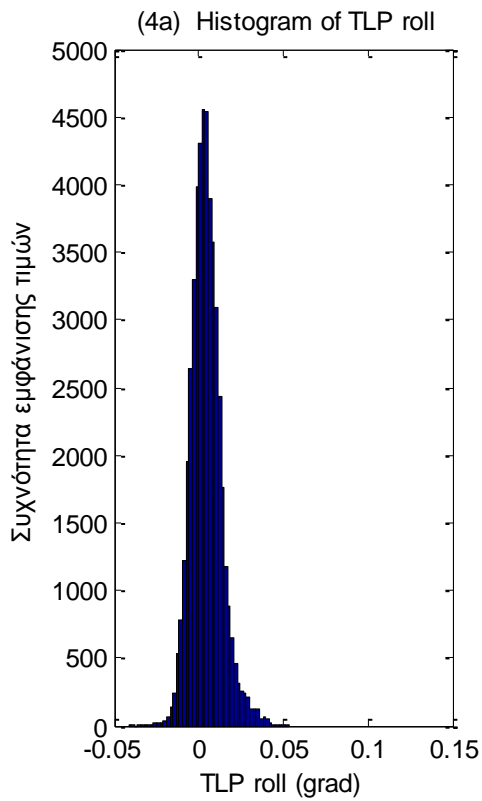
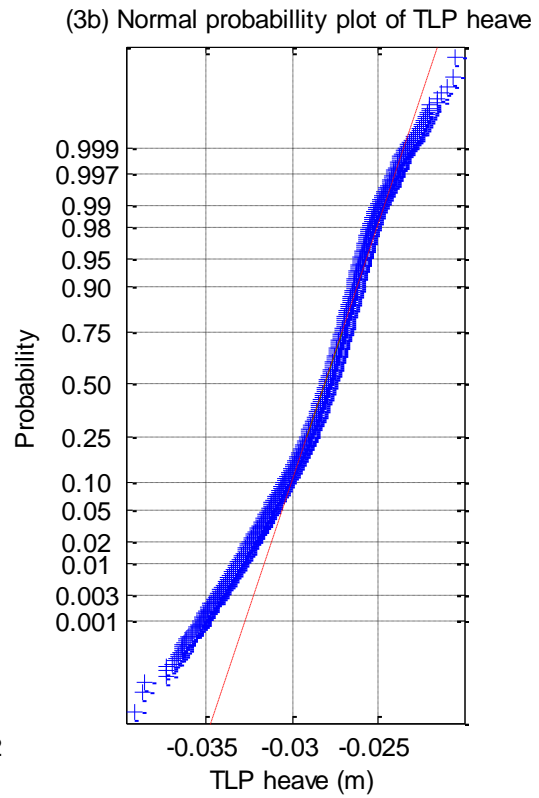
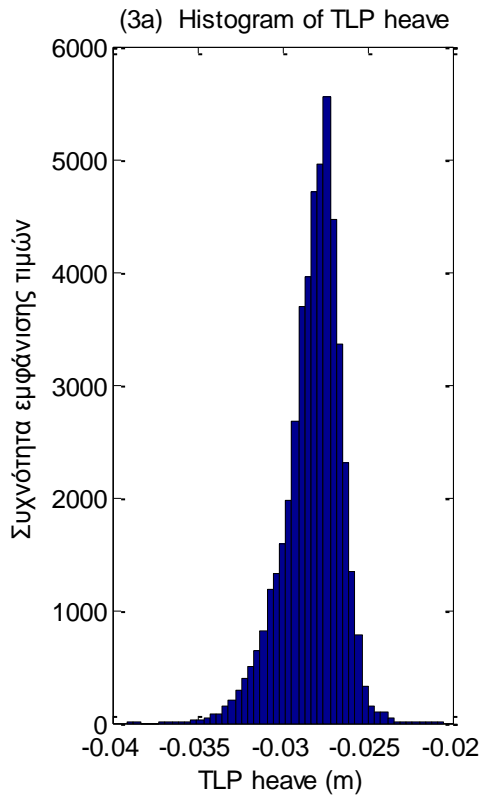


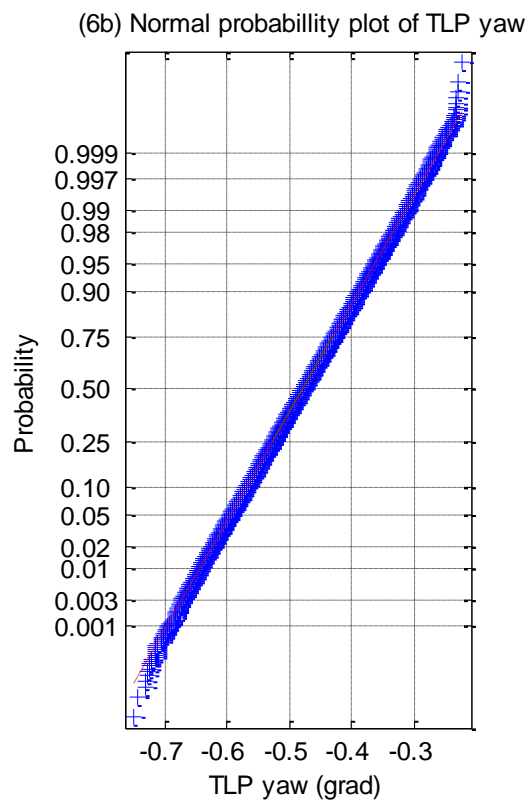
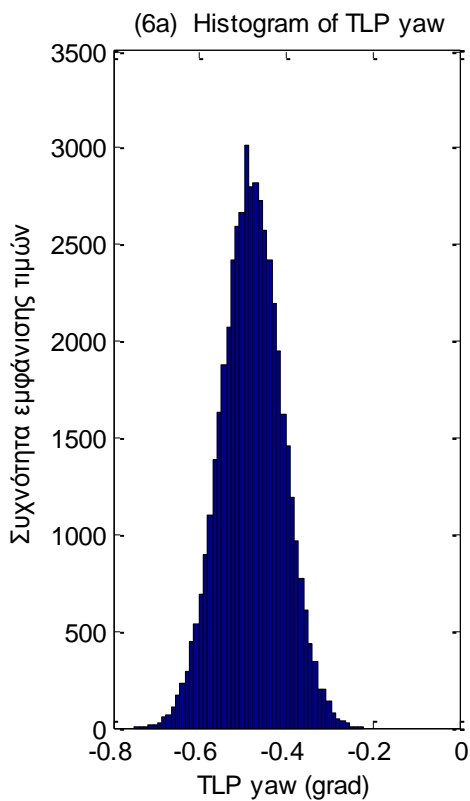
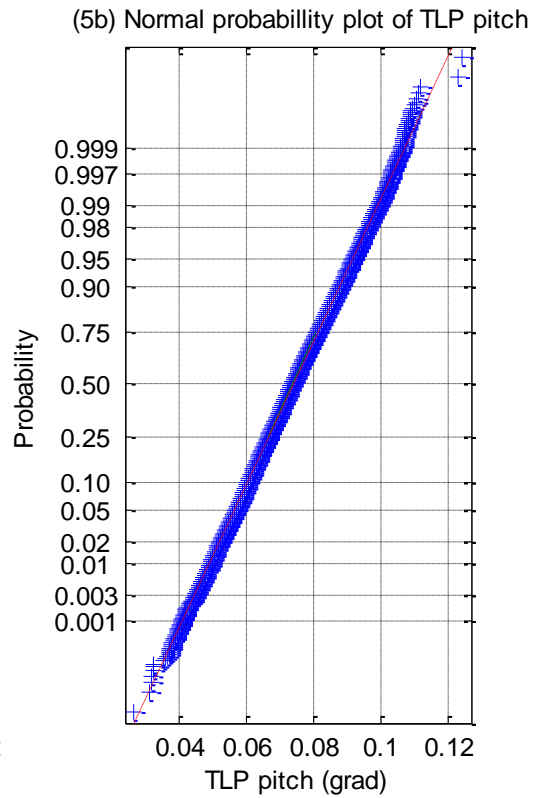
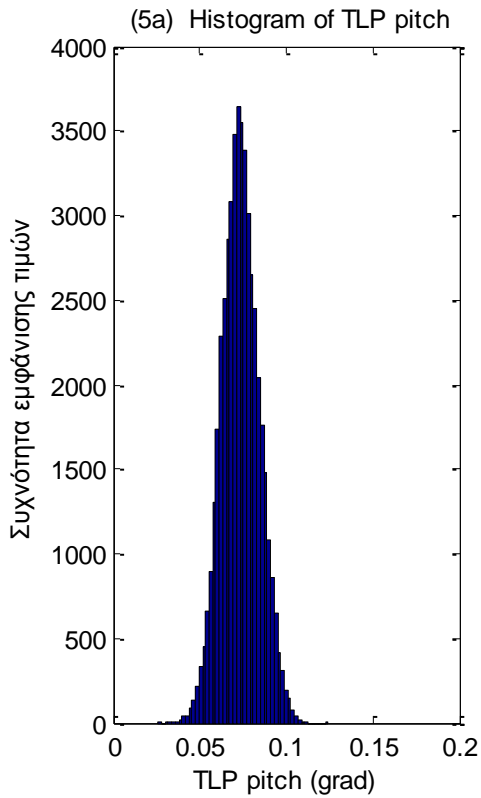
Σχήματα 1.3.2.5 (1-3) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



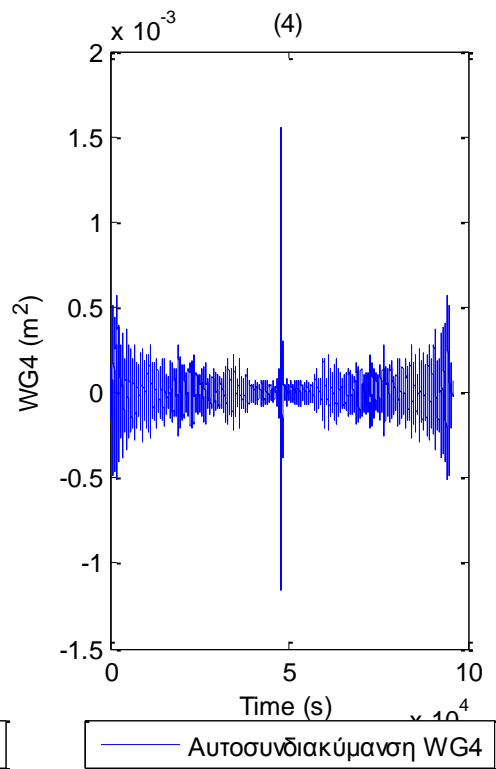
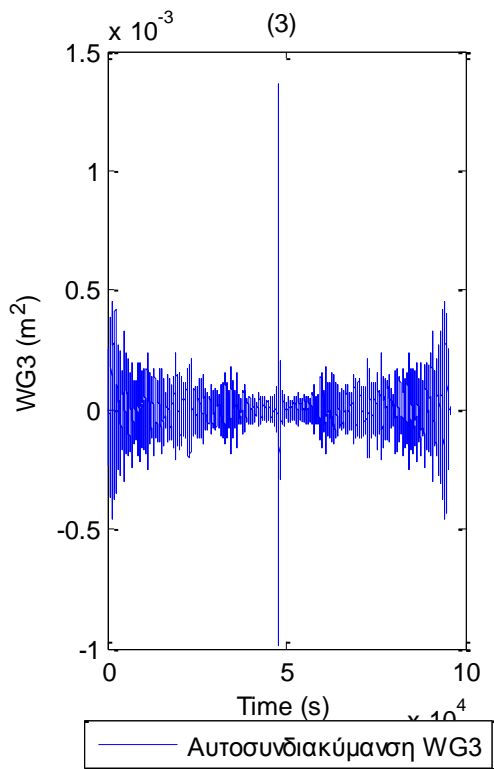
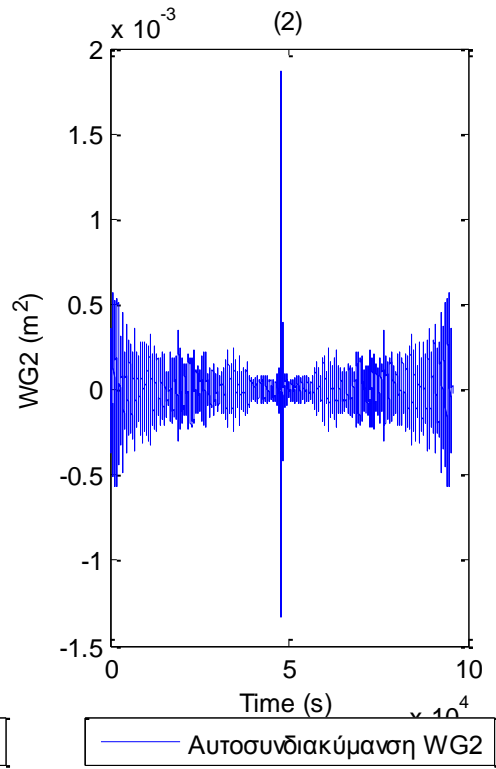
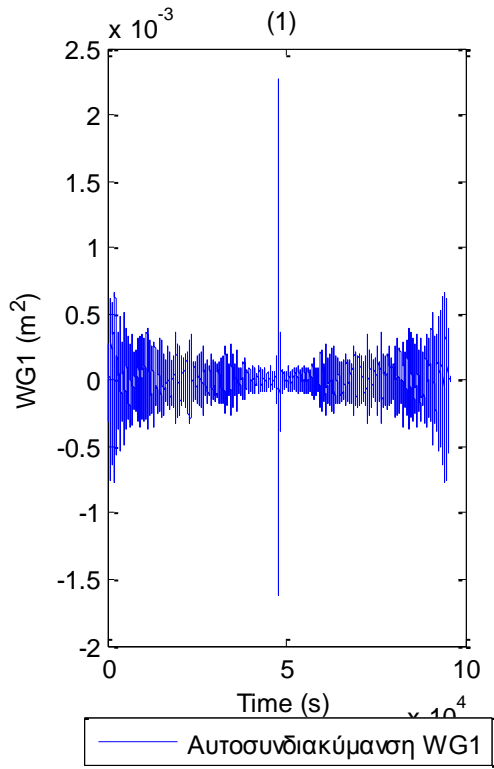
Σχήματα 1.3.2.6 (1-2) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα δυο όργανα μέτρησης της πίεσης

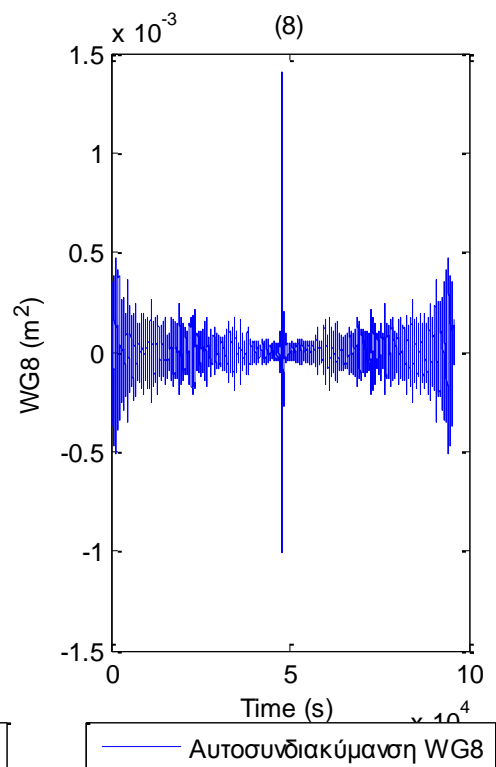
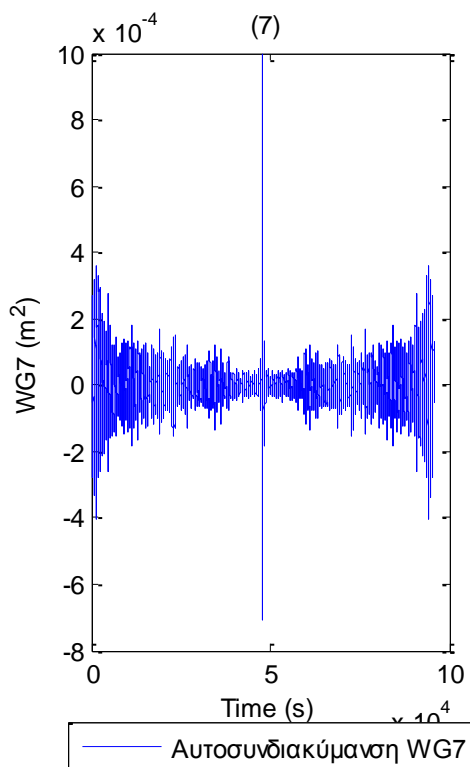
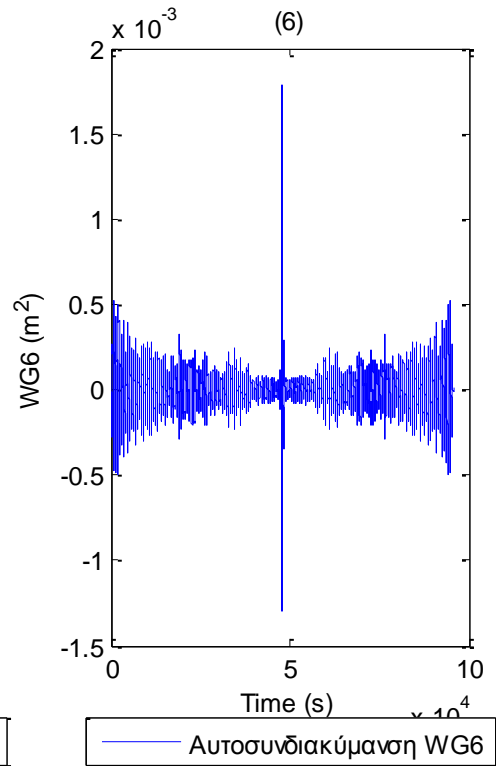
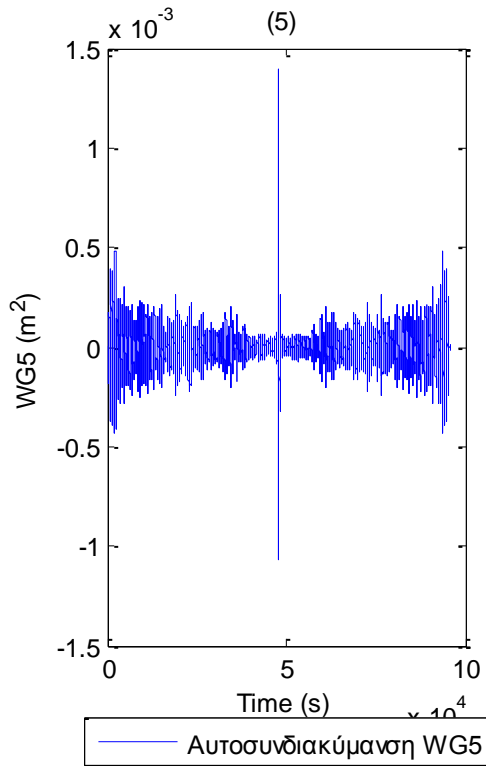


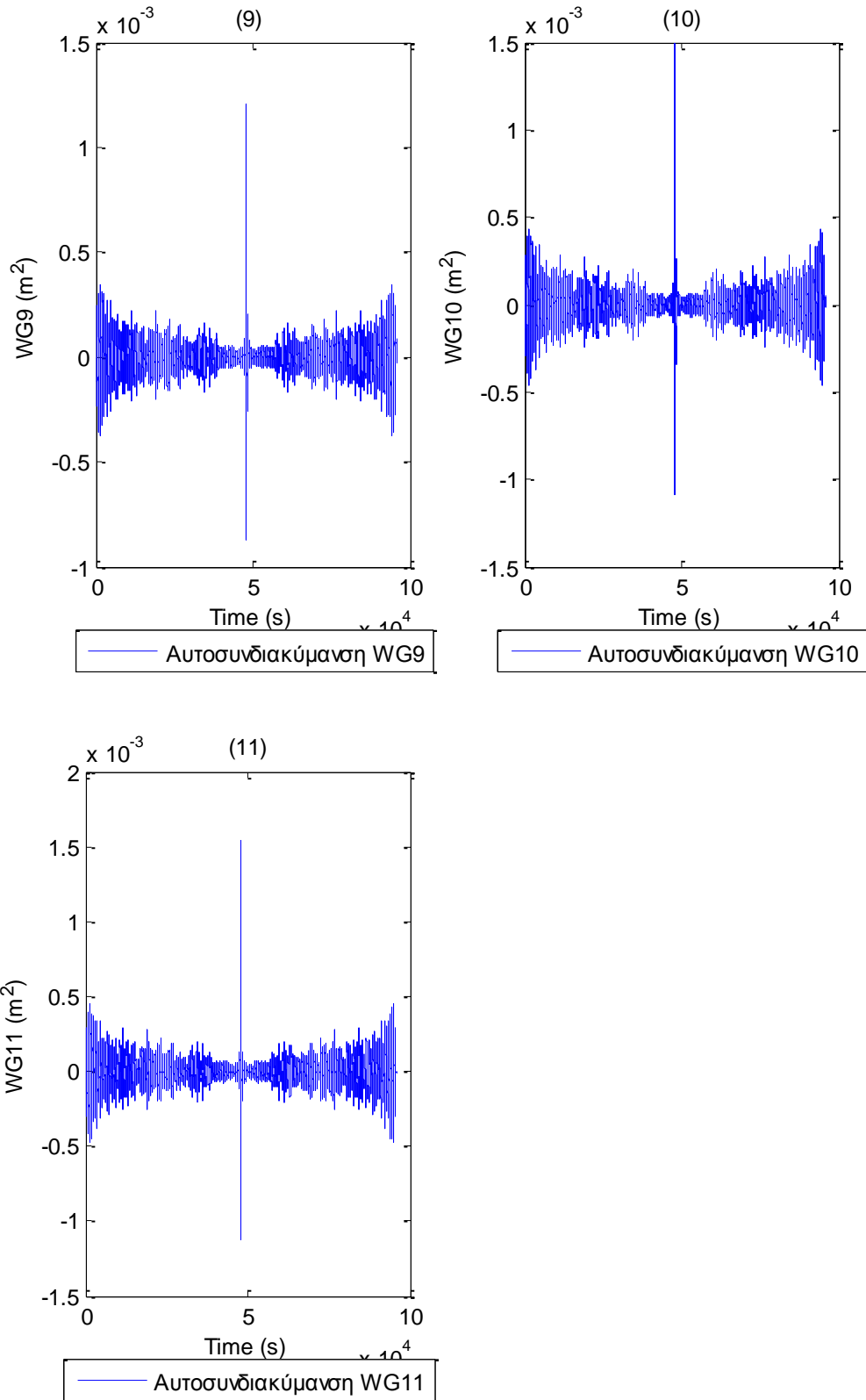




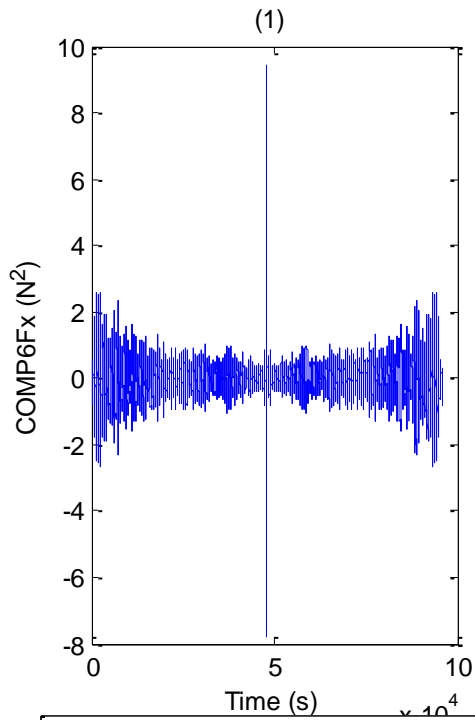
Σχήματα 1.3.2.7 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



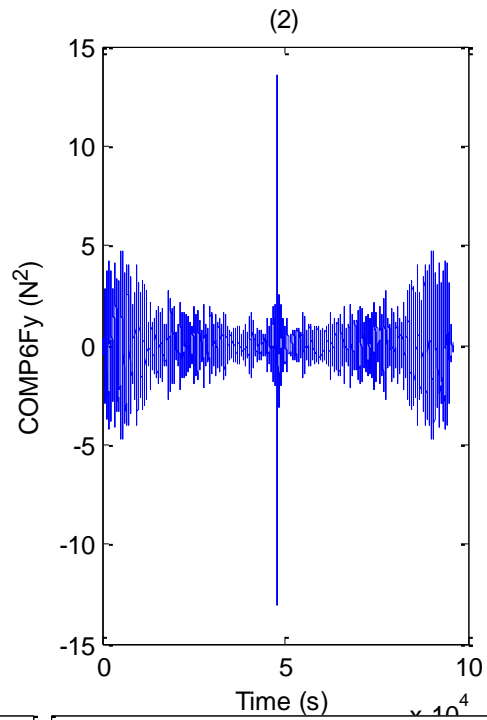




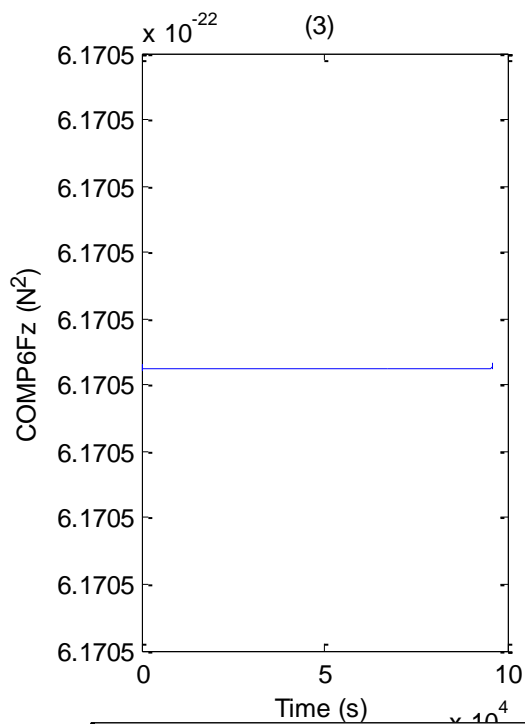
Σχήματα 1.3.3.1 (1-11) Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



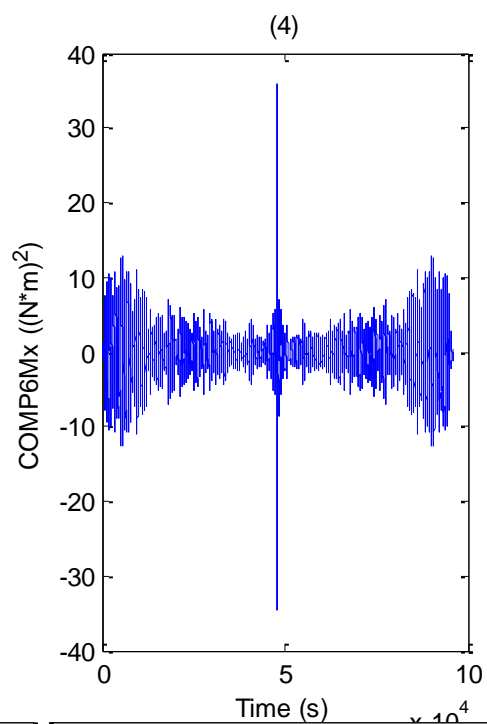
— Αυτοσυνδιακύμανση COMP6Fx



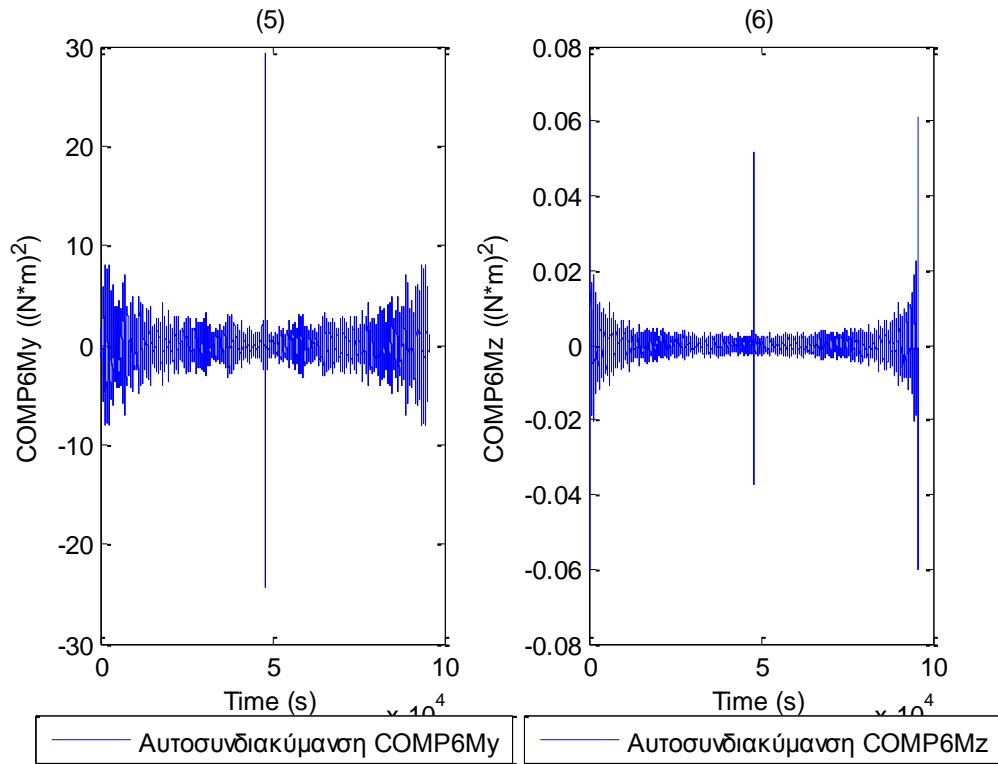
— Αυτοσυνδιακύμανση COMP6Fy



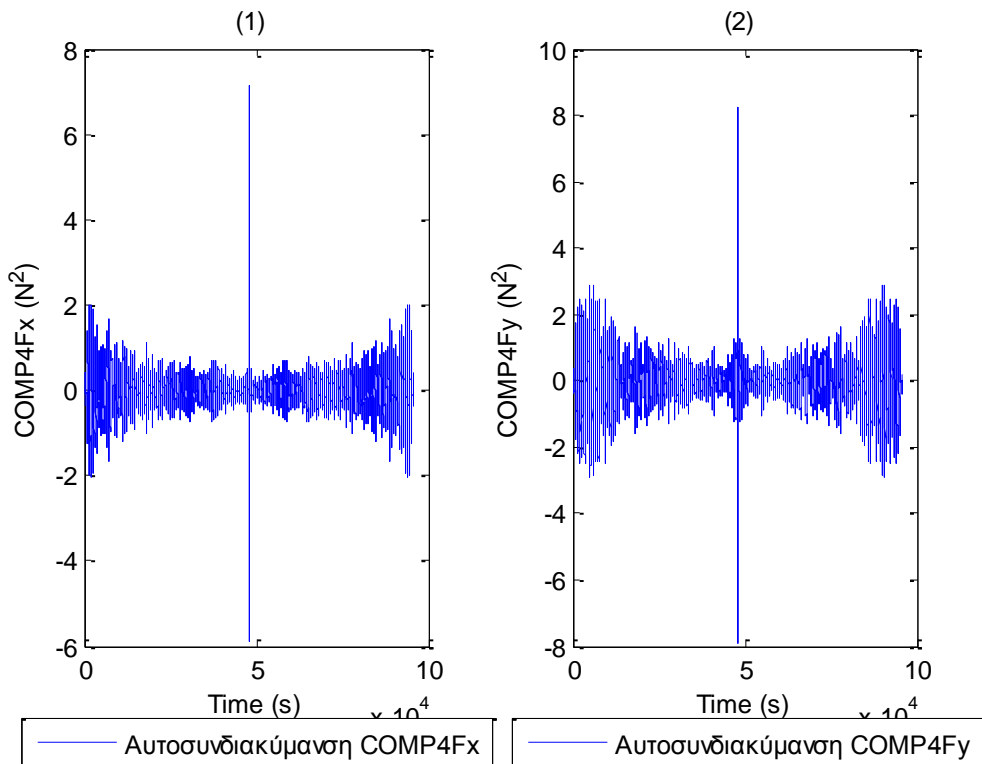
— Αυτοσυνδιακύμανση COMP6Fz

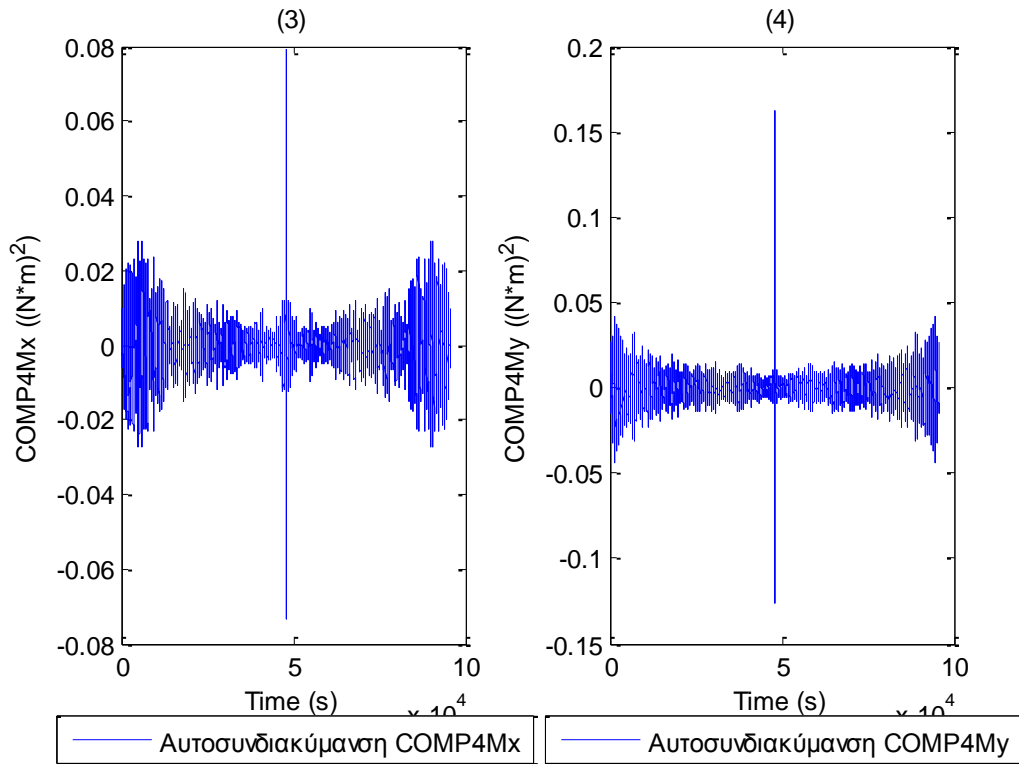


— Αυτοσυνδιακύμανση COMP6Mx

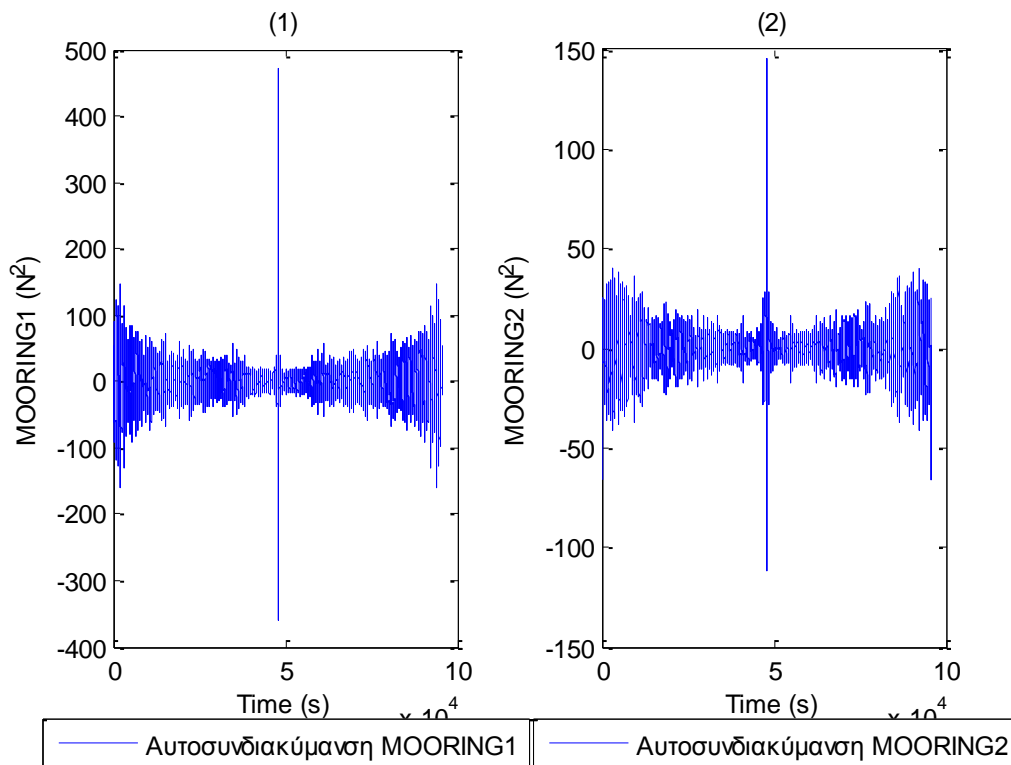


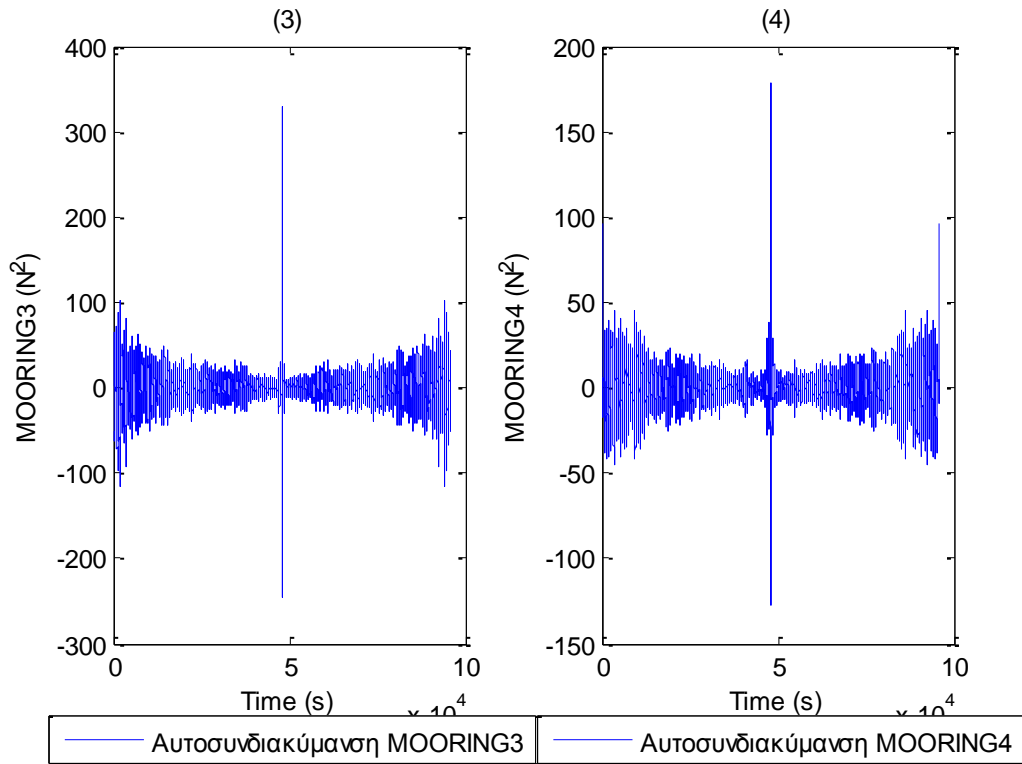
Σχήματα 1.3.3.2 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



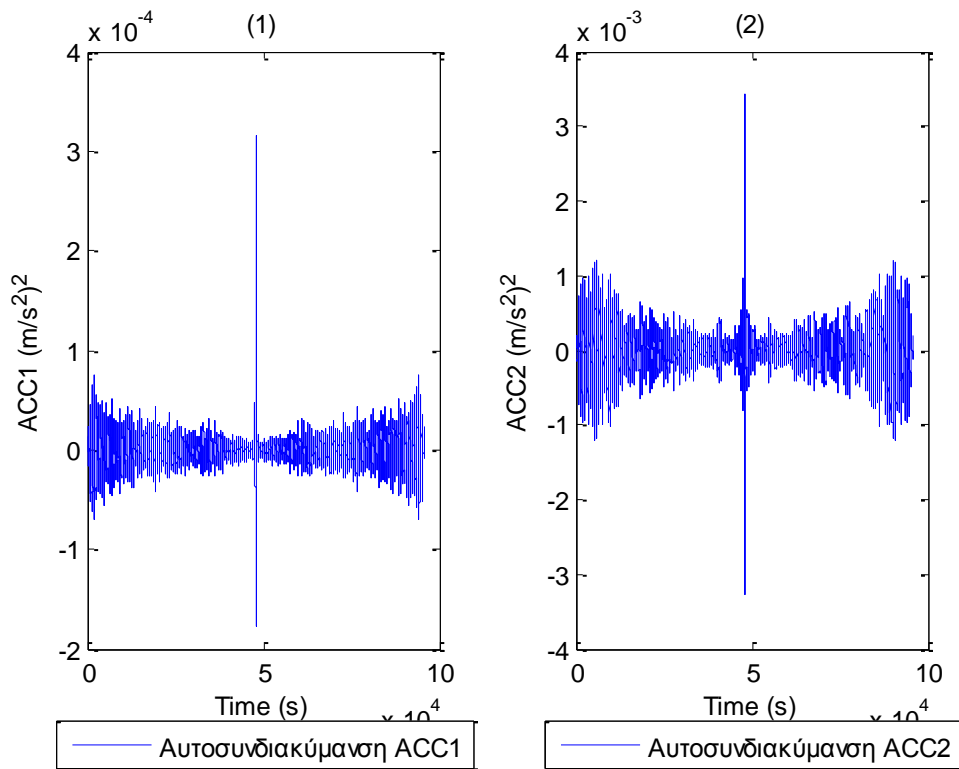


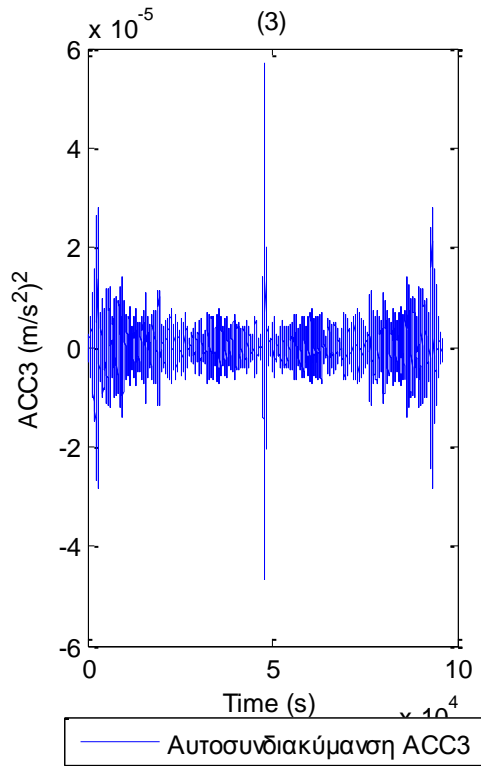
Σχήματα 1.3.3.3 Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



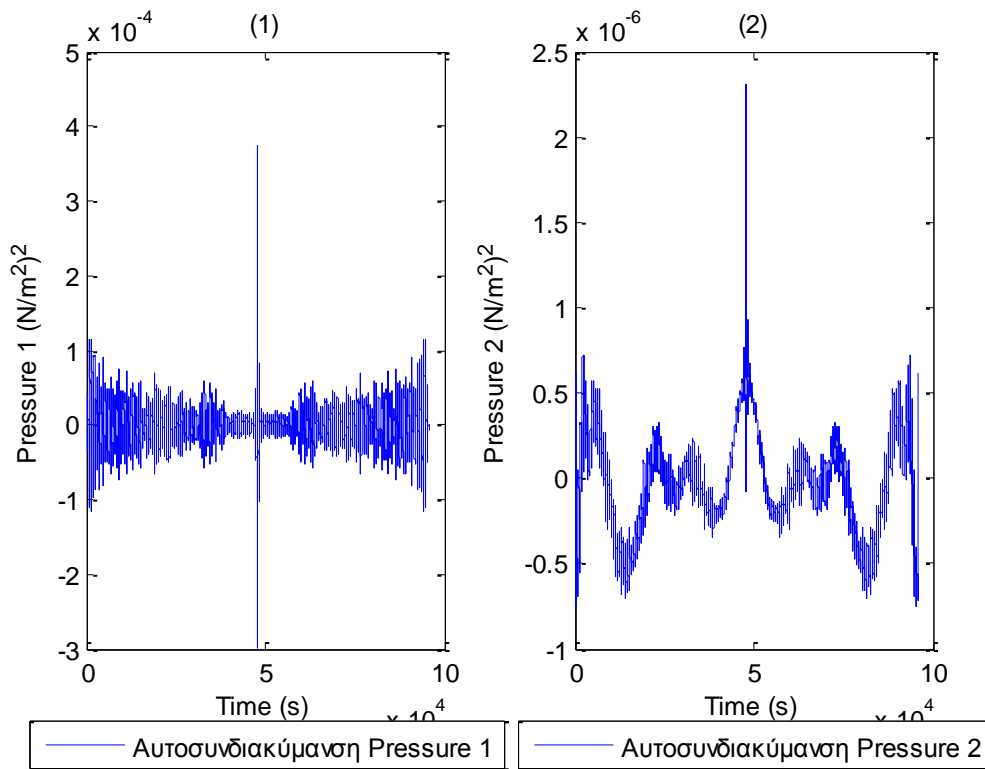


Σχήματα 1.3.3.4 (1-4) Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

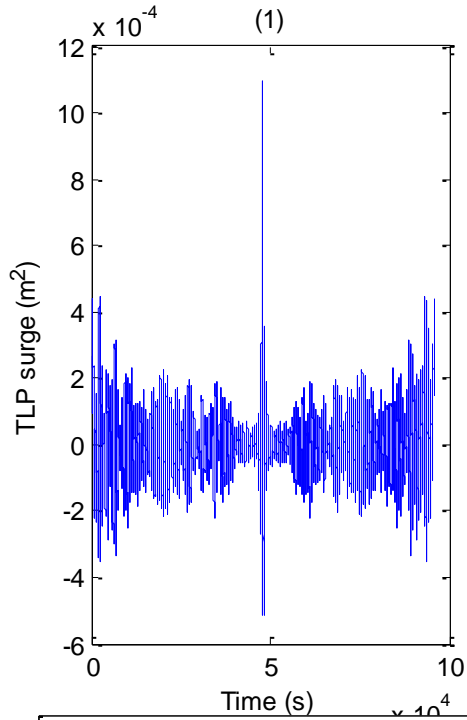




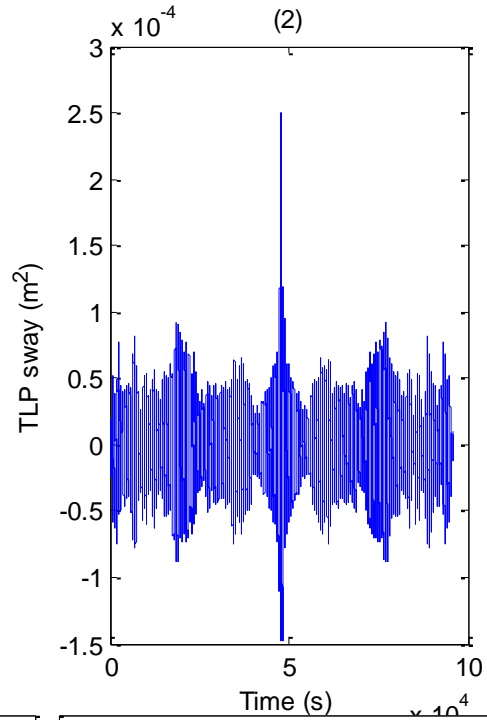
Σχήματα 1.3.3.5 (1-3) Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



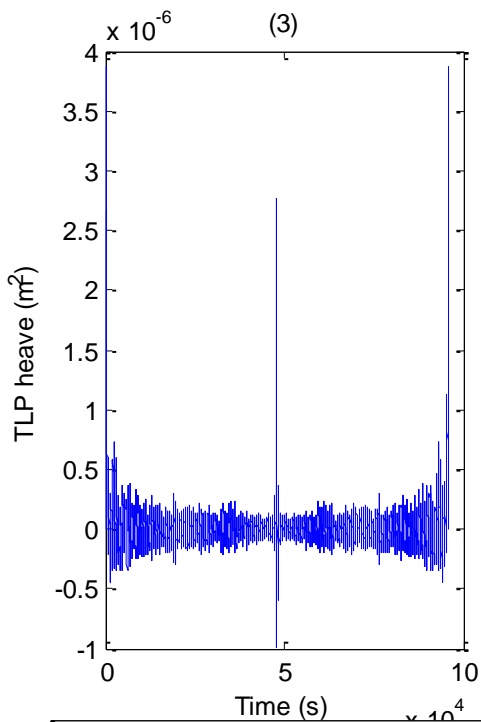
Σχήματα 1.3.3.6 (1-2) Συναρτήσεις Αυτοσυνδιακύμανσης για τα δυο όργανα μέτρησης της πίεσης



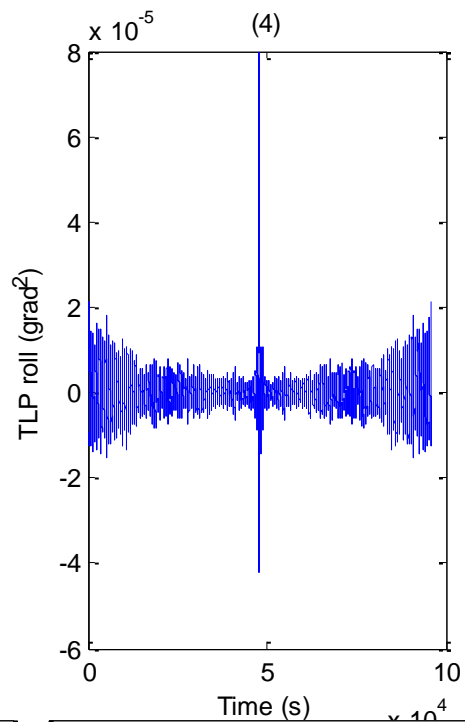
— Αυτοσυνδιακύμανση TLP surge



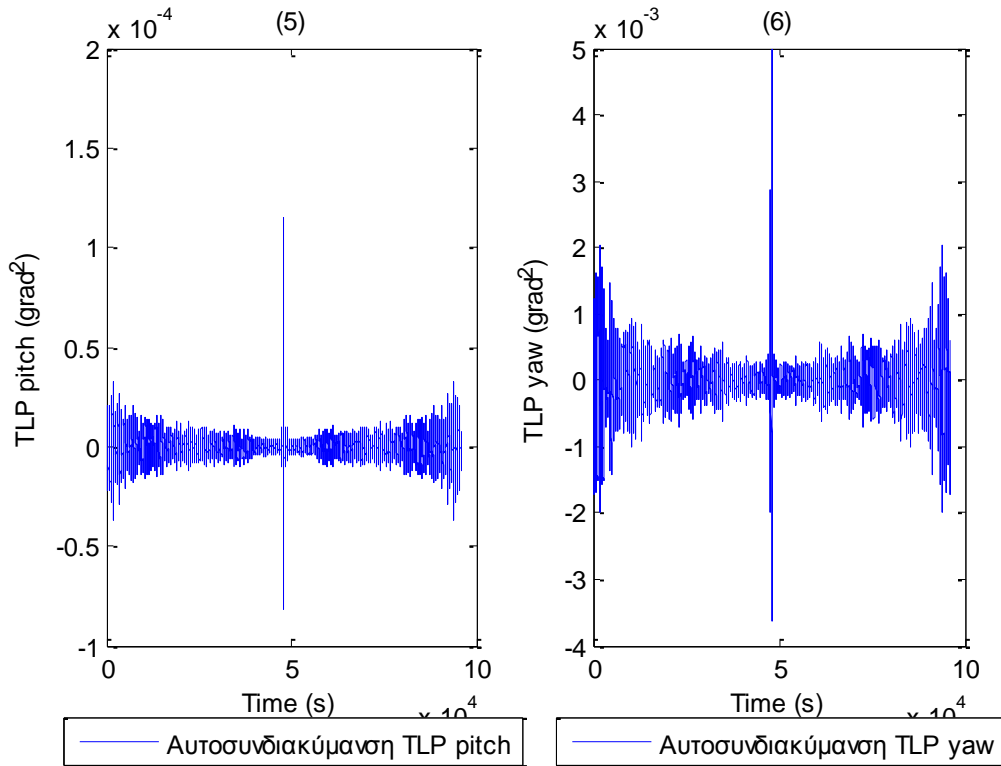
— Αυτοσυνδιακύμανση TLP sway



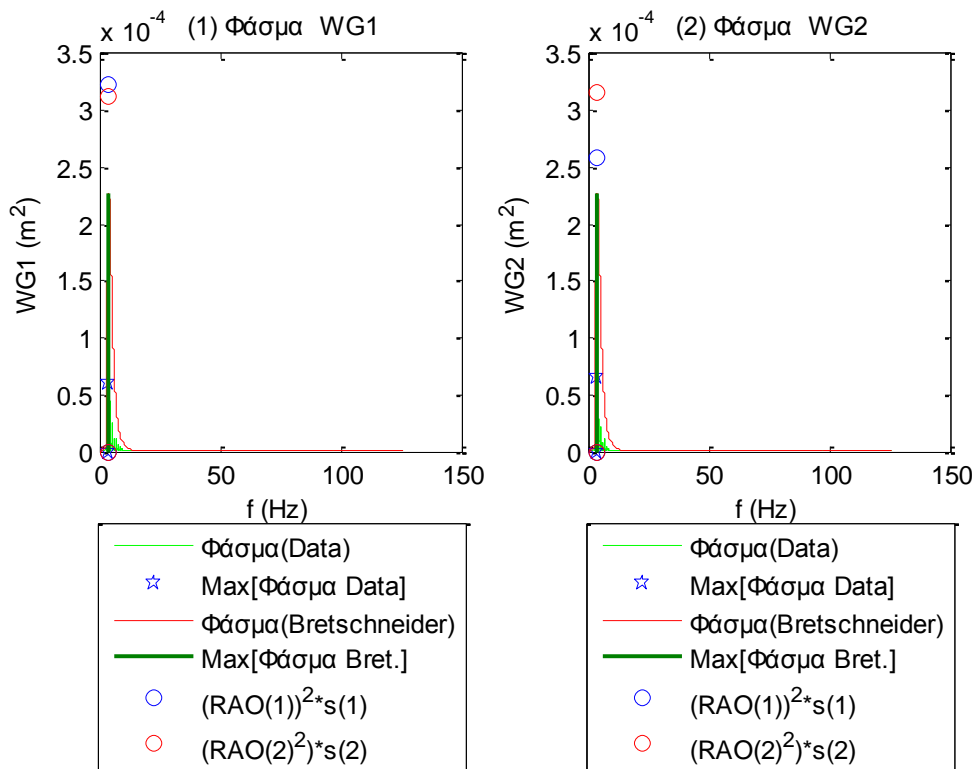
— Αυτοσυνδιακύμανση TLP heave

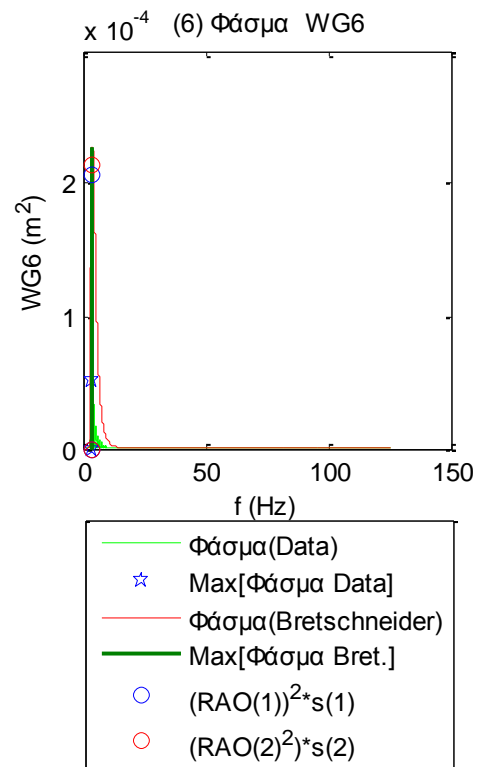
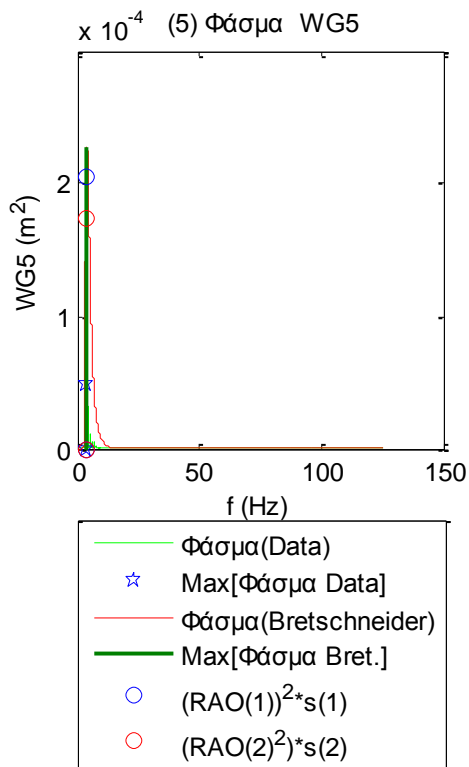
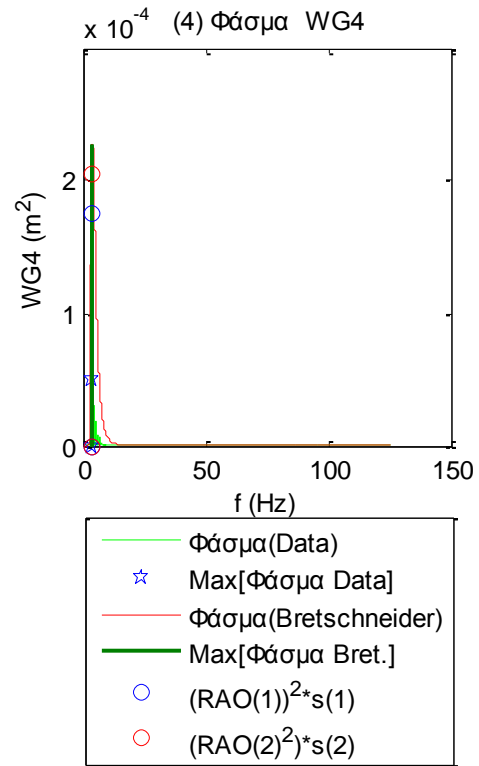
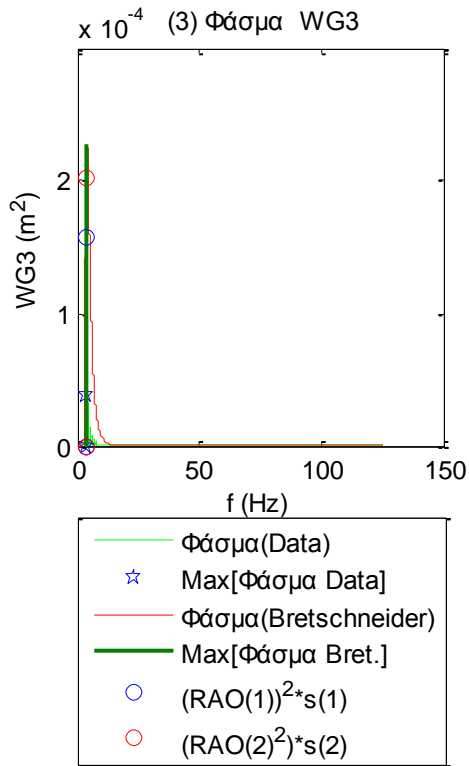


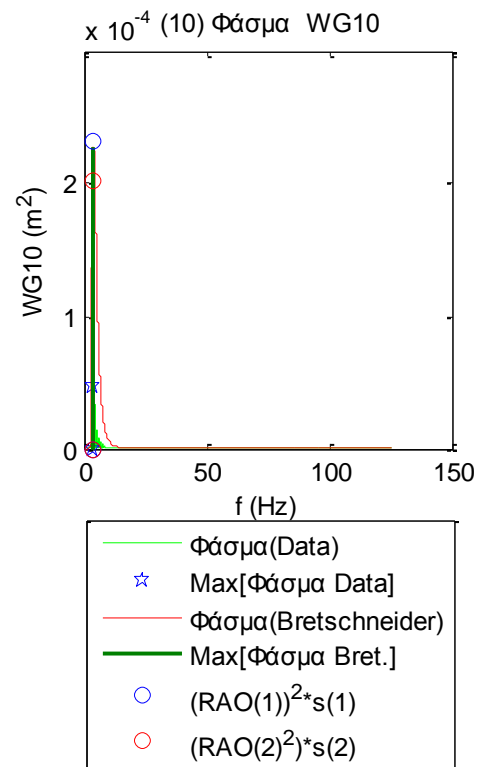
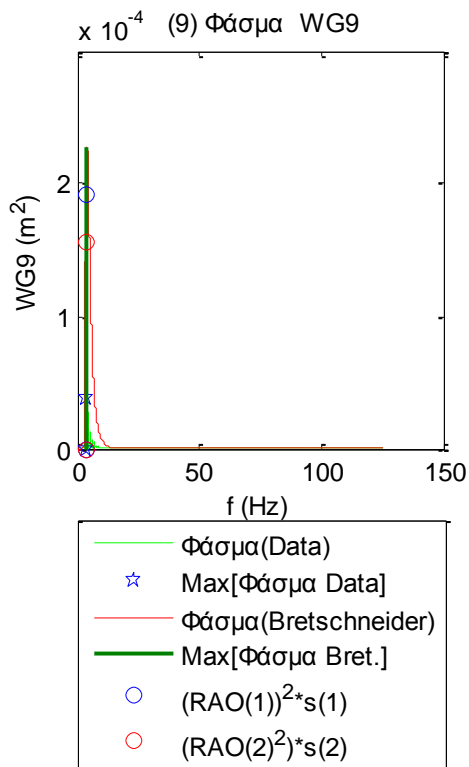
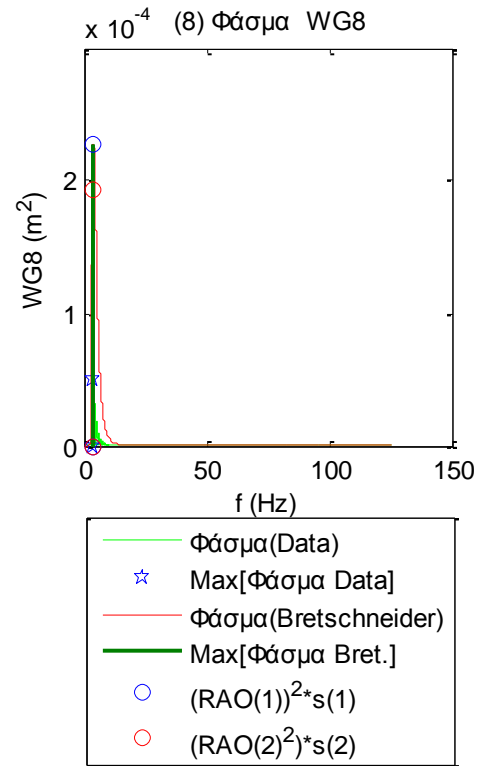
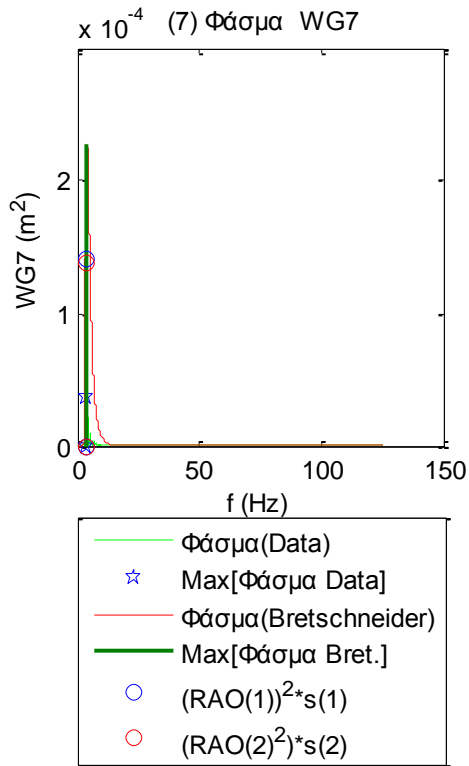
— Αυτοσυνδιακύμανση TLP roll

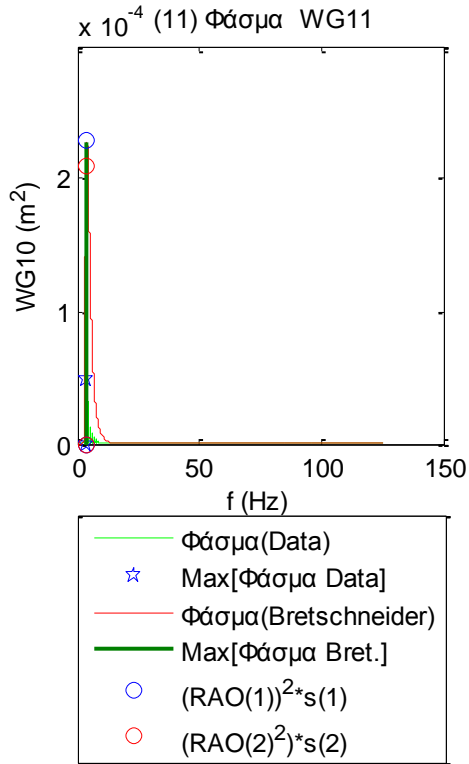


Σχήματα 1.3.3.7 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

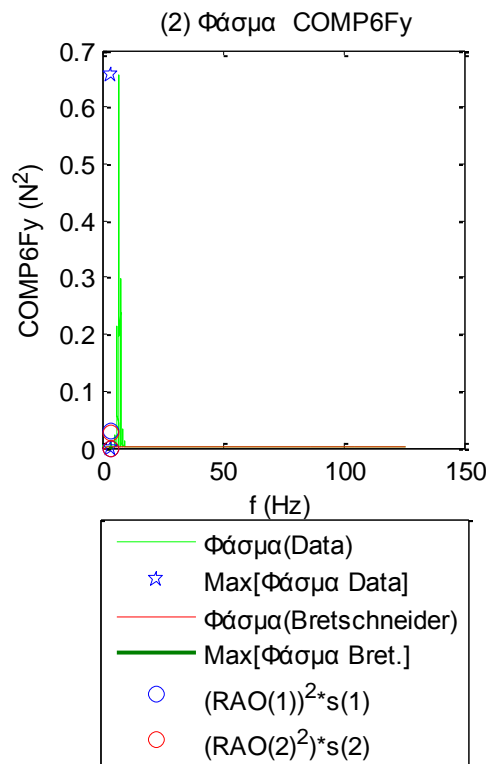
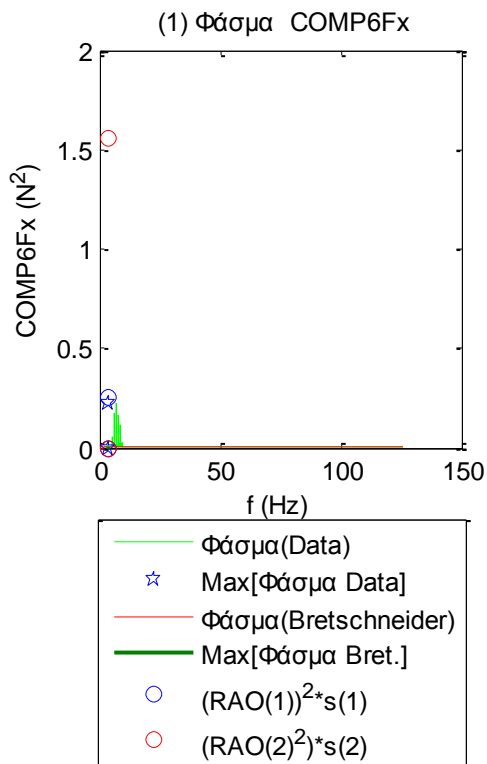


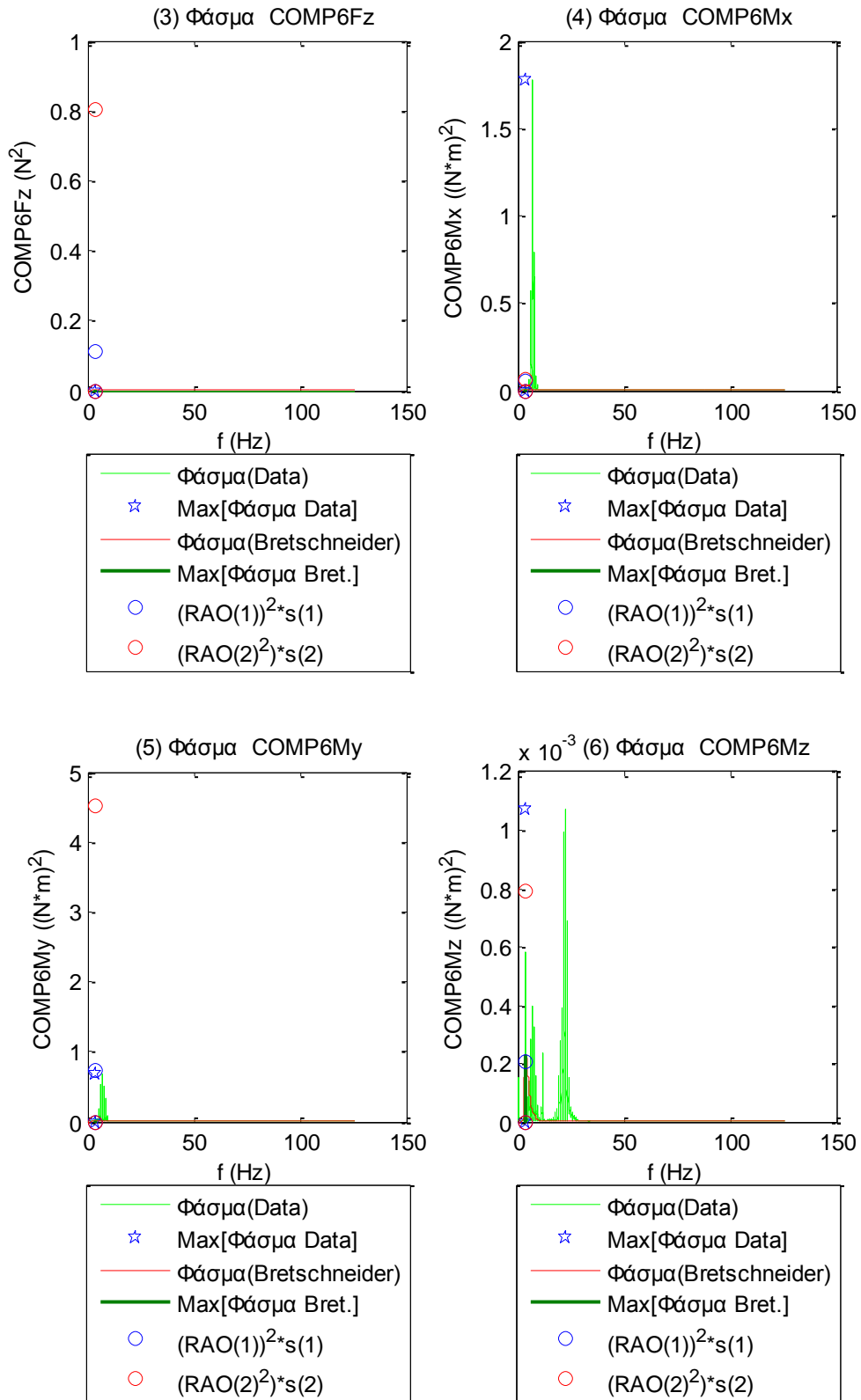




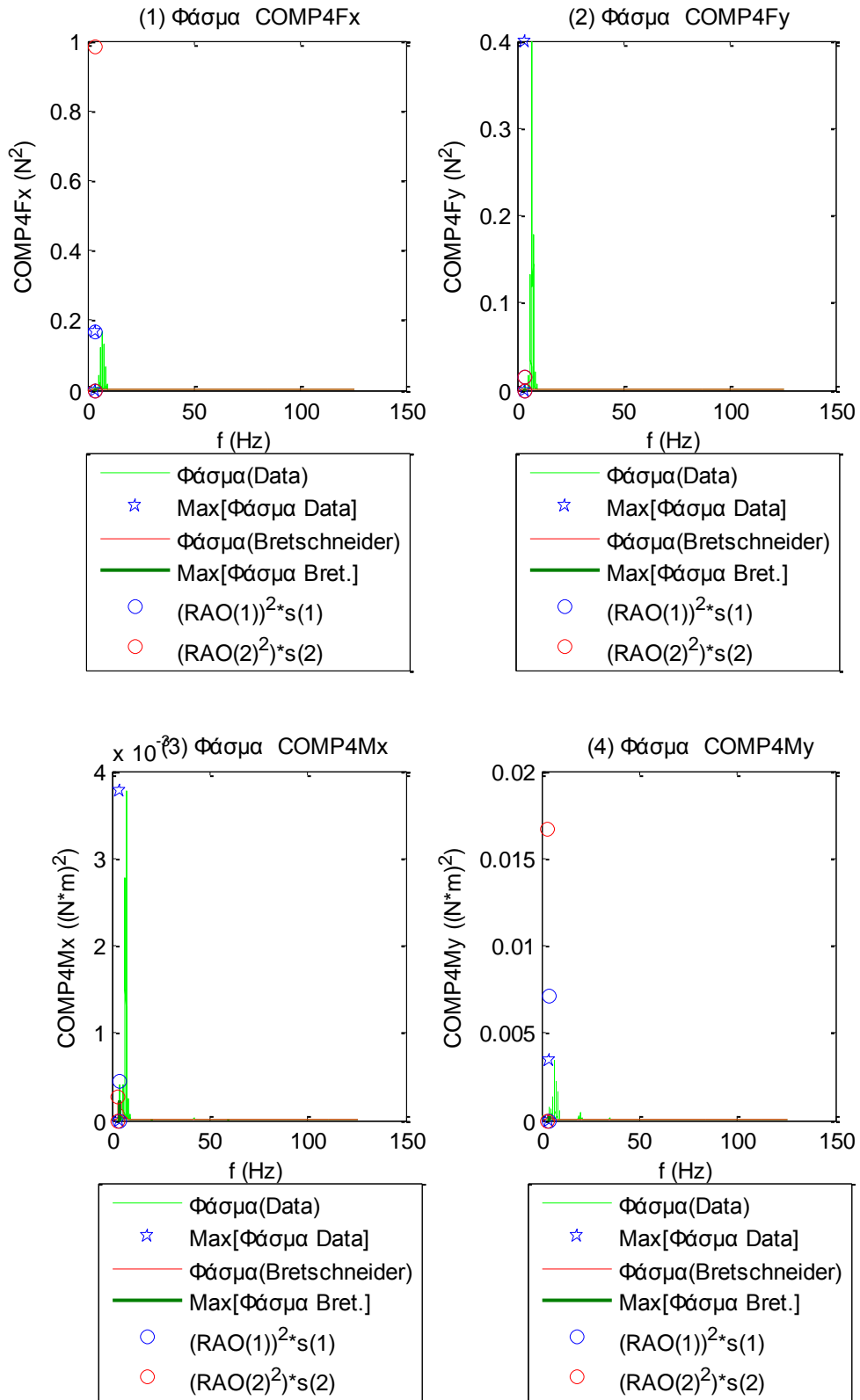


Σχήματα 1.3.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος

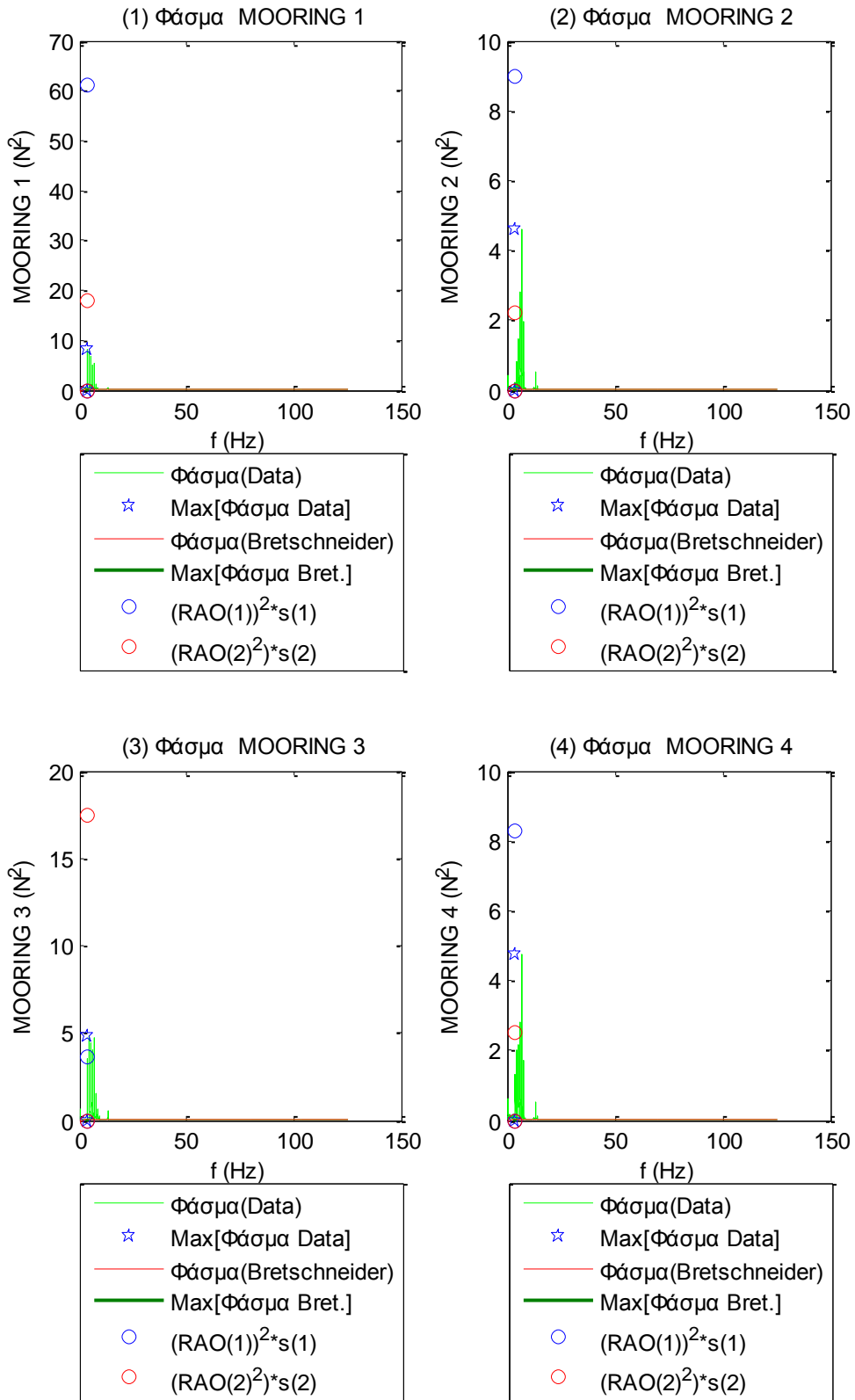




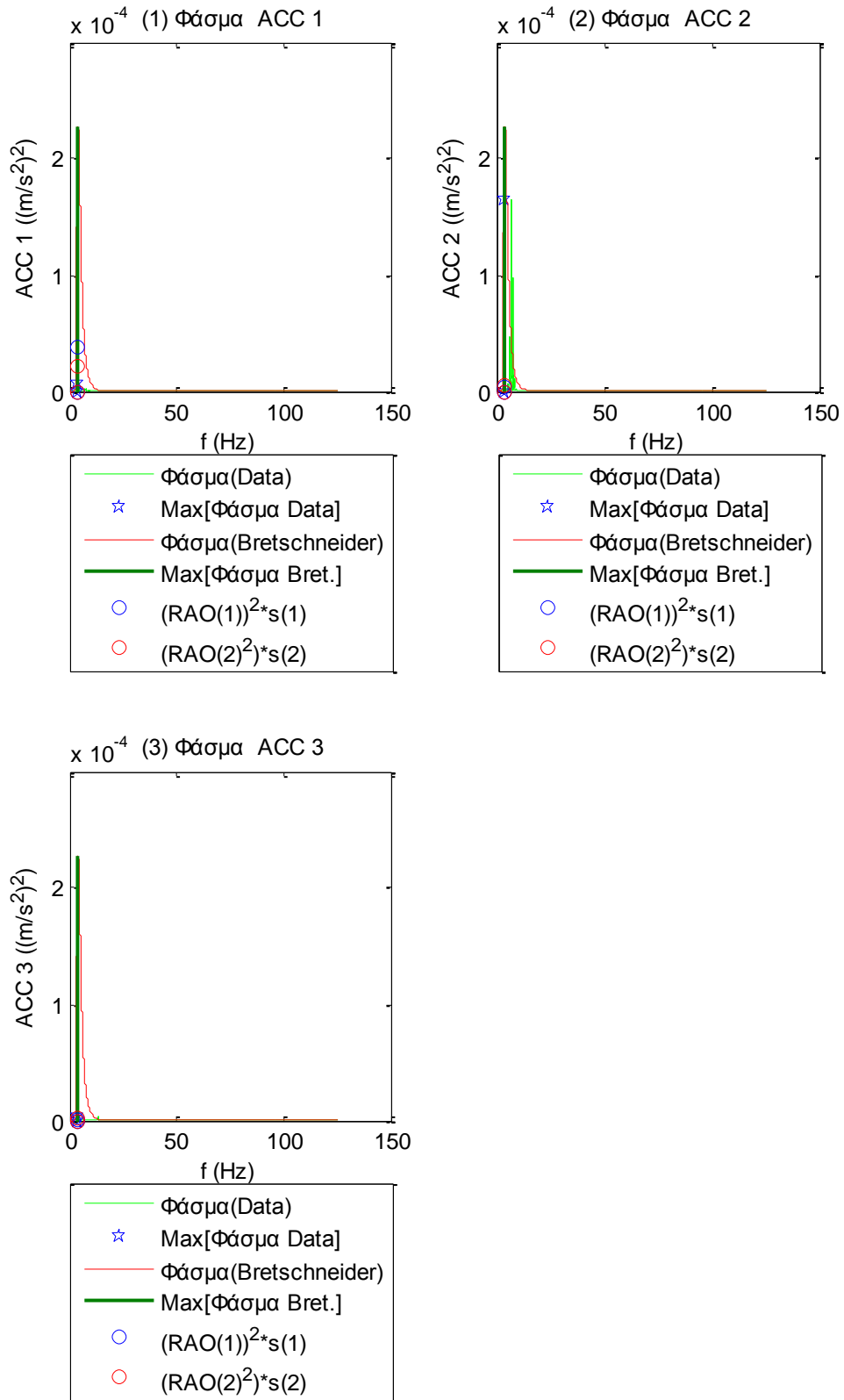
Σχήματα 1.3.4.2 Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



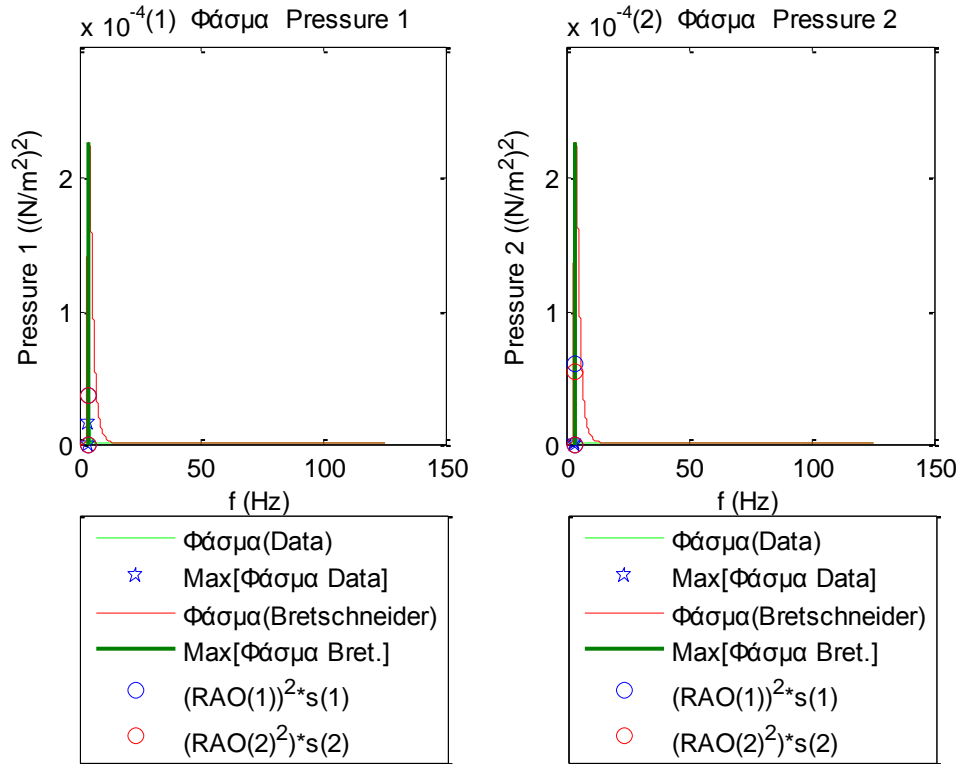
Σχήματα 1.3.4.3 Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



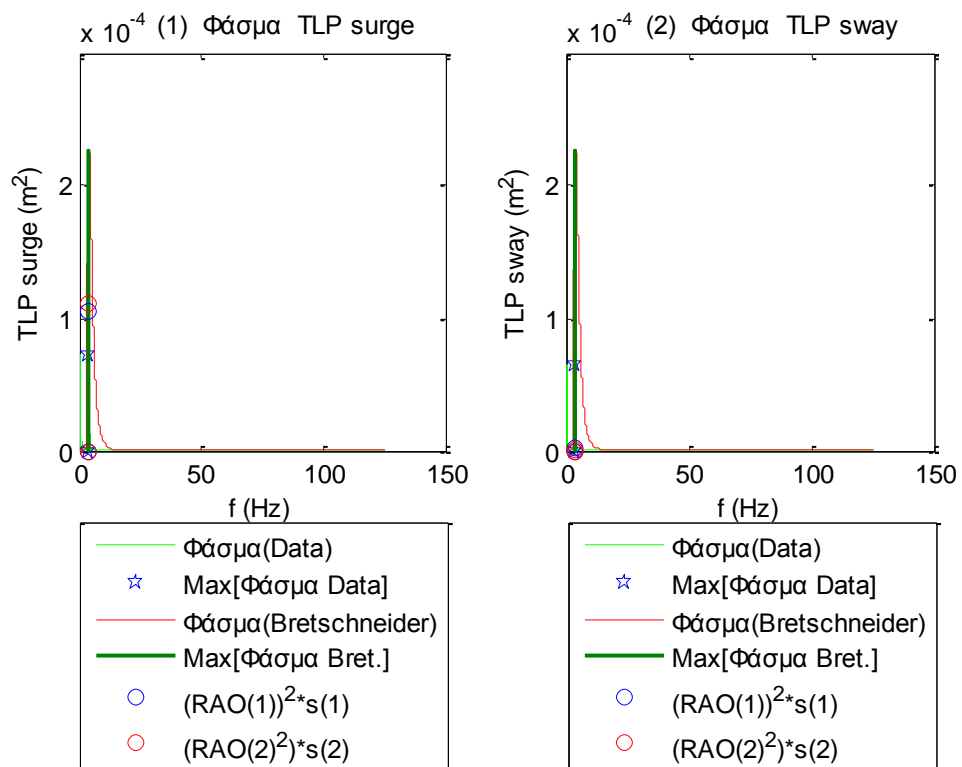
Σχήματα 1.3.4.4 (1-4) Φάσματα για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

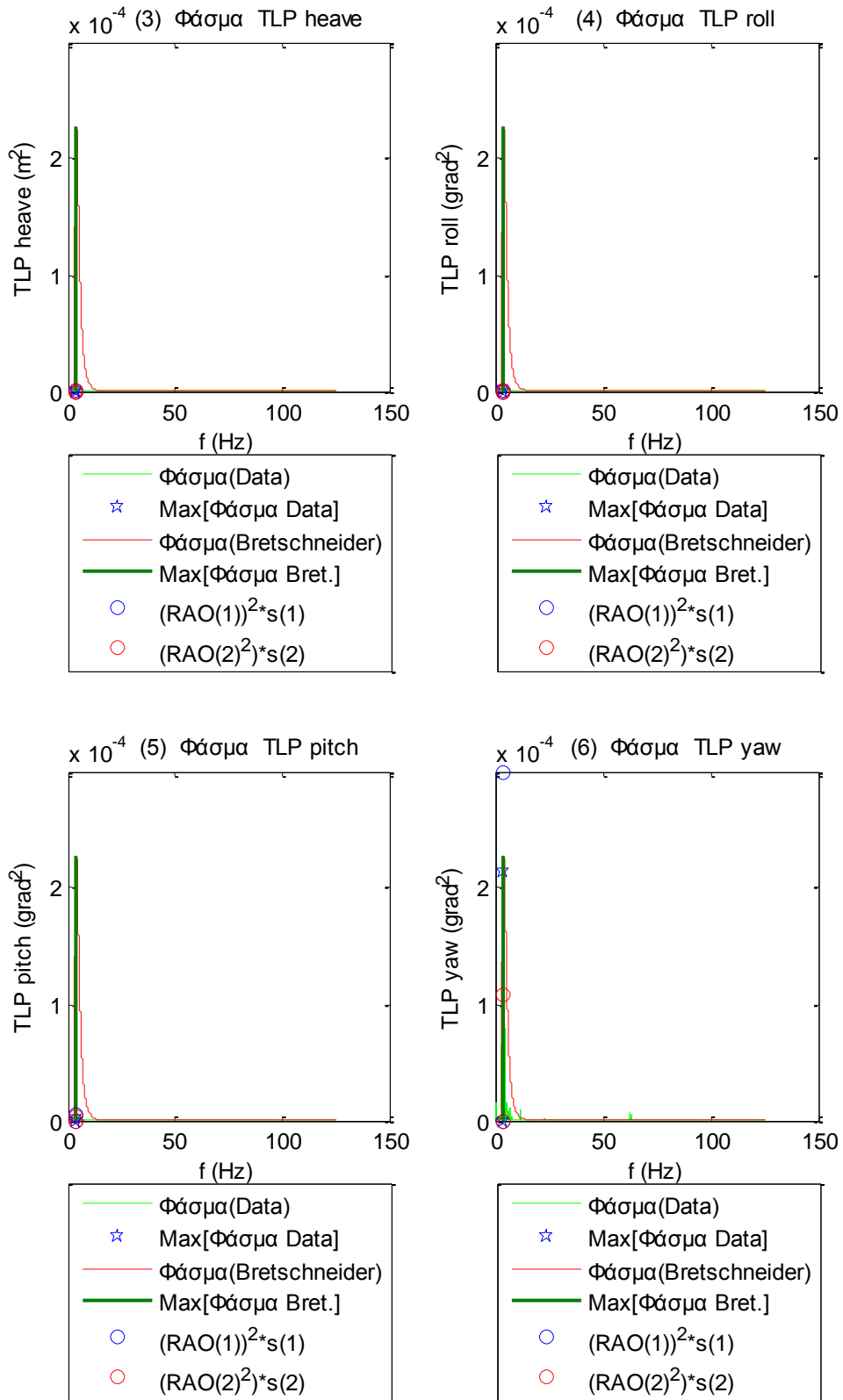


Σχήματα 1.3.4.5 (1-3) Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

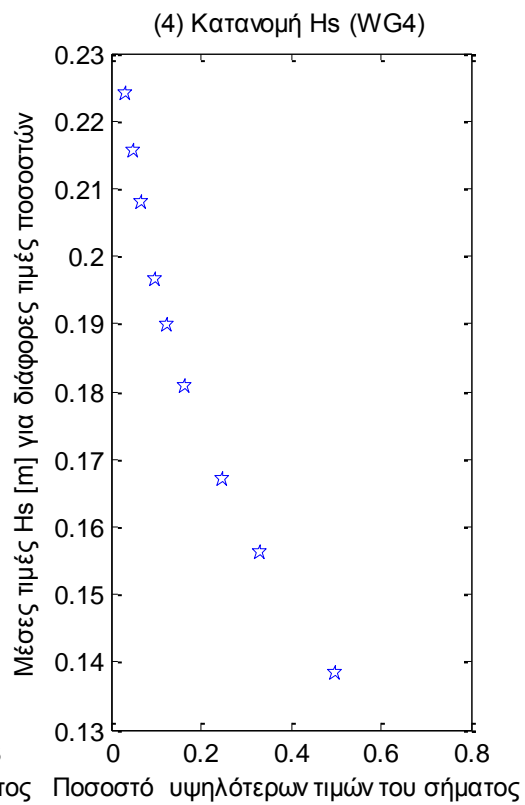
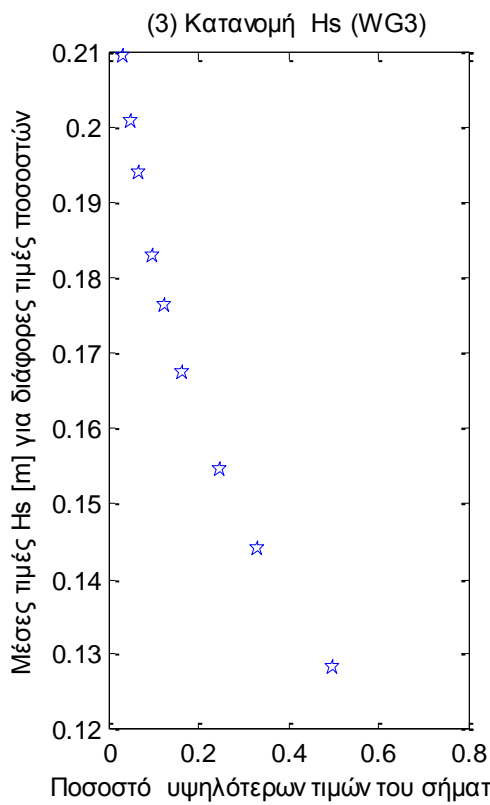
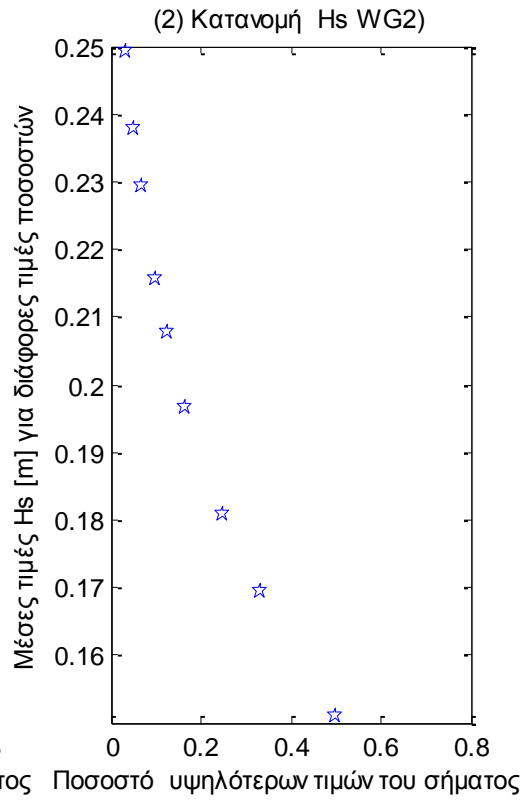
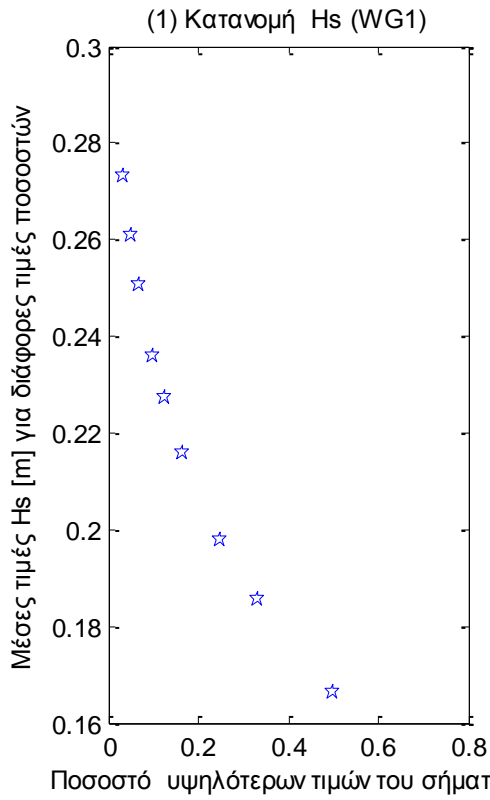


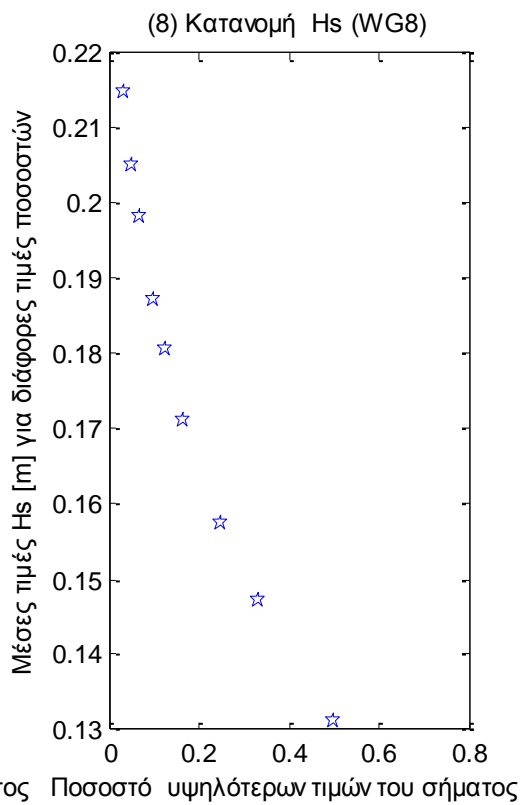
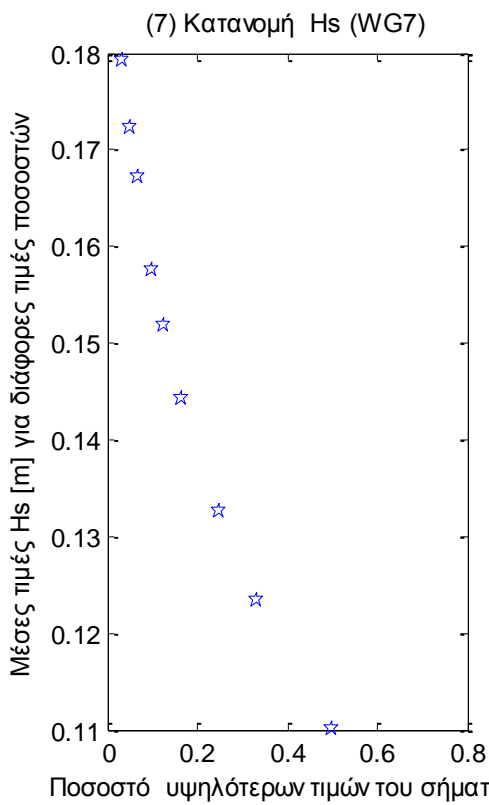
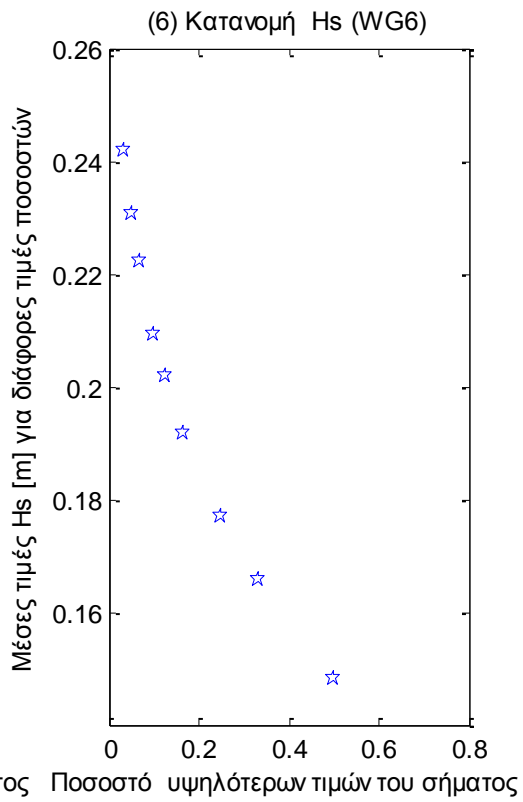
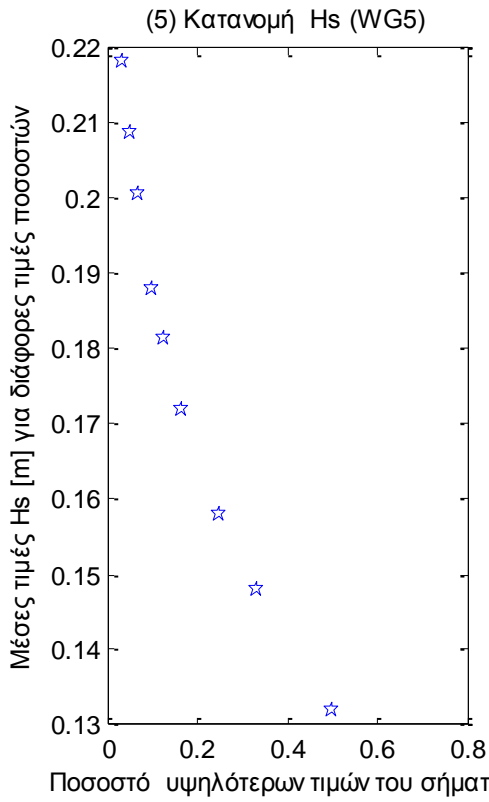
Σχήματα 1.3.4.6 (1-2) Φάσματα για τα δυο όργανα μέτρησης της πίεσης

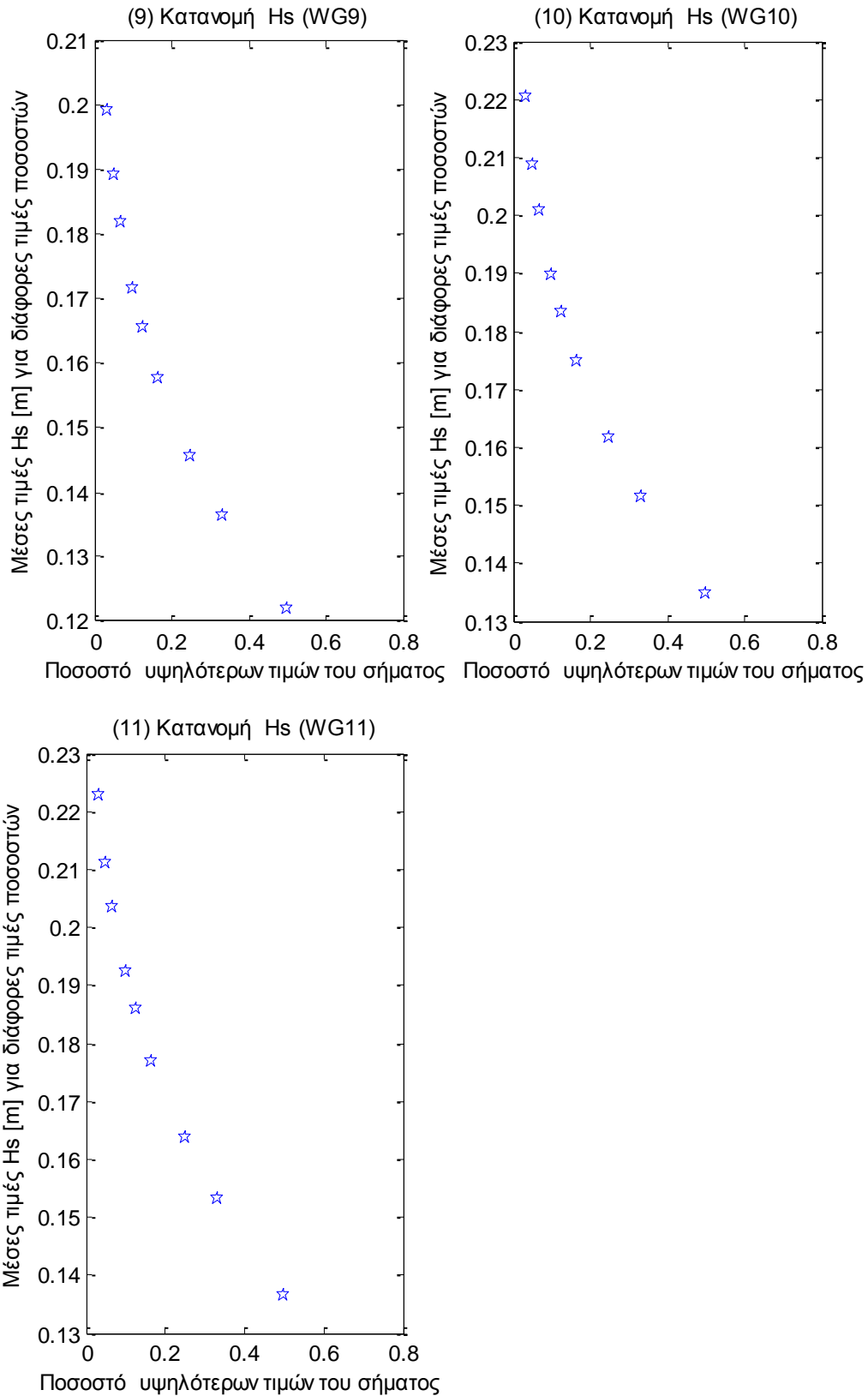




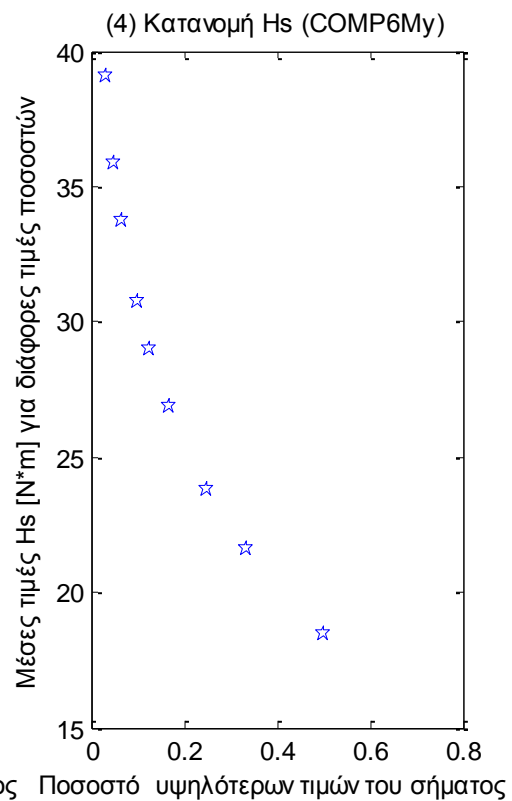
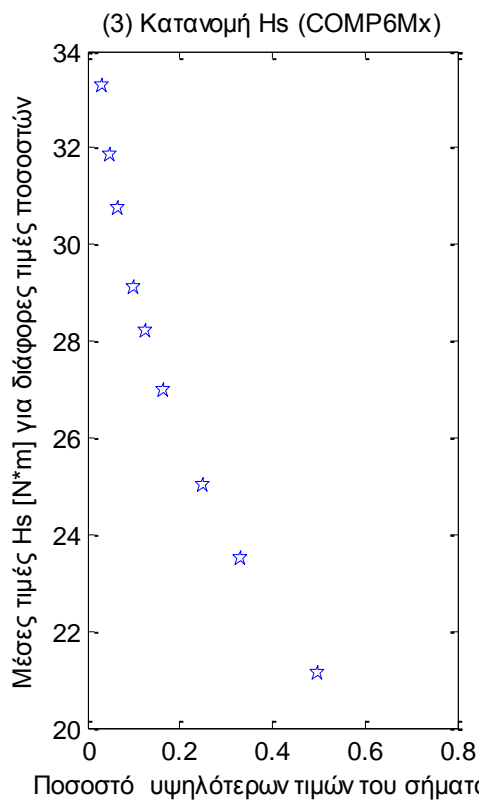
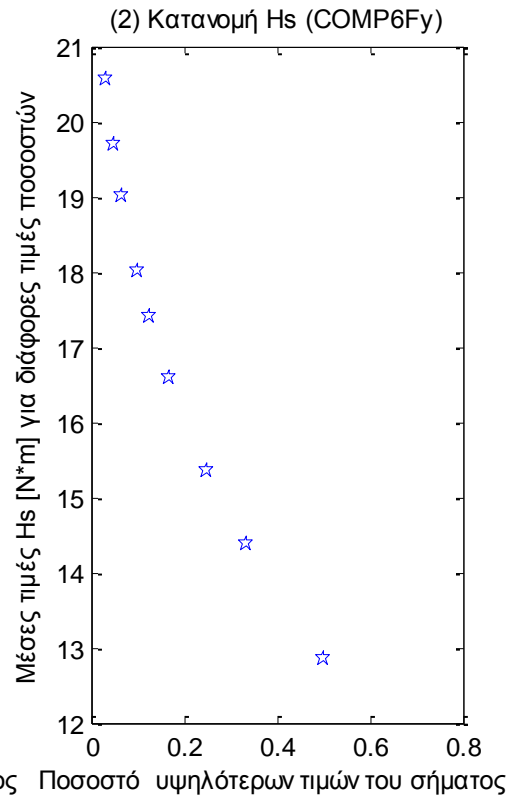
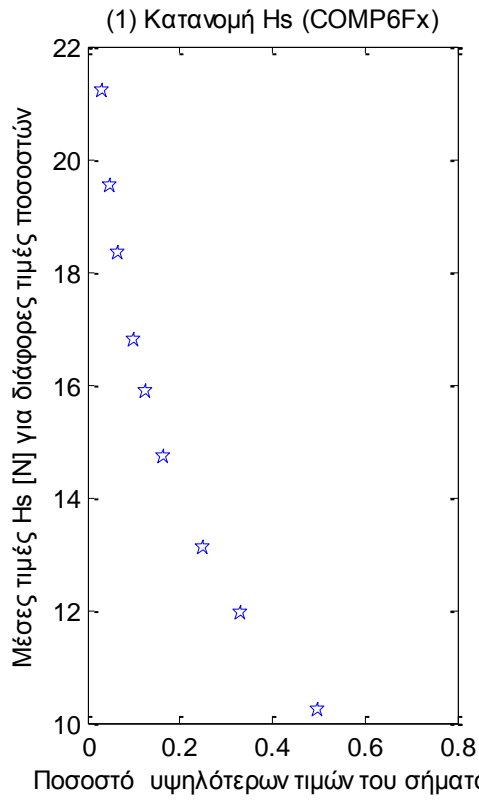
Σχήματα 1.3.4.7 Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

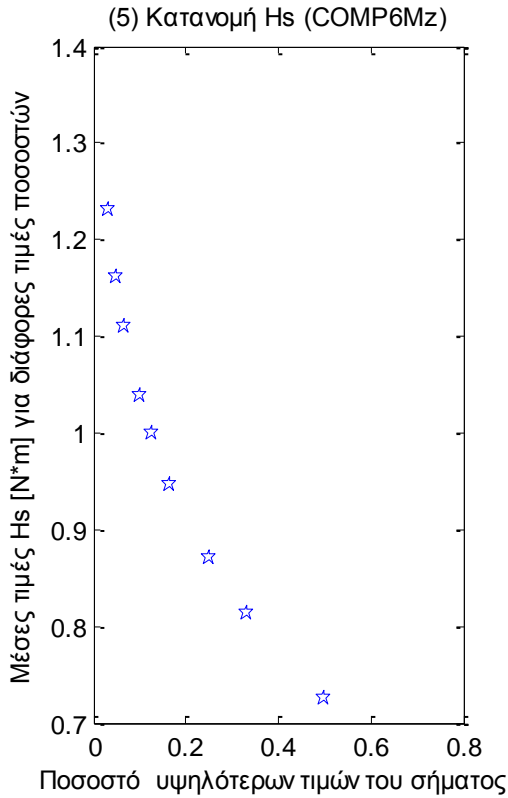




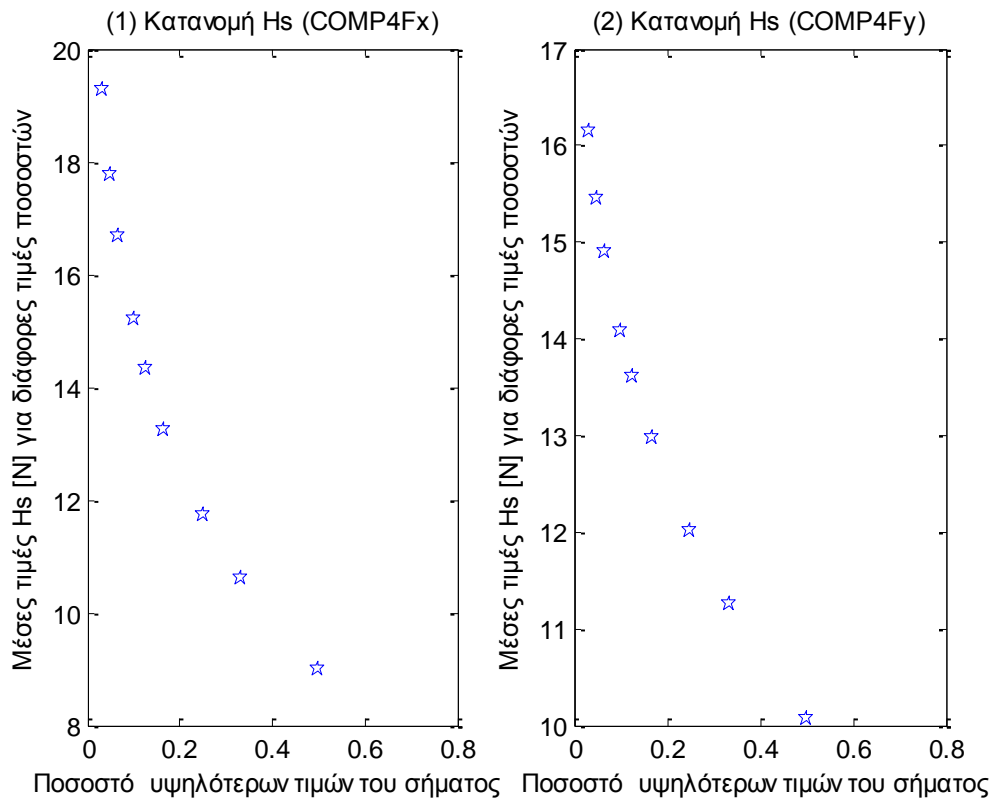


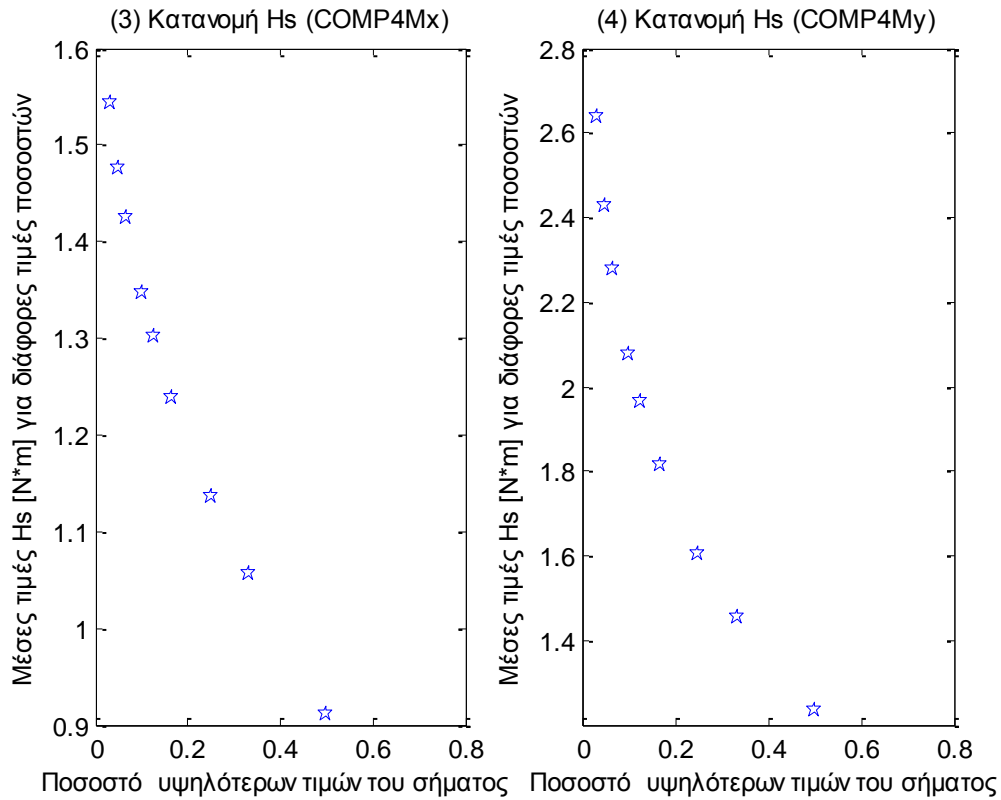
Σχήματα 1.3.5.1 (1-11) Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



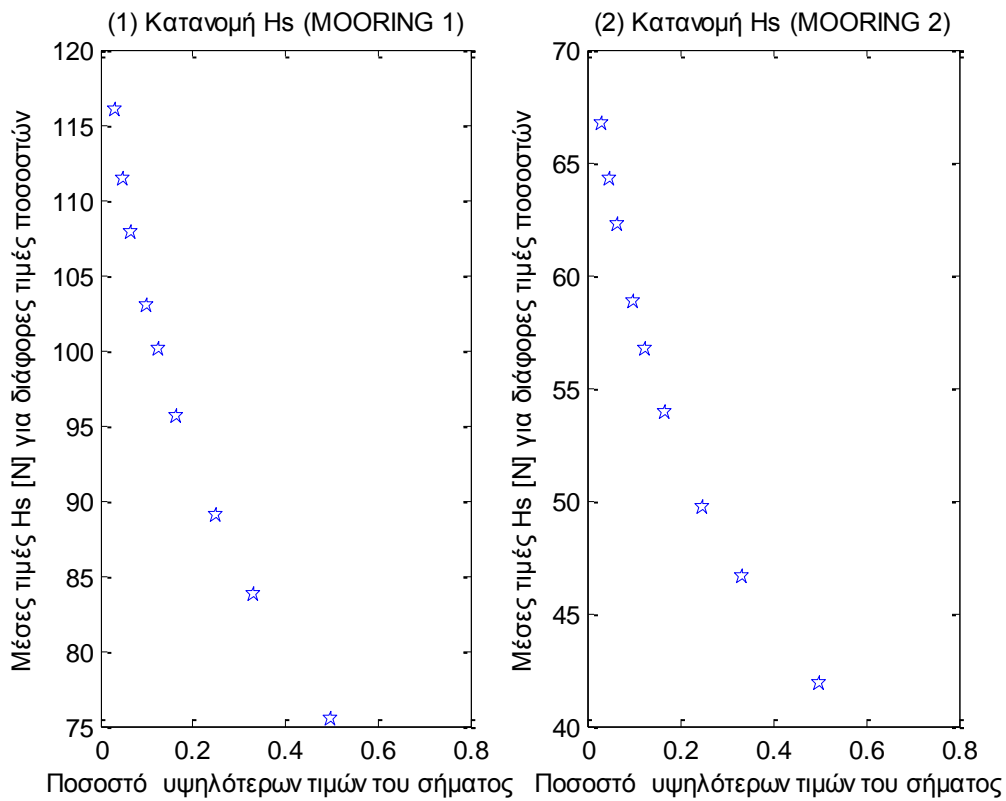


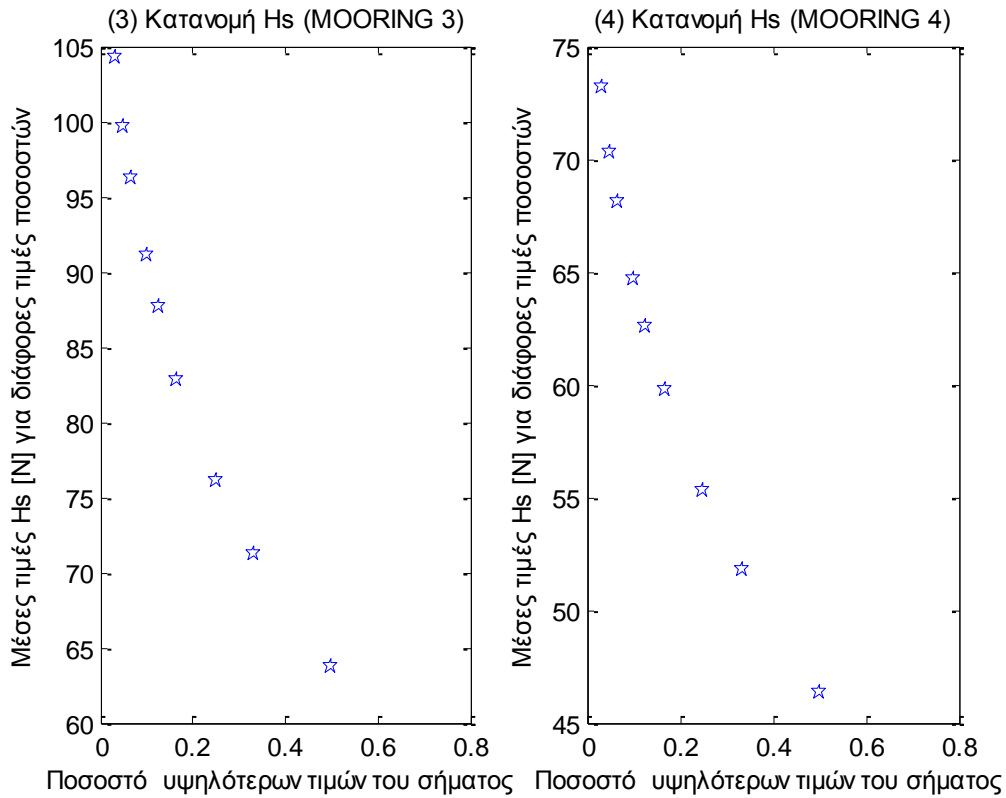
Σχήματα 1.3.5.2 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, και (2) sway και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



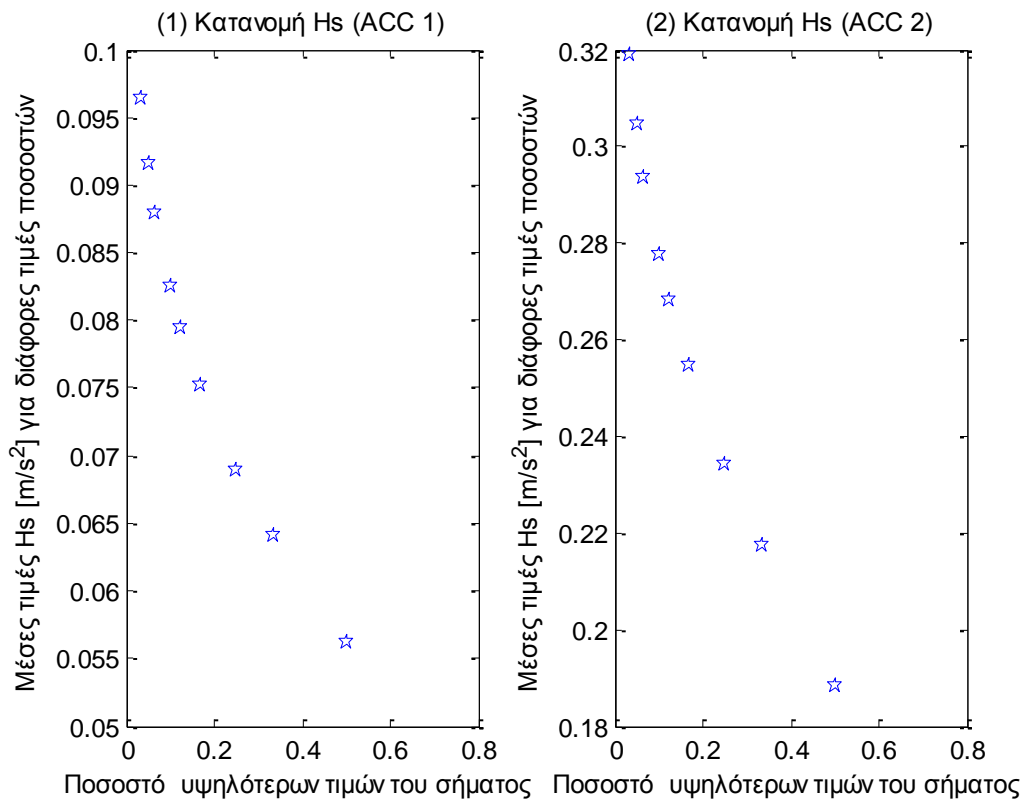


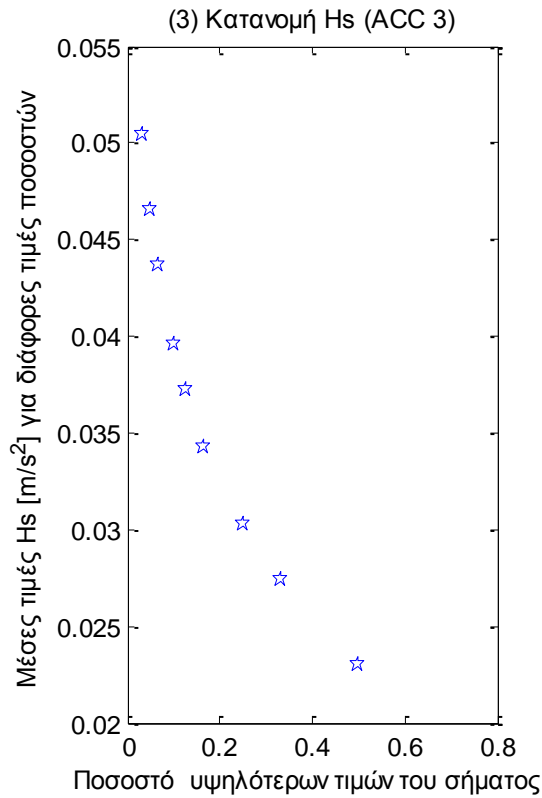
Σχήματα 1.3.5.3 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



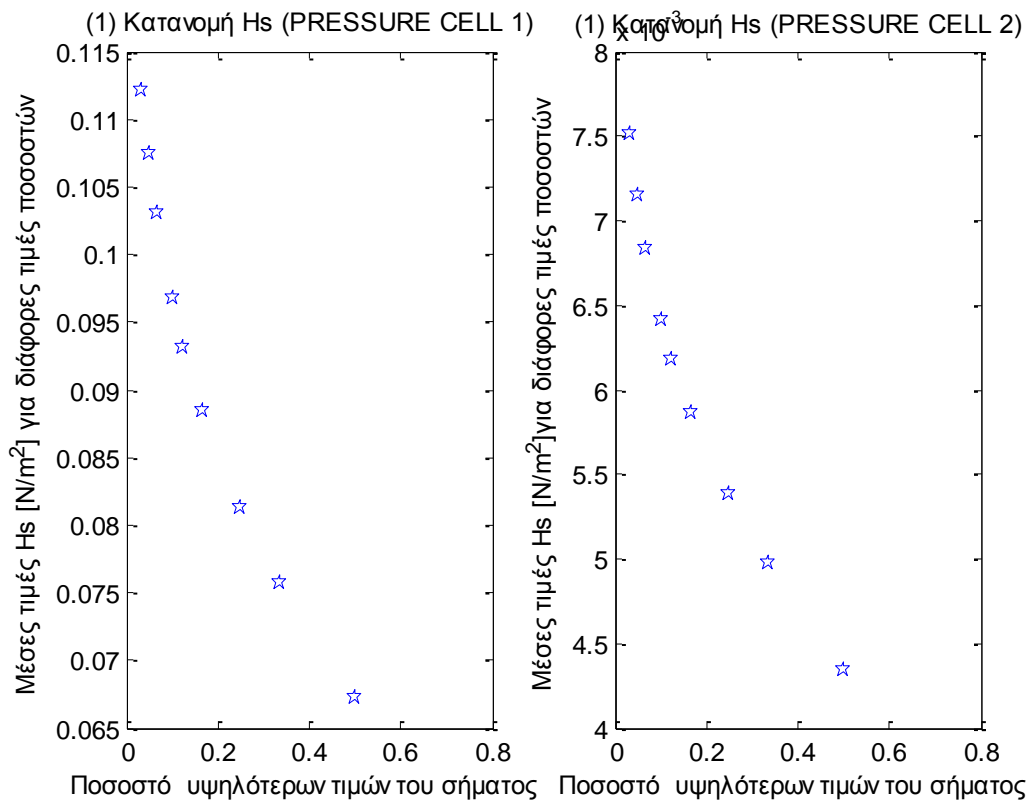


Σχήματα 1.3.5.4 (1-4) Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

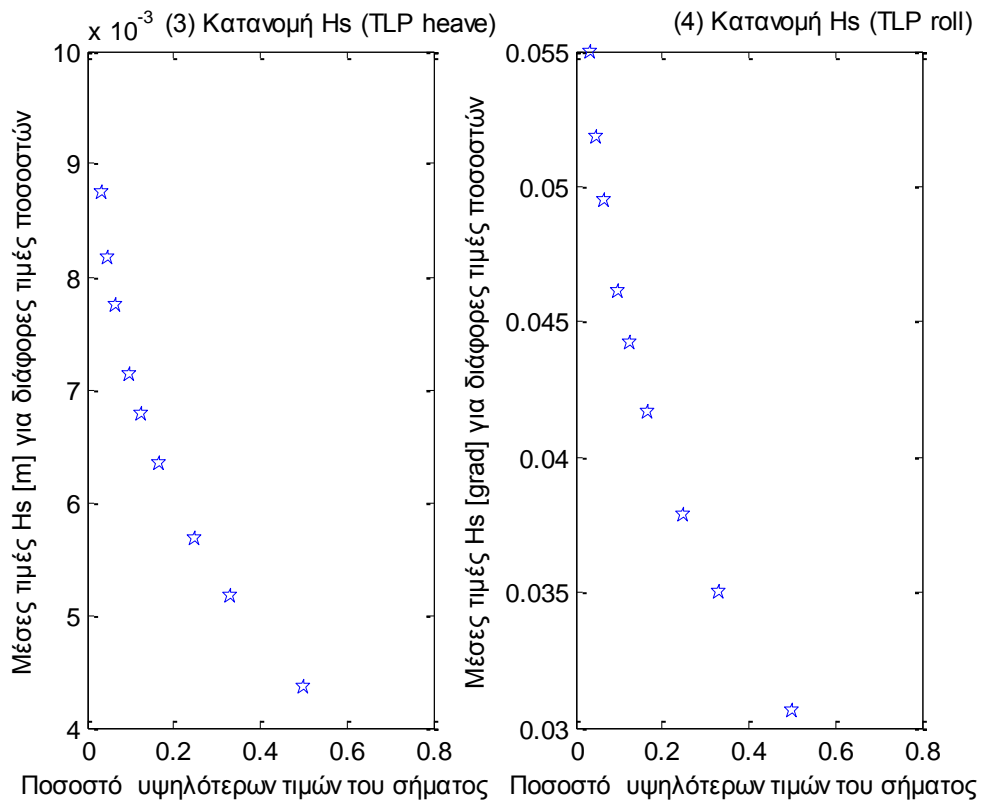
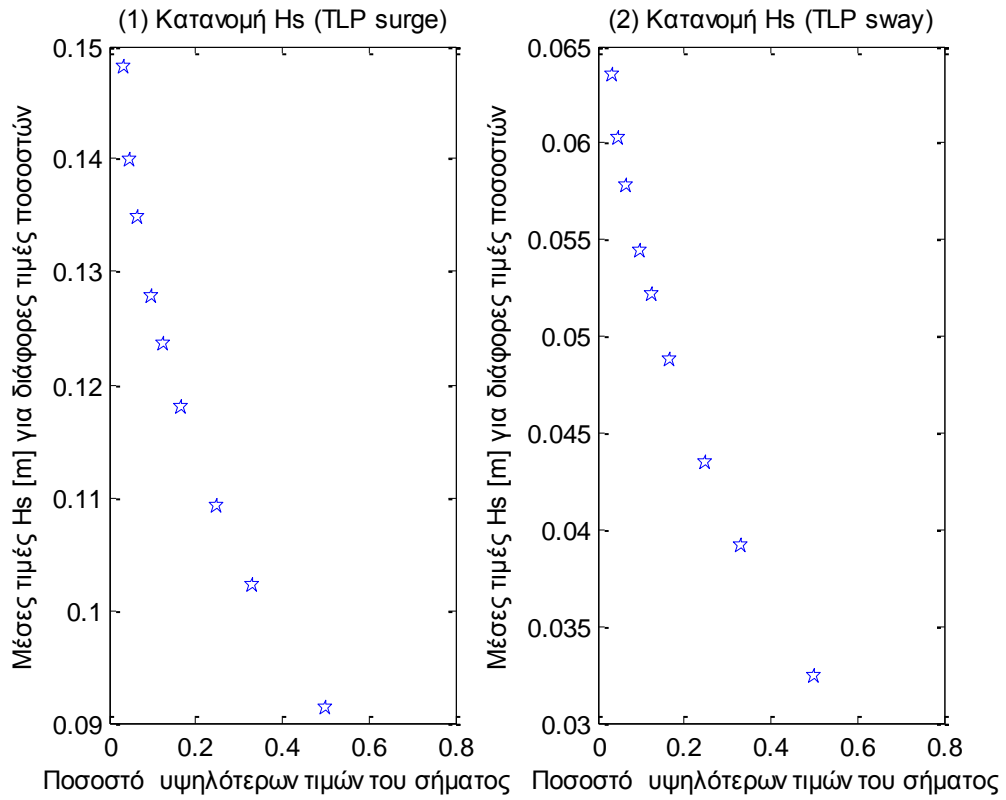


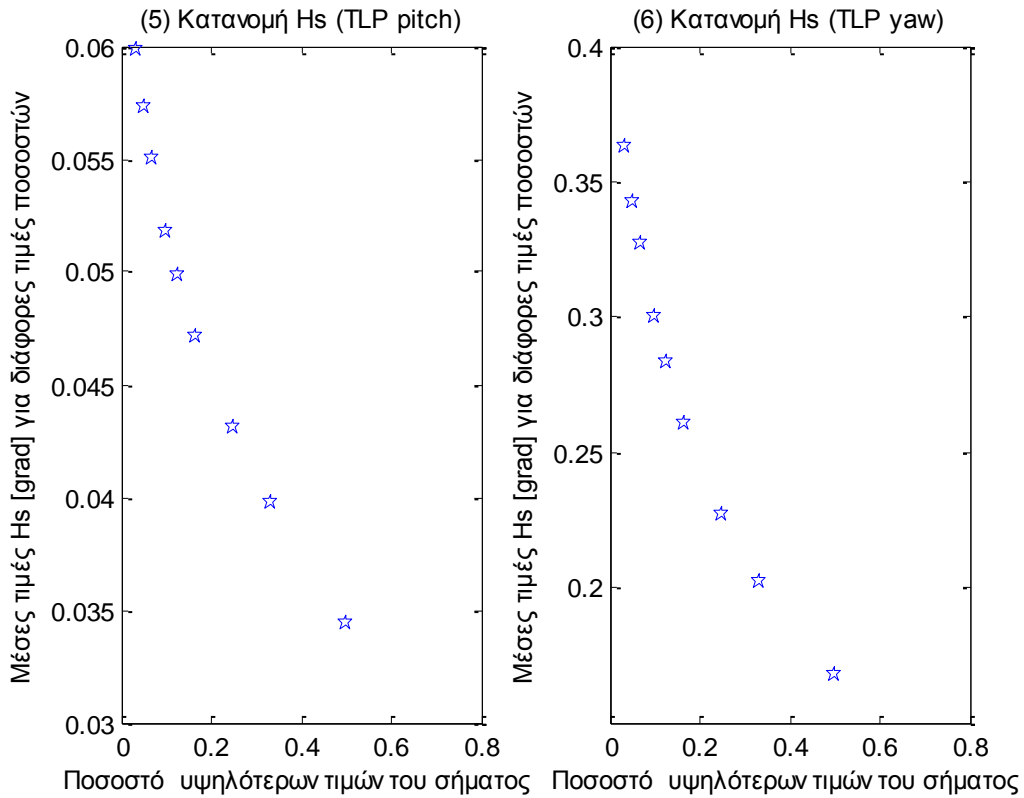


Σχήματα 1.3.5.5 (1-3) Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

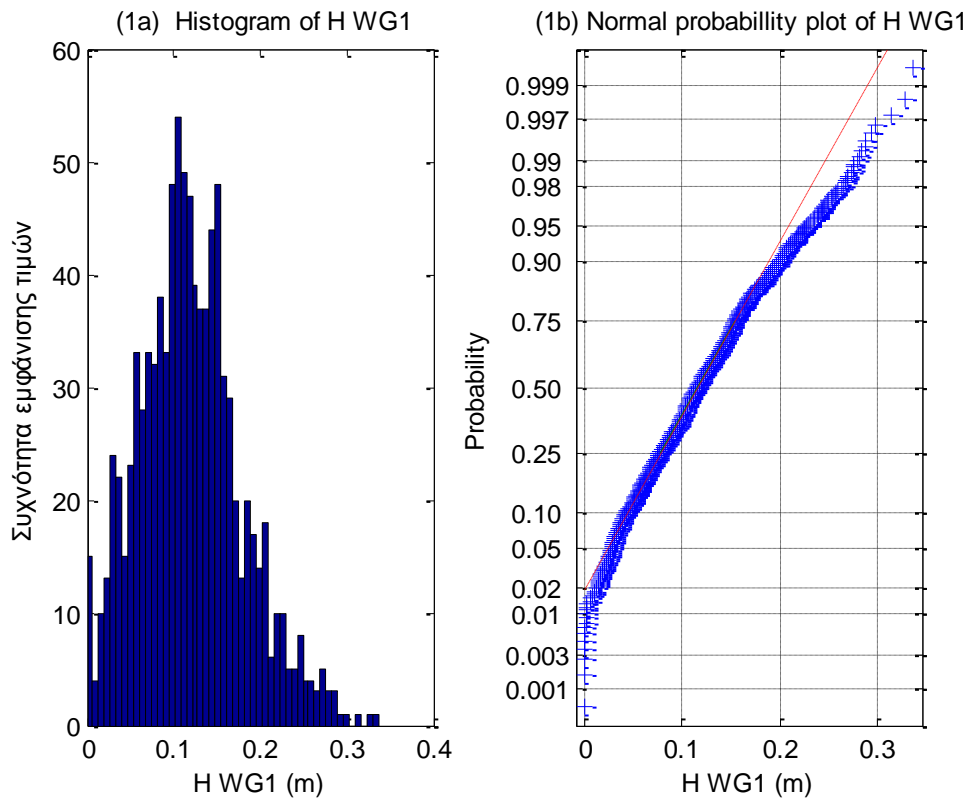


Σχήματα 1.3.5.6 (1-2) Κατανομή σημαντικού ύψους Hs για τα δυο όργανα μέτρησης της πίεσης

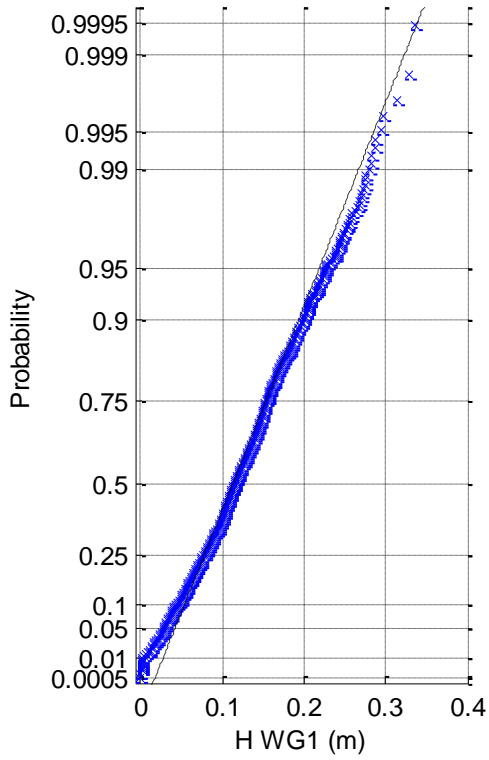




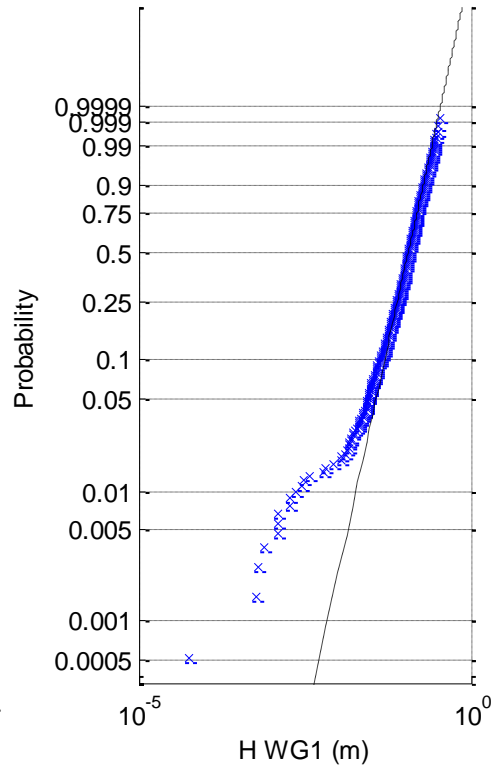
Σχήματα 1.3.5.7 Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



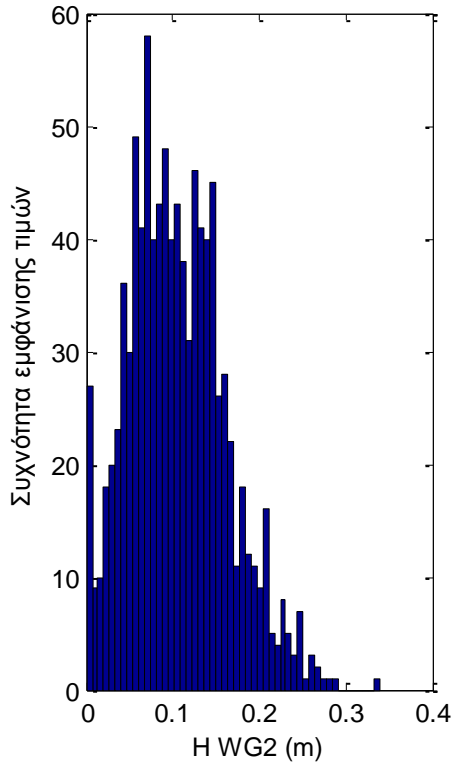
(1c) Rayleigh probability plot of H WG1



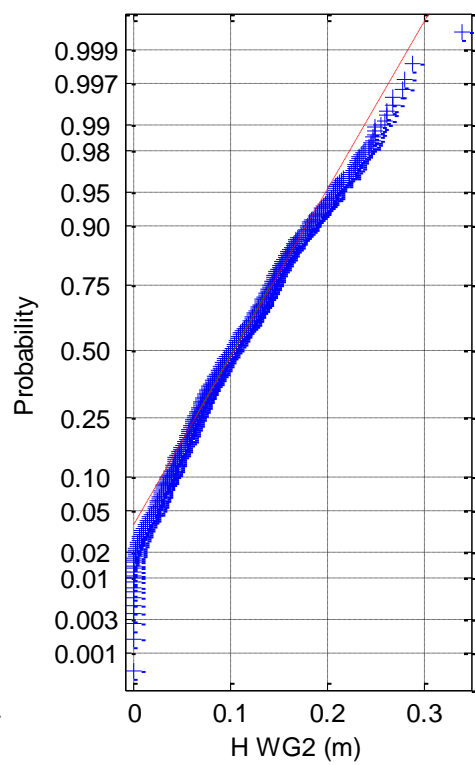
(1d) Weibull probability plot of H WG1



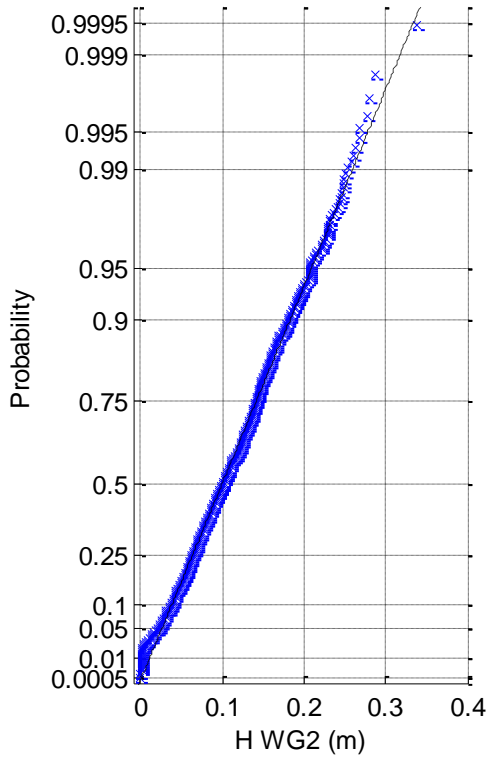
(2a) Histogram of H WG2



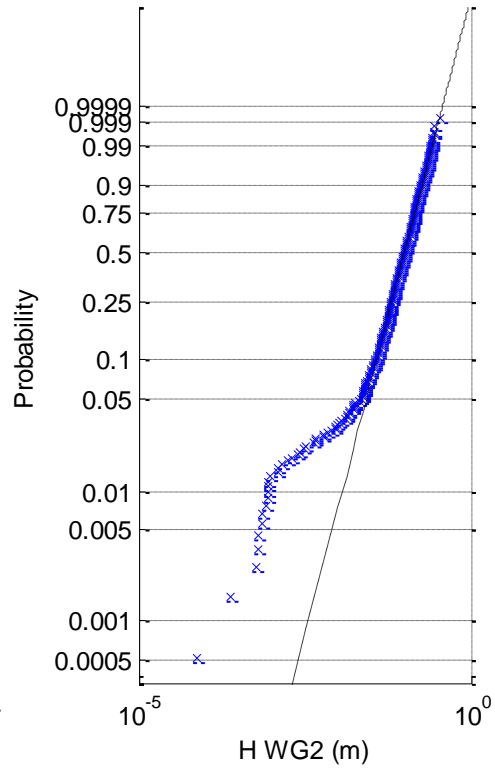
(2b) Normal probability plot of H WG2



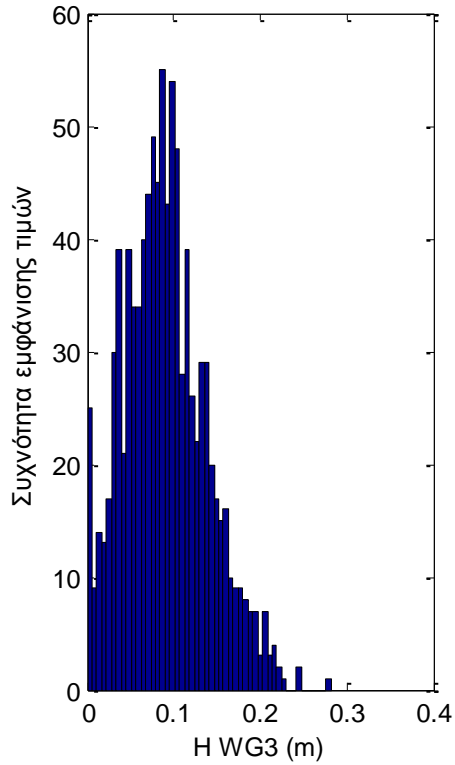
(2c) Rayleigh probability plot of H WG2



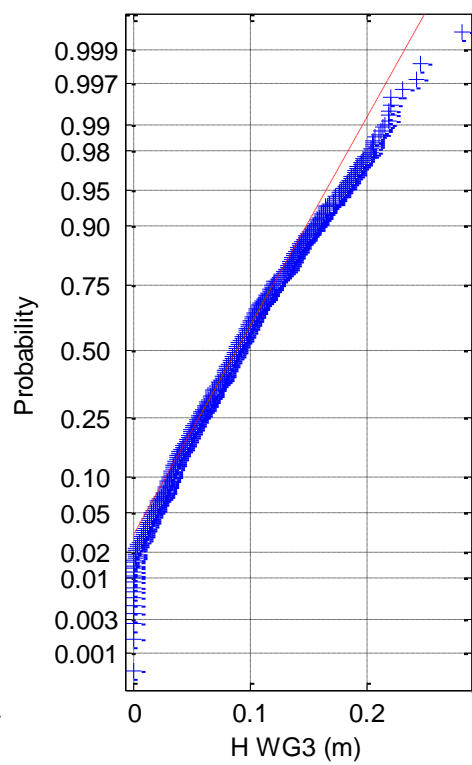
(2d) Weibull probability plot of H WG2



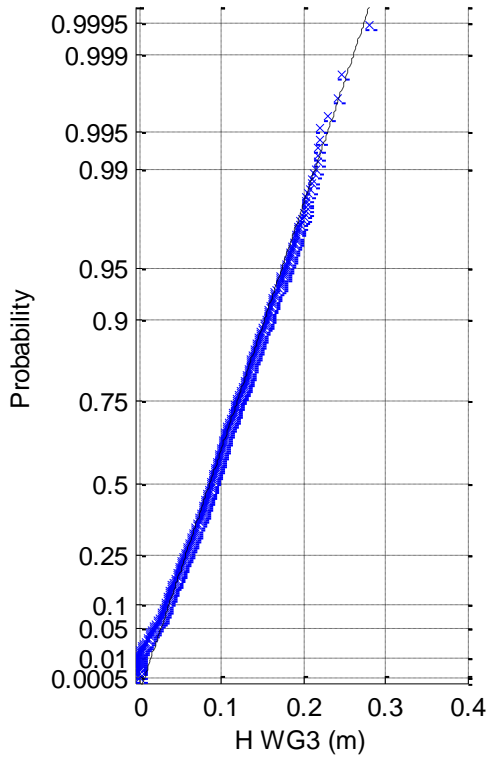
(3a) Histogram of H WG3



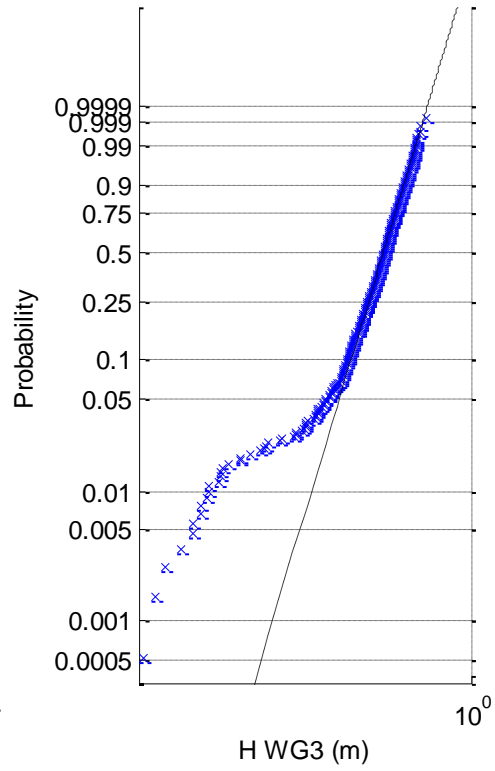
(3b) Normal probability plot of H WG3



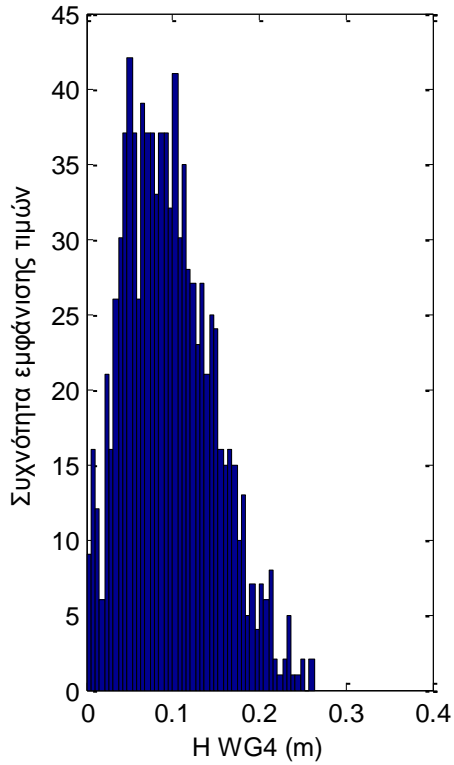
(3c) Rayleigh probability plot of H WG3



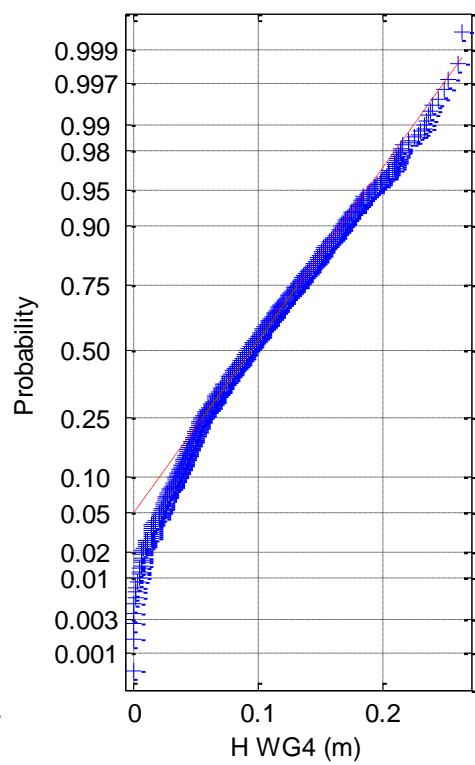
(3d) Weibull probability plot of H WG3



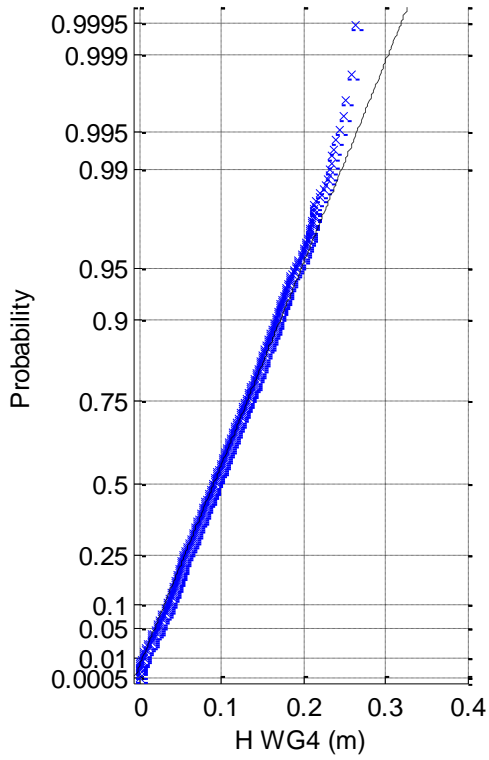
(4a) Histogram of H WG4



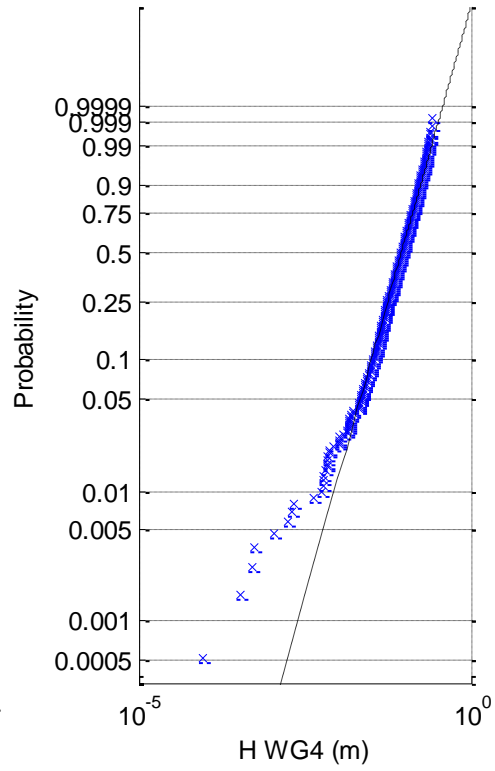
(4b) Normal probability plot of H WG4



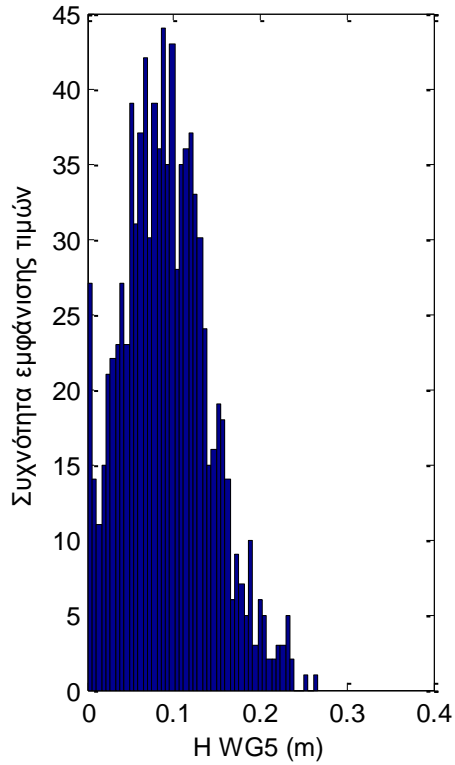
(4c) Rayleigh probability plot of H WG4



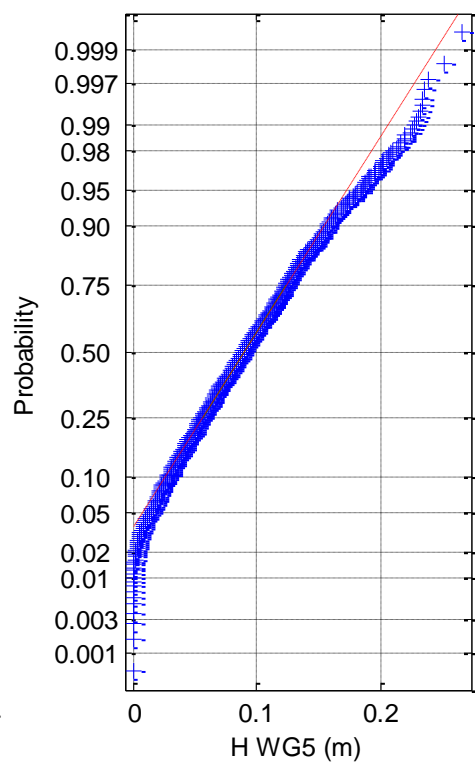
(4d) Weibull probability plot of H WG4



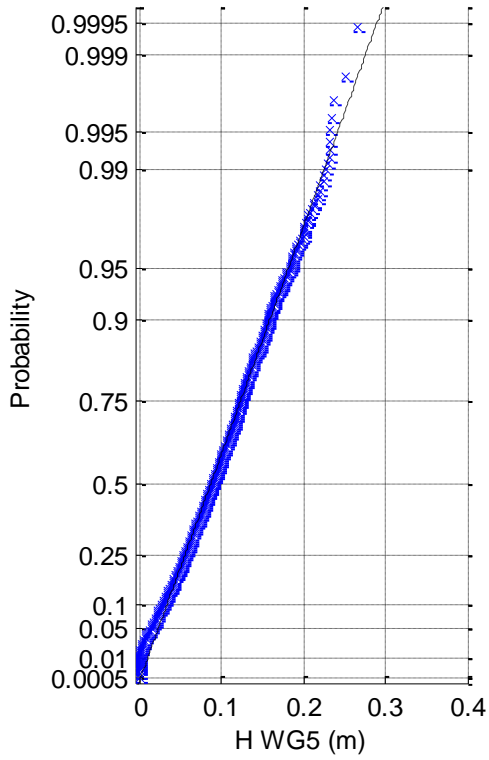
(5a) Histogram of H WG5



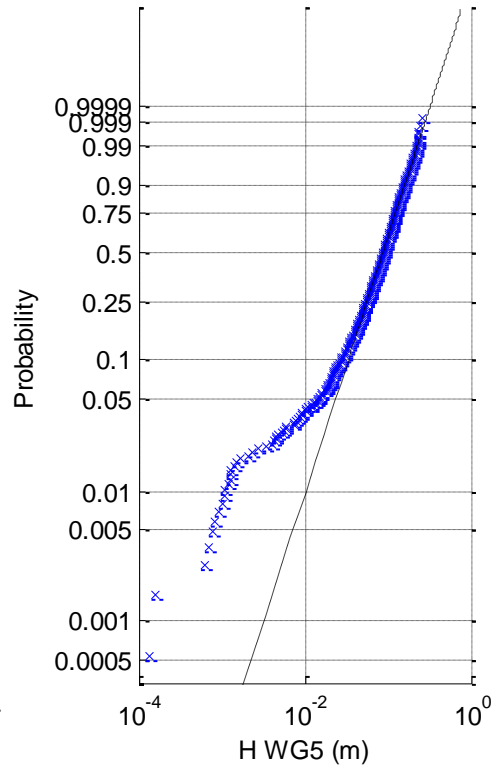
(5b) Normal probability plot of H WG5



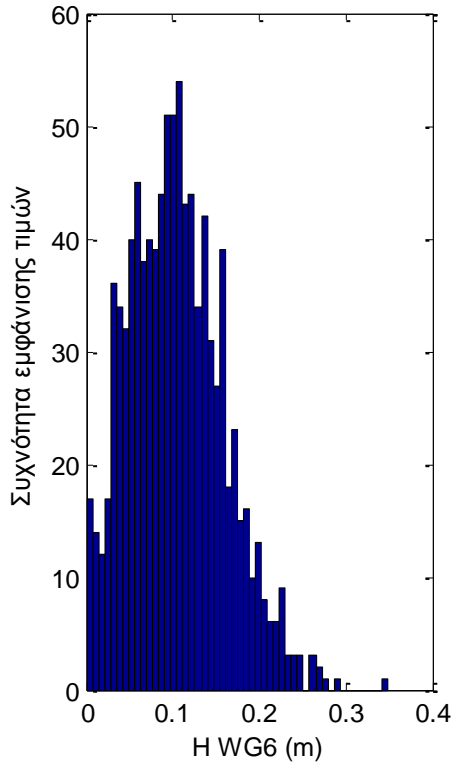
(5c) Rayleigh probability plot of H WG5



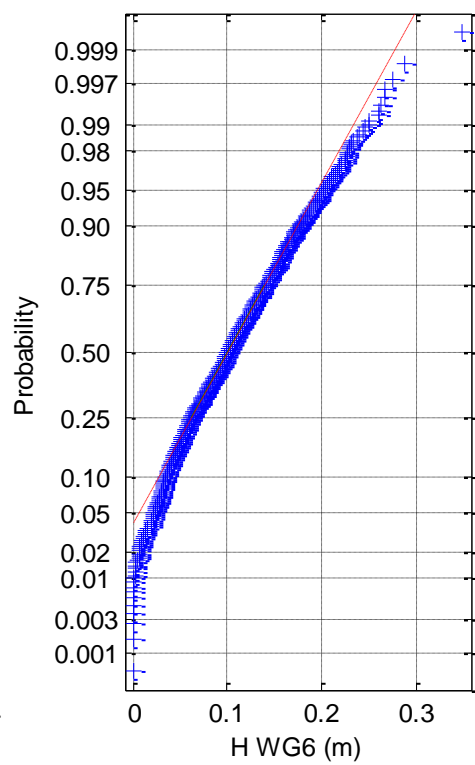
(5d) Weibull probability plot of H WG5



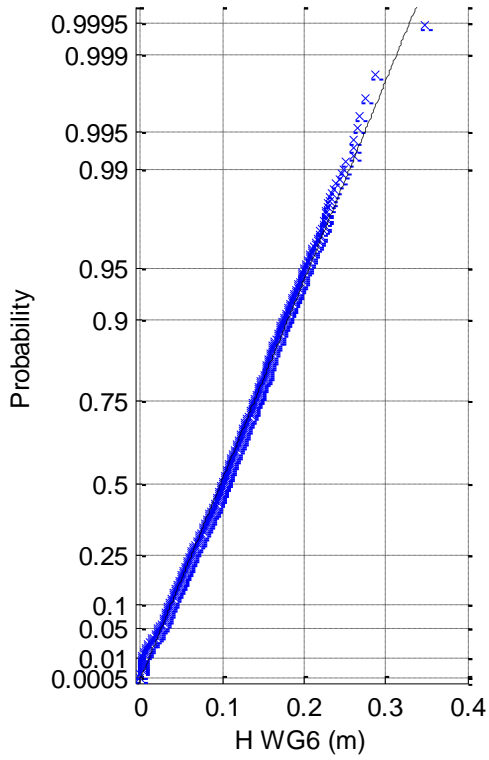
(6a) Histogram of H WG6



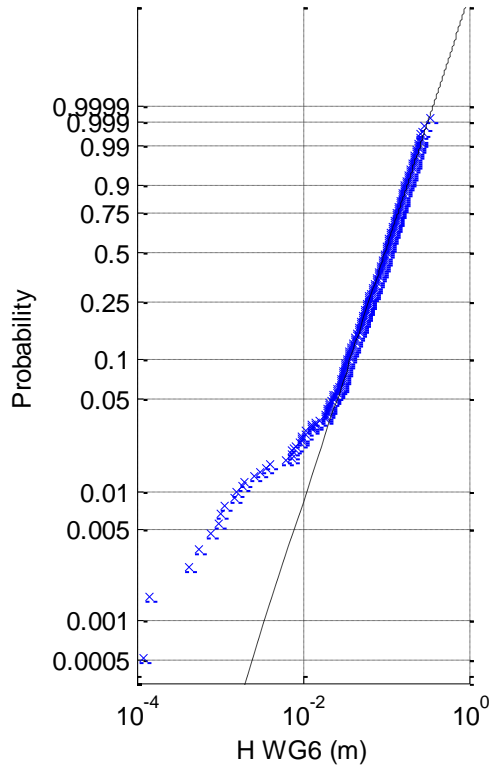
(6b) Normal probability plot of H WG6



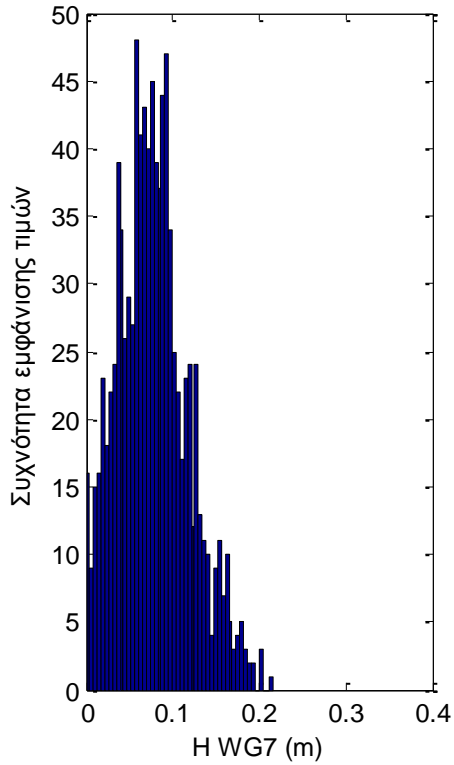
(6c) Rayleigh probability plot of H WG6



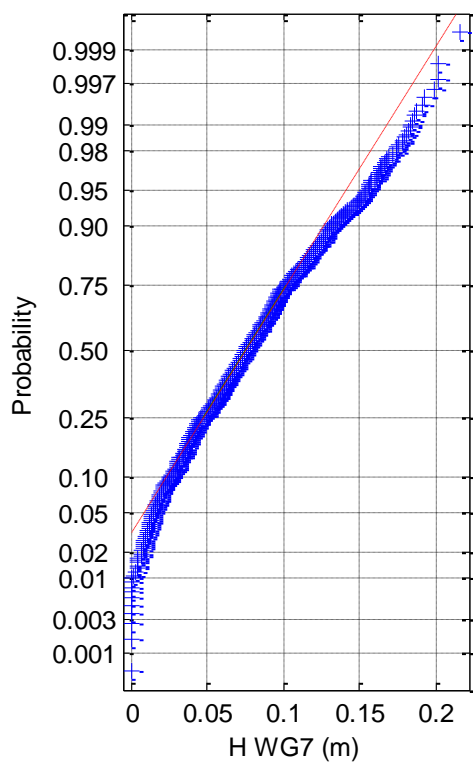
(6d) Weibull probability plot of H WG6



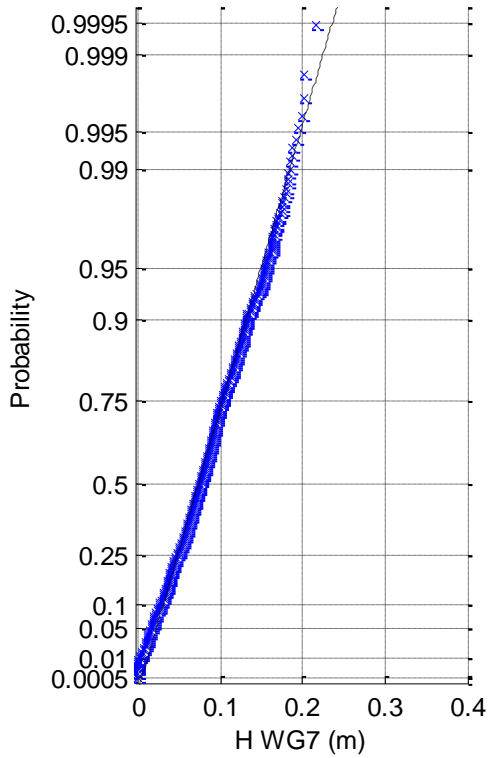
(7a) Histogram of H WG7



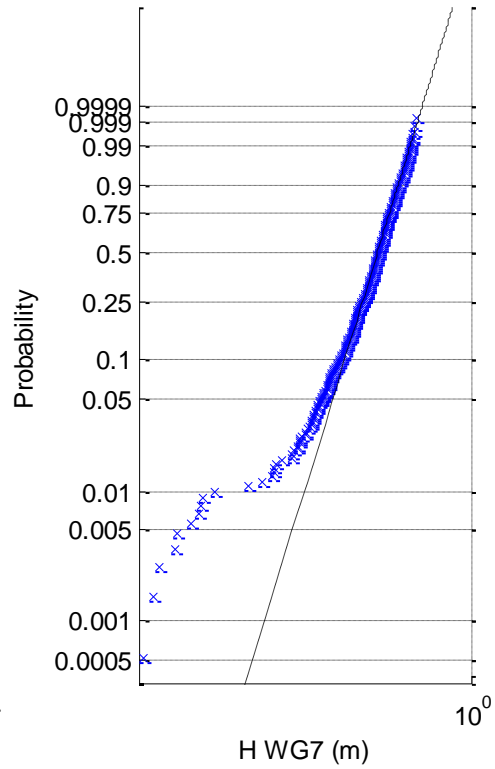
(7b) Normal probability plot of H WG7



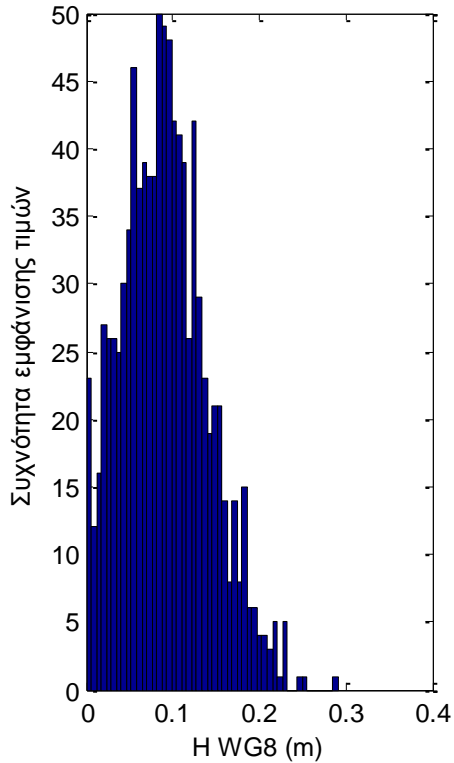
(7c) Rayleigh probability plot of H WG7



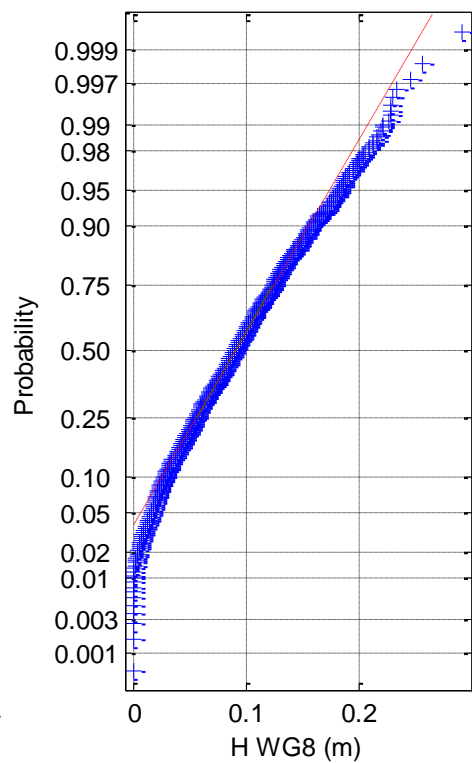
(7d) Weibull probability plot of H WG7



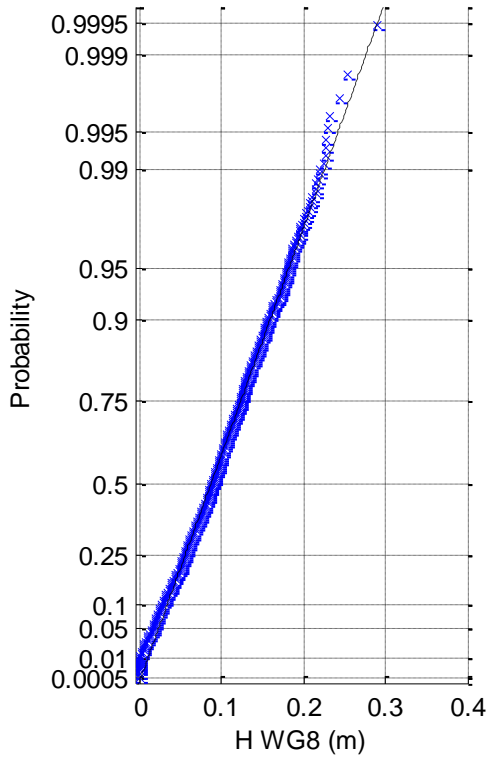
(8a) Histogram of H WG8



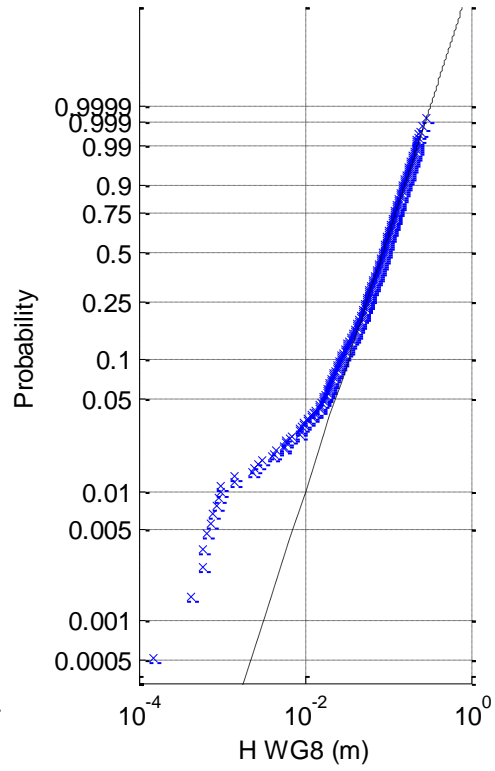
(8b) Normal probability plot of H WG8



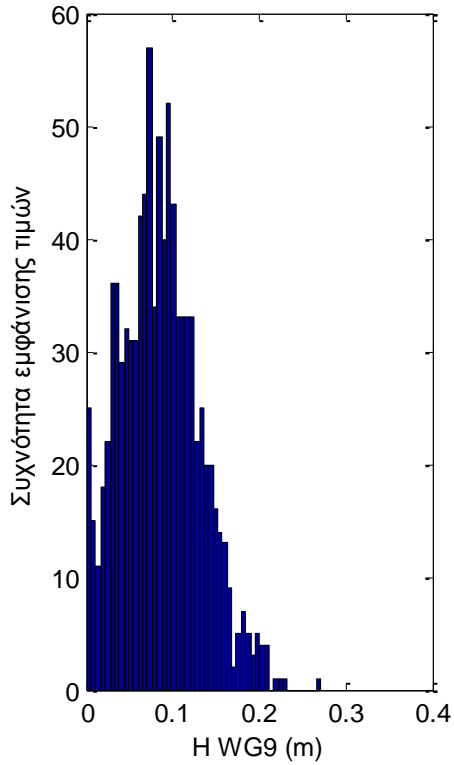
(8c) Rayleigh probability plot of H WG8



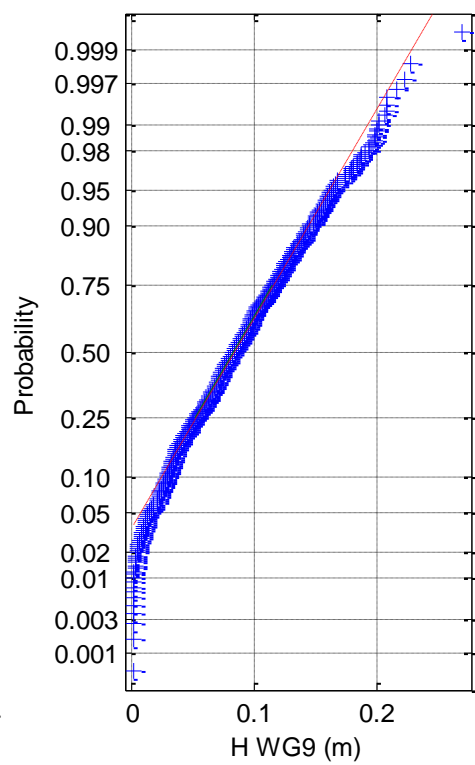
(8d) Weibull probability plot of H WG8



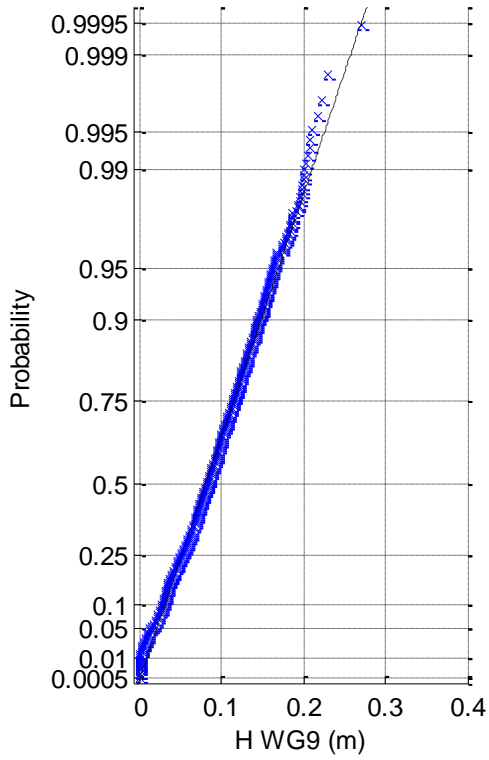
(9a) Histogram of H WG9



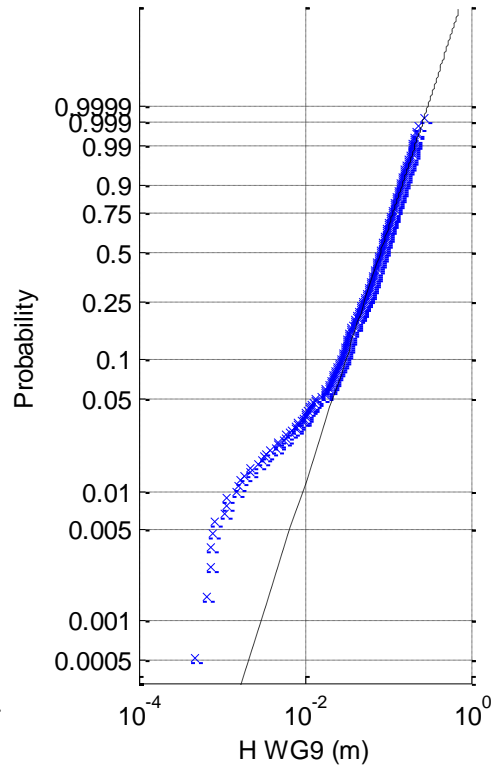
(9b) Normal probability plot of H WG9



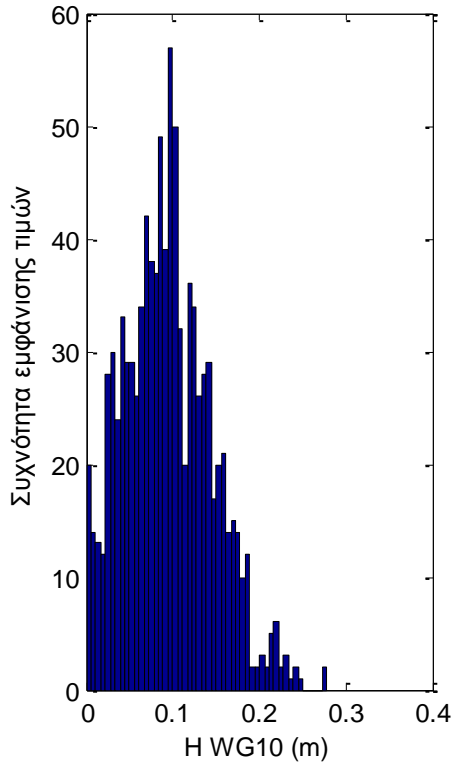
(9c) Rayleigh probability plot of H WG9



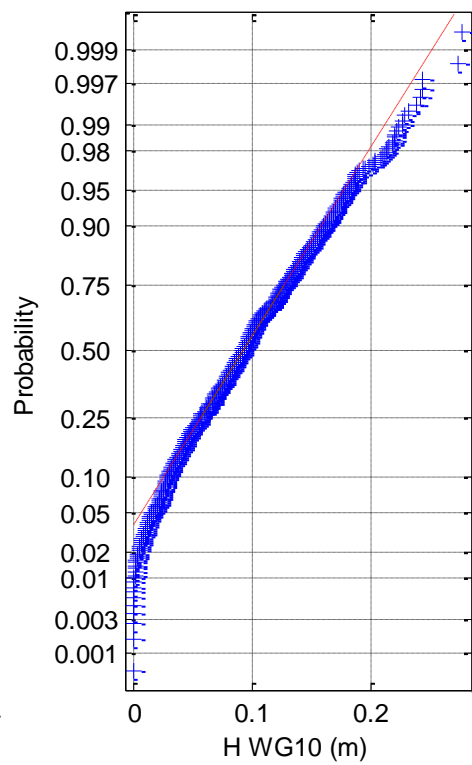
(9d) Weibull probability plot of H WG9



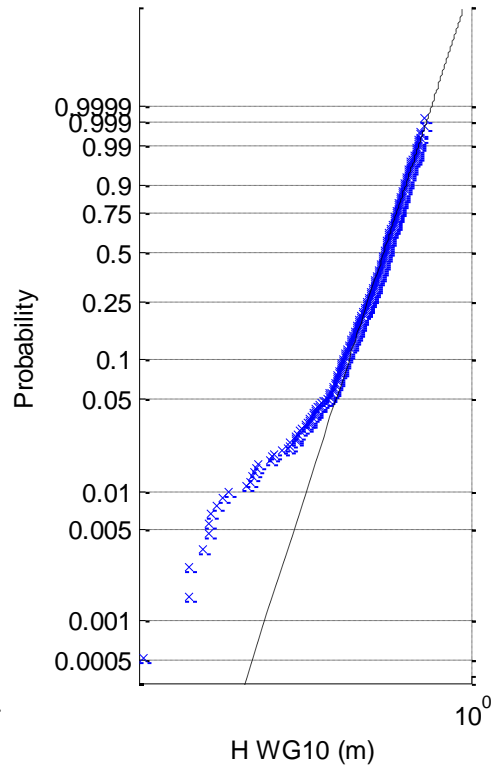
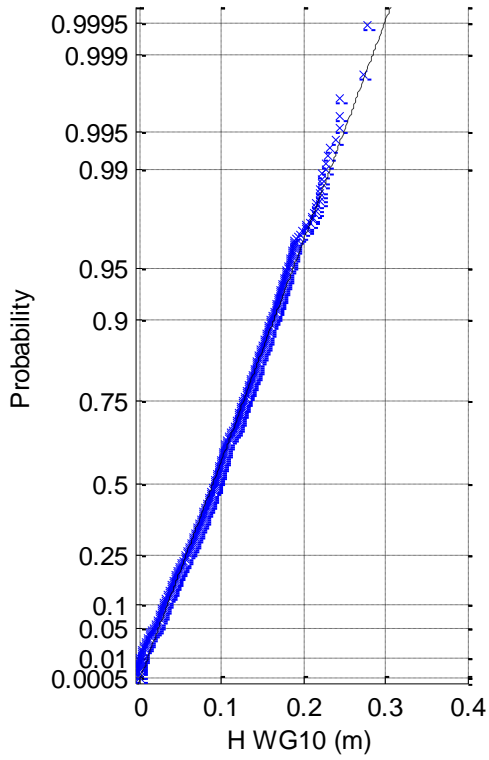
(10a) Histogram of H WG10



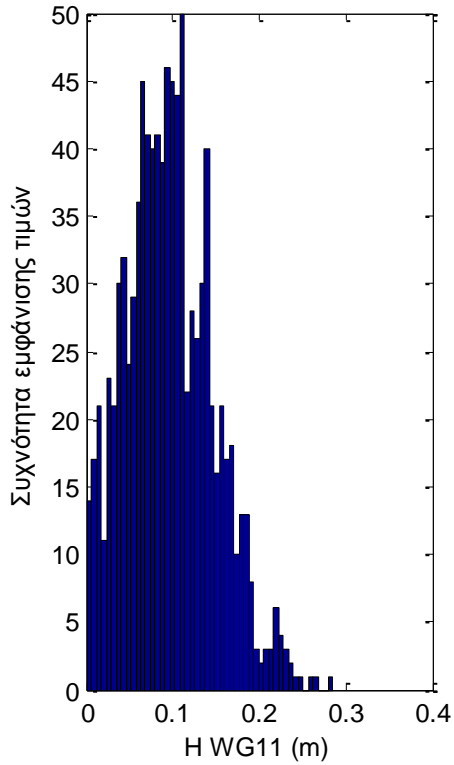
(10b) Normal probability plot of H WG10



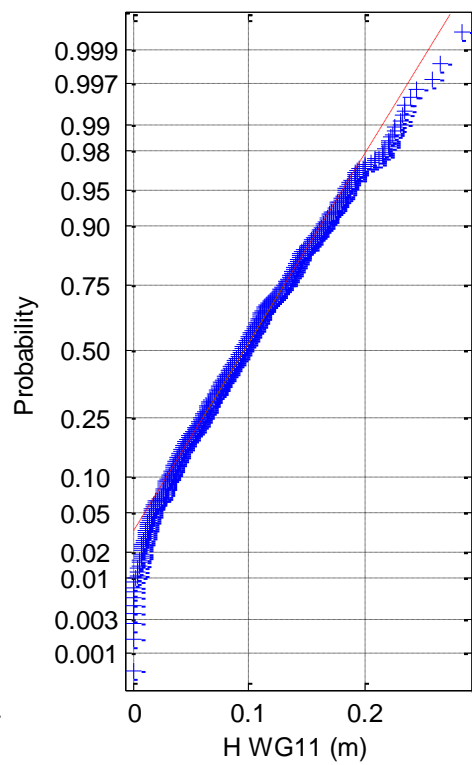
(10c) Rayleigh probability plot of H WG10 (10d) Weibull probability plot of H WG10

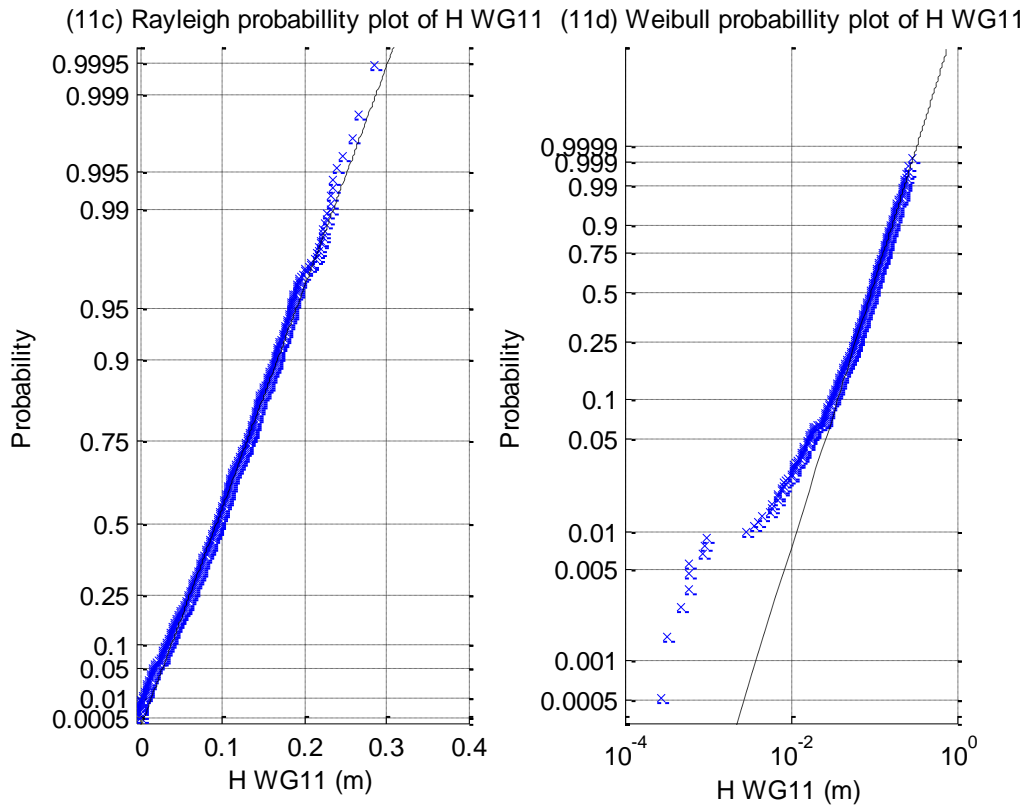


(11a) Histogram of H WG11

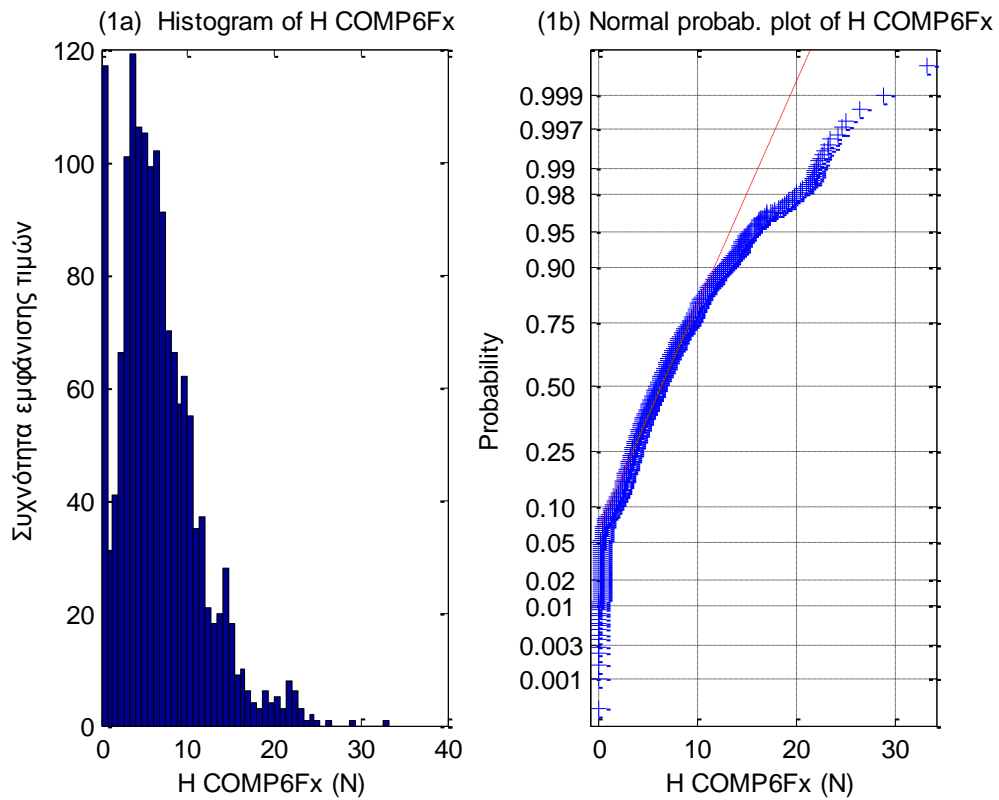


(11b) Normal probability plot of H WG11

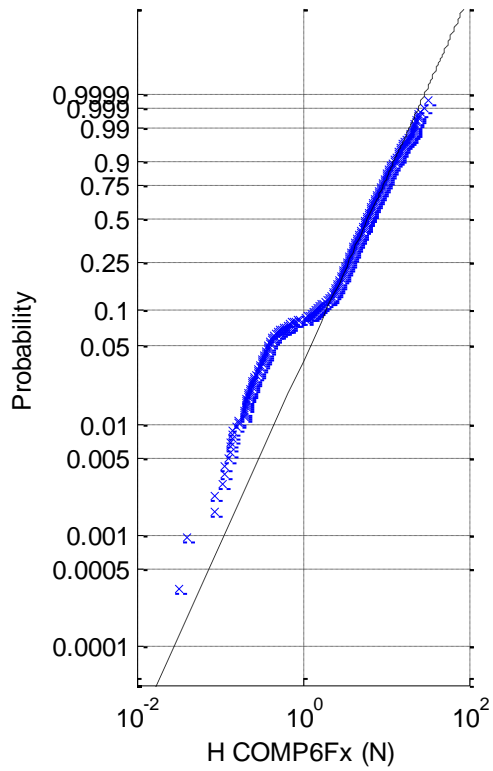
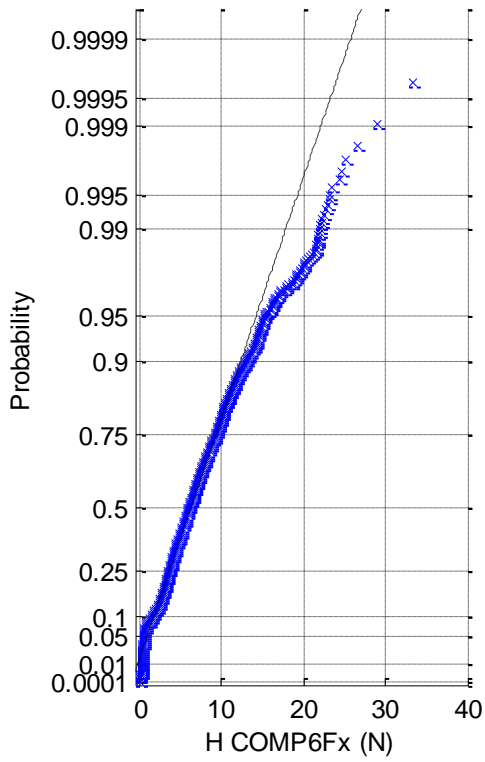




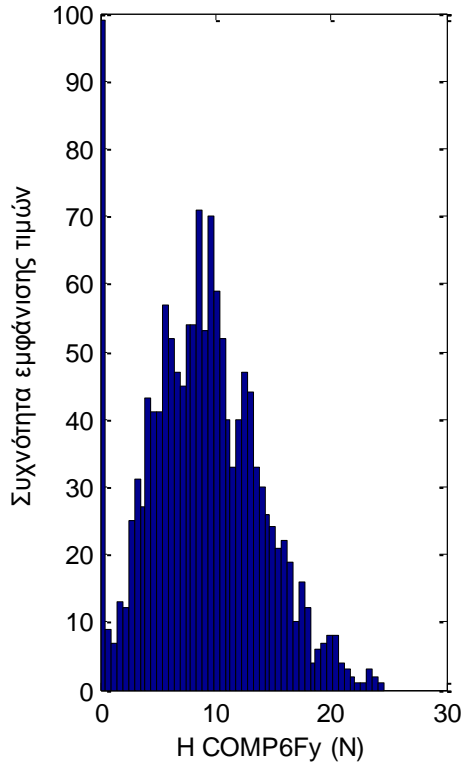
Σχήματα 1.3.6.1 (1-11) α) Ιστογράμματα, β) γραφήματα ελέγχου κανονικότητας, γ) έλεγχος κατανομής Rayleigh και δ) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος



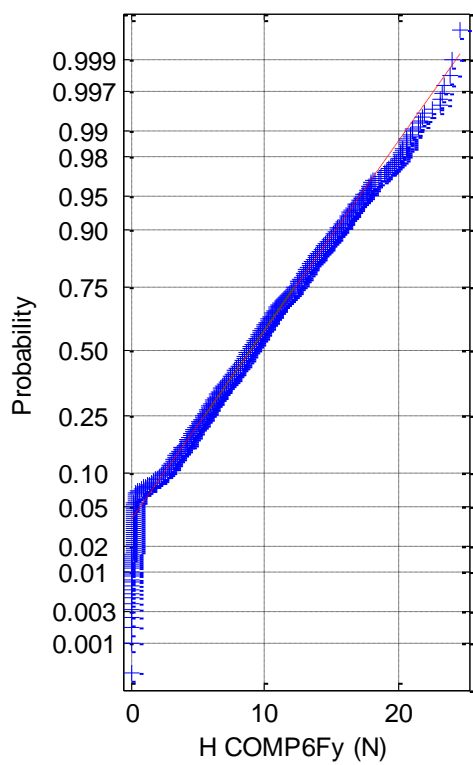
(1c) Rayleigh probab. plot of H COMP6Fx (1d) Weibull probab. plot of H COMP6Fx



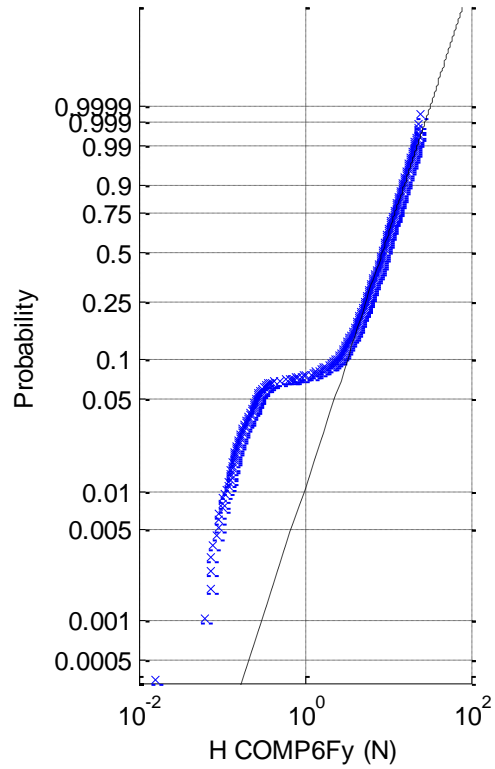
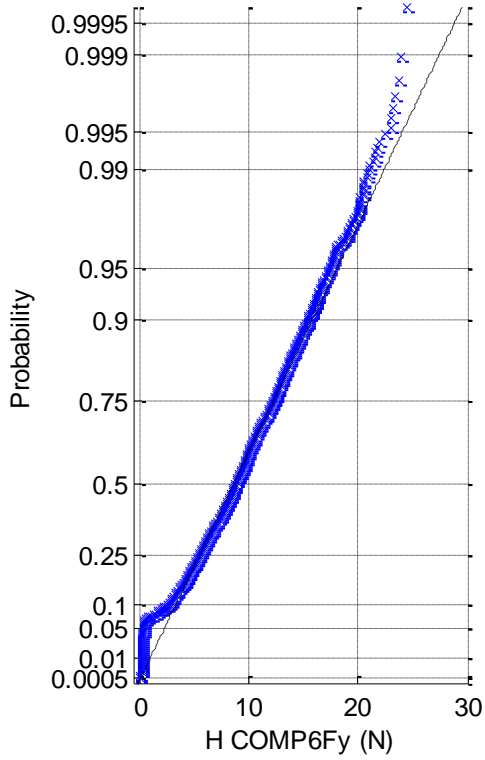
(2a) Histogram of H COMP6Fy



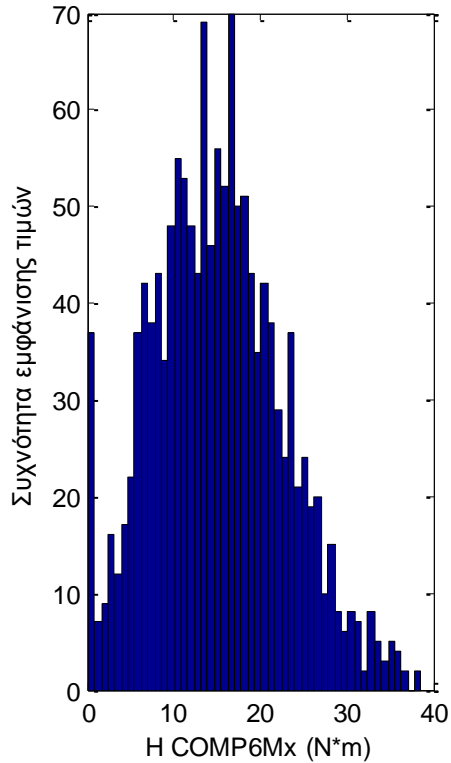
(2b) Normal probab. plot of H COMP6Fy



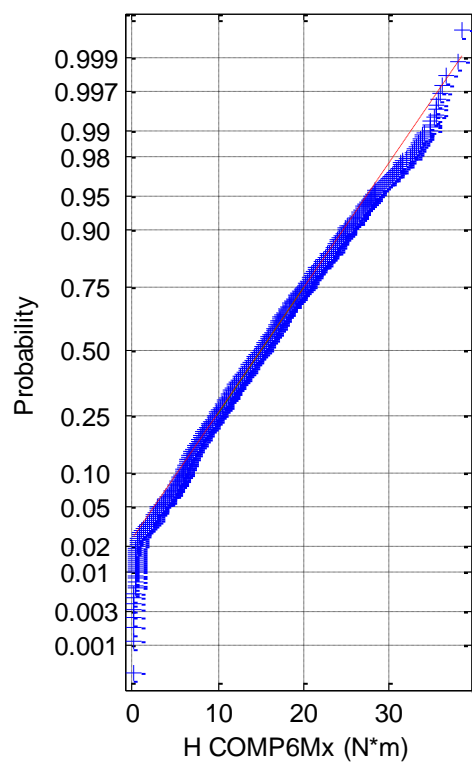
(2c) Rayleigh probab. plot of H COMP6Fy (2d) Weibull probab. plot of H COMP6Fy



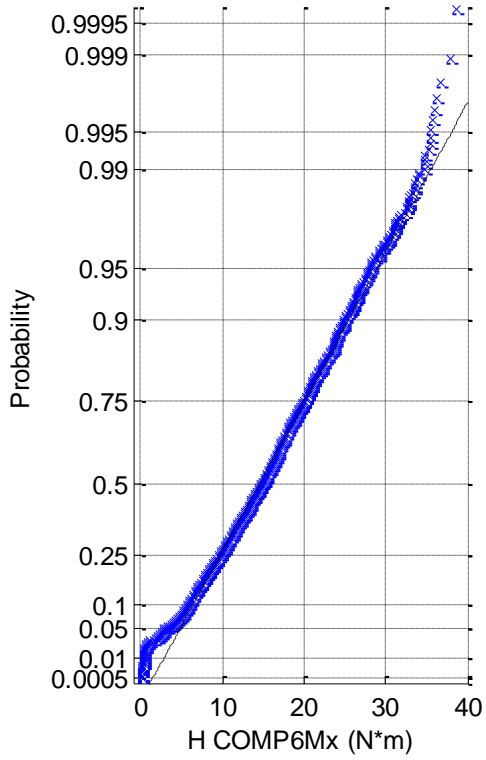
(3a) Histogram of H COMP6Mx



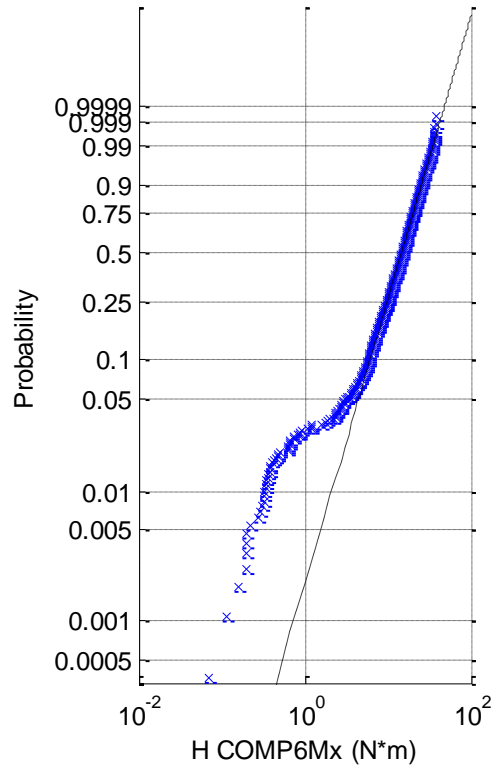
(3b) Normal probab. plot of H COMP6Mx



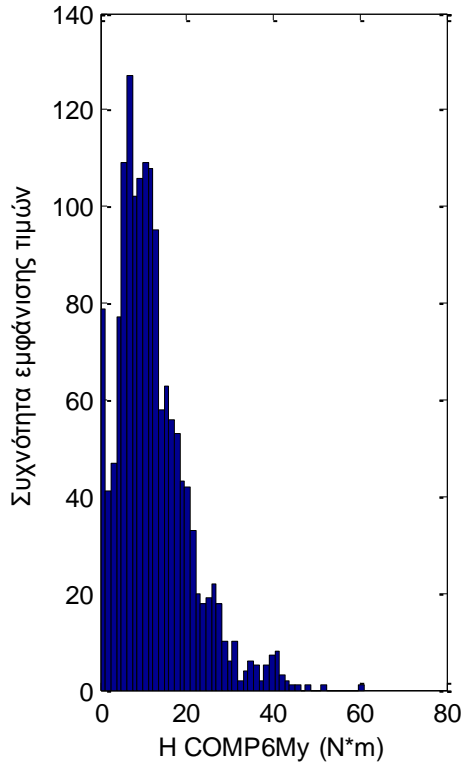
(3c) Rayleigh prob. plot of H COMP6Mx



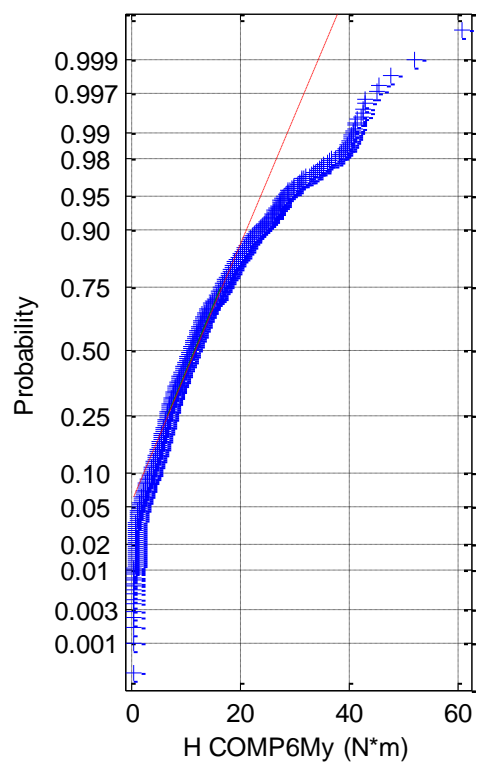
(3d) Weibull prob. plot of H COMP6Mx



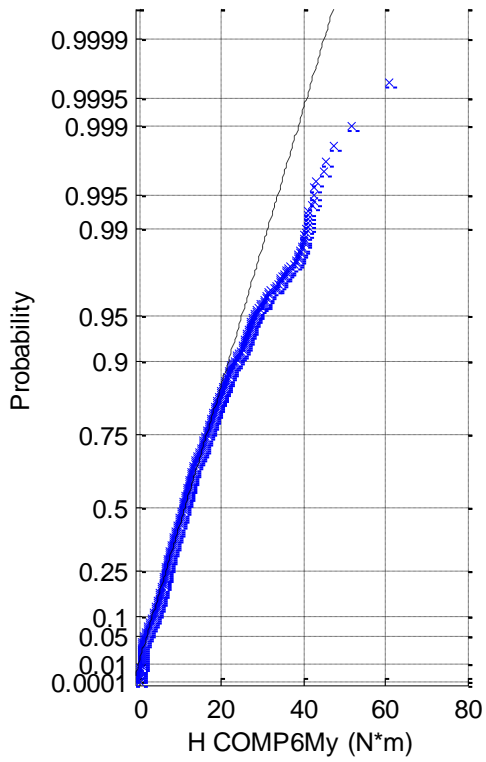
(4a) Histogram of H COMP6My



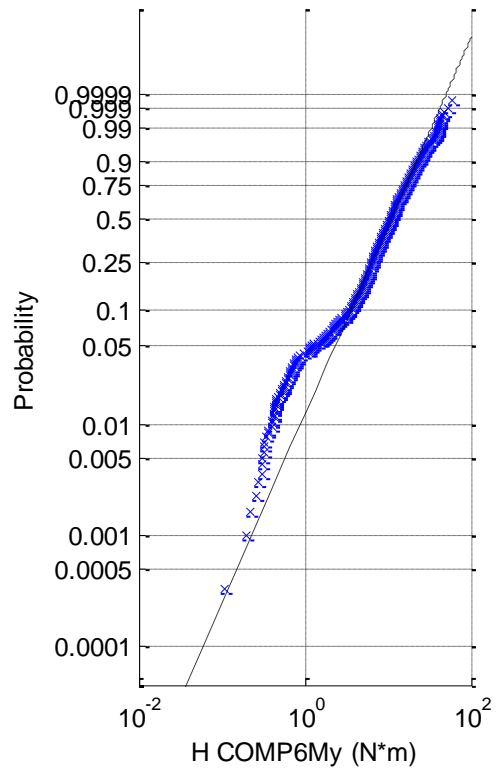
(4b) Normal prob. plot of H COMP6My



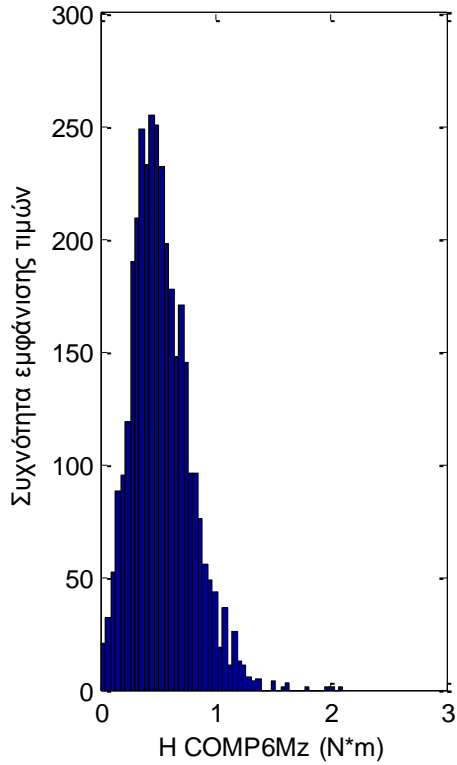
(4c) Rayleigh prob. plot of H COMP6My



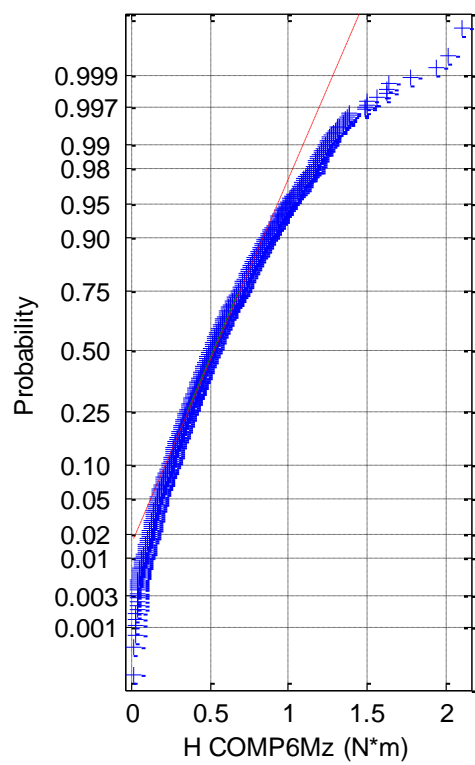
(4d) Weibull prob. plot of H COMP6My

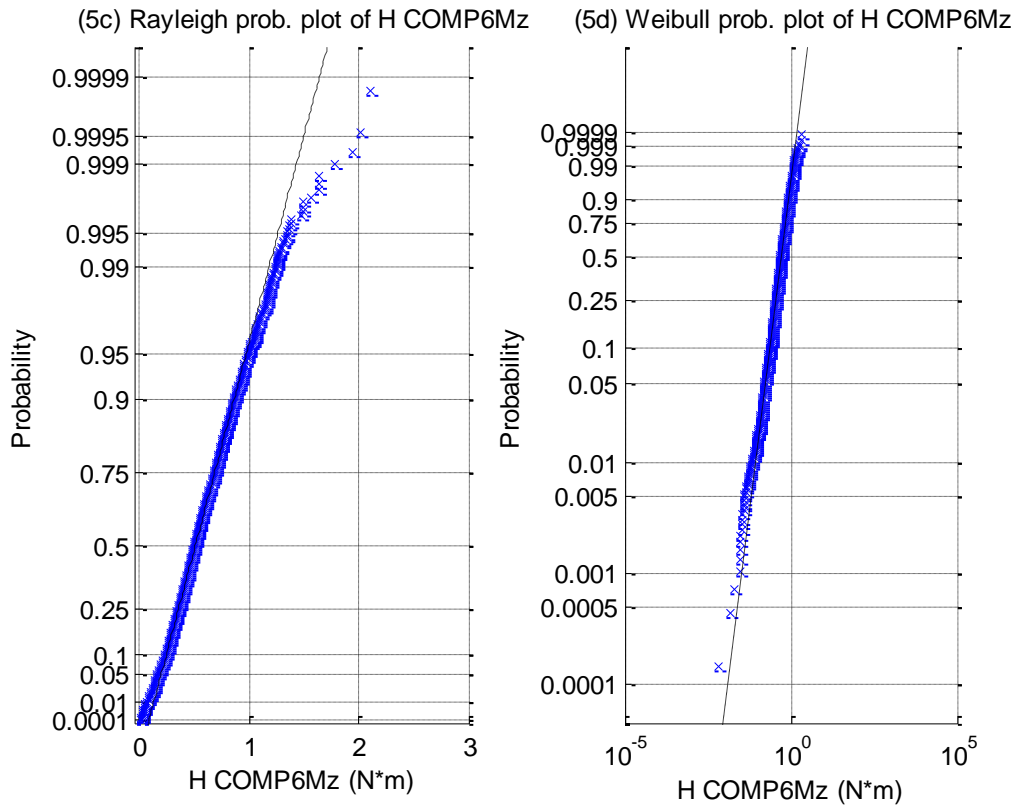


(5a) Histogram of H COMP6Mz

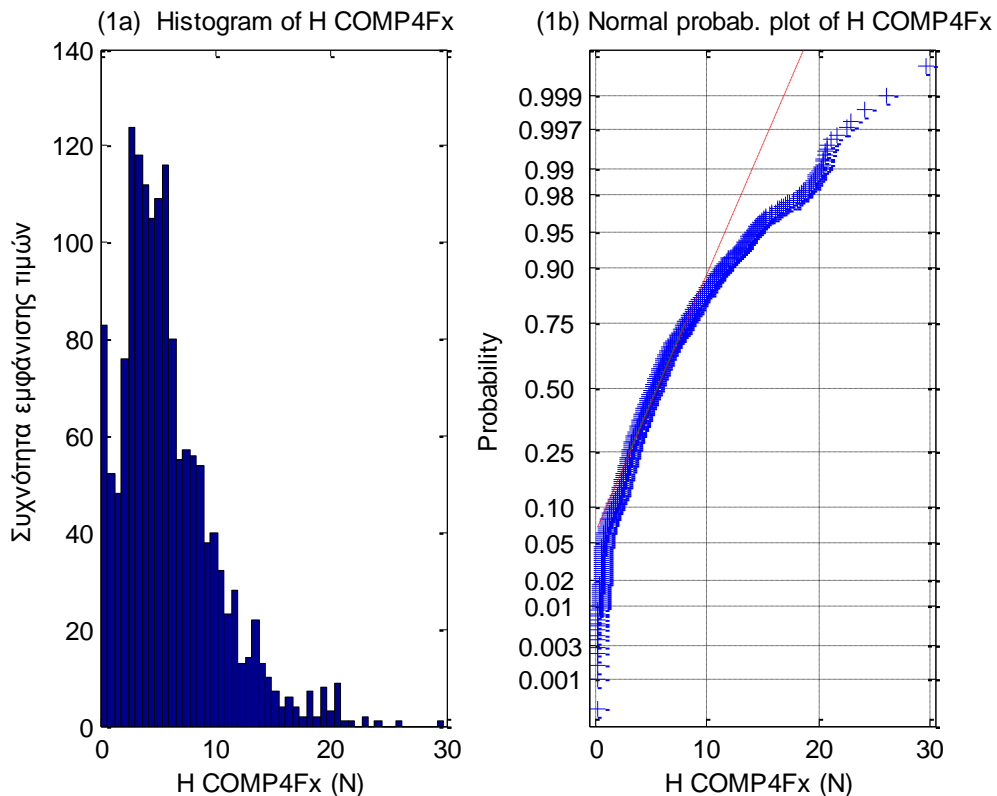


(5b) Normal prob. plot of H COMP6Mz

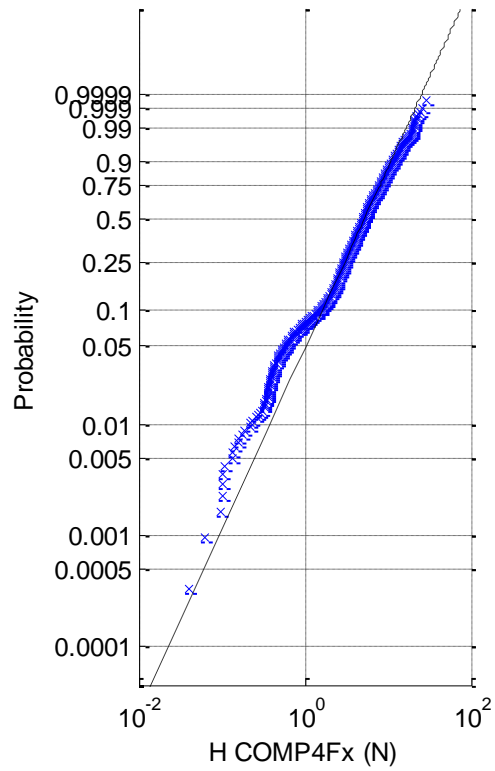
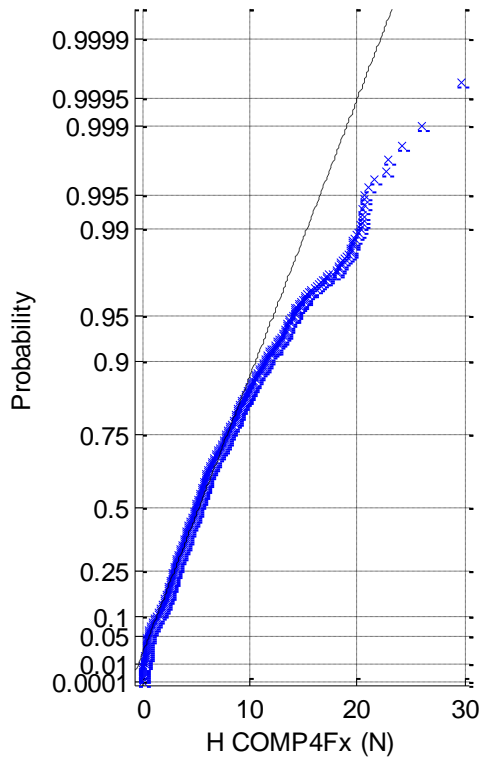




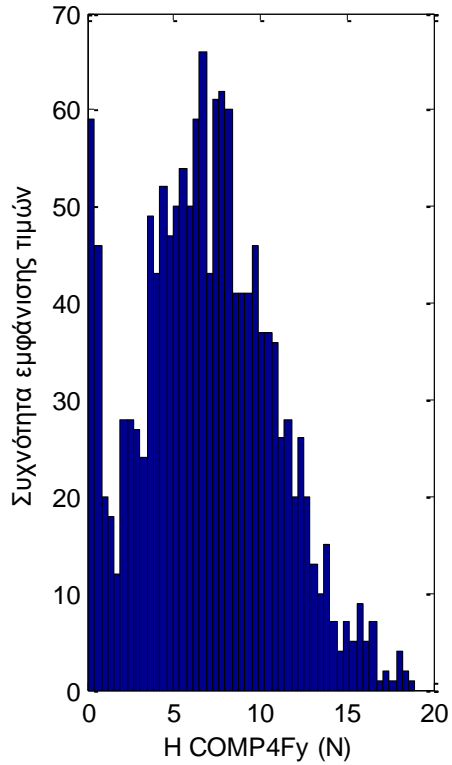
Σχήματα 1.3.6.2 (1-5) a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις δύο διευθύνσεις (1) surge, και (2) sway και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



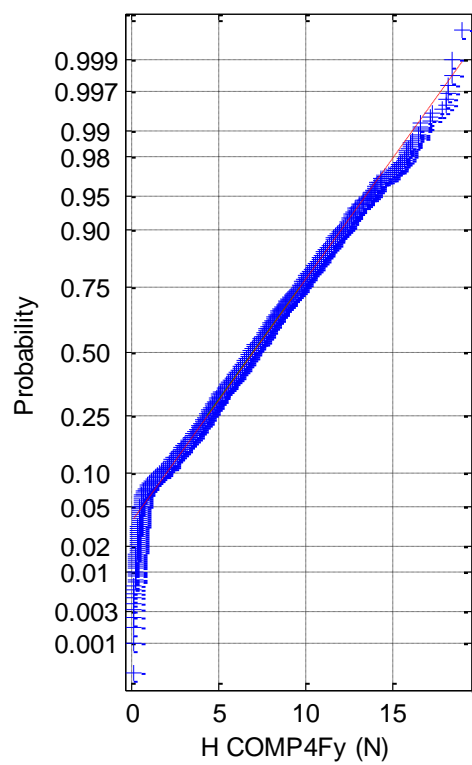
(1c) Rayleigh probab. plot of H COMP4Fx (1d) Weibull probab. plot of H COMP4Fx



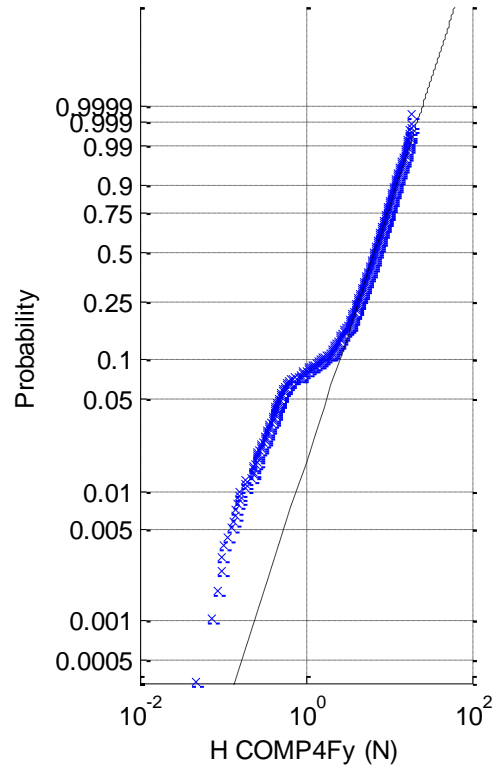
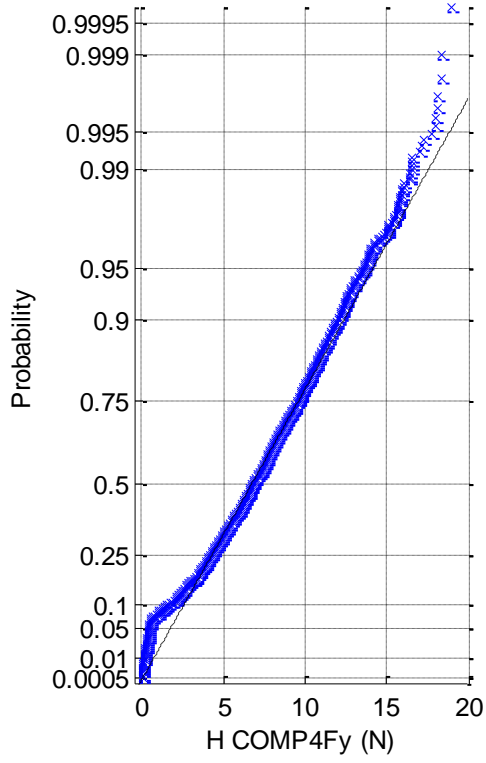
(2a) Histogram of H COMP4Fy



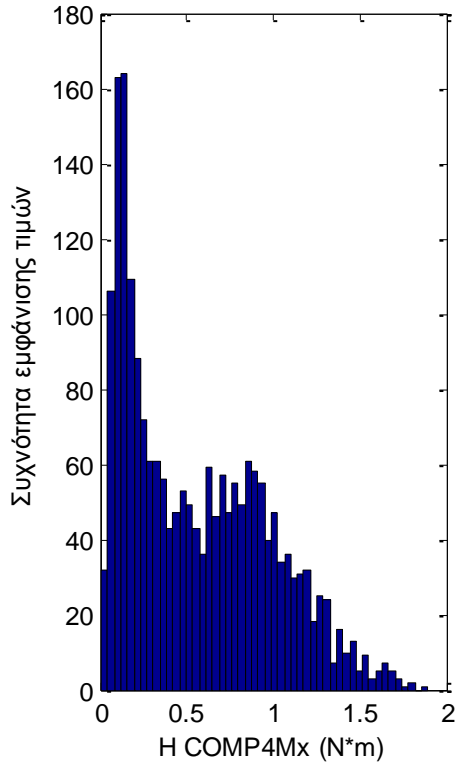
(2b) Normal probab. plot of H COMP4Fy



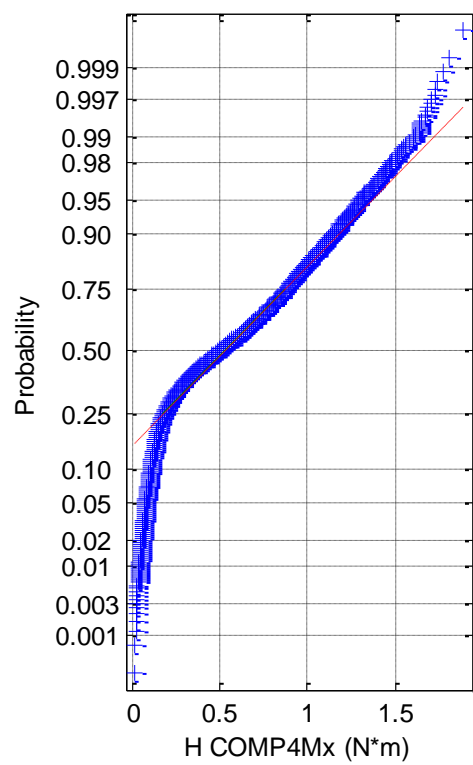
(2c) Rayleigh probab. plot of H COMP4Fy (2d) Weibull probab. plot of H COMP4Fy



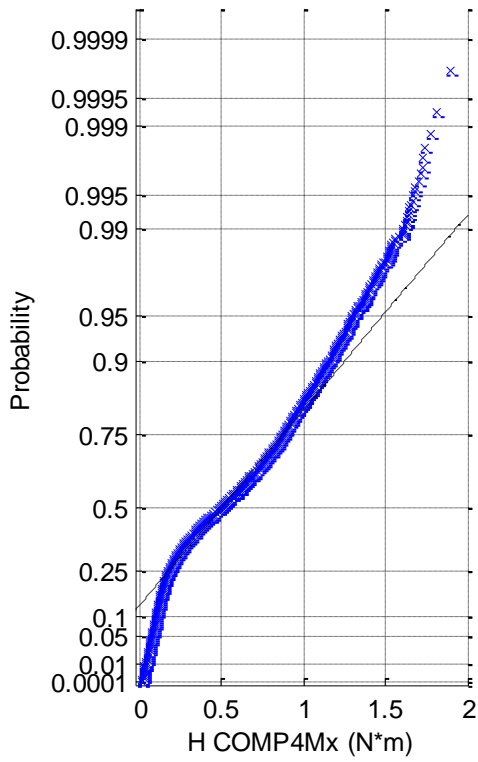
(3a) Histogram of H COMP4Mx



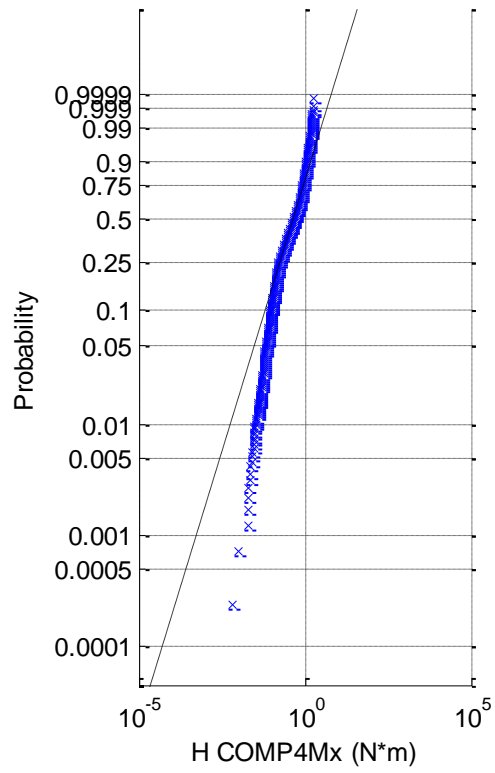
(3b) Normal probab. plot of H COMP4Mx



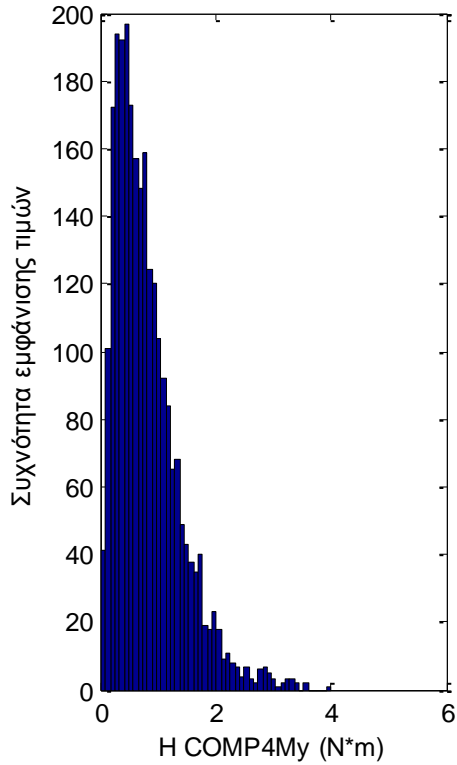
(3c) Rayleigh prob. plot of H COMP4Mx



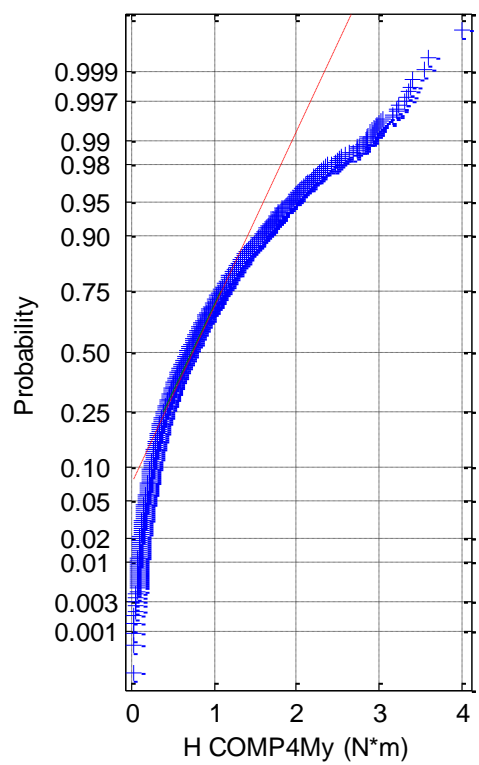
(3d) Weibull prob. plot of H COMP4Mx

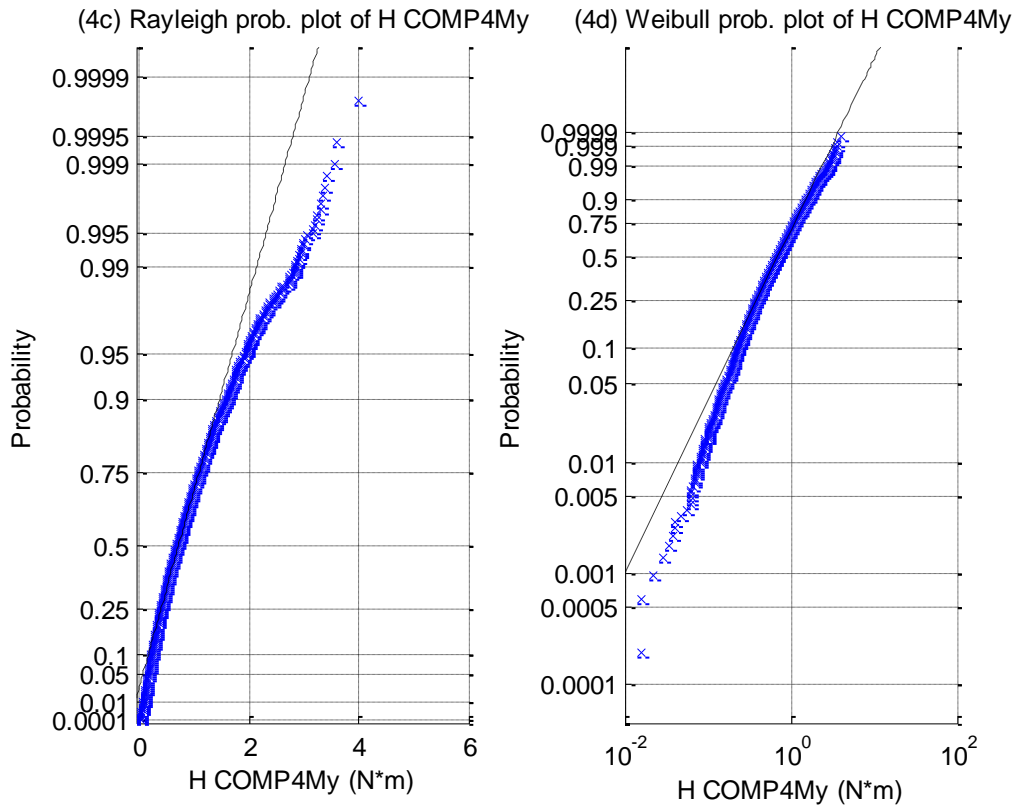


(4a) Histogram of H COMP4My

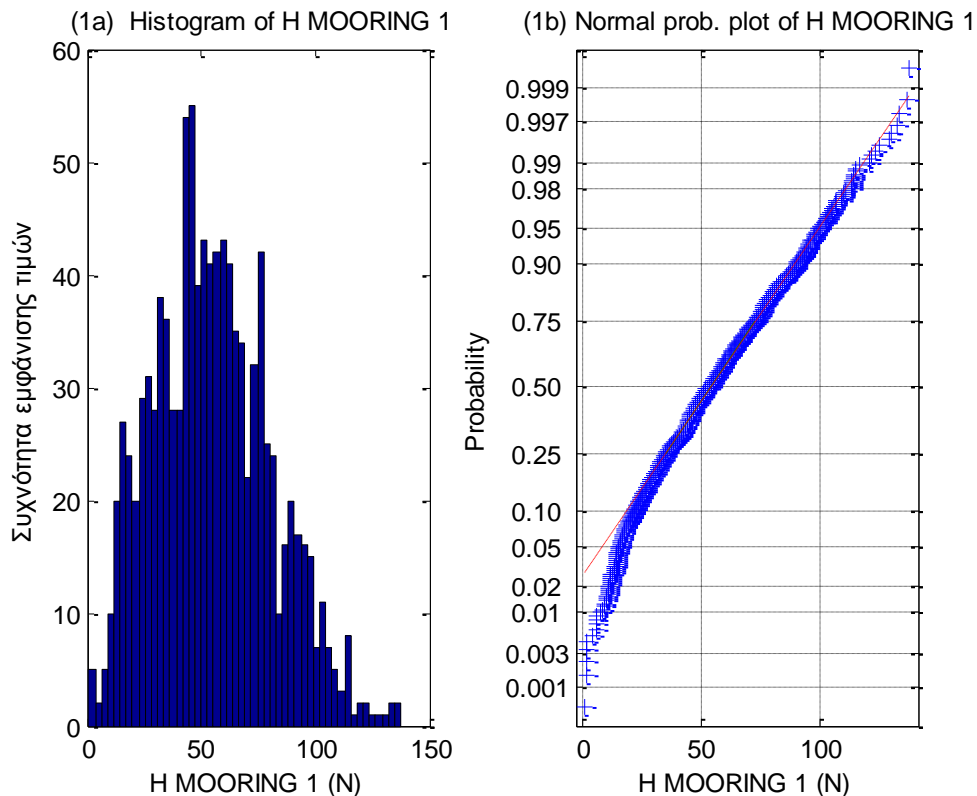


(4b) Normal prob. plot of H COMP4My

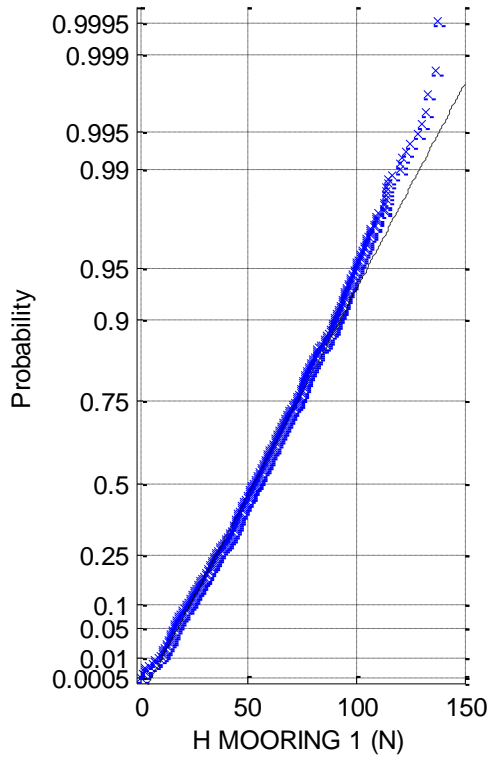




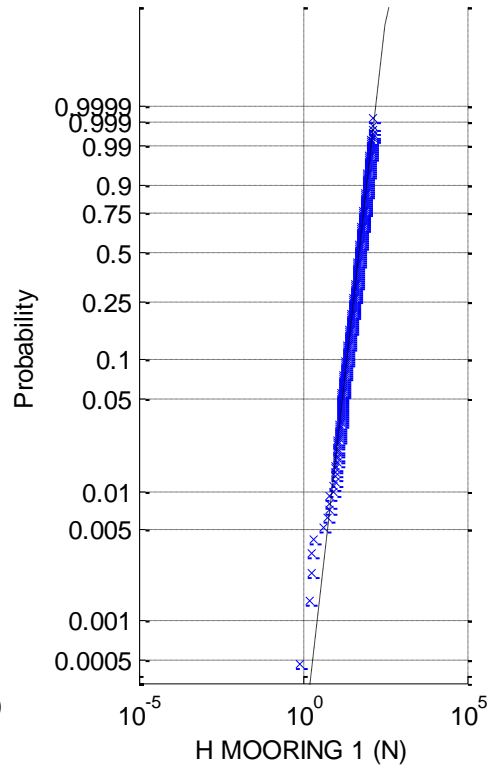
Σχήματα 1.3.6.3 (1-4) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



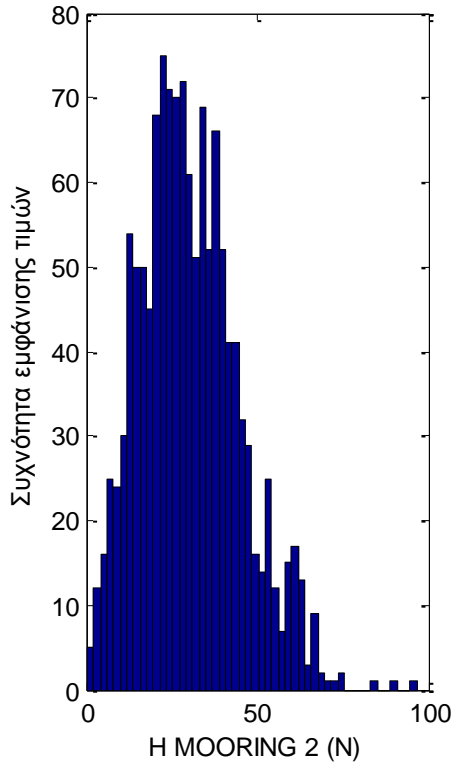
(1c) Rayleigh prob. plot of H MOORING 1



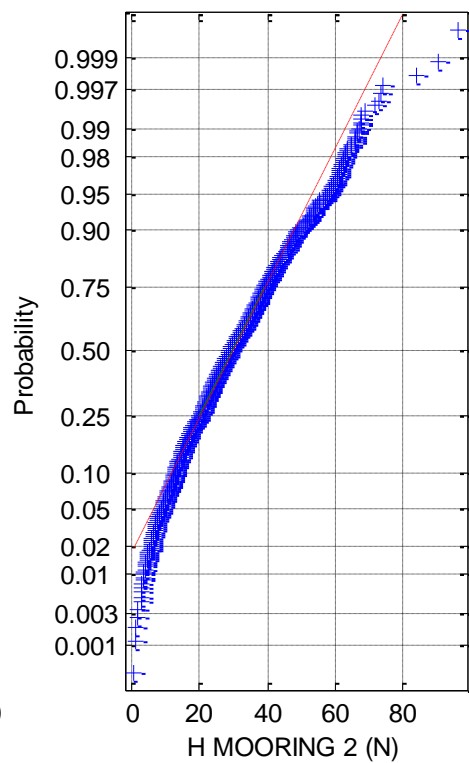
(1d) Weibull prob. plot of H MOORING 1



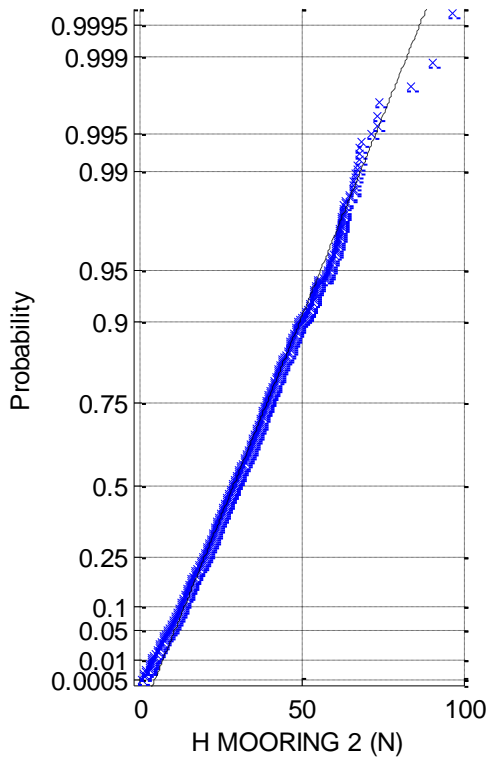
(2a) Histogram of H MOORING 2



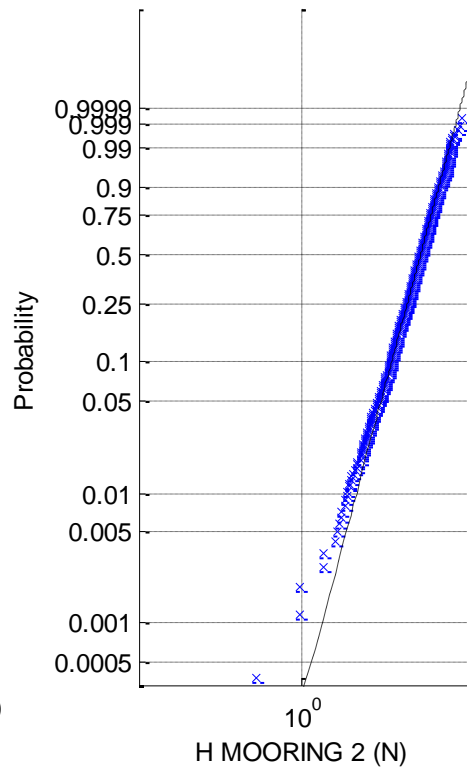
(2b) Normal prob. plot of H MOORING 2



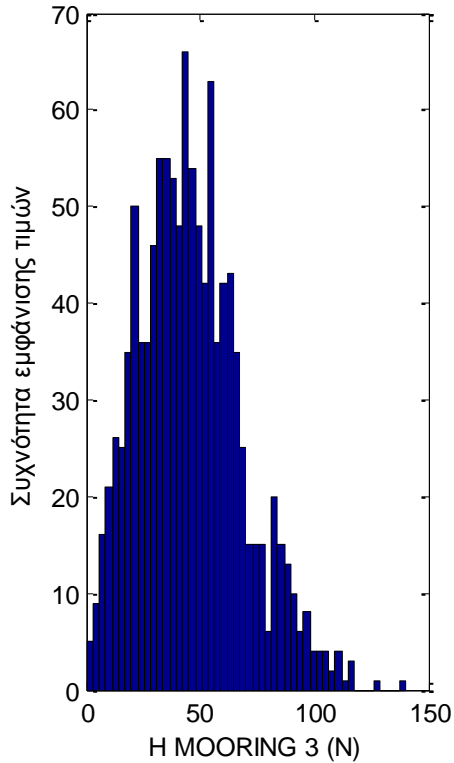
(2c) Rayleigh prob. plot of H MOORING 2



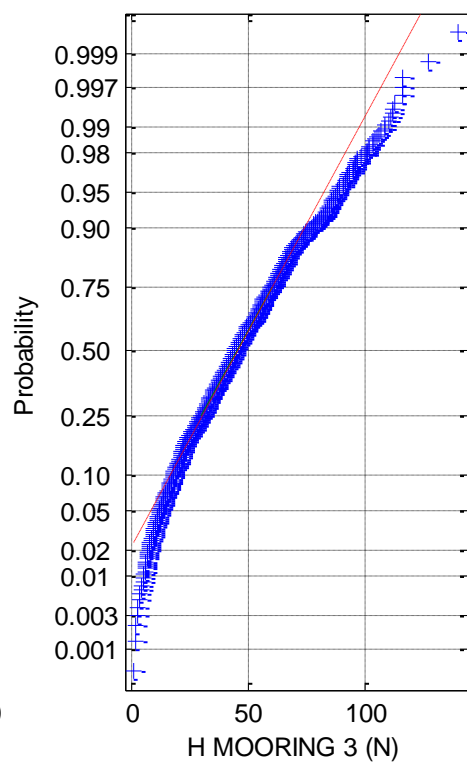
(2d) Weibull prob. plot of H MOORING 2



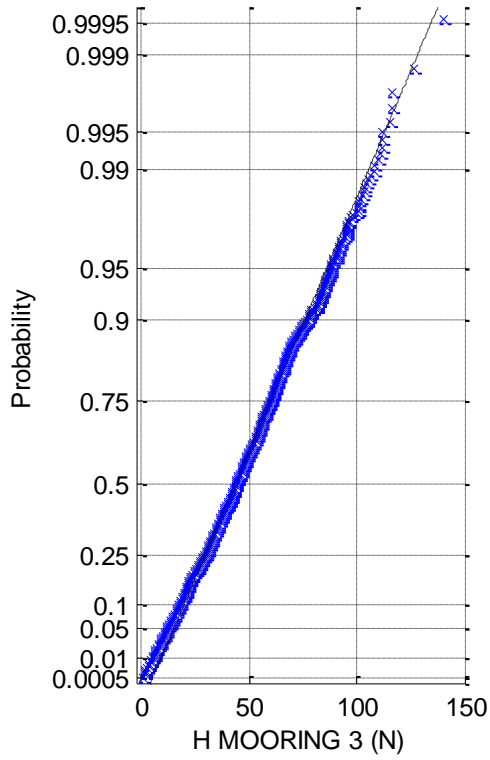
(3a) Histogram of H MOORING 3



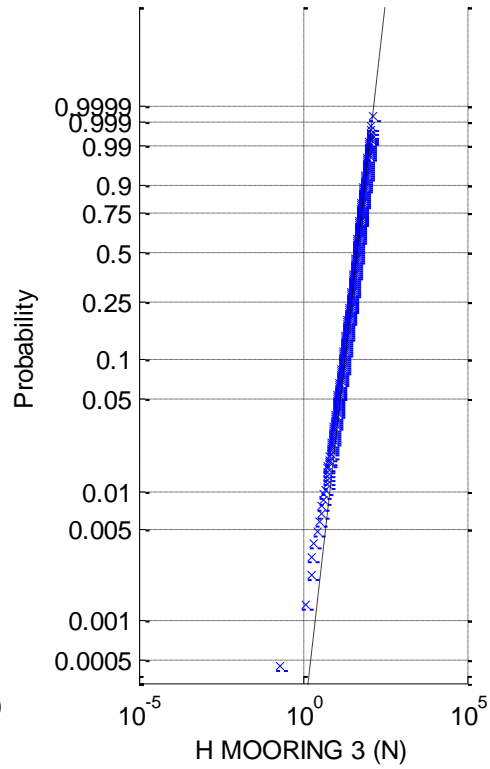
(3b) Normal prob. plot of H MOORING 3



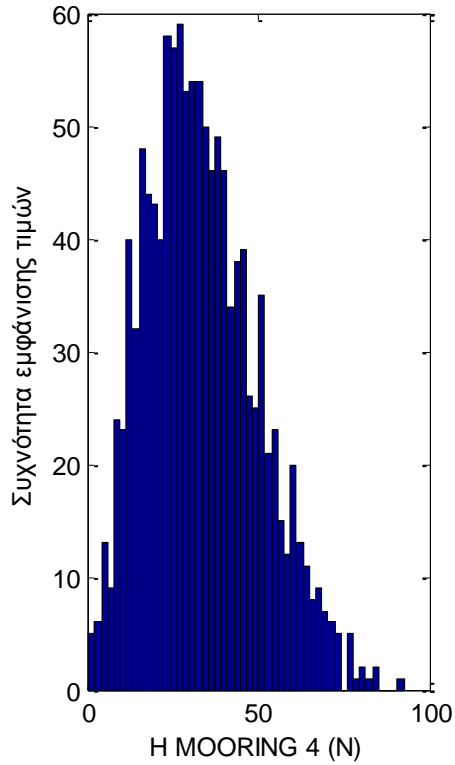
(3c) Rayleigh prob. plot of H MOORING 3



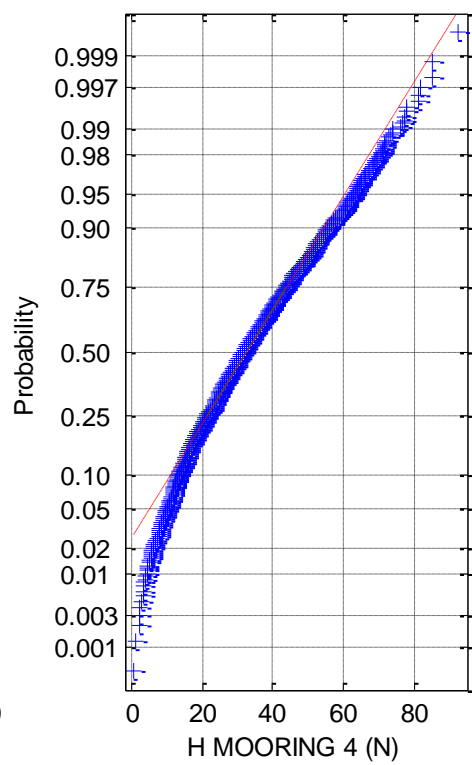
(3d) Weibull prob. plot of H MOORING 3



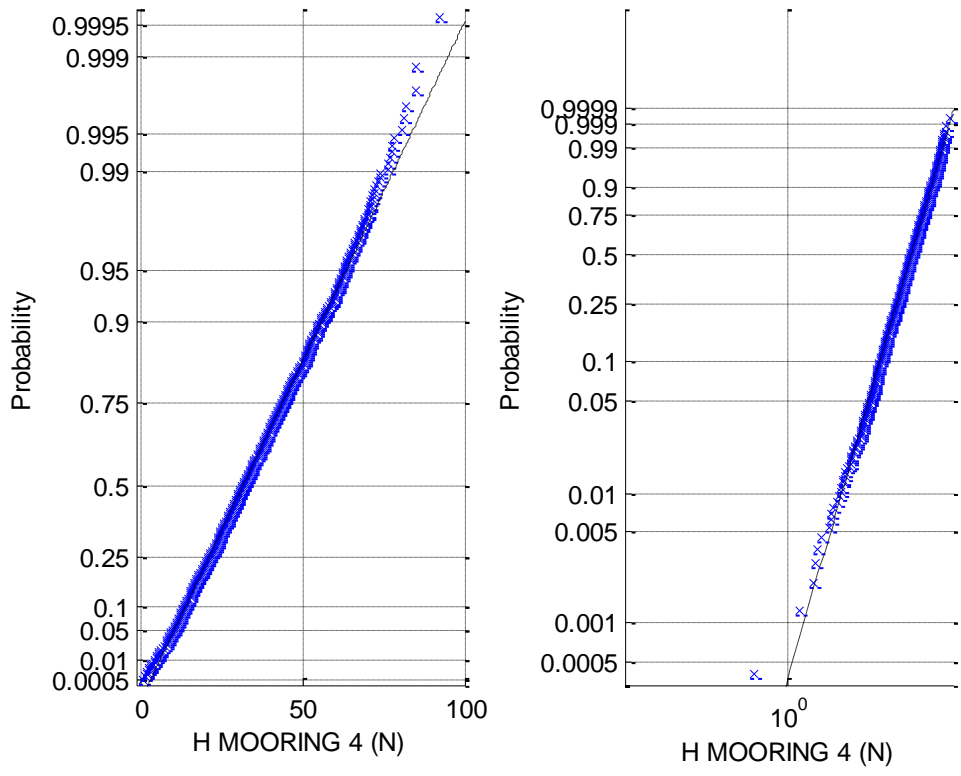
(4a) Histogram of H MOORING 4



(4b) Normal prob. plot of H MOORING 4

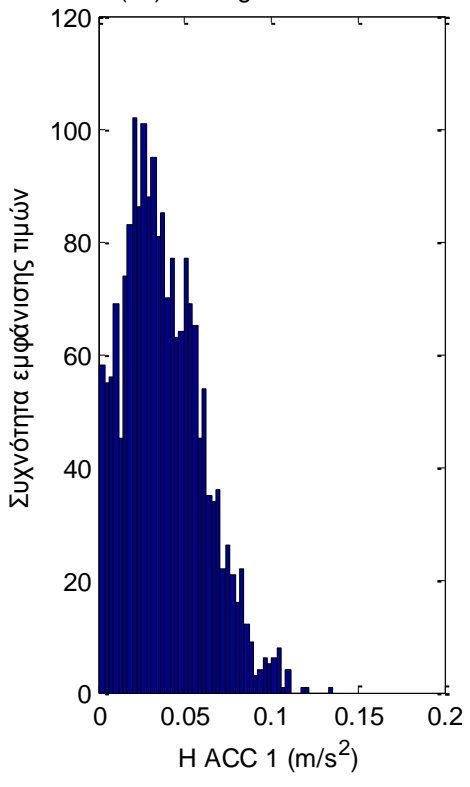


(4c) Rayleigh prob. plot of H MOORING 4 (4d) Weibull prob. plot of H MOORING 4

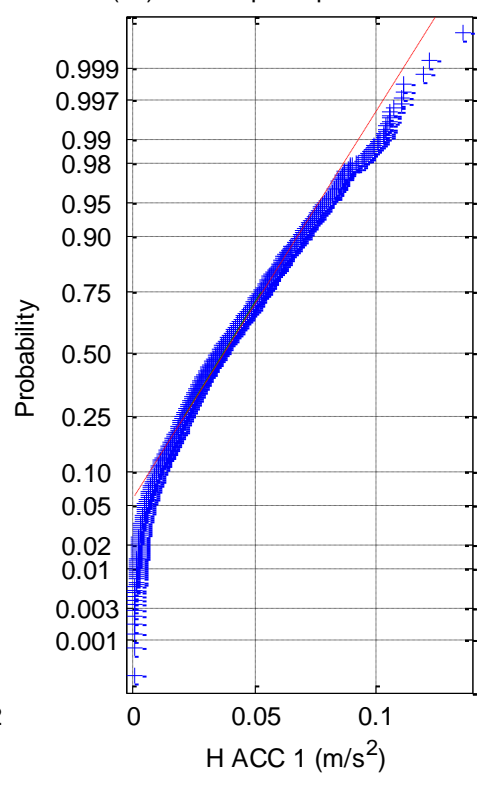


Σχήματα 1.3.6.4 (1-4) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις 4 γραμμές αγκύρωσης

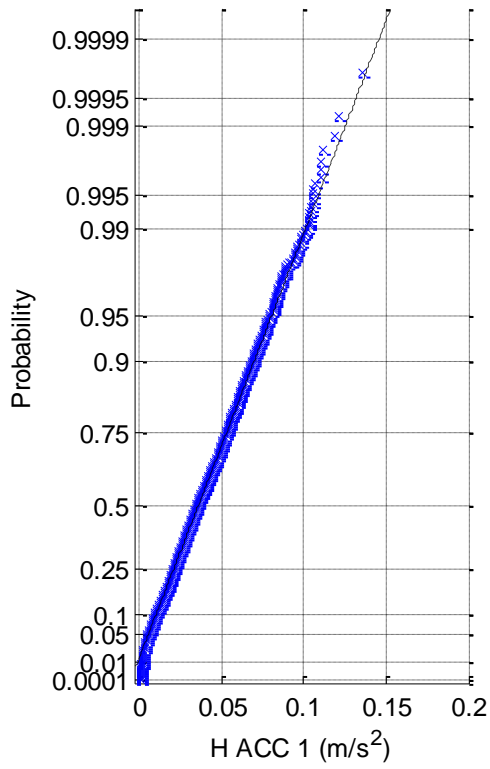
(1a) Histogram of H ACC 1



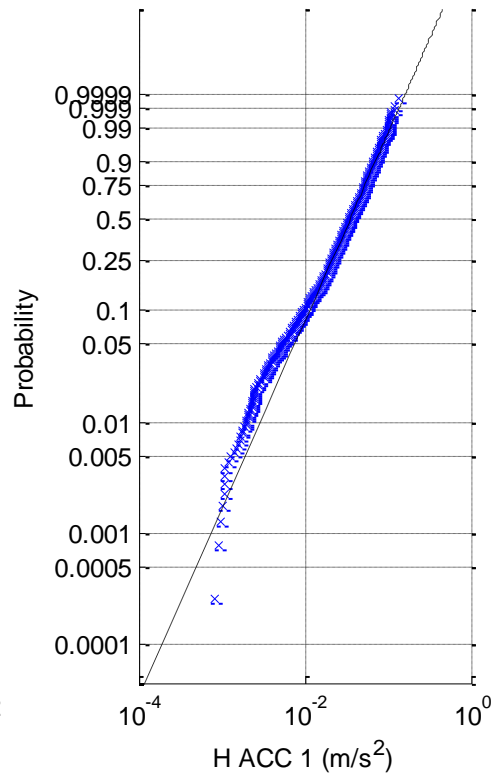
(1b) Normal prob. plot of H ACC 1



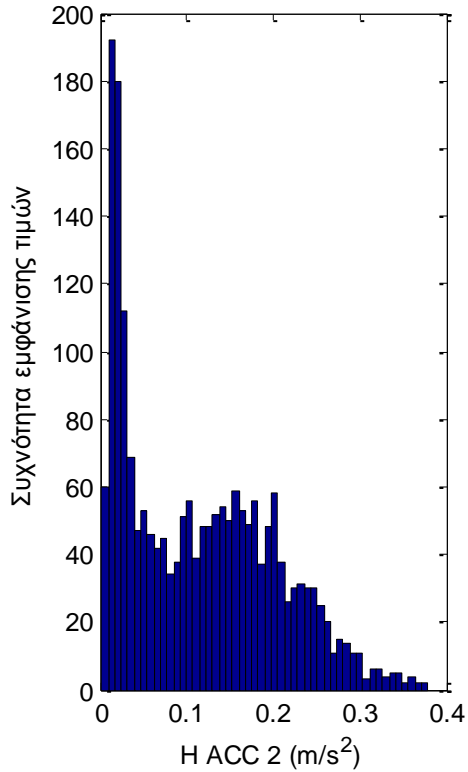
(1c) Rayleigh prob. plot of H ACC 1



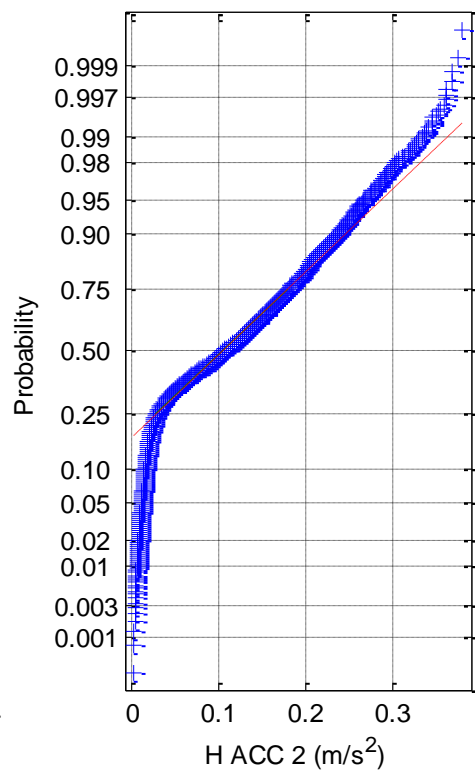
(1d) Weibull prob. plot of H ACC 1



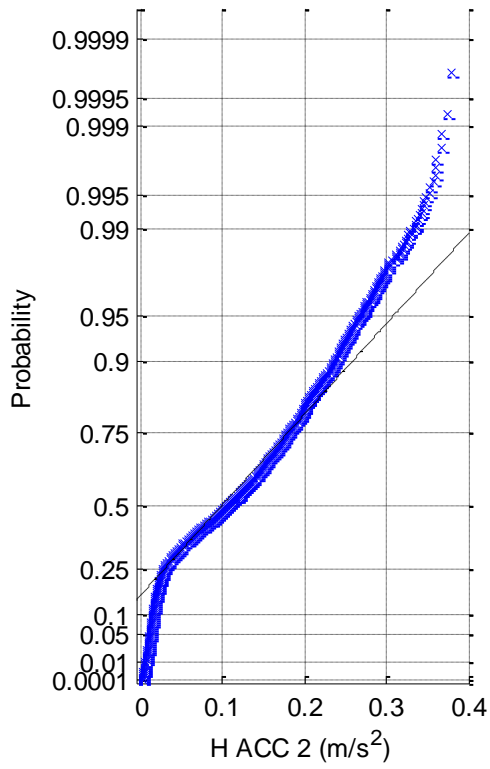
(2a) Histogram of H ACC 2



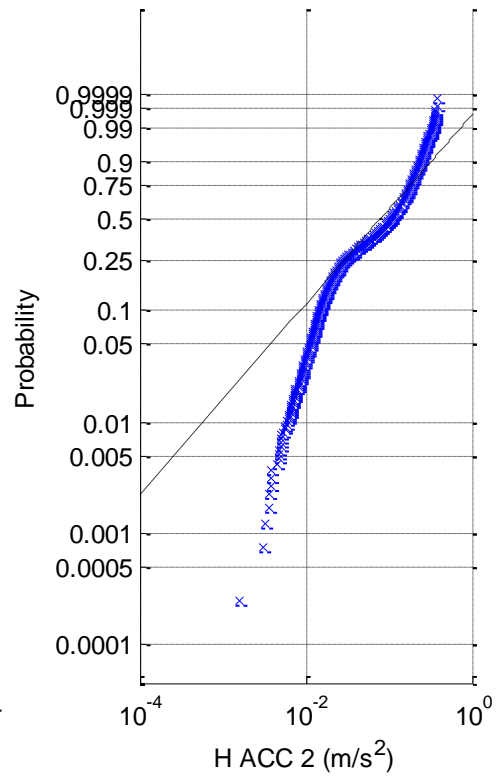
(2b) Normal prob. plot of H ACC 2



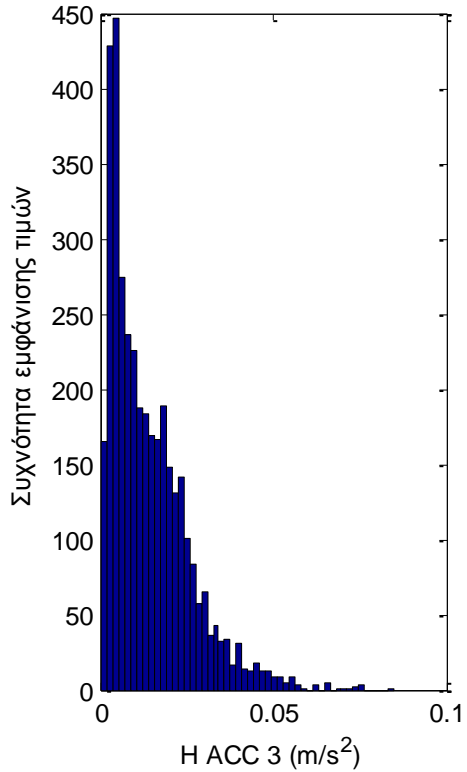
(2c) Rayleigh prob. plot of H ACC 2



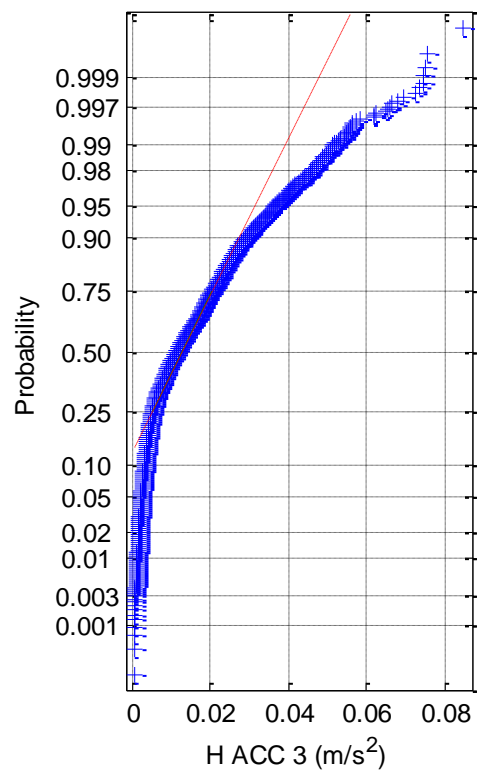
(2d) Weibull prob. plot of H ACC 2

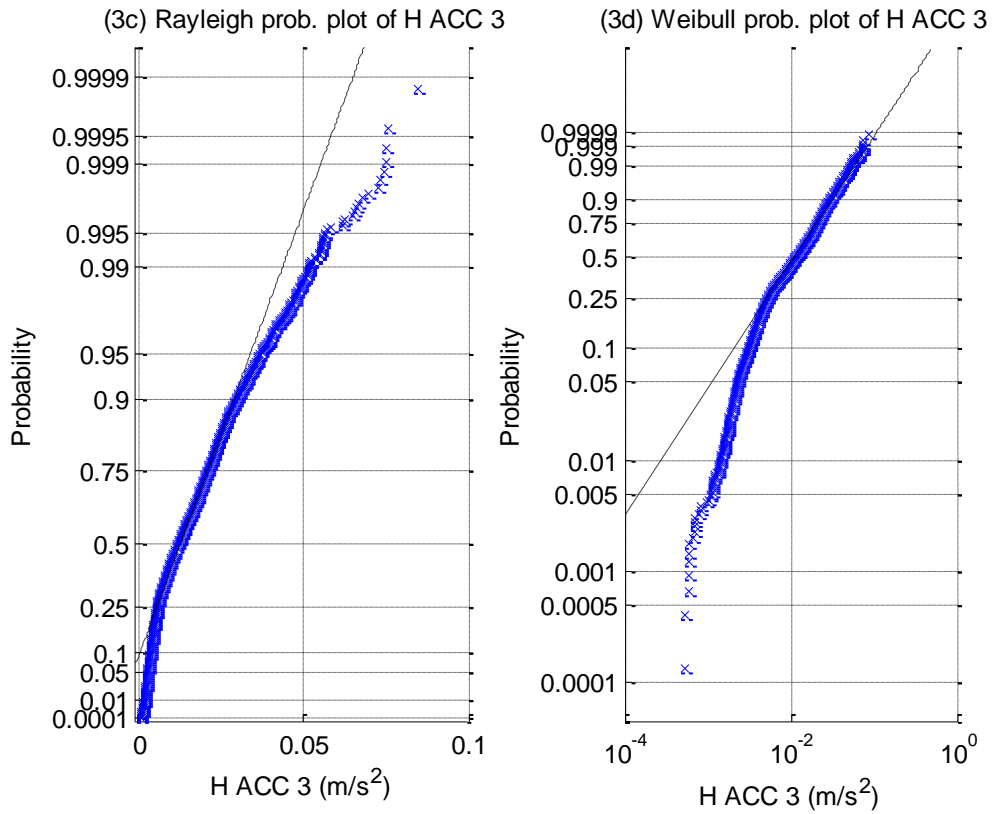


(3a) Histogram of H ACC 3

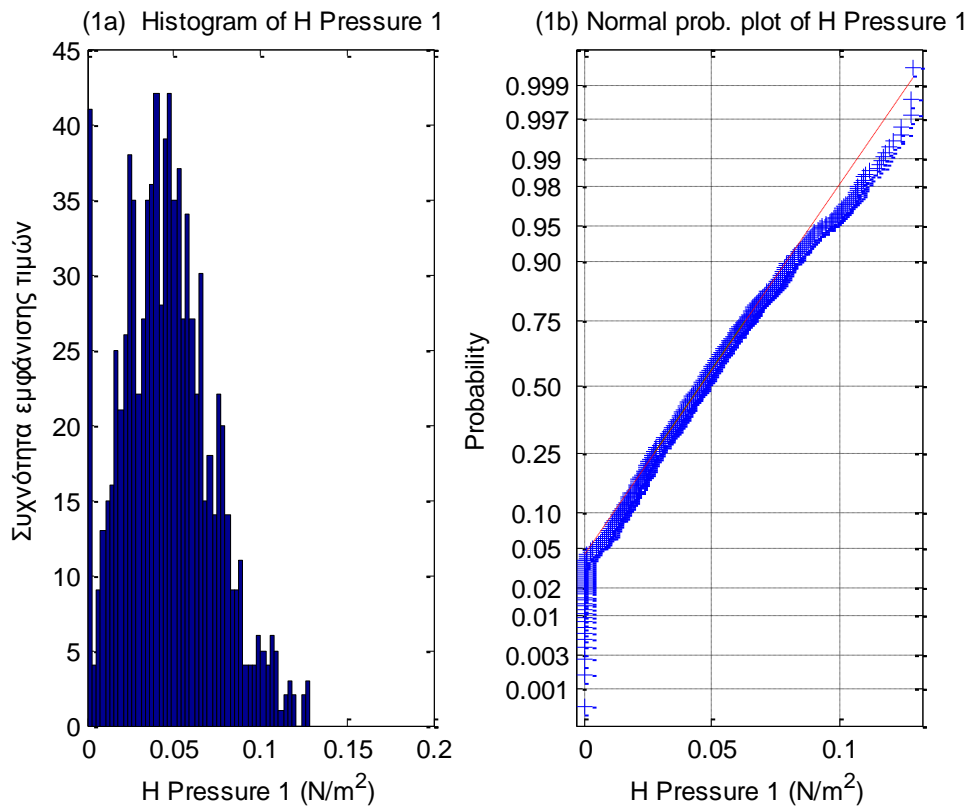


(3b) Normal prob. plot of H ACC 3

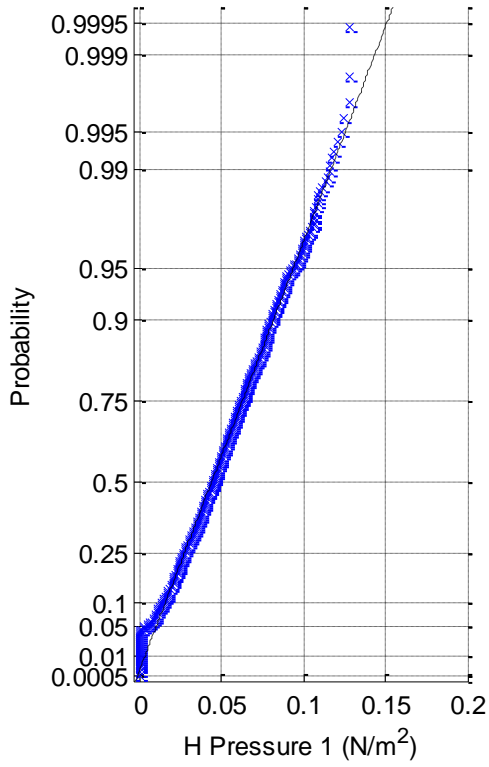




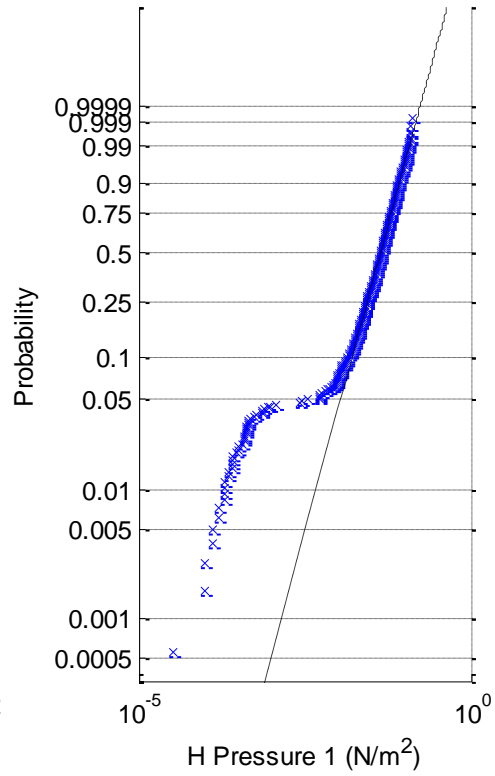
Σχήματα 1.3.6.5 (1-3) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



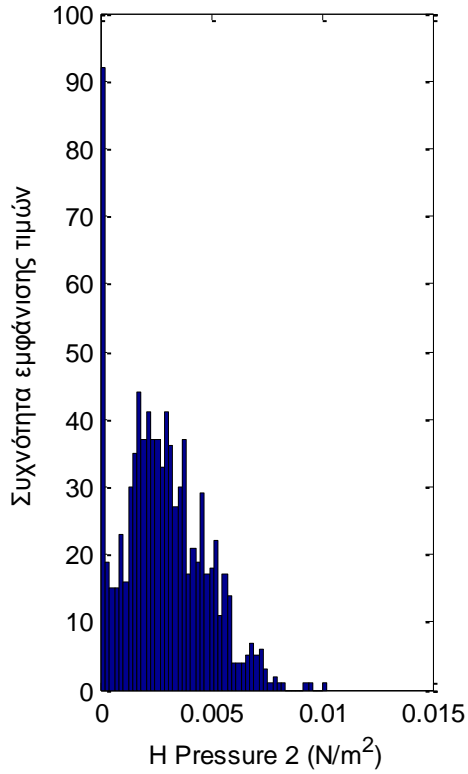
(1c) Rayleigh prob. plot of H Pressure 1



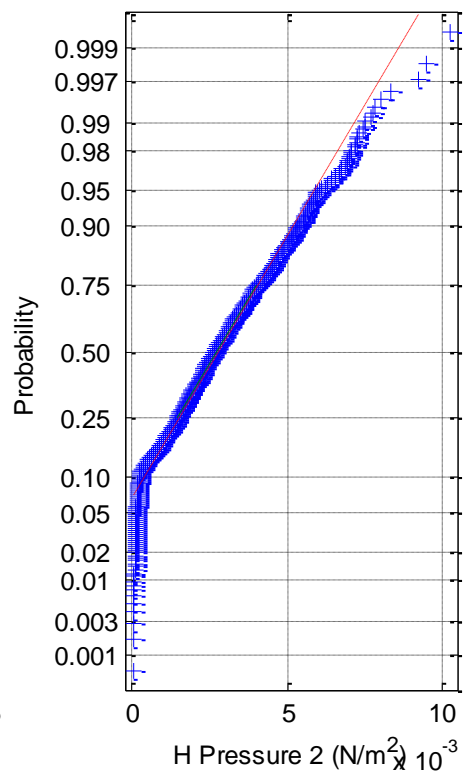
(1d) Weibull prob. plot of H Pressure 1

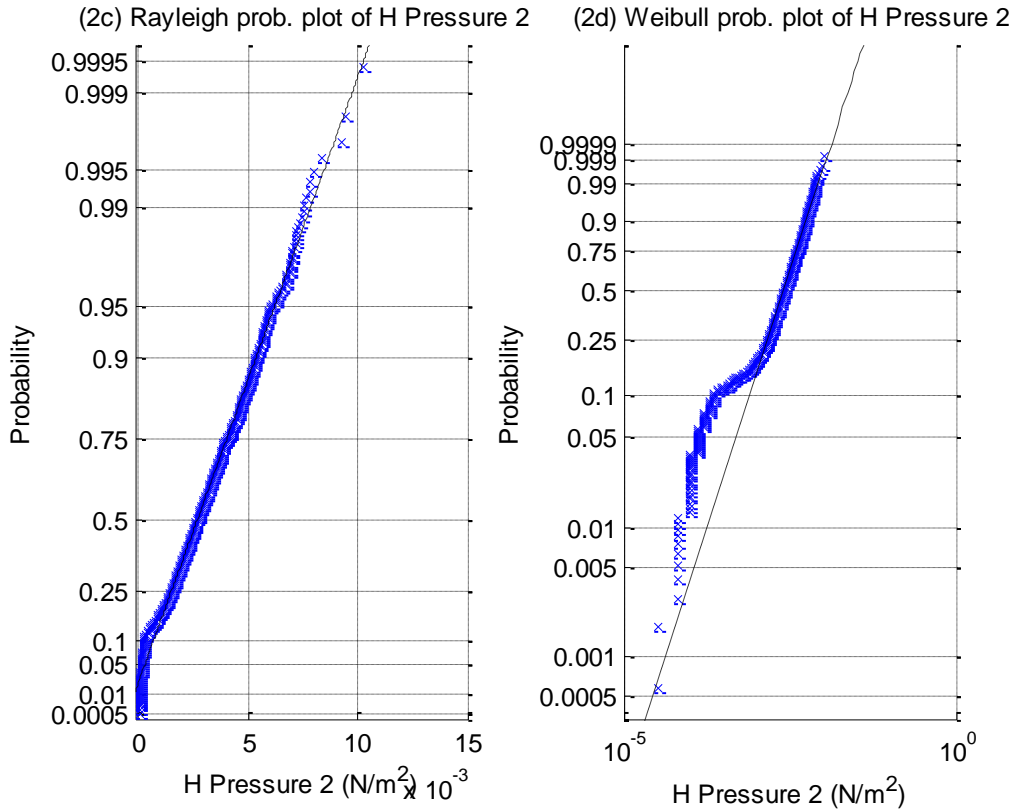


(2a) Histogram of H Pressure 2

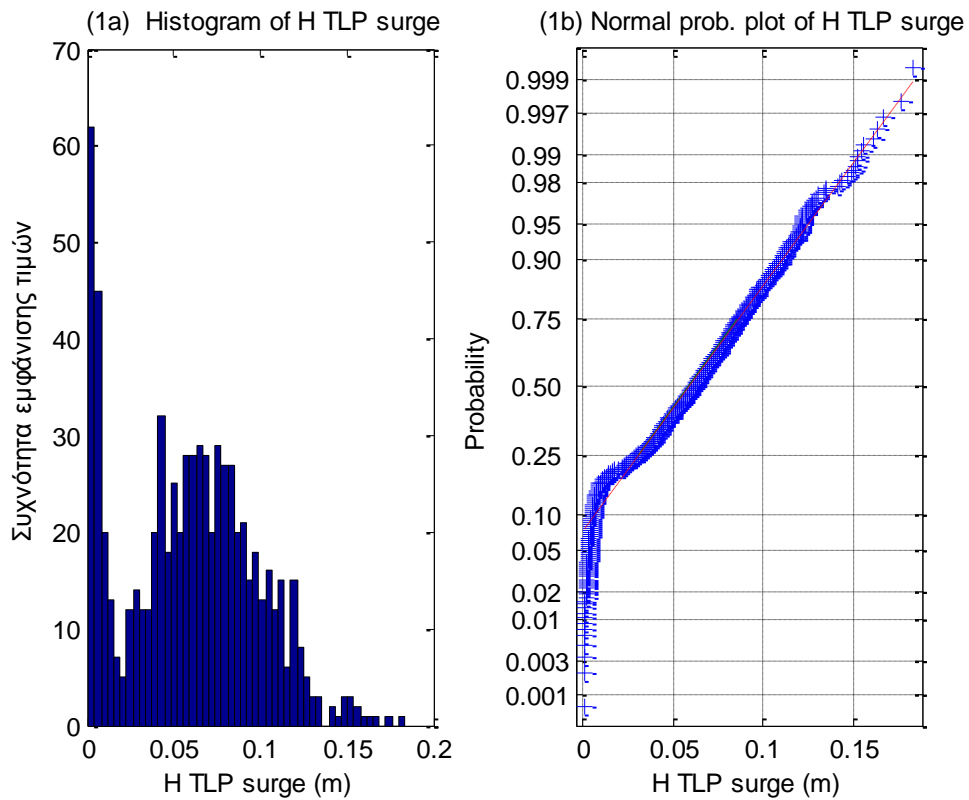


(2b) Normal prob. plot of H Pressure 2

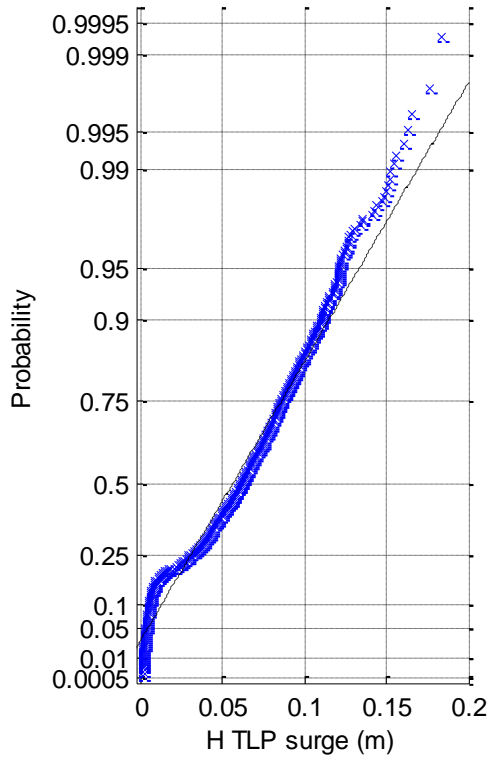




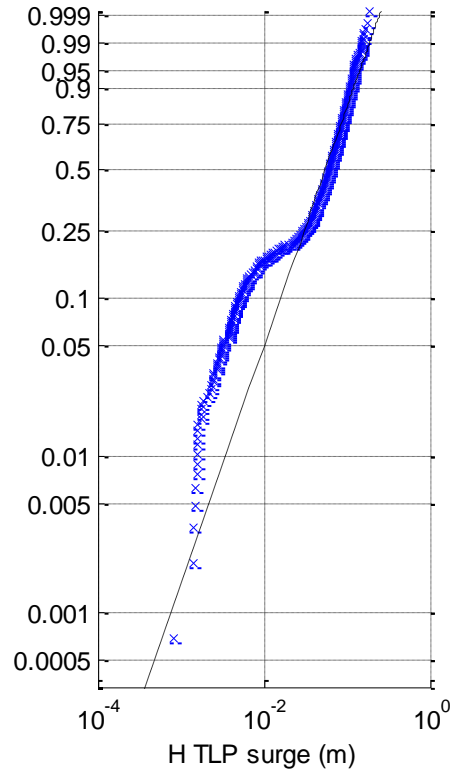
Σχήματα 1.3.6.6 (1-2) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα δύο όργανα μέτρησης της πίεσης



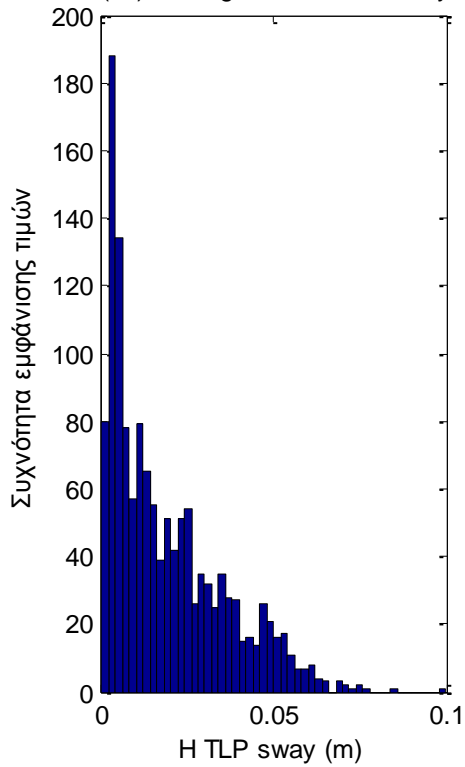
(1c) Rayleigh prob. plot of H TLP surge



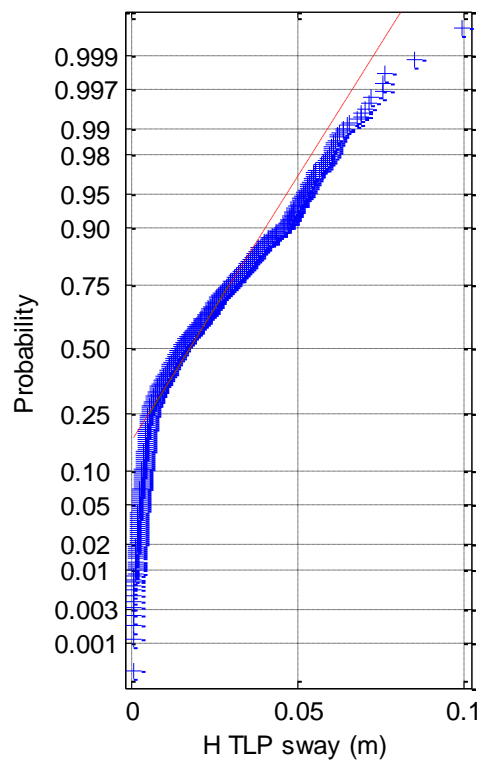
(1d) Weibull prob. plot of H TLP surge



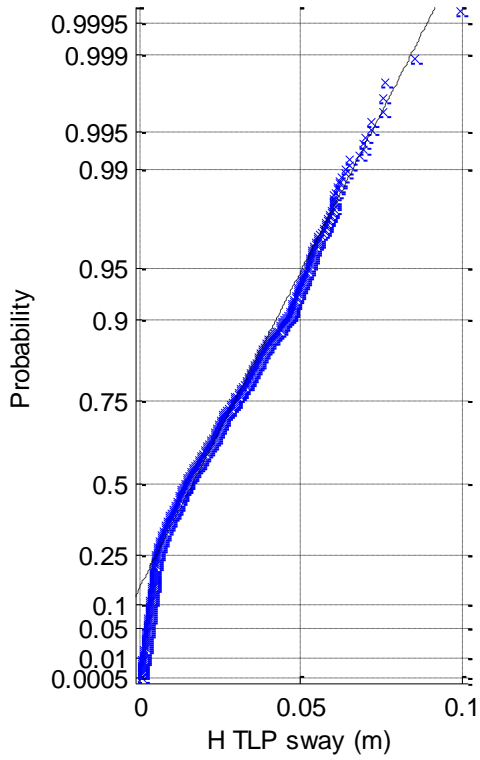
(2a) Histogram of H TLP sway



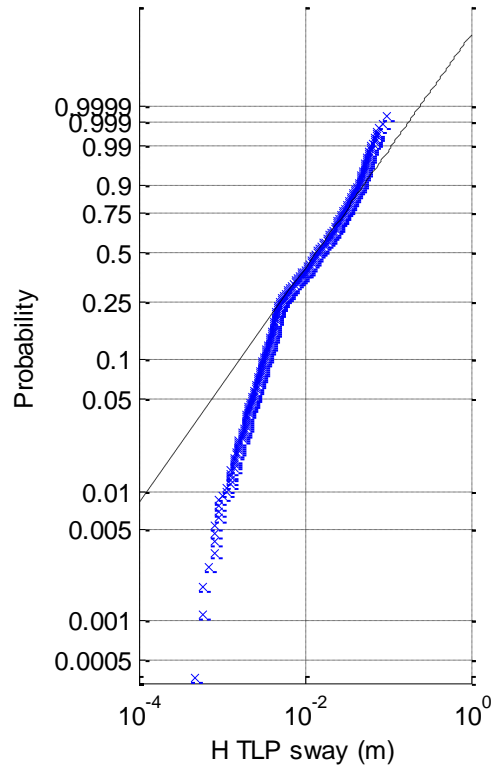
(2b) Normal prob. plot of H TLP sway



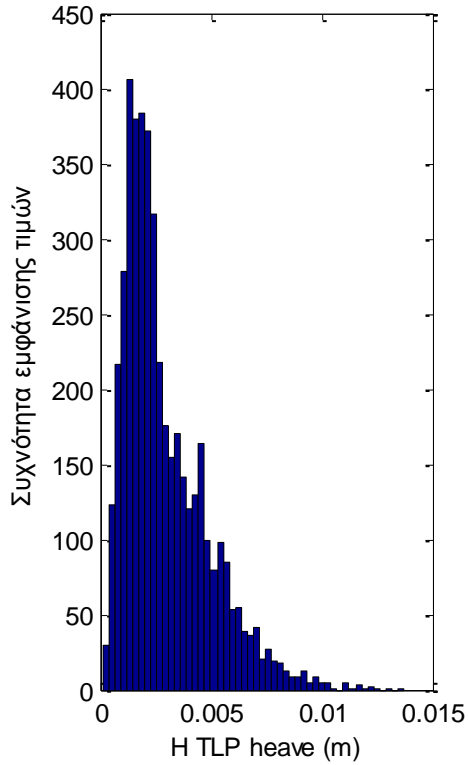
(2c) Rayleigh prob. plot of H TLP sway



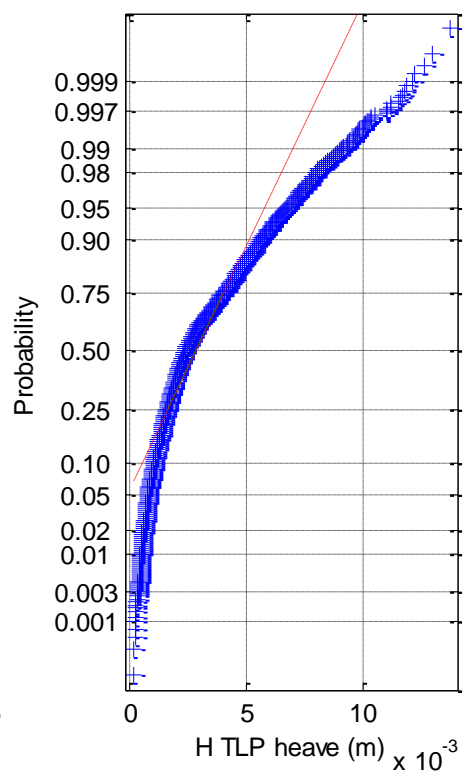
(2d) Weibull prob. plot of H TLP sway



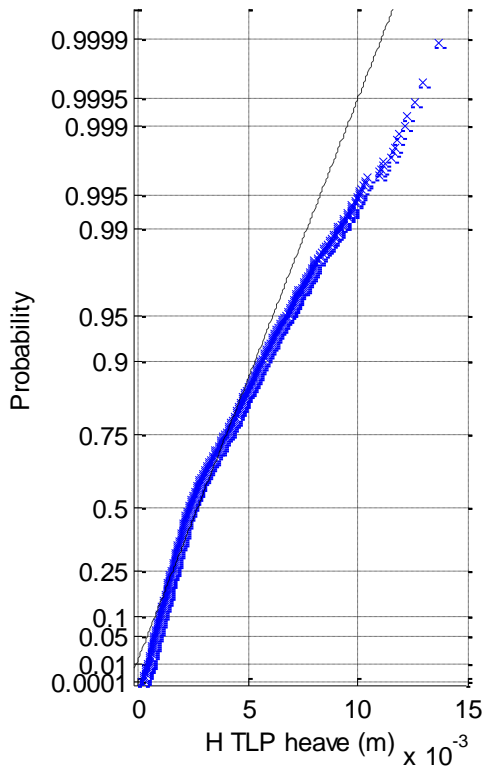
(3a) Histogram of H TLP heave



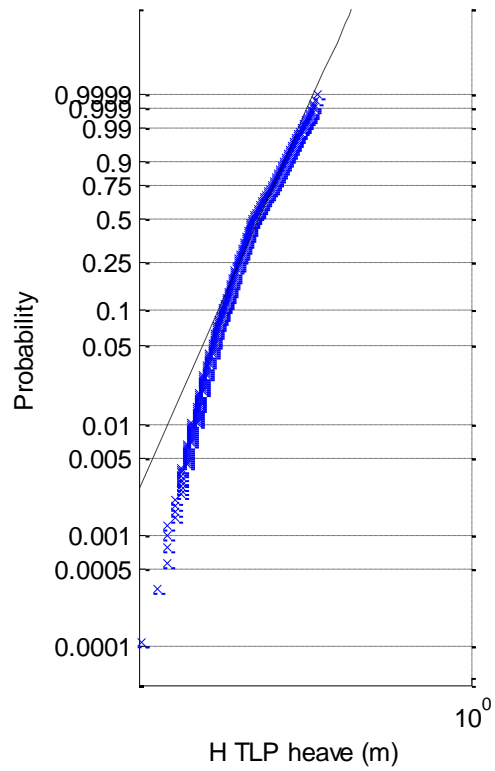
(3b) Normal prob. plot of H TLP heave



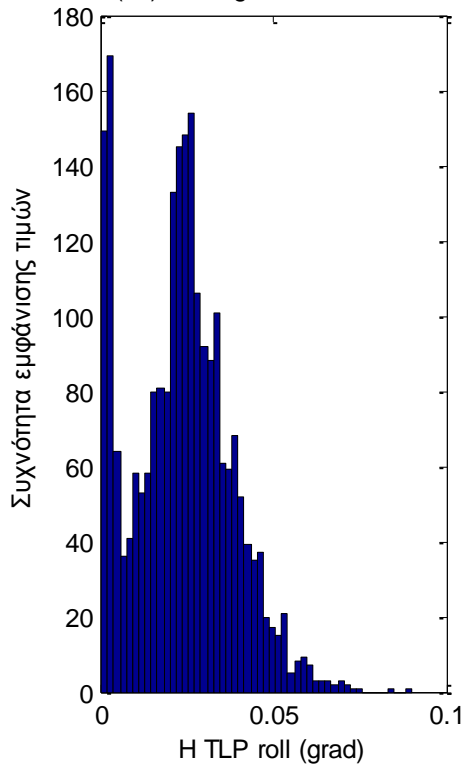
(3c) Rayleigh prob. plot of H TLP heave



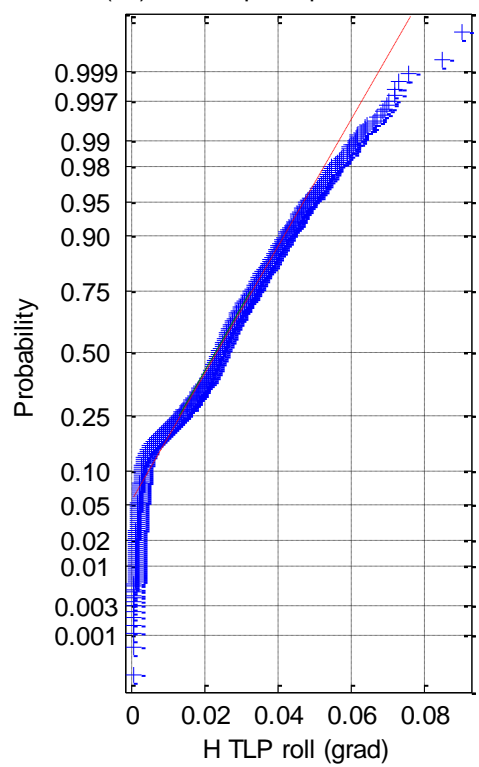
(3d) Weibull prob. plot of H TLP heave



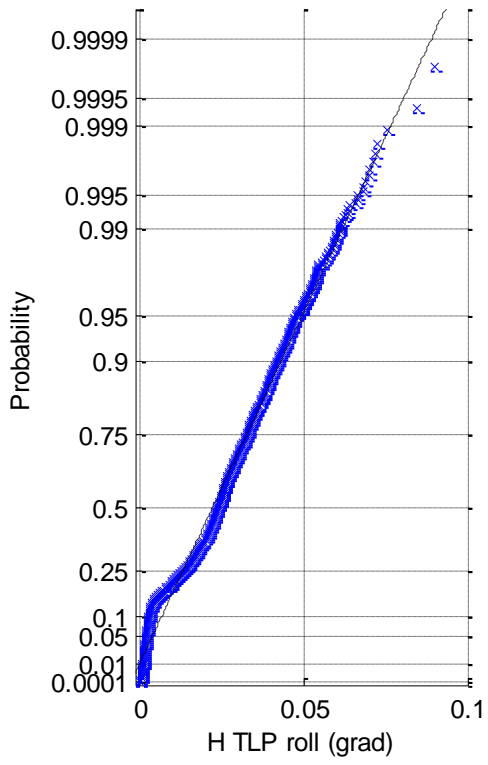
(4a) Histogram of H TLP roll



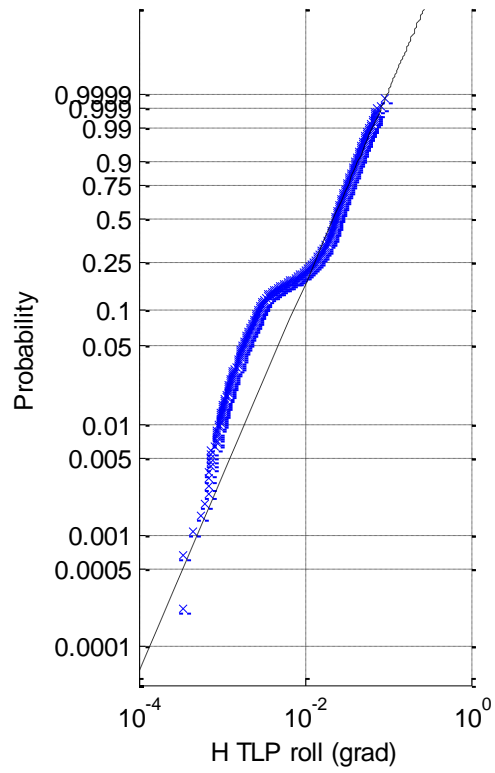
(4b) Normal prob. plot of H TLP roll



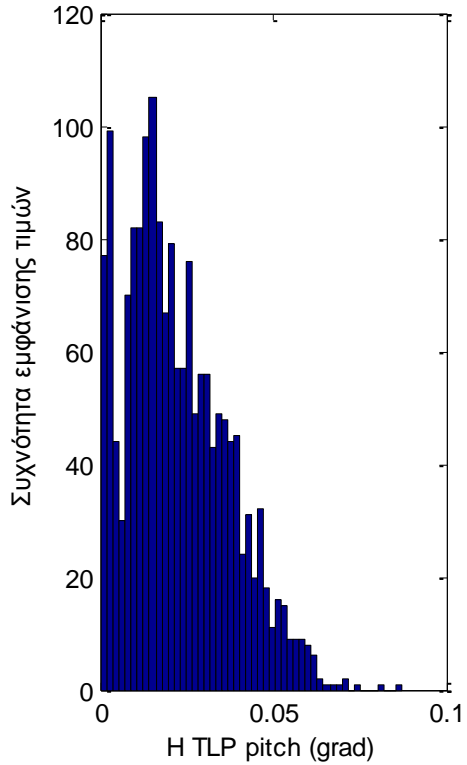
(4c) Rayleigh prob. plot of H TLP roll



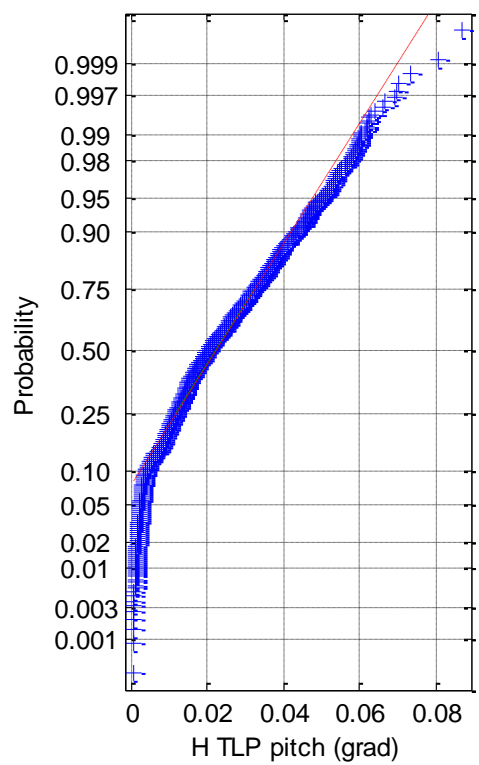
(4d) Weibull prob. plot of H TLP roll



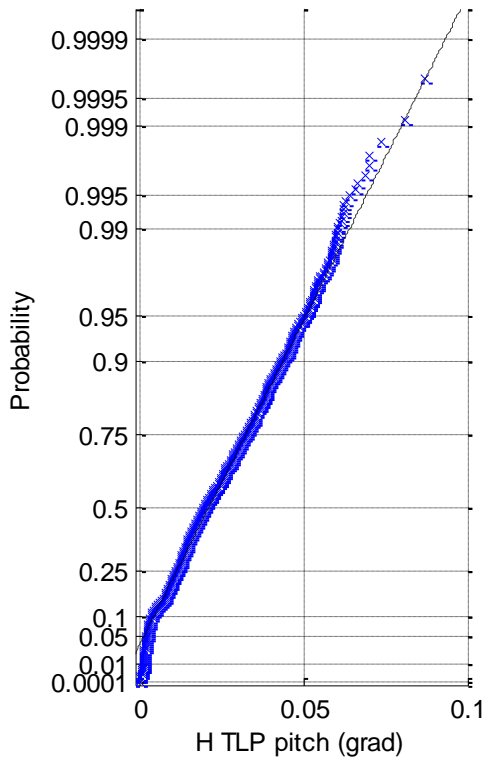
(5a) Histogram of H TLP pitch



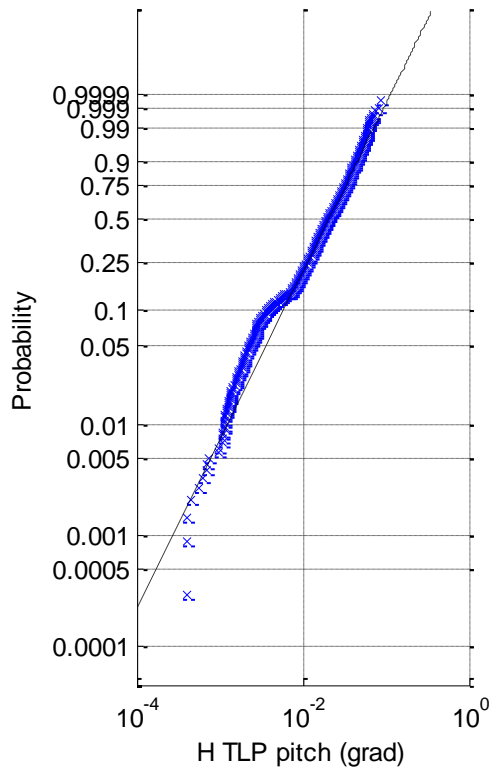
(5b) Normal prob. plot of H TLP pitch



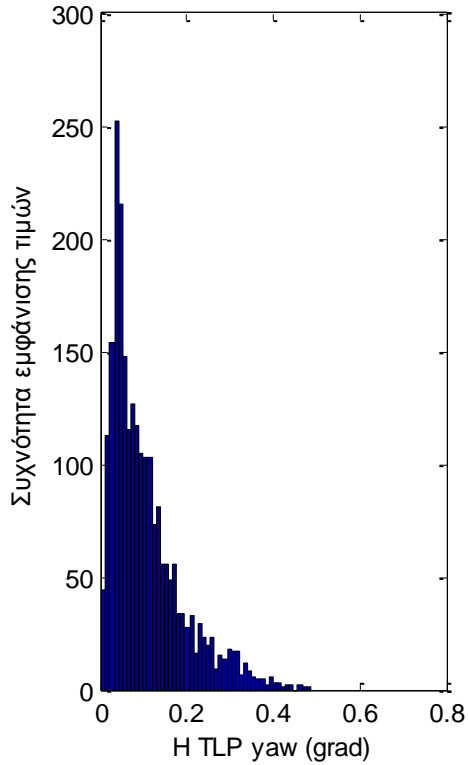
(5c) Rayleigh prob. plot of H TLP pitch



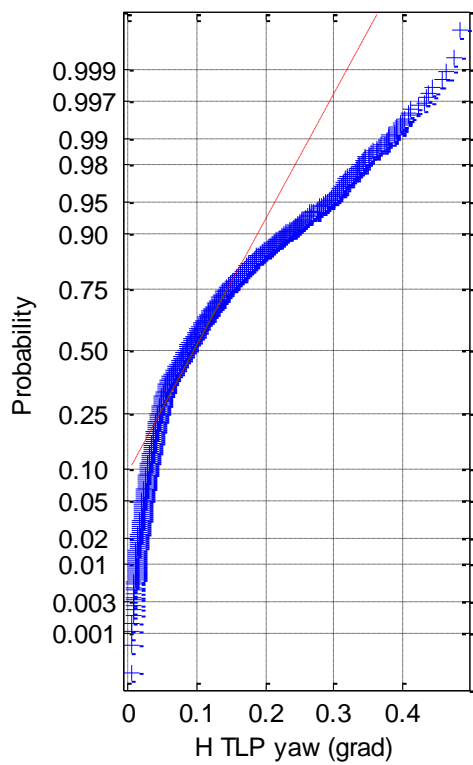
(5d) Weibull prob. plot of H TLP pitch

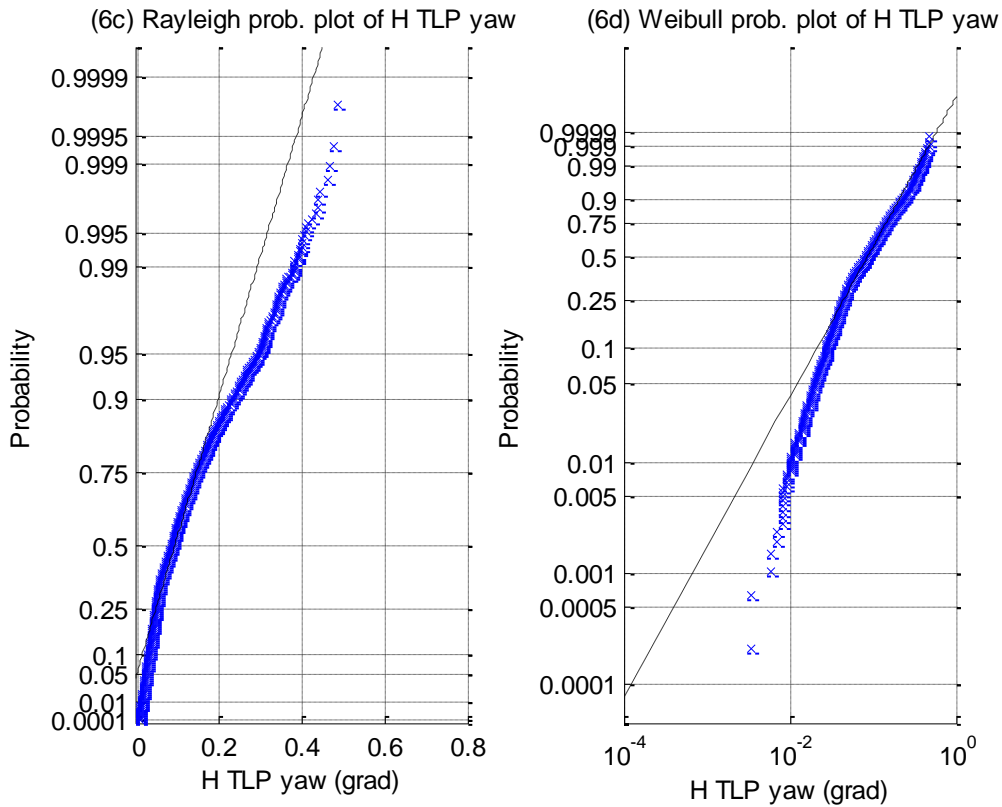


(6a) Histogram of H TLP yaw

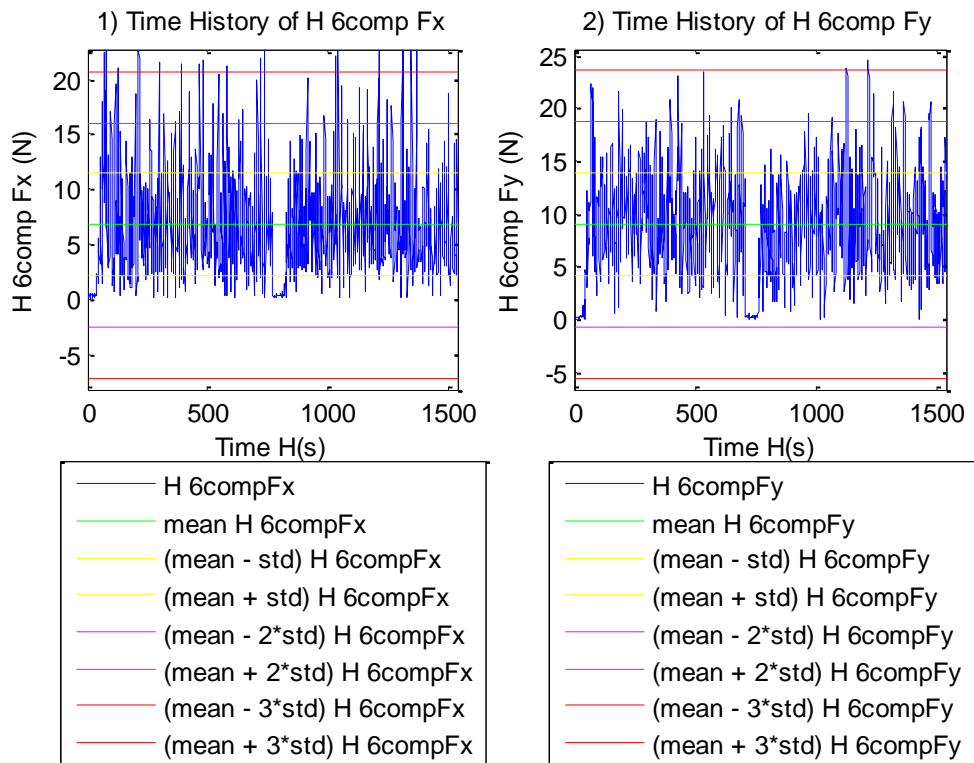


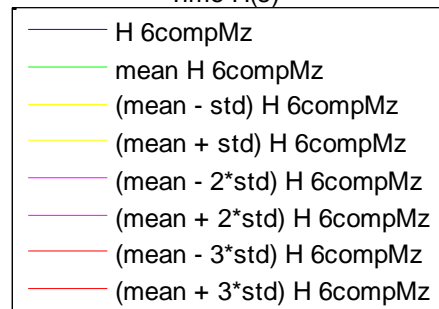
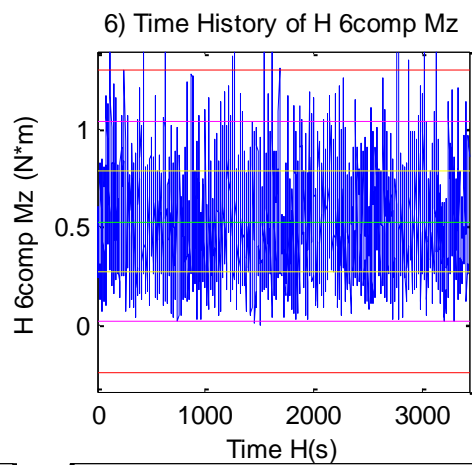
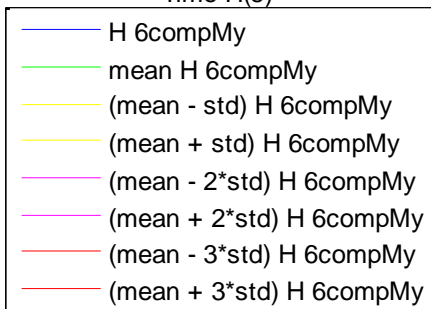
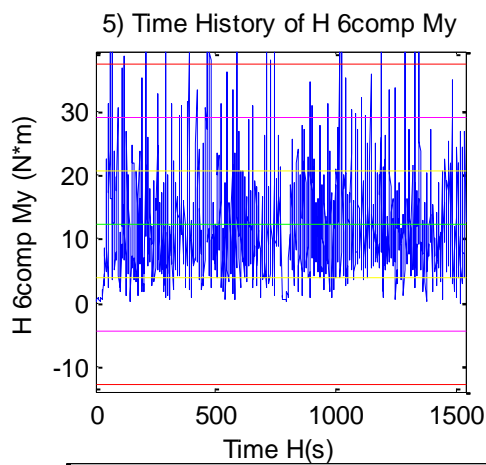
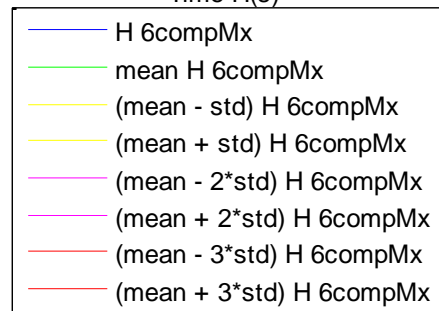
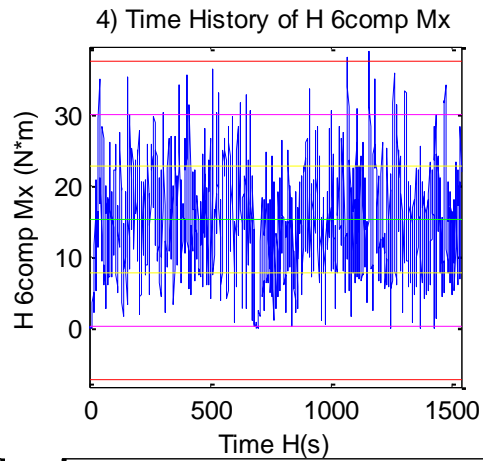
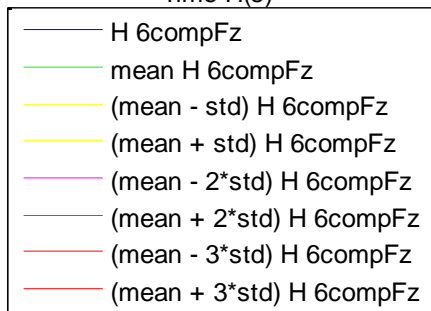
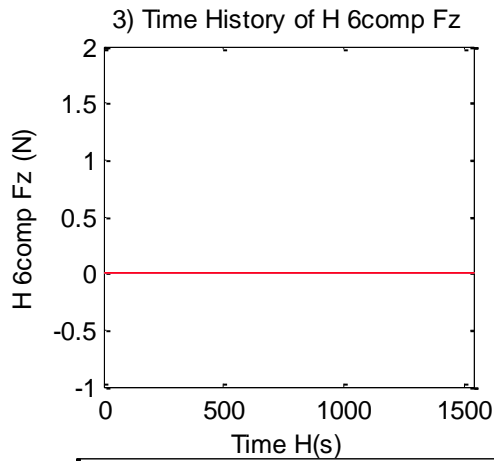
(6b) Normal prob. plot of H TLP yaw



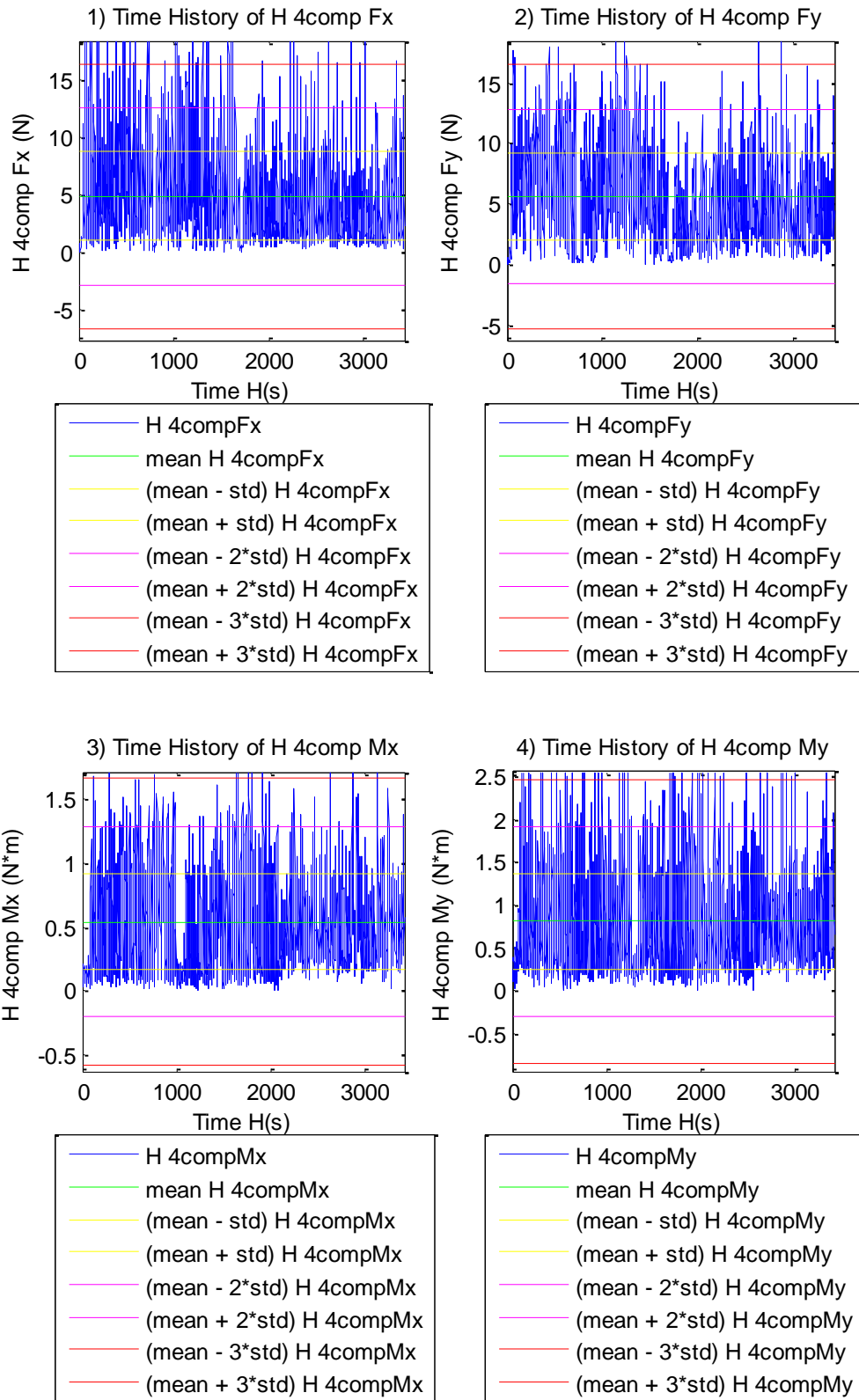


Σχήματα 1.3.6.7 (1-6) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

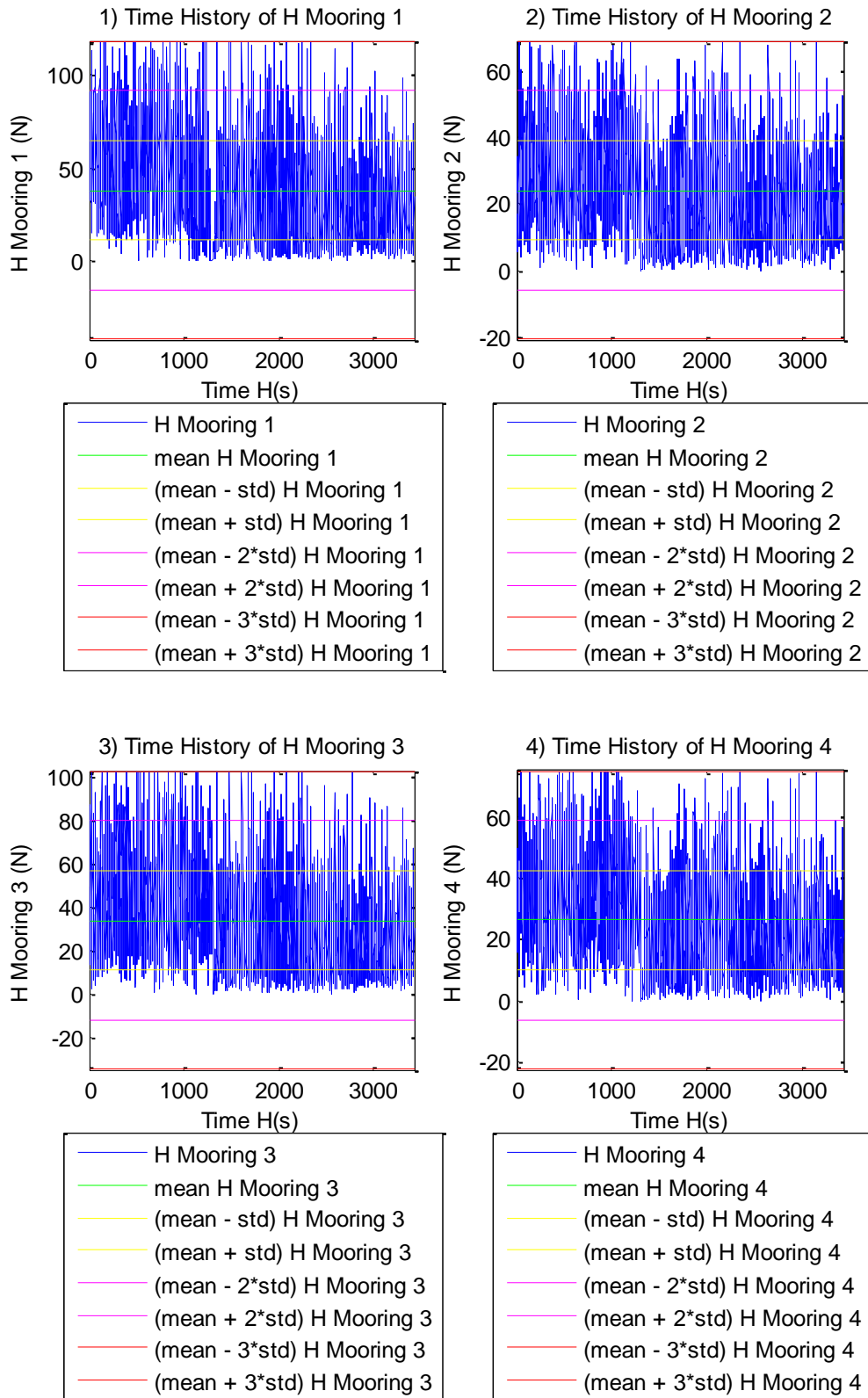




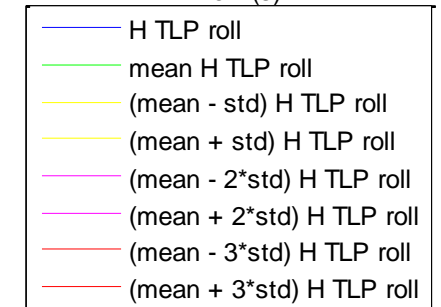
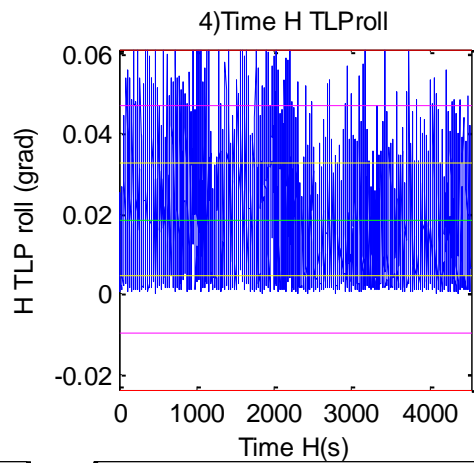
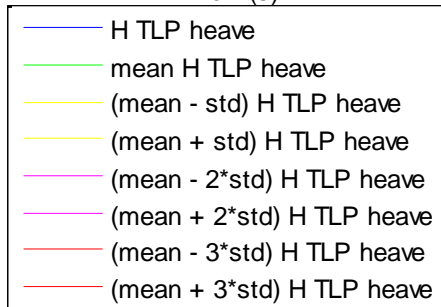
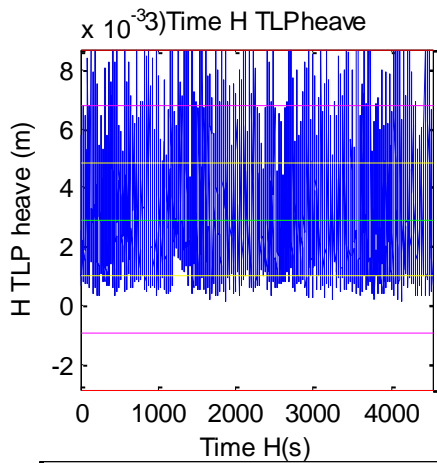
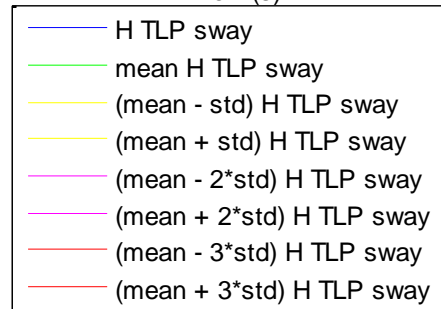
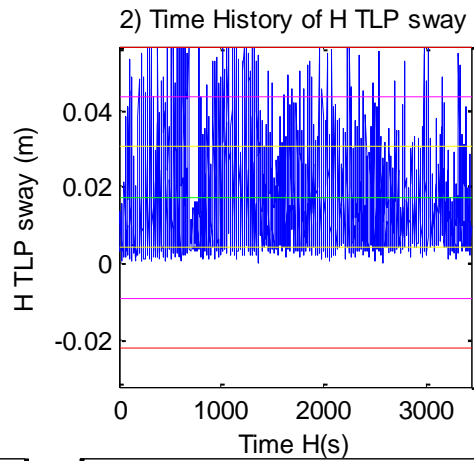
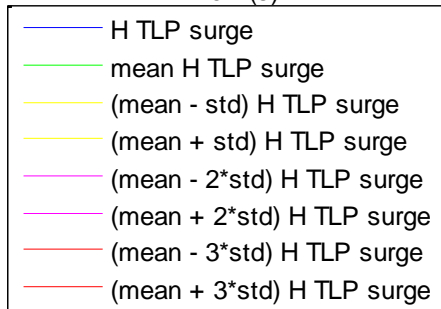
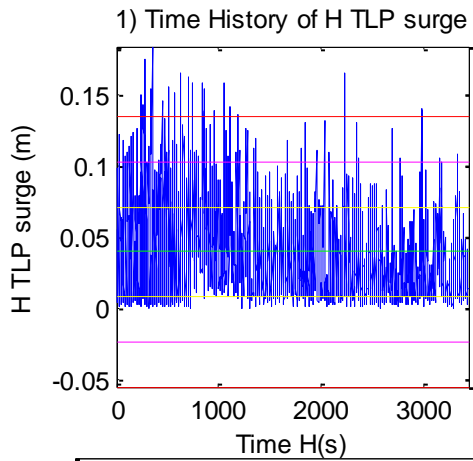
Σχήματα 1.3.7.1 (1-6) Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

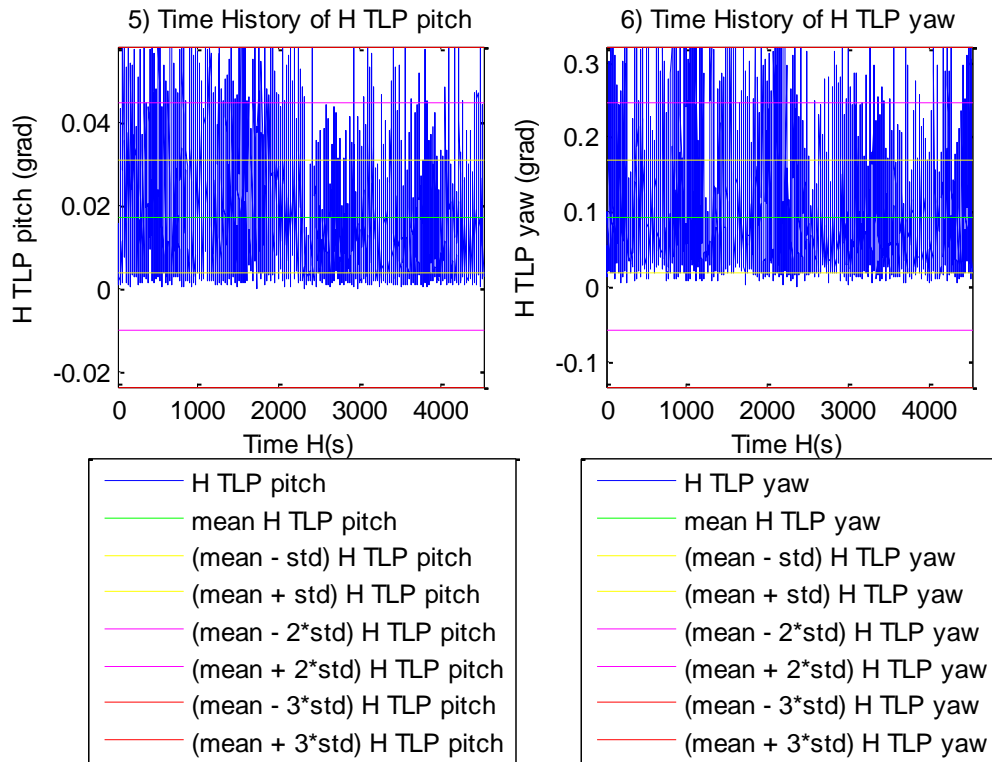


Σχήματα 1.3.7.2 (1-4) Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch



Σχήματα 1.3.7.3 (1-4) Διαγράμματα διάταξης του H για τις τέσσερις δυνάμεις στις τέσσερις γραμμές αγκύρωσης της Α/Γ





Σχήματα 1.3.7.4 (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 ΜΚΝ για τα 11 όργανα μέτρησης (WG) για Κ=100

4.1055	1.4602	1.3053	0.9080	0.7185	2.0061	1.3333	2.0592	1.9098	1.6156	1.5485
1.1828	3.9167	0.7553	0.8124	1.2043	1.6338	1.8995	2.0217	1.6096	1.1320	1.2177
1.2963	1.4807	4.5568	1.0989	1.0498	1.1115	1.6458	1.1025	1.2252	1.8695	2.1576
0.9577	1.1698	0.8968	4.2589	1.2602	0.8402	0.7459	0.7765	0.9284	1.0416	1.1736
1.3192	1.1395	1.4502	1.1092	4.4845	1.0631	1.0015	1.0656	1.1257	1.0622	1.0588
1.6798	1.4197	1.0700	1.3200	1.0275	4.5519	0.9994	1.2215	1.3160	1.2384	1.1823
1.0458	1.8865	1.2579	0.9897	0.9214	1.0788	4.5756	2.0258	0.7978	0.9111	0.8758
1.4306	1.8958	1.0298	0.8219	0.6799	1.2905	1.9237	4.4594	2.1969	1.1510	0.9776
1.6543	1.4925	0.9043	0.7855	0.9516	1.3573	0.8353	2.5628	4.4957	3.2353	2.5678
1.7010	0.9162	1.3746	0.6655	0.7635	1.3436	0.9821	1.3025	3.0905	4.3233	4.0499
1.6775	0.7980	1.8928	0.7229	0.7768	1.2416	1.1829	1.1241	2.4181	3.9861	4.3043

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

3.3039	1.3869	1.1301	0.9625	1.0816	1.5502	1.2734	1.5436	1.6412	1.5730	1.5308
1.3490	3.1795	1.1185	0.9973	0.9908	1.2239	1.6151	1.5708	1.4832	1.2161	1.1553
1.1597	1.2929	3.4777	1.1330	1.1016	0.9563	1.3733	1.1846	1.0920	1.5685	1.9647
1.0994	1.0572	1.0236	3.4565	1.3994	1.2146	0.8652	0.9348	1.0299	1.0725	1.1046
1.2265	1.0752	1.1591	1.3565	3.4484	1.2805	0.9994	1.0485	1.0057	1.0541	1.1277
1.5858	1.1720	0.9799	1.1699	1.2021	3.4345	1.0227	1.0006	1.0971	1.2028	1.1883
1.2547	1.5709	1.2670	1.0139	0.9019	1.0509	3.5509	1.8655	0.9678	0.9978	1.0669
1.5319	1.6016	1.1243	0.9684	0.9530	1.1831	1.7540	3.4649	2.0700	1.2570	1.1092
1.6066	1.3653	1.0477	0.9412	1.0390	1.1322	0.9744	2.1011	3.4636	2.6723	2.1928
1.5313	1.0725	1.4675	0.9161	1.0530	1.1166	1.0497	1.1994	2.6130	3.4287	3.2474
1.4740	1.0134	1.8669	0.9340	1.0768	1.0878	1.1406	1.0433	2.1022	3.2423	3.4206

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

2.3069	1.8271	1.0038	0.3776	2.3029	1.3881
2.9112	3.7295	0.6282	2.4689	2.9128	1.8155
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.9704	3.0725	0.3467	3.8128	1.9776	1.1343
2.1382	1.7192	0.9958	0.4128	2.1433	1.3564
1.5858	1.6343	0.9813	0.4847	1.6297	2.6325

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

1.8922	1.5099	0.9952	0.7049	1.8875	1.2501
2.1835	3.0967	0.6993	2.1455	2.1734	1.4541
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.3703	2.4220	0.5015	3.1445	1.3634	1.0407
1.7737	1.4427	0.9909	0.7306	1.7786	1.2261
1.3611	1.3290	1.0267	0.8472	1.3715	2.1153

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

2.0889	1.7195	1.5363	2.0047
2.8661	3.8282	3.7107	2.6207
1.2810	1.4065	1.4207	1.2588
2.7820	2.1091	1.8362	2.9418

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

1.7449	1.3059	1.3984	1.6790
2.0989	3.1591	3.0558	1.9632
1.1968	1.2345	1.3379	1.1850
2.2236	1.5195	1.6216	2.3493

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=100**

1.3194	0.8406	0.7789	1.2470
0.7435	1.5017	1.3745	0.6159
0.7648	1.2676	1.3502	0.8394
1.4555	0.4538	0.6388	1.6289

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=1000**

1.2460	0.8565	0.8087	1.1732
0.8158	1.3894	1.2815	0.6666
0.7991	1.2025	1.2730	0.8327
1.3104	0.5433	0.7095	1.4648

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

1.4896	1.3431	1.2606	1.0914	0.8336	1.2151
1.8345	2.1940	1.5588	1.3651	0.5611	1.3761

1.1135 1.0916 1.2604 1.1457 0.9315 1.1681
 1.2814 0.9523 3.1437 5.6073 1.8624 3.3894
 0.9033 0.9340 0.7677 0.6538 1.4485 0.6957
 1.1417 1.0983 1.3029 1.2527 0.7279 1.4519

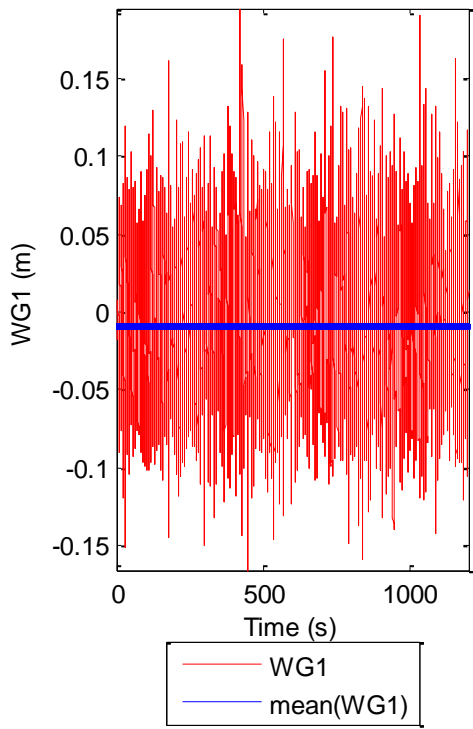
Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000

1.3738 1.2702 1.2044 1.0528 0.8724 1.1590
 1.6555 1.9113 1.4409 1.2440 0.7140 1.2451
 1.0947 1.0770 1.1825 1.1143 0.9535 1.1097
 1.2368 1.4976 2.5946 4.3624 1.3388 2.1818
 0.8825 0.8984 0.8130 0.7648 1.3540 0.7935
 1.1638 1.1048 1.2348 1.1782 0.7731 1.3523

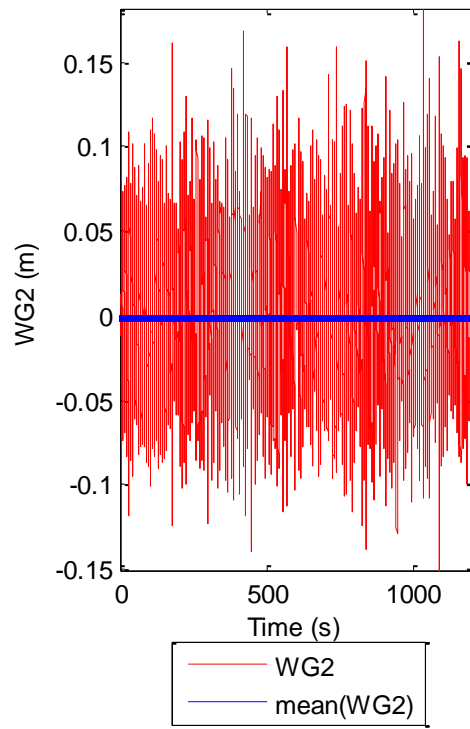
1.4 Παρουσίαση χρονοσειρών (C9) T1283+T1284_1.6_0.1_TLP_00_NR

Πίνακας 1.4.1	Χαρακτηριστικά Πειράματος
Τύπος μοντέλου	TLP
Ύψος κύματος (m)	0.100
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	00
Περιστροφή ή μη του Ρότορα	Χωρίς Περιστροφή

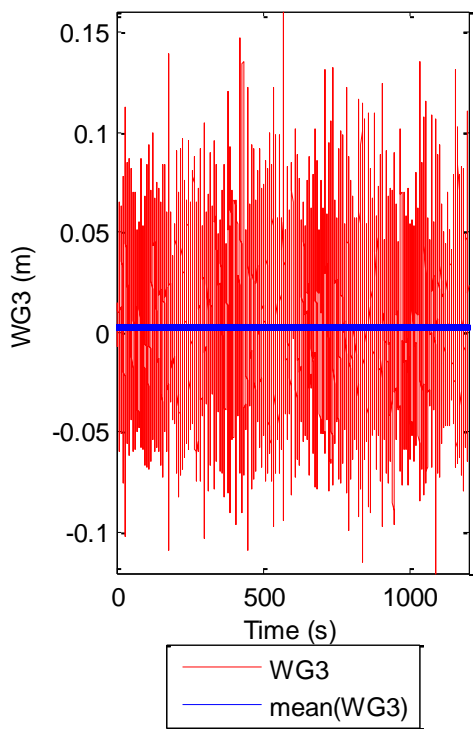
(1) Time History of WG1



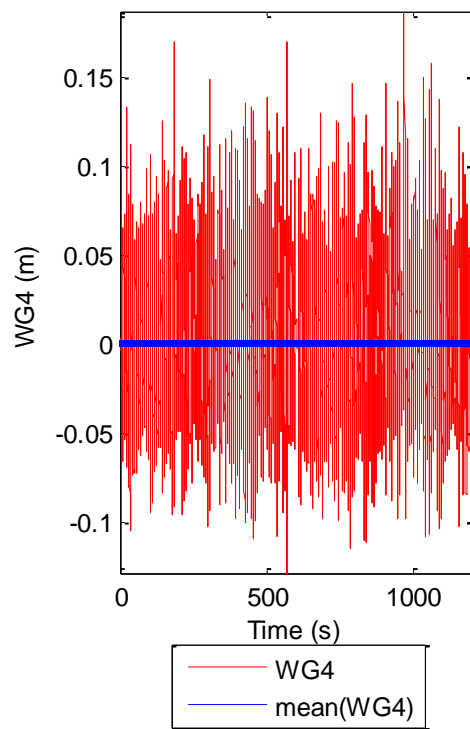
(2) Time History of WG2



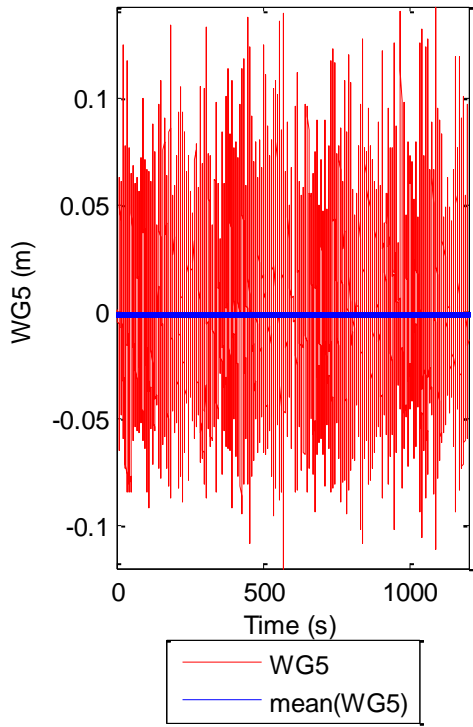
(3) Time History of WG3



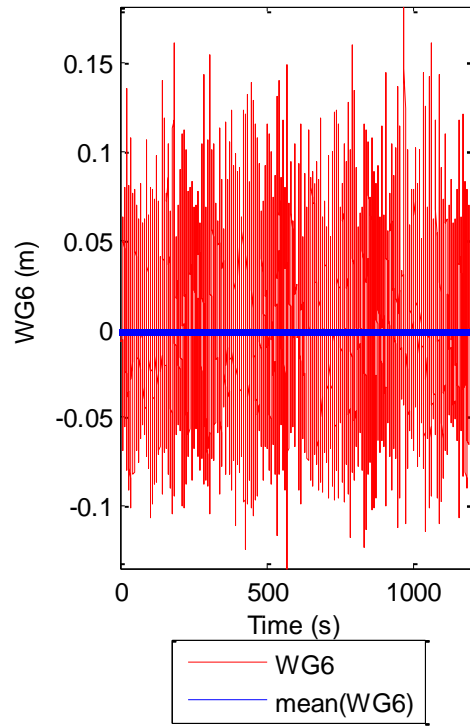
(4) Time History of WG4



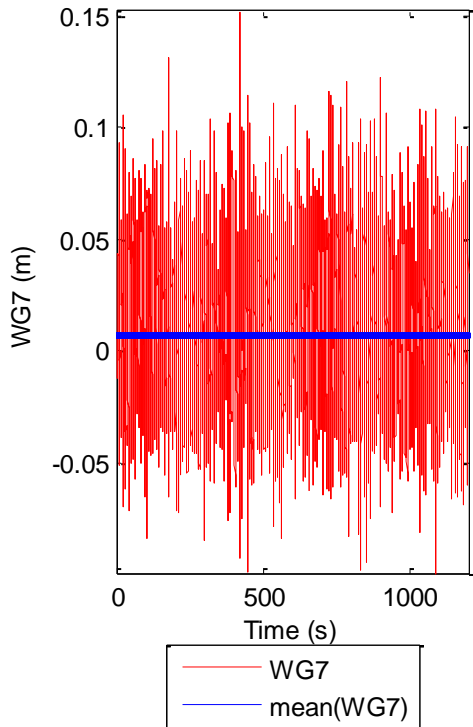
(5) Time History of WG5



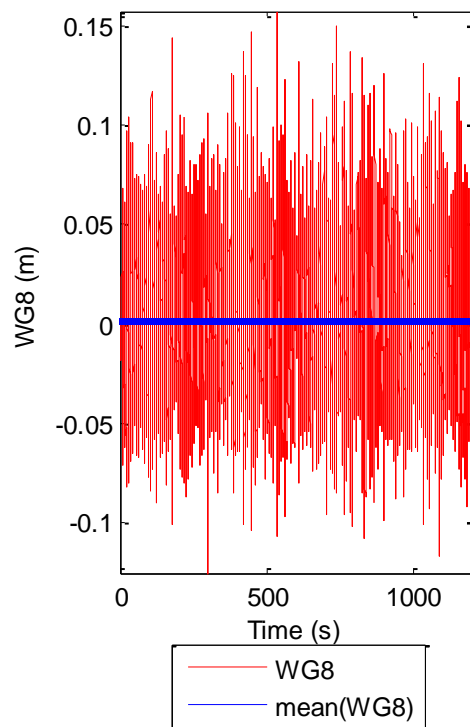
(6) Time History of WG6

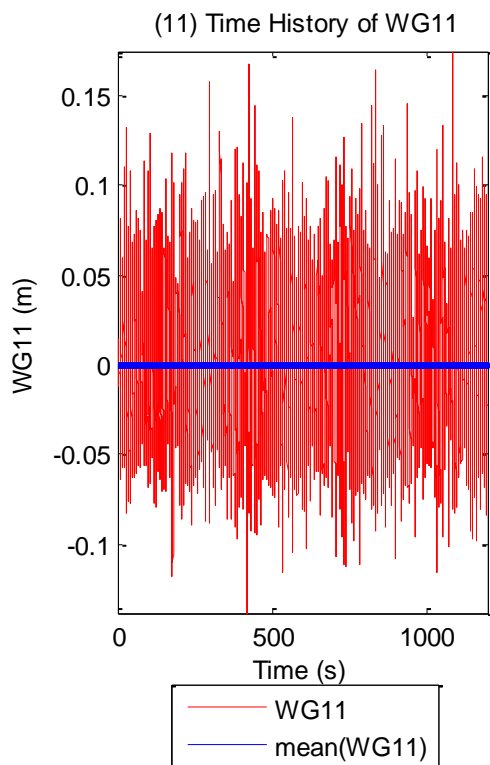
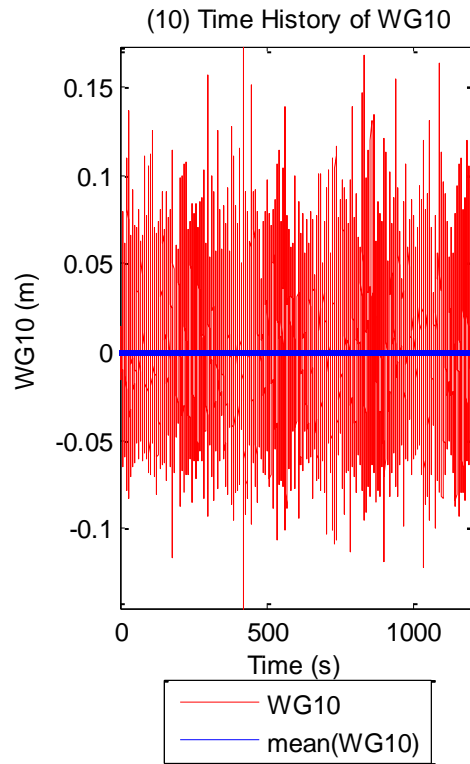
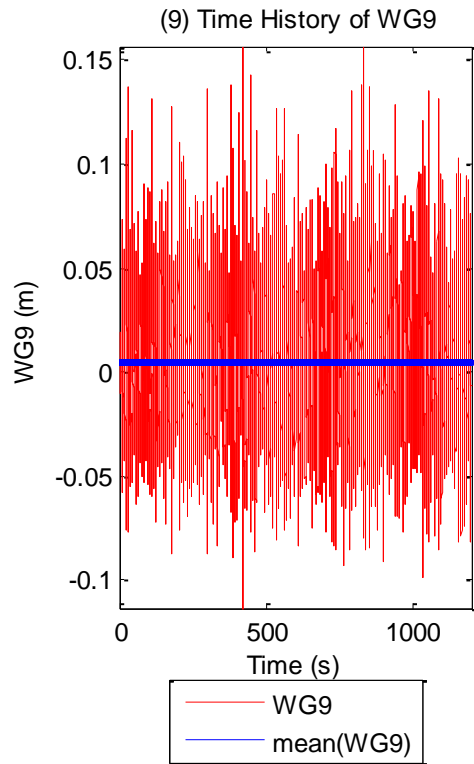


(7) Time History of WG7



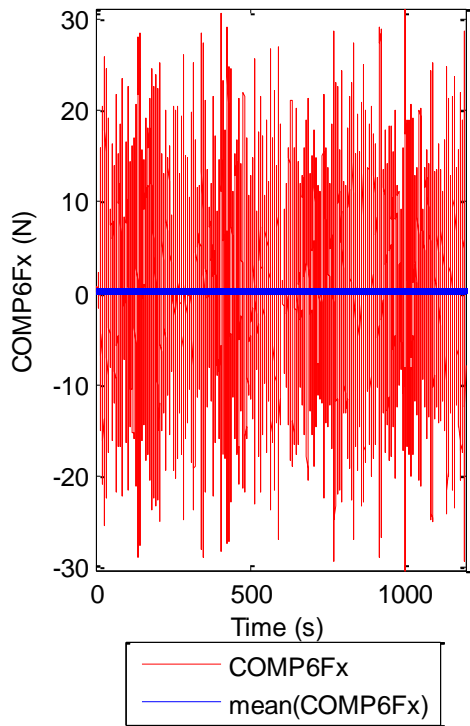
(8) Time History of WG8



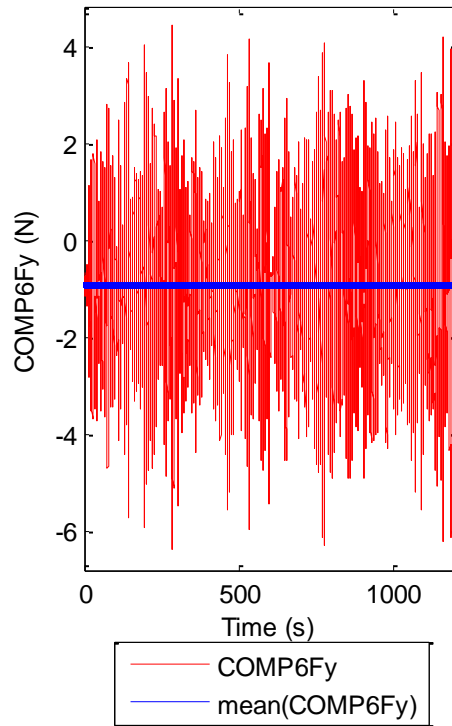


Σχήματα 1.4.1.1 (1-6) Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

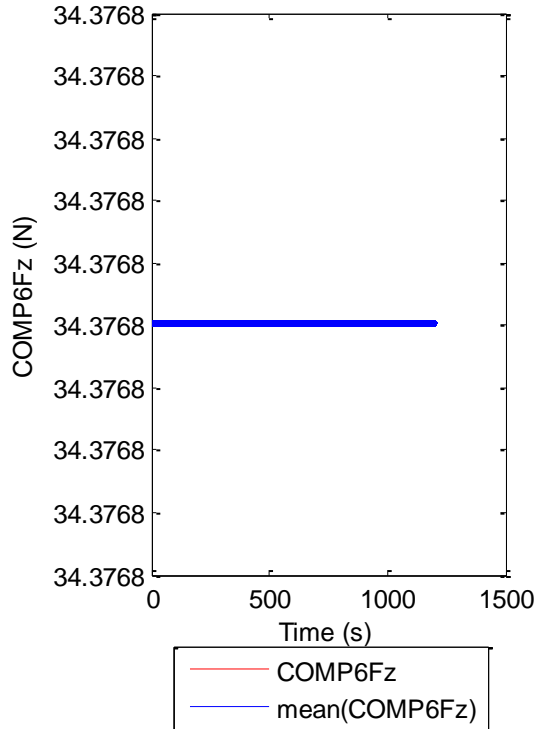
(1) Time History of COMP6Fx



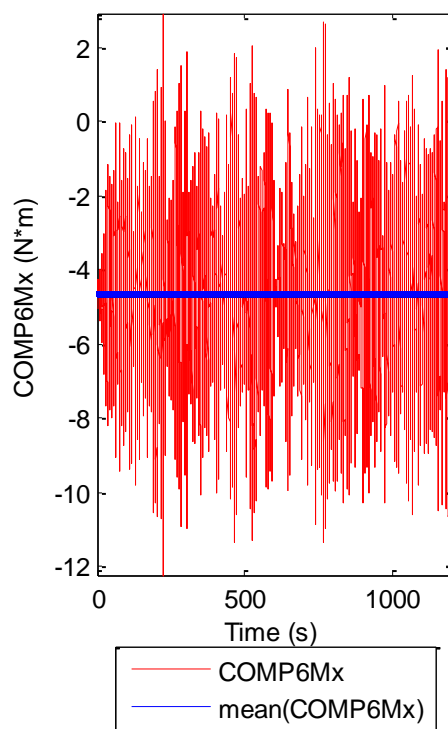
(2) Time History of COMP6Fy

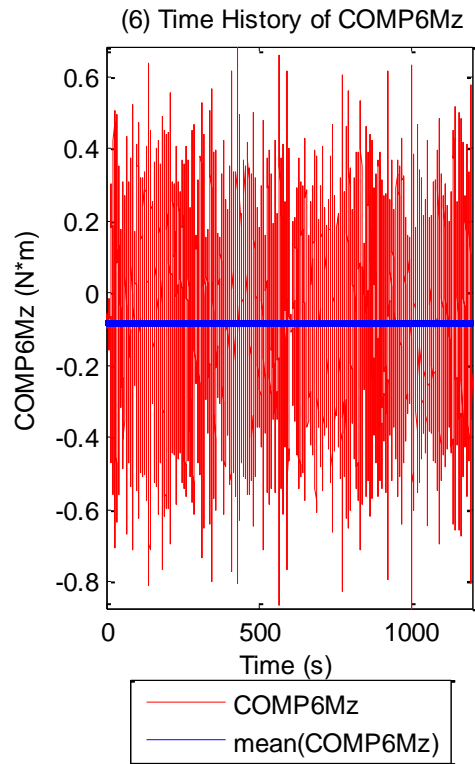
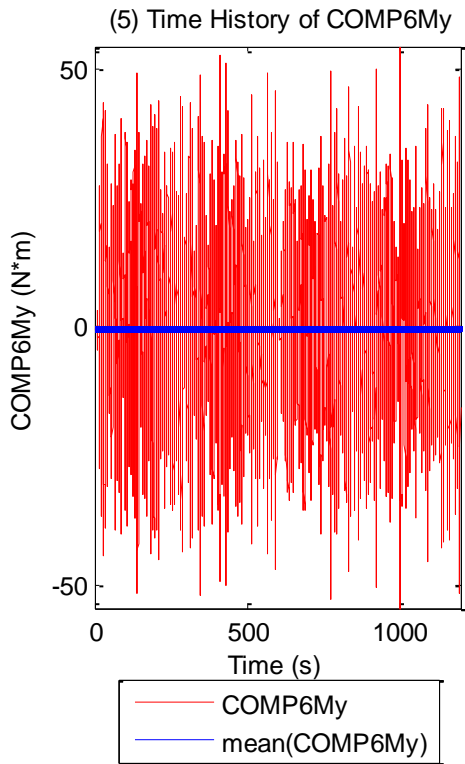


(3) Time History of COMP6Fz

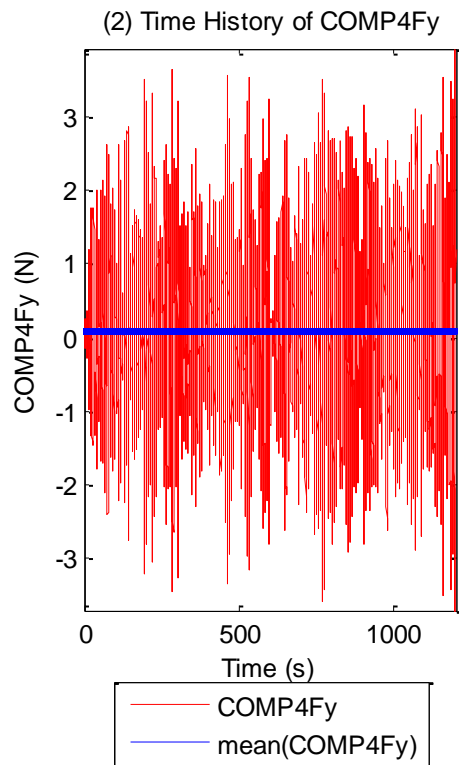
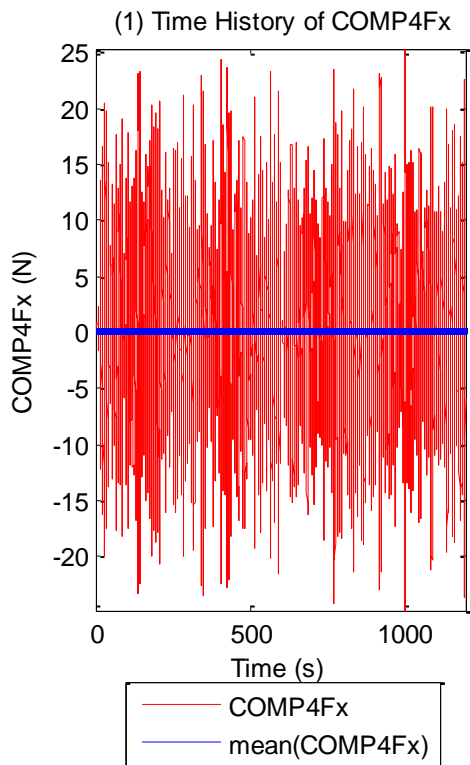


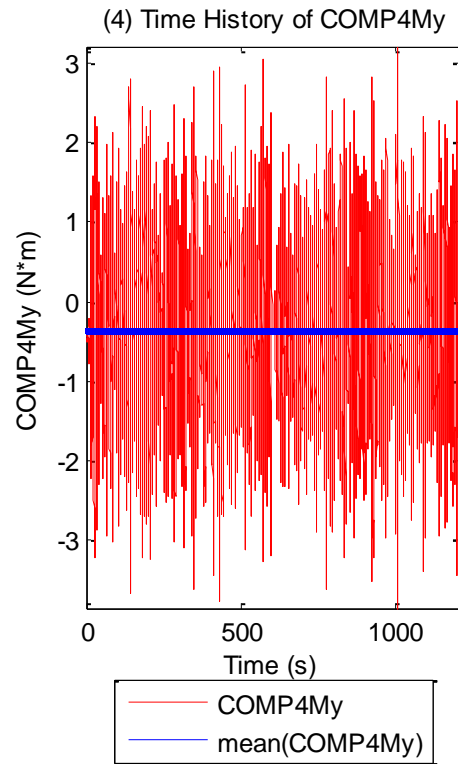
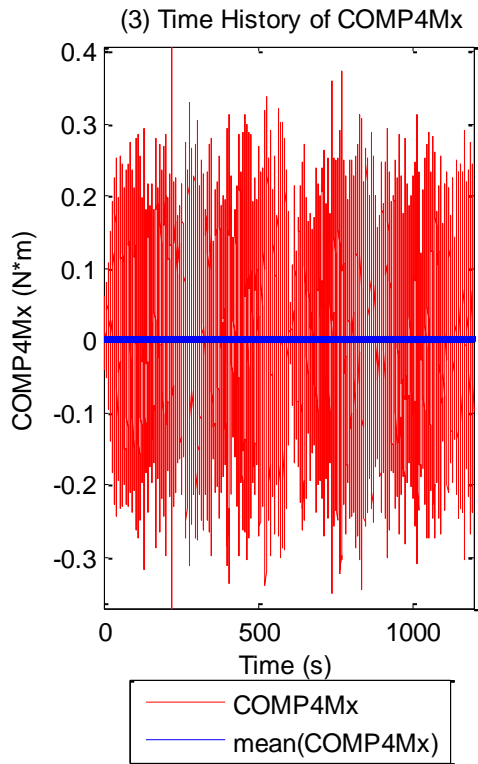
(4) Time History of COMP6Mx



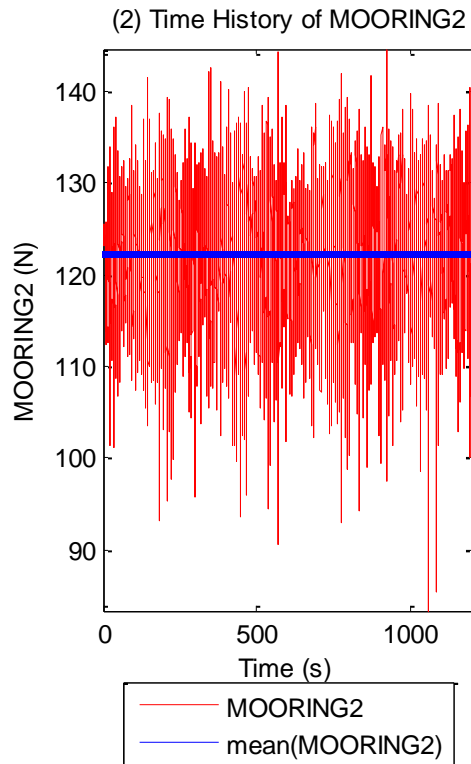
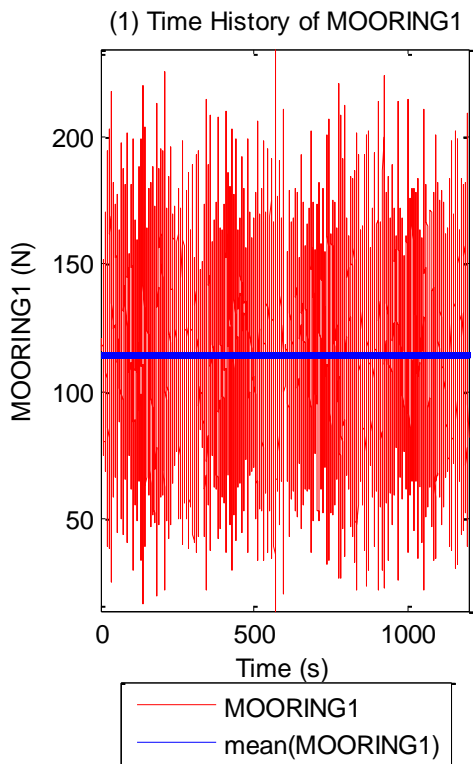


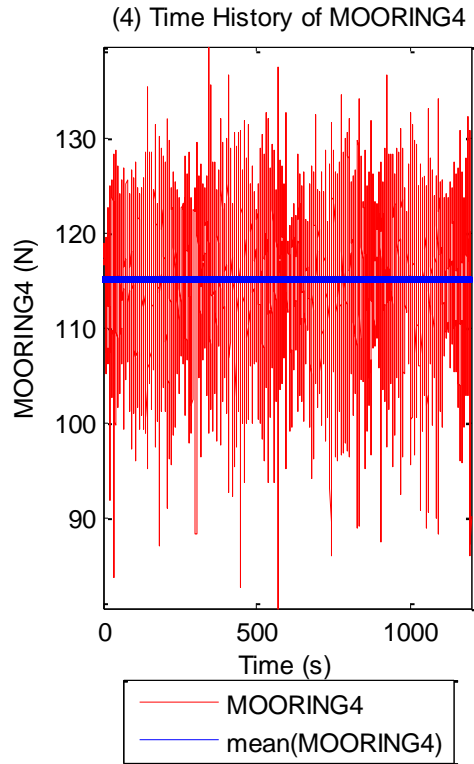
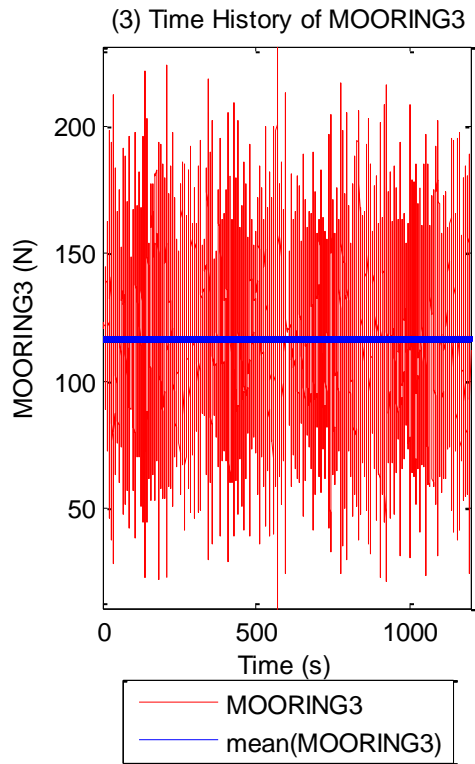
Σχήματα 1.4.1.2 Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



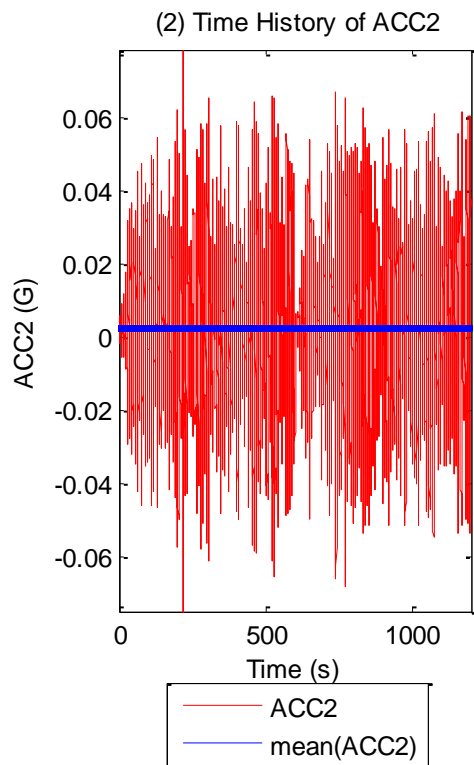
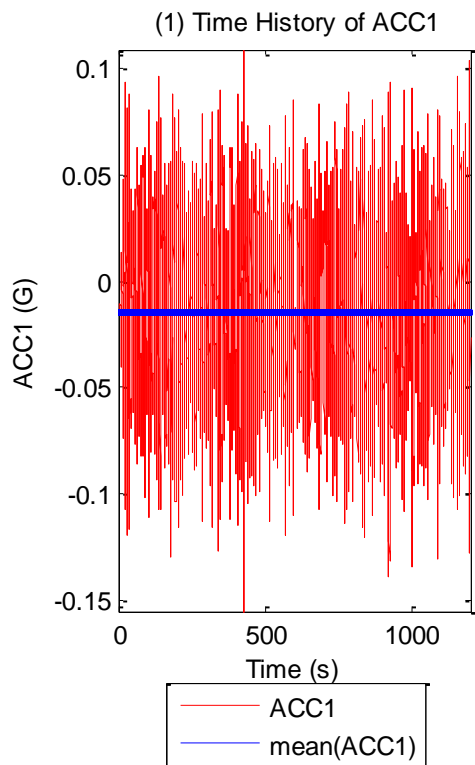


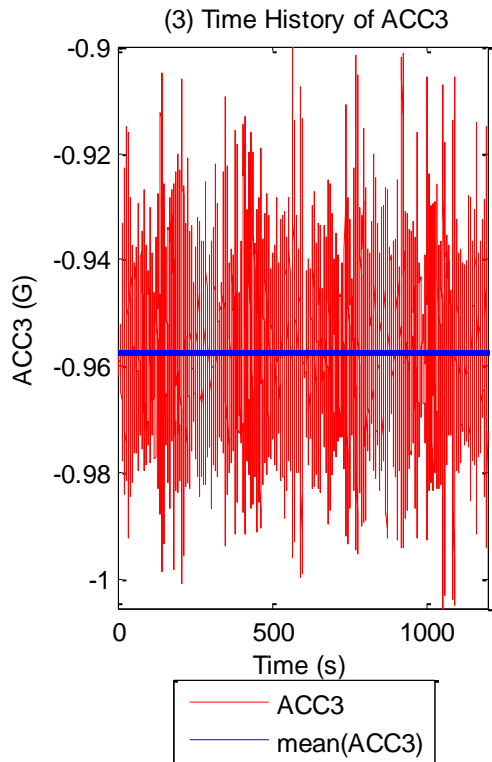
Σχήματα 1.4.1.2 Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



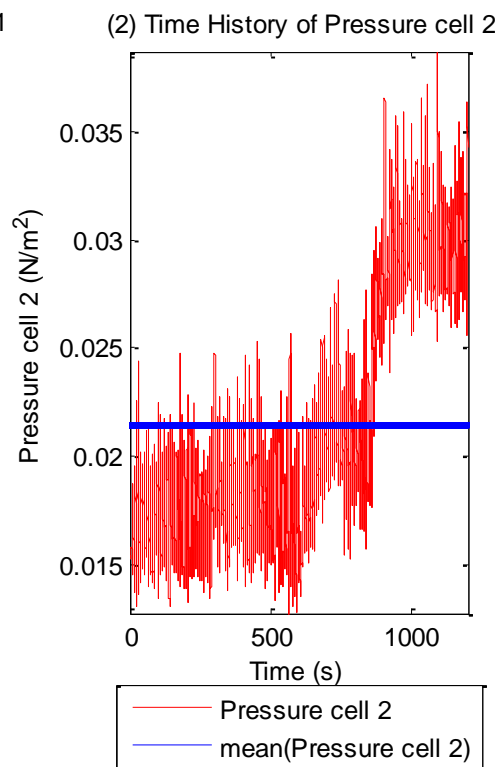
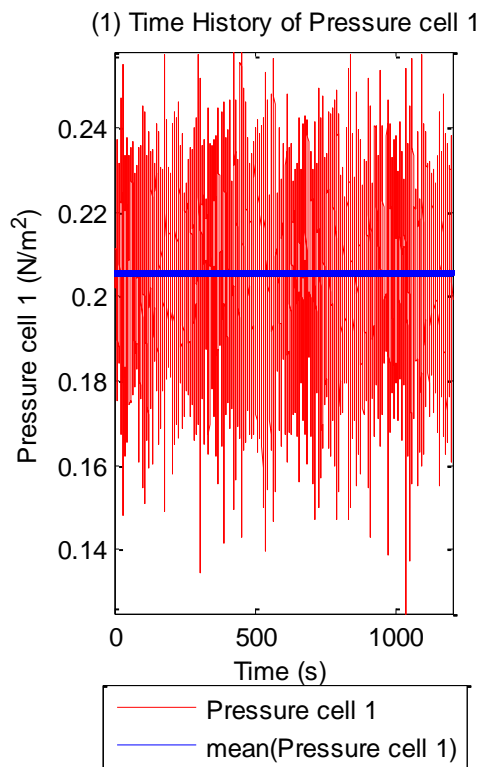


Σχήματα 1.4.1.4 Χρονοσειρές για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης (1-4) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές



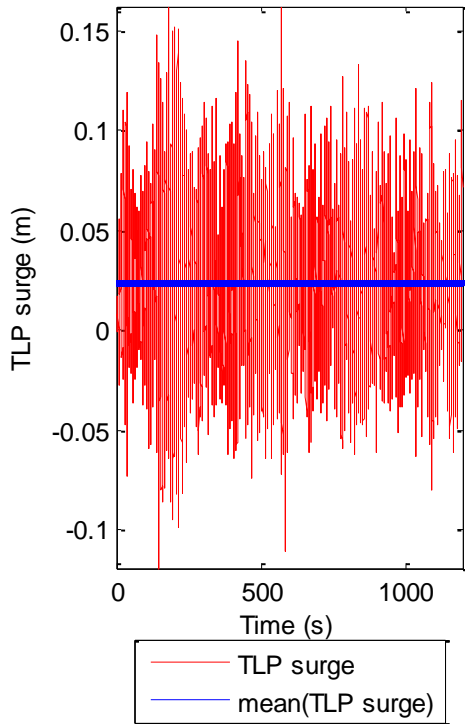


Σχήματα 1.4.1.5 (1-3) Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

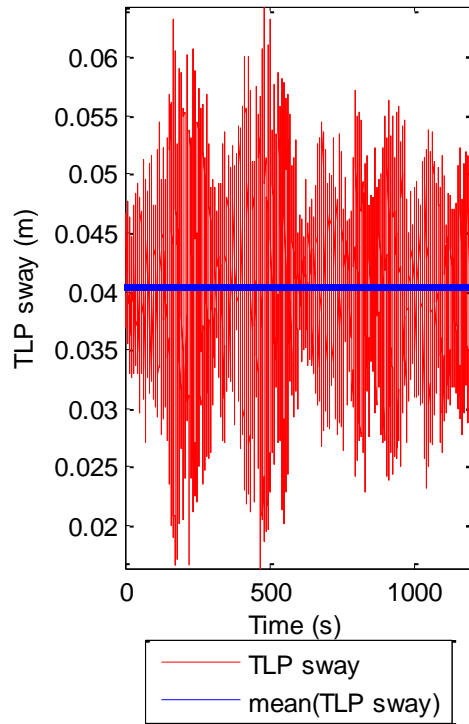


Σχήματα 1.4.1.6 (1-2) Χρονοσειρές από τα δυο όργανα μέτρησης της πίεσης

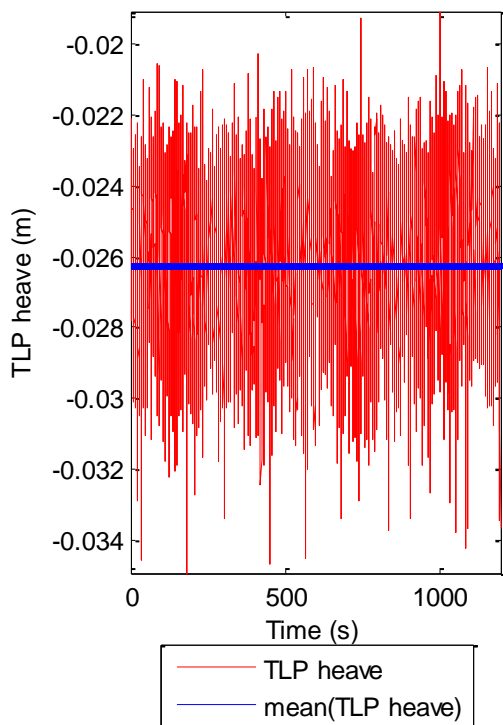
(1) Time History of TLP surge



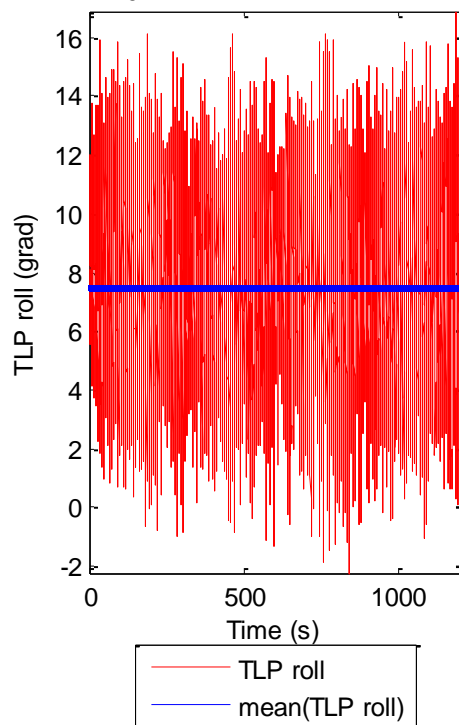
(2) Time History of TLP sway

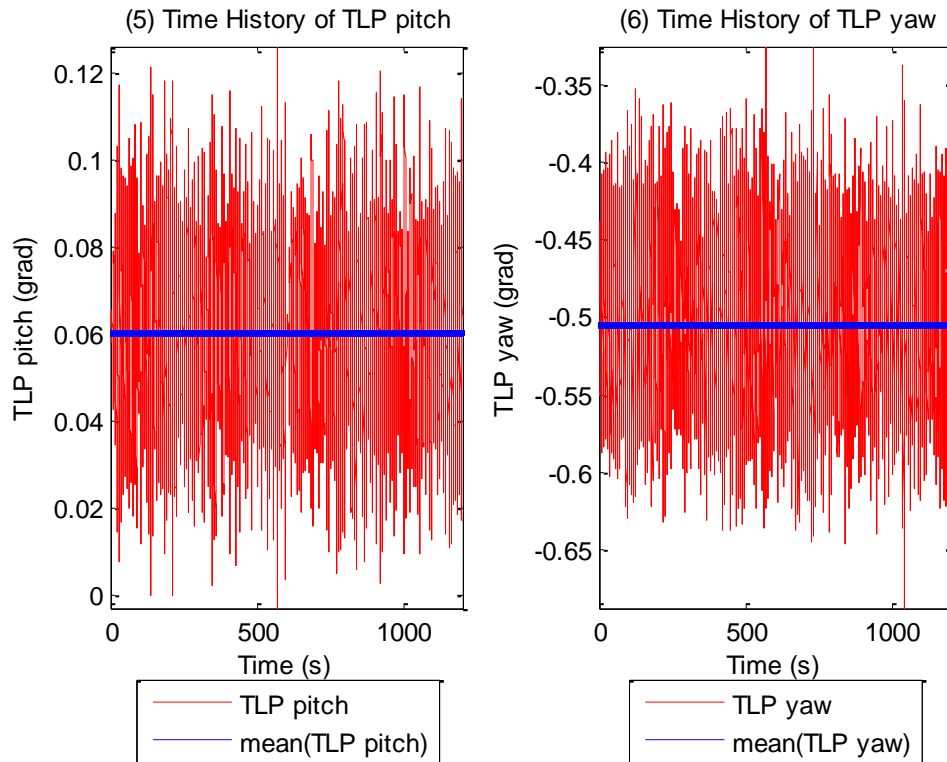


(3) Time History of TLP heave



(4) Time History of TLP roll





Σχήματα 1.4.1.7 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 1.4.2					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H_{rms}
Wg1 (m)	-0.0084	0.0445	-0.1658	0.1951	0.1227
Wg2 (m)	-0.0017	0.0408	-0.1505	0.1816	0.1124
Wg3 (m)	0.0029	0.0340	-0.1206	0.1606	0.0944
Wg4 (m)	0.0011	0.0374	-0.1286	0.1867	0.1038
Wg5 (m)	-0.0014	0.0350	-0.1203	0.1431	0.0970
Wg6 (m)	-0.0017	0.0390	-0.1349	0.1821	0.1082
Wg7 (m)	0.0075	0.0302	-0.0992	0.1519	0.0842
Wg8 (m)	0.0015	0.0355	-0.1253	0.1572	0.0979

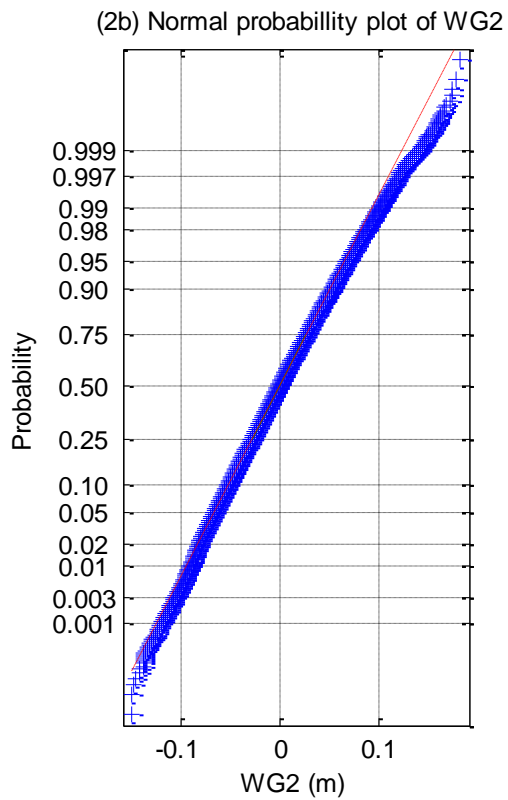
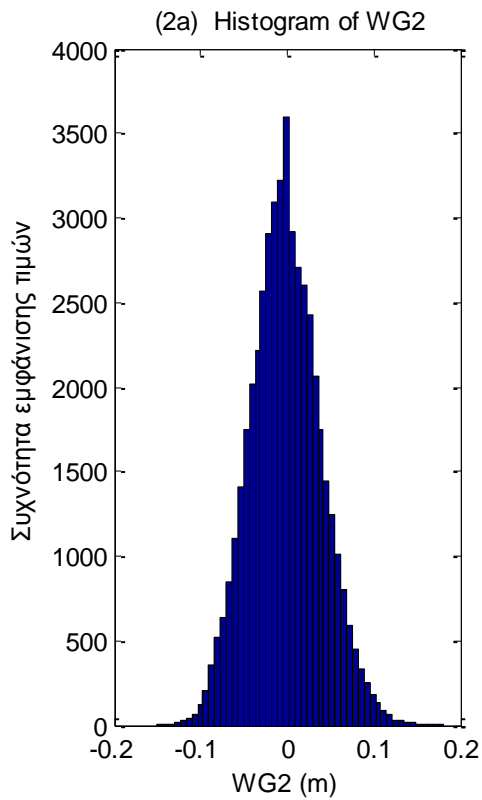
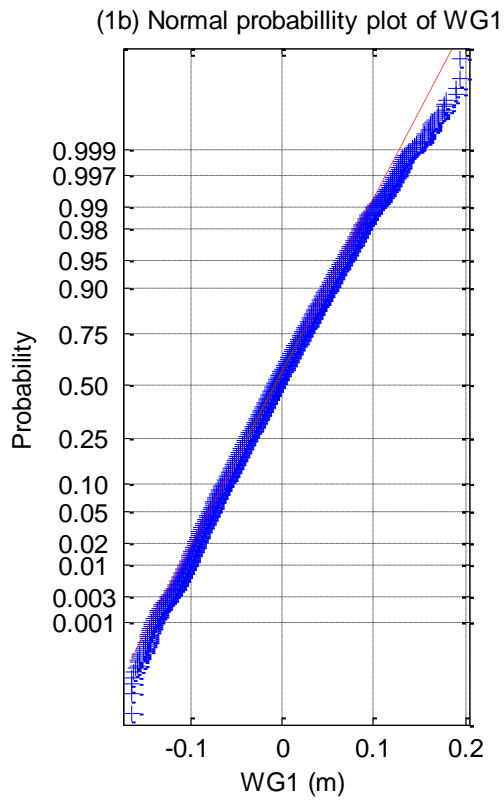
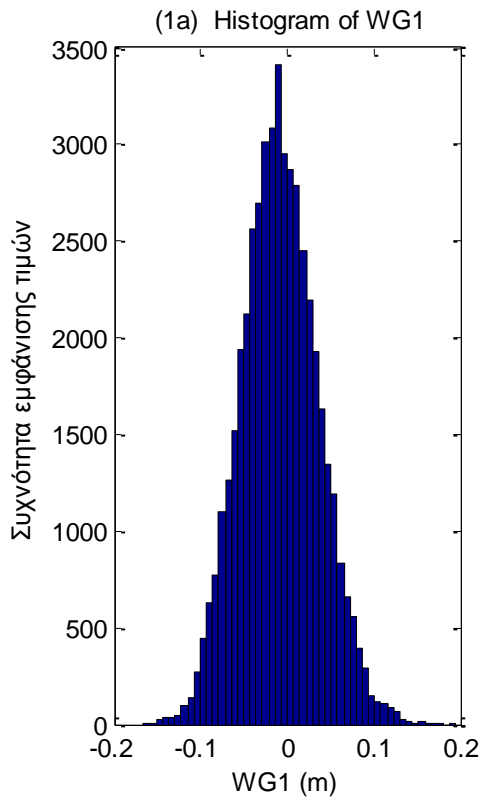
Wg9 (m)	0.0049	0.0330	-0.1134	0.1564	0.0926
Wg10 (m)	-0.0000	0.0367	-0.1450	0.1730	0.1028
Wg11 (m)	0.0001	0.0373	-0.1383	0.1747	0.1042
6comp_Fx (N)	0.2991	9.3038	-30.3222	31.1992	26.2027
6comp_Fy(N)	-0.9046	1.4912	-6.7963	4.8096	4.2086
6comp_Fz (N)	34.3768	0.0000	34.3768	34.3768	0.0000
6comp_Mx (N*m)	-4.6458	2.0885	-12.2213	2.9207	5.8641
6comp_My (N*m)	-0.3352	16.1173	-54.4723	54.2185	45.6515
6comp_Mz (N*m)	-0.0793	0.2221	-0.8719	0.6846	0.5917
4comp_Fx (N)	0.1766	7.4864	-24.7915	25.3280	21.0376
4comp_Fy (N)	0.0882	1.0373	-3.6999	3.9241	2.9802
4comp_Mx (N*m)	0.0022	0.1175	-0.3713	0.4081	0.3290
4comp_My (N*m)	-0.3516	0.9913	-3.8559	3.2149	2.7972
Mooring_1 (N)	114.3094	32.2022	13.5289	234.8130	85.7909
Mooring_2(N)	122.1792	5.9374	83.4325	144.5230	15.4111
Mooring_3 (N)	116.5928	30.2431	11.1134	231.2382	80.9791
Mooring_4(N)	115.1002	6.0140	80.5364	139.6184	15.6927
Acc_1 (G)	-0.0144	0.0335	-0.1551	0.1088	0.0902
Acc_2 (G)	0.0028	0.0201	-0.0748	0.0785	0.0561
Acc_3 (G)	-0.9573	0.0121	-1.0054	-0.8999	0.0321
Pres.cell_1 (N/m^2)	0.2059	0.0173	0.1248	0.2581	0.0405

Pres.cell_2 (N/m ²)	0.0214	0.0055	0.0127	0.0387	0.0040
TLP_x (m)	0.0241	0.0362	-0.1193	0.1623	0.0557
TLP_y (m)	0.0404	0.0068	0.0164	0.0643	0.0075
TLP_z (m)	-0.0262	0.0016	-0.0349	-0.0191	0.0034
TLP_roll (grad)	0.0075	0.0025	-0.0022	0.0169	0.0050
TLP_pitch (grad)	0.0607	0.0174	-0.0028	0.1261	0.0272
TLP_yaw (grad)	-0.5042	0.0421	-0.6874	-0.3256	0.0732

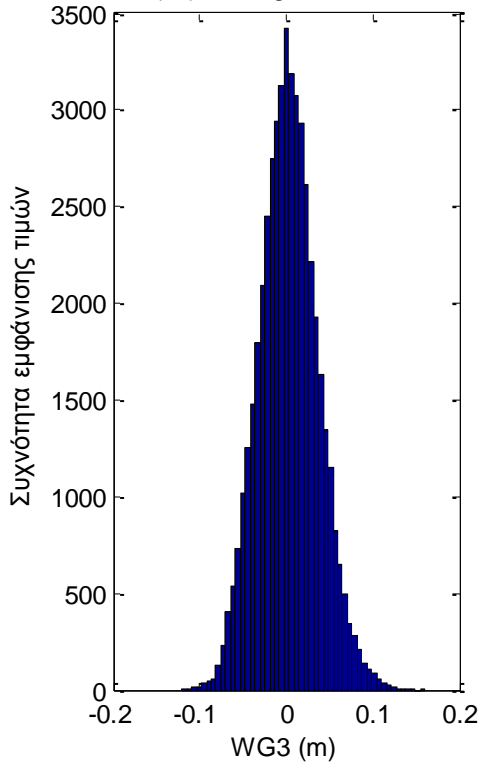
Πίνακας 1.4.3				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1511	3.1001	1	1
Wg2 (m)	0.1700	3.1187	1	1
Wg3 (m)	0.1612	3.1641	1	1
Wg4 (m)	0.2264	3.2500	1	1
Wg5 (m)	0.2865	3.3053	1	1
Wg6 (m)	0.2070	3.2163	1	1
Wg7 (m)	0.1676	3.1314	1	1
Wg8 (m)	0.2093	3.1739	1	1
Wg9 (m)	0.2090	3.1838	1	1
Wg10 (m)	0.1861	3.1533	1	1
Wg11 (m)	0.1900	3.1243	1	1
6comp_Fx (N)	-0.0031	2.8307	1	1
6comp_Fy(N)	-0.0020	3.3076	1	1

6comp_Fz (N)	-1.0000	1.0000	1	1
6comp_Mx (N*m)	0.0076	3.0074	1	1
6comp_My (N*m)	0.0015	2.8374	1	1
6comp_Mz (N*m)	-0.0343	2.8002	1	1
4comp_Fx (N)	0.0029	2.8206	1	1
4comp_Fy (N)	0.0054	3.2139	1	1
4comp_Mx (N*m)	-0.0236	2.3844	1	1
4comp_My (N*m)	0.0001	2.8405	1	1
Mooring_1 (N)	0.0793	2.8532	1	1
Mooring_2 (N)	-0.4666	4.1935	1	1
Mooring_3 (N)	0.0361	2.8987	1	1
Mooring_4 (N)	-0.4304	4.0862	1	1
Acc_1 (G)	-0.0177	2.9693	1	1
Acc_2 (G)	-0.0061	2.9823	1	1
Acc_3 (G)	0.3381	3.7932	1	1
Pres.cell_1 (N/m)	-0.2251	3.1513	1	1
Pres.cell_2 (N/m)	0.7451	2.1286	1	1
TLP_x (m)	0.0655	3.2180	1	1
TLP_y (m)	-0.0227	3.0540	1	1
TLP_z (m)	-0.3057	3.5359	1	1
TLP_roll (grad)	-0.0399	2.9676	1	1
TLP_pitch (grad)	-0.0452	2.9806	1	1

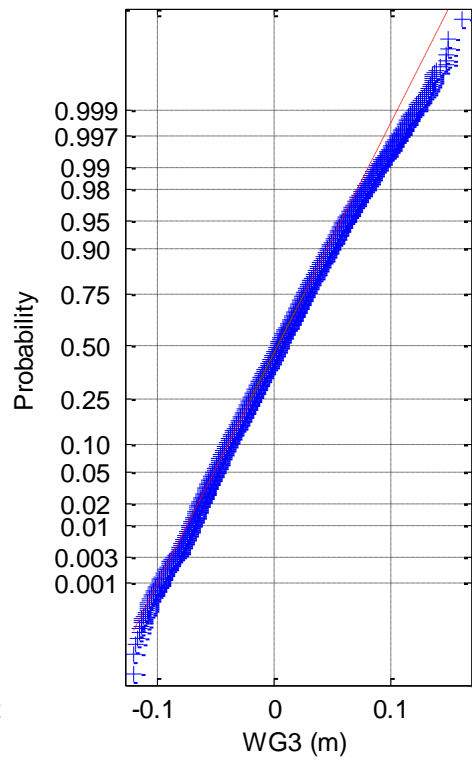
TLP_yaw (grad)	0.0192	2.9425	1	1
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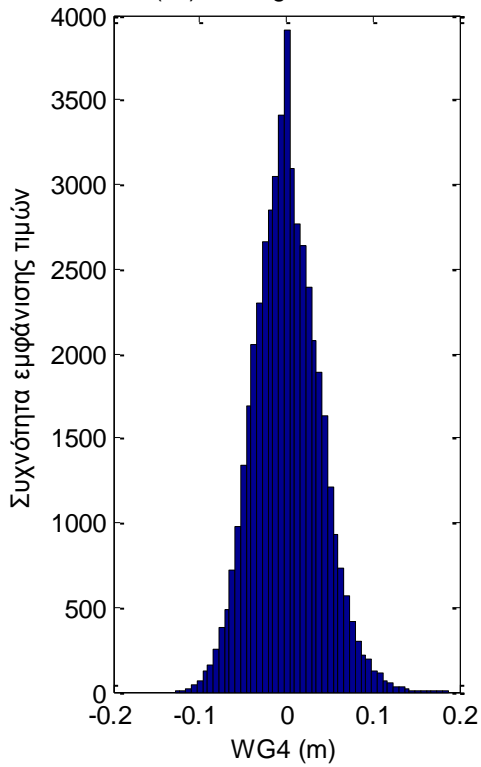
(3a) Histogram of WG3



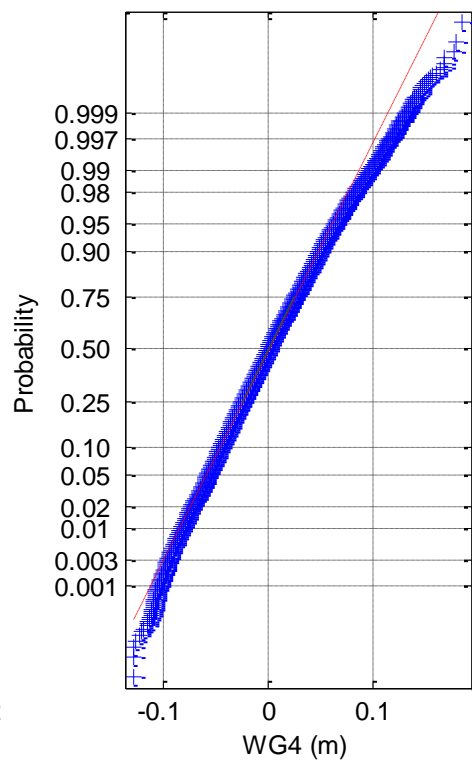
(3b) Normal probability plot of WG3



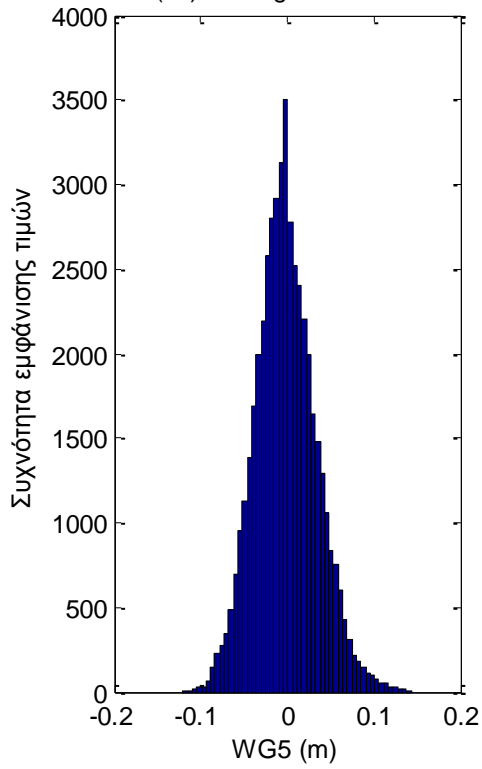
(4a) Histogram of WG4



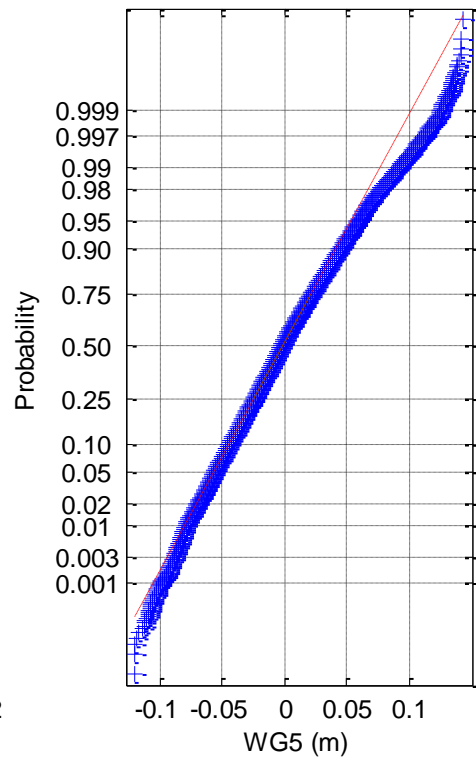
(4b) Normal probability plot of WG4



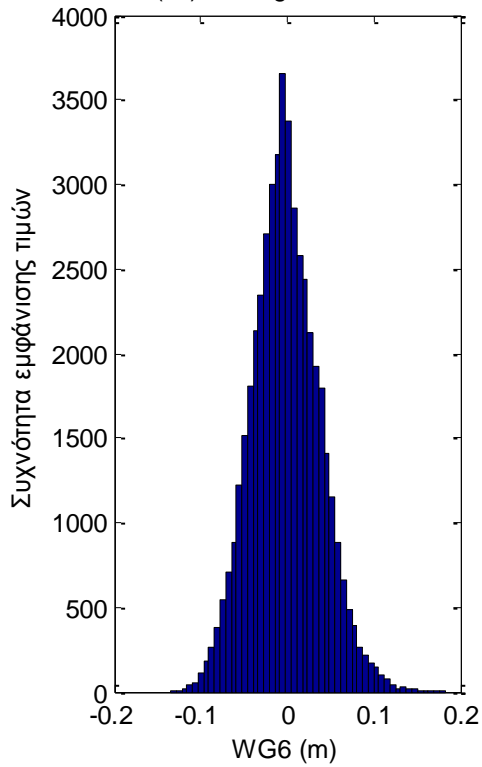
(5a) Histogram of WG5



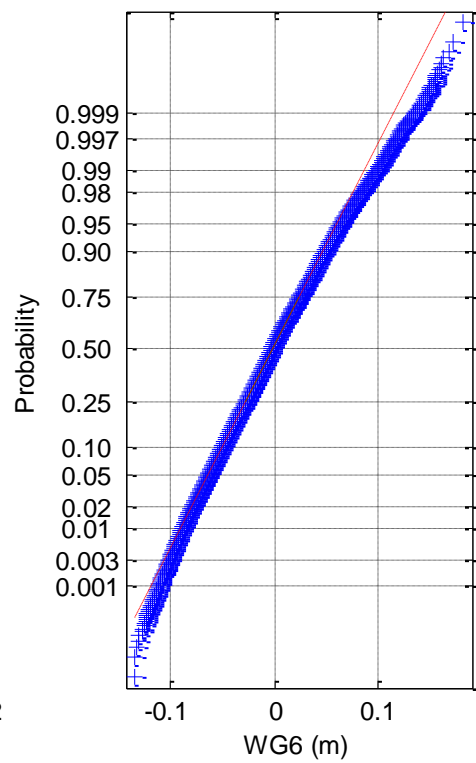
(5b) Normal probability plot of WG5



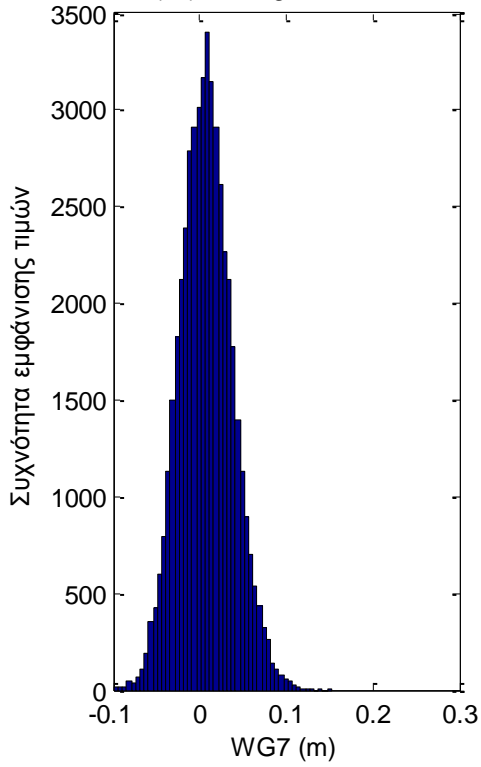
(6a) Histogram of WG6



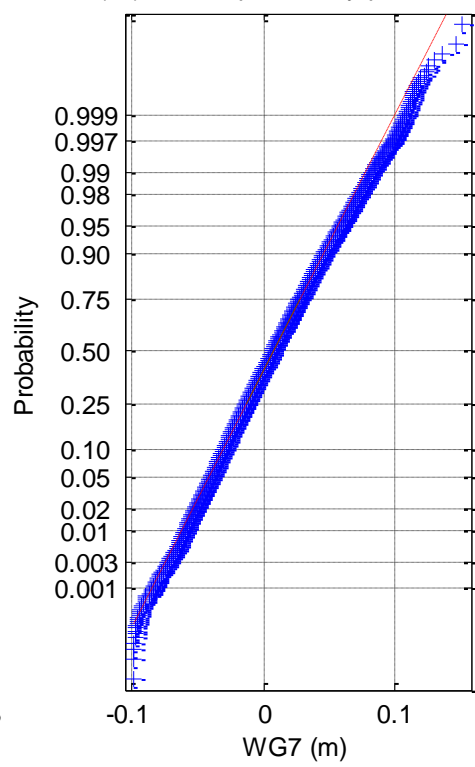
(6b) Normal probability plot of WG6



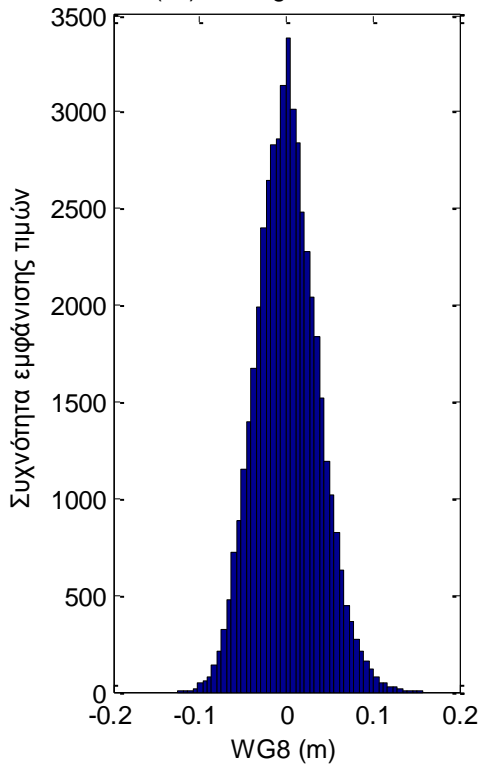
(7a) Histogram of WG7



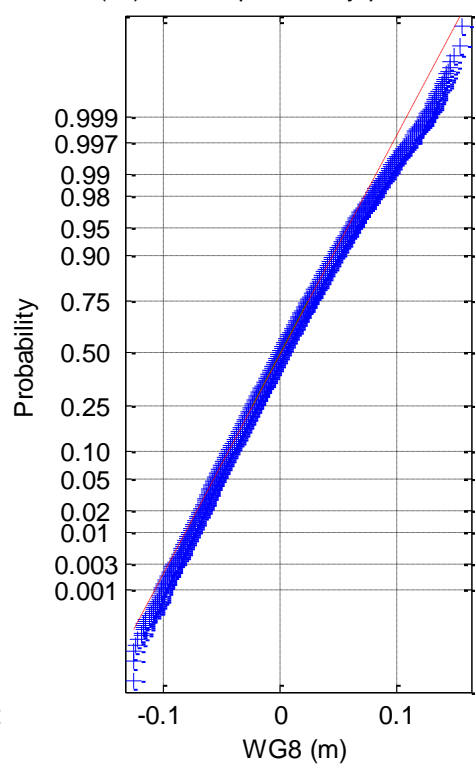
(7b) Normal probability plot of WG7



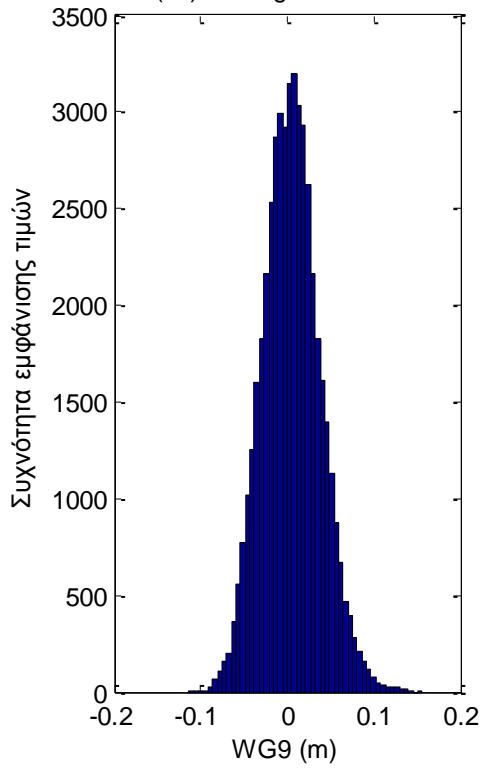
(8a) Histogram of WG8



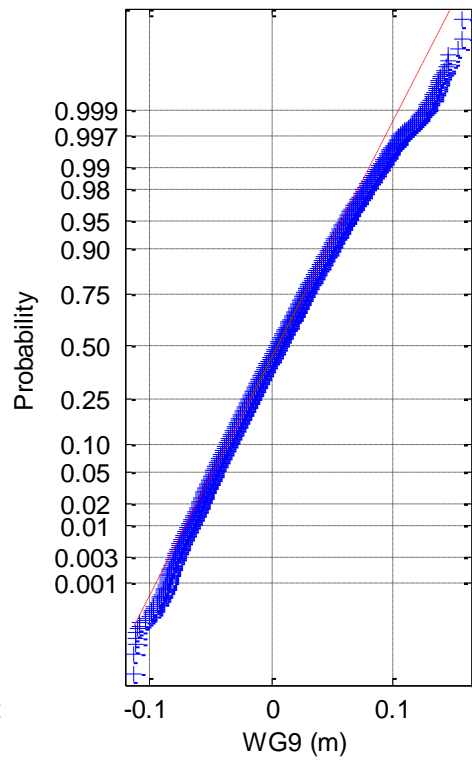
(8b) Normal probability plot of WG8



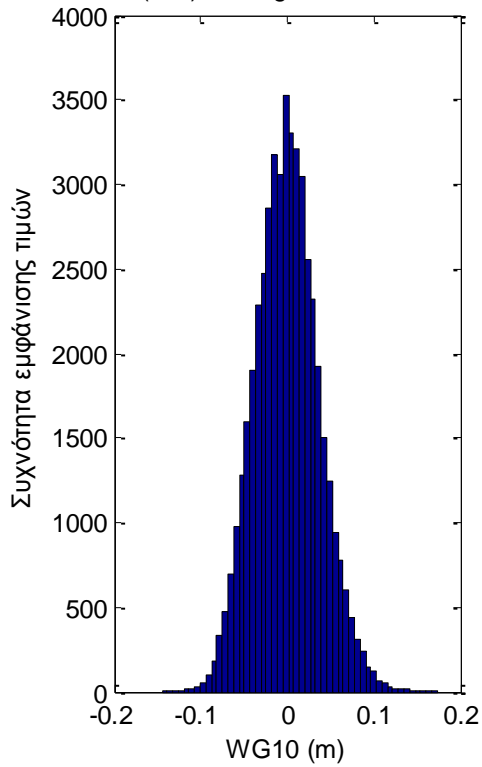
(9a) Histogram of WG9



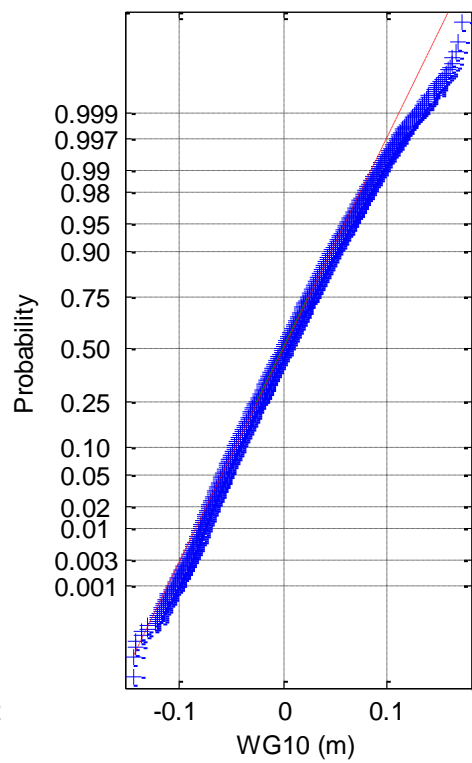
(9b) Normal probability plot of WG9

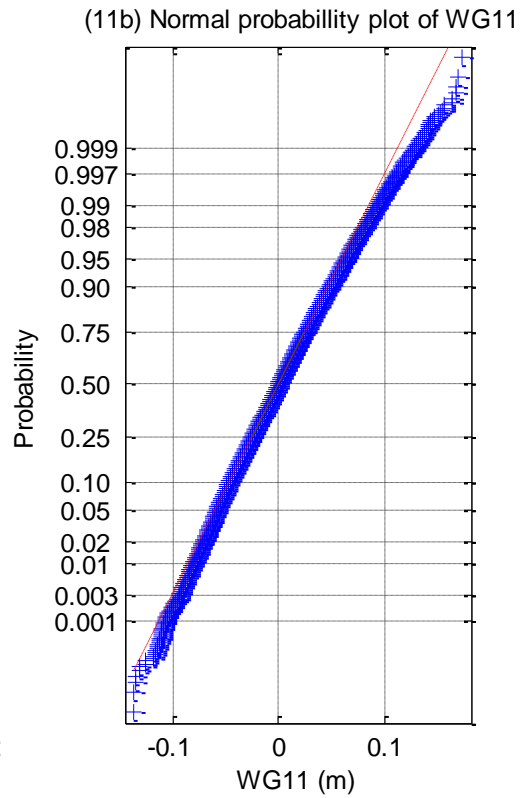
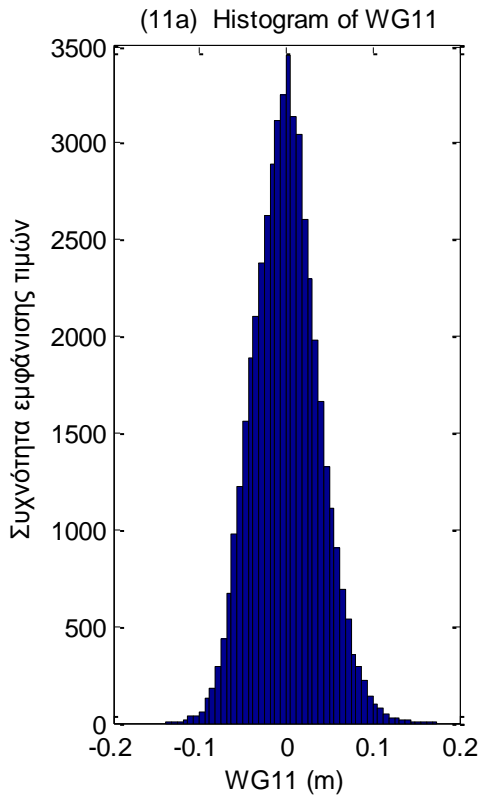


(10a) Histogram of WG10

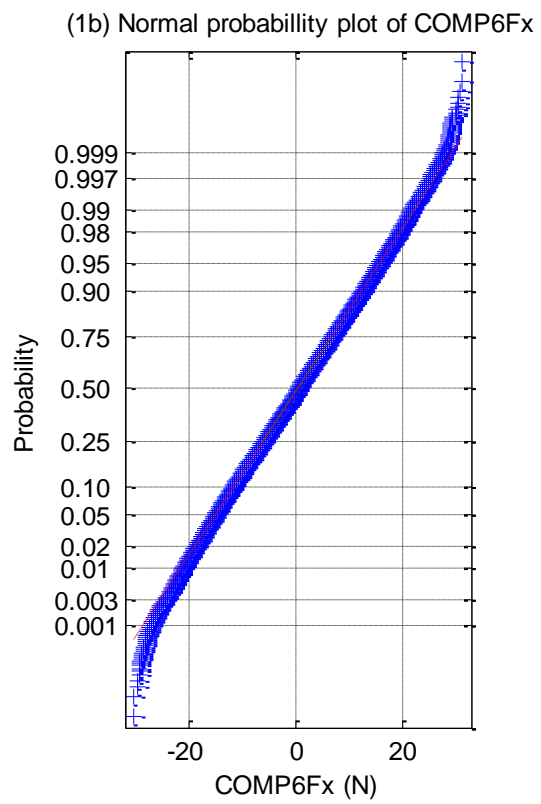
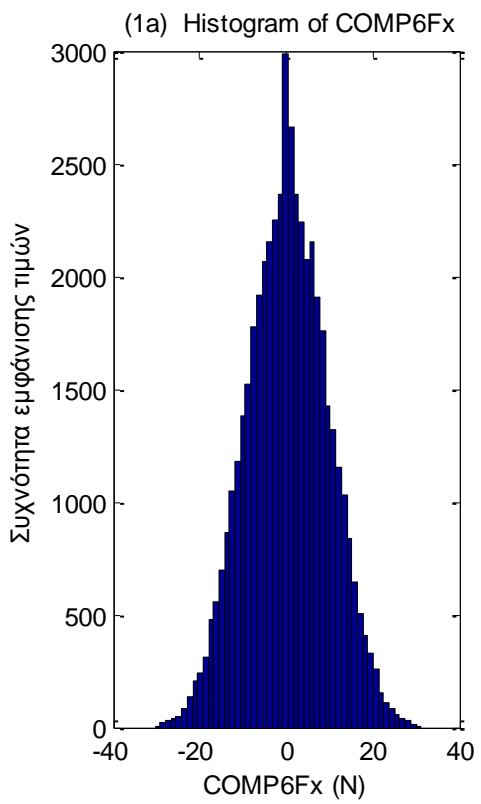


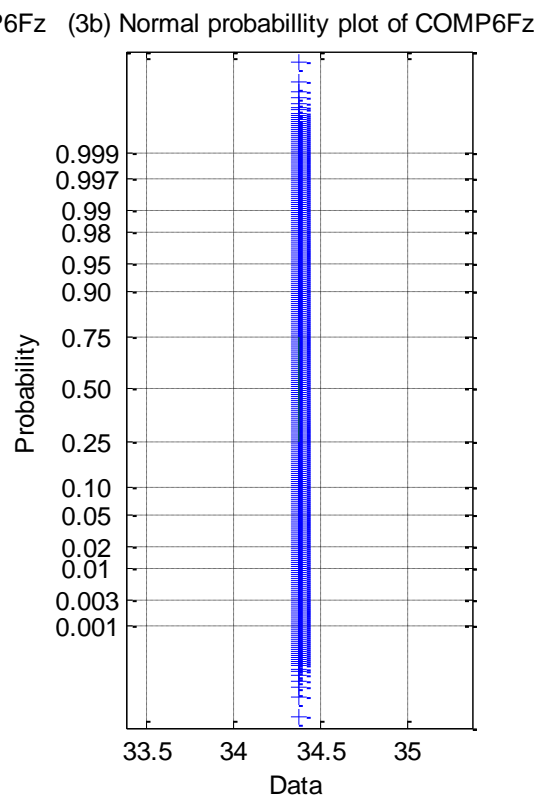
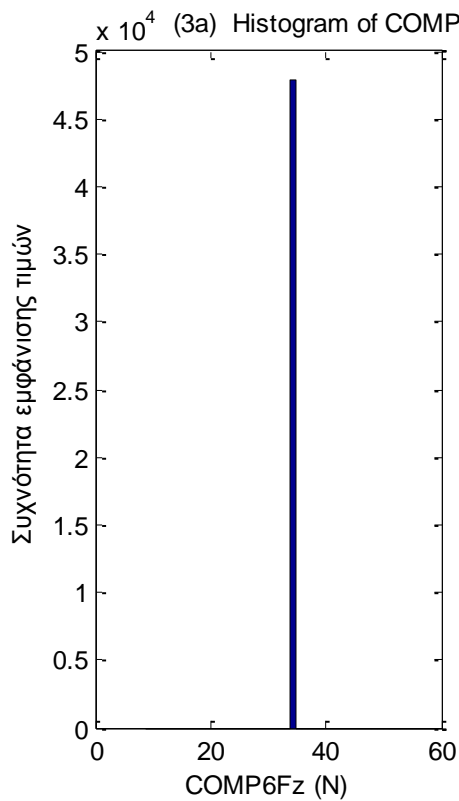
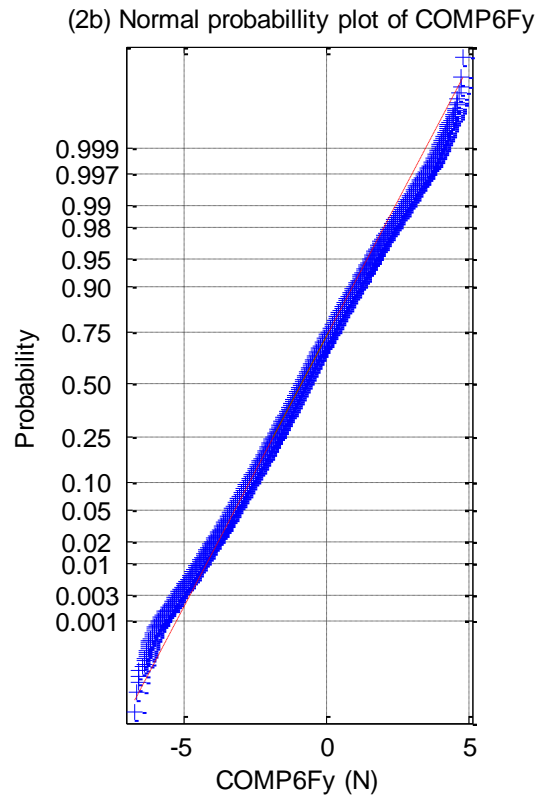
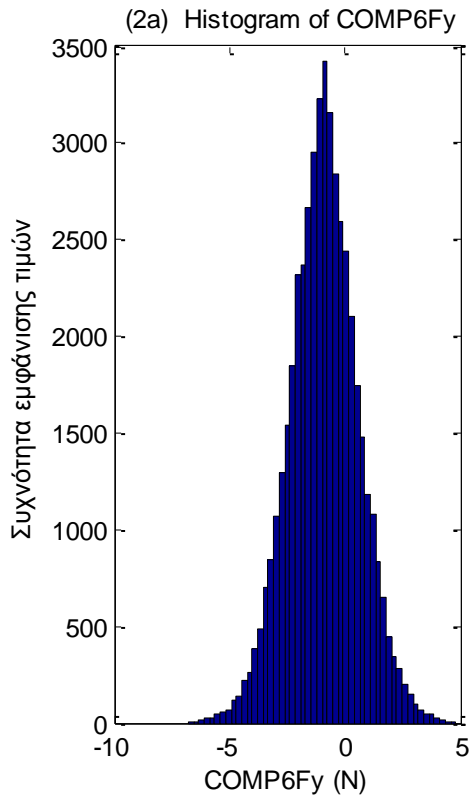
(10b) Normal probability plot of WG10

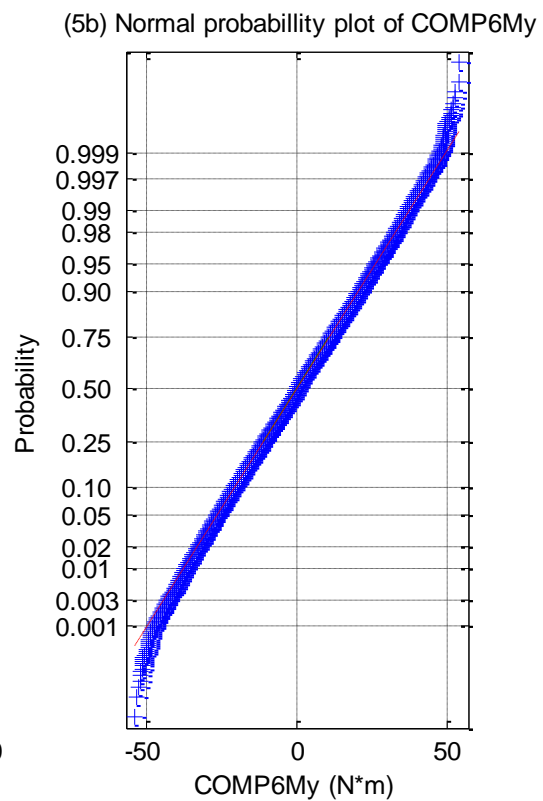
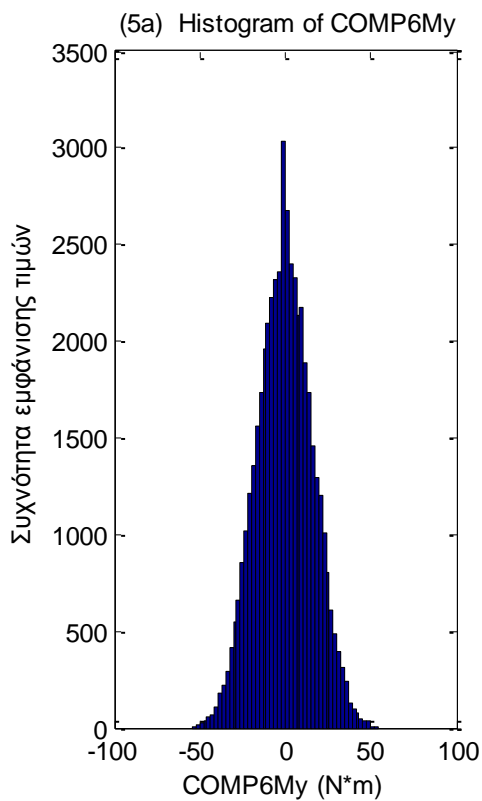
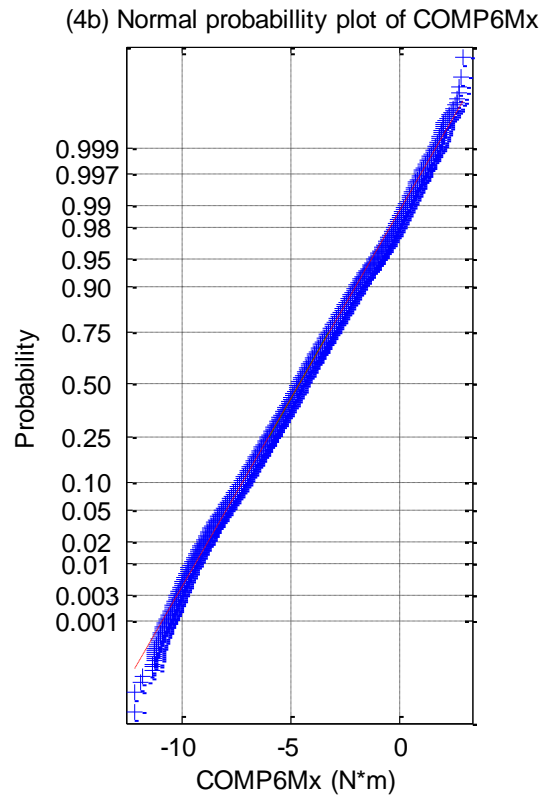
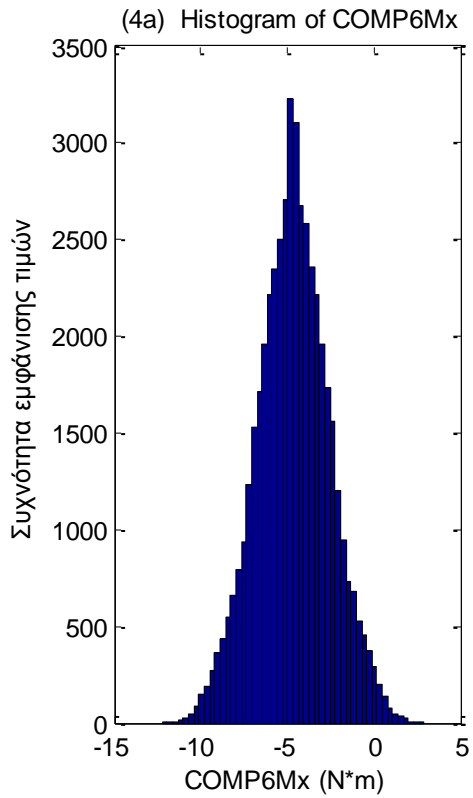


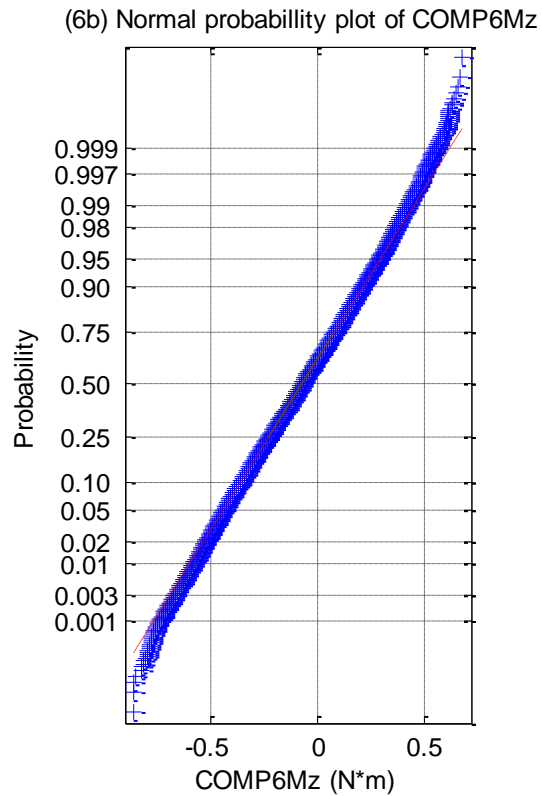
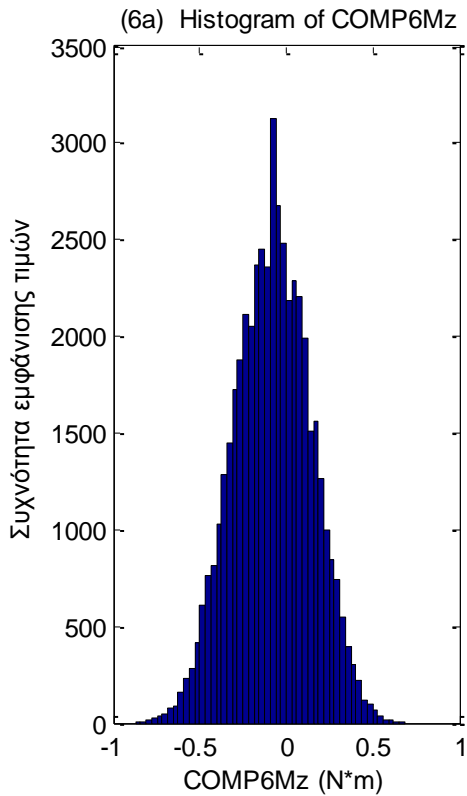


Σχήματα 1.4.2.1 (1-11) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

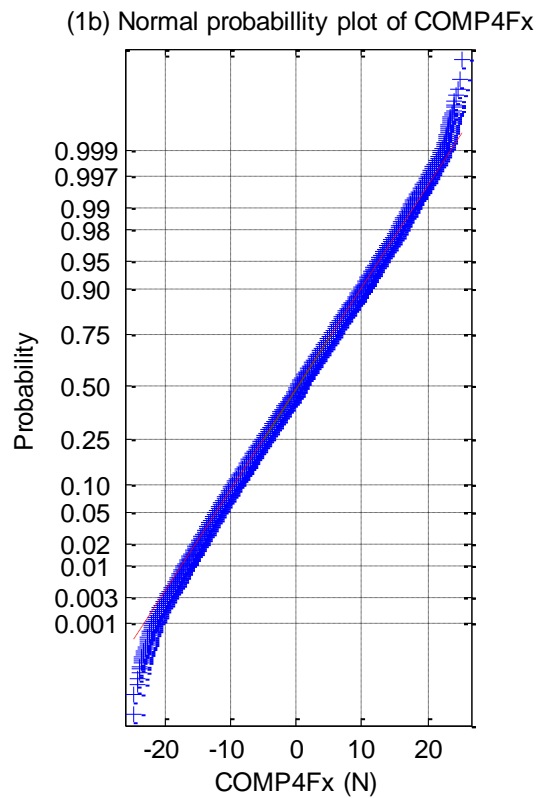
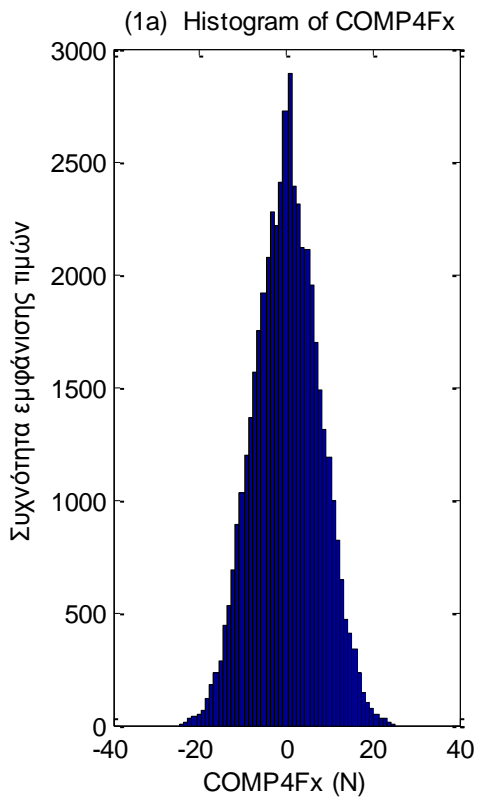


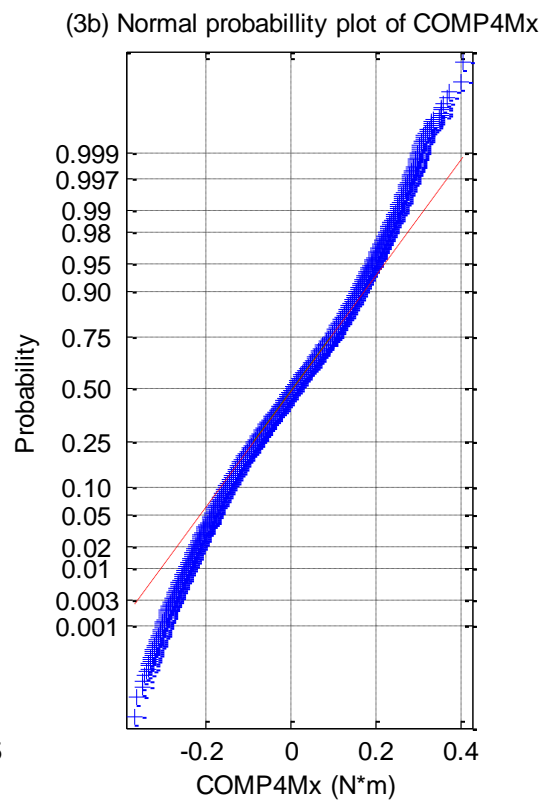
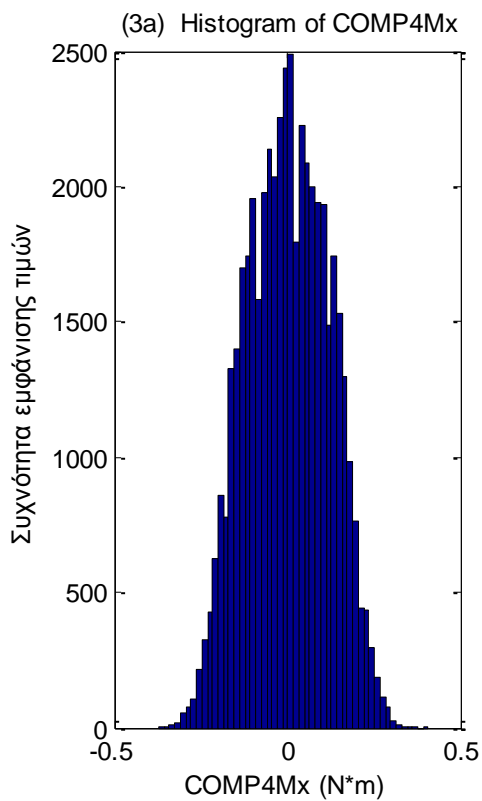
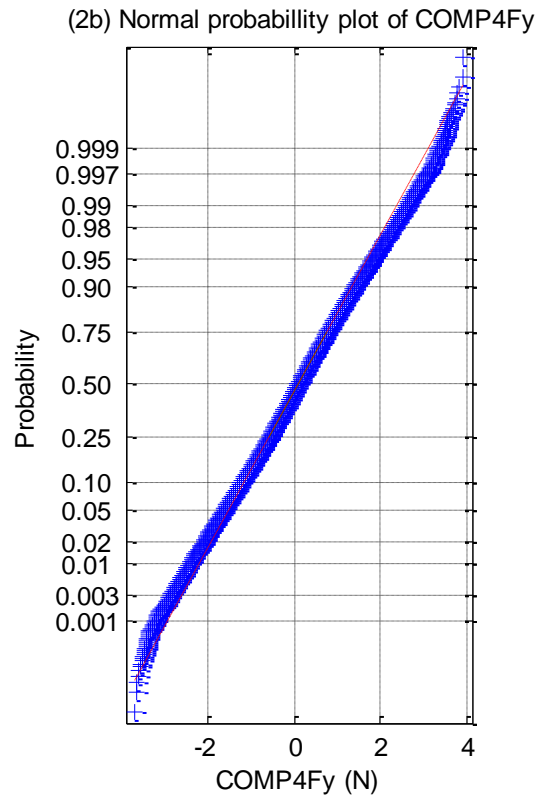
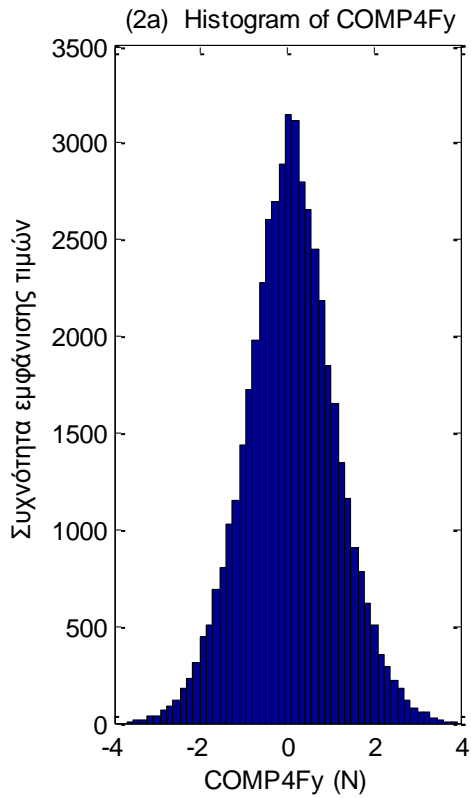


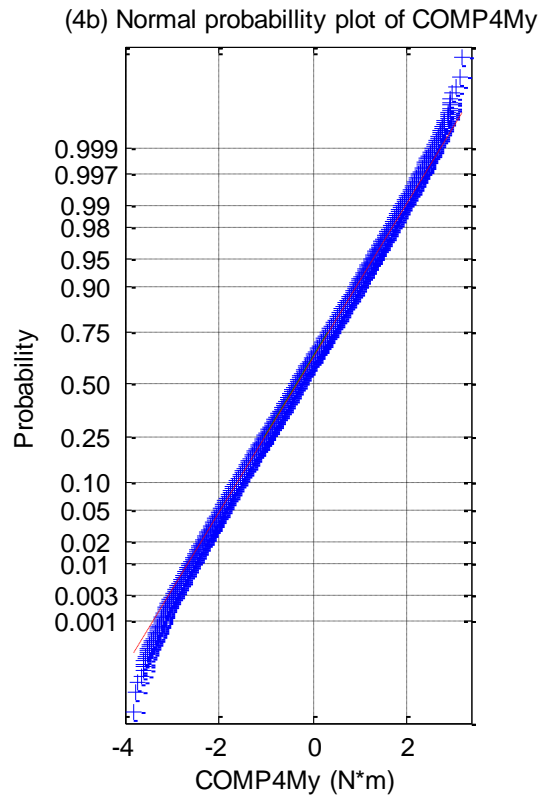
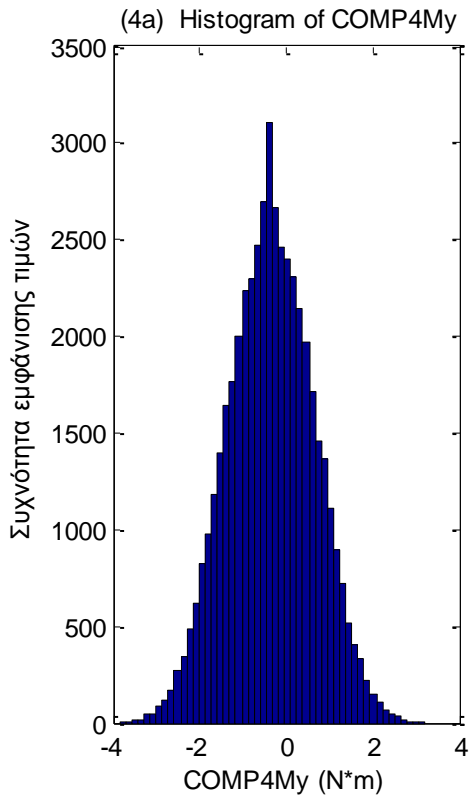




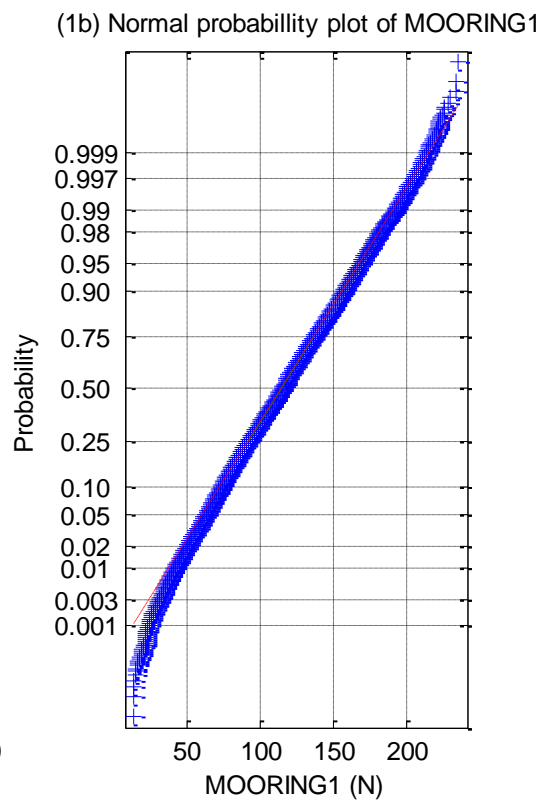
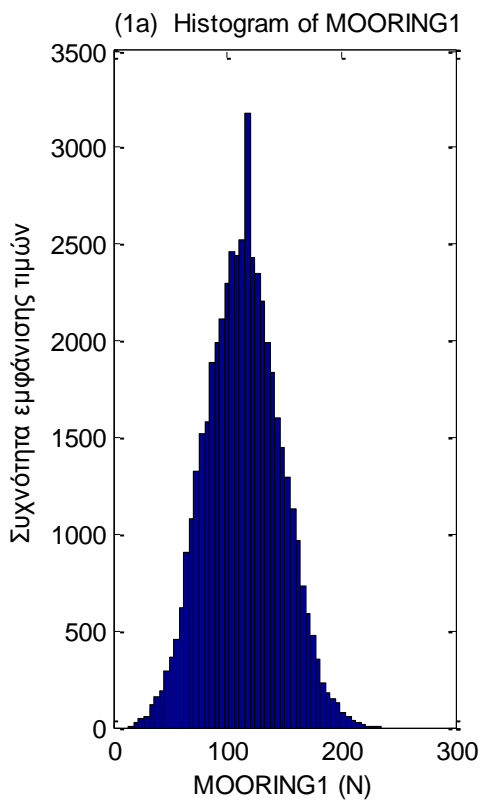
Σχήματα 1.4.2.2 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



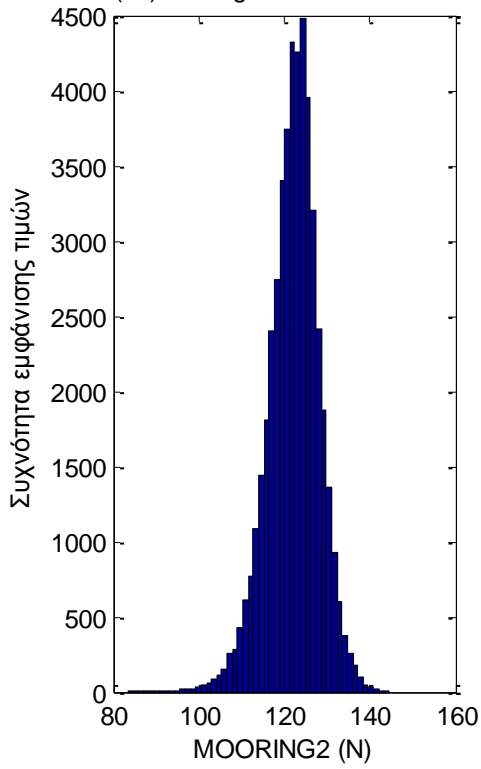




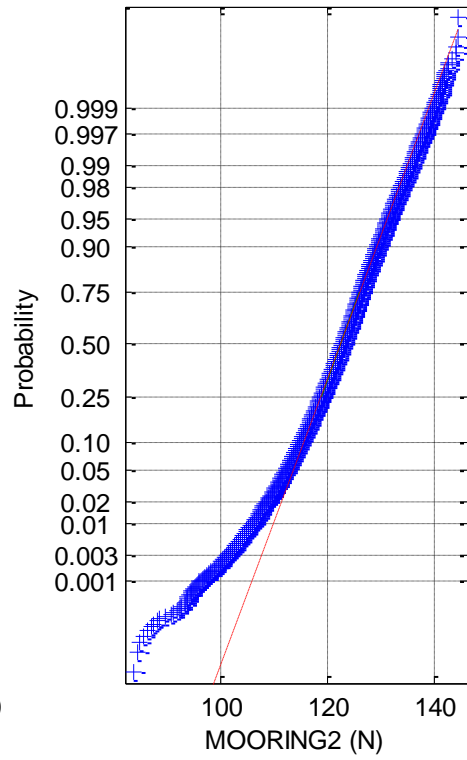
Σχήματα 1.4.2.3 α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



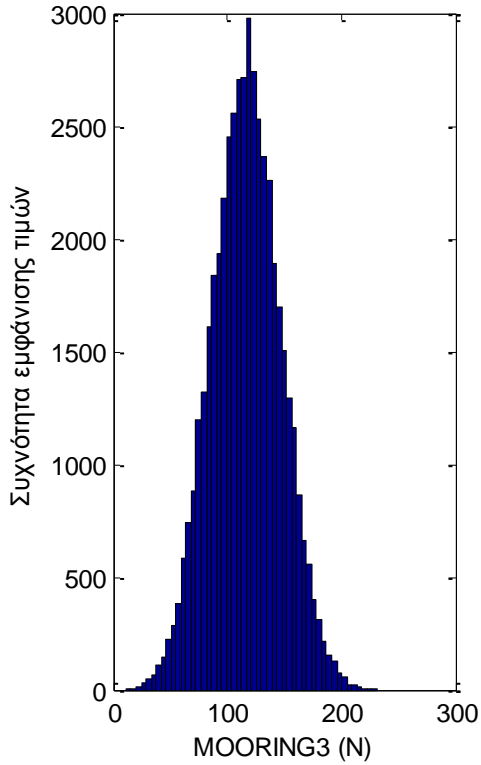
(2a) Histogram of MOORING2



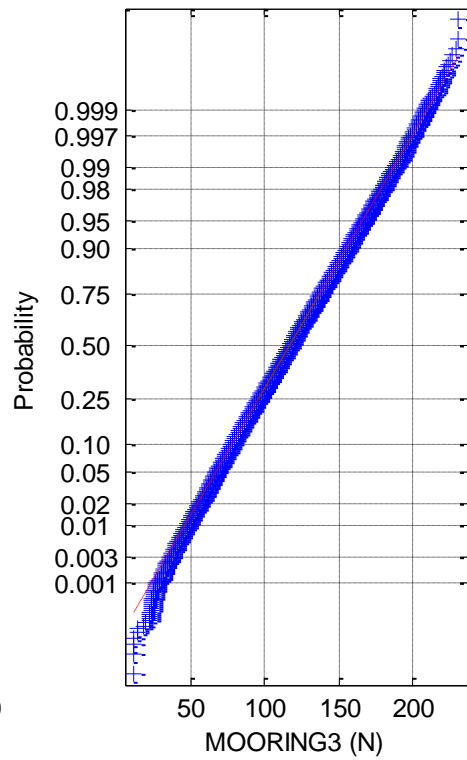
(2b) Normal probability plot of MOORING2

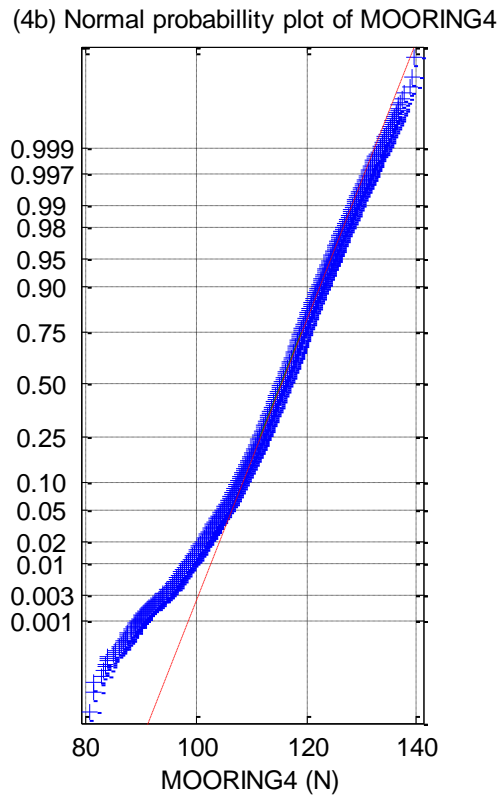
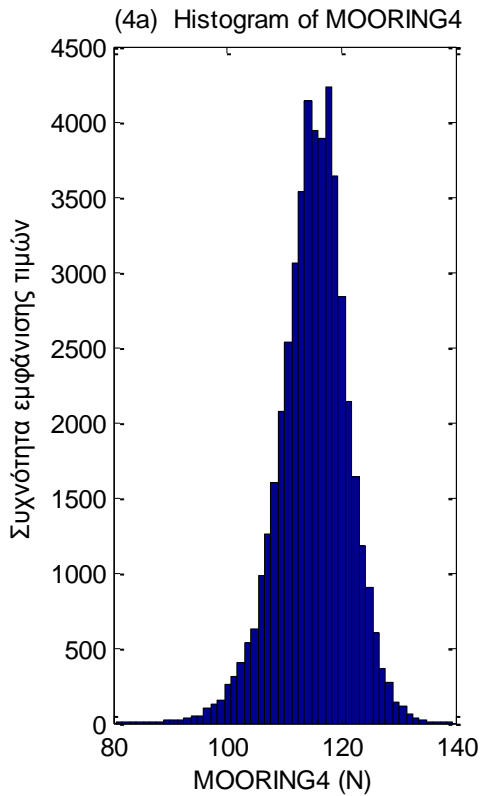


(3a) Histogram of MOORING3

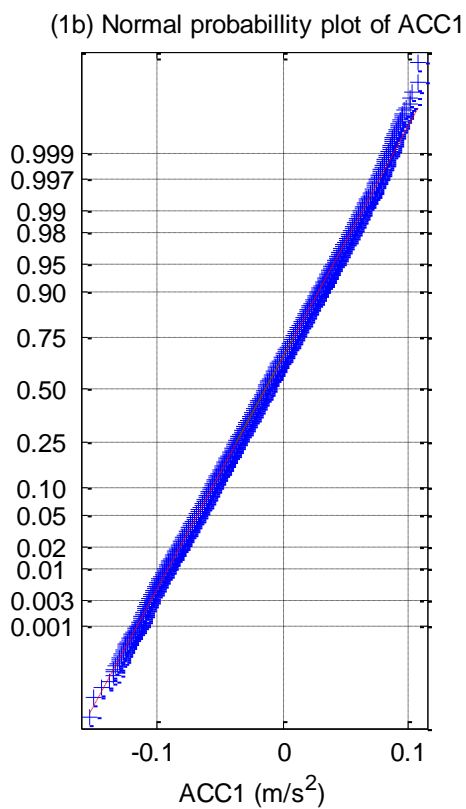
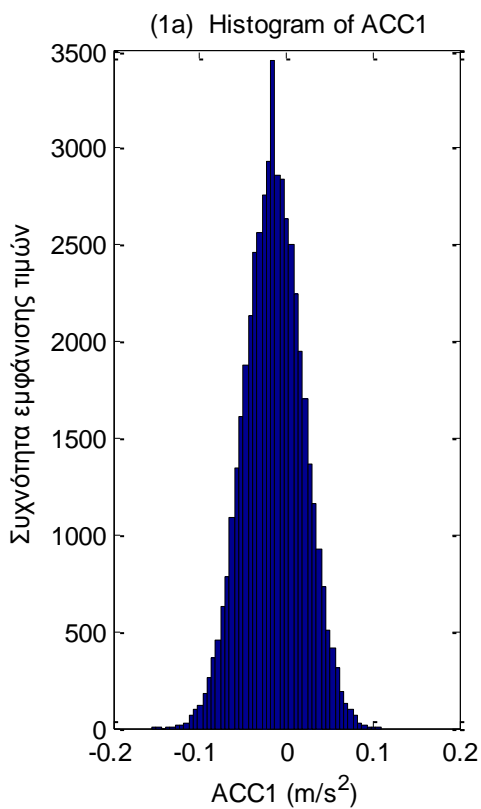


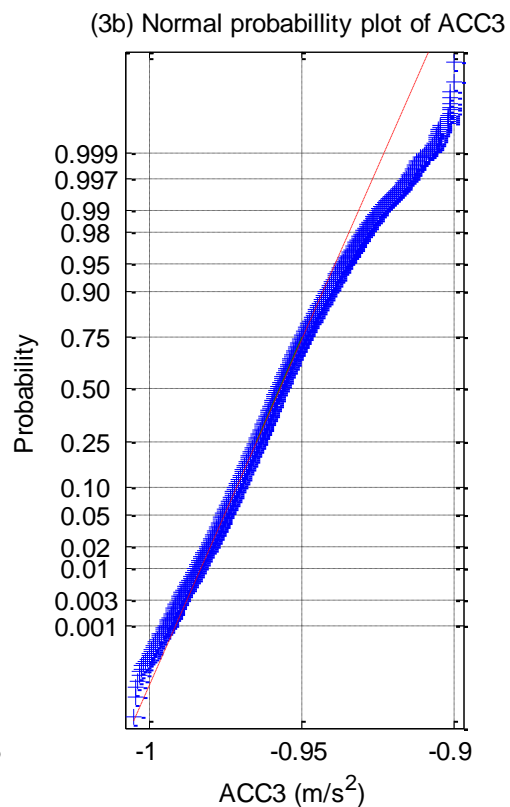
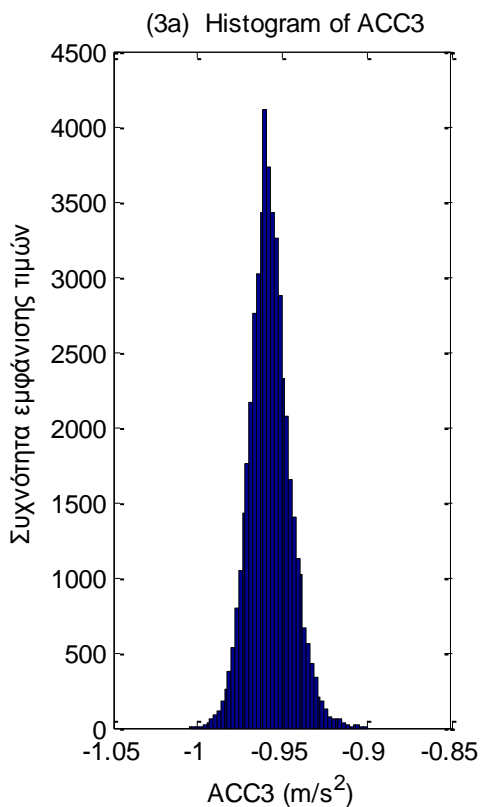
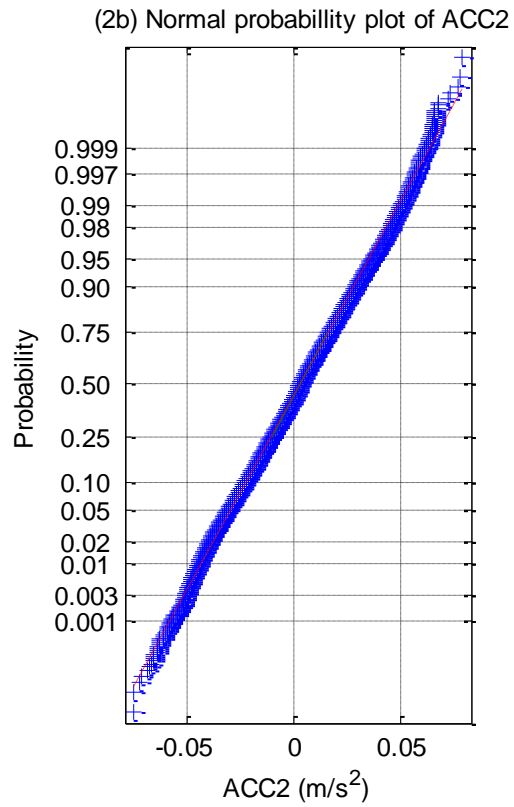
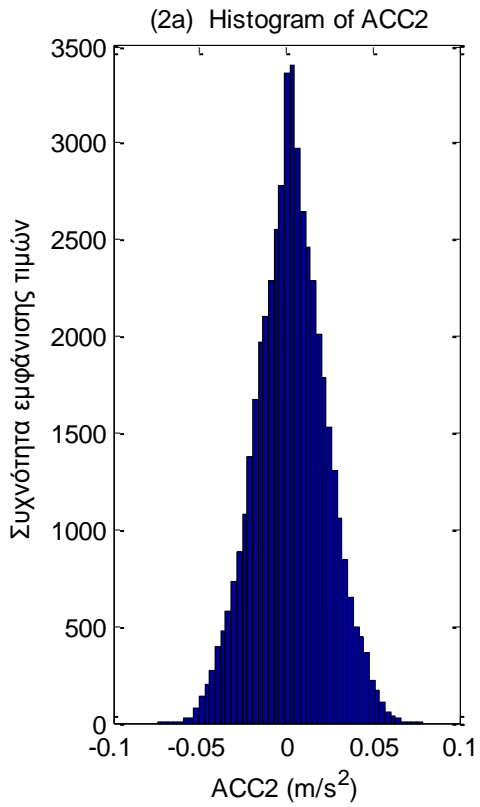
(3b) Normal probability plot of MOORING3



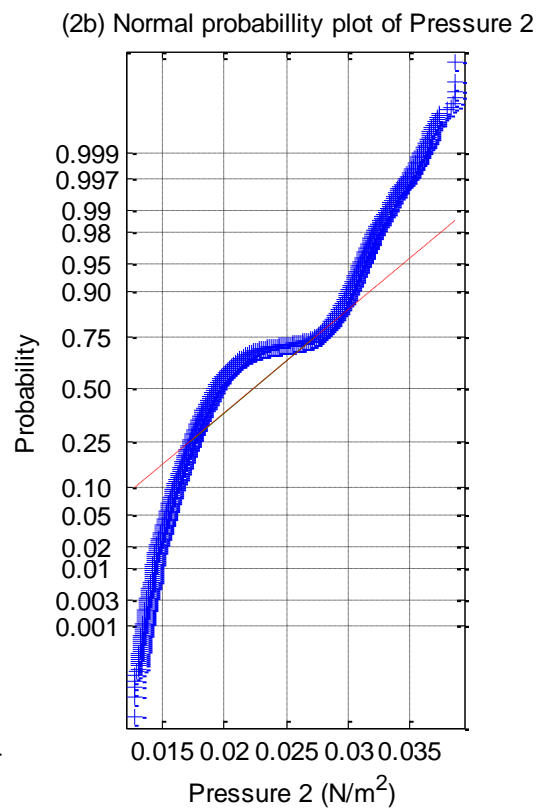
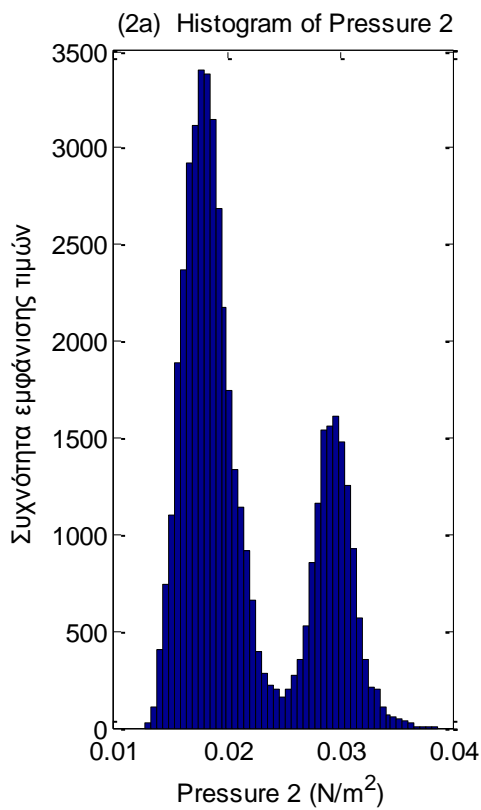
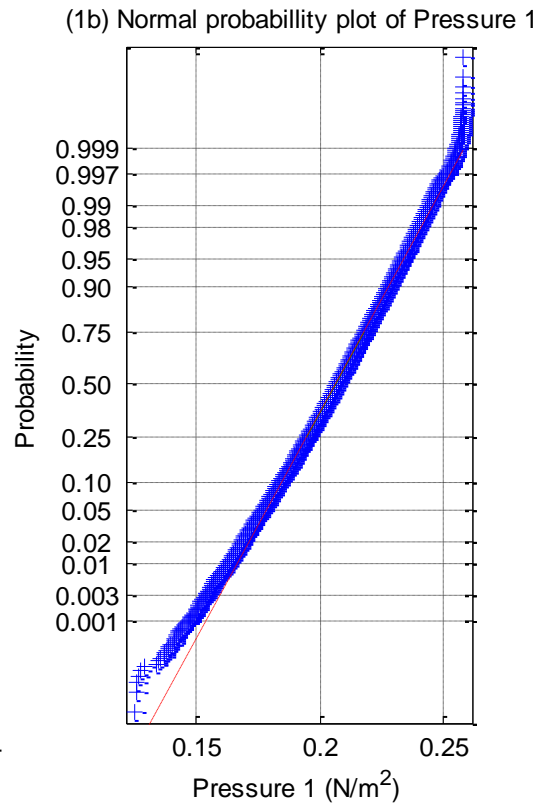
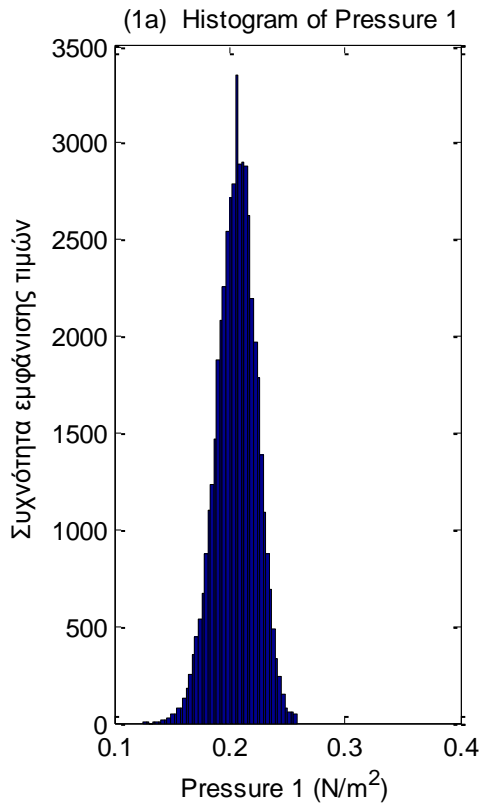


Σχήματα 1.4.2.4 (1-4) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης



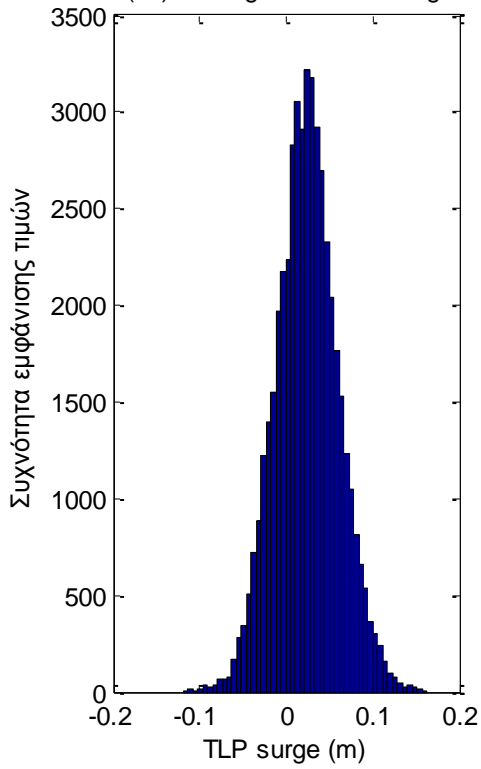


Σχήματα 1.4.2.5 (1-3) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

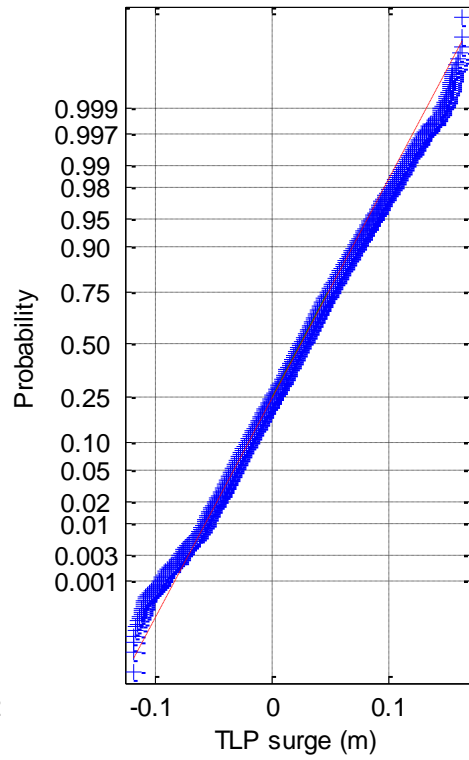


Σχήματα 1.4.2.6 (1-2) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα δυο όργανα μέτρησης της πίεσης

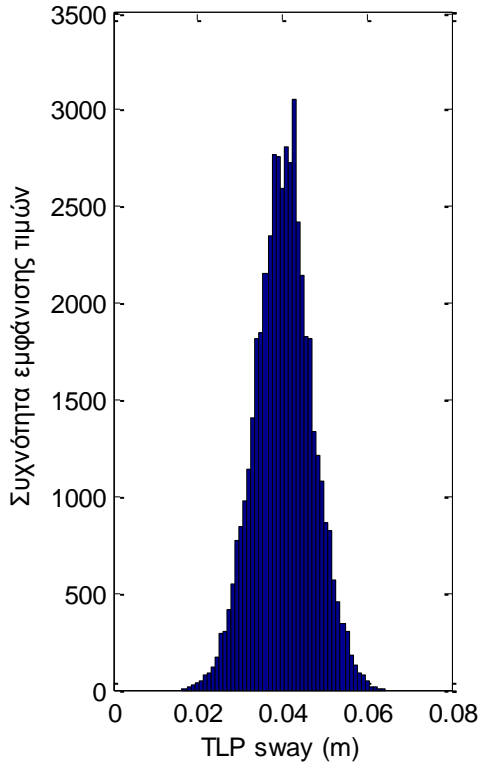
(1a) Histogram of TLP surge



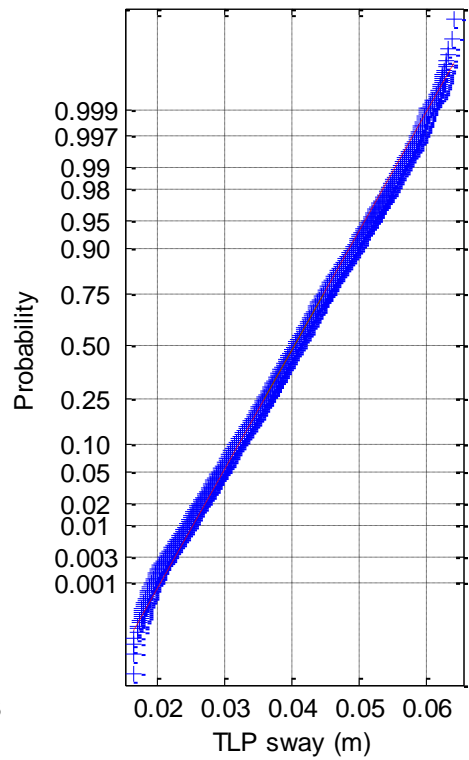
(1b) Normal probability plot of TLP surge

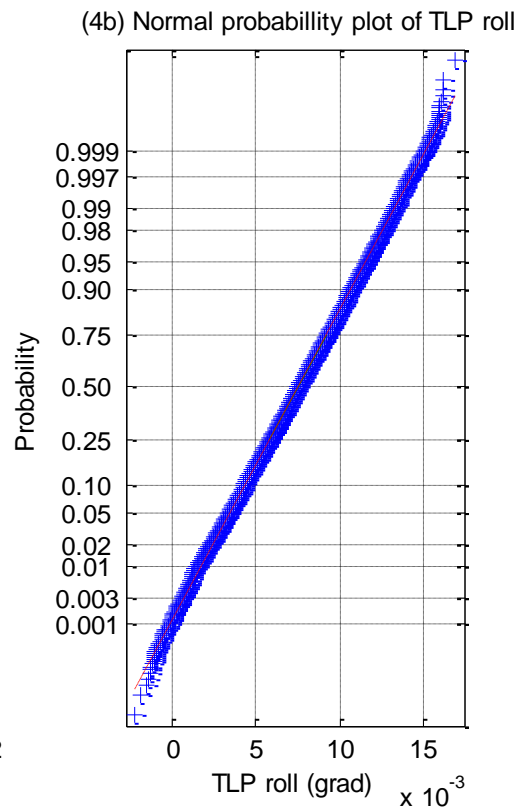
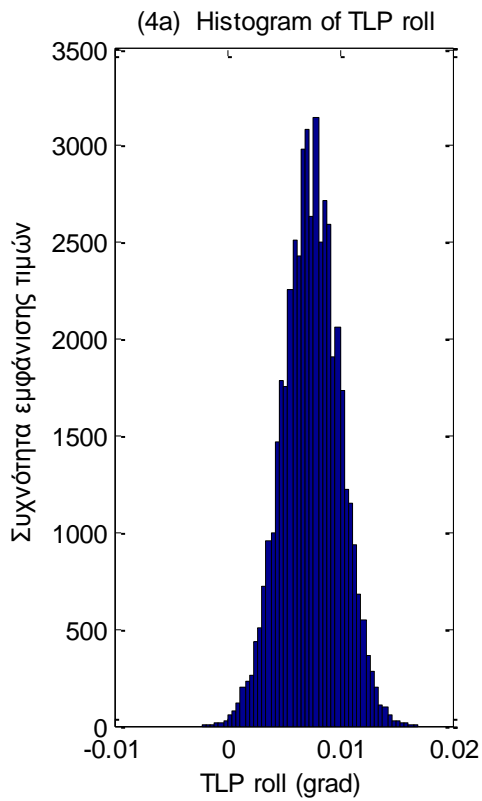
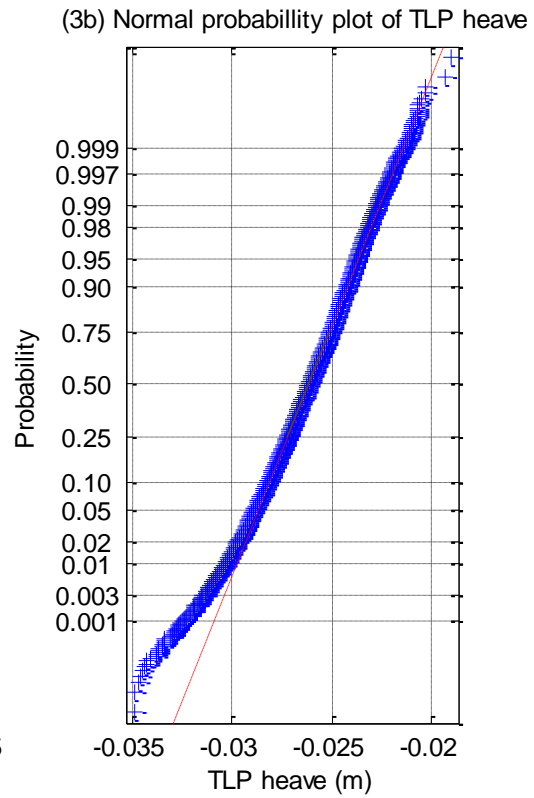
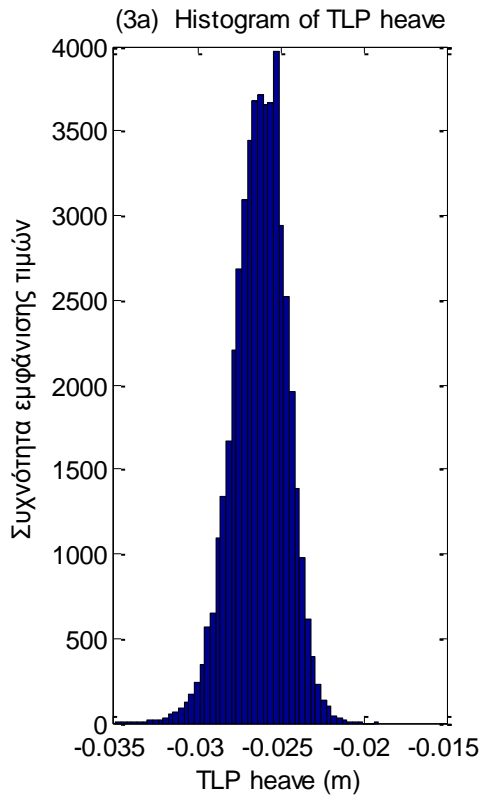


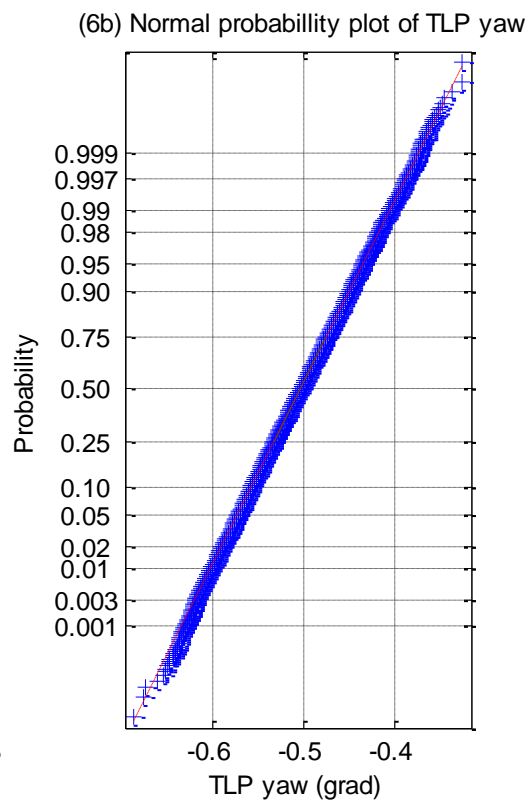
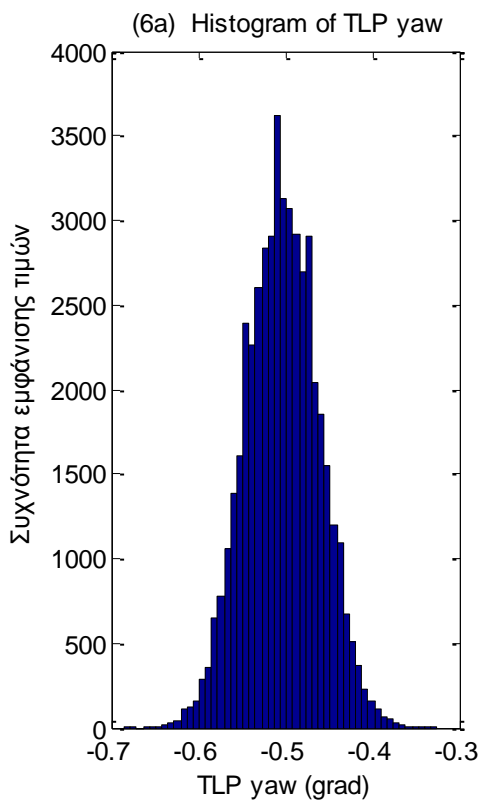
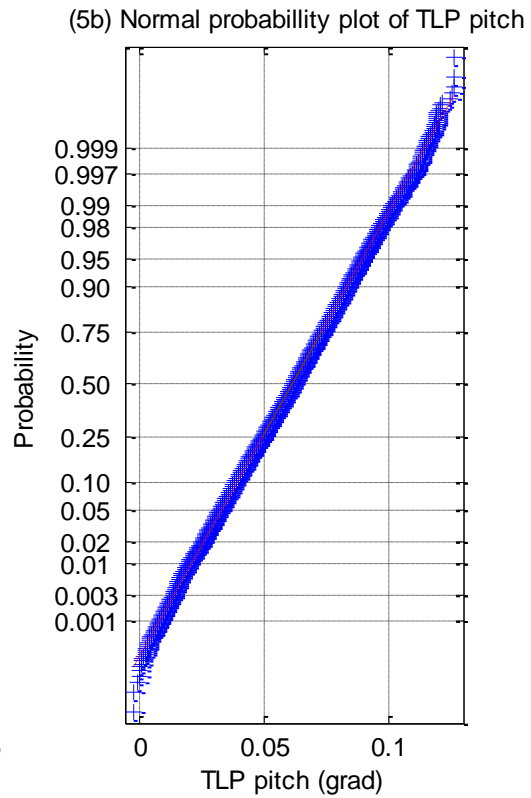
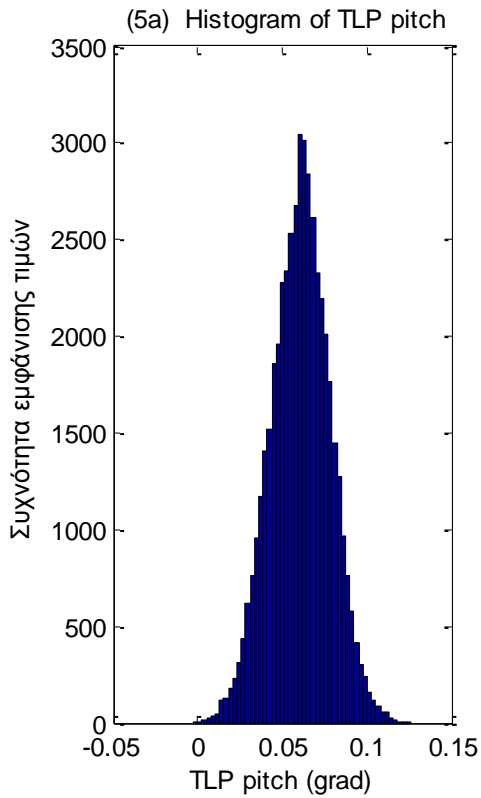
(2a) Histogram of TLP sway



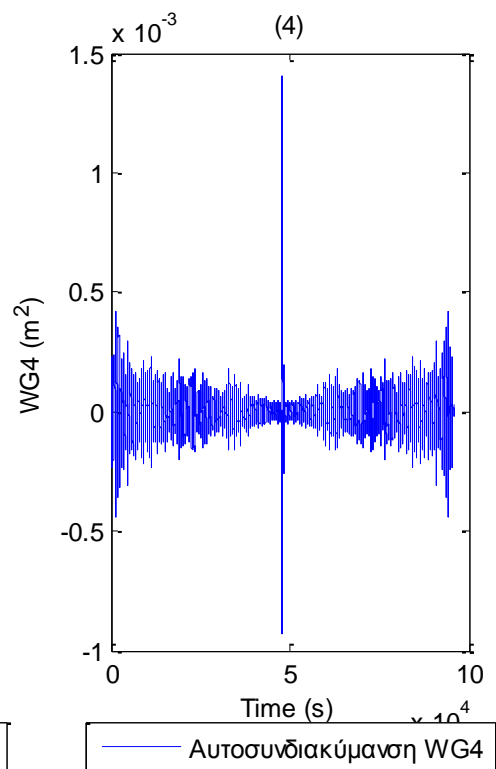
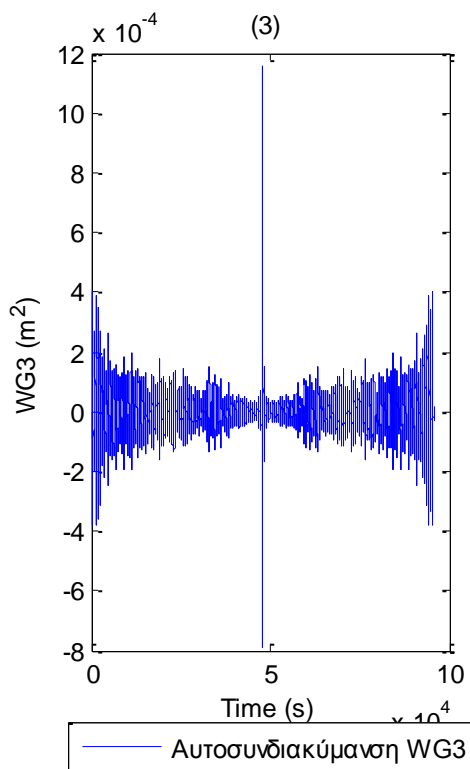
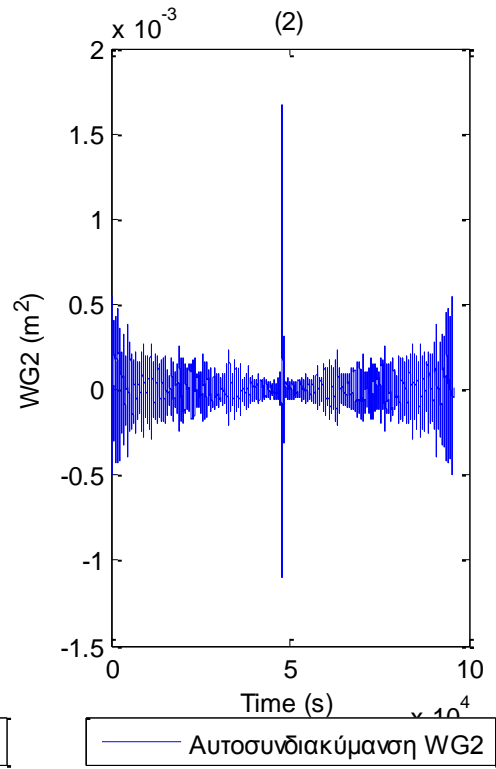
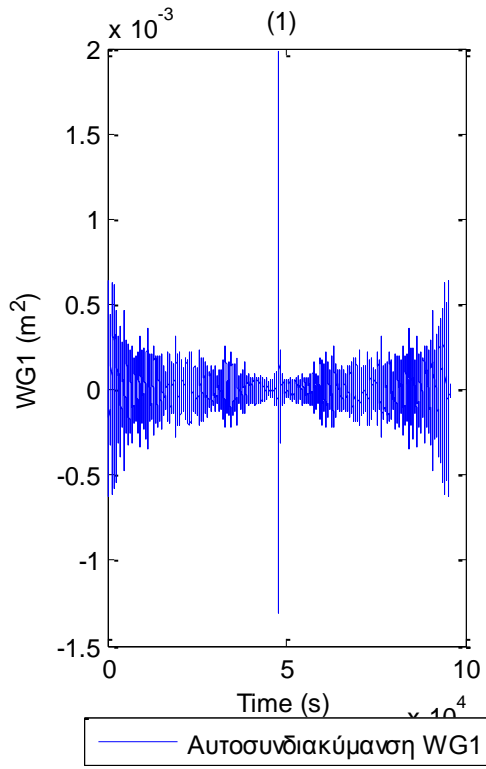
(2b) Normal probability plot of TLP sway

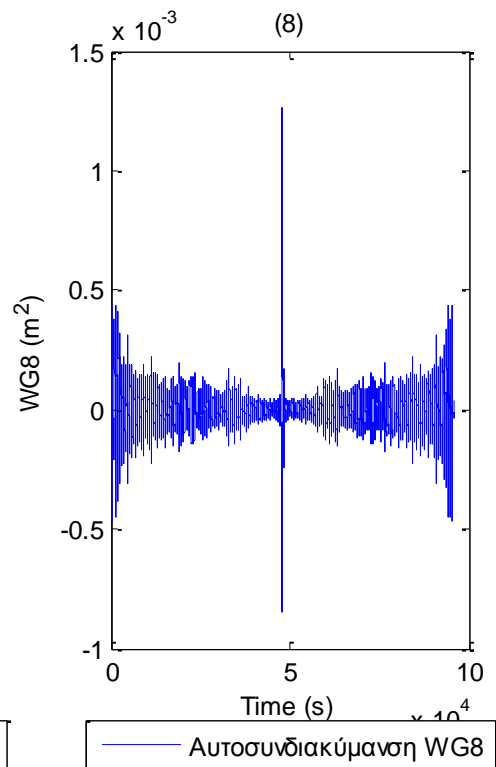
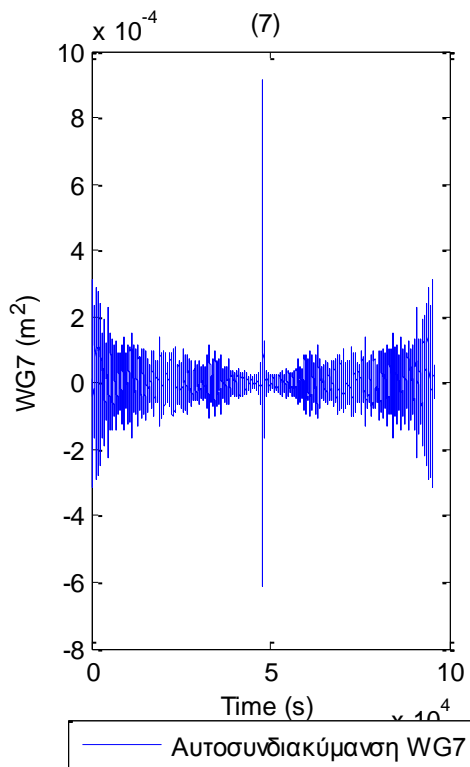
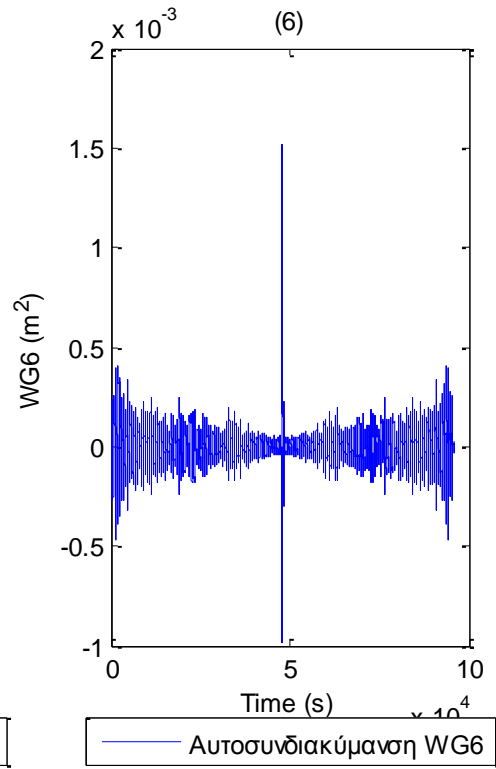
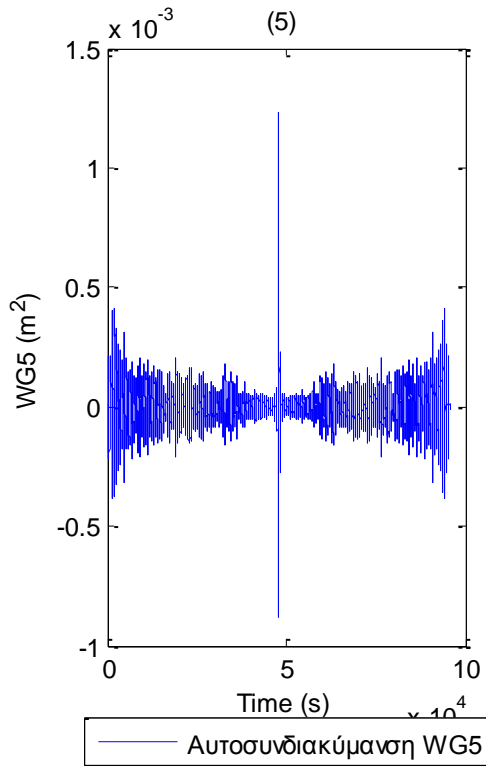


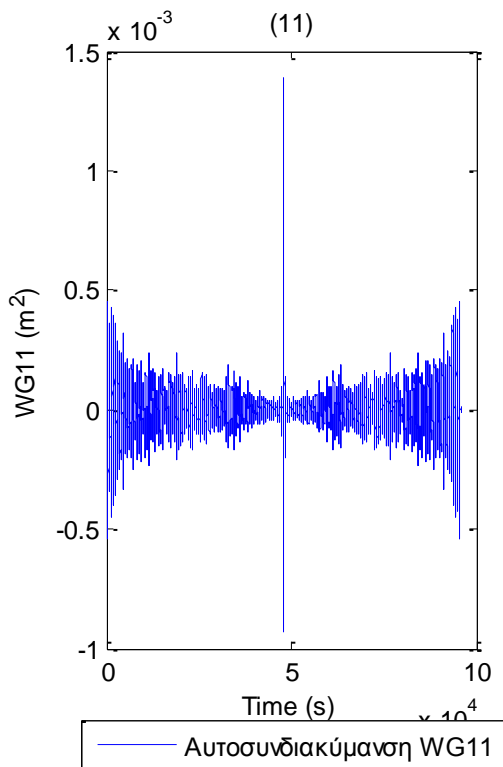
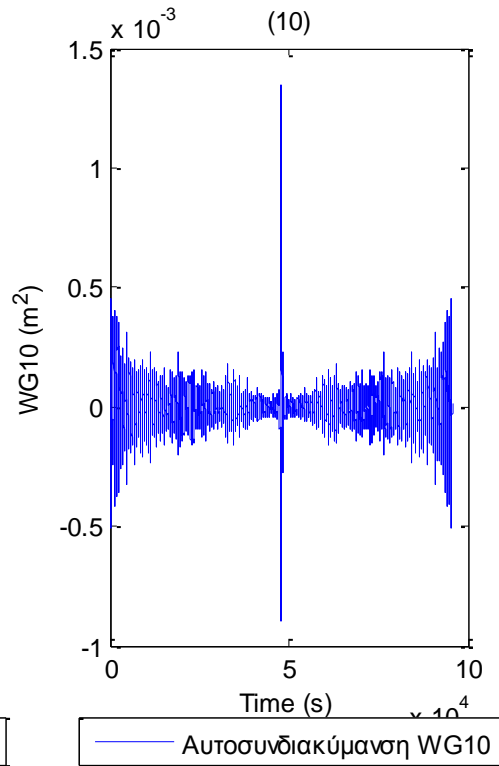
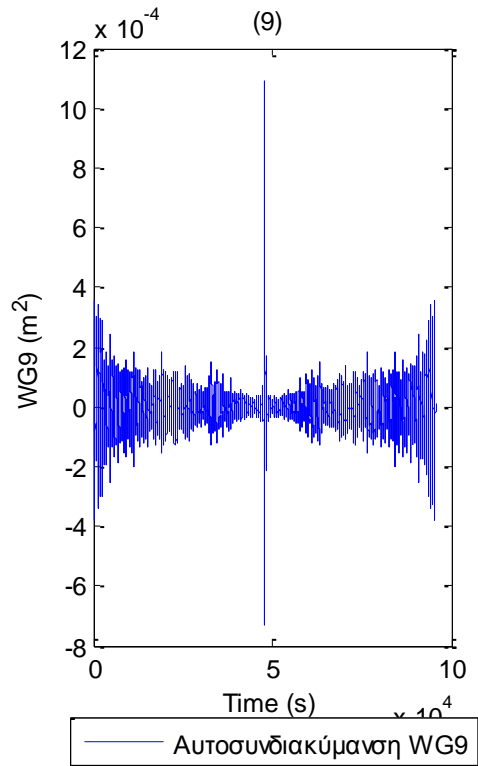




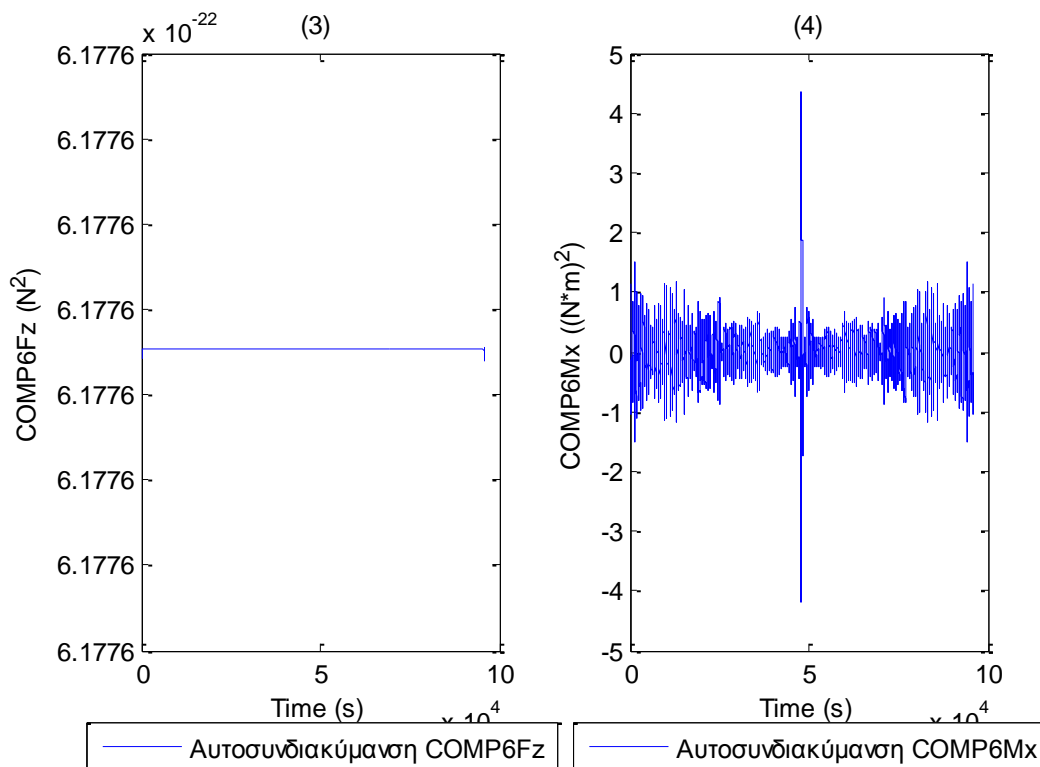
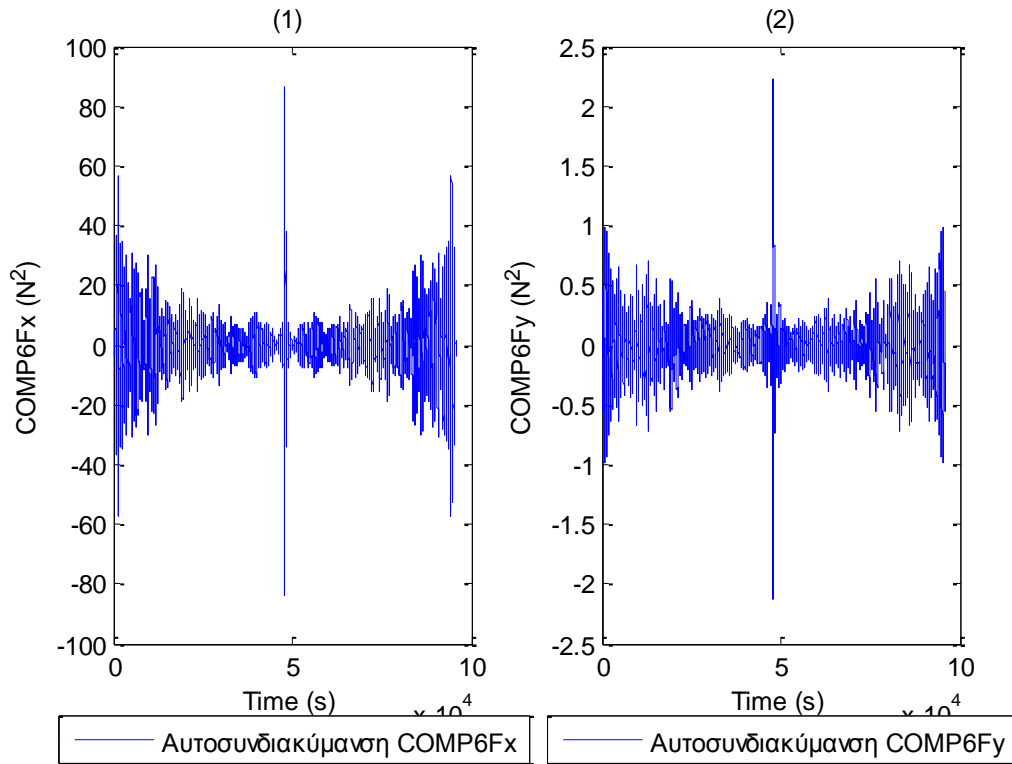
Σχήματα 1.4.2.7 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

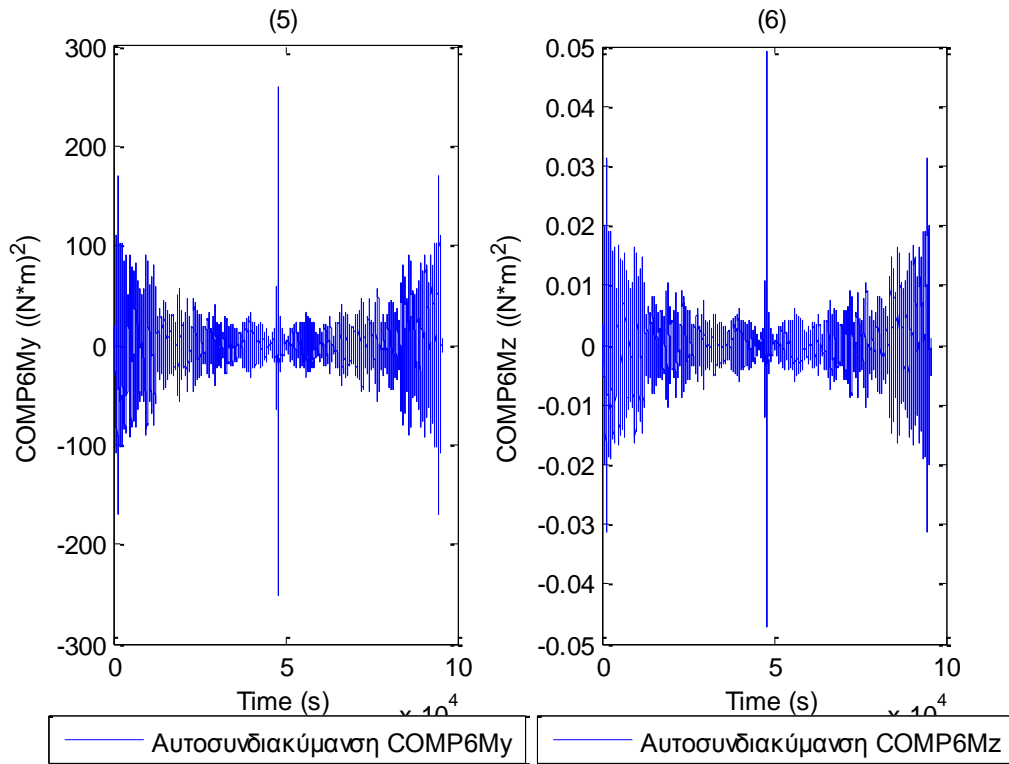




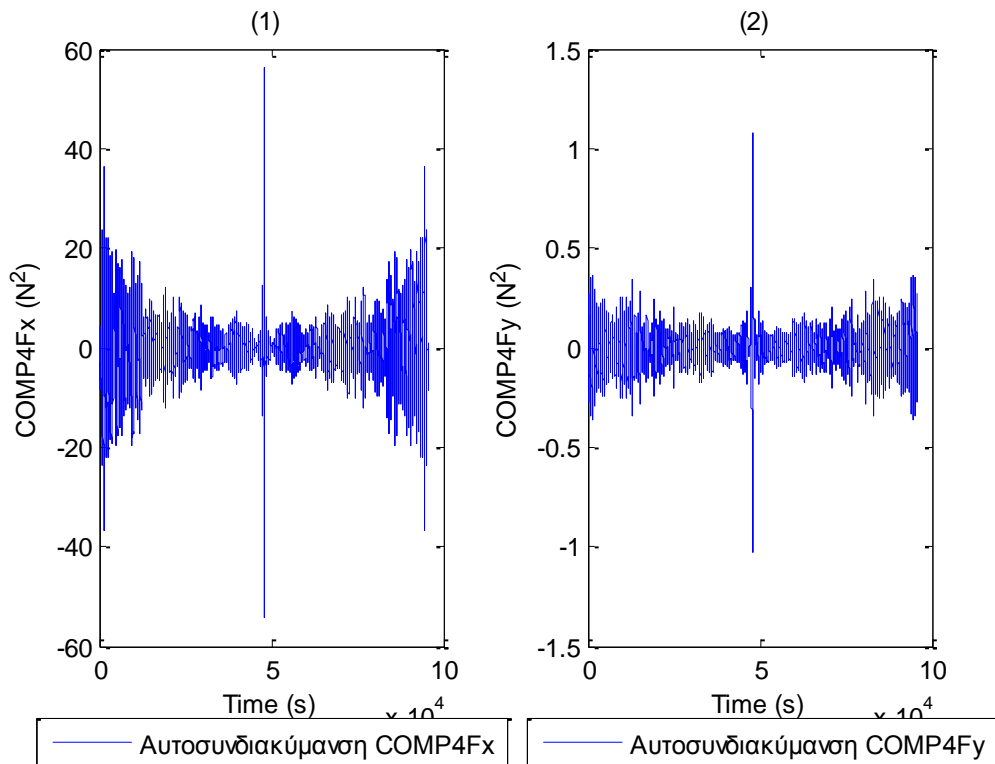


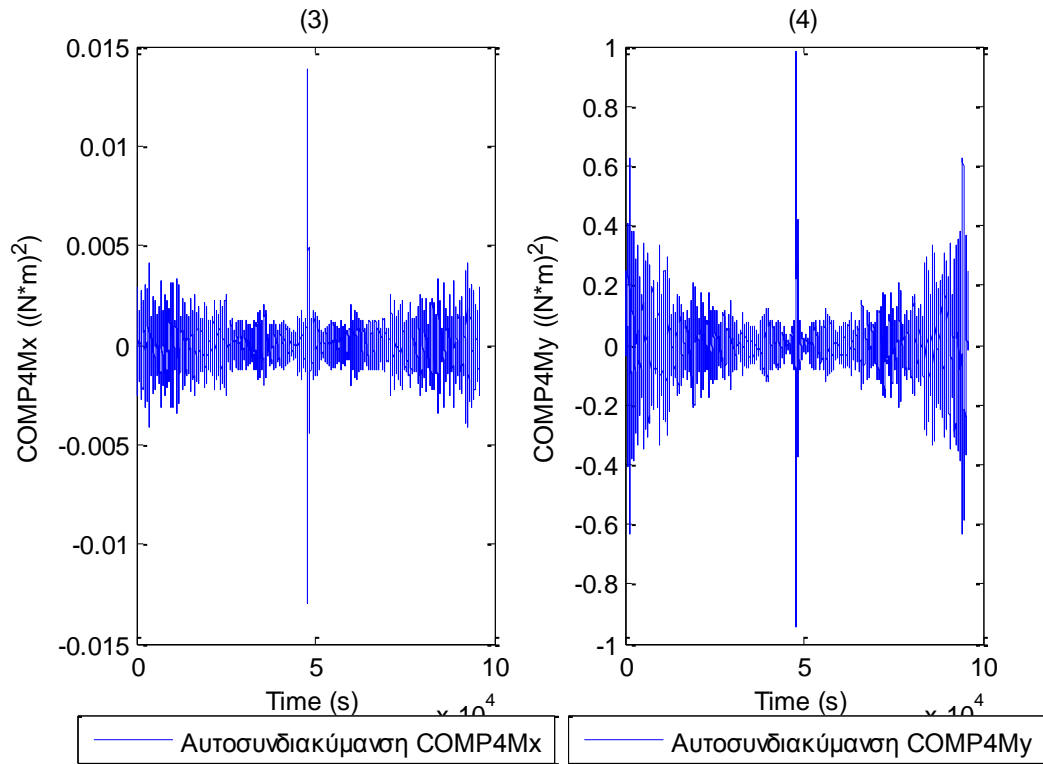
Σχήματα 1.4.3.1 (1-11) Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



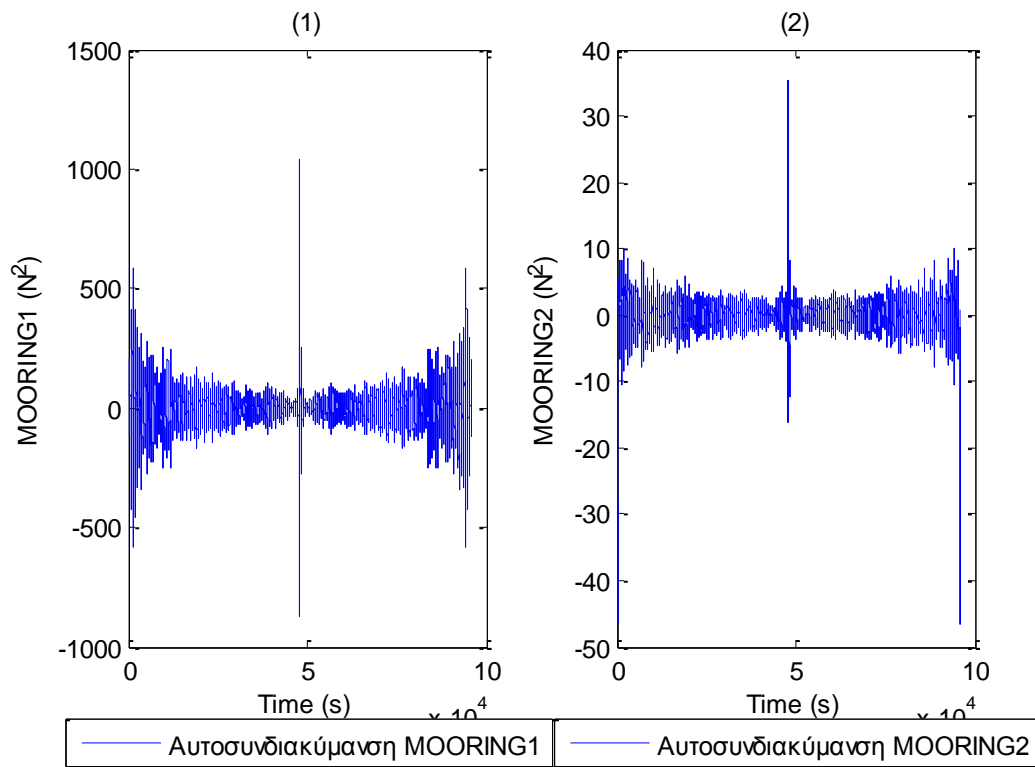


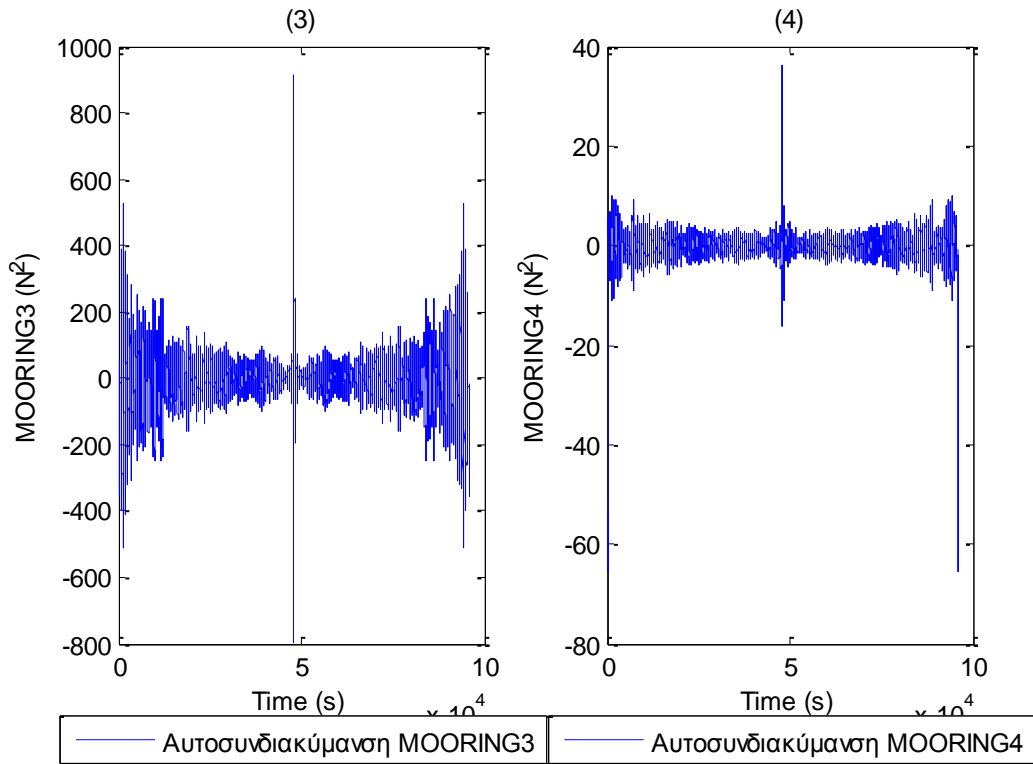
Σχήματα 1.4.3.2 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



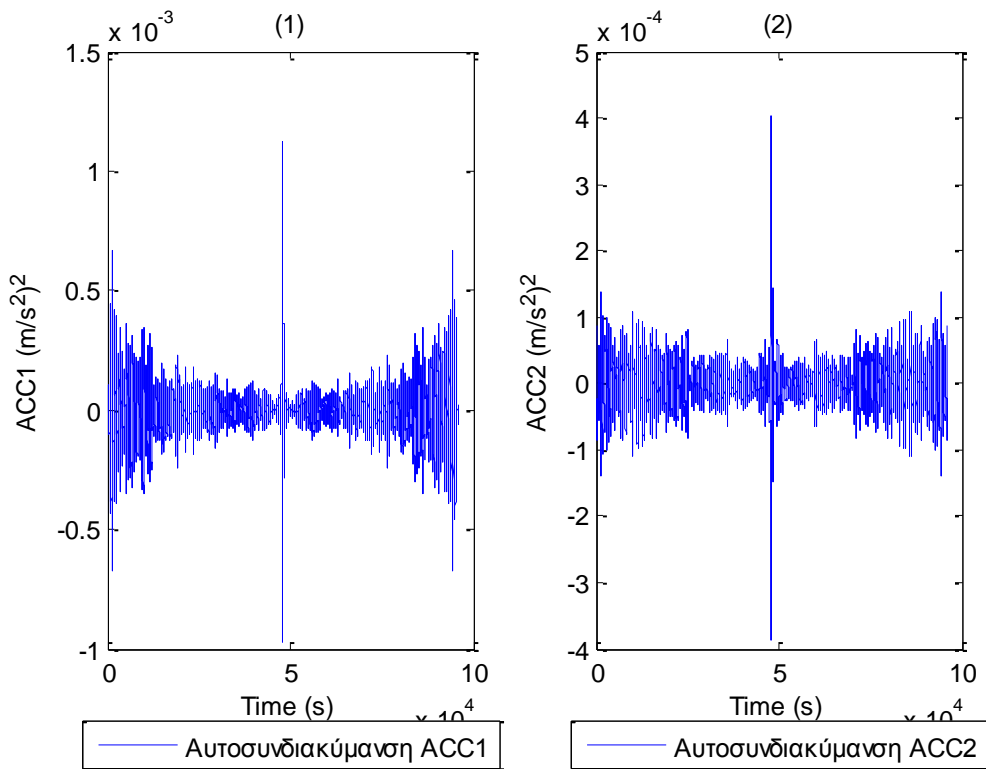


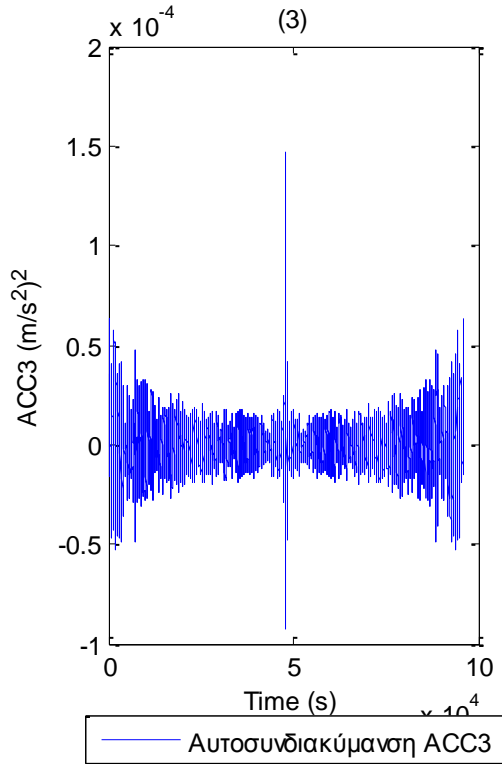
Σχήματα 1.4.3.3 Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



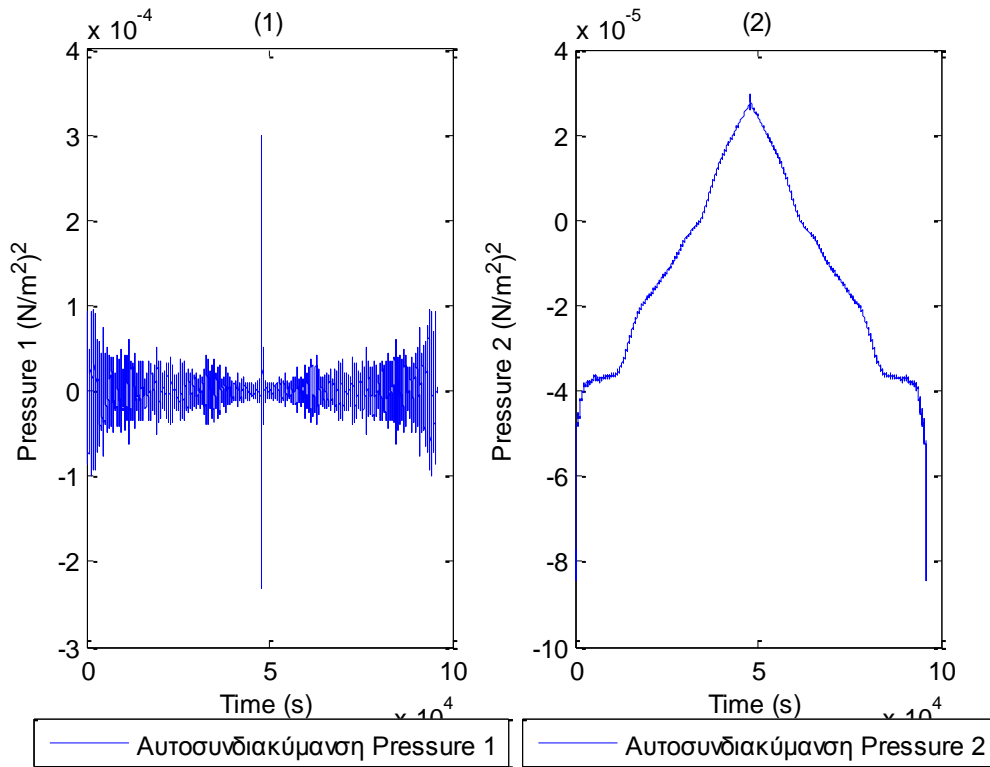


Σχήματα 1.4.3.4 (1-4) Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

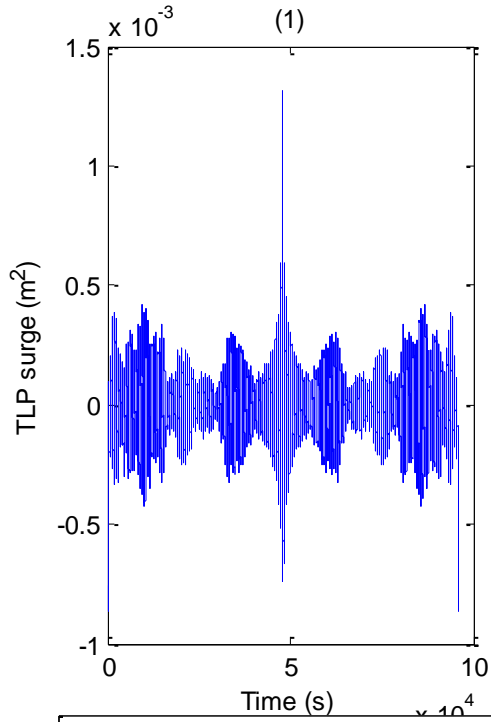




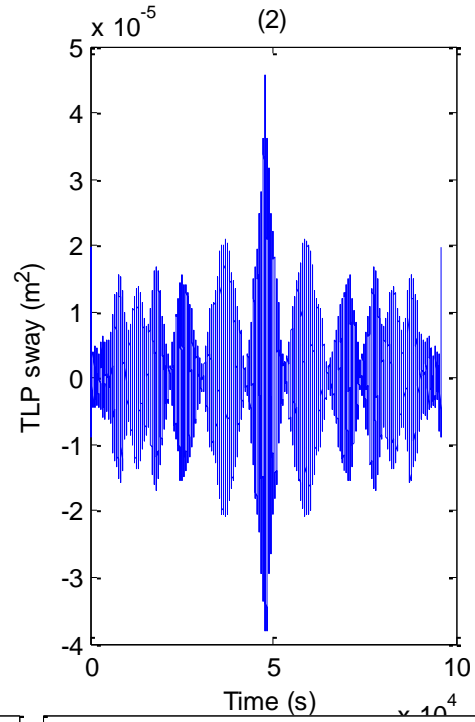
Σχήματα 1.4.3.5 (1-3) Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



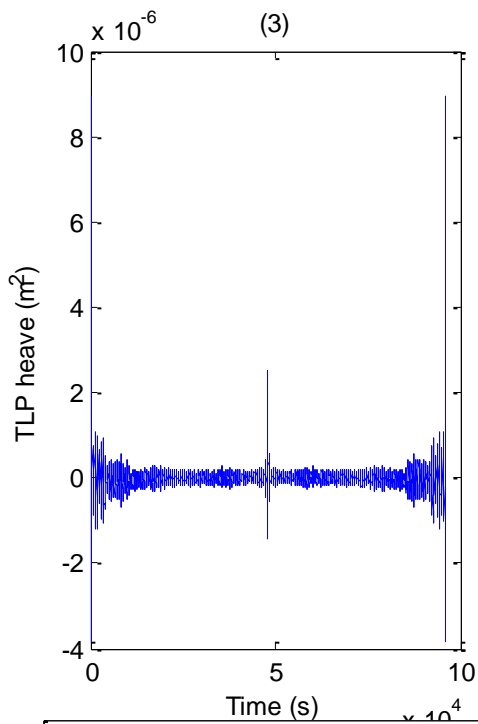
Σχήματα 1.4.3.6 (1-2) Συναρτήσεις Αυτοσυνδιακύμανσης για τα δυο όργανα μέτρησης της πίεσης



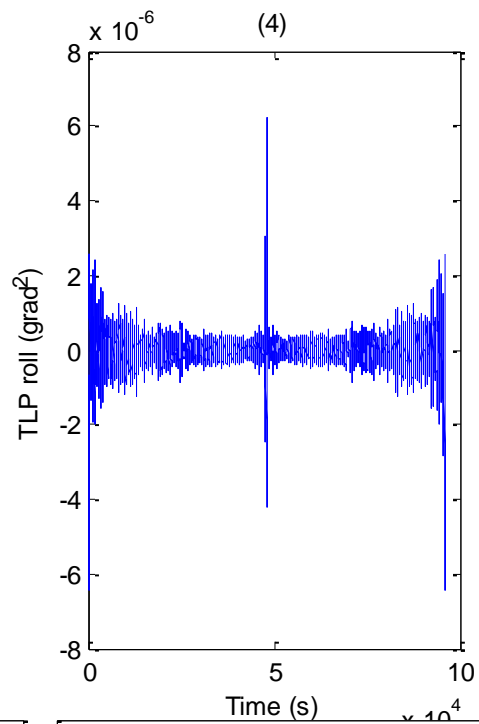
— Αυτοσυνδιακύμανση TLP surge



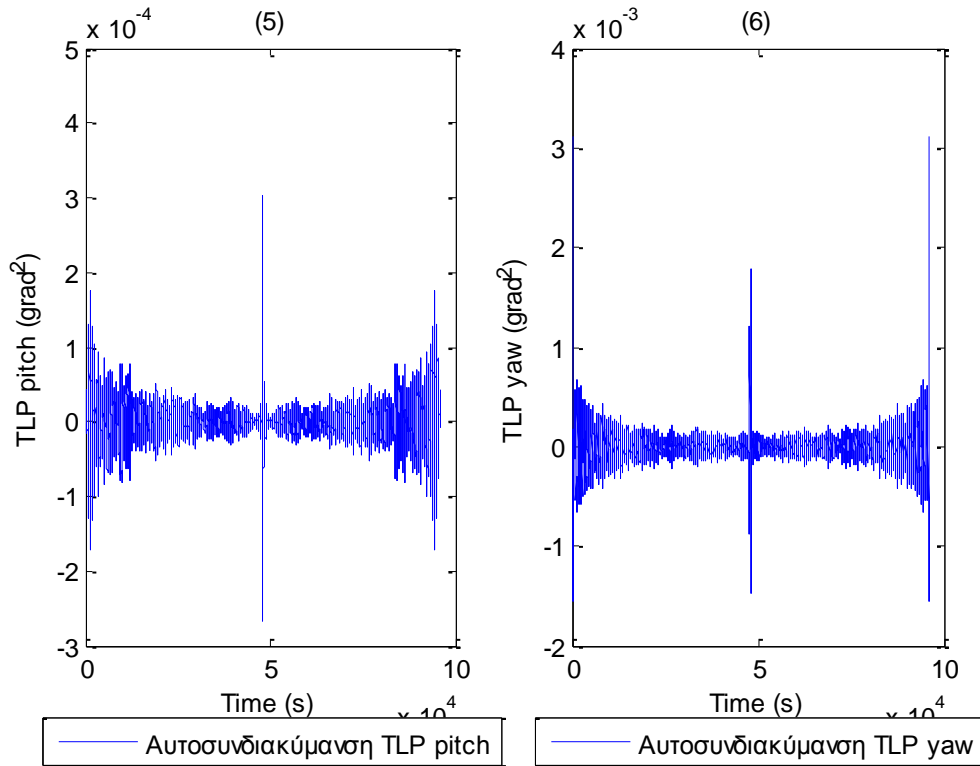
— Αυτοσυνδιακύμανση TLP sway



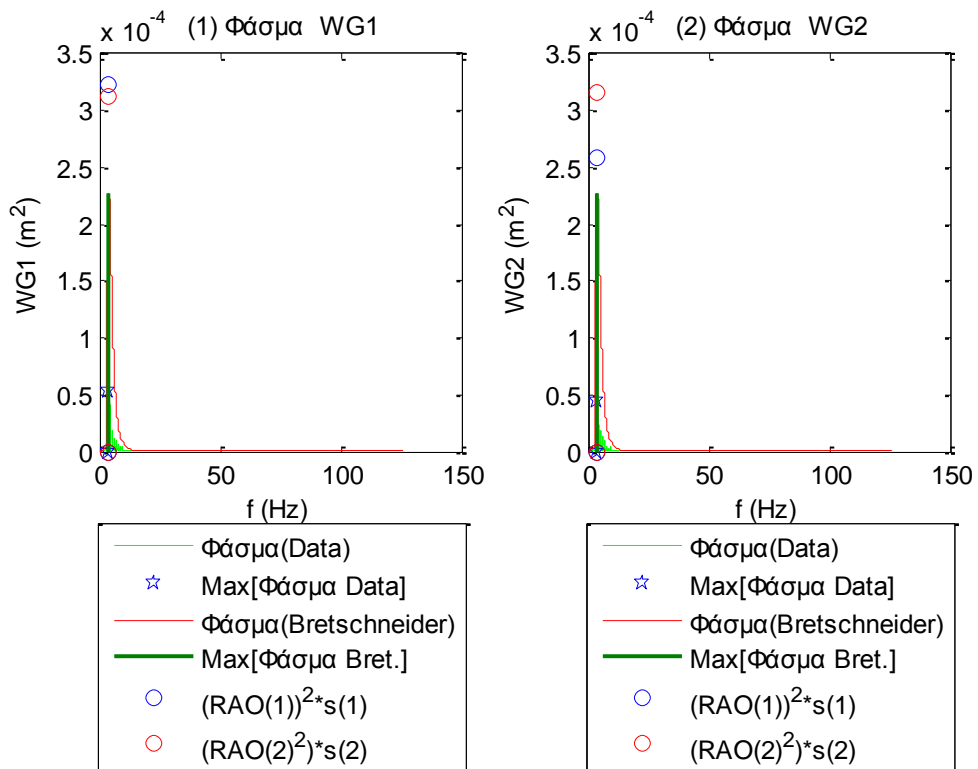
— Αυτοσυνδιακύμανση TLP heave

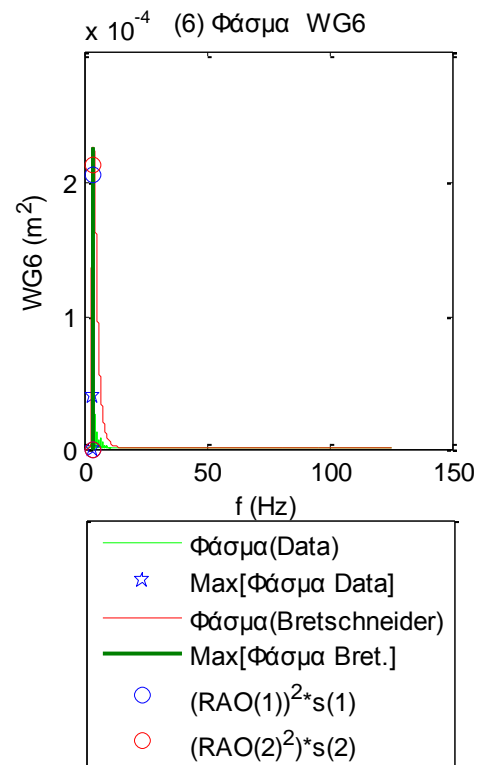
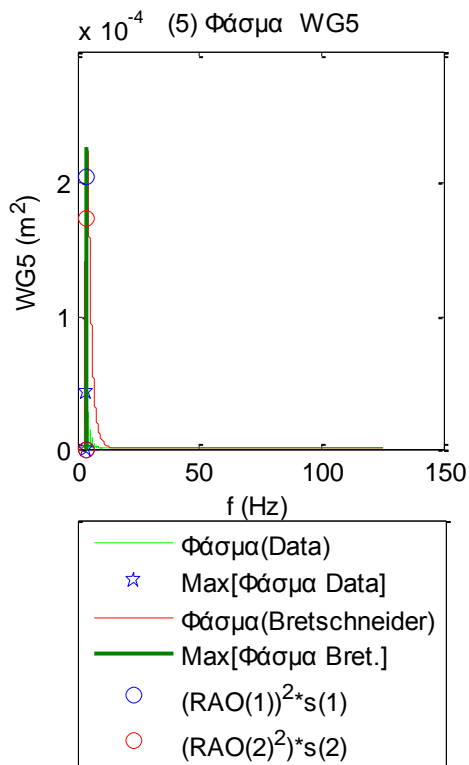
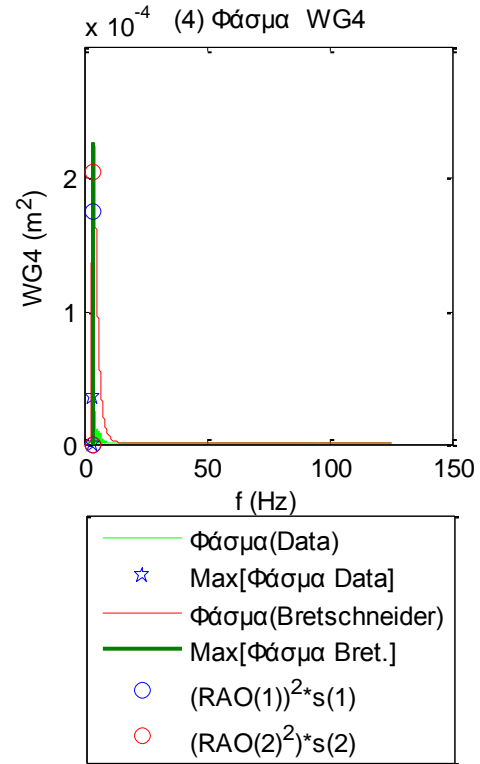
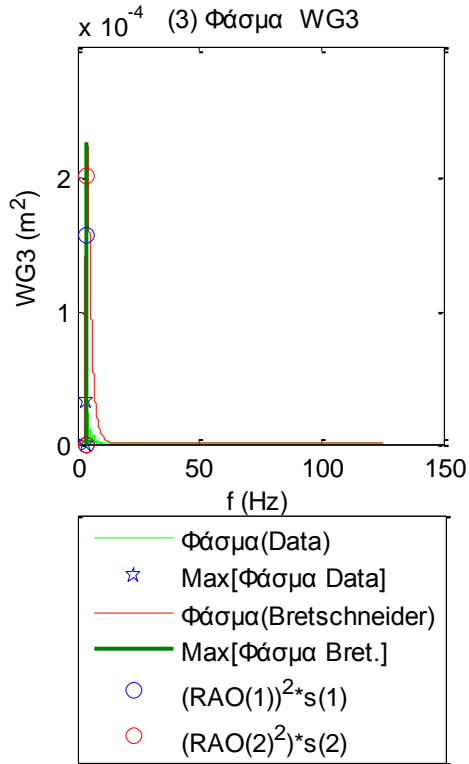


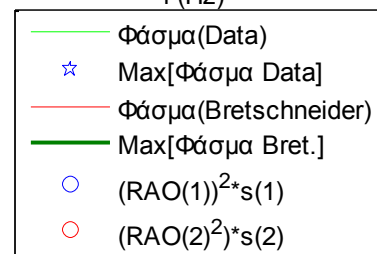
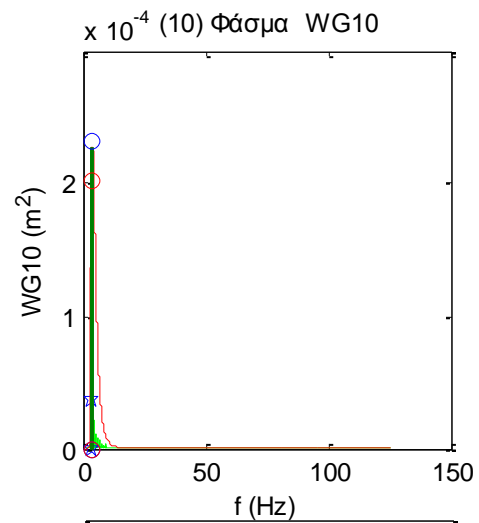
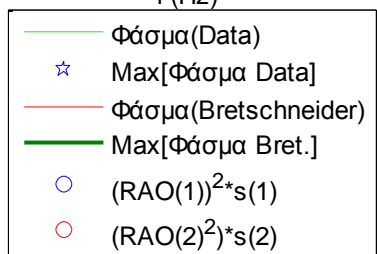
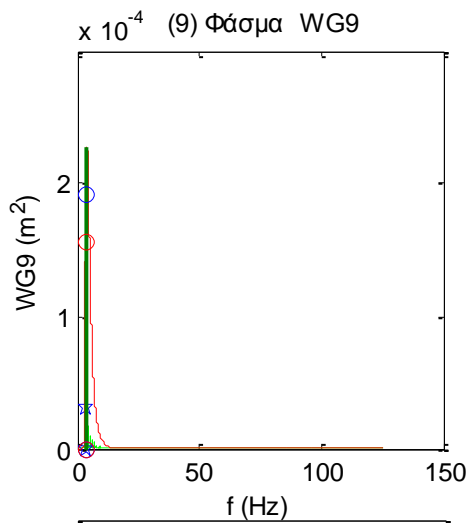
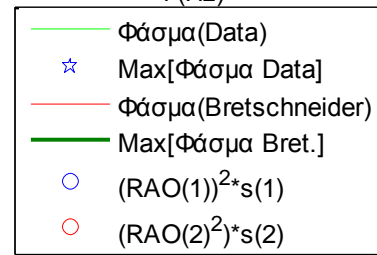
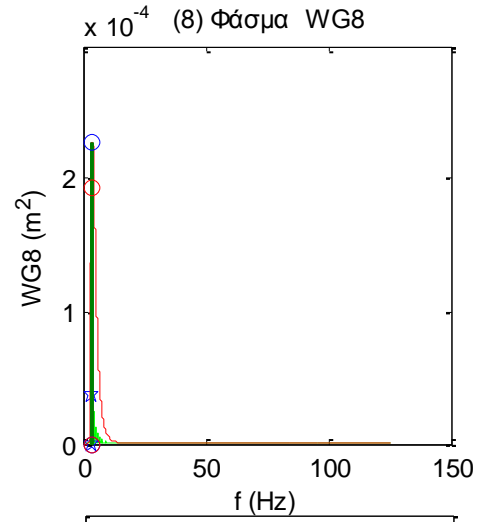
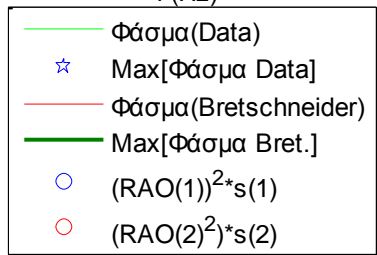
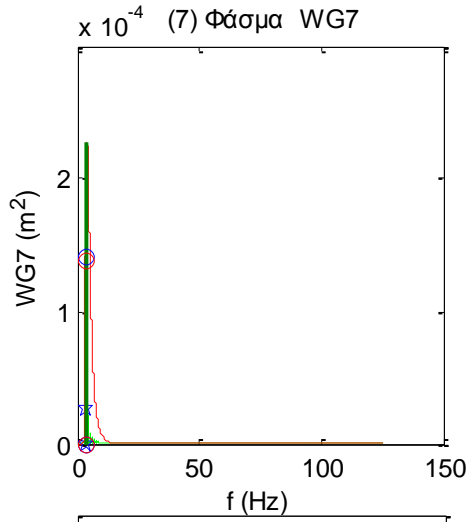
— Αυτοσυνδιακύμανση TLP roll

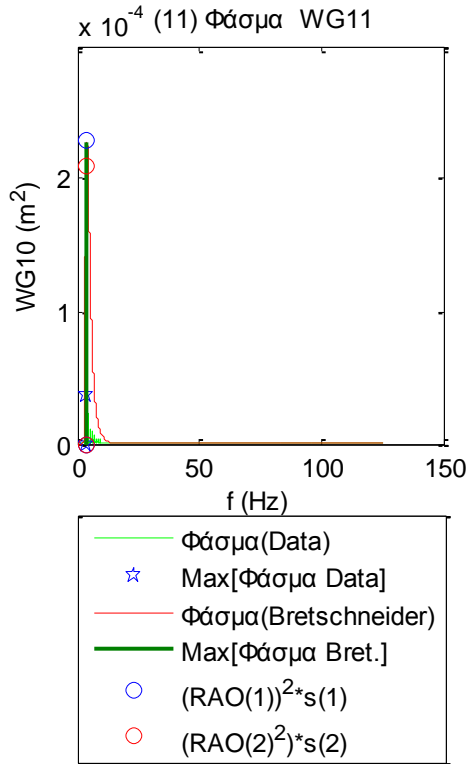


Σχήματα 1.4.3.7 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

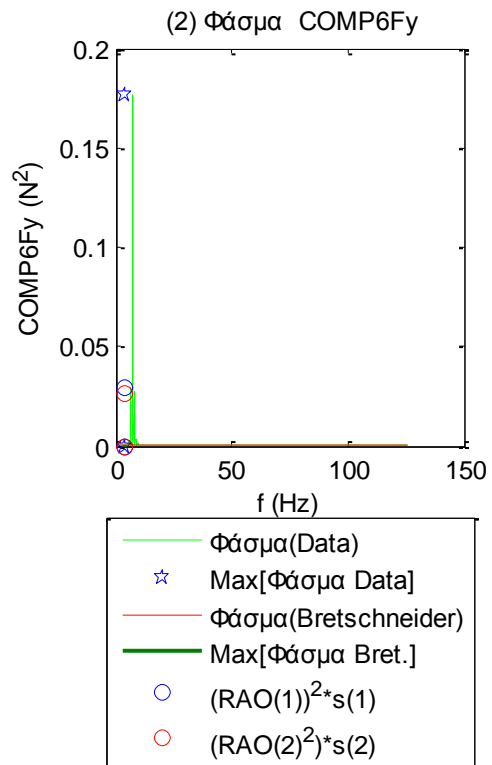
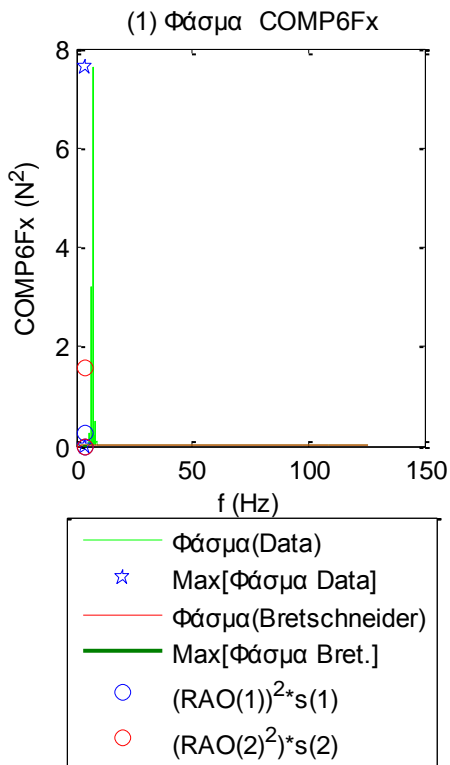


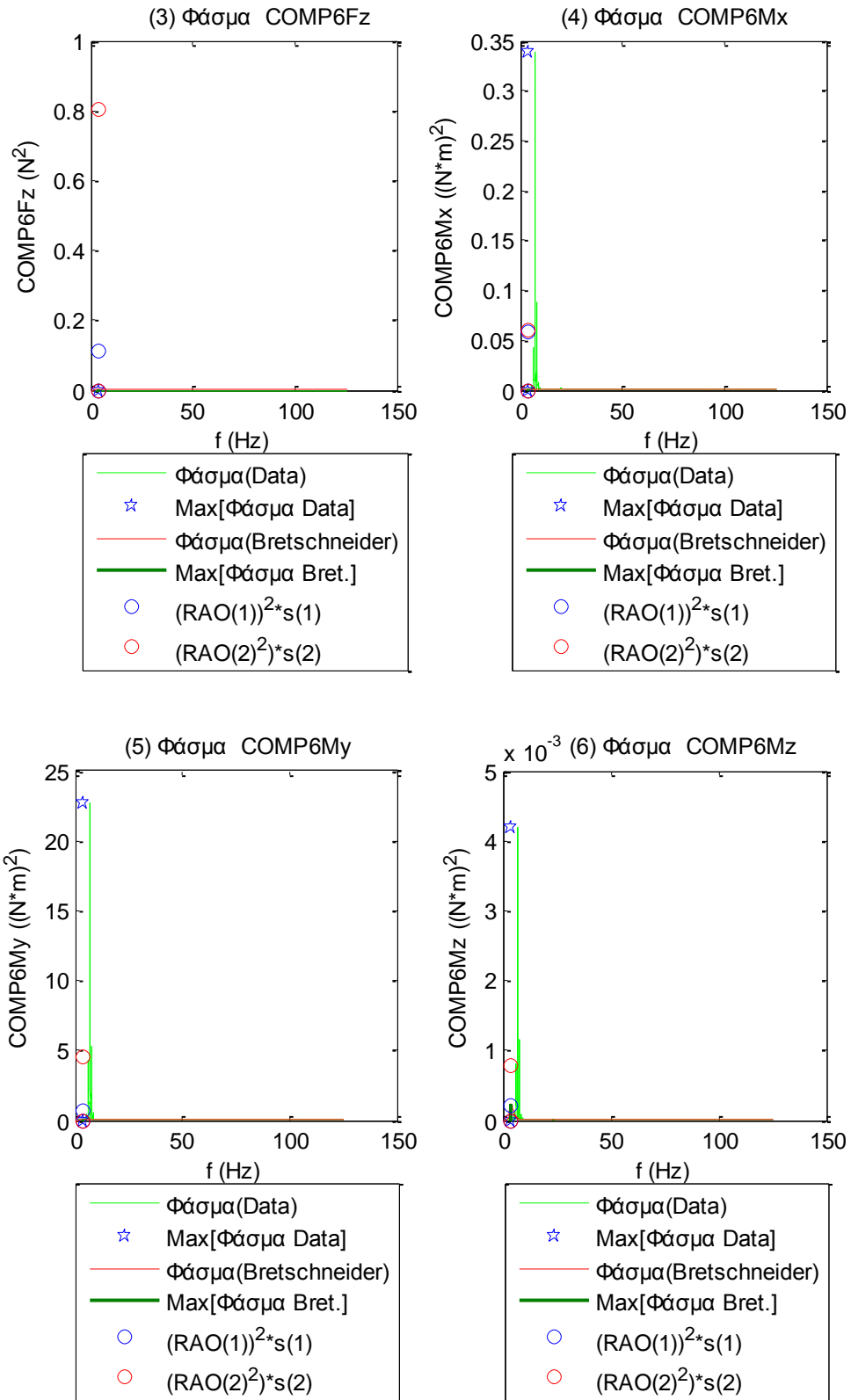




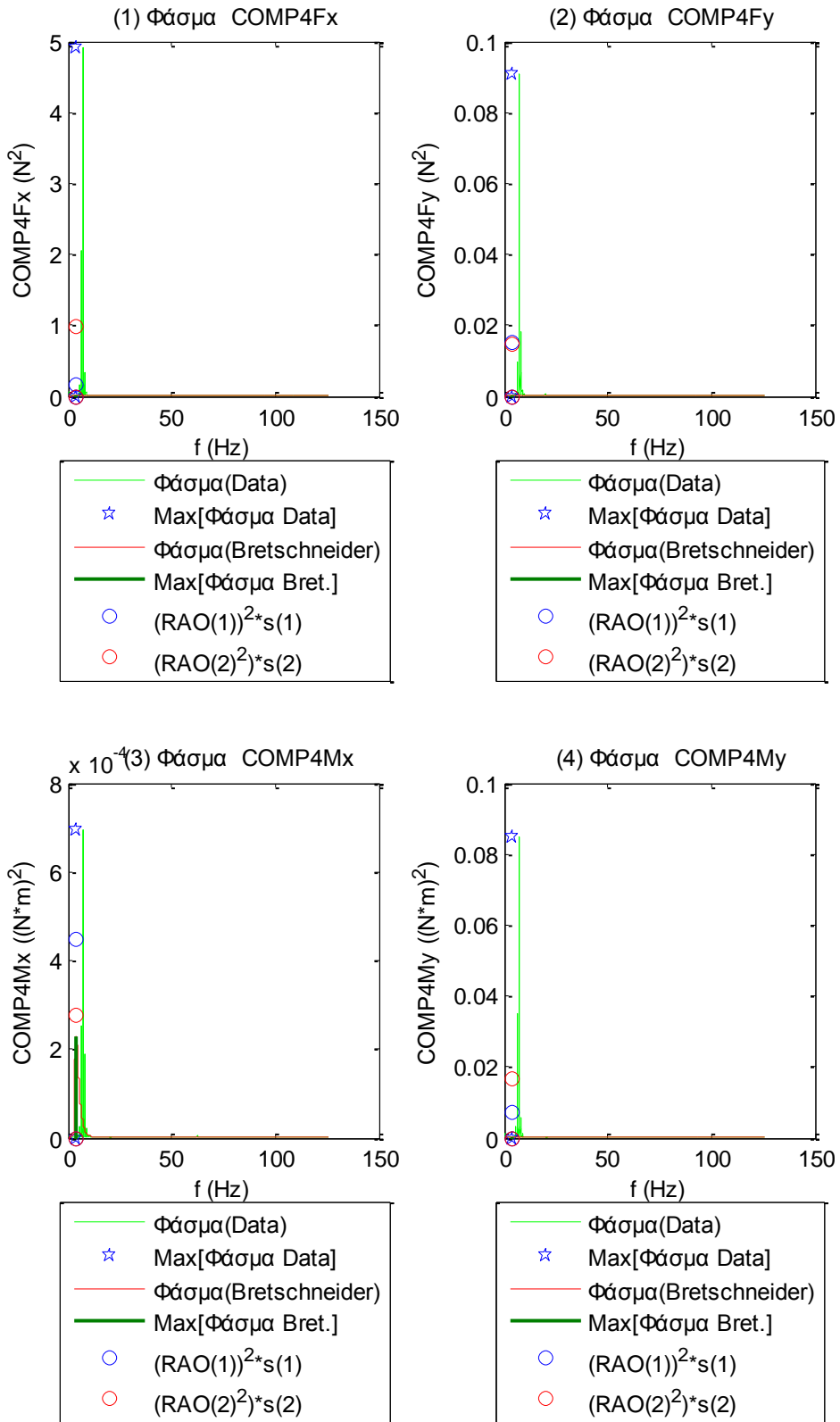


Σχήματα 1.4.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος

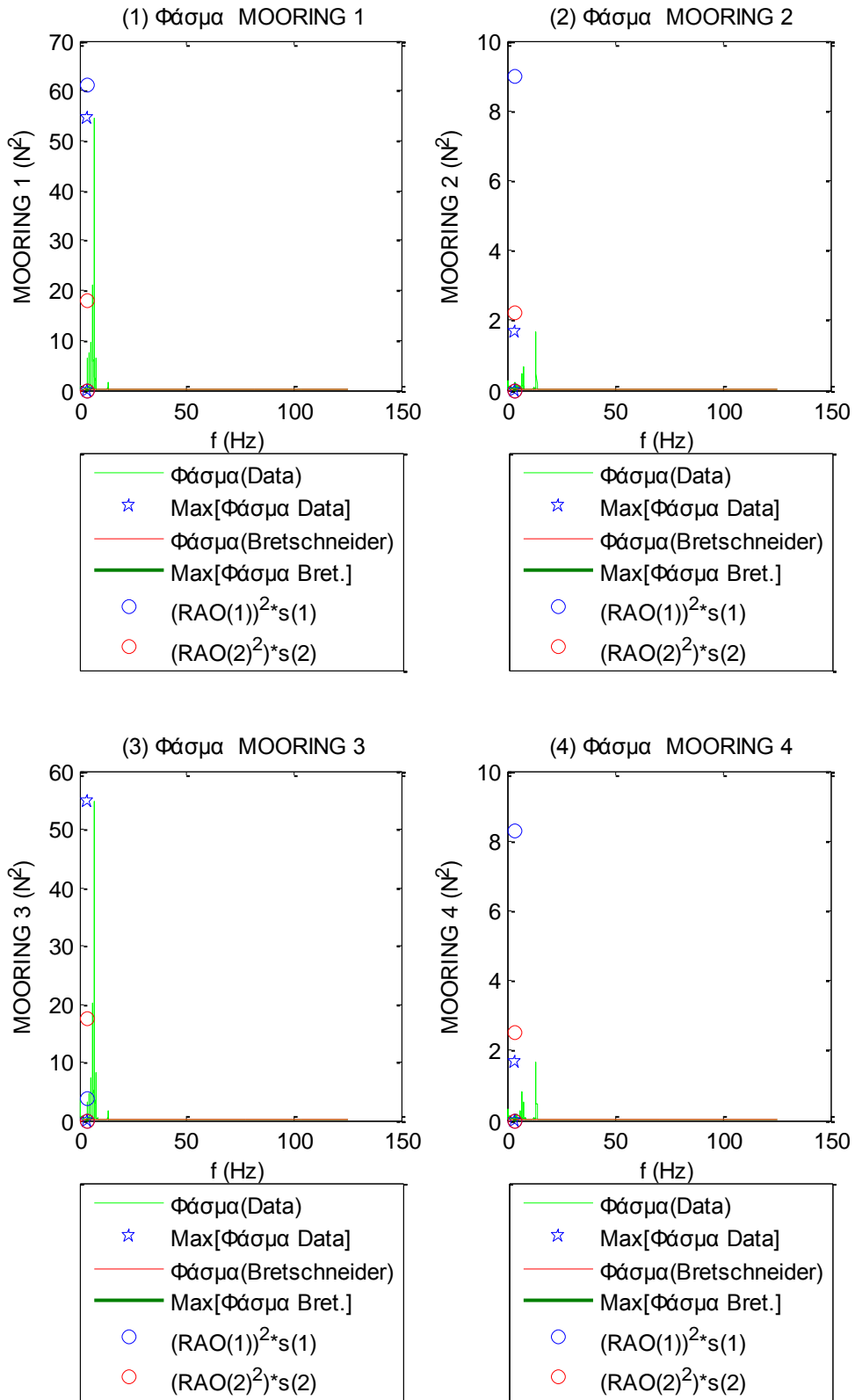




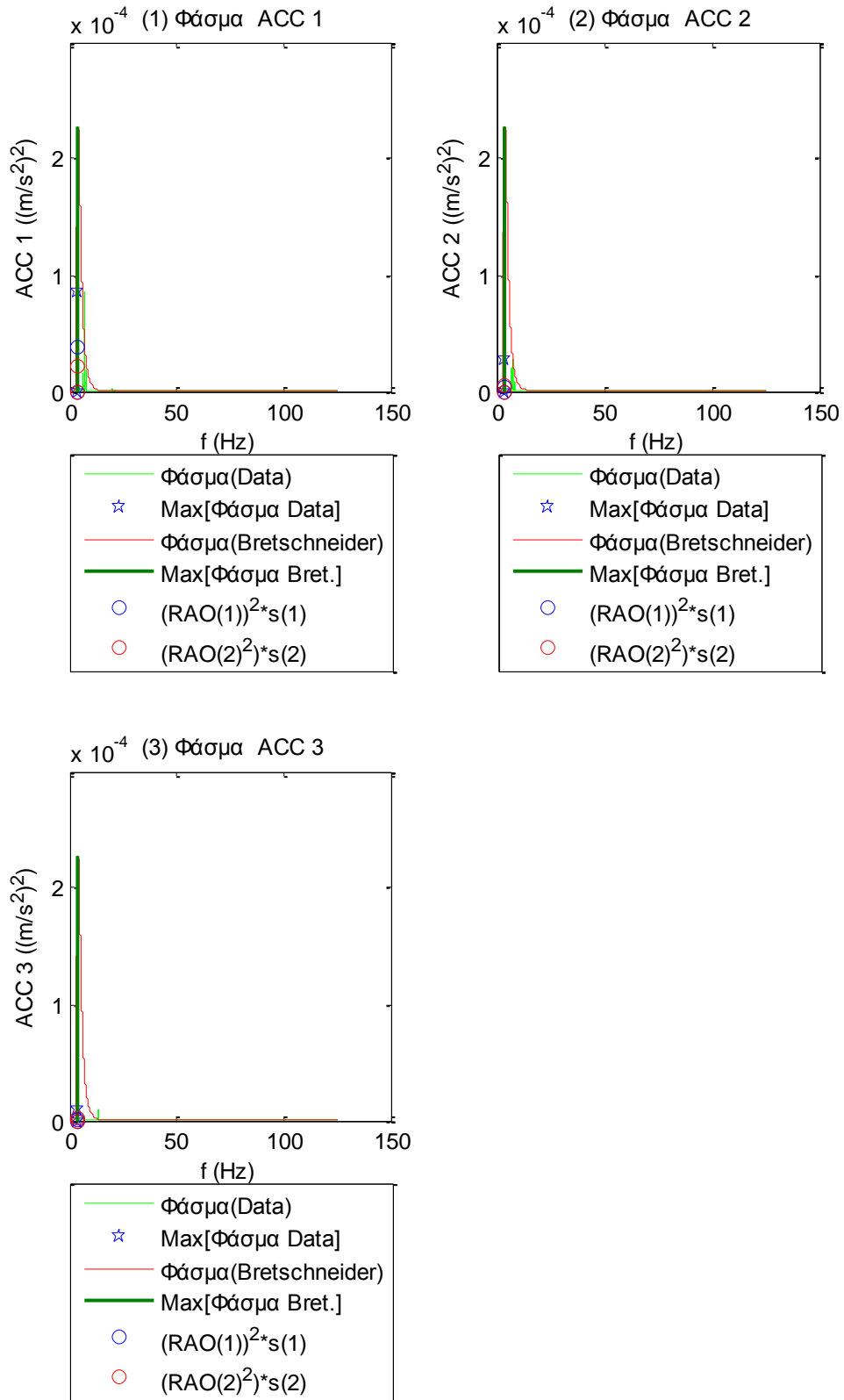
Σχήματα 1.4.4.2 Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



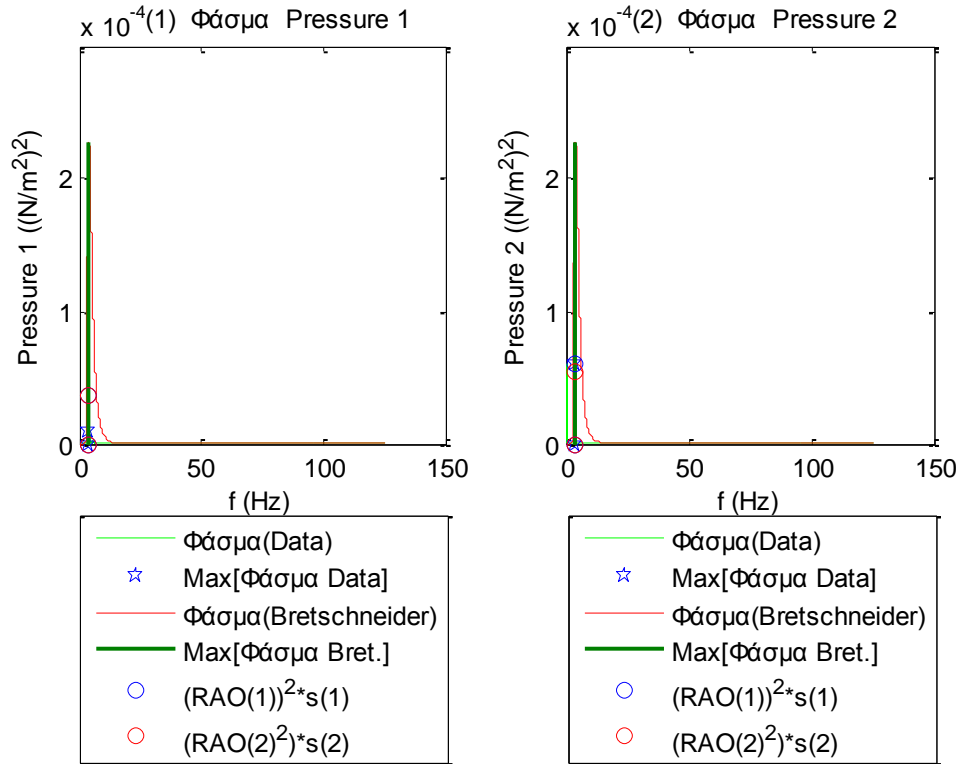
Σχήματα 1.4.4.3 Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



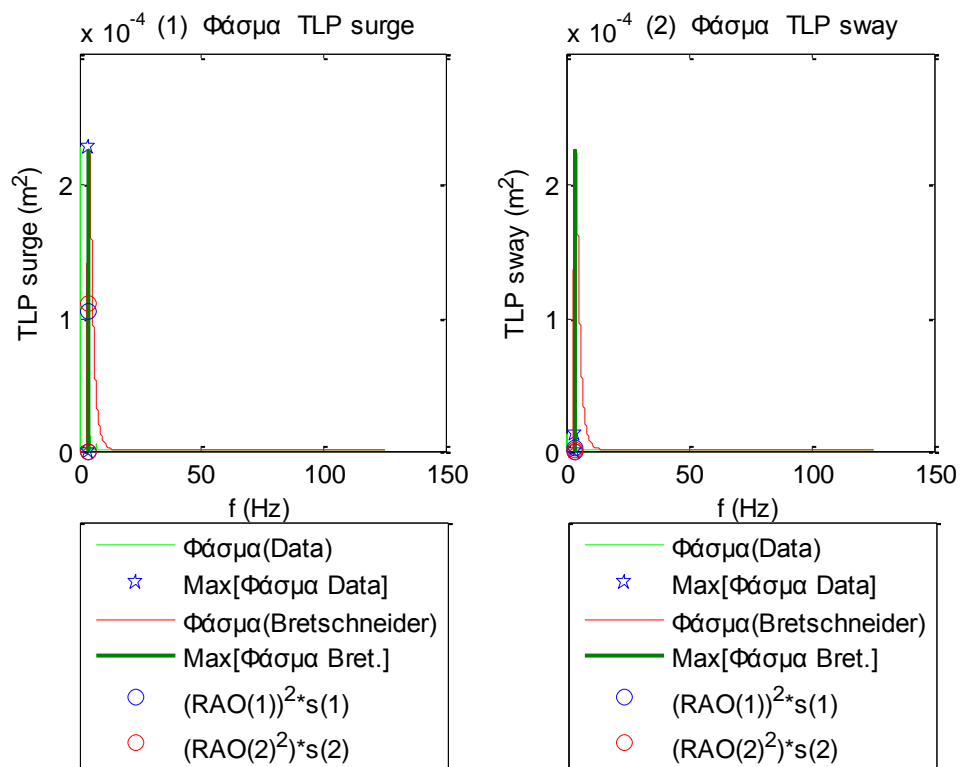
Σχήματα 1.4.4.4 (1-4) Φάσματα για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

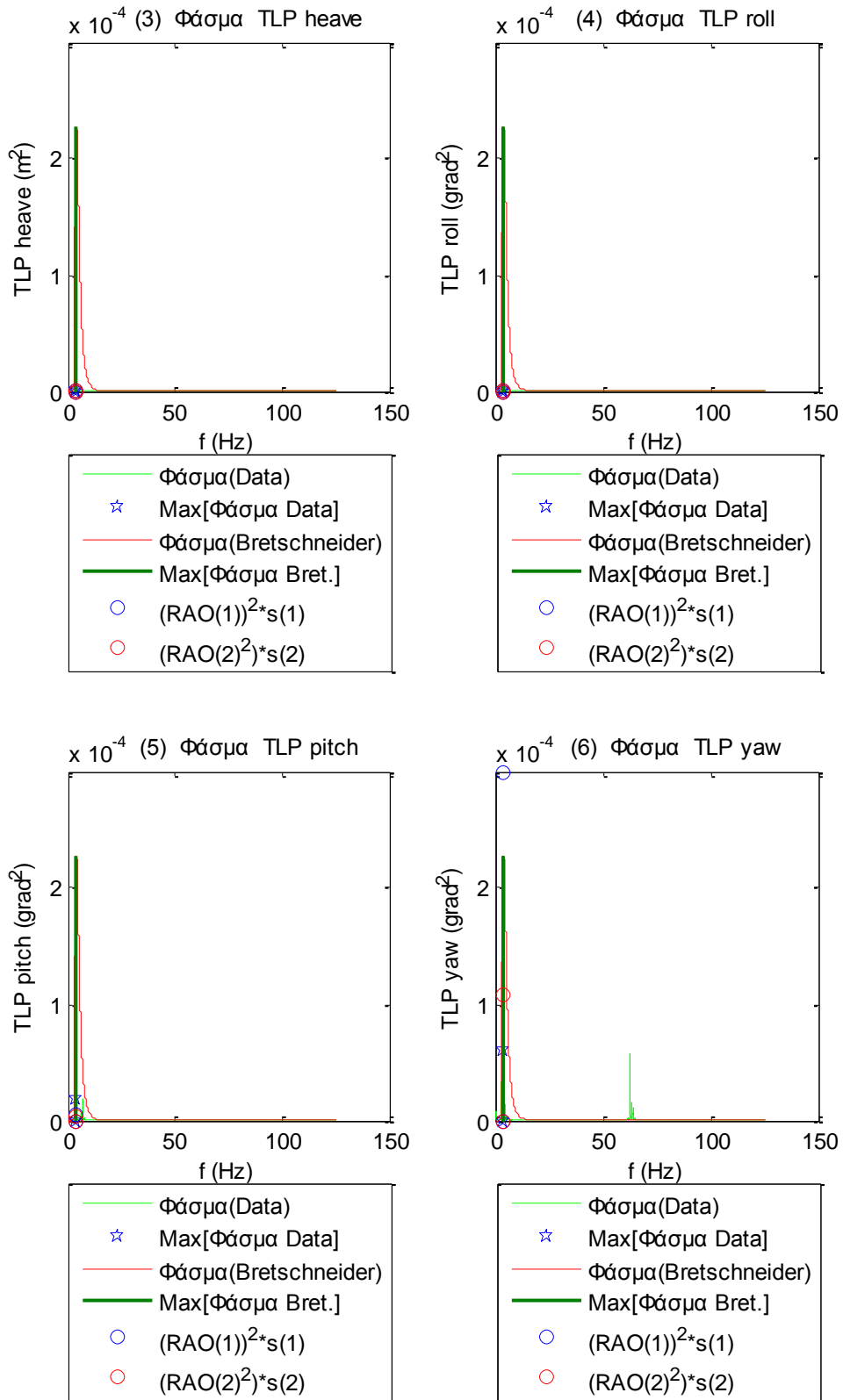


Σχήματα 1.4.4.5 (1-3) Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

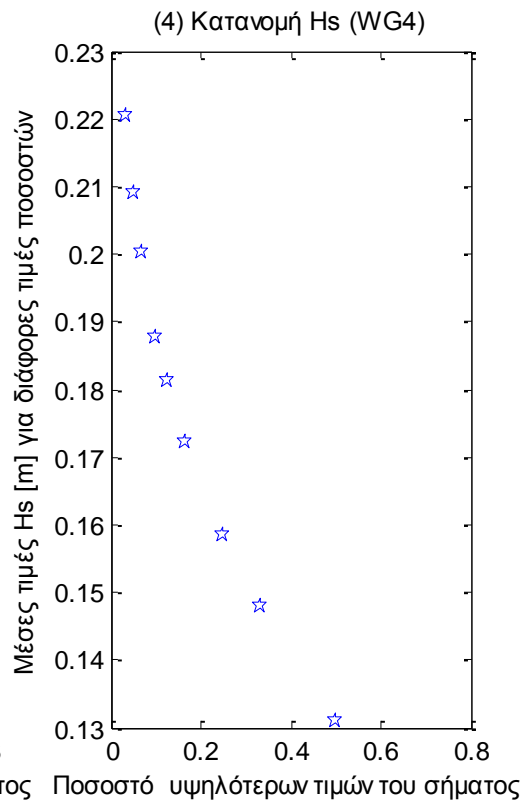
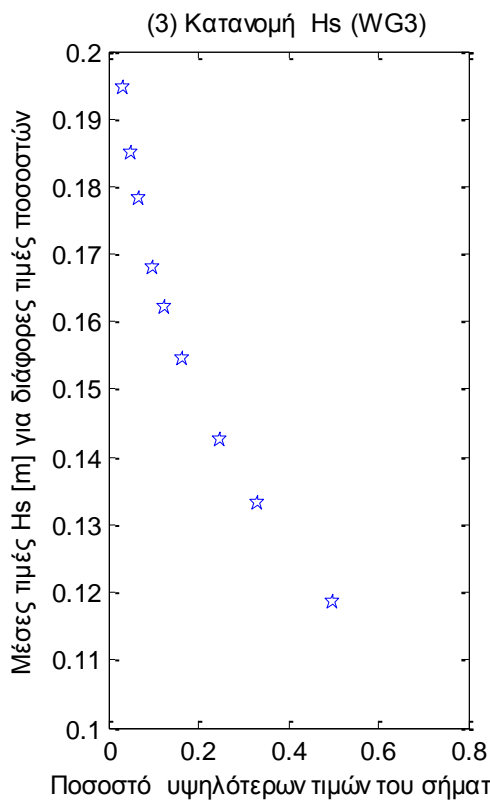
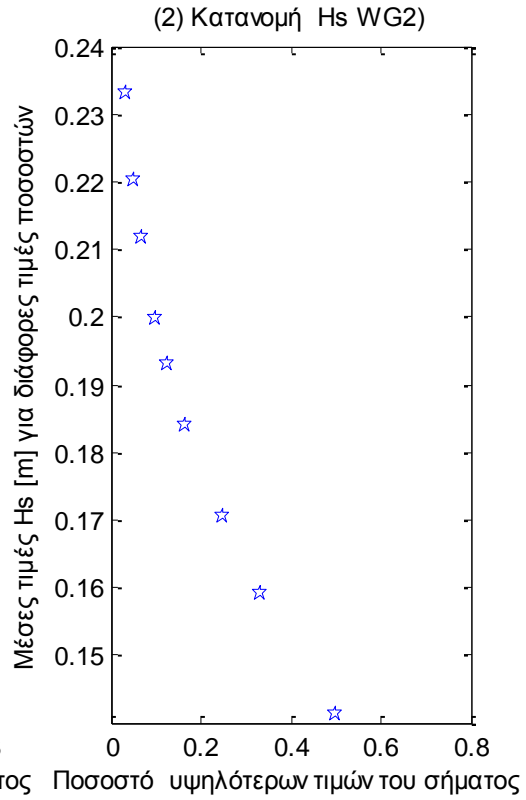
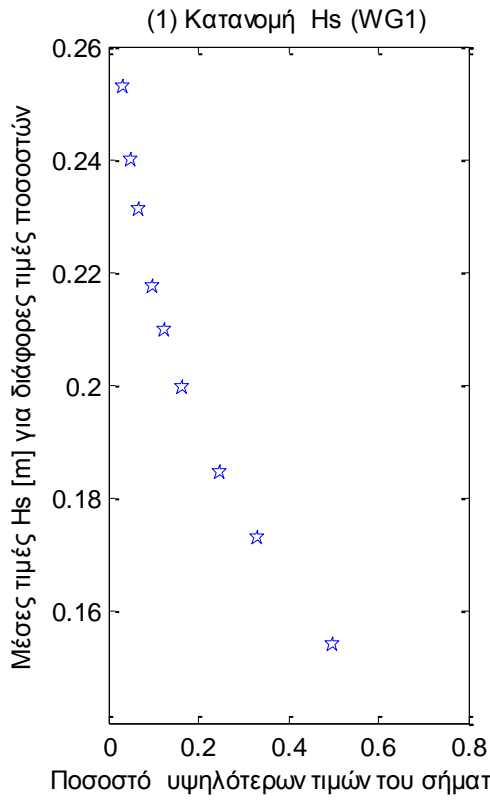


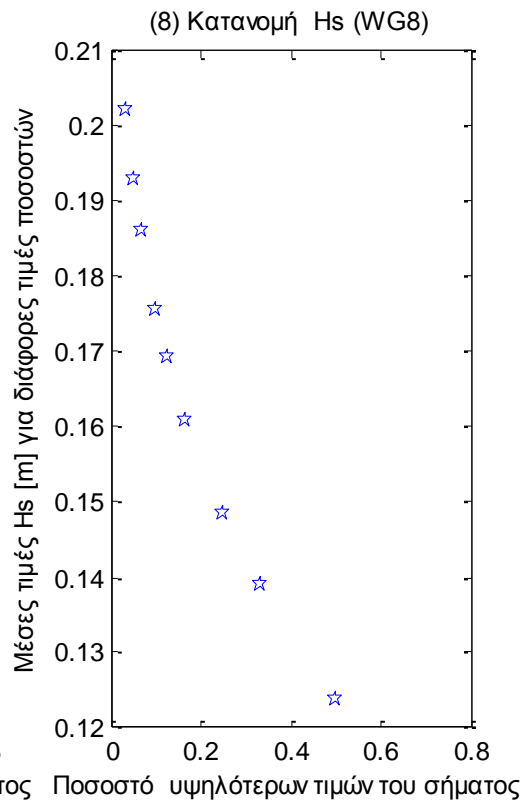
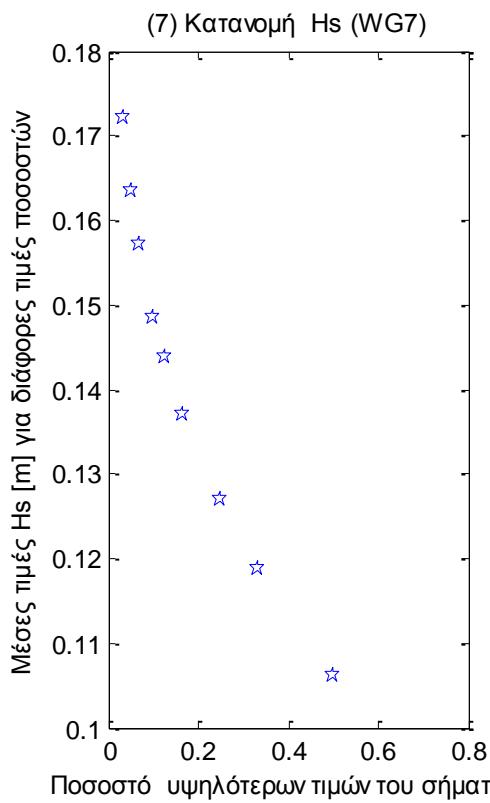
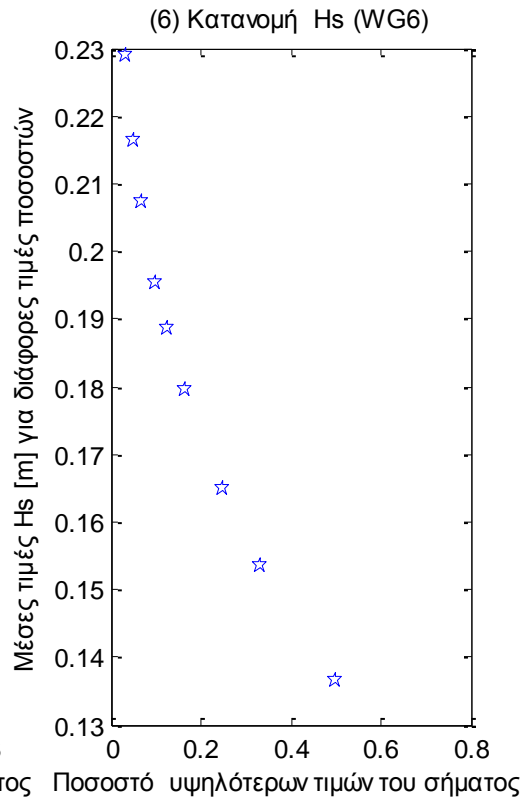
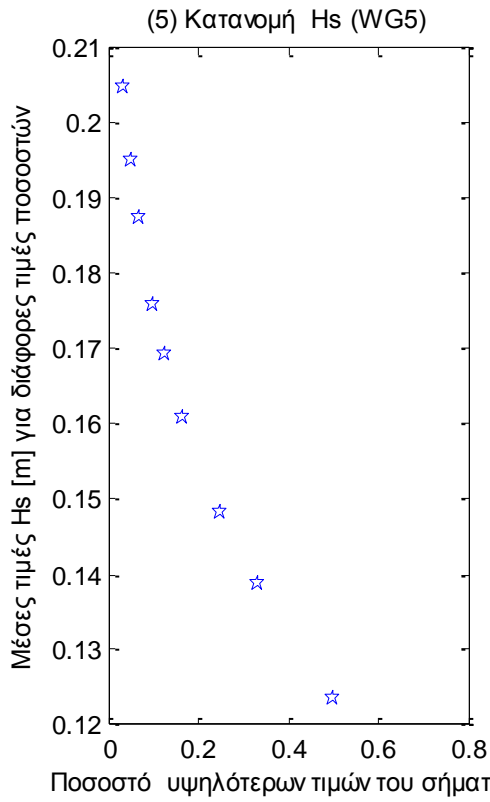
Σχήματα 1.4.4.6 (1-2) Φάσματα για τα δυο όργανα μέτρησης της πίεσης

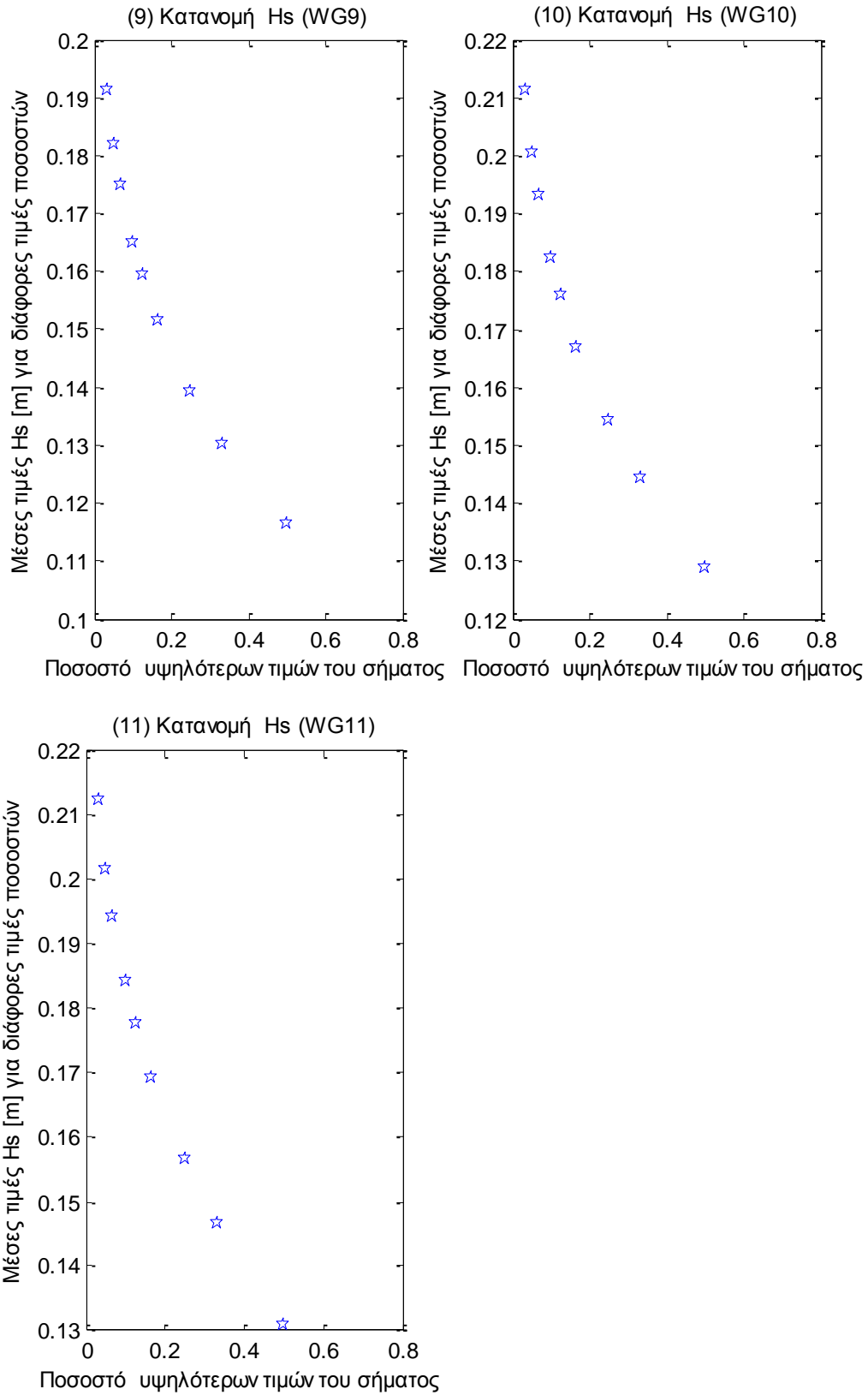




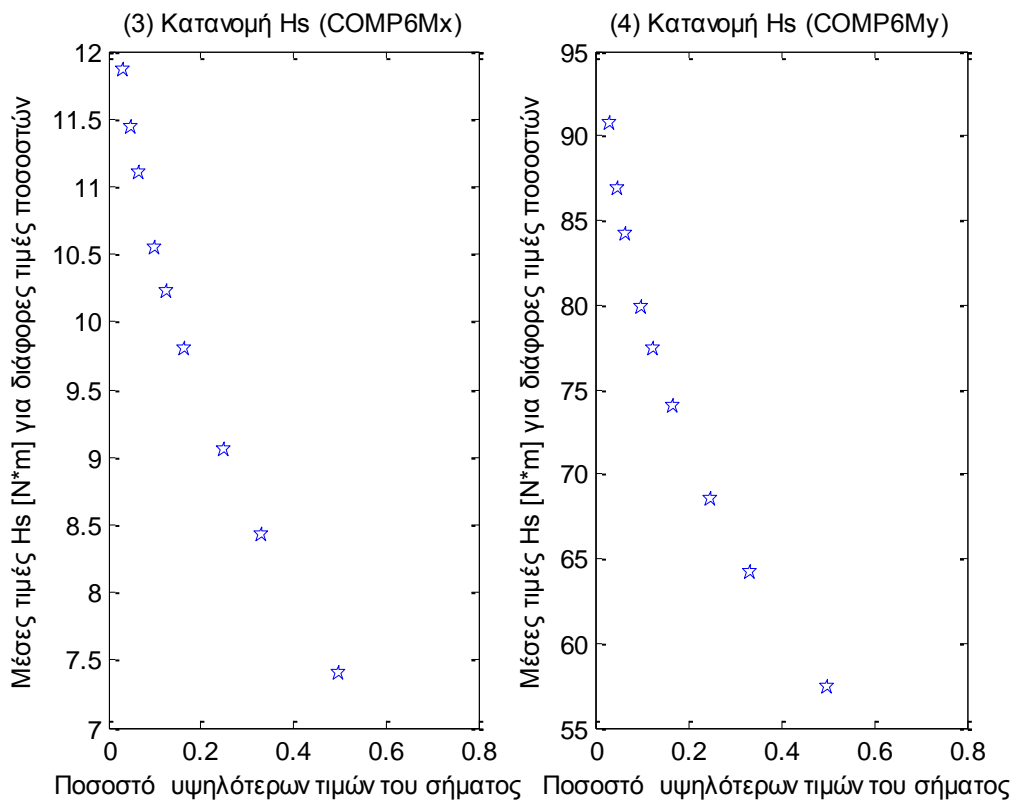
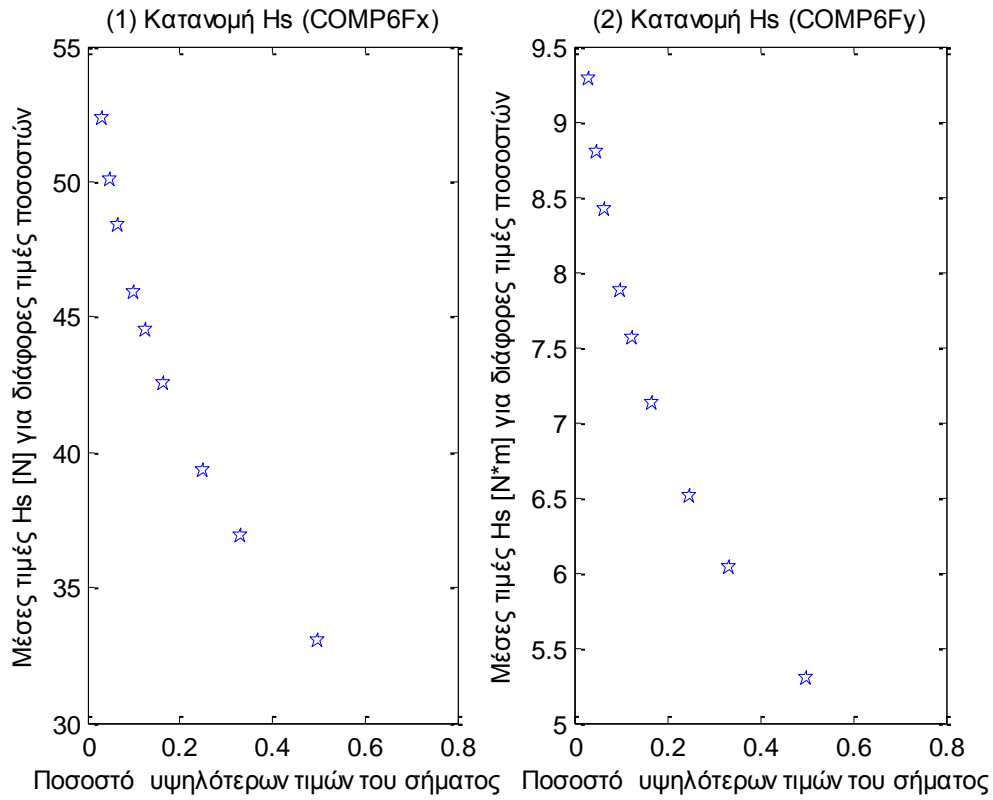
Σχήματα 1.4.4.7 Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

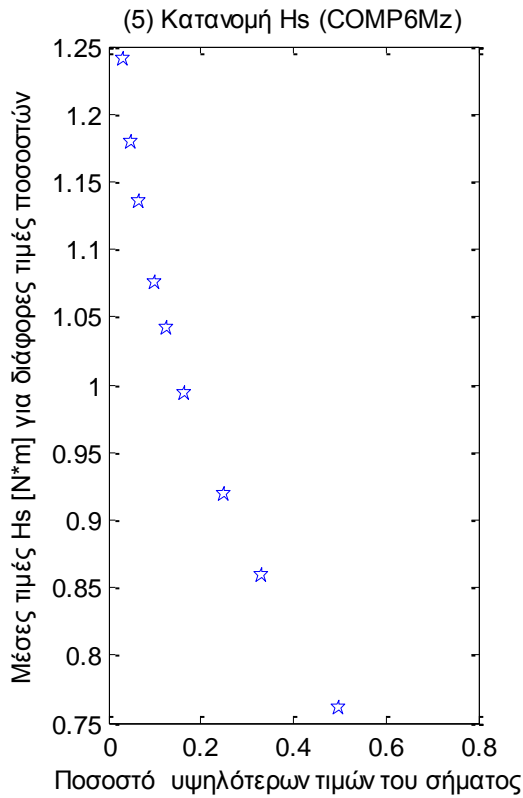




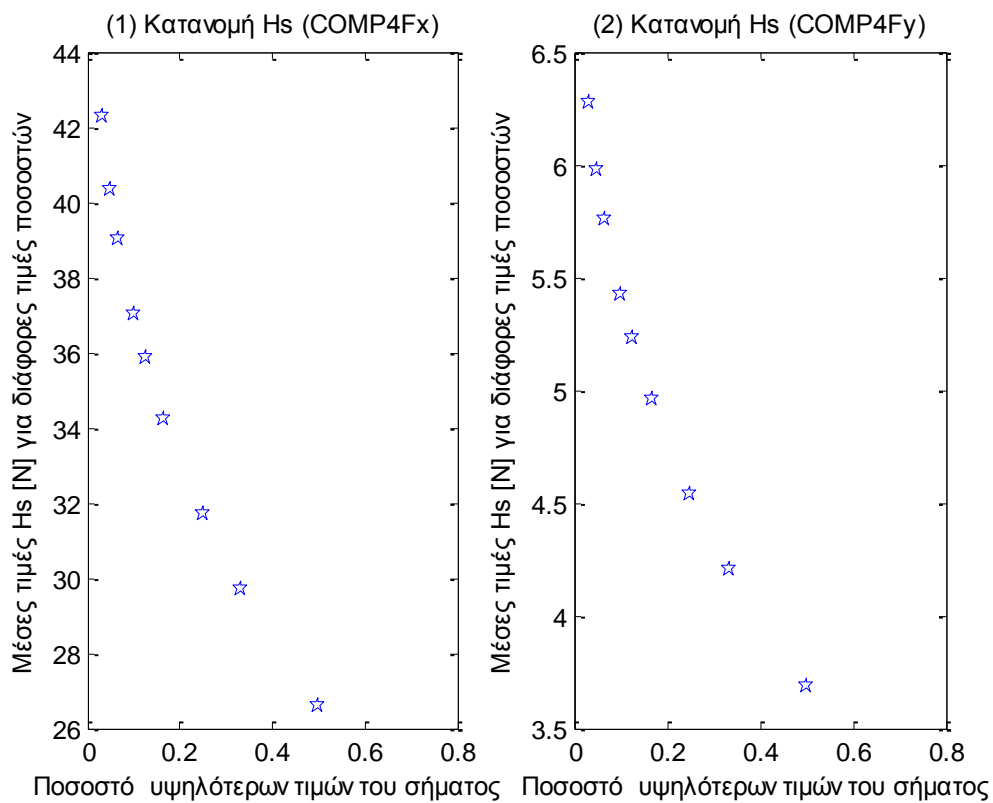


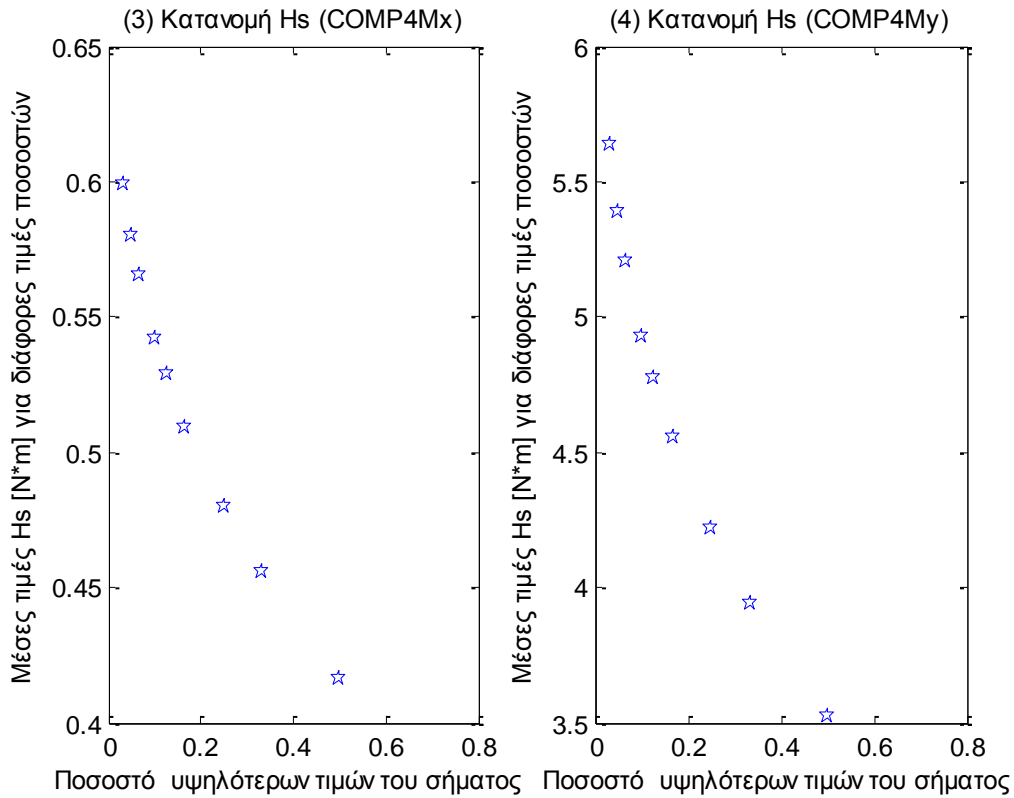
Σχήματα 1.4.5.1 (1-11) Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



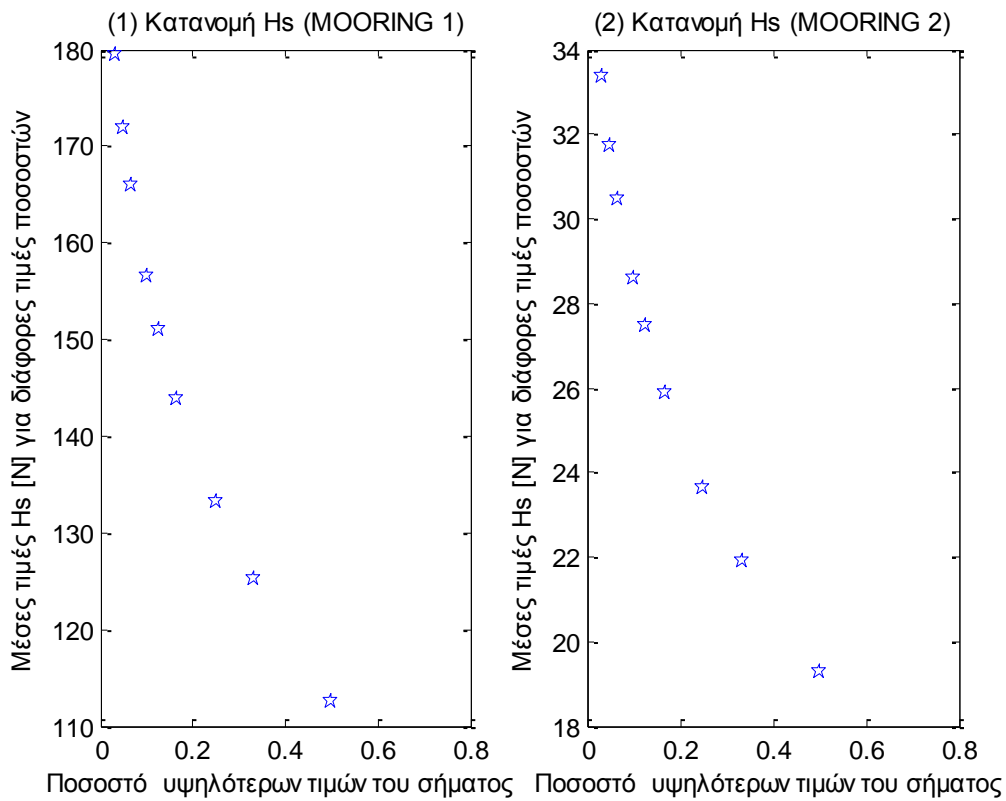


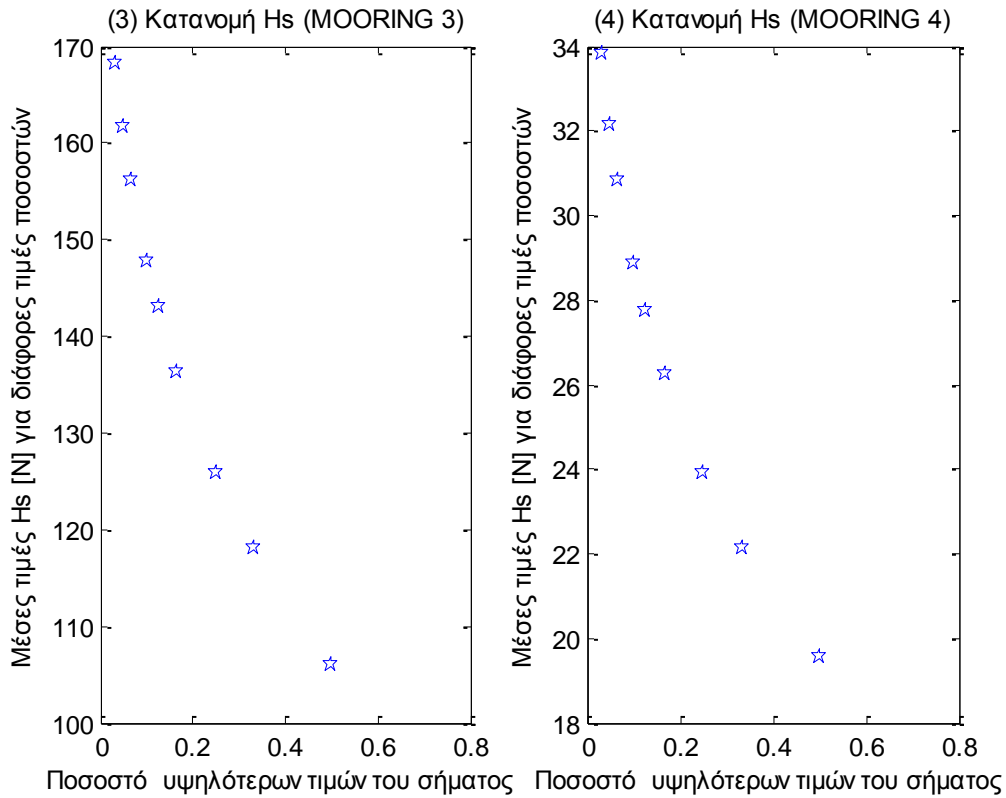
Σχήματα 1.4.5.2 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, και (2) sway και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



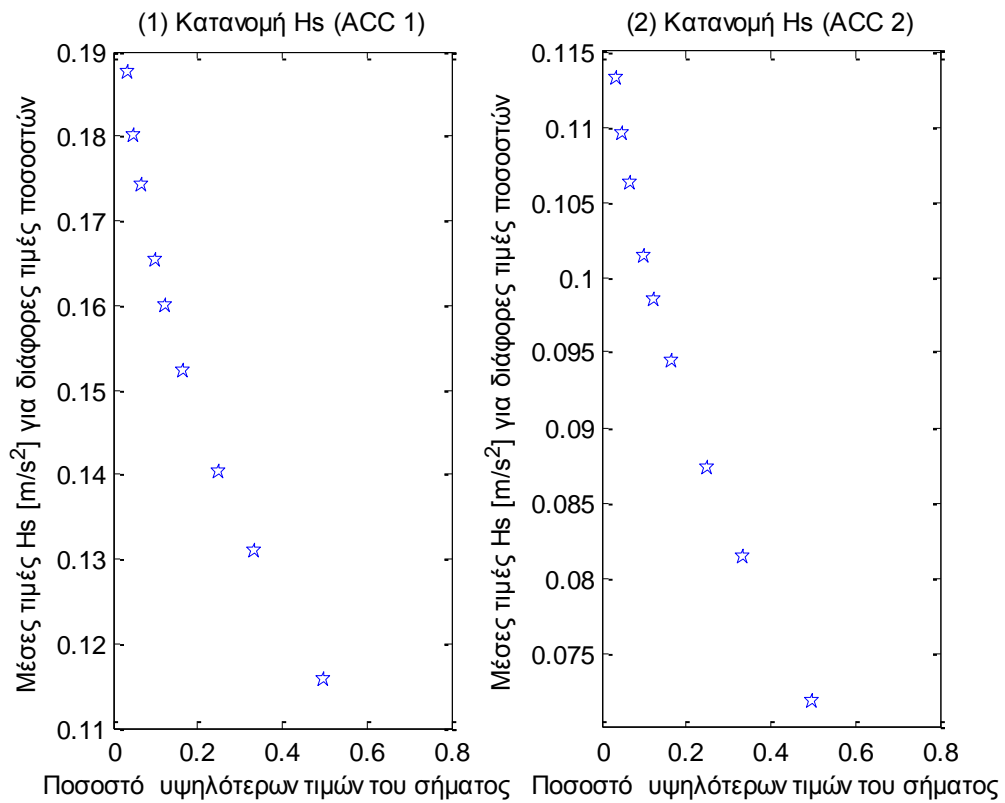


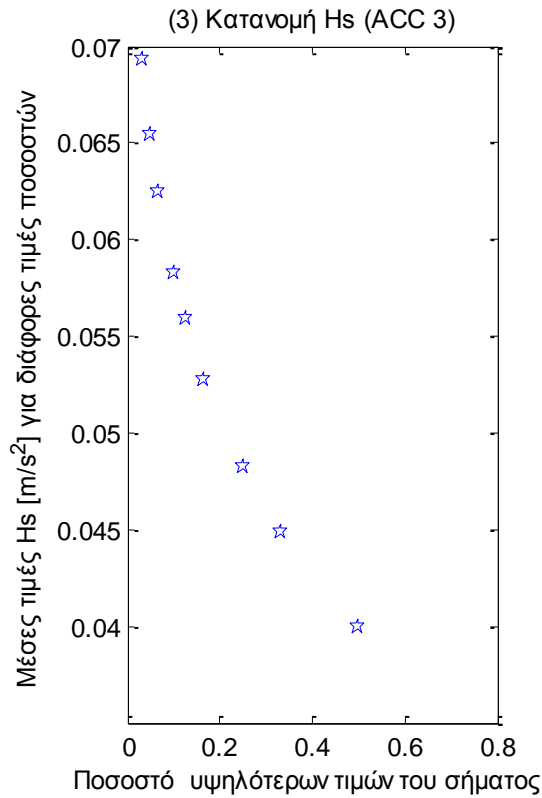
Σχήματα 1.4.5.3 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



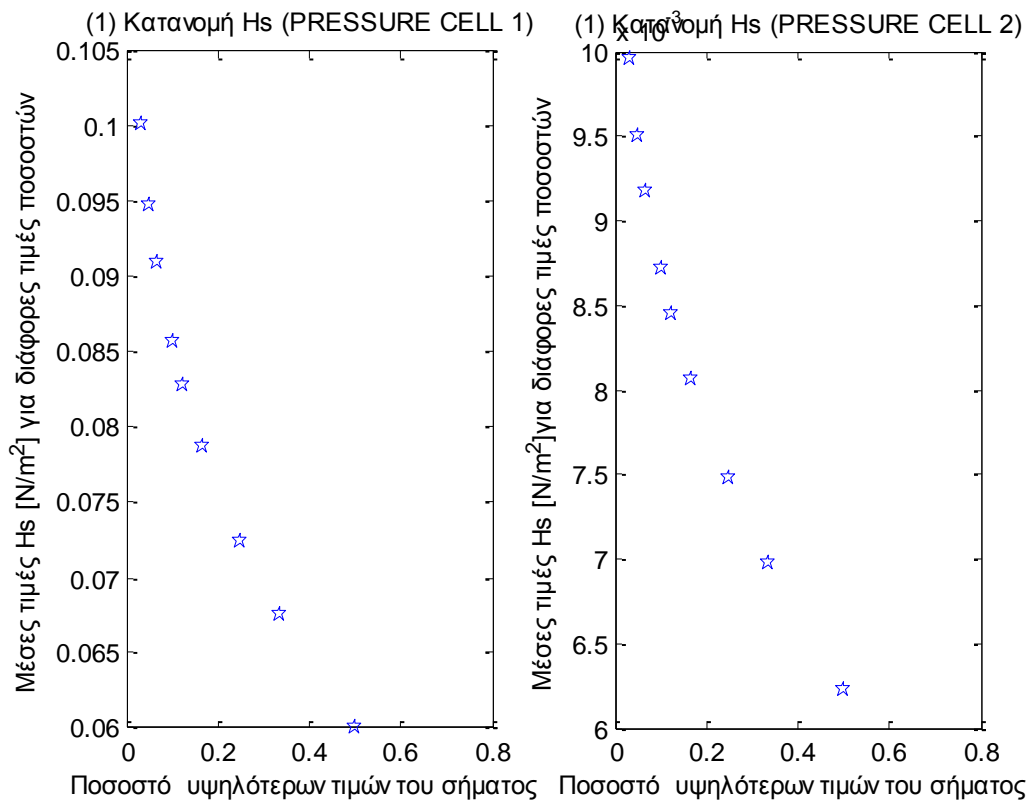


Σχήματα 1.4.5.4 (1-4) Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

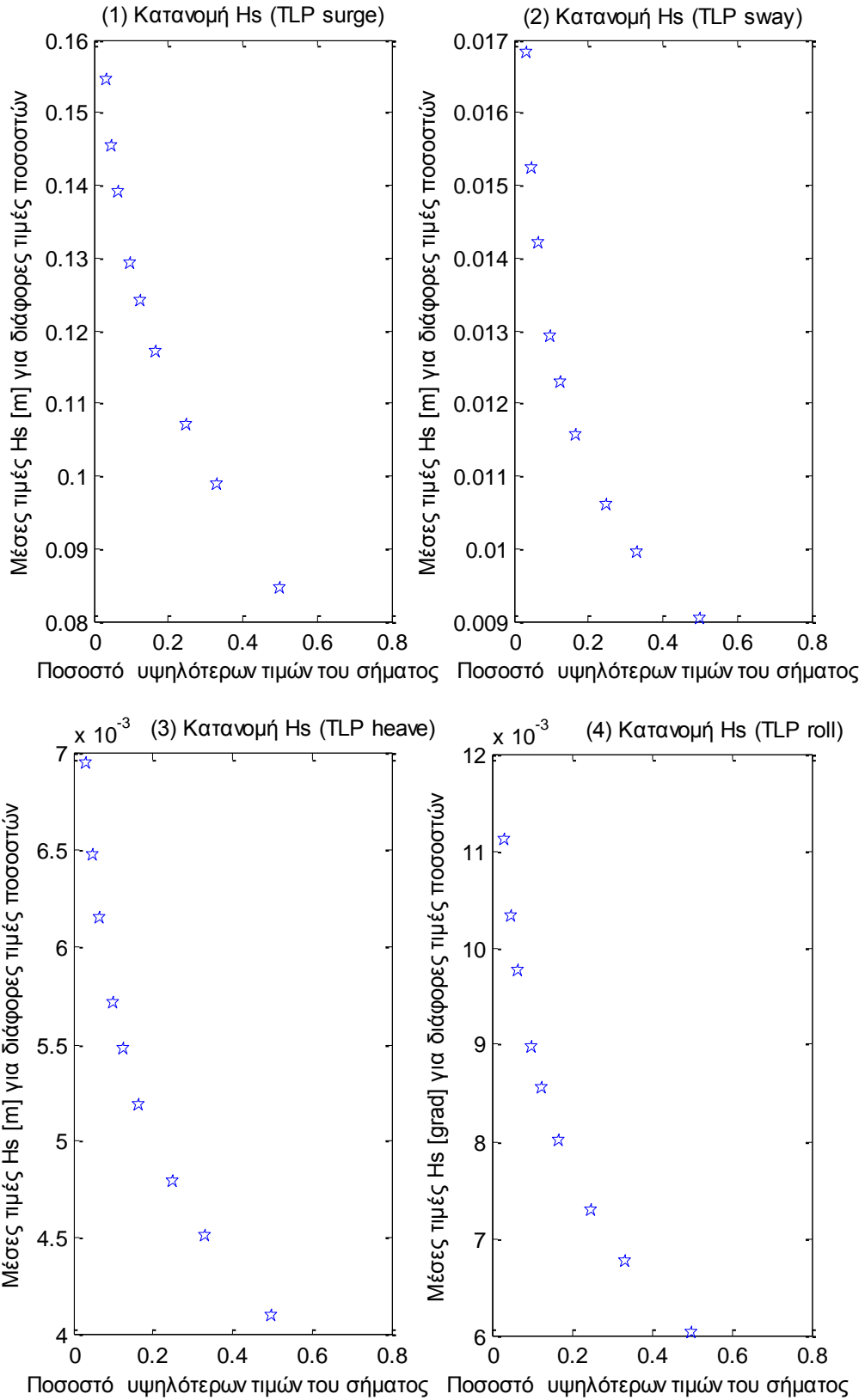


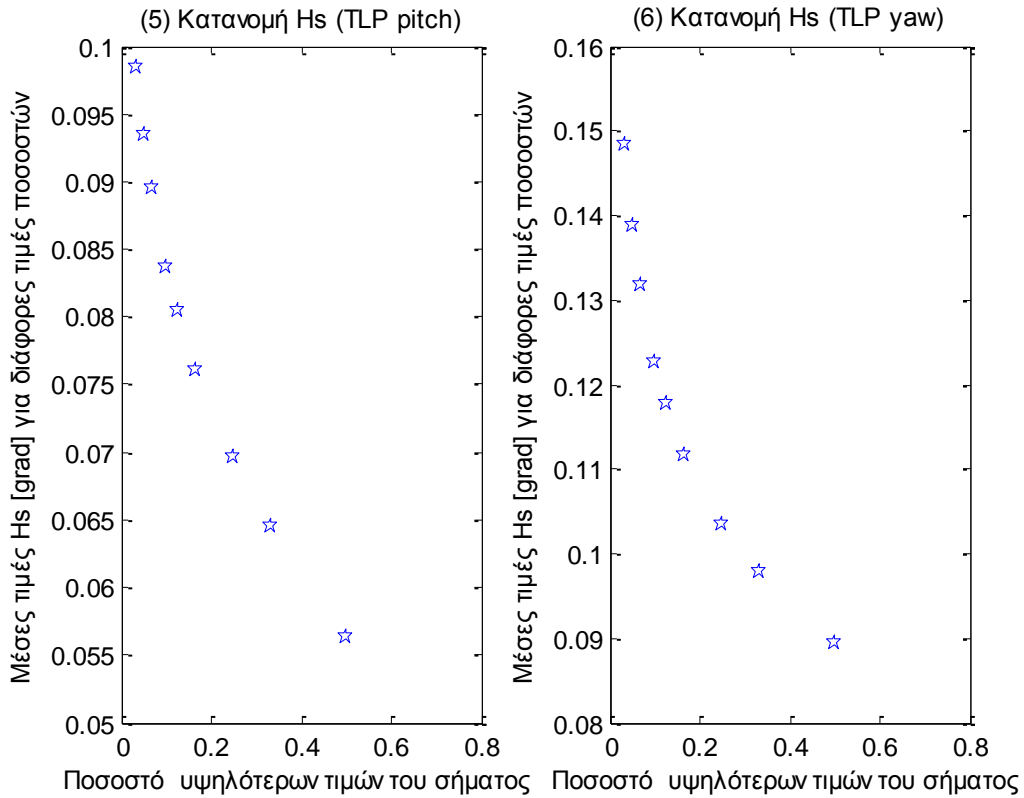


Σχήματα 1.4.5.5 (1-3) Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

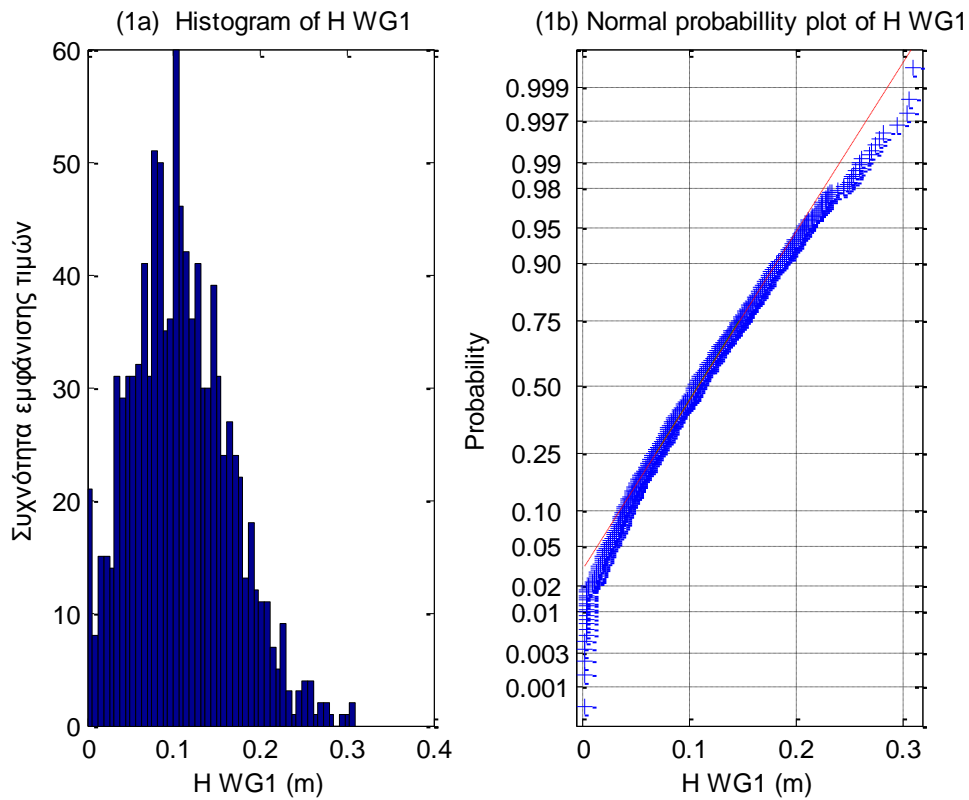


Σχήματα 1.4.5.6 (1-2) Κατανομή σημαντικού ύψους Hs για τα δυο όργανα μέτρησης της πίεσης

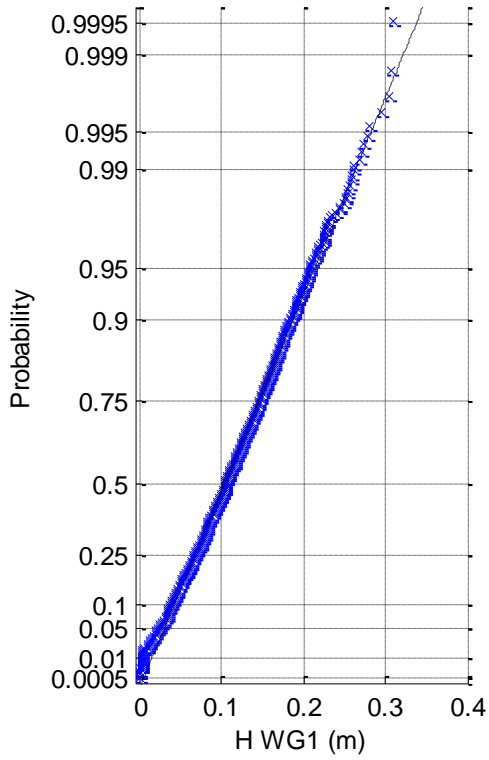




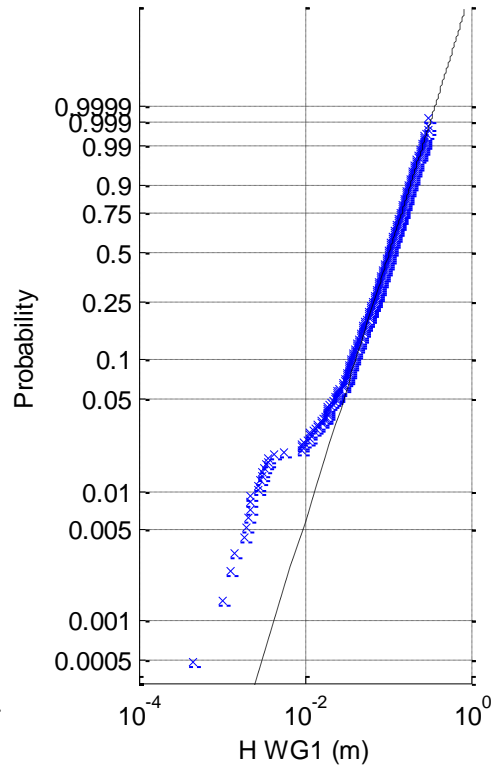
Σχήματα 1.4.5.7 Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



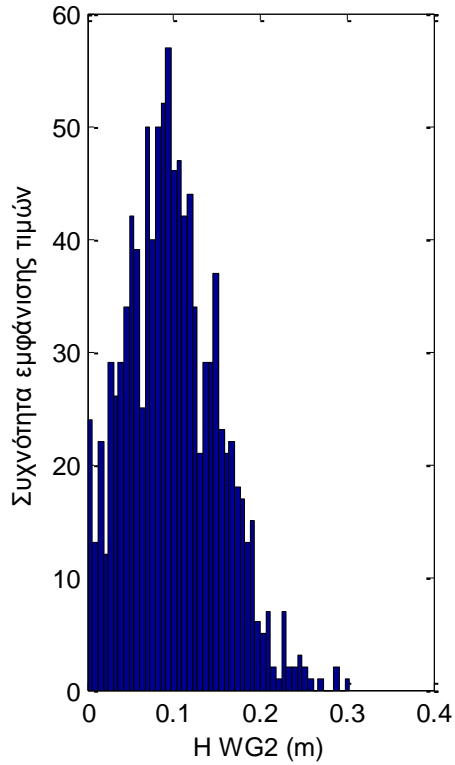
(1c) Rayleigh probability plot of H WG1



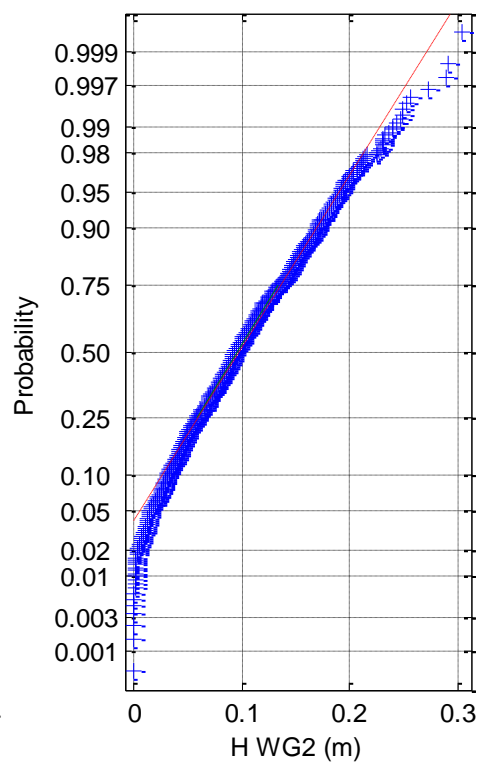
(1d) Weibull probability plot of H WG1



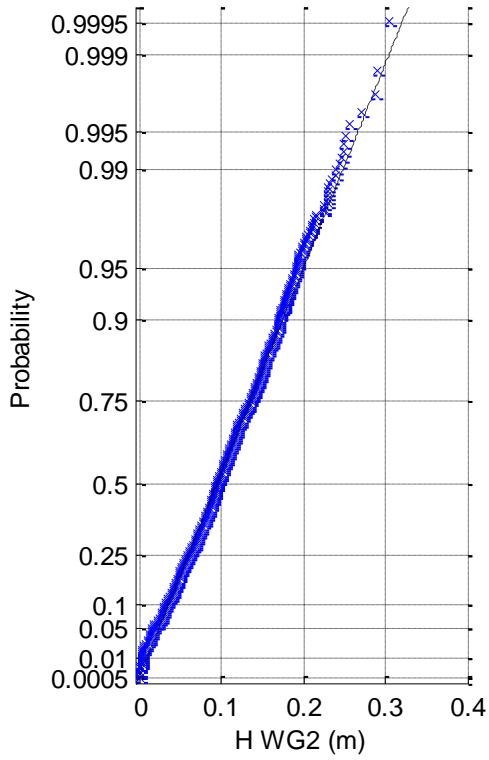
(2a) Histogram of H WG2



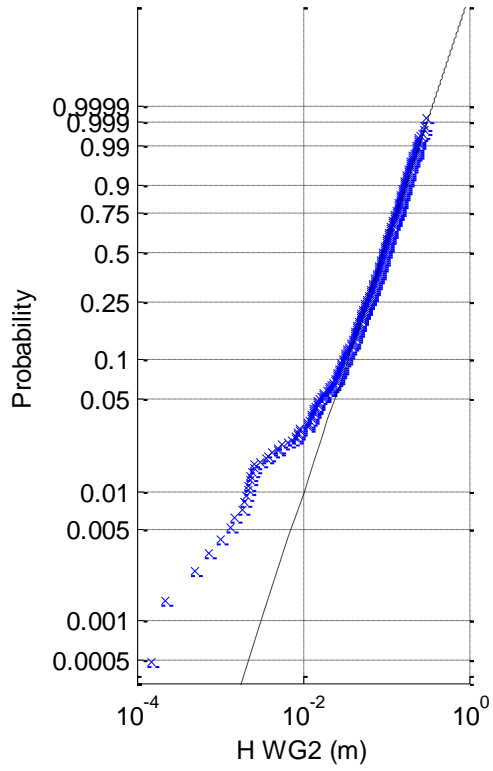
(2b) Normal probability plot of H WG2



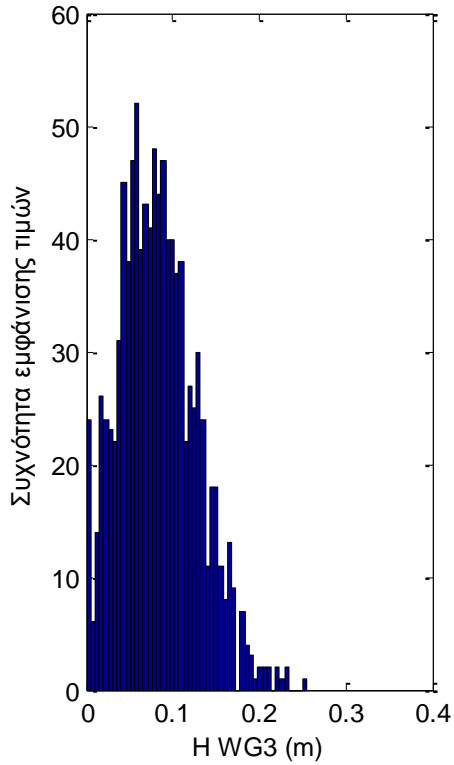
(2c) Rayleigh probability plot of H WG2



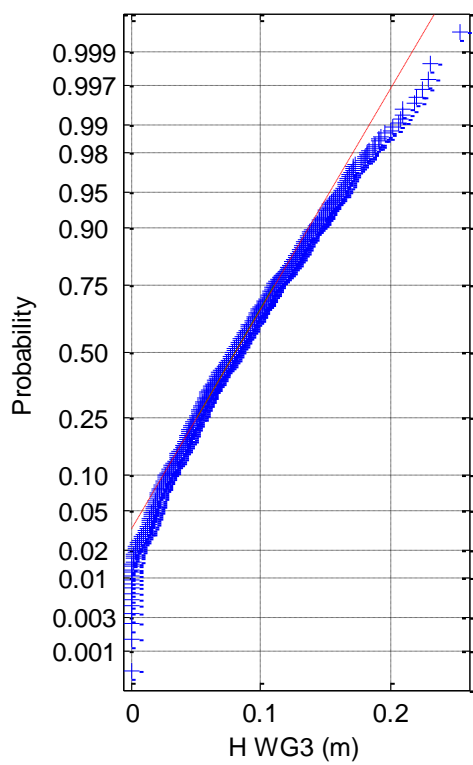
(2d) Weibull probability plot of H WG2



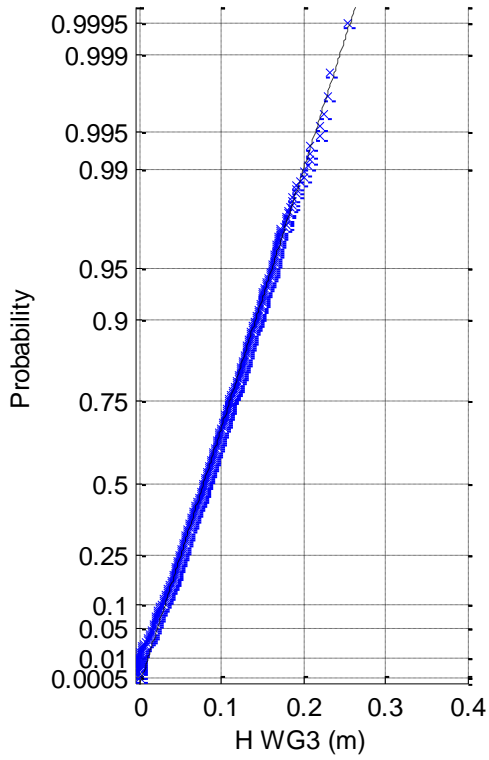
(3a) Histogram of H WG3



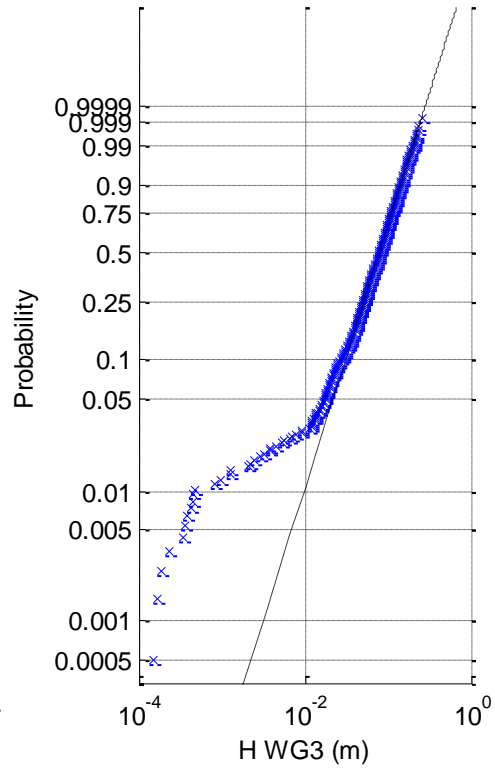
(3b) Normal probability plot of H WG3



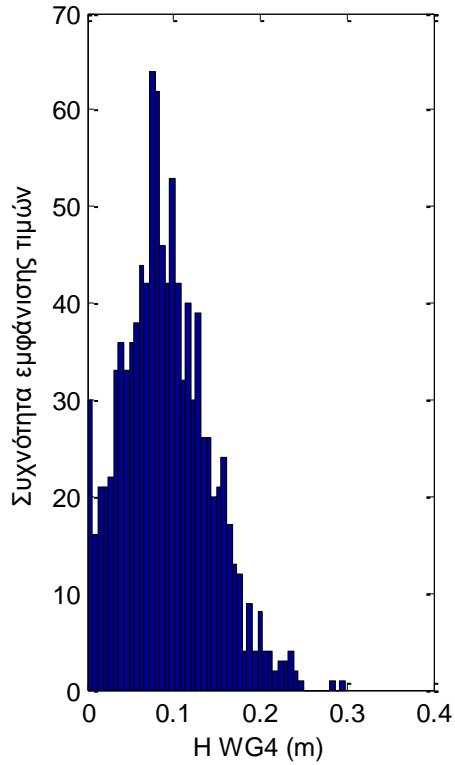
(3c) Rayleigh probability plot of H WG3



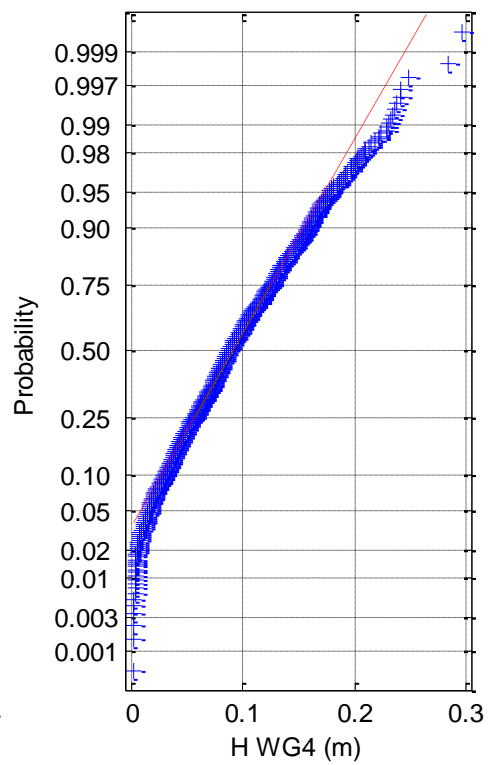
(3d) Weibull probability plot of H WG3



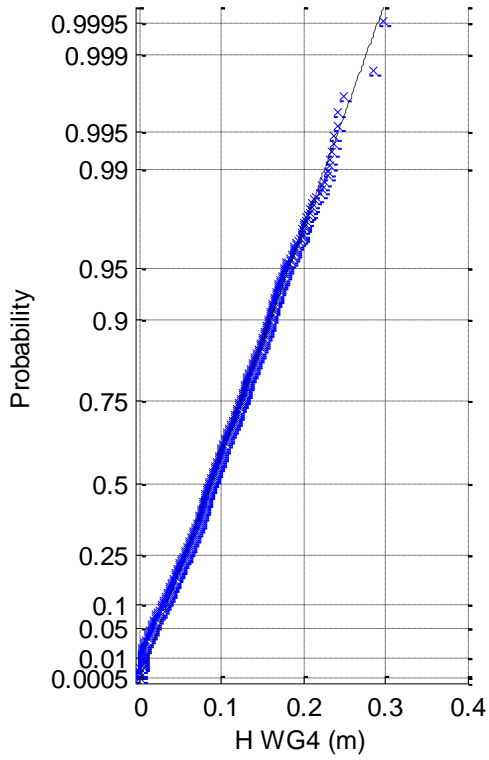
(4a) Histogram of H WG4



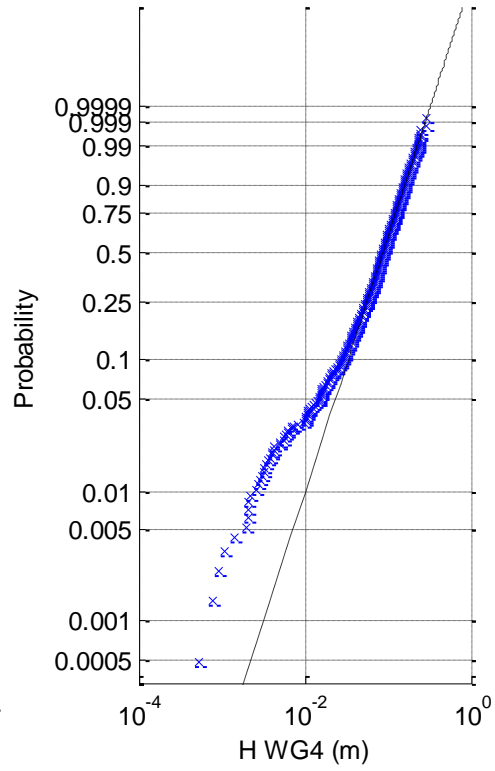
(4b) Normal probability plot of H WG4



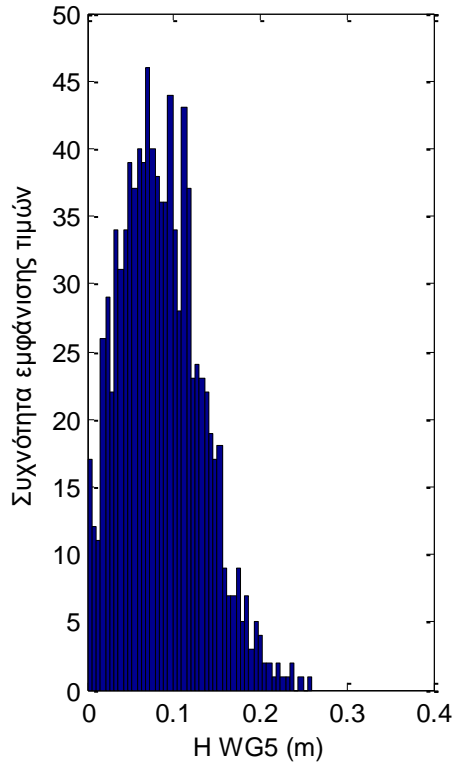
(4c) Rayleigh probability plot of H WG4



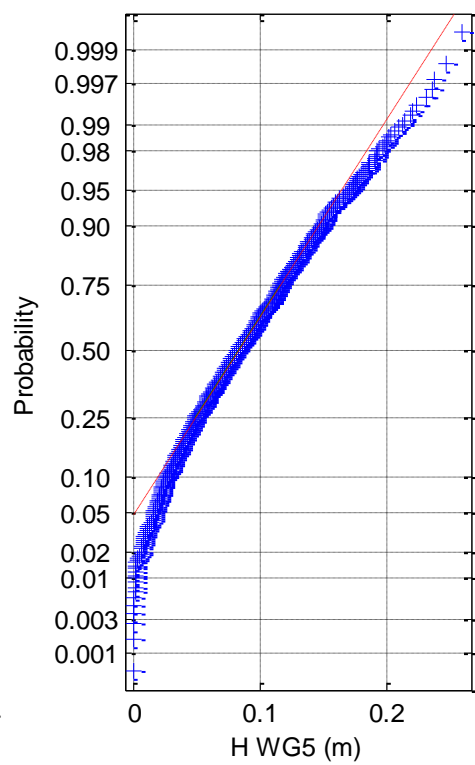
(4d) Weibull probability plot of H WG4



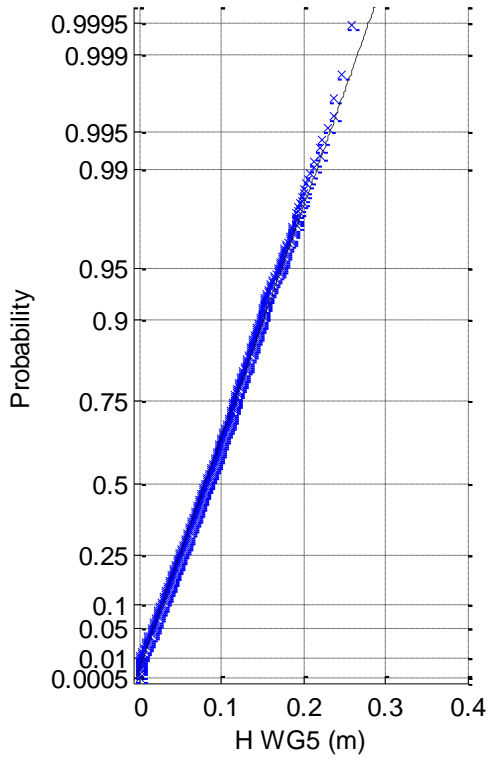
(5a) Histogram of H WG5



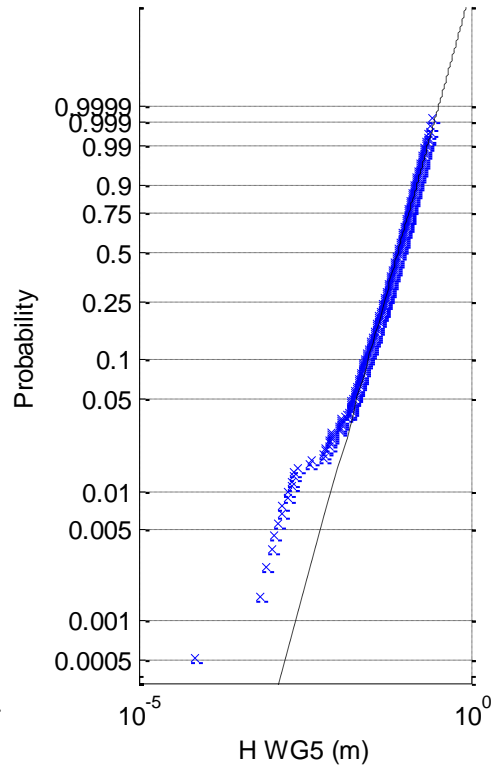
(5b) Normal probability plot of H WG5



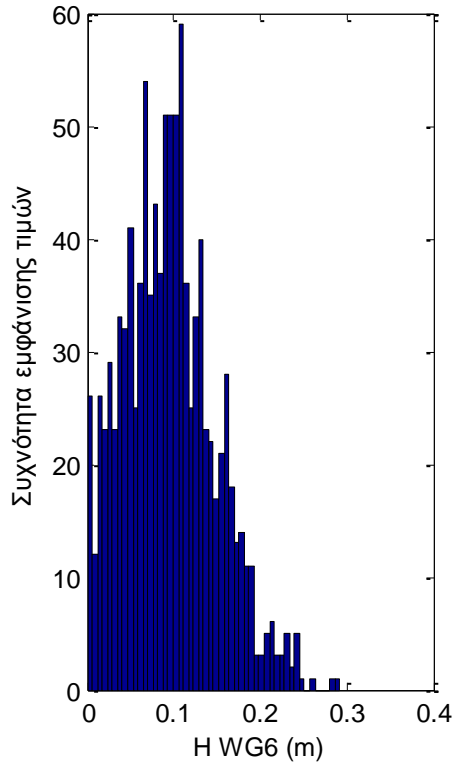
(5c) Rayleigh probability plot of H WG5



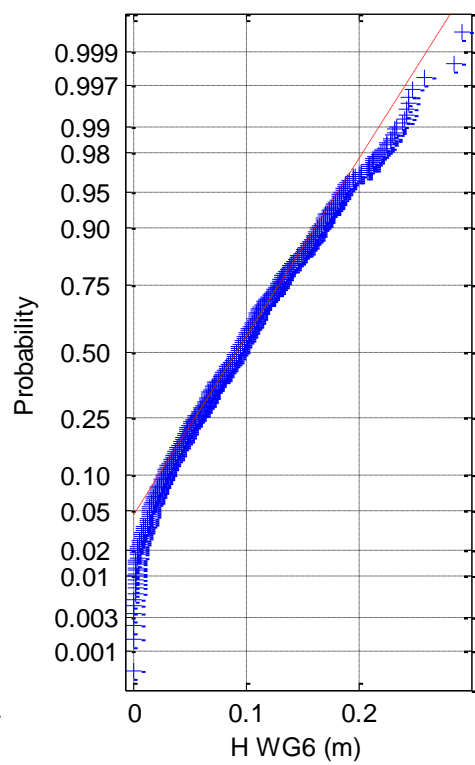
(5d) Weibull probability plot of H WG5



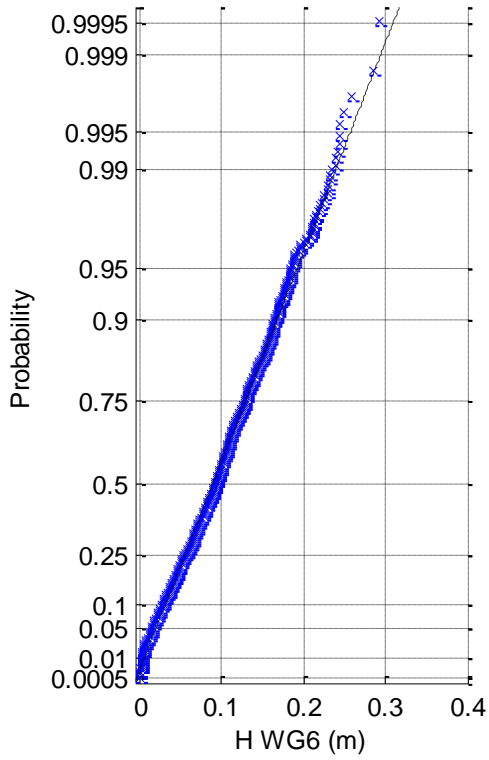
(6a) Histogram of H WG6



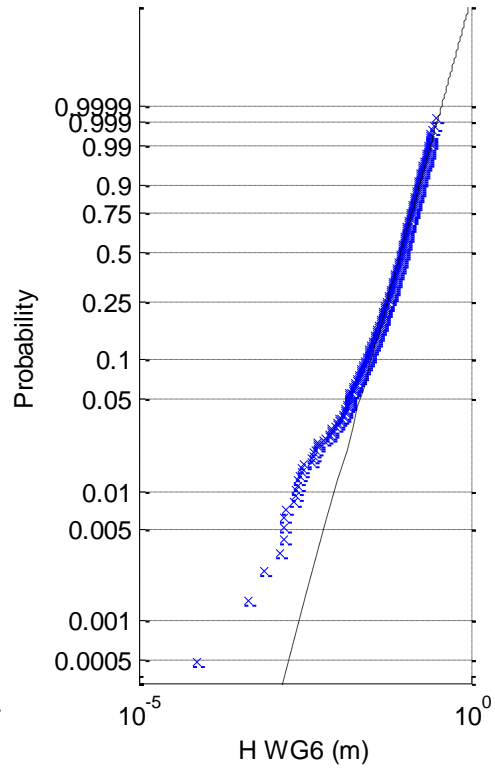
(6b) Normal probability plot of H WG6



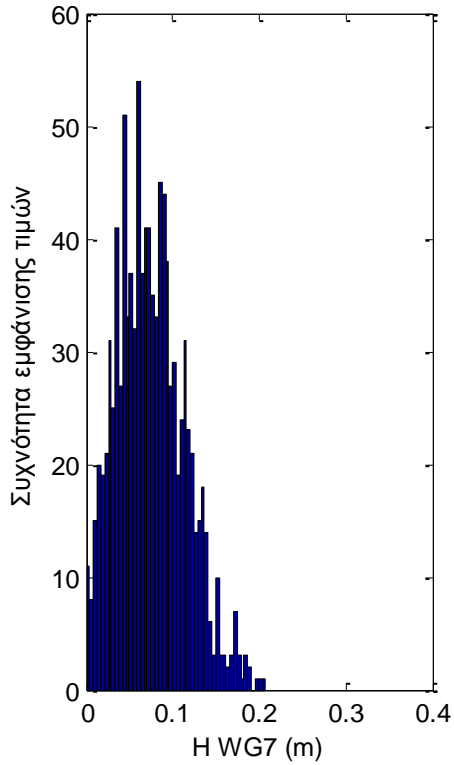
(6c) Rayleigh probability plot of H WG6



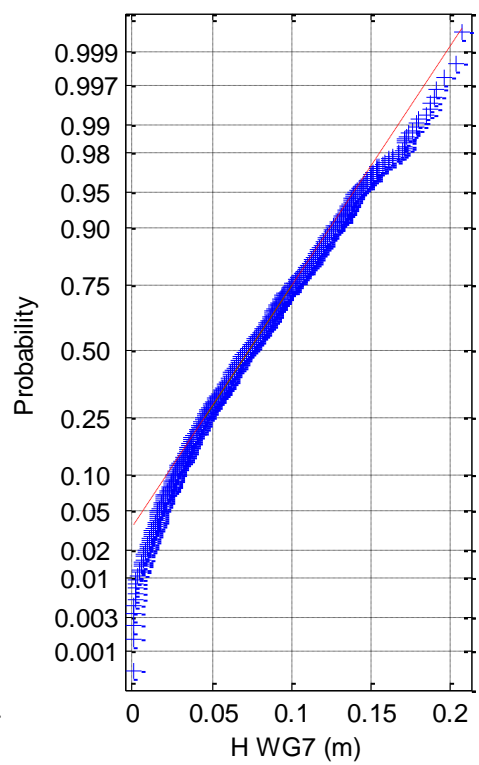
(6d) Weibull probability plot of H WG6



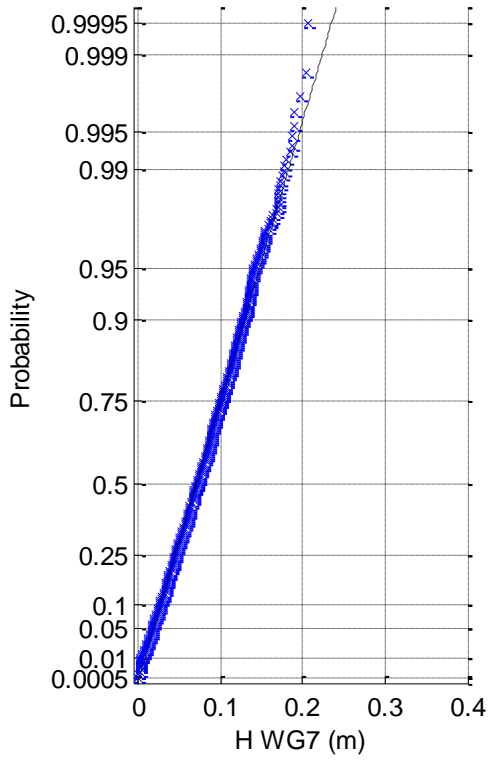
(7a) Histogram of H WG7



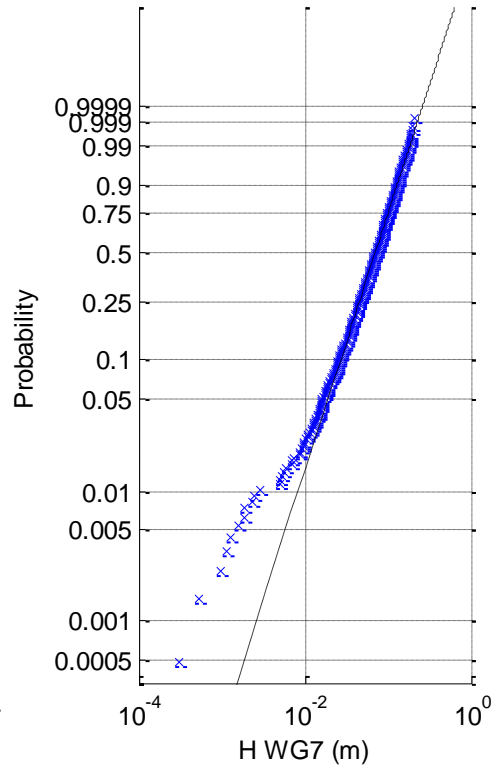
(7b) Normal probability plot of H WG7



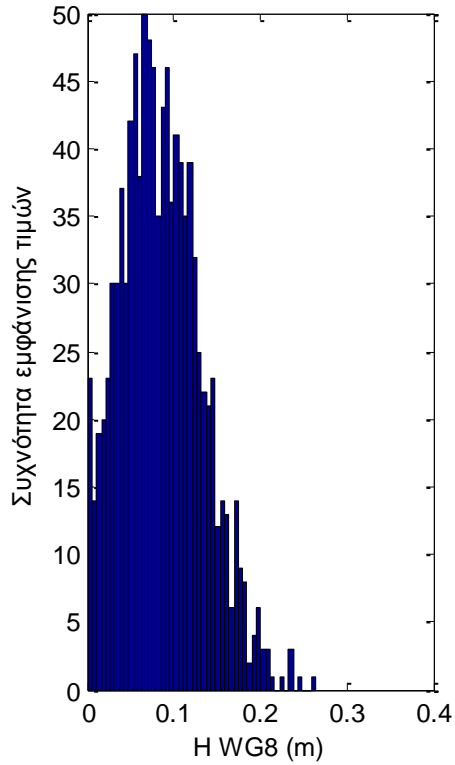
(7c) Rayleigh probability plot of H WG7



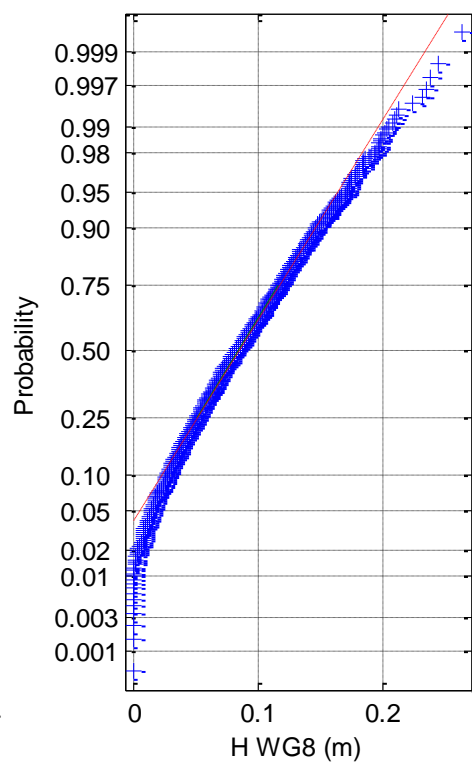
(7d) Weibull probability plot of H WG7



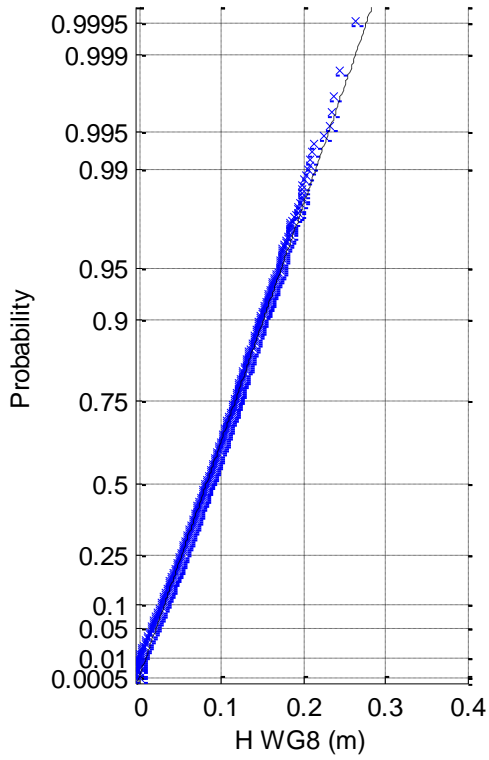
(8a) Histogram of H WG8



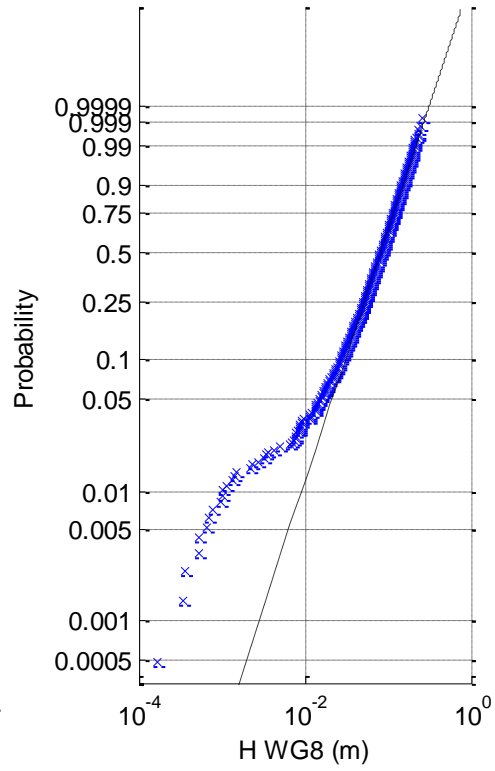
(8b) Normal probability plot of H WG8



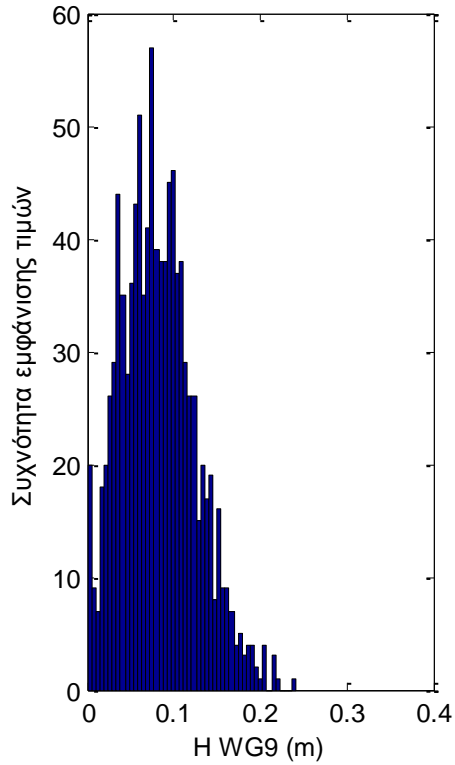
(8c) Rayleigh probability plot of H WG8



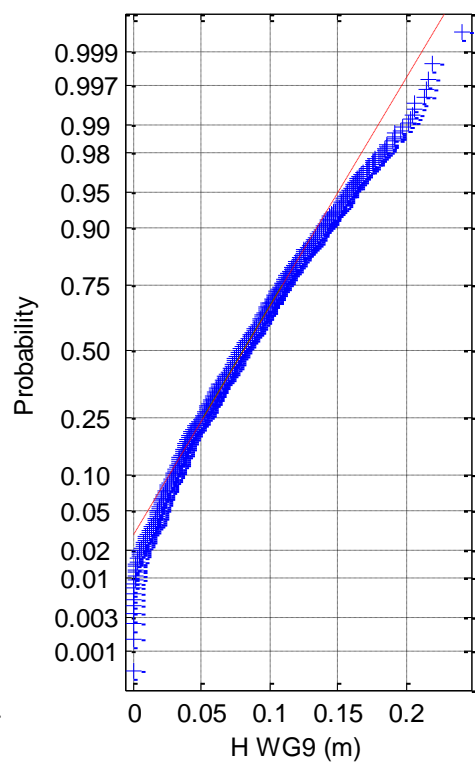
(8d) Weibull probability plot of H WG8



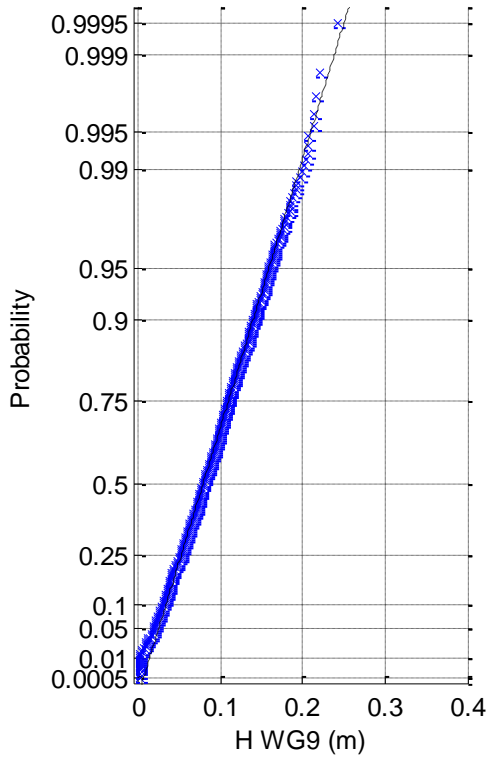
(9a) Histogram of H WG9



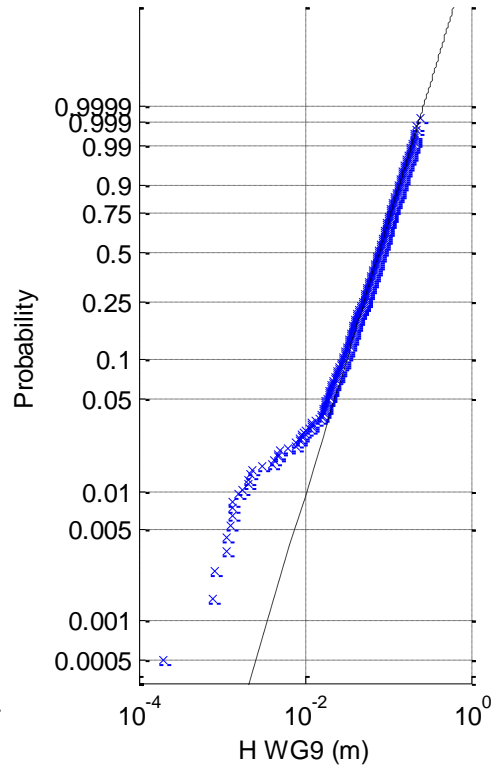
(9b) Normal probability plot of H WG9



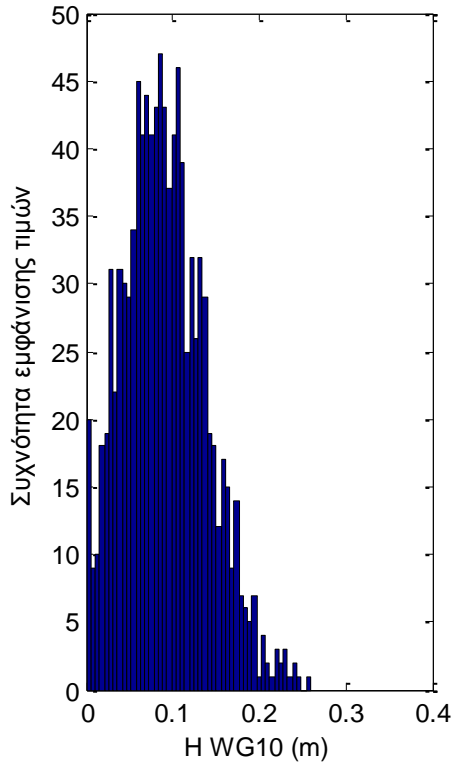
(9c) Rayleigh probability plot of H WG9



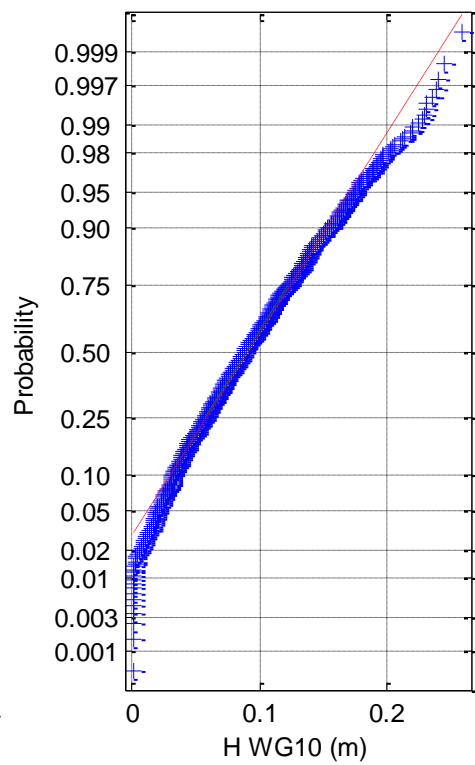
(9d) Weibull probability plot of H WG9



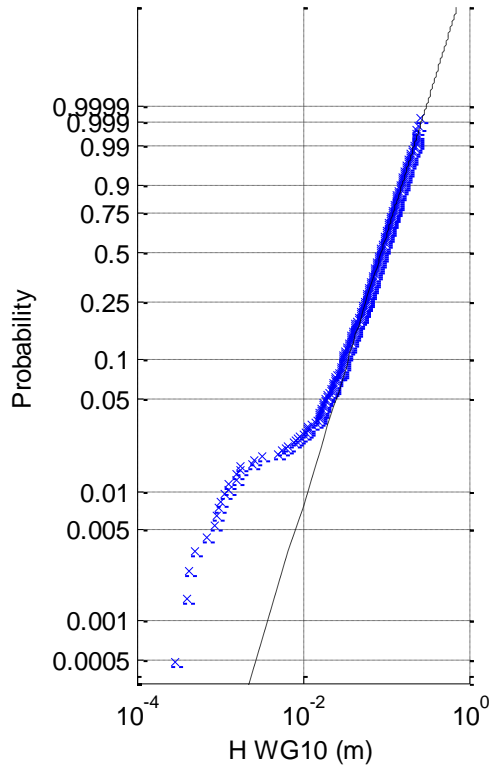
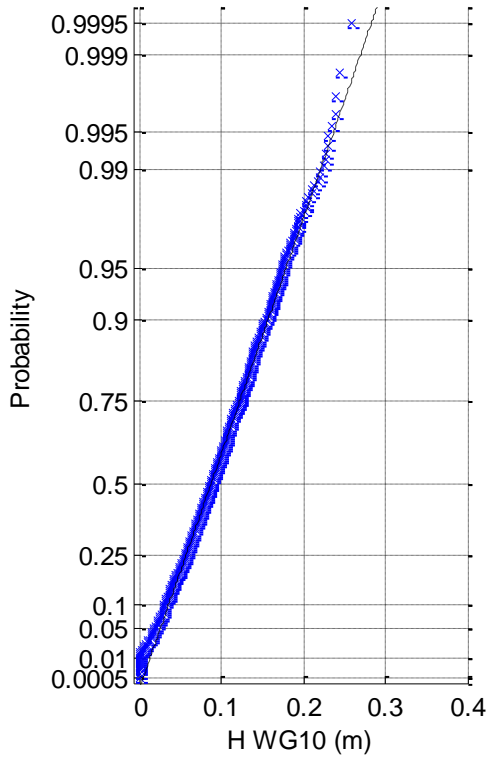
(10a) Histogram of H WG10



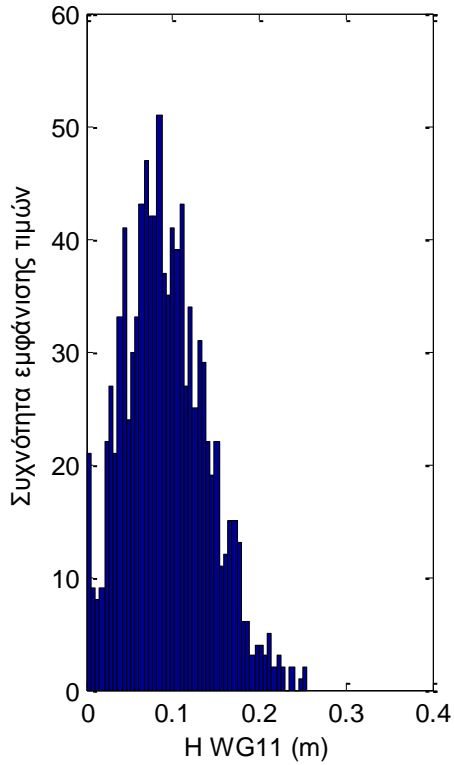
(10b) Normal probability plot of H WG10



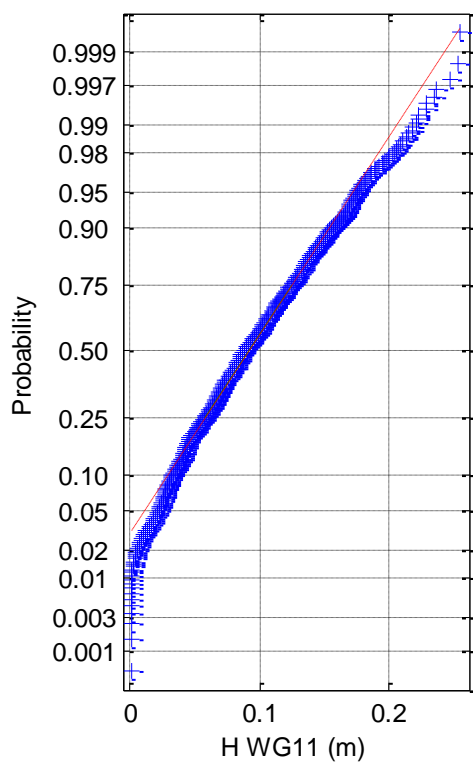
(10c) Rayleigh probability plot of H WG10 (10d) Weibull probability plot of H WG10

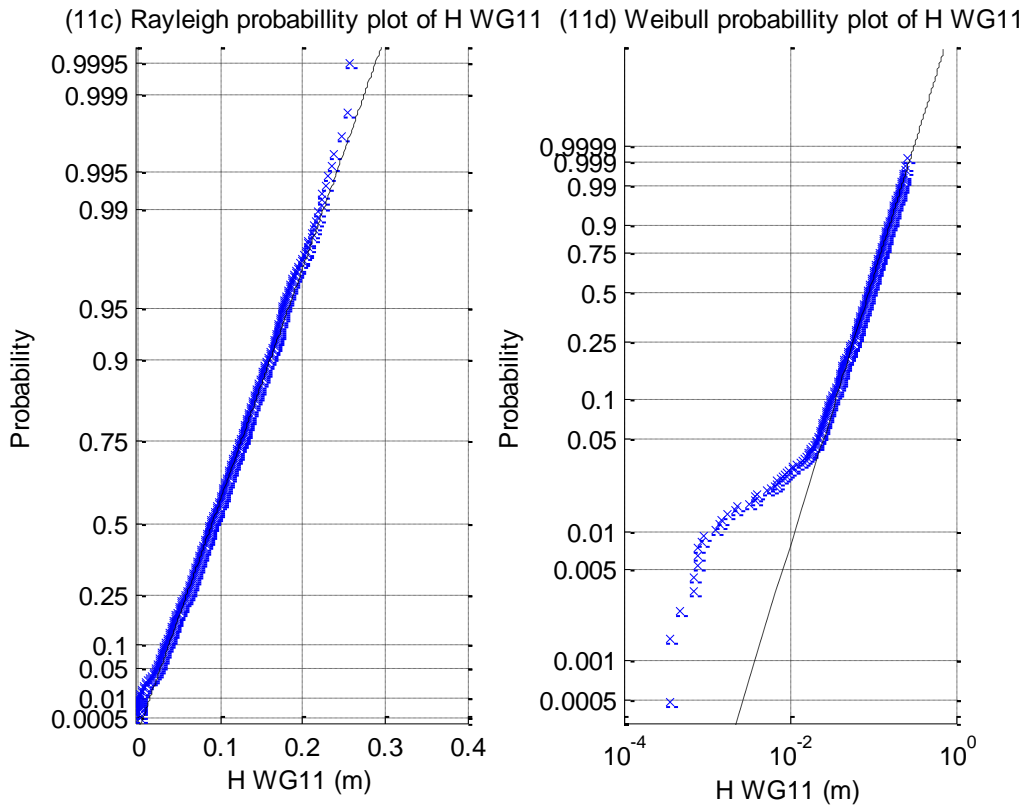


(11a) Histogram of H WG11

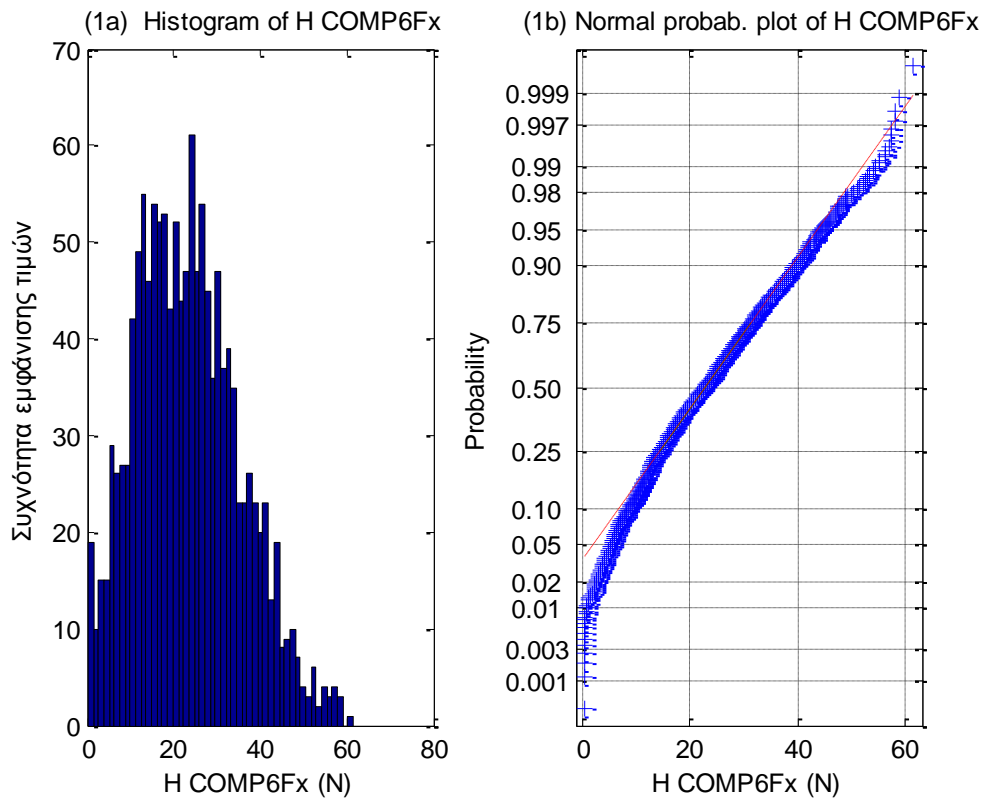


(11b) Normal probability plot of H WG11

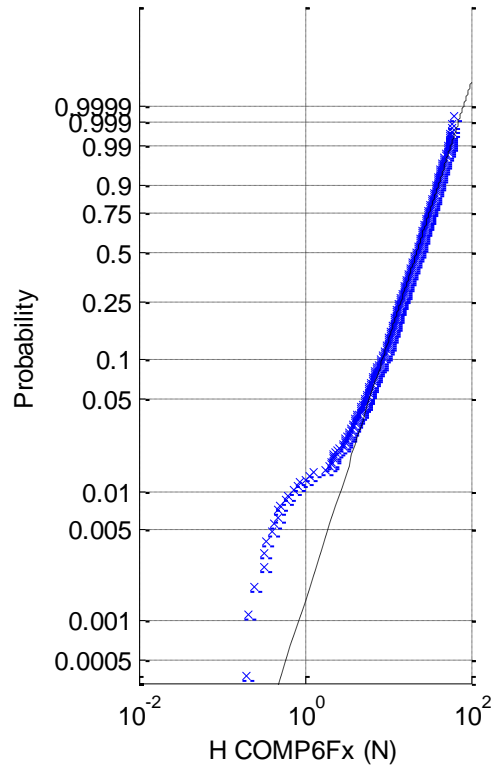
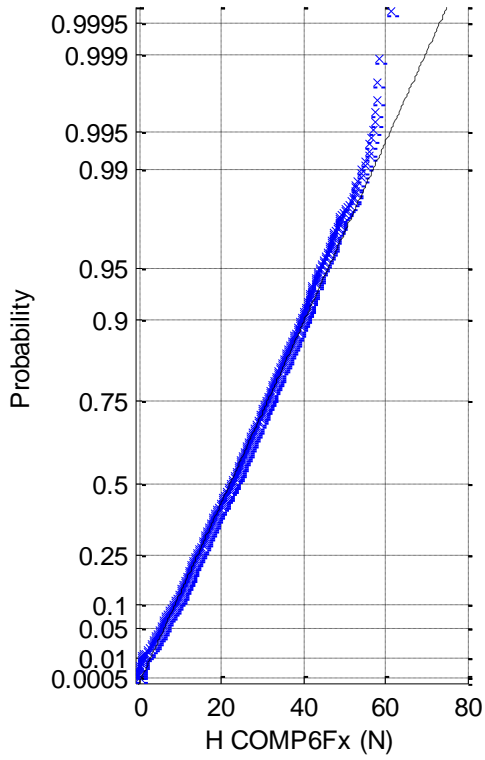




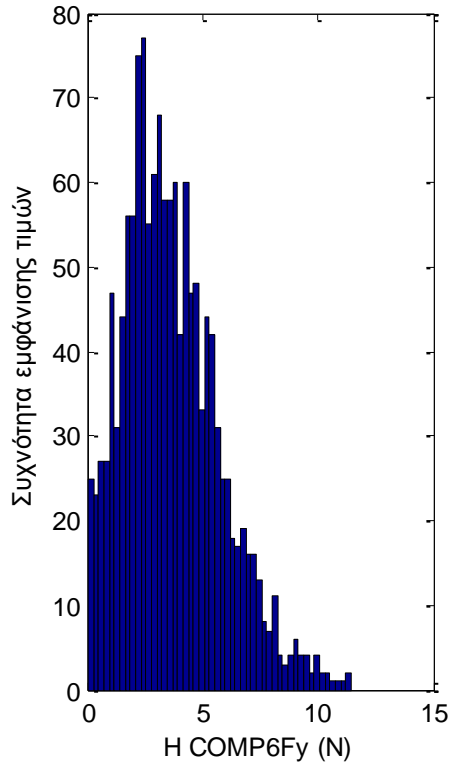
Σχήματα 1.4.6.1 (1-11) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος



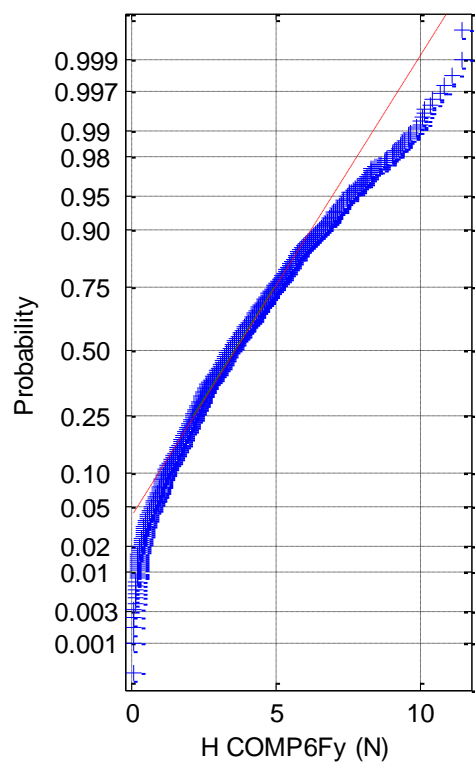
(1c) Rayleigh probab. plot of H COMP6Fx (1d) Weibull probab. plot of H COMP6Fx



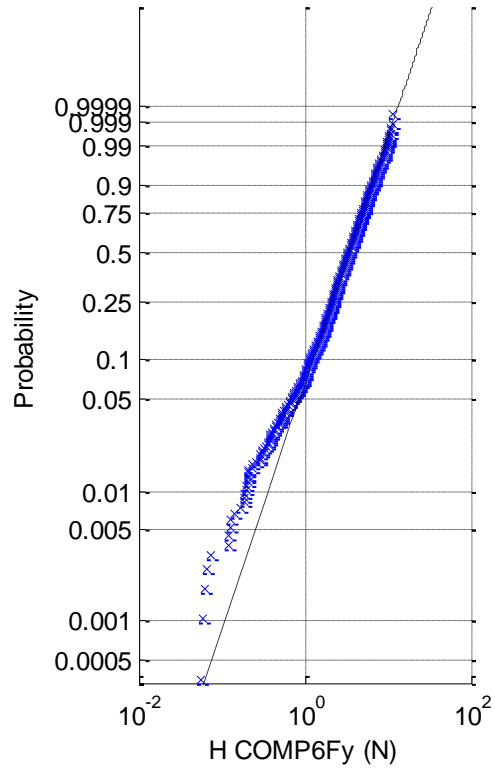
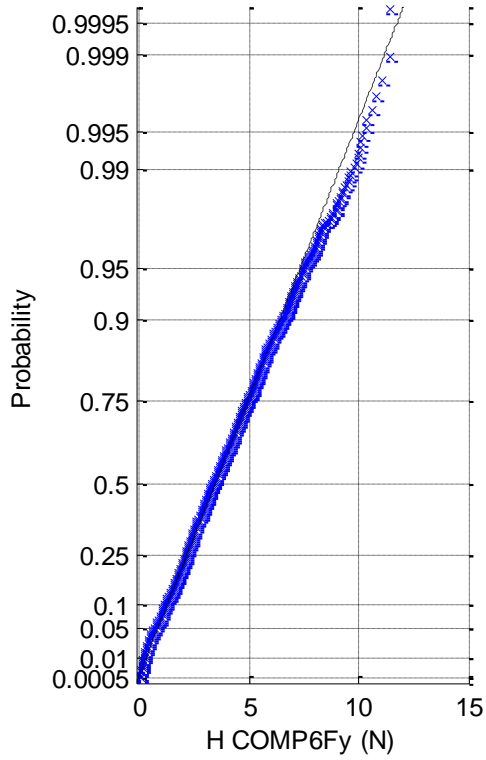
(2a) Histogram of H COMP6Fy



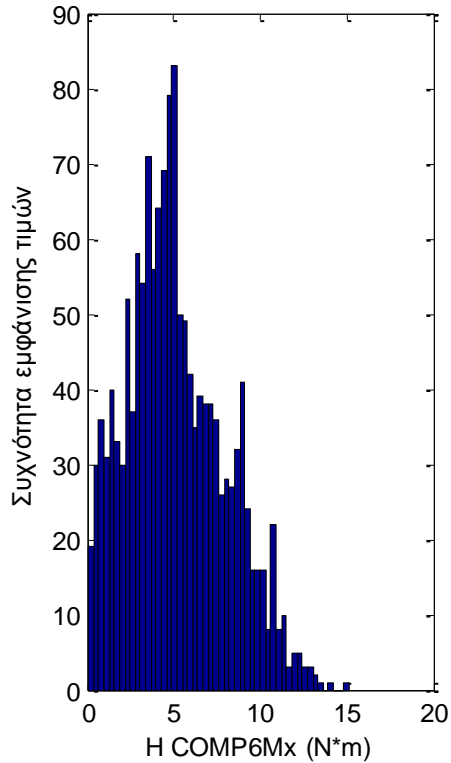
(2b) Normal probab. plot of H COMP6Fy



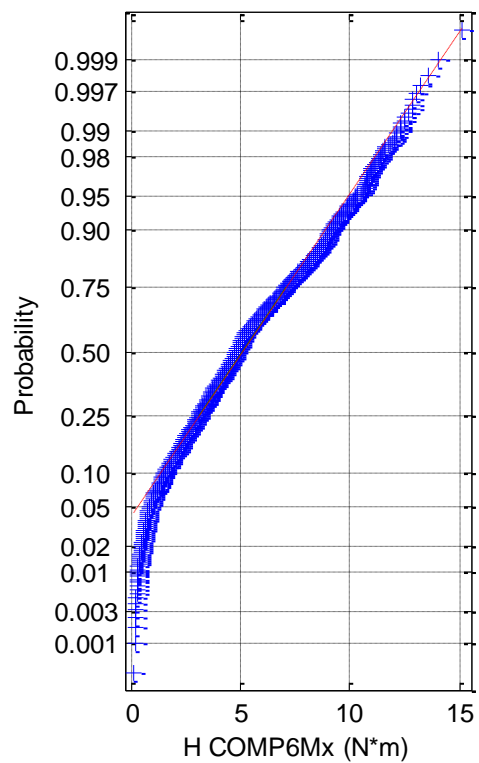
(2c) Rayleigh probab. plot of H COMP6Fy (2d) Weibull probab. plot of H COMP6Fy



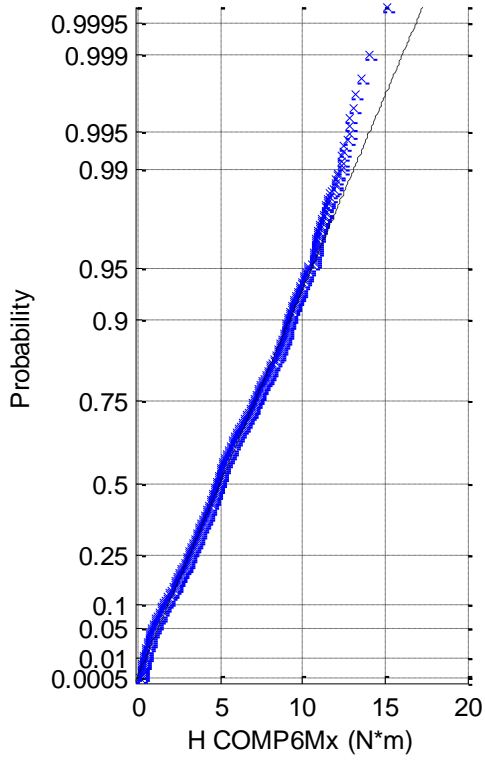
(3a) Histogram of H COMP6Mx



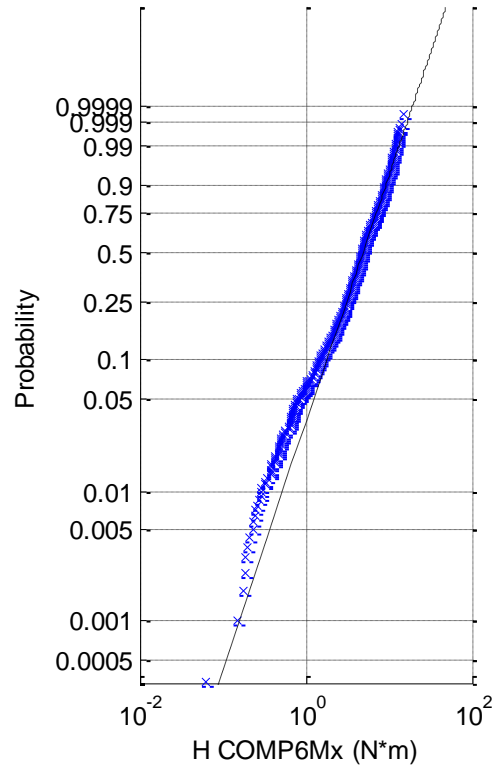
(3b) Normal probab. plot of H COMP6Mx



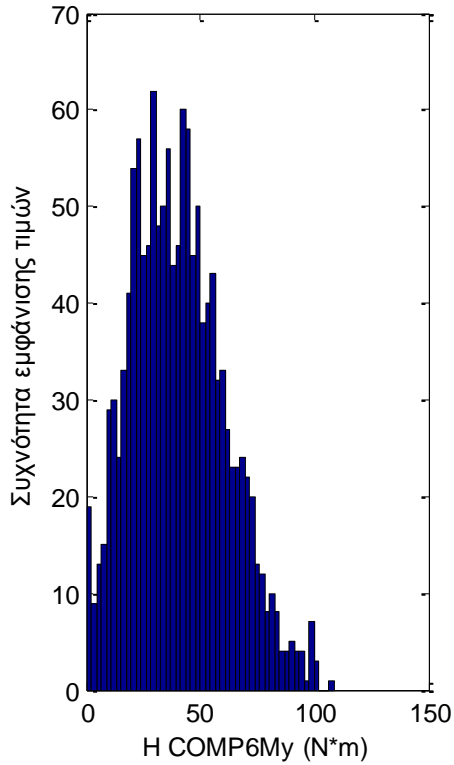
(3c) Rayleigh prob. plot of H COMP6Mx



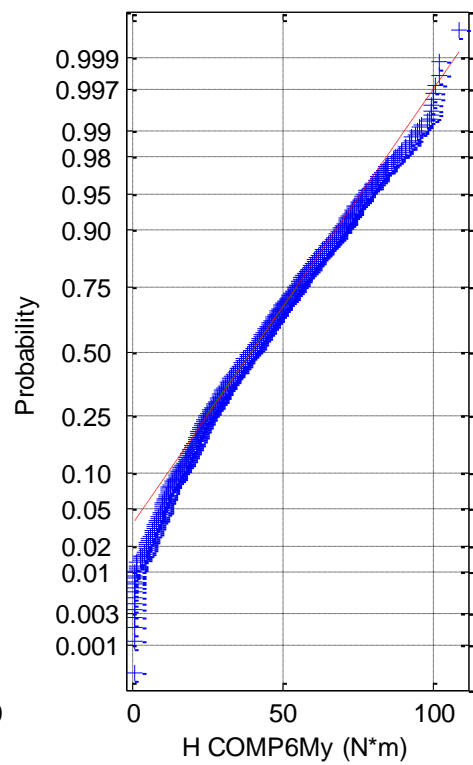
(3d) Weibull prob. plot of H COMP6Mx



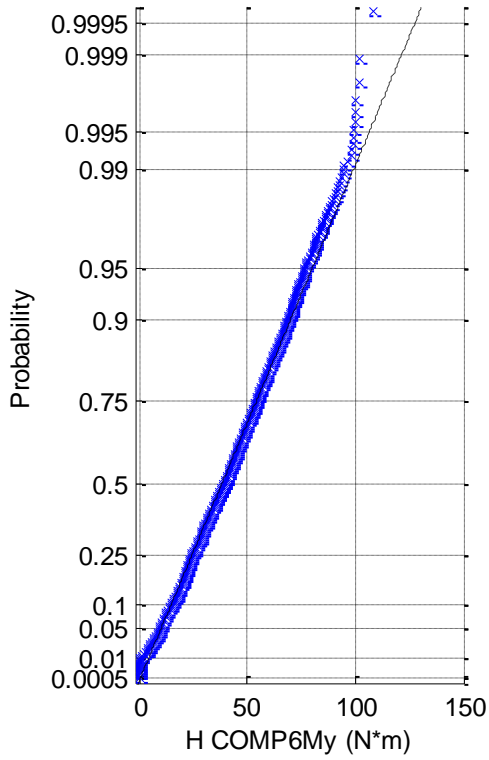
(4a) Histogram of H COMP6My



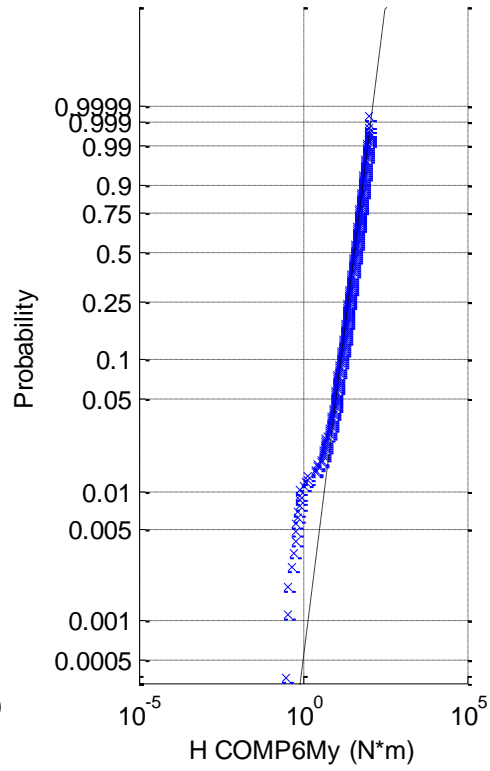
(4b) Normal prob. plot of H COMP6My



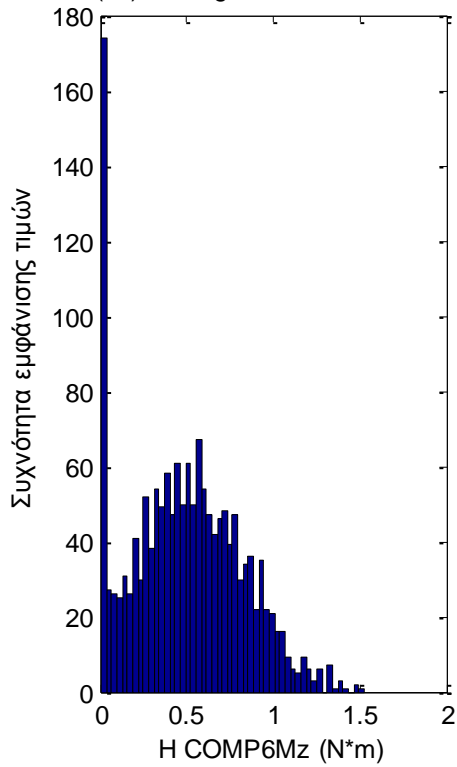
(4c) Rayleigh prob. plot of H COMP6My



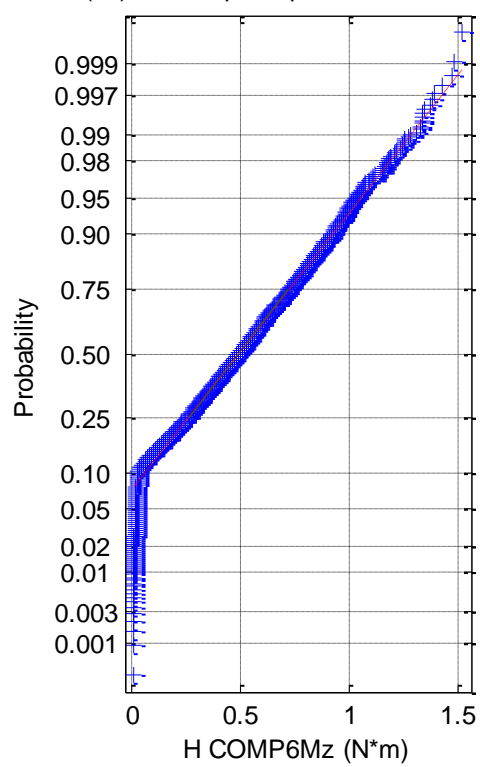
(4d) Weibull prob. plot of H COMP6My

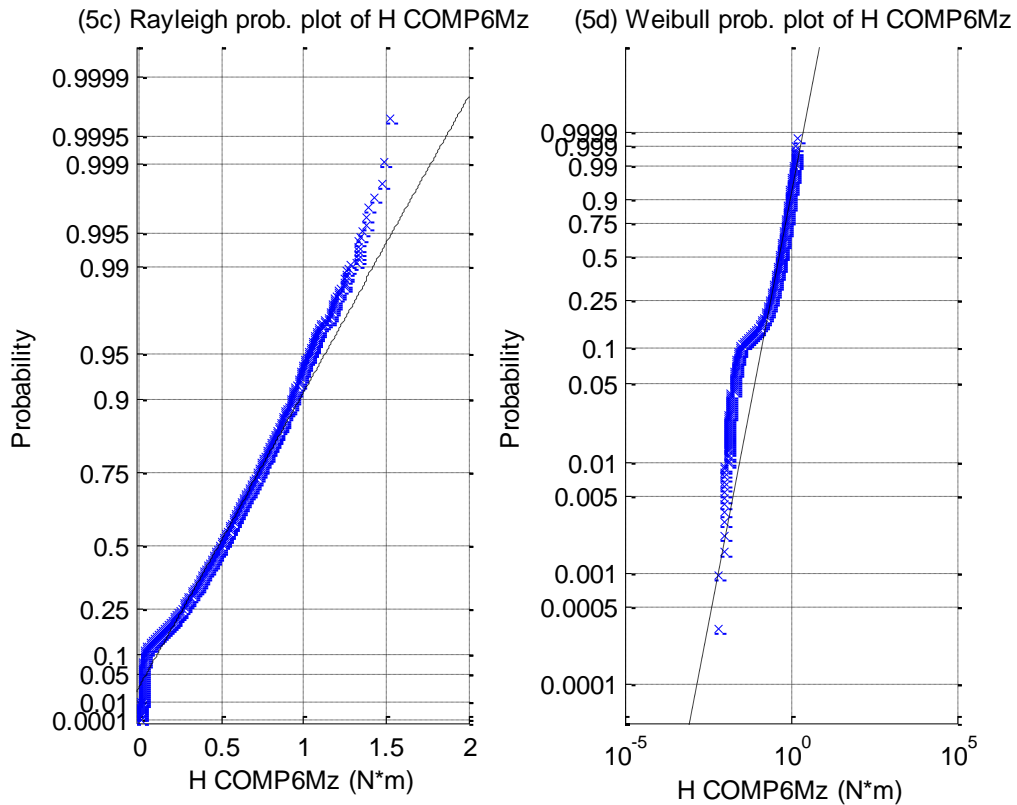


(5a) Histogram of H COMP6Mz

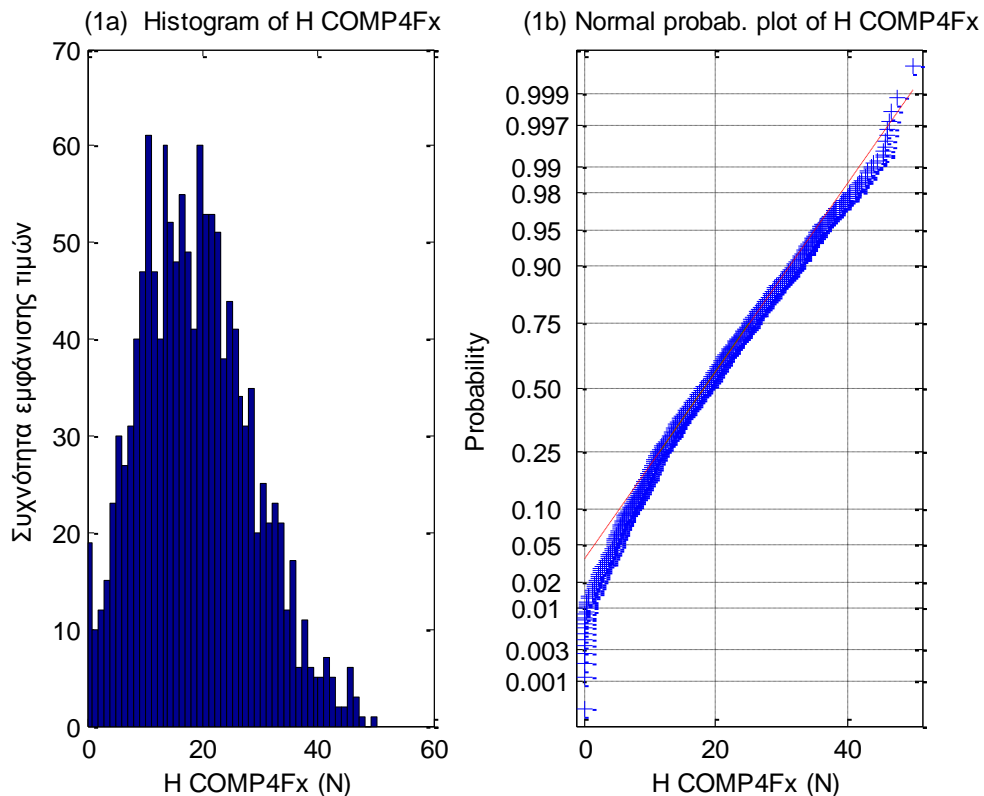


(5b) Normal prob. plot of H COMP6Mz

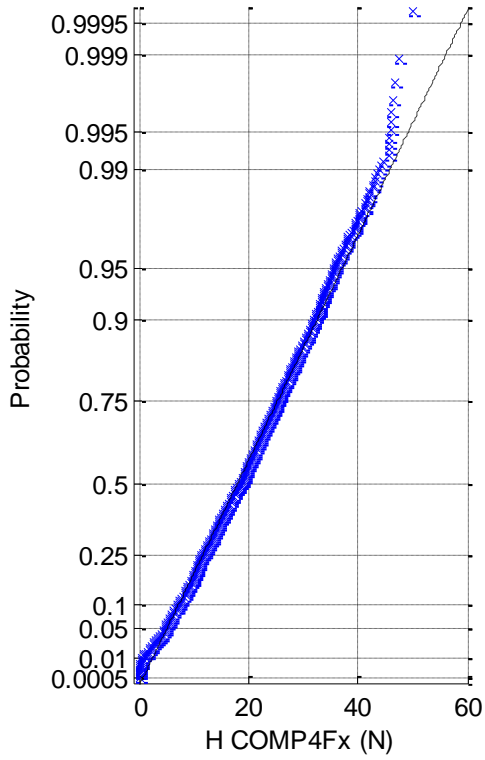




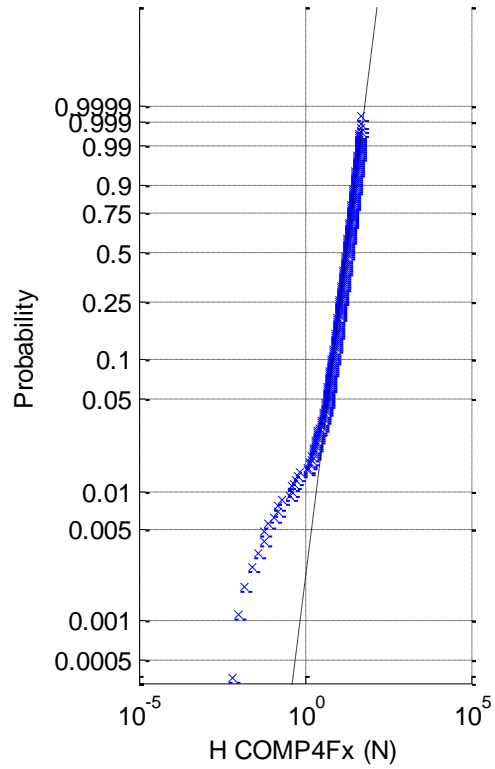
Σχήματα 1.4.6.2 (1-5) a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις δύο διευθύνσεις (1) surge, και (2) sway και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



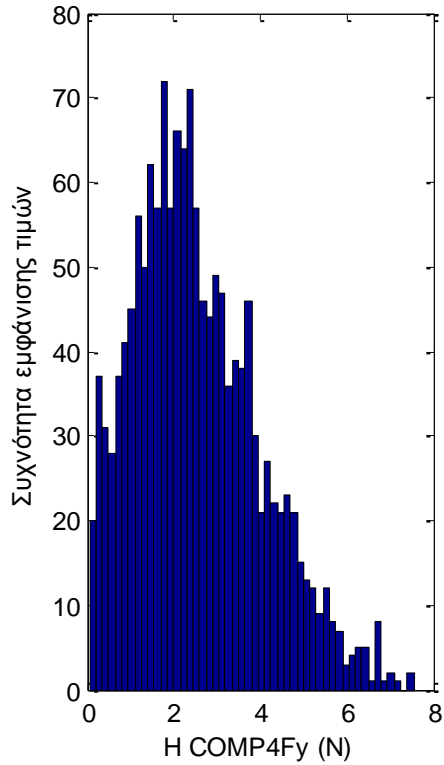
(1c) Rayleigh probab. plot of H COMP4Fx



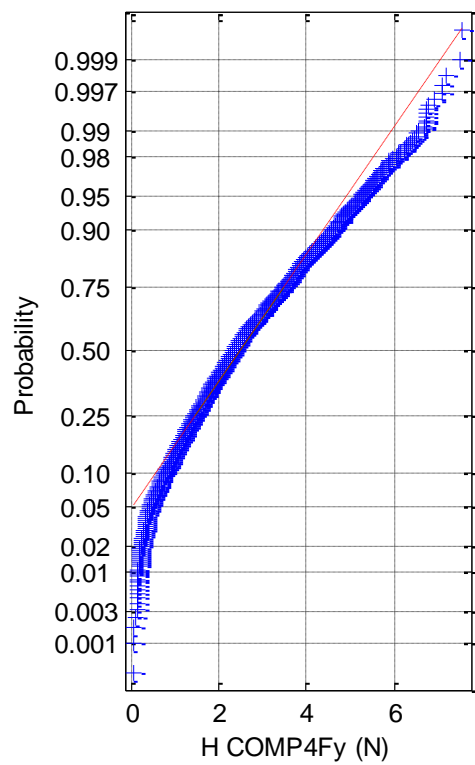
(1d) Weibull probab. plot of H COMP4Fx



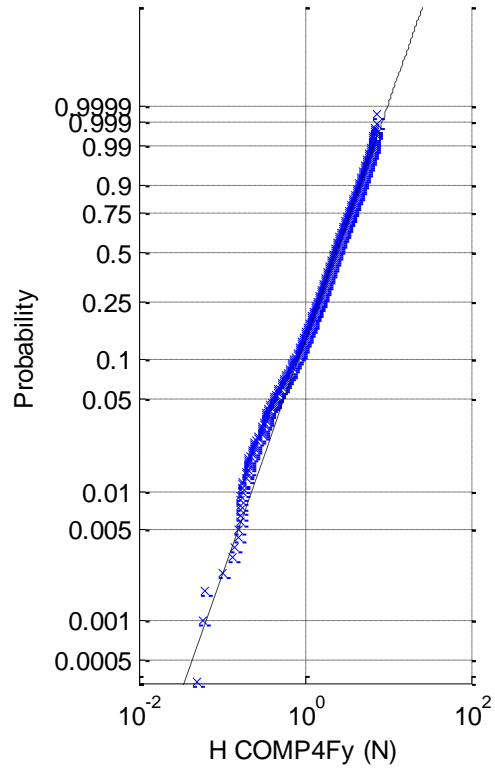
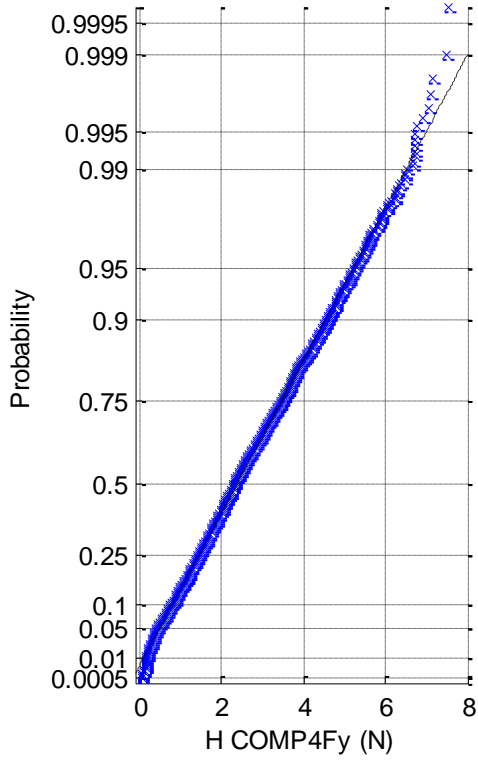
(2a) Histogram of H COMP4Fy



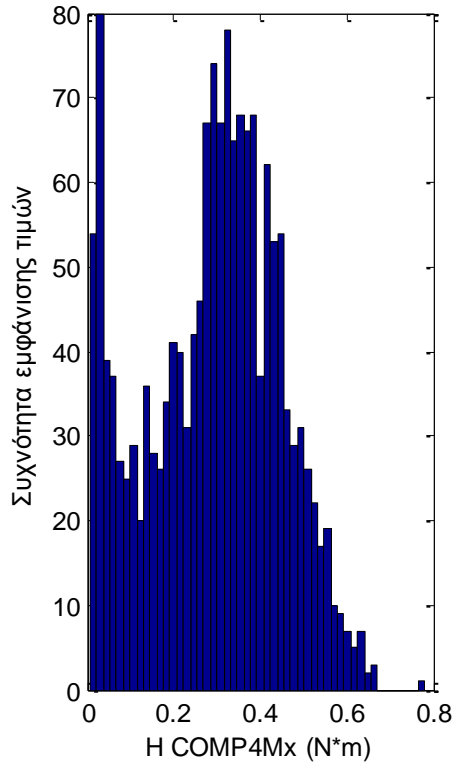
(2b) Normal probab. plot of H COMP4Fy



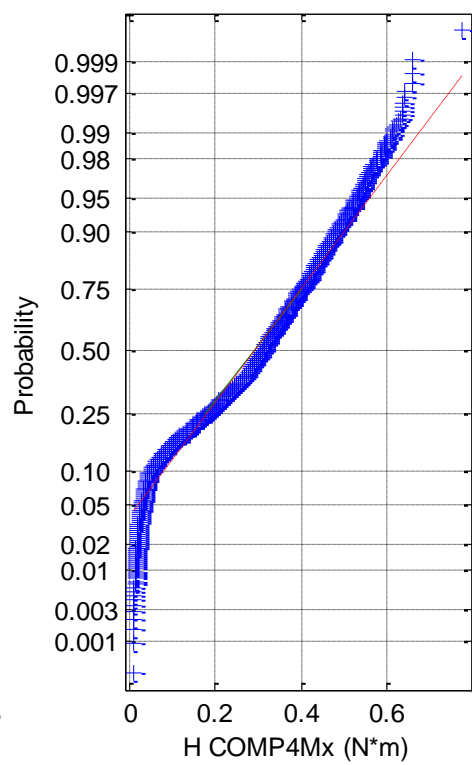
(2c) Rayleigh probab. plot of H COMP4Fy (2d) Weibull probab. plot of H COMP4Fy



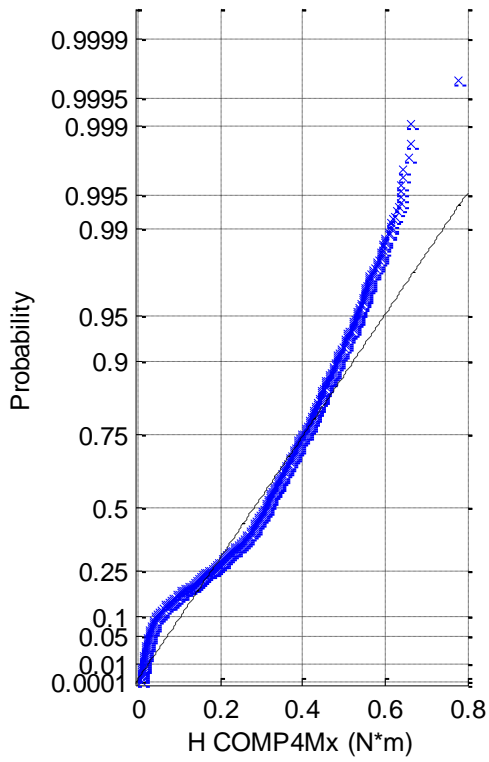
(3a) Histogram of H COMP4Mx



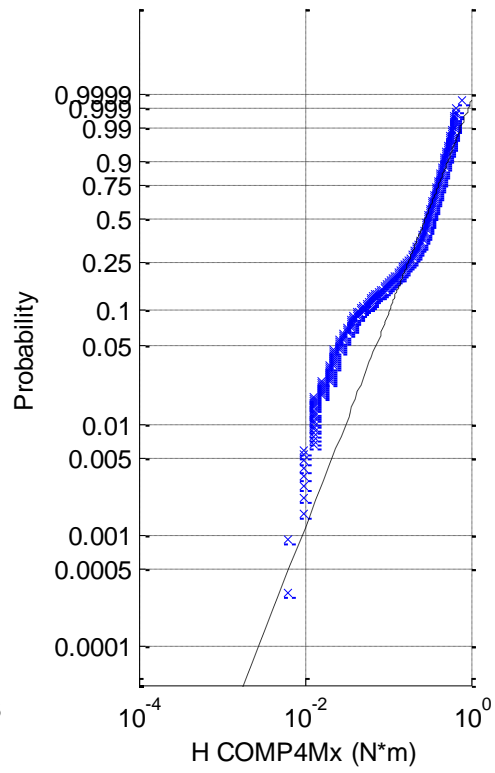
(3b) Normal probab. plot of H COMP4Mx



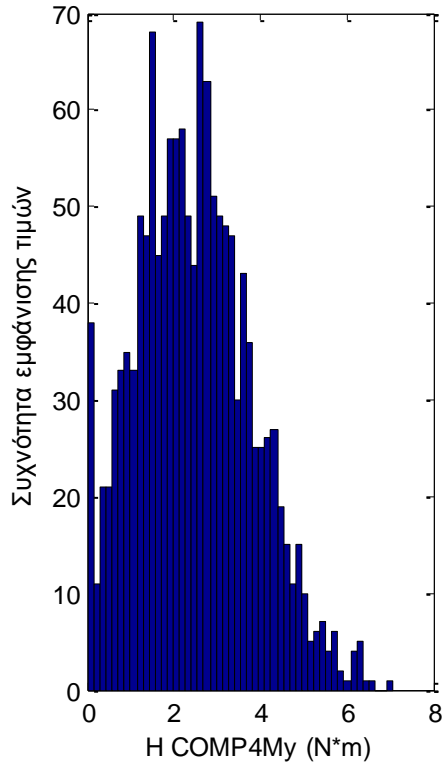
(3c) Rayleigh prob. plot of H COMP4Mx



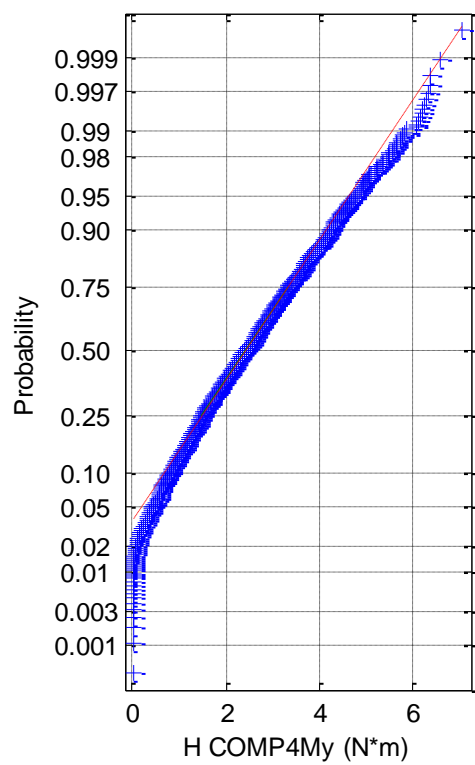
(3d) Weibull prob. plot of H COMP4Mx

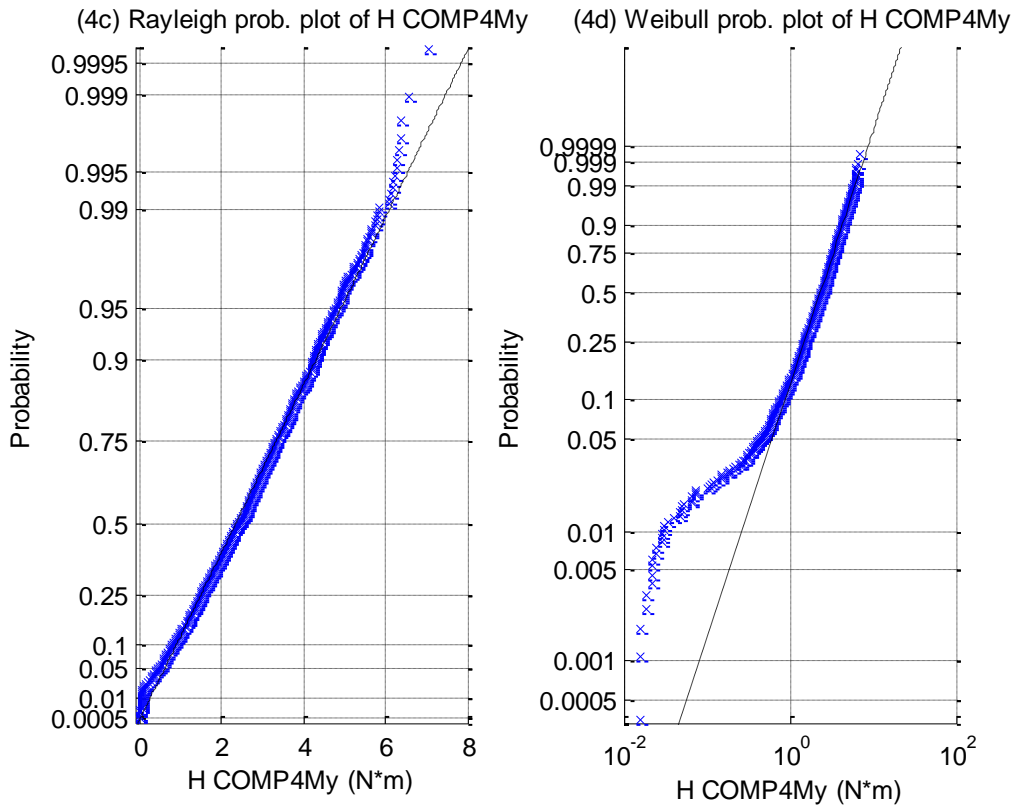


(4a) Histogram of H COMP4My

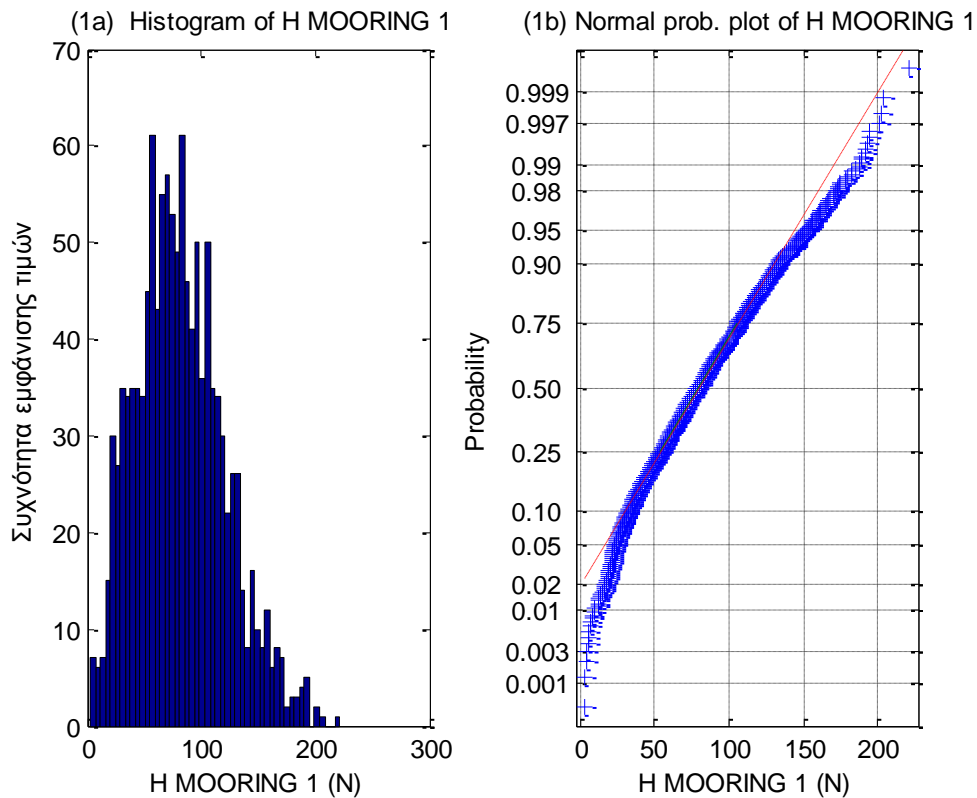


(4b) Normal prob. plot of H COMP4My

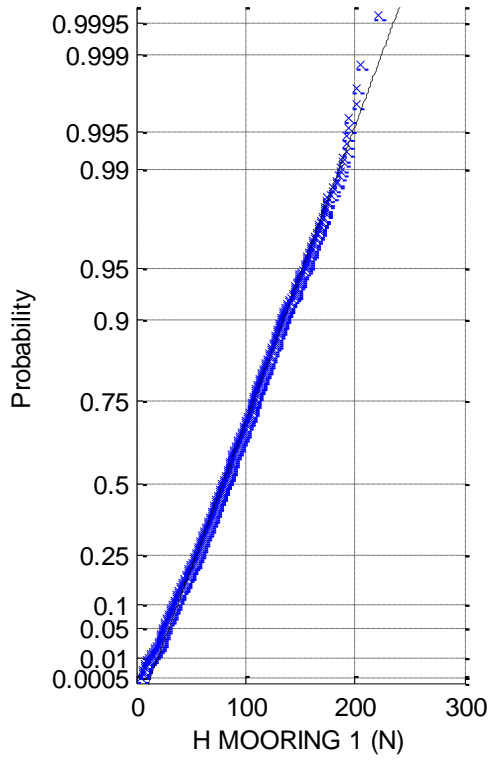




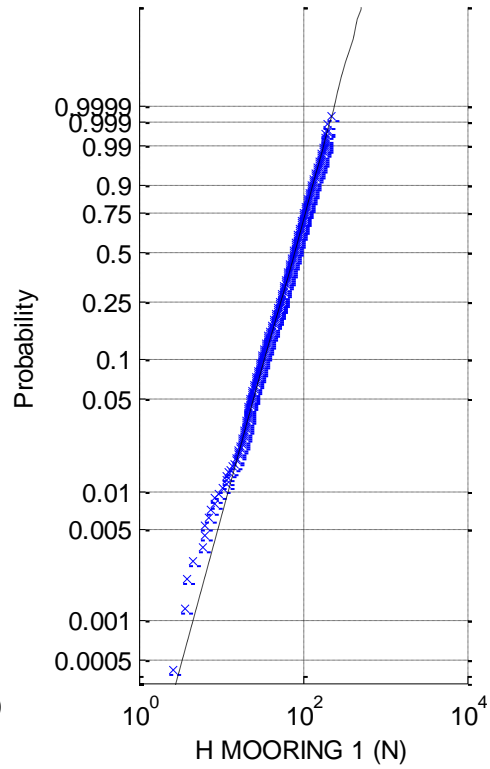
Σχήματα 1.4.6.3 (1-4) a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



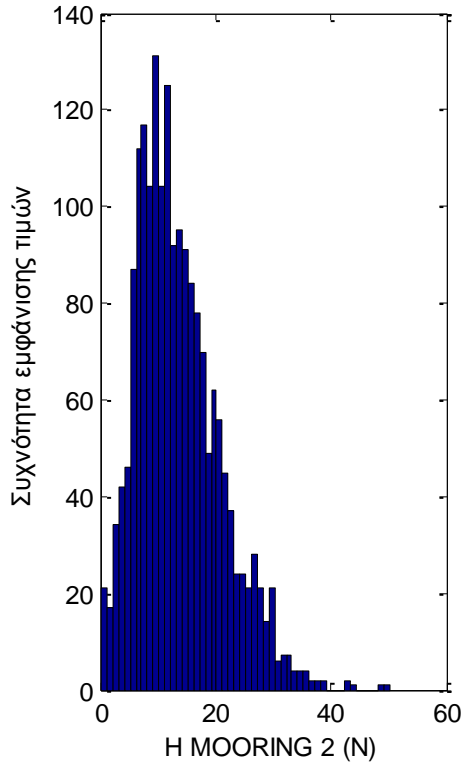
(1c) Rayleigh prob. plot of H MOORING 1



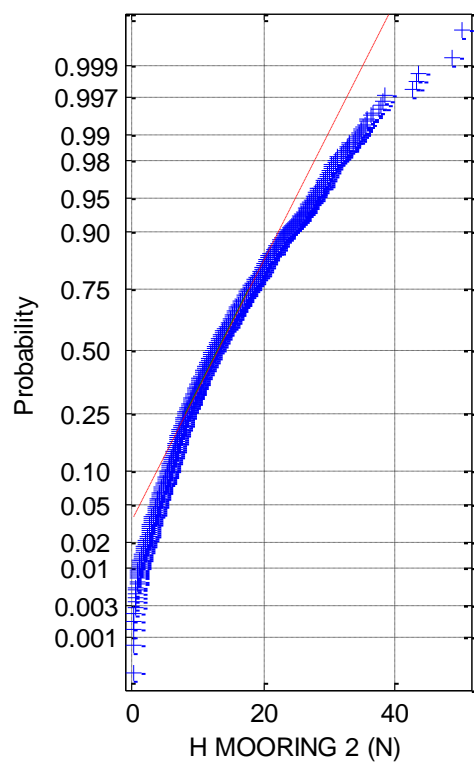
(1d) Weibull prob. plot of H MOORING 1



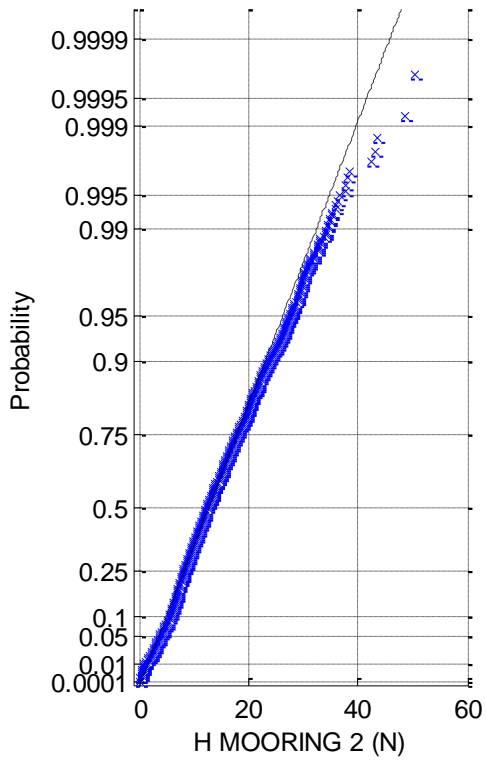
(2a) Histogram of H MOORING 2



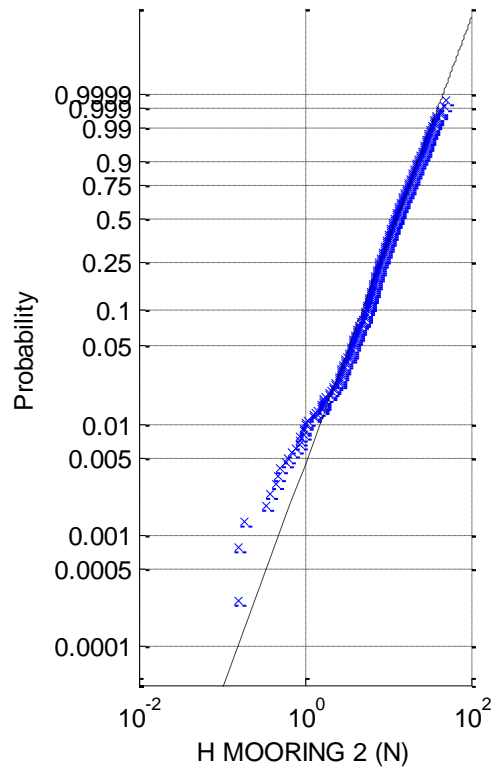
(2b) Normal prob. plot of H MOORING 2



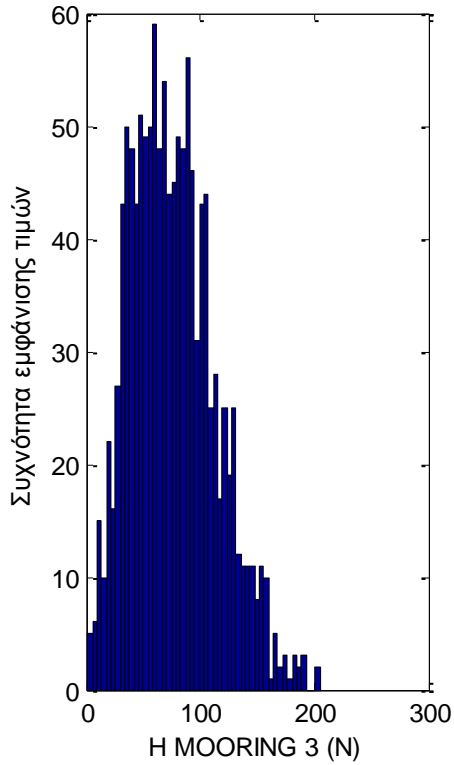
(2c) Rayleigh prob. plot of H MOORING 2



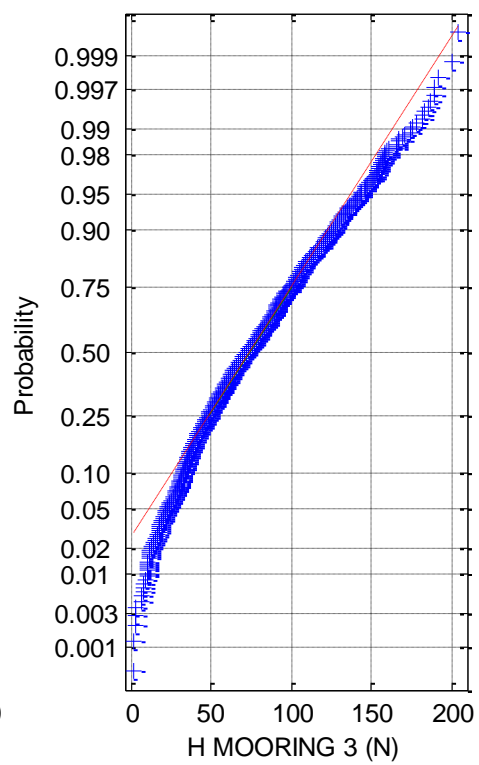
(2d) Weibull prob. plot of H MOORING 2



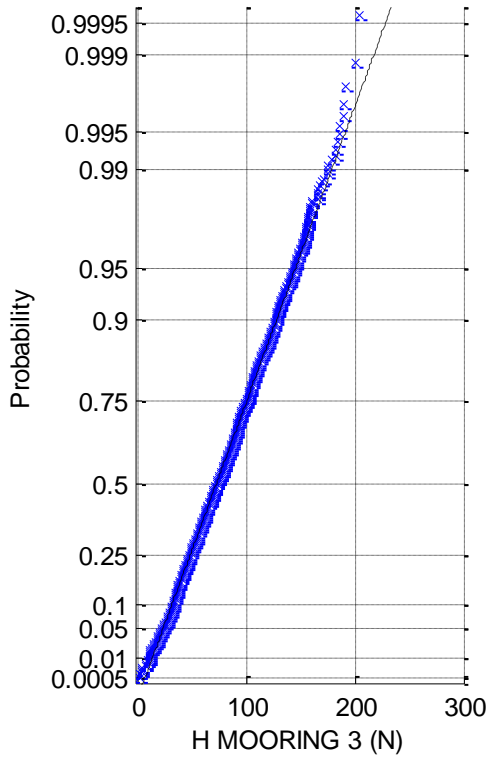
(3a) Histogram of H MOORING 3



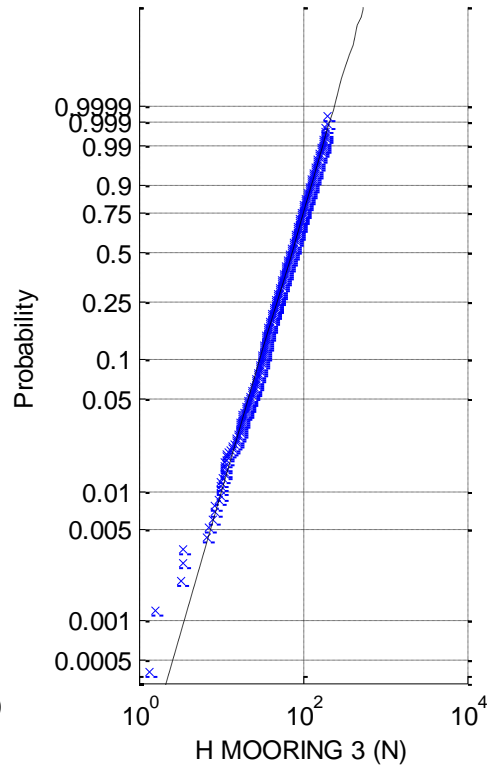
(3b) Normal prob. plot of H MOORING 3



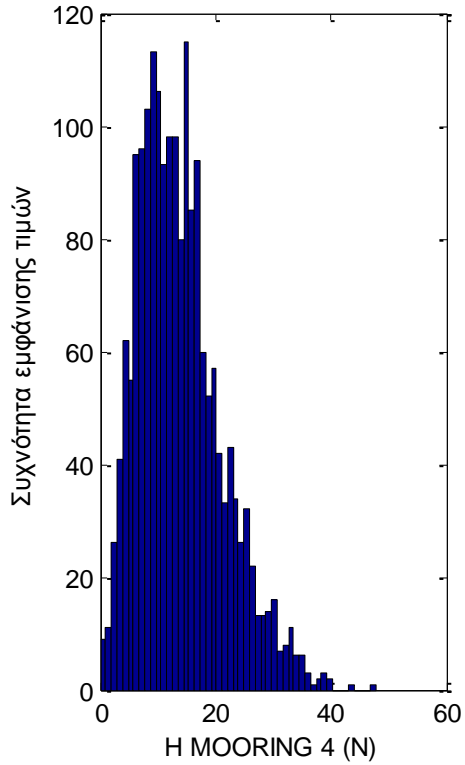
(3c) Rayleigh prob. plot of H MOORING 3



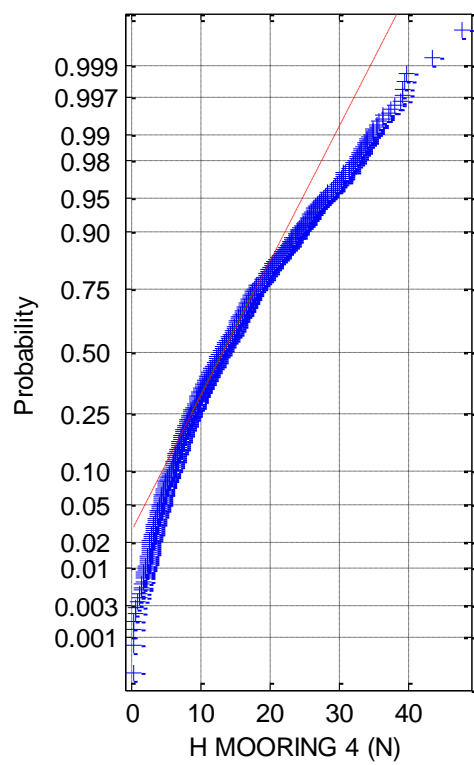
(3d) Weibull prob. plot of H MOORING 3

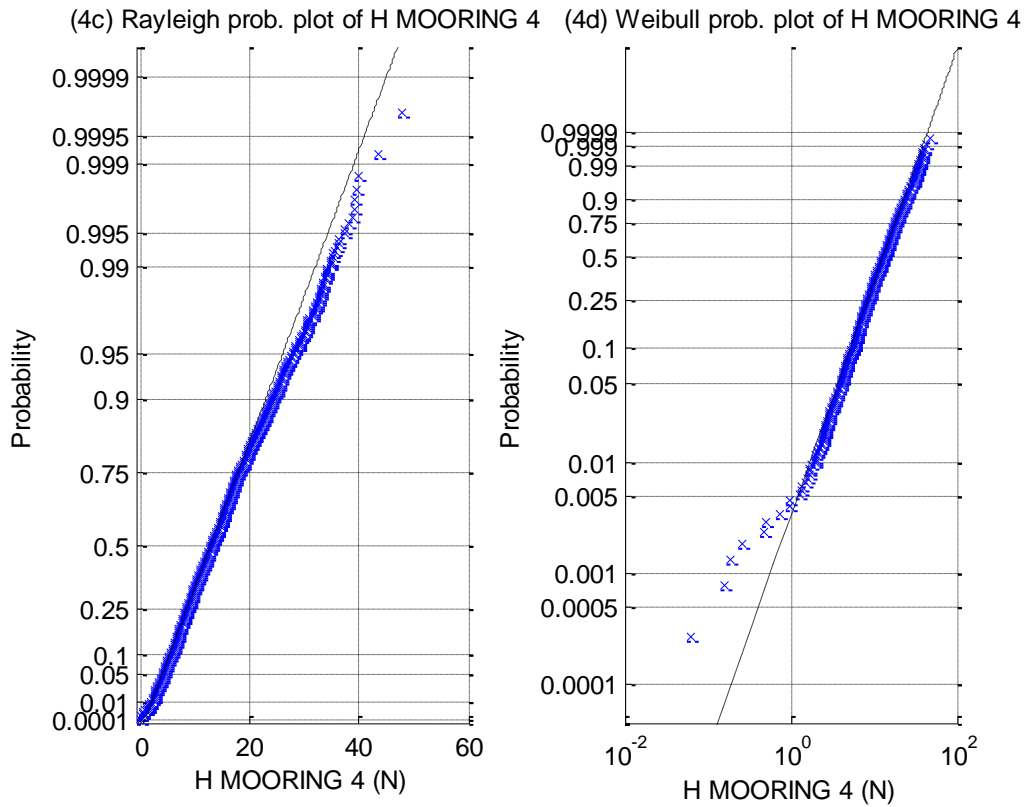


(4a) Histogram of H MOORING 4

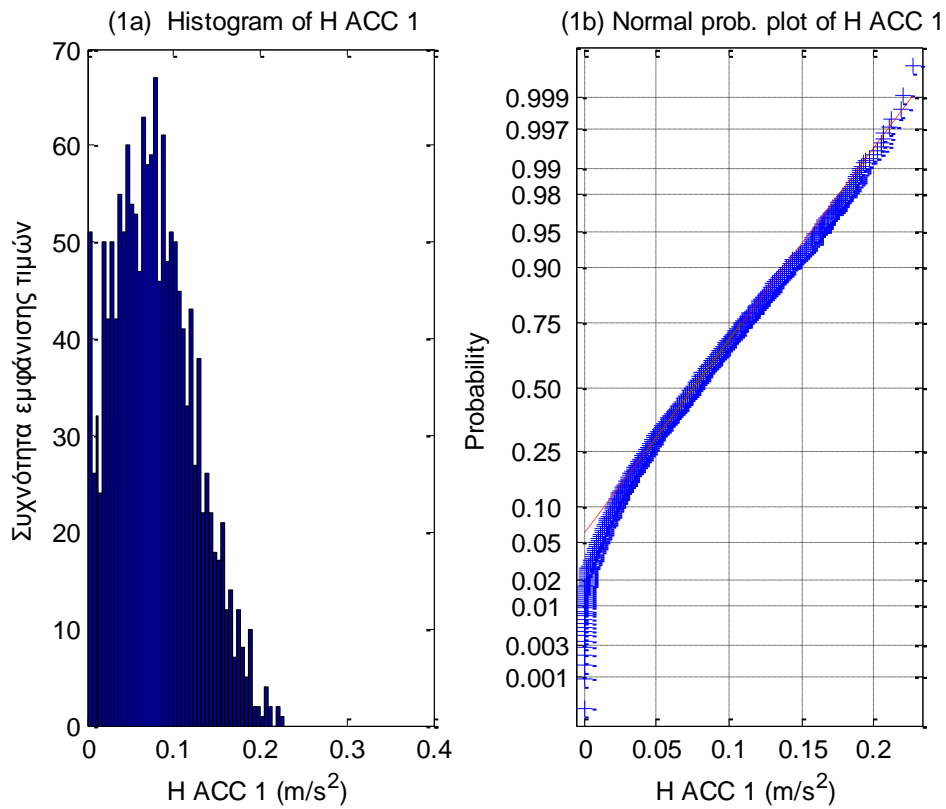


(4b) Normal prob. plot of H MOORING 4

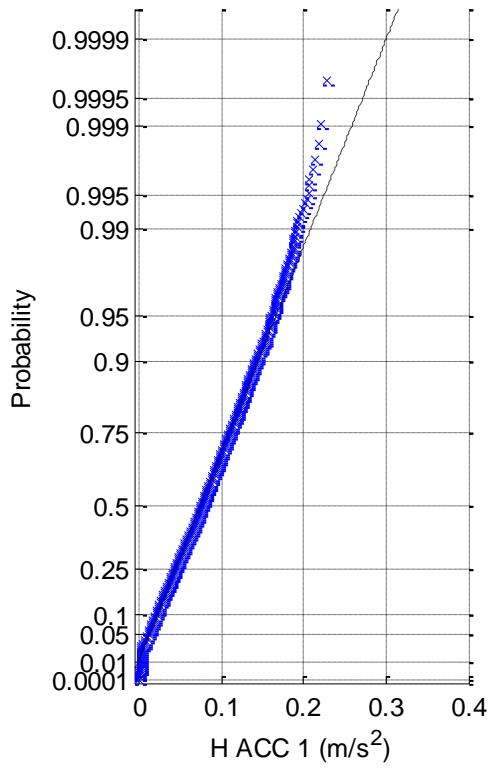




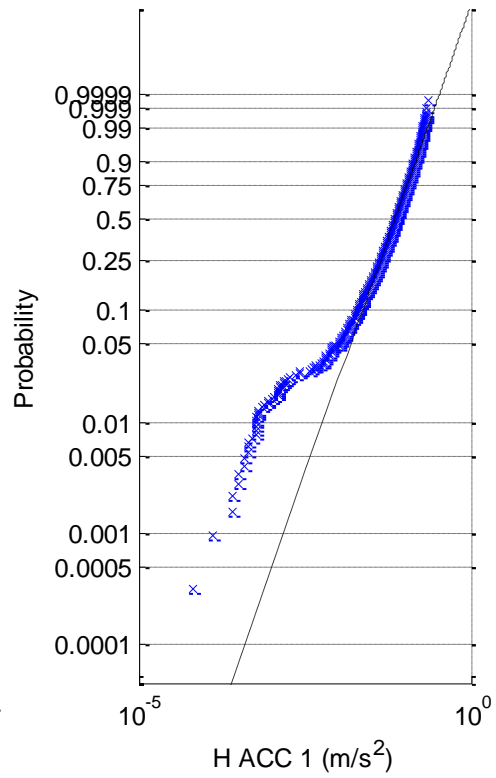
Σχήματα 1.4.6.4 (1-4) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις 4 γραμμές αγκύρωσης



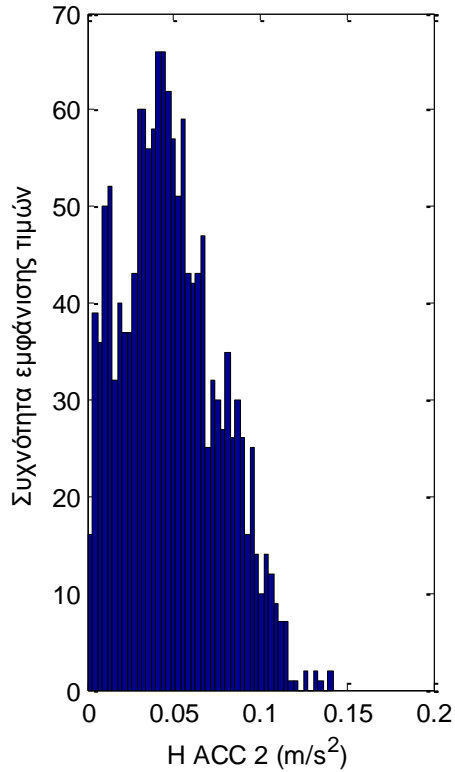
(1c) Rayleigh prob. plot of H ACC 1



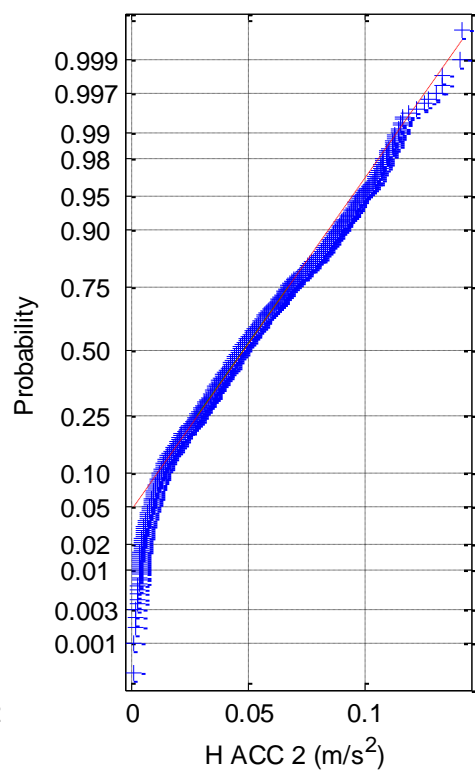
(1d) Weibull prob. plot of H ACC 1



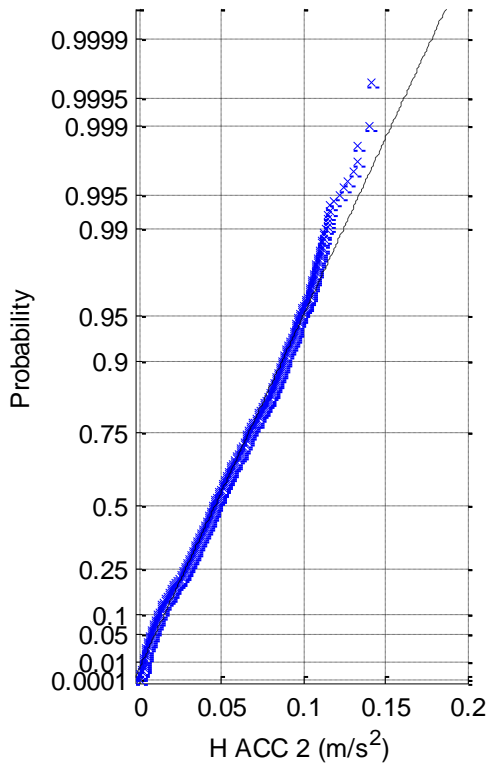
(2a) Histogram of H ACC 2



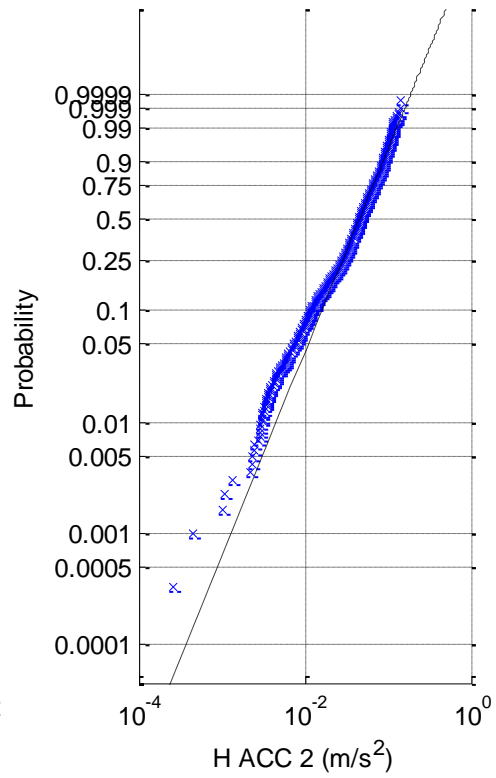
(2b) Normal prob. plot of H ACC 2



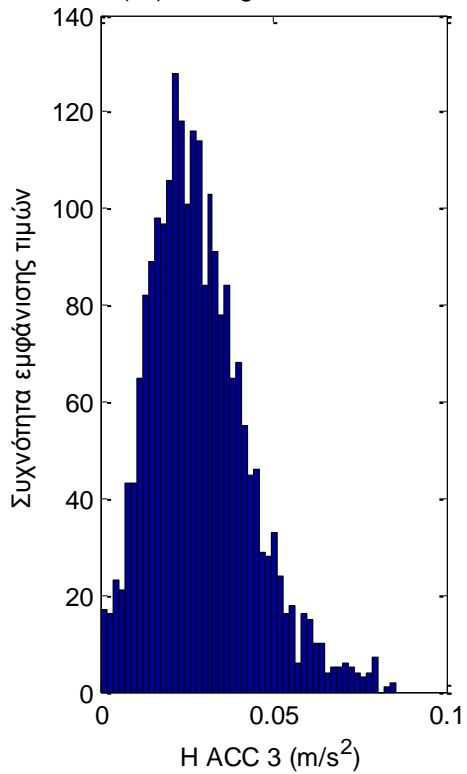
(2c) Rayleigh prob. plot of H ACC 2



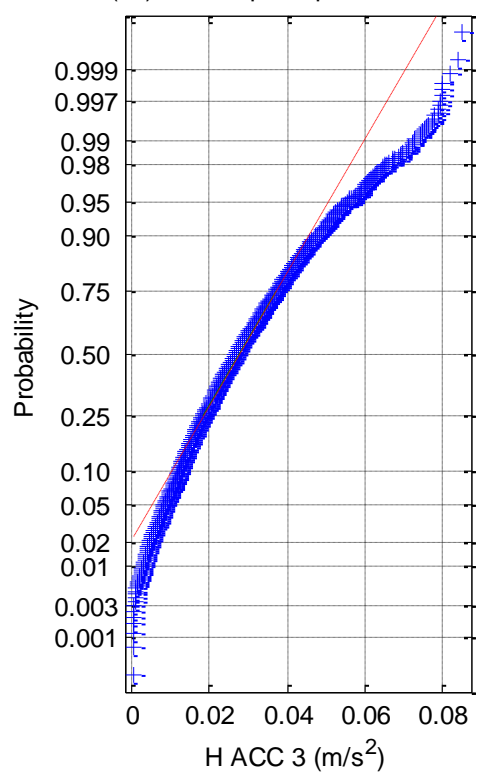
(2d) Weibull prob. plot of H ACC 2

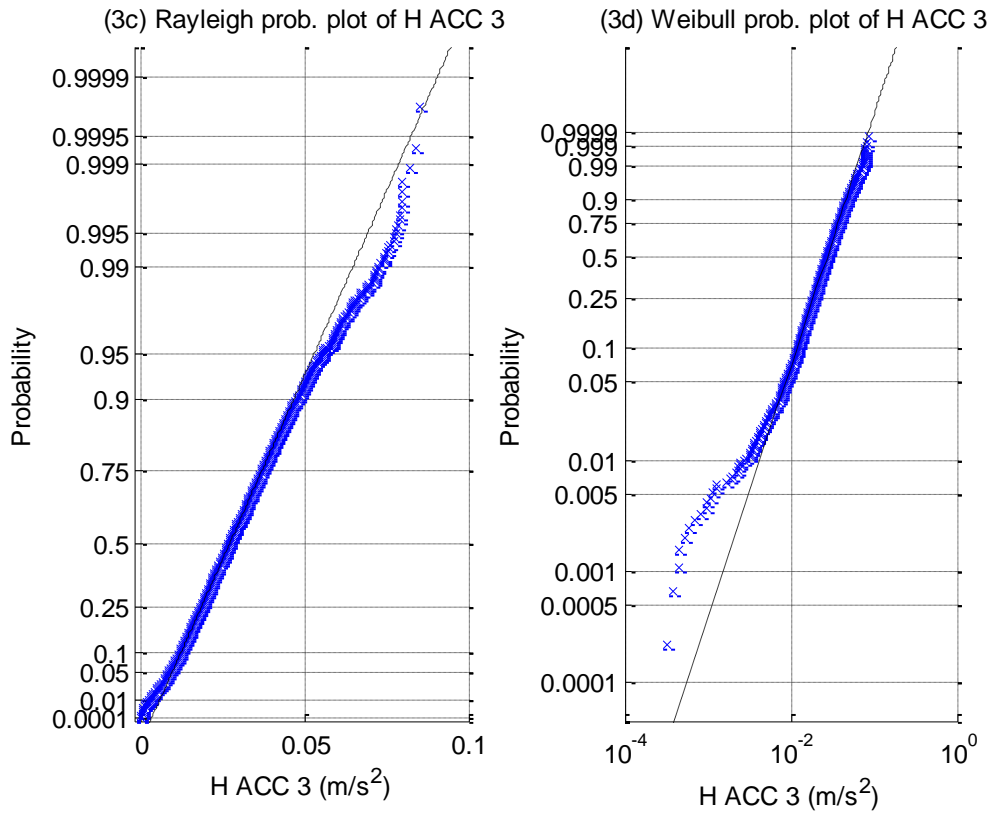


(3a) Histogram of H ACC 3

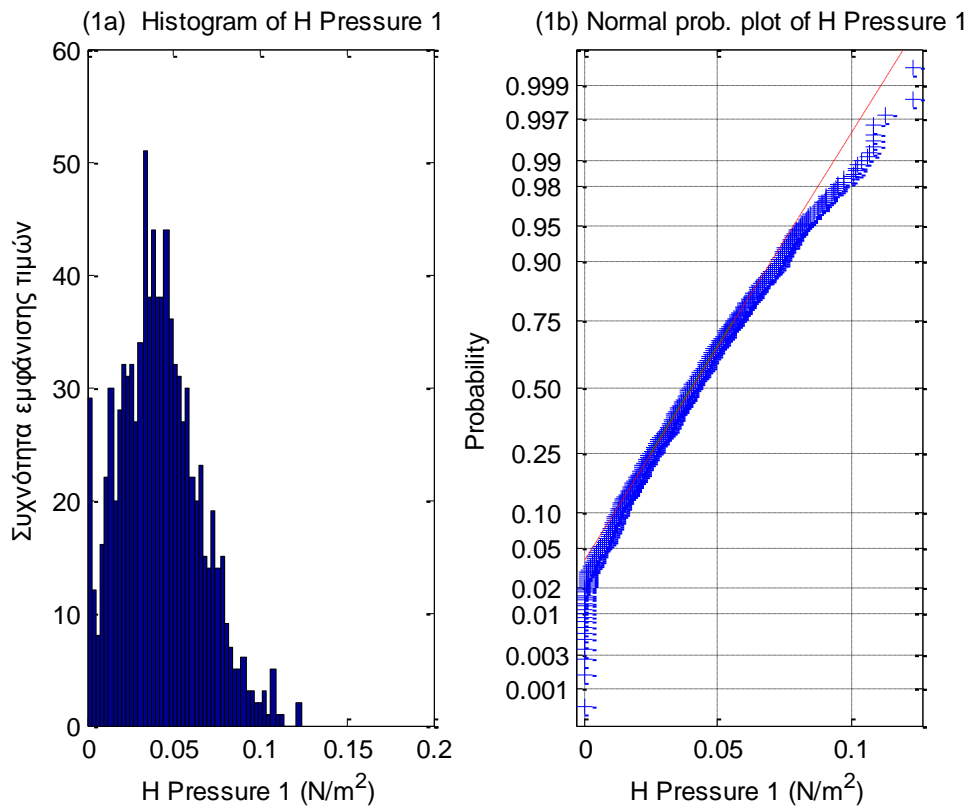


(3b) Normal prob. plot of H ACC 3

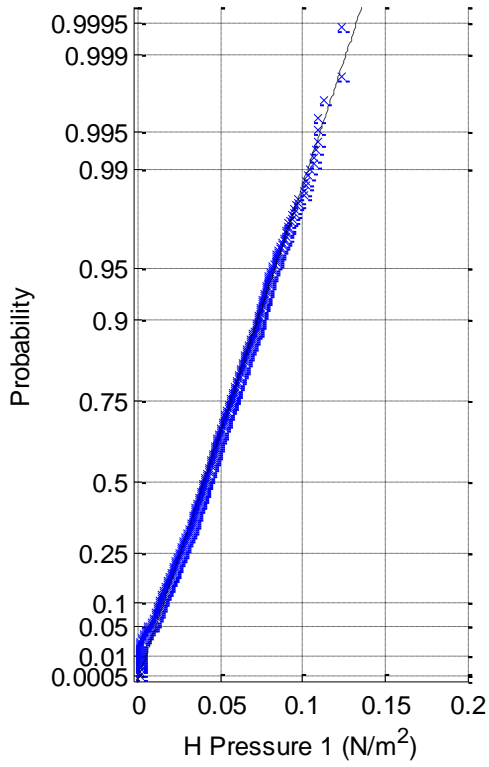




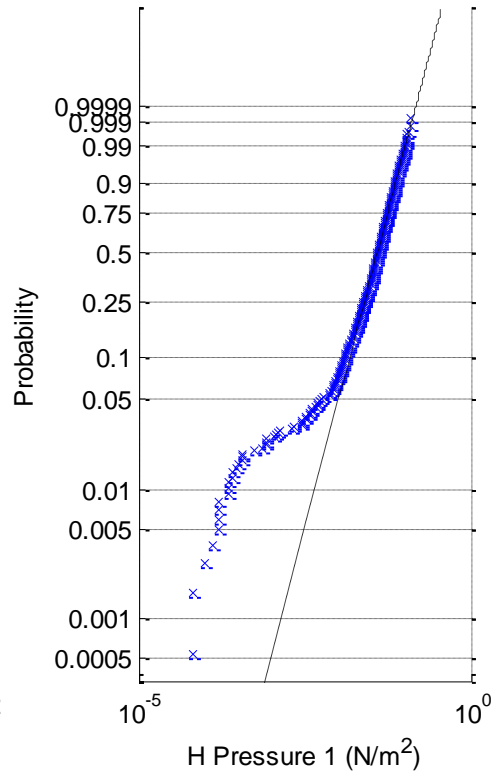
Σχήματα 1.4.6.5 (1-3) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



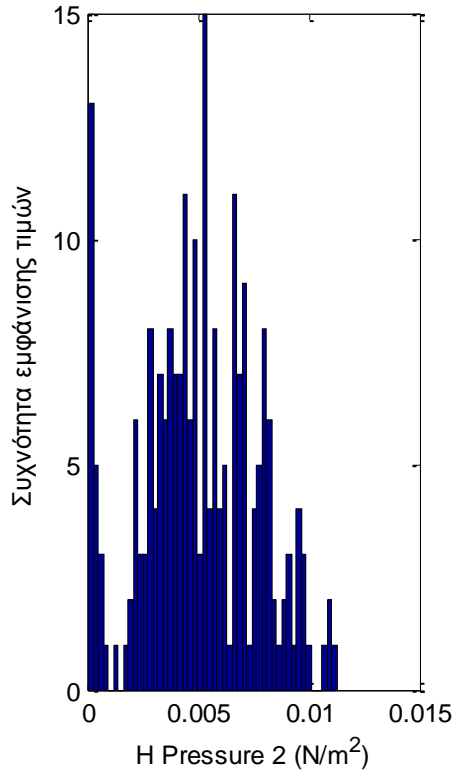
(1c) Rayleigh prob. plot of H Pressure 1



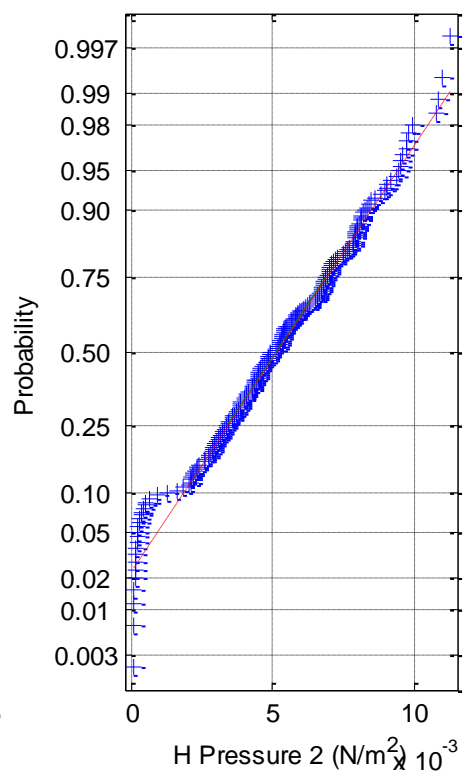
(1d) Weibull prob. plot of H Pressure 1

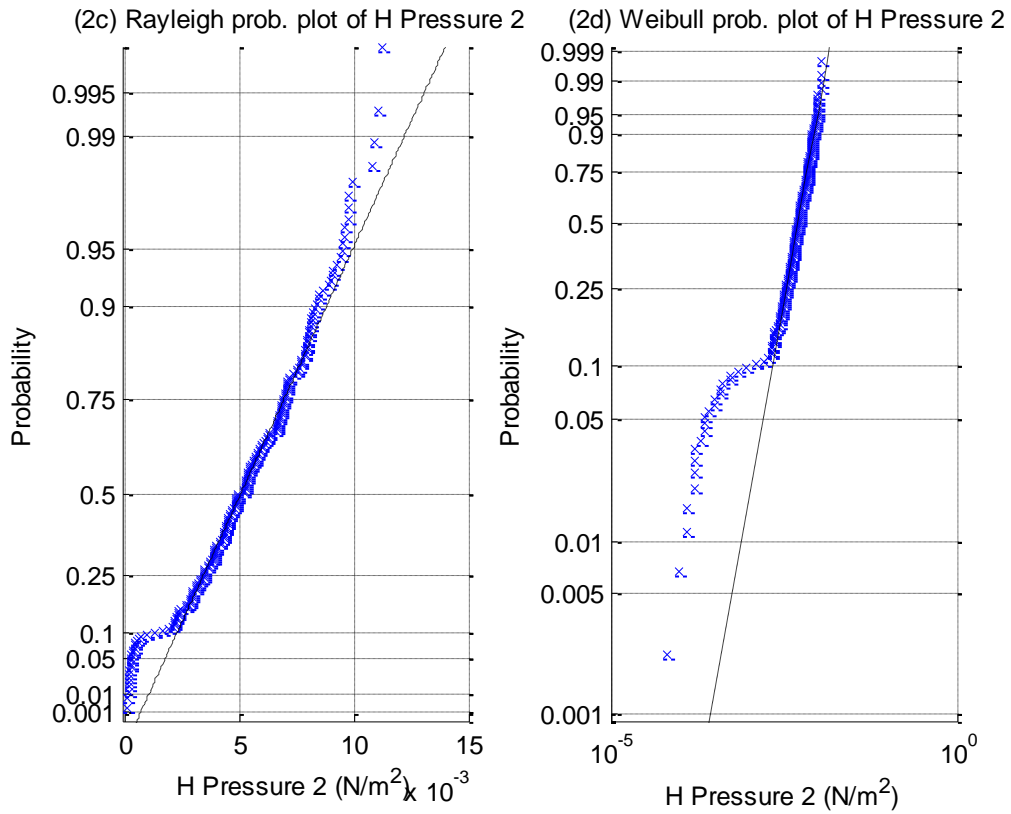


(2a) Histogram of H Pressure 2

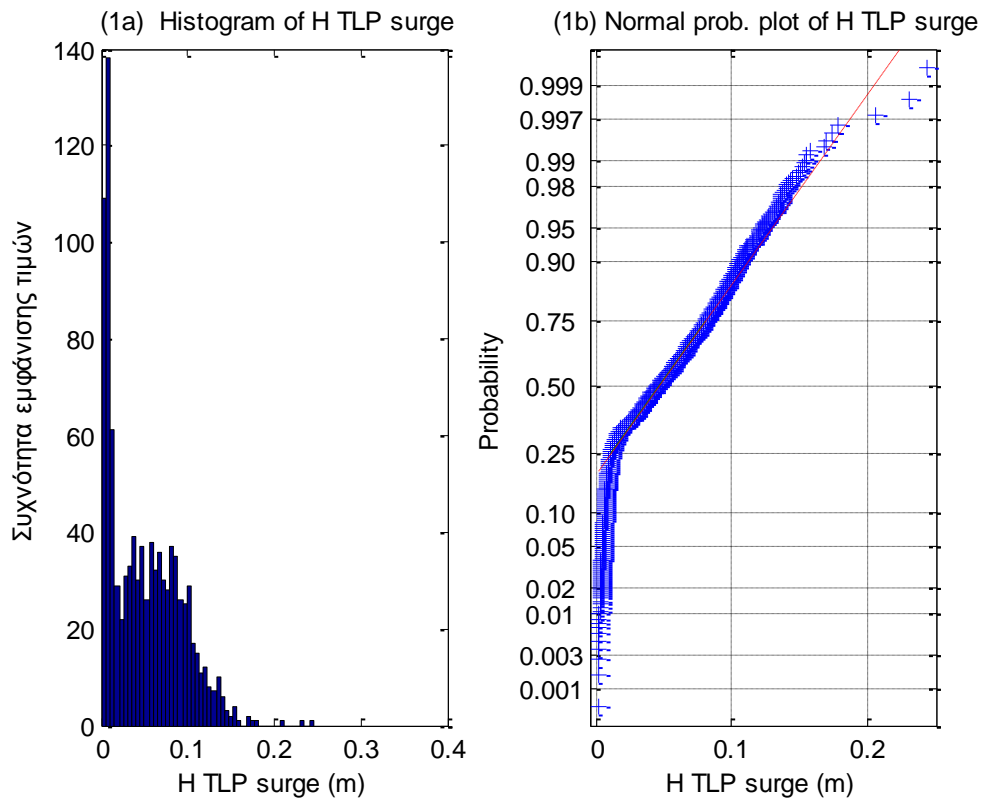


(2b) Normal prob. plot of H Pressure 2

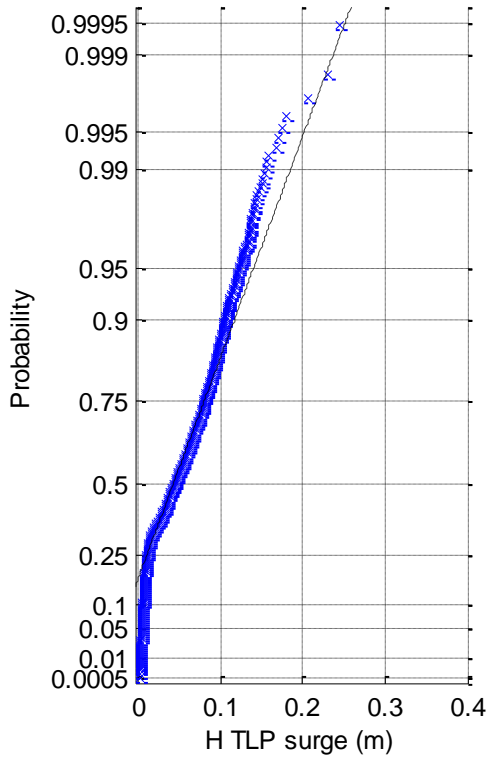




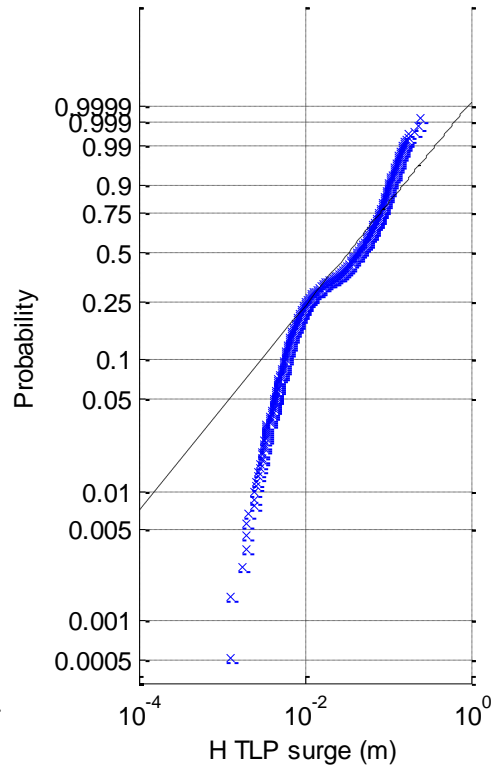
Σχήματα 1.4.6.6 (1-2) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα δύο όργανα μέτρησης της πίεσης



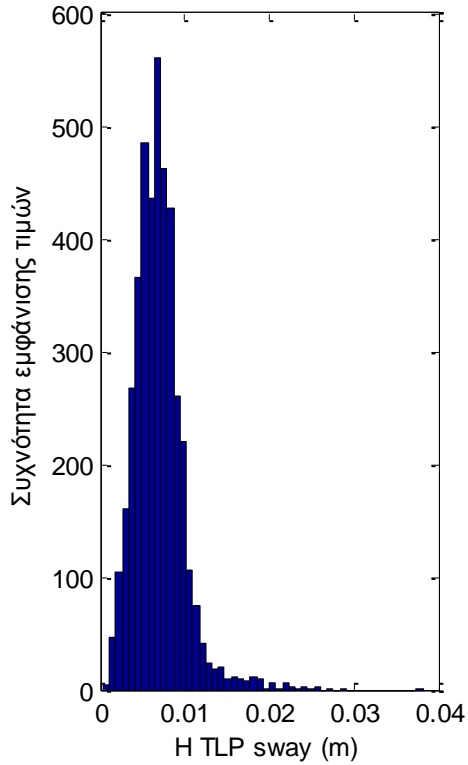
(1c) Rayleigh prob. plot of H TLP surge



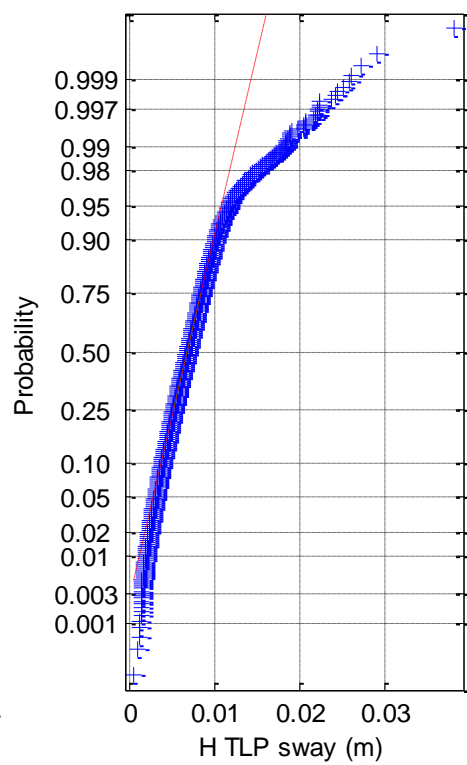
(1d) Weibull prob. plot of H TLP surge



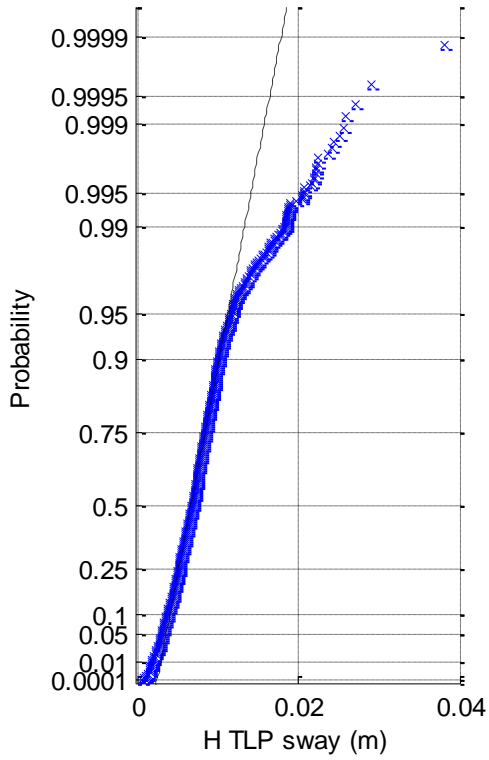
(2a) Histogram of H TLP sway



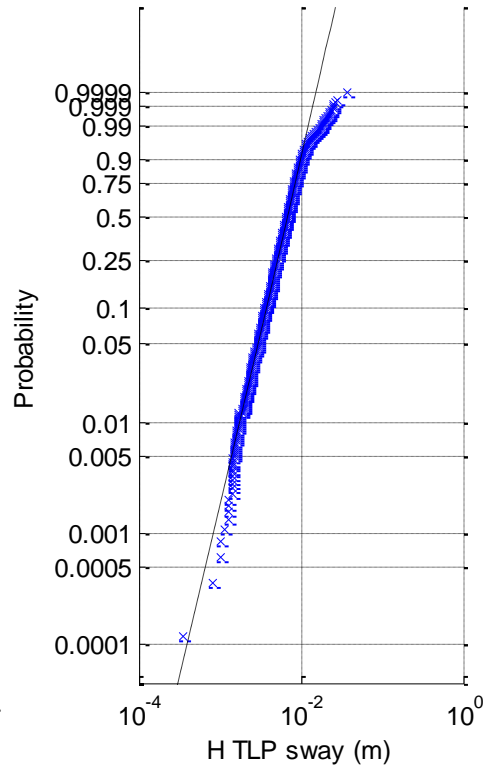
(2b) Normal prob. plot of H TLP sway



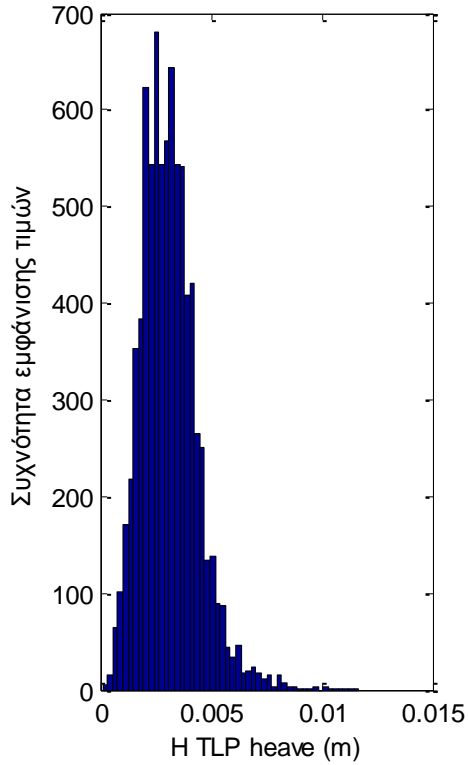
(2c) Rayleigh prob. plot of H TLP sway



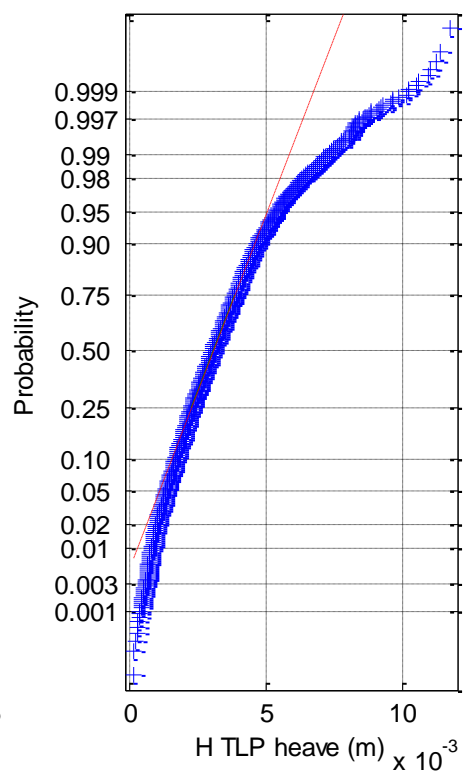
(2d) Weibull prob. plot of H TLP sway



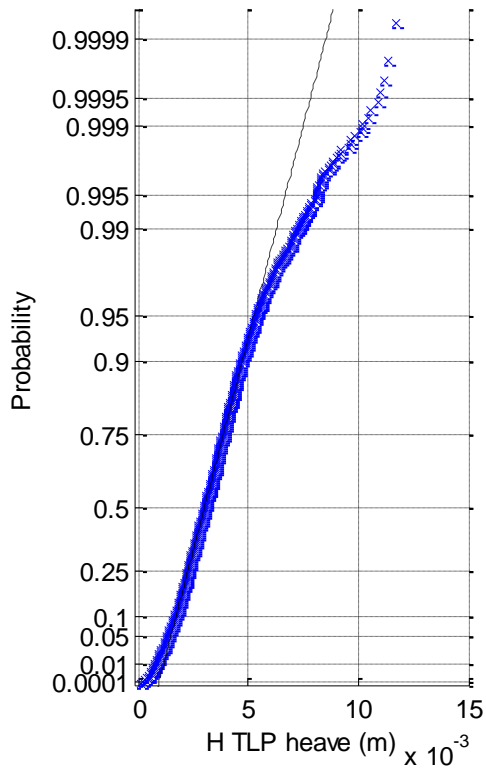
(3a) Histogram of H TLP heave



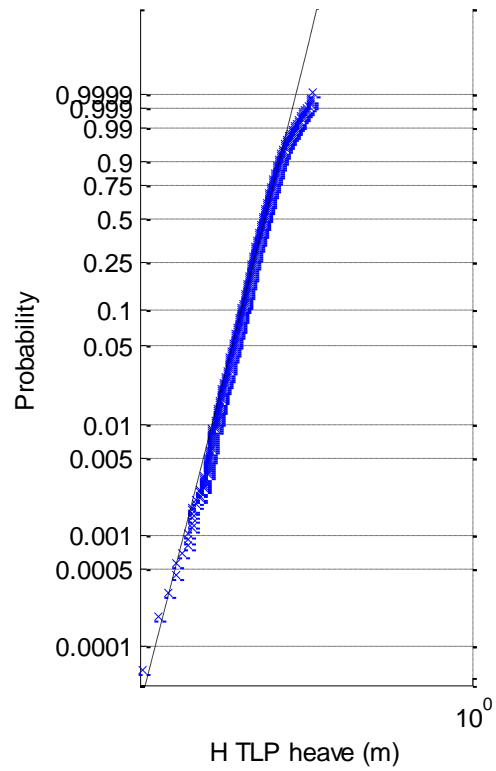
(3b) Normal prob. plot of H TLP heave



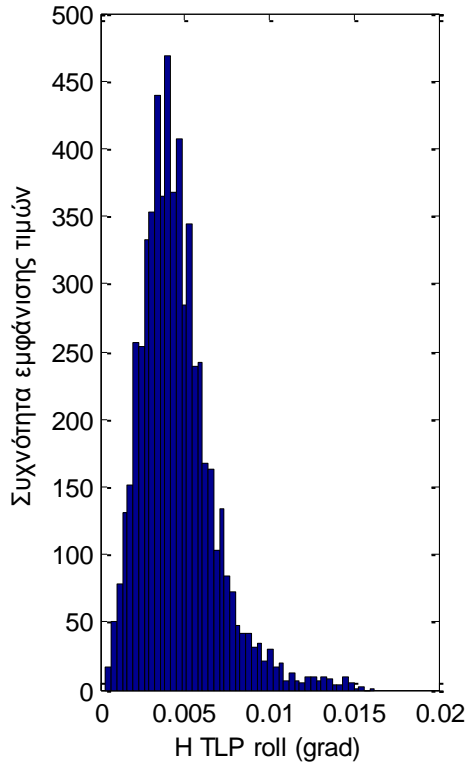
(3c) Rayleigh prob. plot of H TLP heave



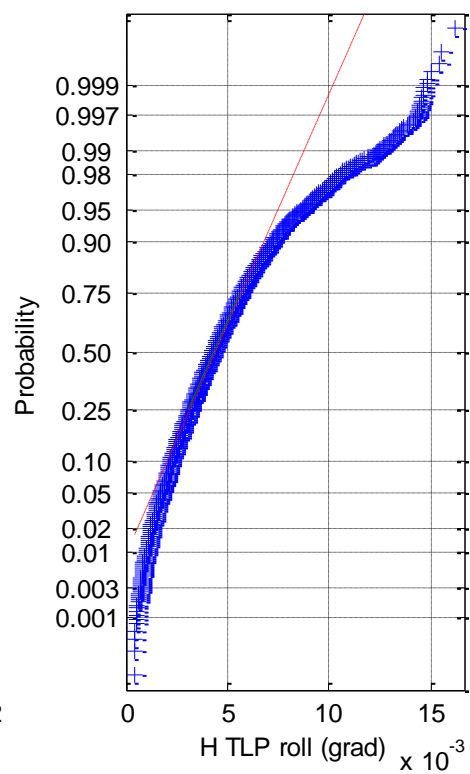
(3d) Weibull prob. plot of H TLP heave



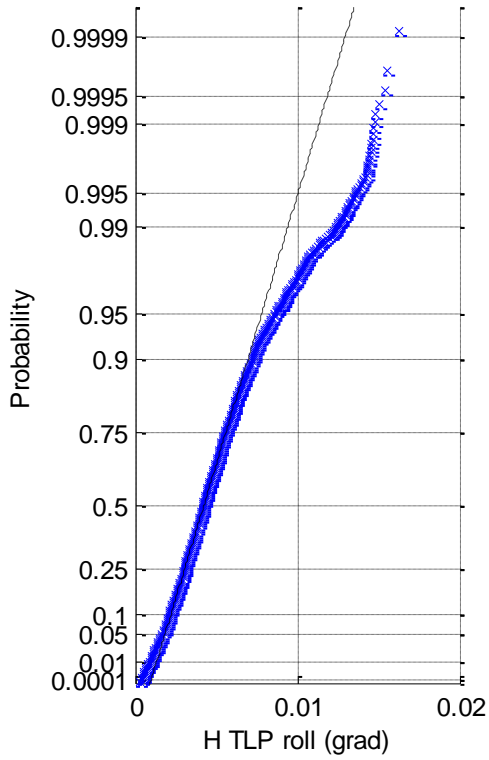
(4a) Histogram of H TLP roll



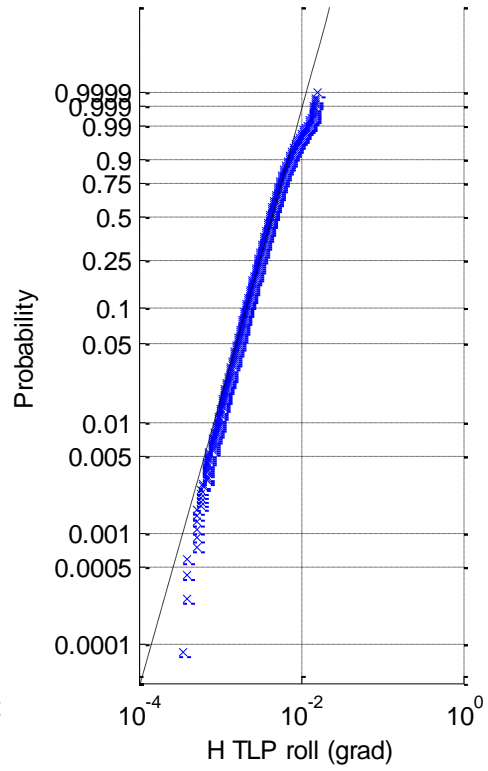
(4b) Normal prob. plot of H TLP roll



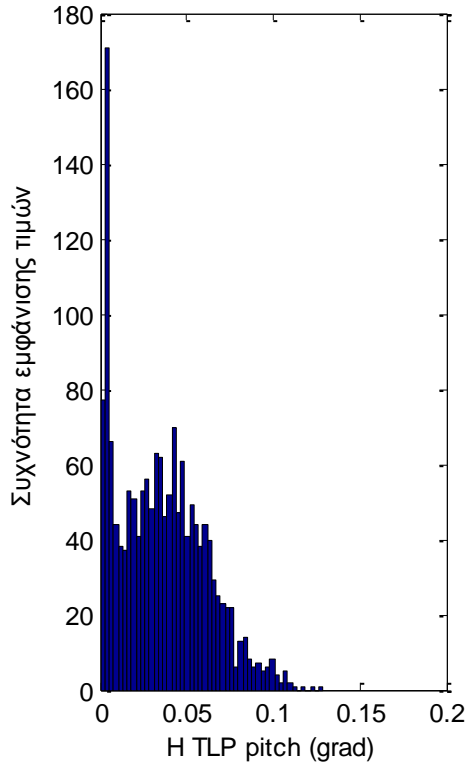
(4c) Rayleigh prob. plot of H TLP roll



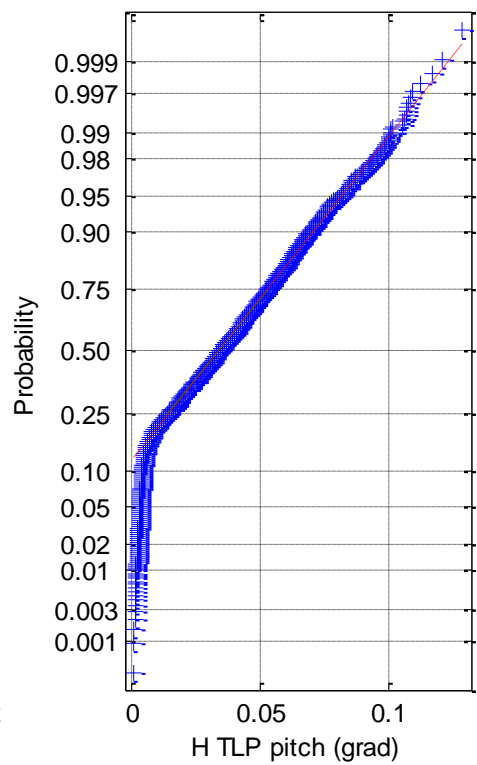
(4d) Weibull prob. plot of H TLP roll



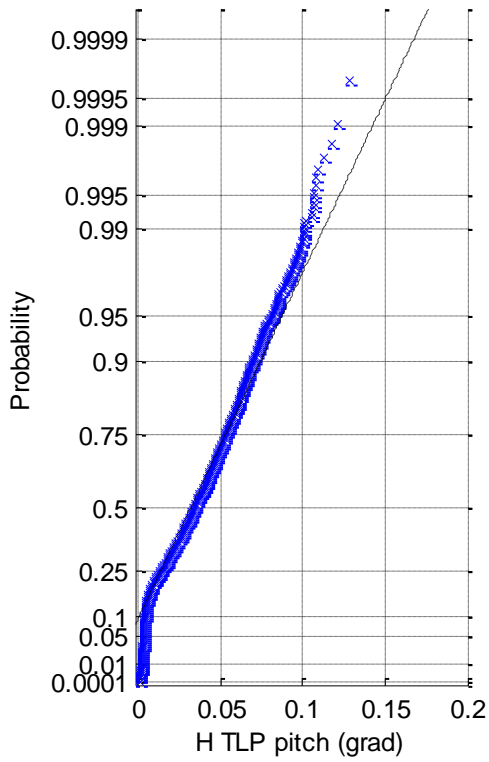
(5a) Histogram of H TLP pitch



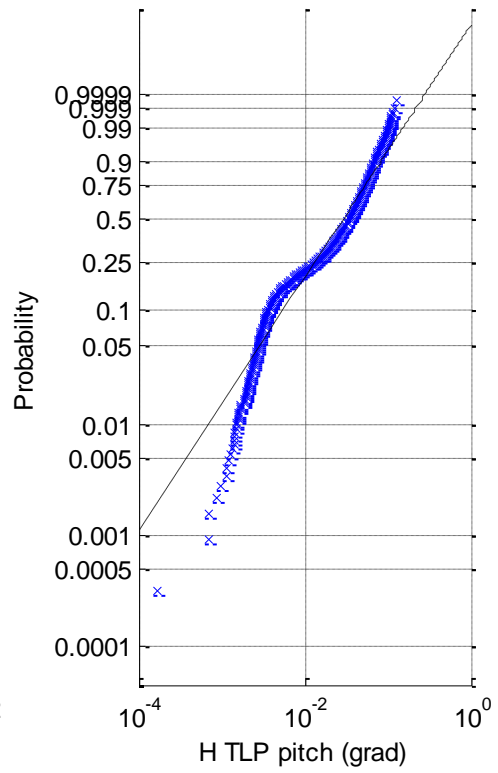
(5b) Normal prob. plot of H TLP pitch



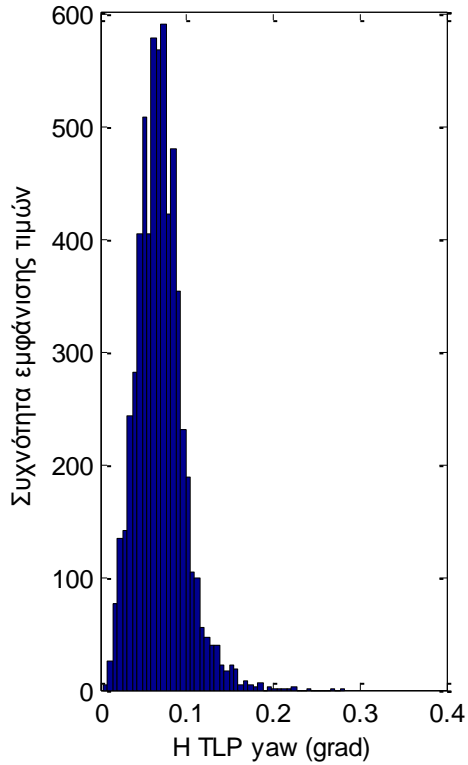
(5c) Rayleigh prob. plot of H TLP pitch



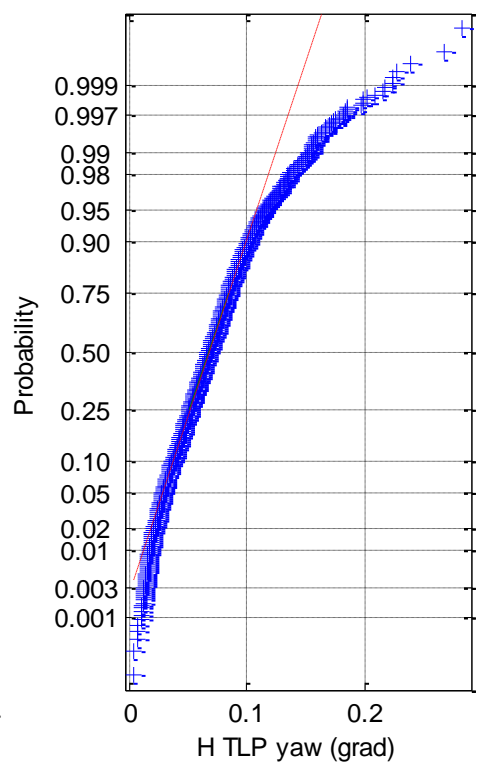
(5d) Weibull prob. plot of H TLP pitch

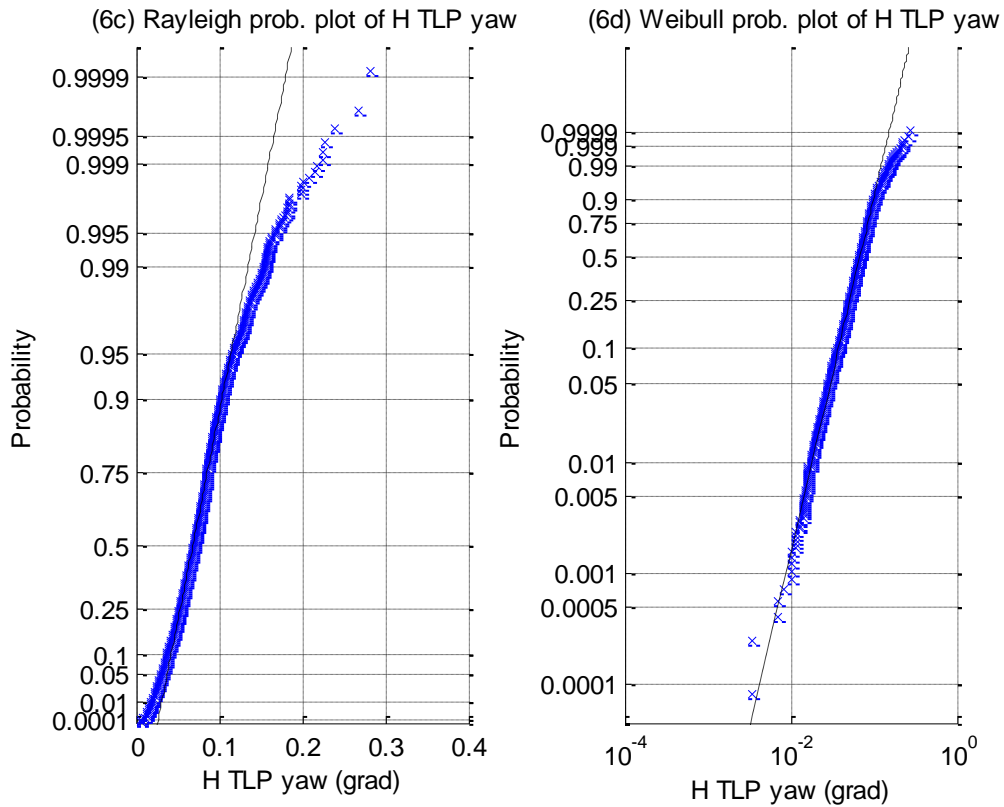


(6a) Histogram of H TLP yaw

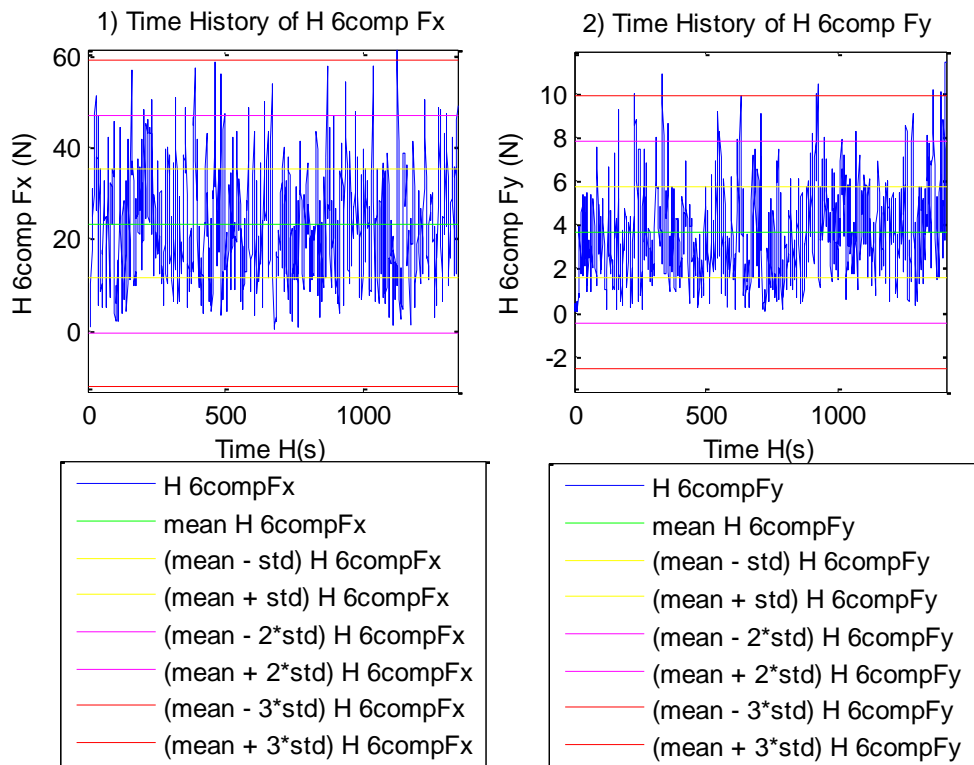


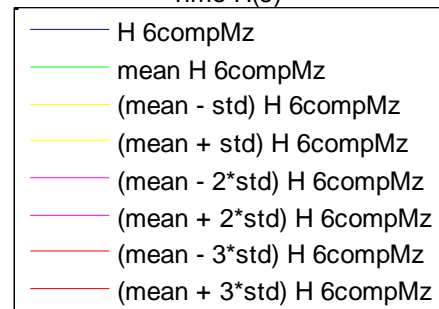
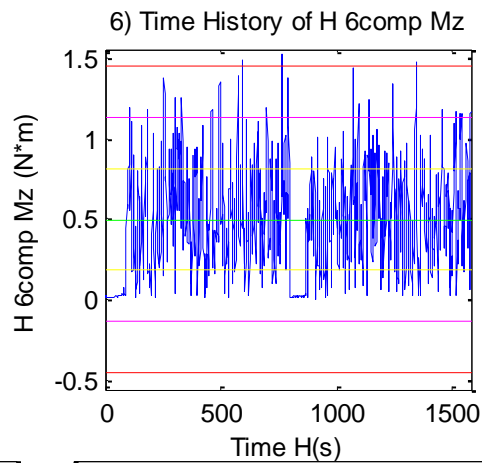
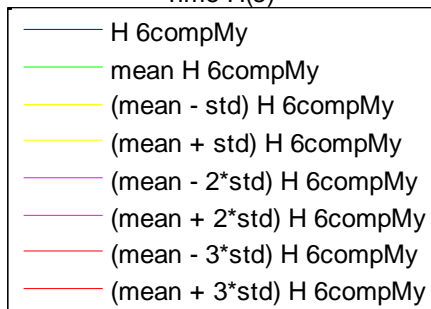
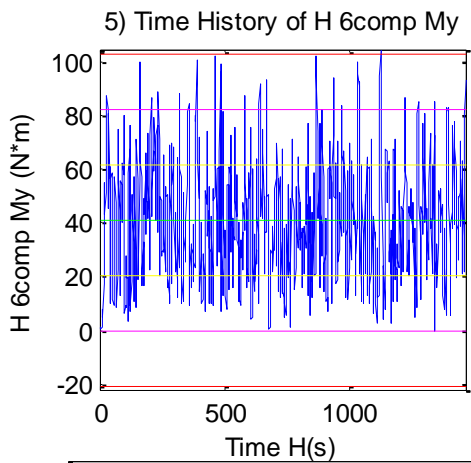
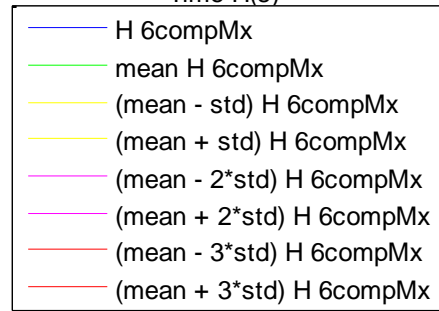
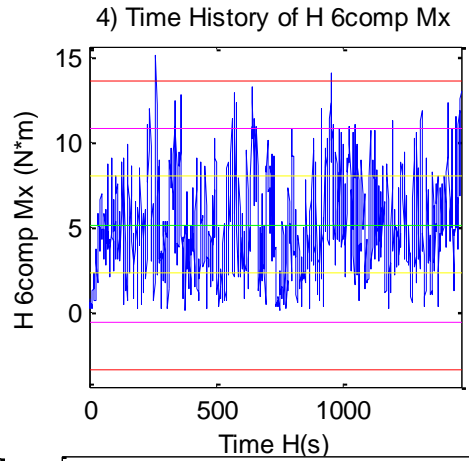
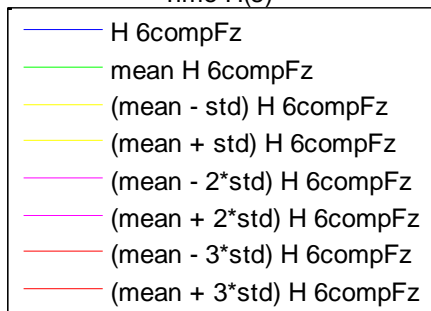
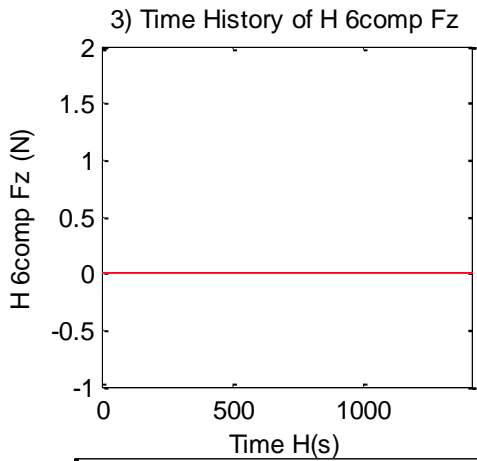
(6b) Normal prob. plot of H TLP yaw



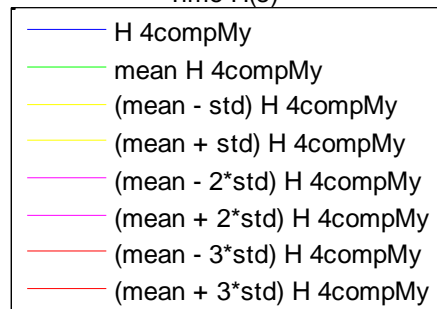
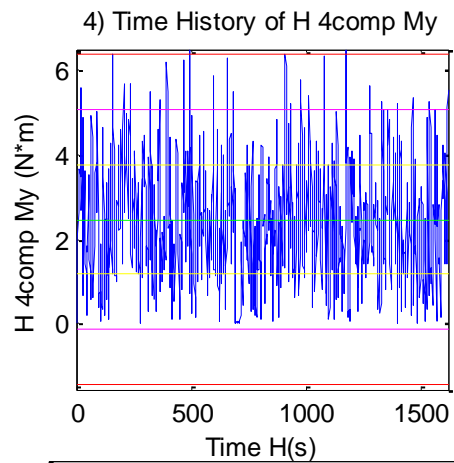
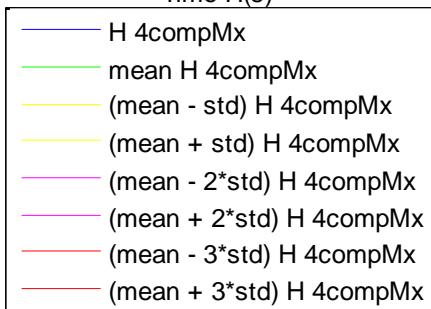
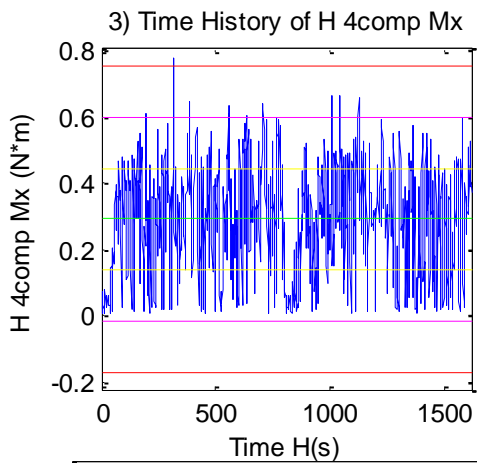
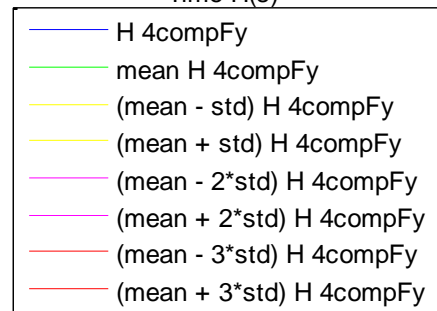
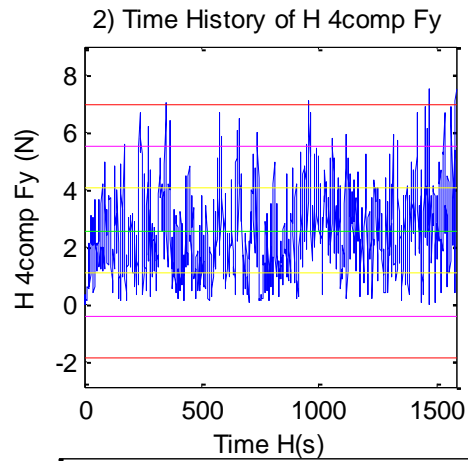
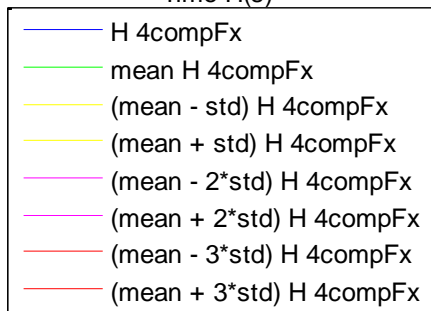
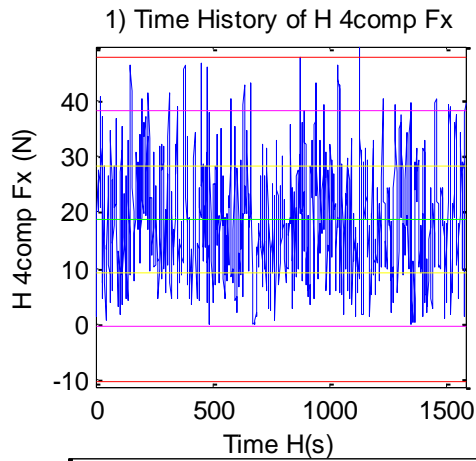


Σχήματα 1.4.6.7 (1-6) α) Ιστογράμματα, β) γραφήματα ελέγχου κανονικότητας, γ) έλεγχος κατανομής Rayleigh και δ) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

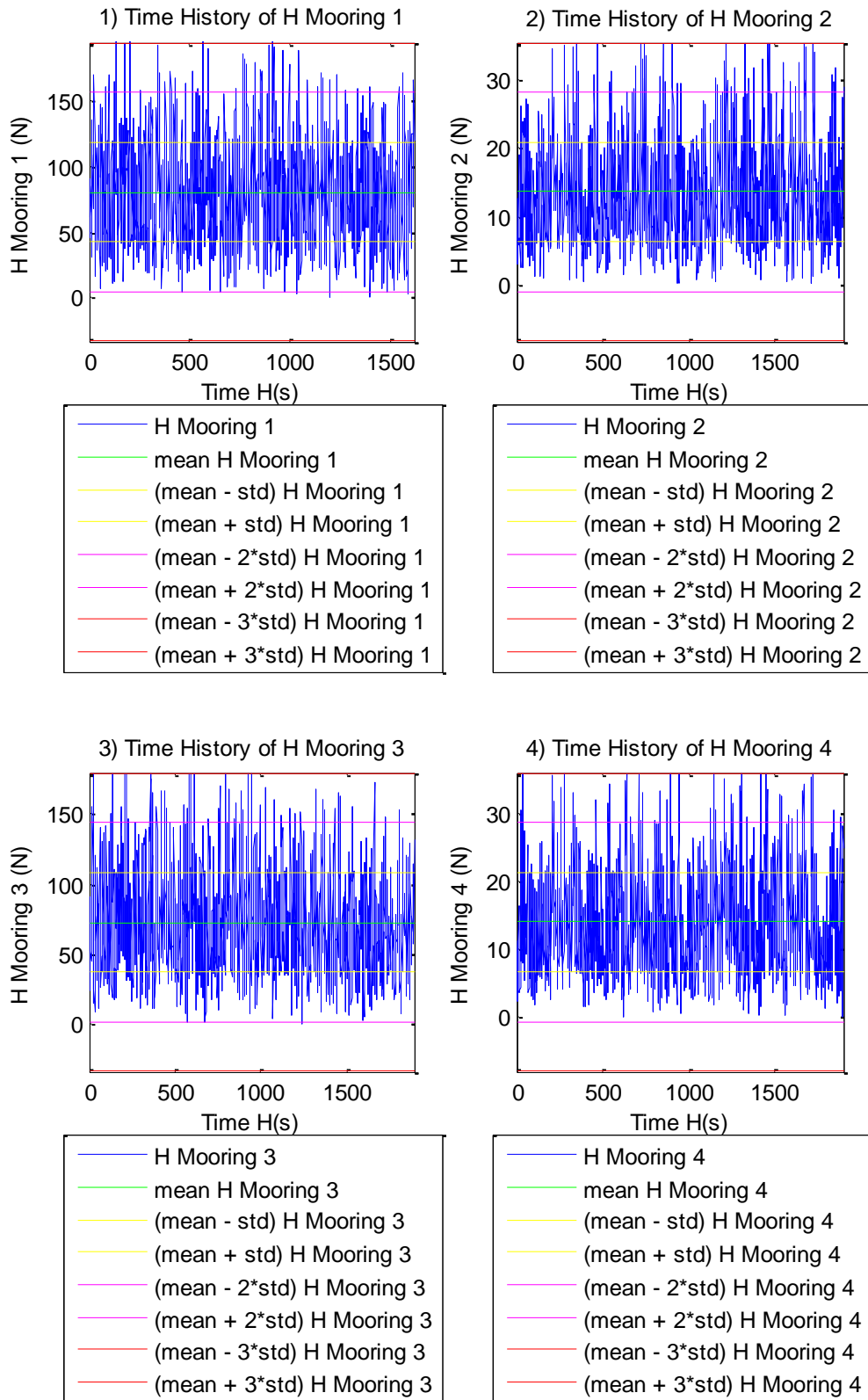




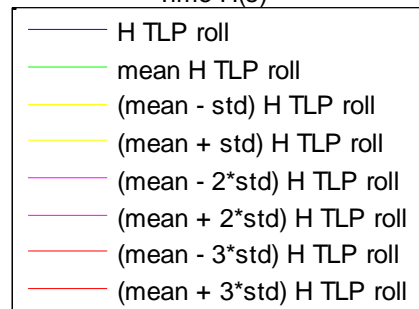
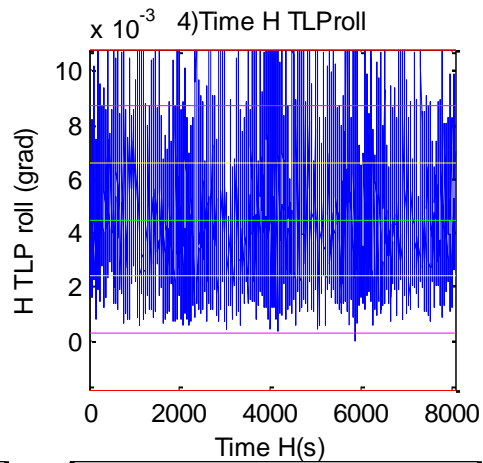
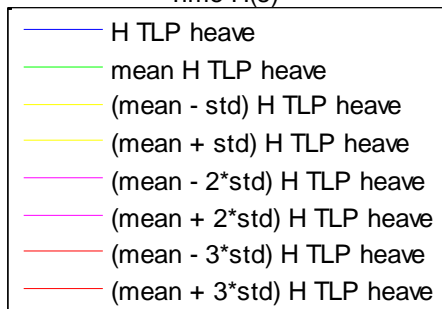
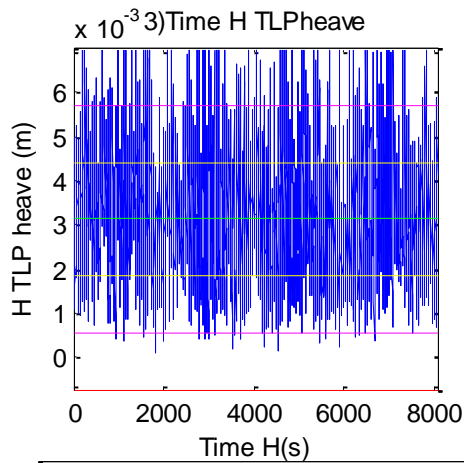
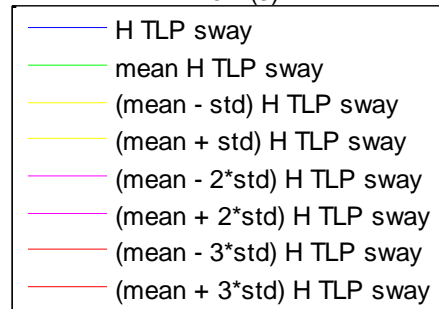
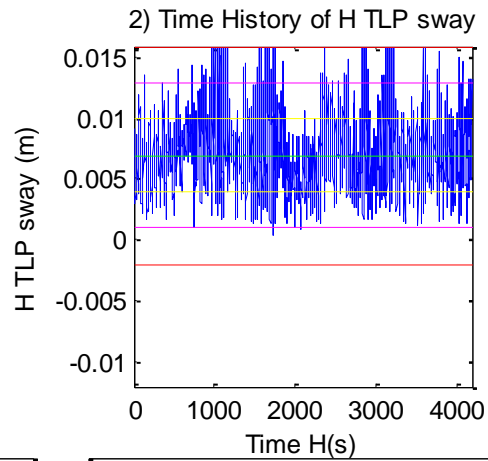
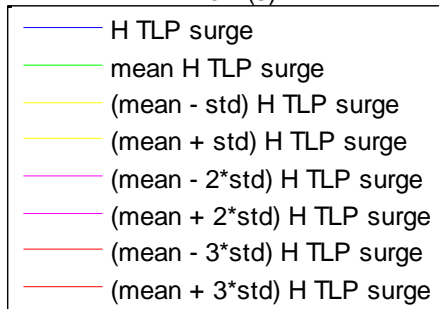
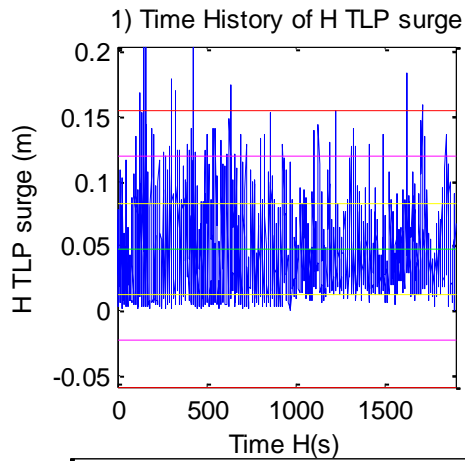
Σχήματα 1.4.7.1 (1-6) Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

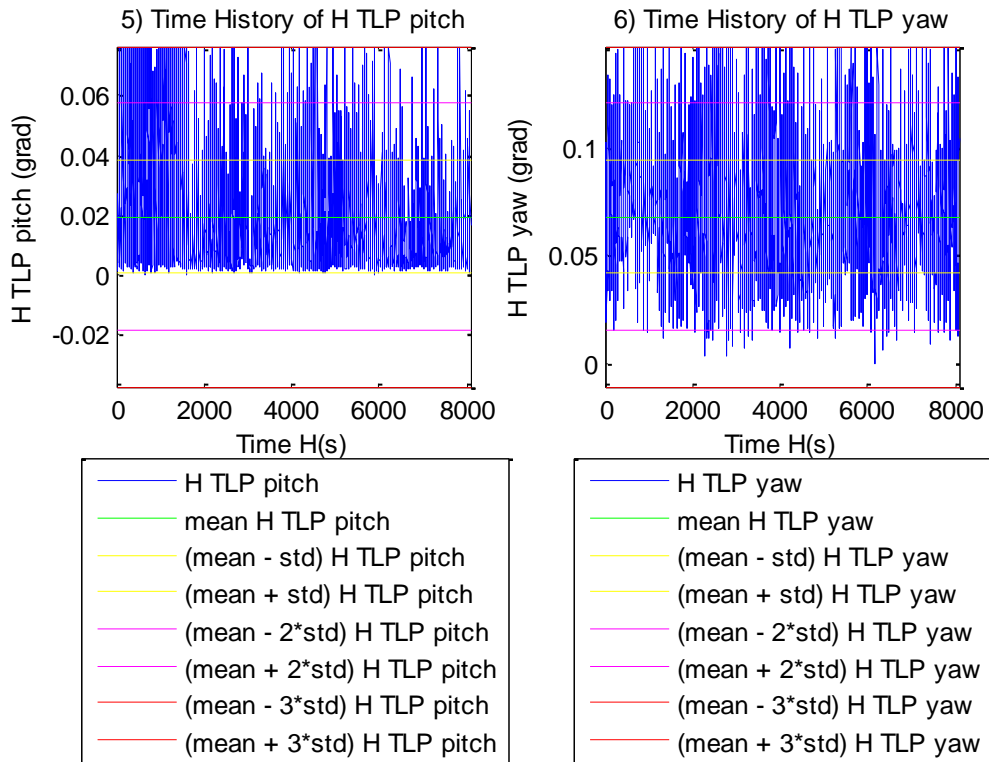


Σχήματα 1.4.7.2 (1-4) Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch



Σχήματα 1.4.7.3 (1-4) Διαγράμματα διάταξης του H για τις τέσσερις δυνάμεις στις τέσσερις γραμμές αγκύρωσης της Α/Γ





Σχήματα 1.4.7.4 (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 ΜΚΝ για τα 11 όργανα μέτρησης (WG) για Κ=100

4.2796	4.0024	3.7545	0.8131	0.9394	0.8615	1.8878	1.8271	1.9119	1.2760	1.1006
3.6083	3.9307	3.2521	0.8949	0.9218	0.8890	2.0828	1.9097	1.9683	1.4208	1.2694
4.0016	3.9640	4.5534	0.9581	0.9757	1.0675	1.6978	1.6301	1.5873	1.1225	1.0300
1.1831	1.0288	1.1340	4.6330	4.3838	4.2890	0.9476	1.0713	0.9573	1.2504	1.0971
1.1237	0.9208	1.0838	4.2654	4.5636	4.1839	0.9266	1.0316	0.8948	1.1272	0.9763
1.2363	1.0119	1.1653	4.1654	4.0813	4.4920	1.0084	1.0070	0.8616	1.1572	1.1253
1.2548	1.6660	1.3358	0.9564	0.9400	0.8062	4.4875	1.8696	1.1594	0.9372	1.0927
1.8866	2.0438	1.7961	0.9462	0.9651	0.9684	1.8909	4.5527	2.2563	0.9989	0.7013
1.7532	1.6924	1.3801	0.9603	0.9203	0.9241	1.0187	2.0116	4.7899	2.7929	1.7705
1.5415	1.1564	1.4525	1.2523	1.0468	1.1463	1.0914	1.0944	2.5130	4.6132	3.9909
1.3809	1.0349	1.2723	1.1713	1.0087	1.2100	1.2675	0.9171	1.9168	3.8690	4.5178

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

3.3038	3.0469	2.9555	0.9266	0.9476	0.9672	1.4405	1.5810	1.5359	1.2347	1.1290
2.8829	3.1363	2.5082	0.9151	0.9255	0.9405	1.5053	1.5807	1.5424	1.2378	1.1514
3.1686	2.8324	3.4885	0.9971	0.9797	1.0085	1.2855	1.5077	1.4248	1.2061	1.1333
1.0284	0.9495	1.0501	3.5314	3.3456	3.2898	0.9629	0.9042	1.0678	1.1758	1.1677
1.0312	0.9397	1.0418	3.3479	3.5266	3.2702	0.9700	0.9290	1.0767	1.1364	1.1199
1.0566	0.9360	1.0724	3.2221	3.2201	3.4606	1.0138	0.9171	1.0316	1.1379	1.1277
1.3176	1.3867	1.1390	0.8433	0.8940	0.8540	3.5124	1.6817	0.9657	1.0585	1.1659
1.6033	1.4336	1.5581	0.8398	0.8946	0.8477	1.5579	3.4857	1.7460	1.1043	0.9802
1.5558	1.4741	1.4117	0.9957	0.9840	0.9842	1.0058	1.8774	3.5112	2.3660	1.7971
1.3045	1.2052	1.2776	1.1794	1.1493	1.1364	1.0636	1.1733	2.2591	3.4138	3.0934
1.1542	1.1066	1.1651	1.1861	1.1719	1.1694	1.1293	1.0886	1.7285	3.0892	3.4146

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

3.8260	2.7622	0.0504	1.3264	3.8138	3.5369
1.7573	4.2616	0.6139	2.2869	1.8945	2.2592
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.9996	0.2034	1.0047	2.3202	1.0354	1.0598
3.8332	2.8422	0.0256	1.3049	3.8502	3.6415
3.3982	2.9120	0.3980	1.1253	3.5349	3.9758

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

3.1962	1.8526	0.6102	1.2209	3.1877	2.9243
1.6935	3.3398	0.7291	1.6594	1.8001	2.0226
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.0285	0.2614	1.0084	2.0710	1.0222	0.9935
3.1976	1.9161	0.6014	1.2096	3.2059	2.9950
2.8850	2.0524	0.7654	1.1126	2.9692	3.2029

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

3.8255	2.5072	1.8358	3.6336
1.7971	4.2439	2.6596	1.6620
1.3912	1.7282	3.3216	1.4105
3.5756	2.2366	1.8290	3.9172

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

3.1898	1.7406	1.3685	2.9970
1.6646	3.4888	2.2316	1.4399
1.2263	1.6719	2.8082	1.2289
2.9671	1.5542	1.3404	3.1996

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=100**

1.1465	1.0513	1.0584	1.0202
1.3168	1.8752	0.8230	0.2556
1.0602	1.0221	1.1624	1.0538
0.8992	0.2830	1.3668	1.8015

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=1000**

1.1115	1.0435	1.0394	1.0071
1.2262	1.6848	0.9426	0.3964
1.0380	1.0124	1.1207	1.0377
0.9292	0.4276	1.2000	1.6243

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

4.1778	0.7660	2.2854	1.1569	0.7415	1.8219
0.8912	1.5014	0.8568	1.0201	1.0127	0.8722

1.0540 0.9448 1.2427 0.9759 1.0158 1.1227
0.8892 1.0699 0.7258 2.0173 0.7730 0.8415
1.1557 1.0318 0.9535 0.7936 1.8928 0.7093
1.0427 0.9662 1.1517 0.9606 0.9267 1.2557

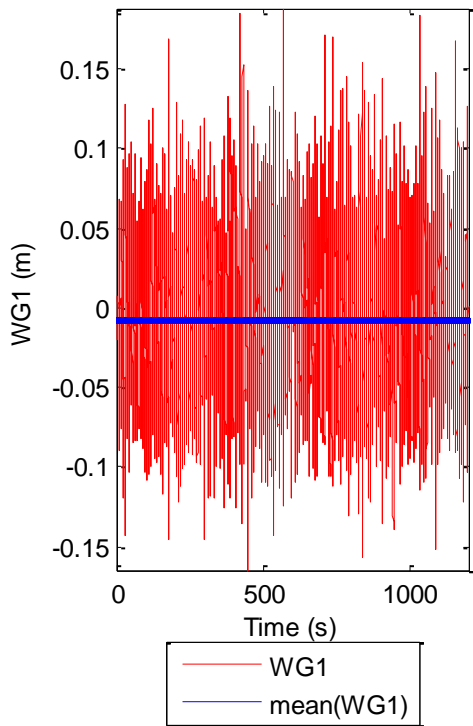
Μητρώα ΜΚΝ για τις έξι μετατοπίσεις και περιστροφές SB[Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000

3.3165 0.8494 1.7316 1.1804 0.9609 1.5334
0.9189 1.4006 0.9127 1.0155 1.0176 0.9137
1.0380 0.9716 1.1649 0.9787 0.9999 1.0885
0.9496 0.9728 0.8621 1.7848 0.8494 0.9166
1.0566 1.0436 0.9339 0.8409 1.6858 0.7929
1.0362 0.9817 1.1112 0.9789 0.9414 1.1988

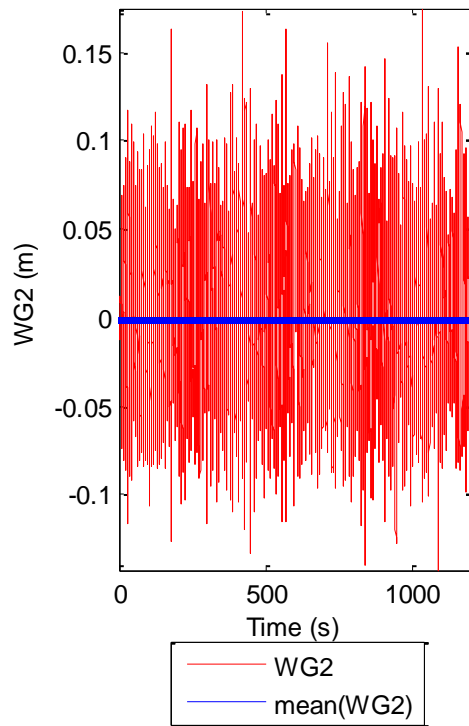
1.5 Παρουσίαση χρονοσειρών (C14) T1306+T1307_1.6_0.10_TLP_00_R

Πίνακας 1.5.1	Χαρακτηριστικά Πειράματος
Τύπος μοντέλου	TLP
Ύψος κύματος (m)	0.150
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	00
Περιστροφή ή μη του Ρότορα	Περιστροφή

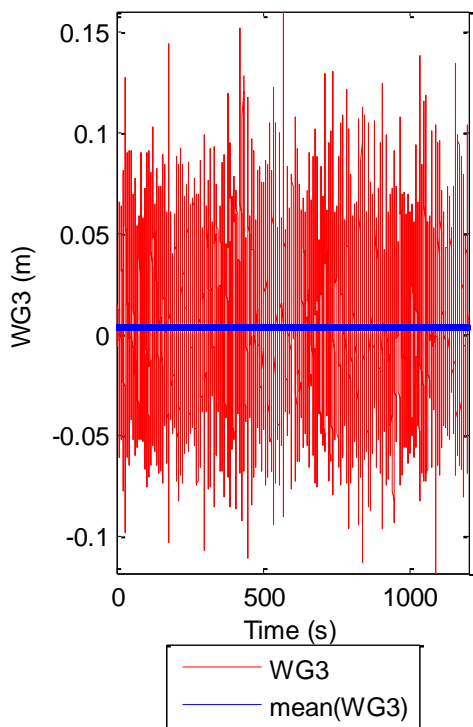
(1) Time History of WG1



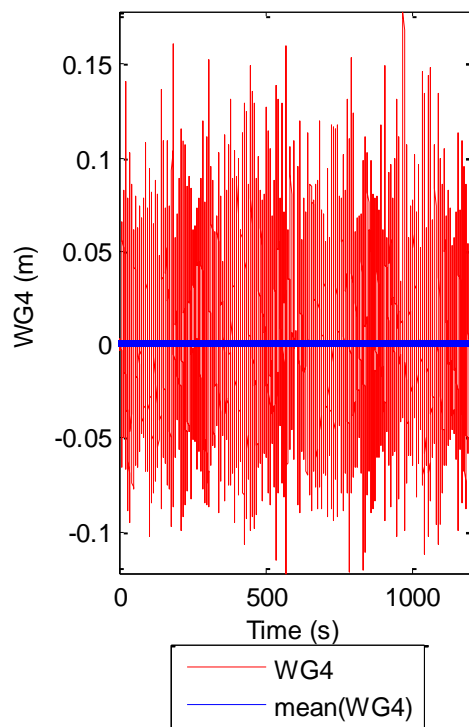
(2) Time History of WG2



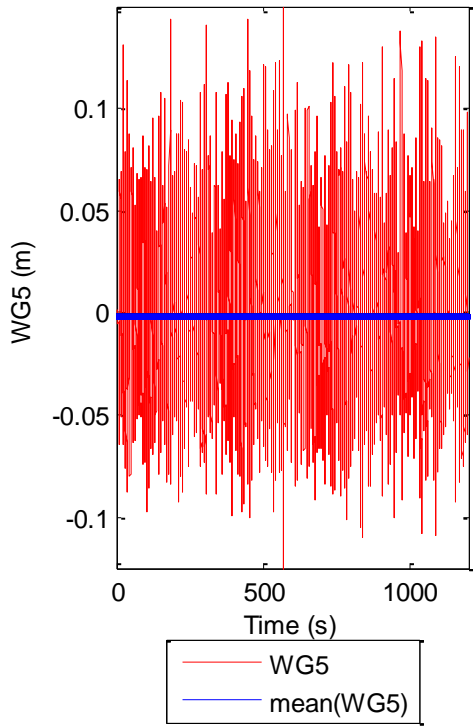
(3) Time History of WG3



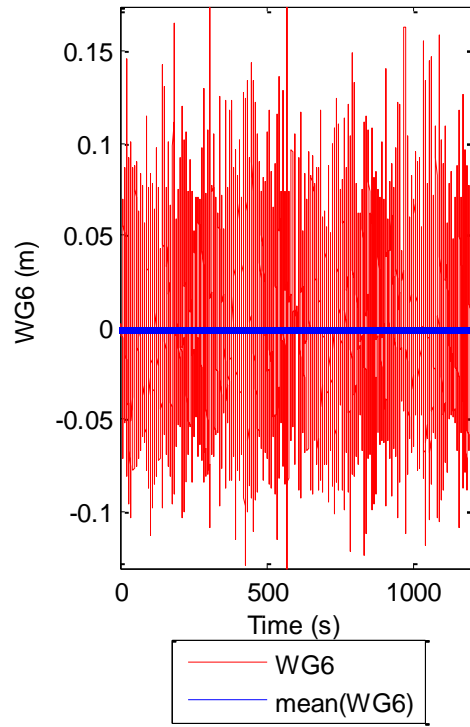
(4) Time History of WG4



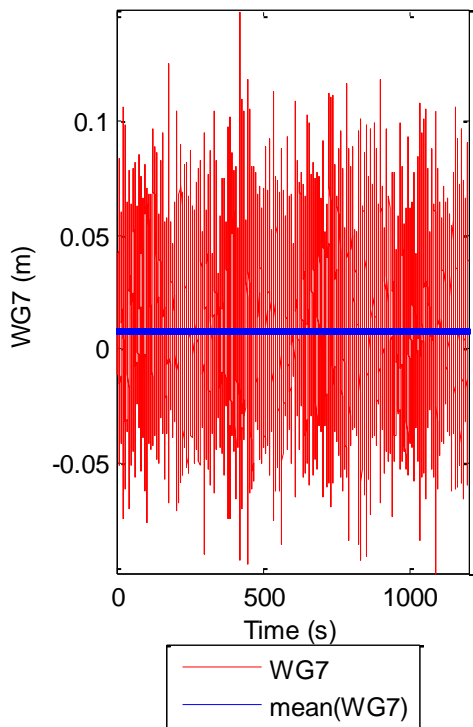
(5) Time History of WG5



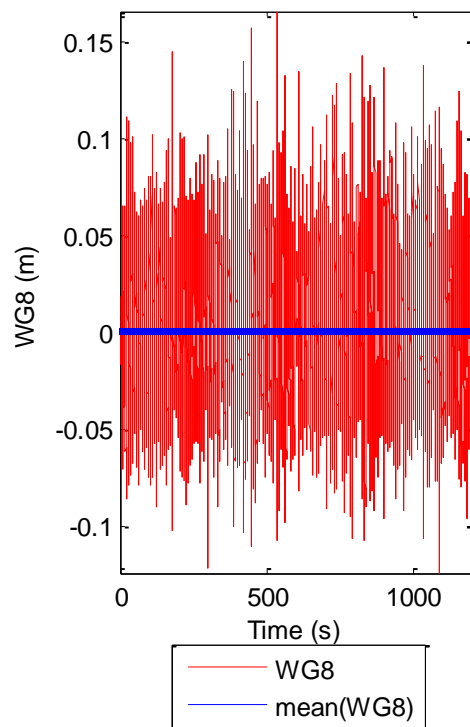
(6) Time History of WG6

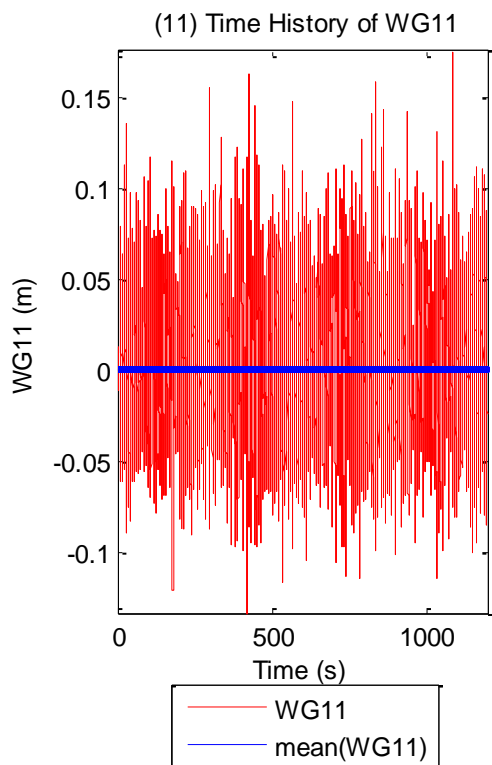
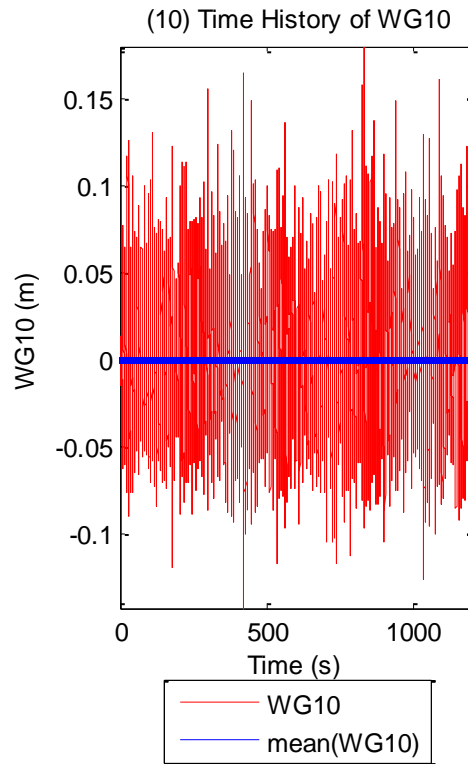
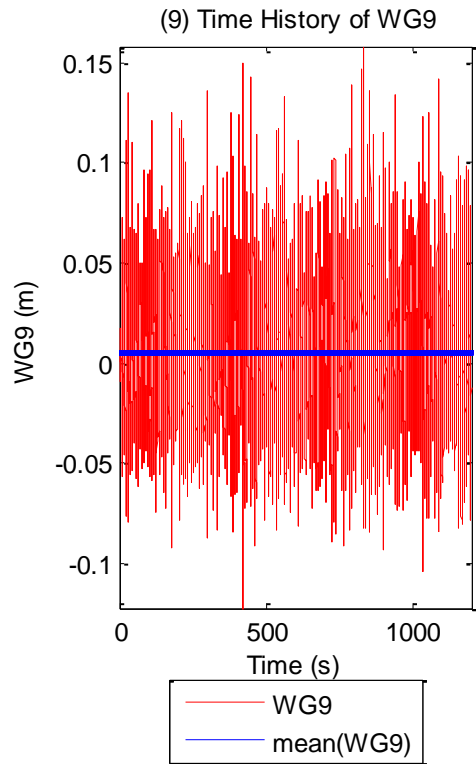


(7) Time History of WG7



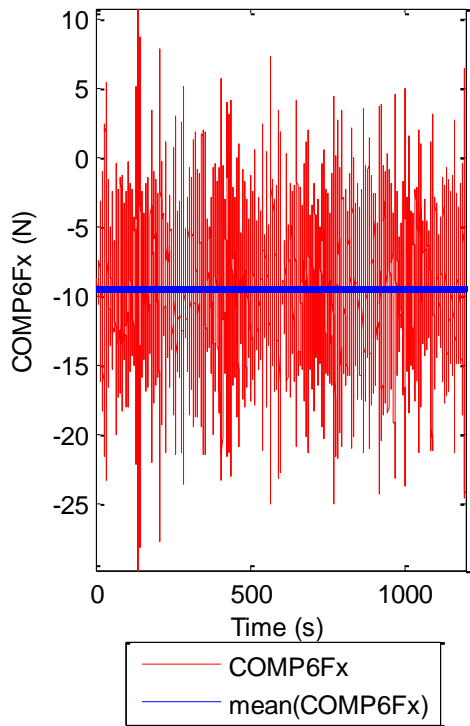
(8) Time History of WG8



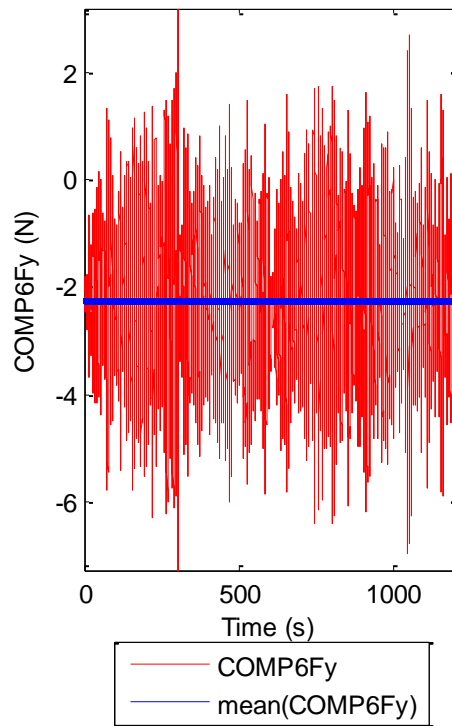


Σχήματα 1.5.1.1 (1-6) Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

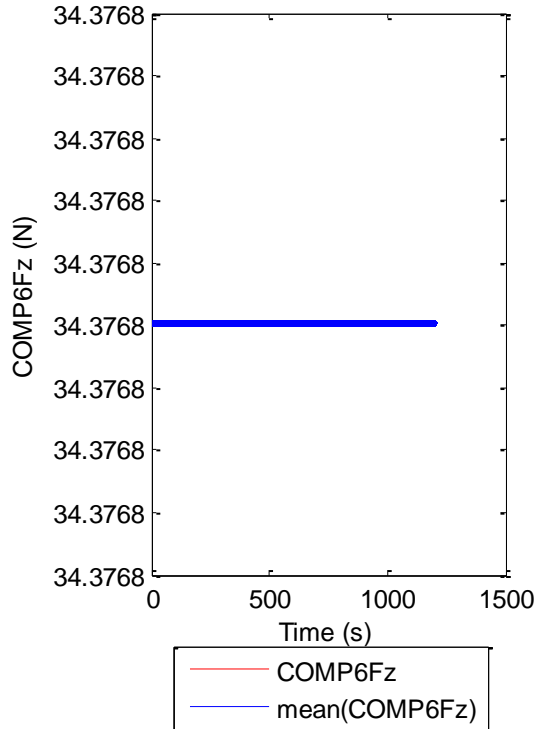
(1) Time History of COMP6Fx



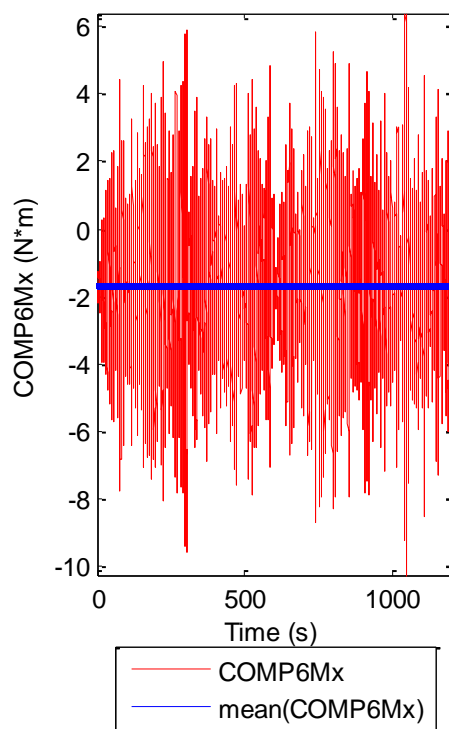
(2) Time History of COMP6Fy

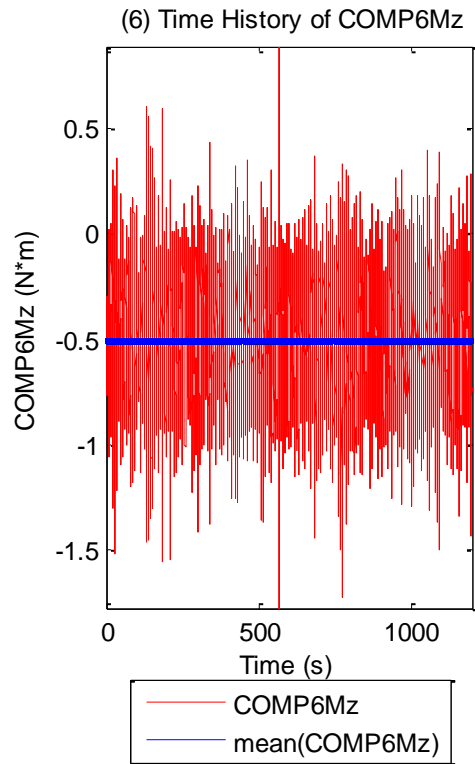
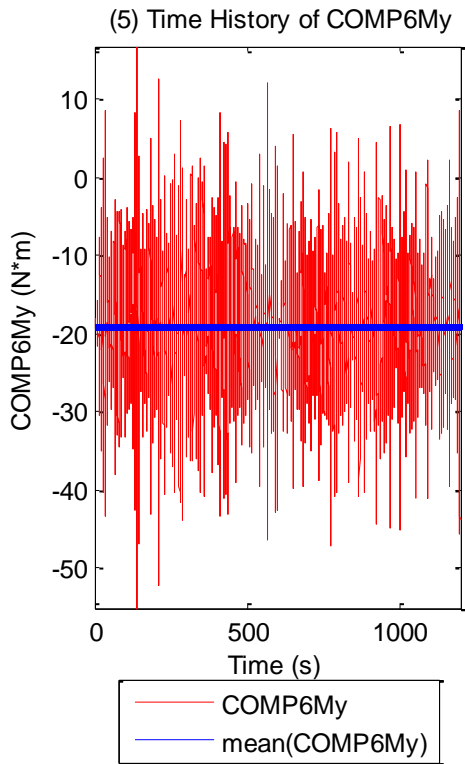


(3) Time History of COMP6Fz

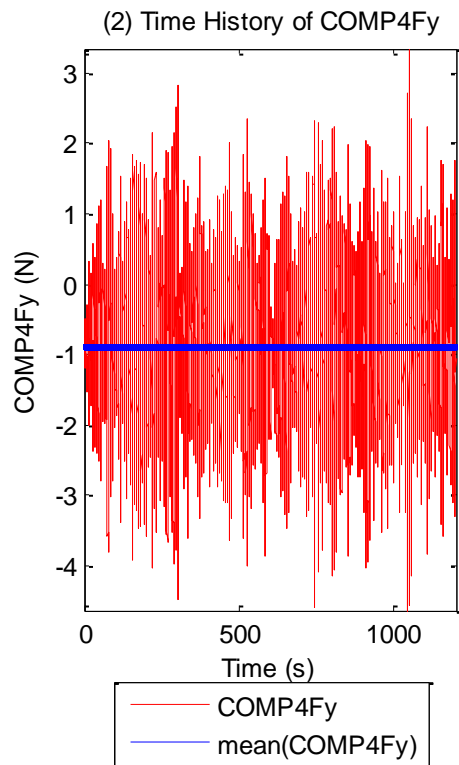
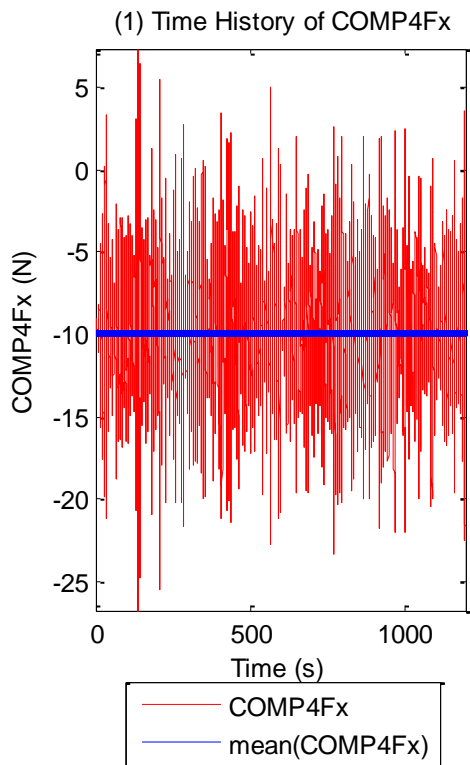


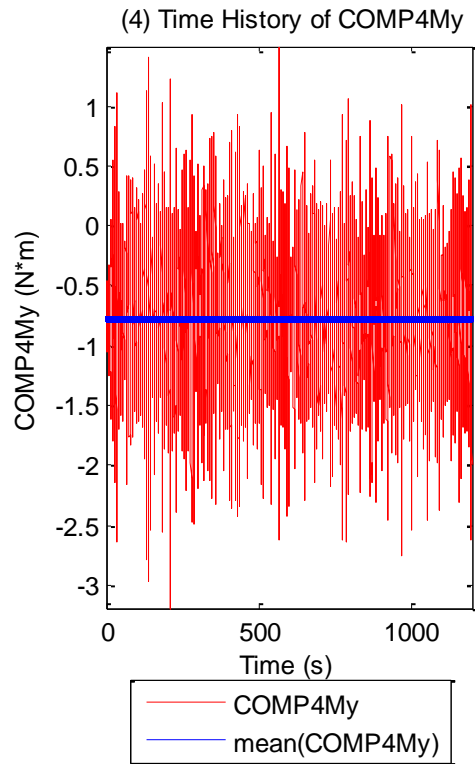
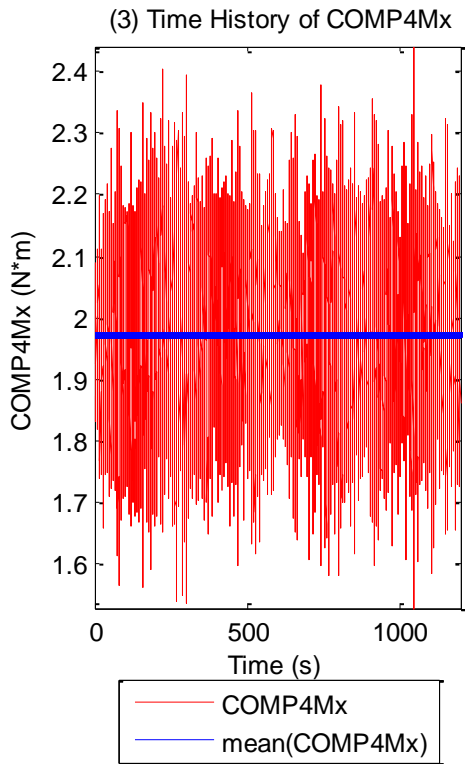
(4) Time History of COMP6Mx



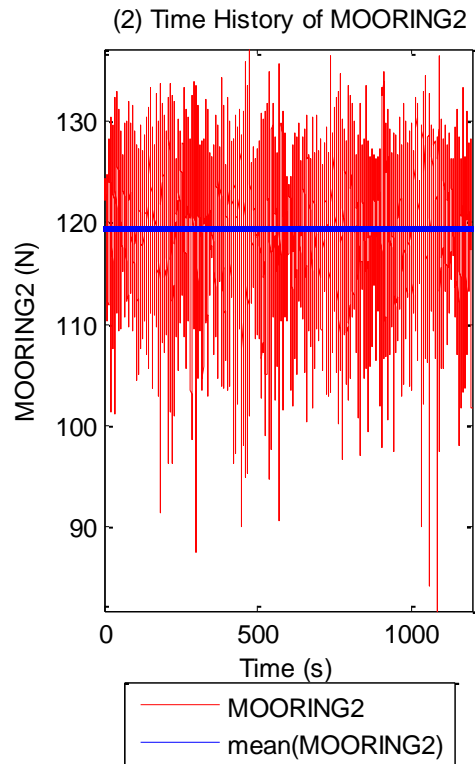
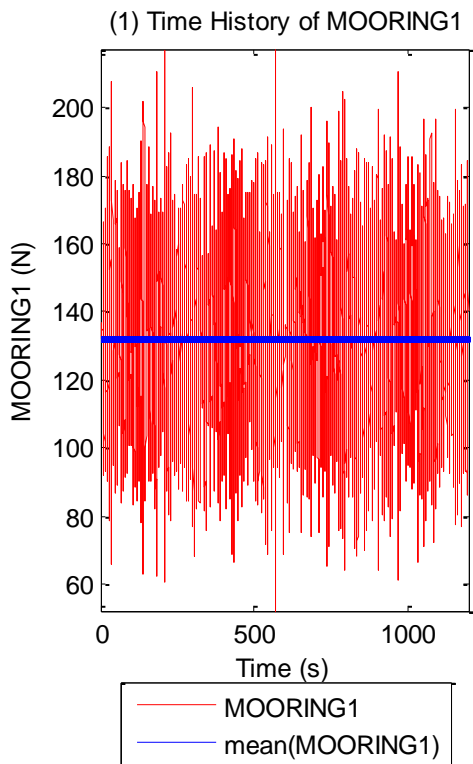


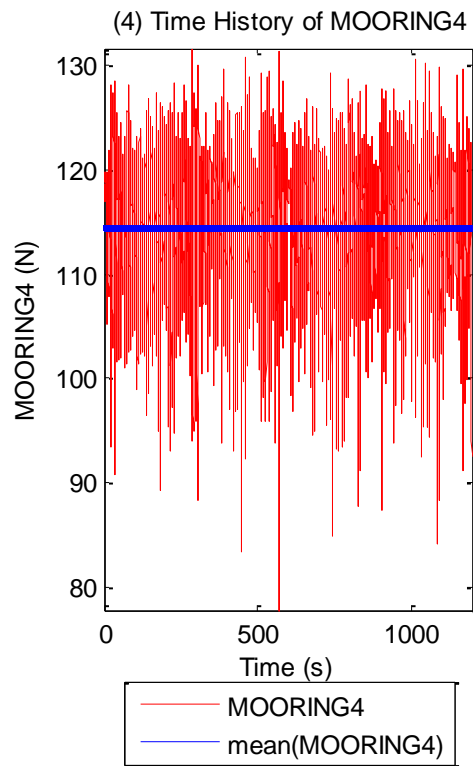
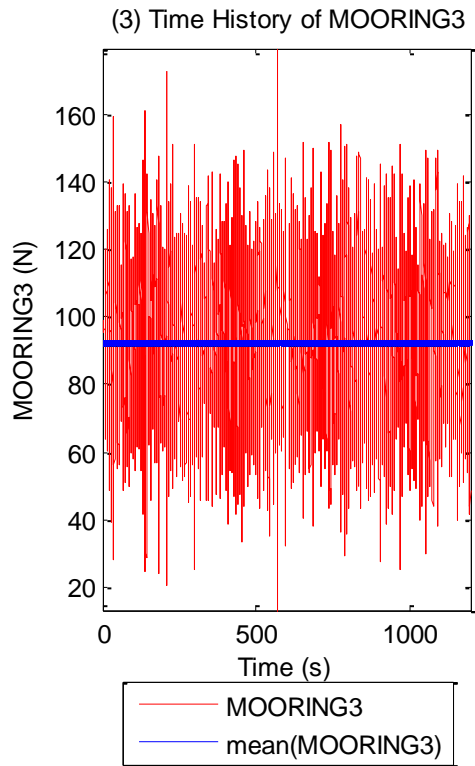
Σχήματα 1.5.1.2 Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll (5) pitch και (6) yaw με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



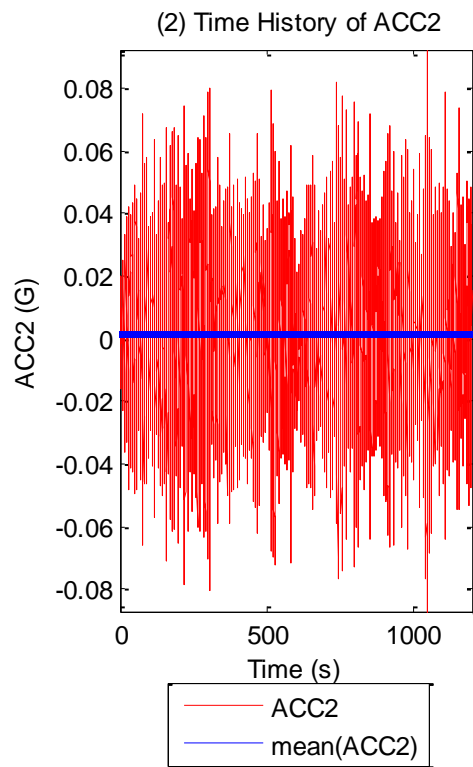
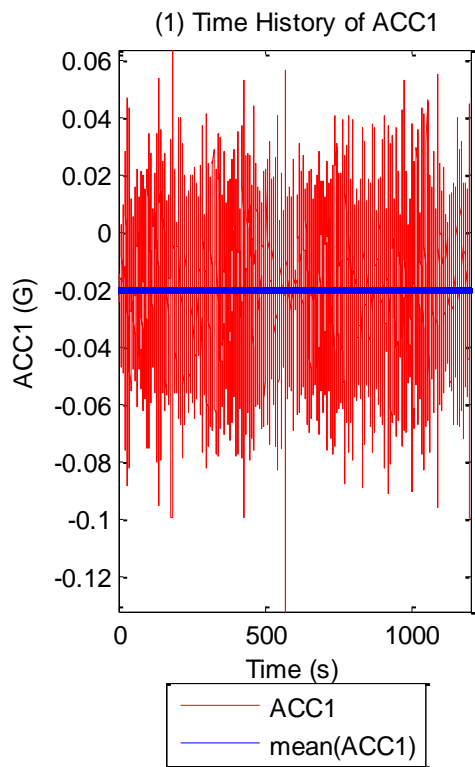


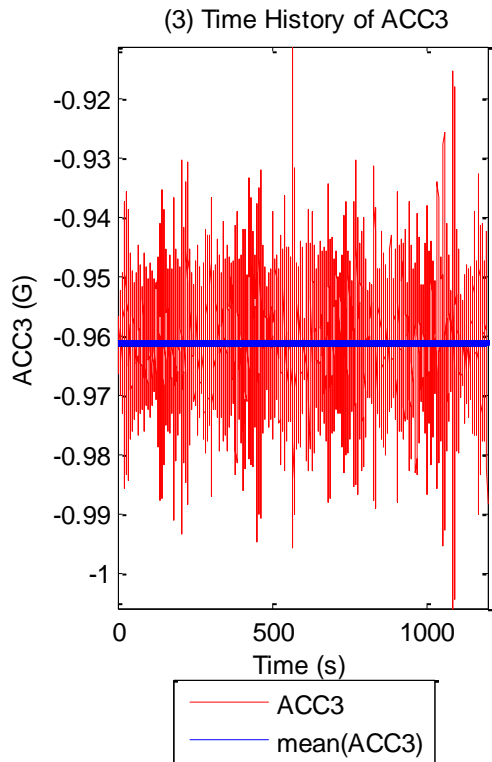
Σχήματα 1.5.1.2 Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



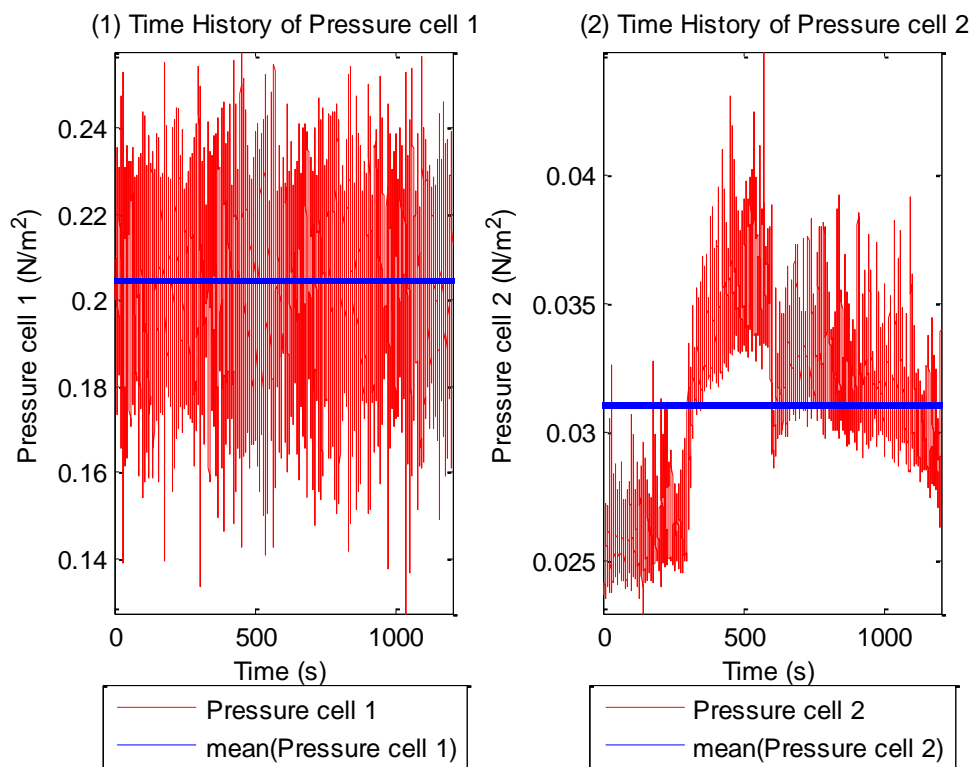


Σχήματα 1.5.1.4 Χρονοσειρές για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης (1-4) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές



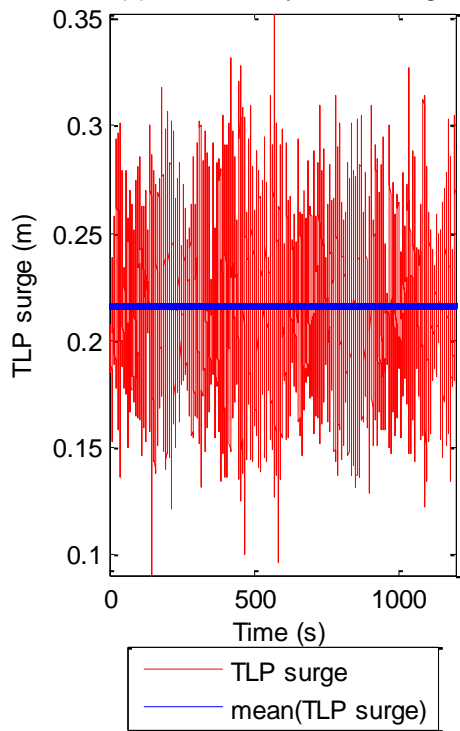


Σχήματα 1.5.1.5 (1-3) Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

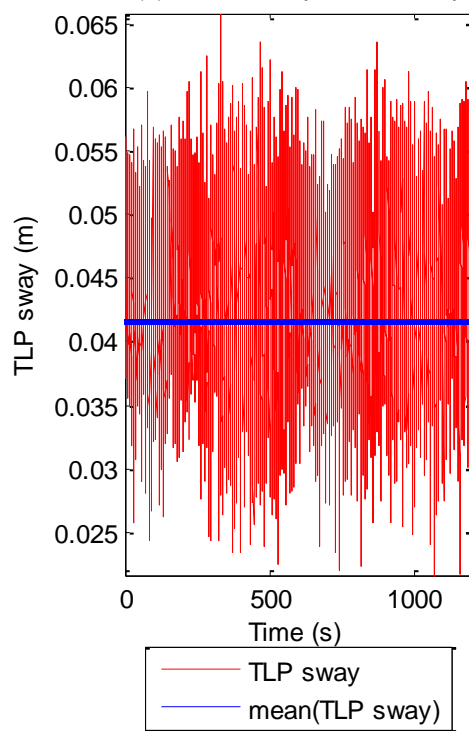


Σχήματα 1.5.1.6 (1-2) Χρονοσειρές από τα δυο όργανα μέτρησης της πίεσης

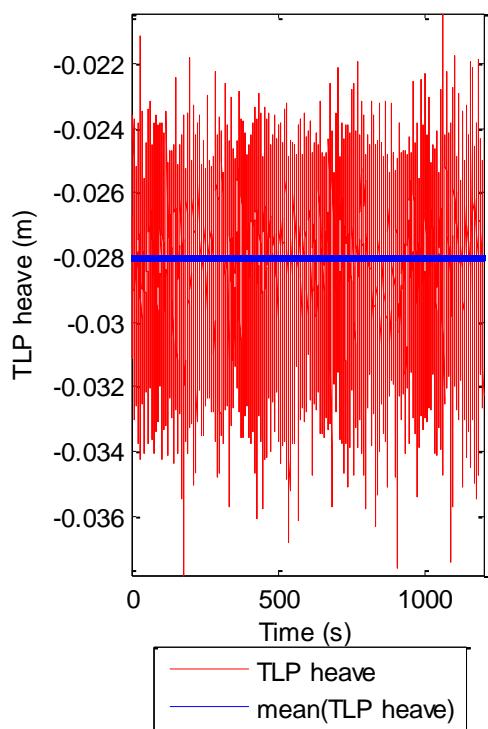
(1) Time History of TLP surge



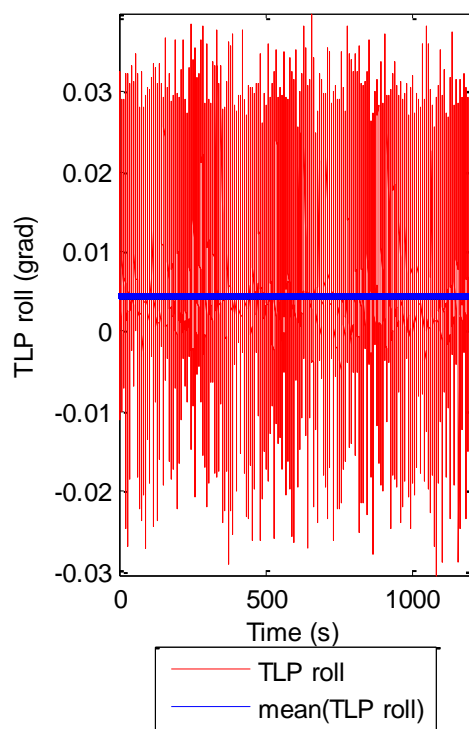
(2) Time History of TLP sway

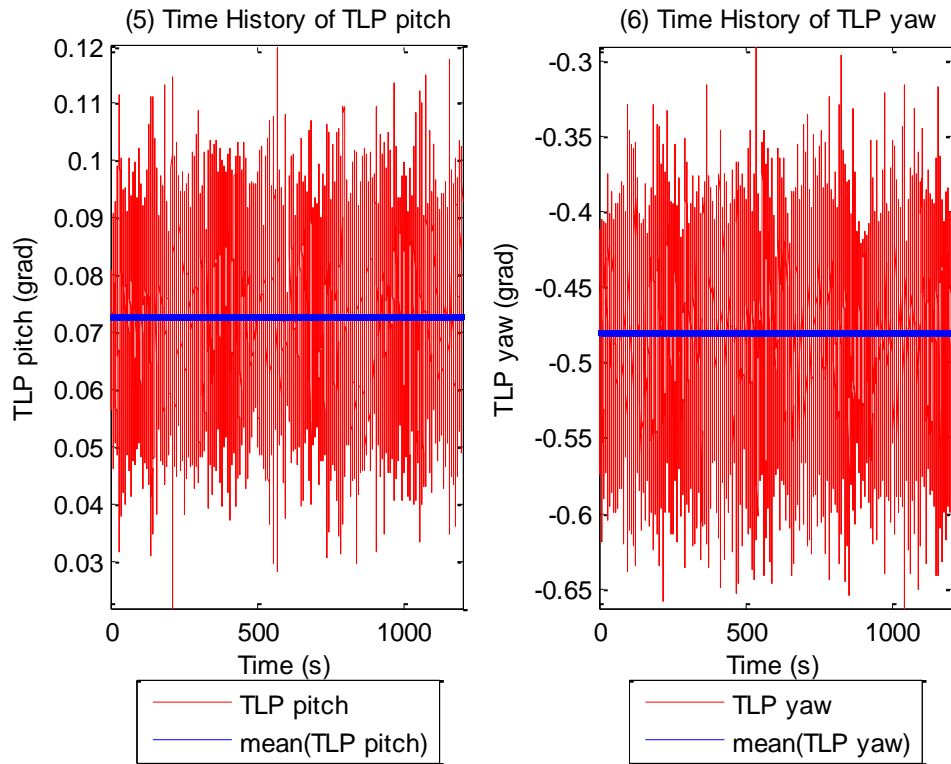


(3) Time History of TLP heave



(4) Time History of TLP roll





Σχήματα 1.5.1.7 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 1.5.2					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	H_{rms}
Wg1 (m)	-0.0080	0.0447	-0.1646	0.1877	0.1231
Wg2 (m)	-0.0012	0.0407	-0.1425	0.1747	0.1126
Wg3 (m)	0.0034	0.0340	-0.1184	0.1601	0.0945
Wg4 (m)	0.0012	0.0376	-0.1220	0.1784	0.1038
Wg5 (m)	-0.0013	0.0349	-0.1242	0.1491	0.0960
Wg6 (m)	-0.0012	0.0391	-0.1311	0.1743	0.1080
Wg7 (m)	0.0078	0.0302	-0.0985	0.1486	0.0838
Wg8 (m)	0.0019	0.0354	-0.1235	0.1663	0.0981

Wg9 (m)	0.0053	0.0330	-0.1222	0.1580	0.0921
Wg10 (m)	0.0004	0.0366	-0.1421	0.1796	0.1017
Wg11 (m)	0.0005	0.0373	-0.1333	0.1750	0.1039
6comp_Fx (N)	-9.3494	3.8156	-29.7524	10.7886	10.4057
6comp_Fy(N)	-2.2531	1.2984	-7.2815	3.2029	3.5714
6comp_Fz (N)	34.3768	0.0000	34.3768	34.3768	0.0000
6comp_Mx (N*m)	-1.6868	2.1201	-10.2450	6.3857	5.9423
6comp_My (N*m)	-19.0007	6.6766	-55.1537	16.7960	18.7647
6comp_Mz (N*m)	-0.5002	0.2300	-1.7751	0.8896	0.5919
4comp_Fx (N)	-9.8702	3.1707	-26.7572	7.3597	7.2253
4comp_Fy (N)	-0.8812	1.0174	-4.6328	3.3423	2.3952
4comp_Mx (N*m)	1.9741	0.1142	1.5289	2.4404	0.2383
4comp_My (N*m)	-0.7804	0.4475	-3.1907	1.4969	1.0127
Mooring_1 (N)	132.0478	21.9919	52.2774	217.2376	47.1834
Mooring_2(N)	119.5221	5.3055	81.7797	137.1172	11.8815
Mooring_3 (N)	92.6901	19.0808	13.3045	179.3817	41.4463
Mooring_4(N)	114.3794	5.2855	77.9056	131.5363	11.8013
Acc_1 (G)	-0.0203	0.0187	-0.1324	0.0641	0.0416
Acc_2 (G)	0.0016	0.0219	-0.0871	0.0924	0.0438
Acc_3 (G)	-0.9609	0.0076	-1.0057	-0.9112	0.0187
Pres.cell_1 (N/m^2)	0.2046	0.0173	0.1272	0.2579	0.0321

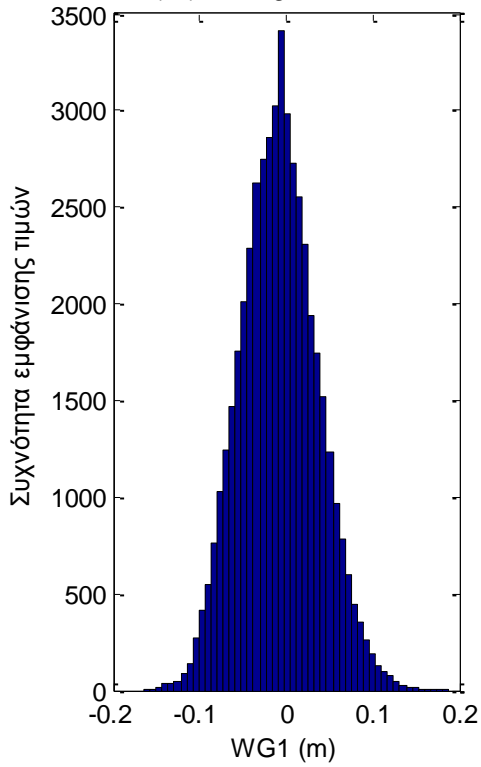
Pres.cell_2 (N/m ²)	0.0311	0.0037	0.0230	0.0448	0.0024
TLP_x (m)	0.2167	0.0330	0.0906	0.3523	0.0436
TLP_y (m)	0.0416	0.0046	0.0216	0.0658	0.0094
TLP_z (m)	-0.0280	0.0016	-0.0378	-0.0204	0.0035
TLP_roll (grad)	0.0045	0.0060	-0.0305	0.0398	0.0185
TLP_pitch (grad)	0.0729	0.0115	0.0218	0.1200	0.0232
TLP_yaw (grad)	-0.4796	0.0420	-0.6629	-0.2905	0.0815

Πίνακας 1.5.3				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1612	3.1026	1	1
Wg2 (m)	0.1727	3.0857	1	1
Wg3 (m)	0.1761	3.1555	1	1
Wg4 (m)	0.2259	3.2639	1	1
Wg5 (m)	0.2671	3.2975	1	1
Wg6 (m)	0.2032	3.2113	1	1
Wg7 (m)	0.1807	3.1334	1	1
Wg8 (m)	0.2108	3.2155	1	1
Wg9 (m)	0.2052	3.2053	1	1
Wg10 (m)	0.1739	3.1634	1	1
Wg11 (m)	0.1864	3.1317	1	1
6comp_Fx (N)	0.0064	4.5460	1	1
6comp_Fy(N)	0.0024	3.0860	1	1

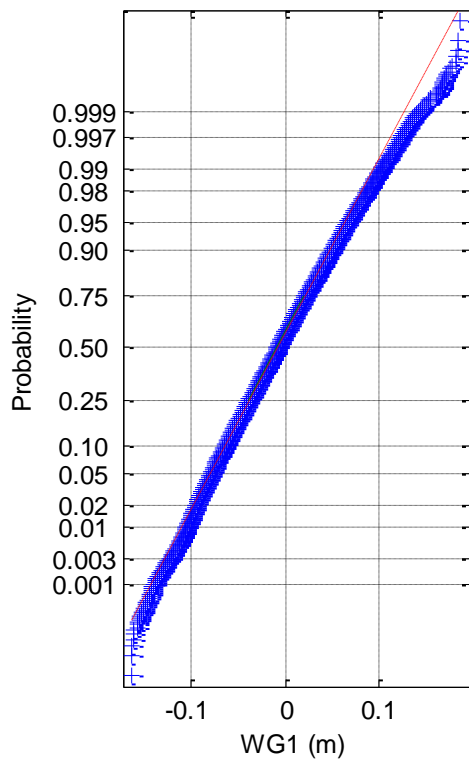
6comp_Fz (N)	-1.0000	1.0000	1	1
6comp_Mx (N*m)	0.0034	3.1296	1	1
6comp_My (N*m)	0.0392	4.7091	1	1
6comp_Mz (N*m)	0.0094	3.6110	1	1
4comp_Fx (N)	0.0839	4.8664	1	1
4comp_Fy (N)	0.0013	3.1008	1	1
4comp_Mx (N*m)	-0.0250	3.0510	1	1
4comp_My (N*m)	-0.0005	4.0949	1	1
Mooring_1 (N)	-0.0185	2.9227	1	1
Mooring_2 (N)	-0.6948	4.7871	1	1
Mooring_3 (N)	-0.1169	3.1593	1	1
Mooring_4 (N)	-0.6773	4.5934	1	1
Acc_1 (G)	-0.0937	3.3823	1	1
Acc_2 (G)	-0.0046	3.0917	1	1
Acc_3 (G)	0.0153	4.2762	1	1
Pres.cell_1 (N/m)	-0.2278	3.1429	1	1
Pres.cell_2 (N/m)	-0.2154	2.3175	1	1
TLP_x (m)	0.1332	3.0521	1	1
TLP_y (m)	0.3888	3.7108	1	1
TLP_z (m)	-0.7246	4.1700	1	1
TLP_roll (grad)	1.8570	10.6036	1	1
TLP_pitch (grad)	0.0789	3.0434	1	1

TLP_yaw (grad)	-0.1528	3.2108	1	1
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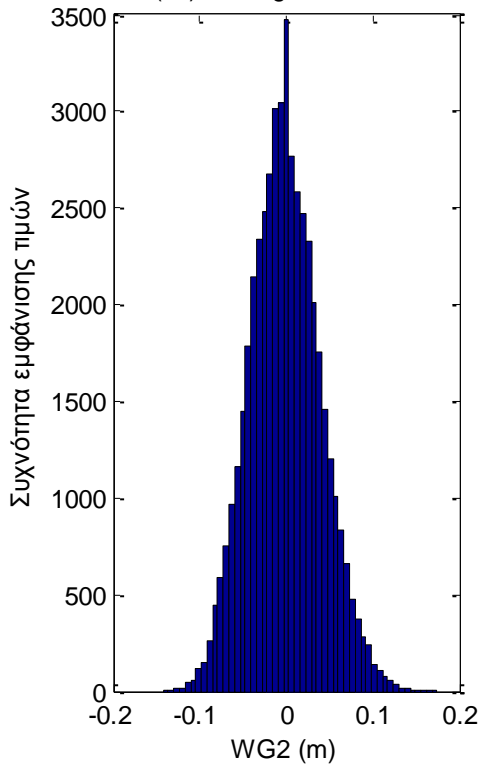
(1a) Histogram of WG1



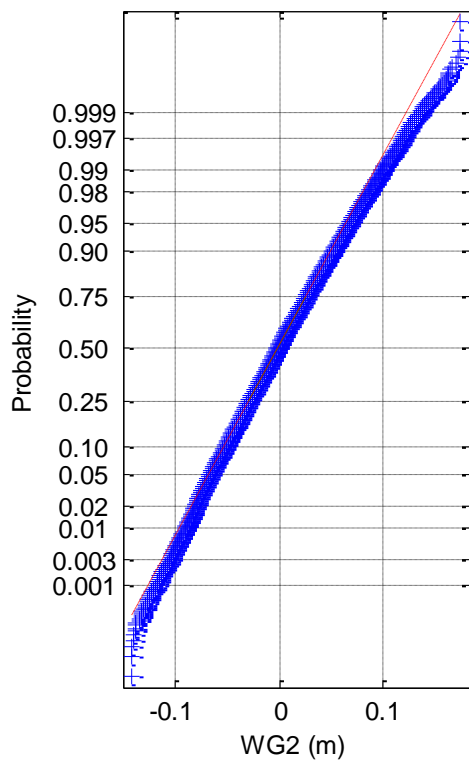
(1b) Normal probability plot of WG1



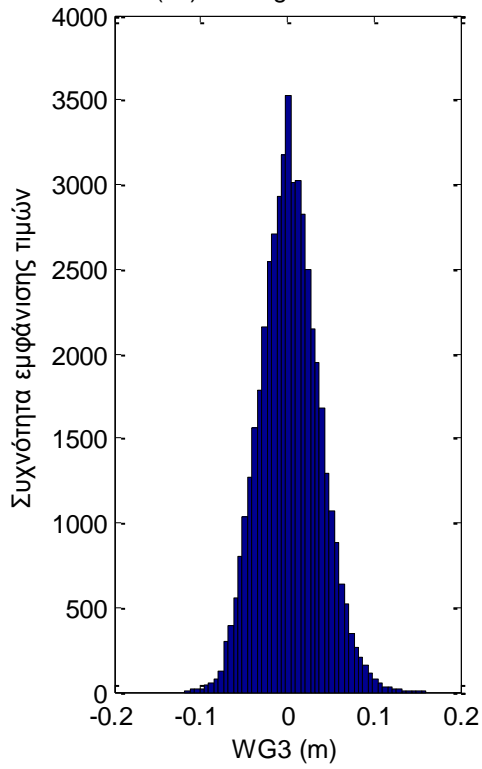
(2a) Histogram of WG2



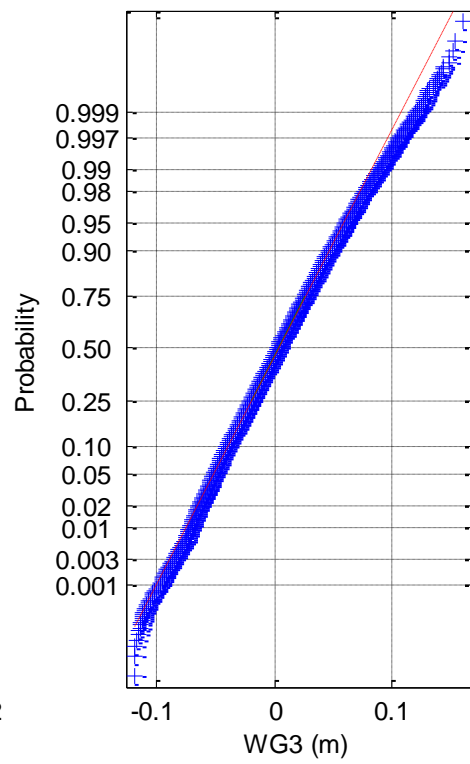
(2b) Normal probability plot of WG2



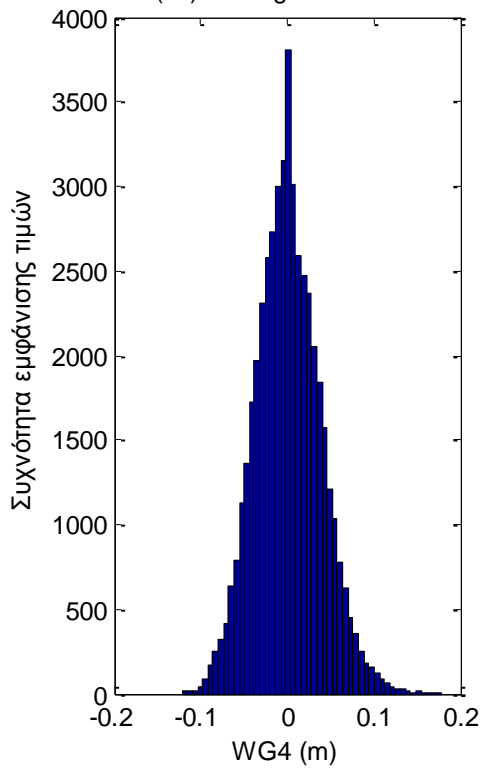
(3a) Histogram of WG3



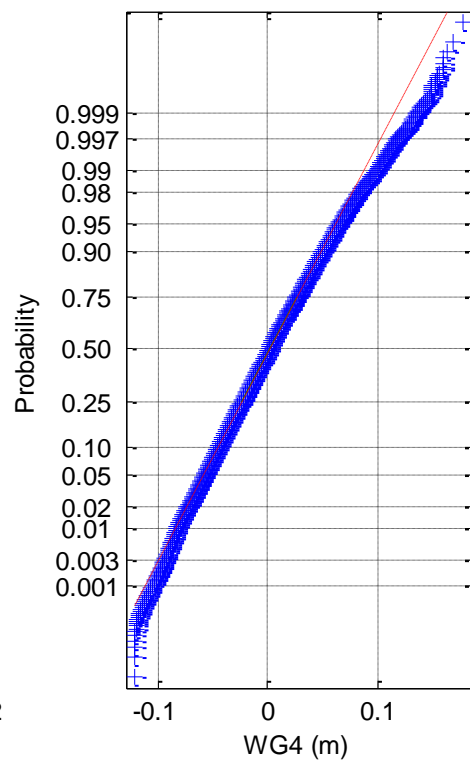
(3b) Normal probability plot of WG3



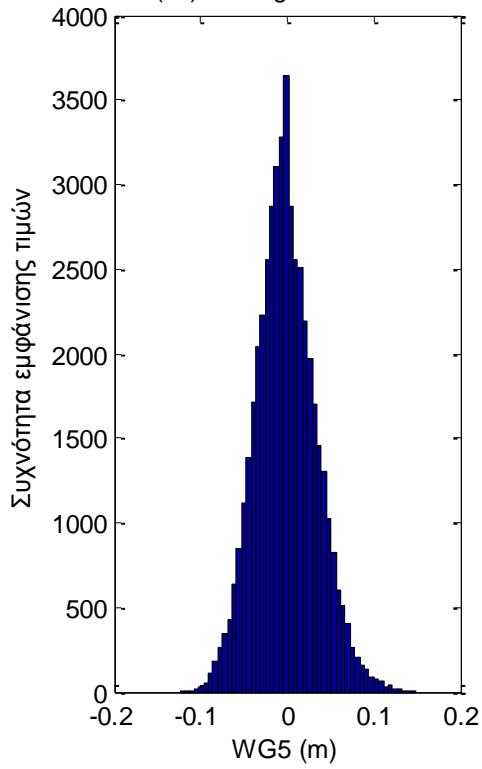
(4a) Histogram of WG4



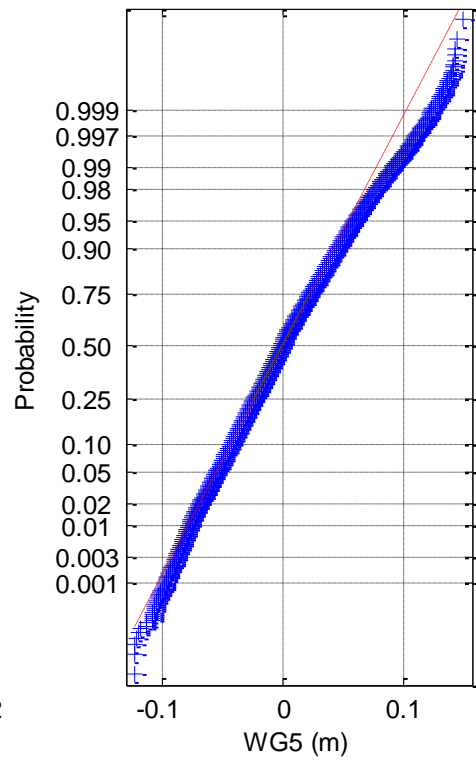
(4b) Normal probability plot of WG4



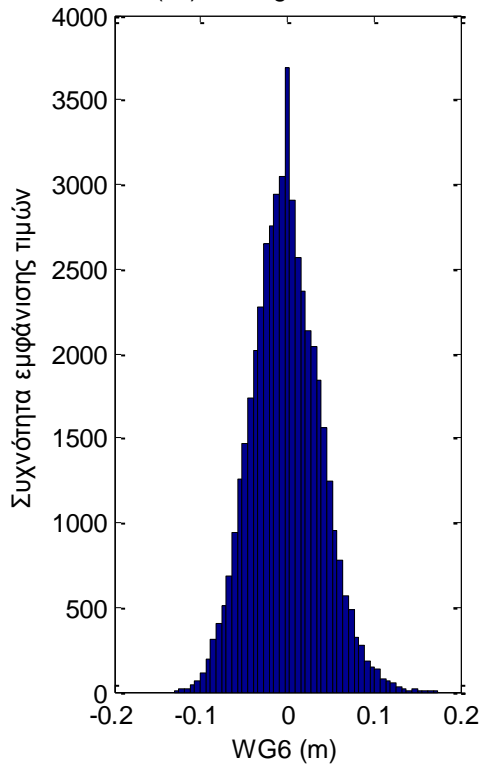
(5a) Histogram of WG5



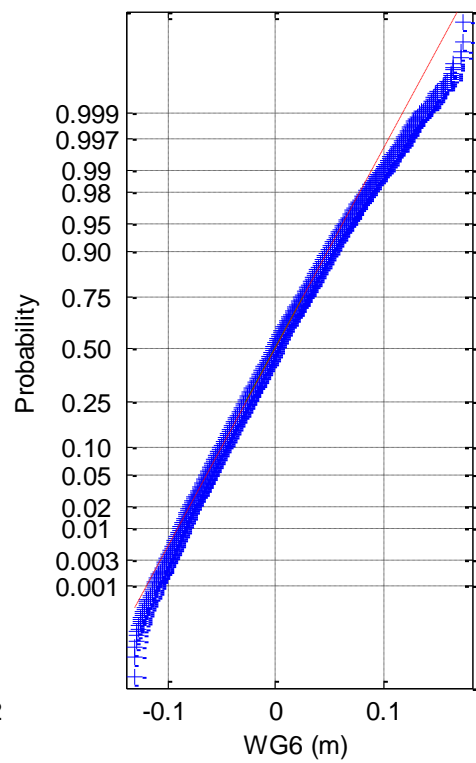
(5b) Normal probability plot of WG5



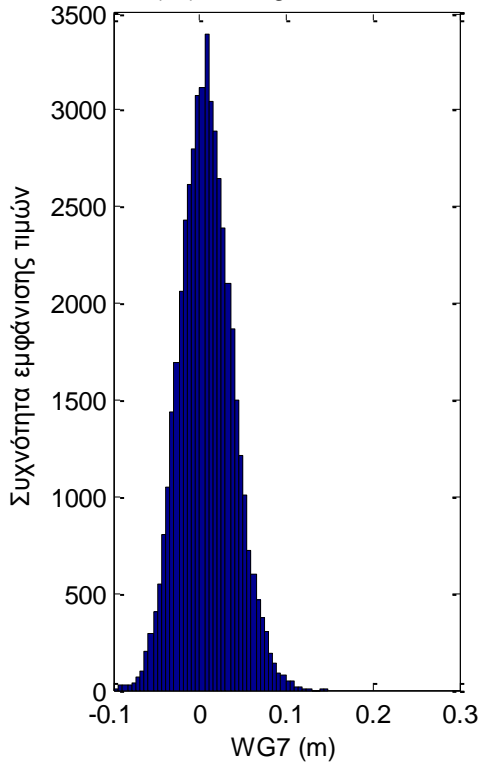
(6a) Histogram of WG6



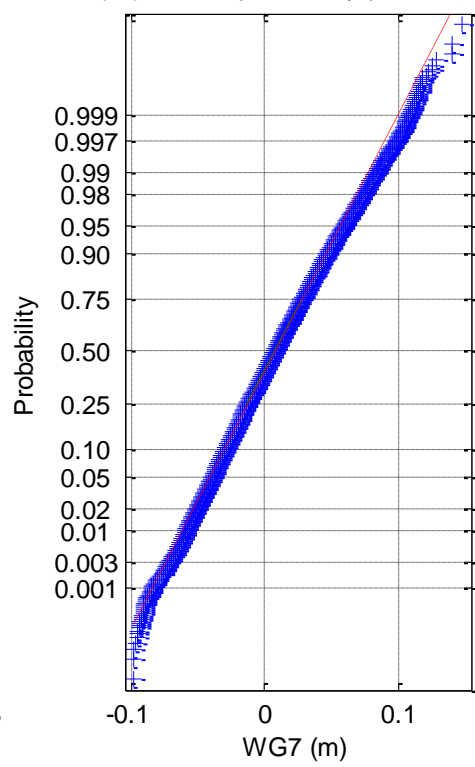
(6b) Normal probability plot of WG6



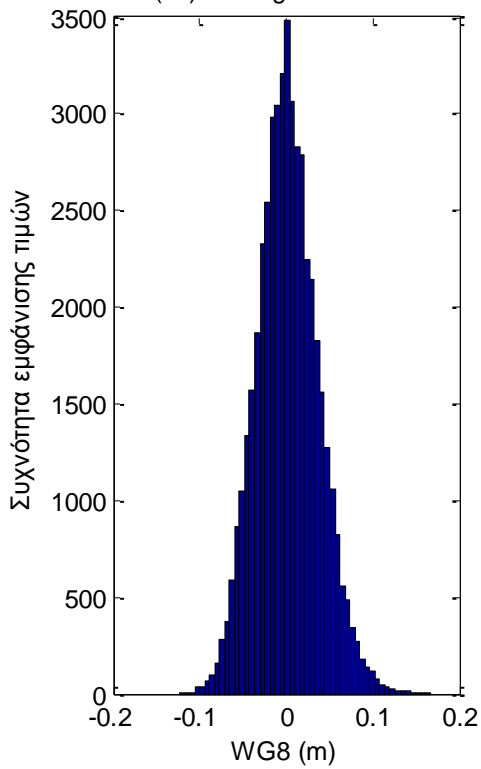
(7a) Histogram of WG7



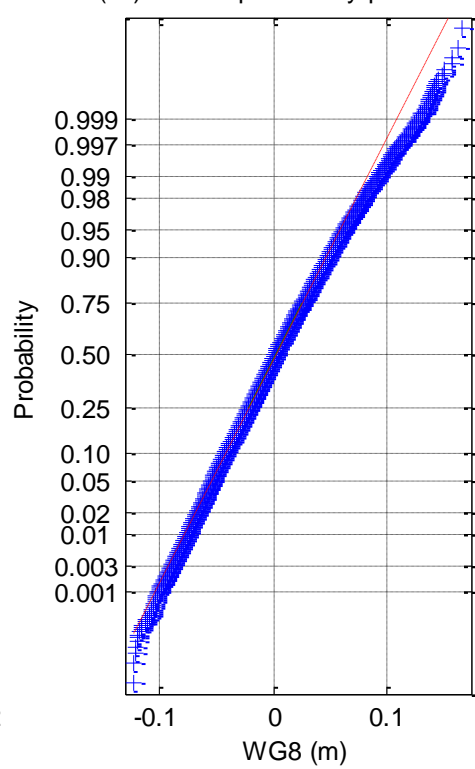
(7b) Normal probability plot of WG7



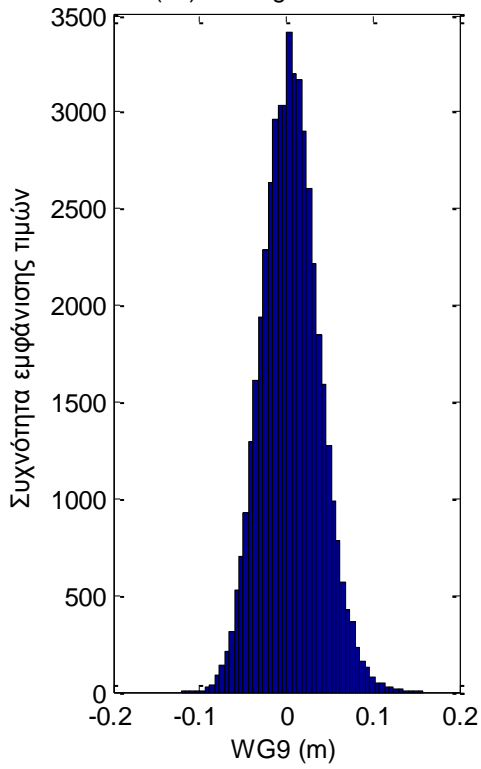
(8a) Histogram of WG8



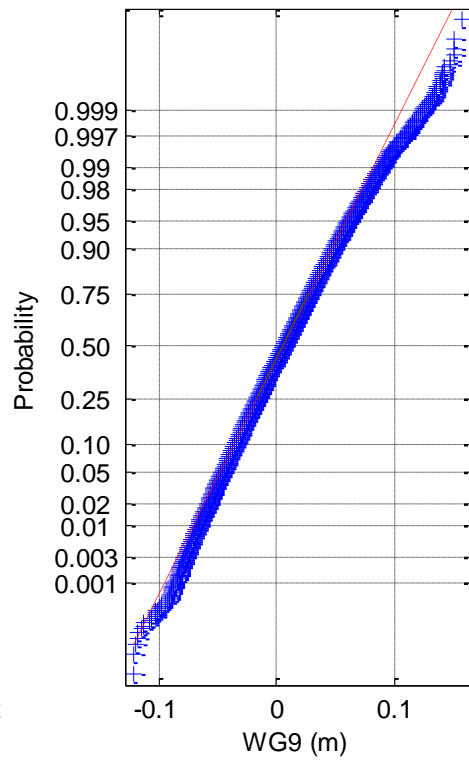
(8b) Normal probability plot of WG8



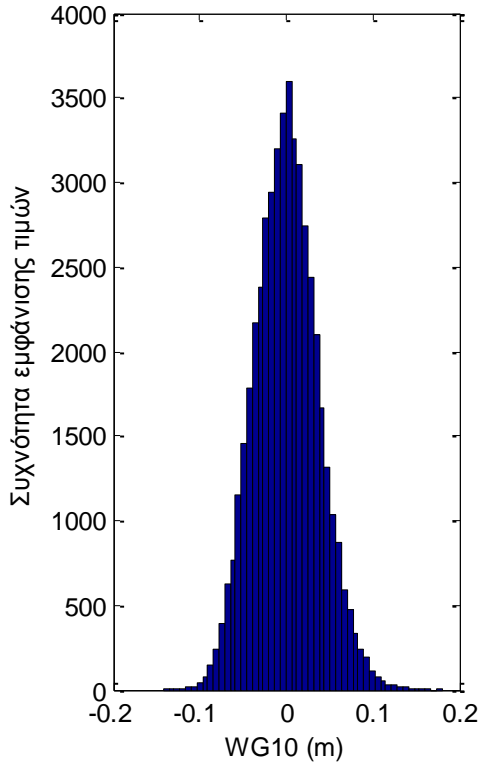
(9a) Histogram of WG9



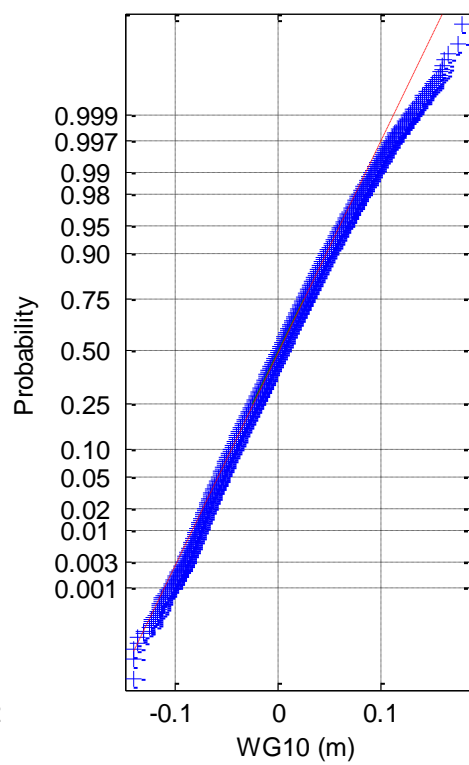
(9b) Normal probability plot of WG9

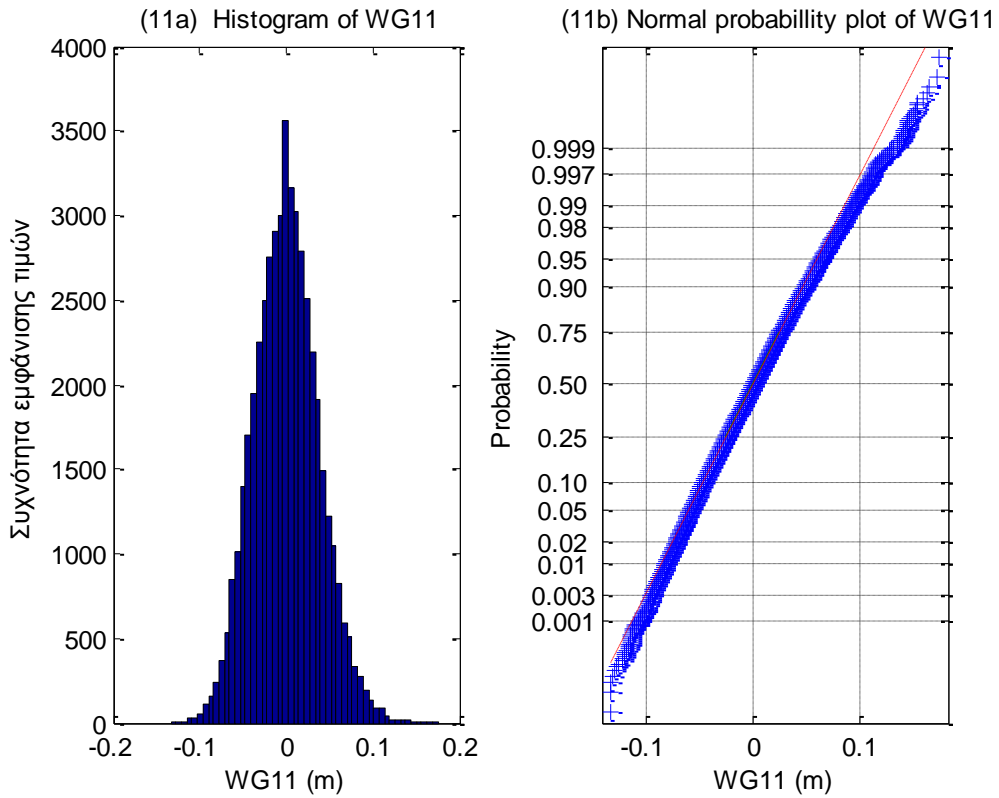


(10a) Histogram of WG10

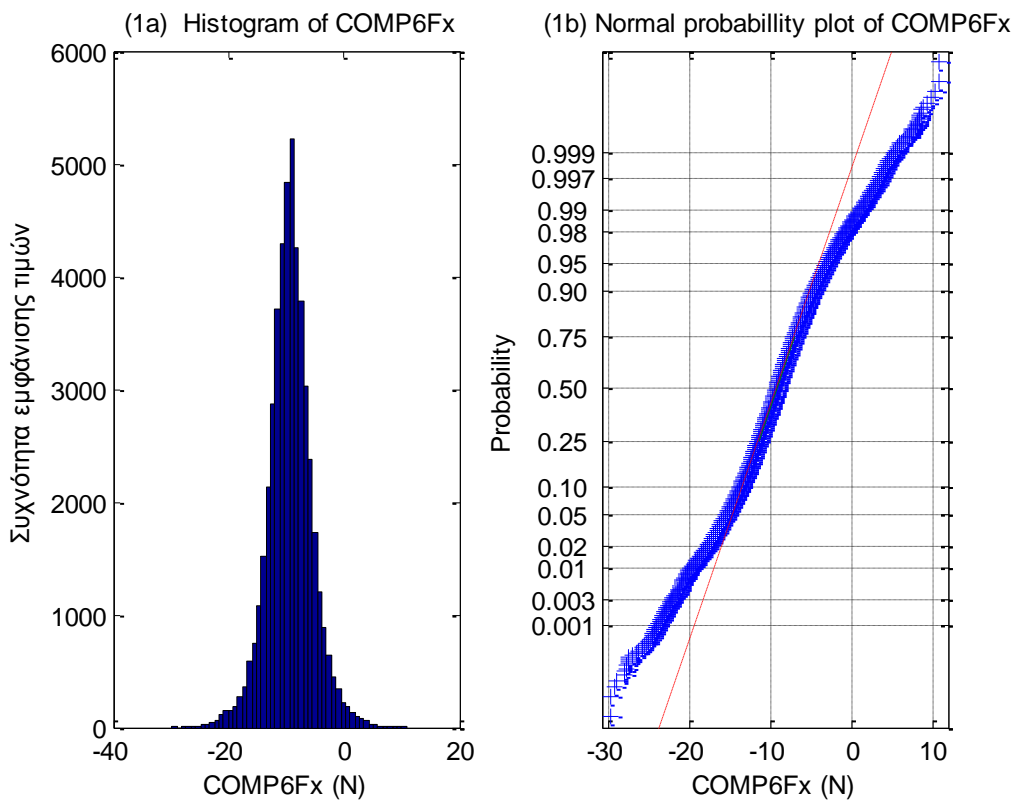


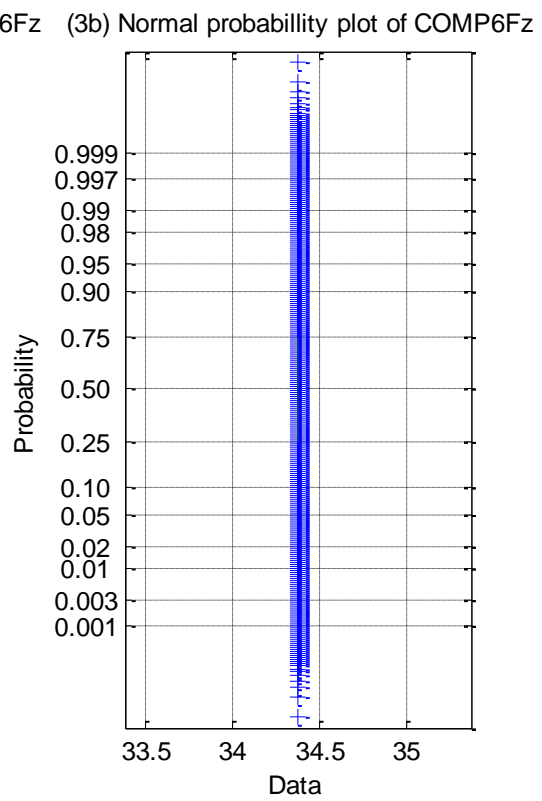
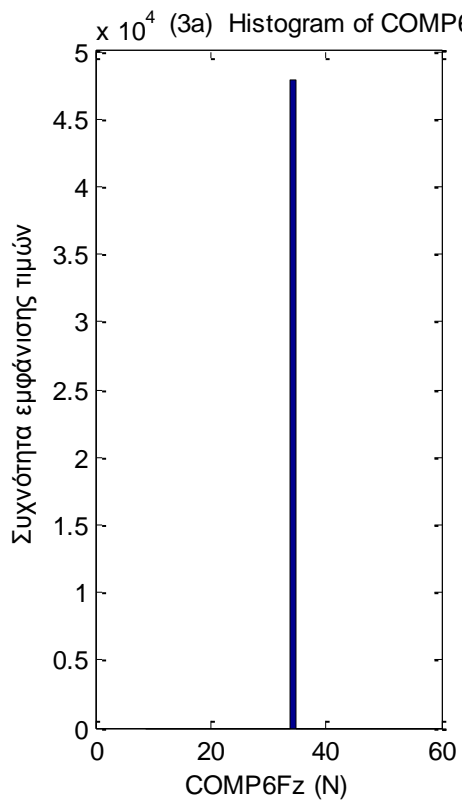
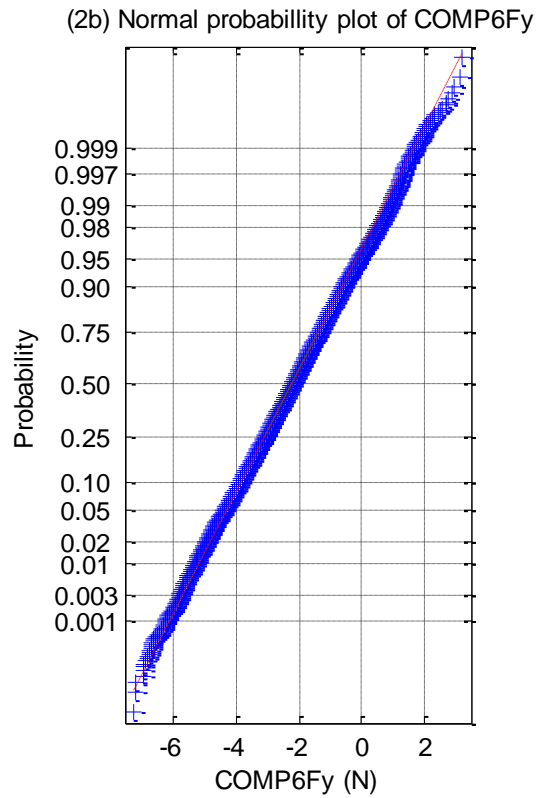
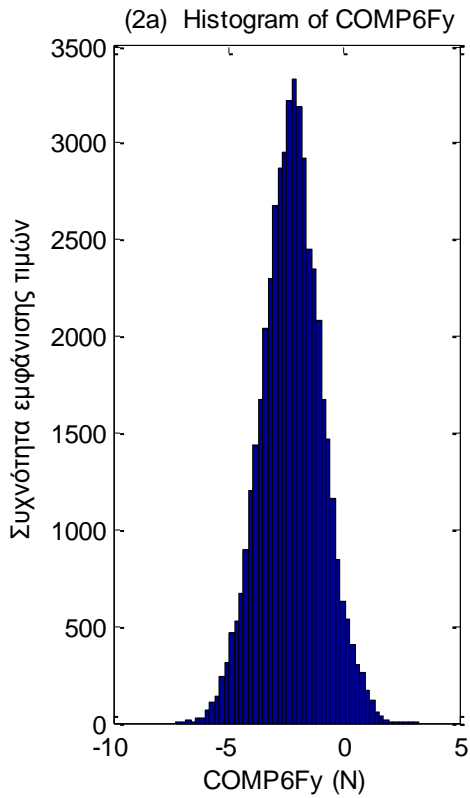
(10b) Normal probability plot of WG10

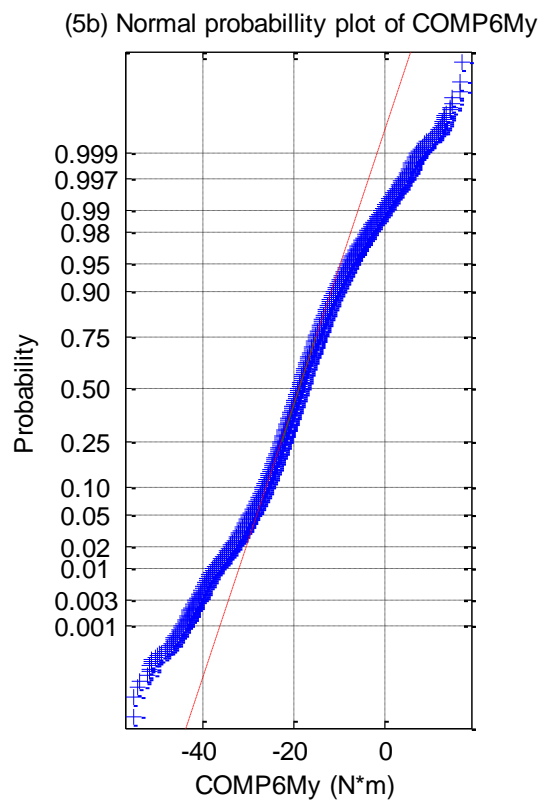
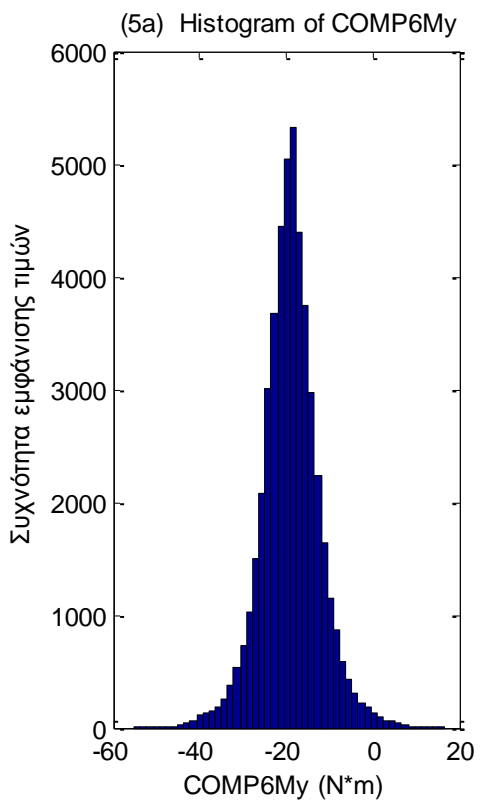
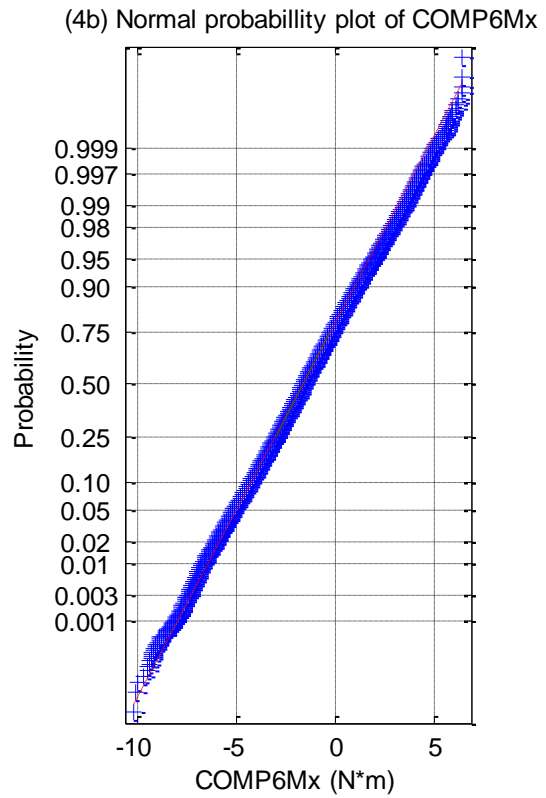
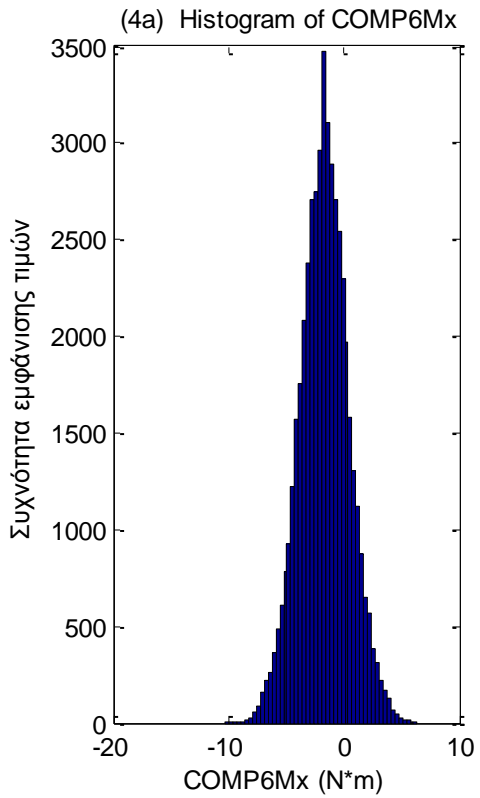


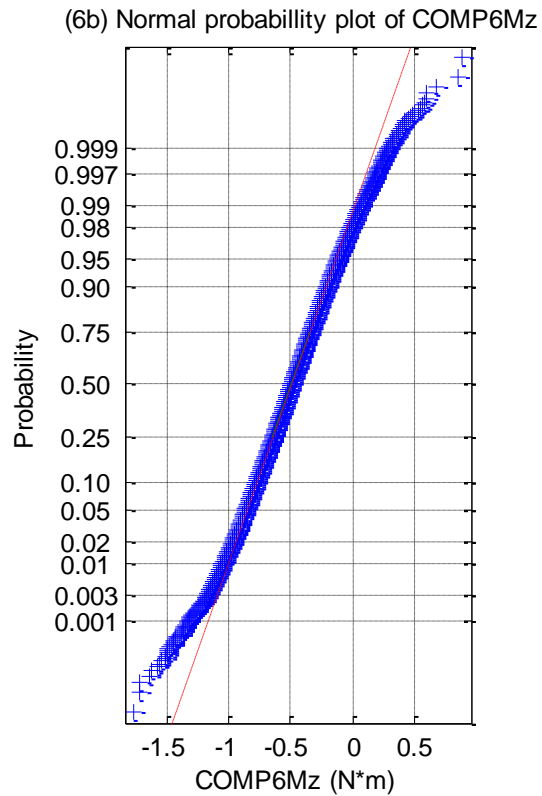
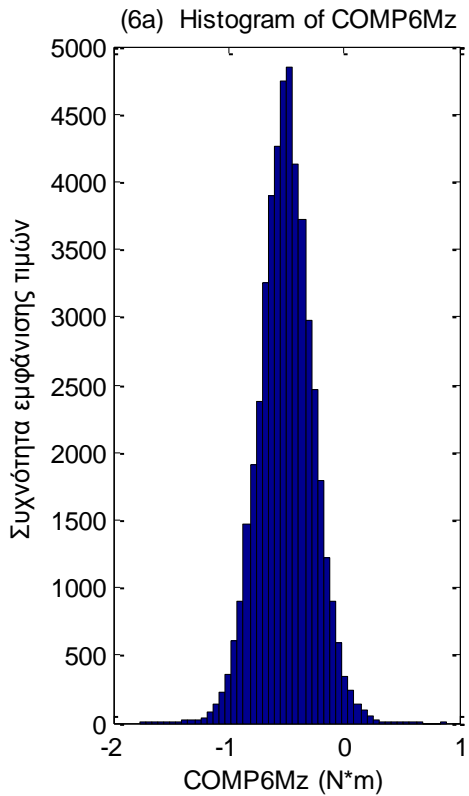


Σχήματα 1.5.2.1 (1-11) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

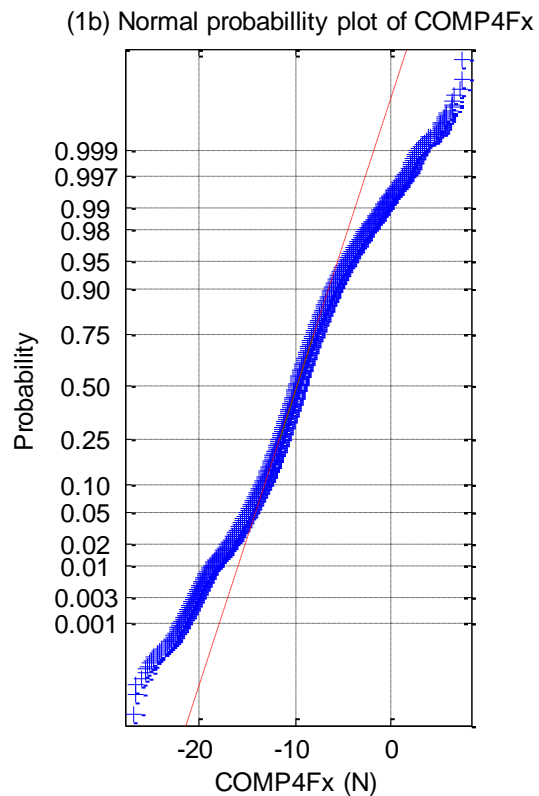
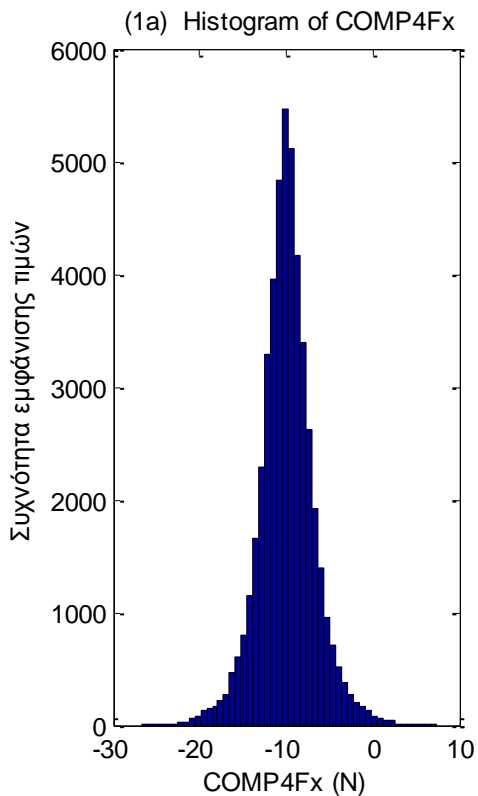


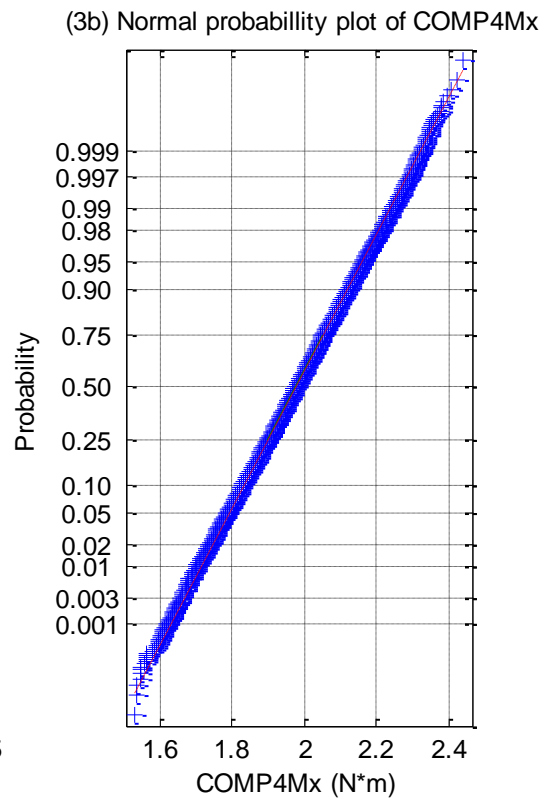
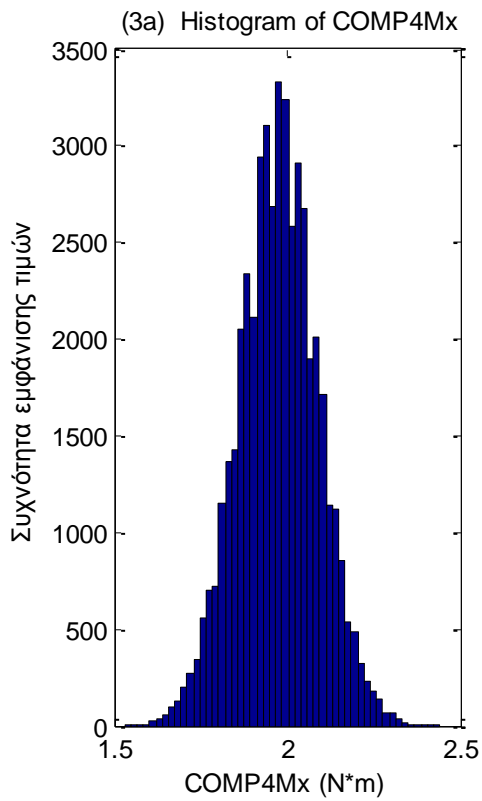
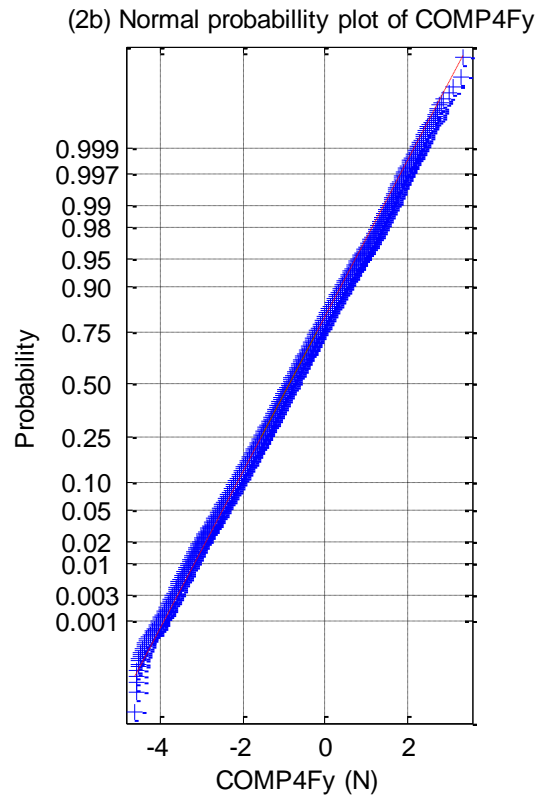
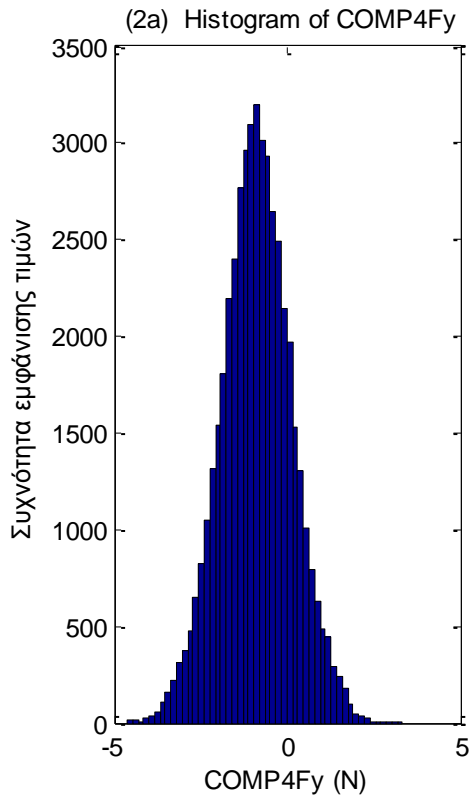


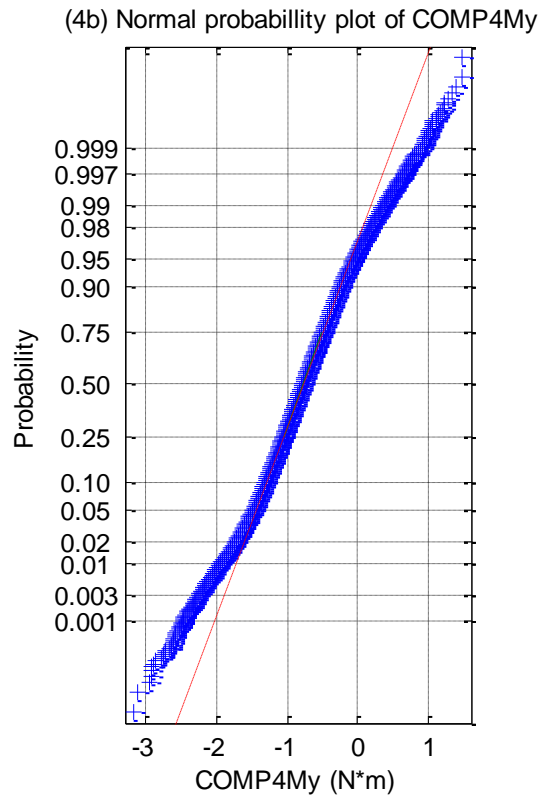
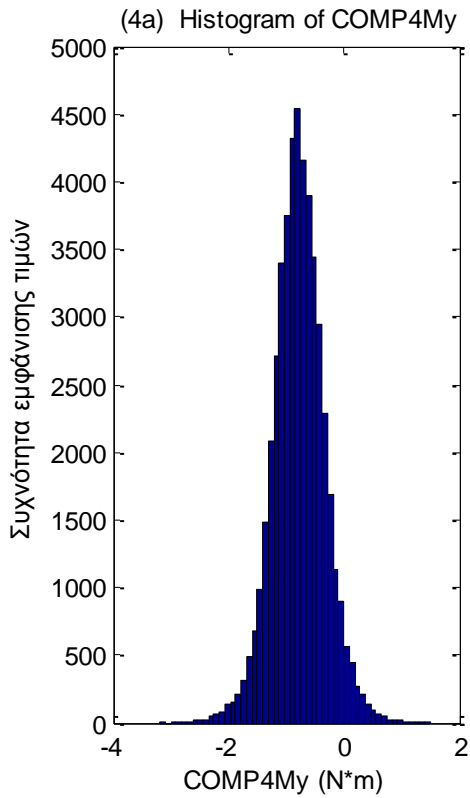




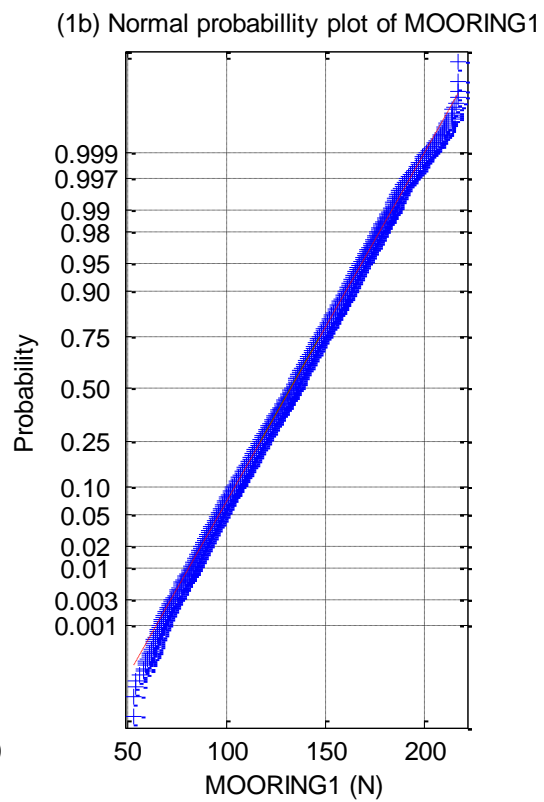
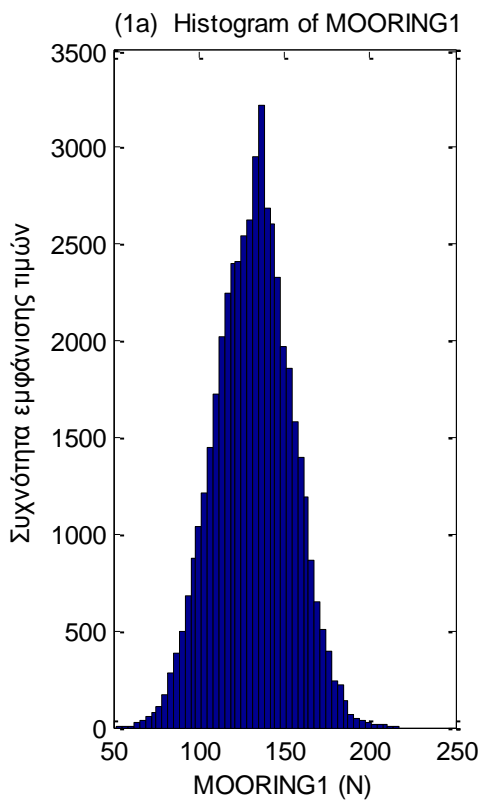
Σχήματα 1.5.2.2 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



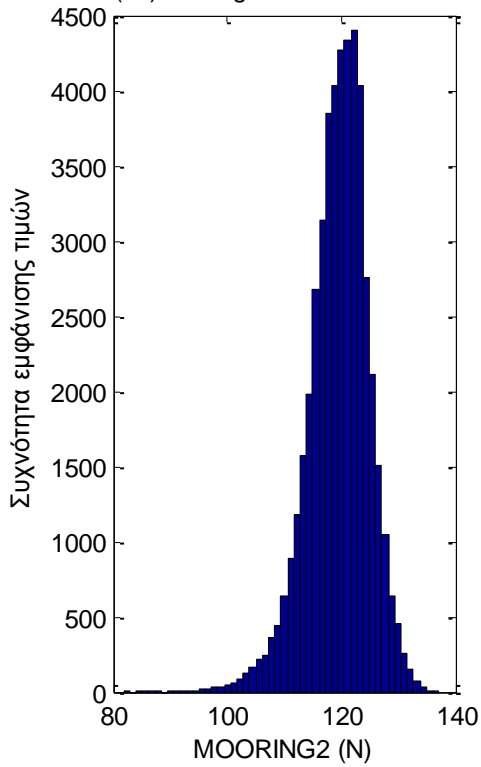




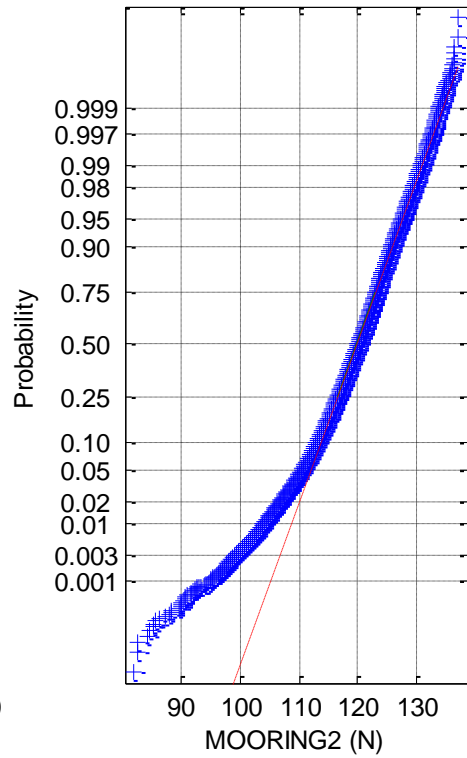
Σχήματα 1.5.2.3 α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



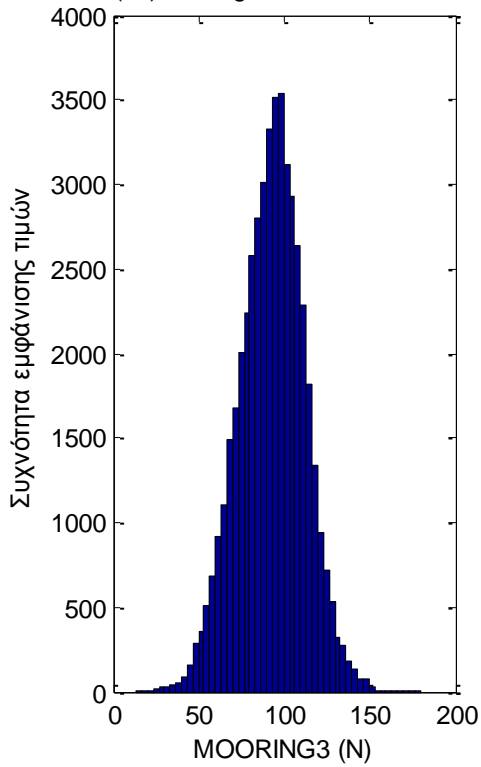
(2a) Histogram of MOORING2



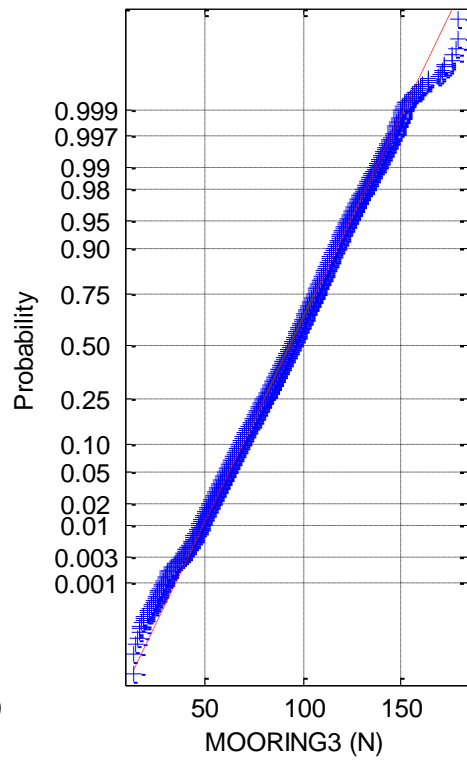
(2b) Normal probability plot of MOORING2

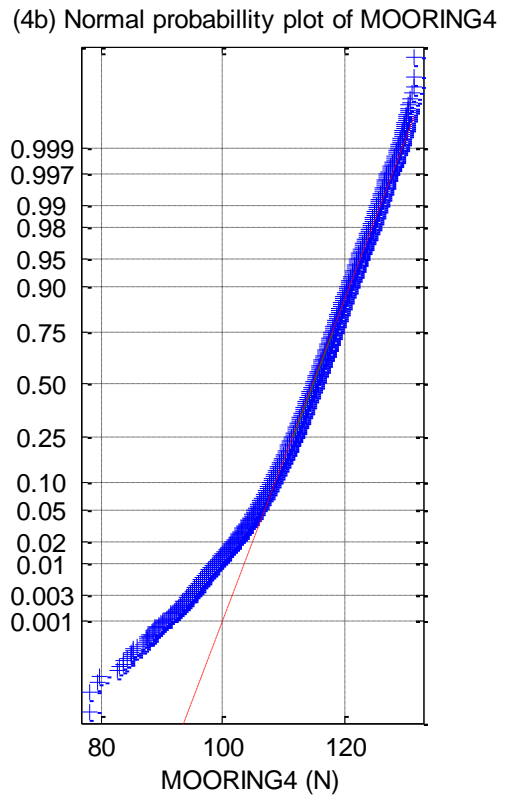
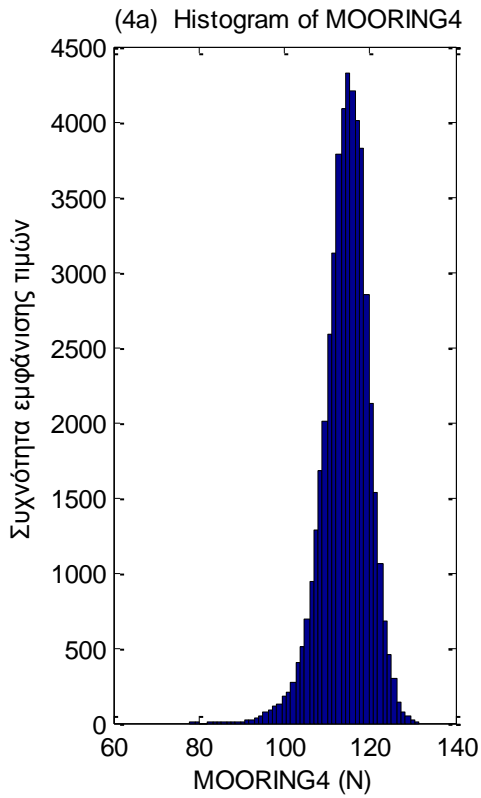


(3a) Histogram of MOORING3

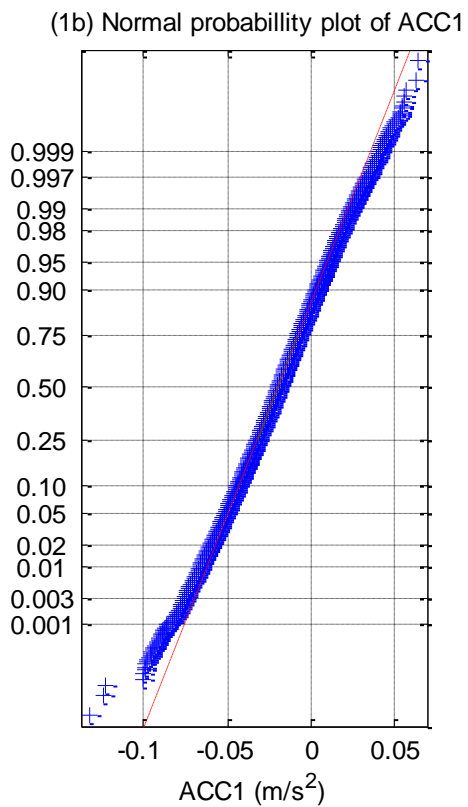
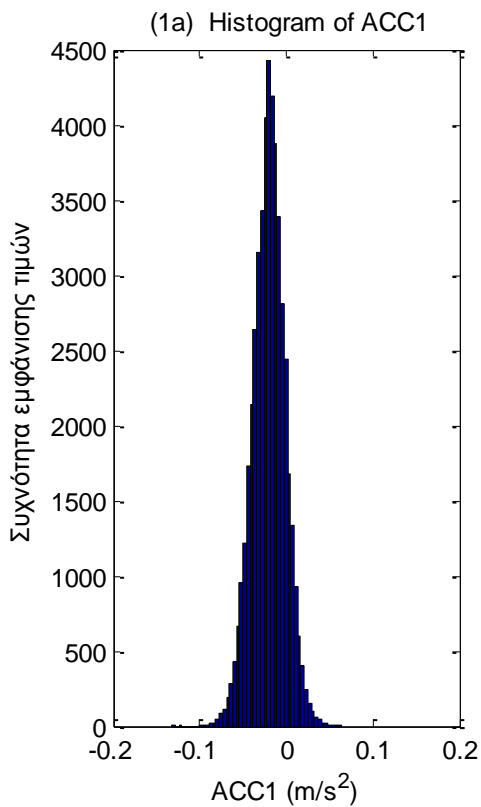


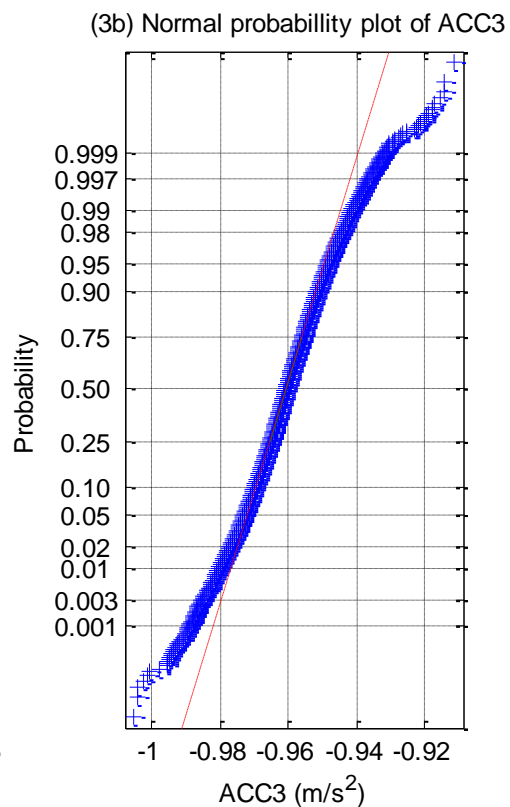
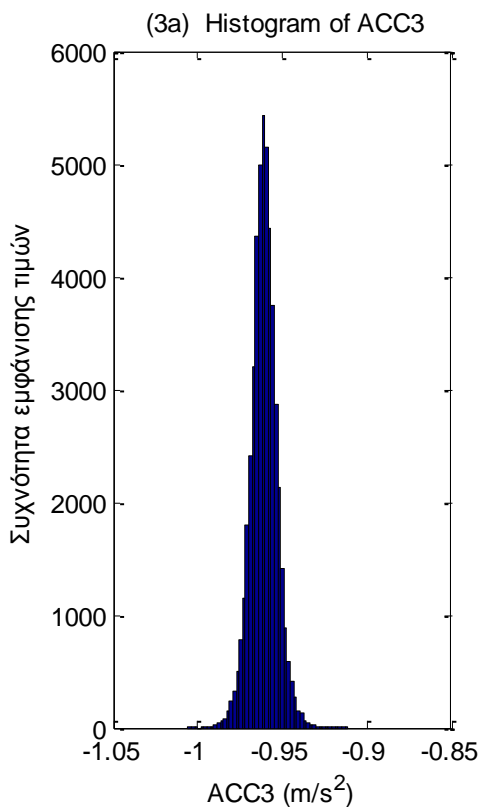
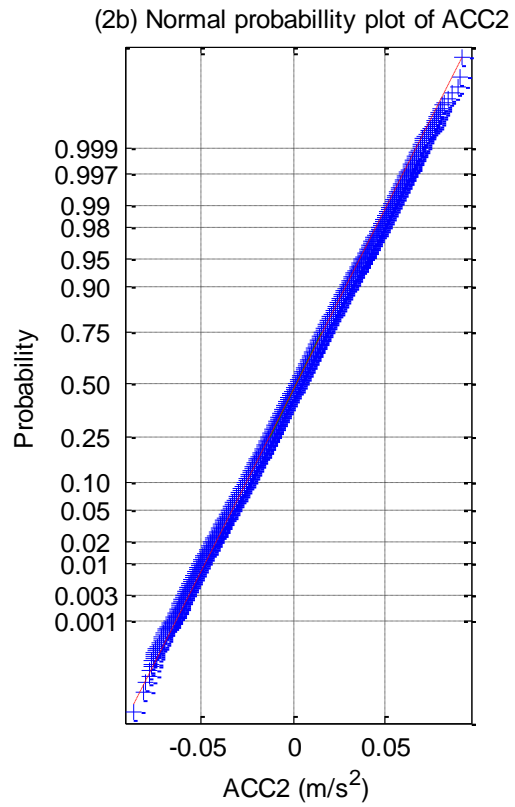
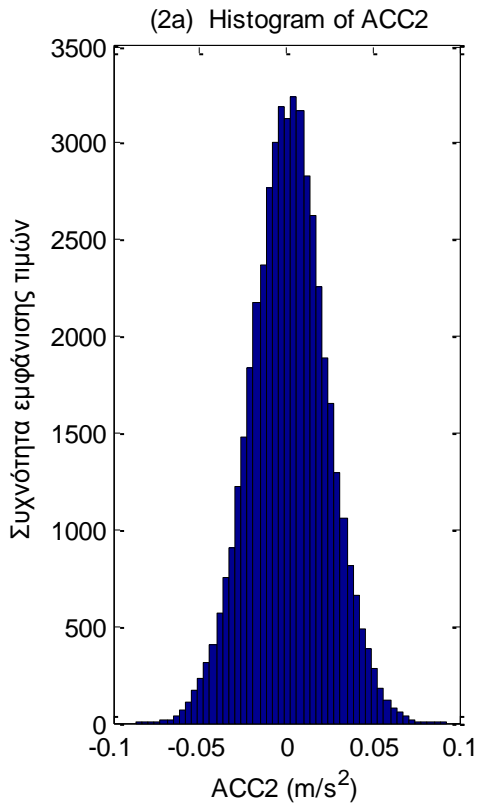
(3b) Normal probability plot of MOORING3



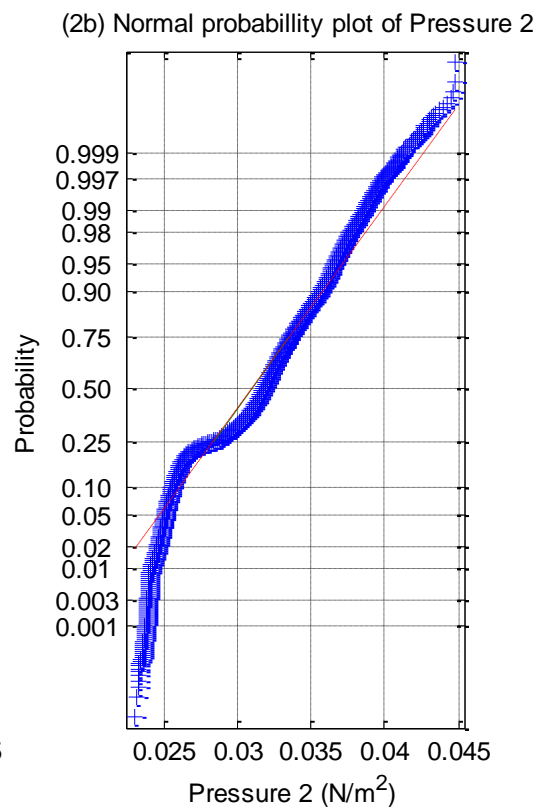
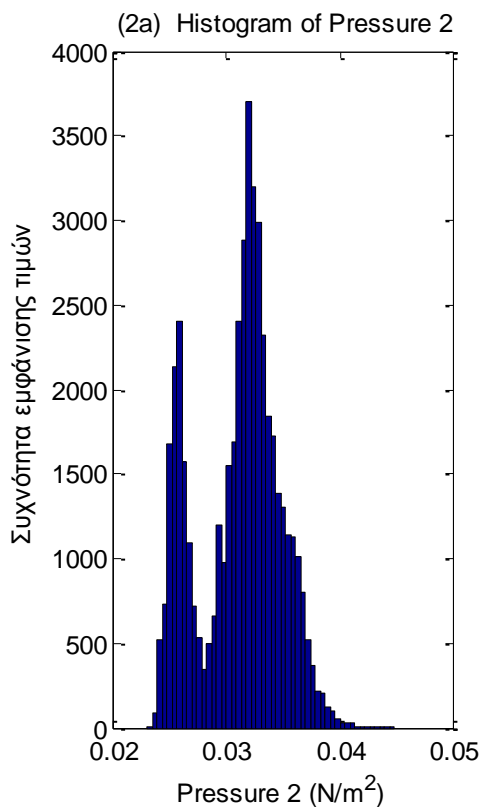
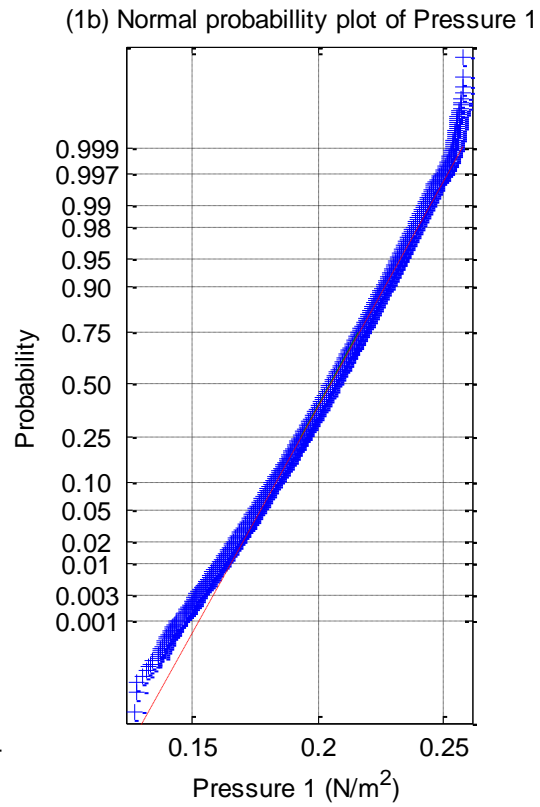
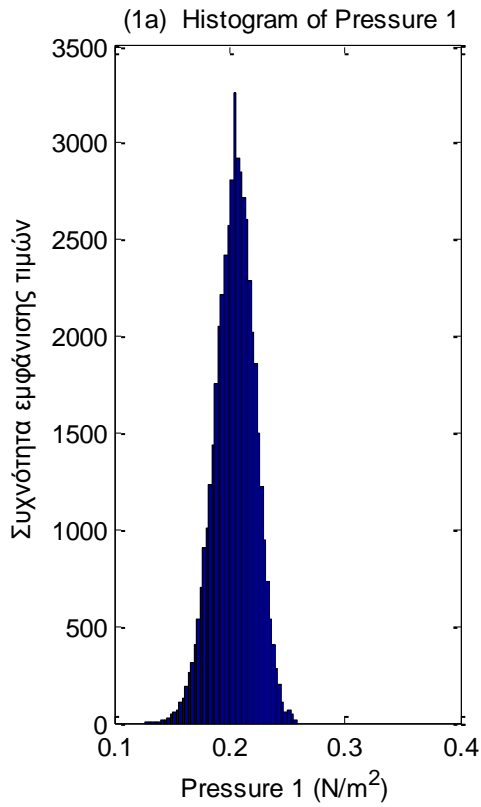


Σχήματα 1.5.2.4 (1-4) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης



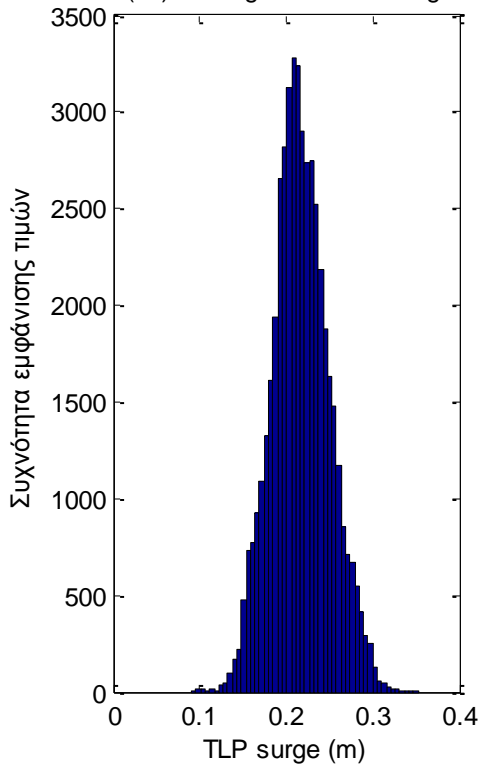


Σχήματα 1.5.2.5 (1-3) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

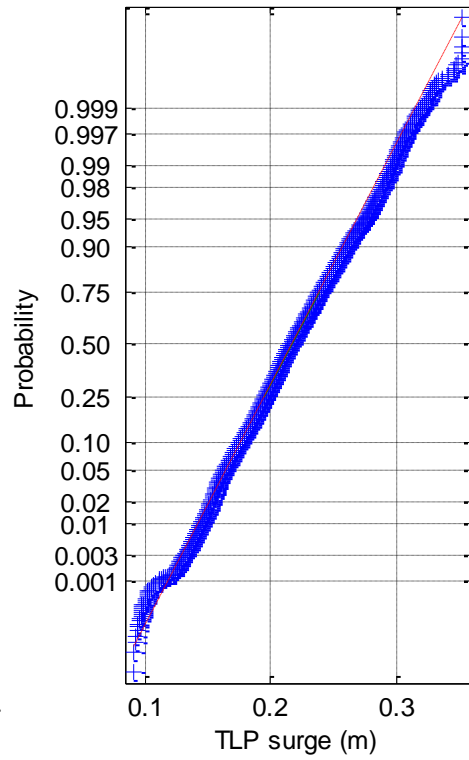


Σχήματα 1.5.2.6 (1-2) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα δυο όργανα μέτρησης της πίεσης

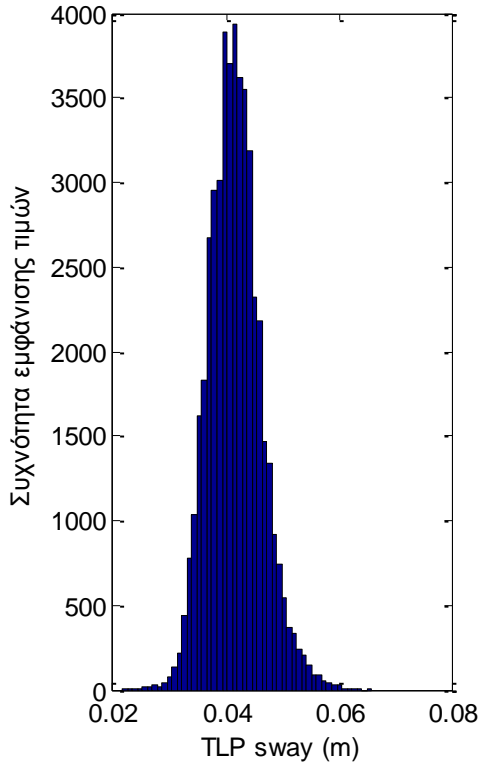
(1a) Histogram of TLP surge



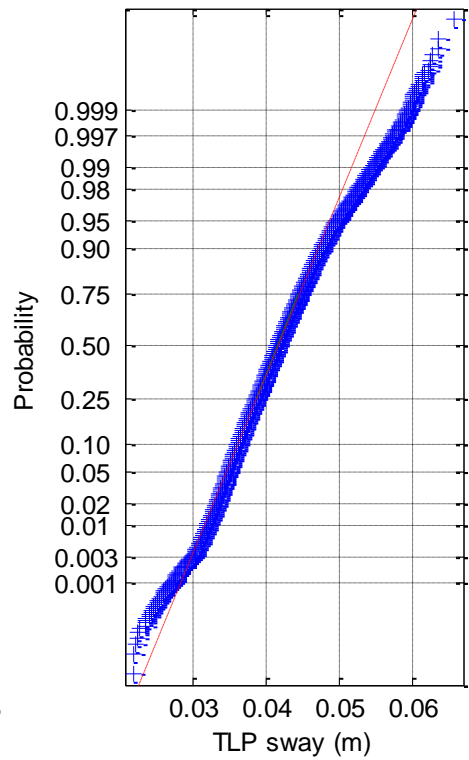
(1b) Normal probability plot of TLP surge

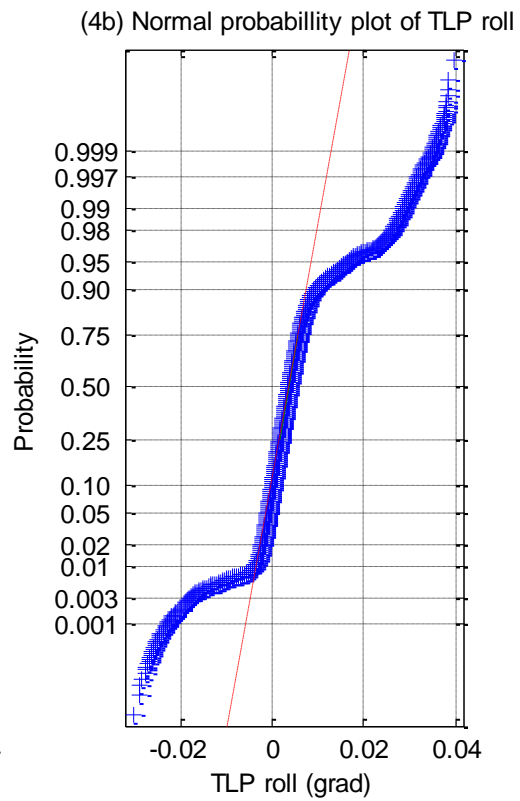
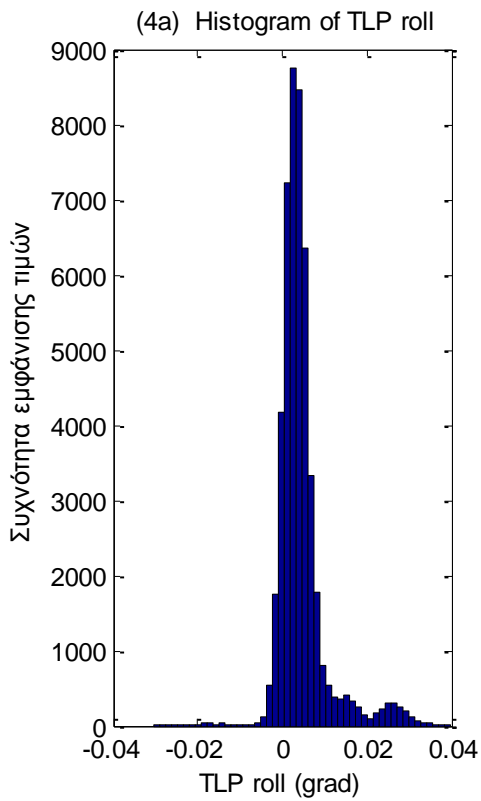
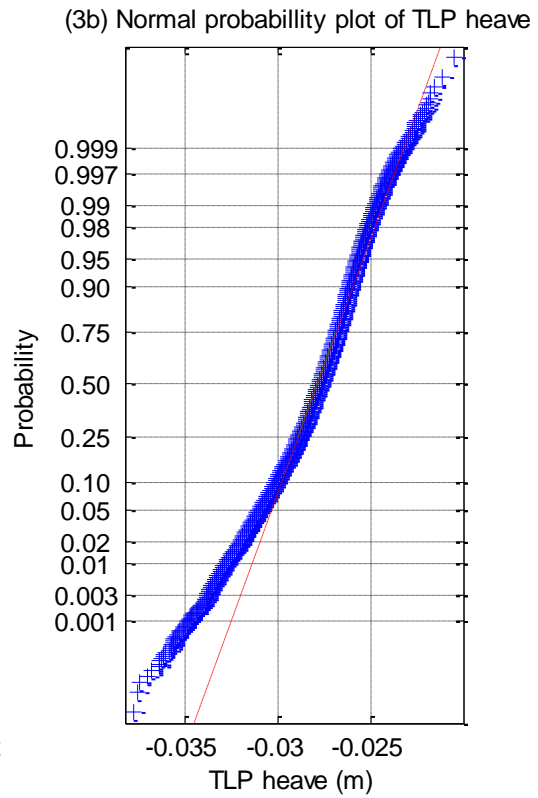
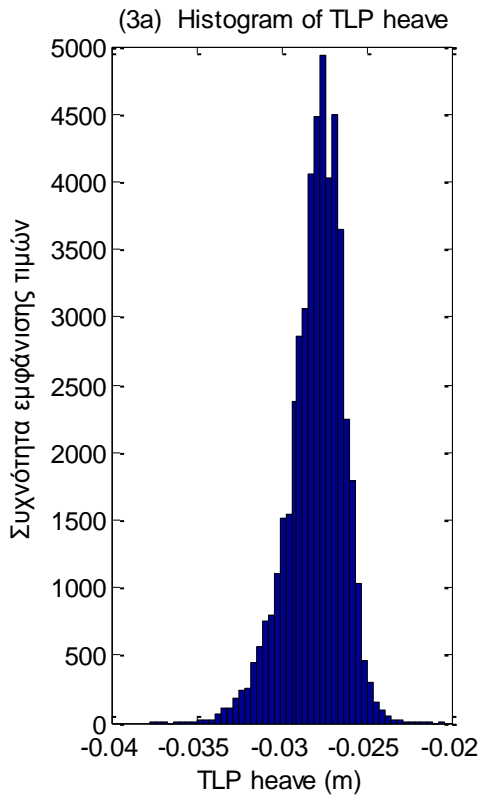


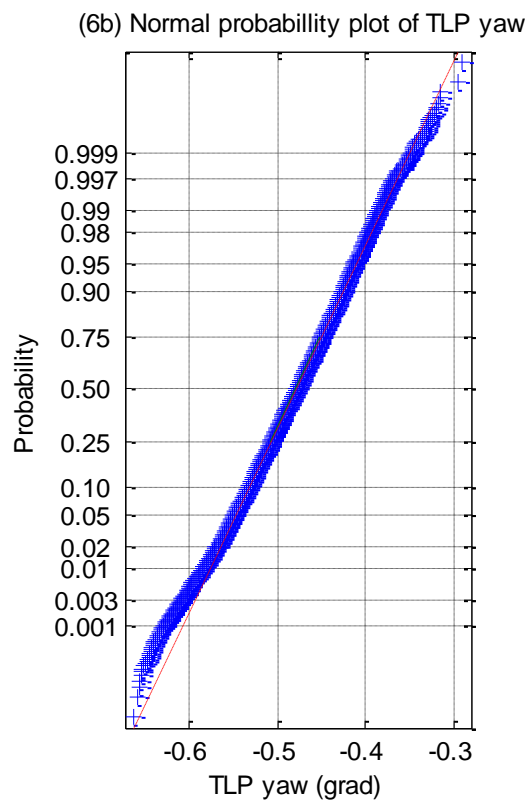
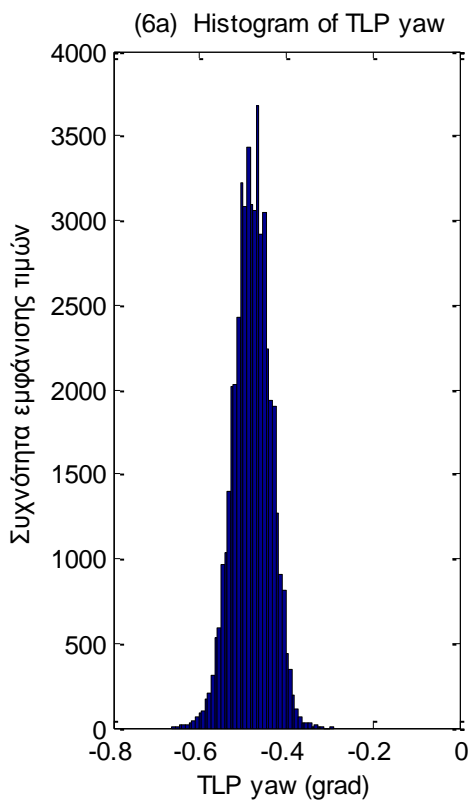
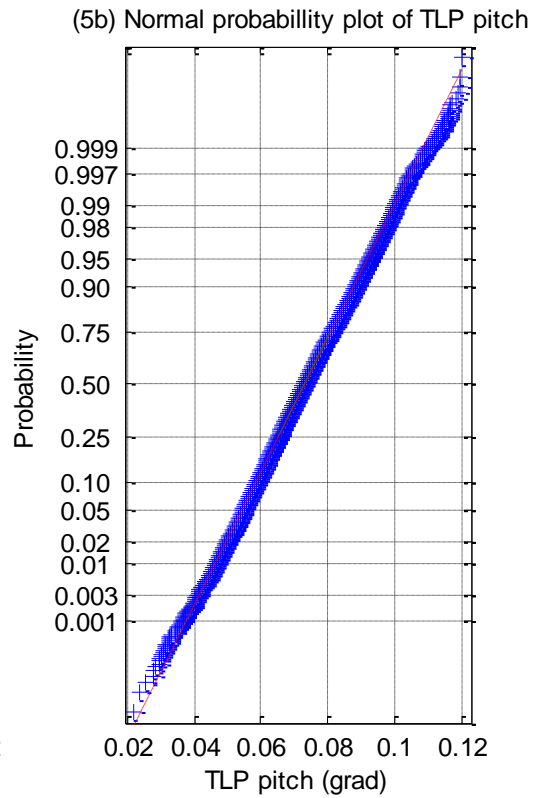
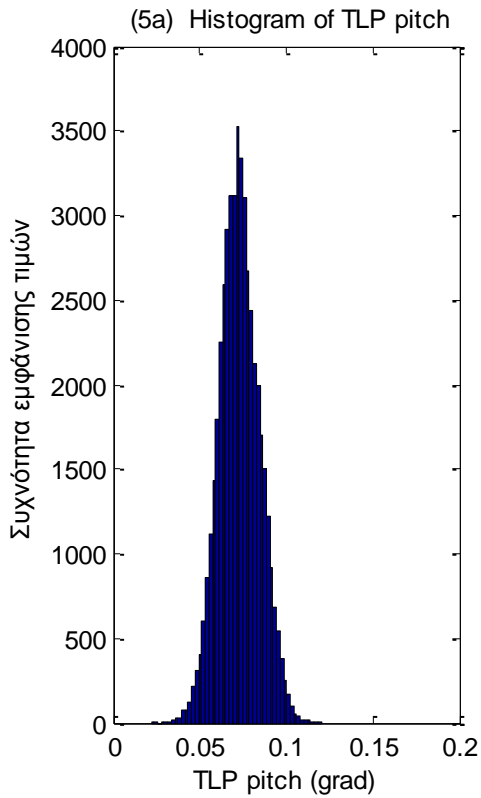
(2a) Histogram of TLP sway



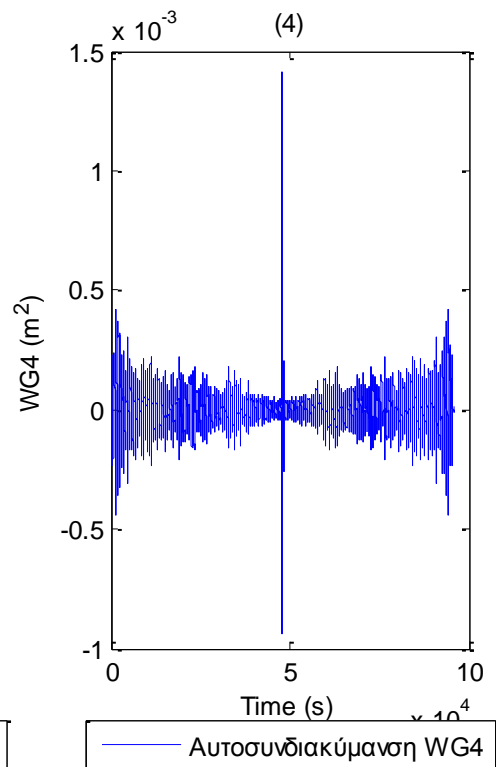
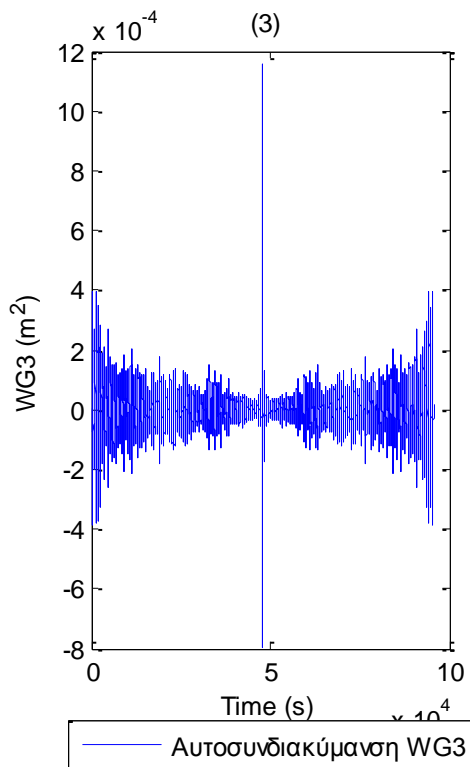
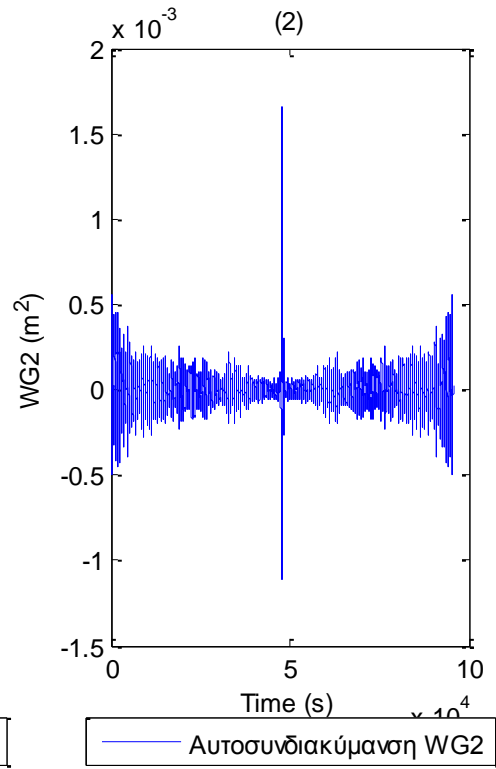
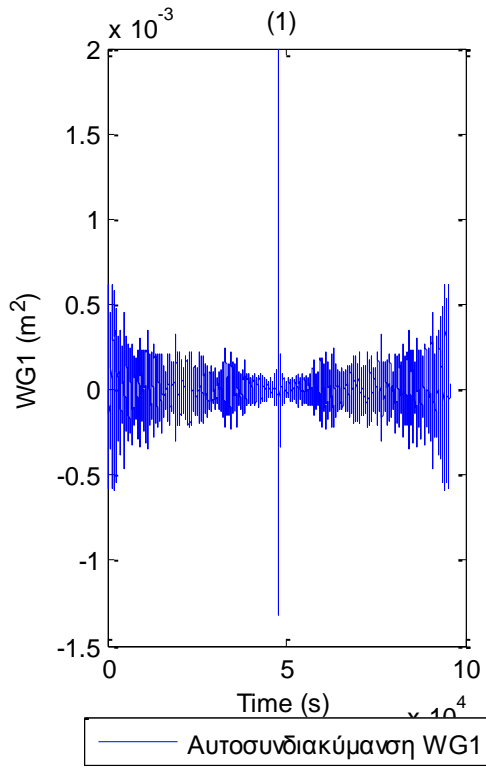
(2b) Normal probability plot of TLP sway

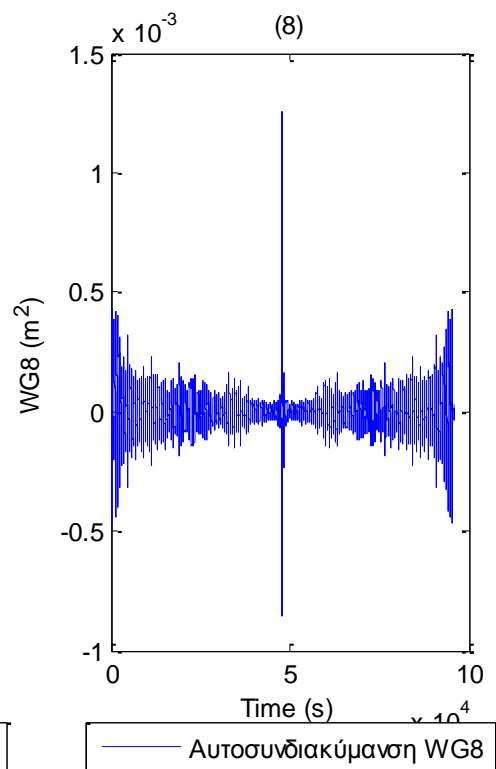
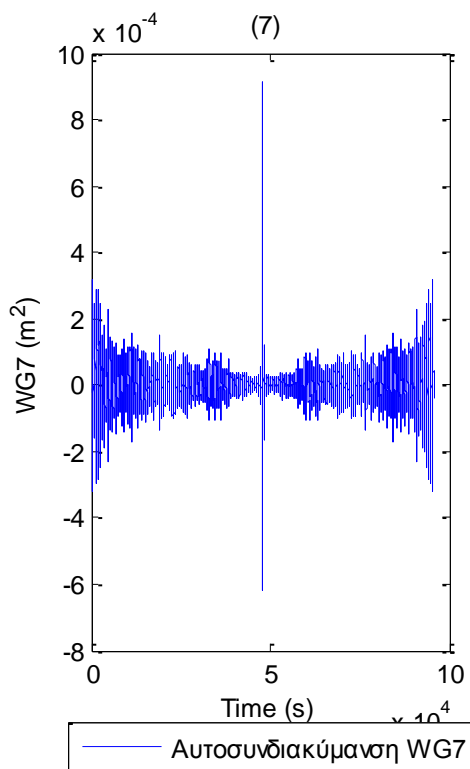
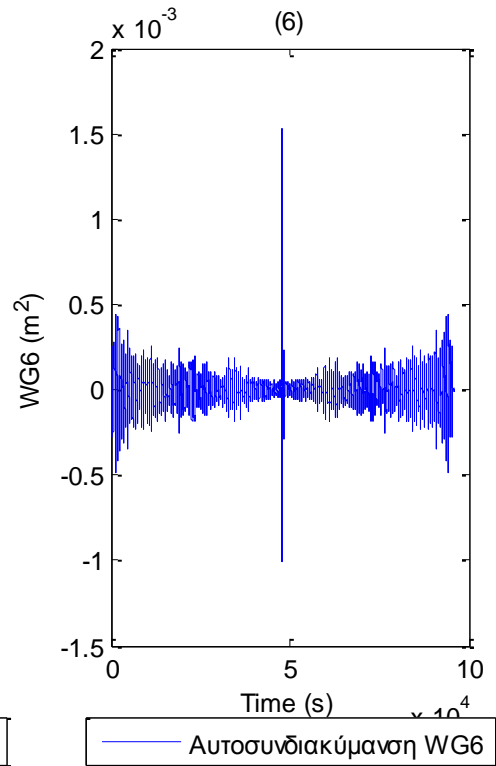
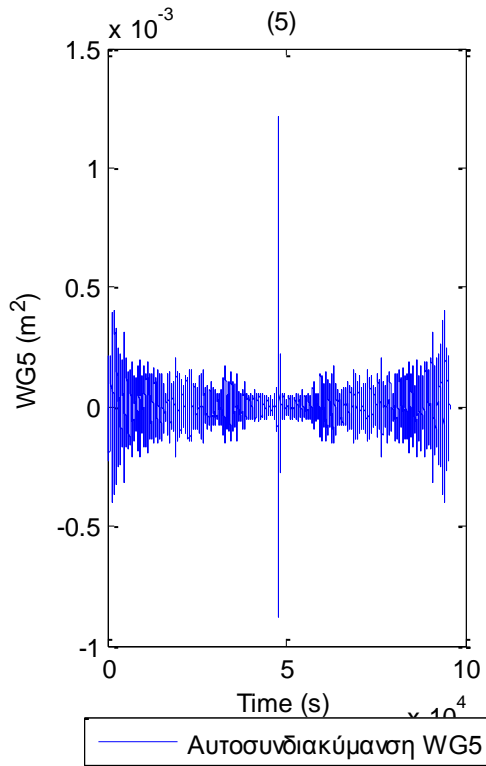


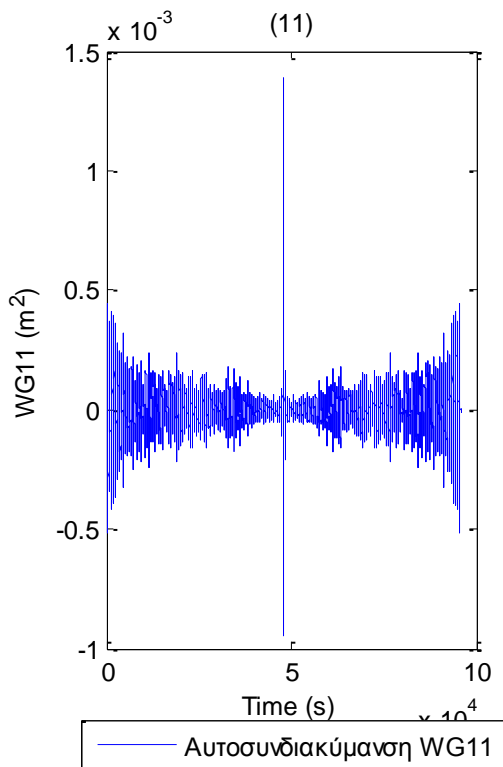
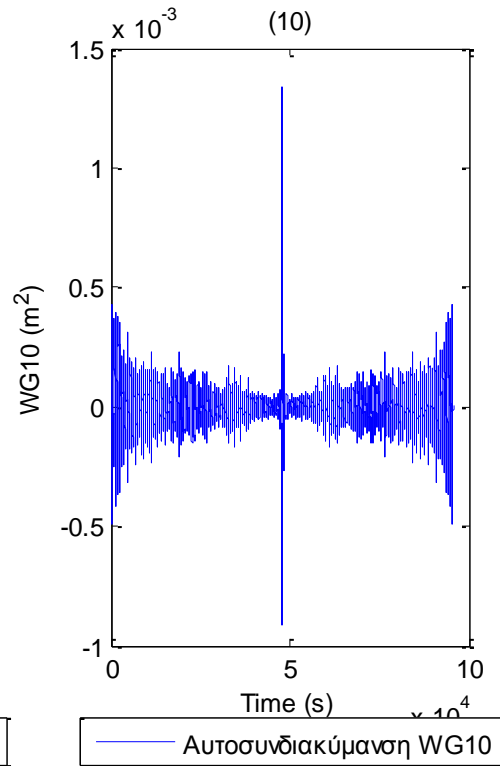
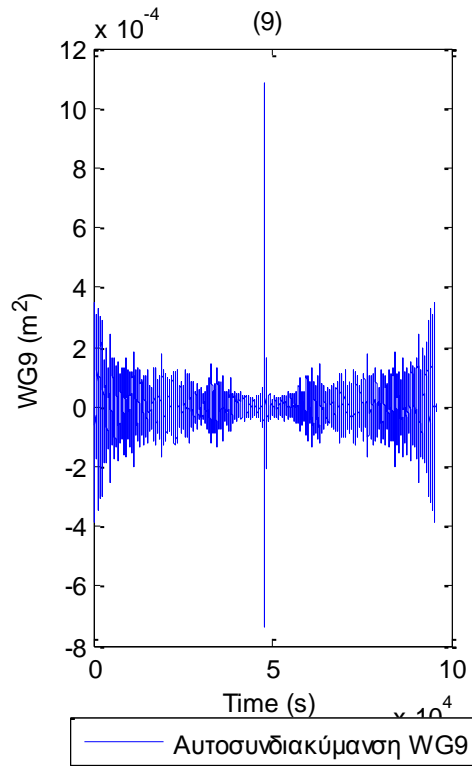




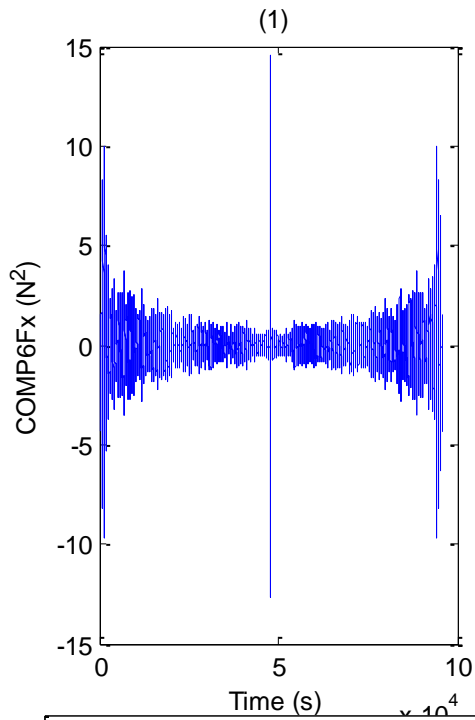
Σχήματα 1.5.2.7 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις μεταπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



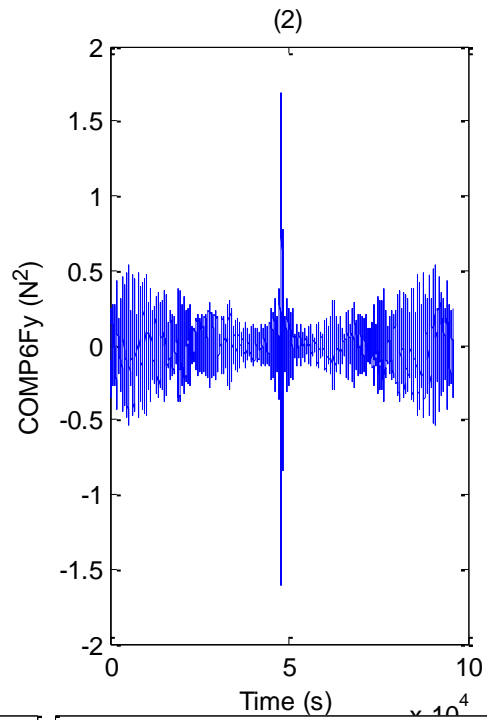




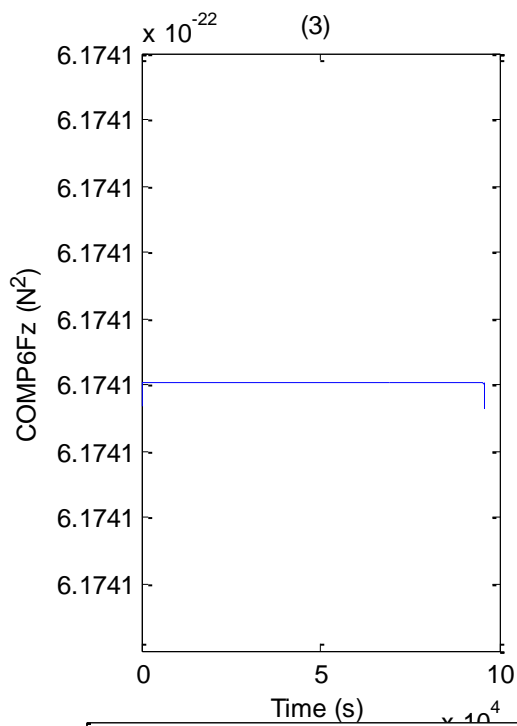
Σχήματα 1.5.3.1 (1-11) Συναρτήσεις Αυτοσυνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



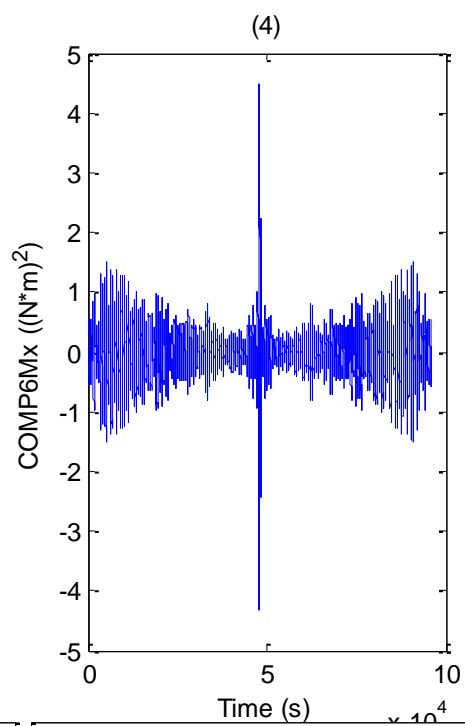
— Αυτοσυνδιακύμανση COMP6Fx



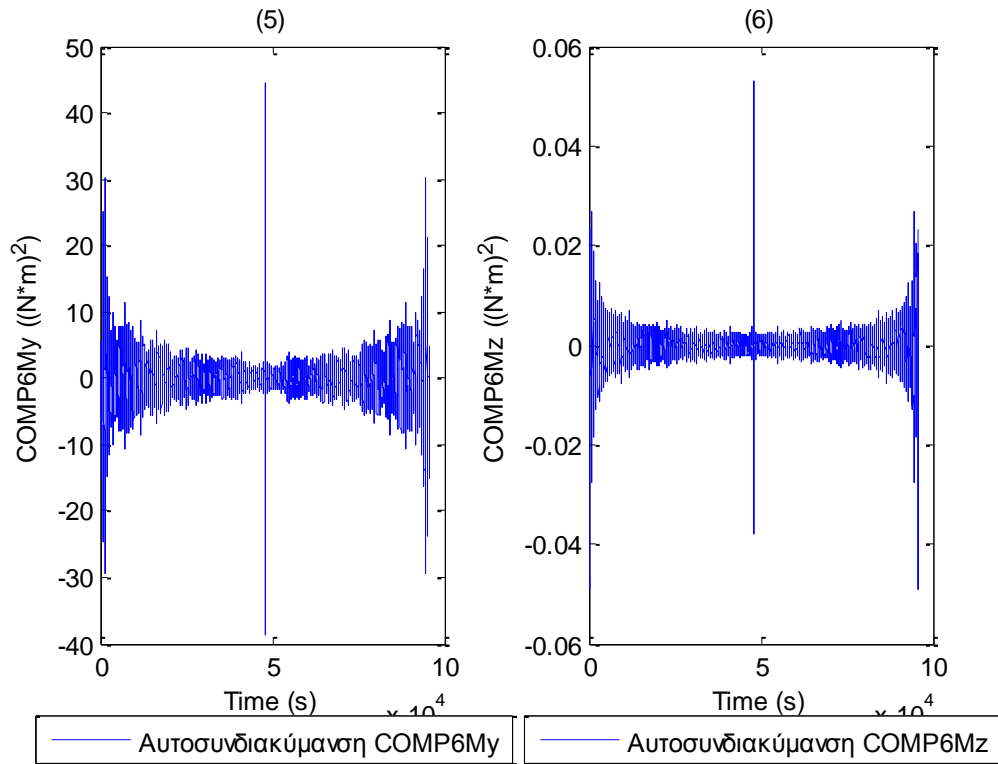
— Αυτοσυνδιακύμανση COMP6Fy



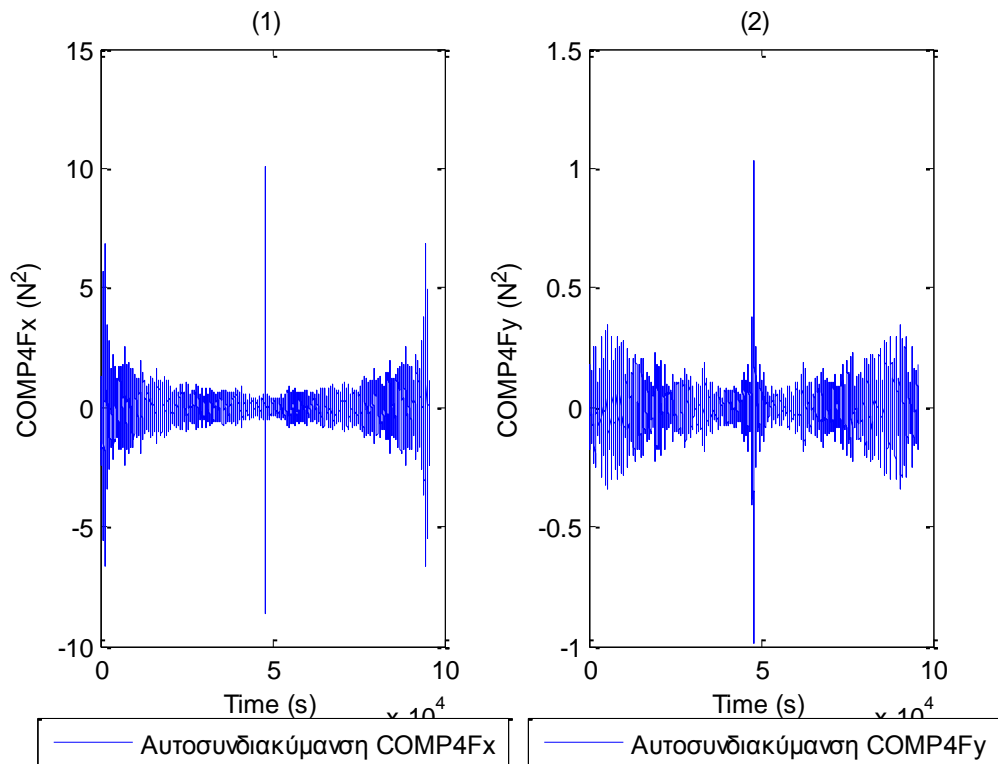
— Αυτοσυνδιακύμανση COMP6Fz

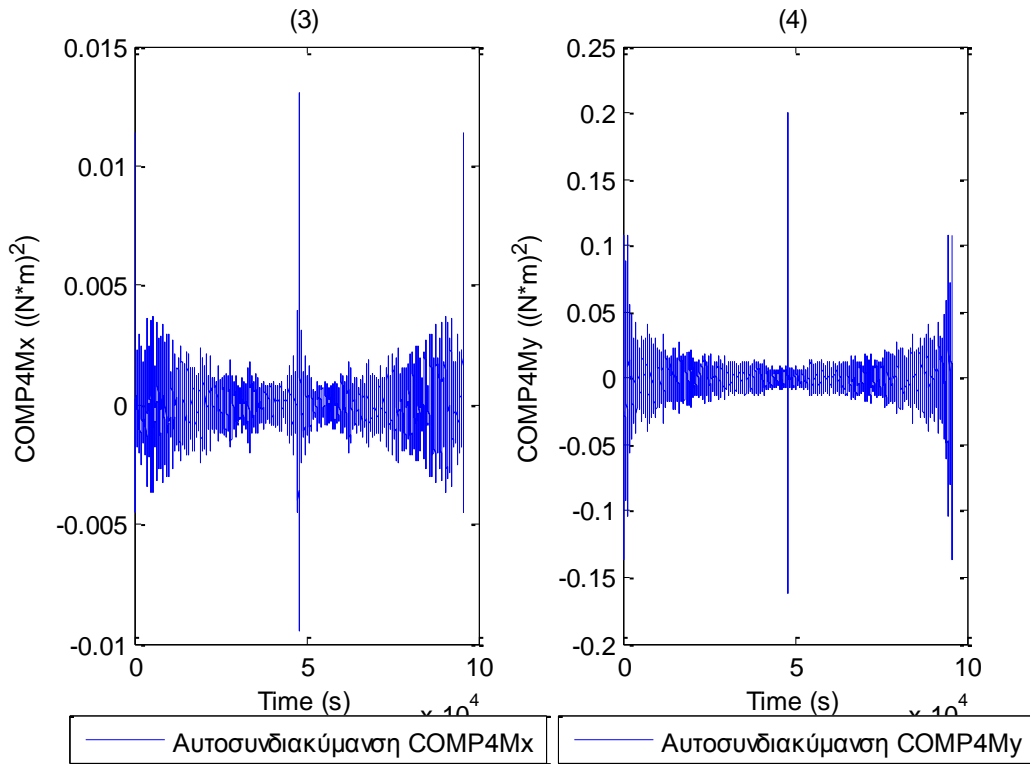


— Αυτοσυνδιακύμανση COMP6Mx

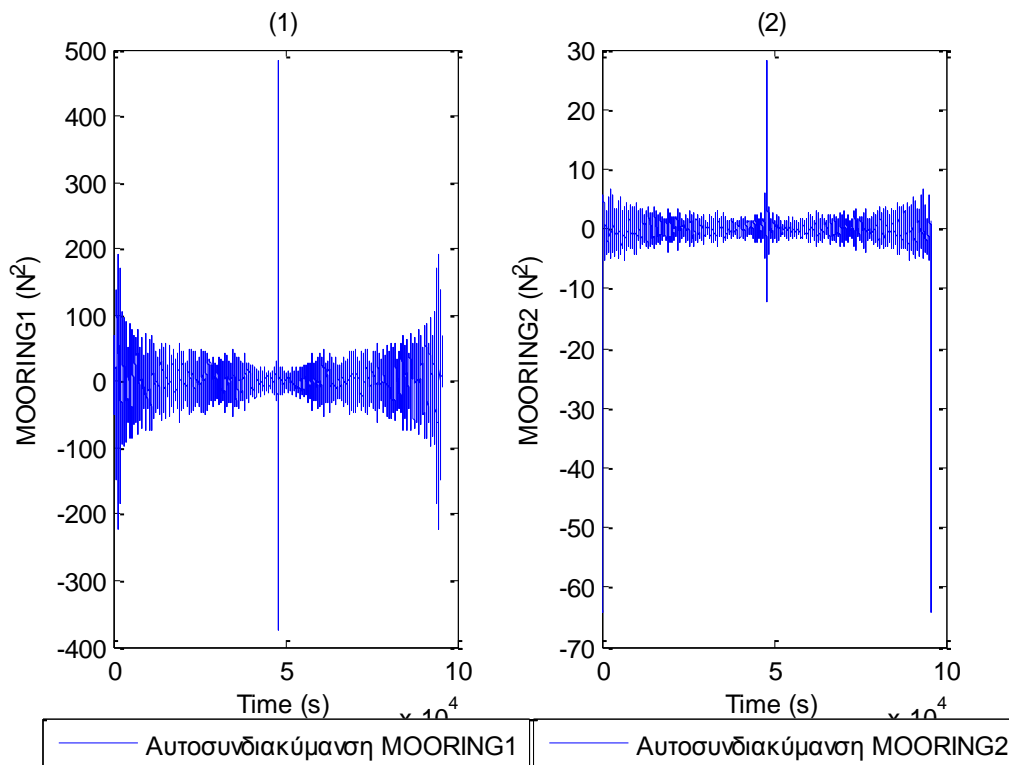


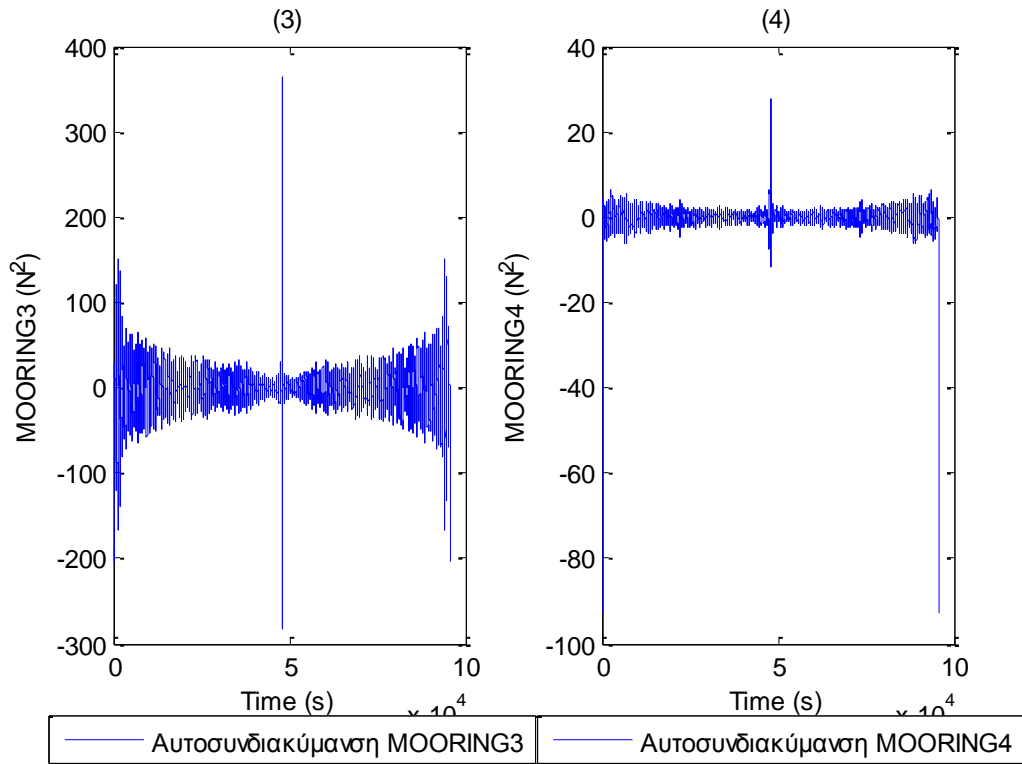
Σχήματα 1.5.3.2 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



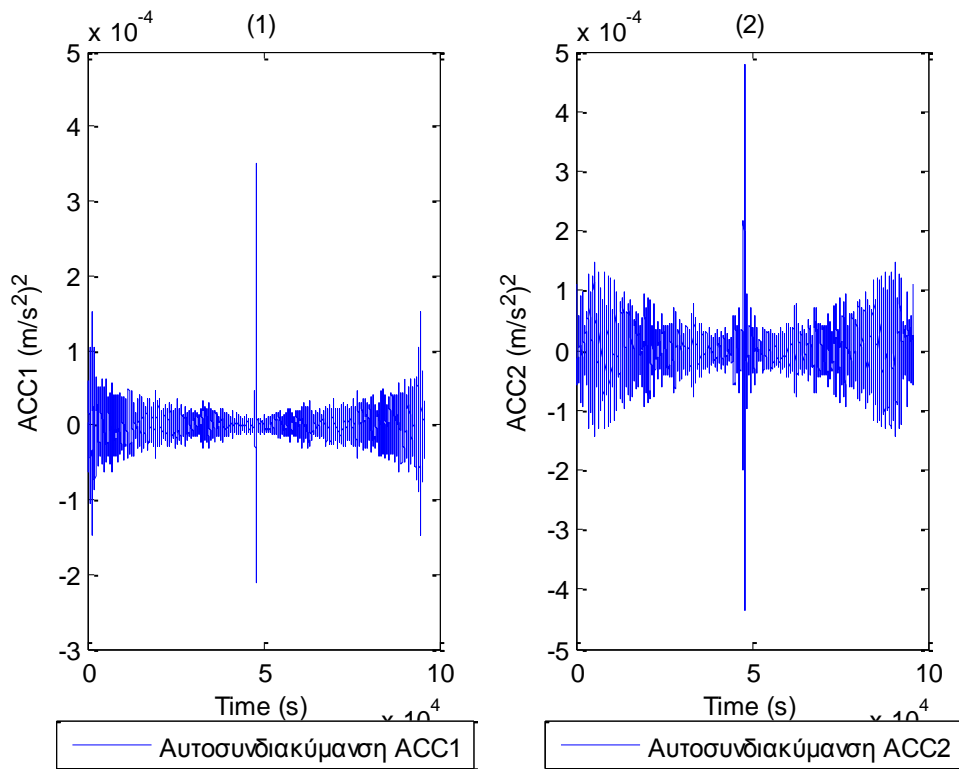


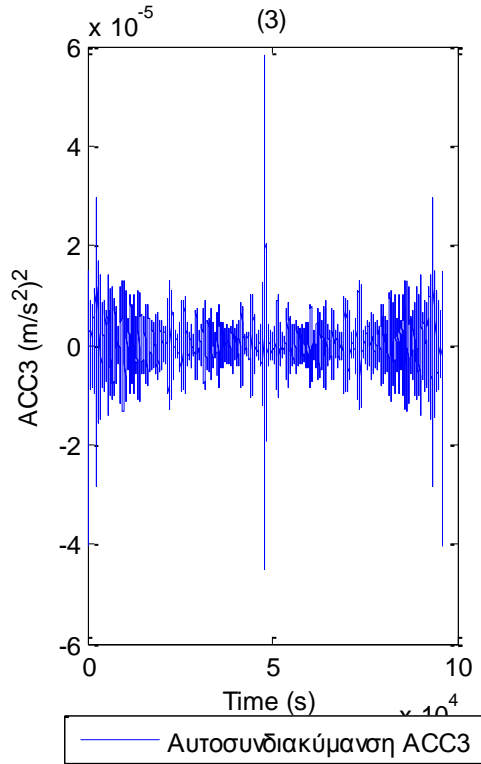
Σχήματα 1.5.3.3 Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



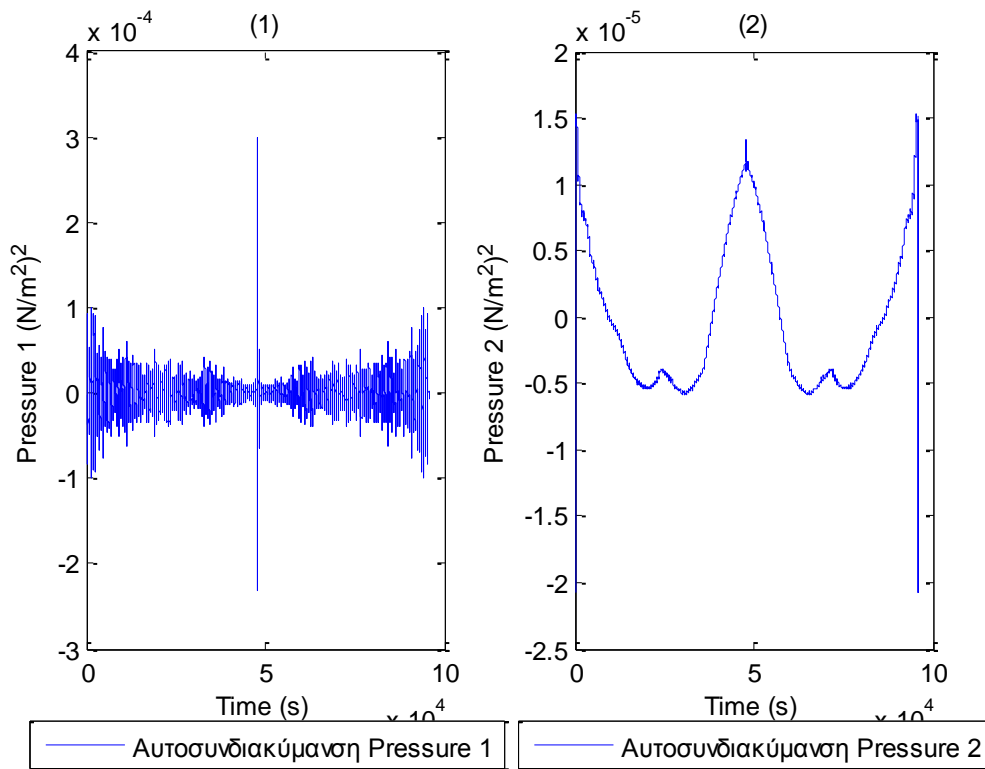


Σχήματα 1.6.3.4 (1-4) Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

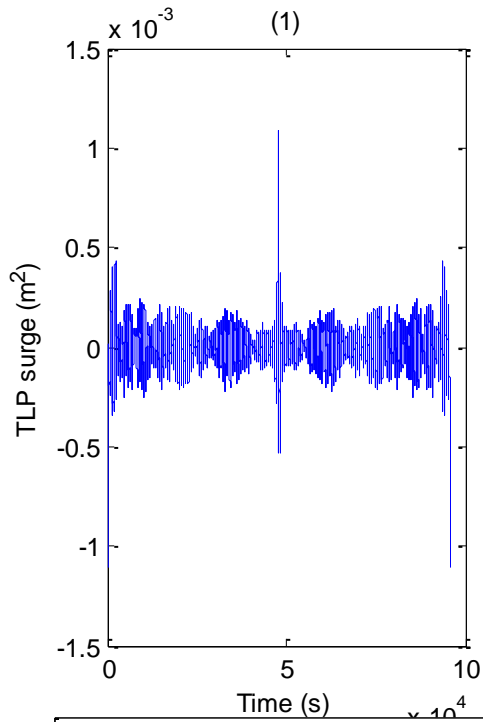




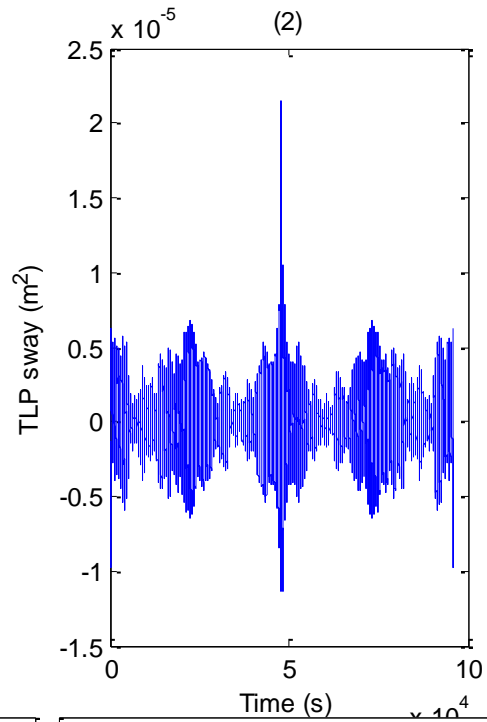
Σχήματα 1.5.3.5 (1-3) Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



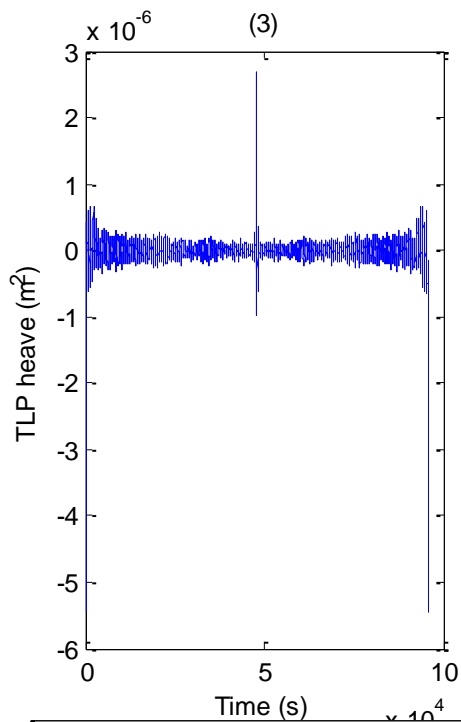
Σχήματα 1.5.3.6 (1-2) Συναρτήσεις Αυτοσυνδιακύμανσης για τα δυο όργανα μέτρησης της πίεσης



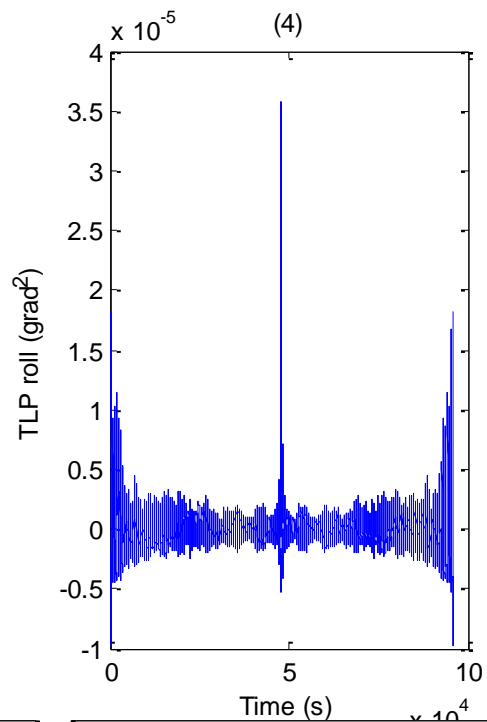
— Αυτοσυνδιακύμανση TLP surge



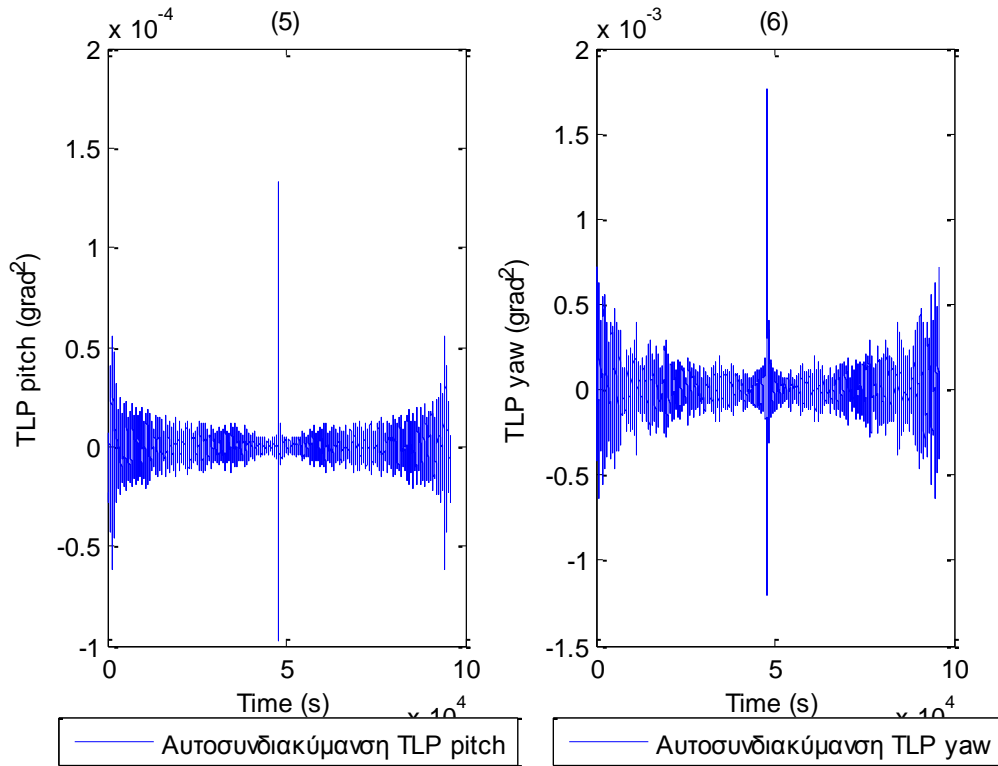
— Αυτοσυνδιακύμανση TLP sway



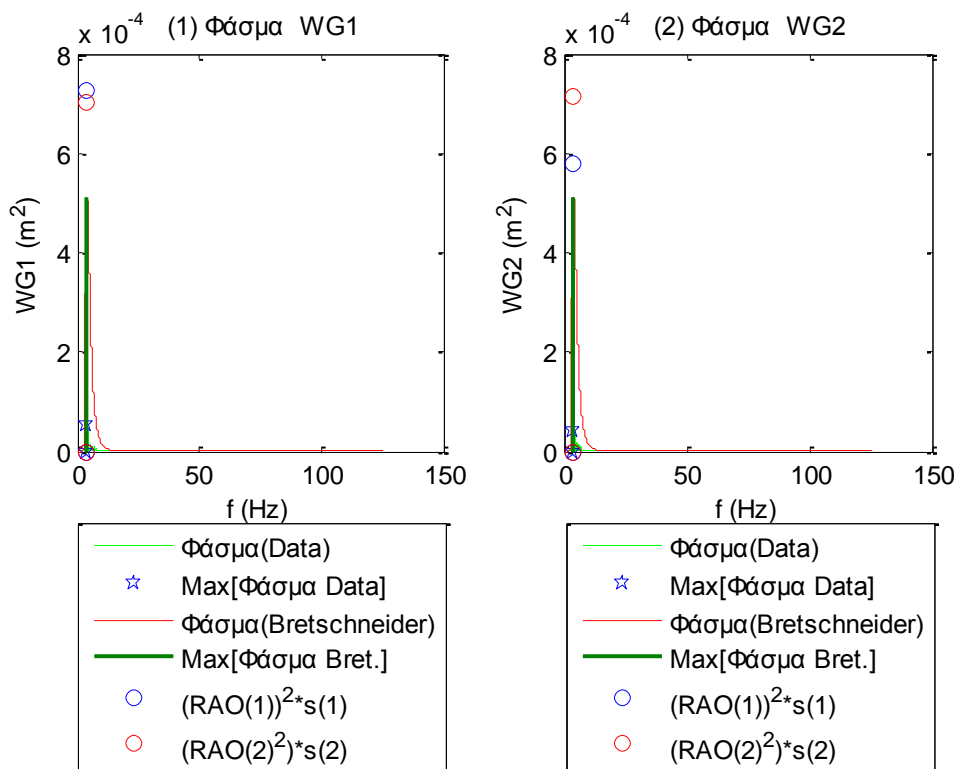
— Αυτοσυνδιακύμανση TLP heave

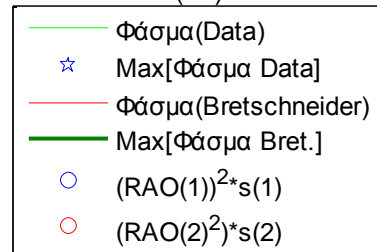
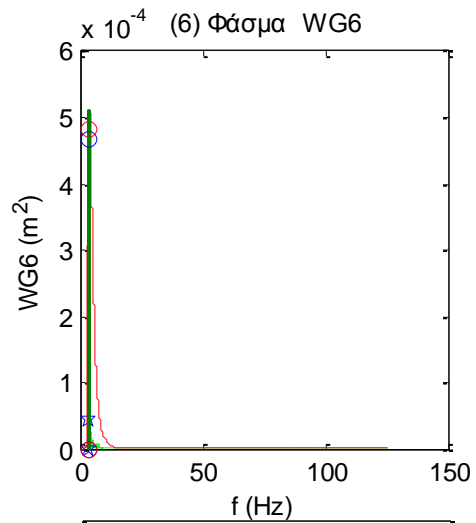
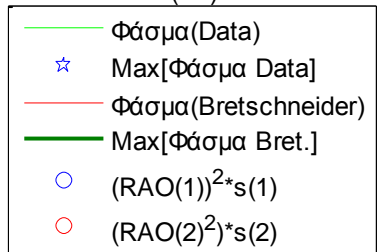
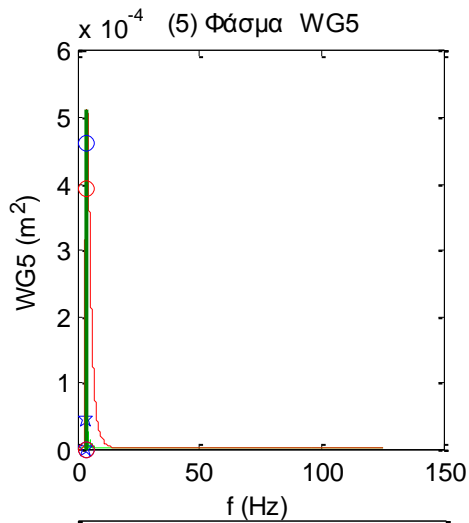
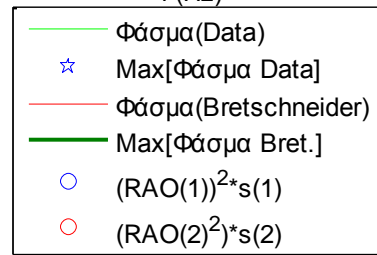
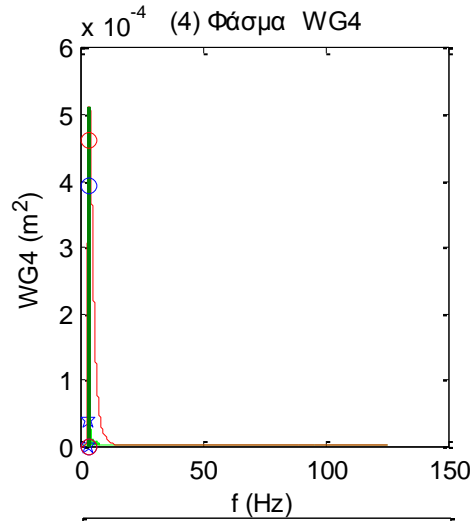
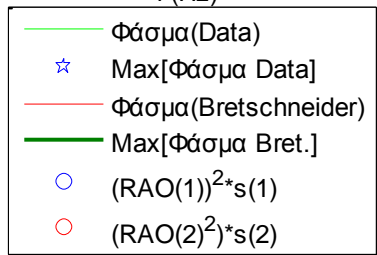
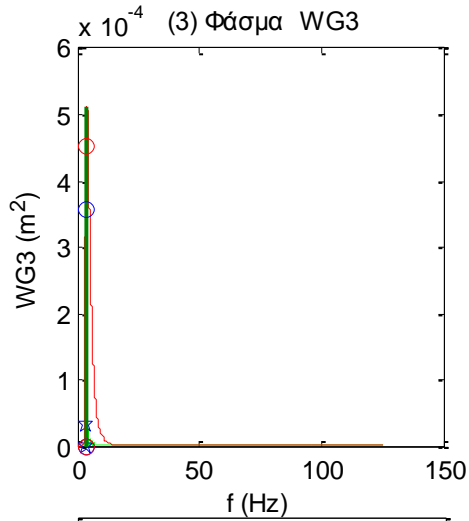


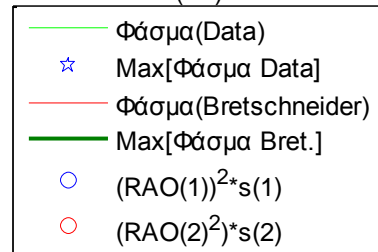
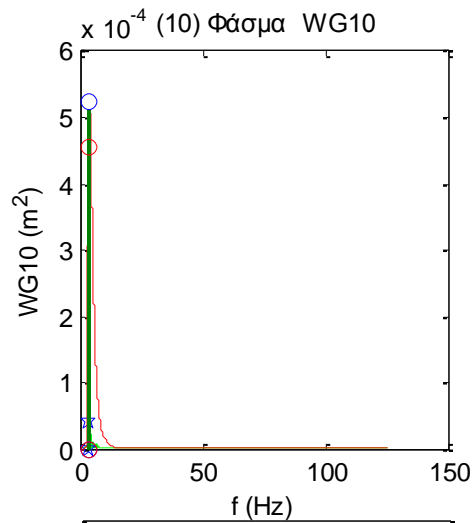
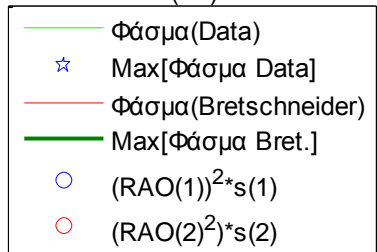
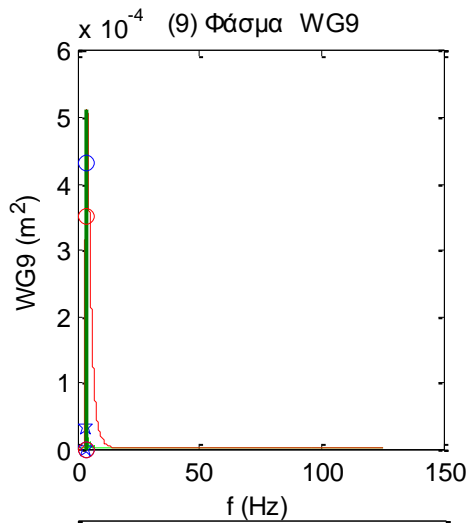
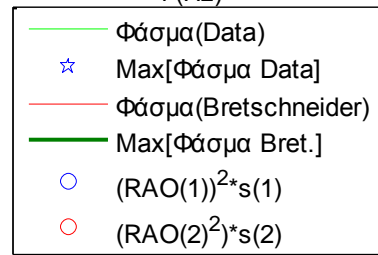
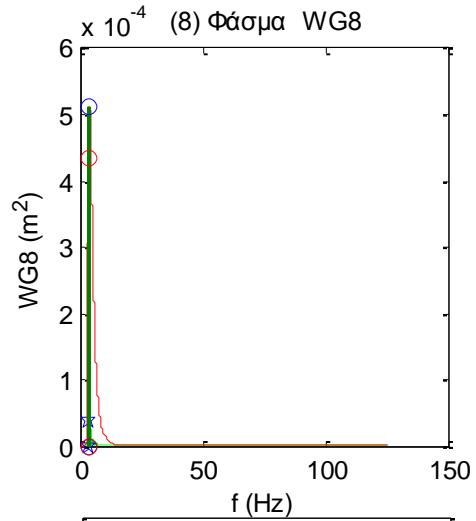
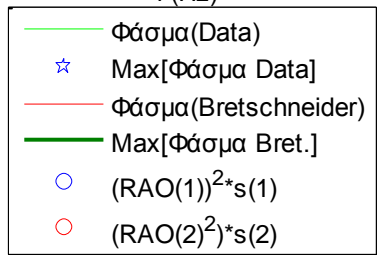
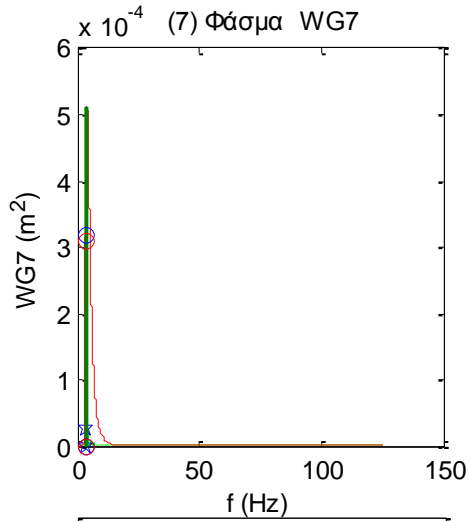
— Αυτοσυνδιακύμανση TLP roll

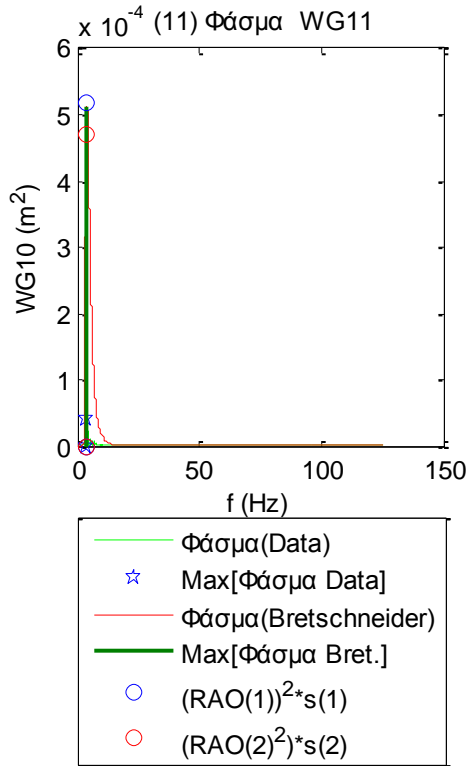


Σχήματα 1.5.3.7 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

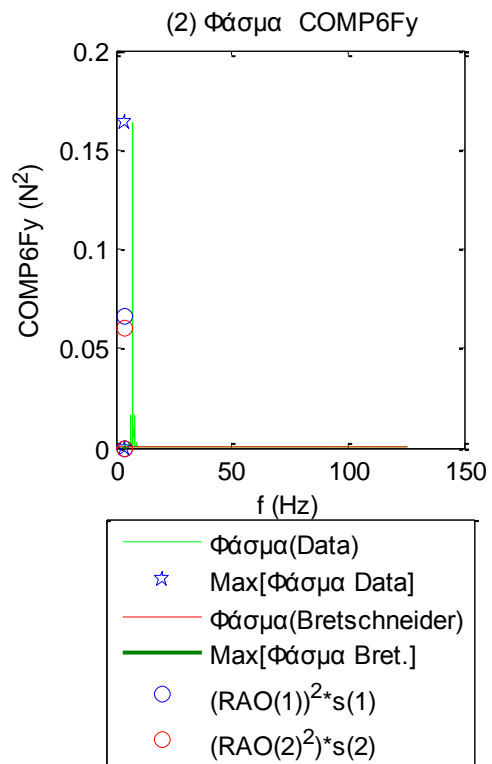
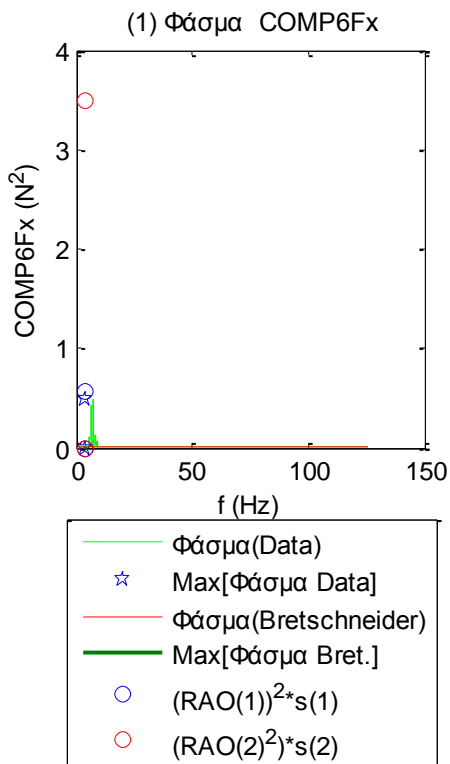


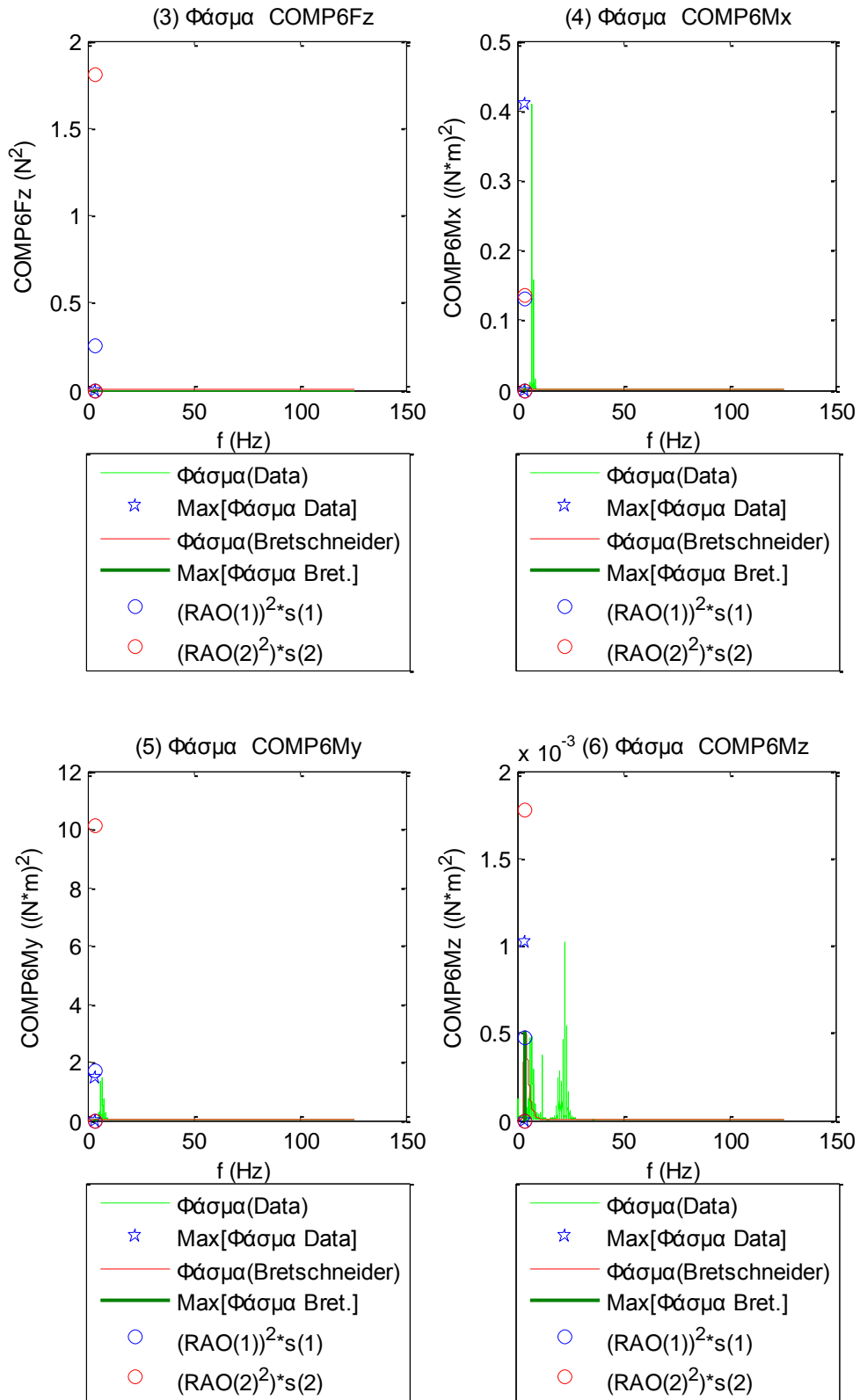




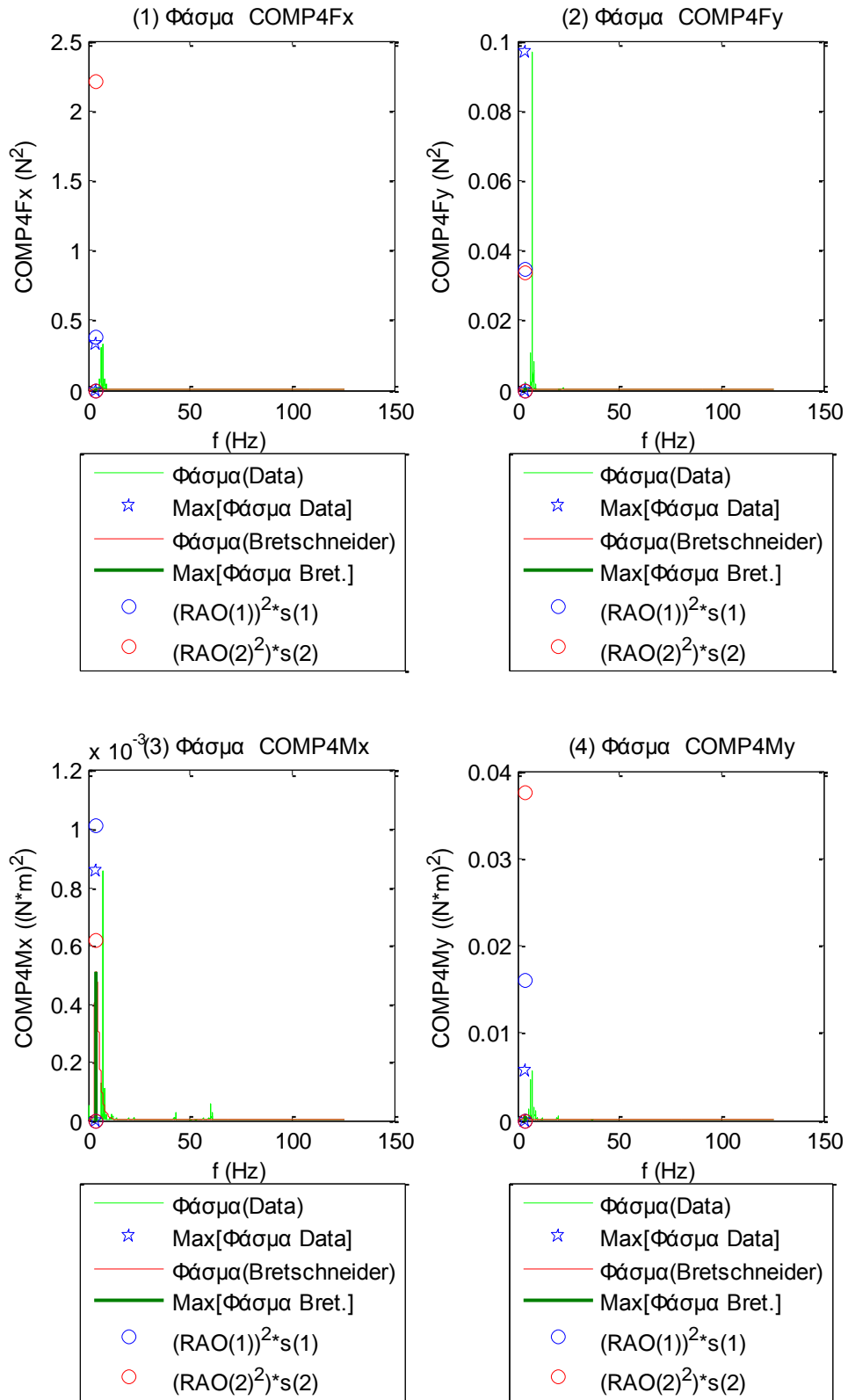


Σχήματα 1.5.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος

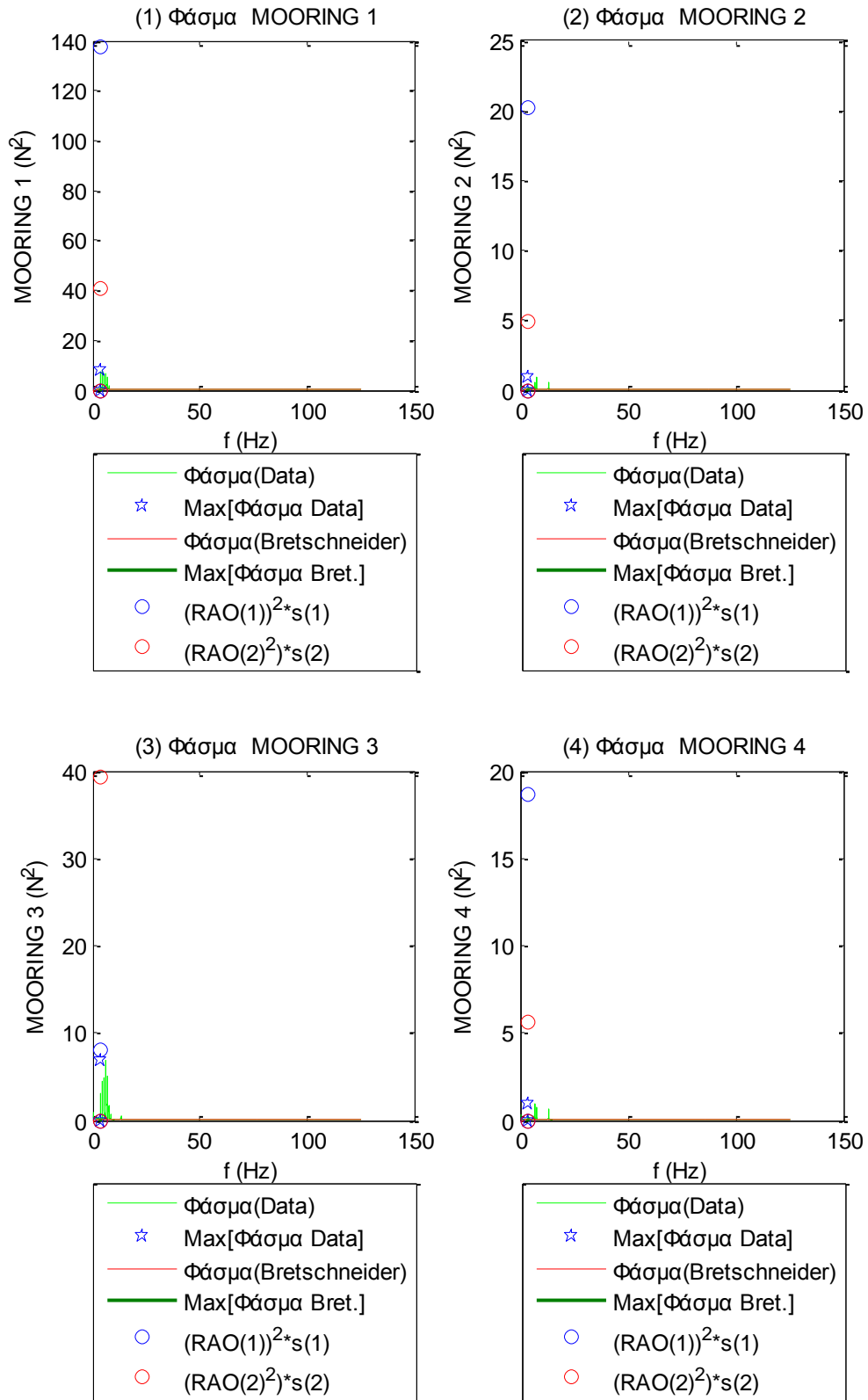




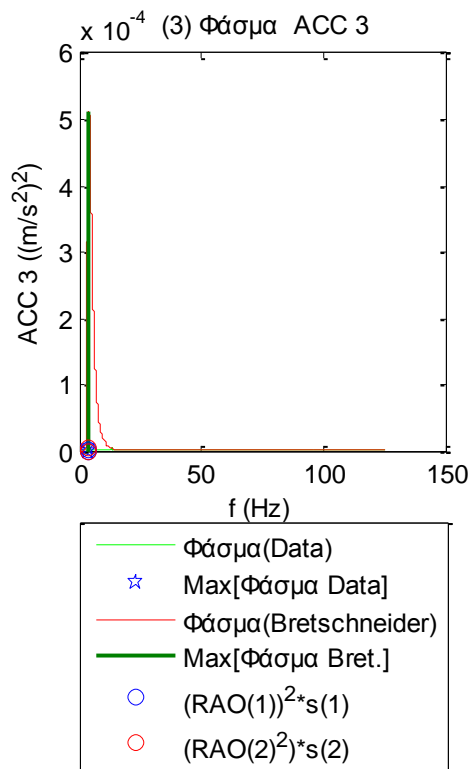
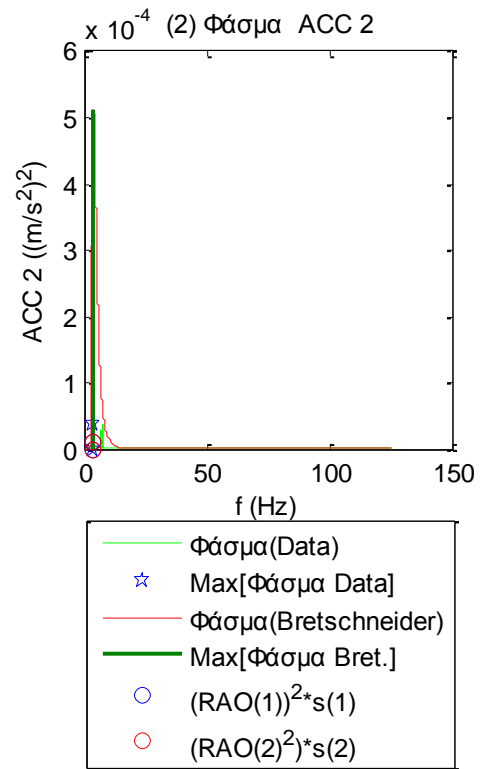
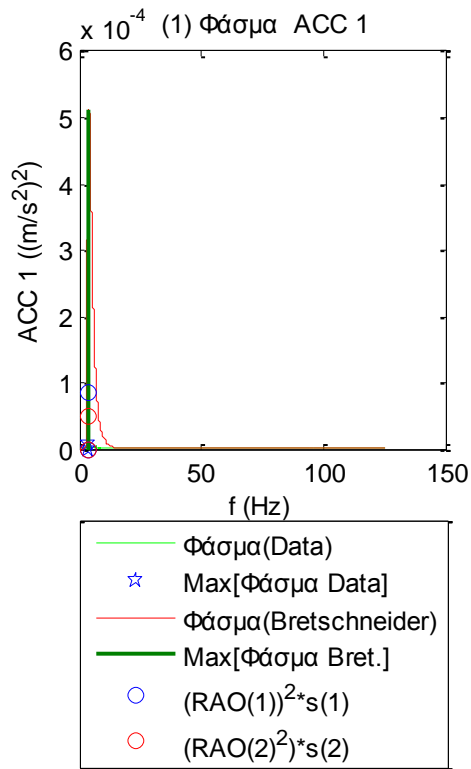
Σχήματα 1.5.4.2 Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



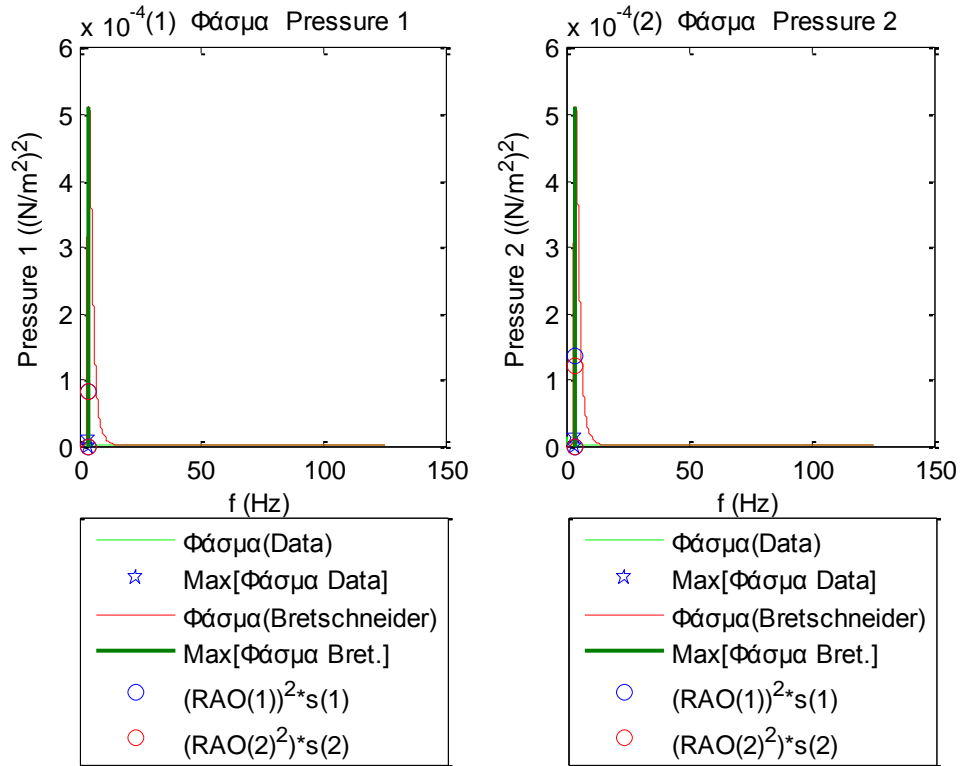
Σχήματα 1.5.4.3 Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



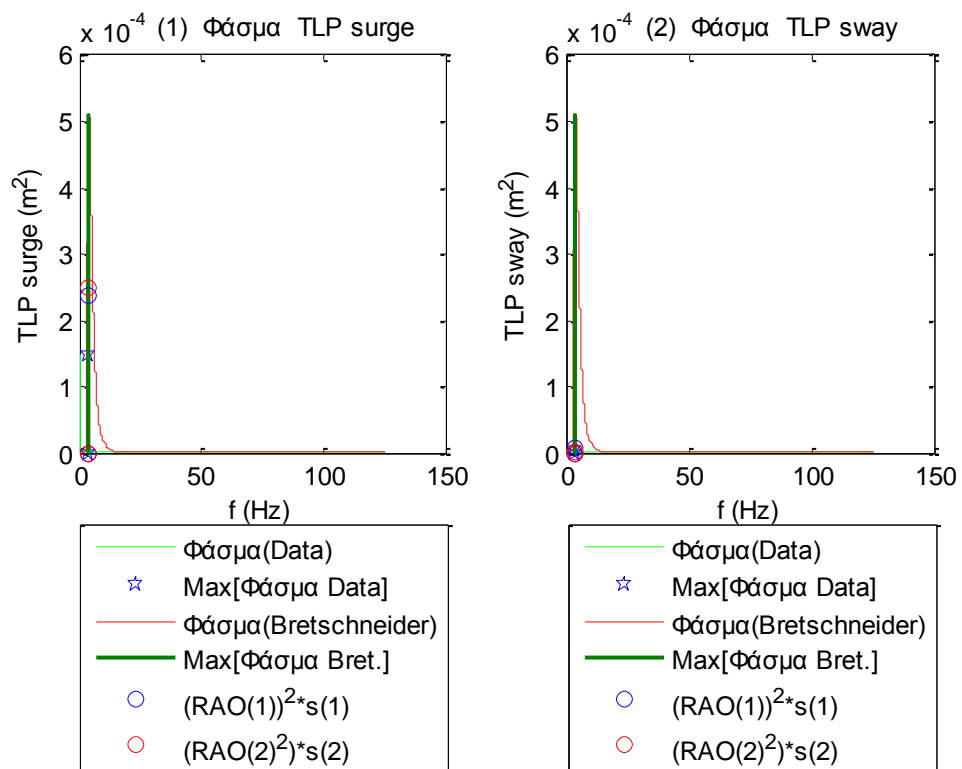
Σχήματα 1.5.4.4 (1-4) Φάσματα για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

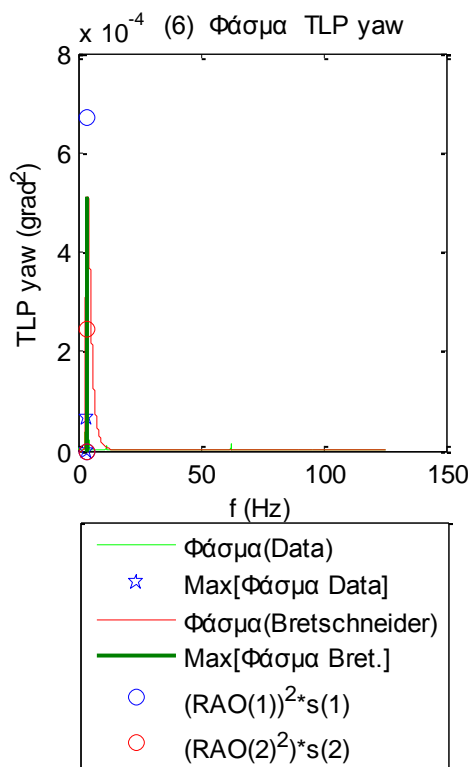
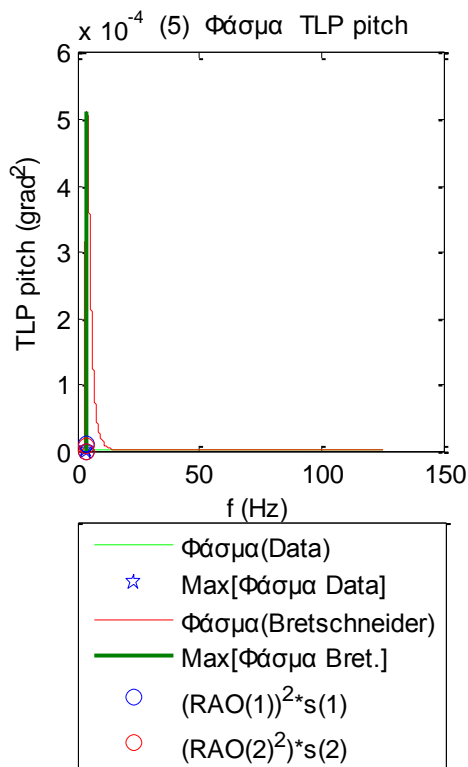
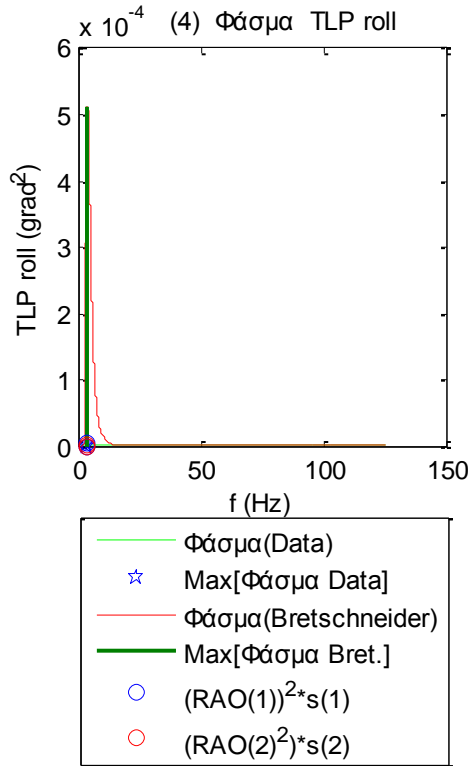
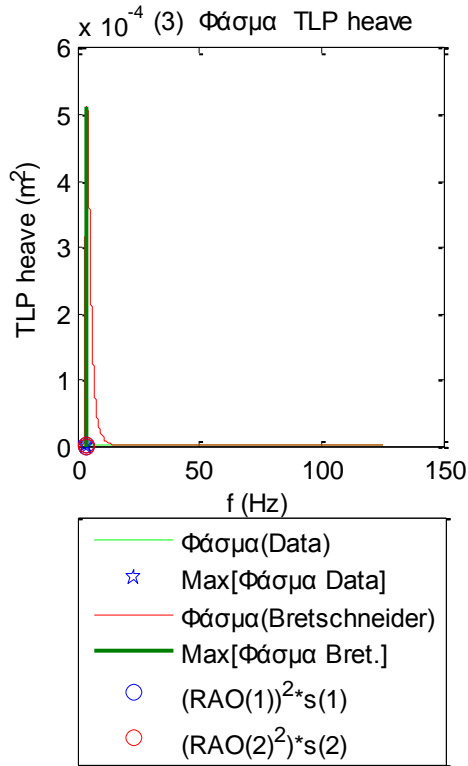


Σχήματα 1.5.4.5 (1-3) Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

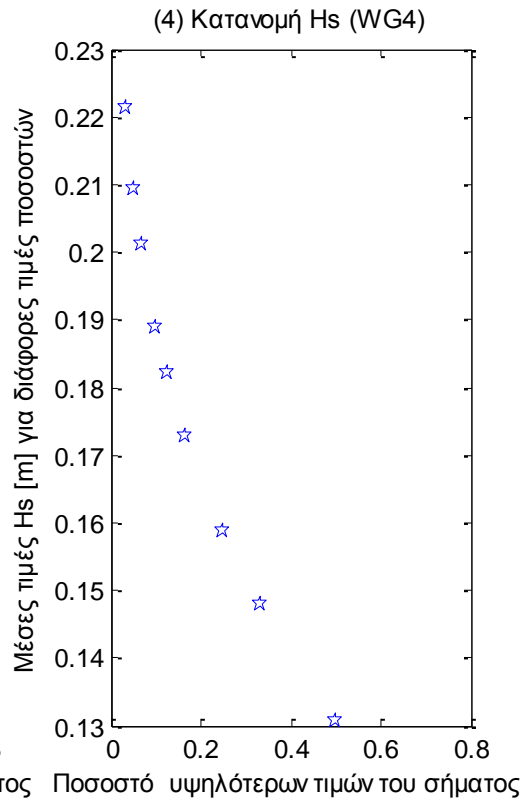
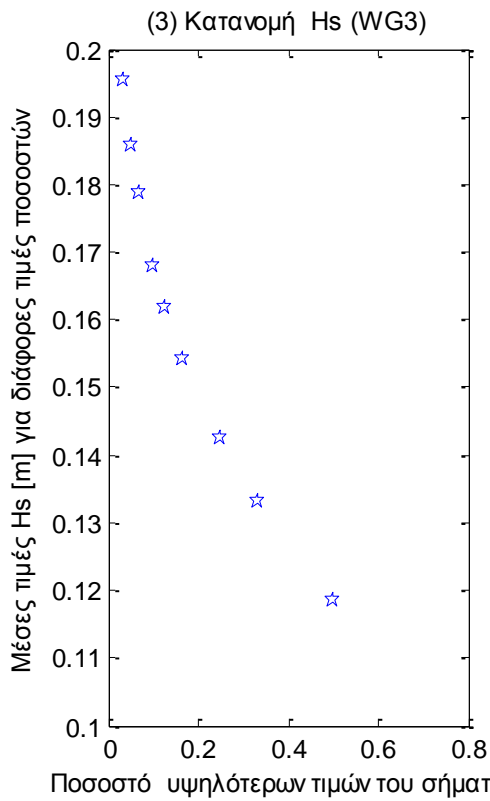
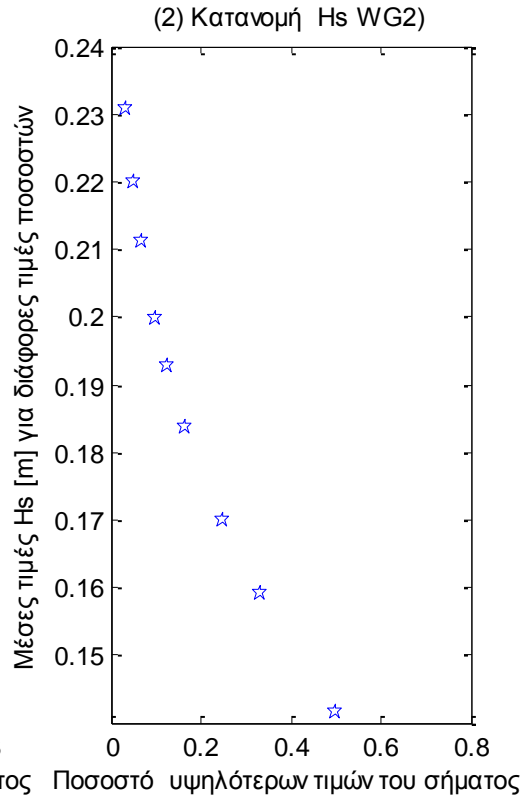
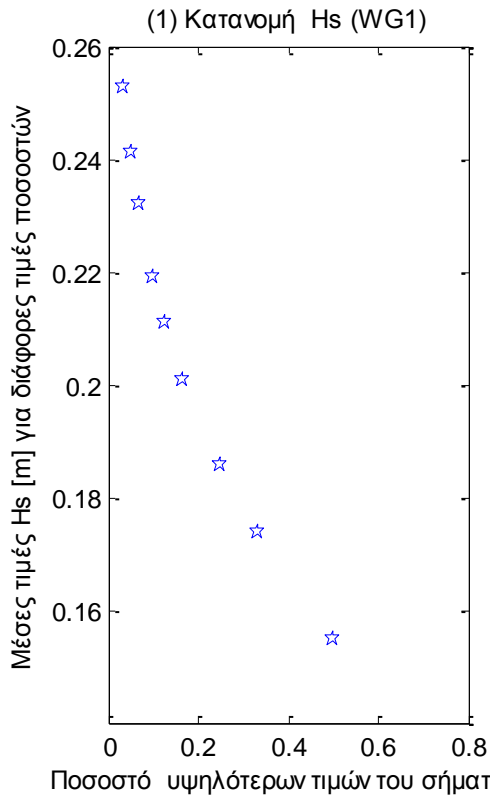


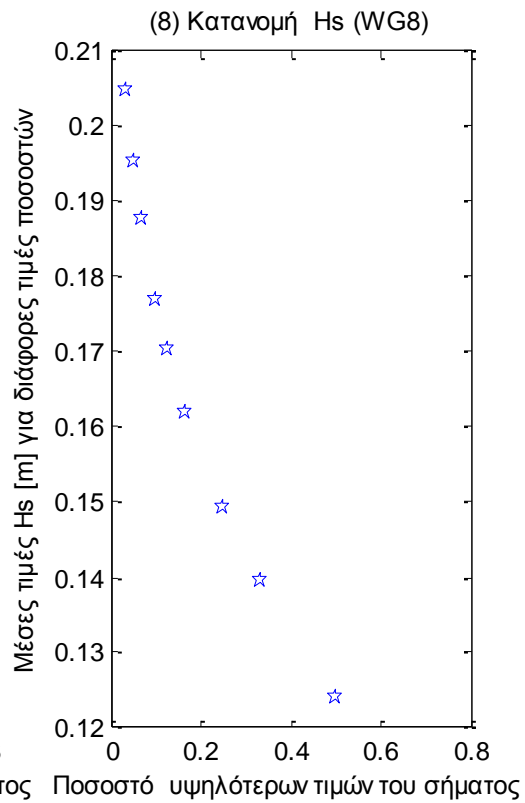
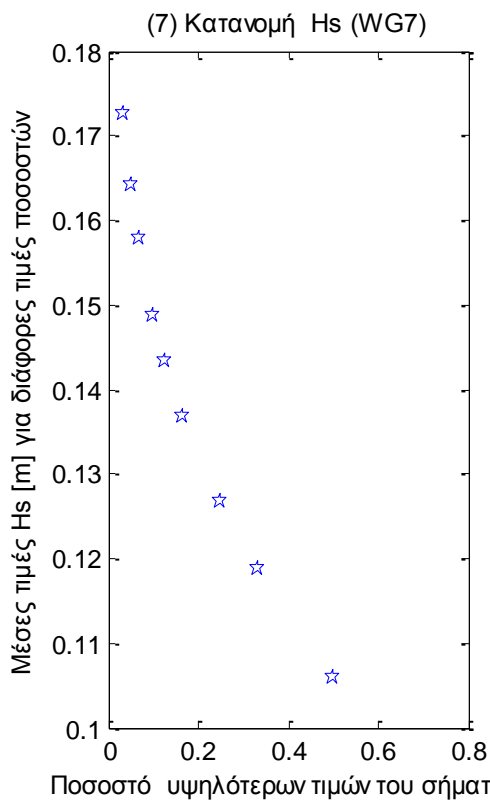
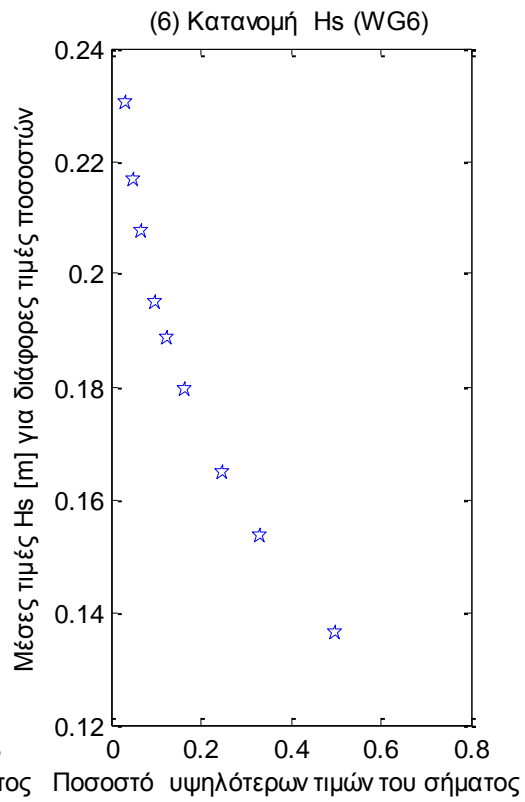
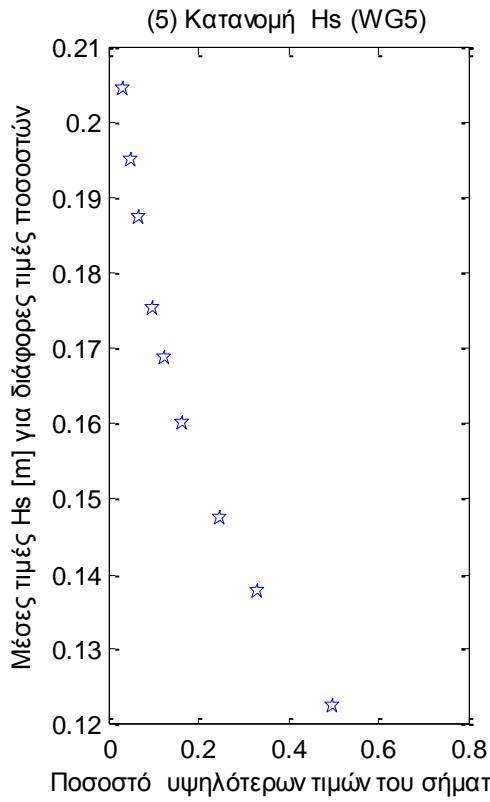
Σχήματα 1.5.4.6 (1-2) Φάσματα για τα δυο όργανα μέτρησης της πίεσης

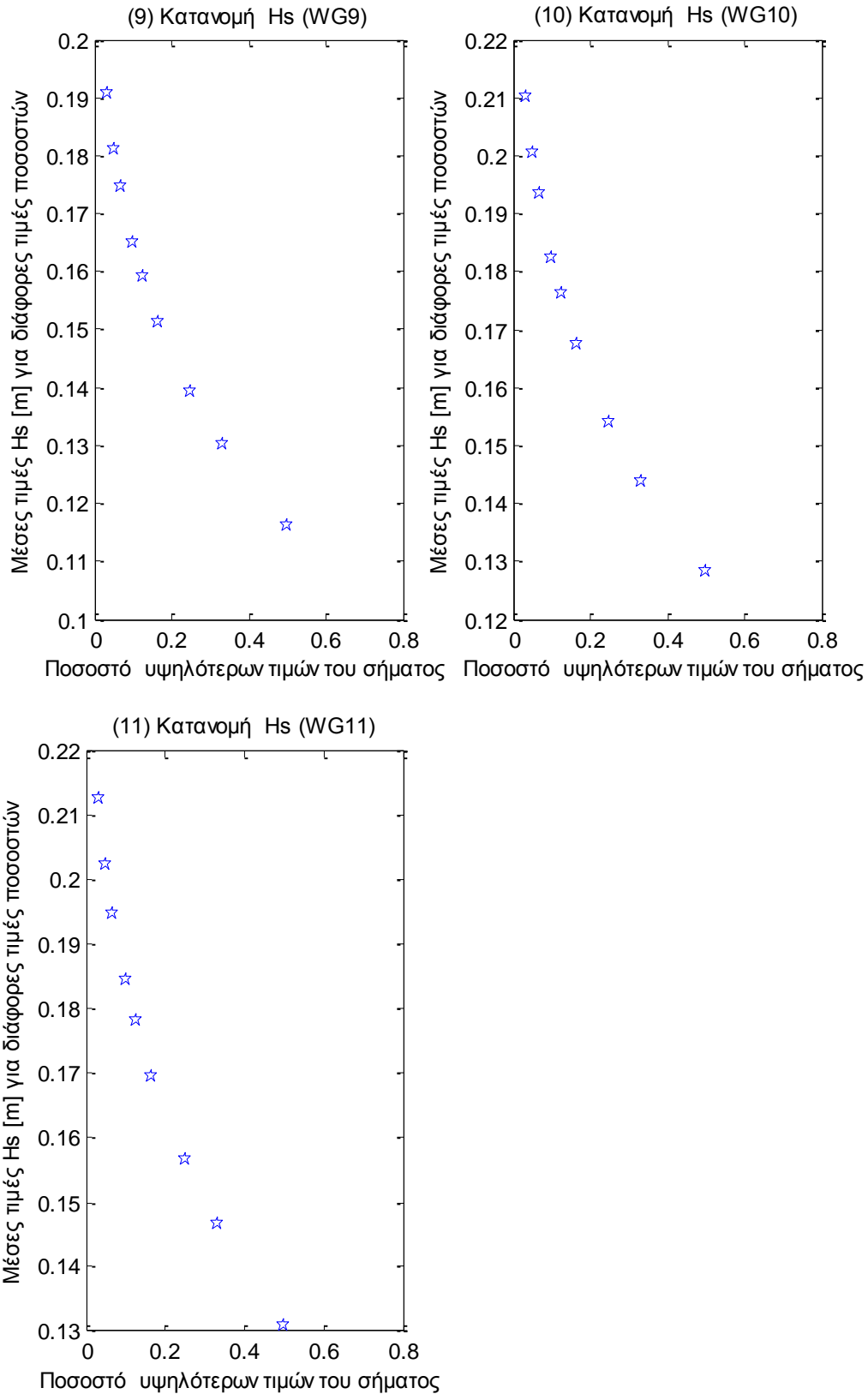




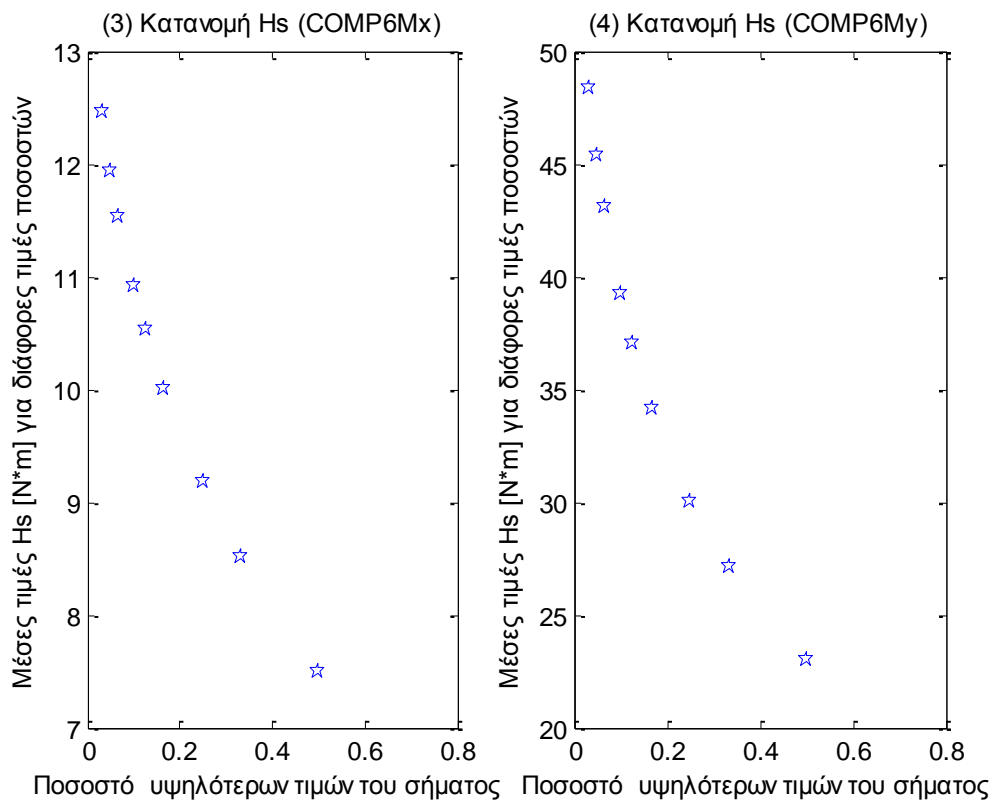
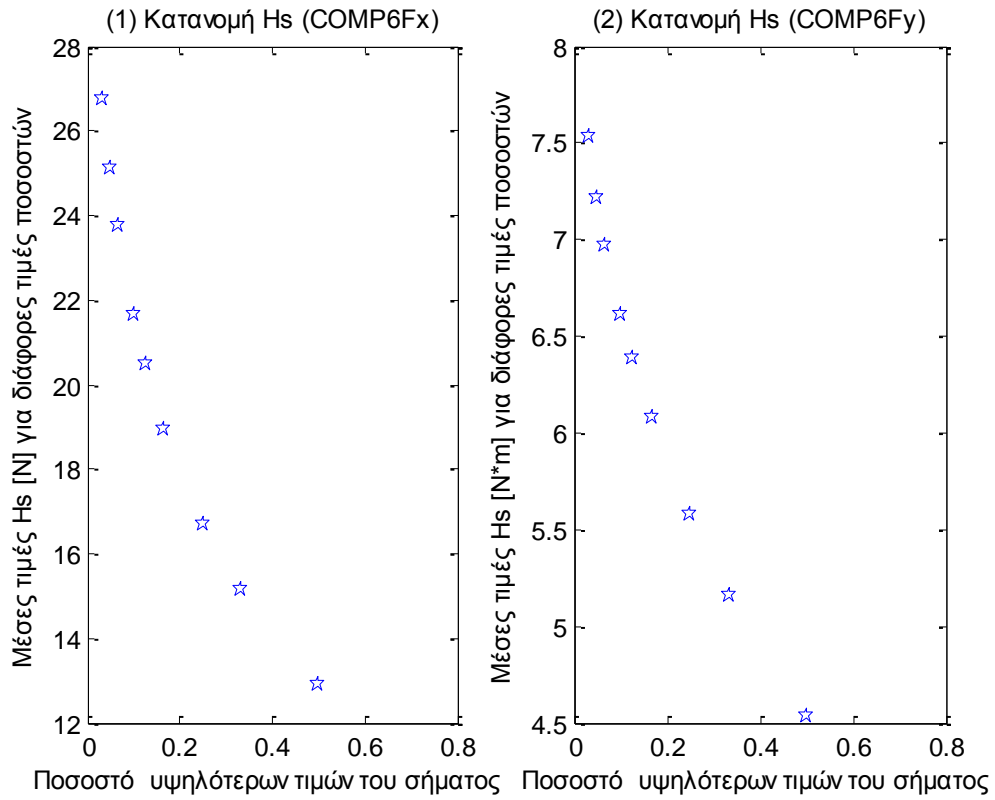
Σχήματα 1.5.4.7 Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

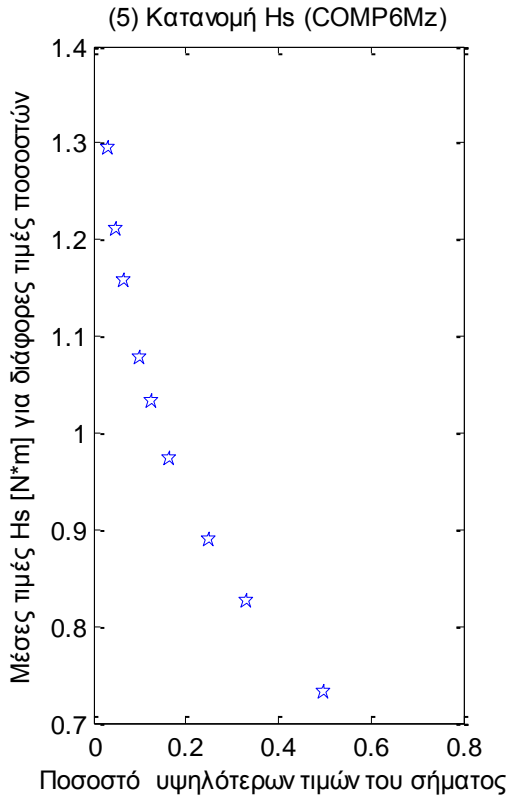




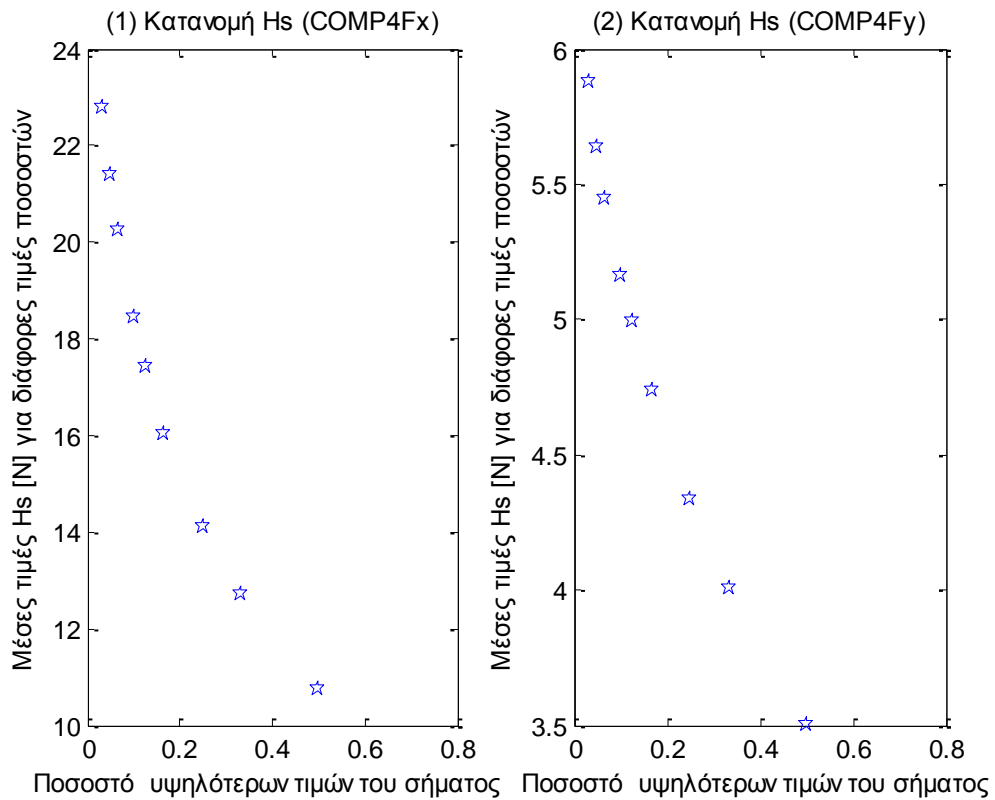


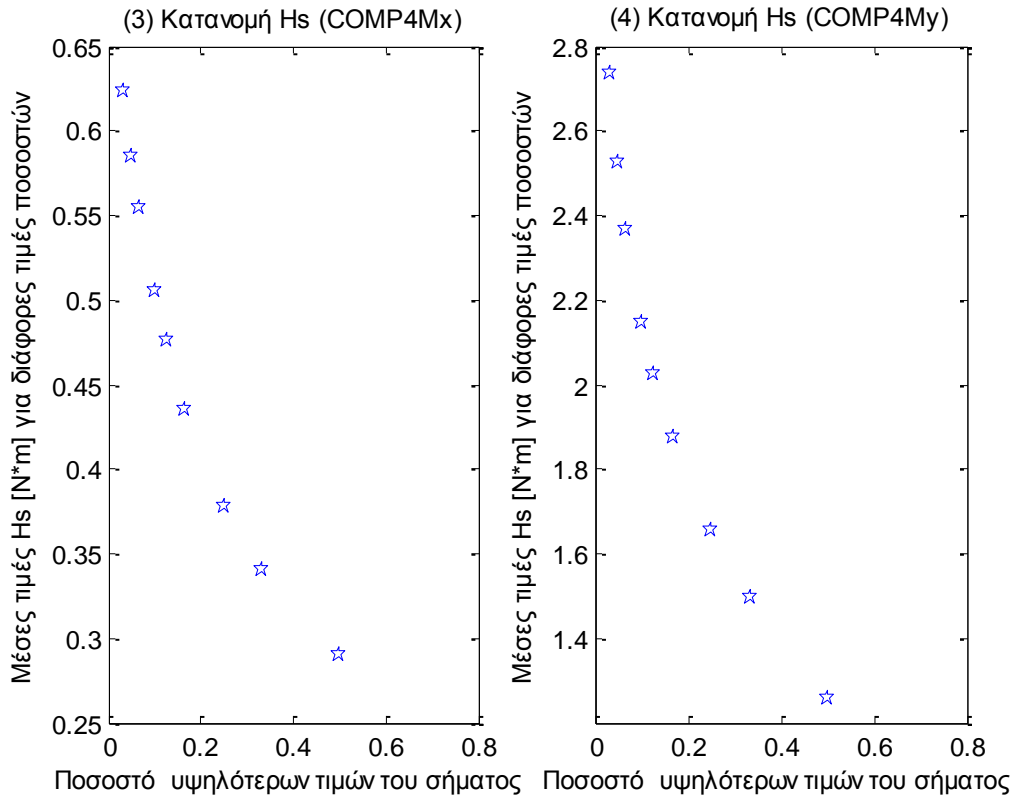
Σχήματα 1.5.5.1 (1-11) Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



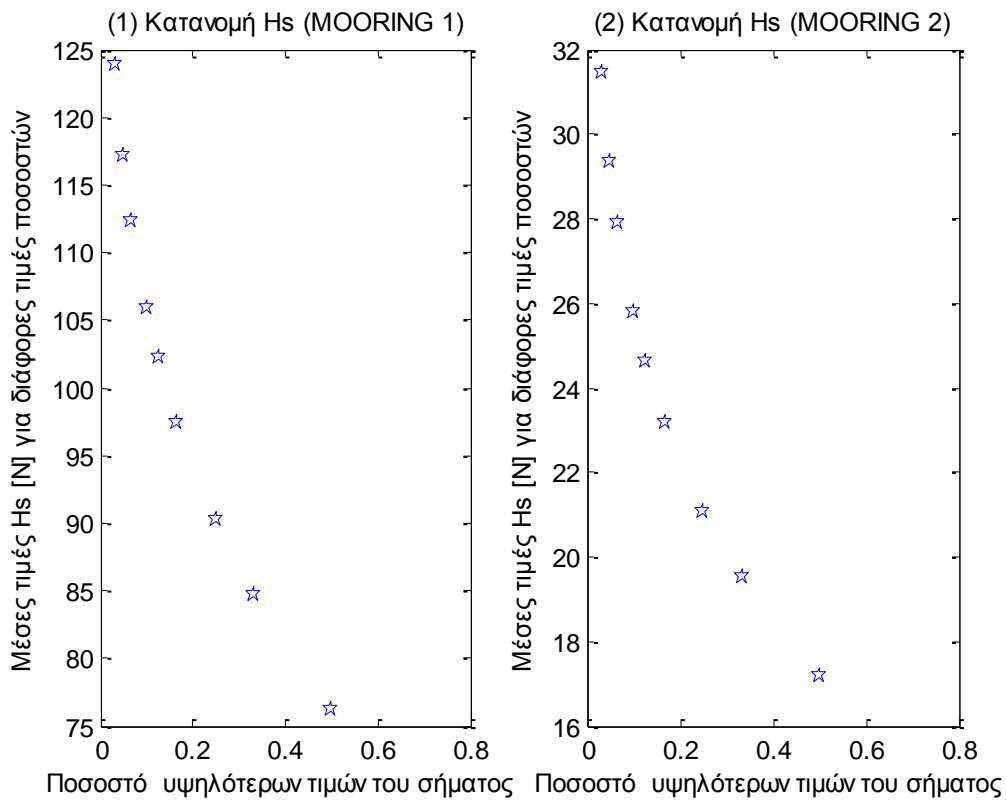


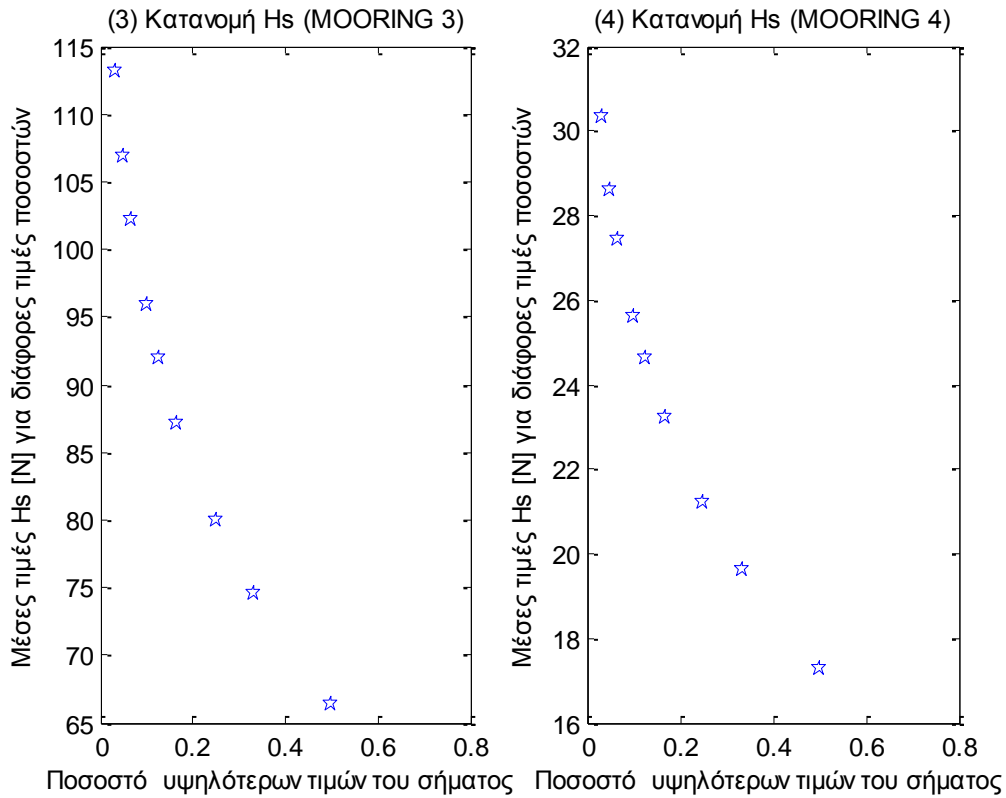
Σχήματα 1.5.5.2 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, και (2) sway και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



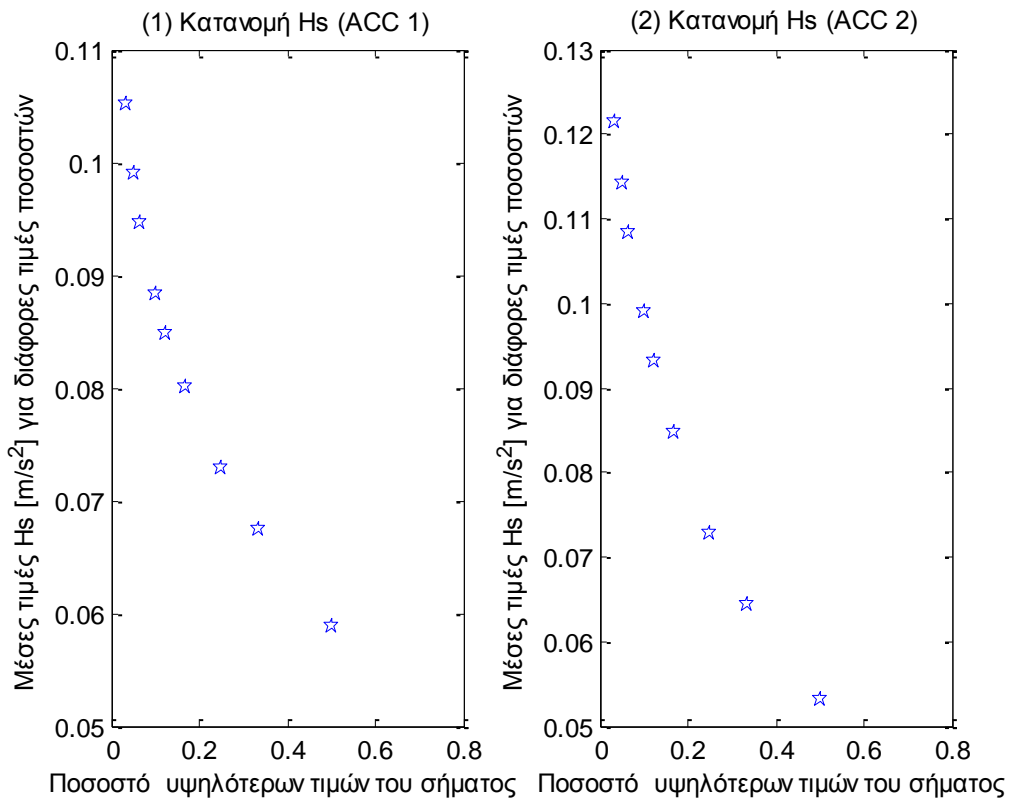


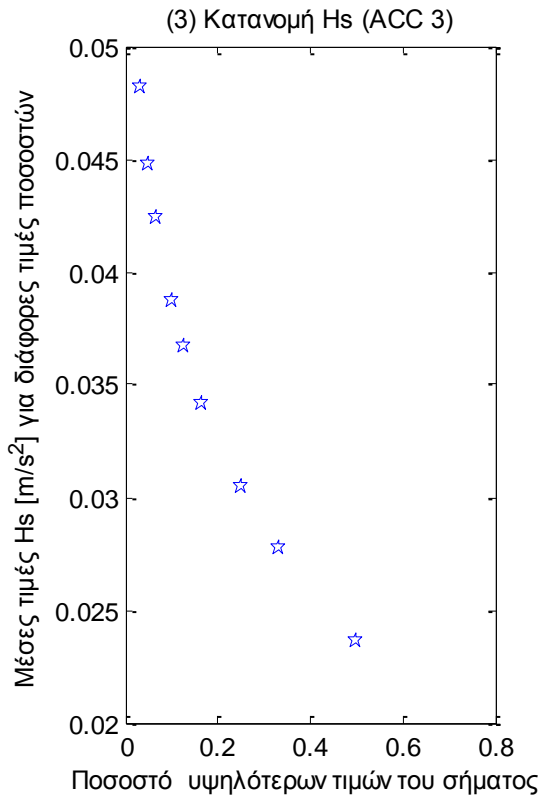
Σχήματα 1.5.5.3 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



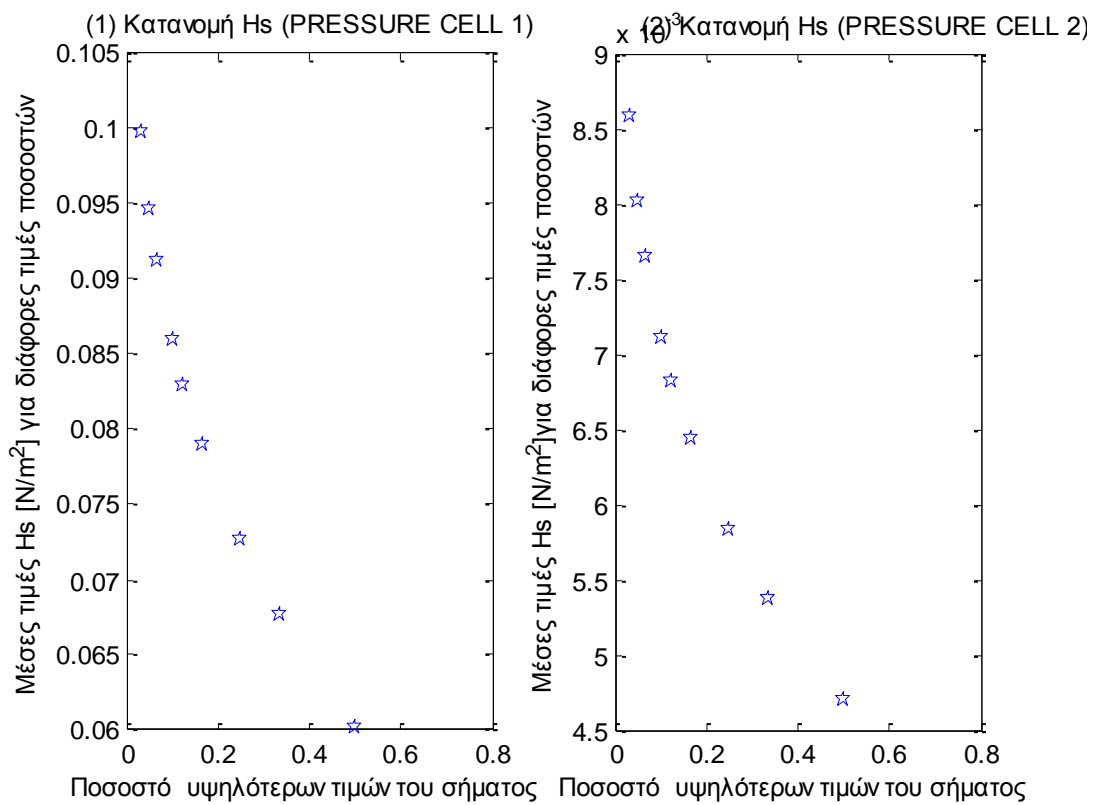


Σχήματα 1.5.5.4 (1-4) Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

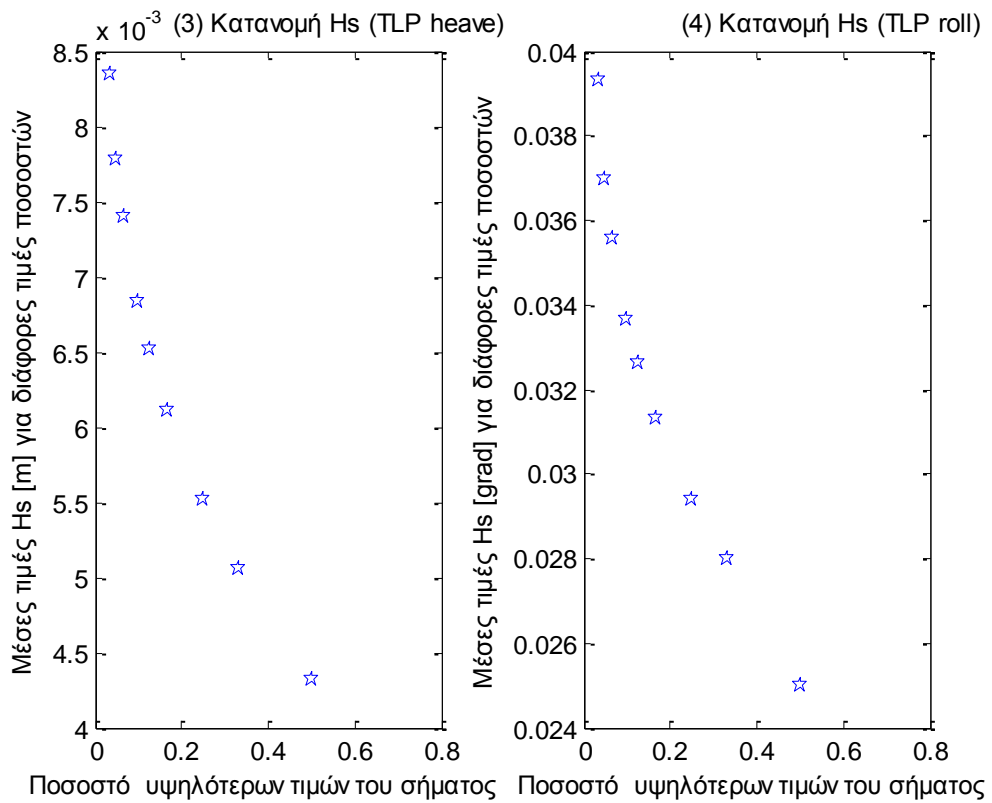
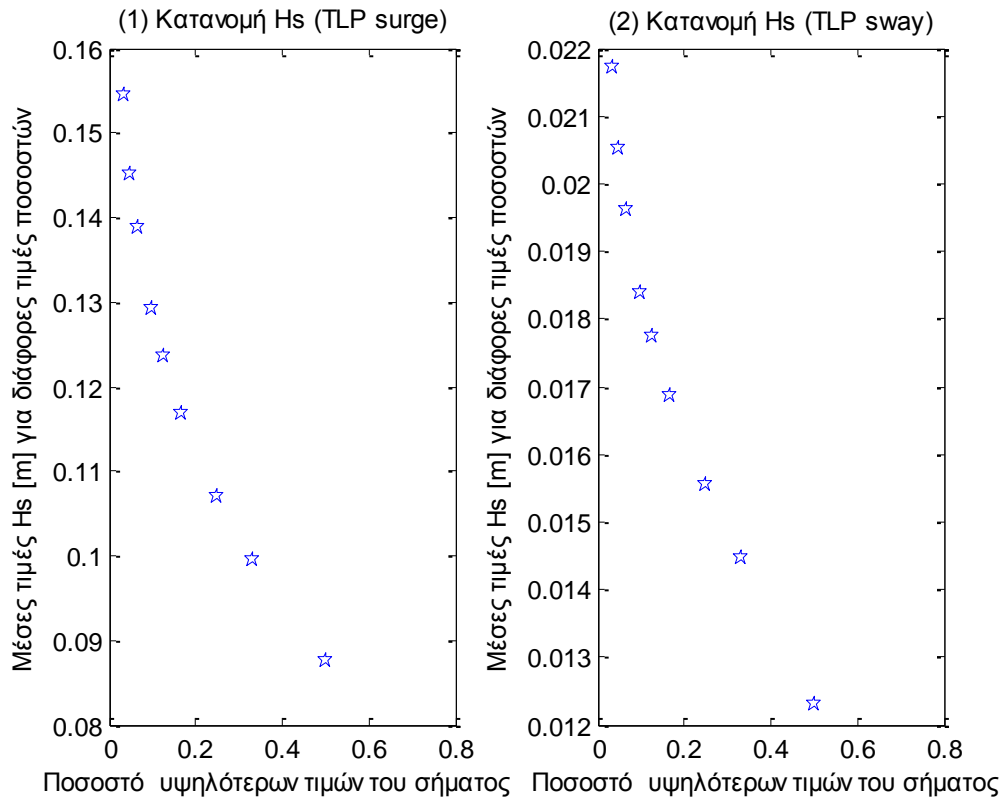


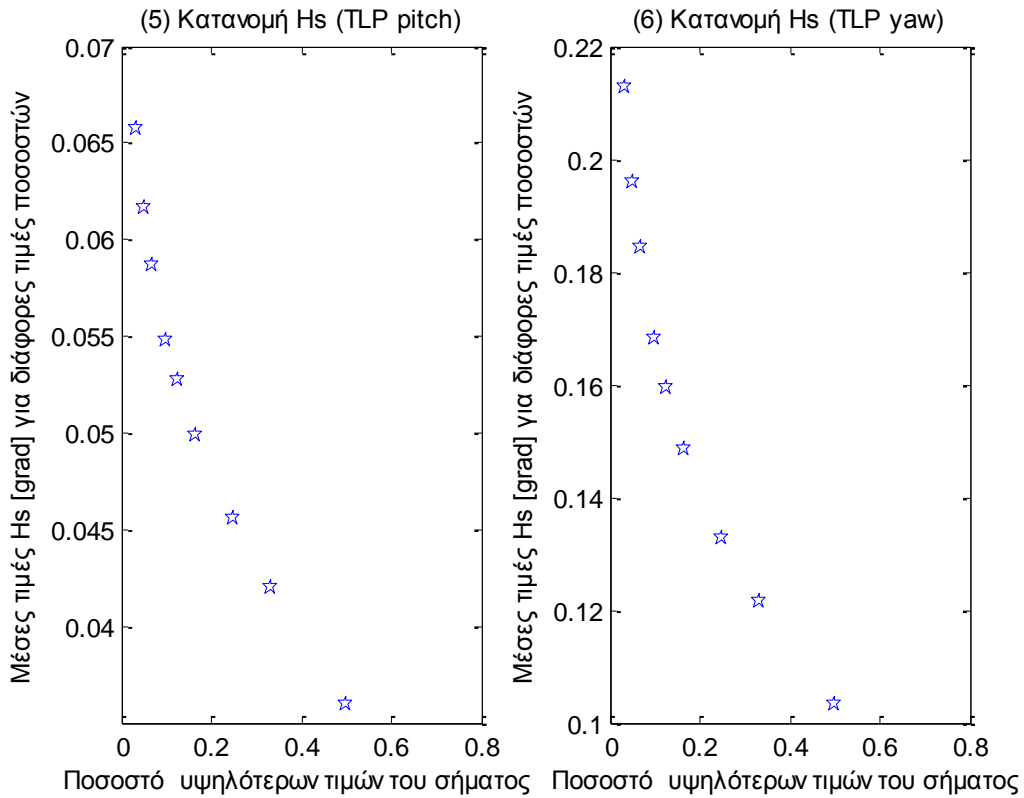


Σχήματα 1.5.5.5 (1-3) Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

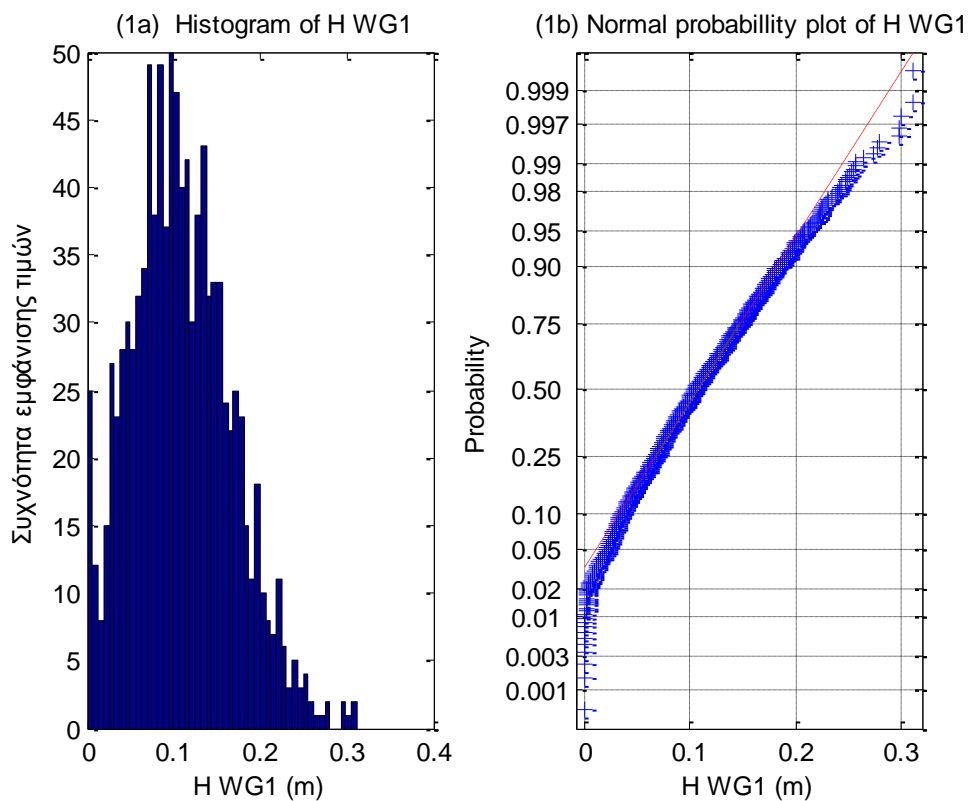


Σχήματα 1.5.5.6 (1-2) Κατανομή σημαντικού ύψους Hs για τα δυο όργανα μέτρησης της πίεσης

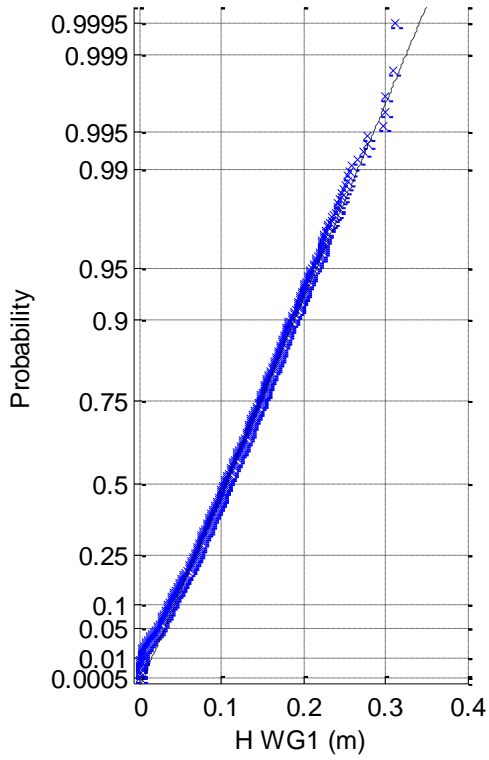




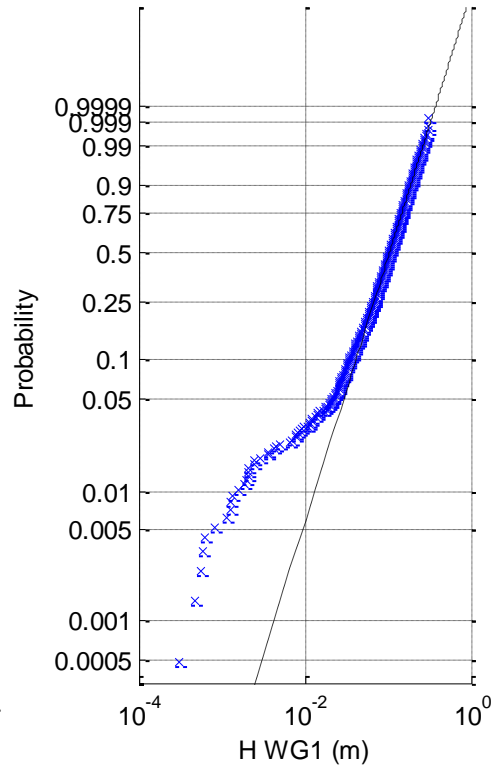
Σχήματα 1.5.5.7 Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw



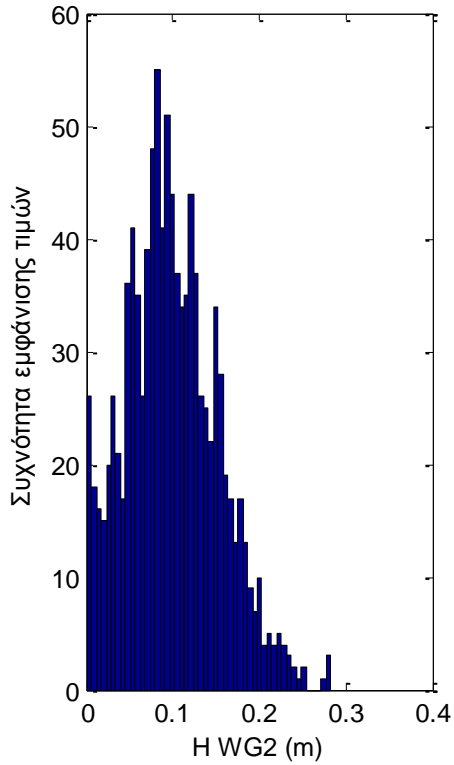
(1c) Rayleigh probability plot of H WG1



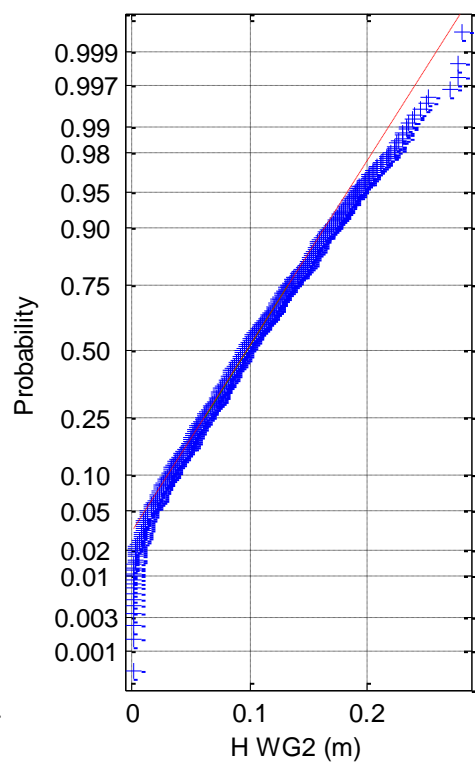
(1d) Weibull probability plot of H WG1



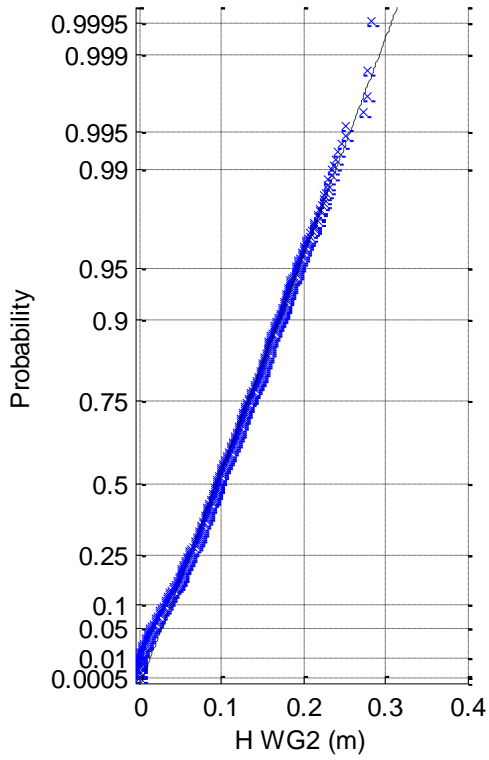
(2a) Histogram of H WG2



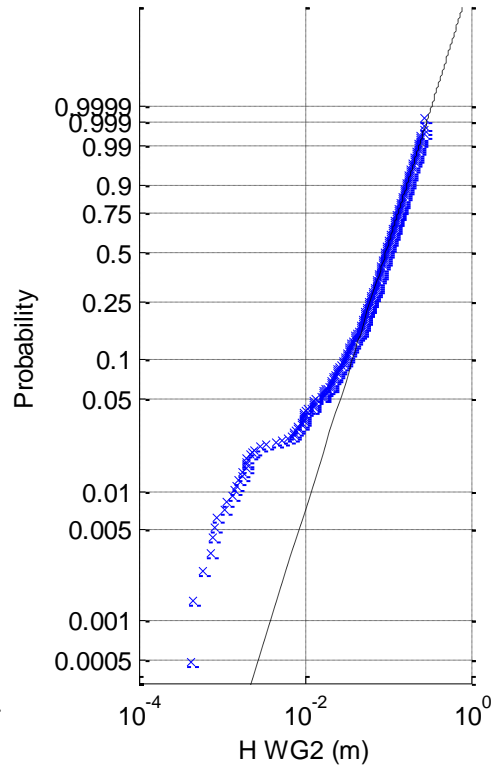
(2b) Normal probability plot of H WG2



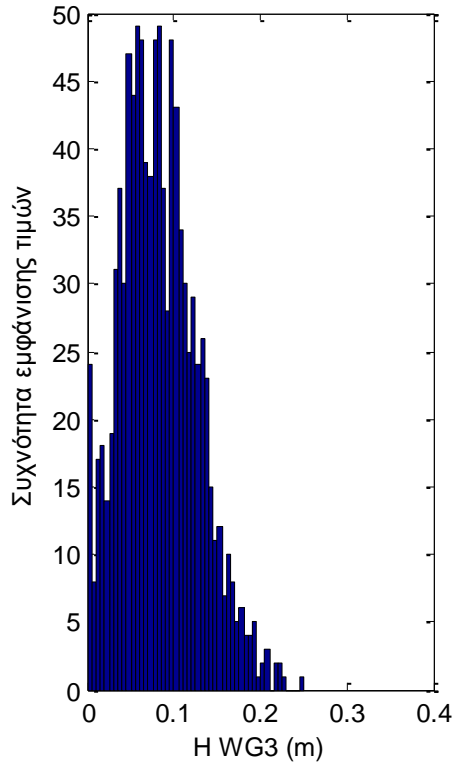
(2c) Rayleigh probability plot of H WG2



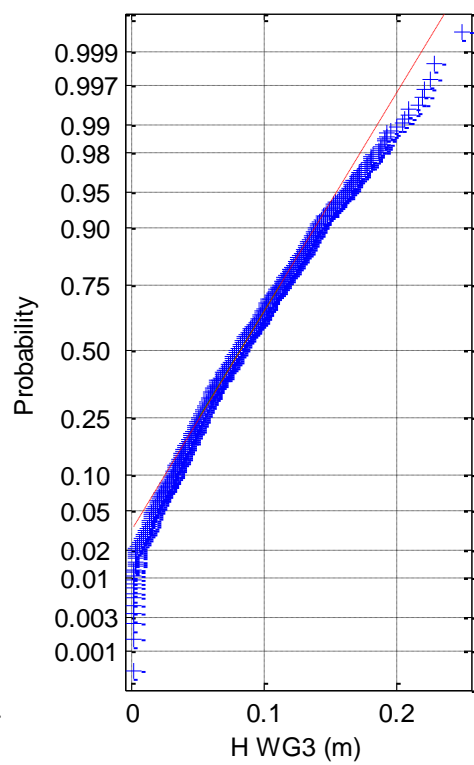
(2d) Weibull probability plot of H WG2



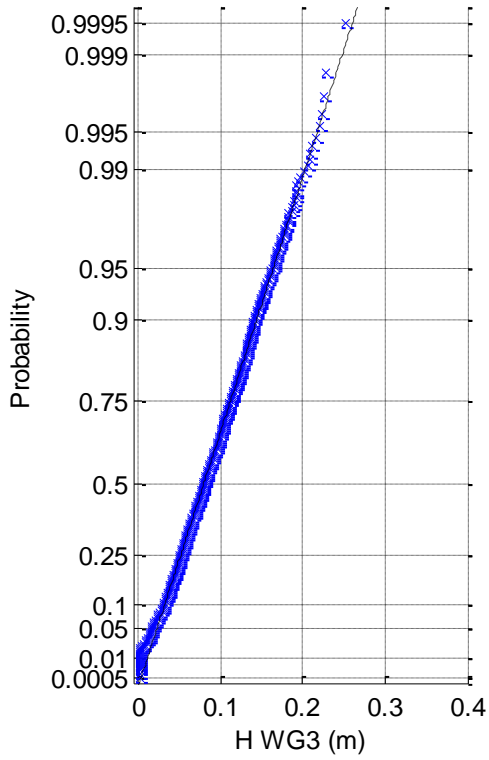
(3a) Histogram of H WG3



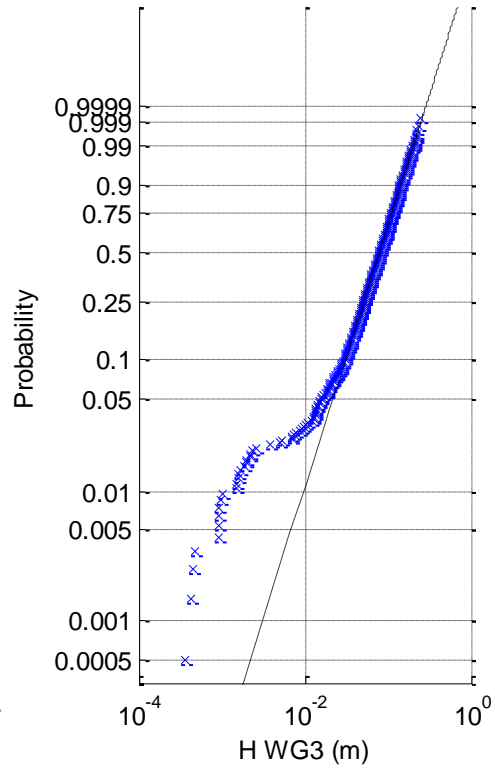
(3b) Normal probability plot of H WG3



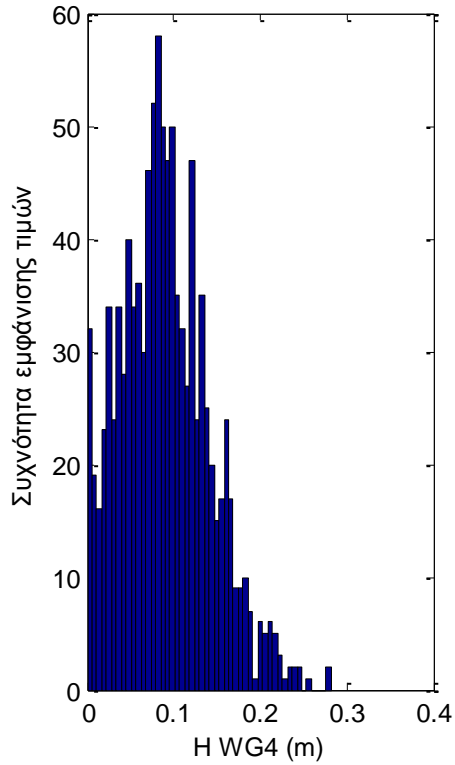
(3c) Rayleigh probability plot of H WG3



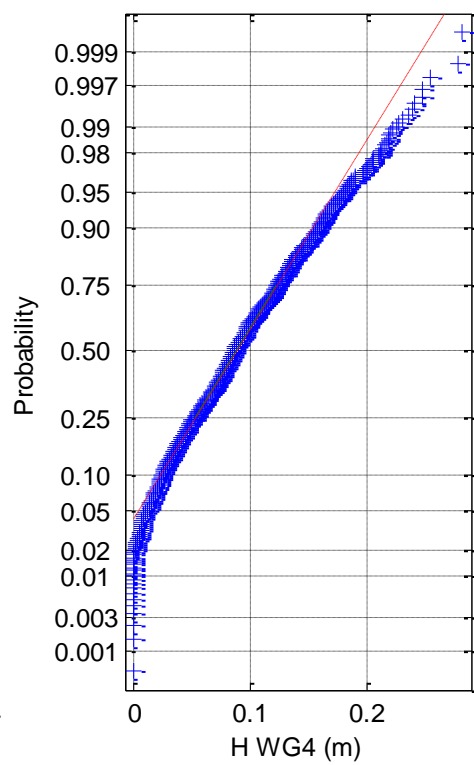
(3d) Weibull probability plot of H WG3



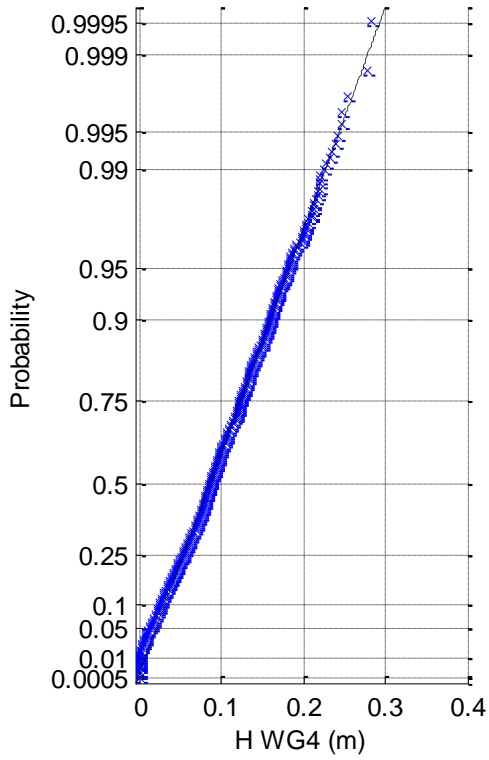
(4a) Histogram of H WG4



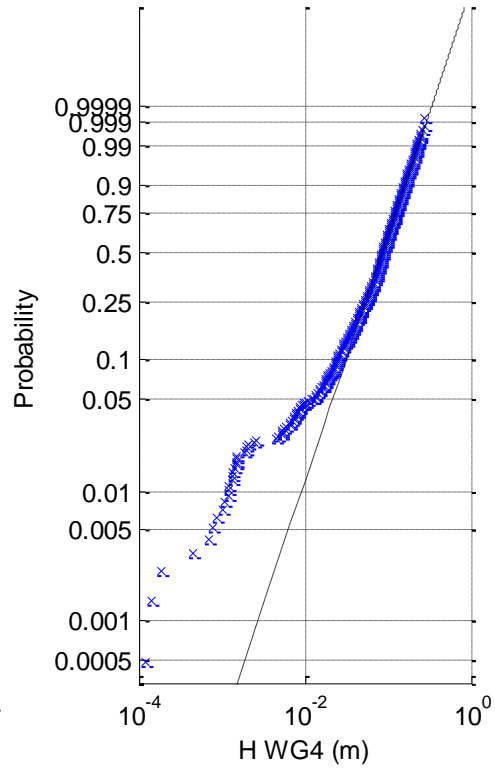
(4b) Normal probability plot of H WG4



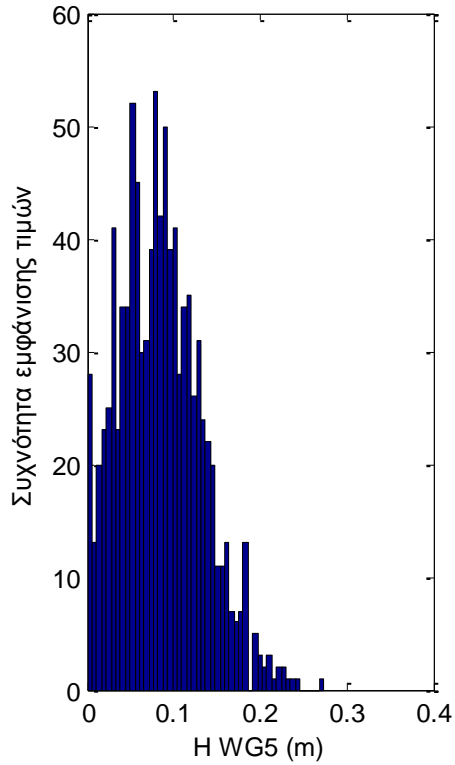
(4c) Rayleigh probability plot of H WG4



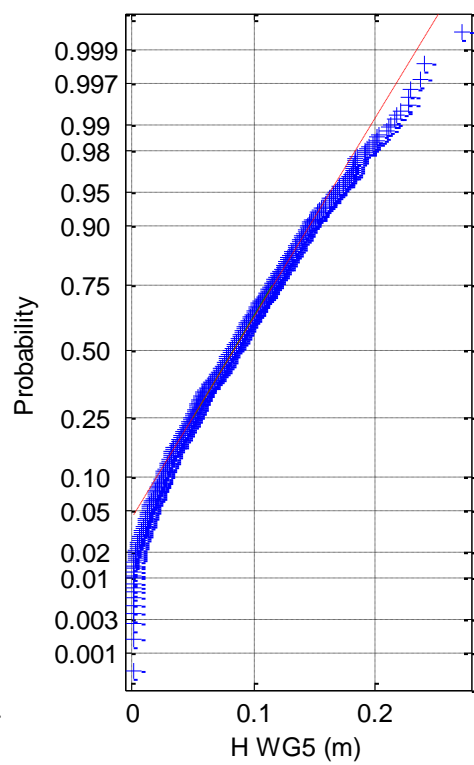
(4d) Weibull probability plot of H WG4



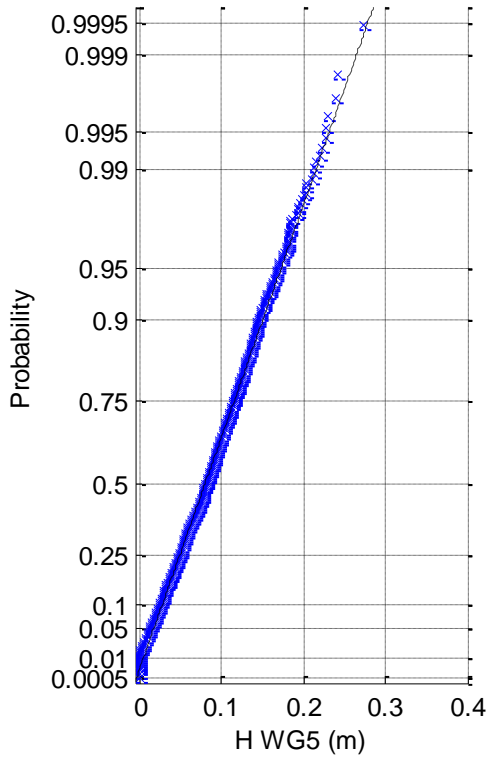
(5a) Histogram of H WG5



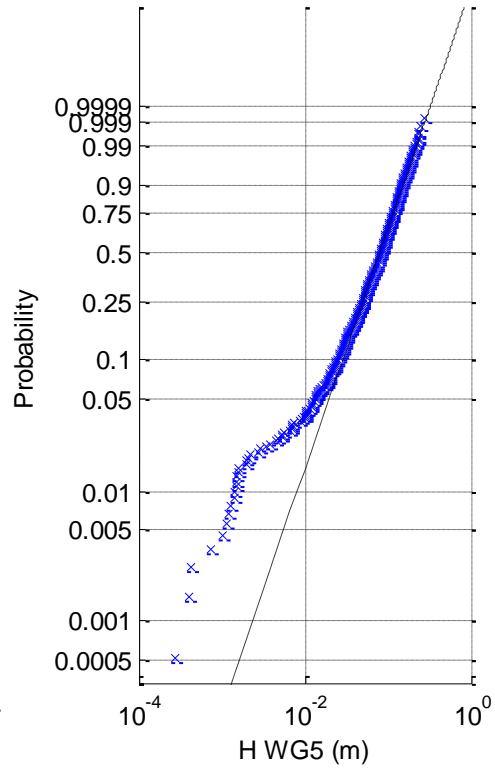
(5b) Normal probability plot of H WG5



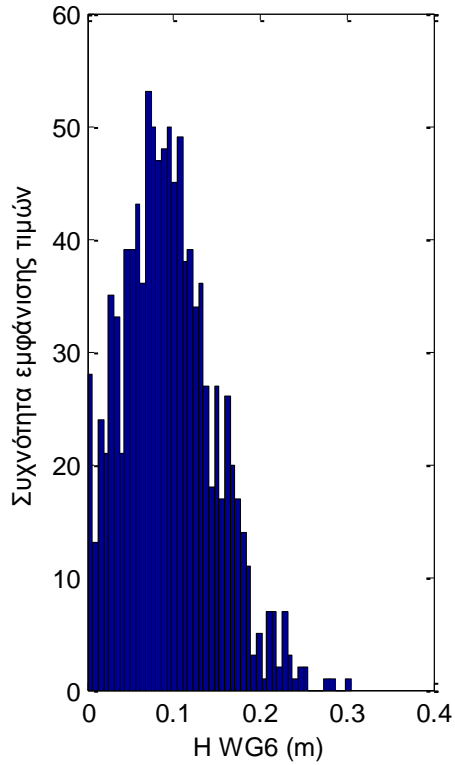
(5c) Rayleigh probability plot of H WG5



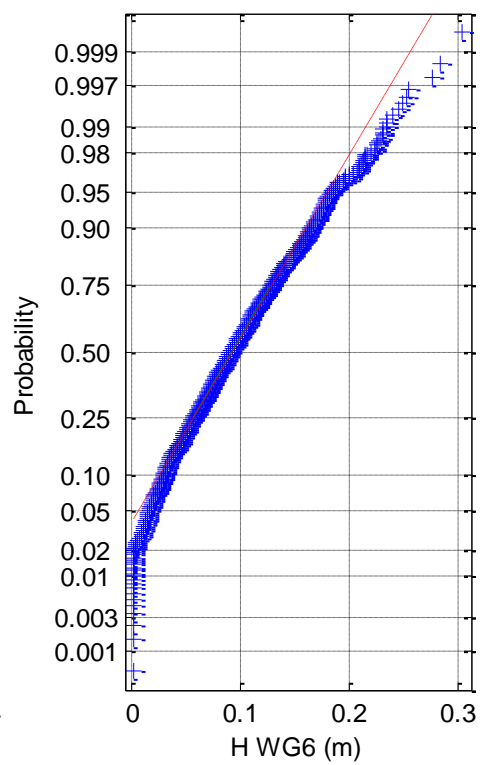
(5d) Weibull probability plot of H WG5



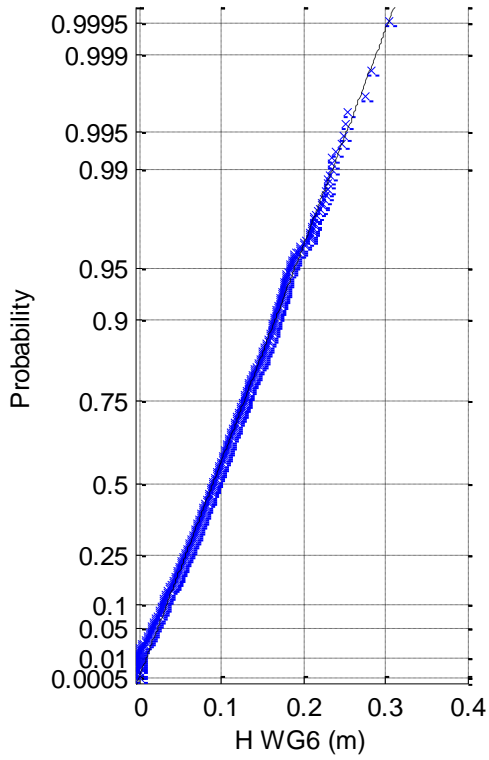
(6a) Histogram of H WG6



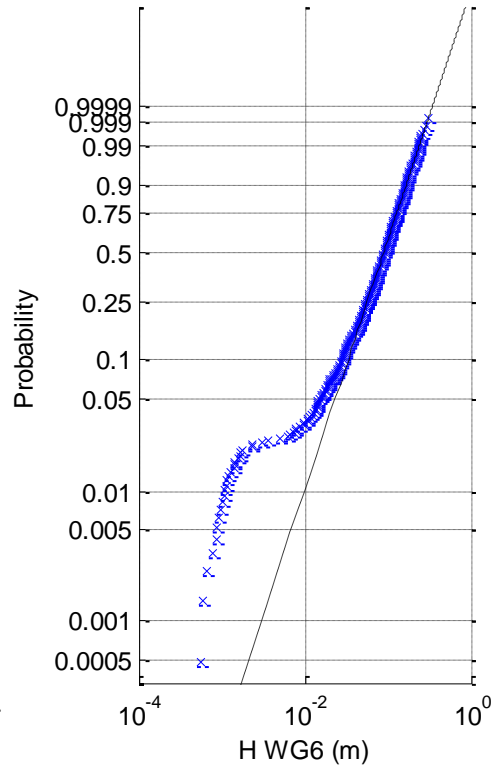
(6b) Normal probability plot of H WG6



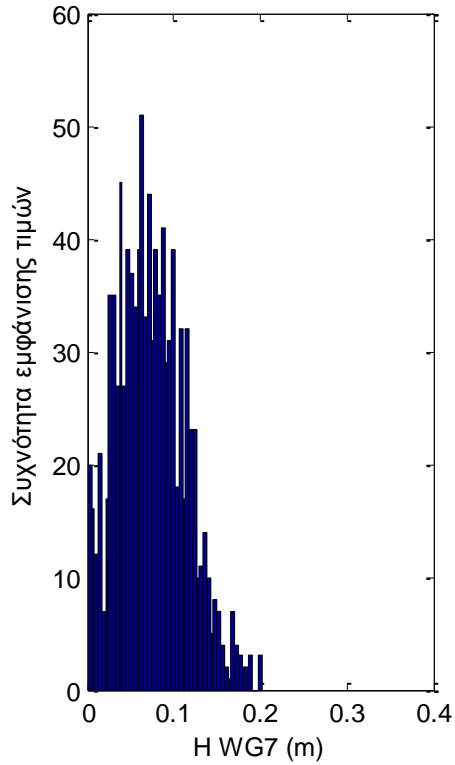
(6c) Rayleigh probability plot of H WG6



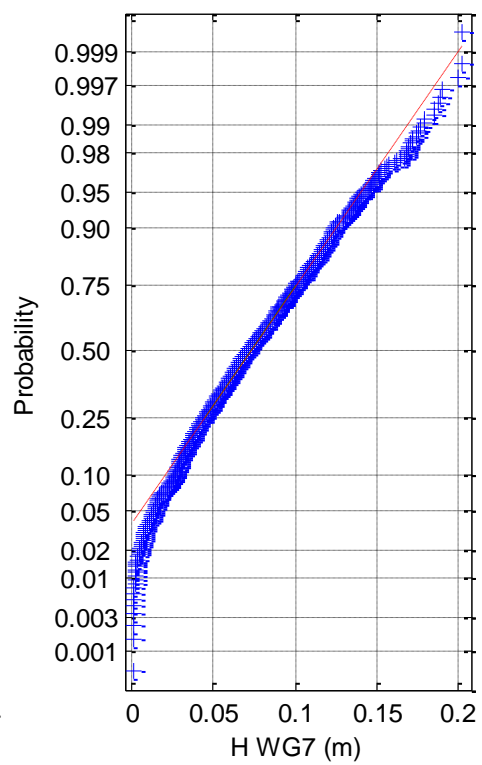
(6d) Weibull probability plot of H WG6



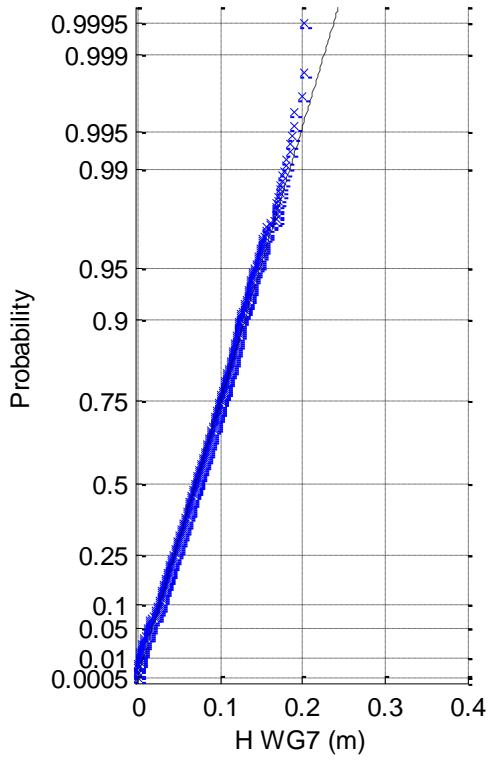
(7a) Histogram of H WG7



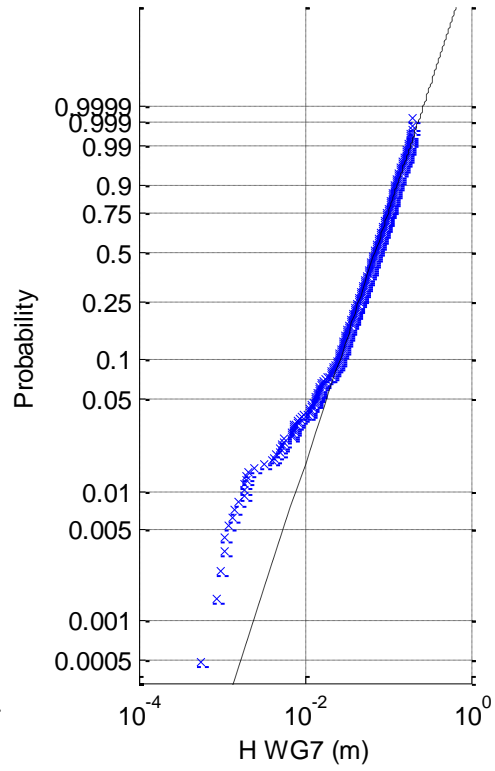
(7b) Normal probability plot of H WG7



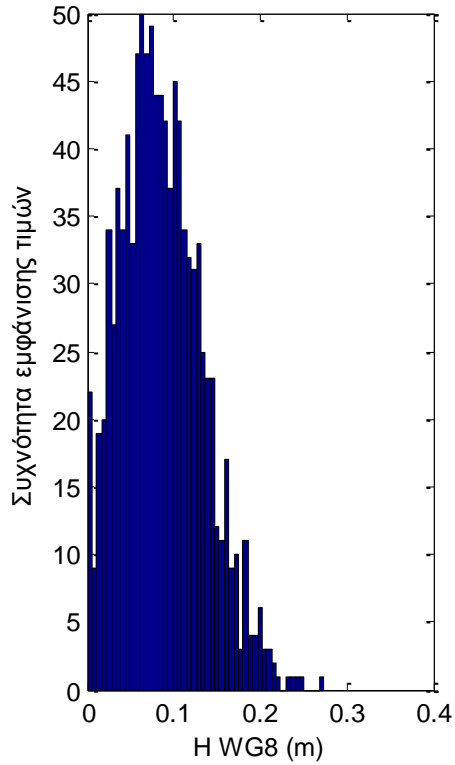
(7c) Rayleigh probability plot of H WG7



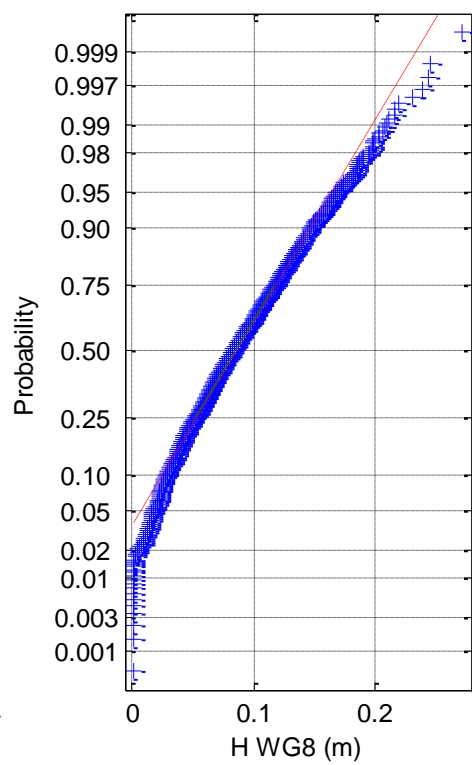
(7d) Weibull probability plot of H WG7



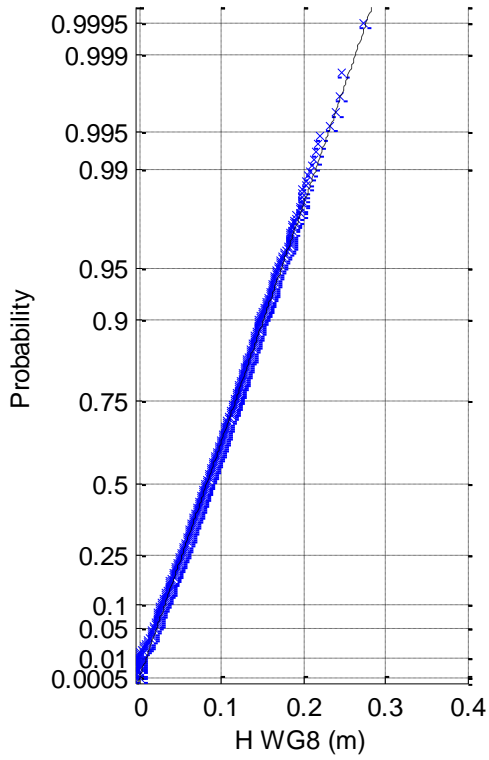
(8a) Histogram of H WG8



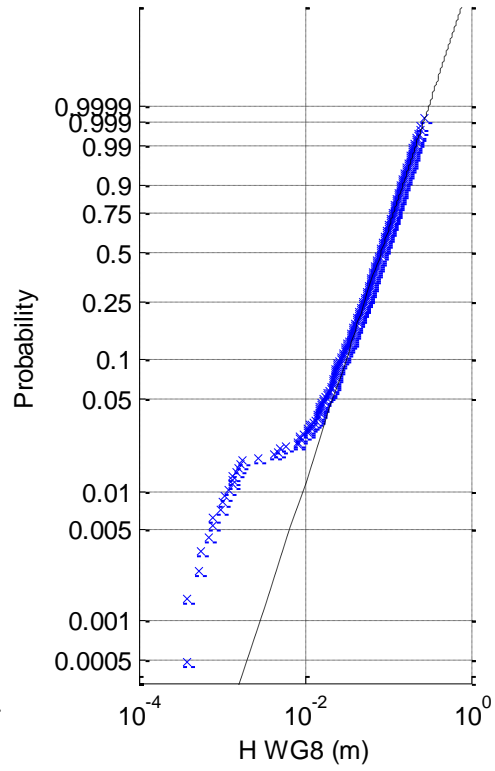
(8b) Normal probability plot of H WG8



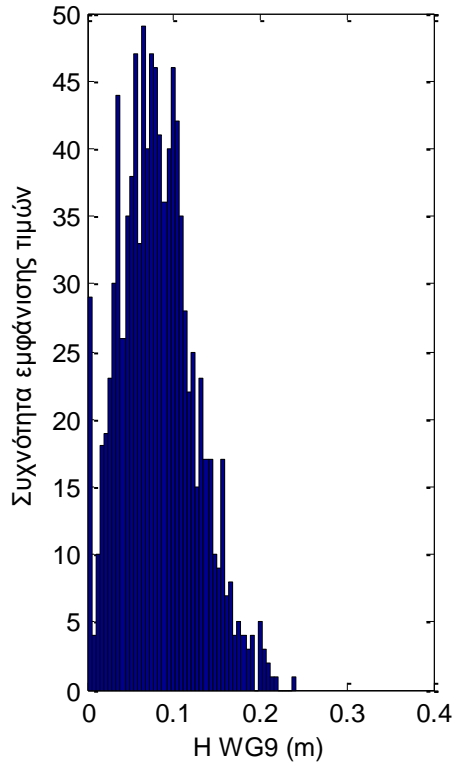
(8c) Rayleigh probability plot of H WG8



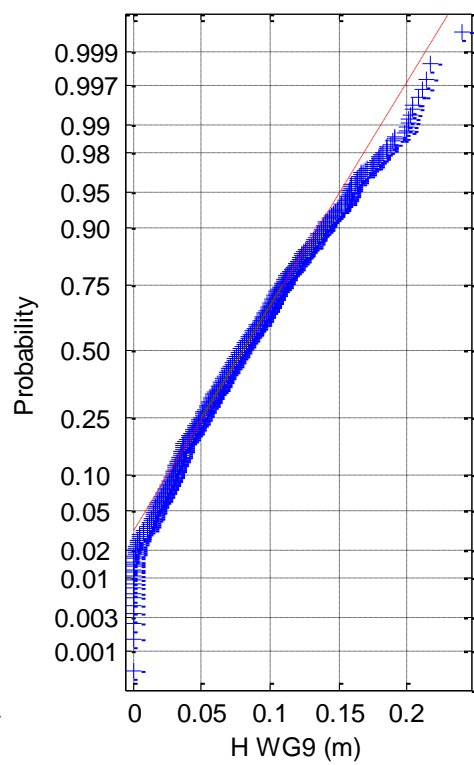
(8d) Weibull probability plot of H WG8



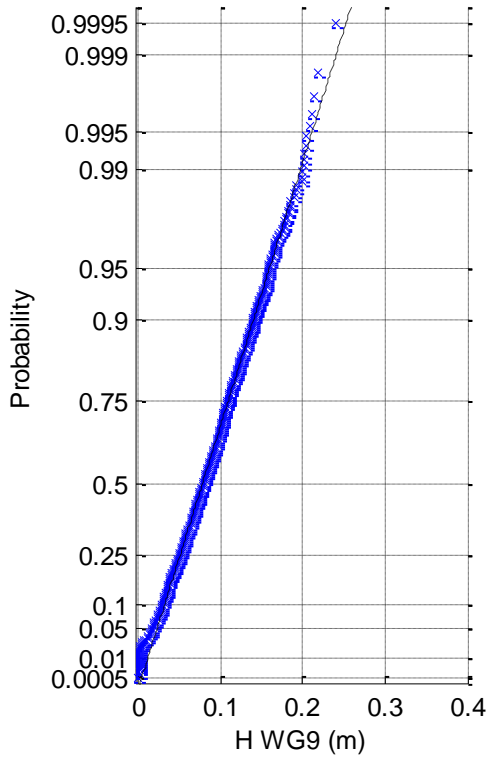
(9a) Histogram of H WG9



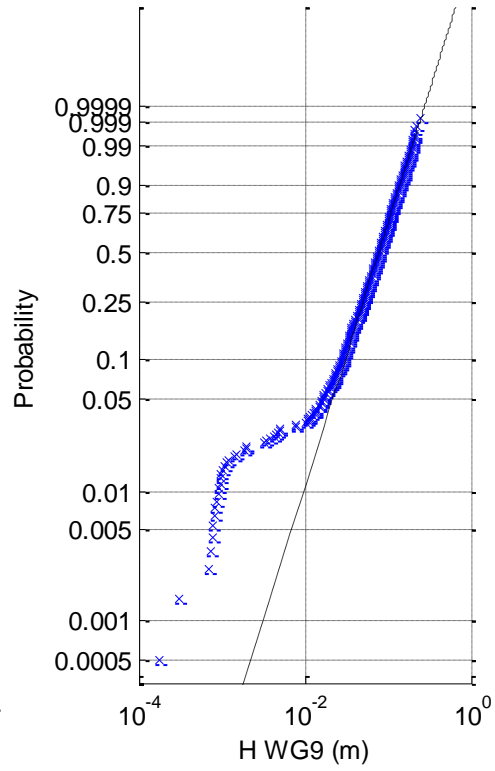
(9b) Normal probability plot of H WG9



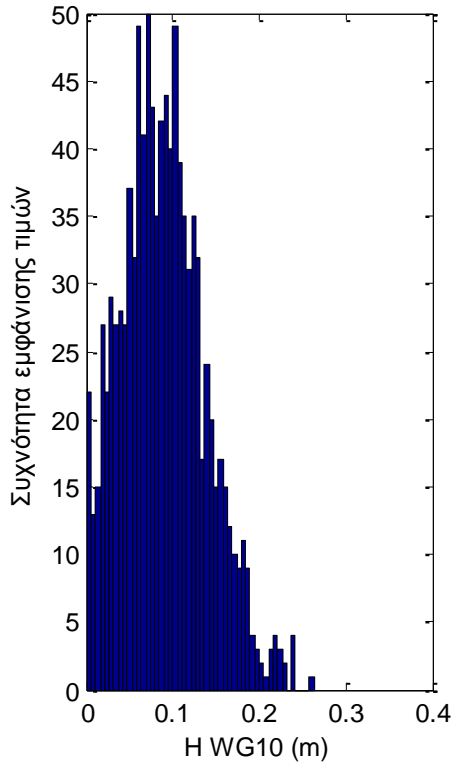
(9c) Rayleigh probability plot of H WG9



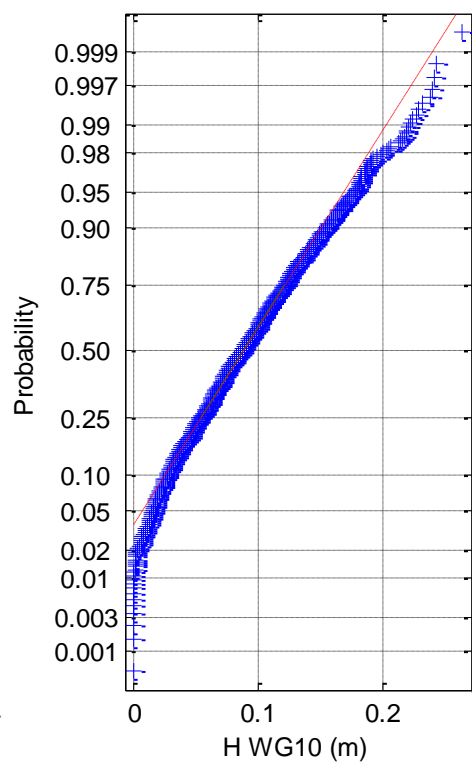
(9d) Weibull probability plot of H WG9



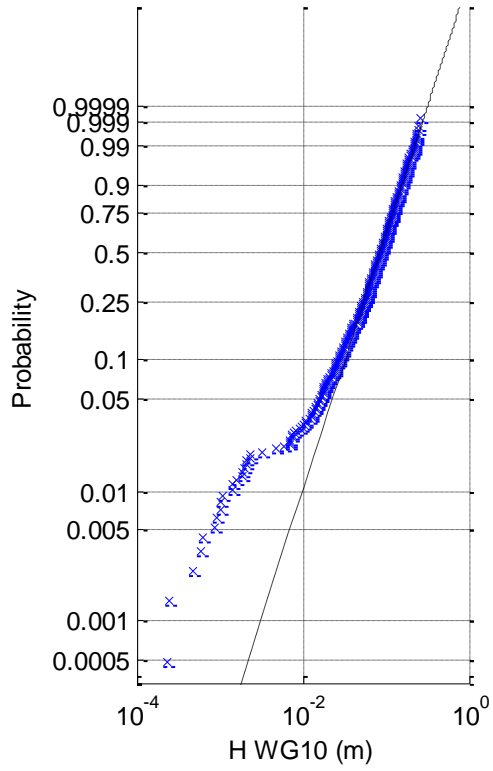
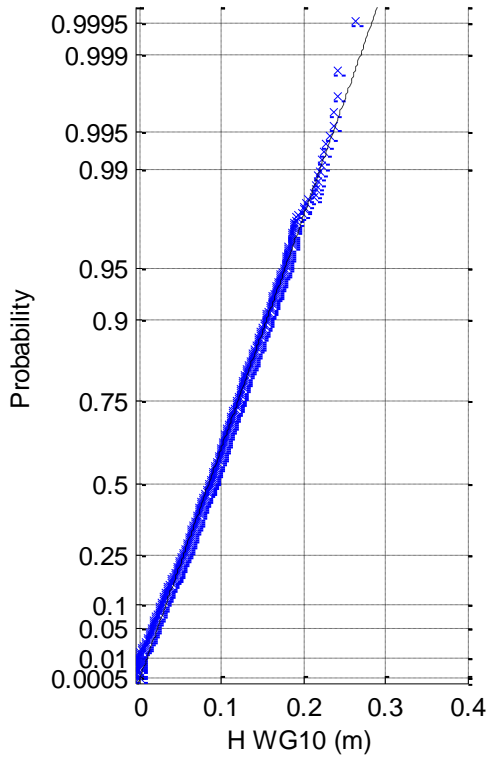
(10a) Histogram of H WG10



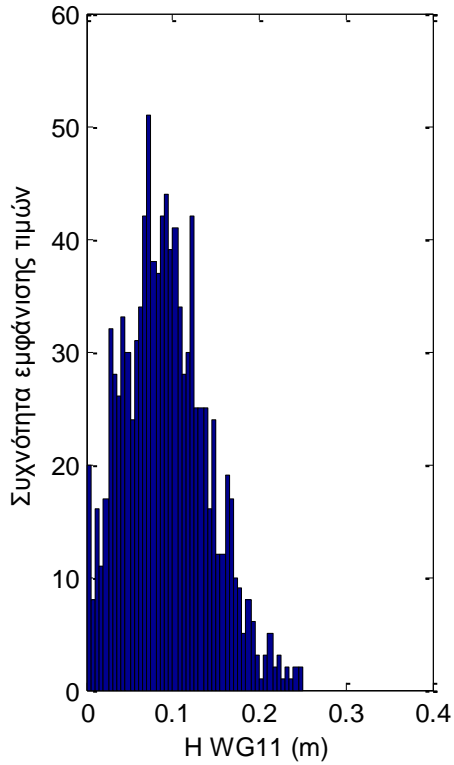
(10b) Normal probability plot of H WG10



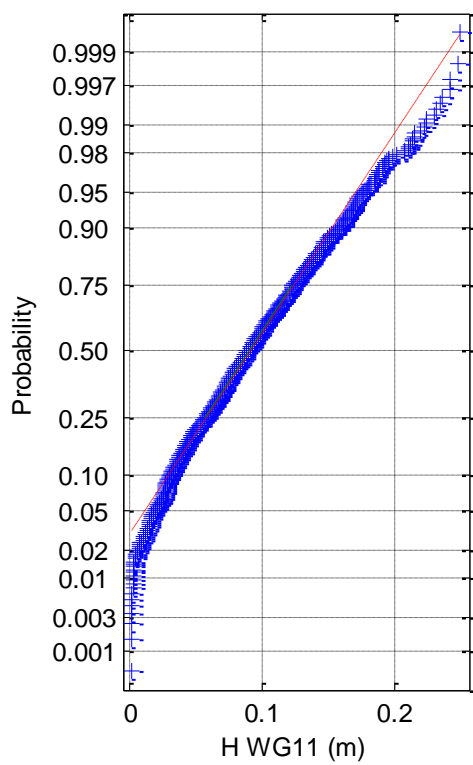
(10c) Rayleigh probability plot of H WG10 (10d) Weibull probability plot of H WG10

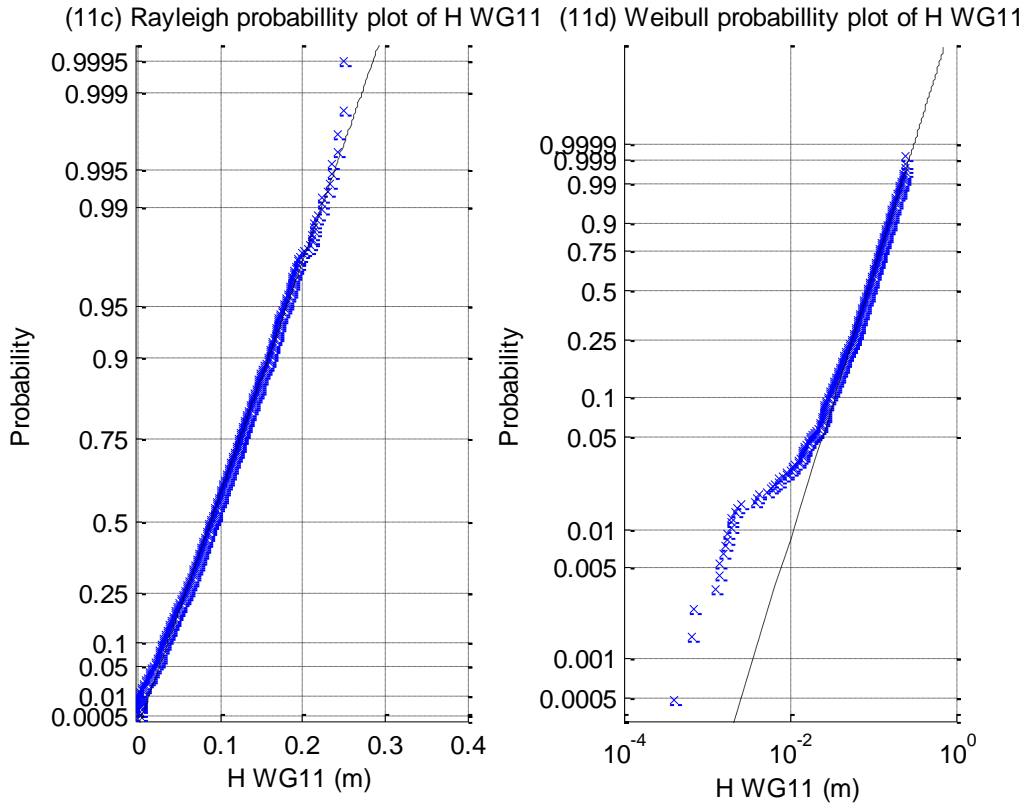


(11a) Histogram of H WG11

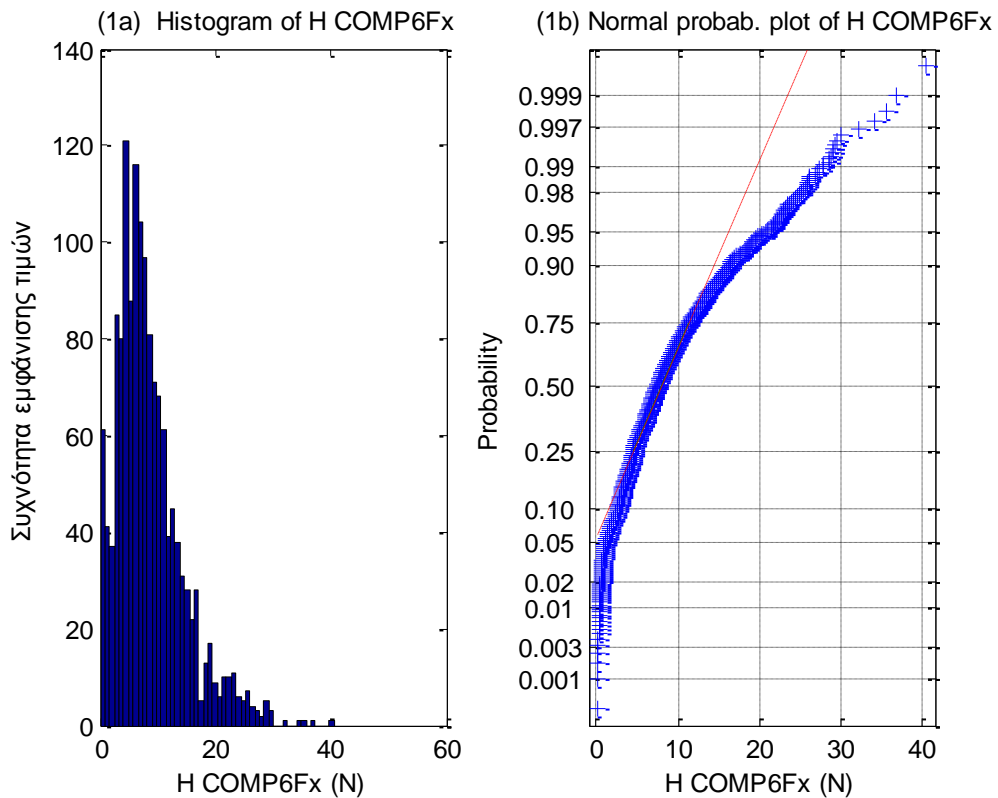


(11b) Normal probability plot of H WG11

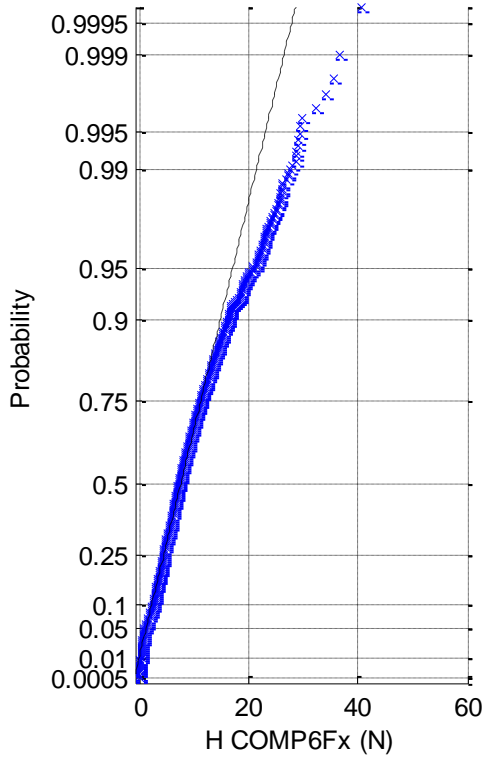




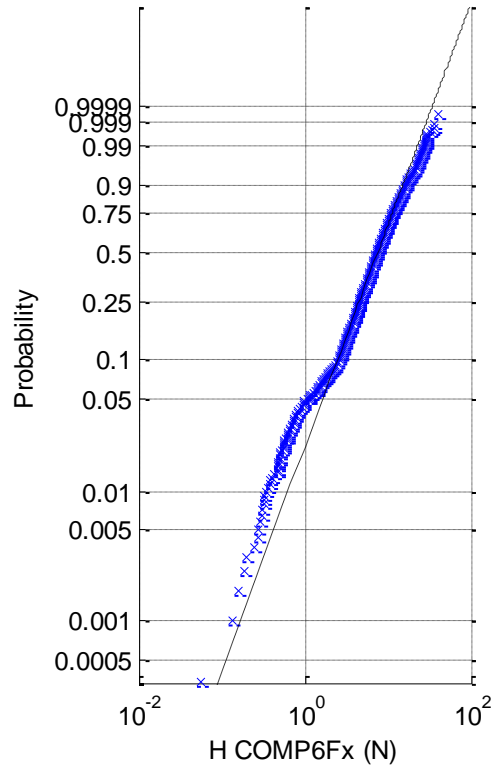
Σχήματα 1.5.6.1 (1-11) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος



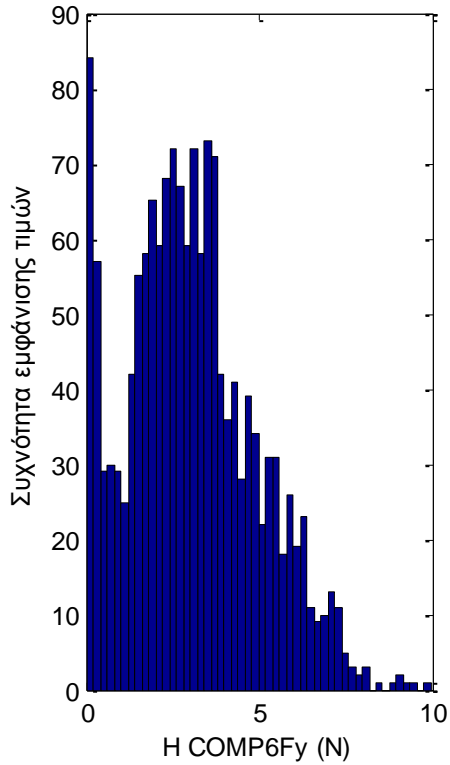
(1c) Rayleigh probab. plot of H COMP6Fx



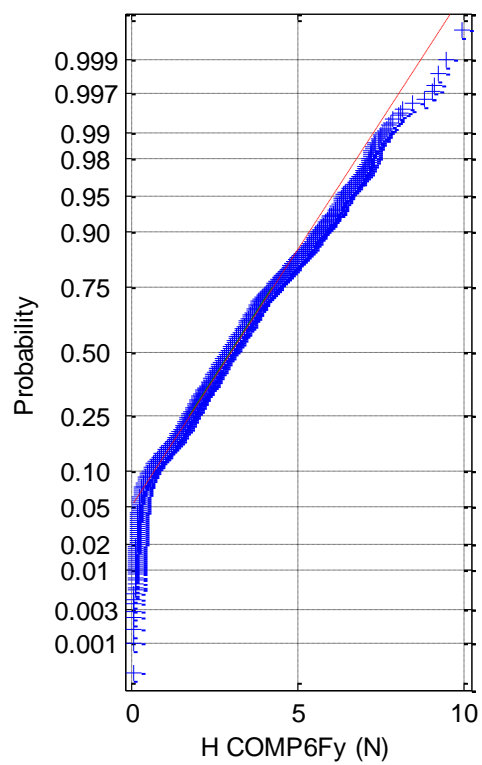
(1d) Weibull probab. plot of H COMP6Fx



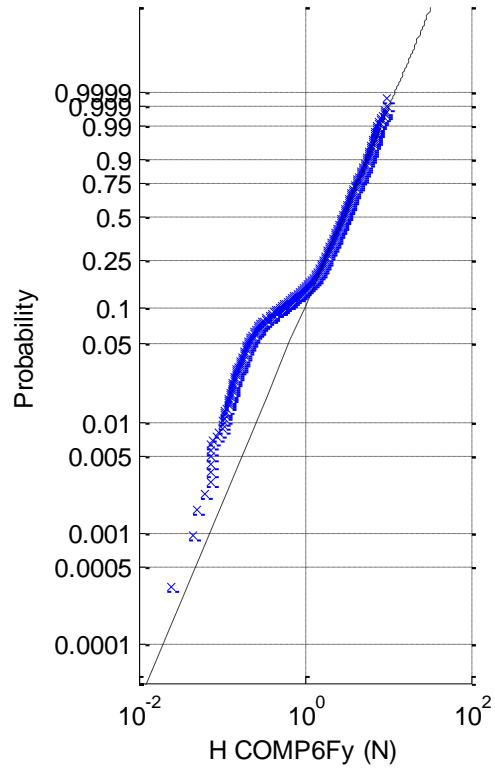
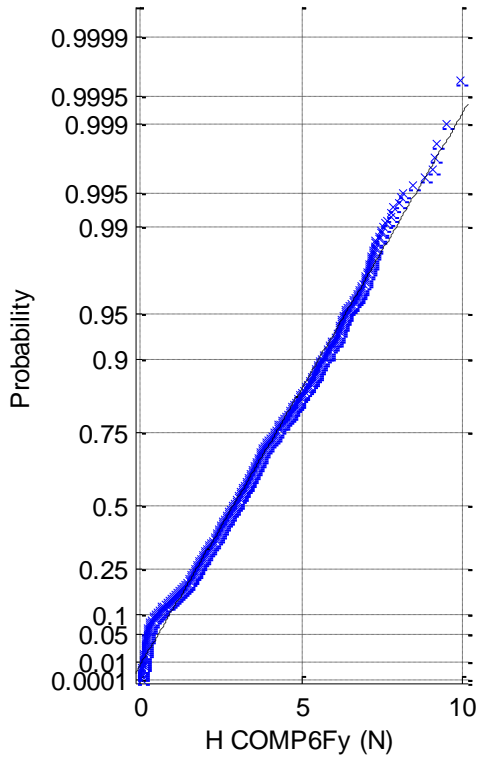
(2a) Histogram of H COMP6Fy



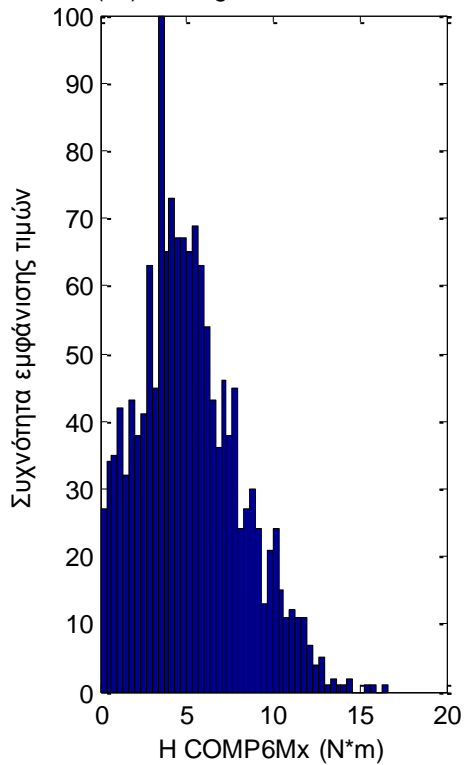
(2b) Normal probab. plot of H COMP6Fy



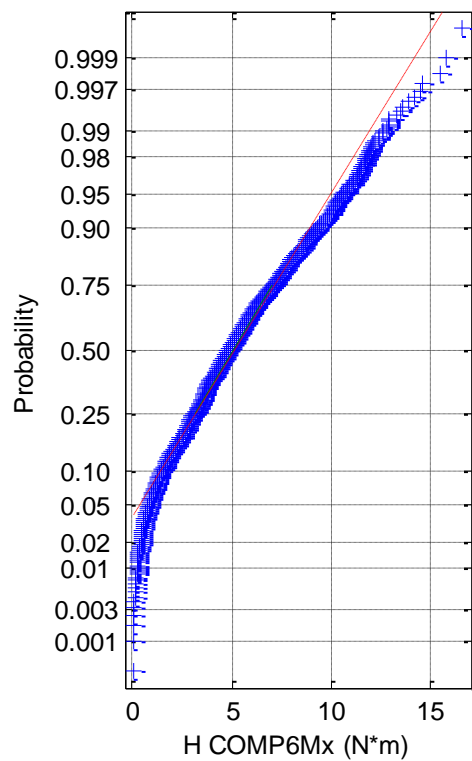
(2c) Rayleigh probab. plot of H COMP6Fy (2d) Weibull probab. plot of H COMP6Fy



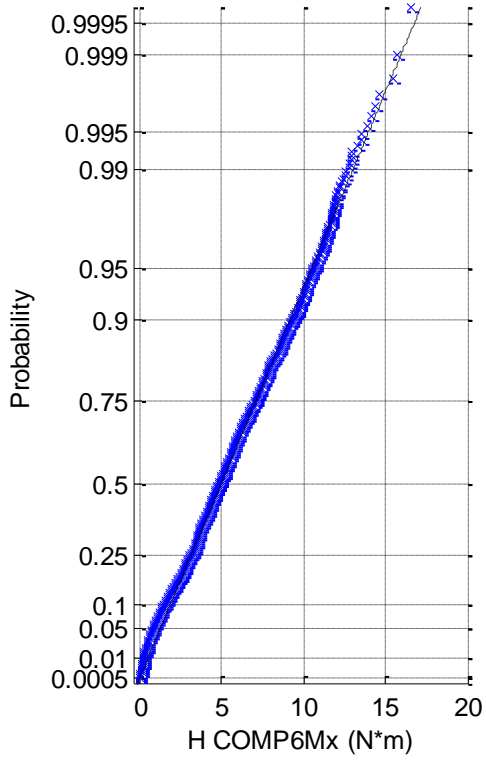
(3a) Histogram of H COMP6Mx



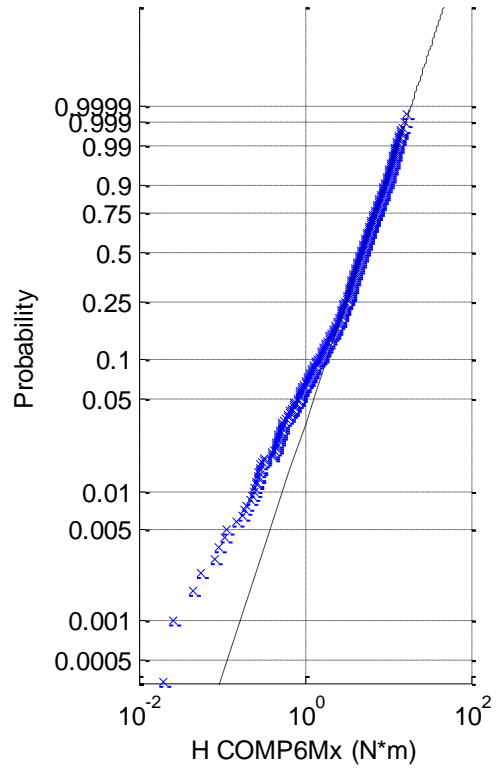
(3b) Normal probab. plot of H COMP6Mx



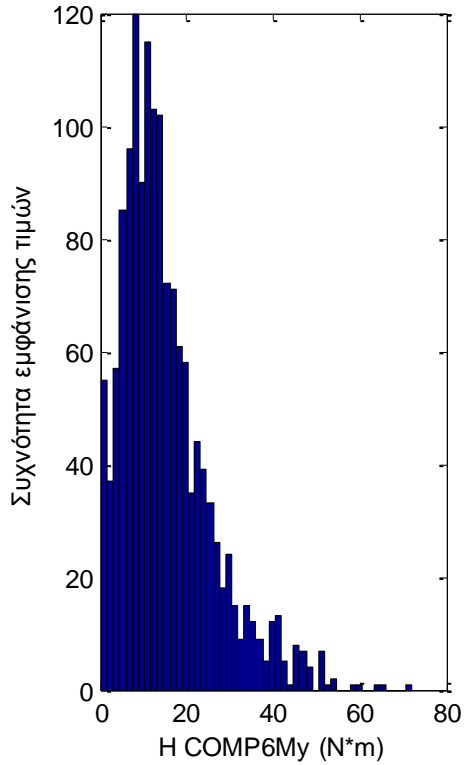
(3c) Rayleigh prob. plot of H COMP6Mx



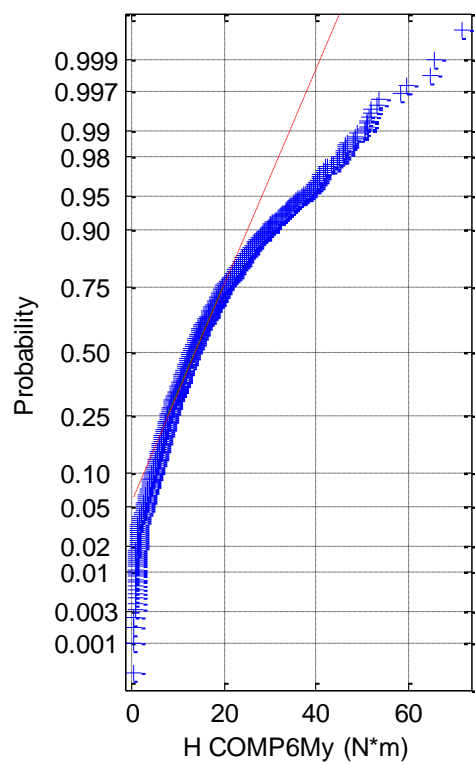
(3d) Weibull prob. plot of H COMP6Mx



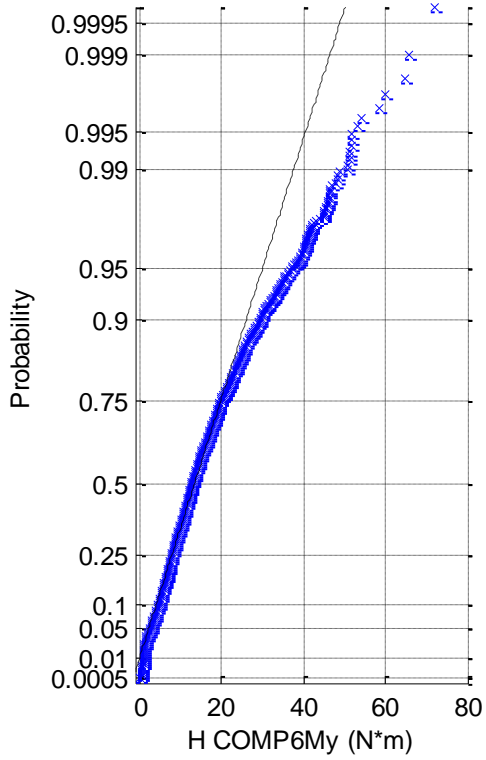
(4a) Histogram of H COMP6My



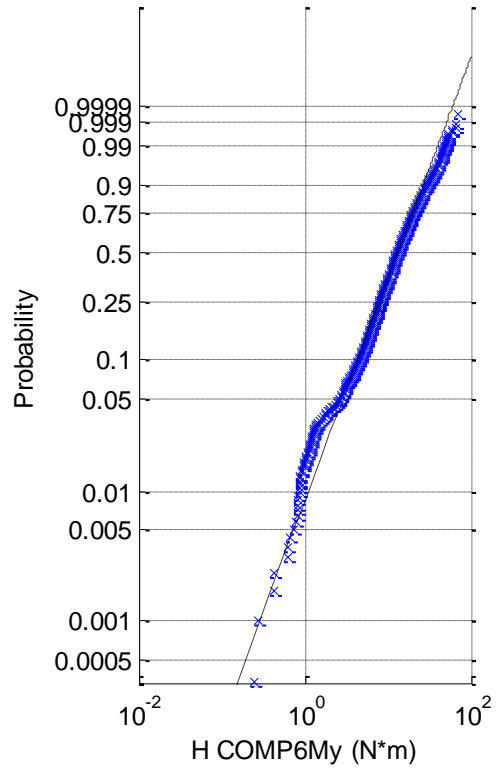
(4b) Normal prob. plot of H COMP6My



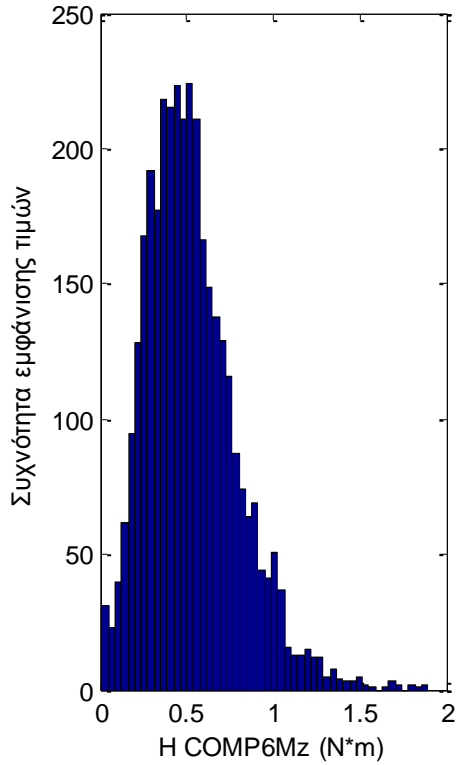
(4c) Rayleigh prob. plot of H COMP6My



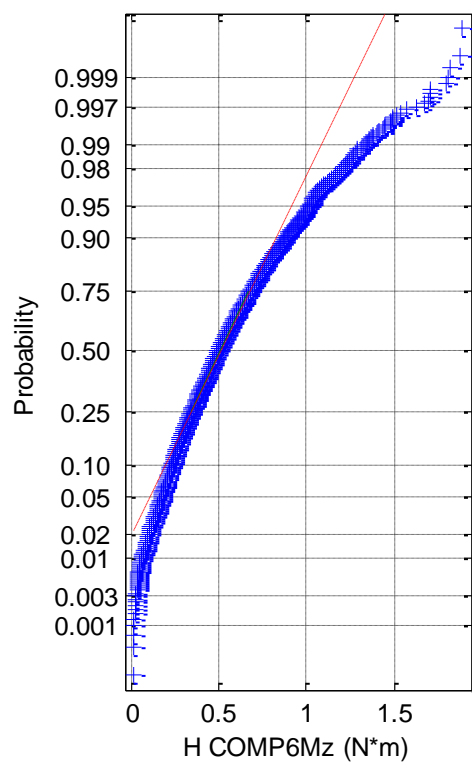
(4d) Weibull prob. plot of H COMP6My

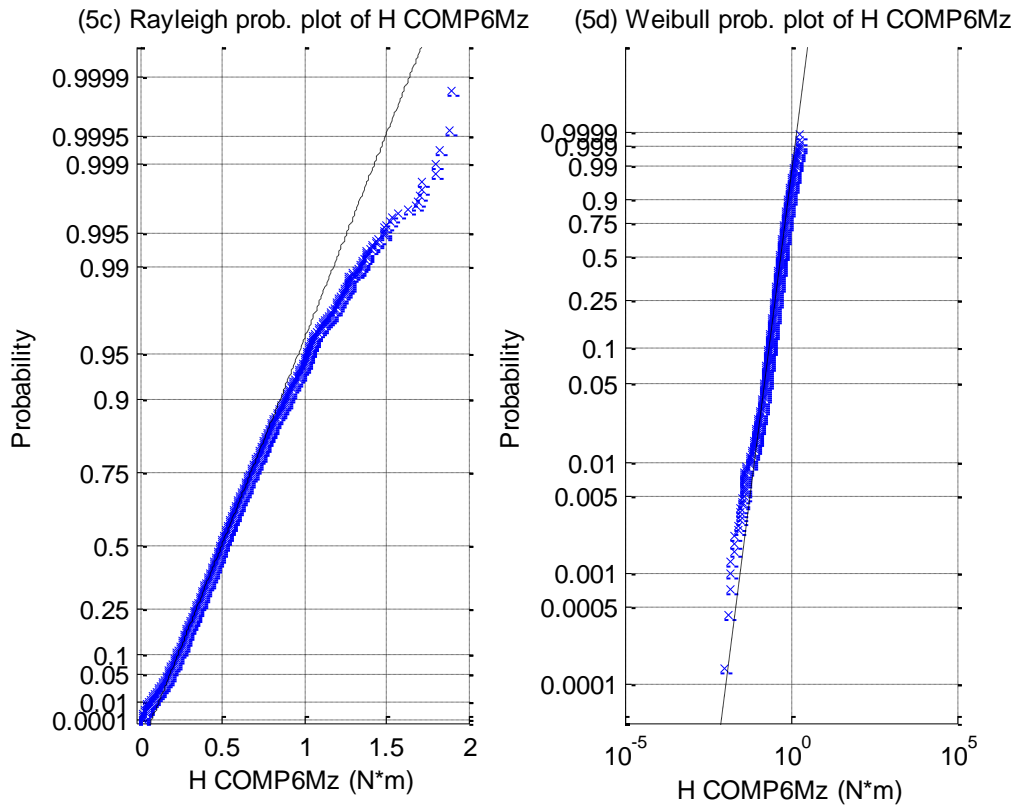


(5a) Histogram of H COMP6Mz

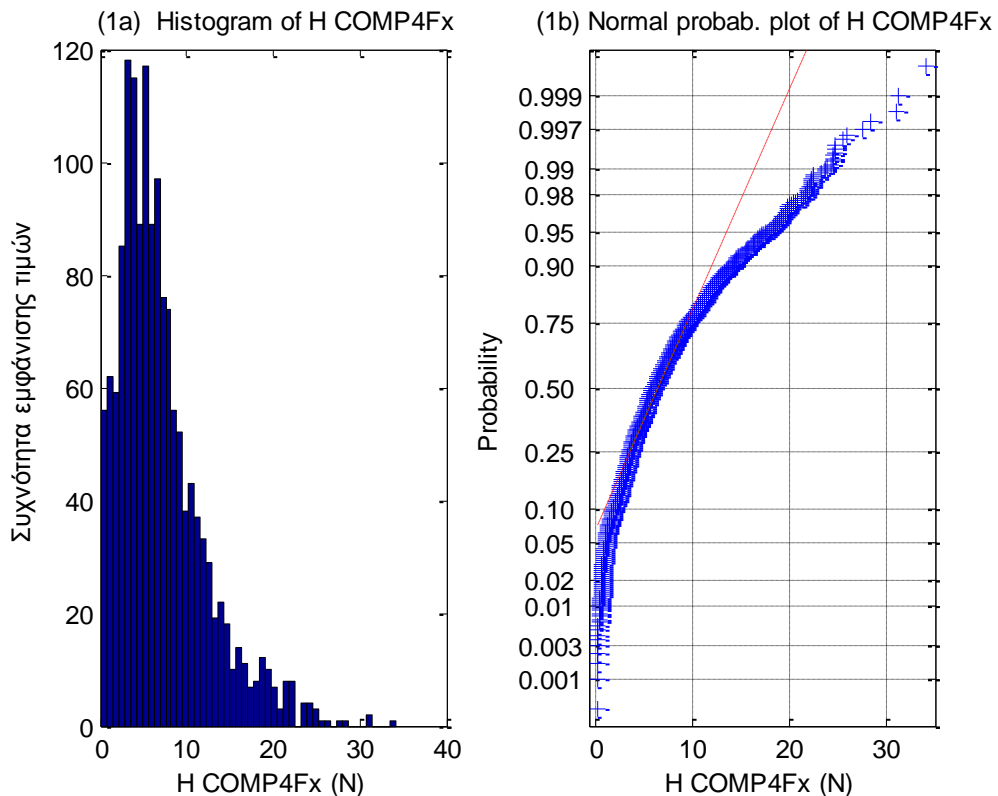


(5b) Normal prob. plot of H COMP6Mz

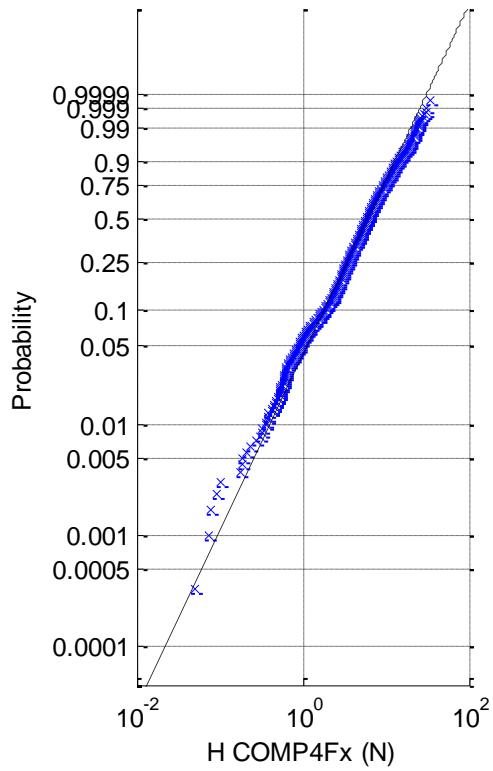
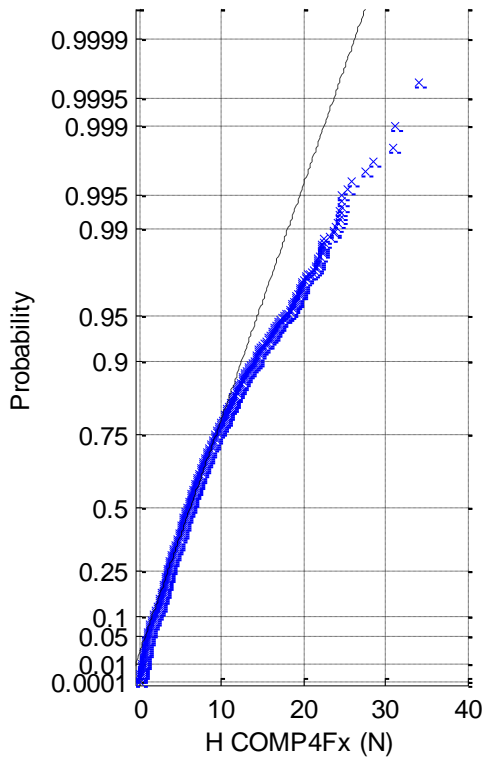




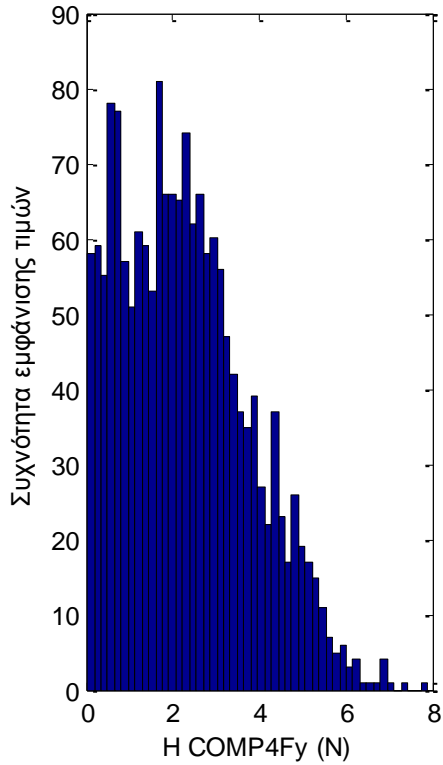
Σχήματα 1.5.6.2 (1-5) a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις δύο διευθύνσεις (1) surge, και (2) sway και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



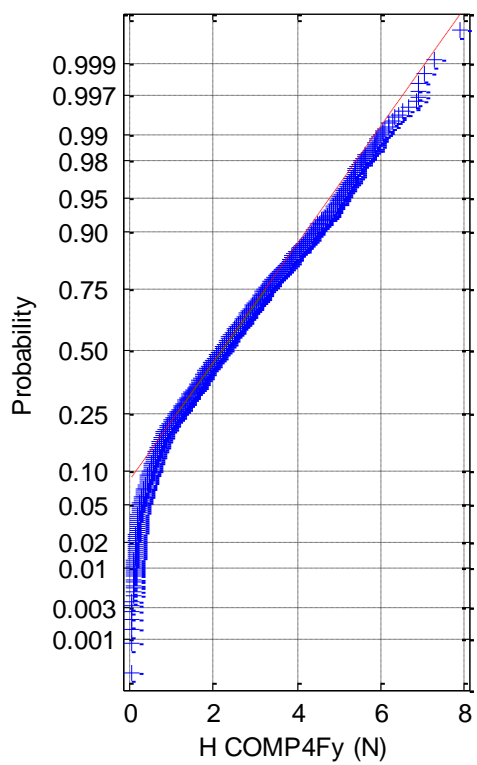
(1c) Rayleigh probab. plot of H COMP4Fx (1d) Weibull probab. plot of H COMP4Fx



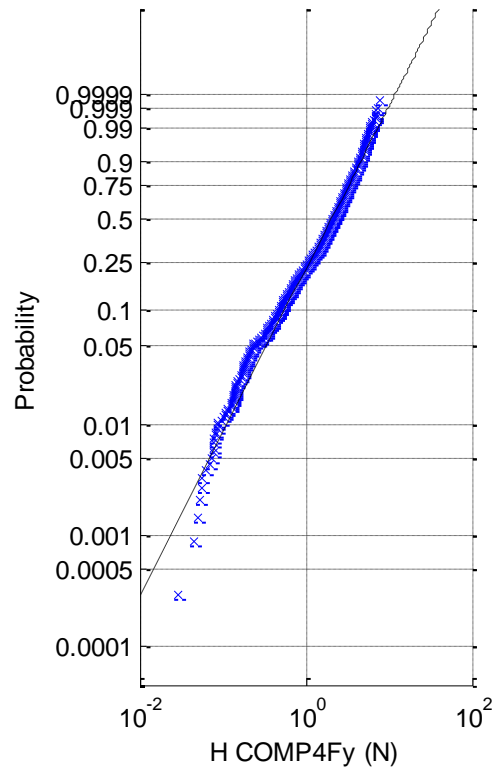
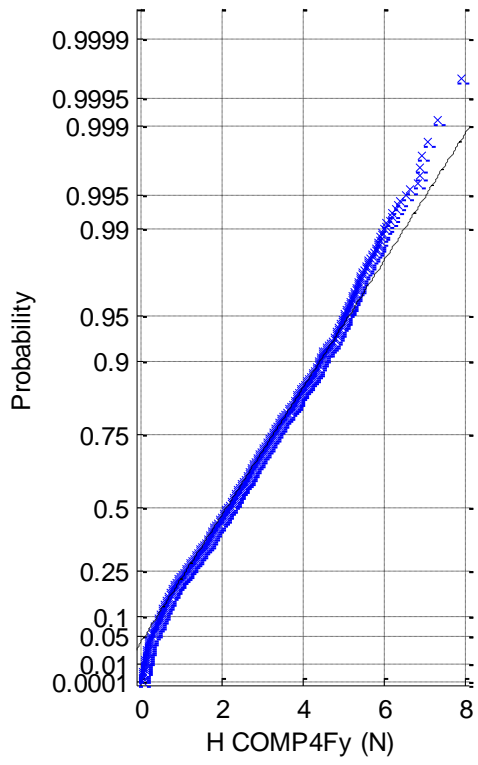
(2a) Histogram of H COMP4Fy



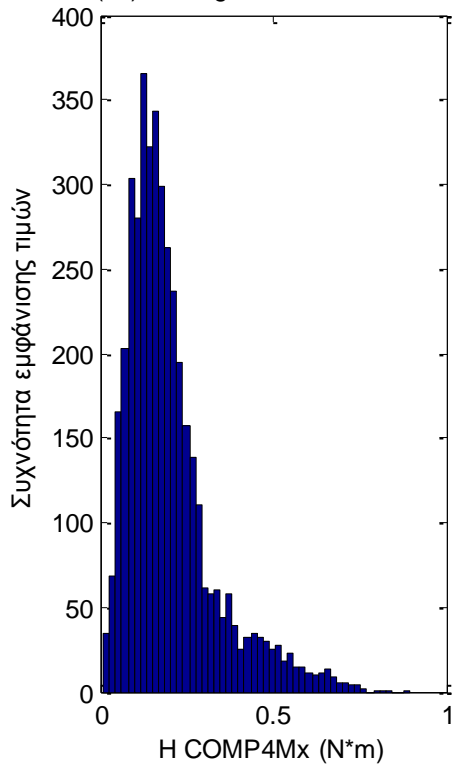
(2b) Normal probab. plot of H COMP4Fy



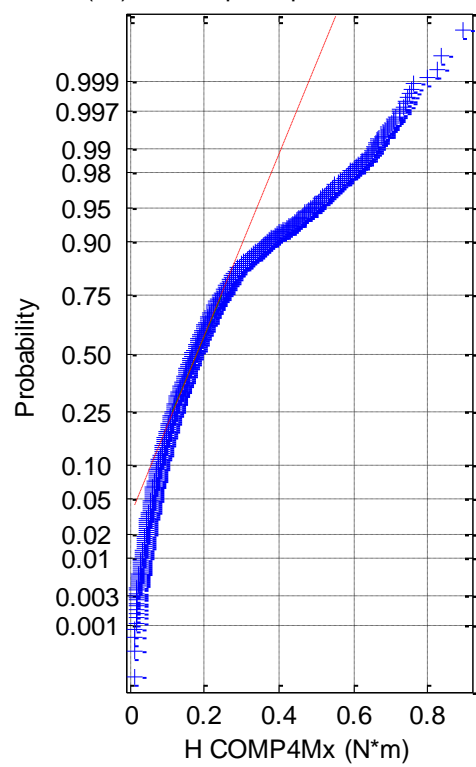
(2c) Rayleigh probab. plot of H COMP4Fy (2d) Weibull probab. plot of H COMP4Fy



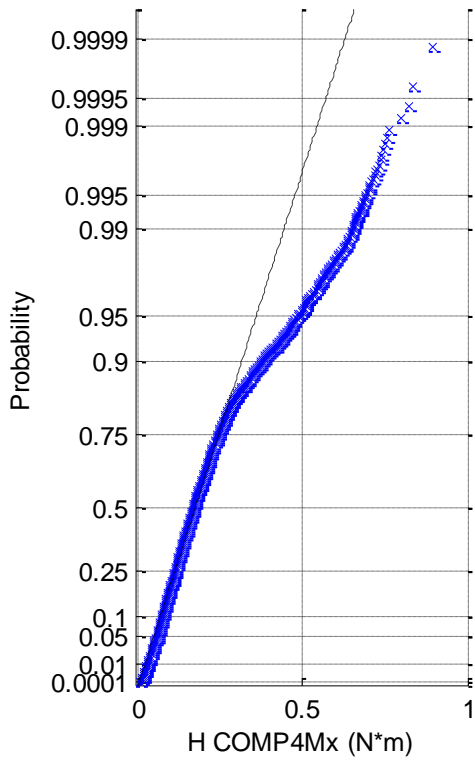
(3a) Histogram of H COMP4Mx



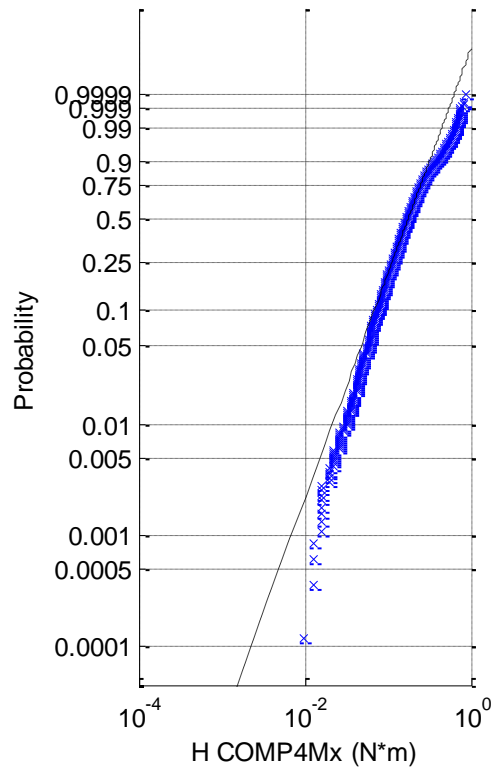
(3b) Normal probab. plot of H COMP4Mx



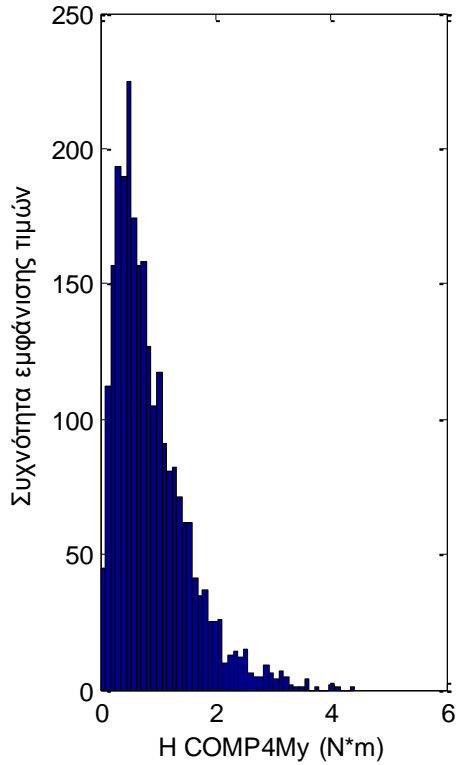
(3c) Rayleigh prob. plot of H COMP4Mx



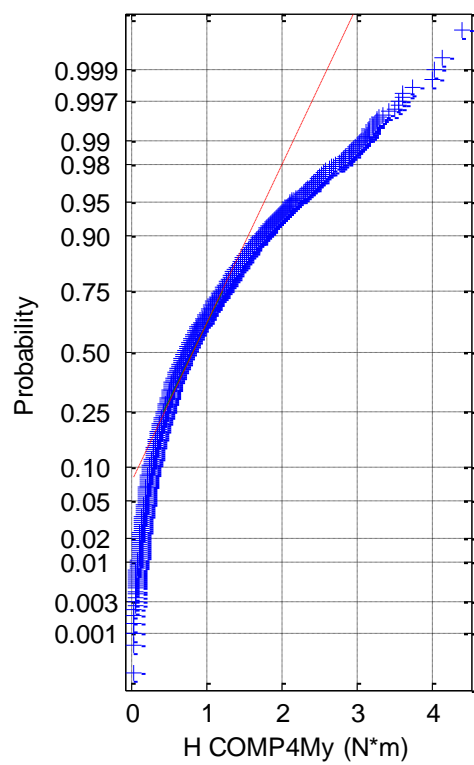
(3d) Weibull prob. plot of H COMP4Mx

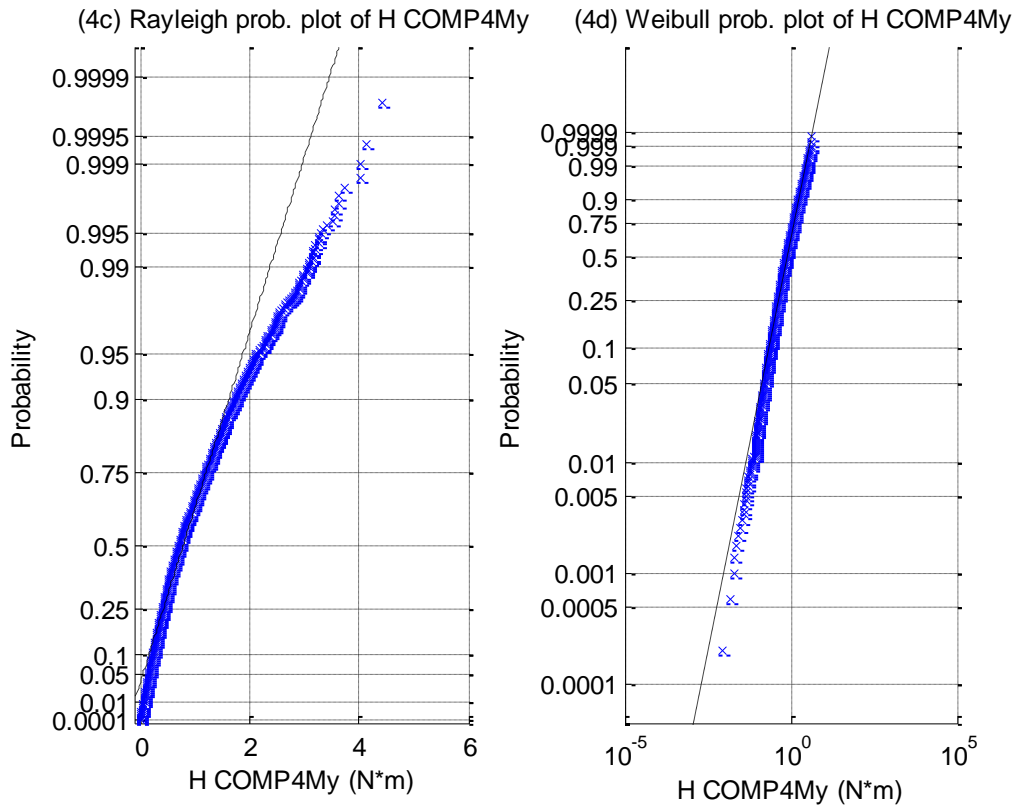


(4a) Histogram of H COMP4My

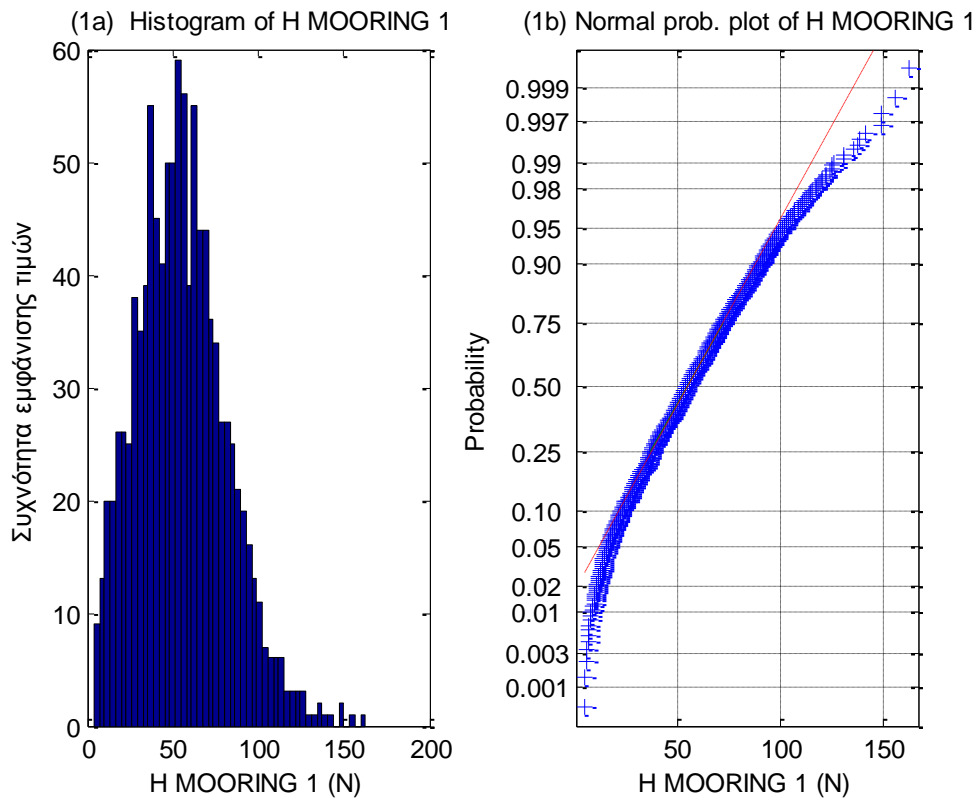


(4b) Normal prob. plot of H COMP4My

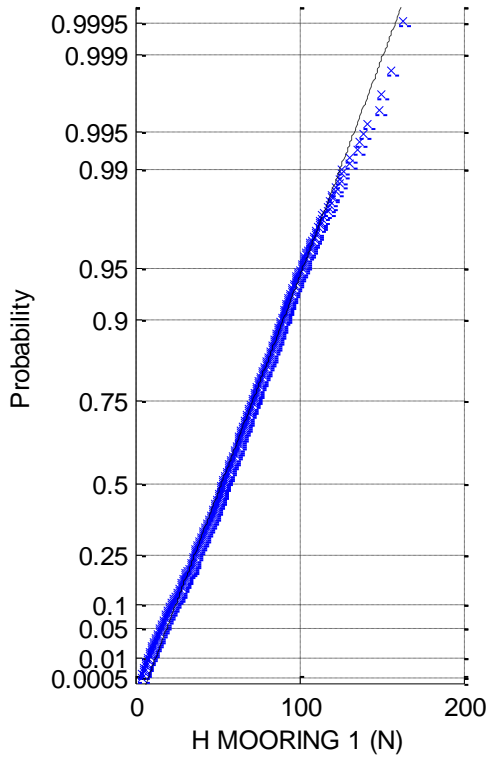




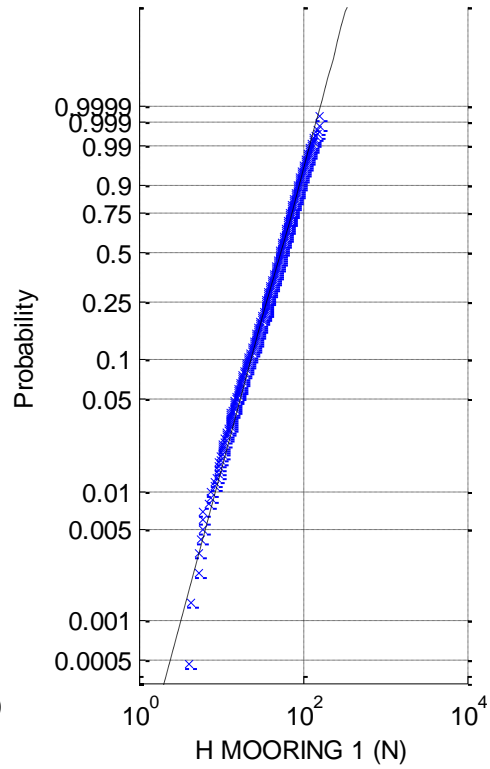
Σχήματα 1.5.6.3 (1-4) a) Ιστογράμματα, b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



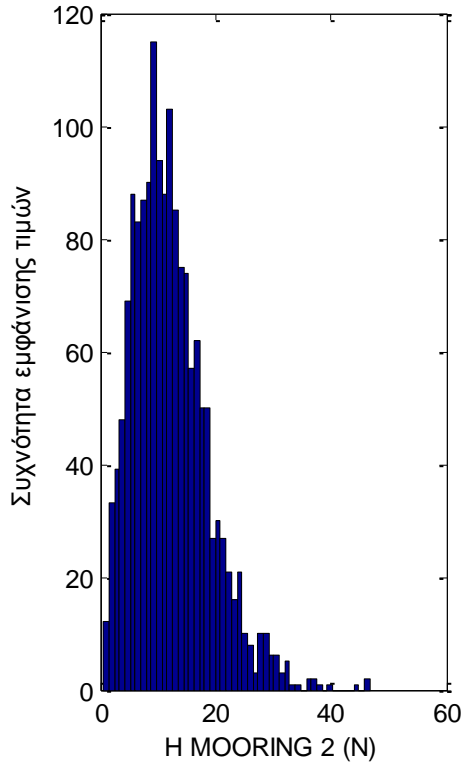
(1c) Rayleigh prob. plot of H MOORING 1



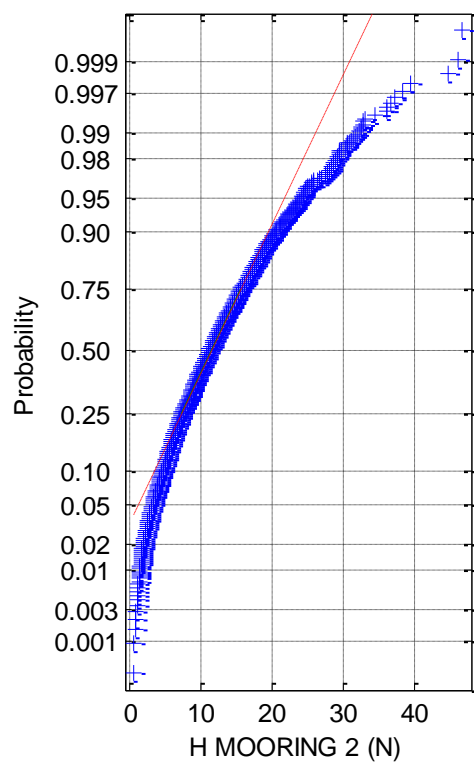
(1d) Weibull prob. plot of H MOORING 1



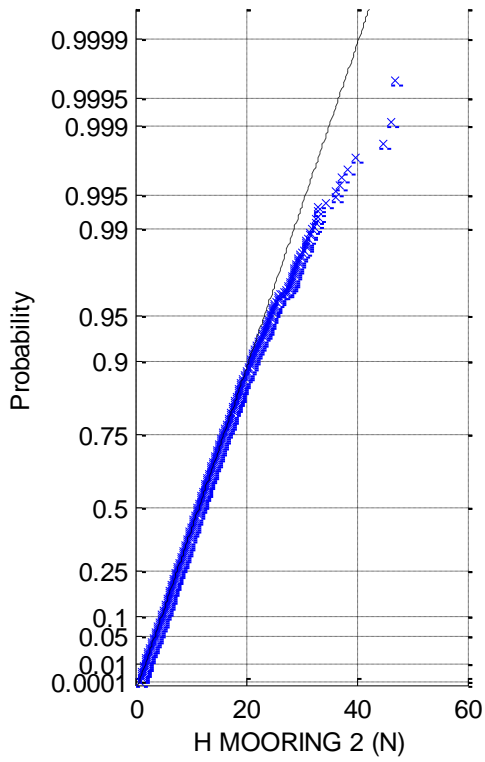
(2a) Histogram of H MOORING 2



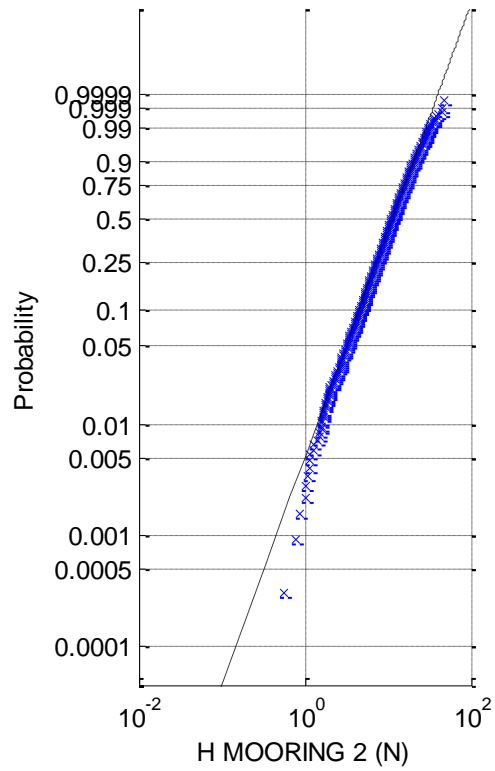
(2b) Normal prob. plot of H MOORING 2



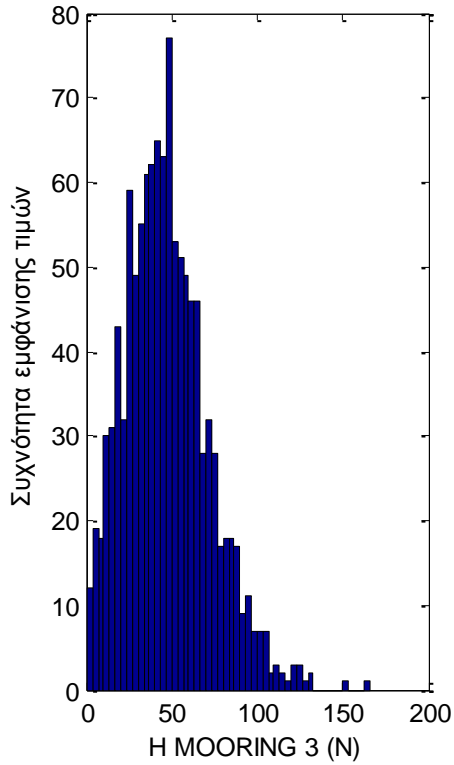
(2c) Rayleigh prob. plot of H MOORING 2



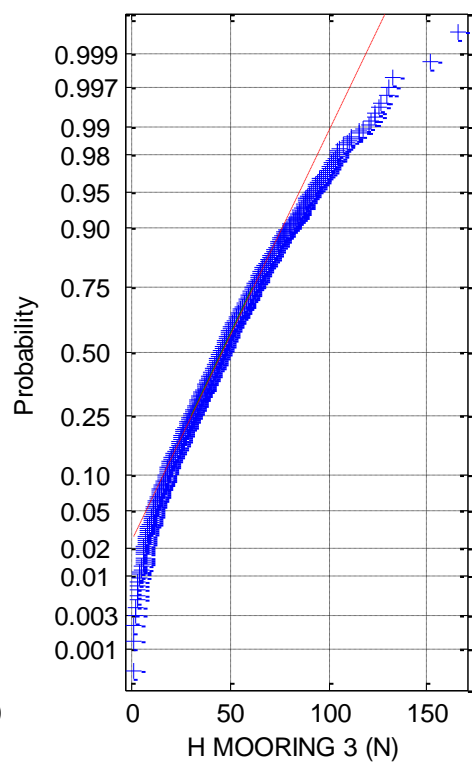
(2d) Weibull prob. plot of H MOORING 2



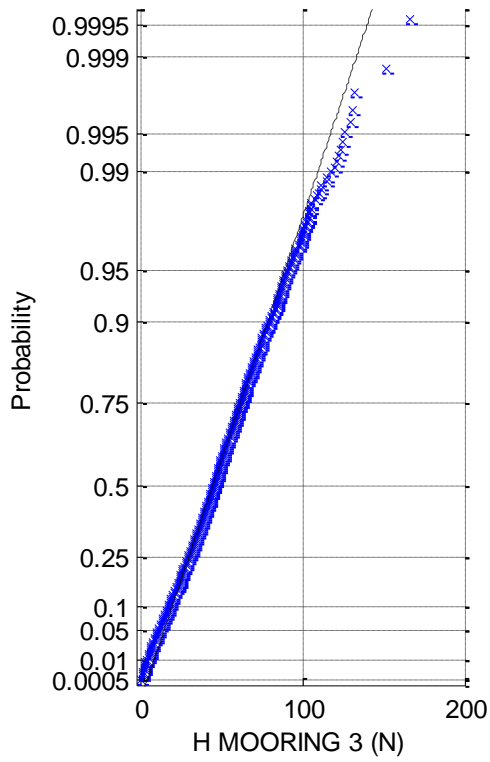
(3a) Histogram of H MOORING 3



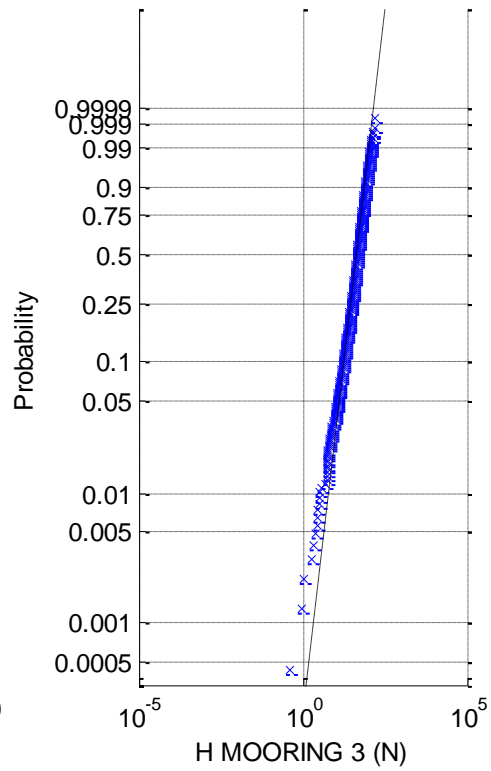
(3b) Normal prob. plot of H MOORING 3



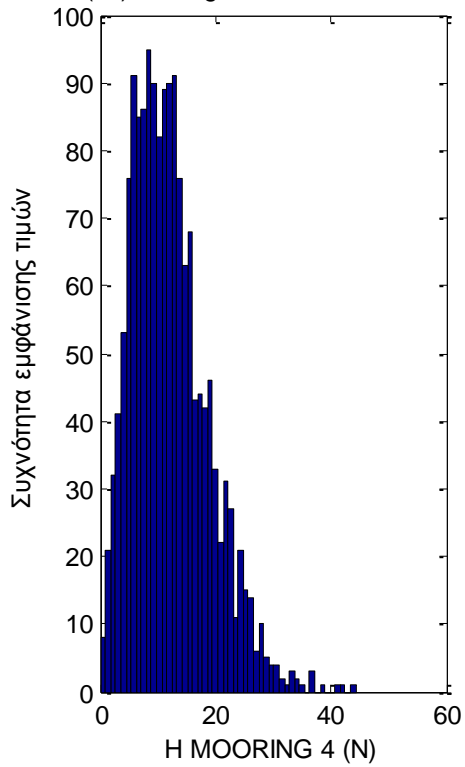
(3c) Rayleigh prob. plot of H MOORING 3



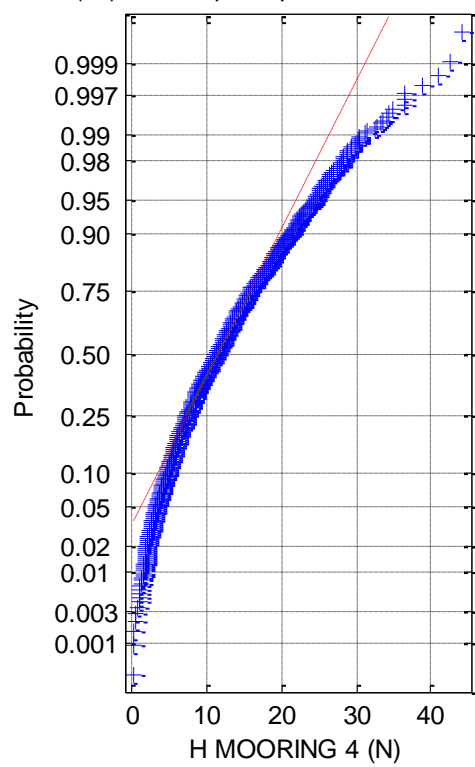
(3d) Weibull prob. plot of H MOORING 3

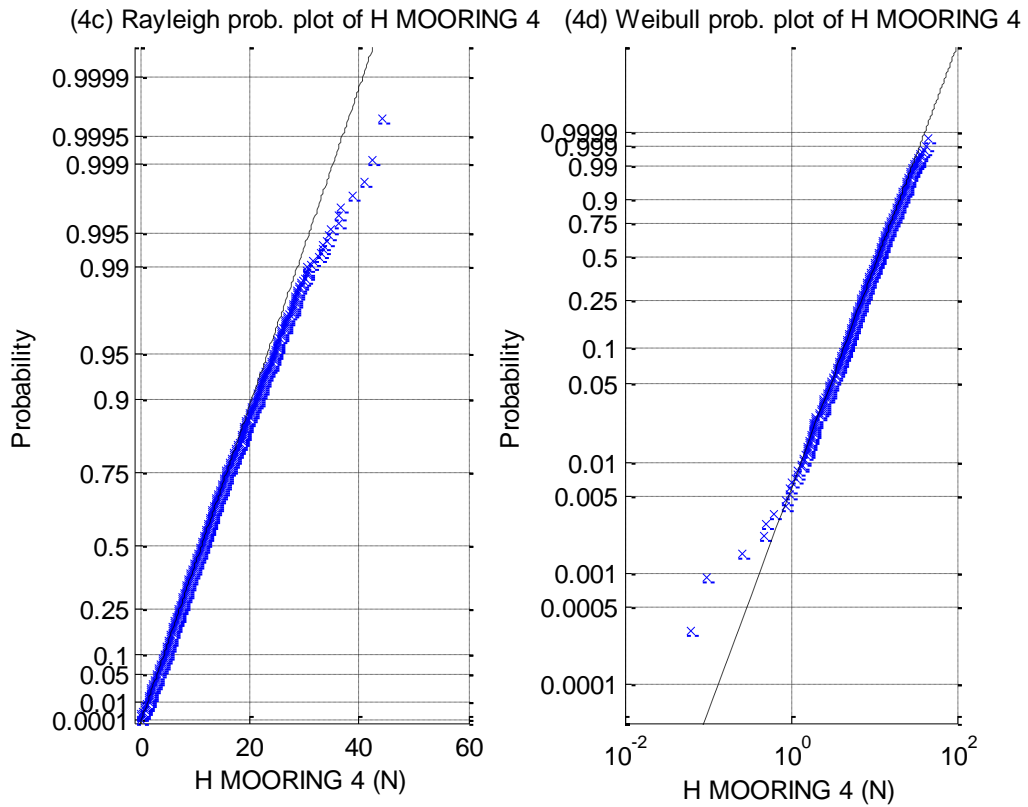


(4a) Histogram of H MOORING 4

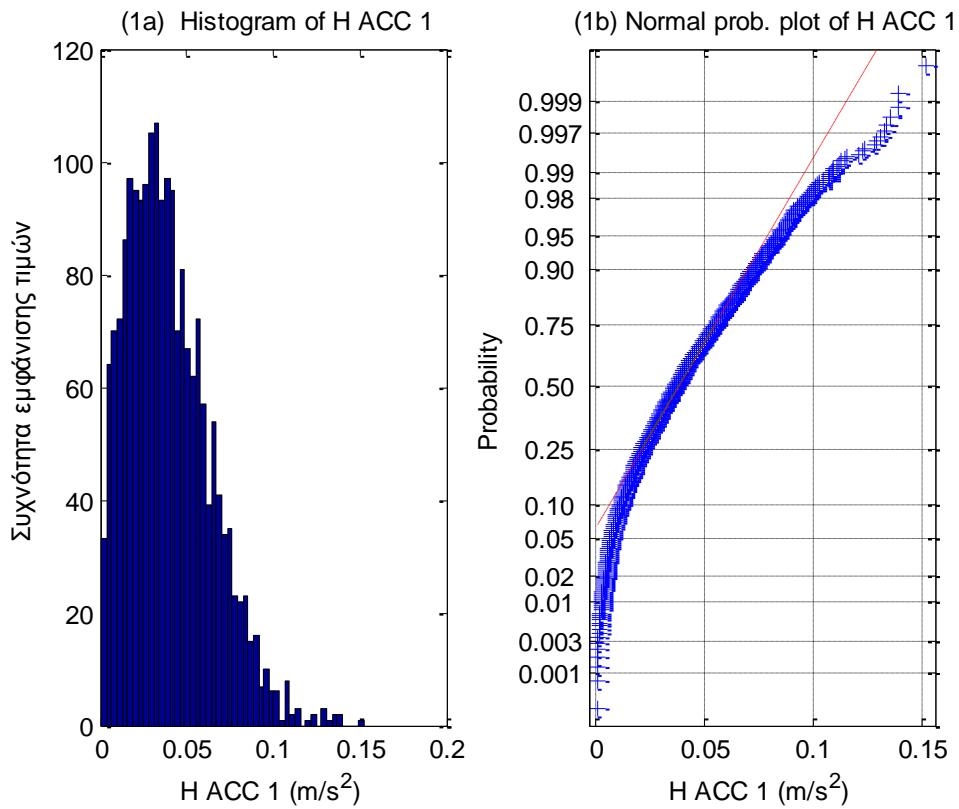


(4b) Normal prob. plot of H MOORING 4

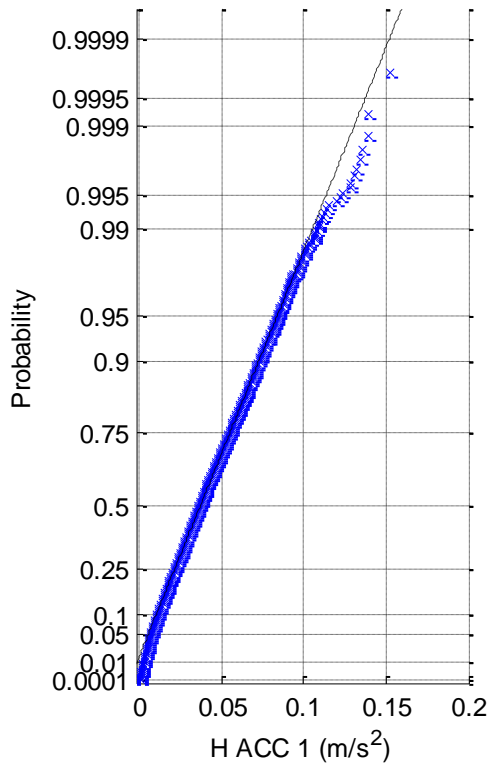




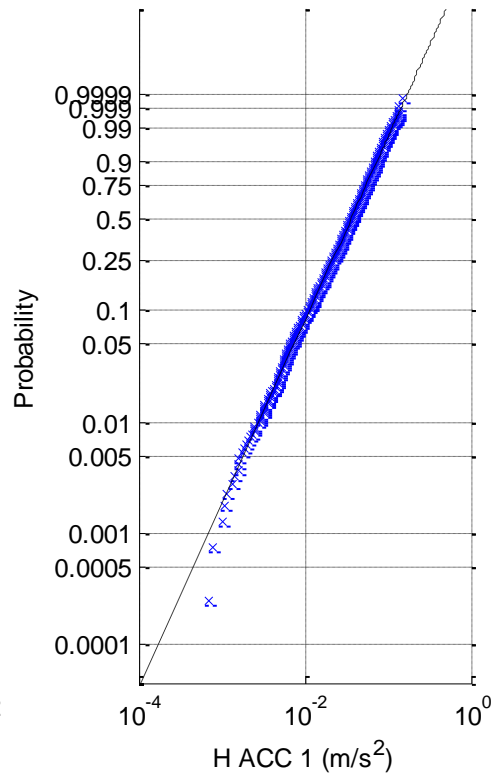
Σχήματα 1.5.6.4 (1-4) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις 4 γραμμές αγκύρωσης



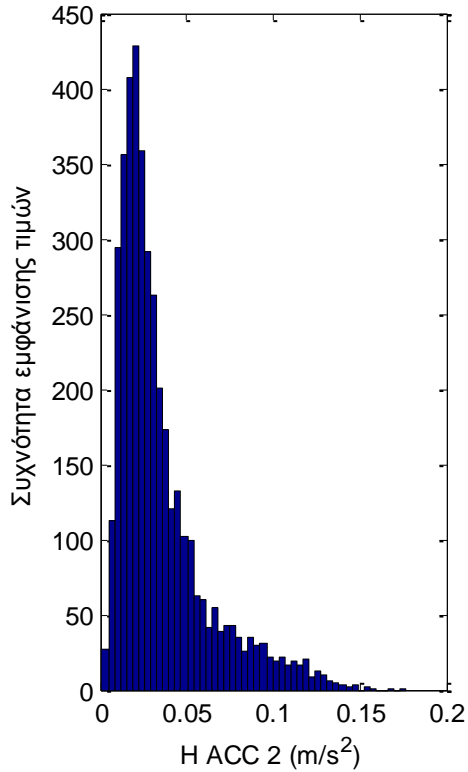
(1c) Rayleigh prob. plot of H ACC 1



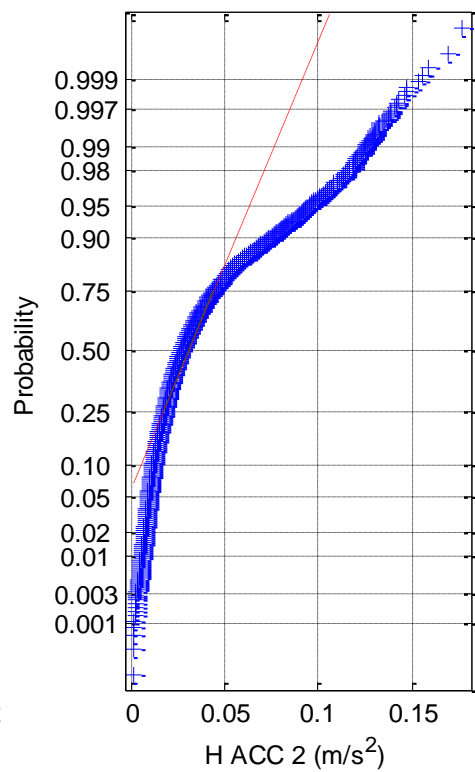
(1d) Weibull prob. plot of H ACC 1



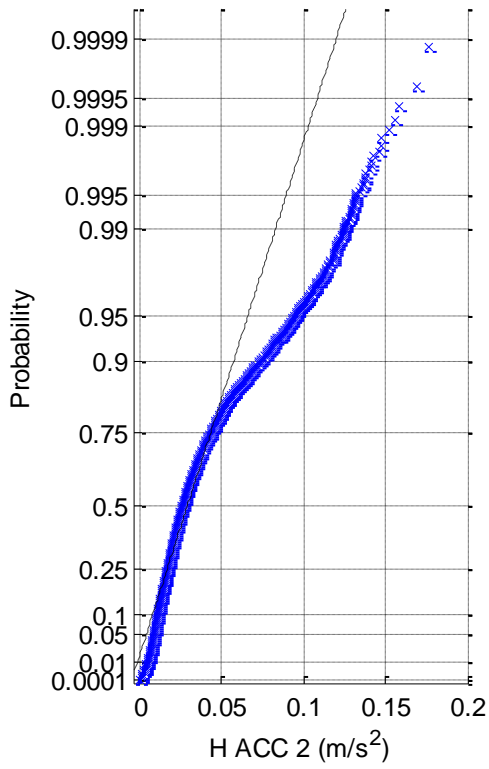
(2a) Histogram of H ACC 2



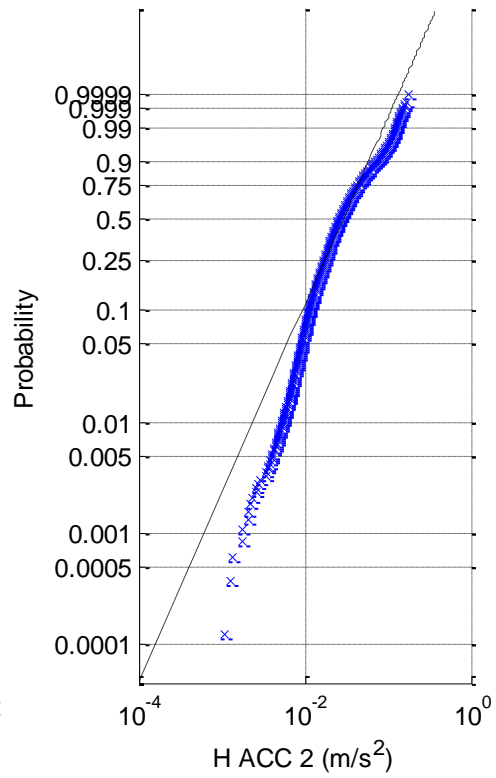
(2b) Normal prob. plot of H ACC 2



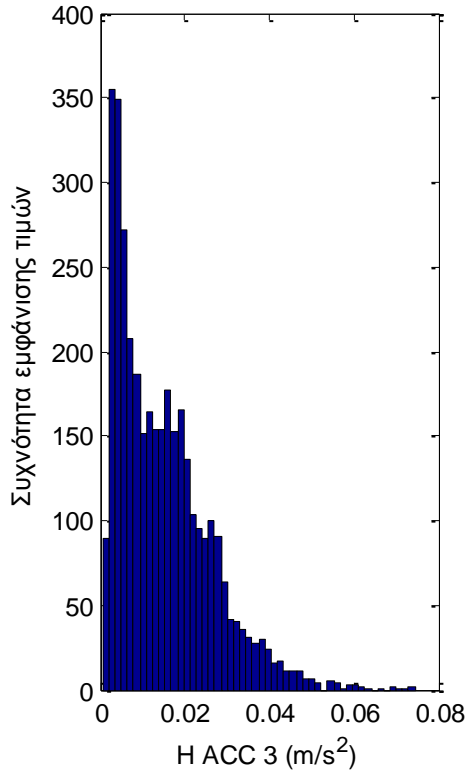
(2c) Rayleigh prob. plot of H ACC 2



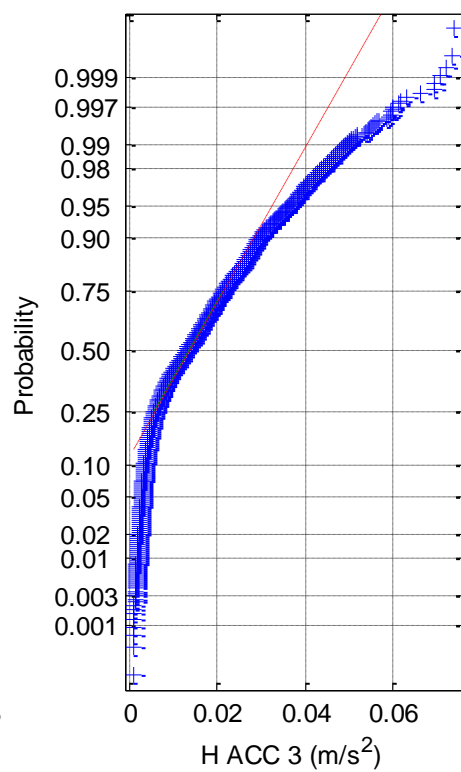
(2d) Weibull prob. plot of H ACC 2

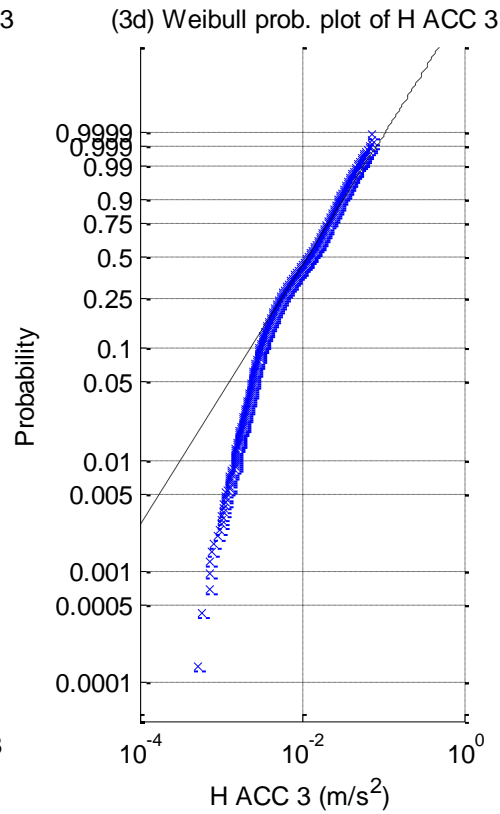
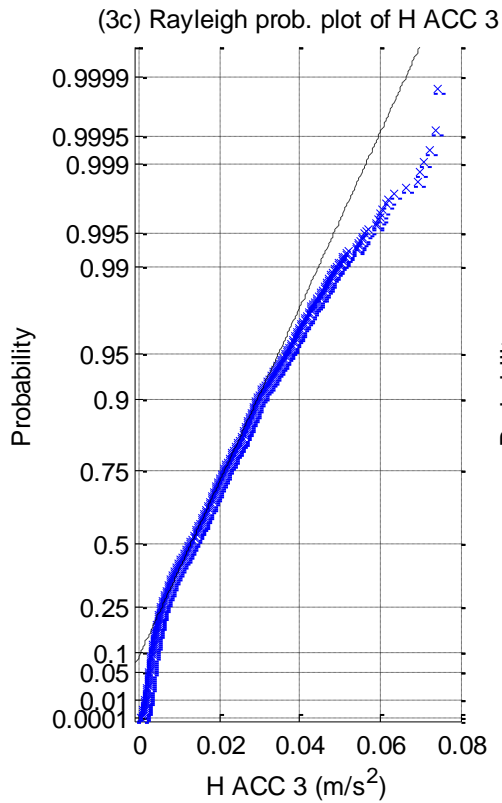


(3a) Histogram of H ACC 3

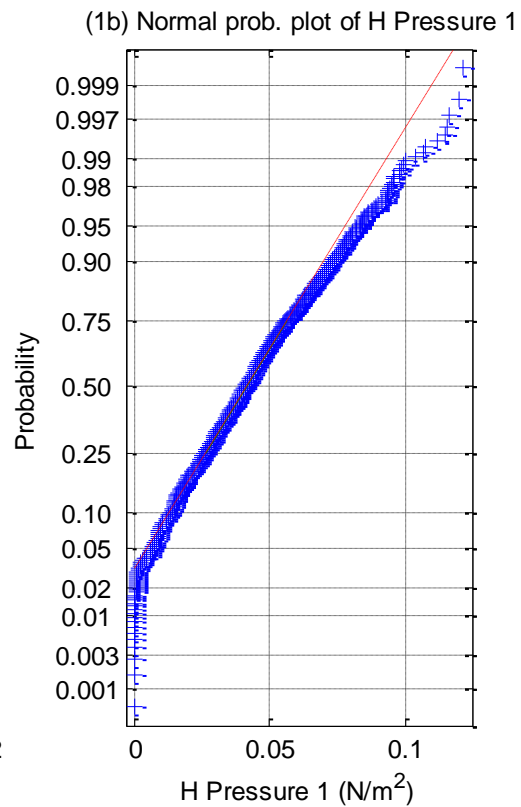
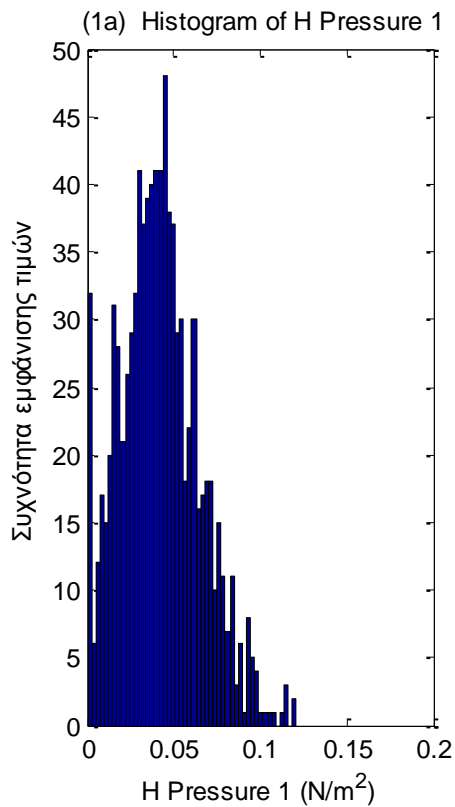


(3b) Normal prob. plot of H ACC 3

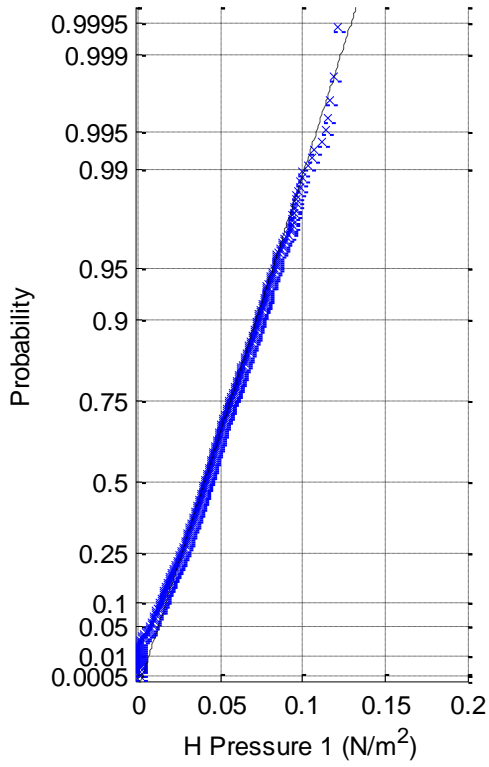




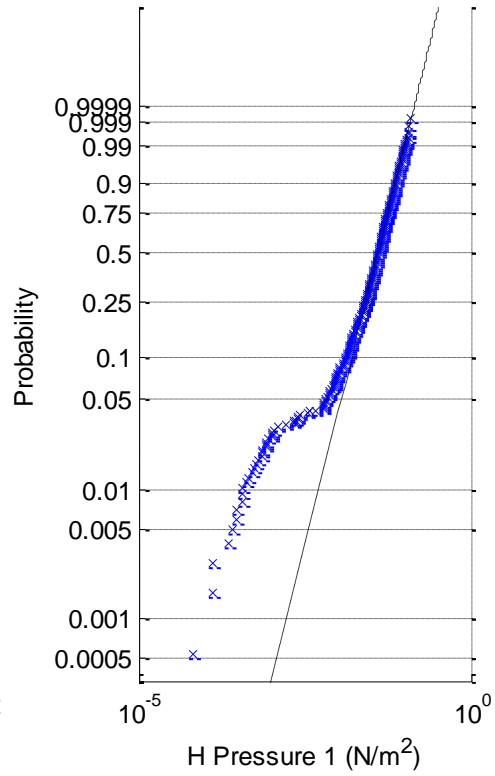
Σχήματα 1.5.6.5 (1-3) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



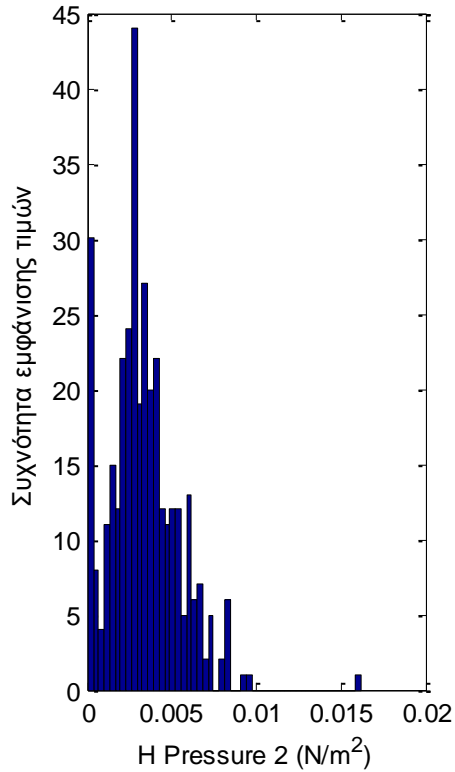
(1c) Rayleigh prob. plot of H Pressure 1



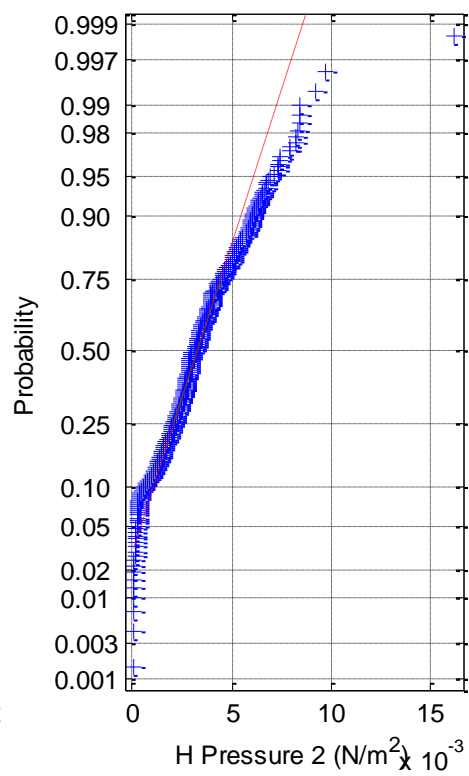
(1d) Weibull prob. plot of H Pressure 1

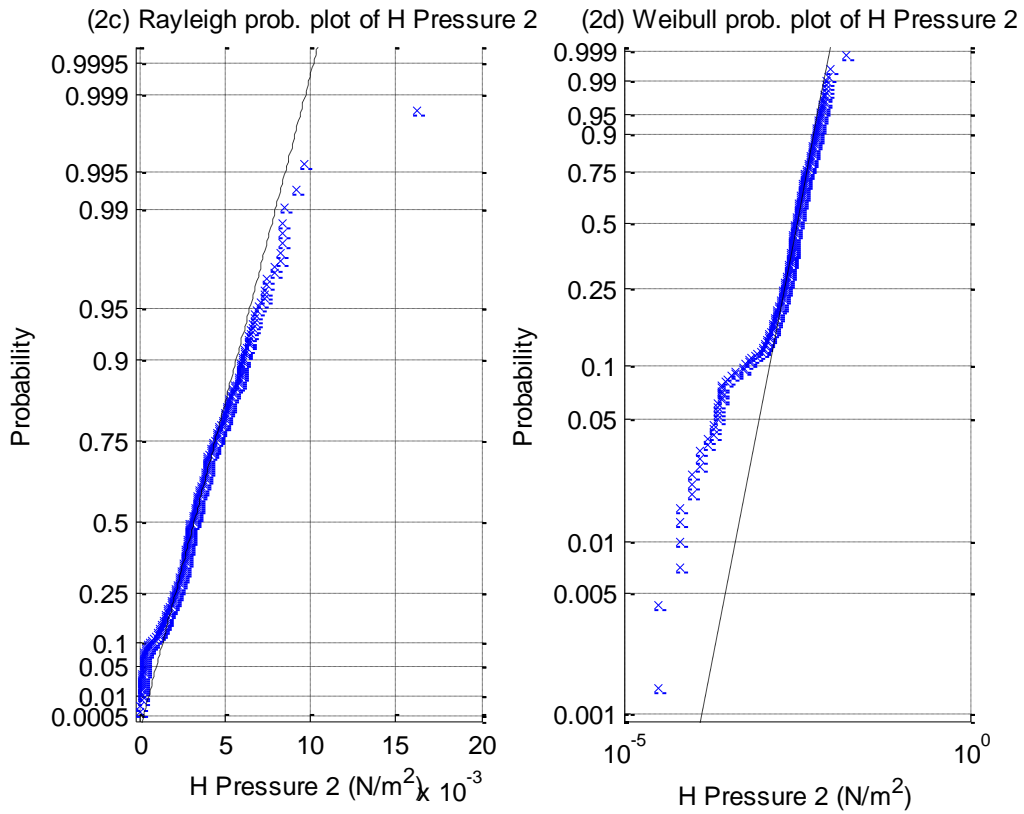


(2a) Histogram of H Pressure 2

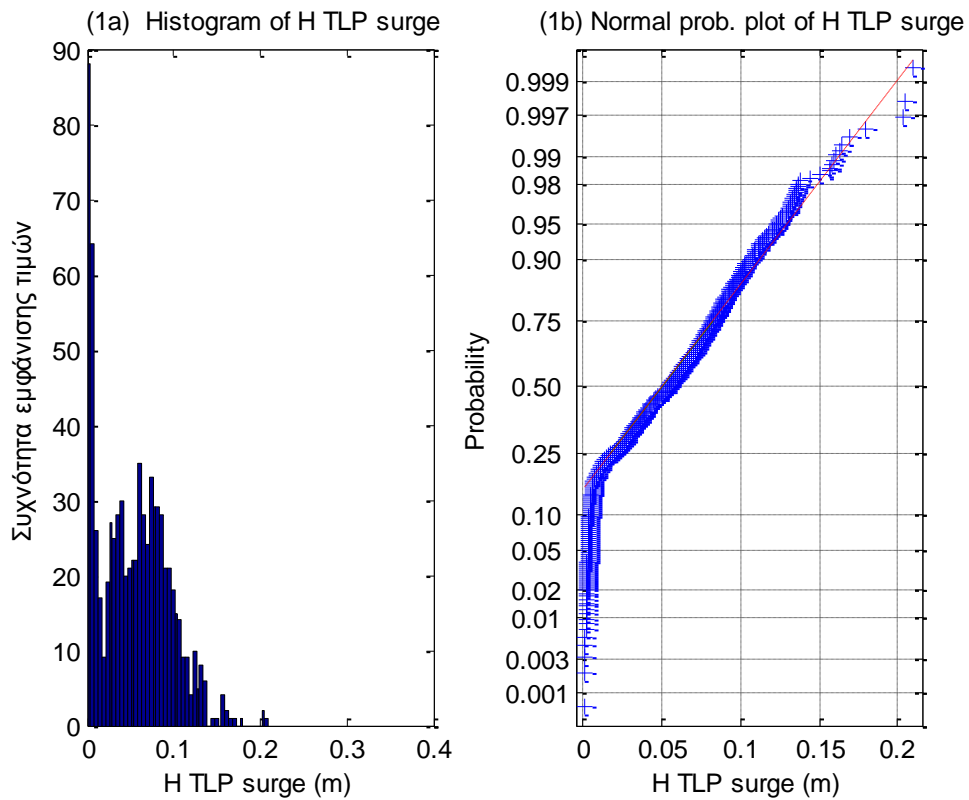


(2b) Normal prob. plot of H Pressure 2

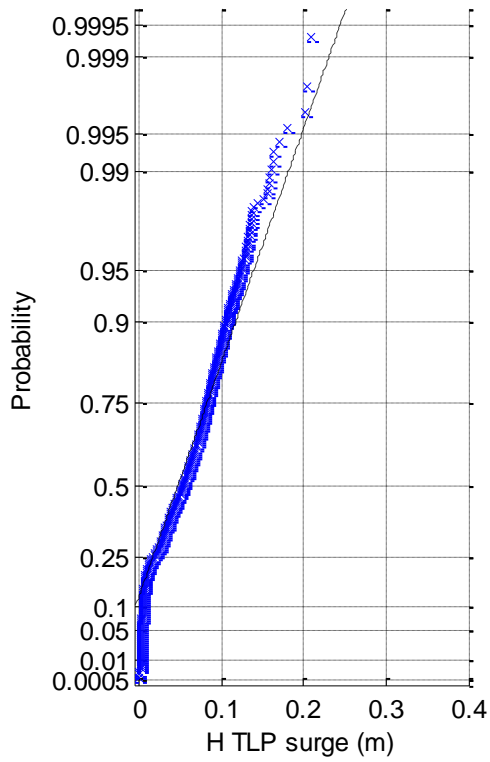




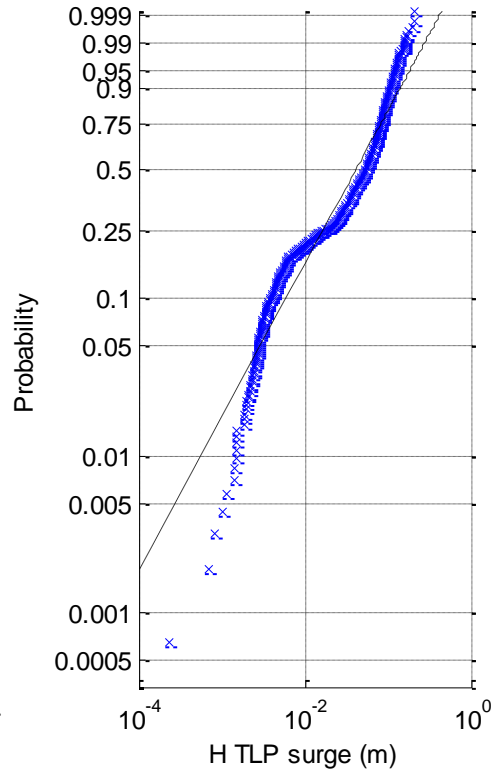
Σχήματα 1.5.6.6 (1-2) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα δύο όργανα μέτρησης της πίεσης



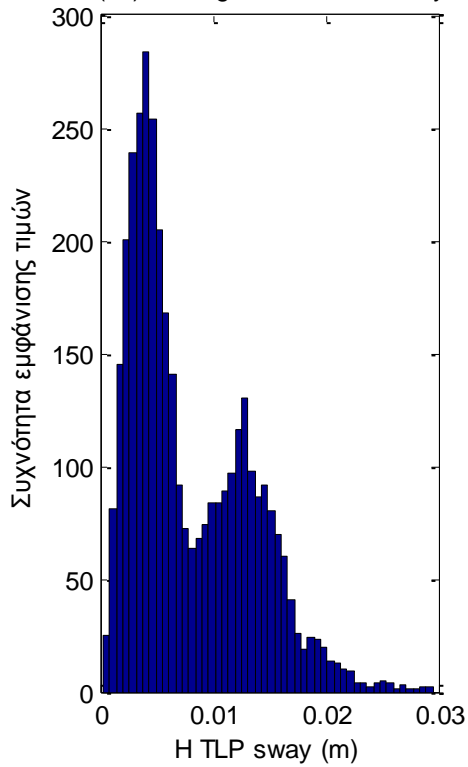
(1c) Rayleigh prob. plot of H TLP surge



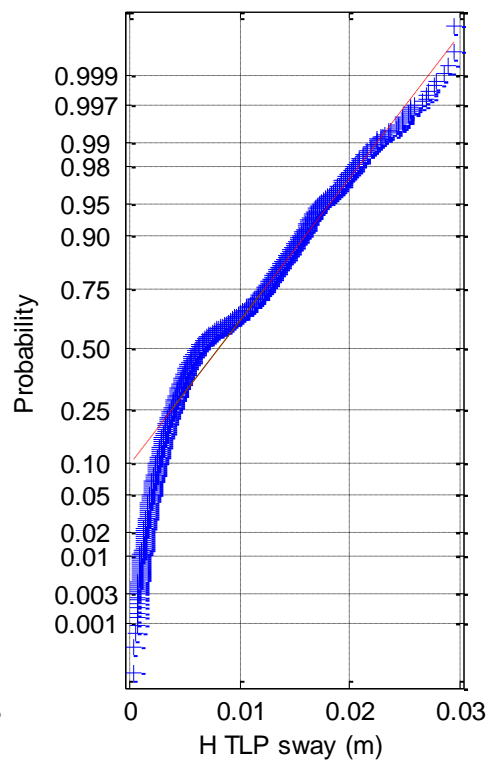
(1d) Weibull prob. plot of H TLP surge



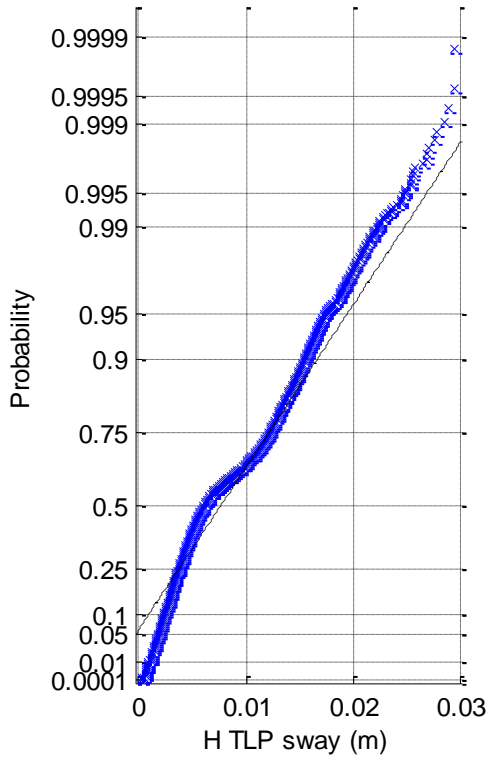
(2a) Histogram of H TLP sway



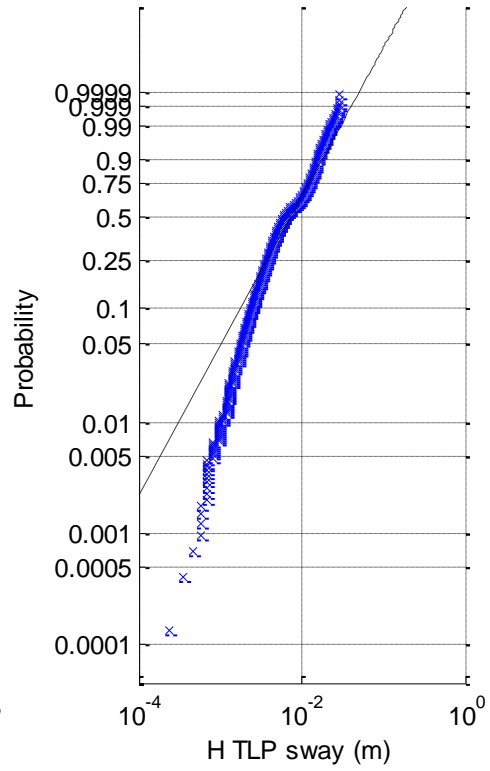
(2b) Normal prob. plot of H TLP sway



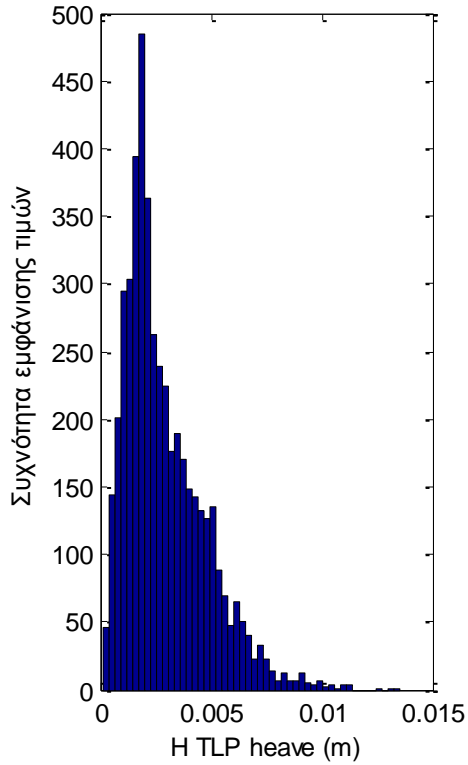
(2c) Rayleigh prob. plot of H TLP sway



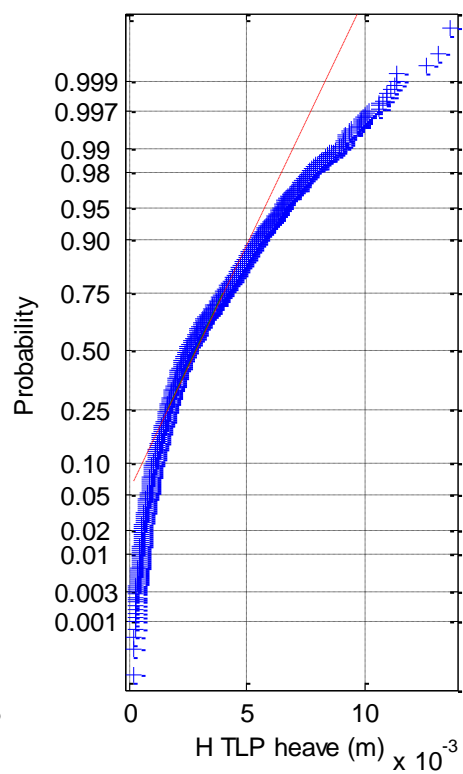
(2d) Weibull prob. plot of H TLP sway



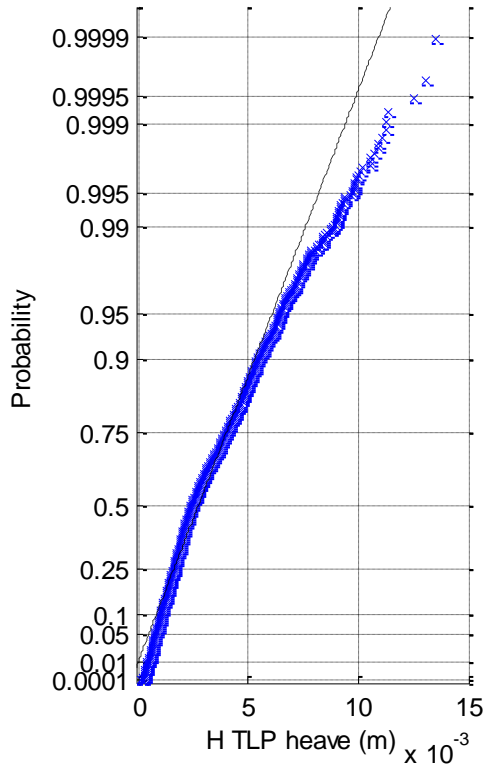
(3a) Histogram of H TLP heave



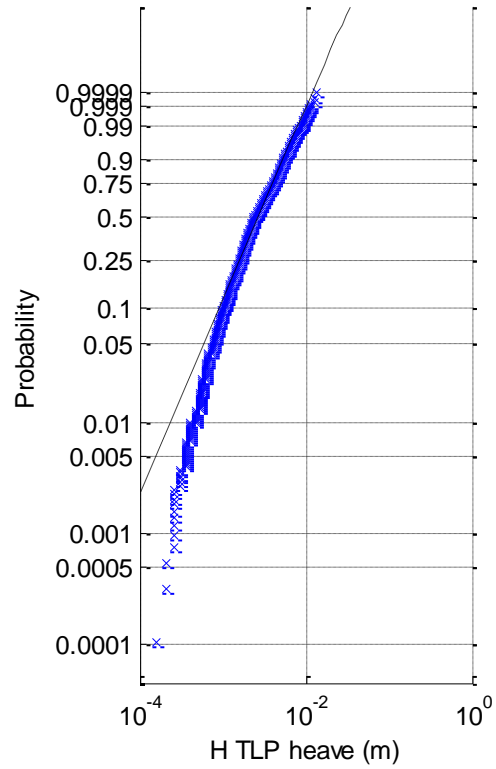
(3b) Normal prob. plot of H TLP heave



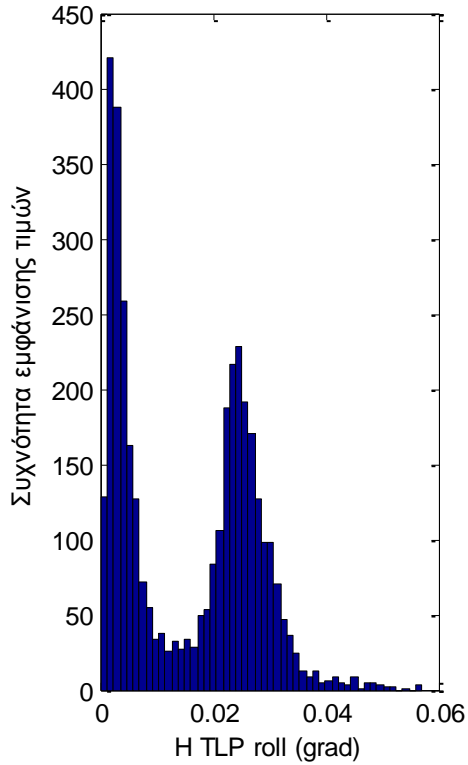
(3c) Rayleigh prob. plot of H TLP heave



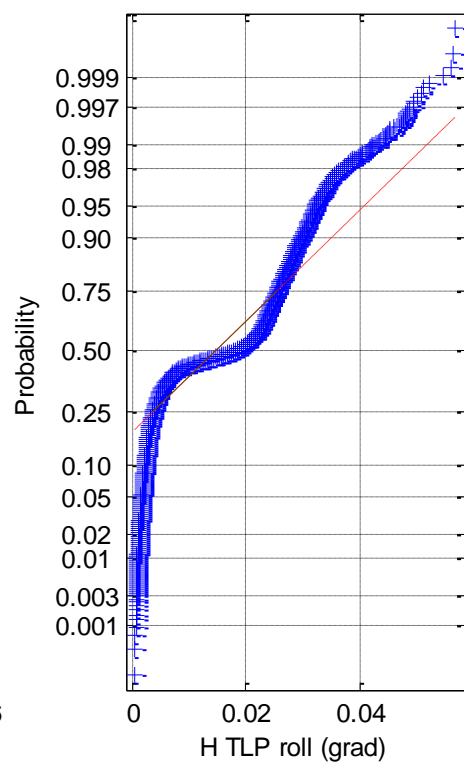
(3d) Weibull prob. plot of H TLP heave



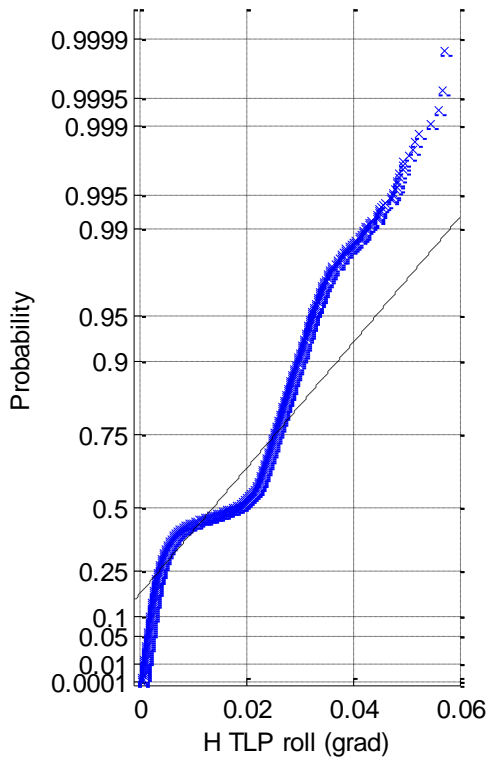
(4a) Histogram of H TLP roll



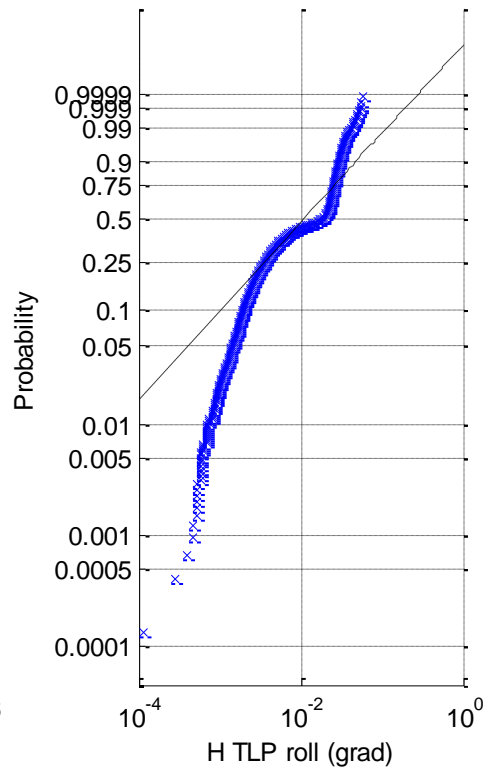
(4b) Normal prob. plot of H TLP roll



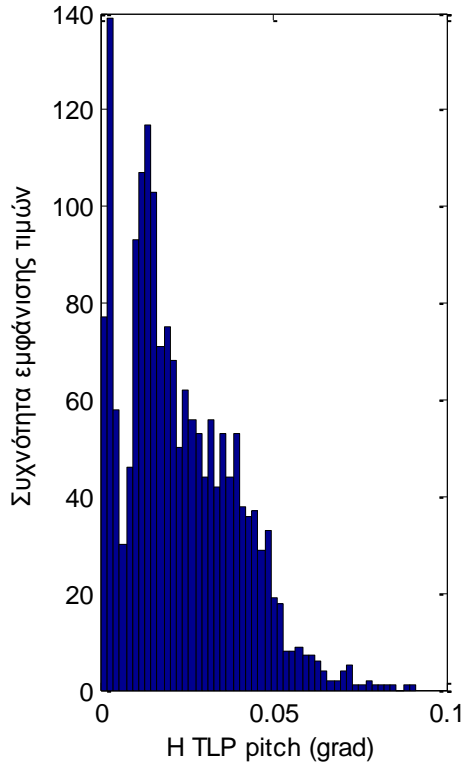
(4c) Rayleigh prob. plot of H TLP roll



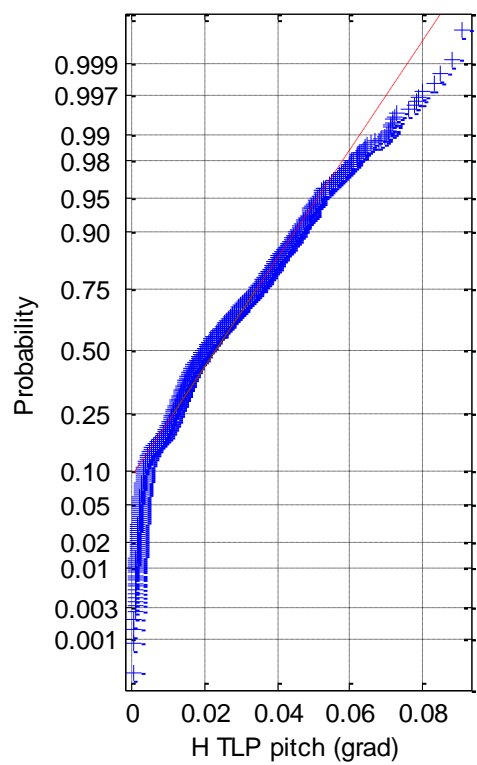
(4d) Weibull prob. plot of H TLP roll



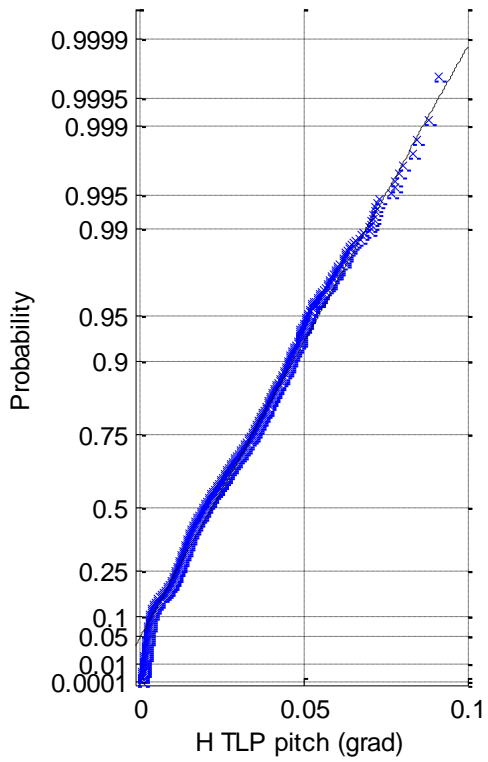
(5a) Histogram of H TLP pitch



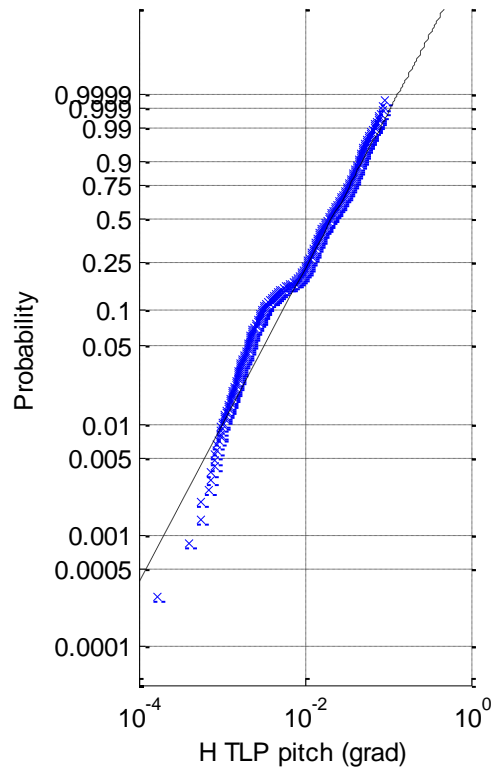
(5b) Normal prob. plot of H TLP pitch



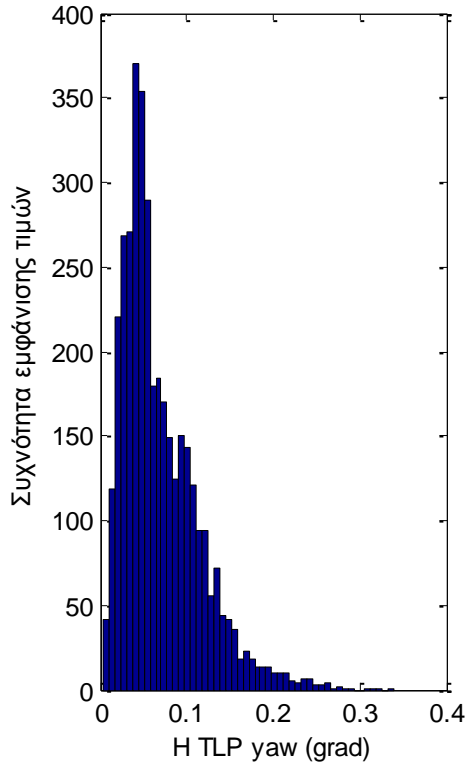
(5c) Rayleigh prob. plot of H TLP pitch



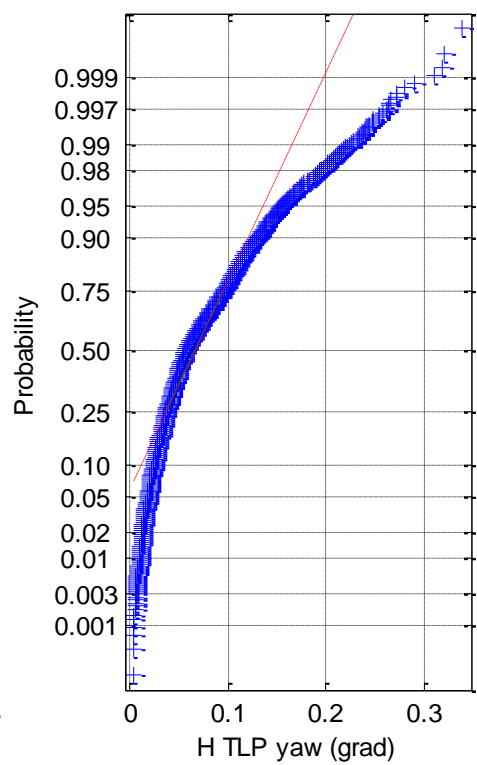
(5d) Weibull prob. plot of H TLP pitch

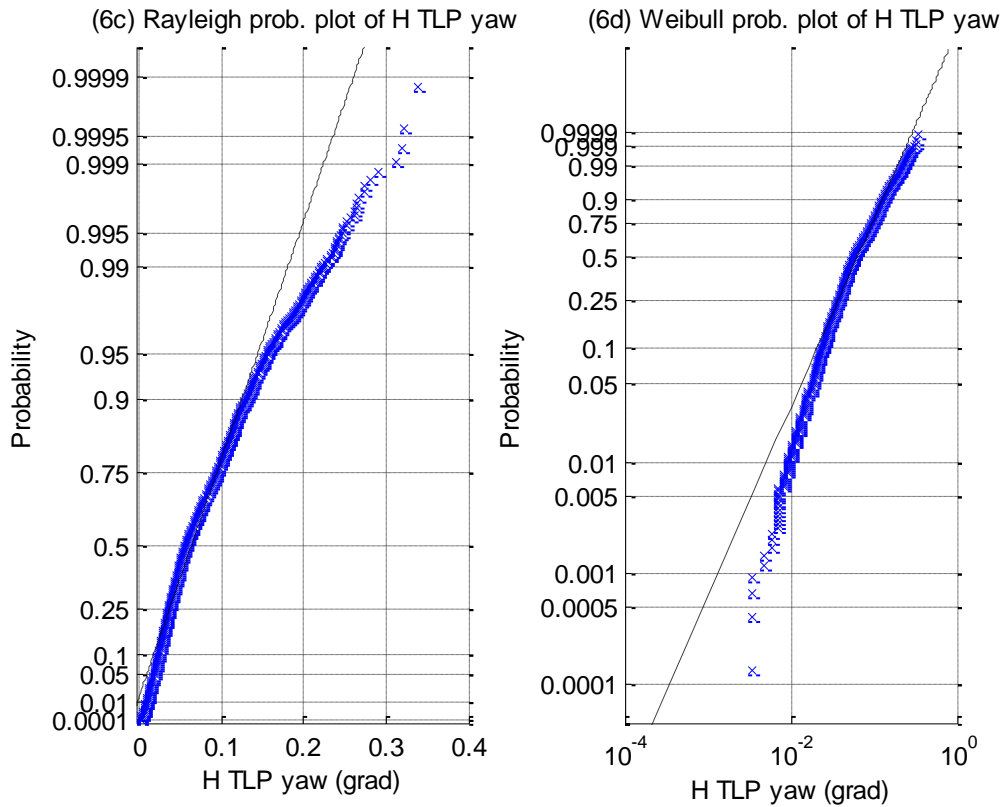


(6a) Histogram of H TLP yaw

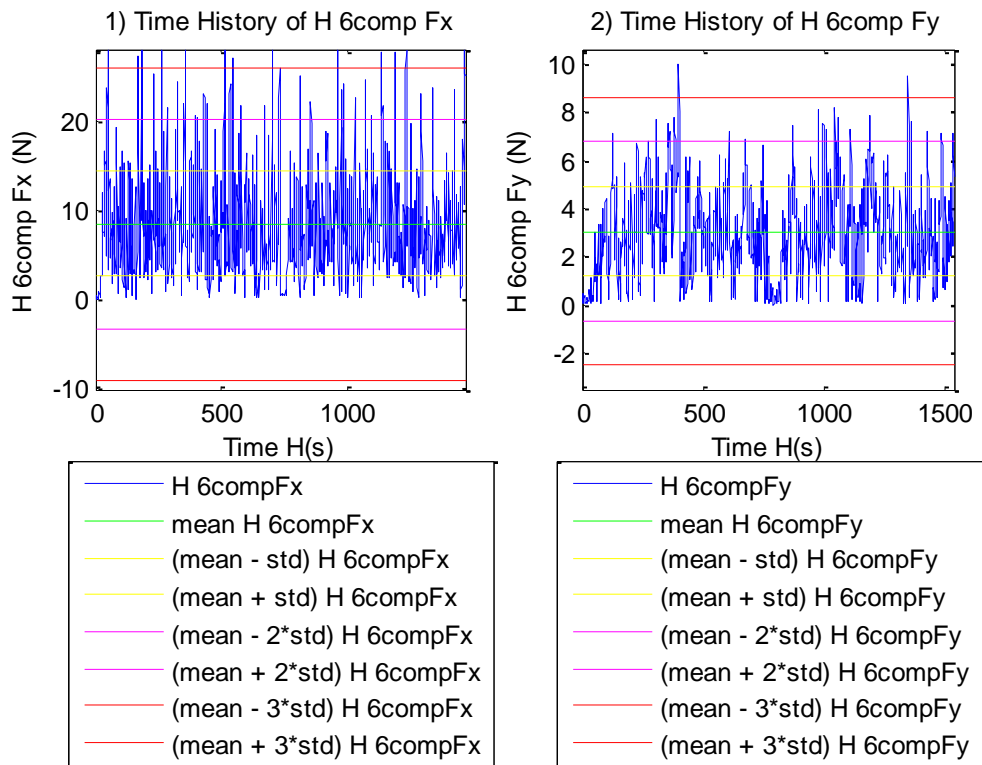


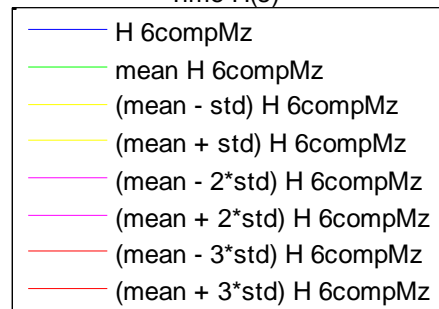
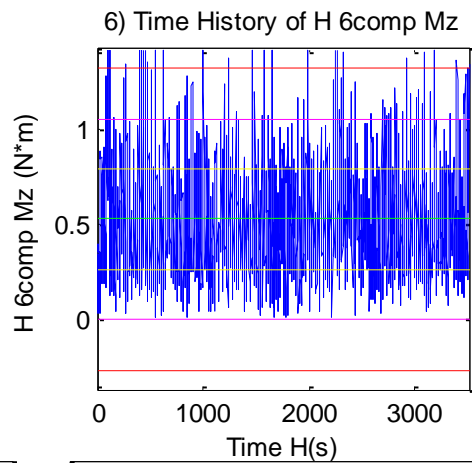
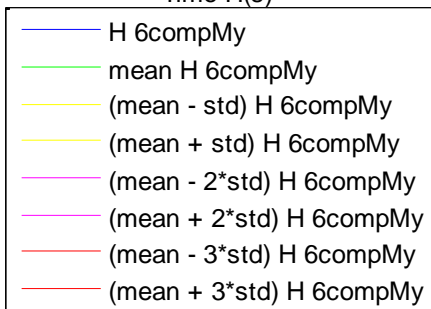
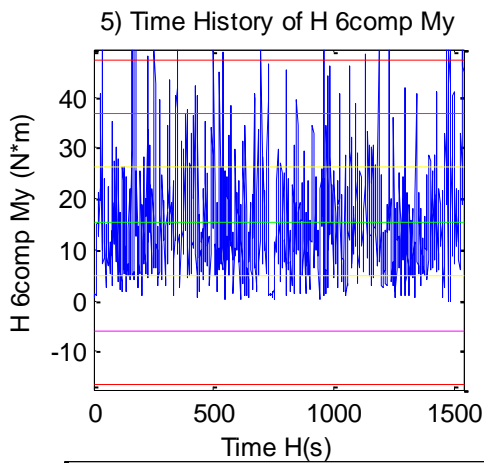
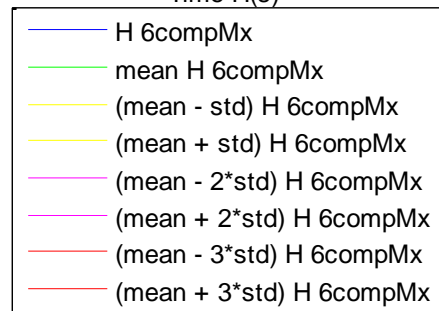
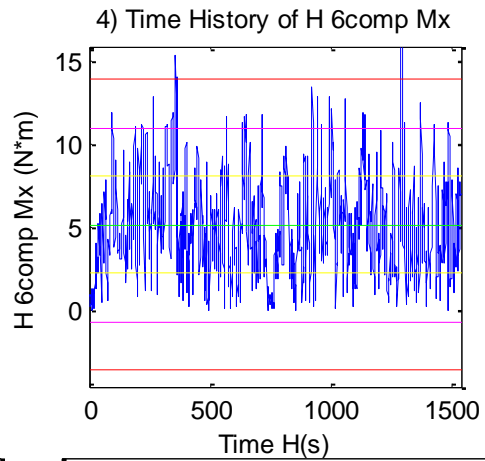
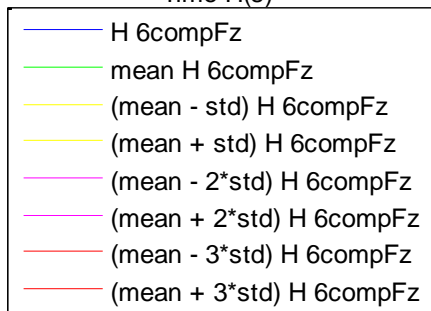
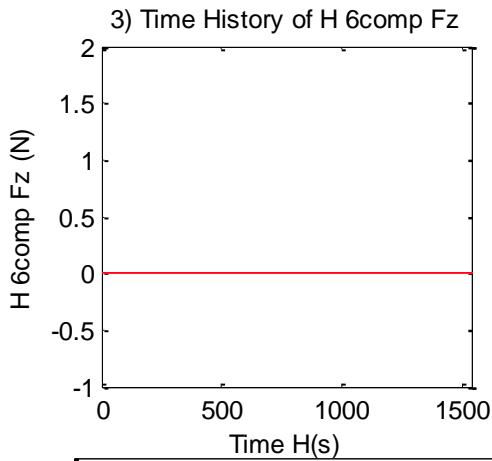
(6b) Normal prob. plot of H TLP yaw



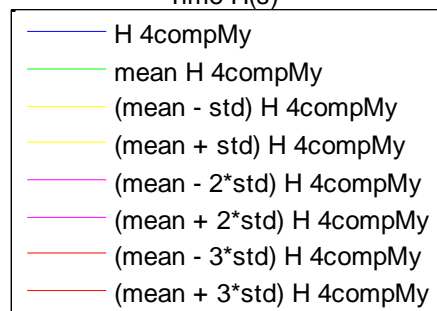
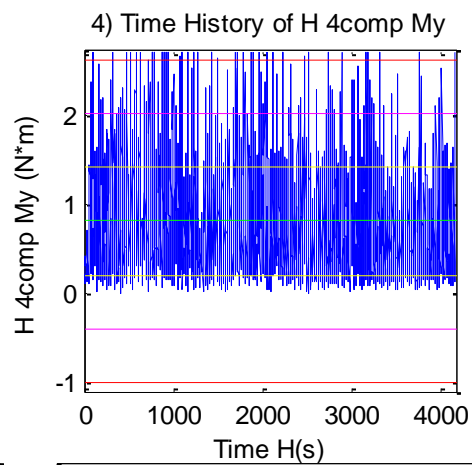
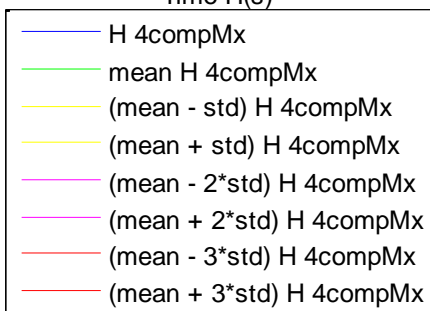
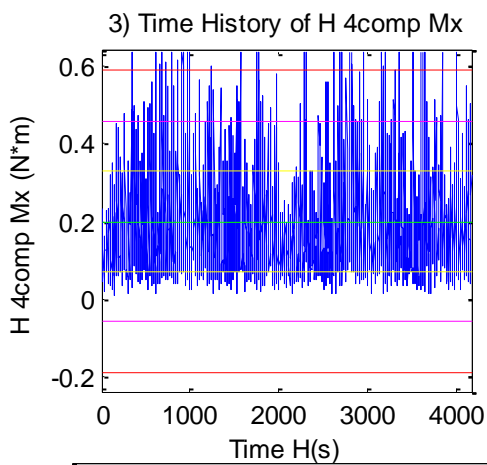
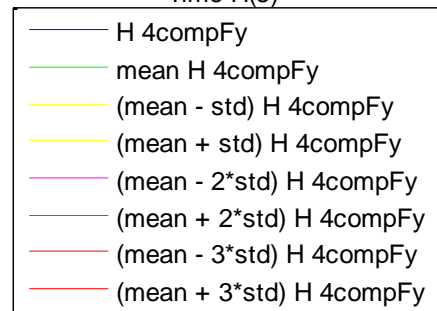
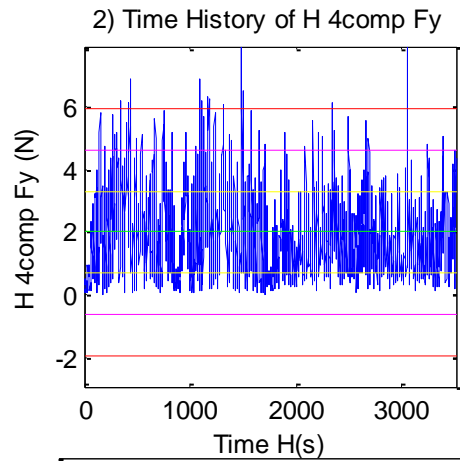
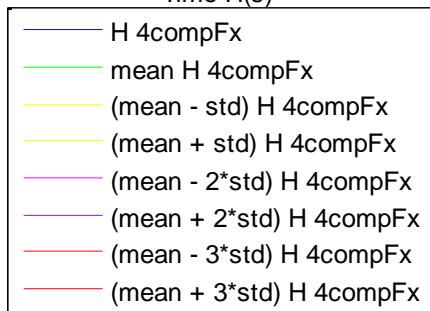
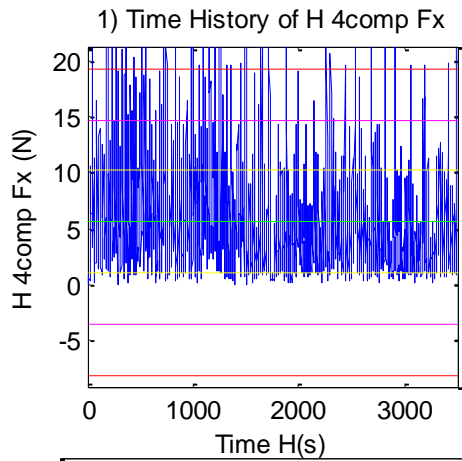


Σχήματα 1.5.6.7 (1-6) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

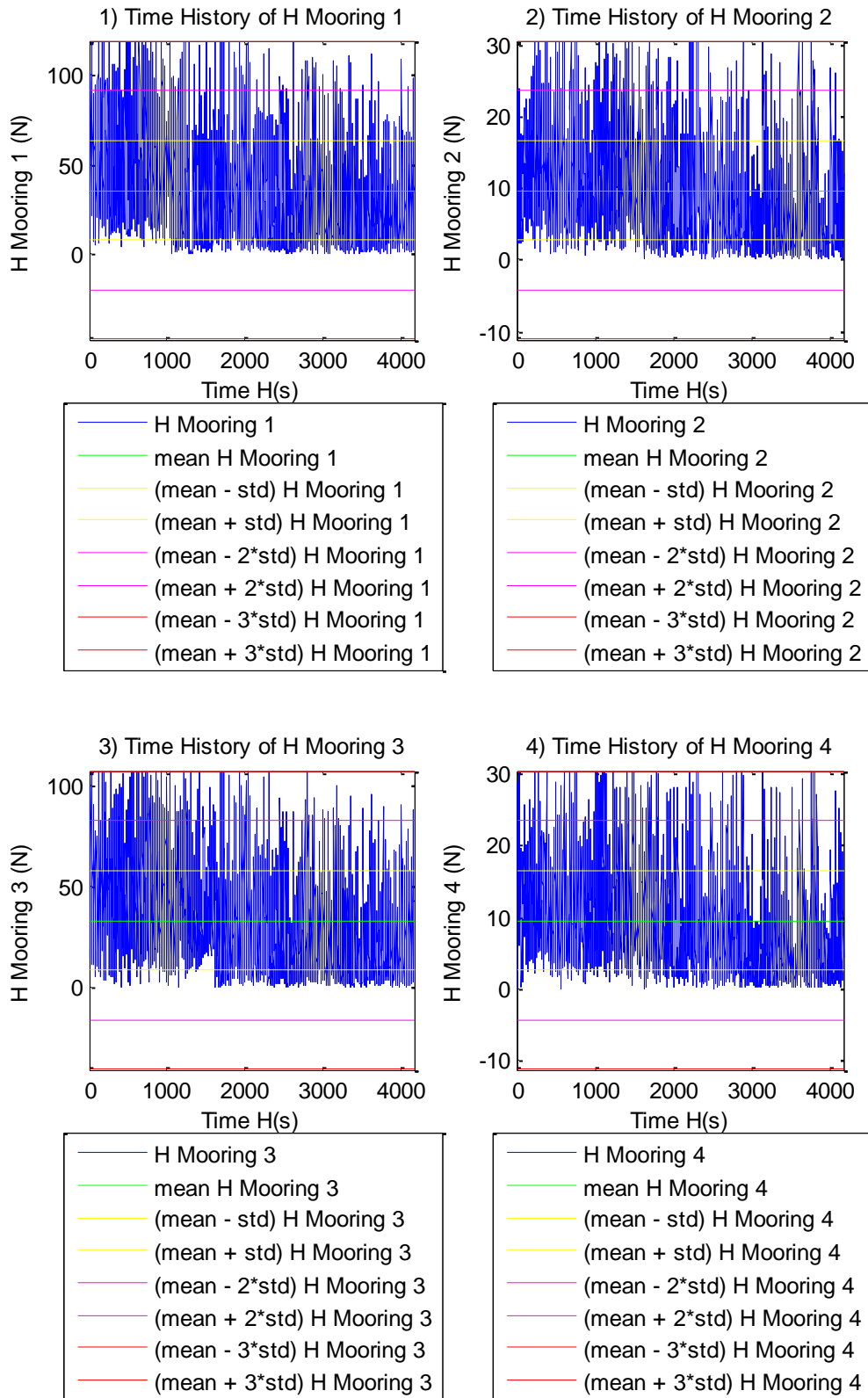




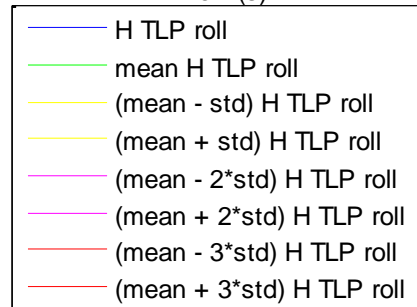
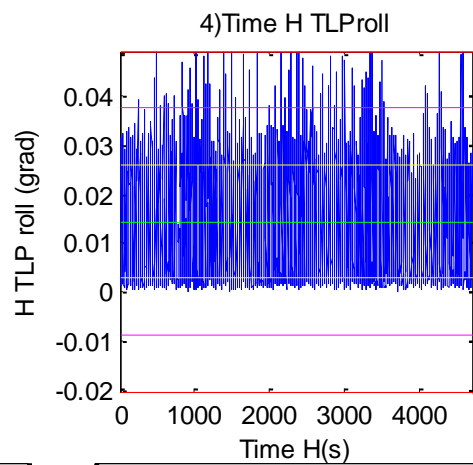
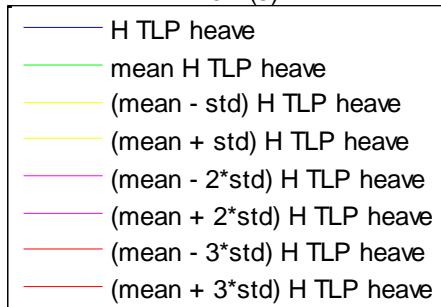
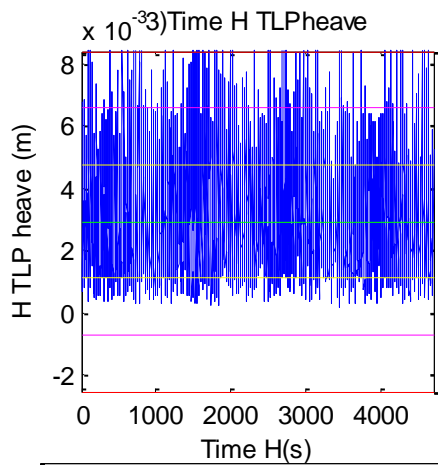
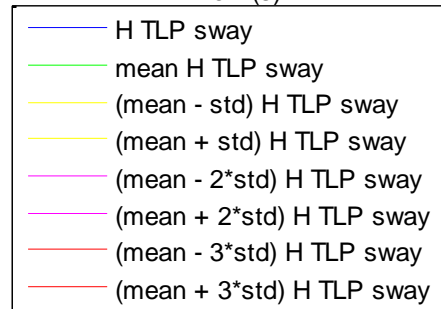
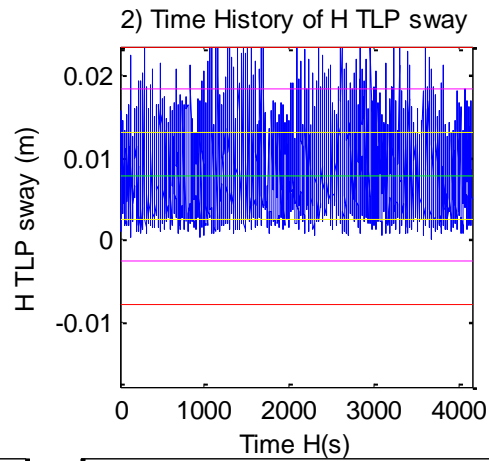
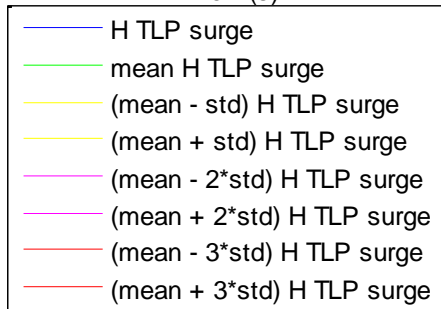
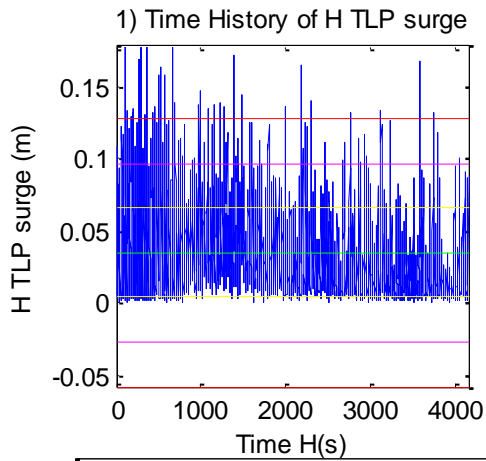
Σχήματα 1.5.7.1 (1-6) Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

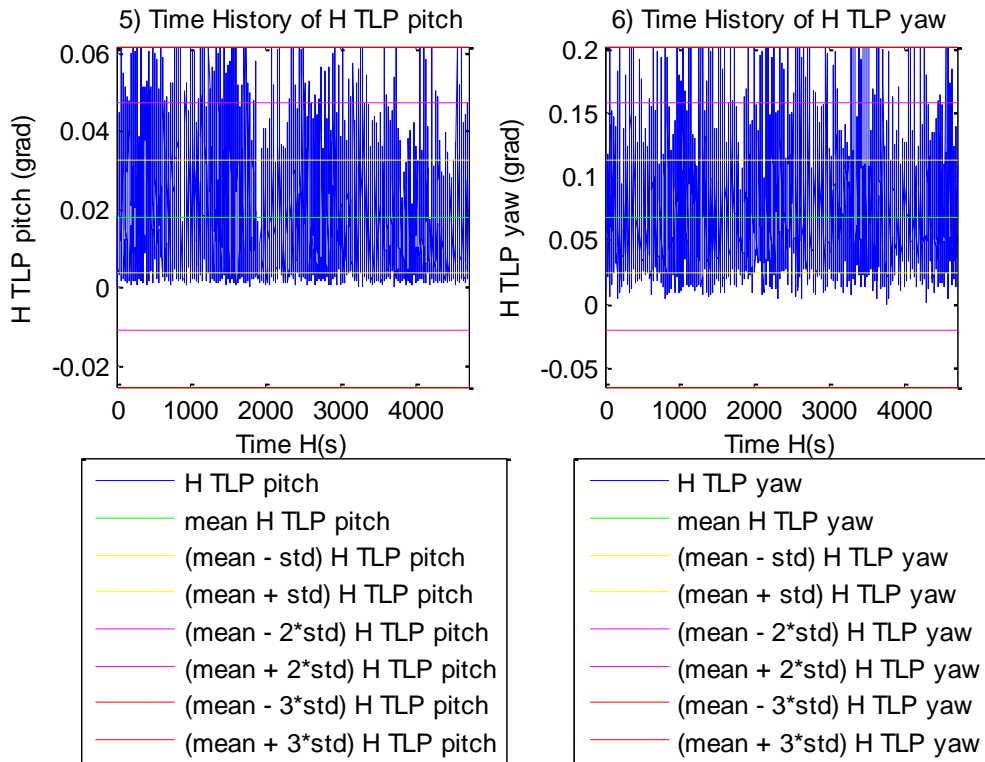


Σχήματα 1.5.7.2 (1-4) Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch



Σχήματα 1.5.7.3 (1-4) Διαγράμματα διάταξης του H για τις τέσσερις δυνάμεις στις τέσσερις γραμμές αγκύρωσης της Α/Γ





Σχήματα 1.5.7.4 (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 ΜΚΝ για τα 11 όργανα μέτρησης (WG) για Κ=100

4.2807	4.0585	3.9356	0.9250	1.0374	0.9687	1.8630	1.8173	1.7168	1.3332	1.3317
3.6836	3.8931	3.2599	0.8963	0.9443	0.9742	1.9473	1.9212	1.8074	1.4263	1.3887
4.2809	3.9263	4.5776	0.9981	1.1361	1.1492	1.5460	1.6265	1.5011	1.1078	1.1501
1.1371	1.0050	1.2914	4.6924	4.3925	4.4578	0.9519	0.9917	0.9268	1.0874	1.0387
1.1204	0.9883	1.1693	4.2735	4.5764	4.1456	0.9975	0.9674	0.9146	0.9630	0.8603
1.2494	1.1037	1.3005	4.2955	4.1434	4.5221	0.9875	0.9538	0.9152	1.0241	0.9822
1.3437	1.6059	1.2872	1.0220	0.9058	0.9470	4.4823	1.9395	1.0299	0.9575	1.1314
1.9908	2.2081	1.7610	0.9244	0.9675	0.9129	1.8753	4.6436	2.2397	0.9909	0.7754
1.7550	1.8462	1.4315	0.9565	1.0083	1.0103	0.9479	2.0907	4.7963	2.8990	1.9715
1.4300	1.2824	1.4350	1.2211	1.1347	1.2275	1.1473	1.2193	2.6409	4.6141	4.0048
1.2685	1.0900	1.2254	1.1346	1.0976	1.2475	1.3454	1.0799	1.9432	3.9375	4.5502

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

3.3002	3.0728	3.0539	0.9530	0.9601	0.9617	1.4530	1.5420	1.5000	1.2399	1.1290
2.9061	3.1223	2.5577	0.9483	0.9314	0.9393	1.5211	1.5542	1.5247	1.2258	1.1463
3.2353	2.8873	3.4991	0.9889	0.9818	1.0165	1.2675	1.4419	1.3924	1.2086	1.1061
1.0815	0.9723	1.0845	3.5425	3.3932	3.4323	0.9455	0.8714	1.0330	1.1558	1.1379
1.0852	0.9544	1.0700	3.3753	3.5211	3.3384	0.9582	0.9044	1.0493	1.1356	1.0892
1.0926	0.9943	1.0687	3.3435	3.2802	3.4662	0.9501	0.8832	1.0195	1.1262	1.1120
1.3298	1.4461	1.1015	0.8249	0.8849	0.8446	3.5290	1.6902	0.9359	1.0910	1.1793
1.5555	1.4737	1.5345	0.8679	0.9159	0.8453	1.5434	3.5182	1.7557	1.1233	0.9787
1.5025	1.4664	1.4297	0.9858	0.9946	0.9744	1.0012	1.8642	3.5220	2.3806	1.7939
1.2663	1.1826	1.3151	1.1439	1.1181	1.1411	1.0889	1.1309	2.2484	3.4314	3.0918
1.1472	1.1230	1.1649	1.1585	1.1444	1.1539	1.1544	1.0331	1.7281	3.0935	3.4221

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

2.5950	1.2536	0.9747	1.0376	2.5886	1.6719
1.6238	2.7453	0.9470	0.7210	1.5955	1.3509
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.8817	2.1689	0.7612	3.8073	0.9261	0.8871
2.3783	1.2333	0.9773	1.0340	2.3844	1.5999
1.6731	1.0676	1.0141	1.0709	1.7216	2.7000

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

2.1305	1.2113	0.9833	0.9977	2.1279	1.3771
1.4268	2.3491	0.9481	0.3718	1.4271	1.1956
1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.9237	1.5098	0.7943	3.1248	0.9424	0.9721
1.9807	1.1882	0.9837	0.9987	1.9833	1.3311
1.4698	1.0946	0.9803	0.9857	1.4674	2.1496

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

2.2546	1.0842	0.9064	2.1899
1.3343	3.7164	3.3084	1.2677
0.9885	1.1543	1.1797	0.9846
3.0104	1.1259	0.8560	3.1571

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

1.9012	1.0690	0.9528	1.8468
1.2532	3.0670	2.7978	1.2689
0.9928	1.1217	1.1398	0.9946
2.4054	1.1079	0.9271	2.4892

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=100**

1.1212	1.0341	1.0096	1.0147
1.1479	1.5372	1.0225	0.5563
1.0117	1.0175	1.1273	1.0351
0.9620	0.3613	1.1295	1.6612

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=1000**

1.0955	1.0285	1.0022	0.9935
1.1299	1.3955	1.0275	0.6417
1.0016	1.0025	1.0989	1.0130
0.9426	0.5151	1.0815	1.4937

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

1.4898	1.0165	1.2631	1.0237	0.8802	1.1411
1.0468	1.4342	1.1329	1.2857	0.9643	1.2003

1.1373 1.1052 1.2512 1.1528 0.9684 1.1554
1.2876 5.5426 3.9956 7.0444 0.6669 5.2007
0.8953 0.8133 0.7849 0.7225 1.5185 0.7348
1.1140 1.1346 1.1643 1.1759 0.9143 1.3143

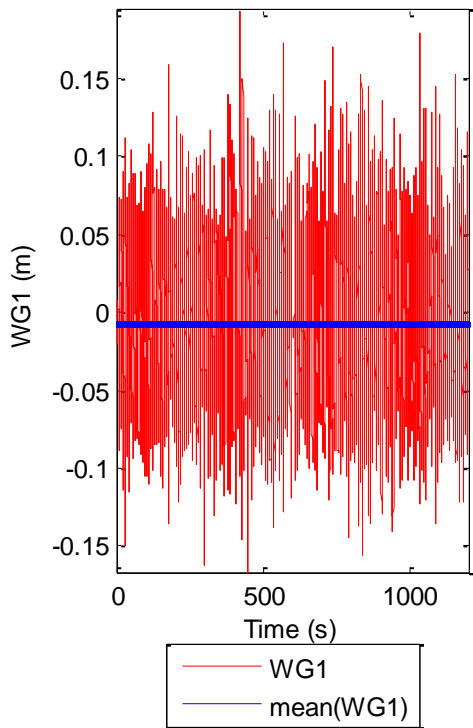
Μητρώα ΜΚΝ για τις έξι μετατοπίσεις και περιστροφές SB[Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000

1.3760 0.9953 1.2045 1.0274 0.8727 1.1249
0.9847 1.3194 1.1040 1.2357 0.9852 1.1304
1.0931 1.0869 1.1786 1.1194 0.9636 1.1188
1.1905 4.6363 3.4483 5.8497 0.7615 3.8881
0.9093 0.8579 0.8117 0.7990 1.3848 0.7911
1.0802 1.1068 1.1474 1.1473 0.9181 1.2268

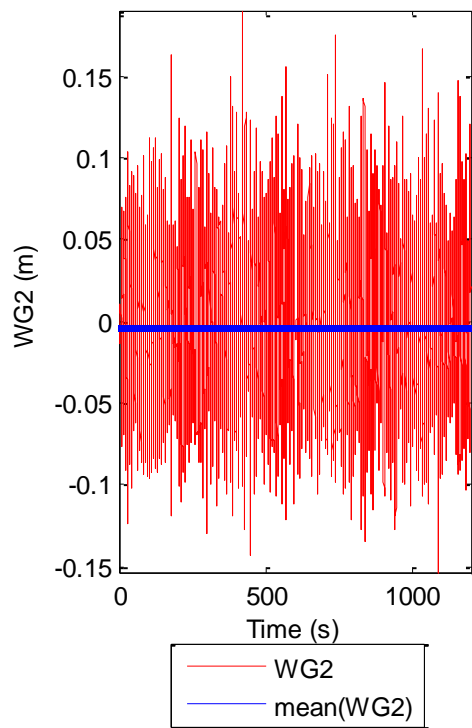
1.6 Παρουσίαση χρονοσειρών (C1) T1239+T1240_1.6_0.10_TLP_00_NR

Πίνακας 1.6.1	Χαρακτηριστικά Πειράματος
Τύπος μοντέλου	TLP
Ύψος κύματος (m)	0.10
Περίοδος κύματος (s)	1.6
Τύπος κύματος	IRREGULAR
Γωνία πρόσπτωσης κυμάτων (deg)	00
Περιστροφή ή μη του Ρότορα	Χωρίς Περιστροφή

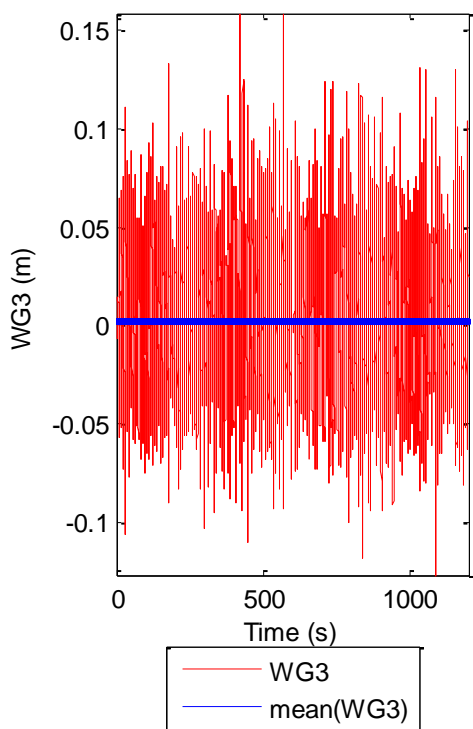
(1) Time History of WG1



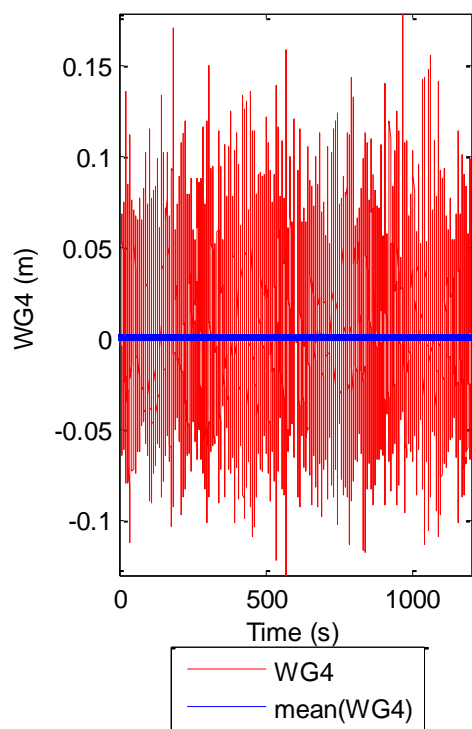
(2) Time History of WG2



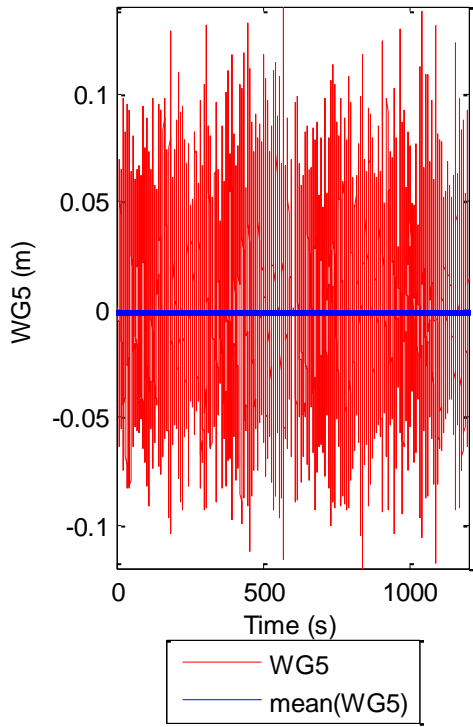
(3) Time History of WG3



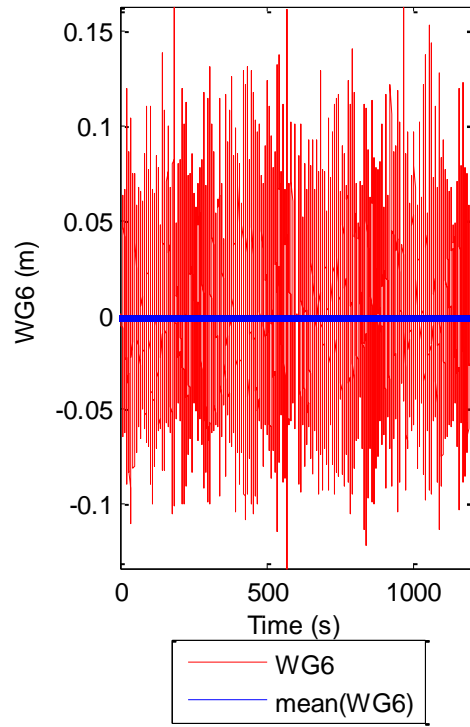
(4) Time History of WG4



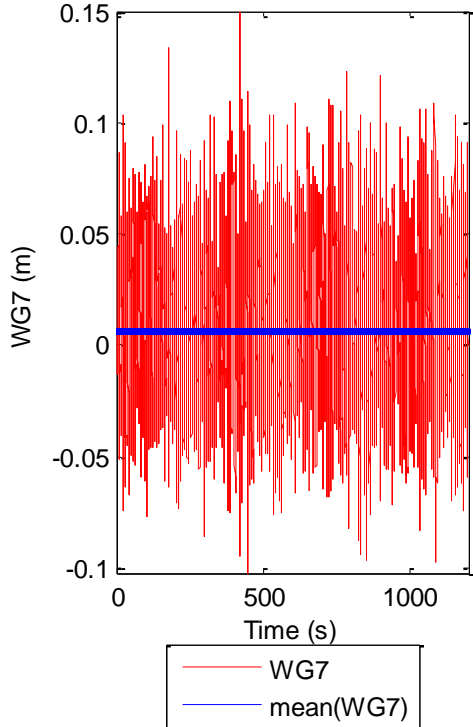
(5) Time History of WG5



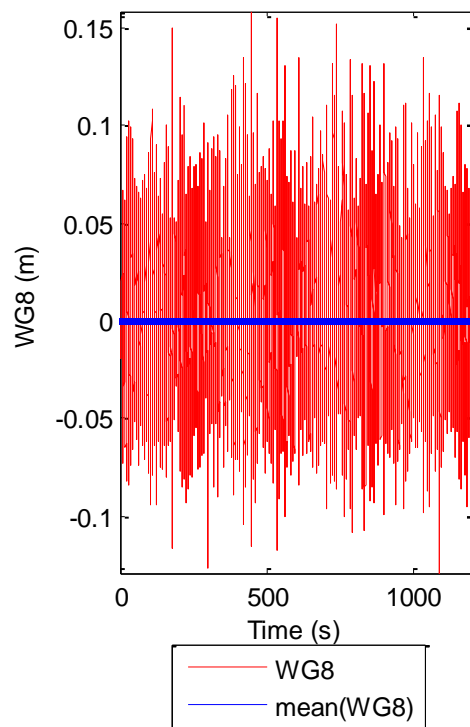
(6) Time History of WG6

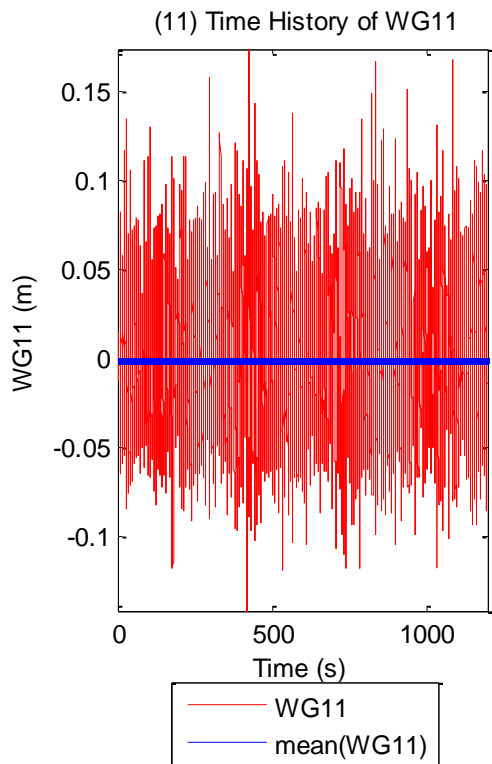
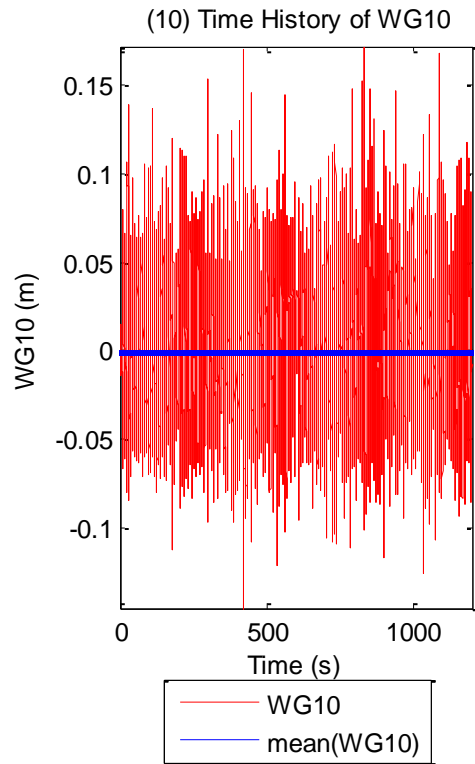
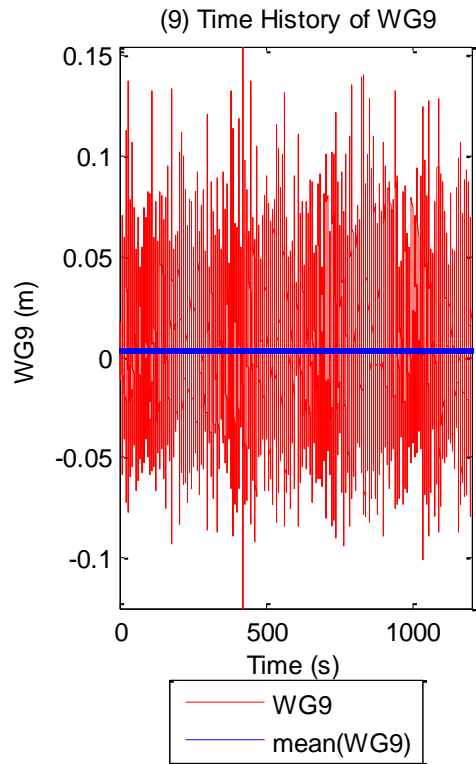


(7) Time History of WG7



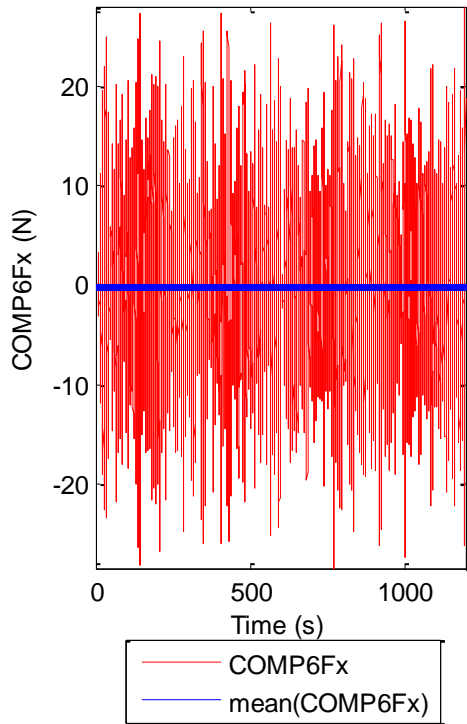
(8) Time History of WG8



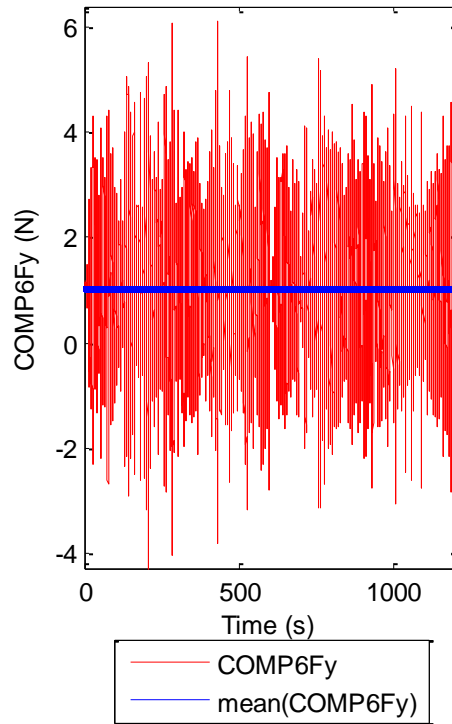


Σχήματα 1.6.1.1 (1-11) Χρονοσειρές από τα 11 όργανα μέτρησης του ύψους κύματος με τις αντίστοιχες μέσες τιμές

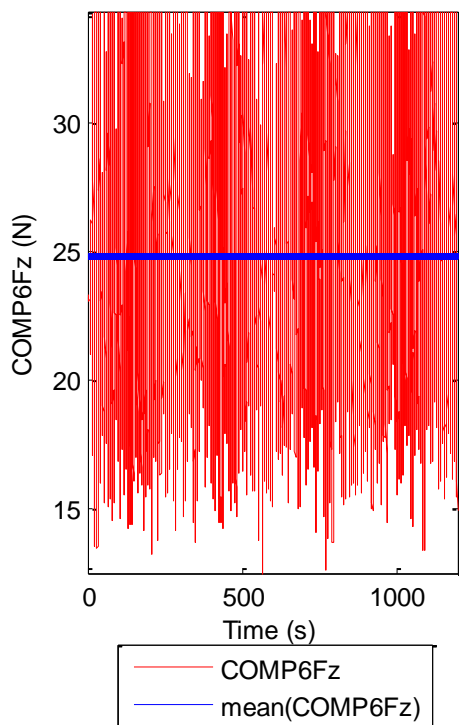
(1) Time History of COMP6Fx



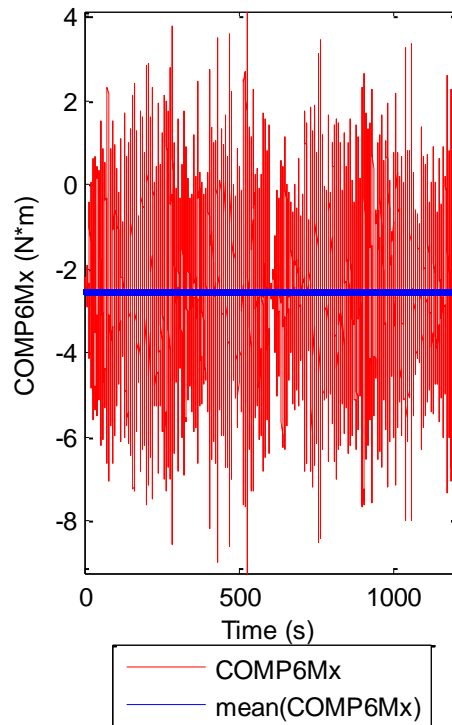
(2) Time History of COMP6Fy

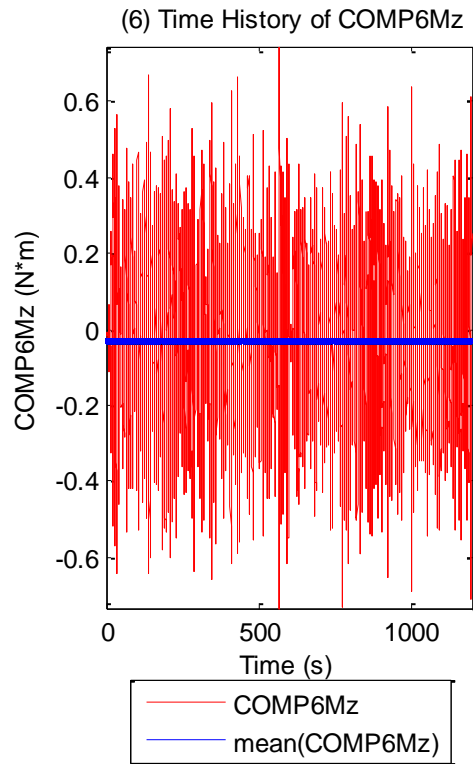
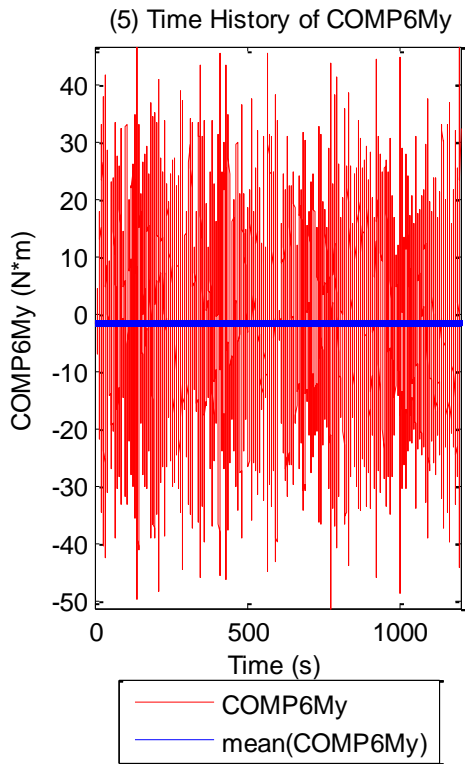


(3) Time History of COMP6Fz

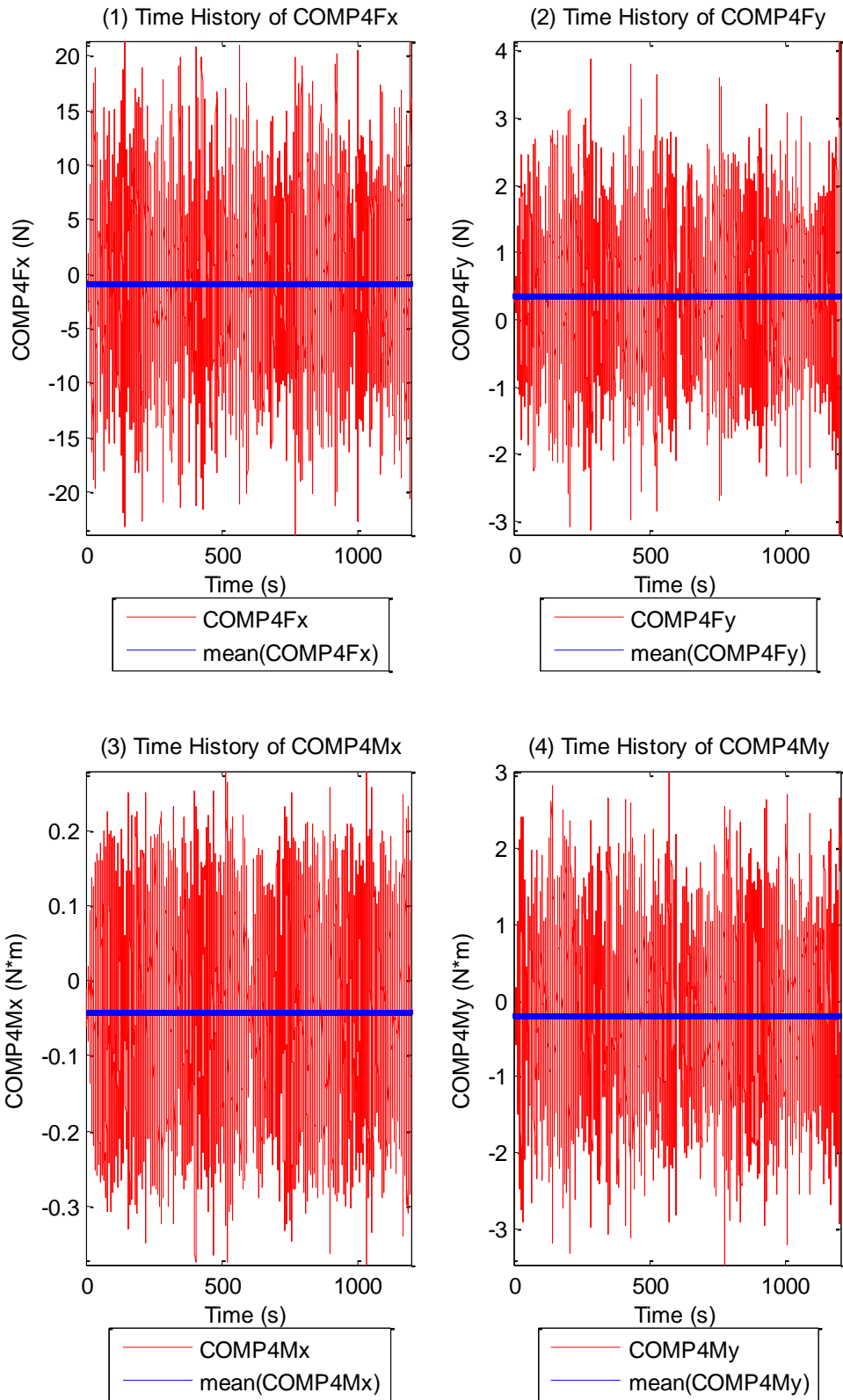


(4) Time History of COMP6Mx

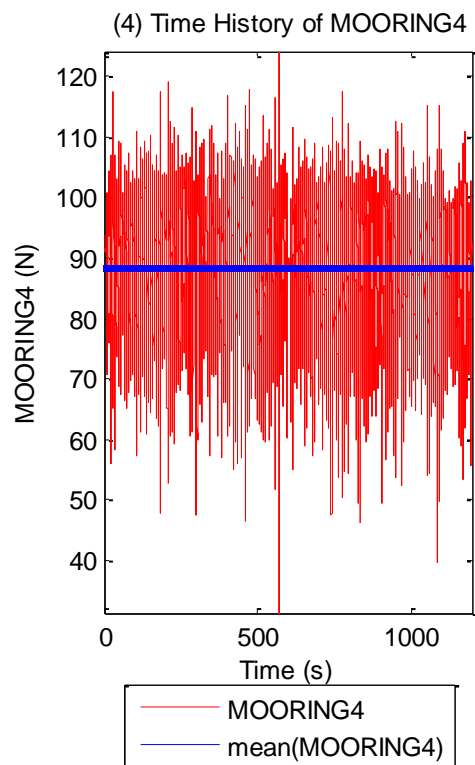
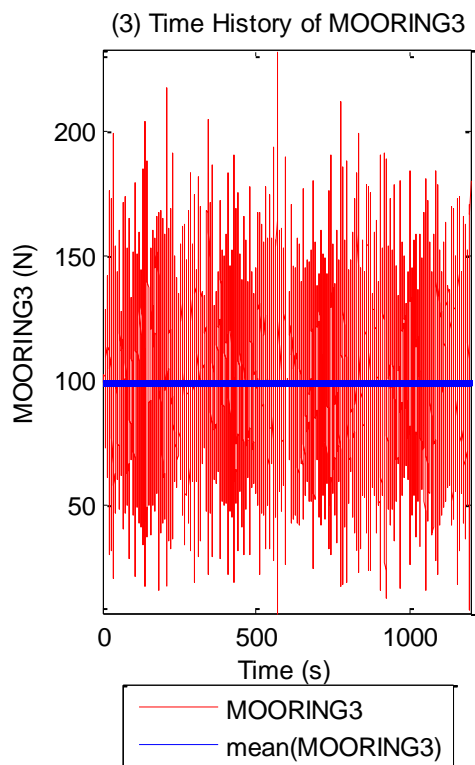
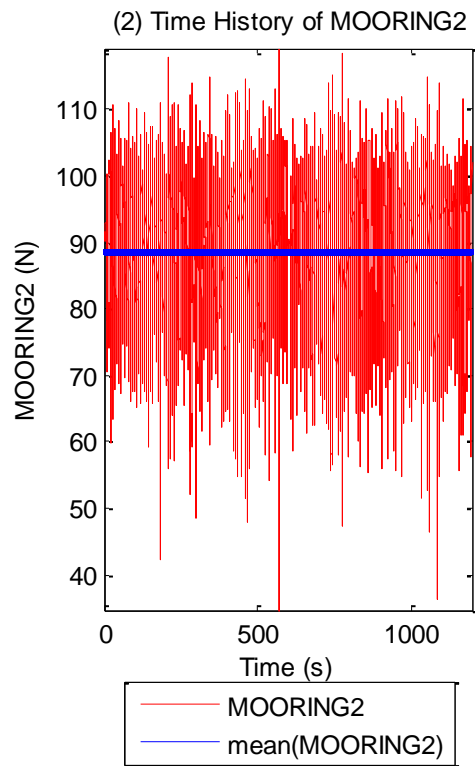
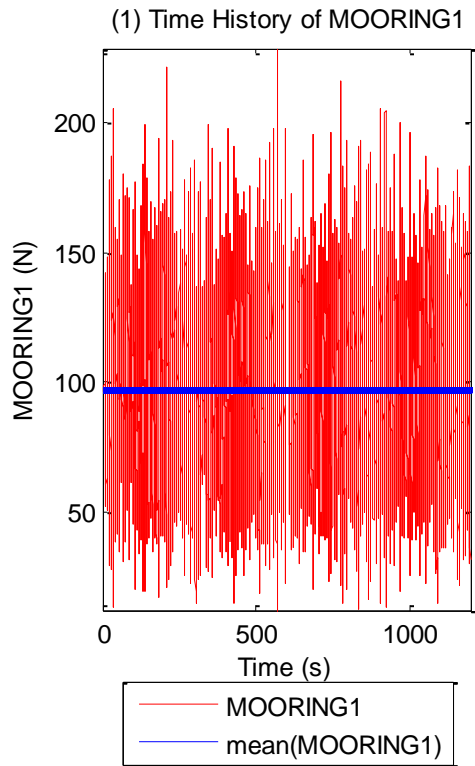




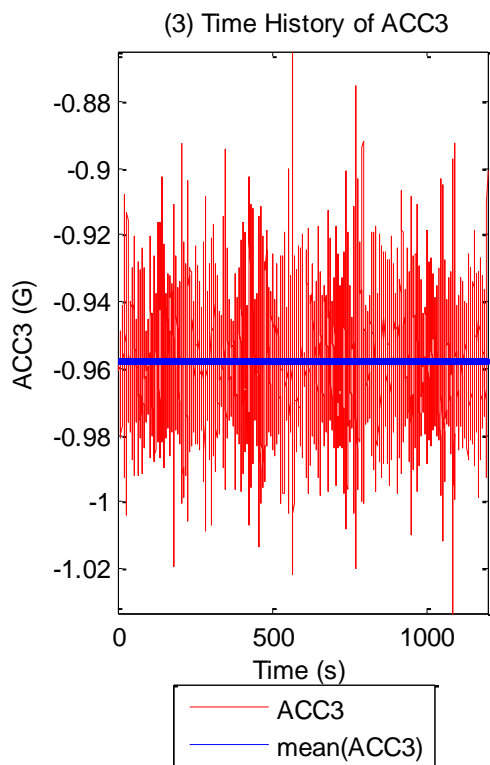
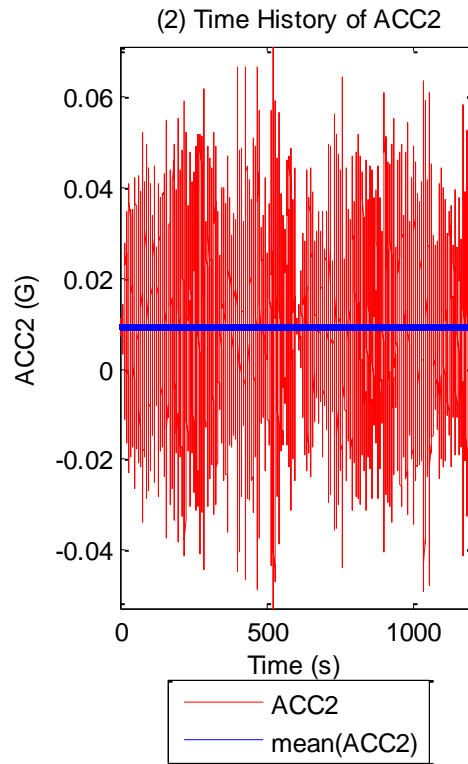
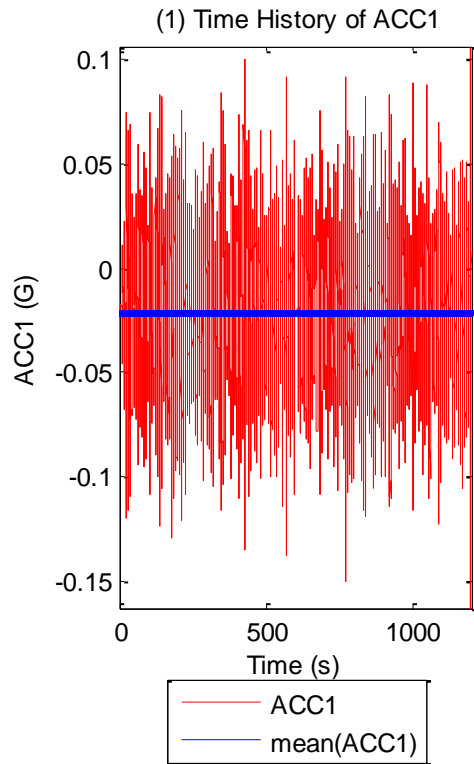
Σχήματα 1.6.1.2 Χρονοσειρές για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw, με τις αντίστοιχες μέσες τιμές (ευθεία μπλε γραμμή)



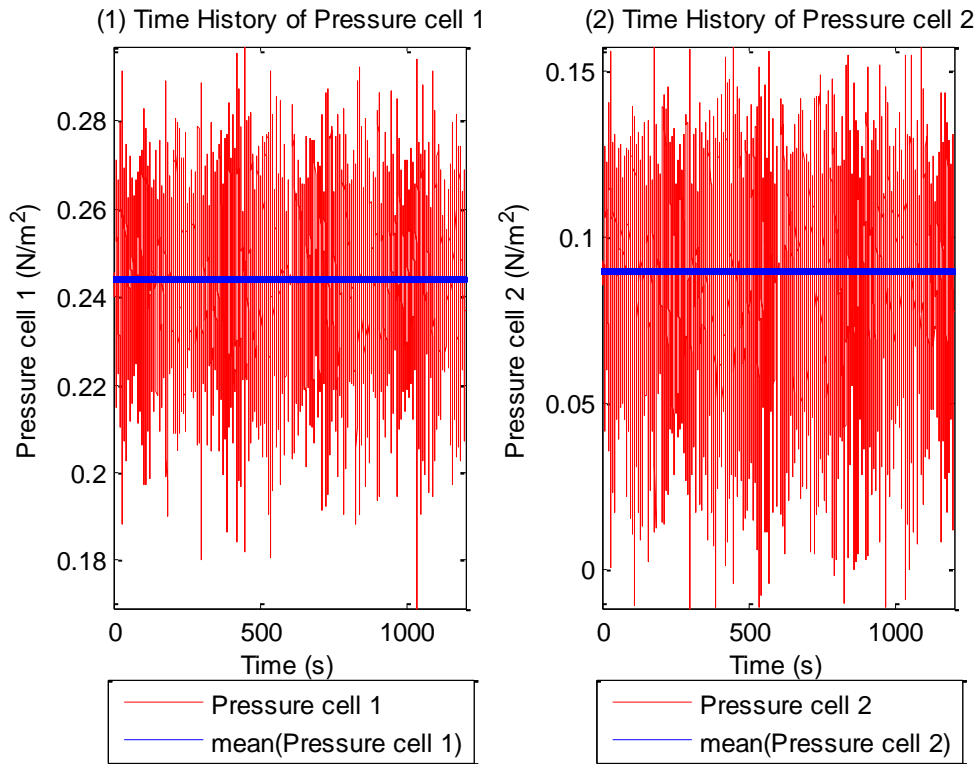
Σχήματα 1.6.1.3 Χρονοσειρές για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ (όπου με μπλε ευθεία γραμμή είναι οι μέσες τιμές κάθε χρονοσειράς)



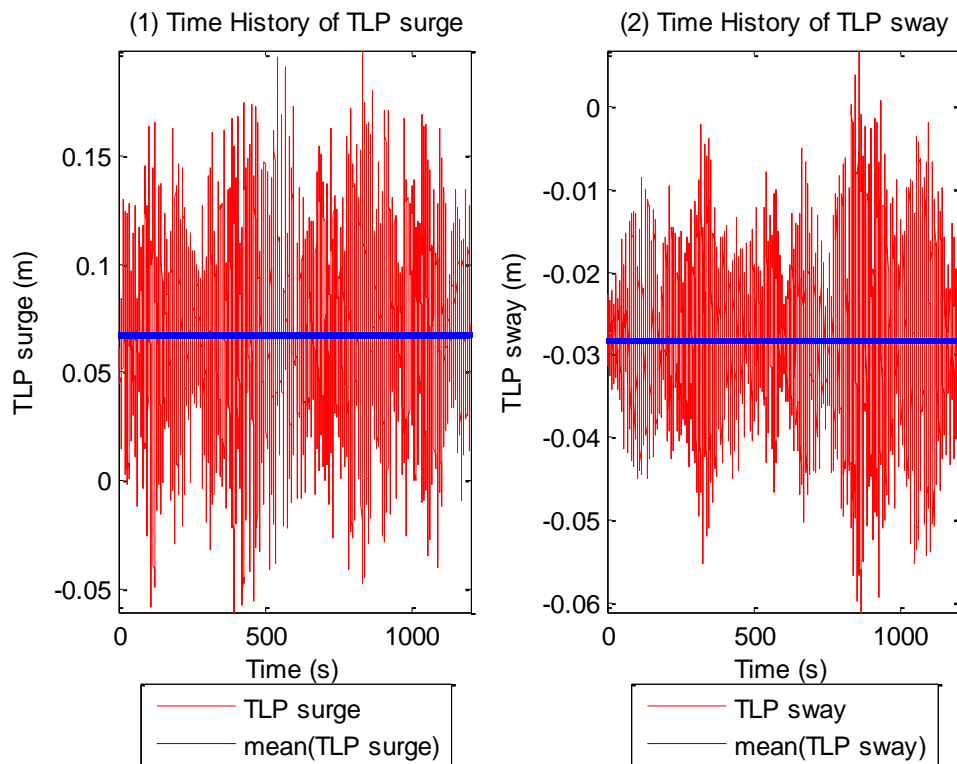
Σχήματα 1.6.1.4 Χρονοσειρές για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης (1-4) με τις μπλε γραμμές να προσδιορίζουν τις αντίστοιχες μέσες τιμές

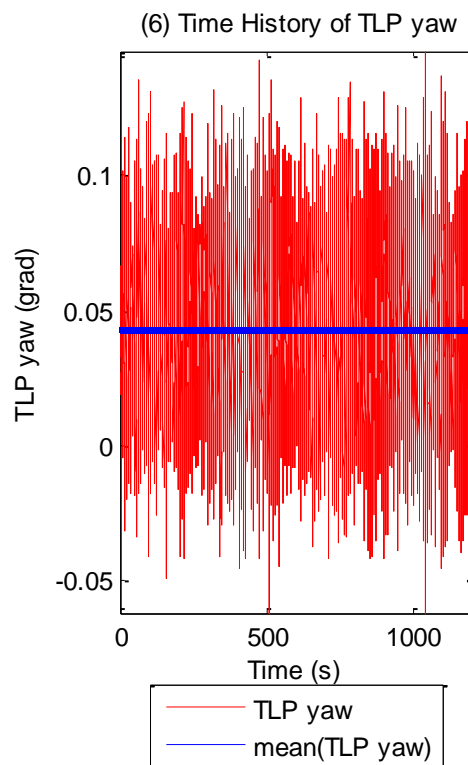
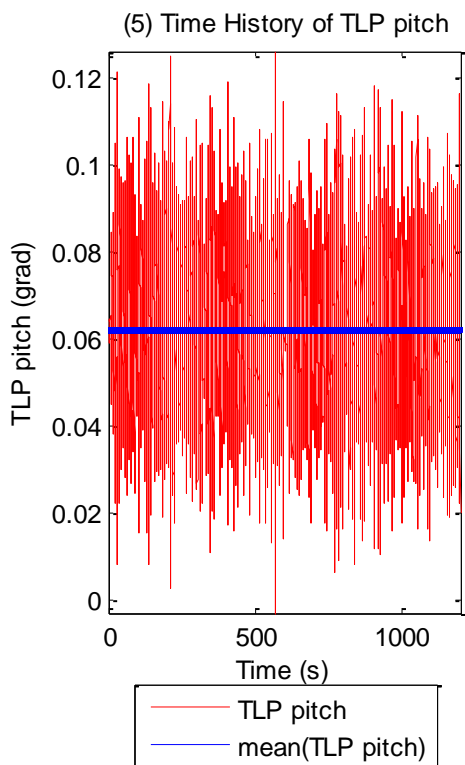
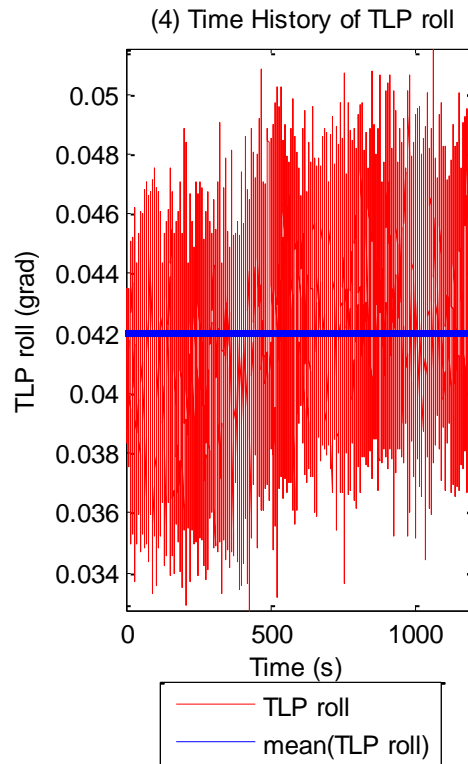
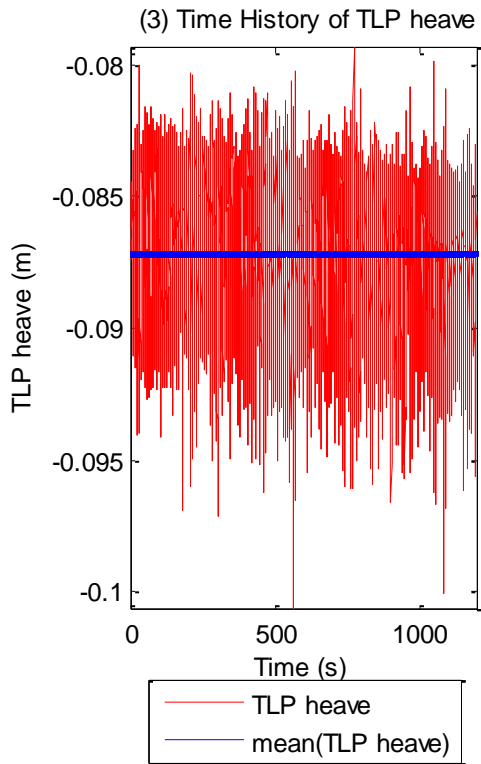


Σχήματα 1.6.1.5 (1-3) Χρονοσειρές για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



Σχήματα 1.6.1.6 (1-2) Χρονοσειρές από τα δυο όργανα μέτρησης της πίεσης





Σχήματα 1.6.1.7 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 1.6.2					
	Μέση τιμή	Τυπική απόκλιση	Ελάχιστη τιμή (Min)	Μέγιστη τιμή (Max)	Hrms
Wg1 (m)	-0.0078	0.0449	-0.1668	0.1937	0,1253
Wg2 (m)	-0.0037	0.0417	-0.1534	0.1904	0,1171
Wg3 (m)	0.0023	0.0341	-0.1270	0.1590	0,0956
Wg4 (m)	0.0017	0.0375	-0.1294	0.1793	0,1043
Wg5 (m)	-0.0010	0.0355	-0.1200	0.1409	0,0986
Wg6 (m)	-0.0010	0.0374	-0.1339	0.1635	0,1034
Wg7 (m)	-0.0066	0.0305	-0.1025	0.1504	0,0867
Wg8 (m)	6.8433e-005	0.0368	-0.1293	0.1588	0,1024
Wg9 (m)	0.0037	0.0331	-0.1251	0.1547	0,0948
Wg10 (m)	-4.8895e-004	0.0373	-0.1458	0.1720	0,1045
Wg11 (m)	-2.9931e-004	0.0374	-0.1413	0.1742	0,1046
6comp_Fx (N)	-0.1683	8.4261	-28.4853	27.9900	23,879
6comp_Fy(N)	1.0553	1.2991	-4.2635	6.3754	4,1272
6comp_Fz (N)	24.8199	5.3797	12.4569	34.3768	15,1174
6comp_Mx (N*m)	-2.5193	1.7529	-9.2324	4.1225	6,0704
6comp_My (N*m)	-1.2945	14.4186	-51.1668	46.6528	41,1025
6comp_Mz (N*m)	-0.0279	0.1967	-0.7342	0.7455	0,5587
4comp_Fx (N)	-0.7679	6.6821	-23.8832	21.3964	19,1794
4comp_Fy (N)	0.3680	0.8999	-3.1971	4.1549	2,6535
4comp_Mx	-0.0407	0.1081	-0.3778	0.2793	0,3158

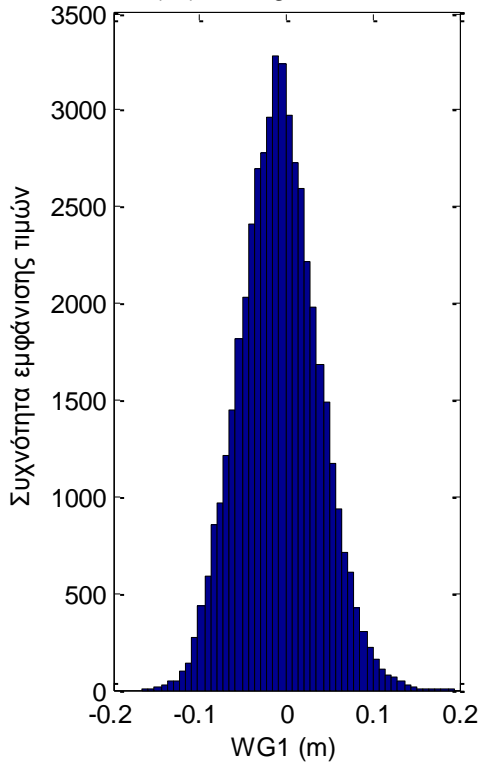
(N*m)					
4comp_My (N*m)	-0.1905	0.8916	-3.4713	3.0163	2,5882
Mooring_2 (N)	88.8251	9.1724	34.6744	119.1906	84,6774
Mooring_1(N)	96.8980	31.6792	12.3826	228.5729	26,5801
Mooring_4 (N)	88.4513	9.5911	31.2802	124.2138	78,0976
Mooring_3(N)	98.6274	28.5989	6.4772	231.8091	27,6601
Acc_1 (G)	-0.0210	0.0309	-0.1630	0.1065	0,0947
Acc_2 (G)	0.0094	0.0165	-0.0528	0.0712	0,0515
Acc_3 (G)	-0.9579	0.0133	-1.0333	-0.8649	0,0439
Pres.cell_1 (N/m^2)	0.2442	0.0156	0.1691	0.2971	0,0411
Pres.cell_2 (N/m^2)	0.0901	0.0230	-0.0115	0.1576	0,0663
TLP_x (m)	0.0682	0.0378	-0.0607	0.1990	0,0683
TLP_y (m)	-0.0282	0.0096	-0.0612	0.0069	0,0128
TLP_z (m)	-0.0872	0.0022	-0.1007	-0.0794	0,0077
TLP_roll (grad)	0.0421	0.0026	0.0327	0.0515	0,0085
TLP_pitch (grad)	0.0622	0.0168	-0.0031	0.1260	0,0501
TLP_yaw (grad)	0.0432	0.0261	-0.0617	0.1460	0,0705

Πίνακας 1.6.3				
	Συντελεστής Ασυμμετρίας	Συντελεστής Κυρτότητας	1_sample_k.s.test h	Dickey Fuller Test
Wg1 (m)	0.1337	3.0652	1	1

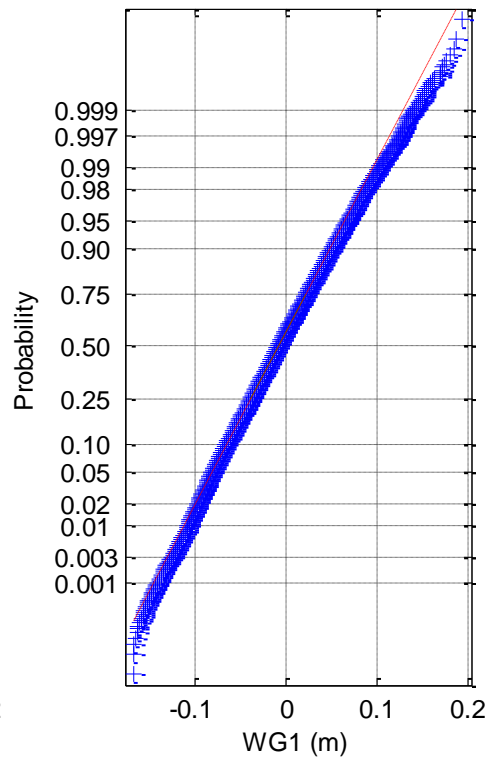
Wg2 (m)	0.1636	3.1213	1	1
Wg3 (m)	0.1555	3.1429	1	1
Wg4 (m)	0.2072	3.2750	1	1
Wg5 (m)	0.1771	3.1838	1	1
Wg6 (m)	0.1891	3.2735	1	1
Wg7 (m)	0.1727	3.1225	1	1
Wg8 (m)	0.2052	3.1599	1	1
Wg9 (m)	0.1959	3.1580	1	1
Wg10 (m)	0.1815	3.1357	1	1
Wg11 (m)	0.1857	3.1361	1	1
6comp_Fx (N)	4.1513e-004	2.8475	1	1
6comp_Fy(N)	-0.0201	3.0619	1	1
6comp_Fz (N)	0.3021	2.0912	1	1
6comp_Mx (N*m)	-0.0050	3.0333	1	1
6comp_My (N*m)	2.5611e-006	2.8676	1	1
6comp_Mz (N*m)	0.0179	2.9066	1	1
4comp_Fx (N)	-0.0012	2.8596	1	1
4comp_Fy (N)	0.0032	3.0851	1	1
4comp_Mx (N*m)	-0.0339	2.4238	1	1
4comp_My (N*m)	-0.0115	2.8861	1	1
Mooring_2 (N)	-0.5959	3.7363	1	1
Mooring_1(N)	0.2085	2.8053	1	1
Mooring_4 (N)	-0.5835	3.5515	1	1

Mooring_3(N)	0.1552	3.0297	1	1
Acc_1 (G)	-0.0117	3.0123	1	1
Acc_2 (G)	-0.0018	3.0500	1	1
Acc_3 (G)	0.2791	4.4246	1	1
Rotation (rpm)	0.0758	2.9548	-	-
Pres.cell_1 (N/m)	-0.2225	3.2822	1	1
Pres.cell_2 (N/m)	-0.4994	3.6707	1	1
TLP_x (m)	0.0018	2.9401	1	1
TLP_y (m)	-0.0347	2.9074	1	1
TLP_z (m)	-0.5690	3.5643	1	1
TLP_roll (grad)	-0.0868	2.8754	1	1
TLP_pitch (grad)	0.0689	2.9801	1	1
TLP_yaw (grad)	-0.0076	2.9685	1	1

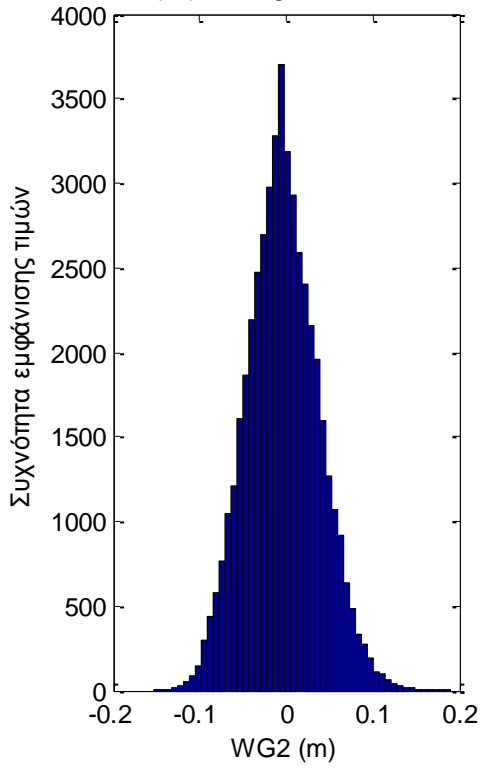
(1a) Histogram of WG1



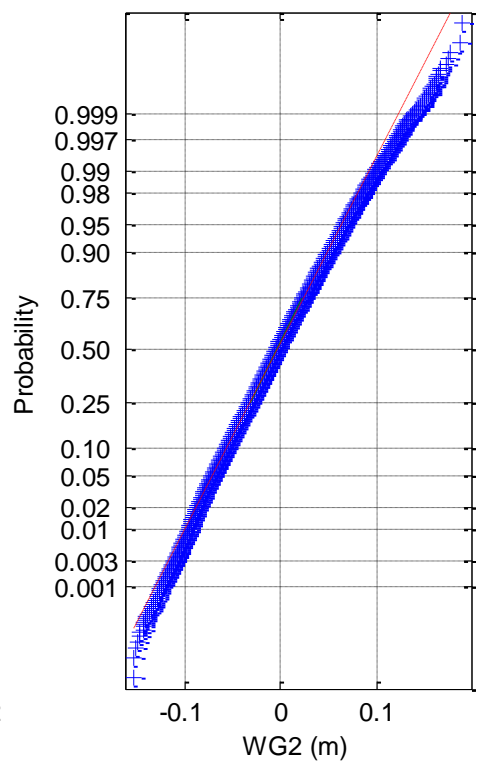
(1b) Normal probability plot of WG1



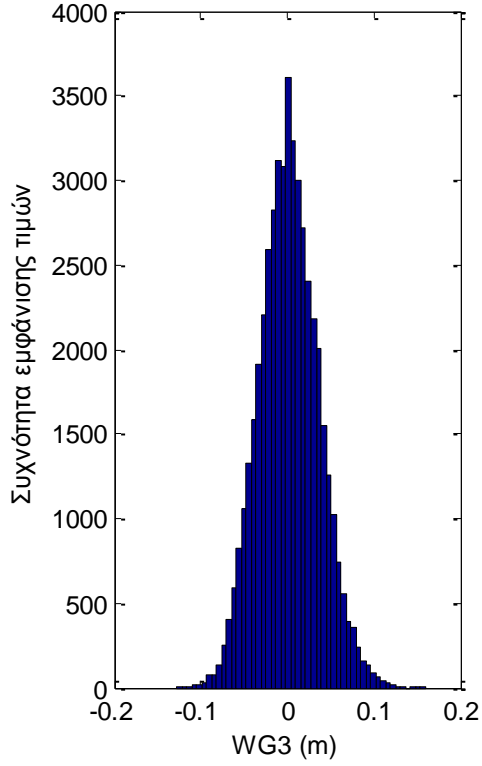
(2a) Histogram of WG2



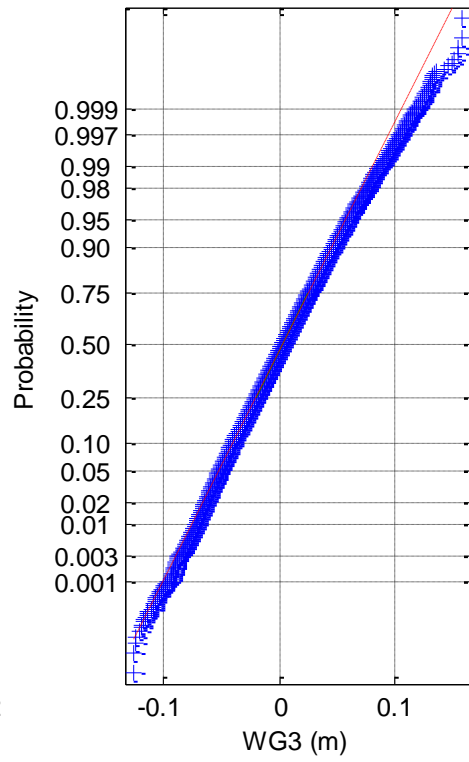
(2b) Normal probability plot of WG2



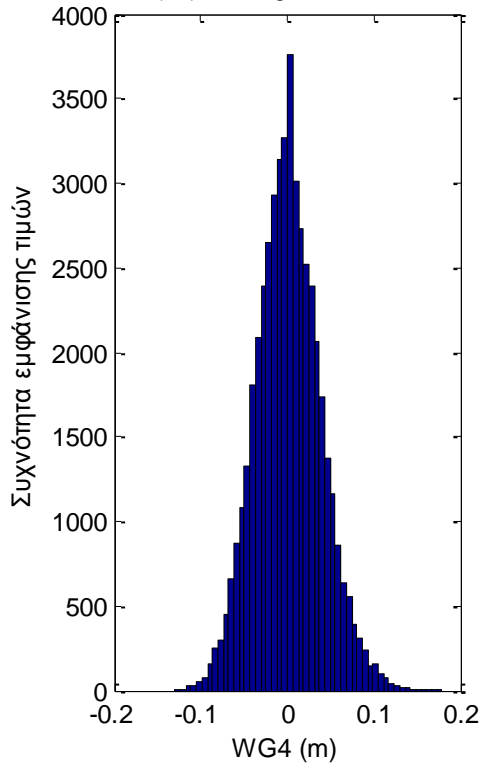
(3a) Histogram of WG3



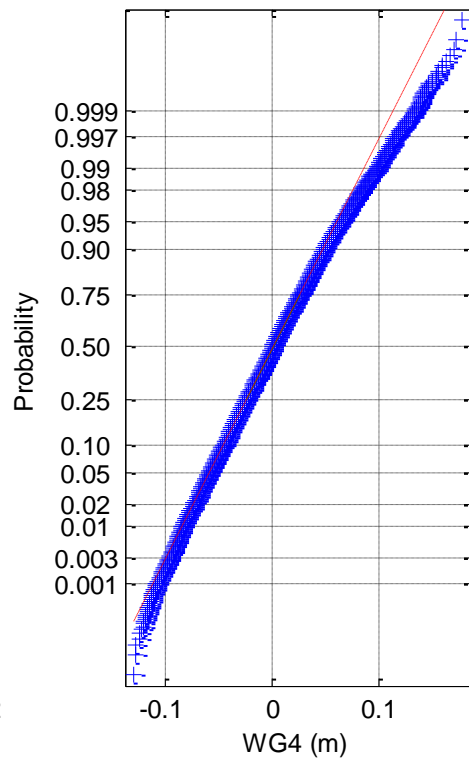
(3b) Normal probability plot of WG3



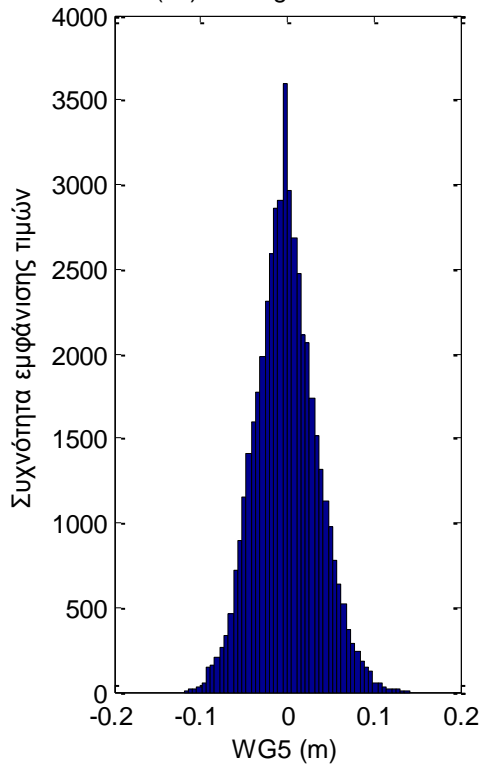
(4a) Histogram of WG4



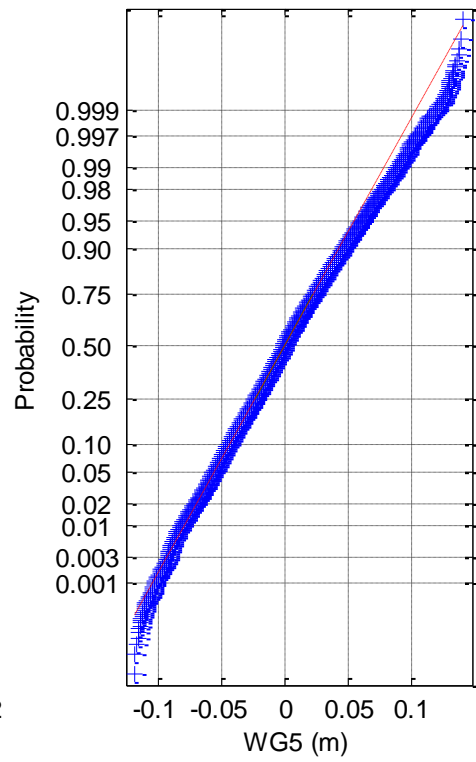
(4b) Normal probability plot of WG4



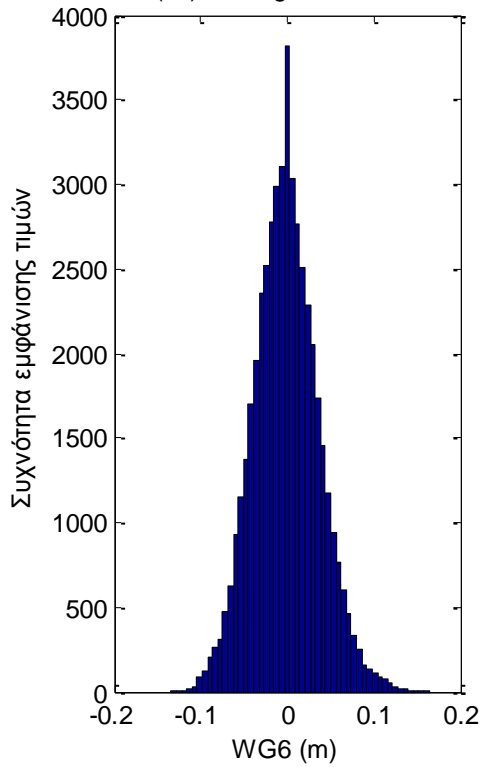
(5a) Histogram of WG5



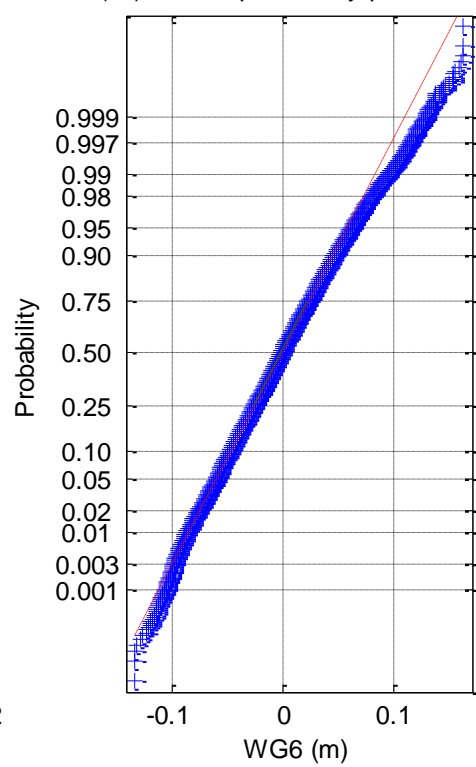
(5b) Normal probability plot of WG5



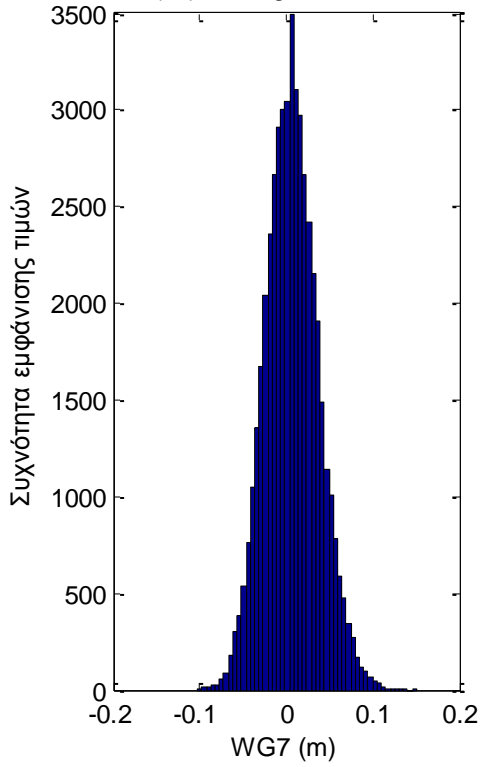
(6a) Histogram of WG6



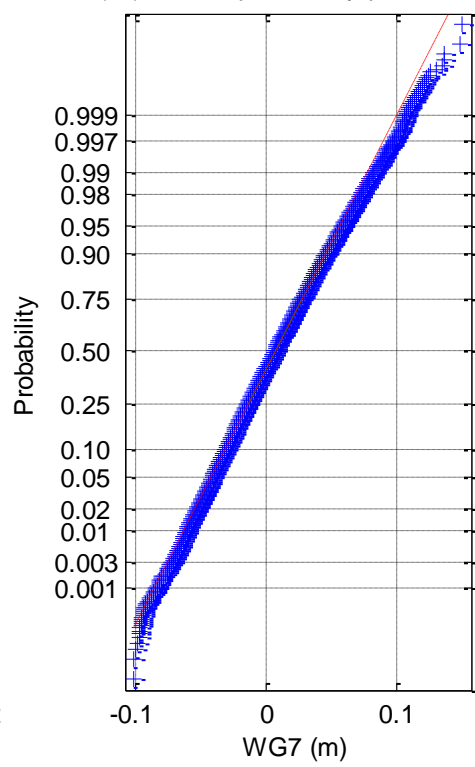
(6b) Normal probability plot of WG6



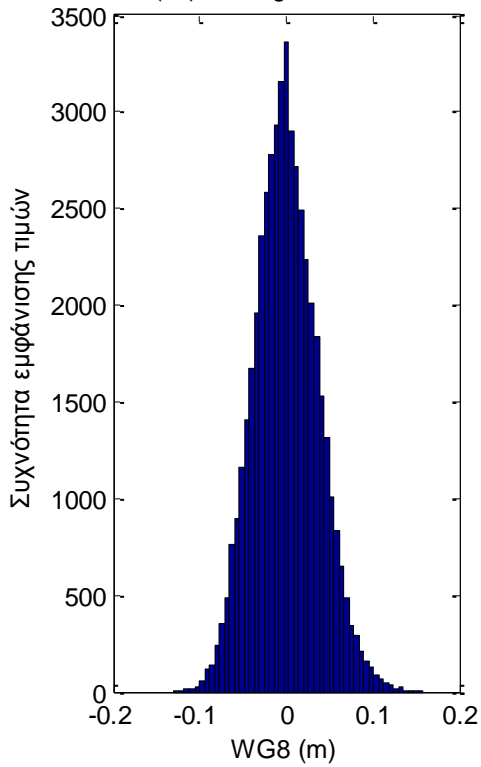
(7a) Histogram of WG7



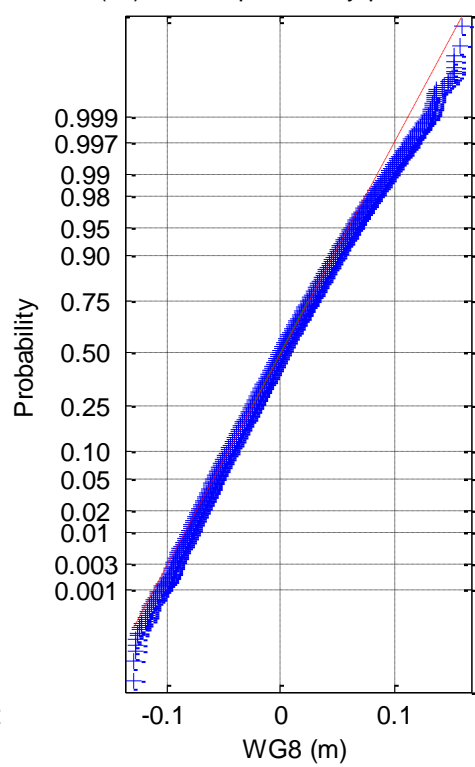
(7b) Normal probability plot of WG7



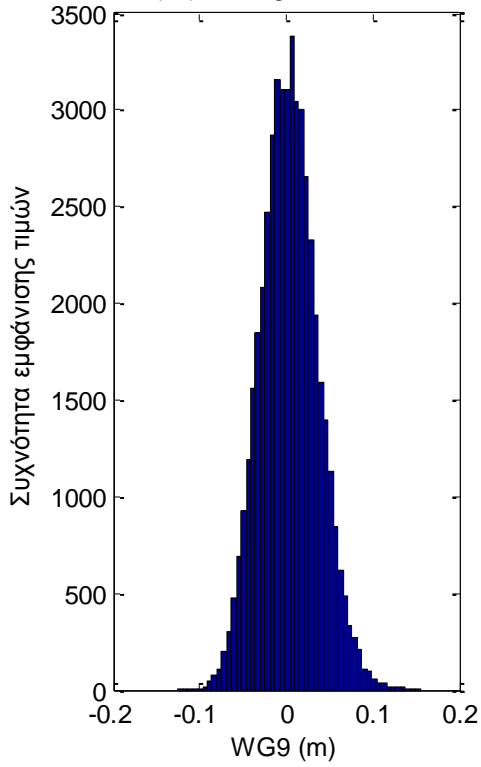
(8a) Histogram of WG8



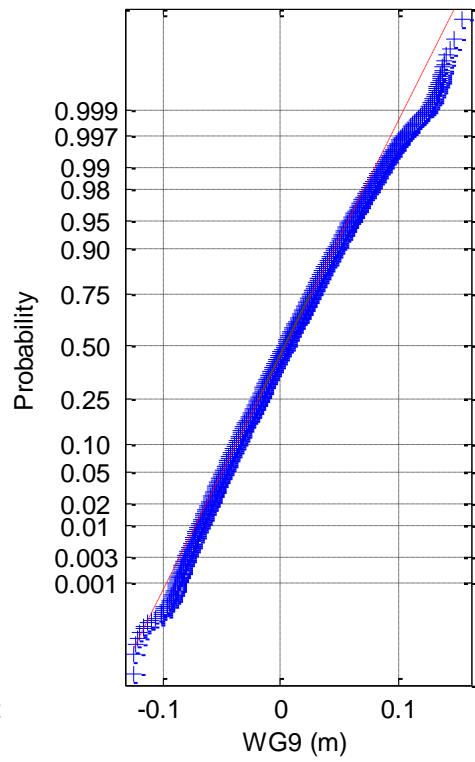
(8b) Normal probability plot of WG8



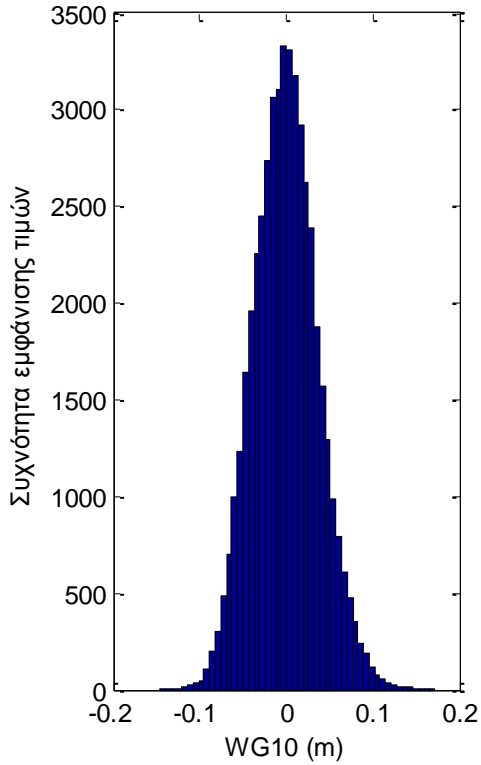
(9a) Histogram of WG9



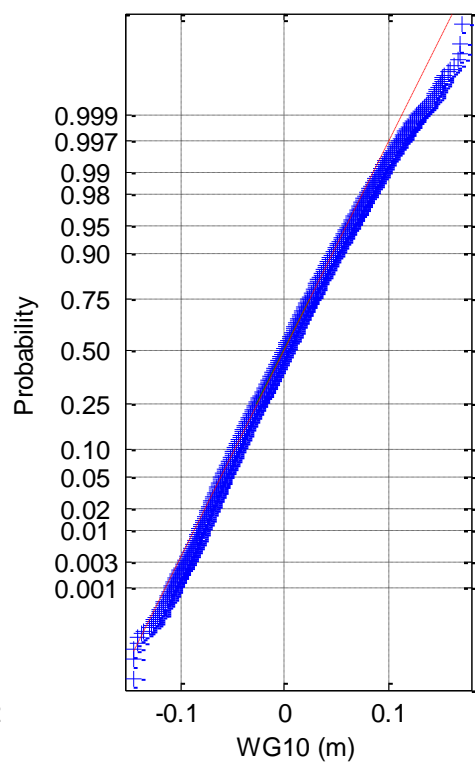
(9b) Normal probability plot of WG9

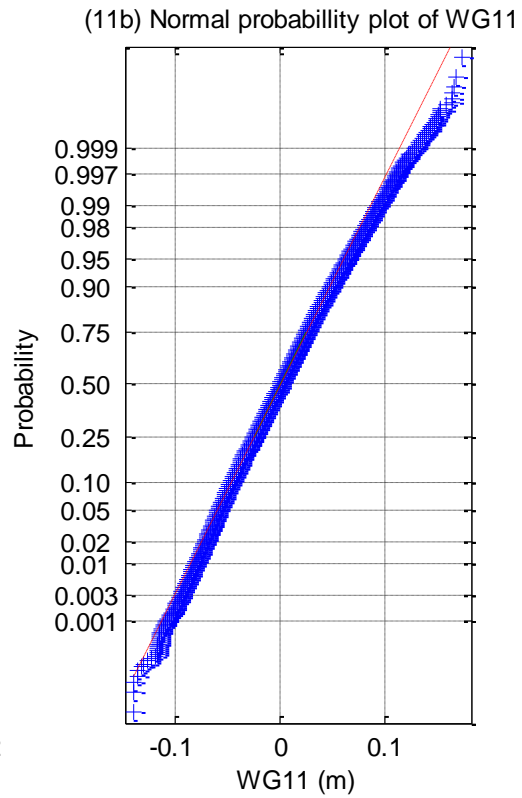
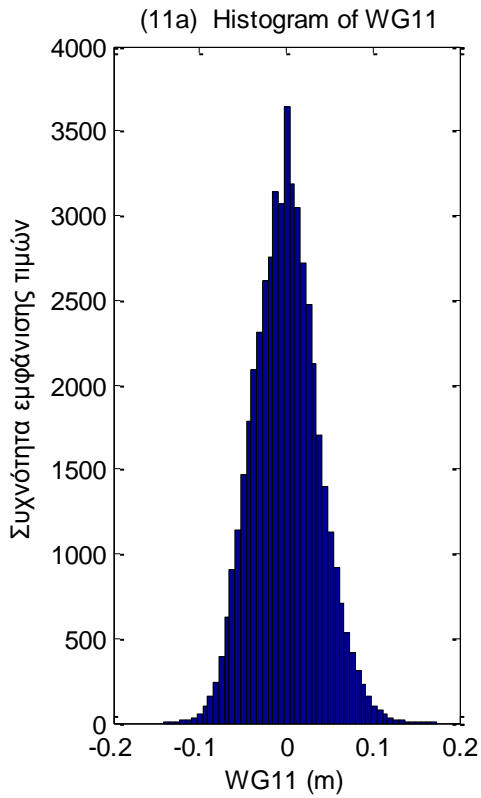


(10a) Histogram of WG10

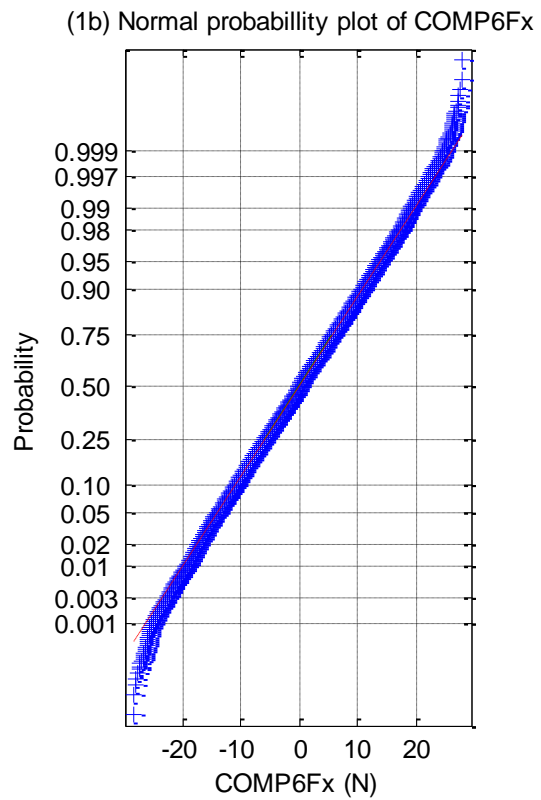
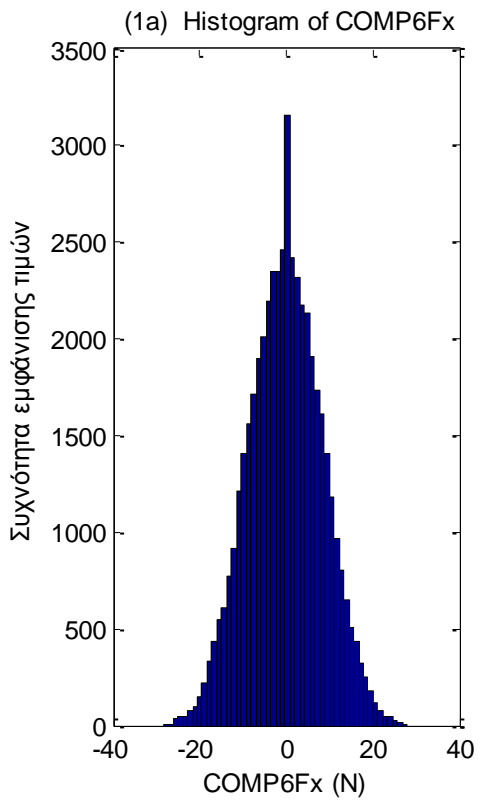


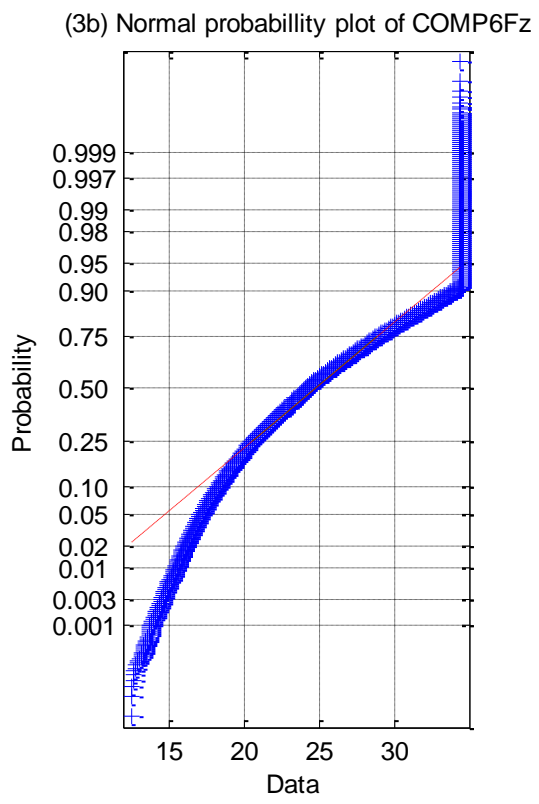
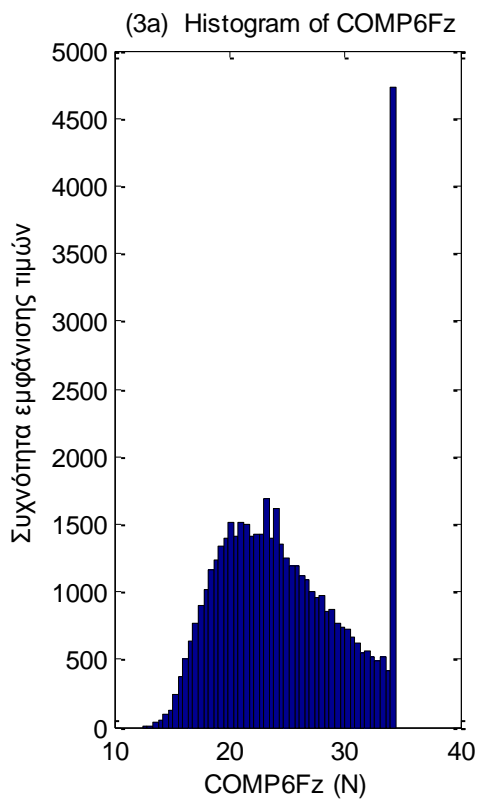
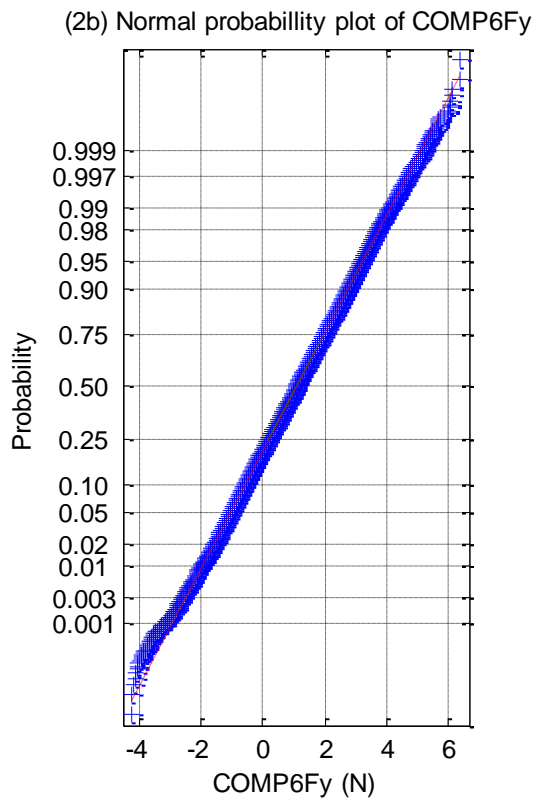
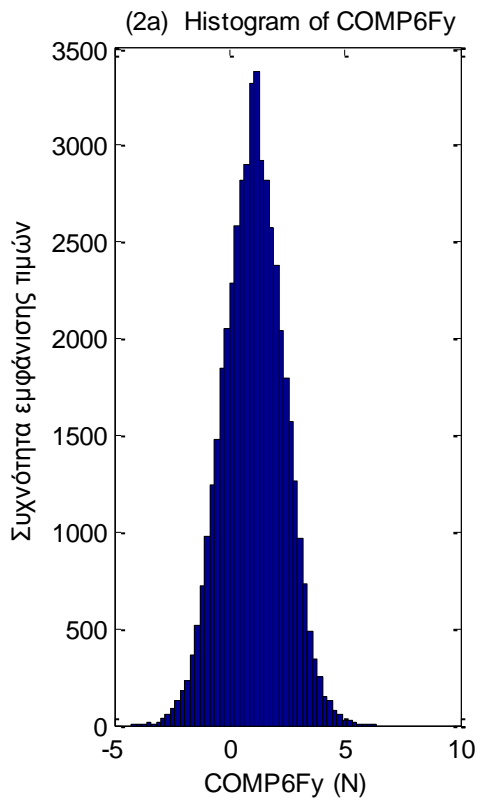
(10b) Normal probability plot of WG10

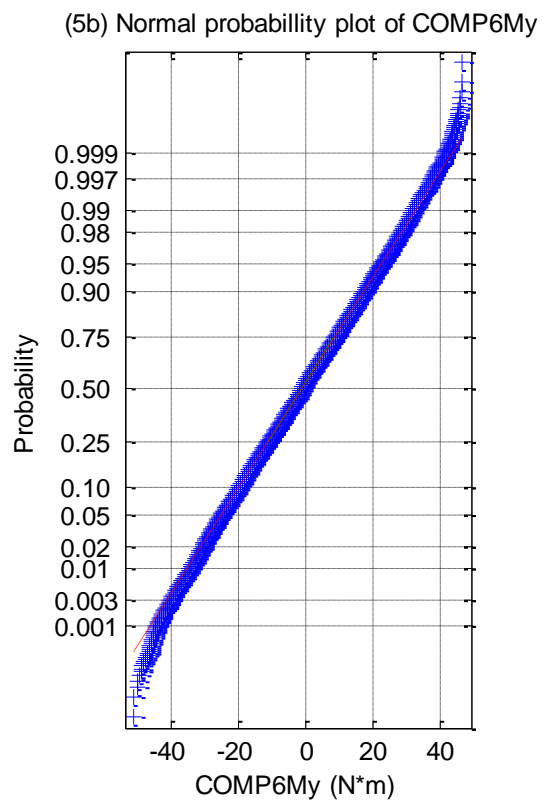
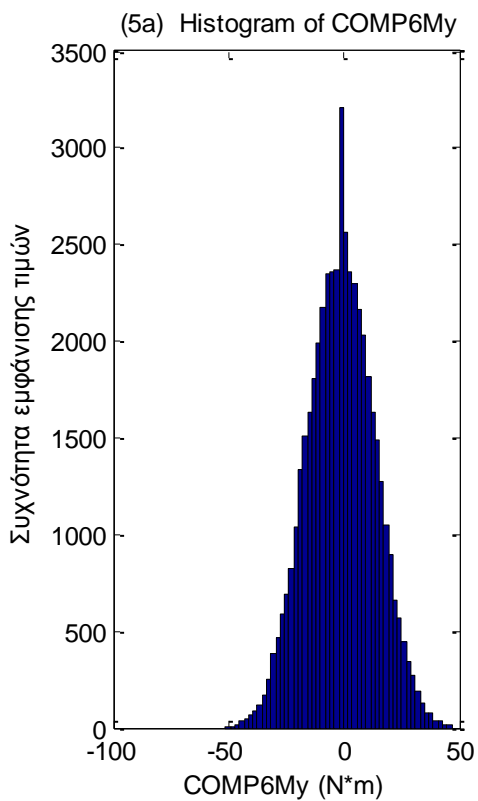
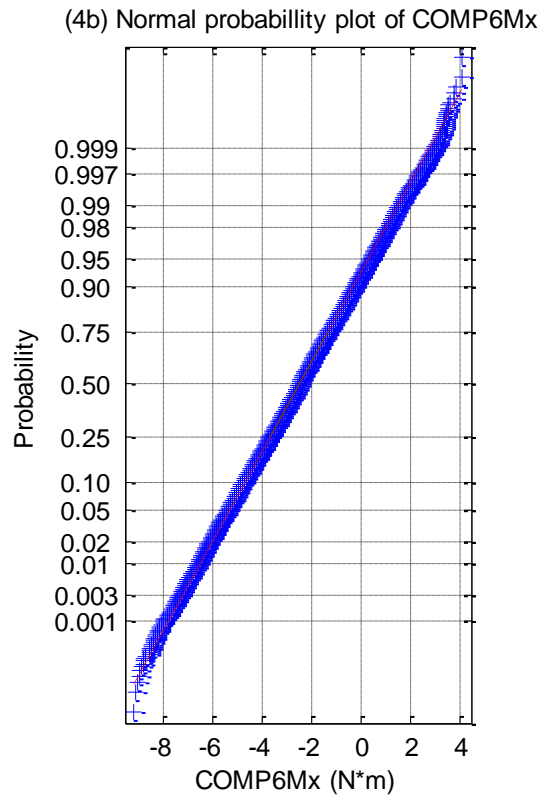
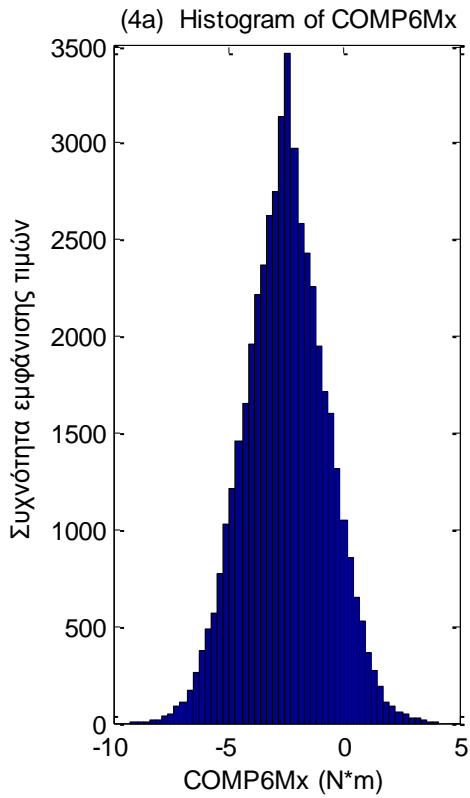


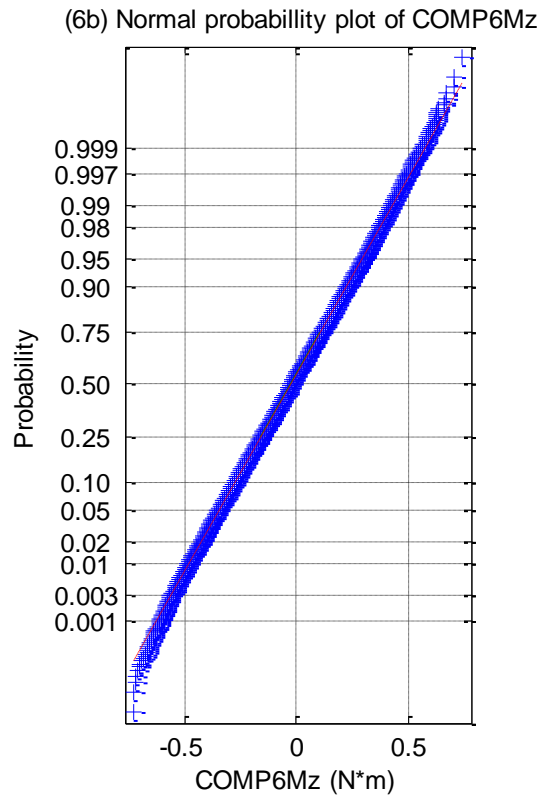
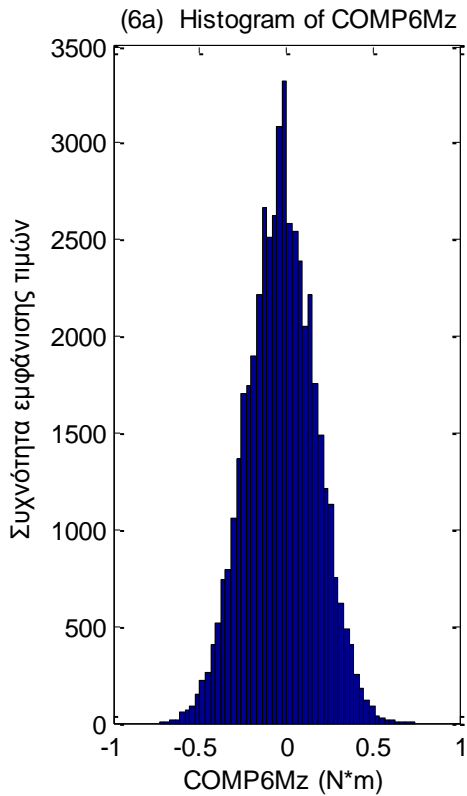


Σχήματα 1.6.2.1 (1-11) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας από τα 11 όργανα μέτρησης του ύψους κύματος

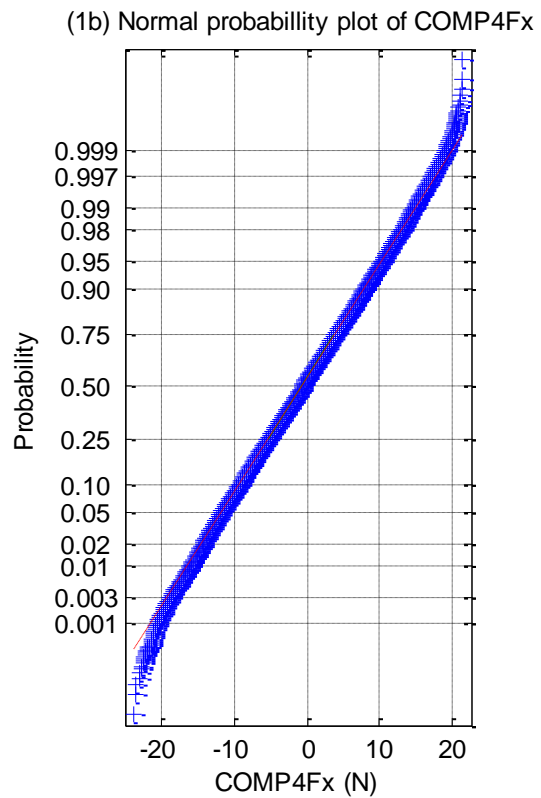
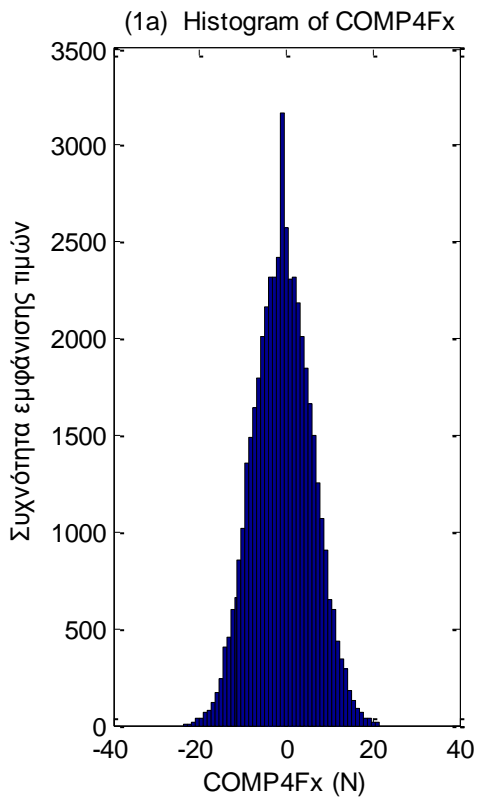


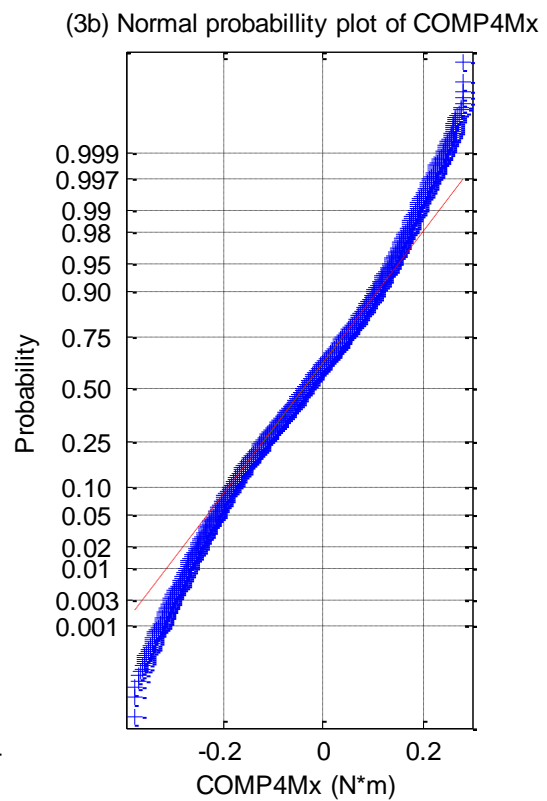
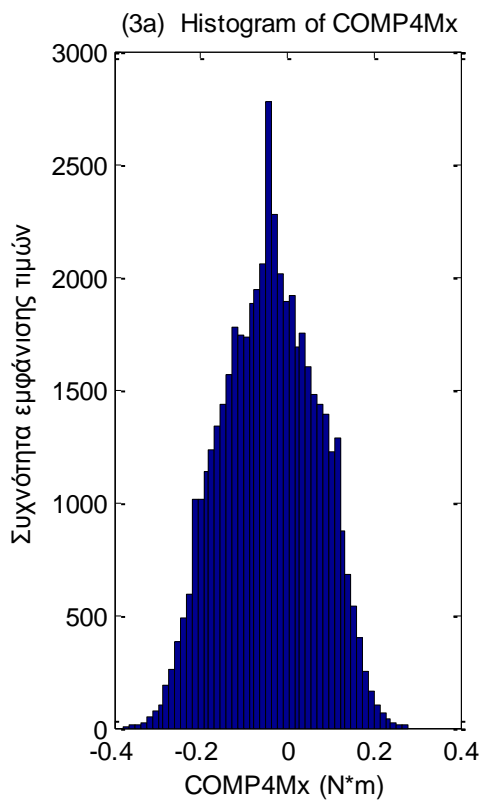
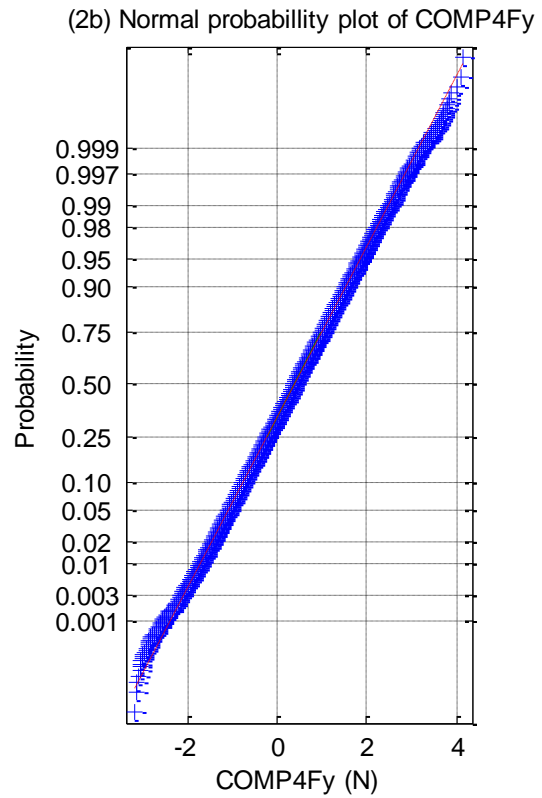
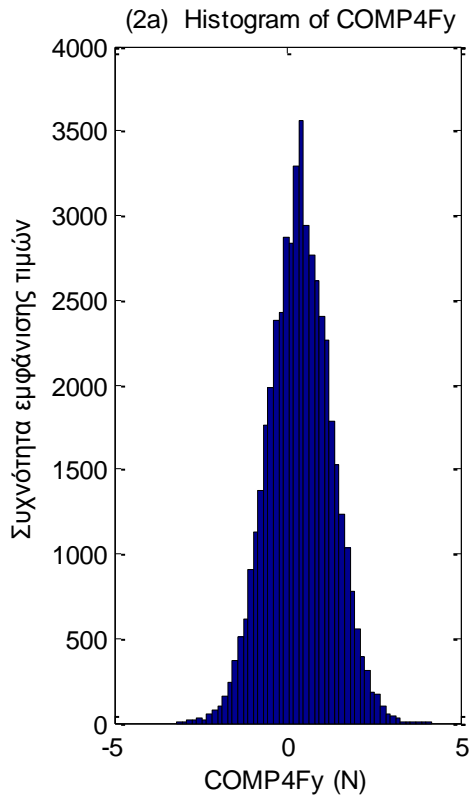


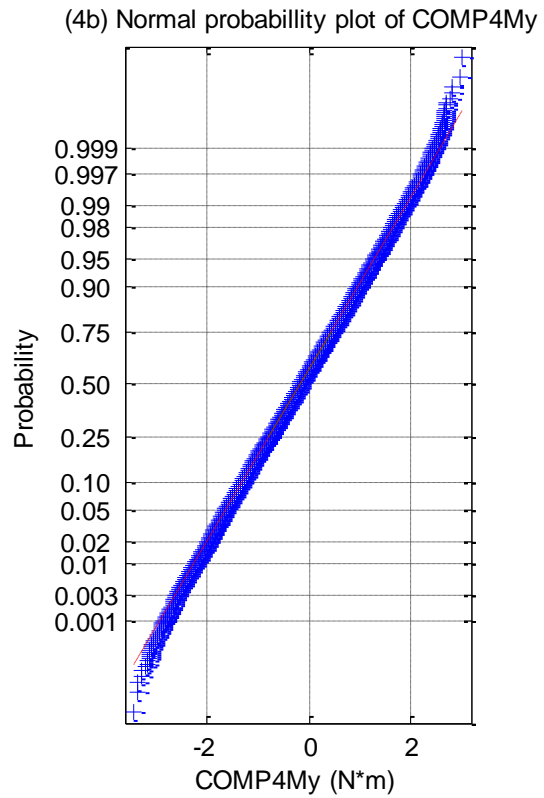
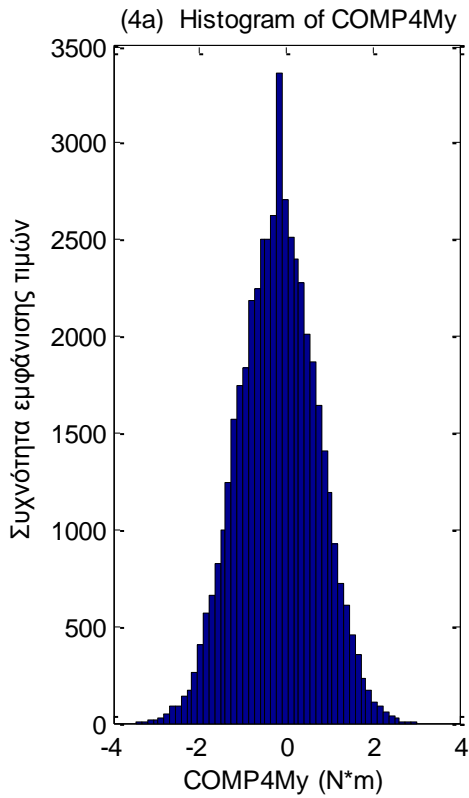




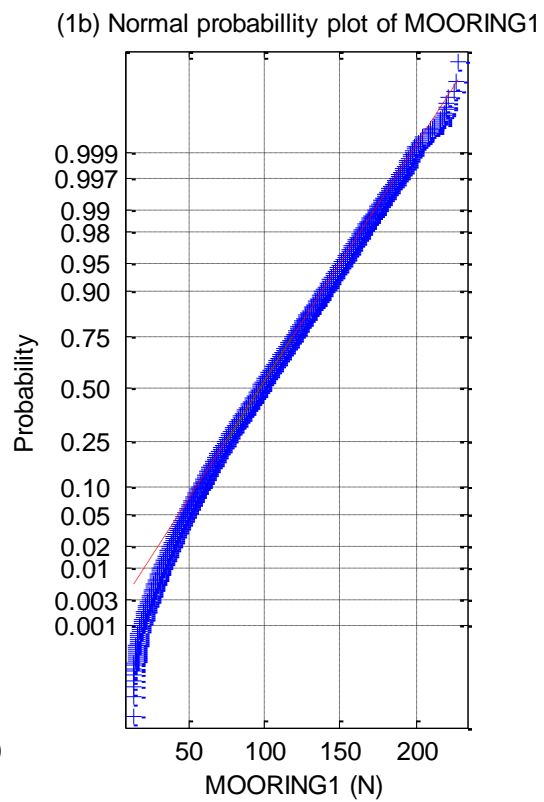
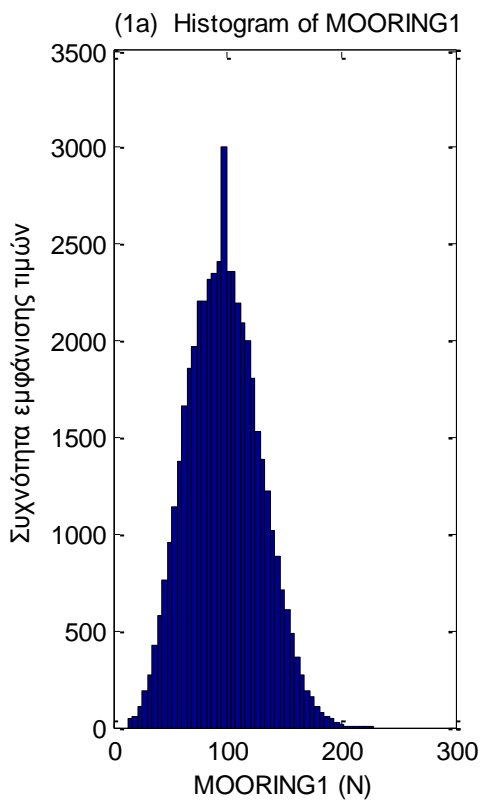
Σχήματα 1.6.2.2 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



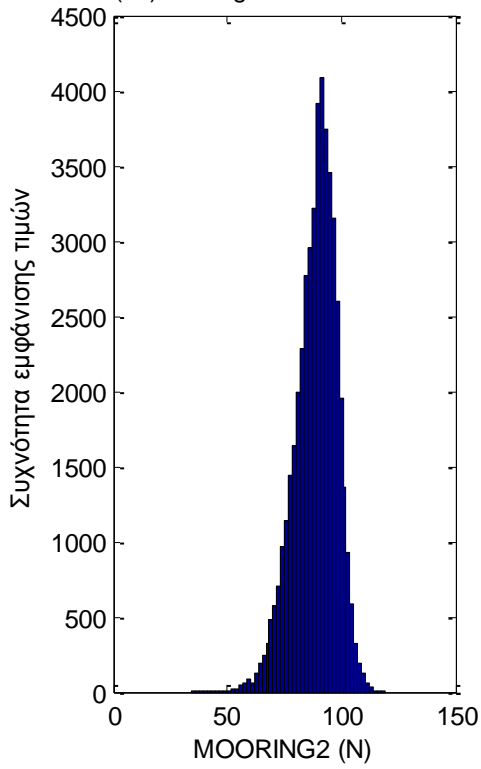




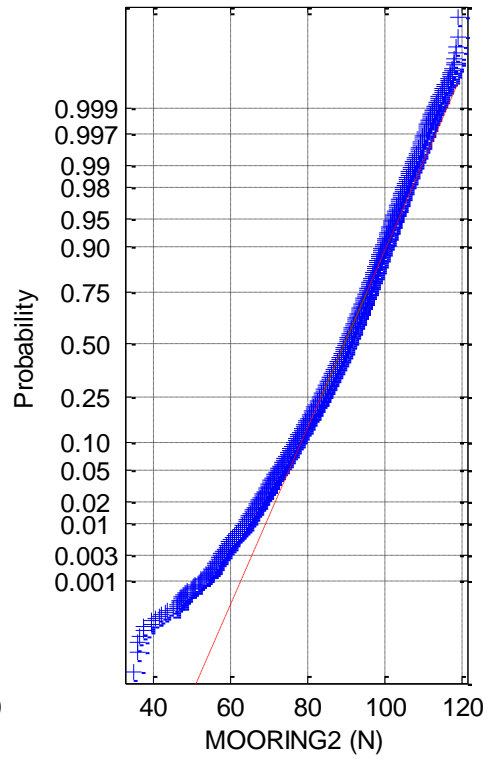
Σχήματα 1.6.2.3 α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



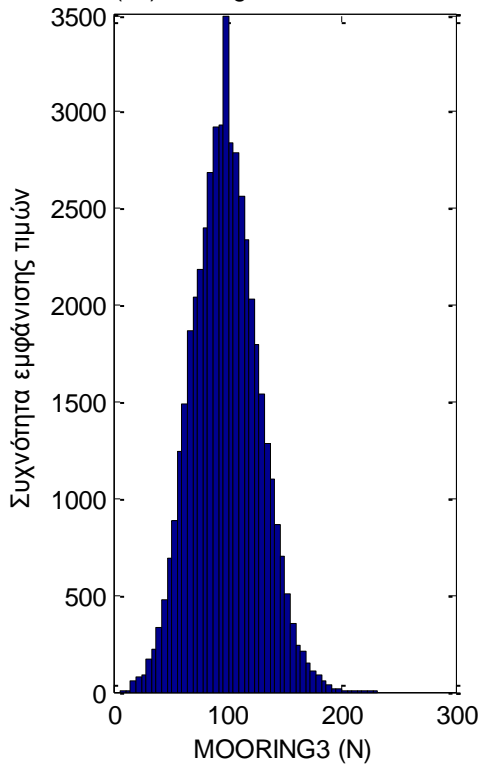
(2a) Histogram of MOORING2



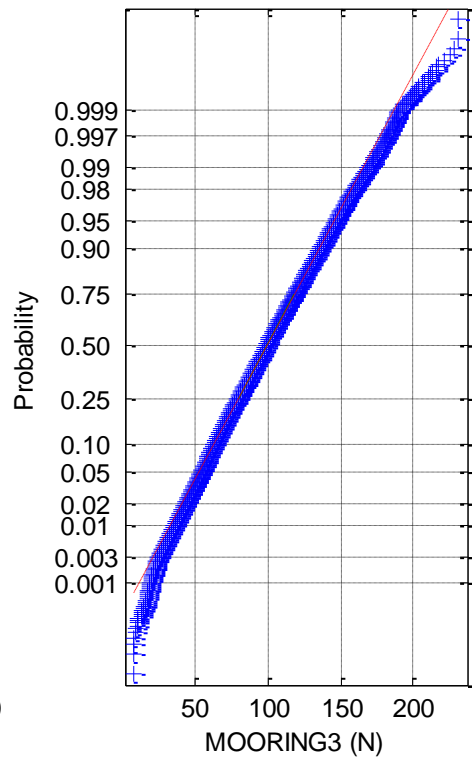
(2b) Normal probability plot of MOORING2

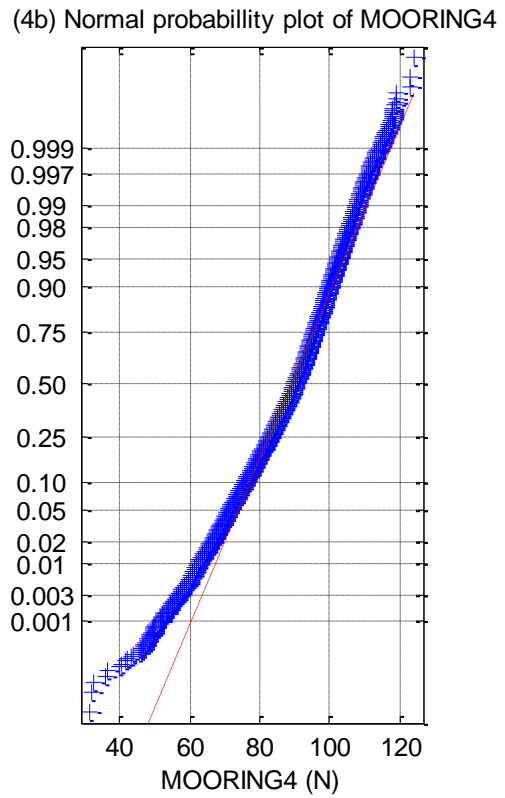
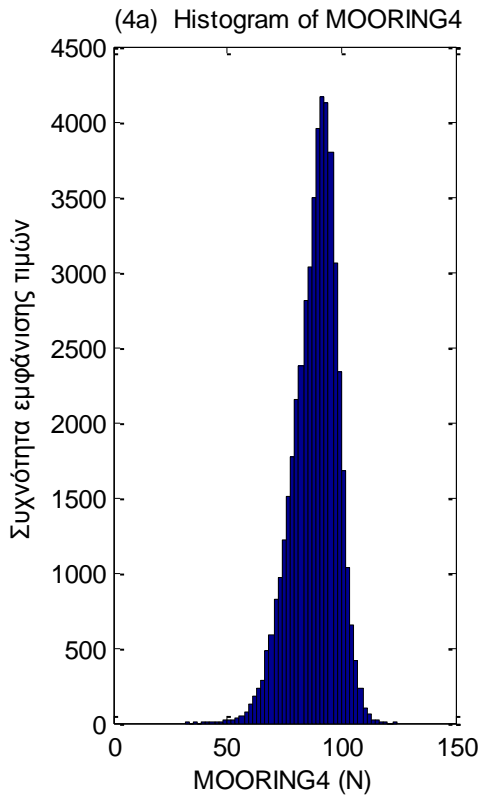


(3a) Histogram of MOORING3

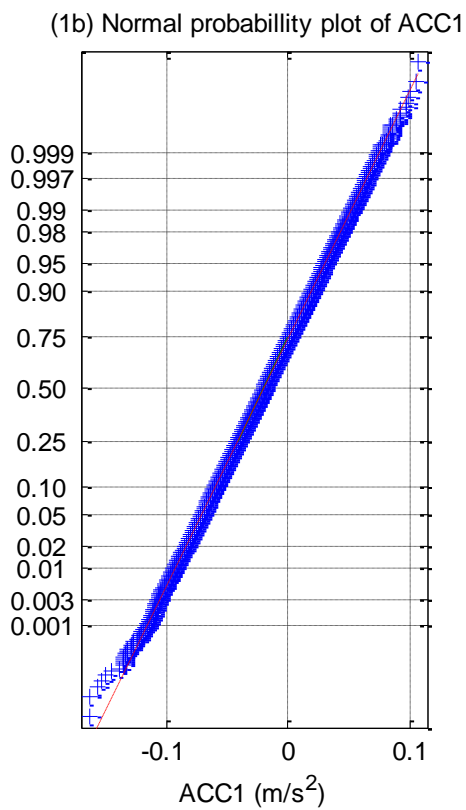
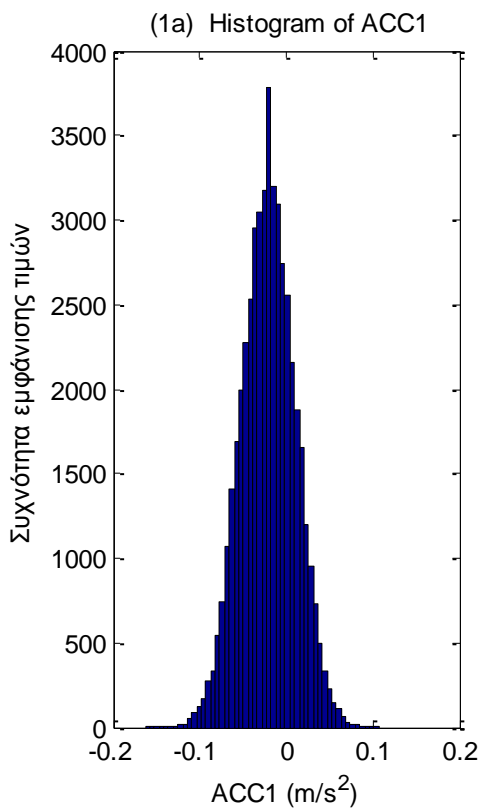


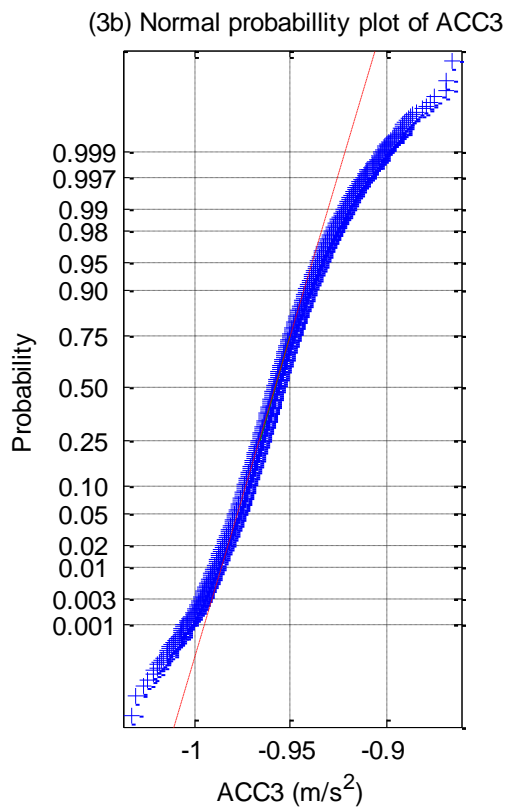
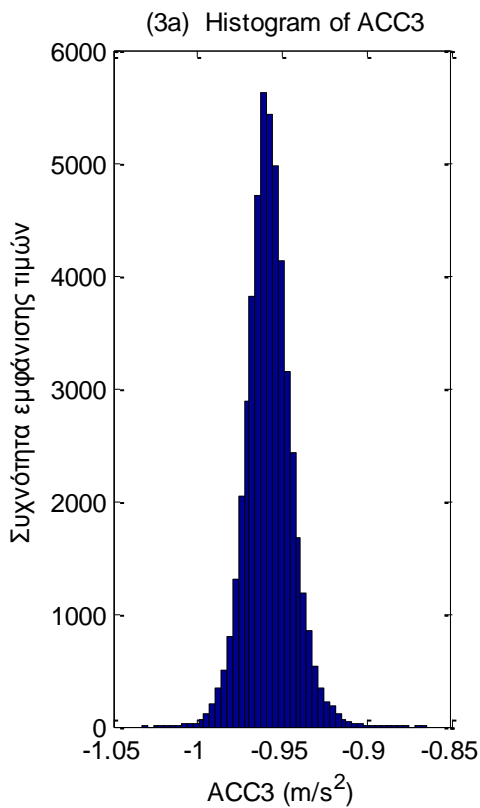
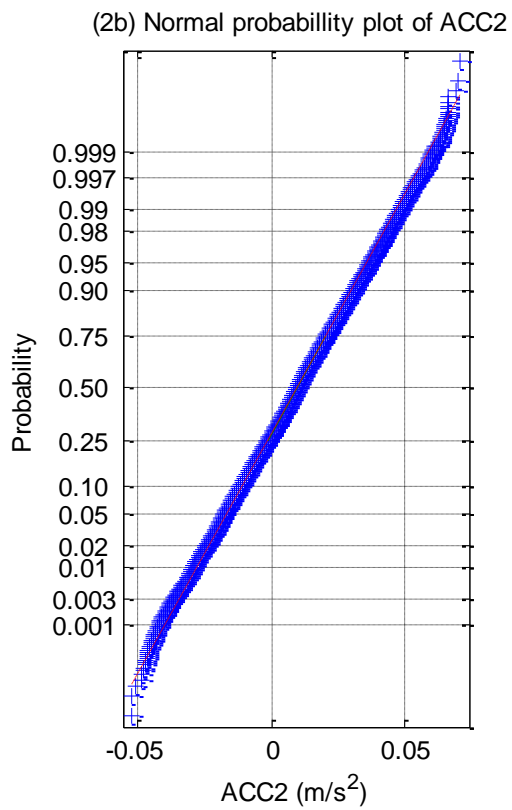
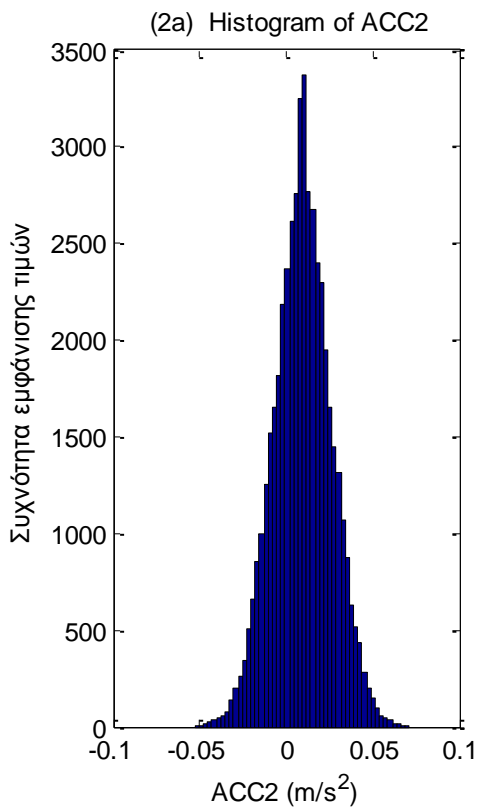
(3b) Normal probability plot of MOORING3



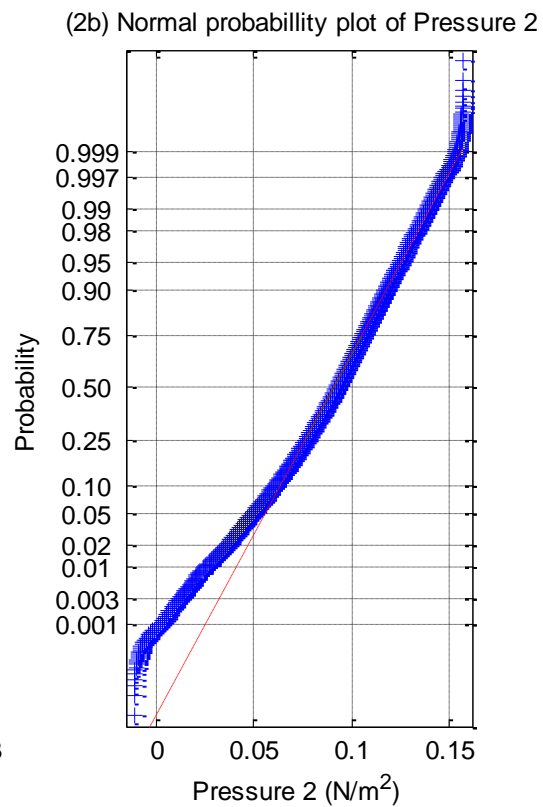
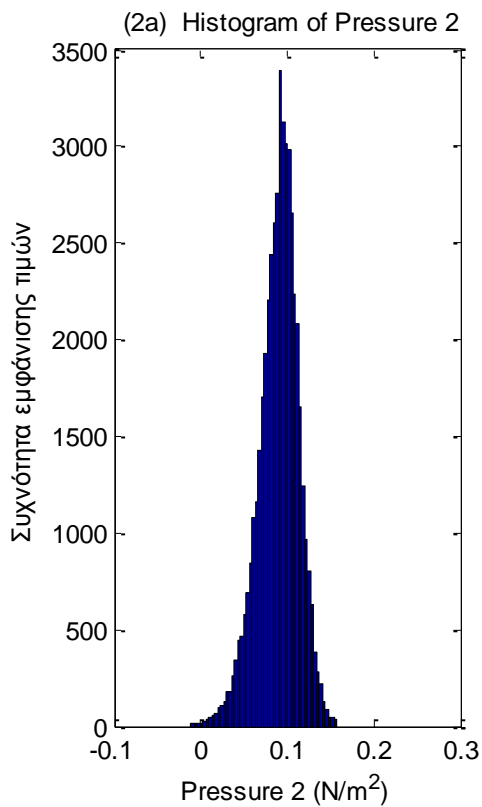
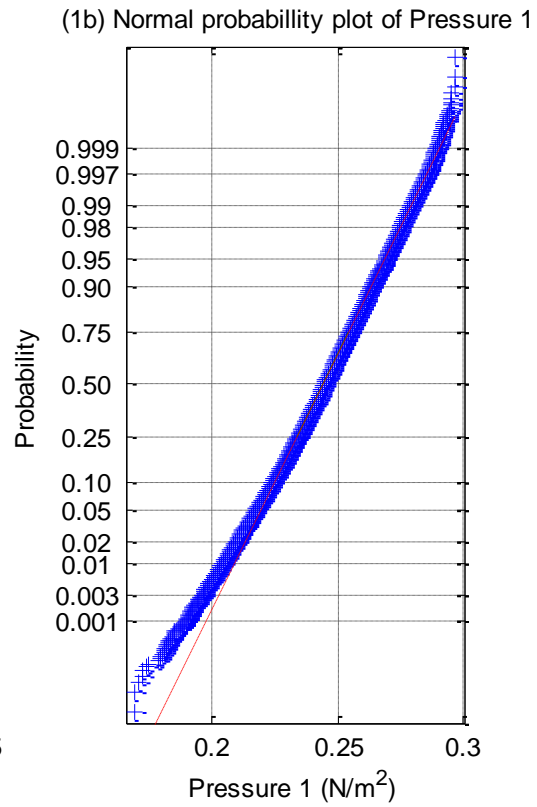
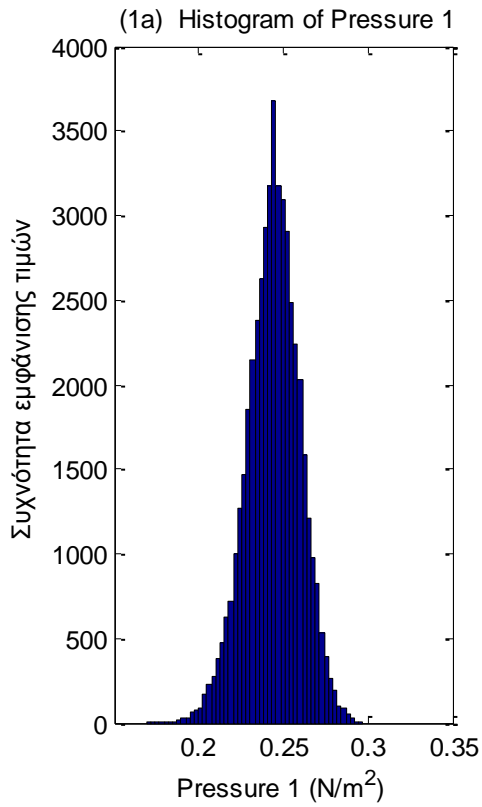


Σχήματα 1.6.2.4 (1-4) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τις δυνάμεις στις τέσσερις γραμμές ακύρωσης



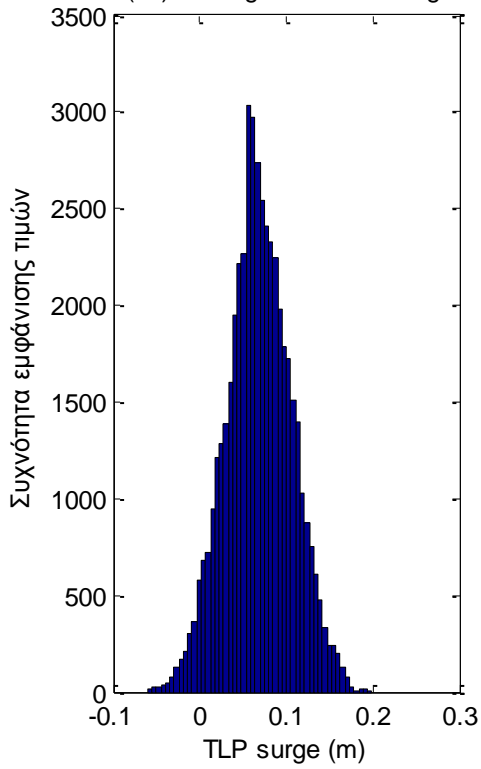


Σχήματα 1.6.2.5 (1-3) α) Ιστογράμματα και β) γραφήματα ελέγχου κανονικότητας για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

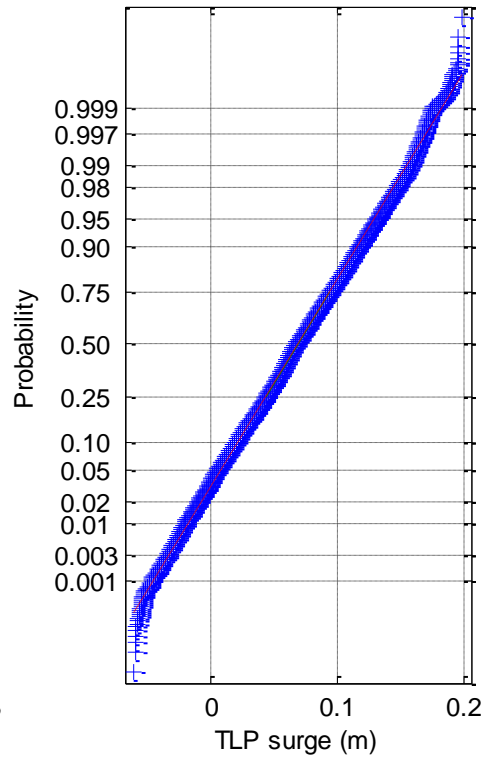


Σχήματα 1.6.2.6 (1-2) a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τα δυο όργανα μέτρησης της πίεσης

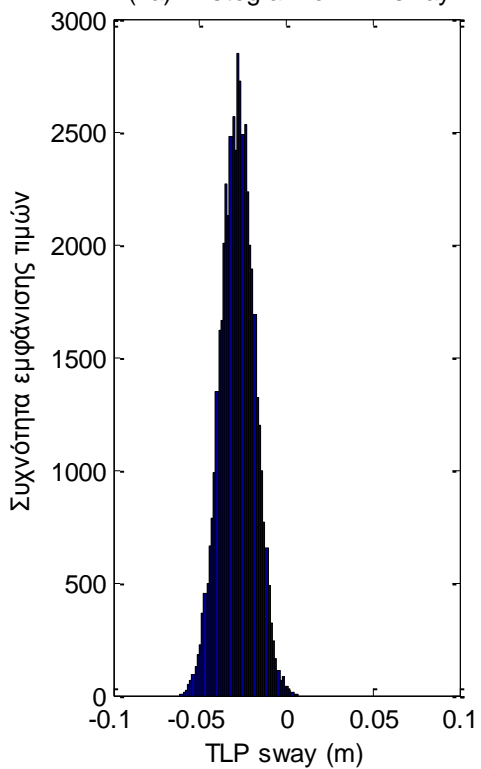
(1a) Histogram of TLP surge



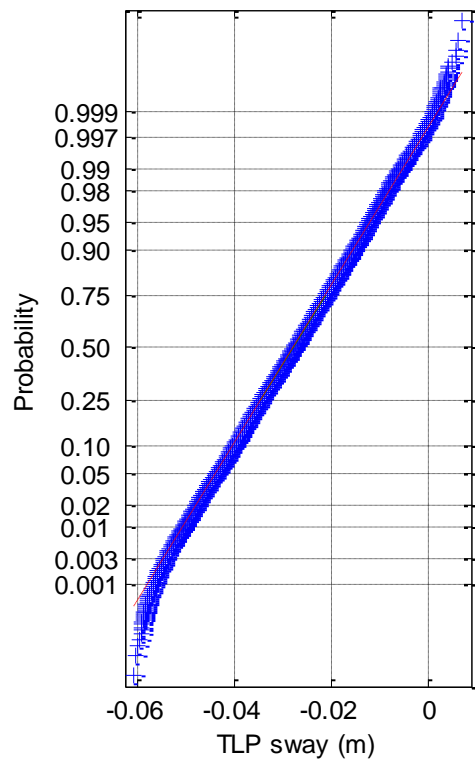
(1b) Normal probability plot of TLP surge

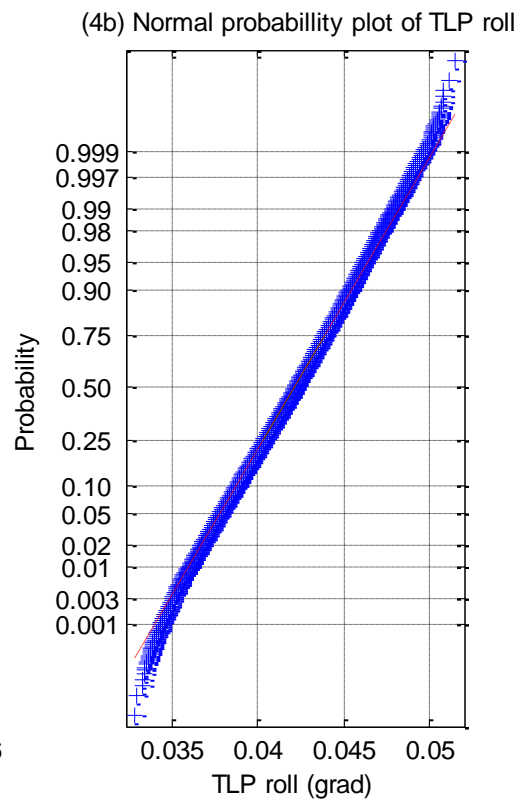
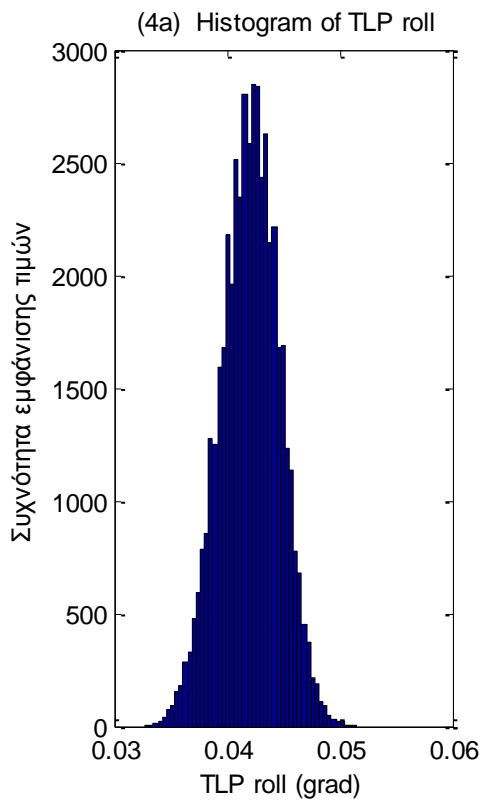
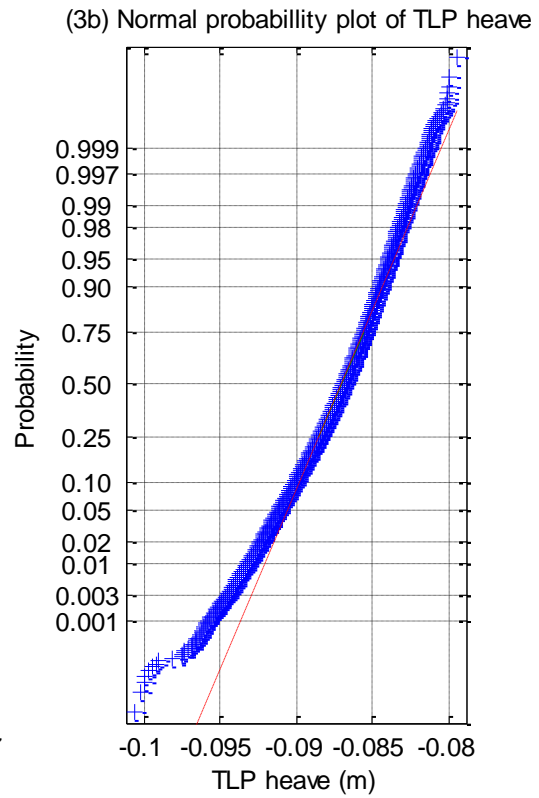
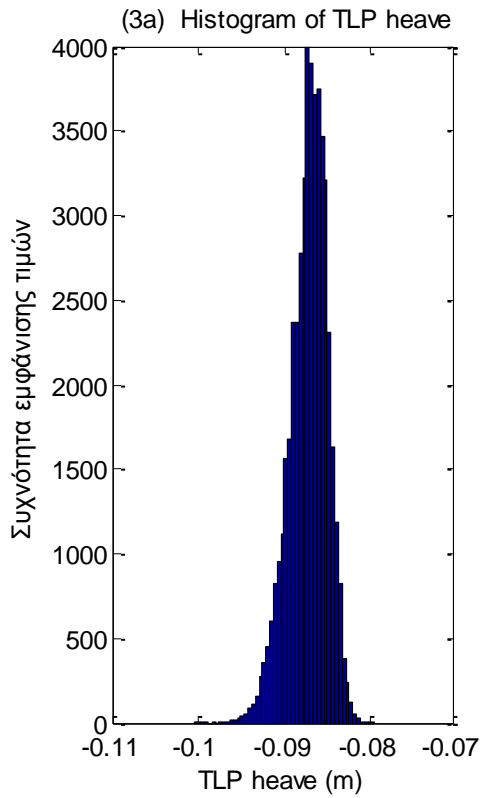


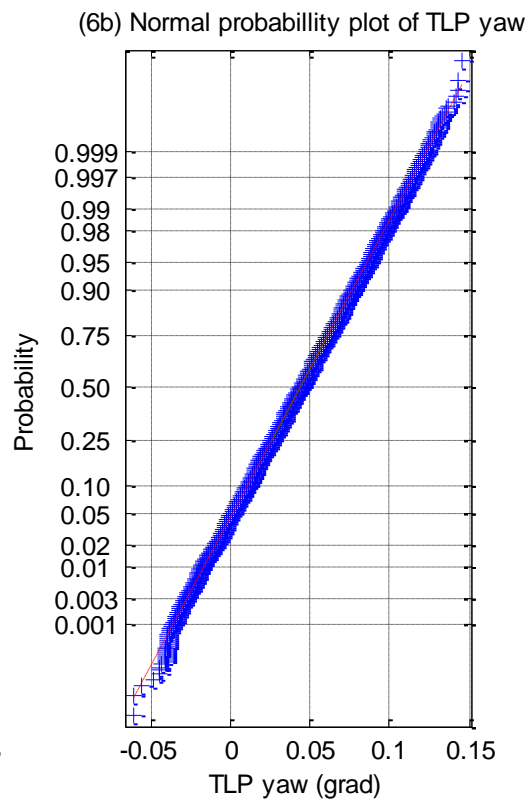
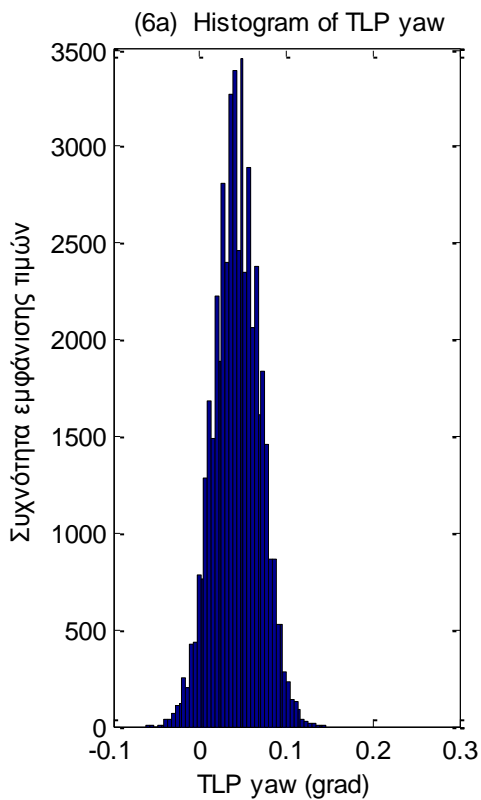
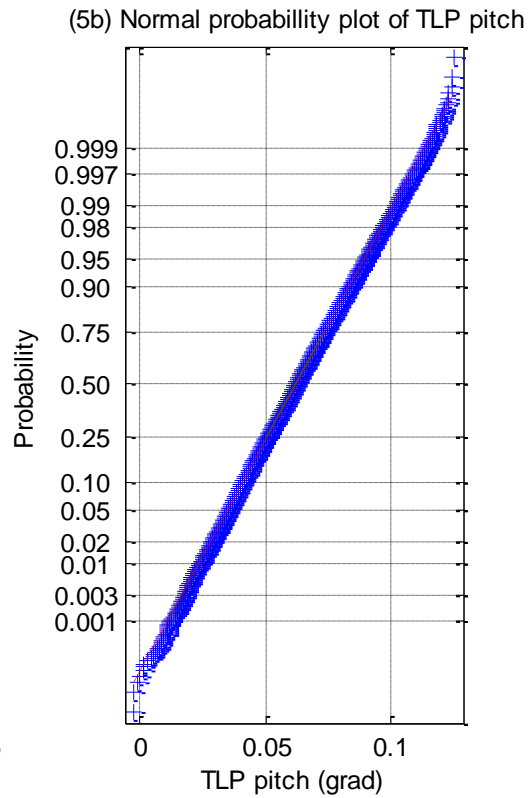
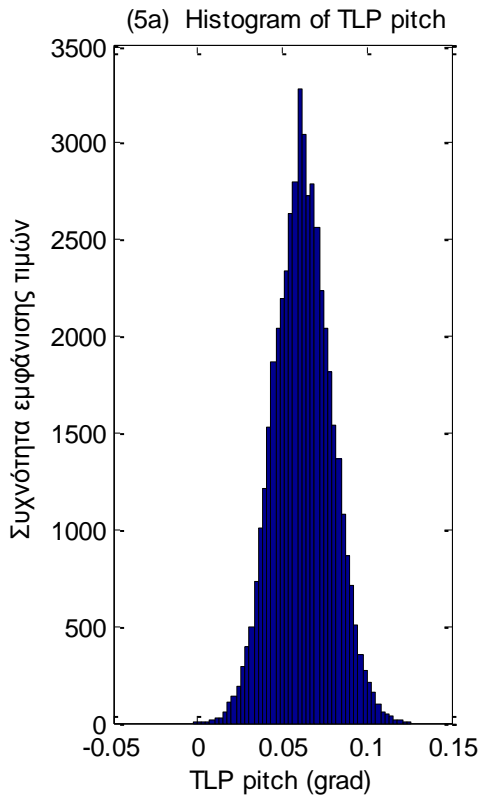
(2a) Histogram of TLP sway



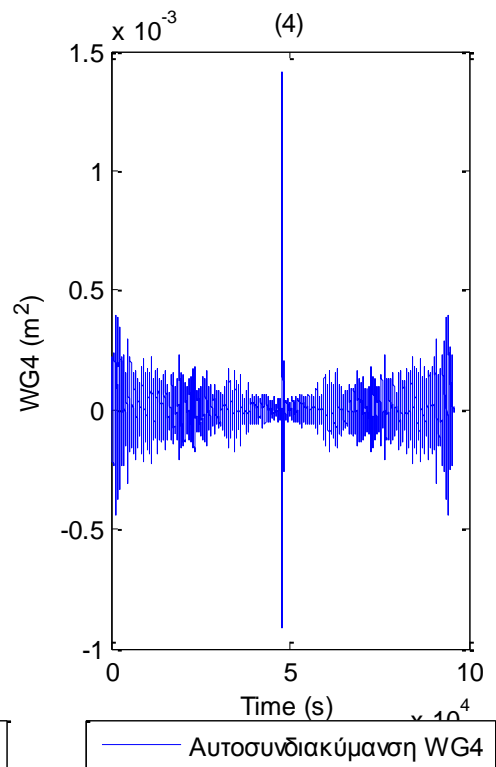
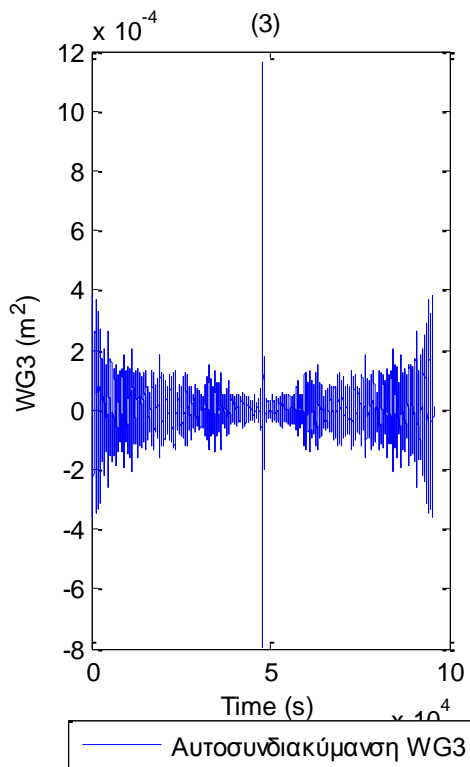
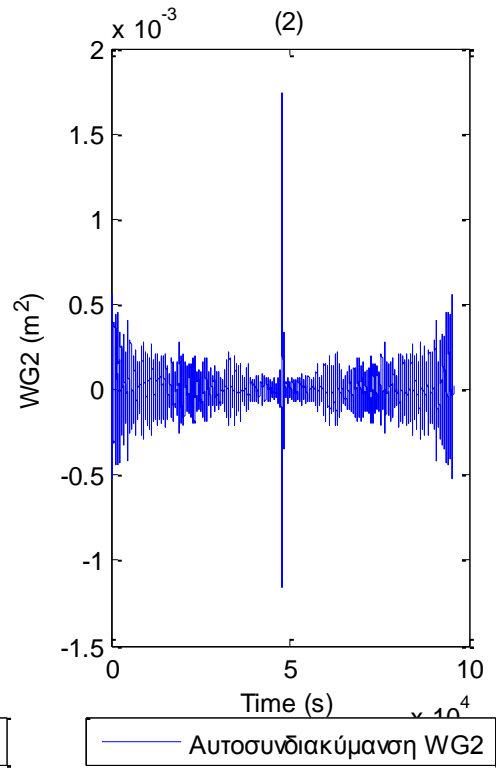
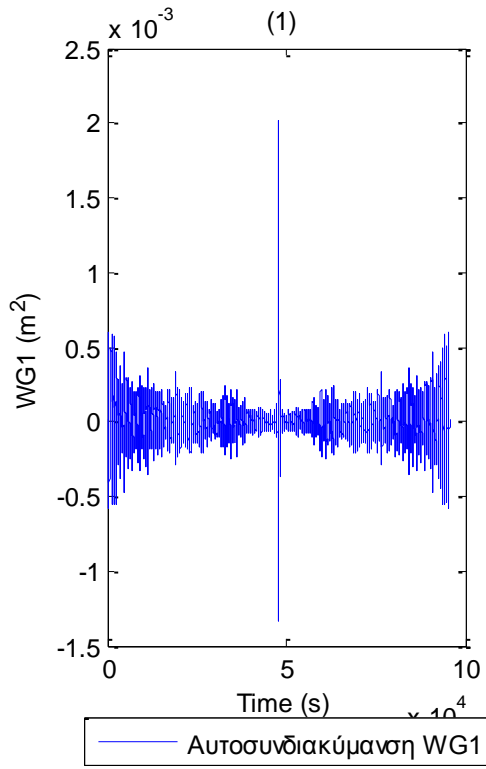
(2b) Normal probability plot of TLP sway

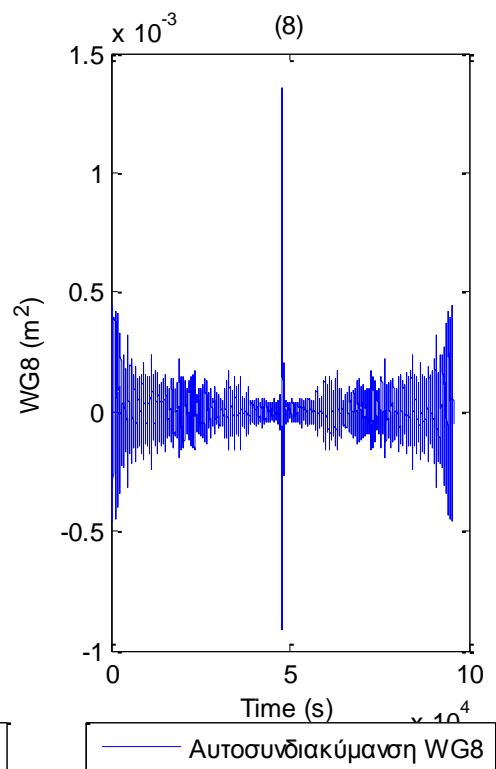
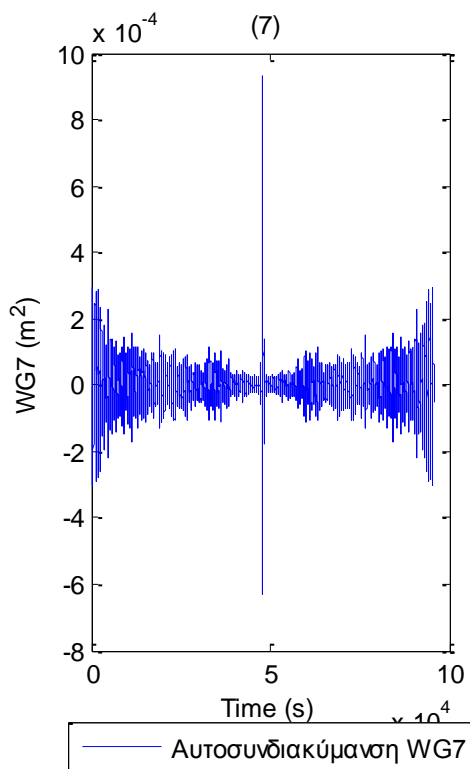
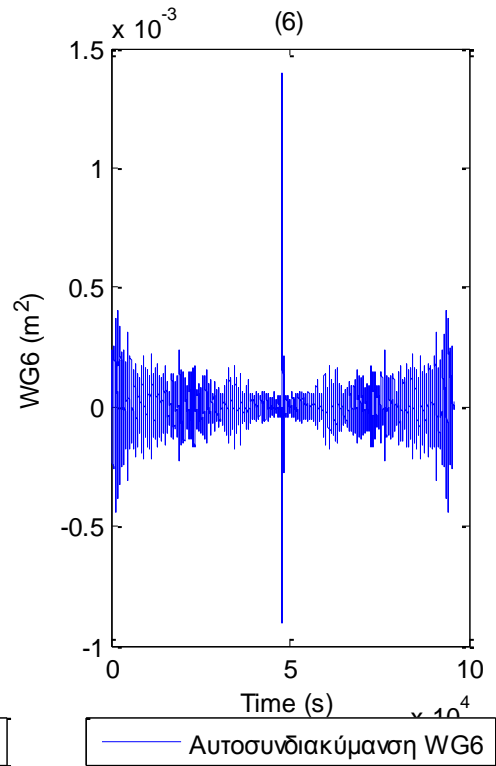
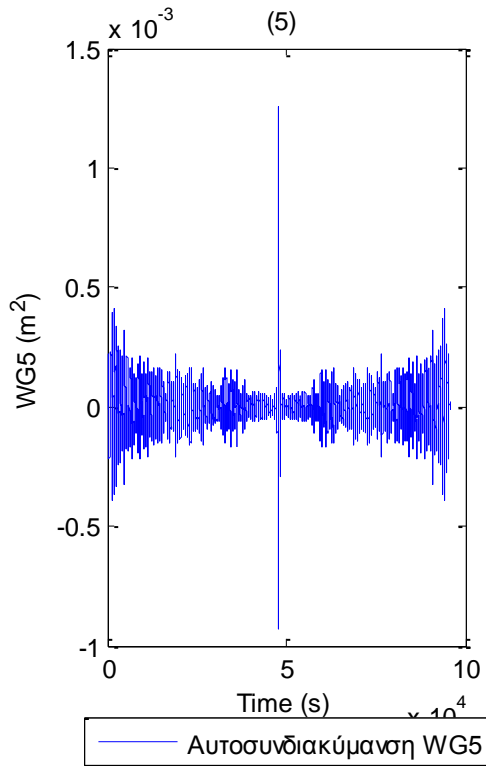


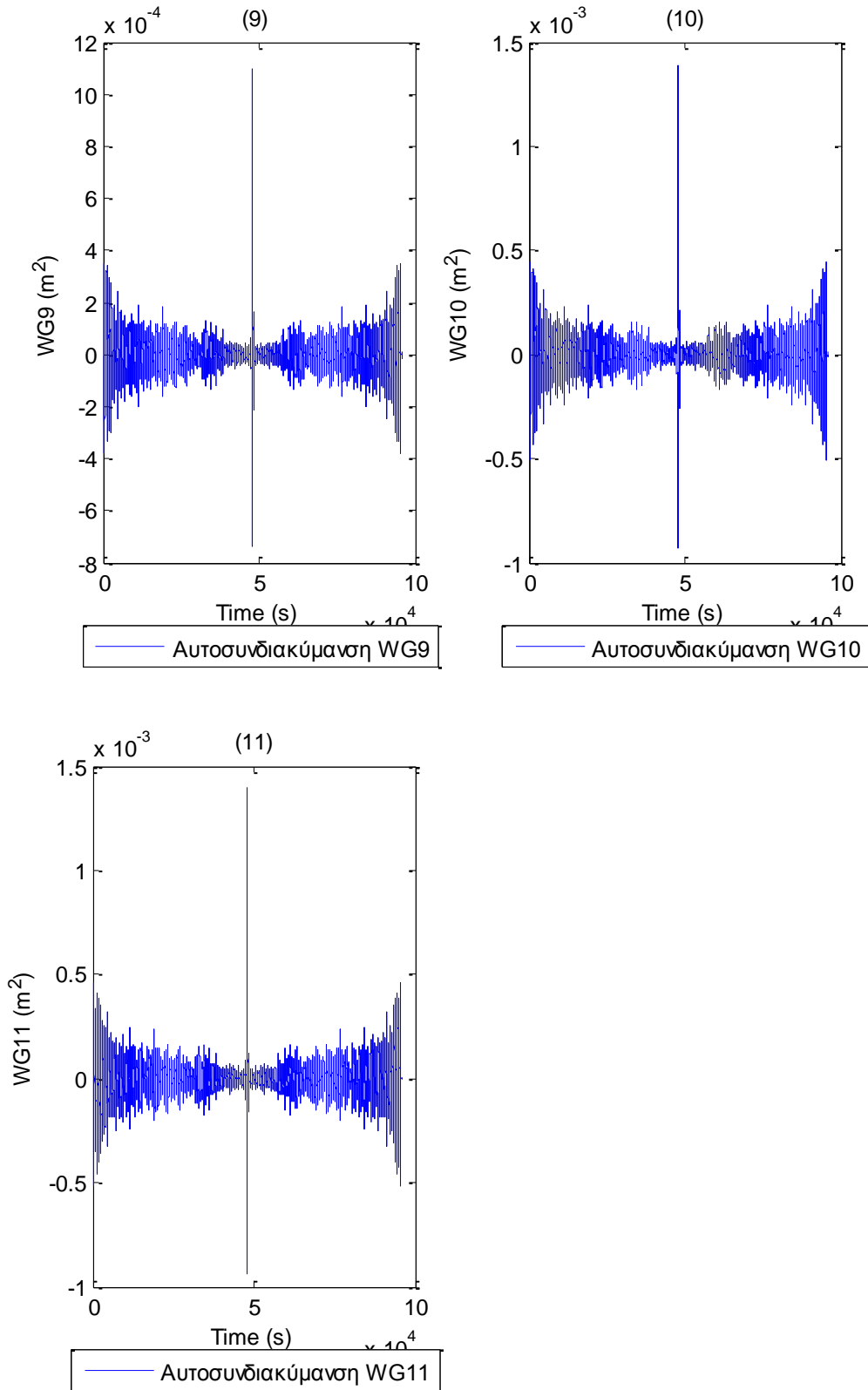




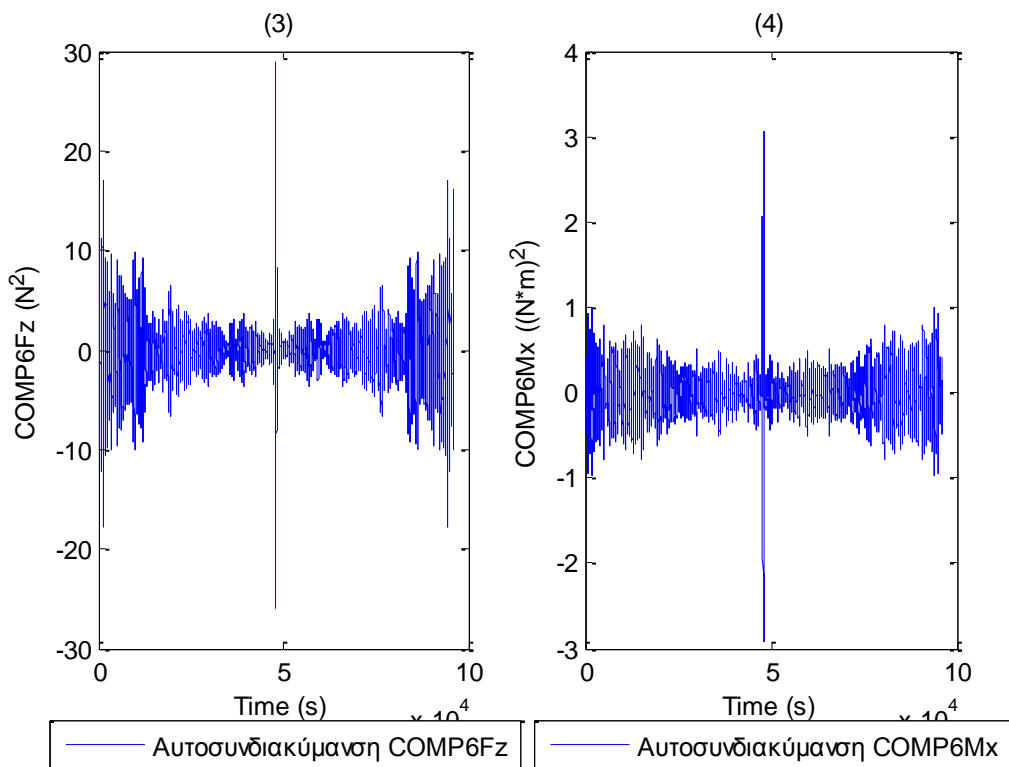
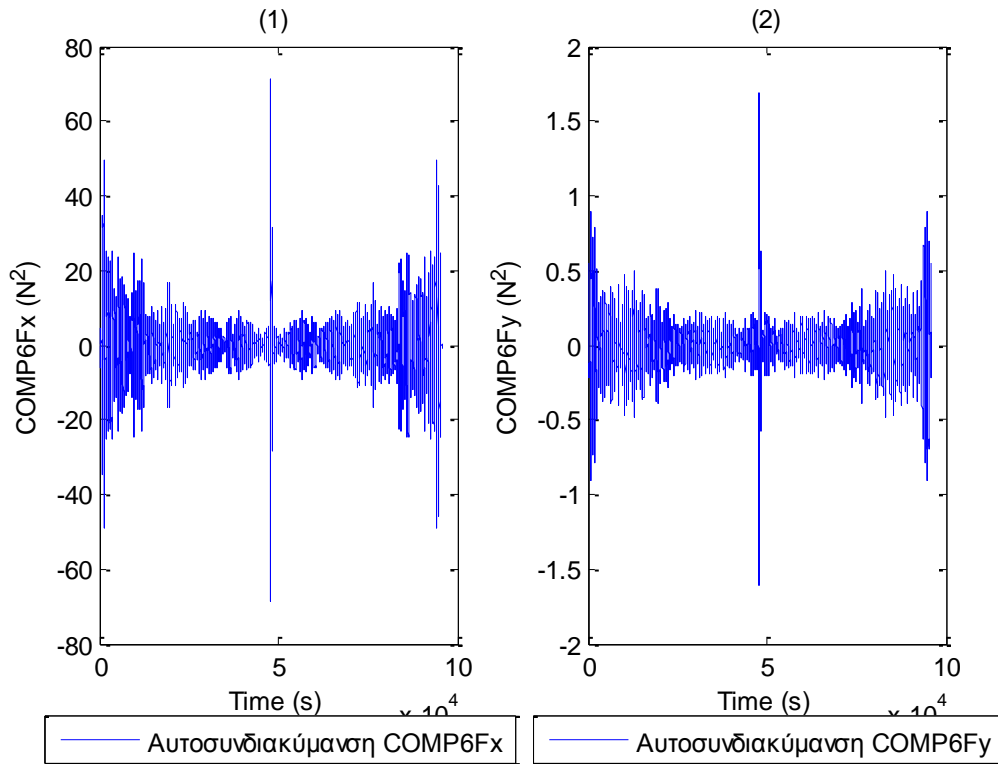
Σχήματα 1.6.2.7 a) Ιστογράμματα και b) γραφήματα ελέγχου κανονικότητας για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

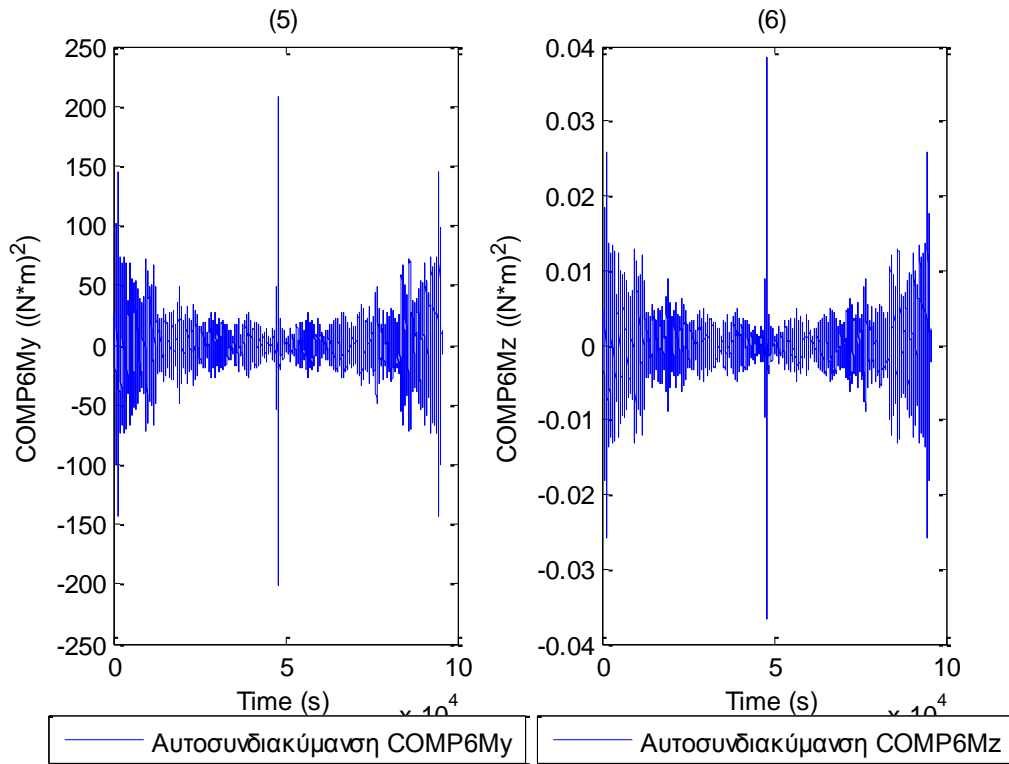




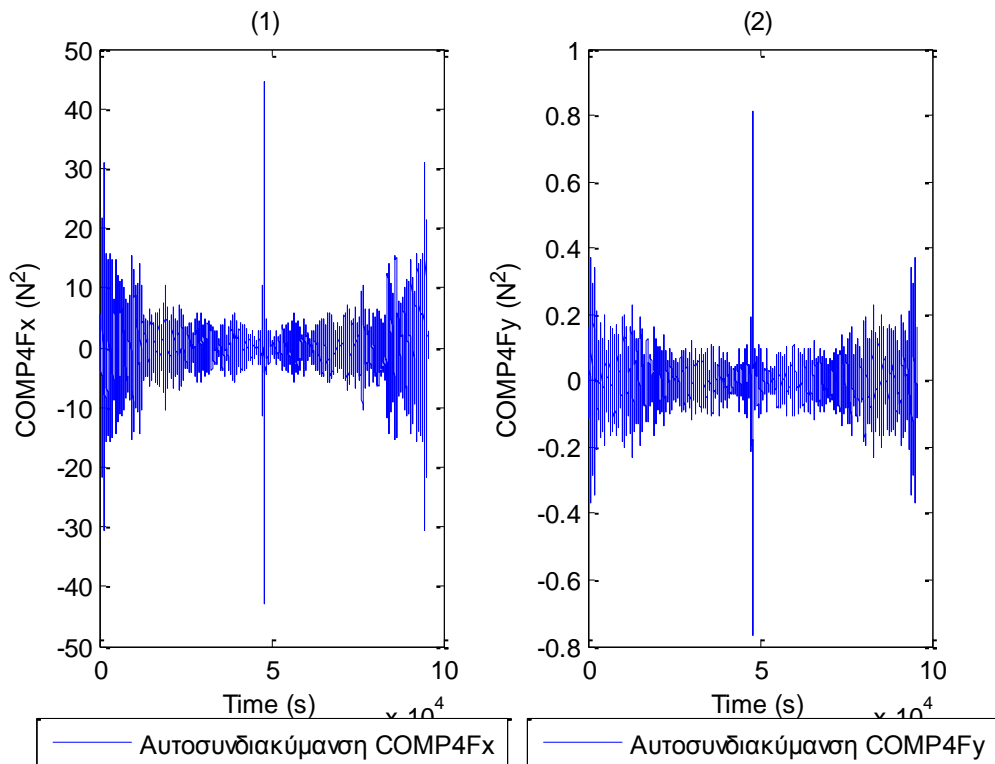


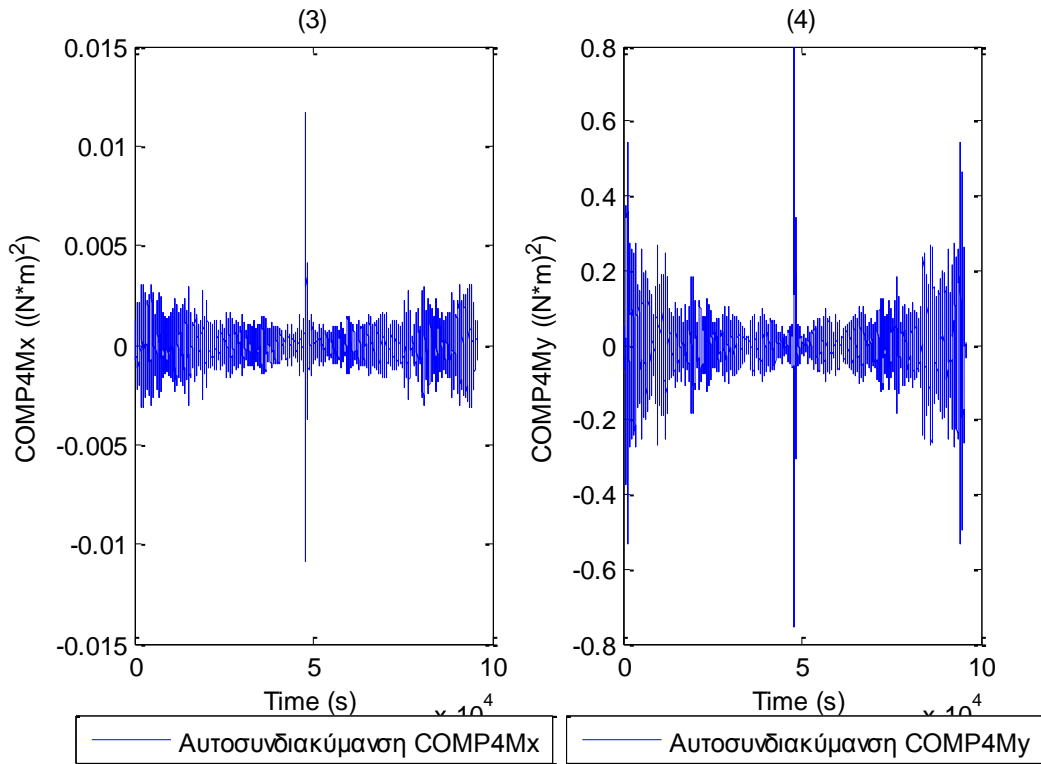
Σχήματα 1.6.3.1 (1-11) Συναρτήσεις Αυτό-συνδιακύμανσης για τα 11 όργανα μέτρησης του ύψους κύματος



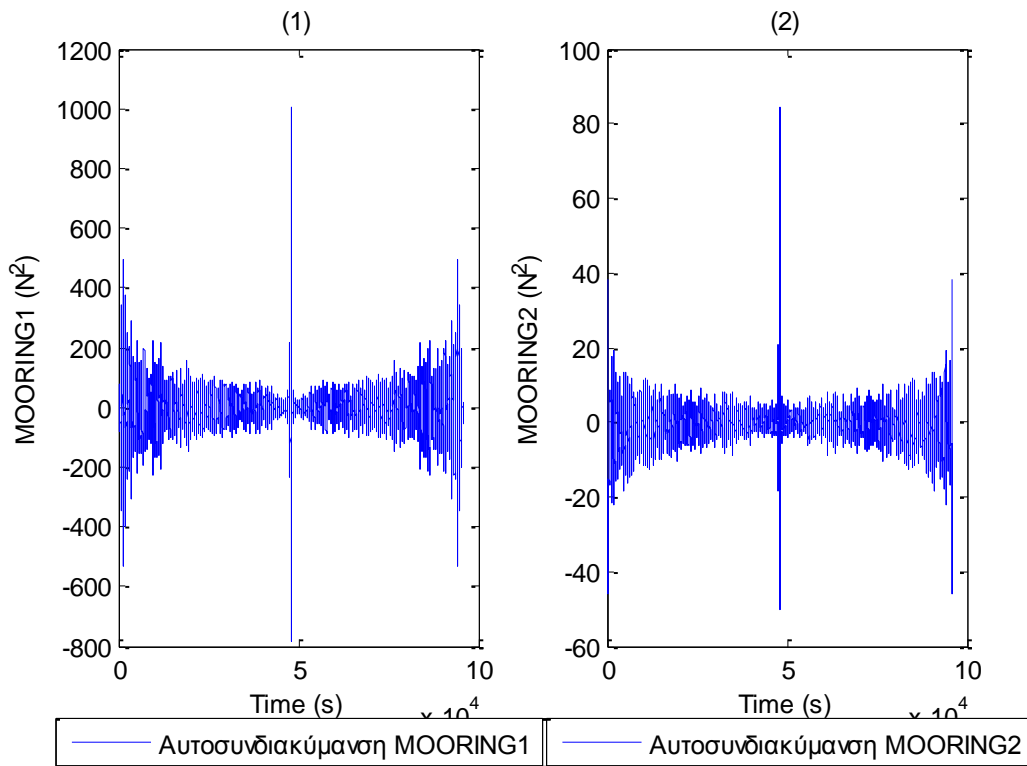


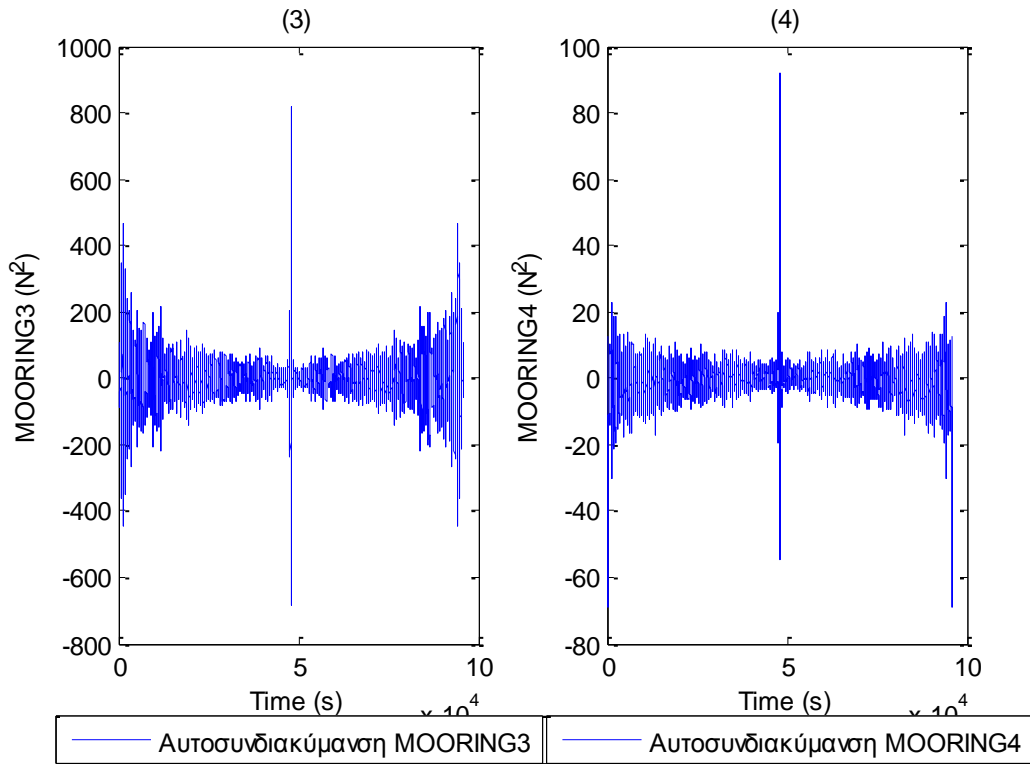
Σχήματα 1.6.3.2 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



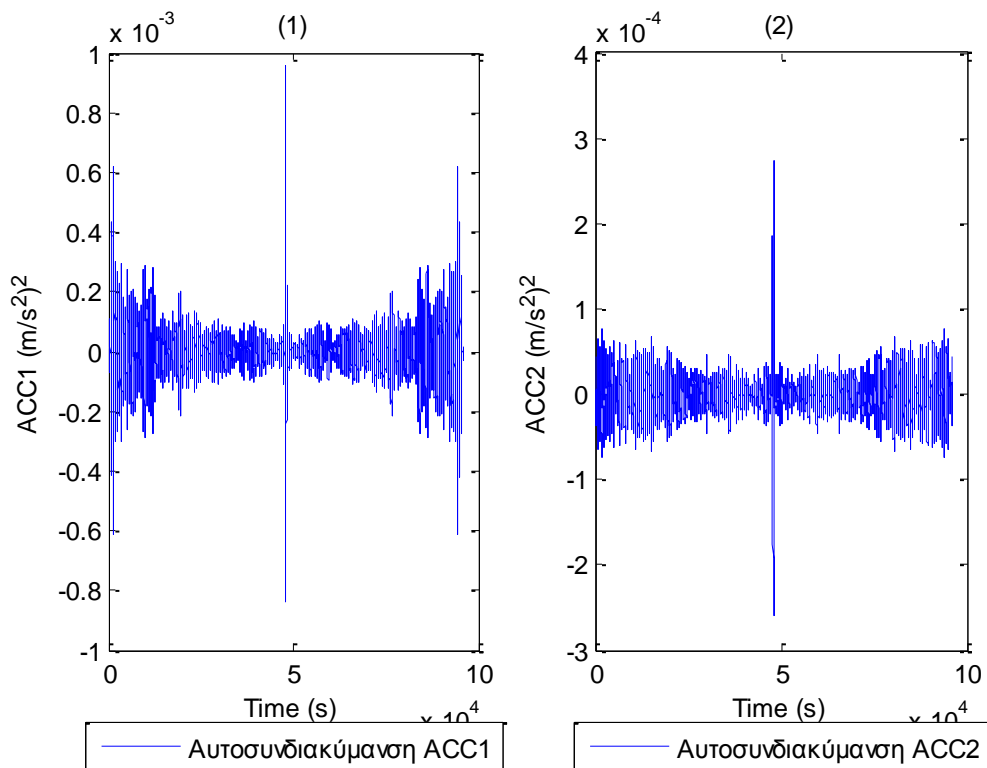


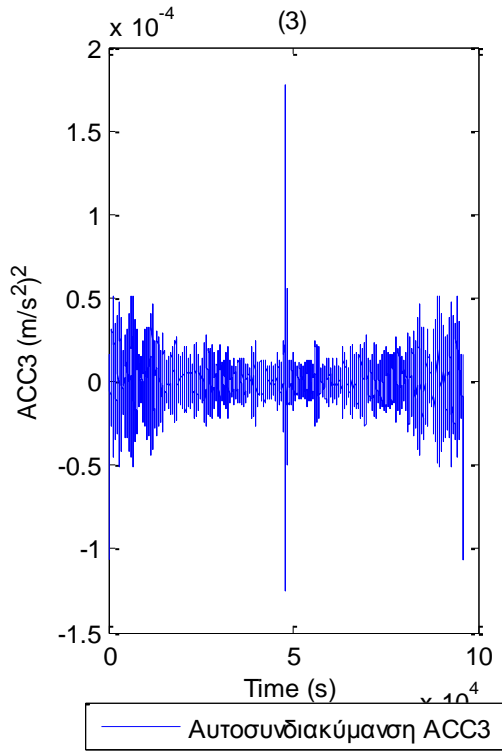
Σχήματα 1.6.3.3 Συναρτήσεις Αυτοσυνδιακύμανσης για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



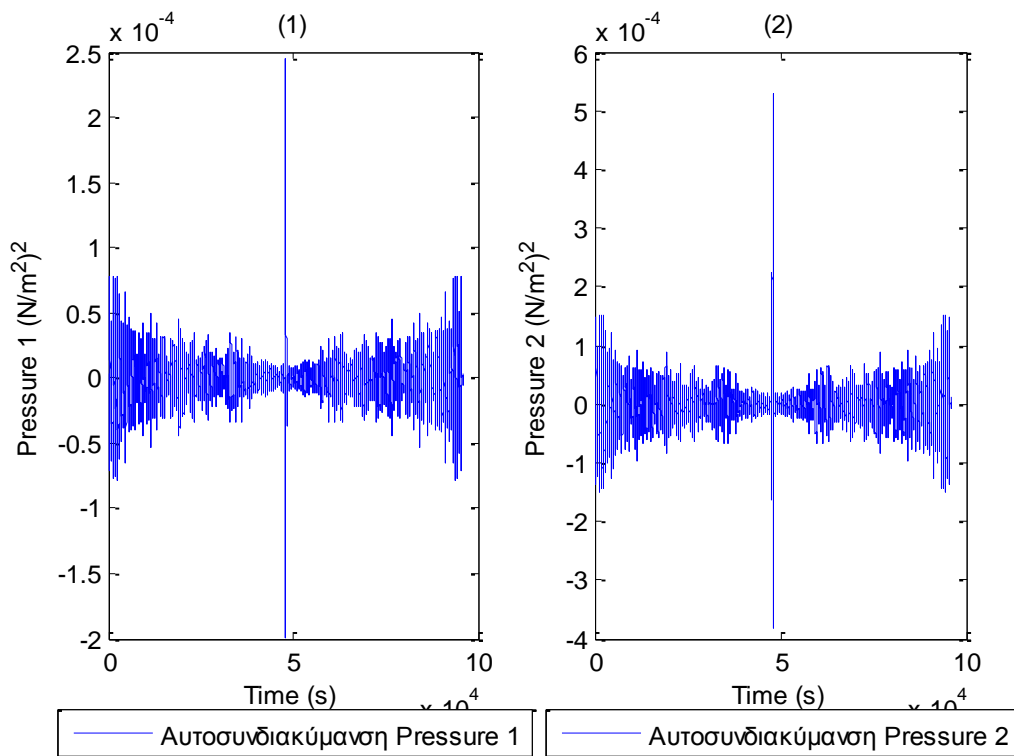


Σχήματα 1.6.3.4 (1-4) Συναρτήσεις Αυτοσυνδιακύμανσης για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

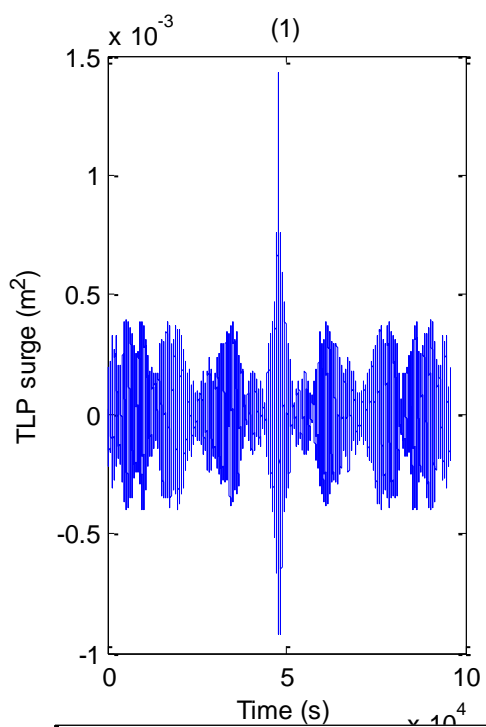




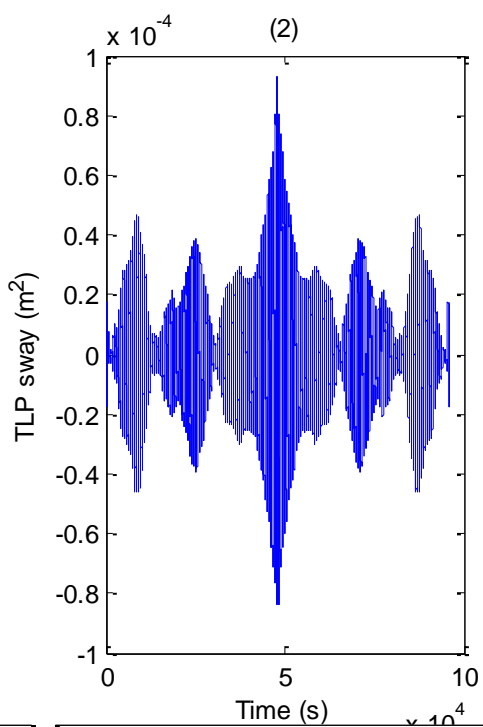
Σχήματα 1.6.3.5 (1-3) Συναρτήσεις Αυτοσυνδιακύμανσης για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3



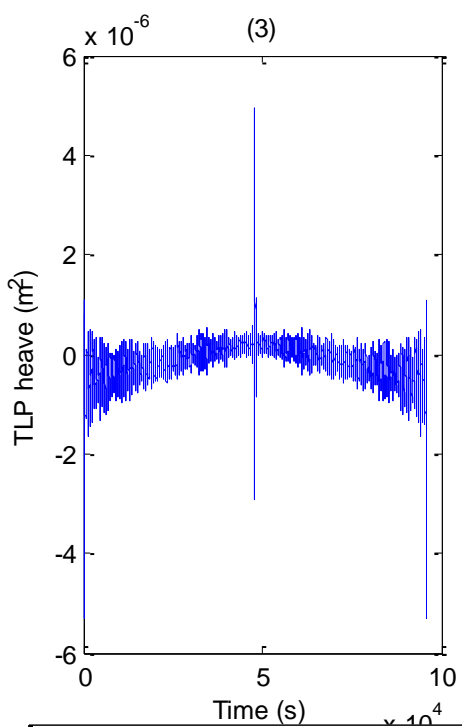
Σχήματα 1.6.3.6 (1-2) Συναρτήσεις Αυτοσυνδιακύμανσης για τα δυο όργανα μέτρησης της πίεσης



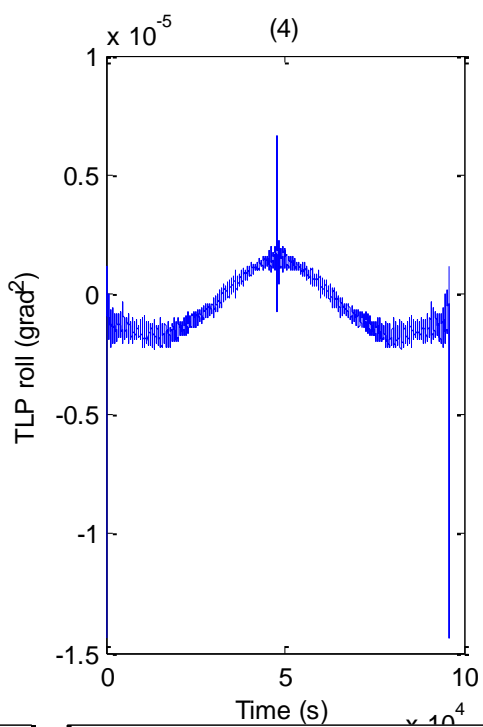
— Αυτοσυνδιακύμανση TLP surge



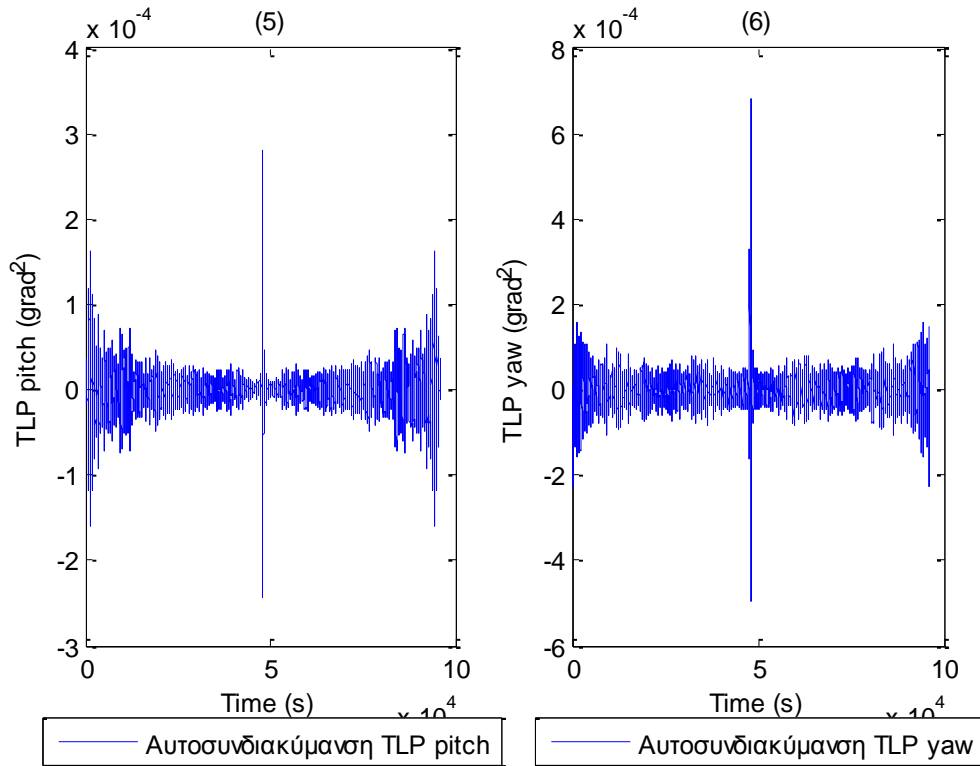
— Αυτοσυνδιακύμανση TLP sway



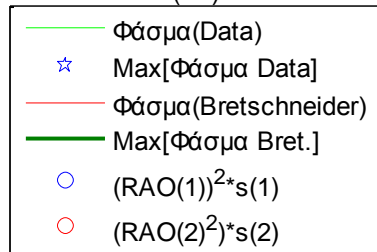
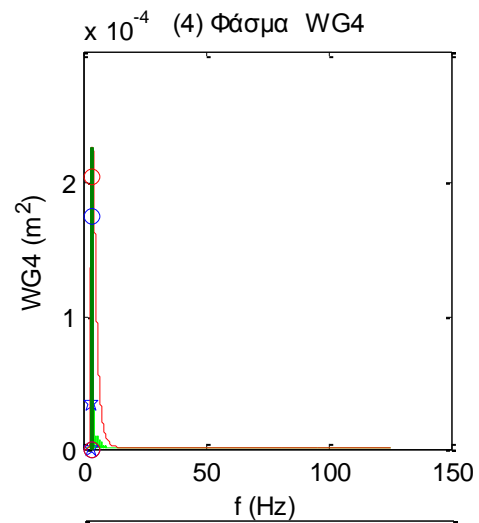
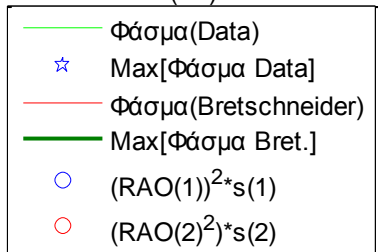
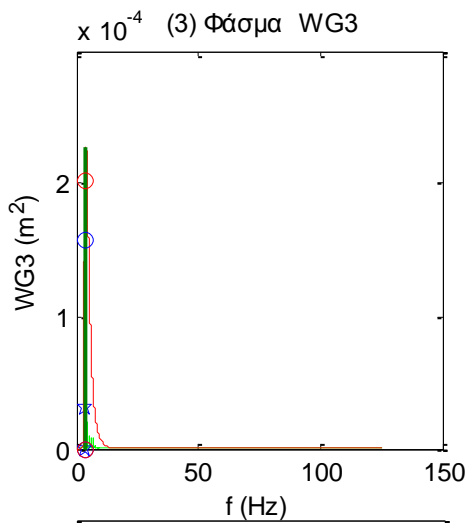
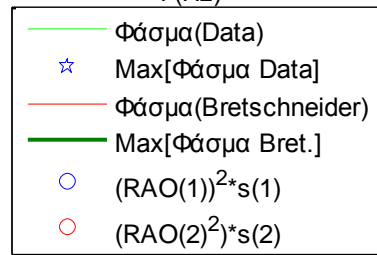
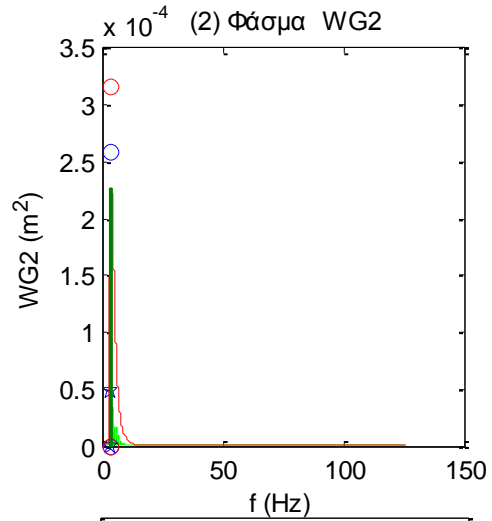
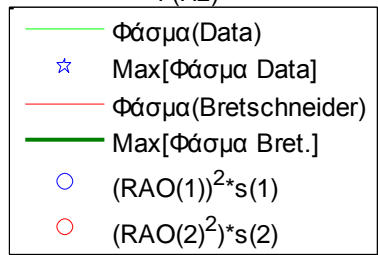
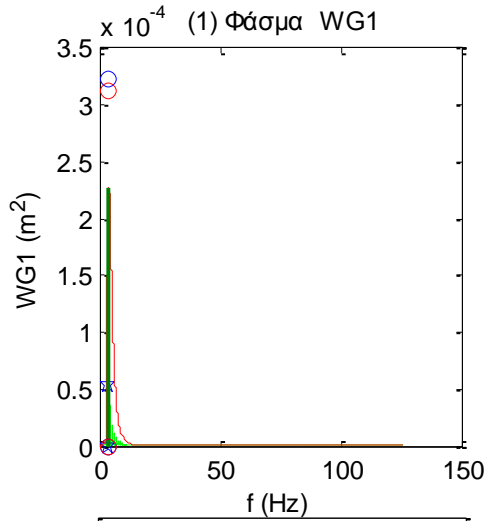
— Αυτοσυνδιακύμανση TLP heave

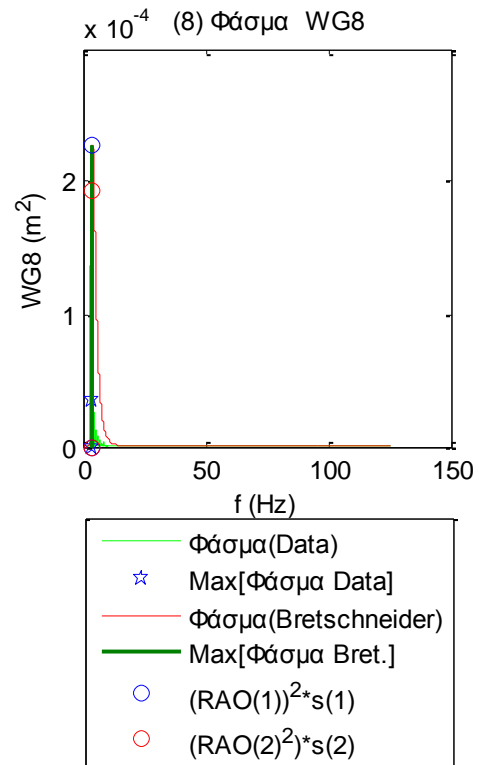
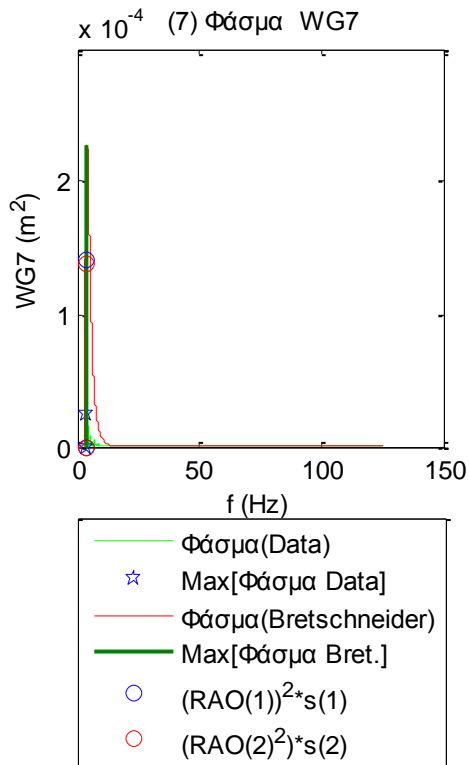
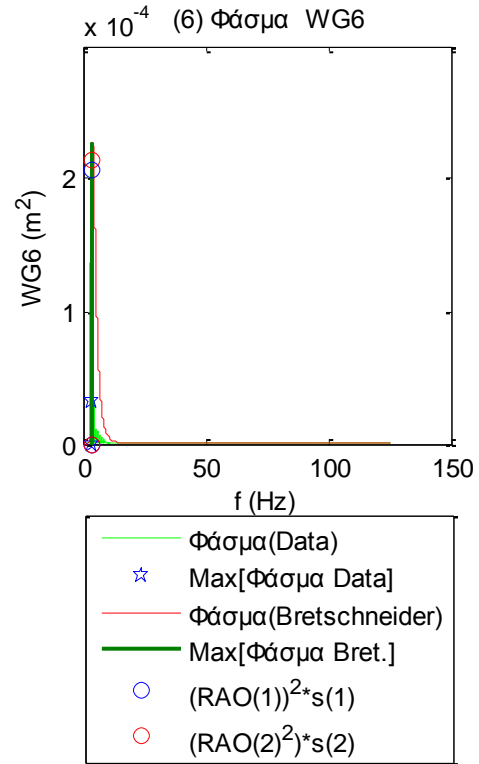
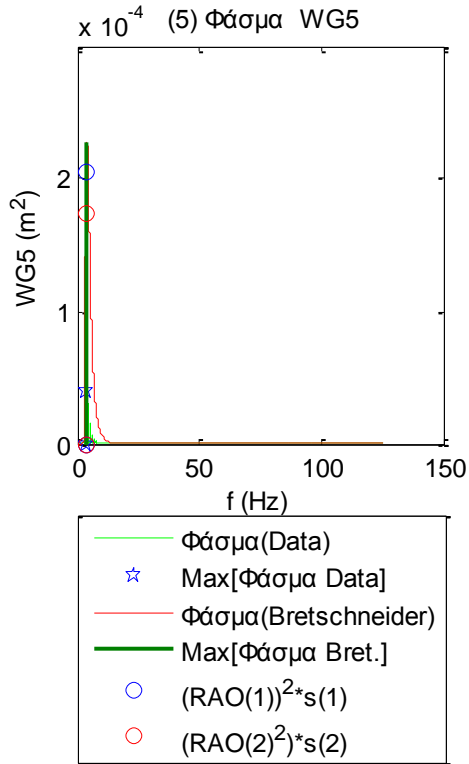


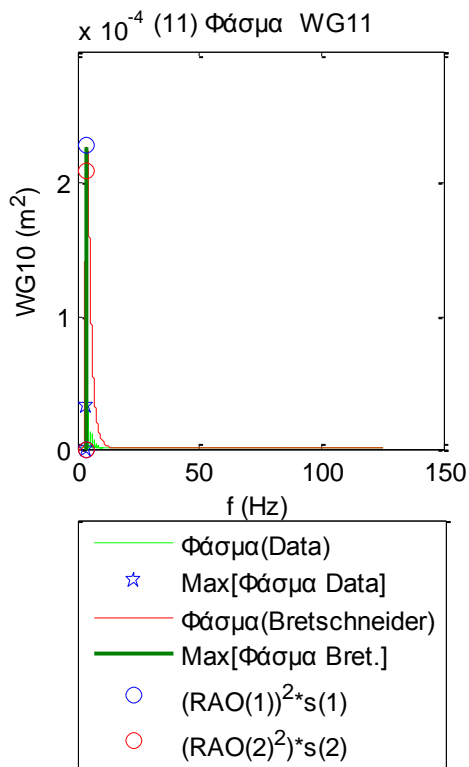
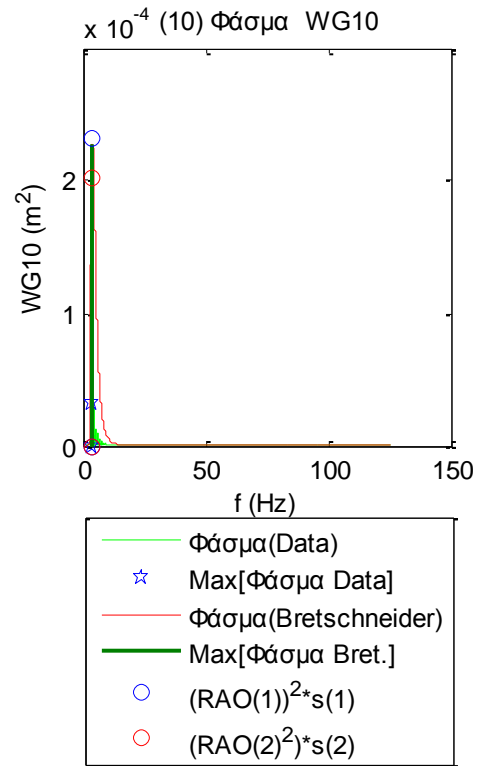
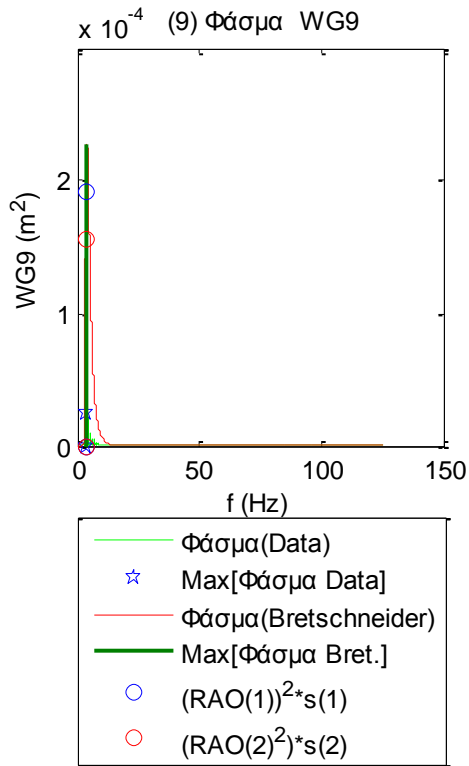
— Αυτοσυνδιακύμανση TLP roll



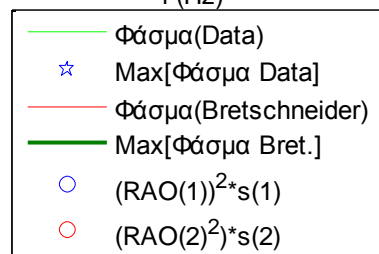
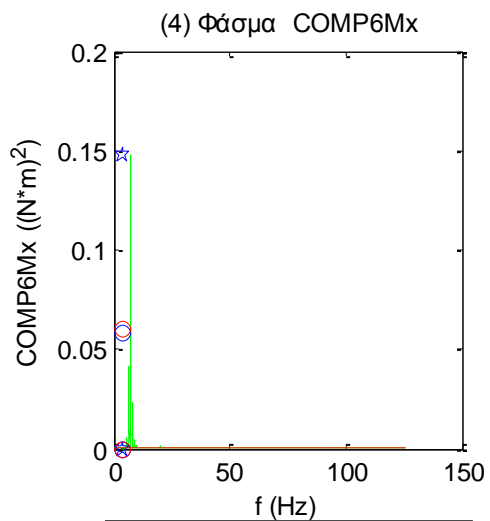
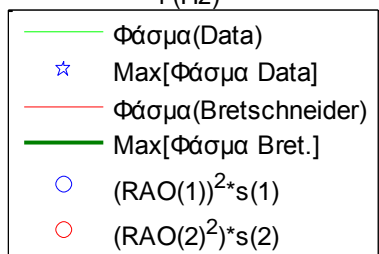
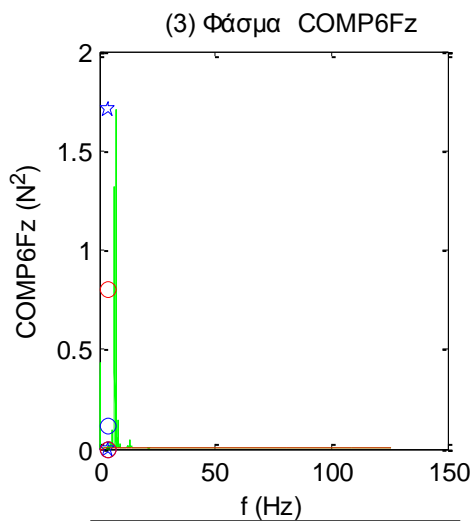
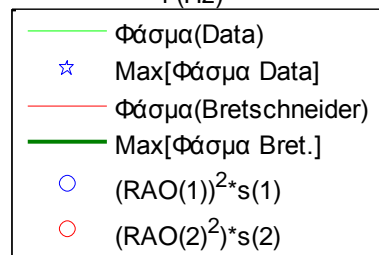
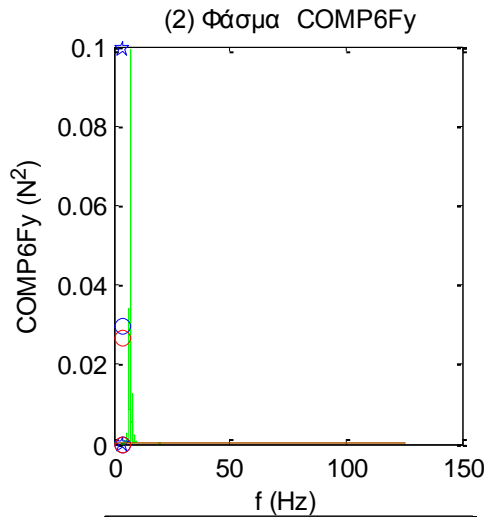
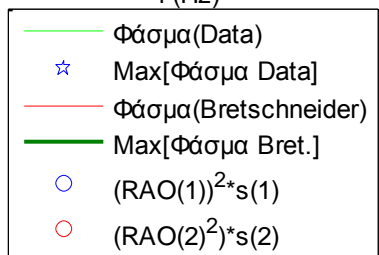
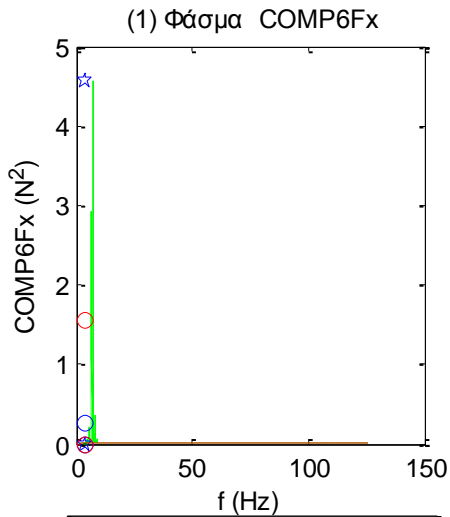
Σχήματα 1.6.3.7 Συναρτήσεις Αυτοσυνδιακύμανσης για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

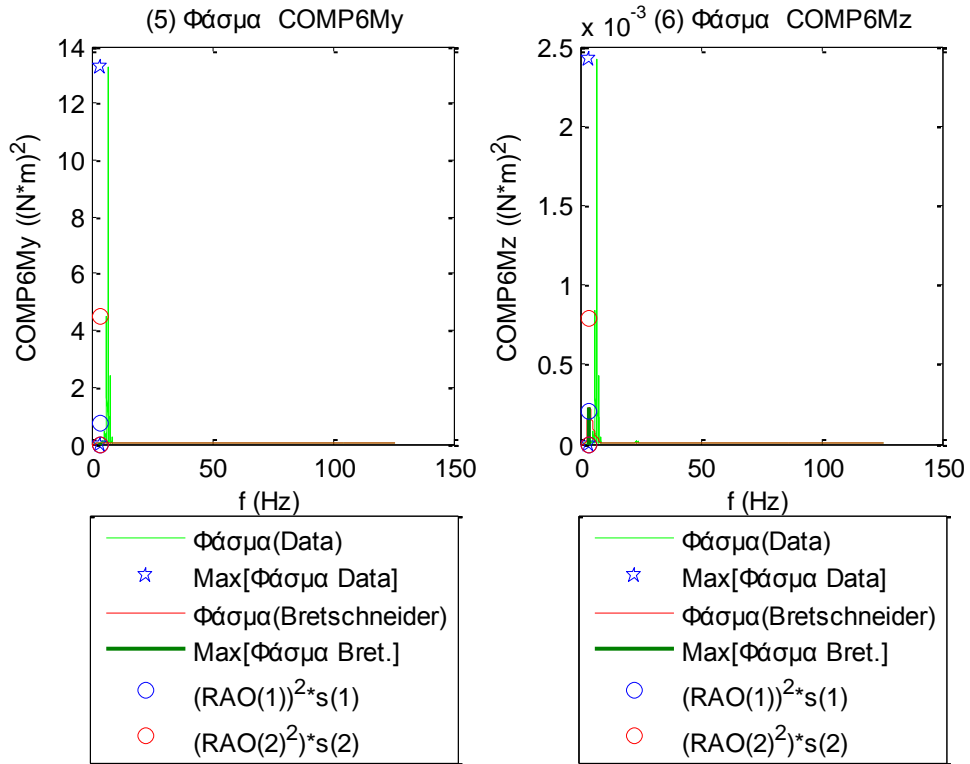




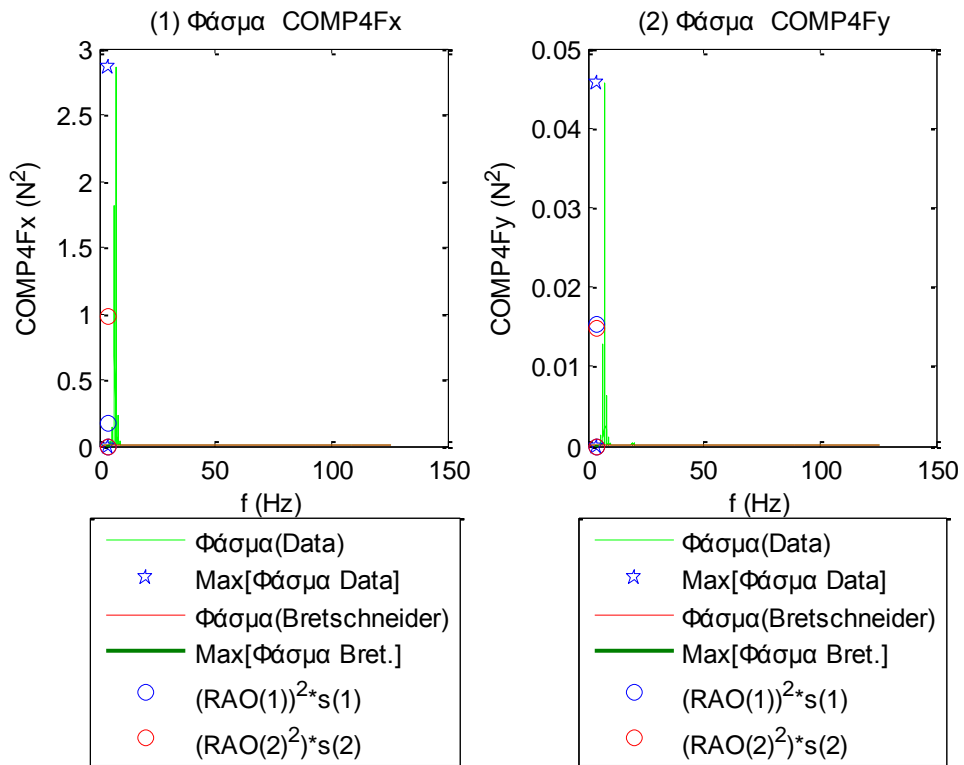


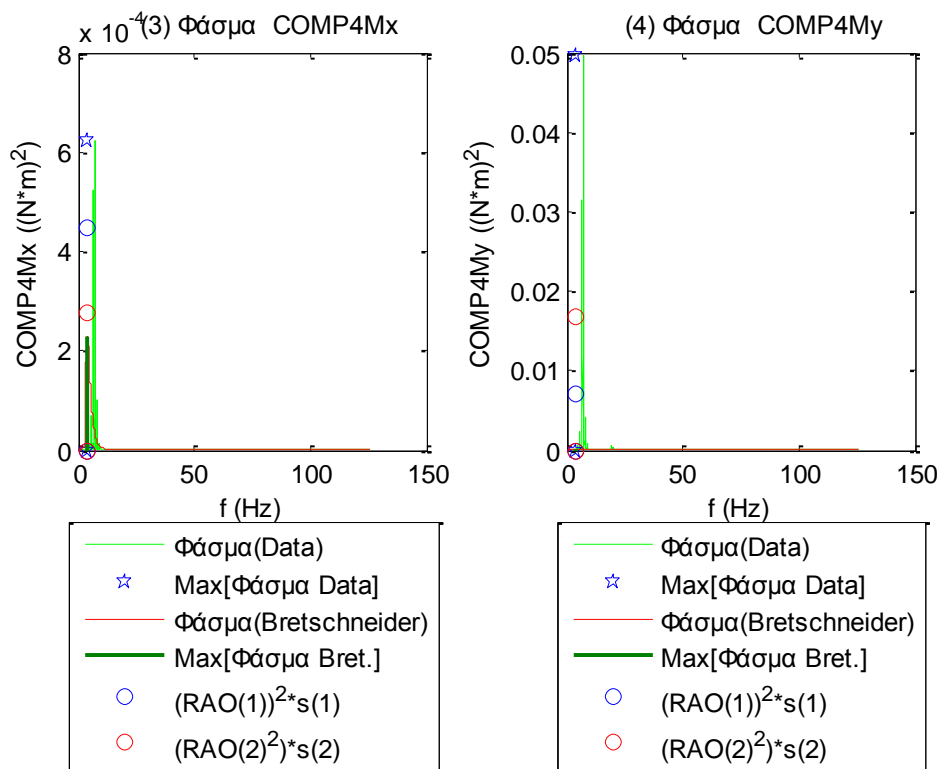
Σχήματα 1.6.4.1 (1-11) Φάσματα για τα 11 όργανα μέτρησης του ύψους κύματος



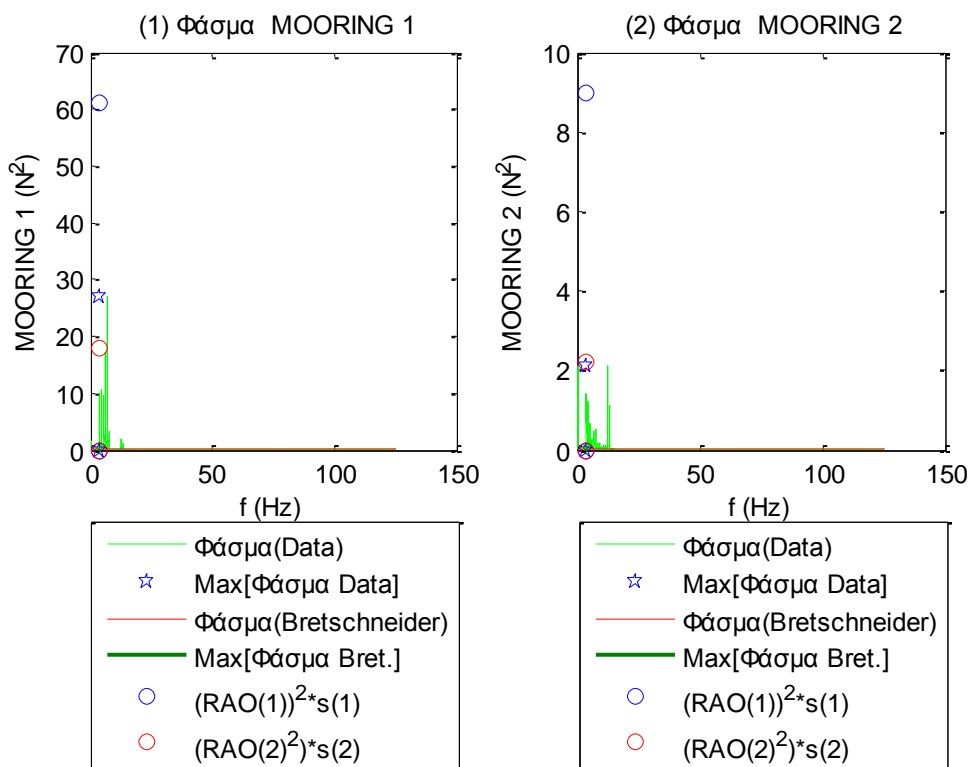


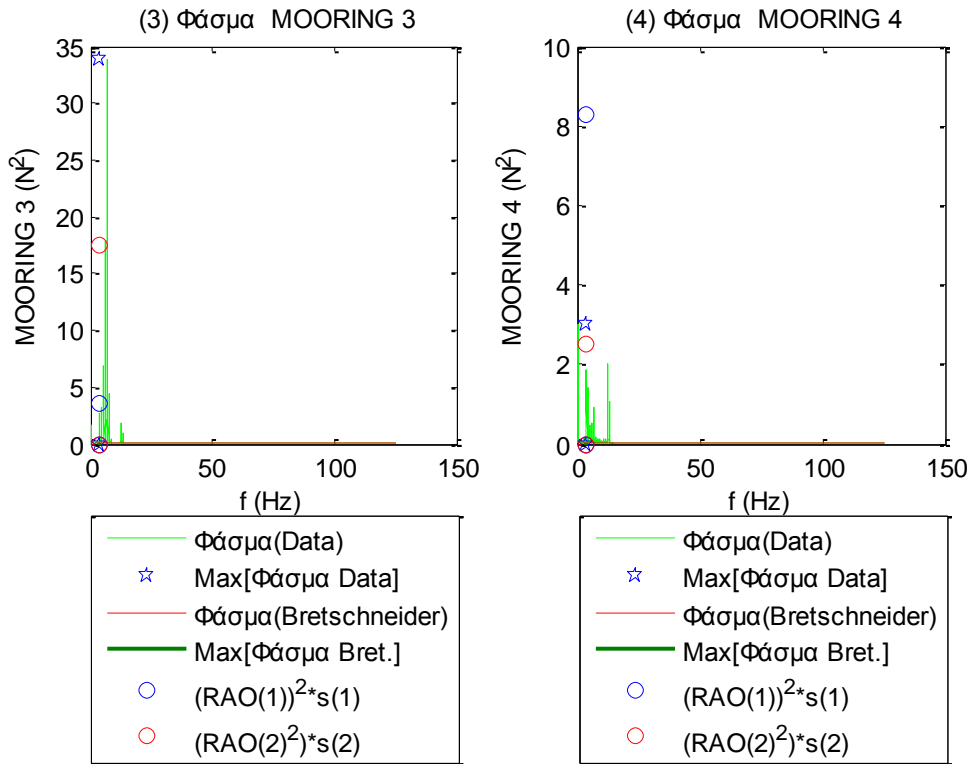
Σχήματα 1.6.4.2 Φάσματα για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



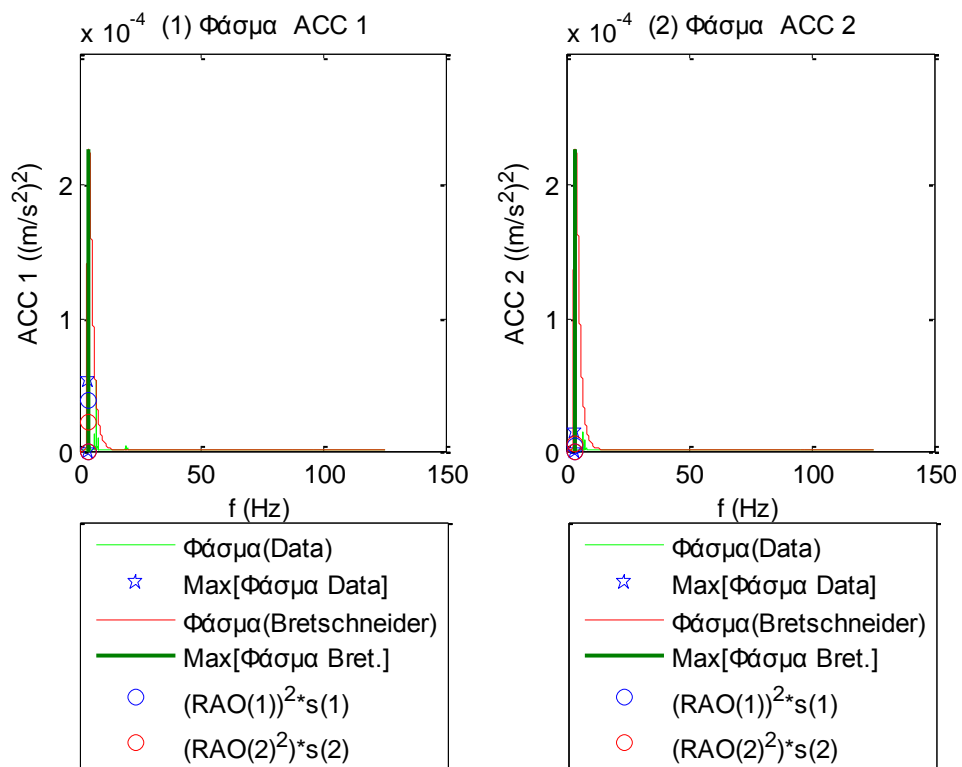


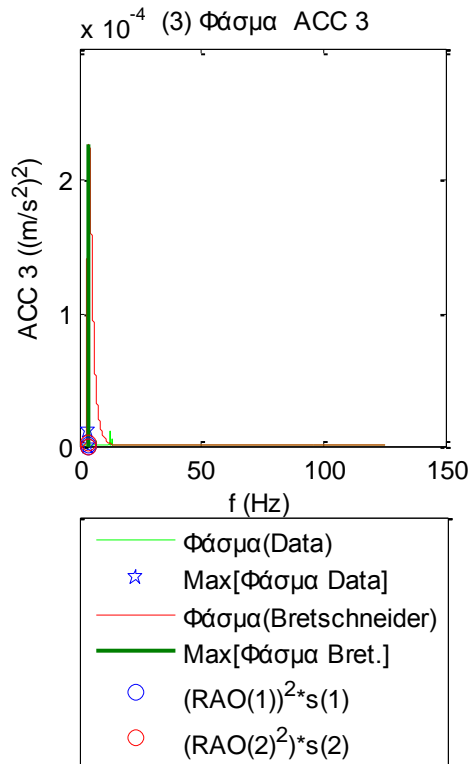
Σχήματα 1.6.4.3 Φάσματα για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



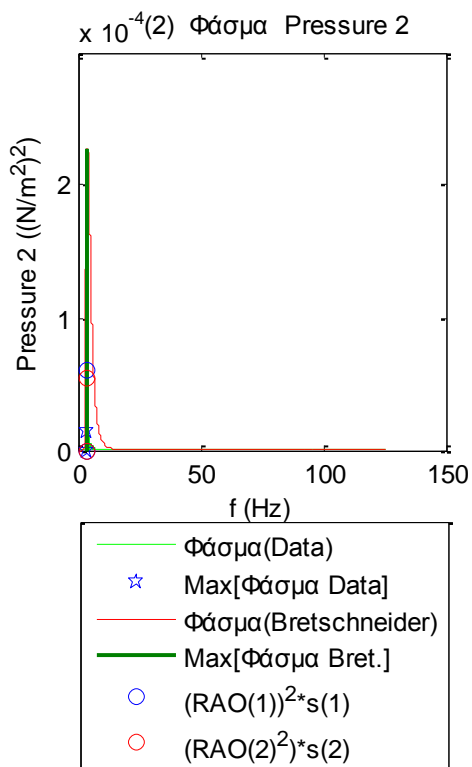
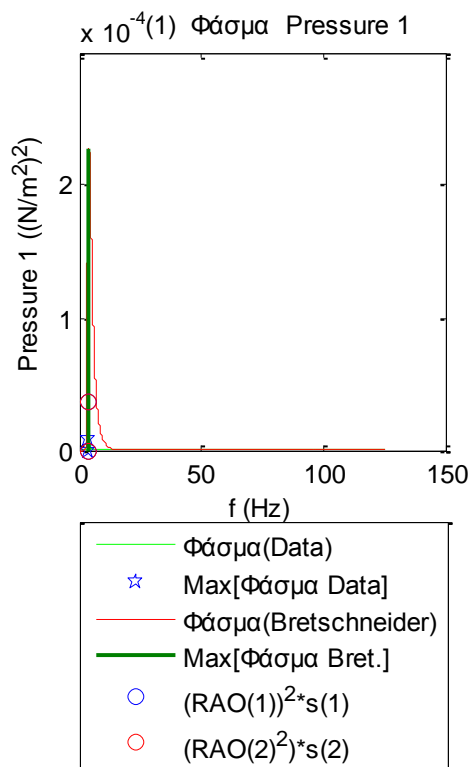


Σχήματα 1.6.4.4 (1-4) Φάσματα για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

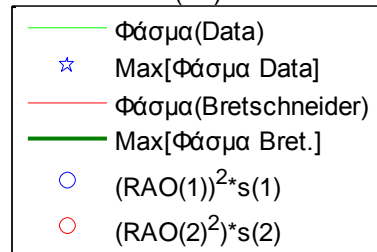
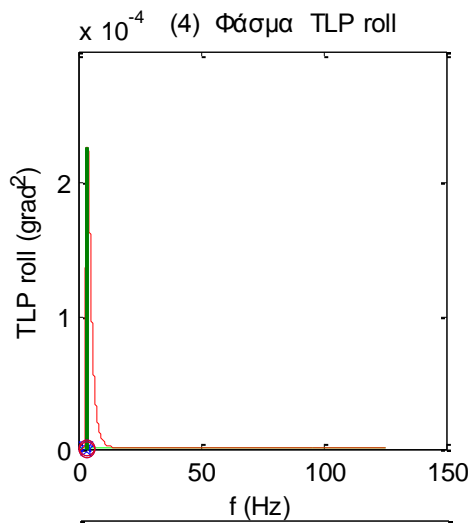
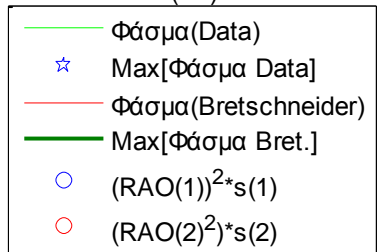
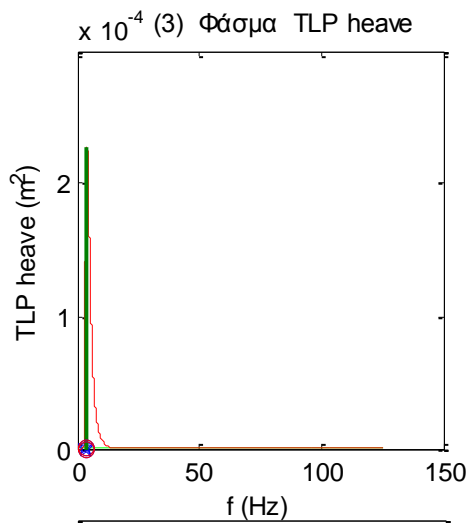
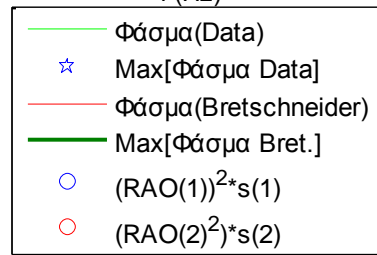
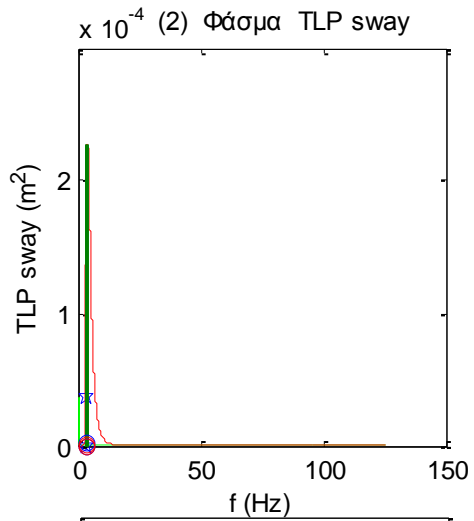
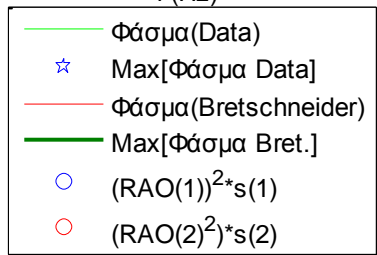
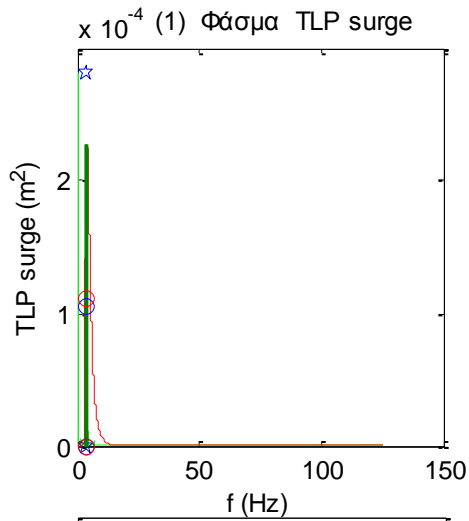


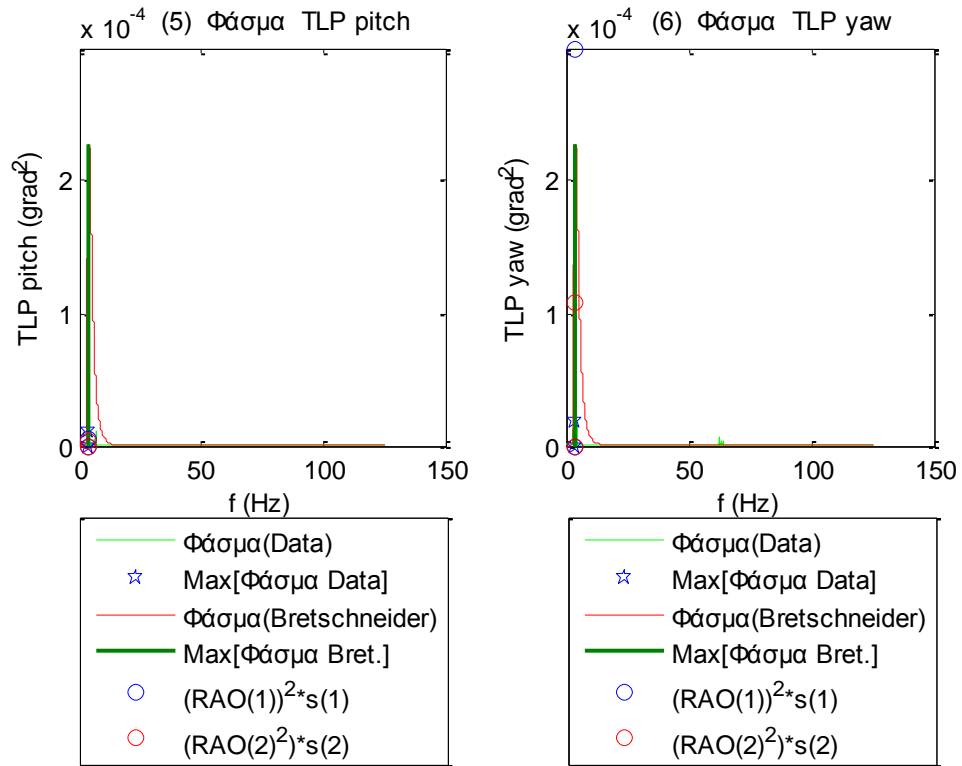


Σχήματα 1.6.4.5 (1-3) Φάσματα για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

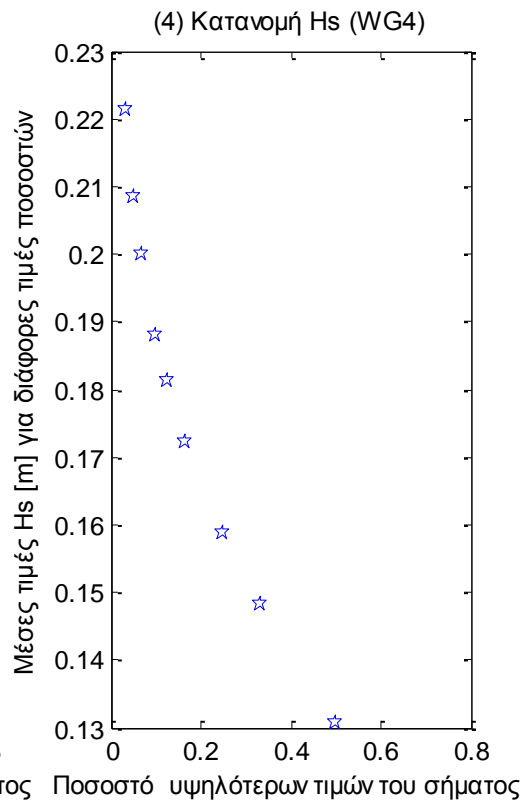
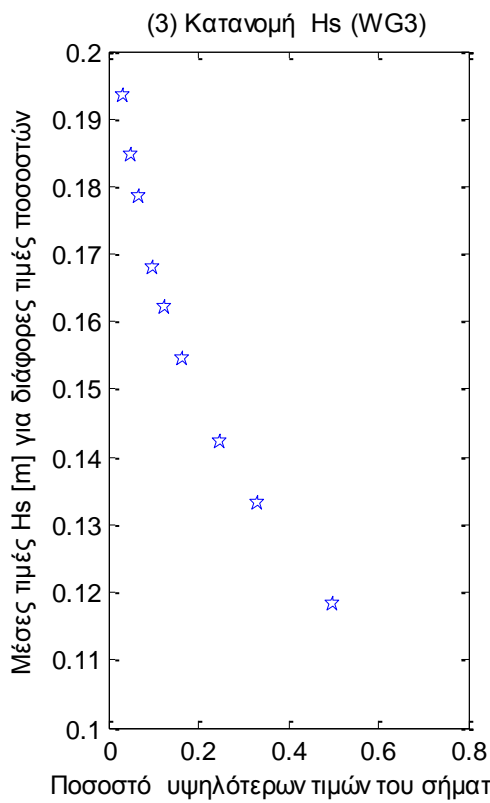
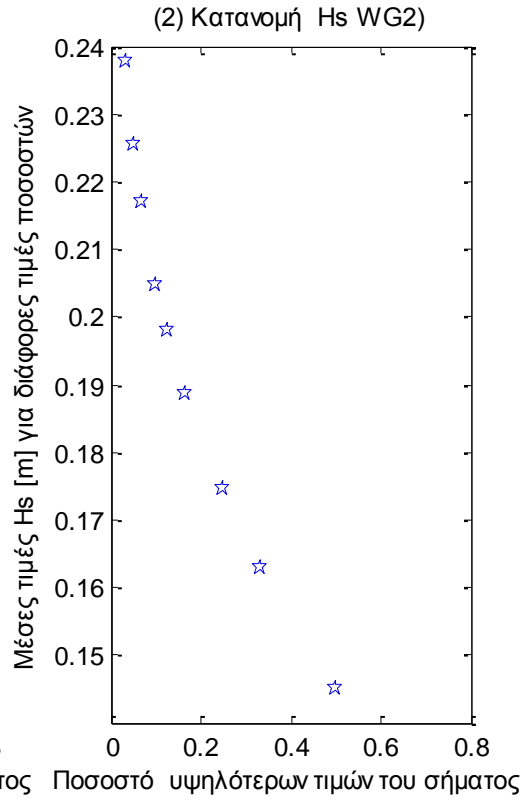
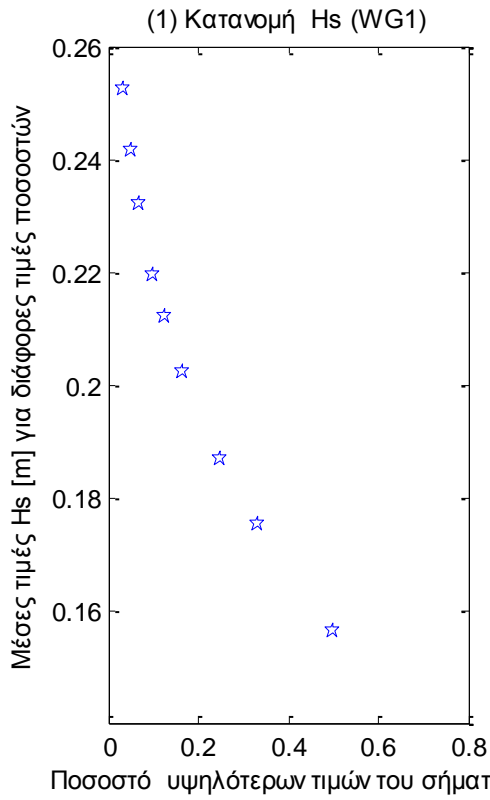


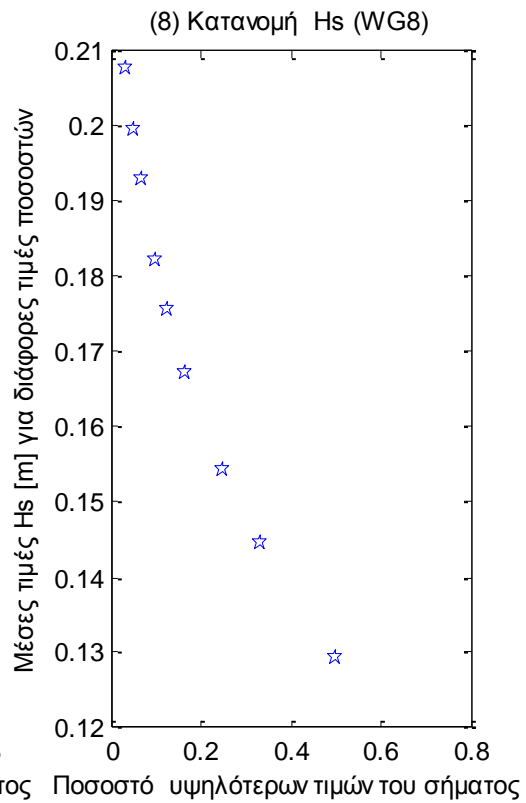
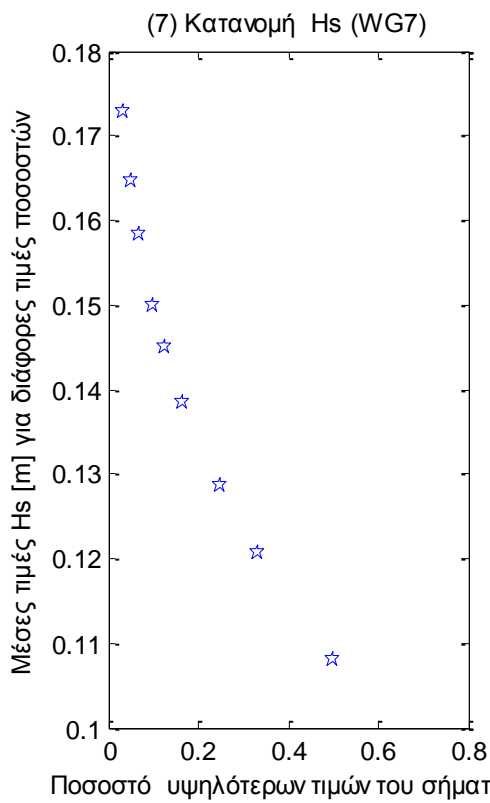
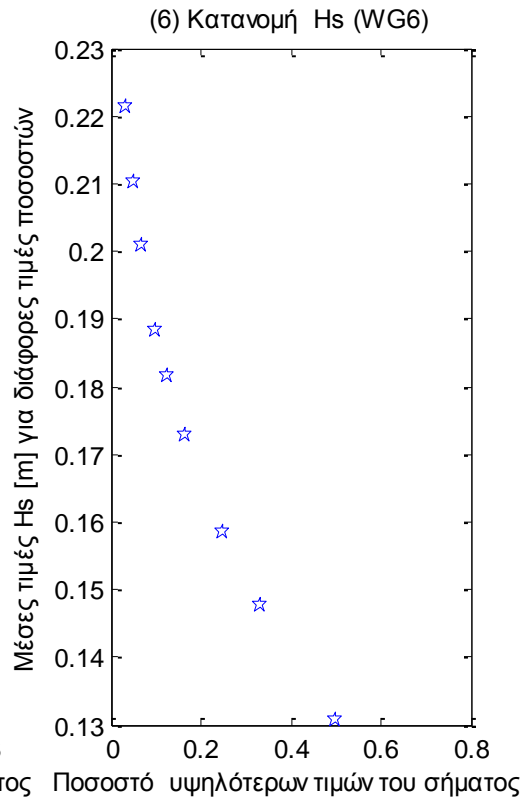
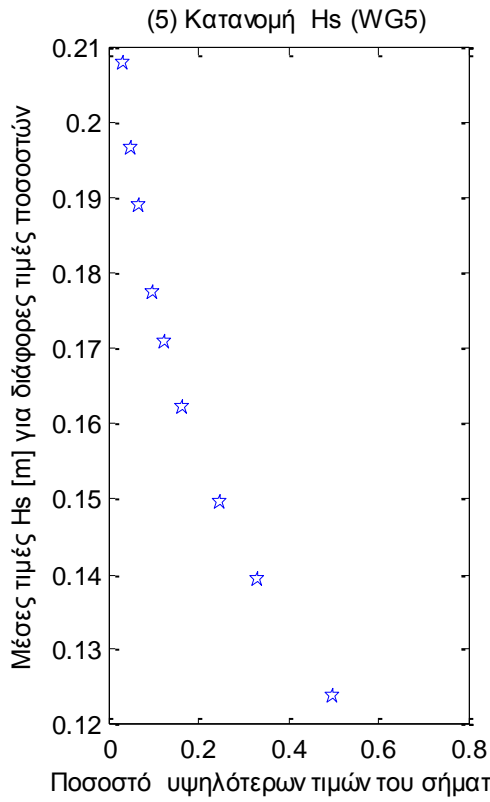
Σχήματα 1.6.4.6 (1-2) Φάσματα για τα δυο όργανα μέτρησης της πίεσης

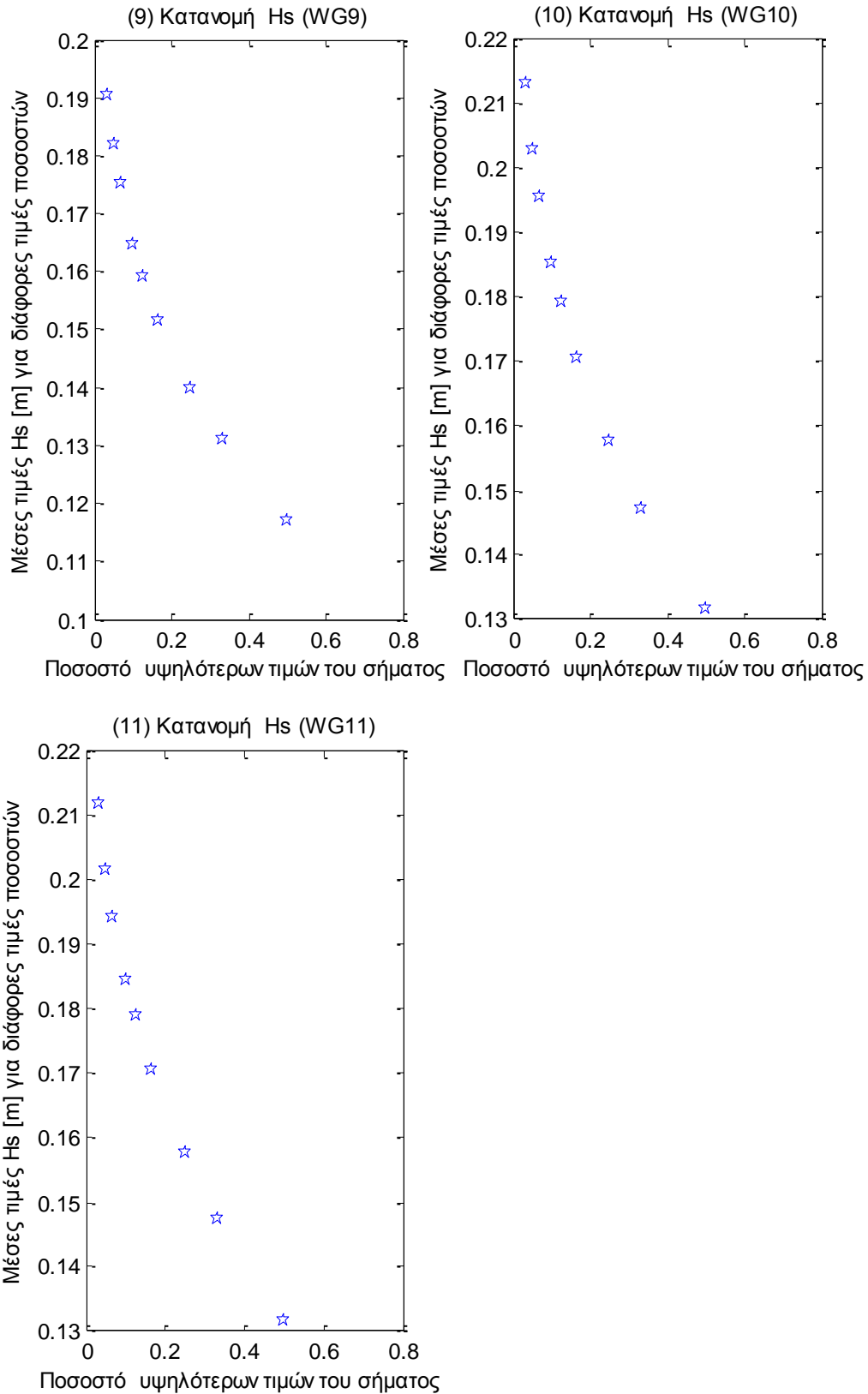




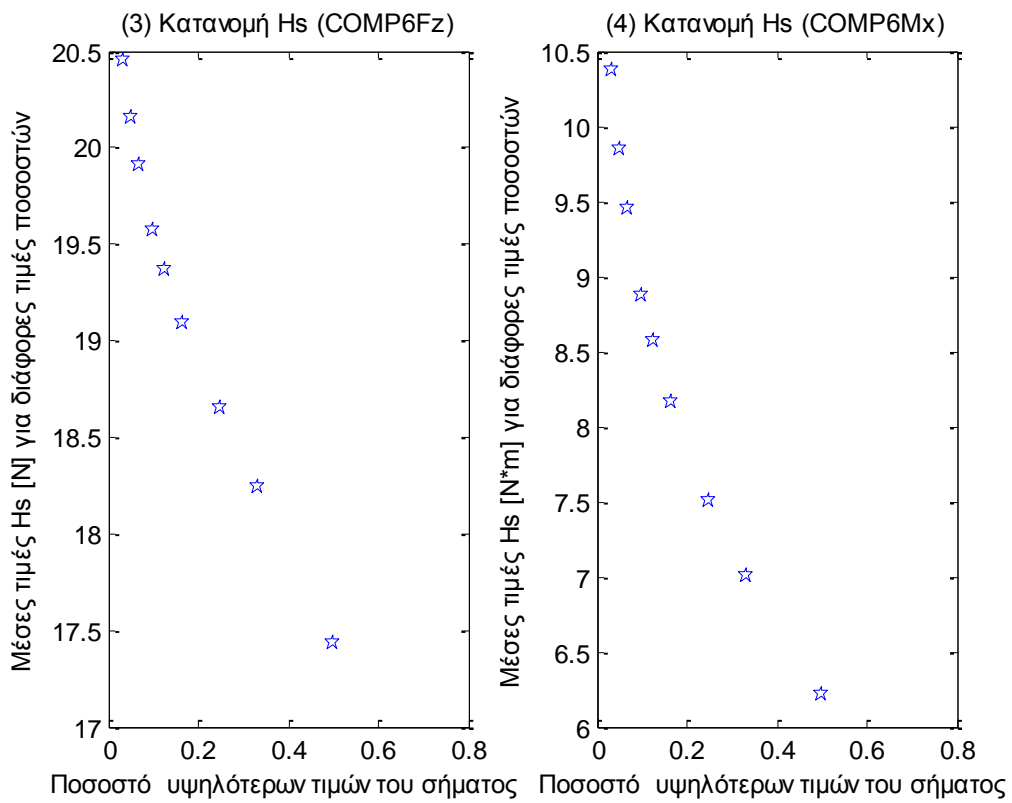
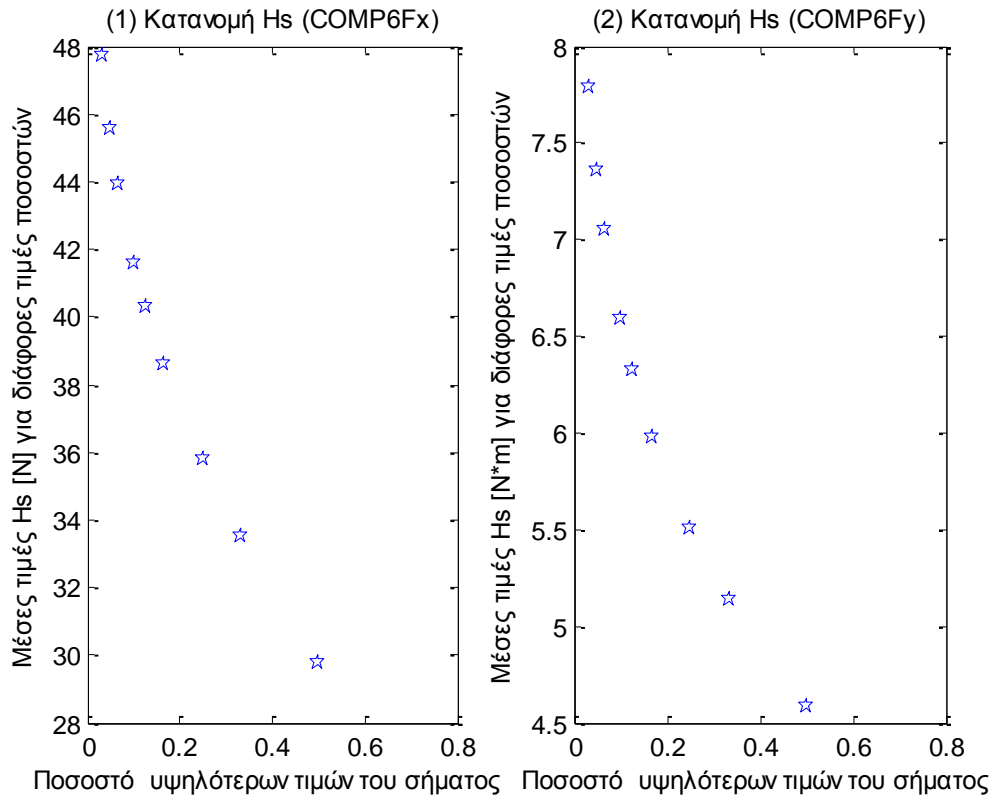
Σχήματα 1.6.4.7 Φάσματα για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και για τις τρεις περιστροφές στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

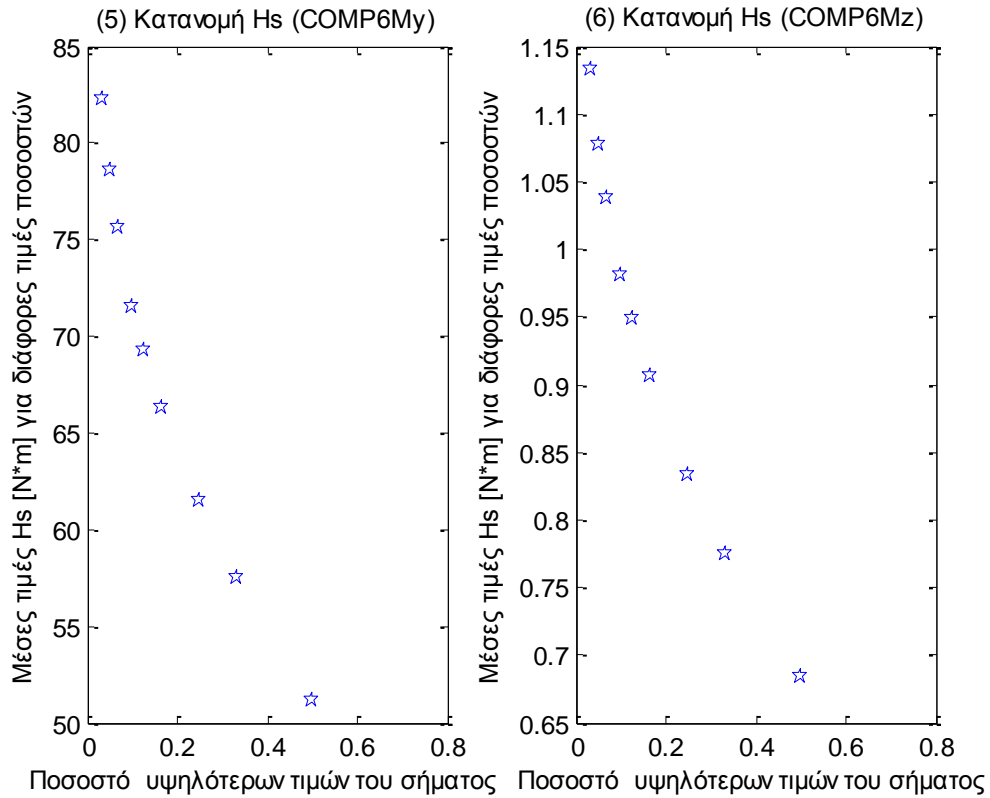




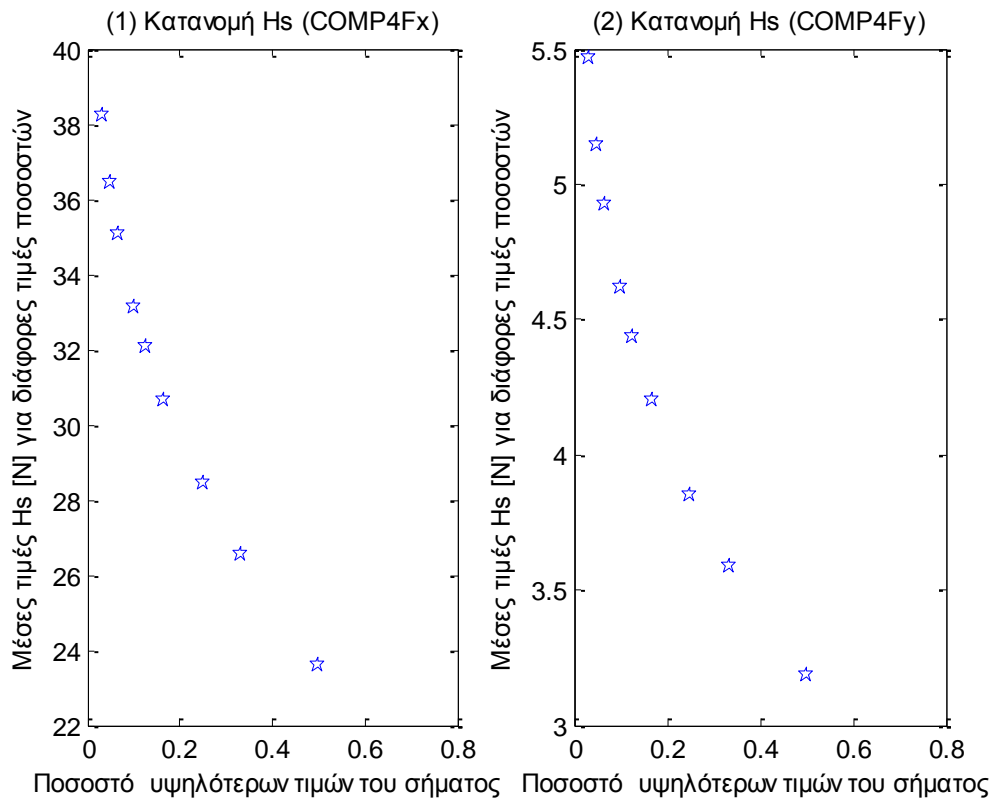


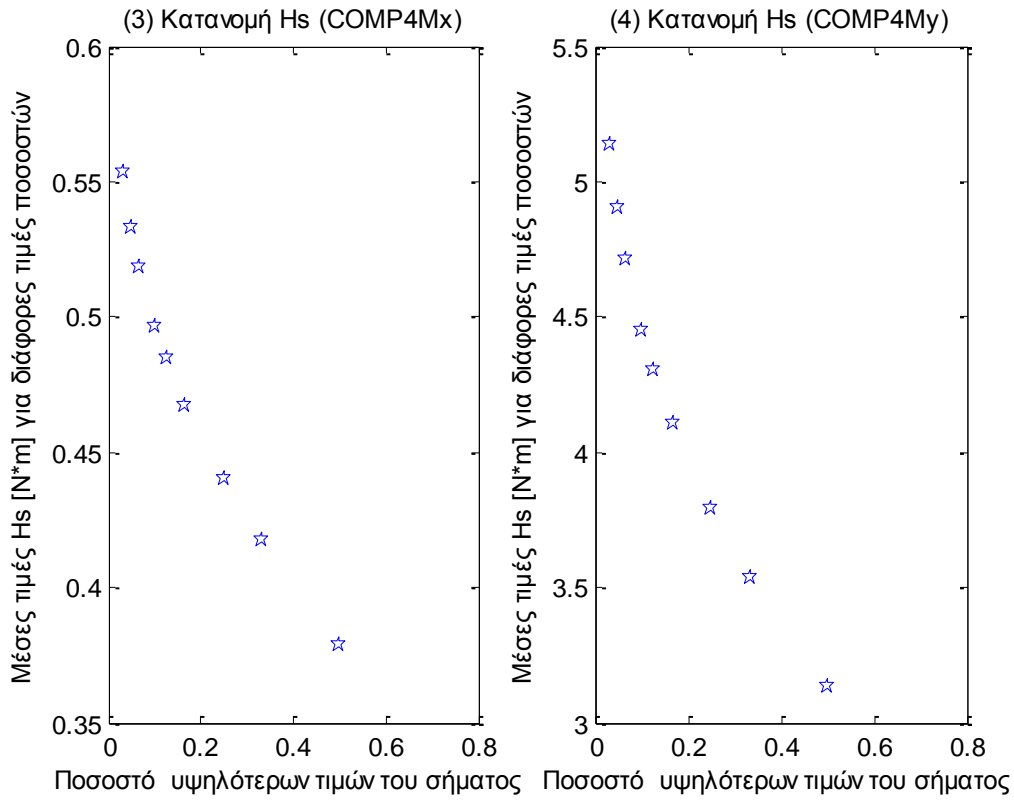
Σχήματα 1.6.5.1 (1-11) Κατανομή σημαντικού ύψους Hs για τα 11 όργανα μέτρησης του ύψους κύματος



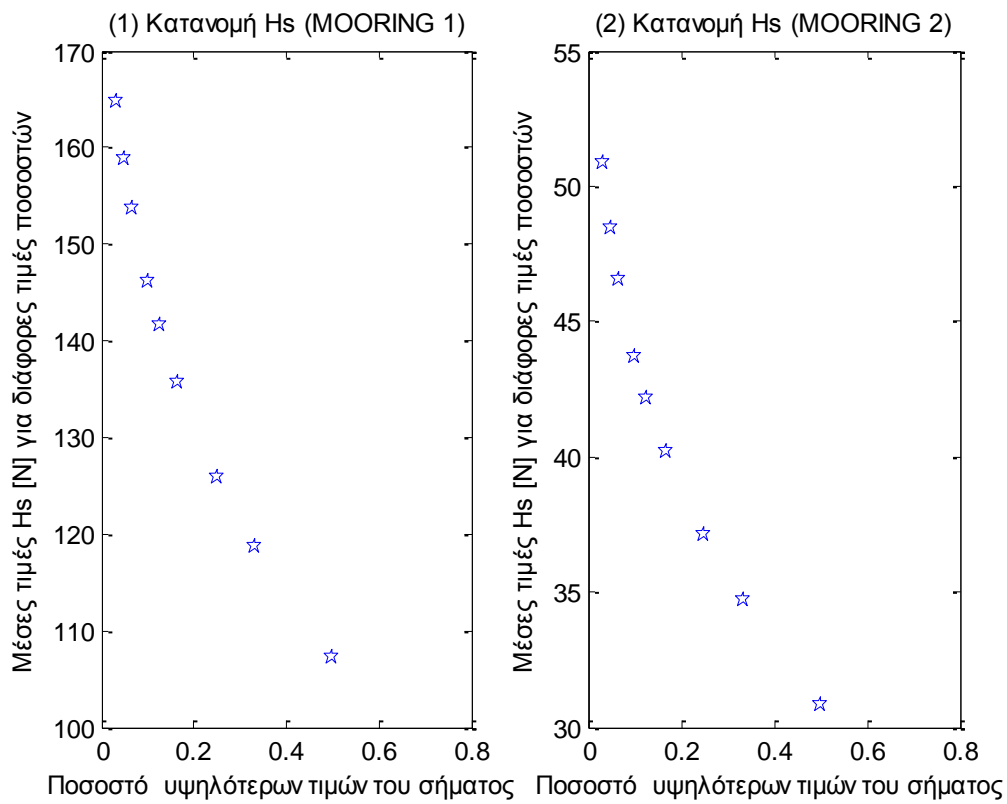


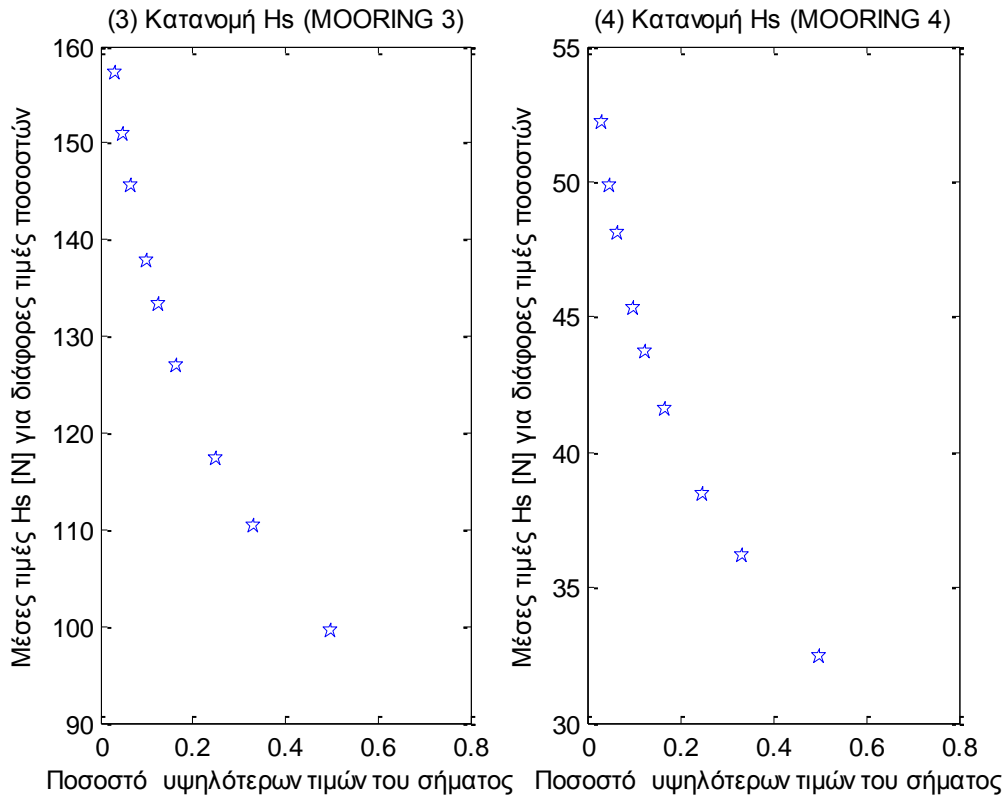
Σχήματα 1.6.5.2 Κατανομή σημαντικού ύψους Hs για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



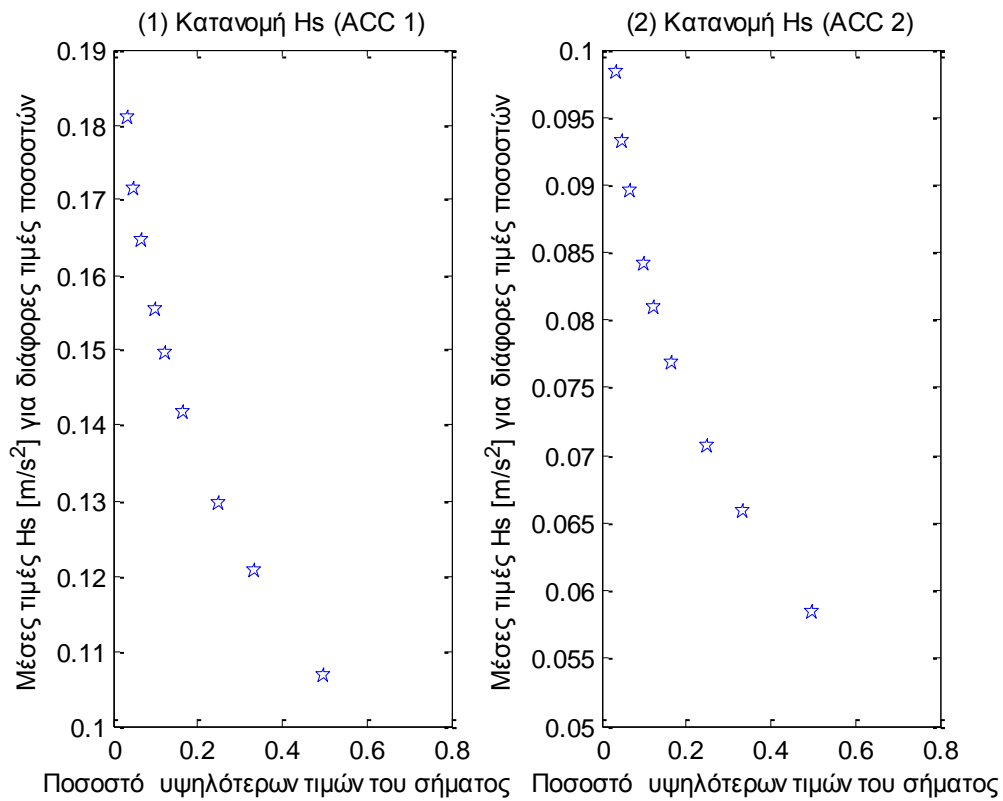


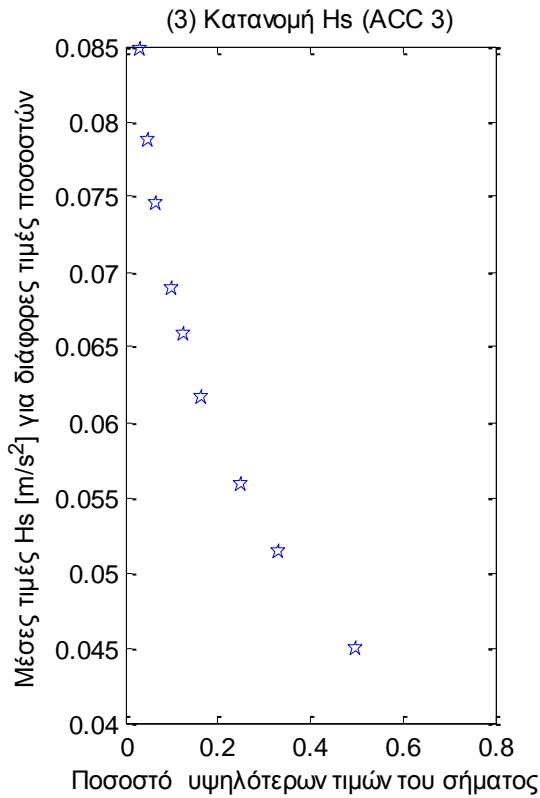
Σχήματα 1.6.5.3 Κατανομή σημαντικού ύψους Hs για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



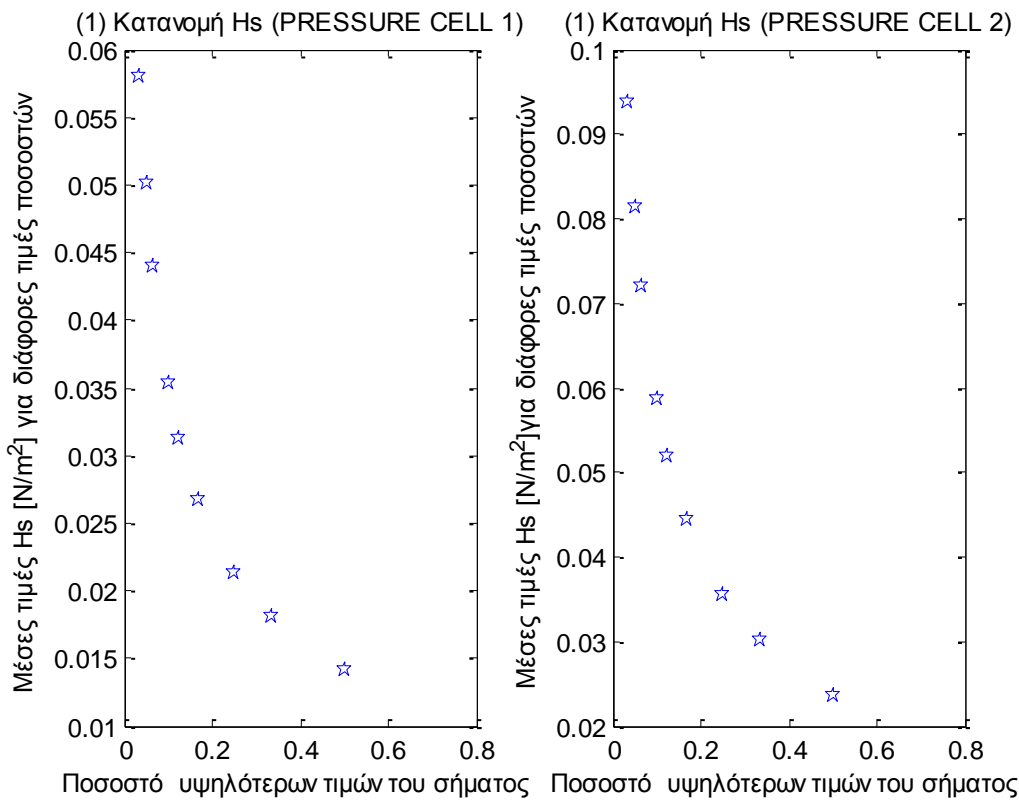


Σχήματα 1.6.5.4 (1-4) Κατανομή σημαντικού ύψους Hs για τις δυνάμεις στις τέσσερις γραμμές αγκύρωσης

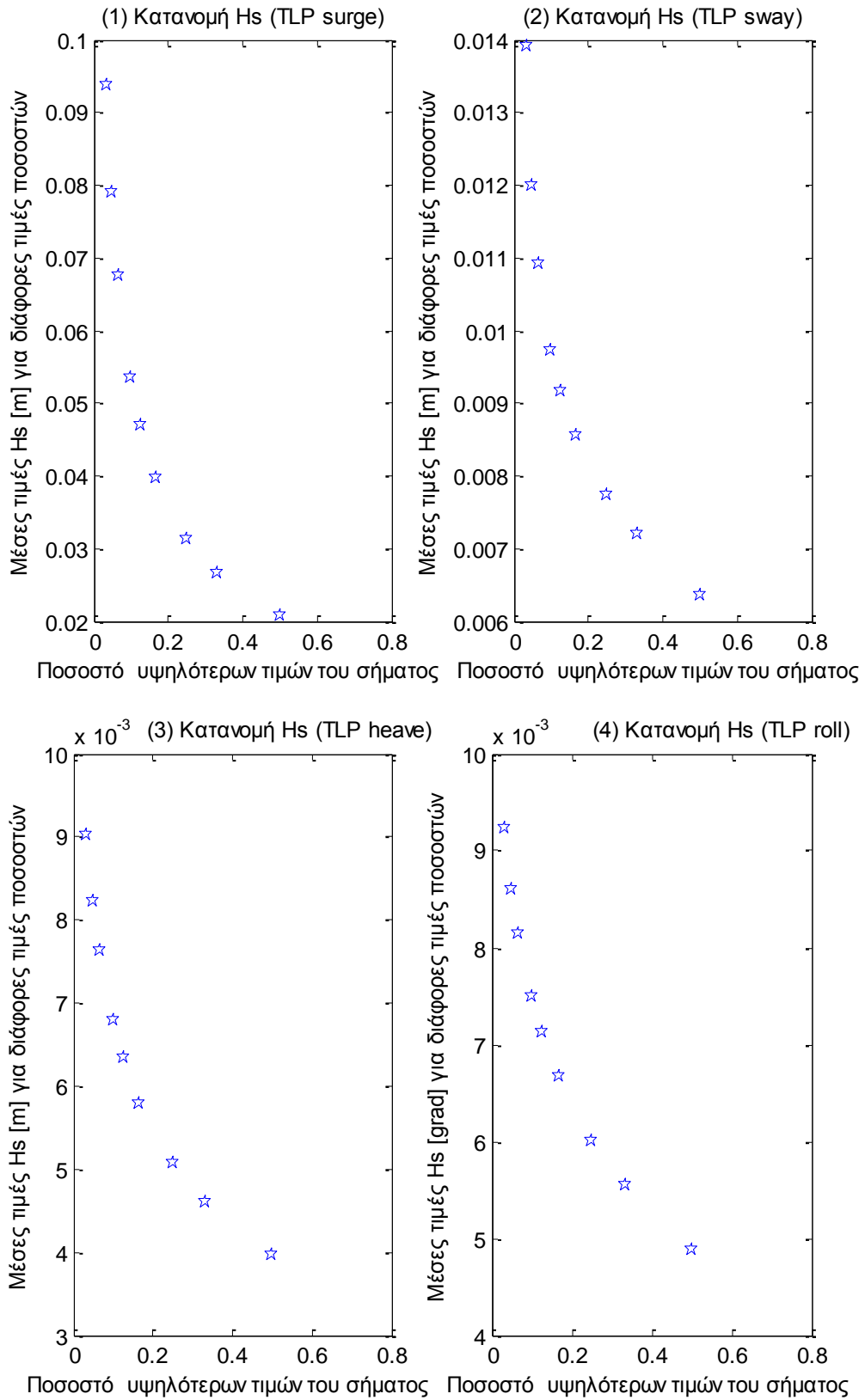


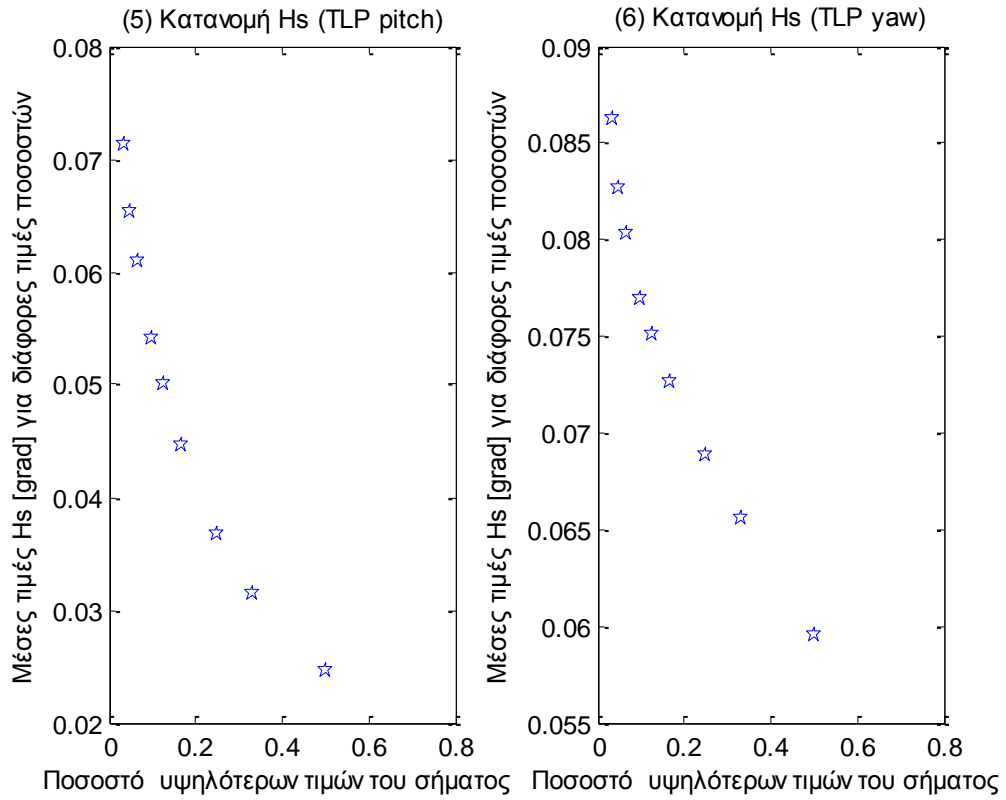


Σχήματα 1.6.5.5 (1-3) Κατανομή σημαντικού ύψους Hs για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc1, (2) Acc2 και (3) Acc3

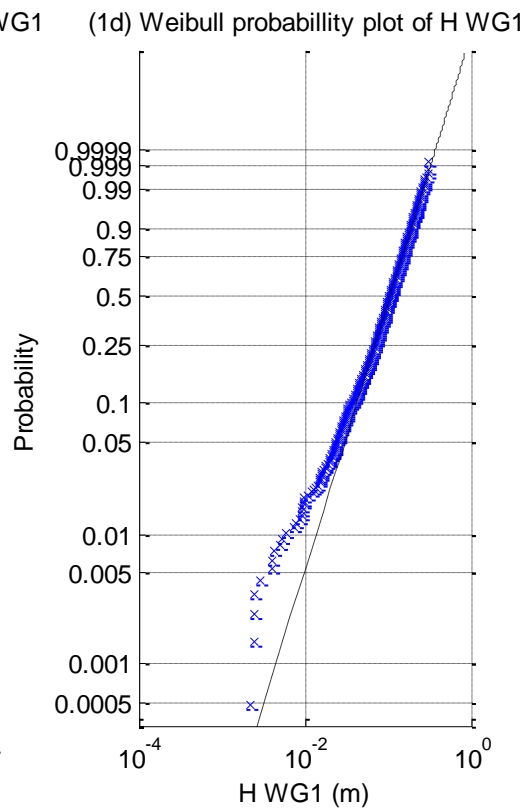
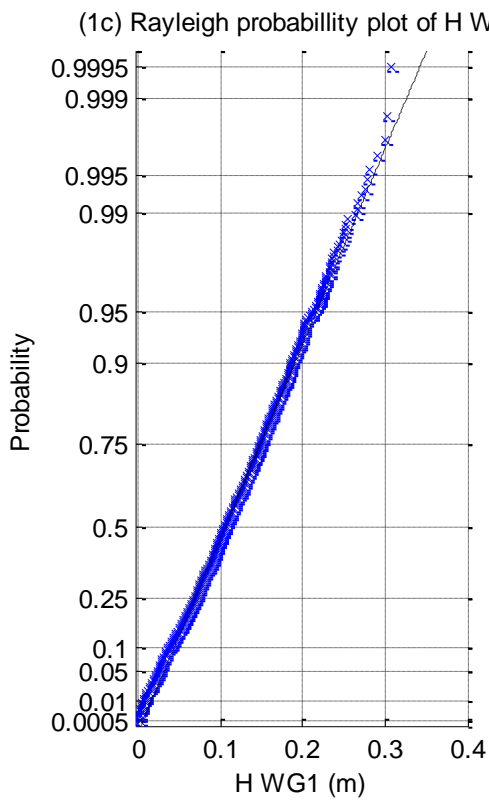
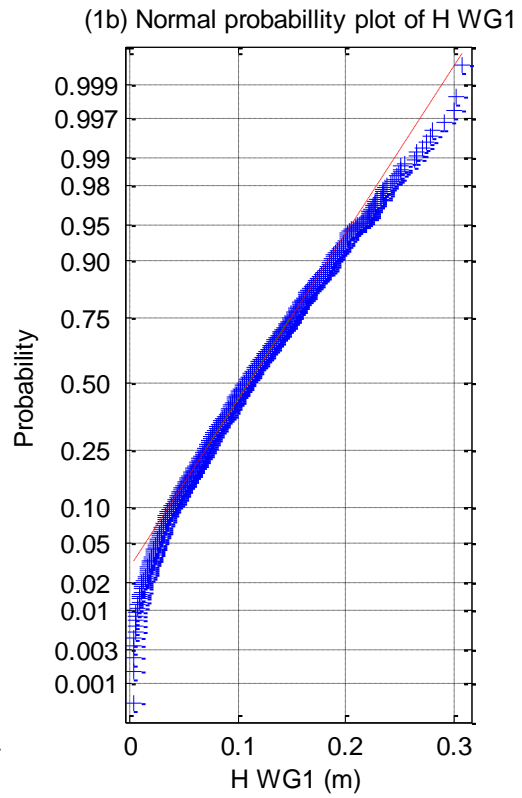
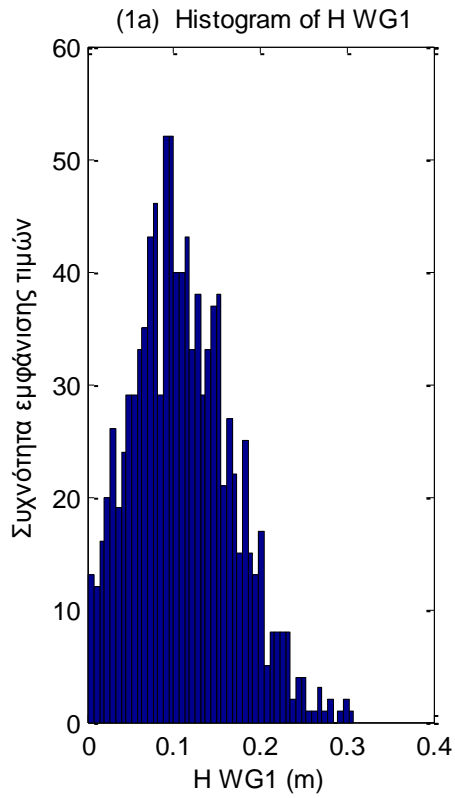


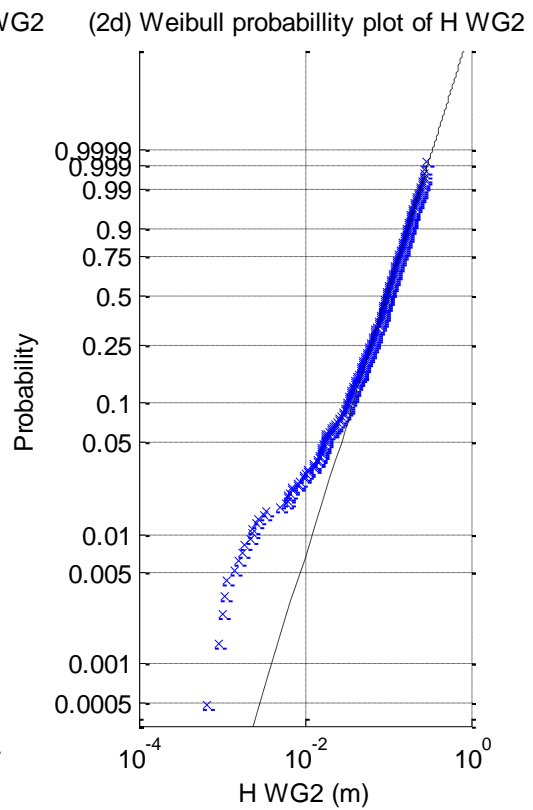
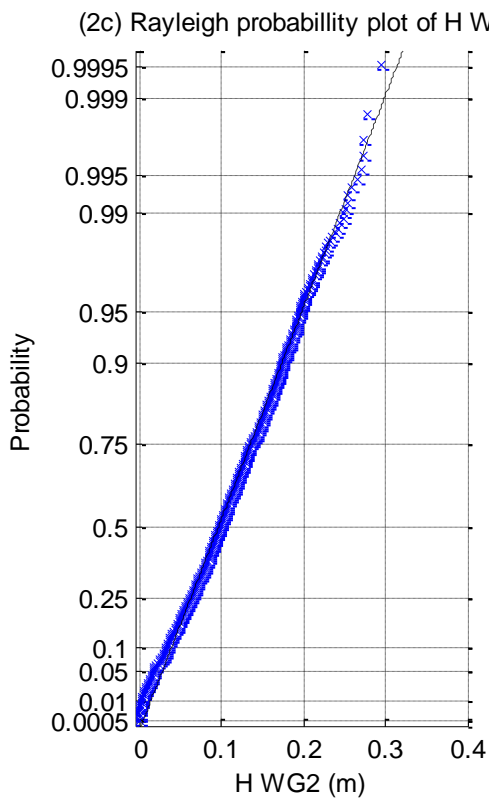
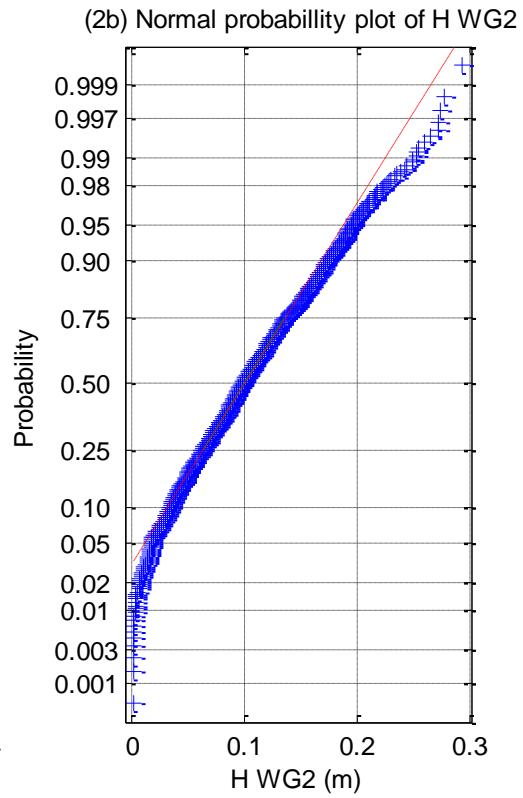
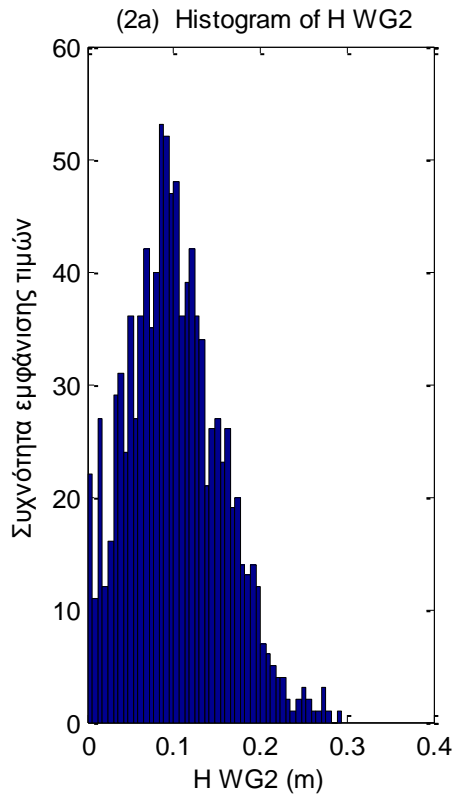
Σχήματα 1.6.5.6 (1-2) Κατανομή σημαντικού ύψους Hs για τα δυο όργανα μέτρησης της πίεσης

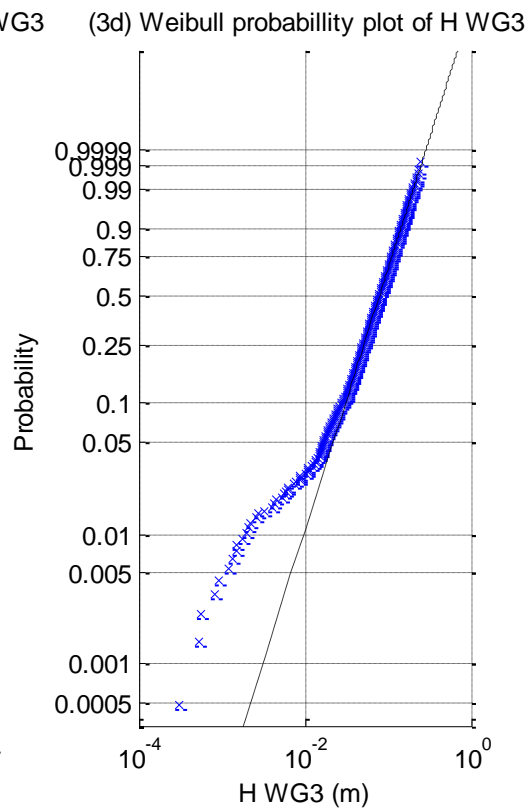
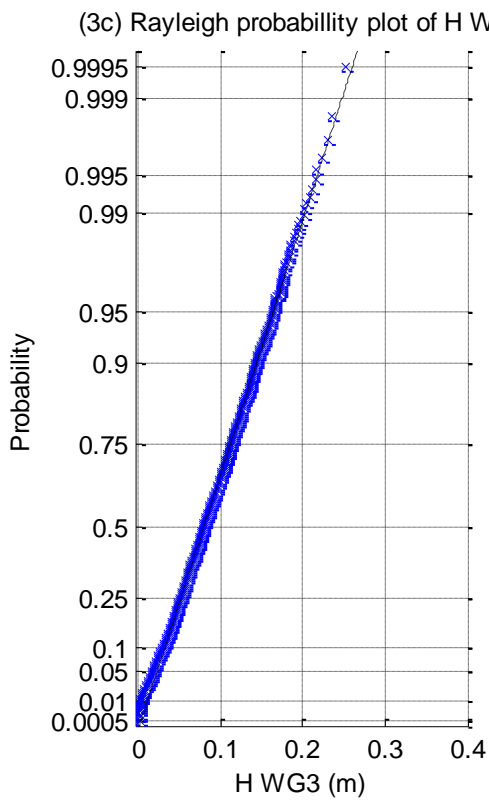
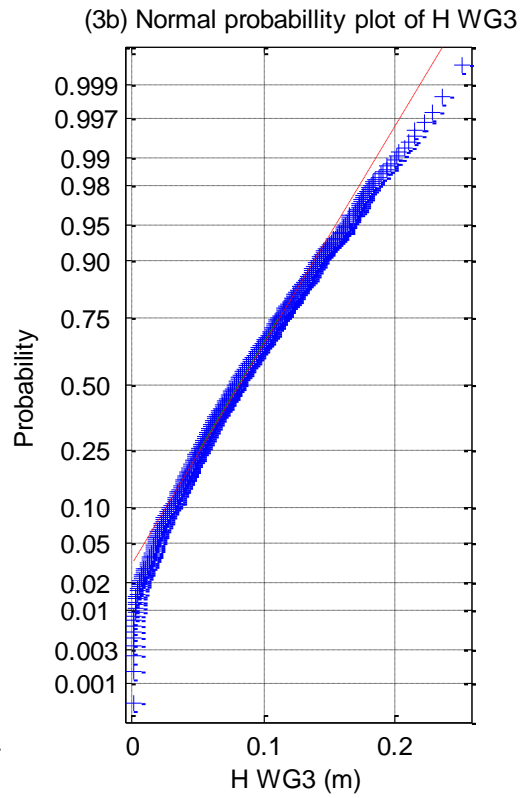
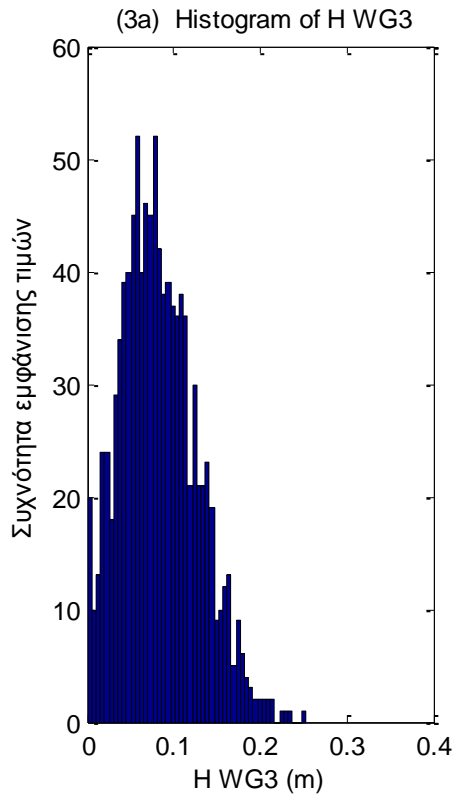


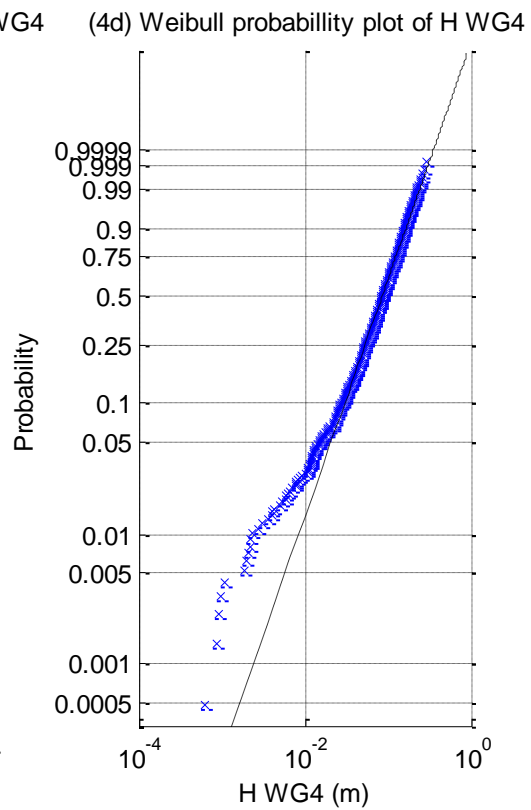
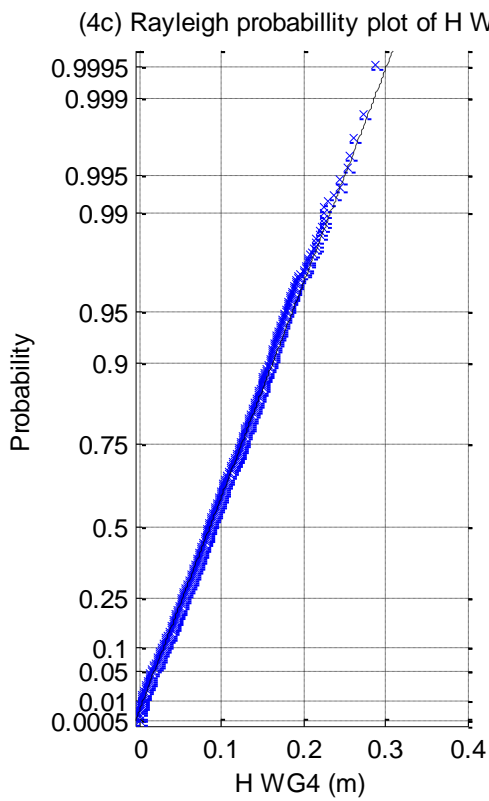
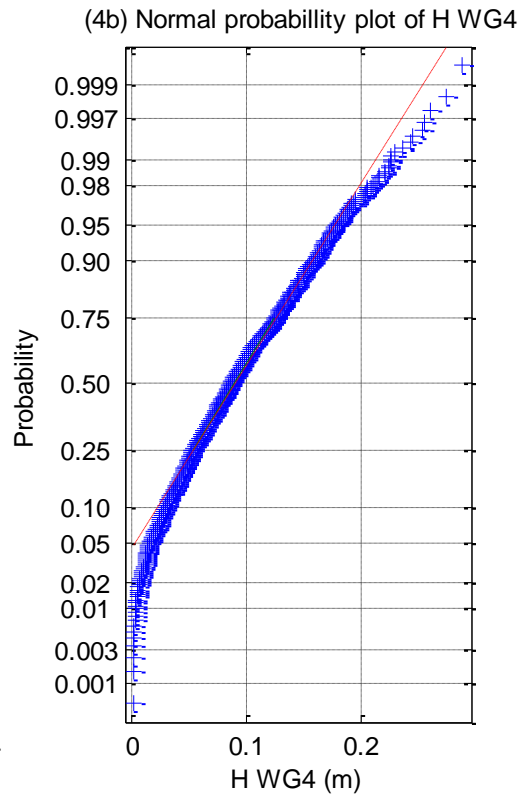
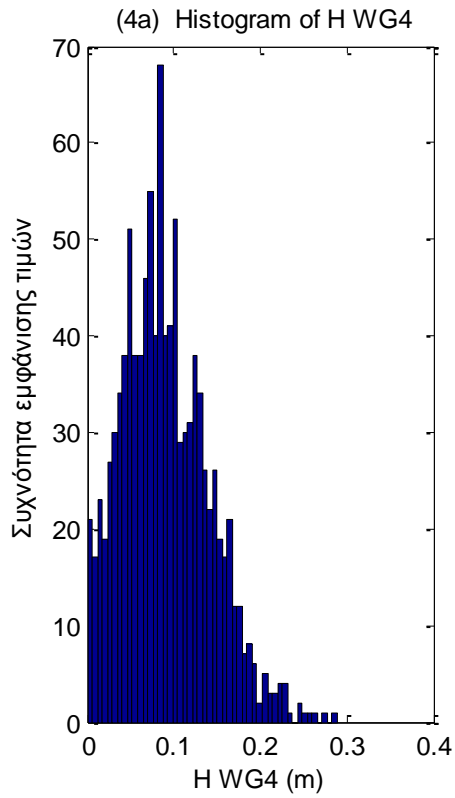


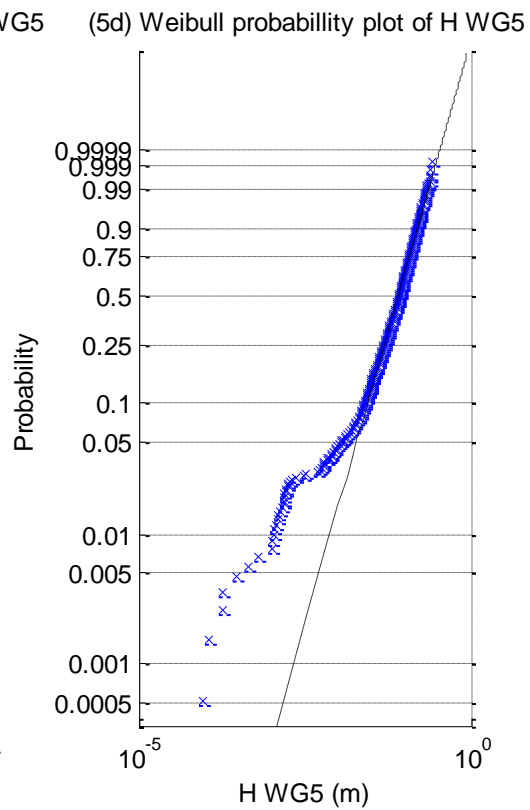
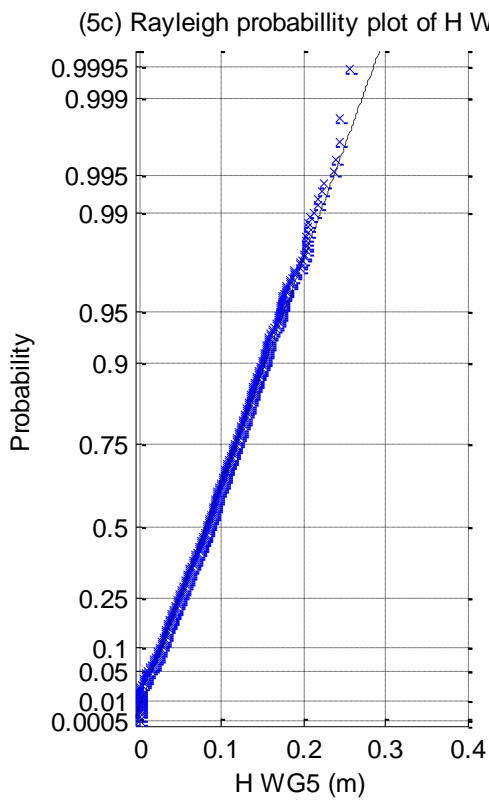
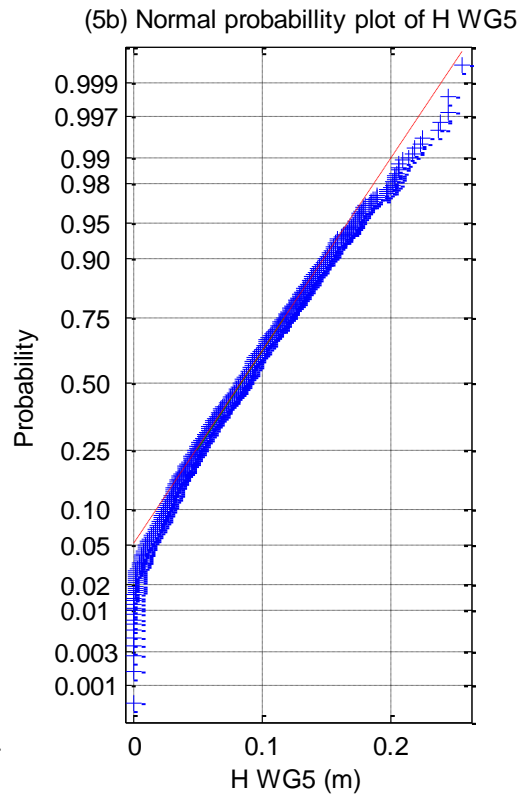
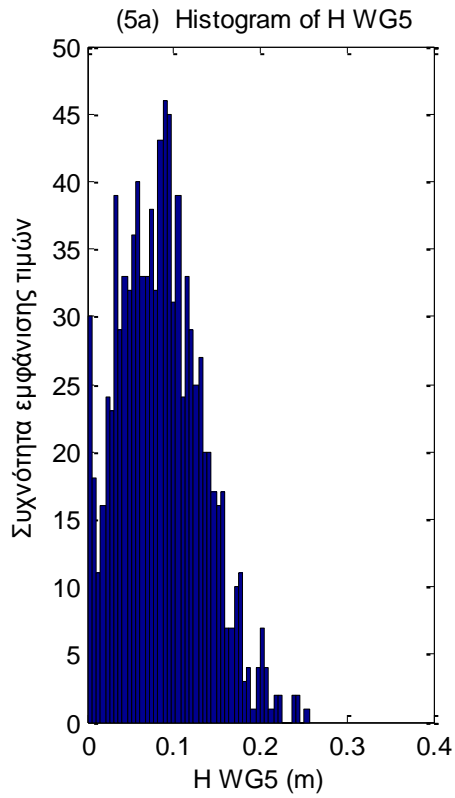
Σχήματα 1.6.5.7 Κατανομή σημαντικού ύψους Hs για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

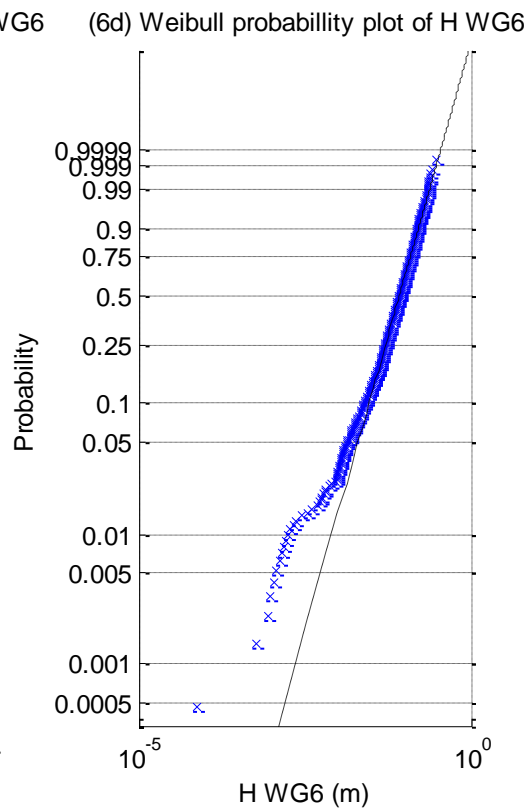
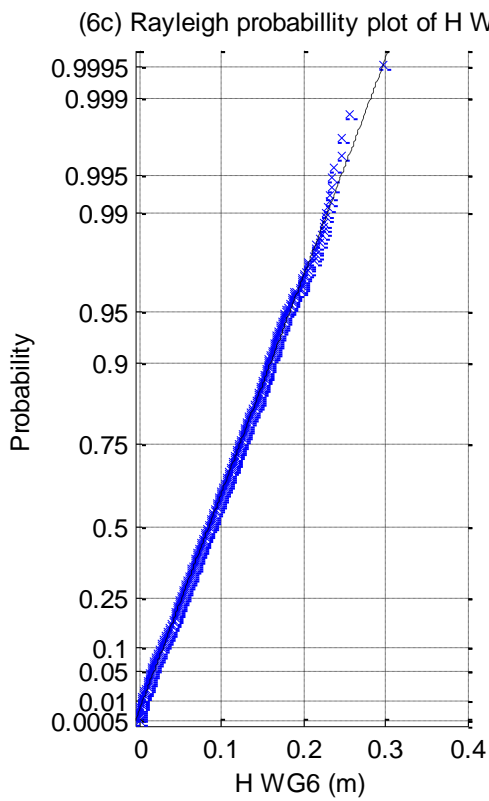
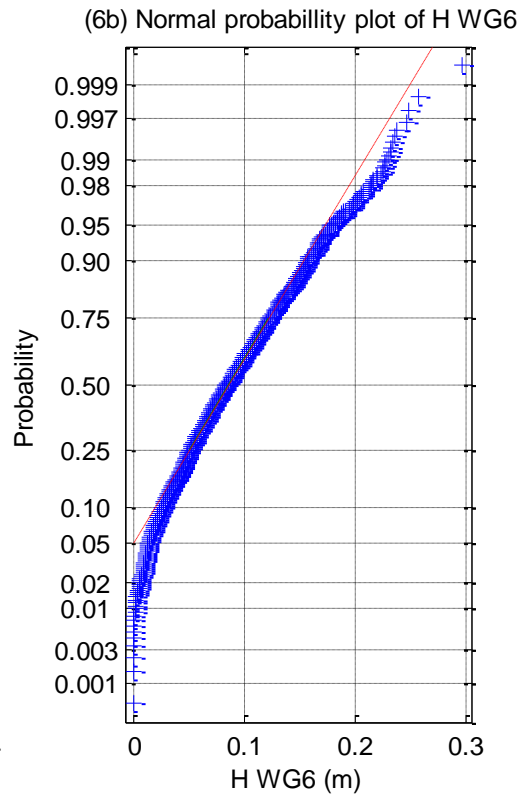
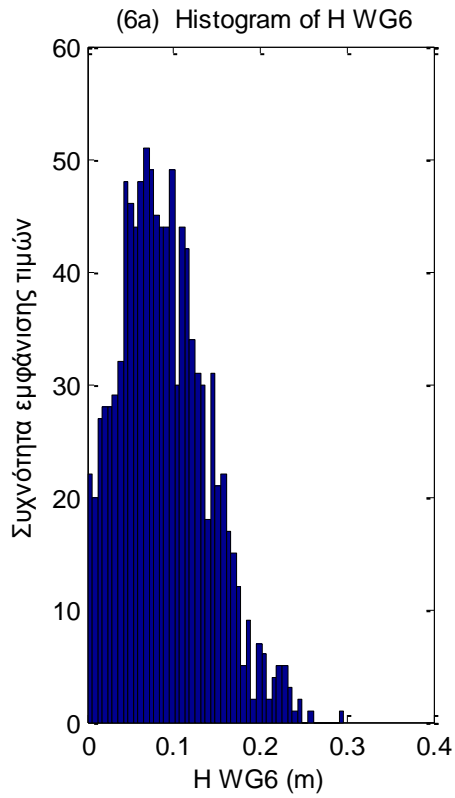


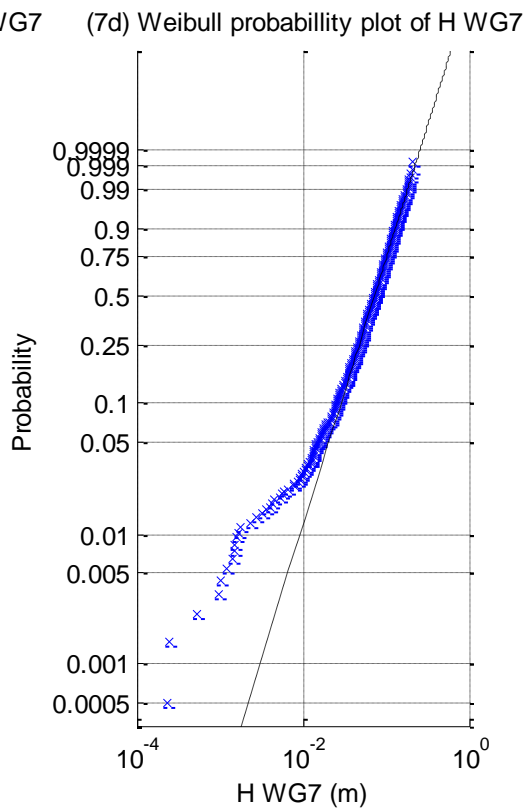
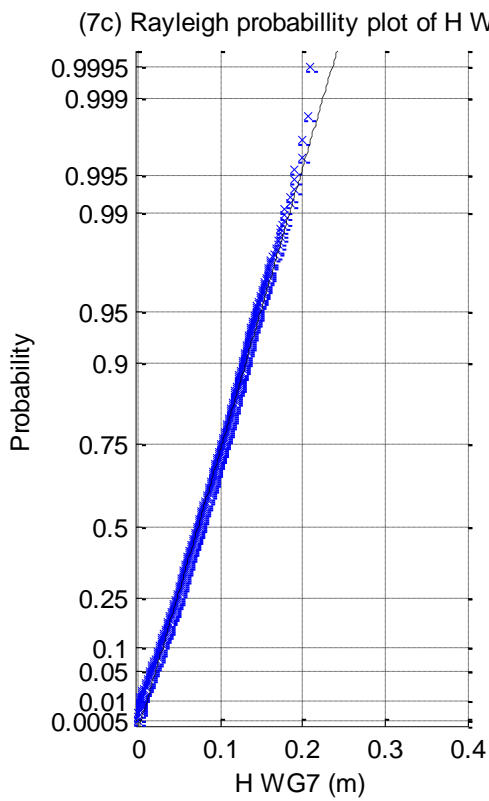
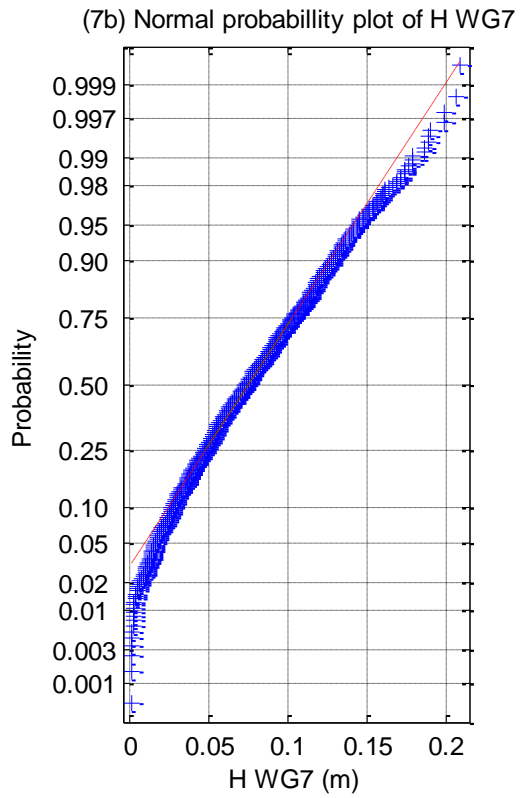
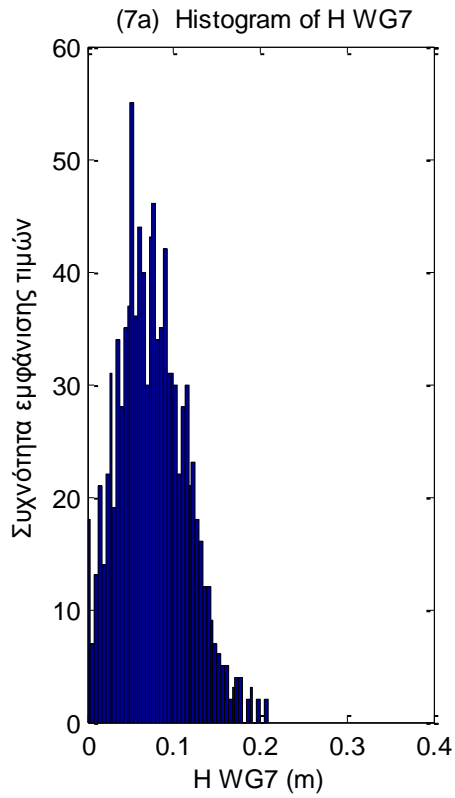


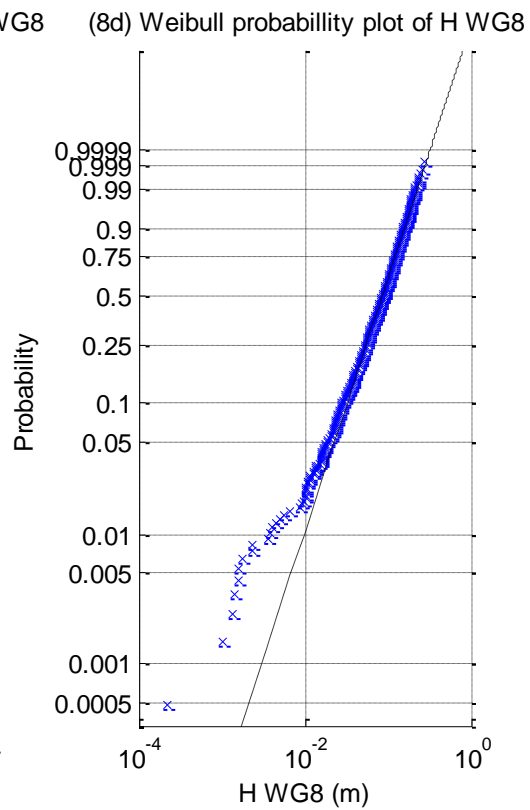
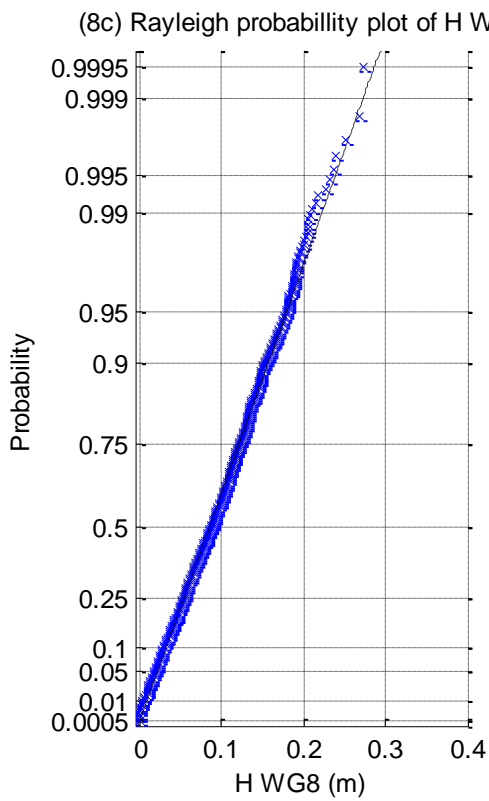
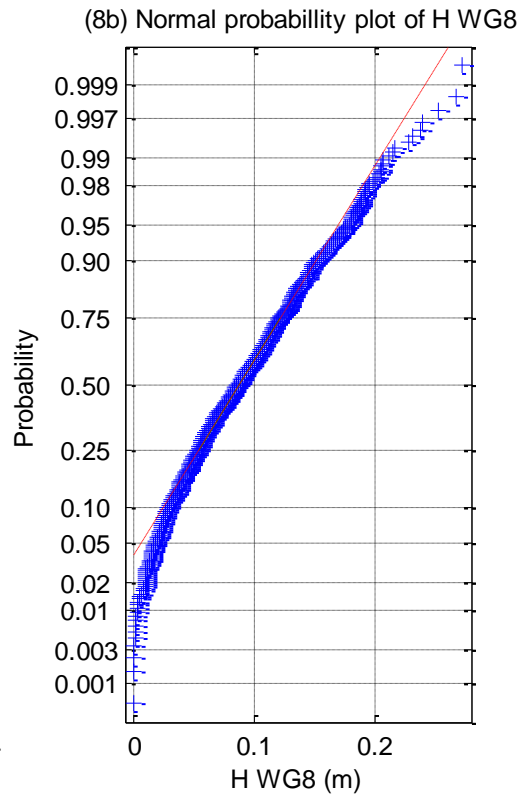
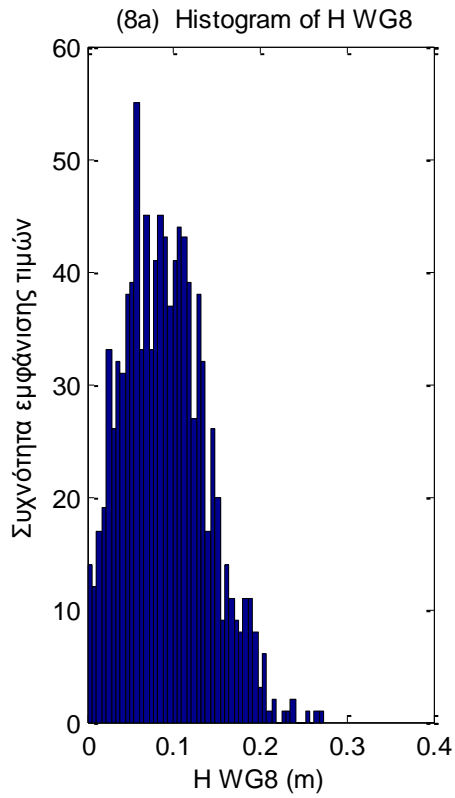


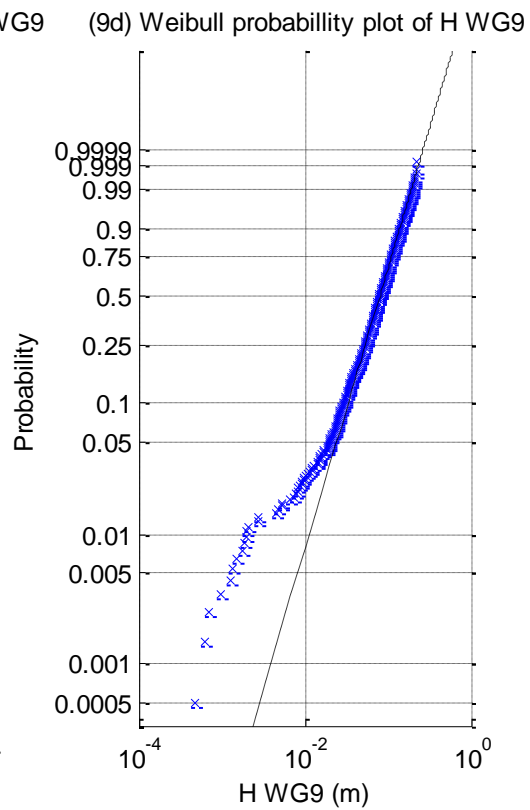
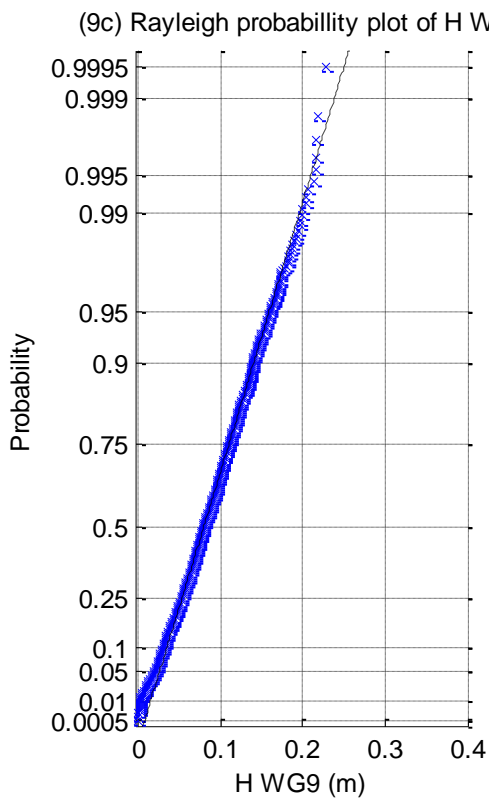
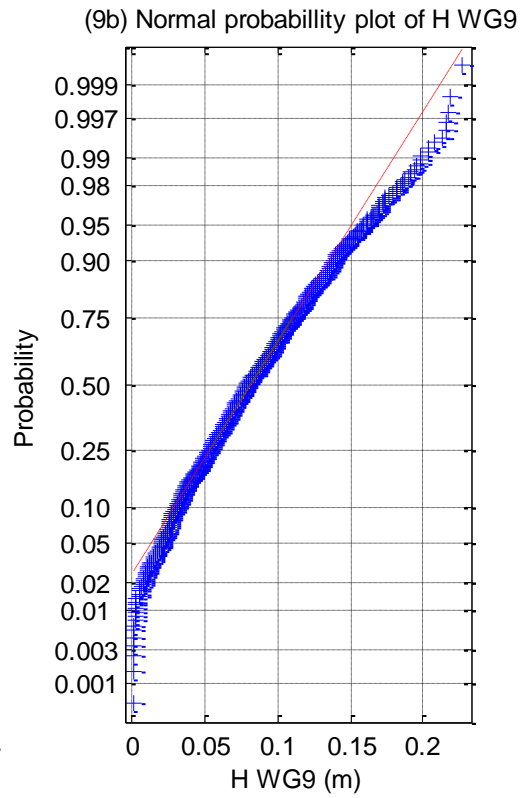
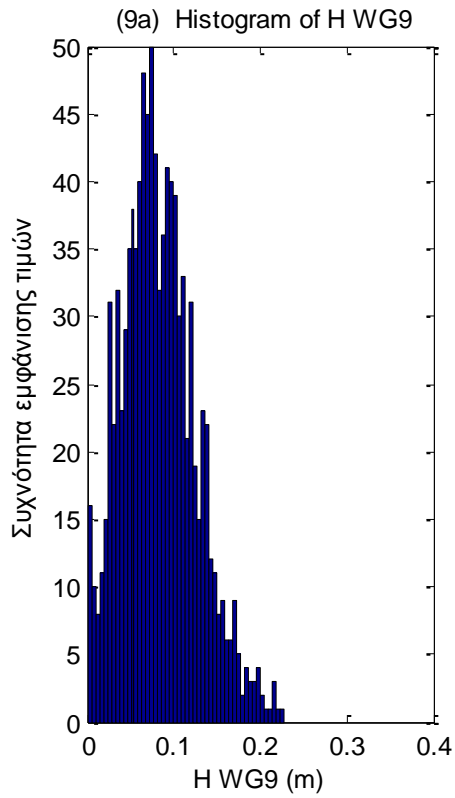


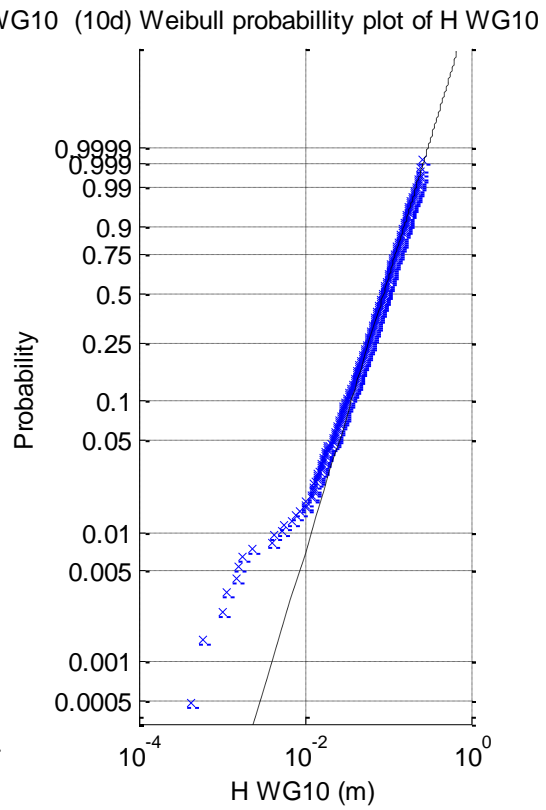
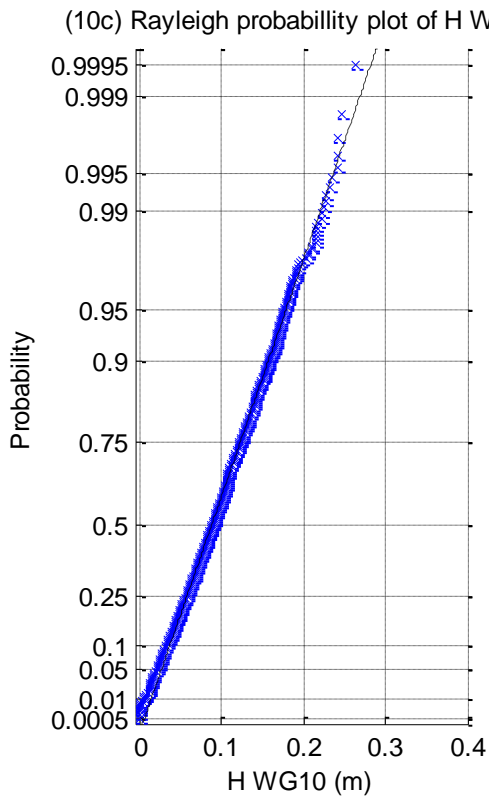
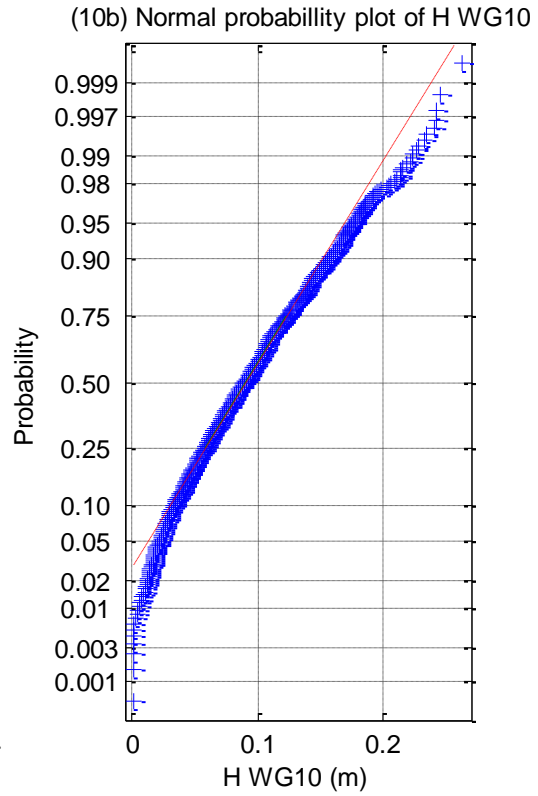
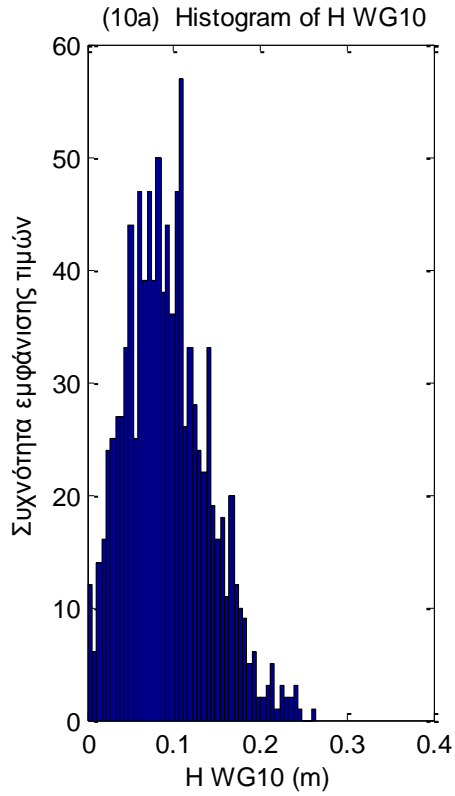


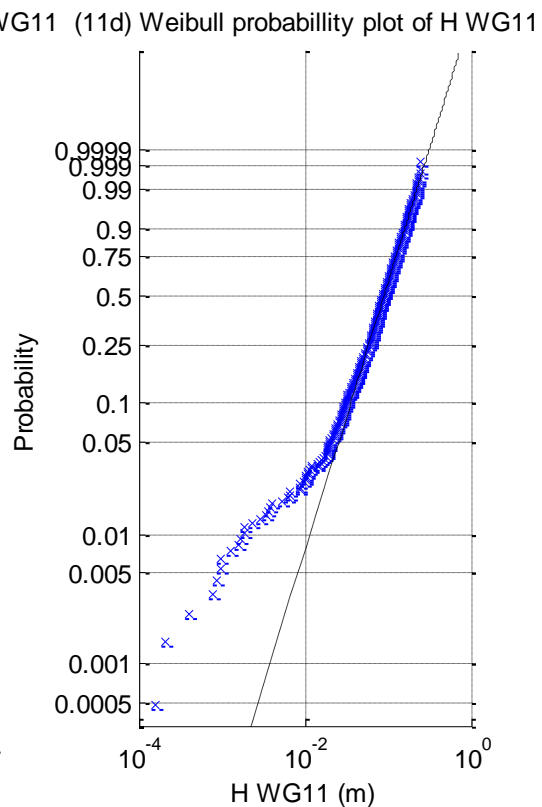
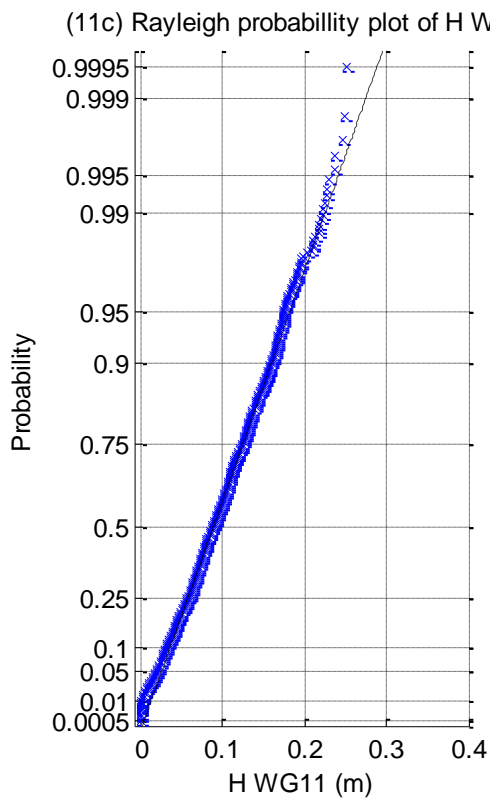
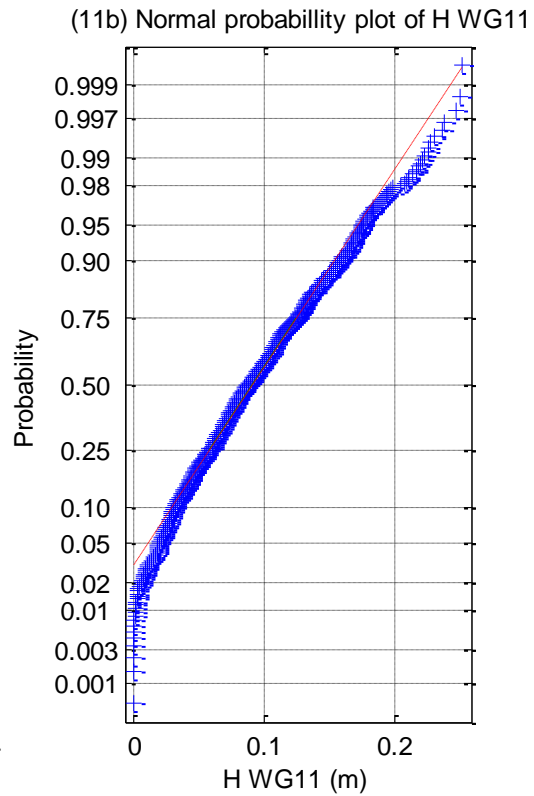
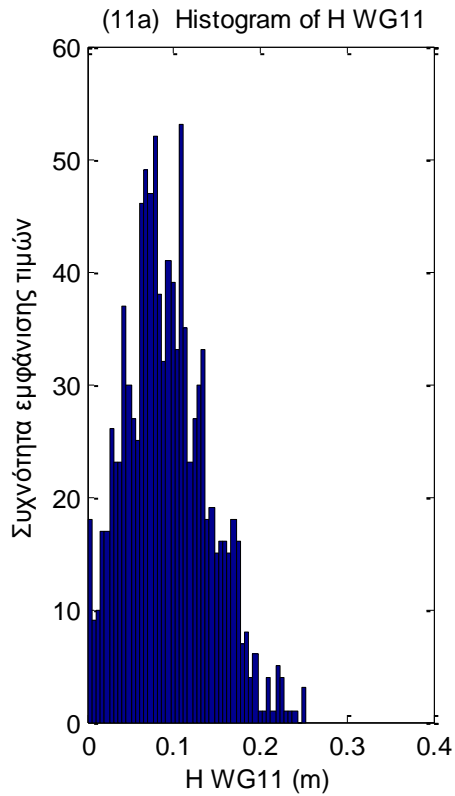




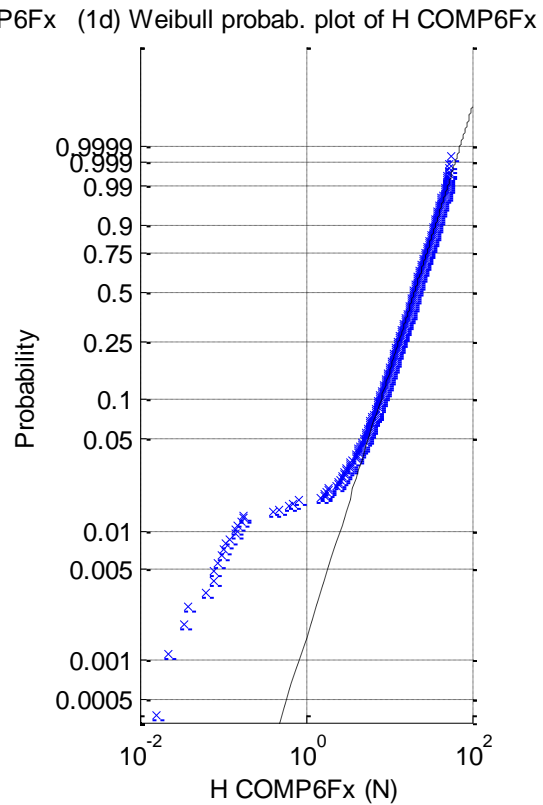
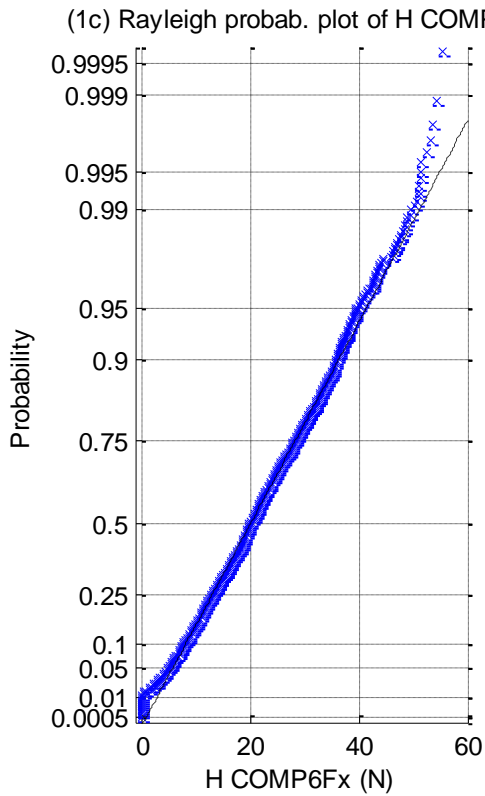
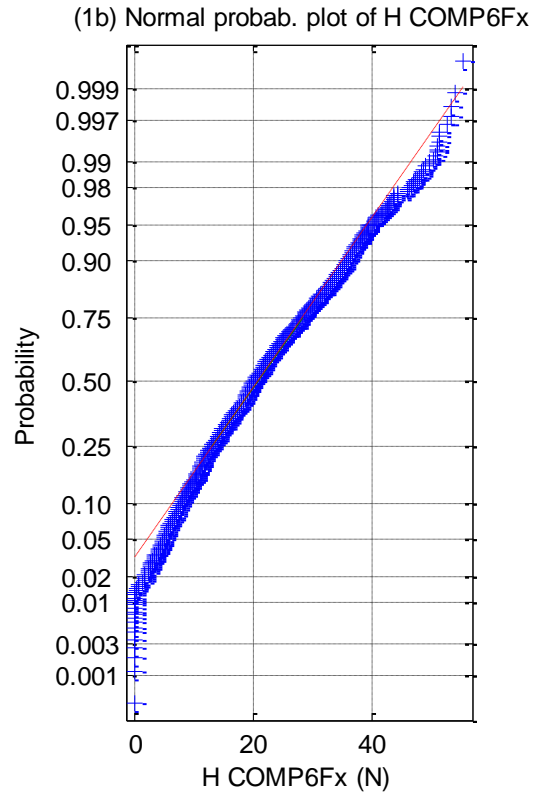
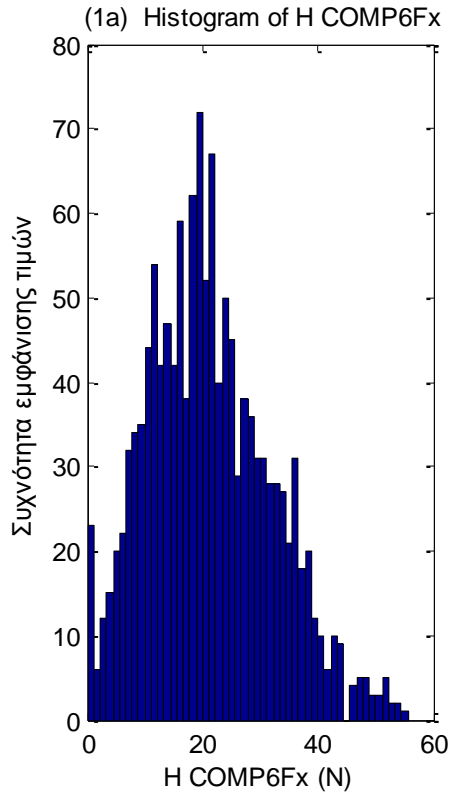


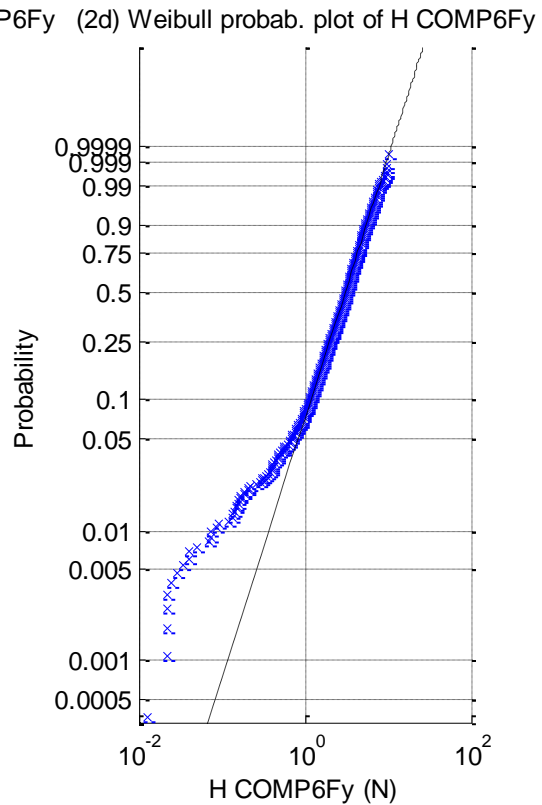
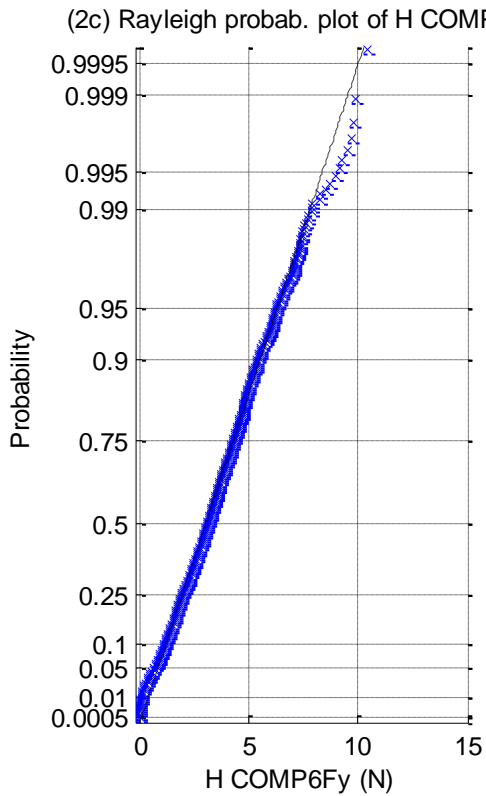
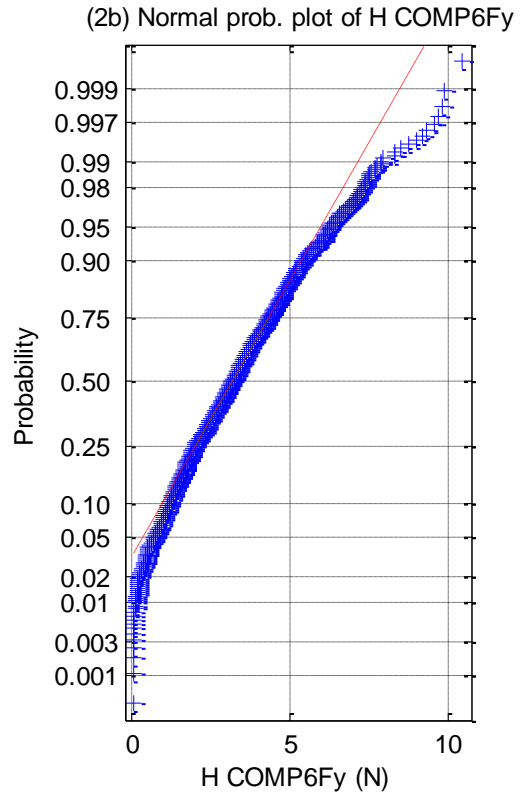
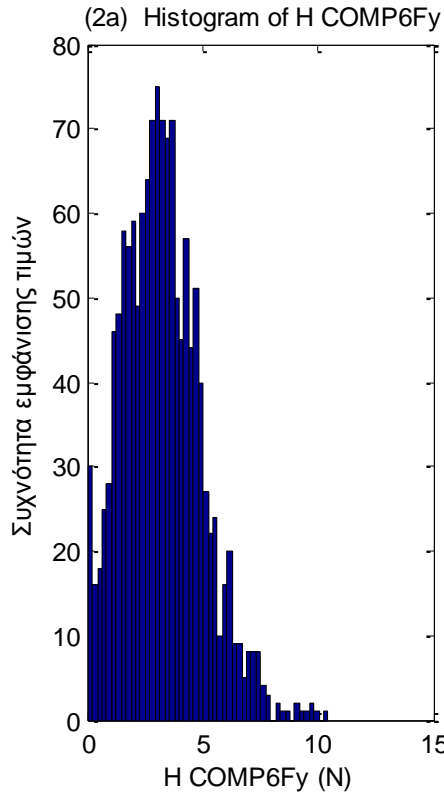


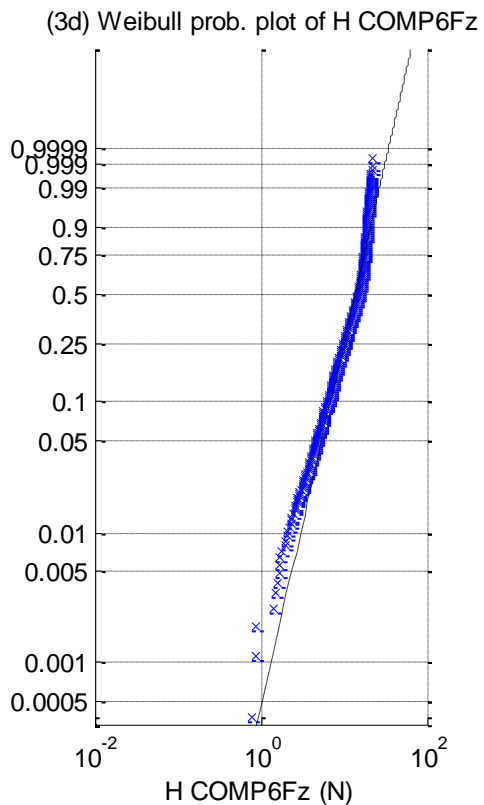
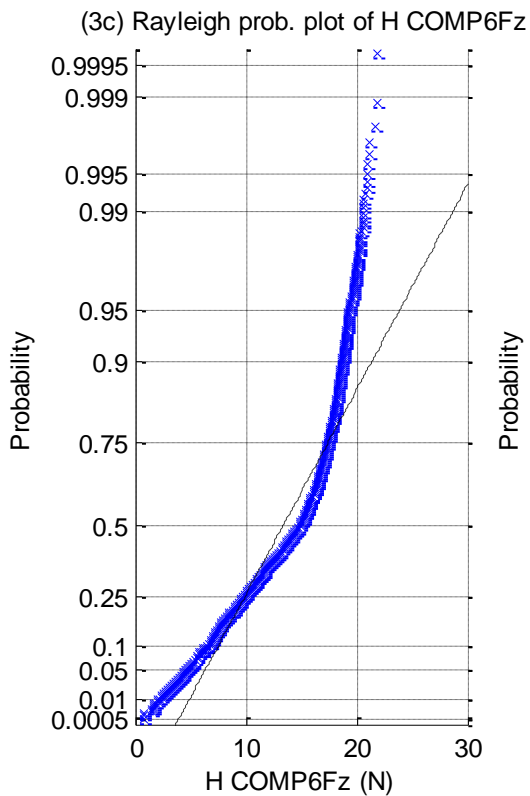
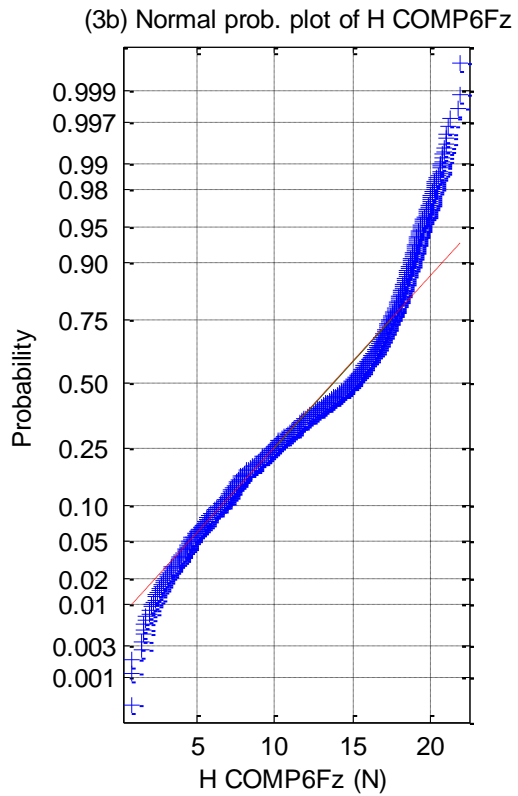
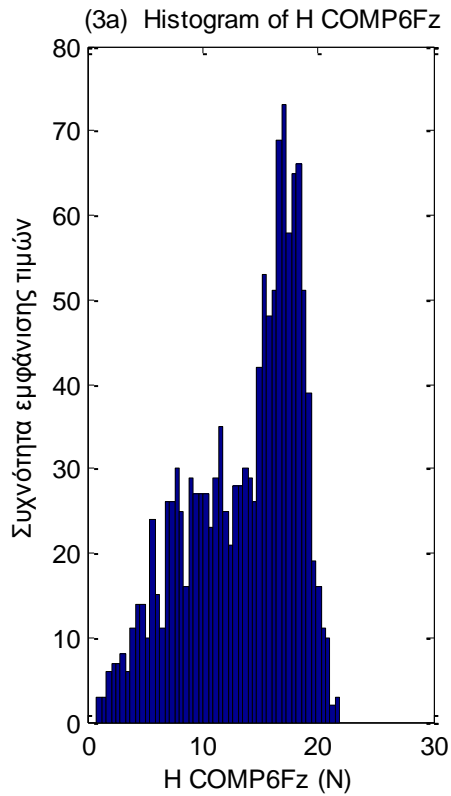


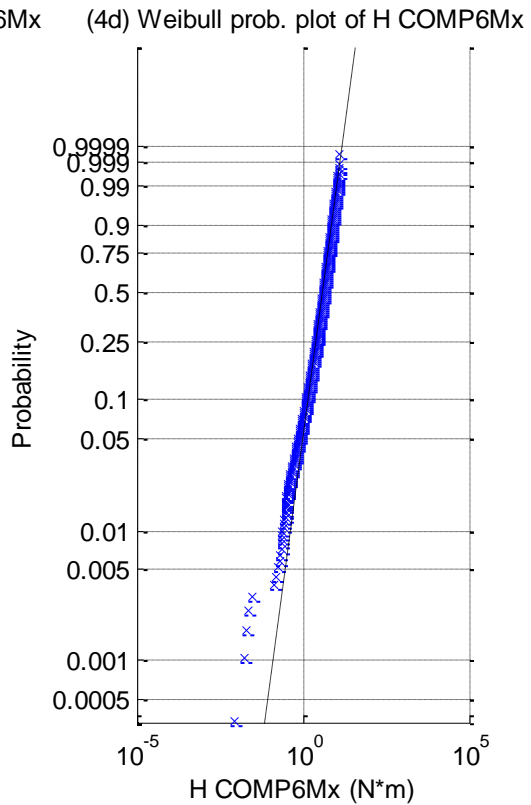
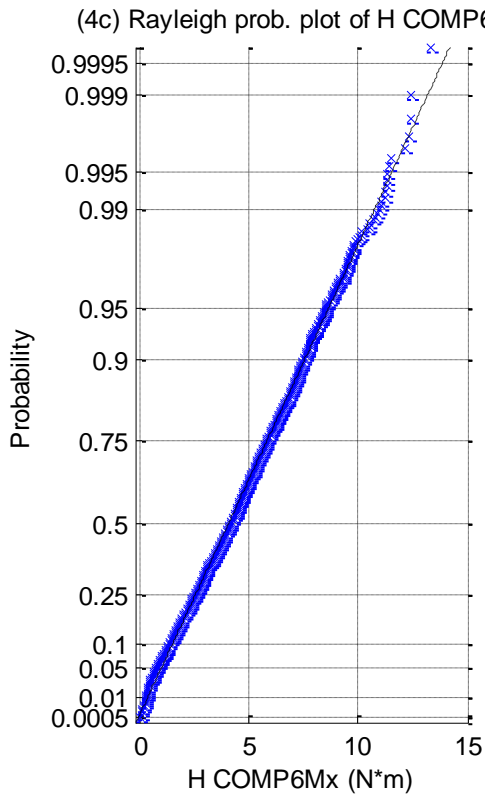
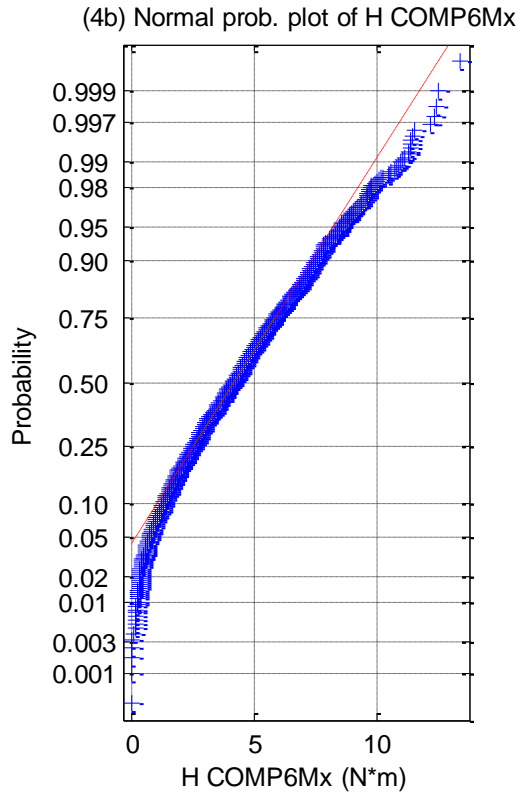
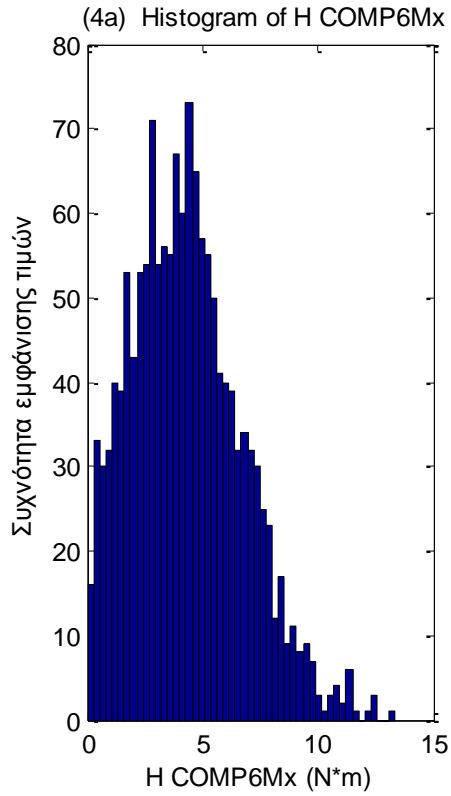


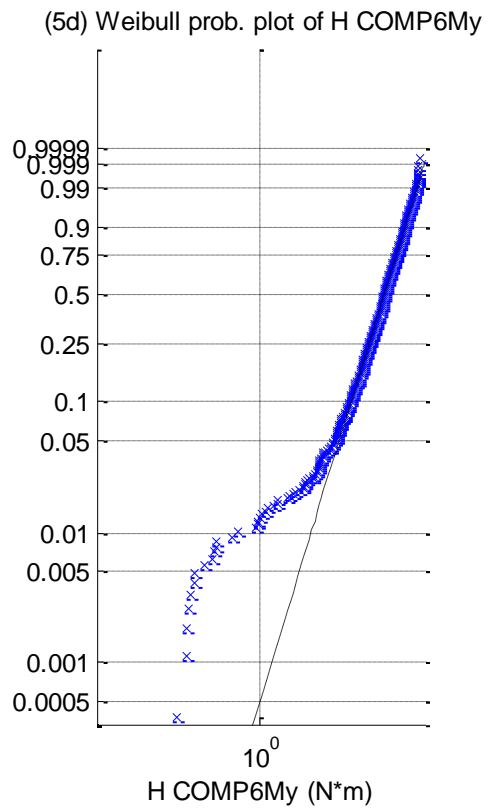
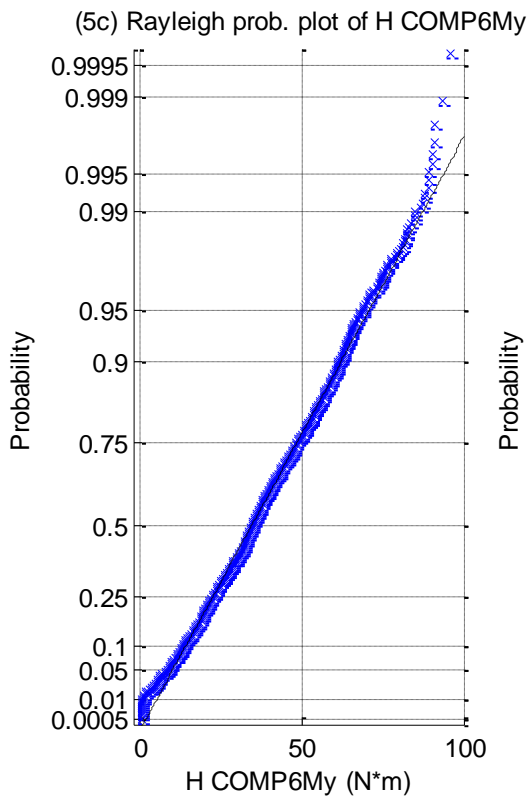
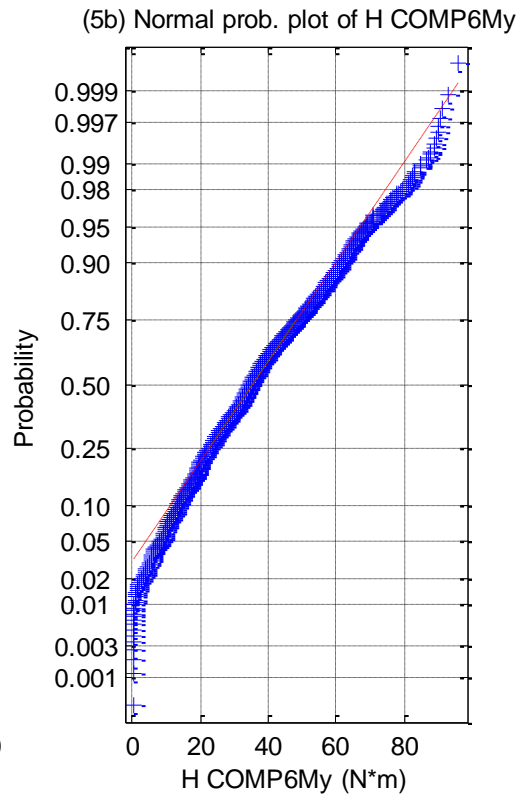
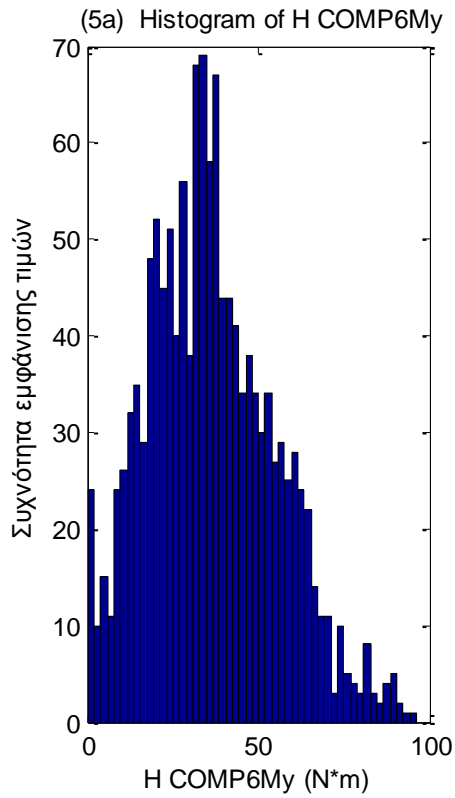
Σχήματα 1.6.6.1 (1-11) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα 11 όργανα μέτρησης του ύψους κύματος

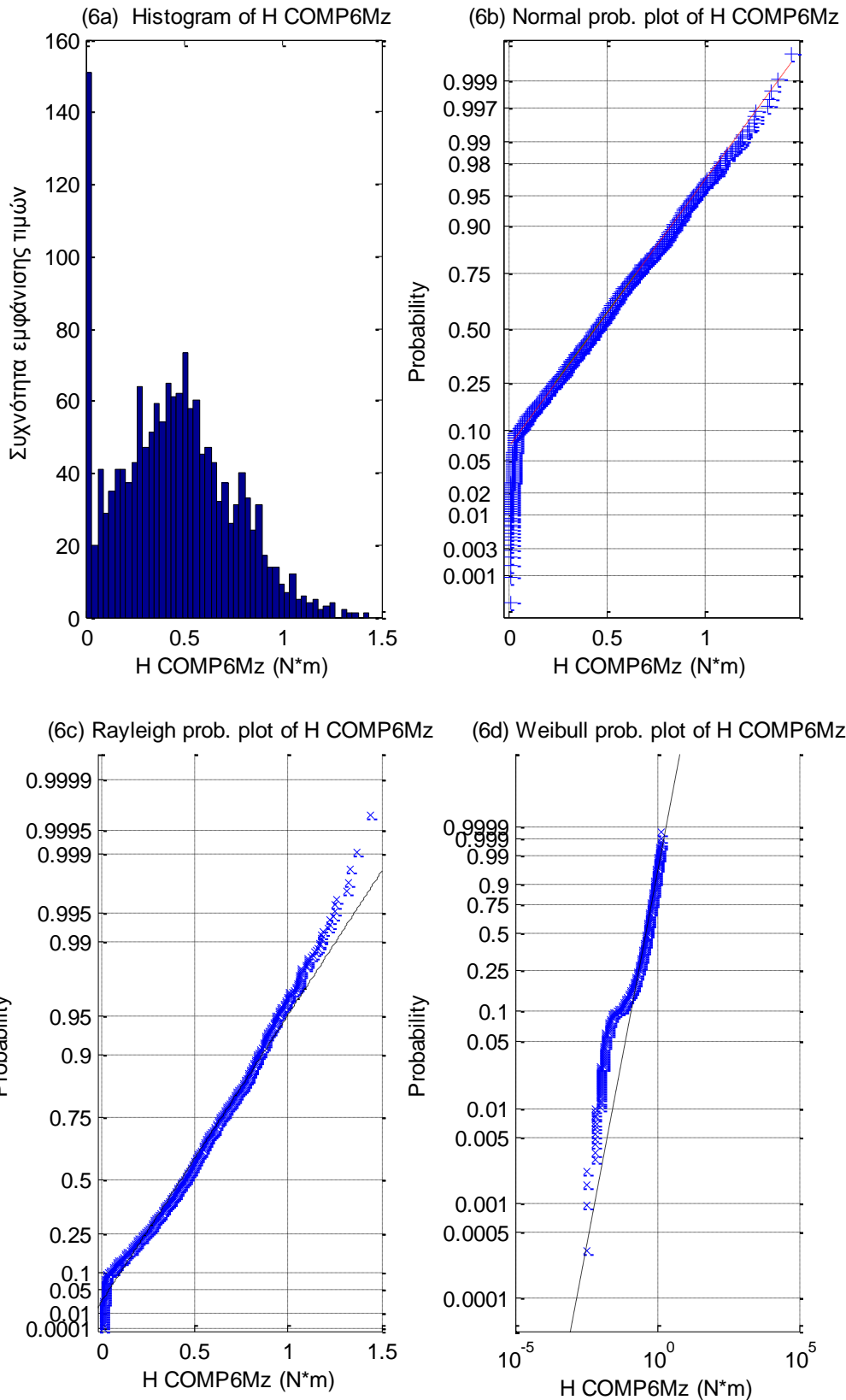




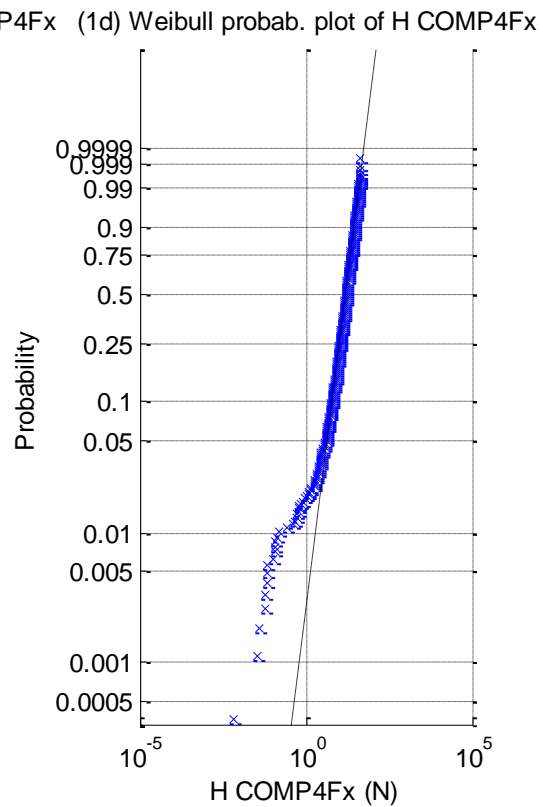
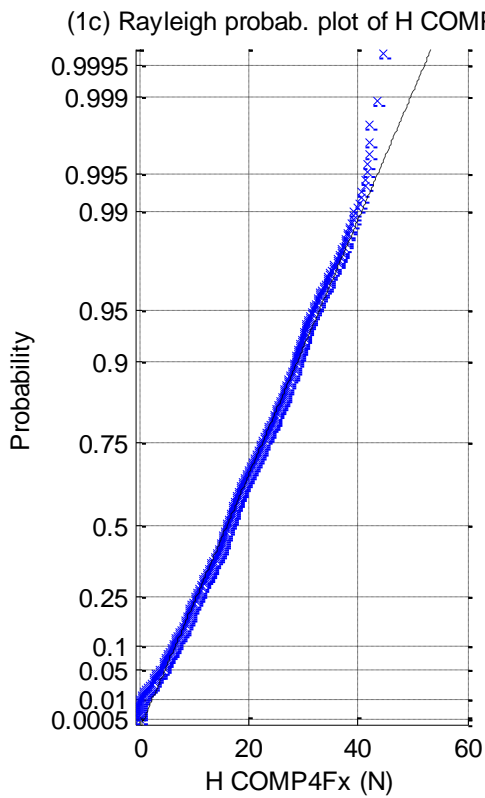
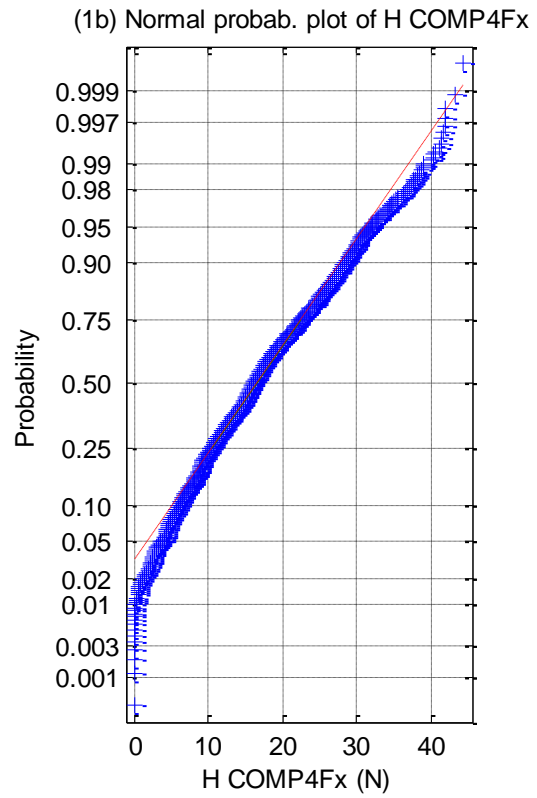
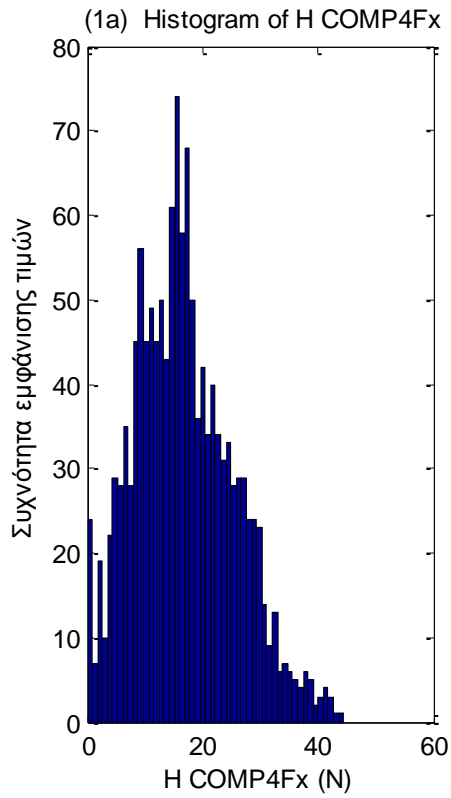


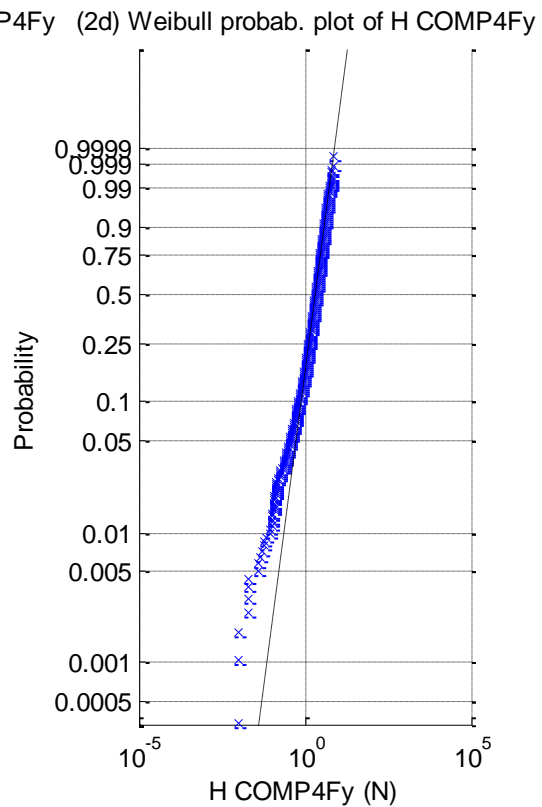
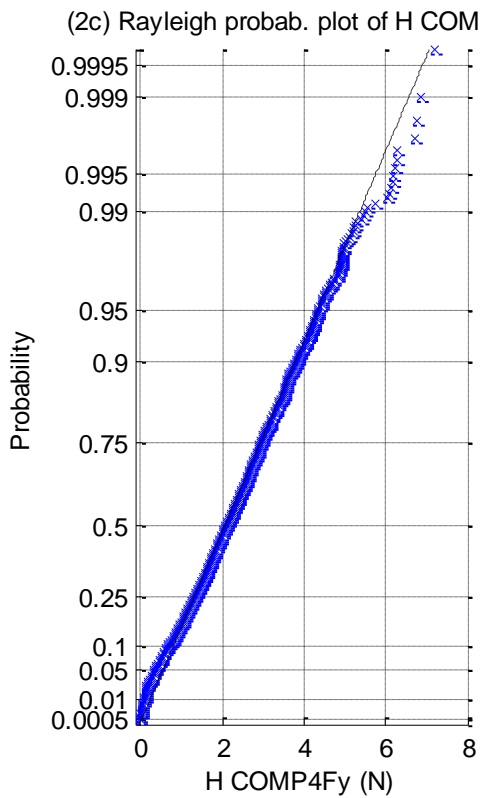
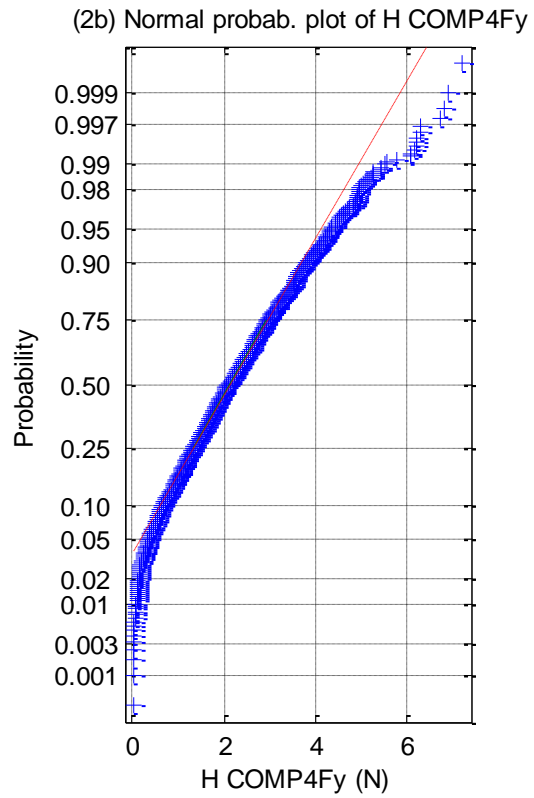
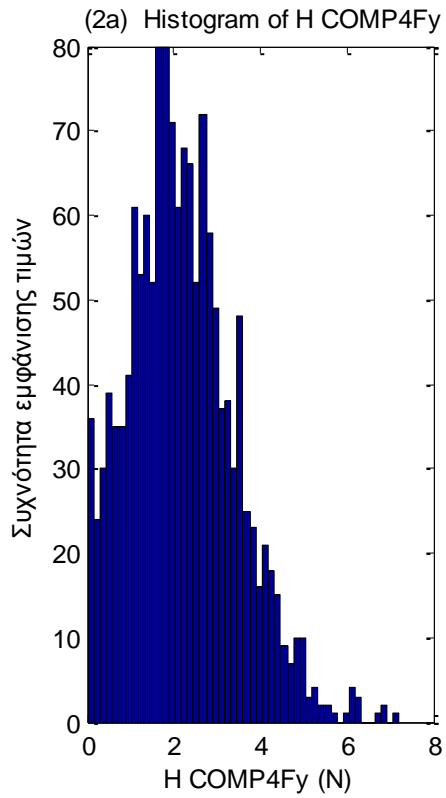


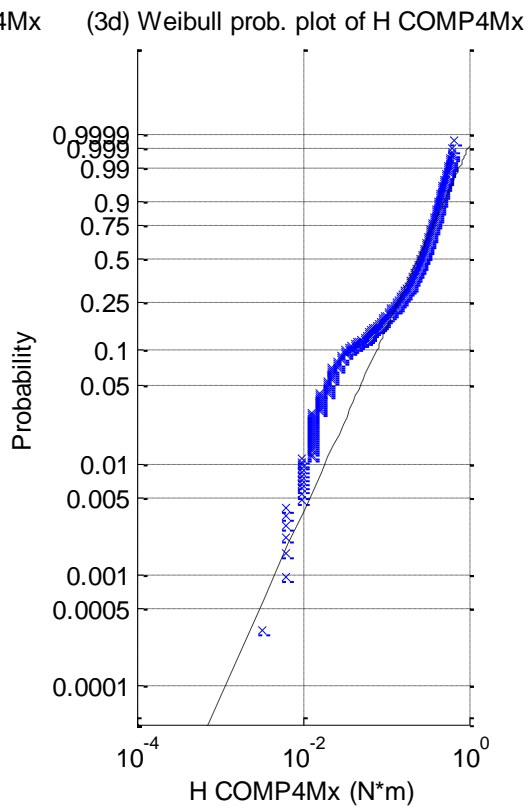
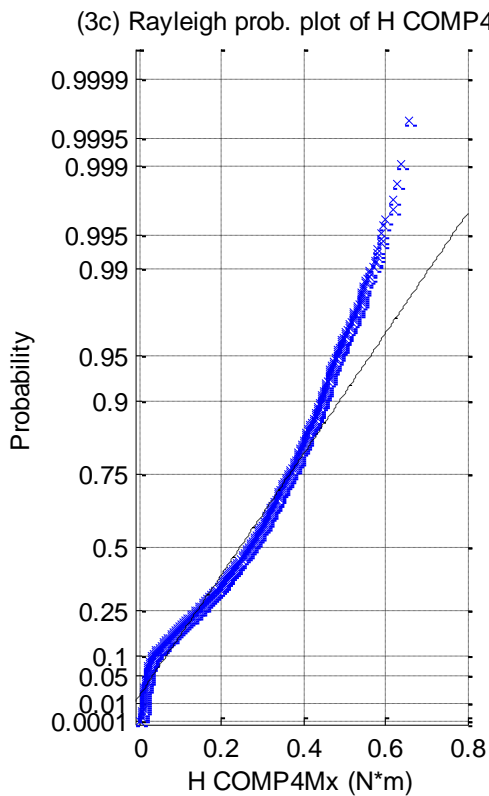
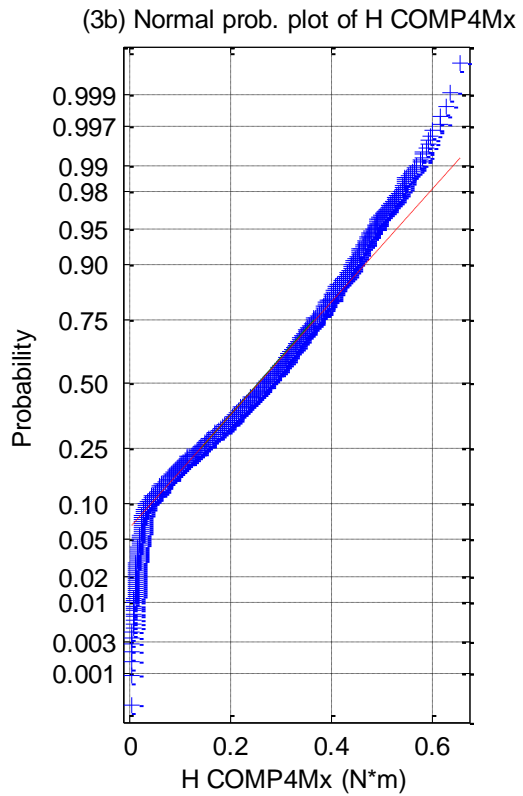
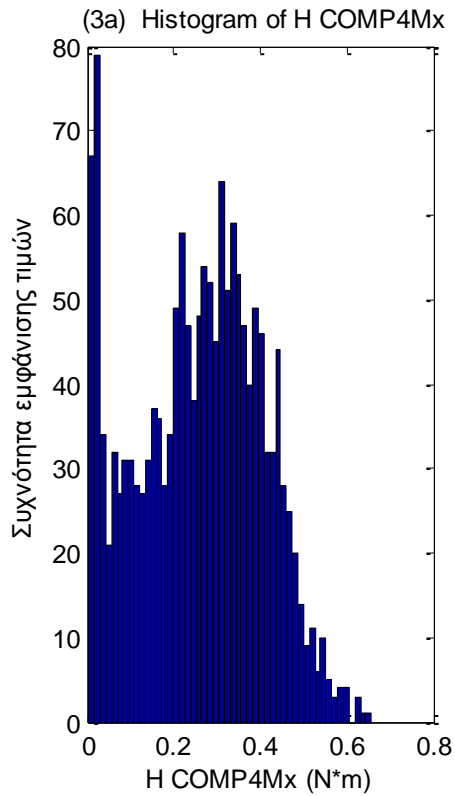


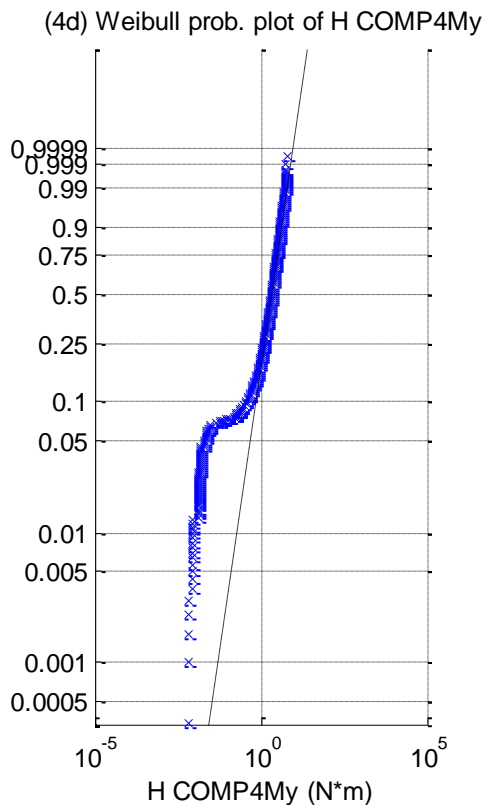
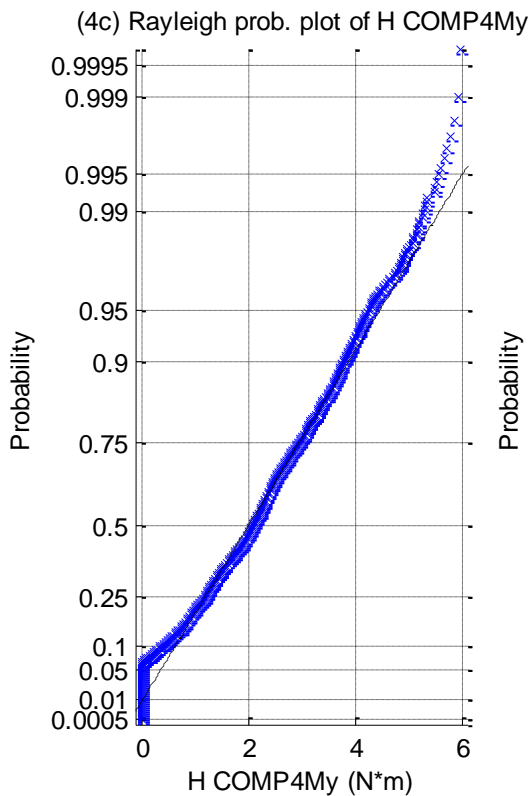
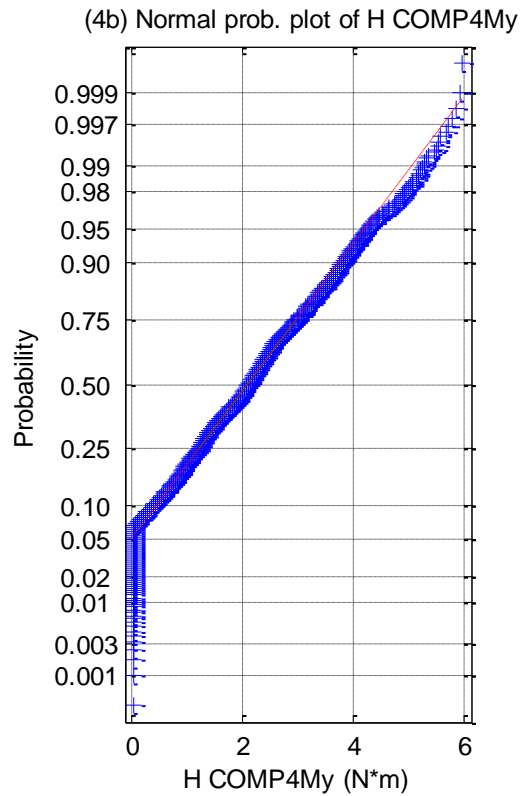
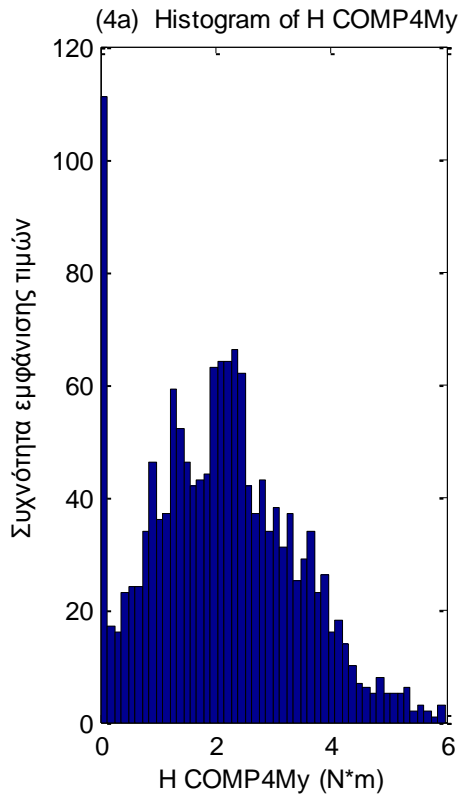


Σχήματα 1.6.6.2 (1-5) α) Ιστογράμματα, β) γραφήματα ελέγχου κανονικότητας, γ) έλεγχος κατανομής Rayleigh και δ) έλεγχος κατανομής Weibull για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw

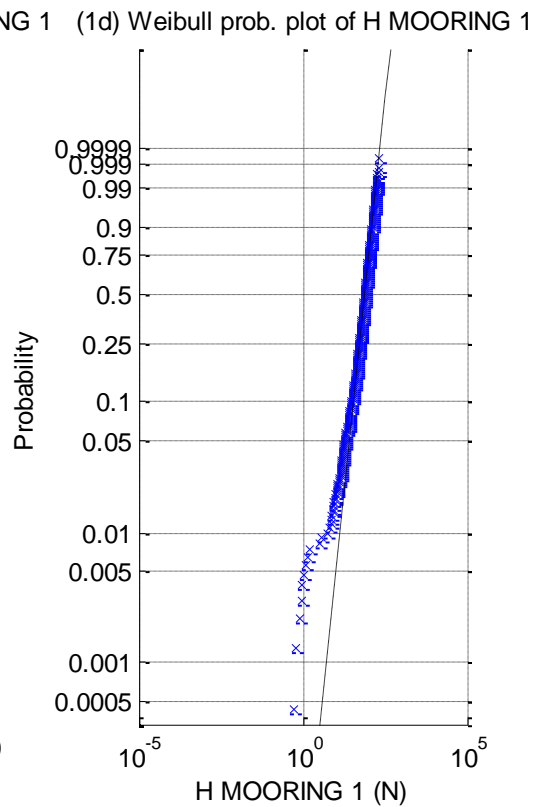
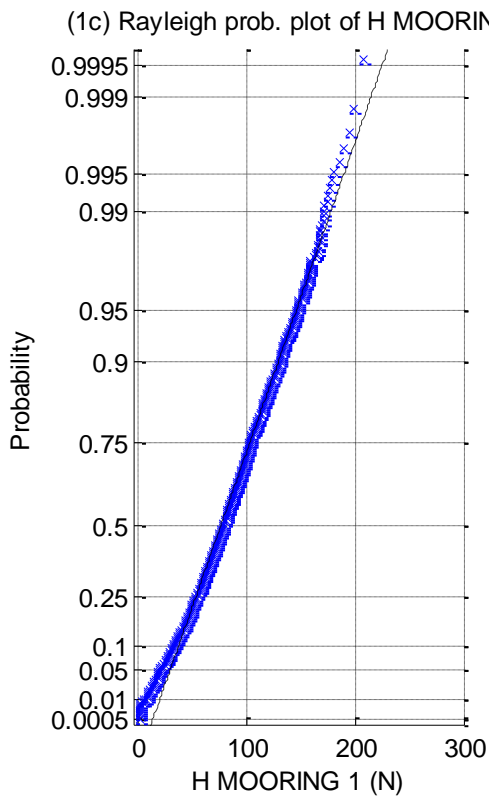
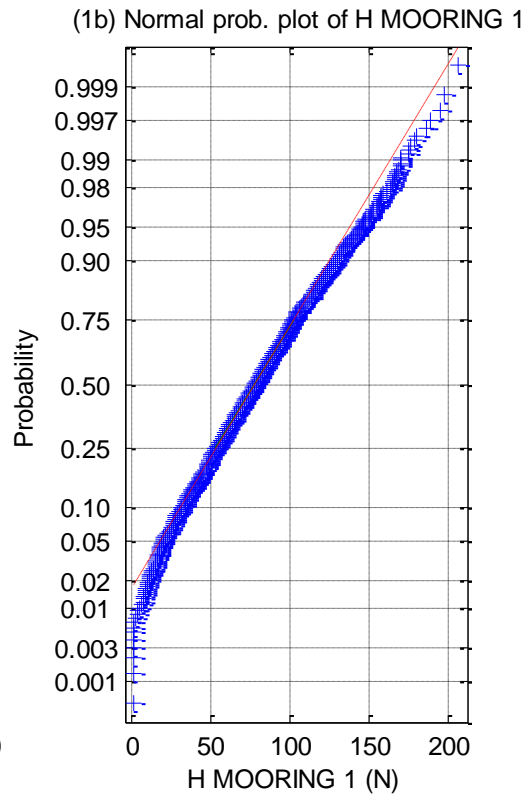
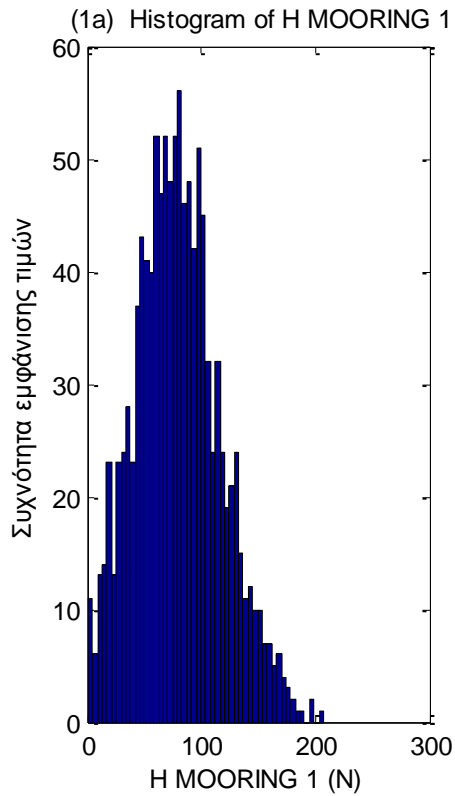




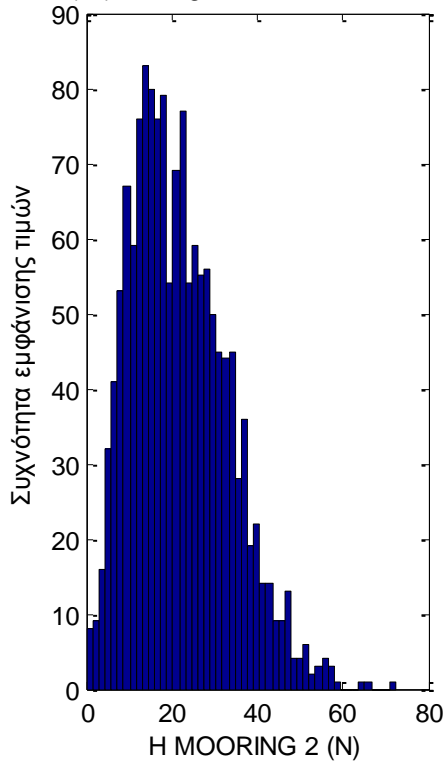




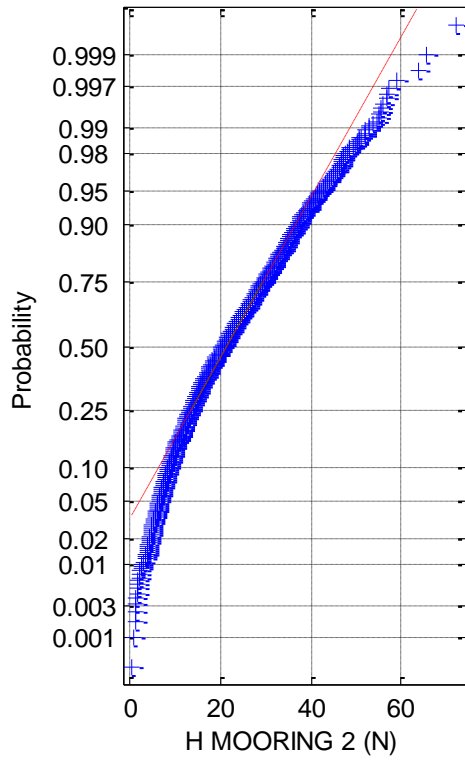
Σχήματα 1.6.6.3 (1-4) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δύο δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και τις δύο ροπές στους αντίστοιχους δύο άξονες (3) roll και (4) pitch



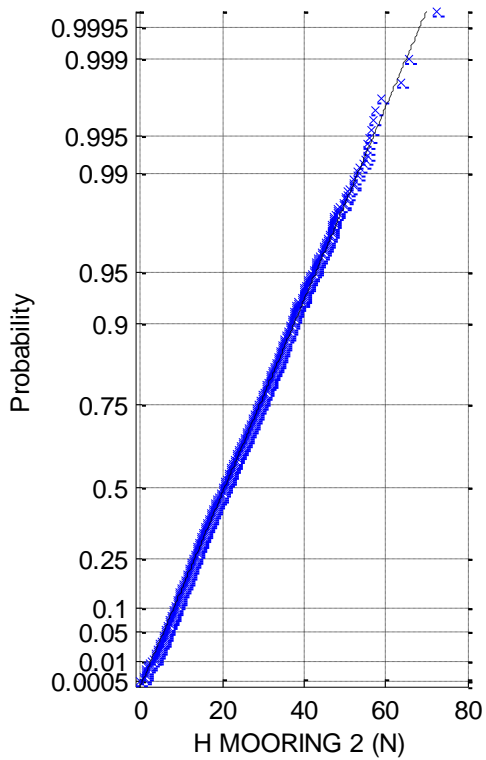
(2a) Histogram of H MOORING 2



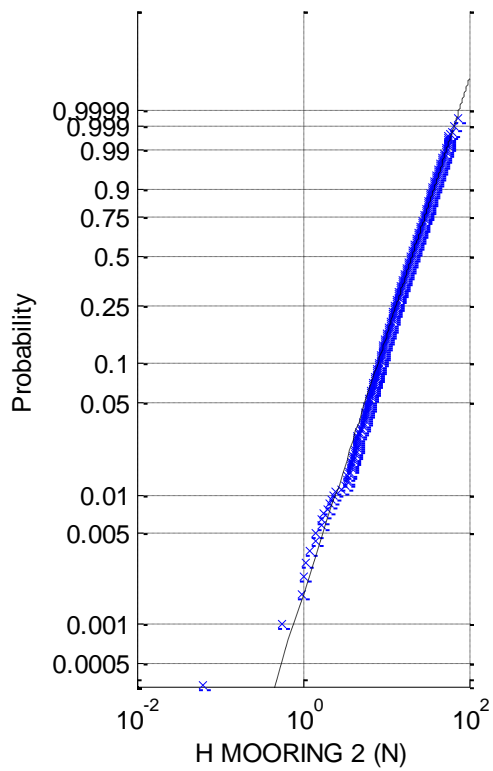
(2b) Normal prob. plot of H MOORING 2



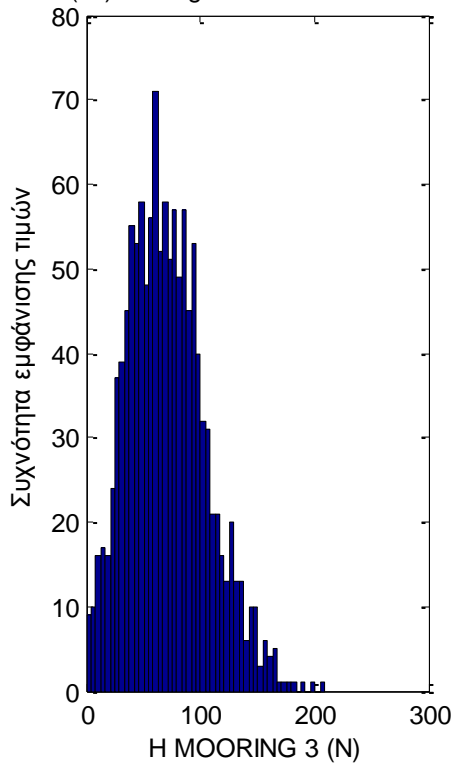
(2c) Rayleigh prob. plot of H MOORING 2



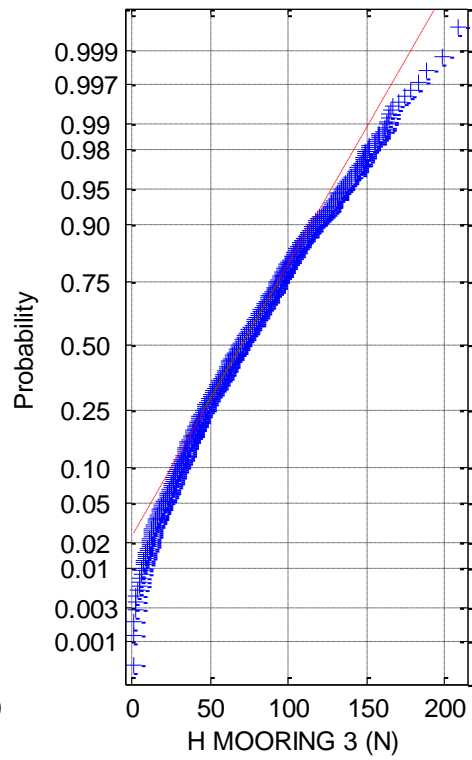
(2d) Weibull prob. plot of H MOORING 2



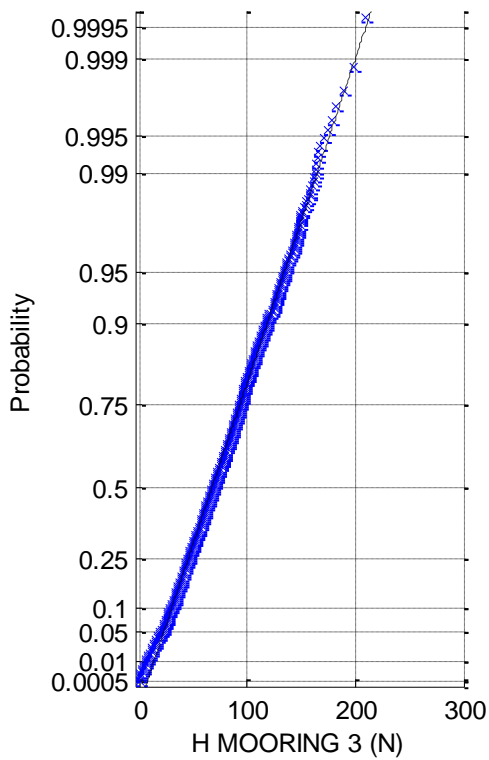
(3a) Histogram of H MOORING 3



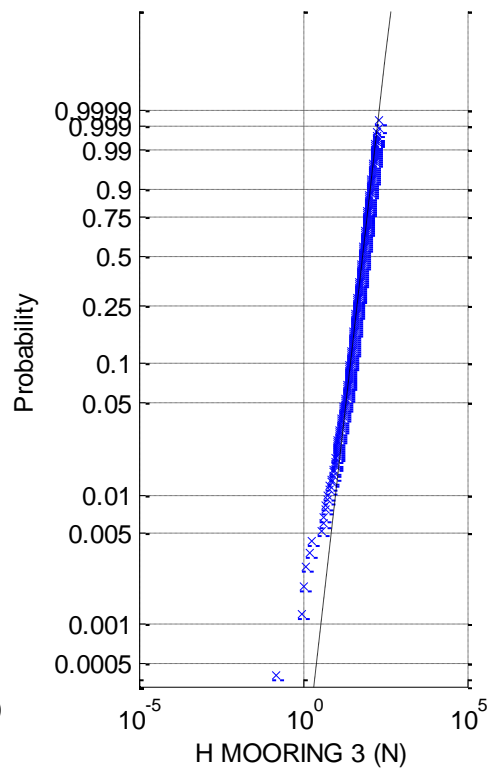
(3b) Normal prob. plot of H MOORING 3

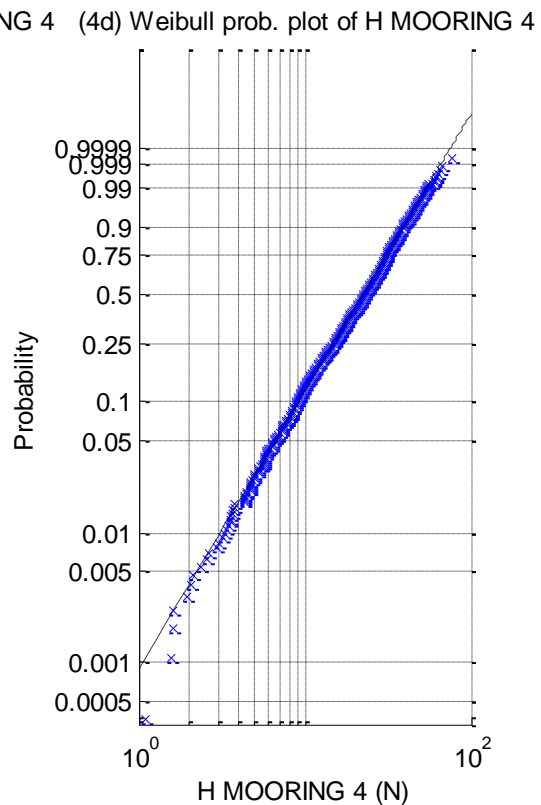
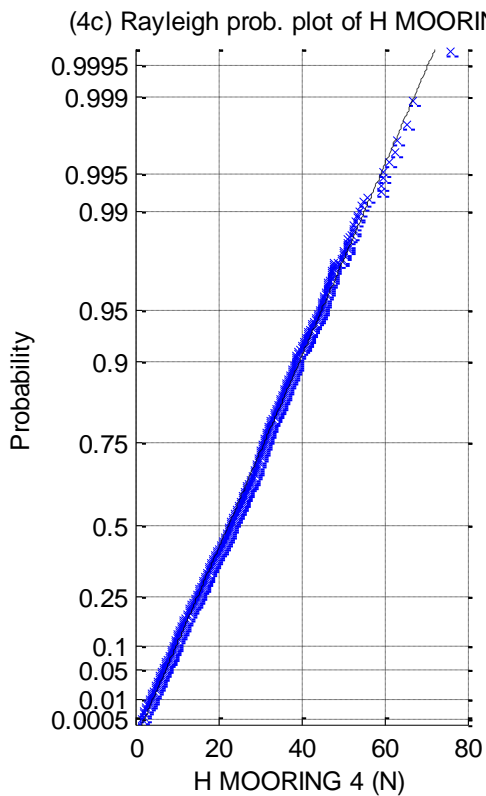
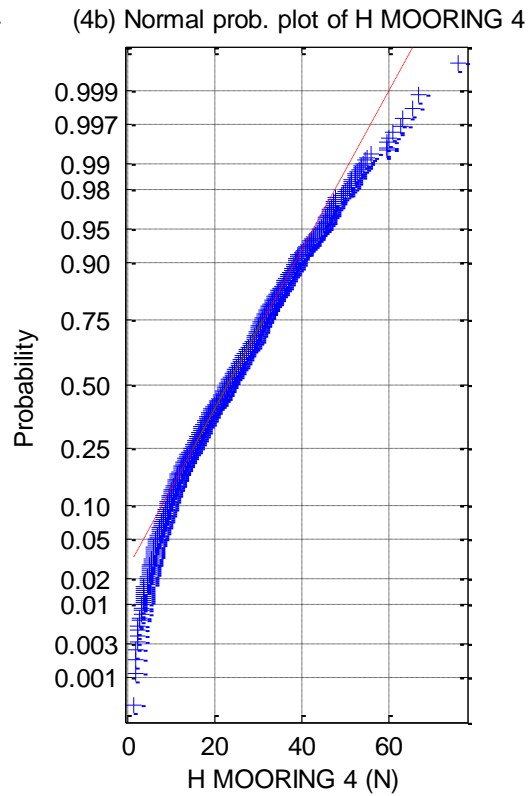
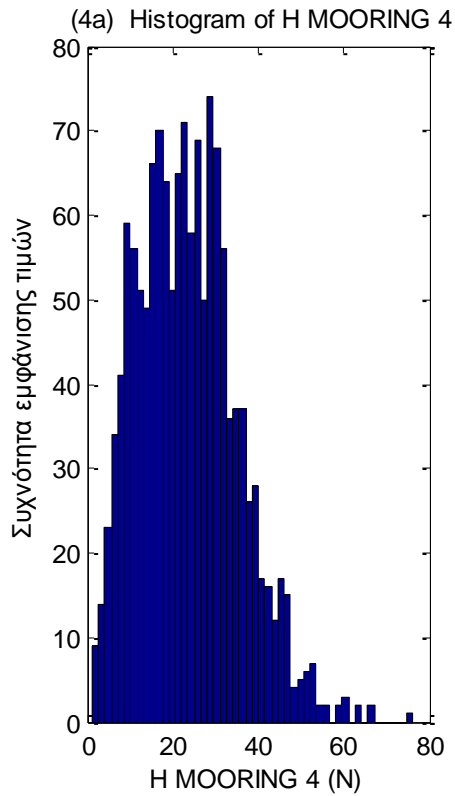


(3c) Rayleigh prob. plot of H MOORING 3

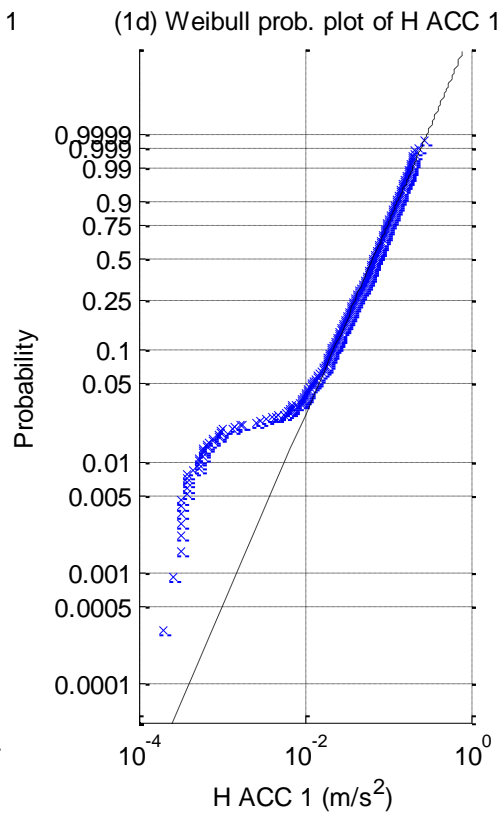
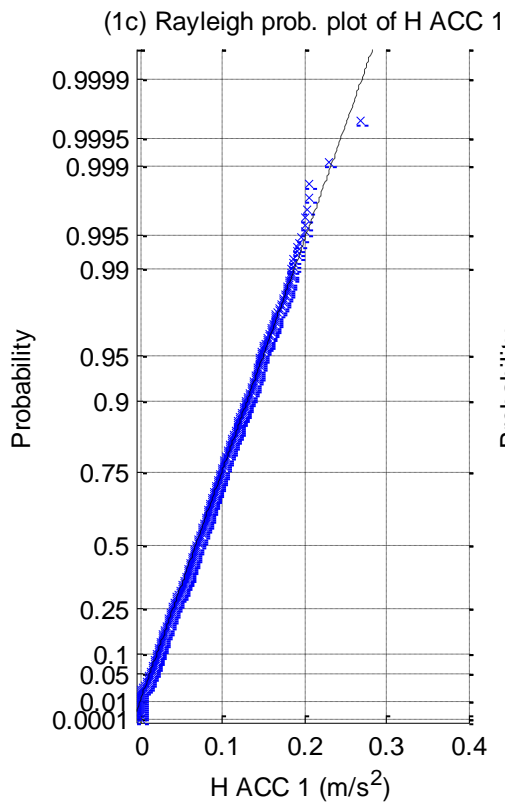
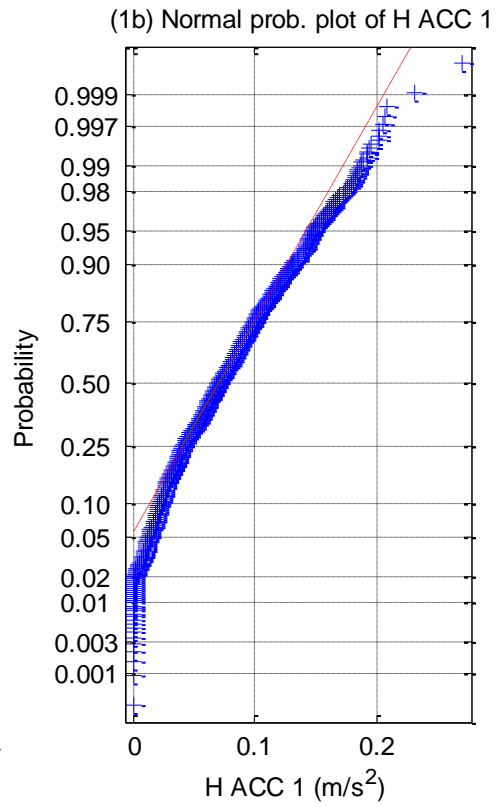
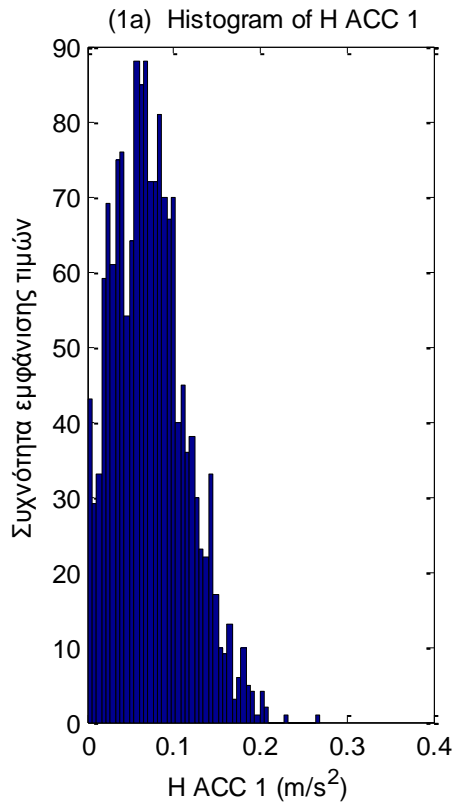


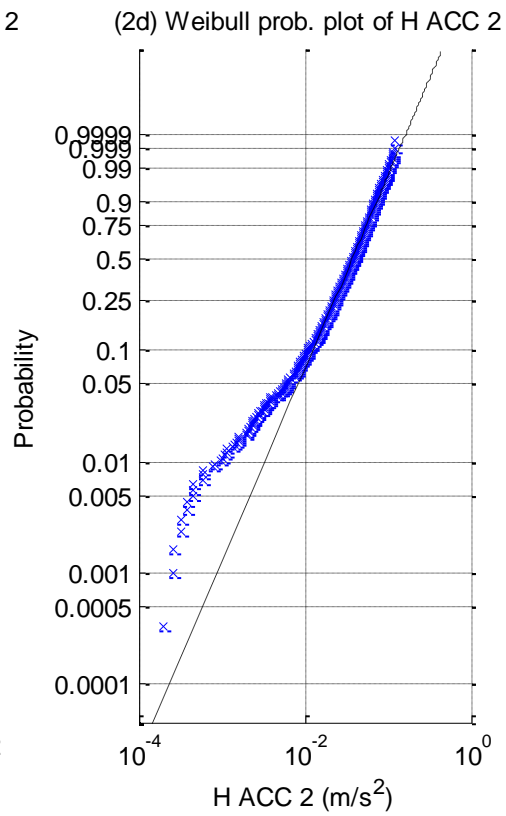
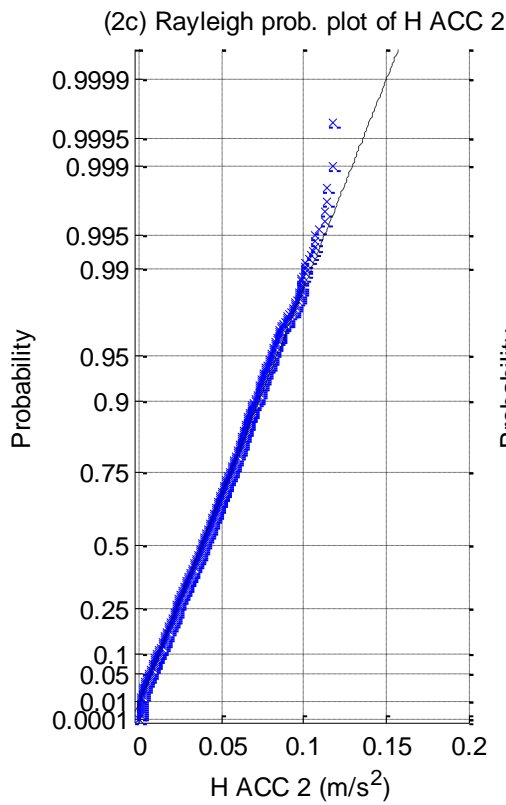
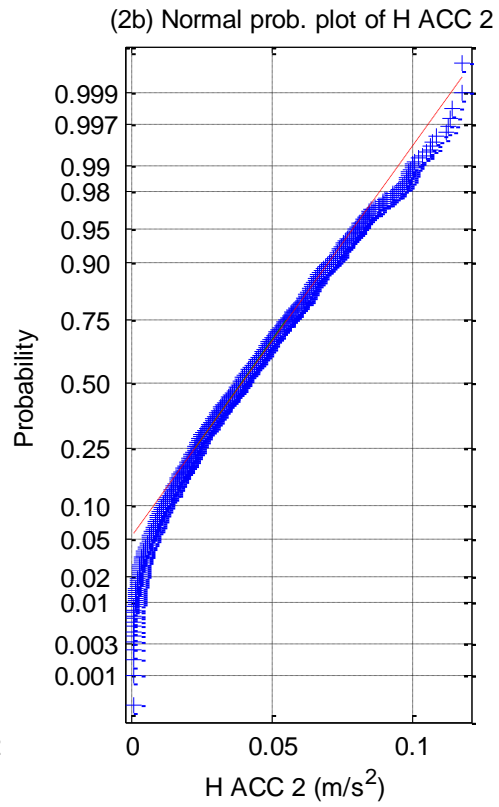
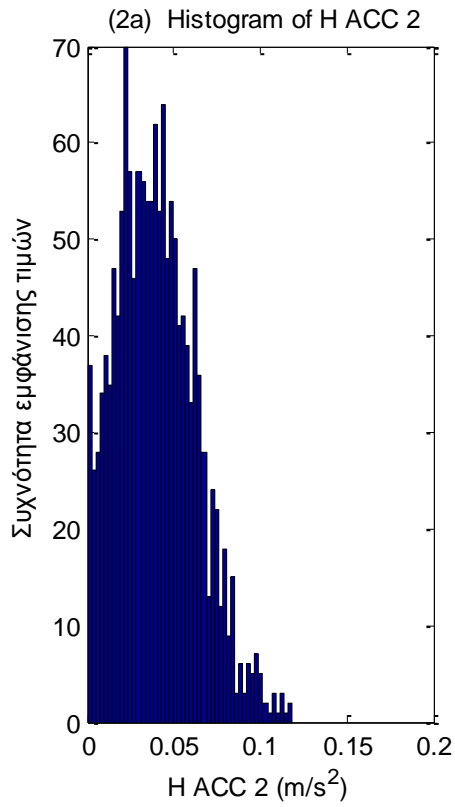
(3d) Weibull prob. plot of H MOORING 3

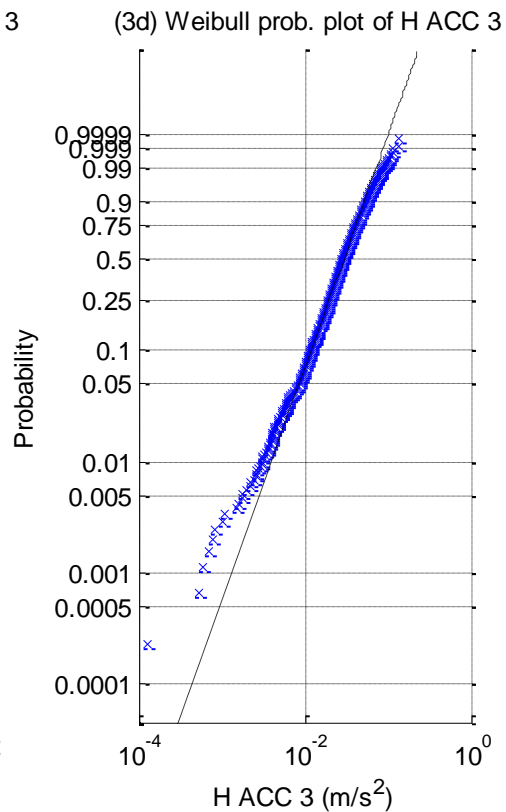
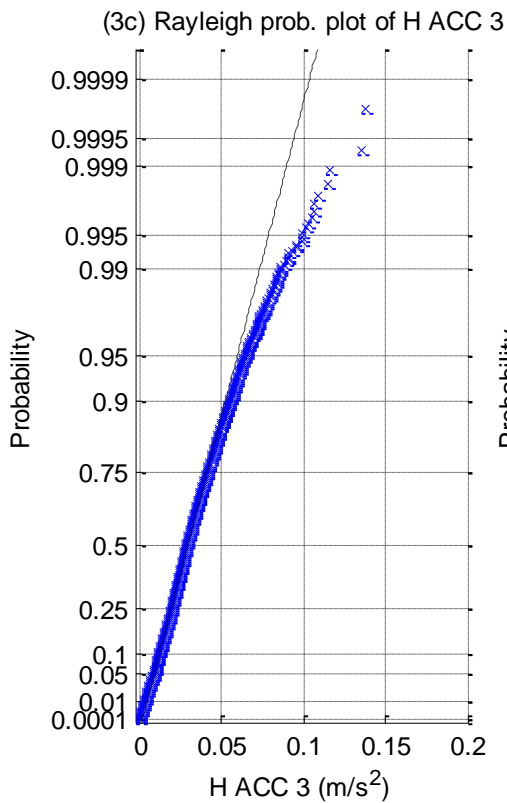
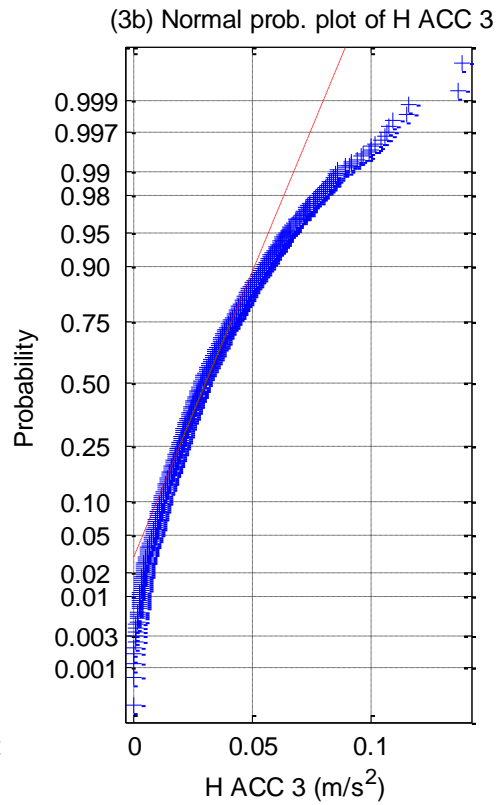
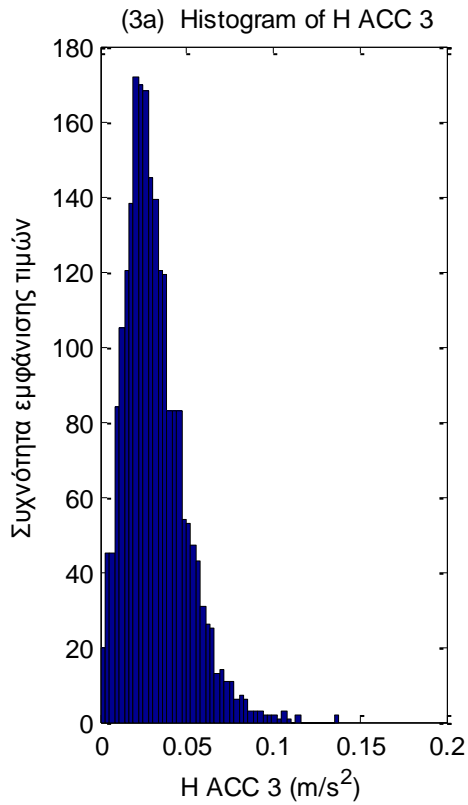




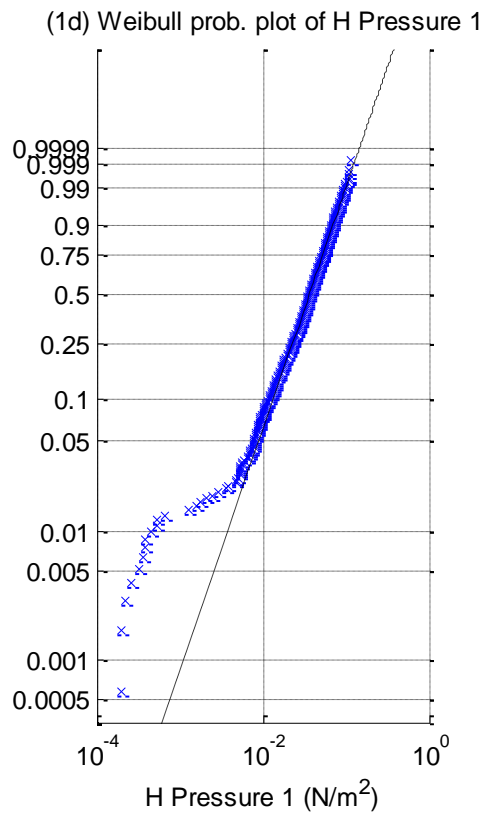
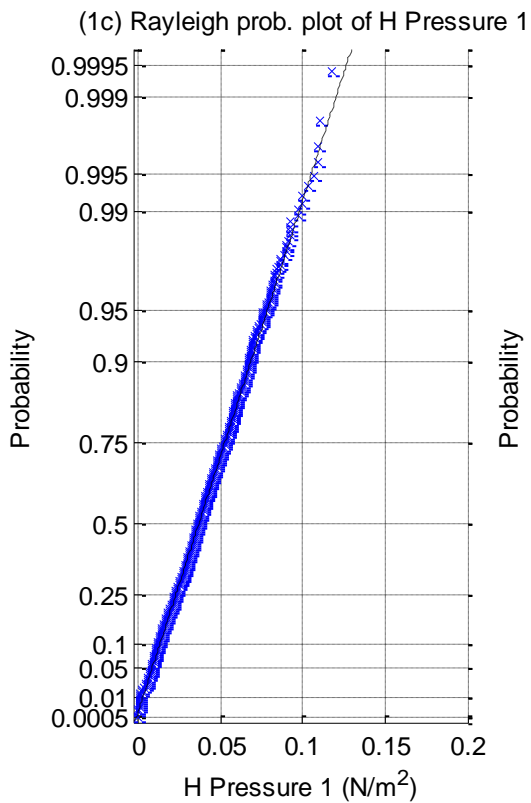
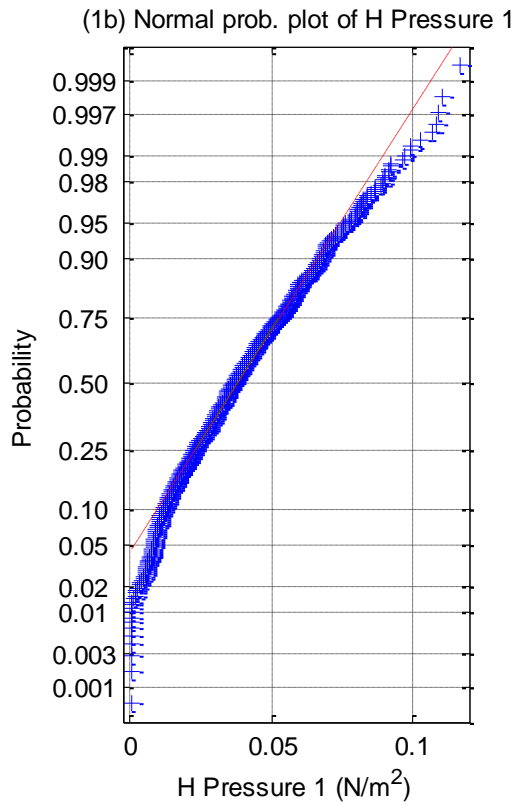
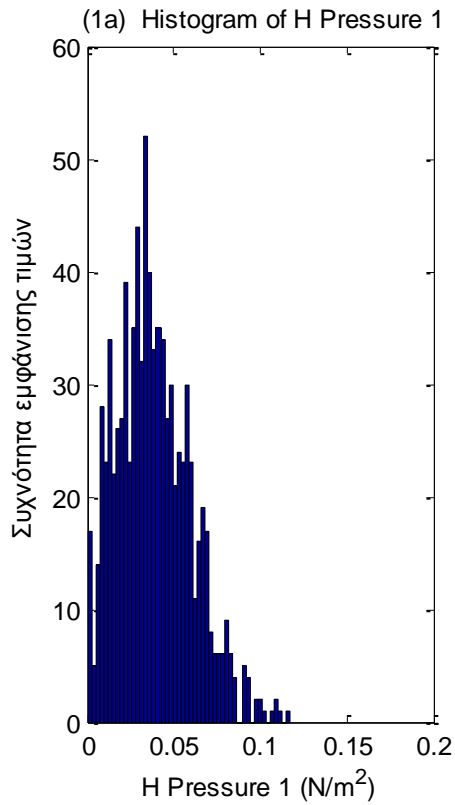
Σχήματα 1.6.6.4 (1-4) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις δυνάμεις στις 4 γραμμές αγκύρωσης

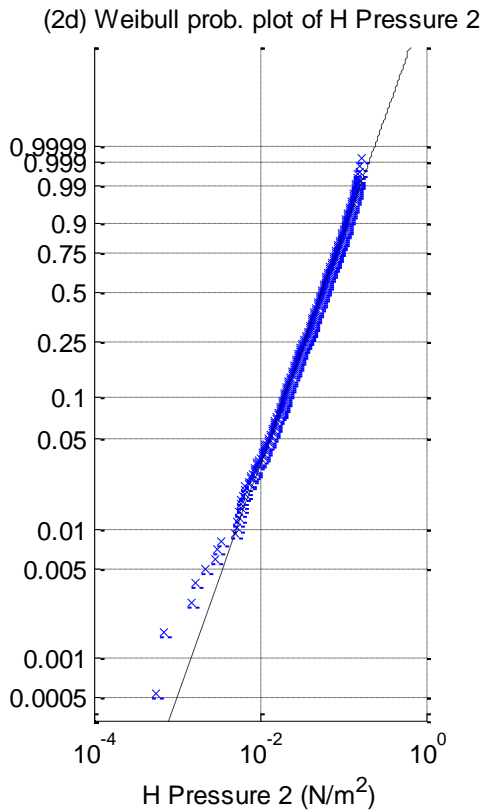
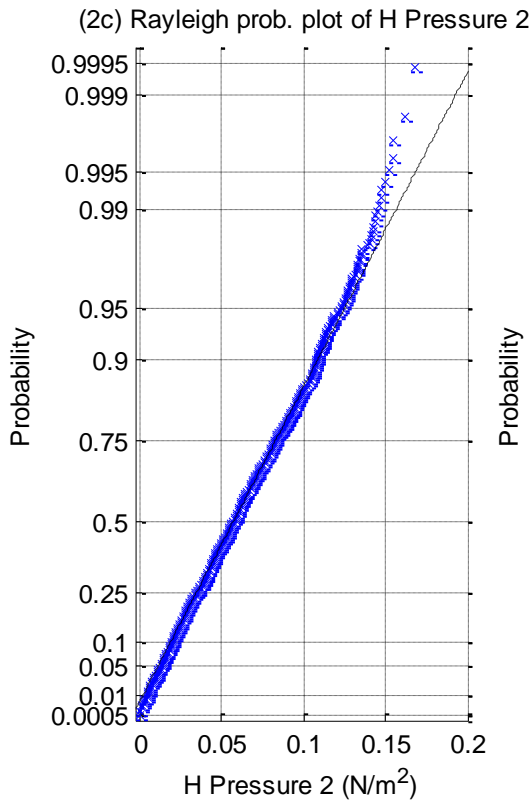
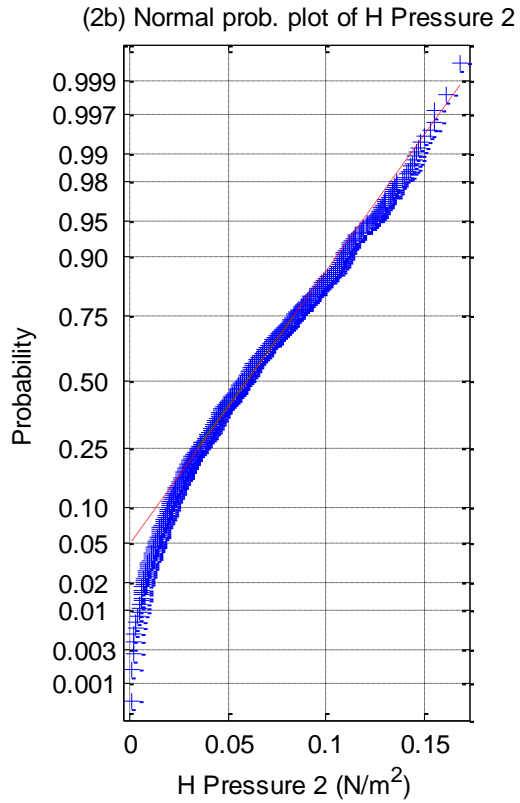
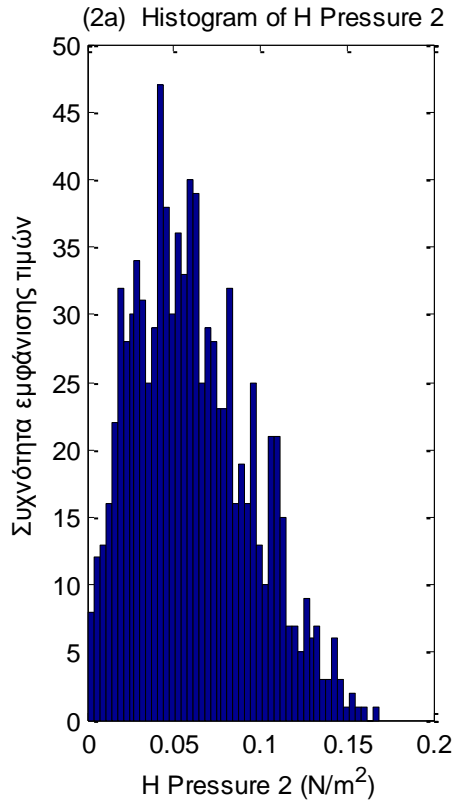




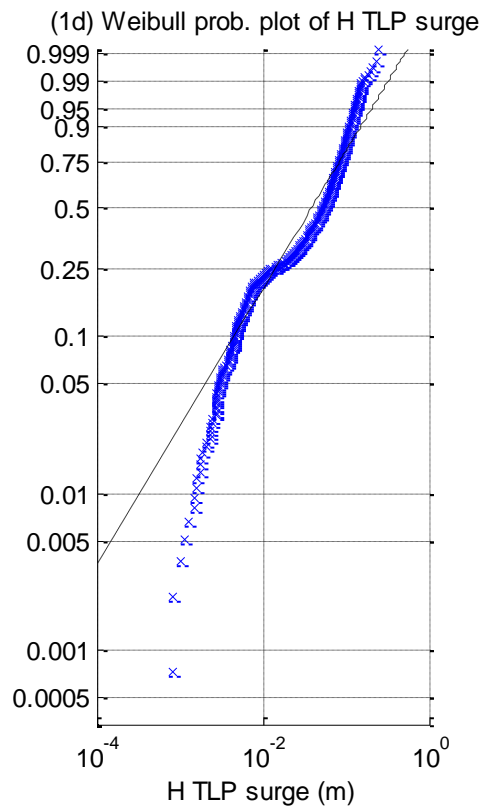
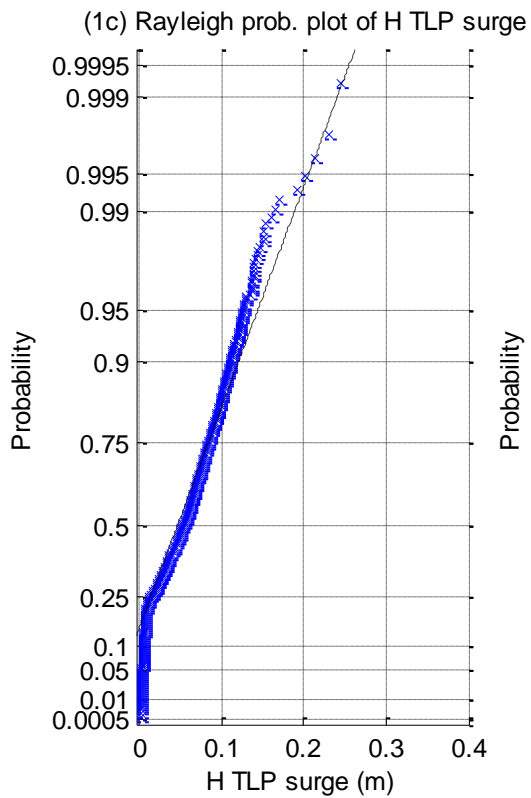
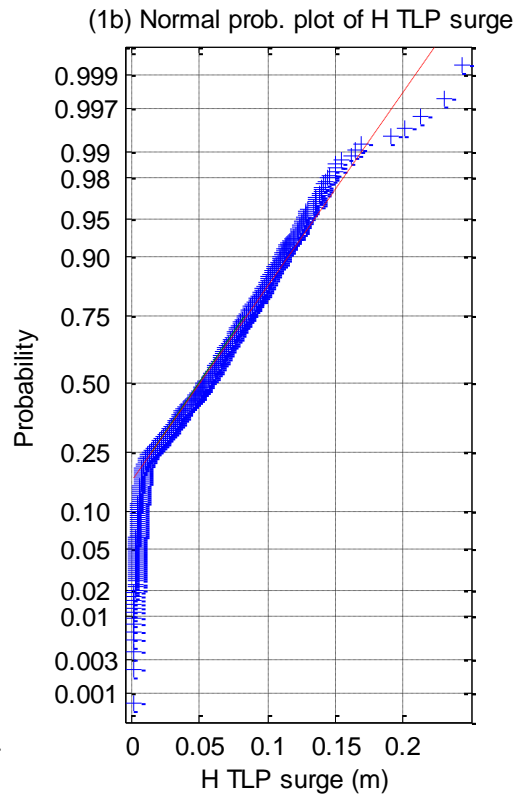
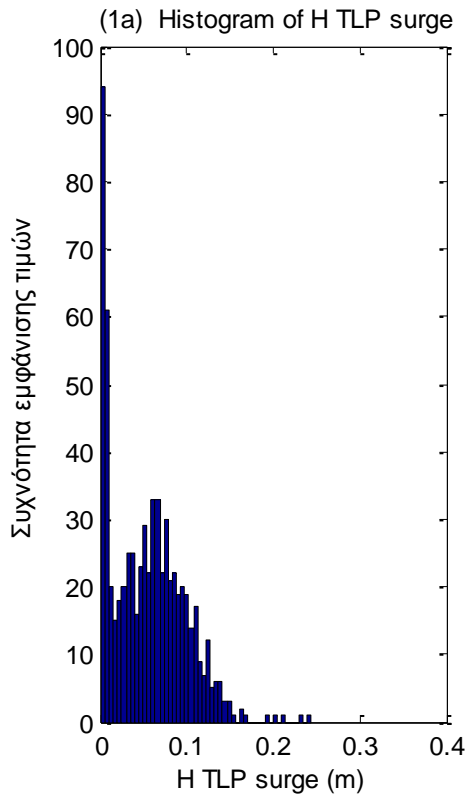


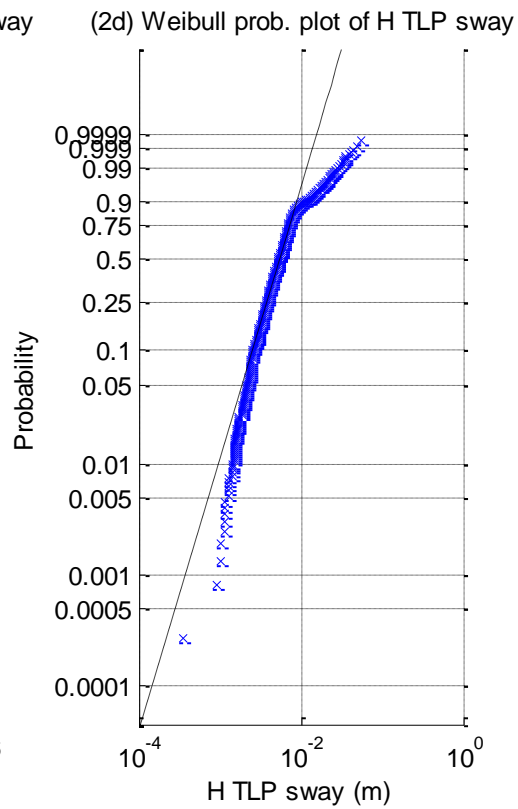
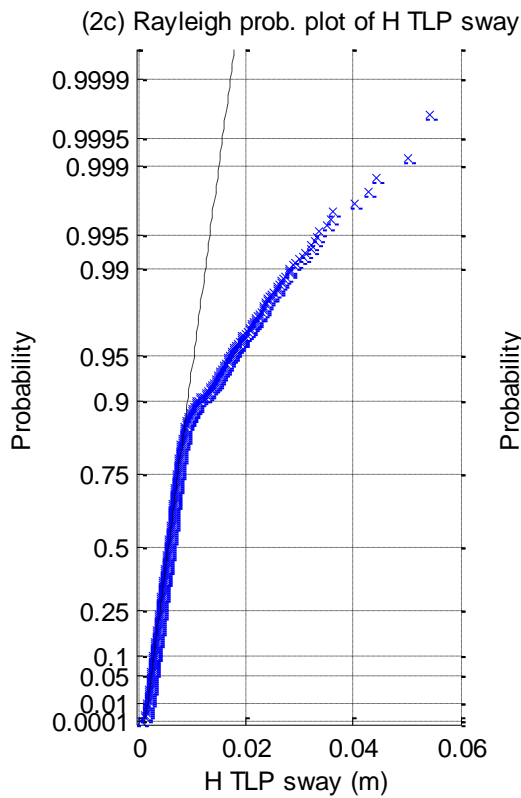
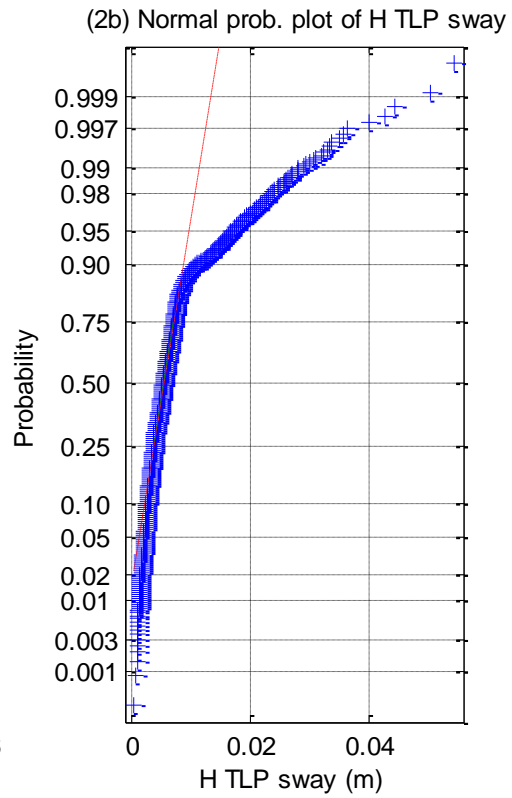
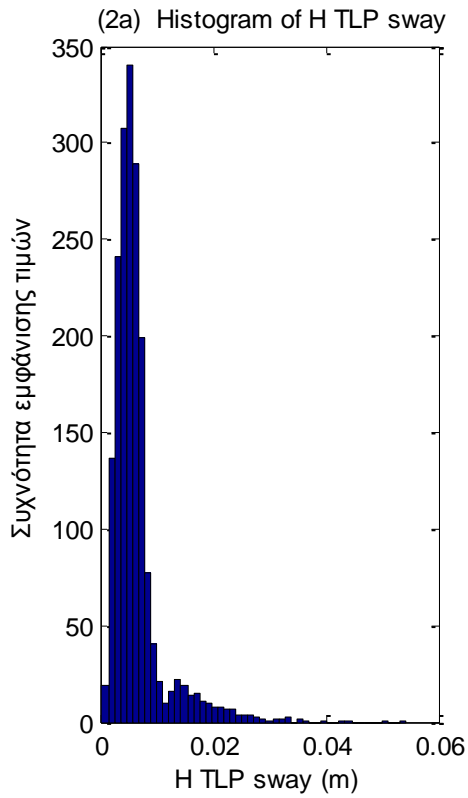
Σχήματα 1.6.6.5 (1-3) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα τρία όργανα μέτρησης της επιτάχυνσης



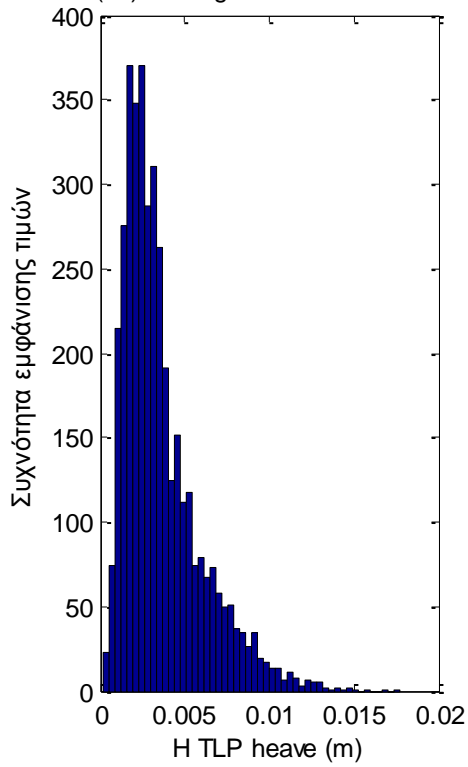


Σχήματα 1.6.6.6 (1-2) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τα δύο όργανα μέτρησης της πίεσης

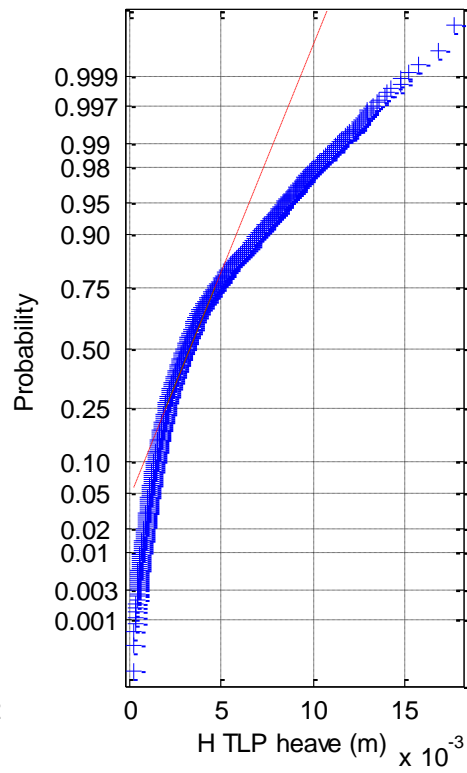




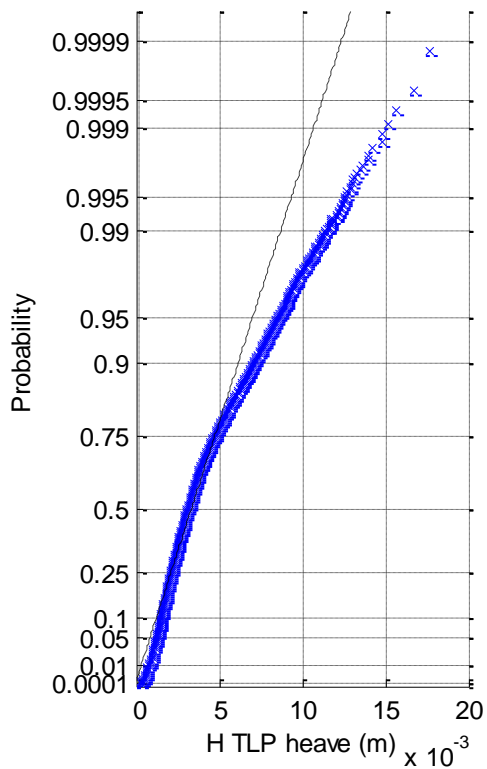
(3a) Histogram of H TLP heave



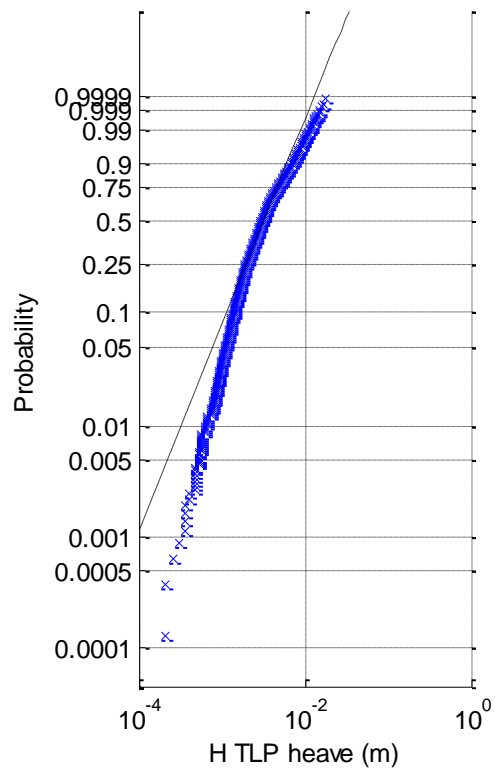
(3b) Normal prob. plot of H TLP heave

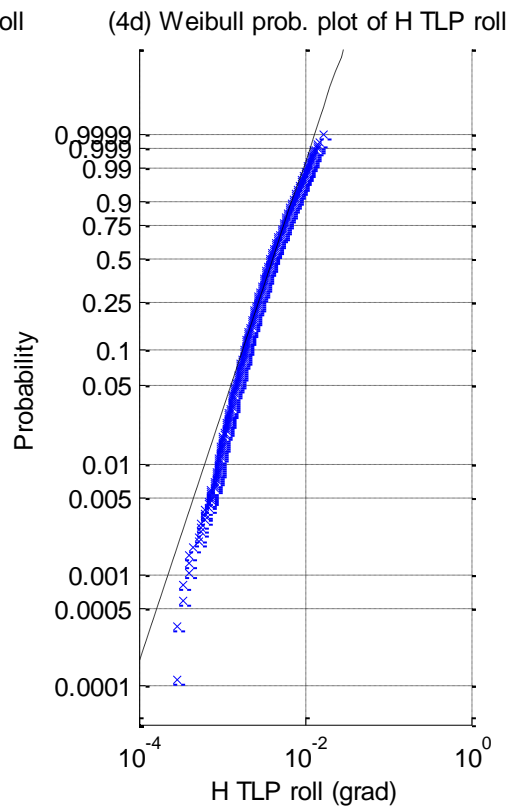
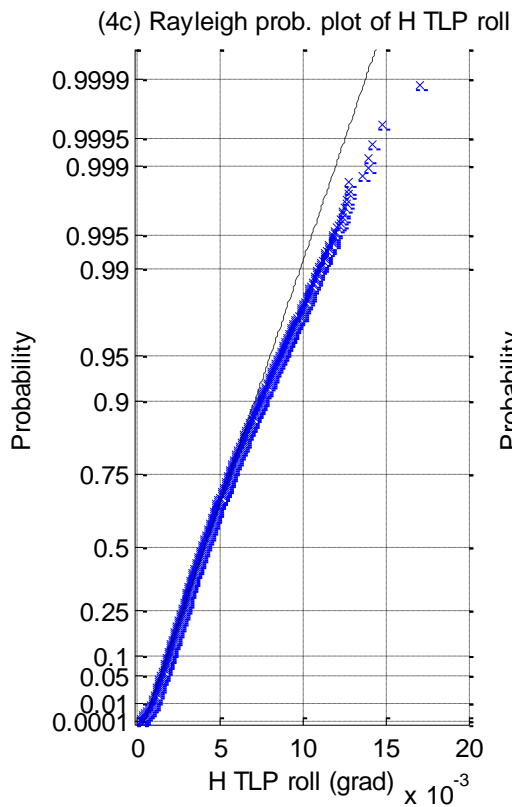
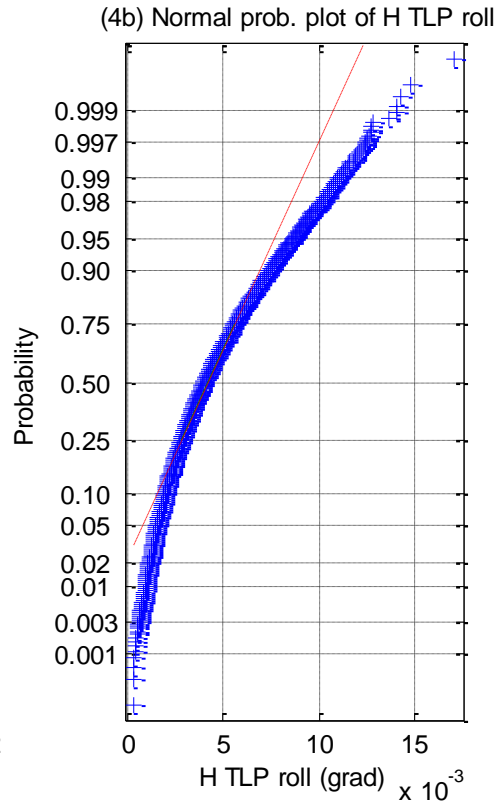
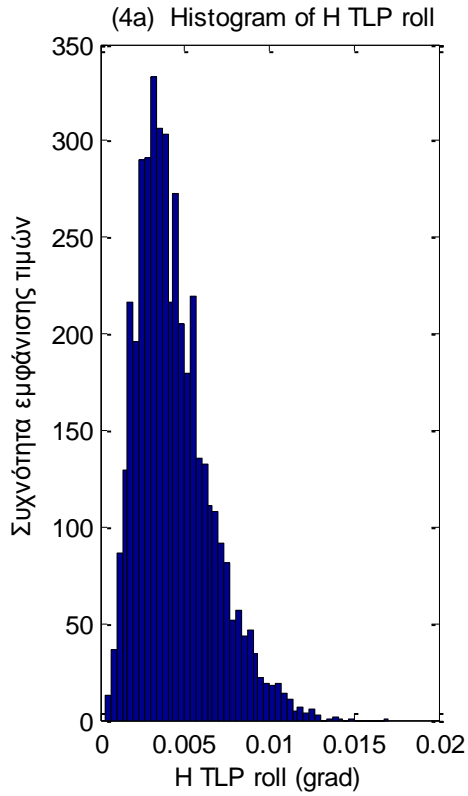


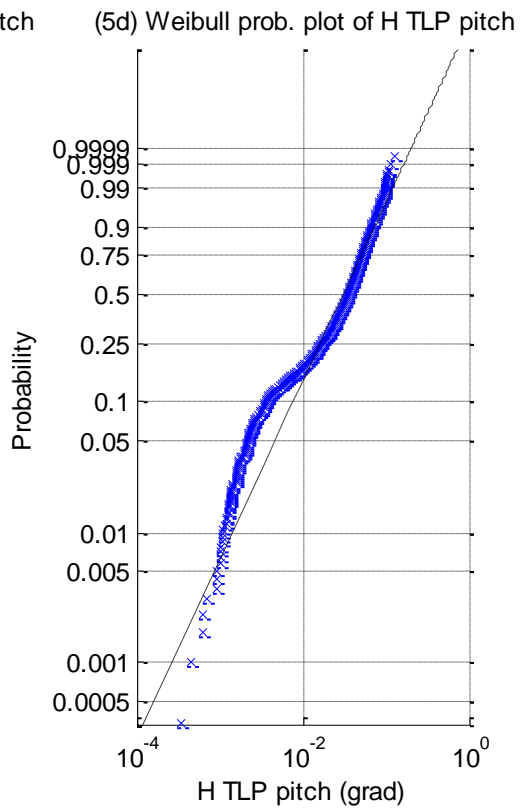
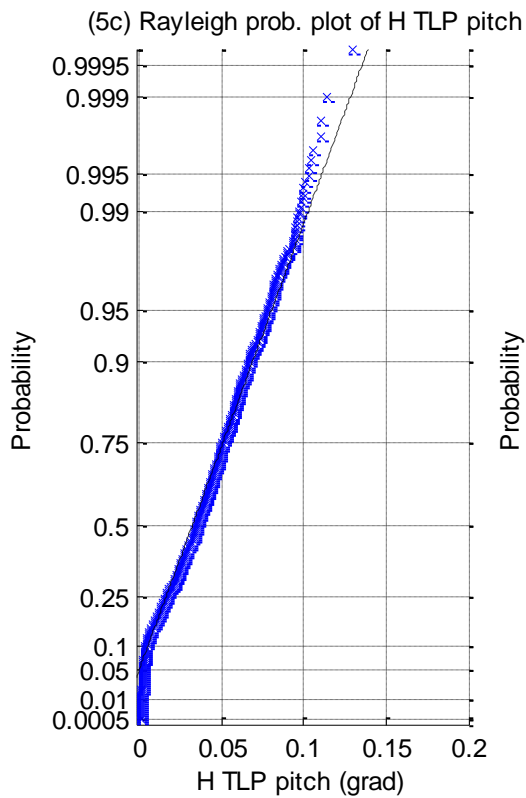
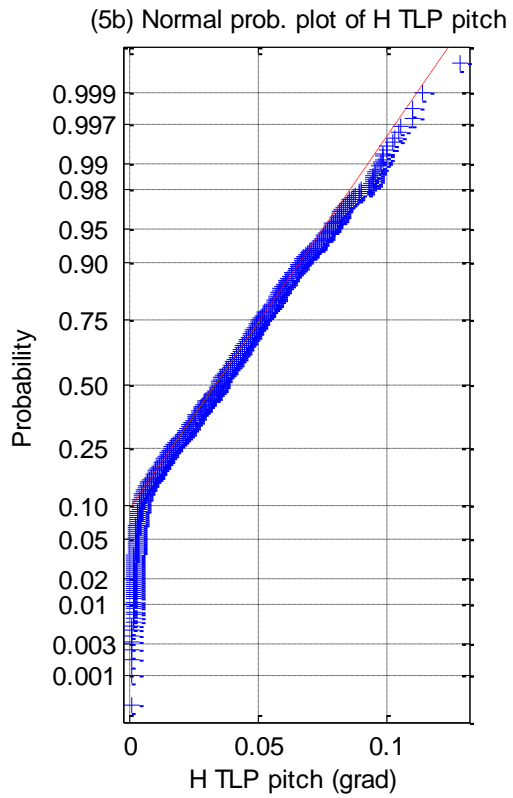
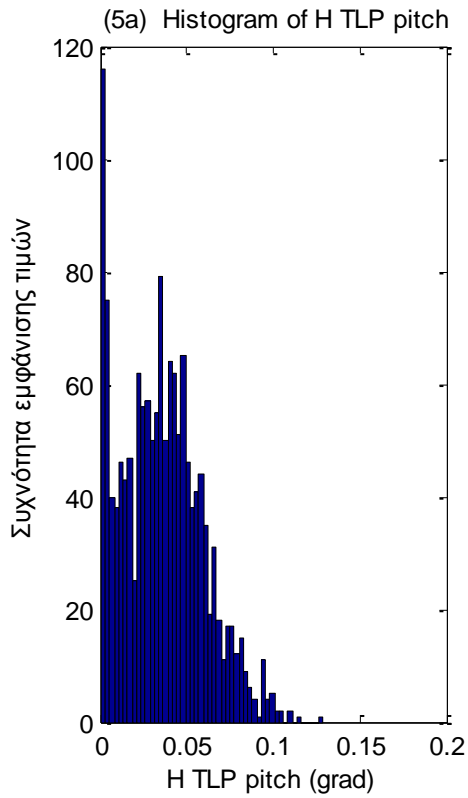
(3c) Rayleigh prob. plot of H TLP heave

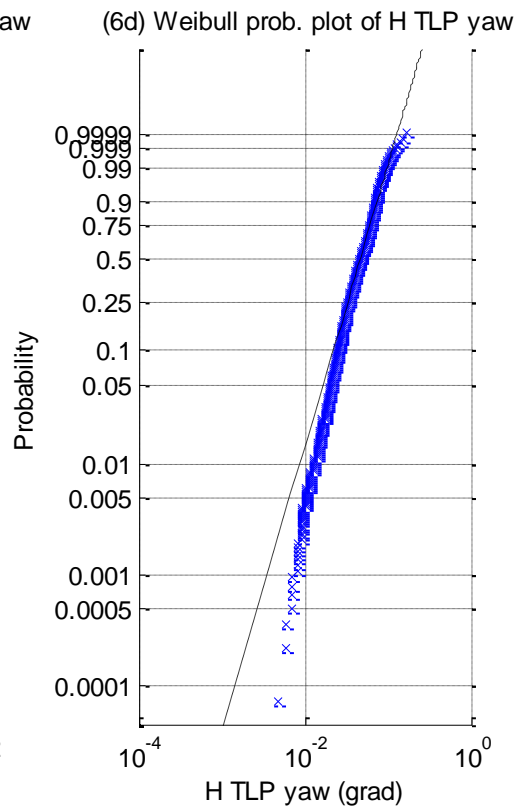
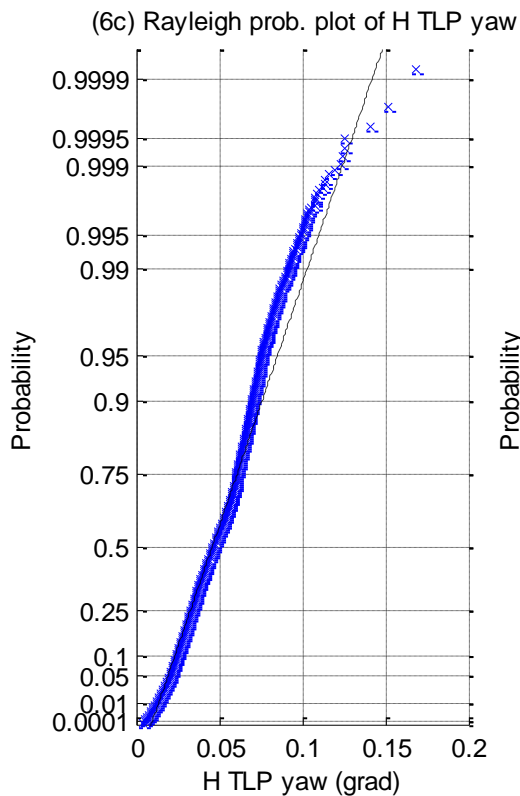
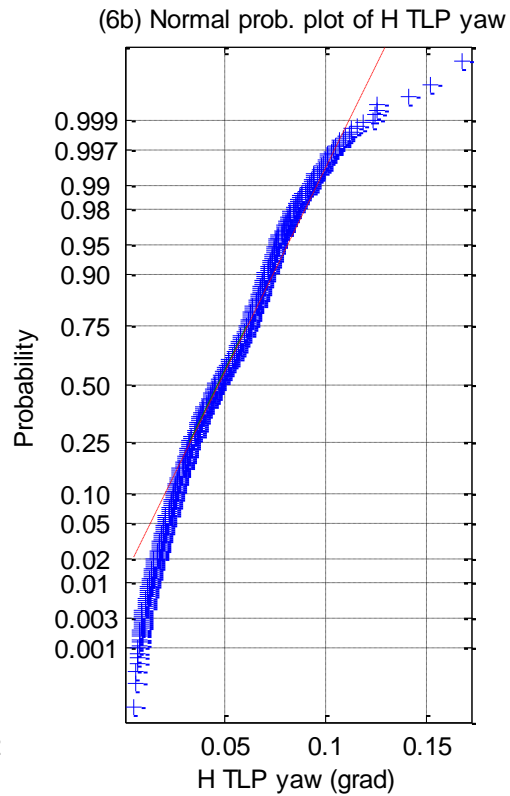
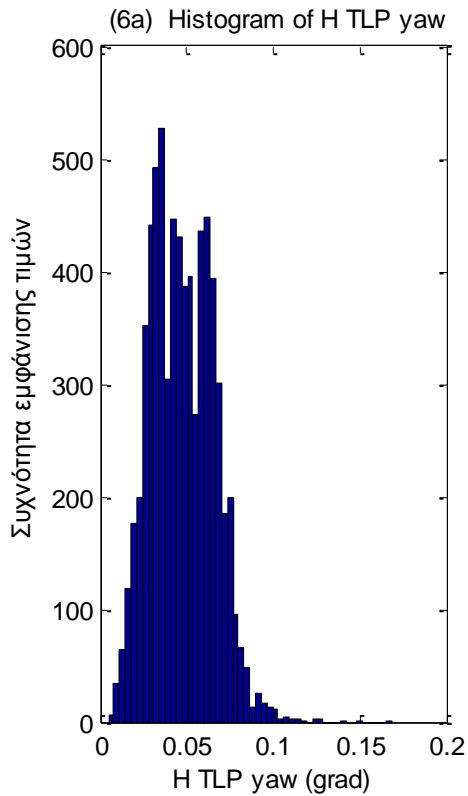


(3d) Weibull prob. plot of H TLP heave



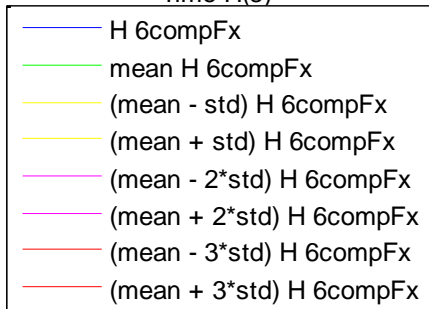
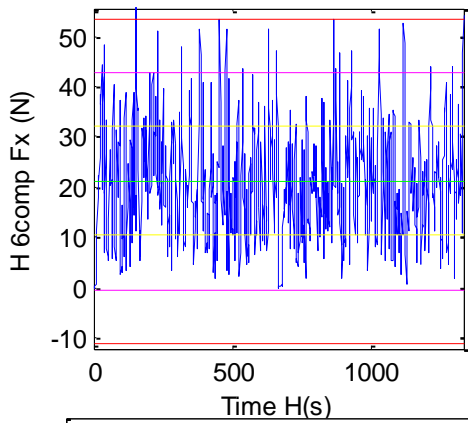




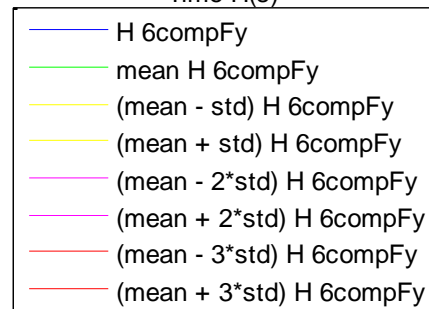
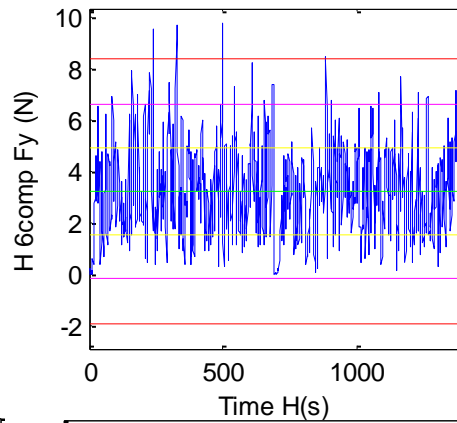


Σχήματα 1.6.6.7 (1-6) a) Ιστογράμματα , b) γραφήματα ελέγχου κανονικότητας, c) έλεγχος κατανομής Rayleigh και d) έλεγχος κατανομής Weibull για τις μετατοπίσεις στις τρεις διευθύνσεις (1) surge, (2) sway, (3) heave, και των τριών περιστροφών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw

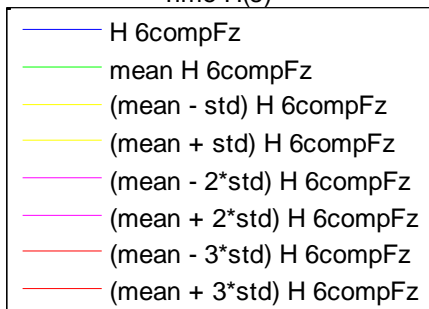
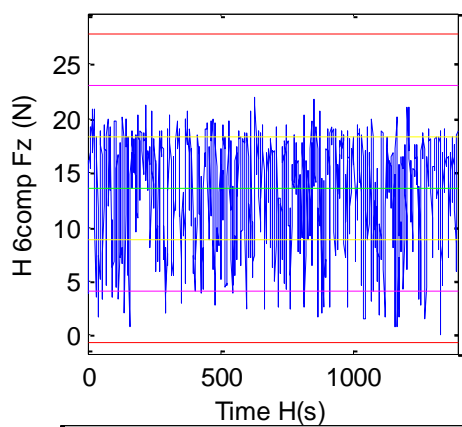
1) Time History of H 6comp Fx



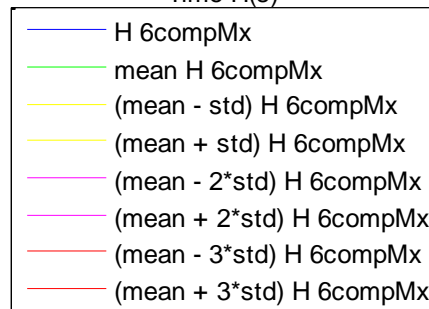
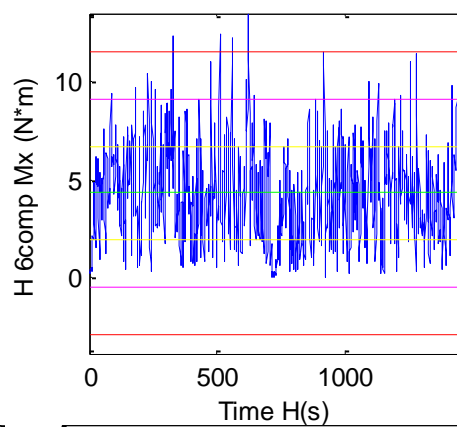
2) Time History of H 6comp Fy

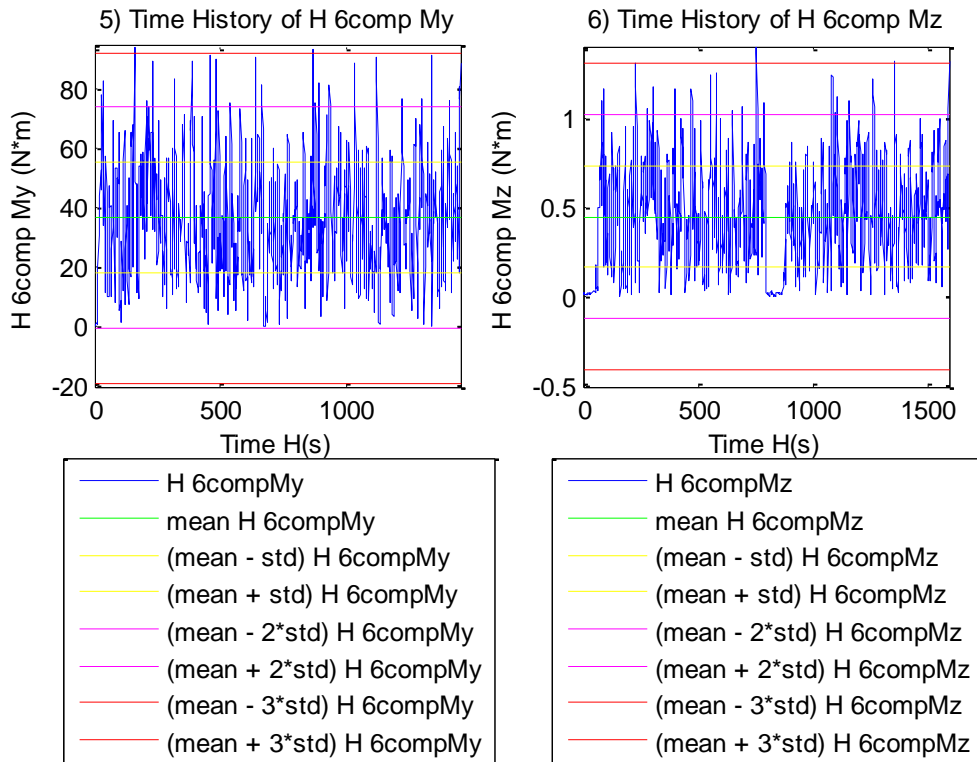


3) Time History of H 6comp Fz

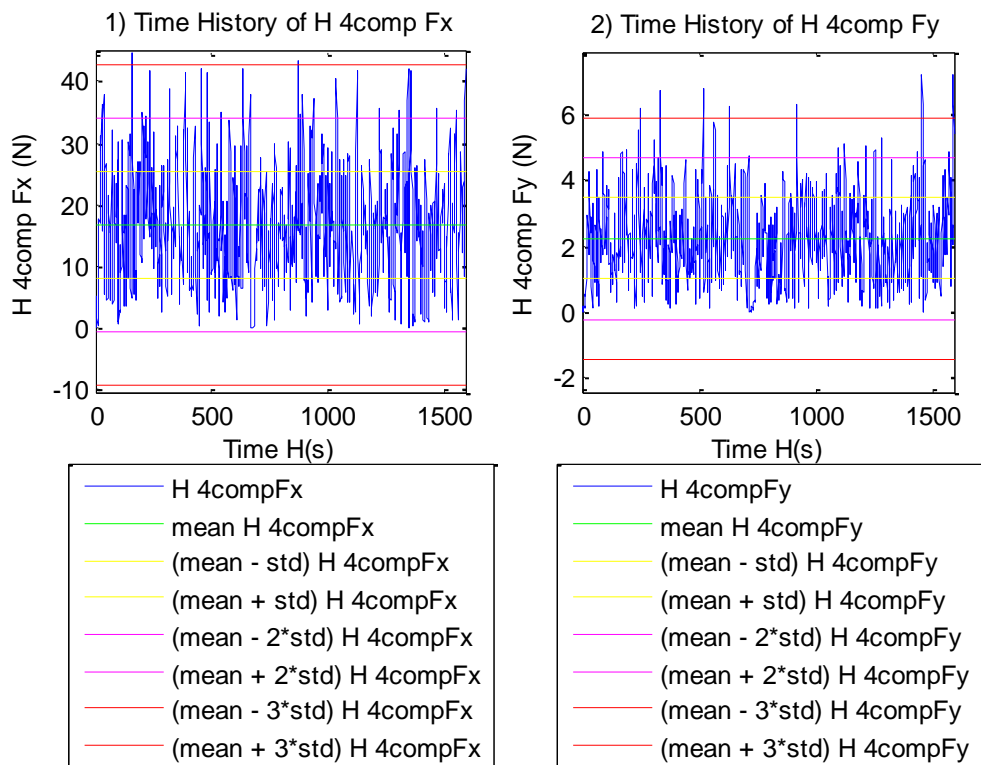


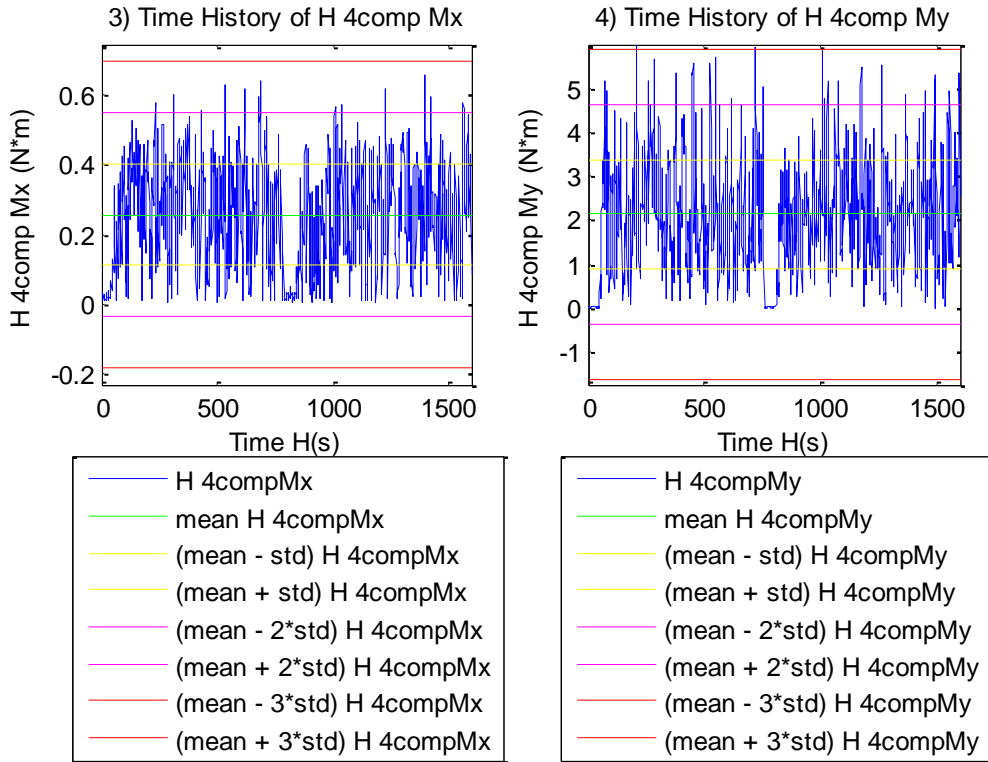
4) Time History of H 6comp Mx



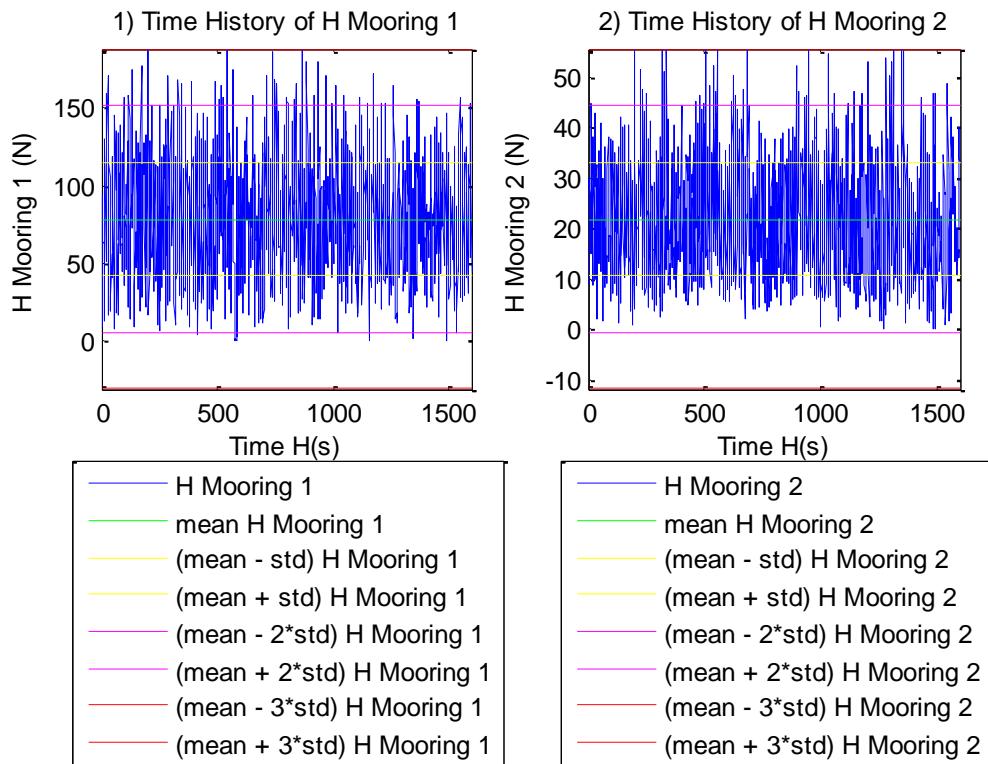


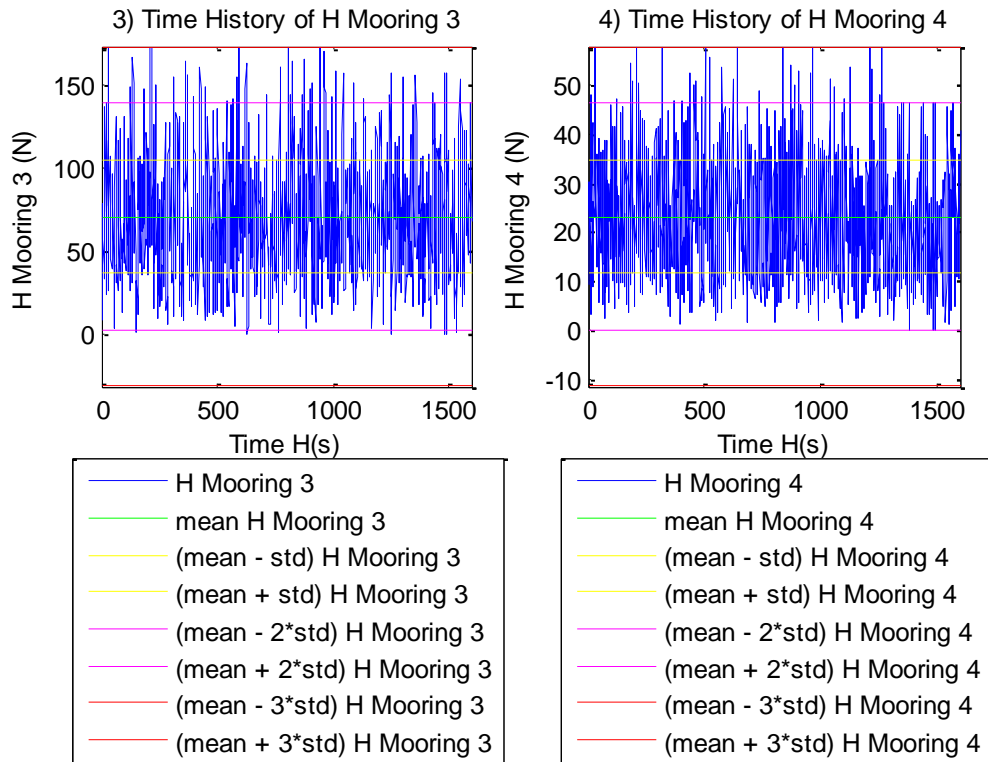
Σχήματα 1.6.7.1 (1-6) Διαγράμματα διάταξης του H για τις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες, (4) roll, (5) pitch και (6) yaw



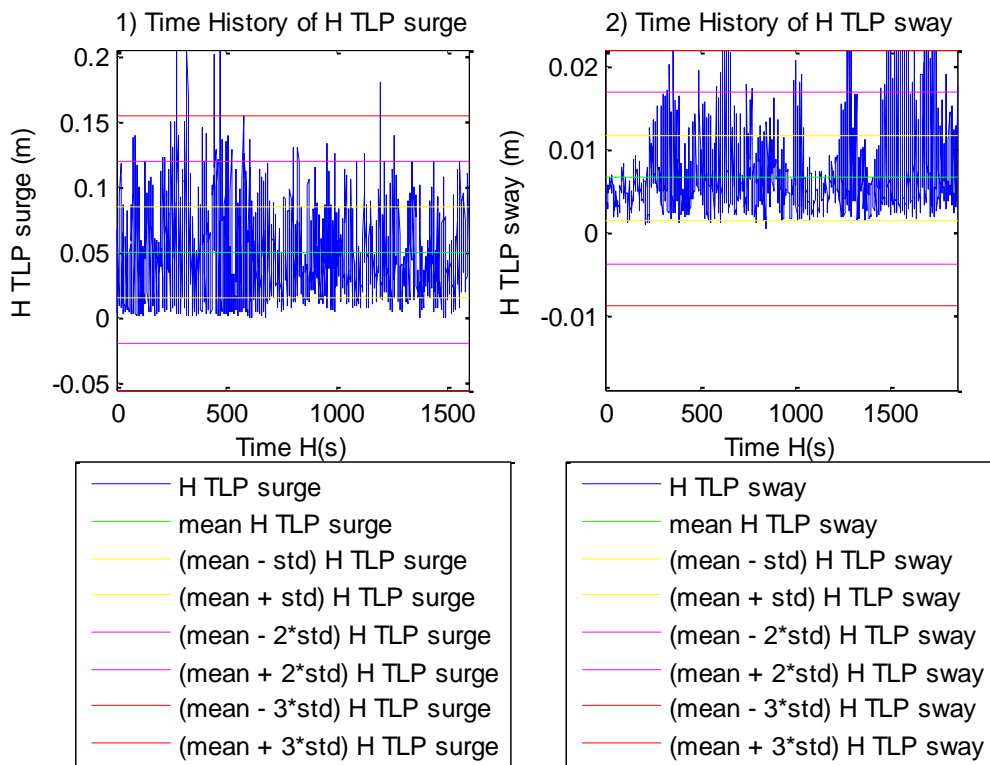


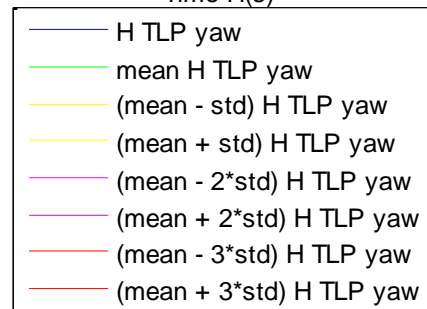
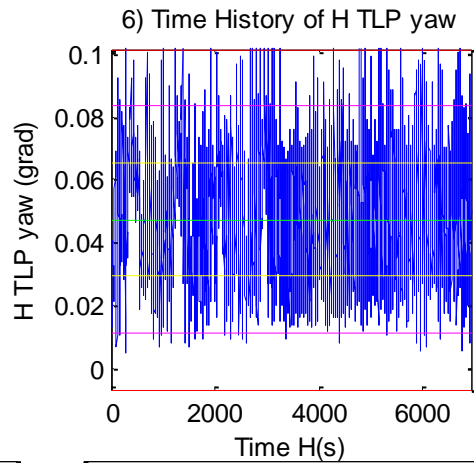
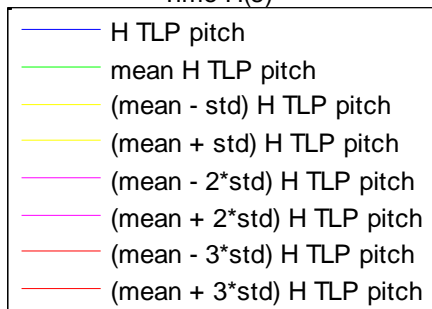
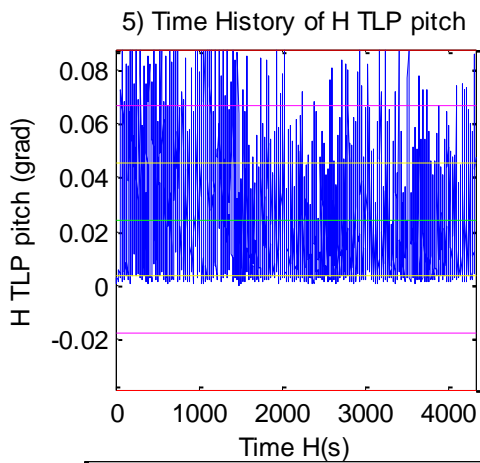
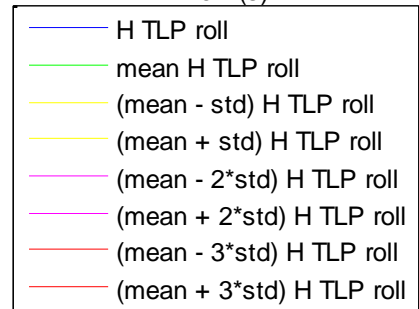
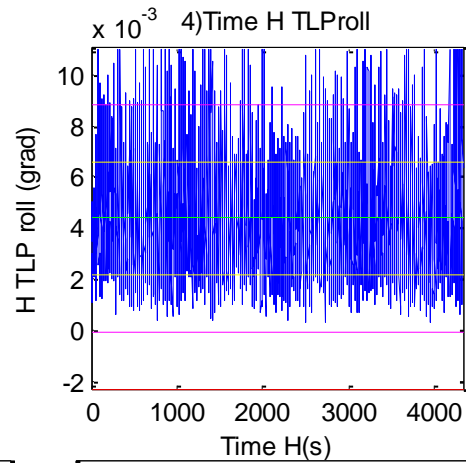
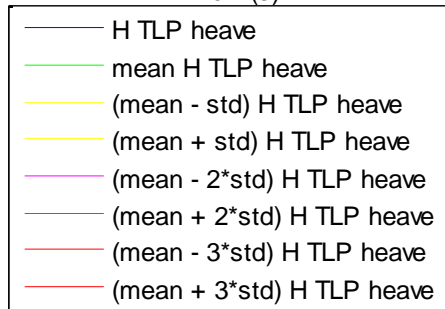
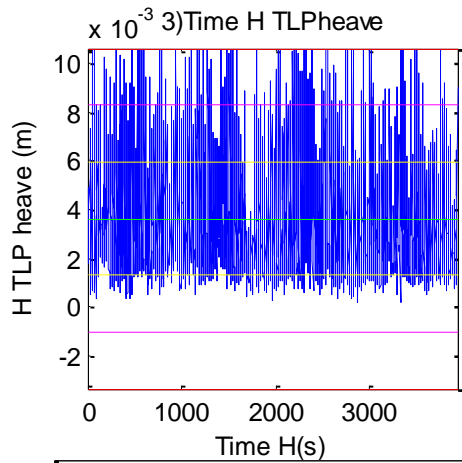
Σχήματα 1.6.7.2 (1-4) Διαγράμματα διάταξης του H για τις δυνάμεις στις δύο διευθύνσεις (1) surge, (2) sway και των δύο ροπών στους αντίστοιχους δύο άξονες, (4) roll και (5) pitch





Σχήματα 1.6.7.3 (1-4) Διαγράμματα διάταξης του H για τις τέσσερις δυνάμεις στις τέσσερις γραμμές αγκύρωσης της Α/Γ





Σχήματα 1.6.7.4 (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 ΜΚΝ για τα 11 όργανα μέτρησης (WG) για K=100

4.1953	4.0066	3.8266	0.9864	1.0685	0.8794	1.8762	1.9295	1.8288	1.3674	1.0882
3.5820	3.8598	3.3418	0.9944	0.9824	0.9022	2.1063	1.9237	1.8563	1.4735	1.2906
4.1508	3.9855	4.5389	1.0766	1.1940	0.9982	1.6772	1.8051	1.6122	1.1594	0.9957
1.0248	0.9467	1.0137	4.6504	4.1741	4.4253	1.0244	0.9730	0.9910	1.1990	1.0379
1.0497	1.0619	0.8348	3.9480	4.3465	3.8948	1.0744	1.0858	0.8352	1.0070	0.8095
1.0806	1.0397	1.0362	4.3651	4.0067	4.5137	1.0284	0.9764	0.8769	1.2309	1.0528
1.3740	1.6587	1.3465	0.8809	0.7677	0.8564	4.4685	1.9922	1.1297	0.9220	1.1311
2.0528	2.0113	1.7330	0.9894	0.9798	0.9988	1.9094	4.4886	2.2266	1.0213	0.8121
1.8364	1.6435	1.4851	1.1377	0.9340	1.0408	1.0733	2.0267	4.7258	2.7438	1.7684
1.4147	1.1627	1.4322	1.4649	0.9532	1.3974	1.1949	1.1984	2.5562	4.5586	3.8607
1.2017	1.0204	1.3170	1.2825	0.8530	1.3236	1.4177	1.1203	1.8809	3.8341	4.5172

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

3.2955	3.0506	3.0729	0.9608	1.0358	1.0005	1.4777	1.5769	1.5392	1.2176	1.1340
2.8581	3.1166	2.5378	0.9524	0.9987	0.9626	1.5484	1.5366	1.5078	1.2067	1.1569
3.2362	2.9018	3.4649	0.9924	1.0339	1.0212	1.3453	1.5180	1.4533	1.1846	1.1231
1.0057	0.9276	1.0616	3.5515	3.2900	3.4310	0.9538	0.9187	1.0608	1.1331	1.1299
1.0135	0.9316	1.0459	3.2073	3.4602	3.2170	0.9835	0.9476	1.0314	1.0722	1.0705
1.0155	0.9228	1.0637	3.3952	3.2742	3.5247	0.9826	0.9016	1.0332	1.0898	1.0977
1.3518	1.4354	1.1627	0.8640	0.9125	0.8989	3.5020	1.7223	0.9621	1.0869	1.1645
1.5982	1.4488	1.5979	0.8561	0.8916	0.8726	1.5825	3.4564	1.7453	1.1258	1.0346
1.5872	1.4943	1.5269	0.9505	0.9413	0.9642	1.0159	1.8540	3.4752	2.3319	1.7941
1.3095	1.1981	1.3450	1.1300	1.0864	1.1199	1.0769	1.1686	2.2563	3.4006	3.0675
1.1401	1.0933	1.1948	1.1505	1.1057	1.1572	1.1499	1.0870	1.7124	3.0670	3.4155

Μητρώα ΜΚΝ για τις έξι δυνάμεις και ροπές δ_{comp} [F_x , F_y , F_z , M_x , M_y , M_z] για K=100

3.8655	2.6124	2.3279	1.2127	3.8548	3.6830
2.0958	3.8587	0.5620	3.4436	1.9174	1.6214
1.0627	0.6680	1.3851	0.8787	1.1474	1.1976

1.0072	2.7961	0.6314	3.0555	0.9268	0.9074
3.8862	2.5127	2.4190	1.1565	3.9038	3.7432
3.7789	2.3074	2.4452	1.1083	3.8127	4.0189

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

3.2112	1.8417	2.2882	1.0290	3.1985	3.0974
1.7021	3.0702	0.7372	2.7770	1.5274	1.2787
1.0159	0.7500	1.3851	0.9223	1.0985	1.1734
1.0568	2.3399	0.8476	2.5572	0.9981	0.9566
3.2147	1.7592	2.3739	1.0028	3.2283	3.1406
3.1448	1.6418	2.4018	0.9674	3.1858	3.2693

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

3.9023	2.1468	0.8923	3.8296
1.9648	4.2612	3.2368	1.6649
0.9077	2.2564	3.5115	0.9778
3.9208	1.9582	0.9282	3.9964

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

3.2222	1.5147	0.9128	3.1885
1.5576	3.3397	2.5920	1.4070
0.9865	2.1028	2.9517	1.0209
3.2145	1.4070	0.9441	3.2531

**Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2,
1, 4, 3] για K=100**

1.2772	1.1636	1.2105	1.1608
1.3257	2.0772	1.4215	0.2759

1.2100	1.1752	1.2938	1.1520
1.1070	0.3101	1.0295	1.9814

Μητρώα MKN για τις τέσσερις δυνάμεις στις γραμμές αγκύρωσης Mooring [2, 1, 4, 3] για K=1000

1.2118	1.1110	1.1516	1.0720
1.3196	1.8154	1.2406	0.3832
1.1552	1.1013	1.2211	1.0849
1.0081	0.4304	1.0894	1.7366

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

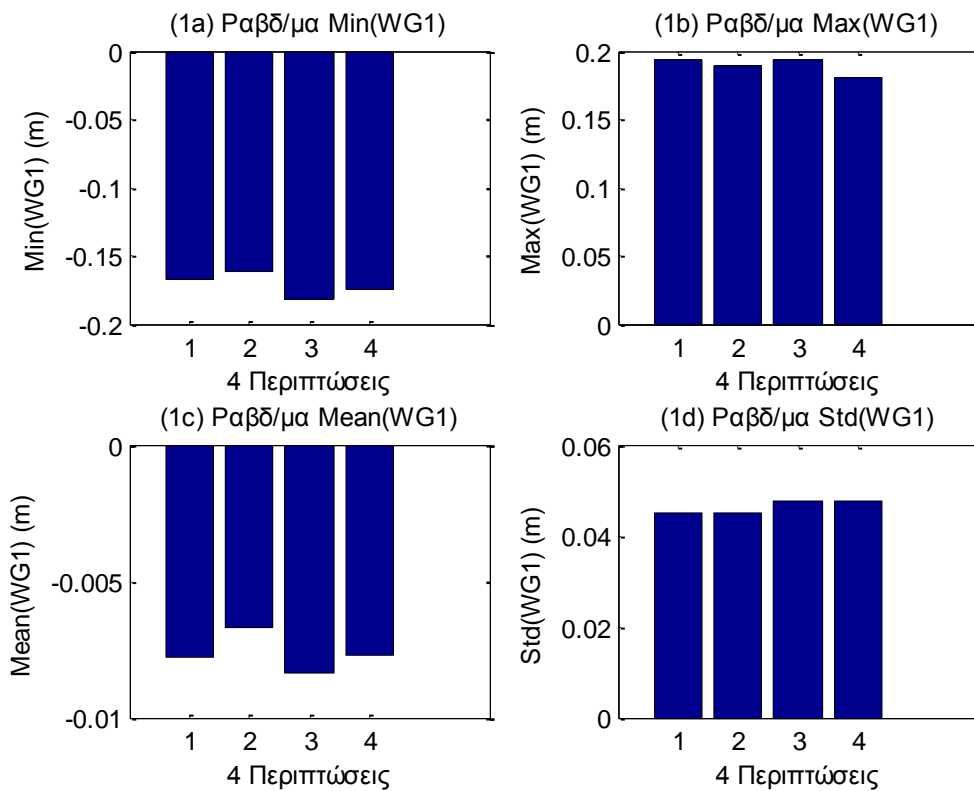
2.5841	0.4914	1.2048	0.7515	0.8729	1.1391
0.8099	2.0308	1.1416	0.8963	0.9523	0.7774
1.0270	1.0022	1.1029	1.0024	0.9919	1.0198
0.9986	1.0314	1.0022	1.1839	0.9747	1.0790
1.2136	0.9605	1.0877	0.9182	1.8618	1.2049
1.0177	0.8249	1.3008	1.5799	1.3137	2.8103

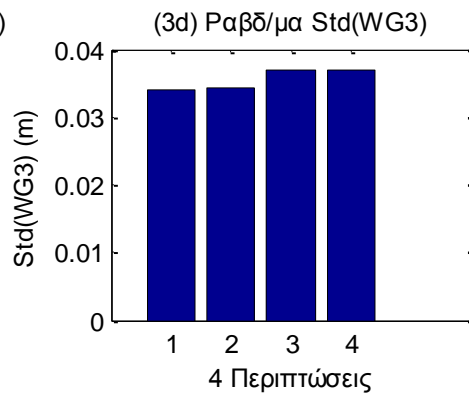
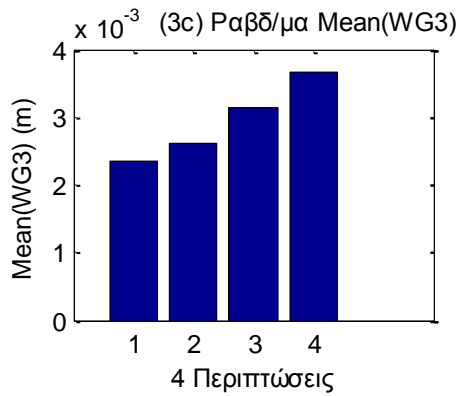
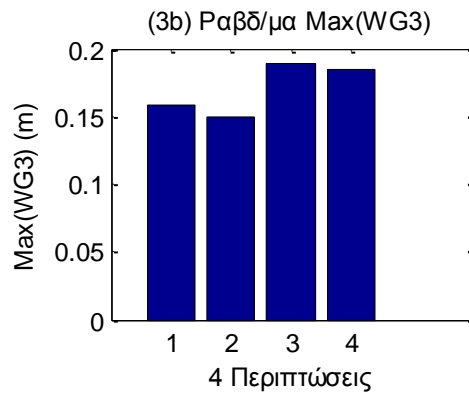
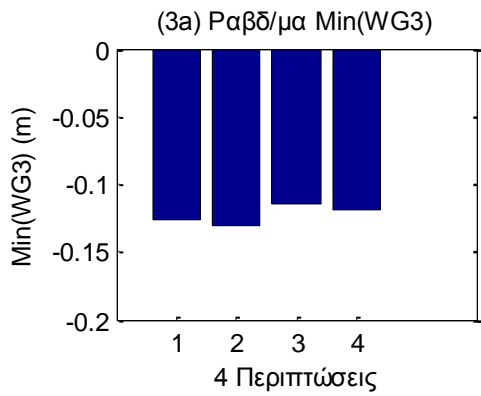
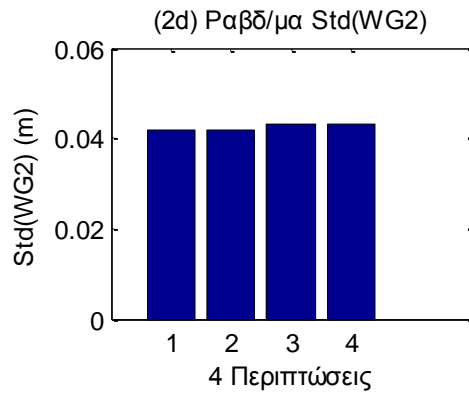
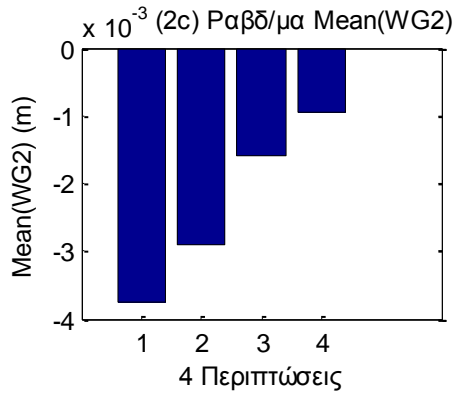
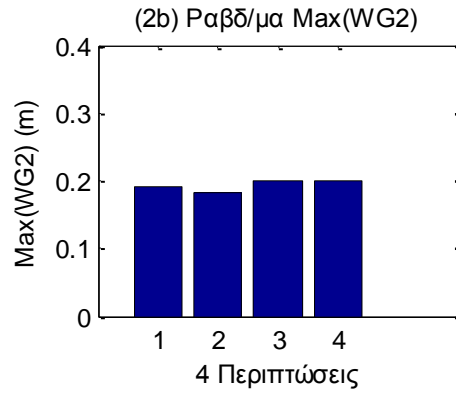
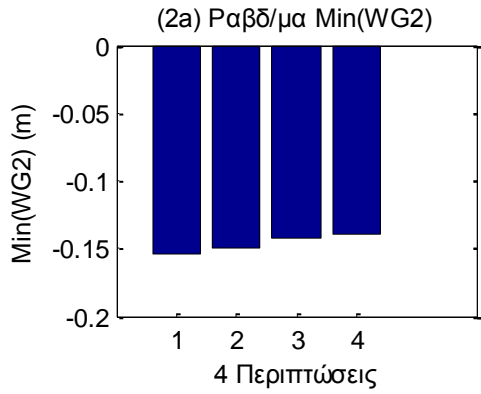
Μητρώα MKN για τις έξι μετατοπίσεις και περιστροφές SB[Surge, Sway, Heave, Roll, Pitch, Yaw] για K=1000

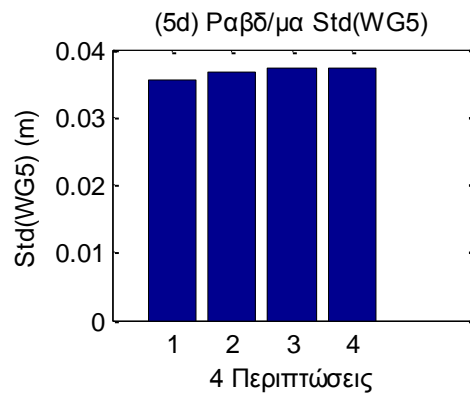
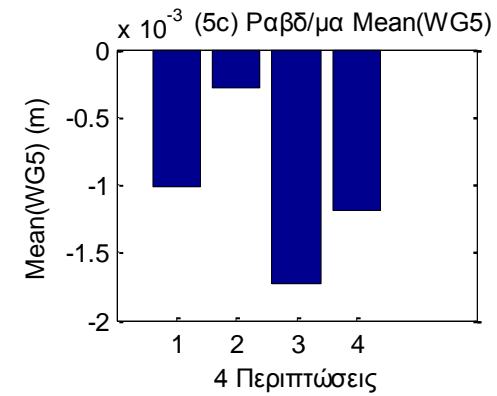
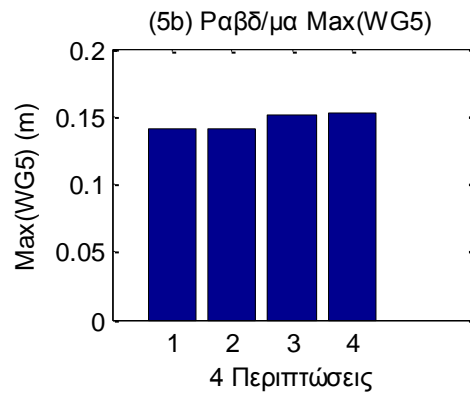
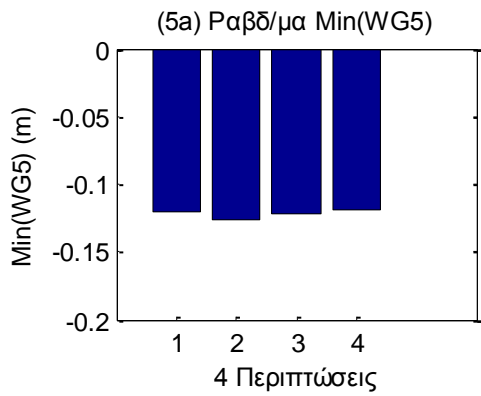
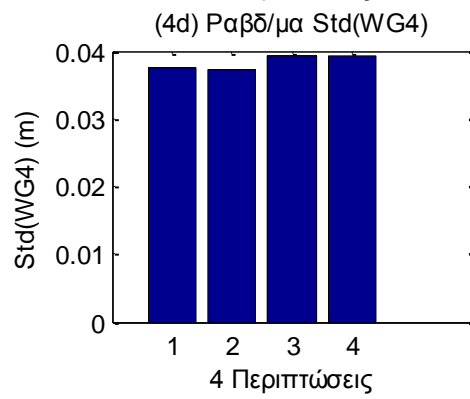
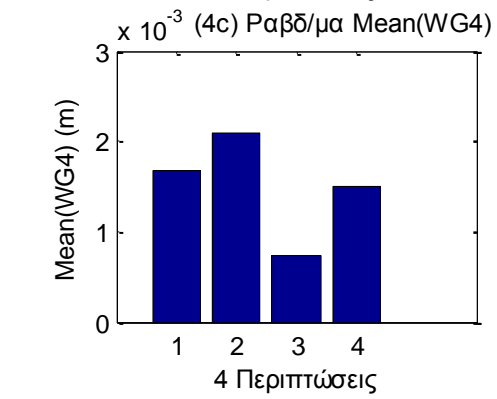
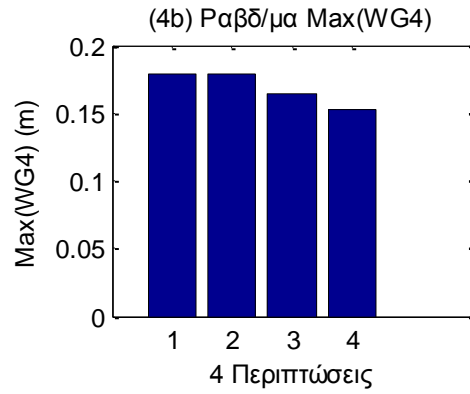
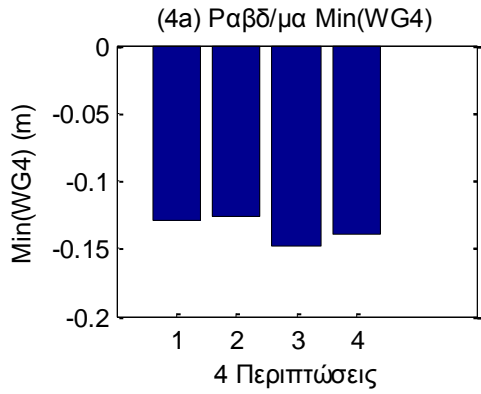
2.2854	0.7273	1.3030	0.7566	0.9055	1.0347
0.8773	1.8234	1.0437	0.9848	0.9746	0.8476
1.0225	1.0075	1.0725	1.0016	0.9934	1.0131
0.9963	1.0228	1.0173	1.1422	0.9874	1.0550
1.0524	0.9938	1.0167	0.9619	1.6614	1.1320
0.9857	0.9269	1.3306	1.4434	1.2310	2.3881

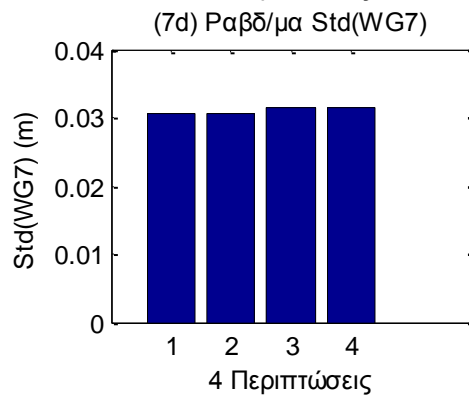
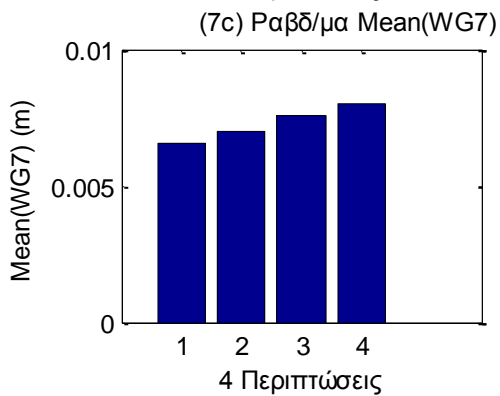
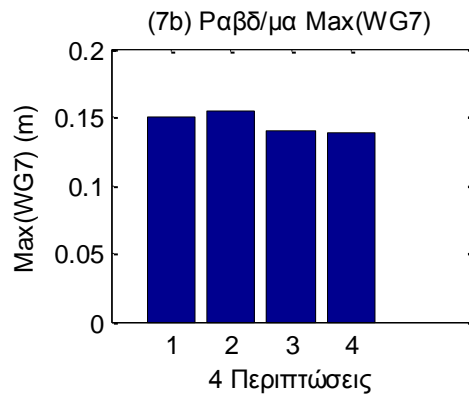
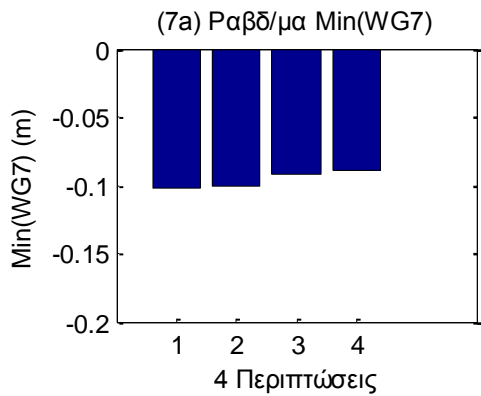
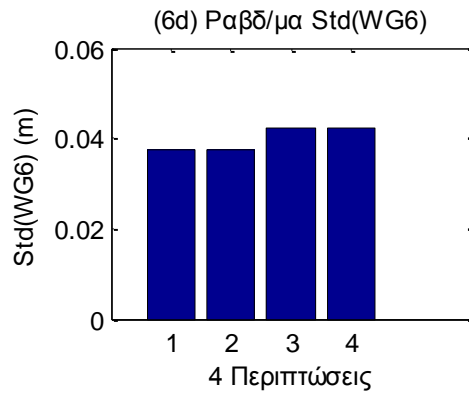
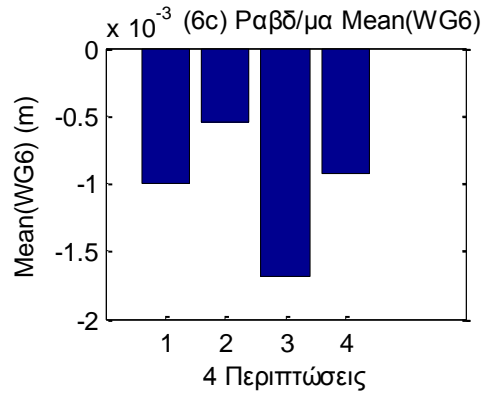
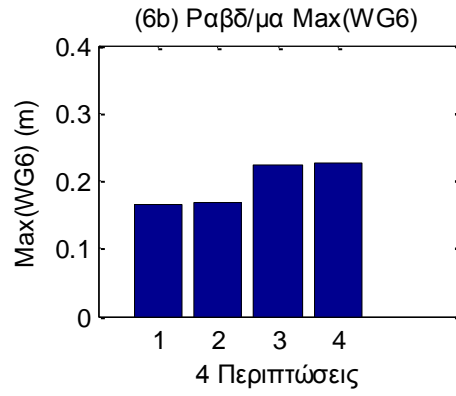
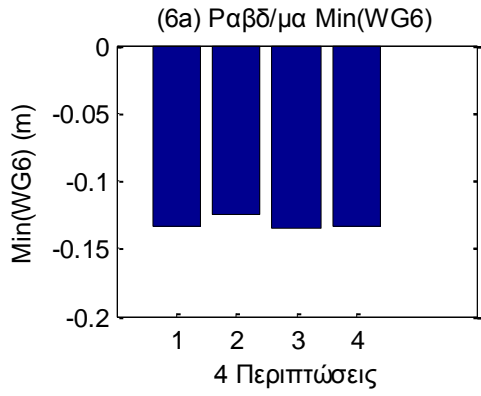
1.2 Σύγκριση ελάχιστης, μέγιστης, μέσης τιμής και διακύμανσης για τέσσερις περιπτώσεις (C1,C2,C3,C4)

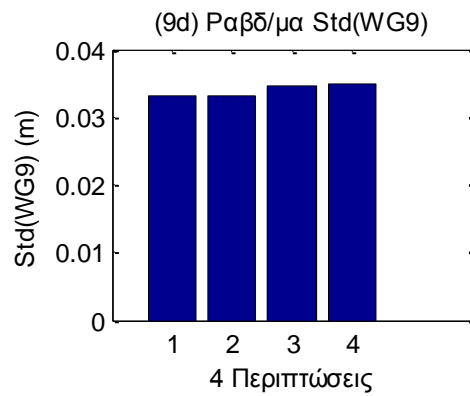
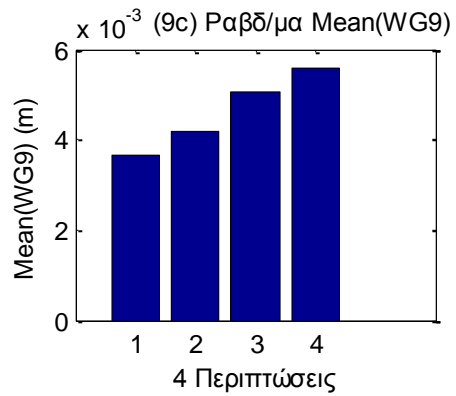
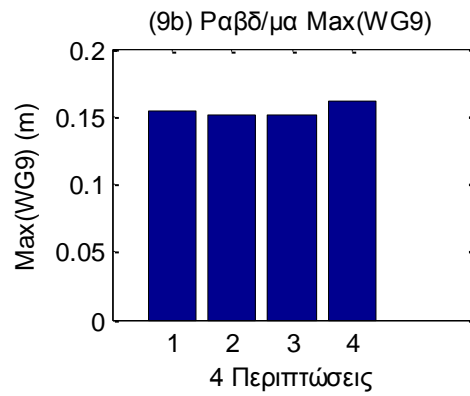
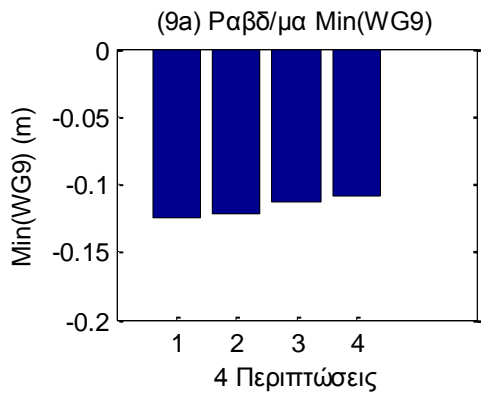
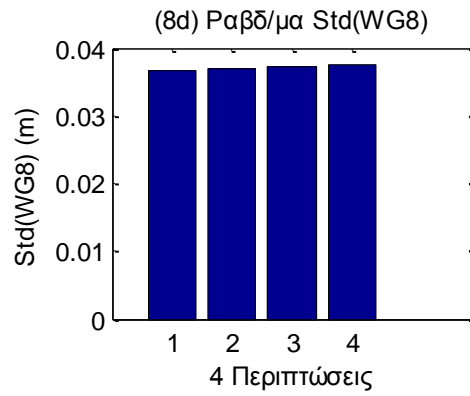
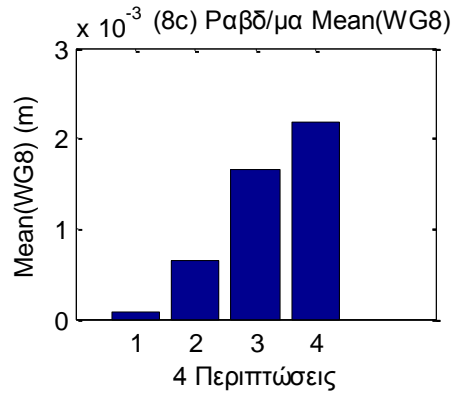
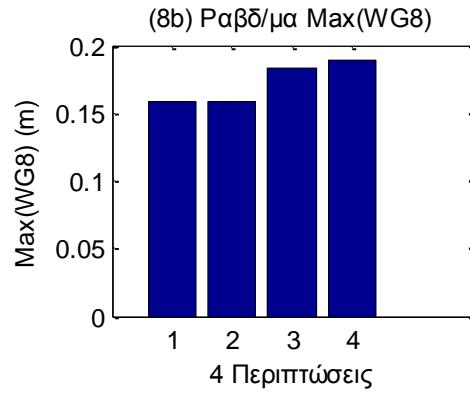
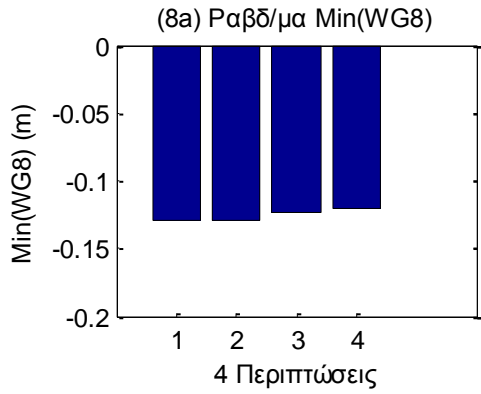
Στις δύο επόμενες ενότητες θα παρουσιάσουμε τη μεταβολή της ελάχιστης, μέγιστης, μέσης τιμής και διακύμανσης σε σχέση με τέσσερις περιπτώσεις. Συγκεκριμένα, για την TLP θα μελετήσουμε τις περιπτώσεις (1) TLP_00_NR, (2) TLP_20_NR, (3) TLP_00_R και (4) TLP_20_R. Συνεχίζουμε την ανάλυση με την παρουσίαση, στις επόμενες ενότητες, αρχικά με τα ραβδοδιαγράμματα, και στη συνέχεια με τα κοινά γραφήματα για κάθε χρονοσειρά που προκύπτει από τα δεδομένα κάθε οργάνου μέτρησης.

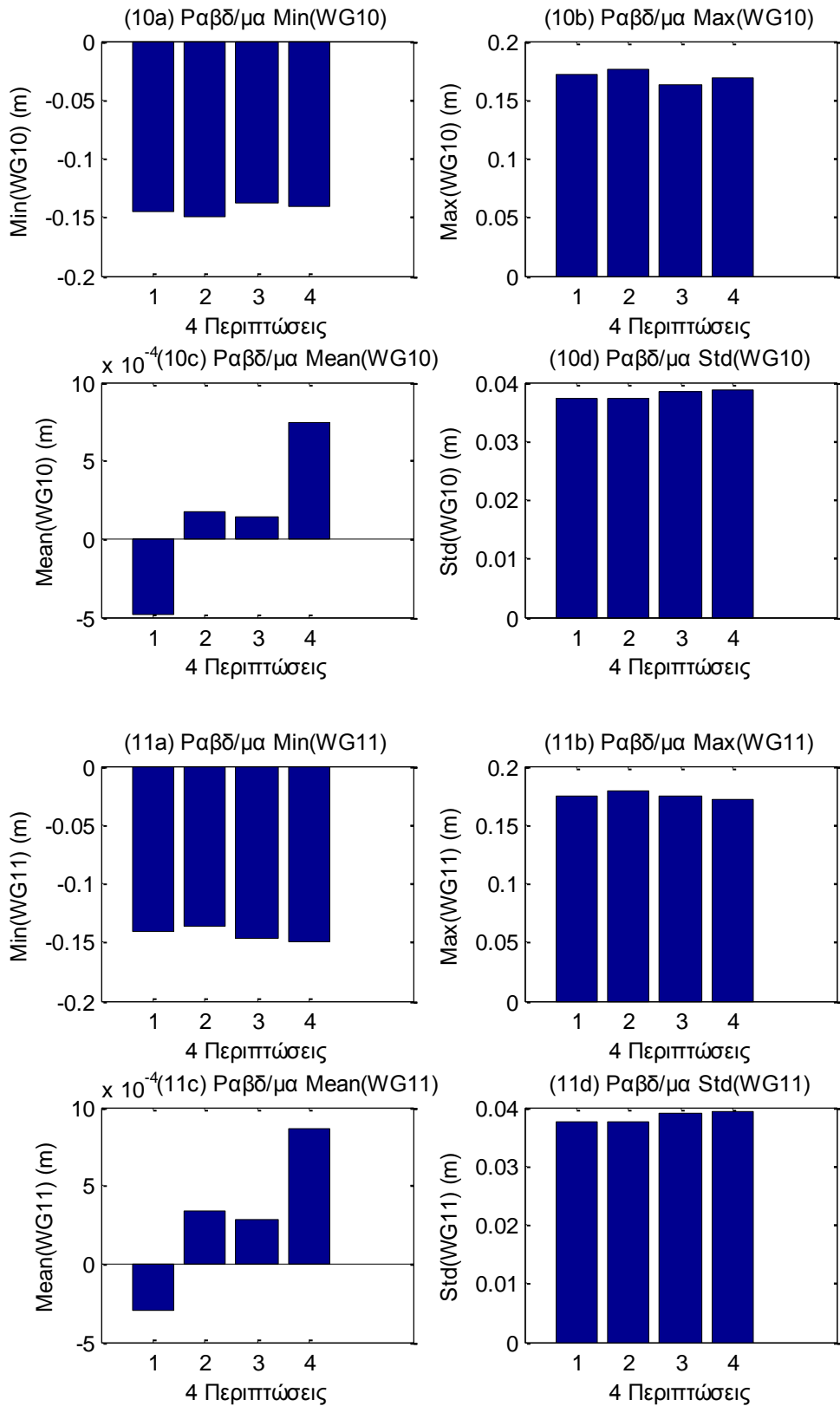




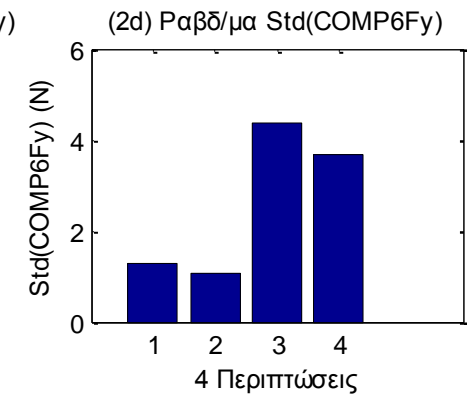
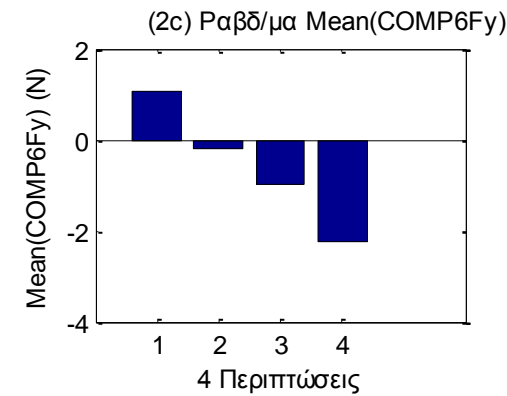
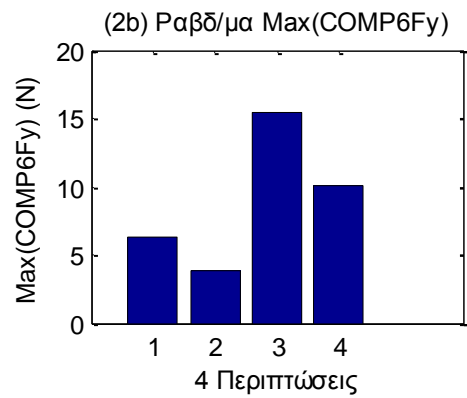
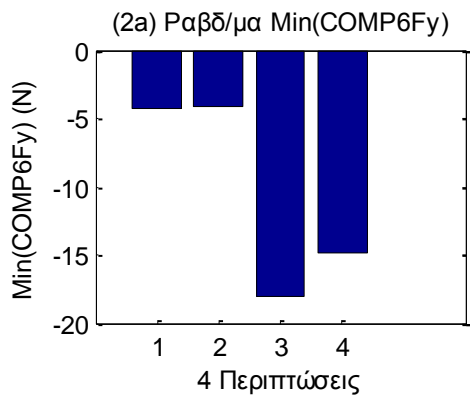
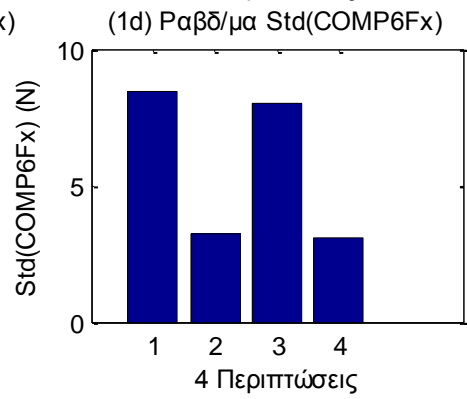
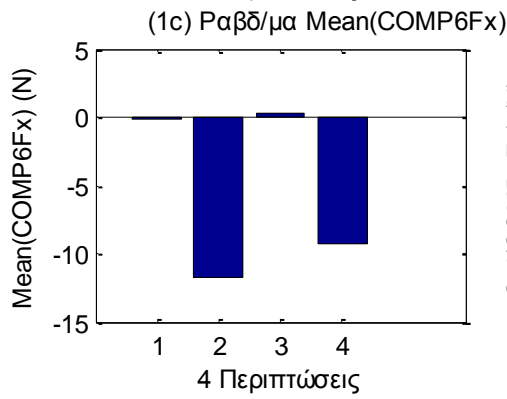
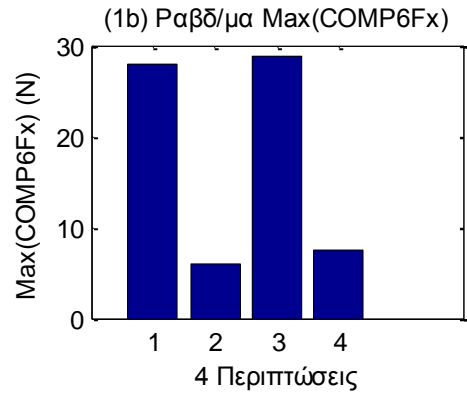
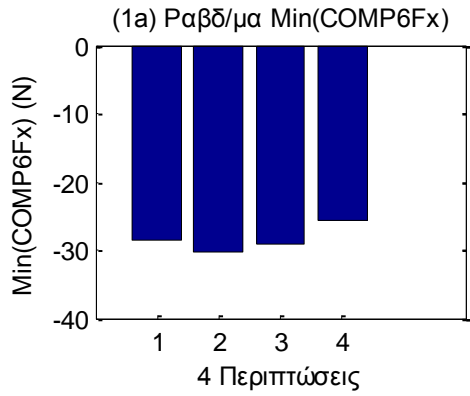


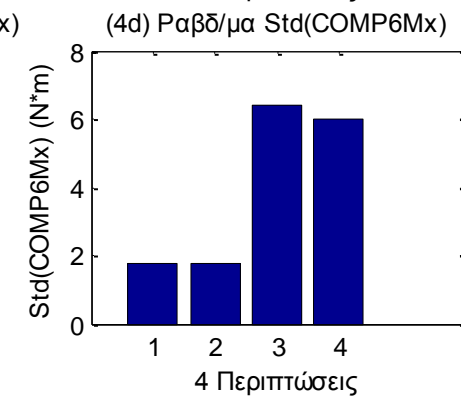
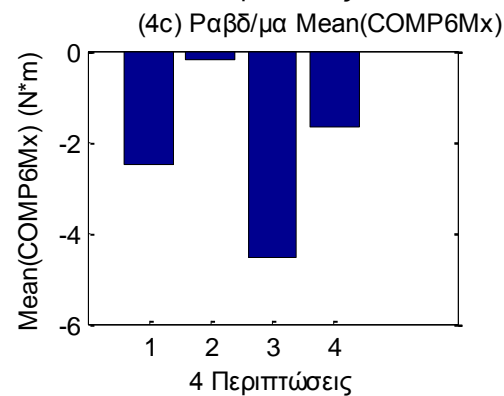
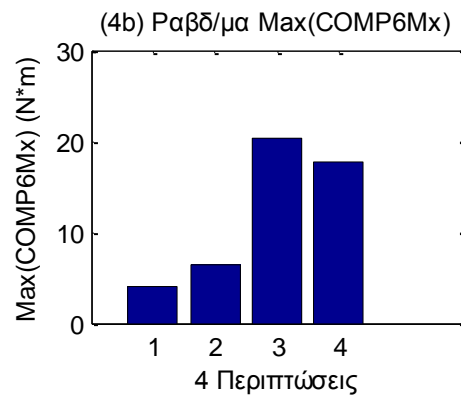
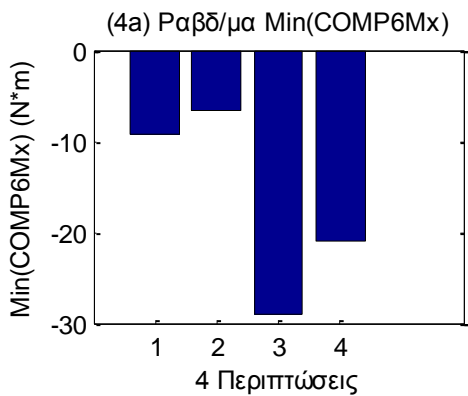
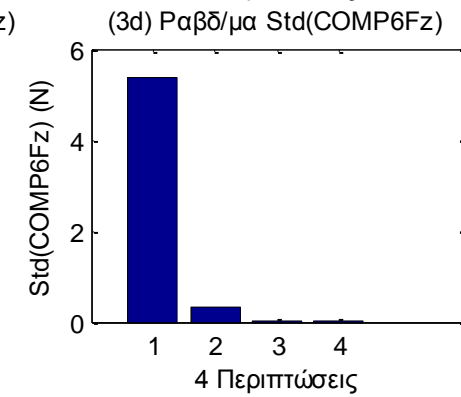
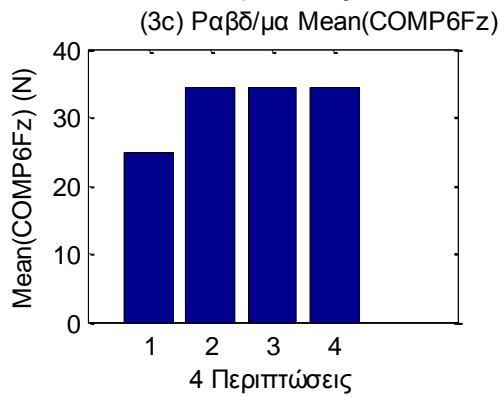
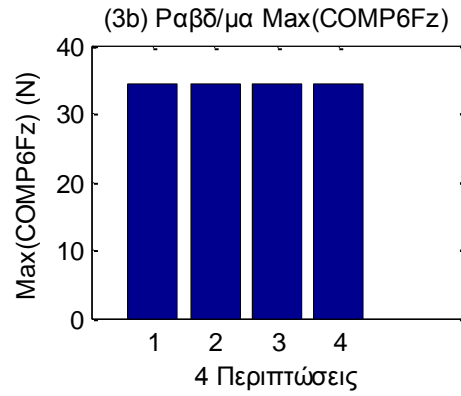
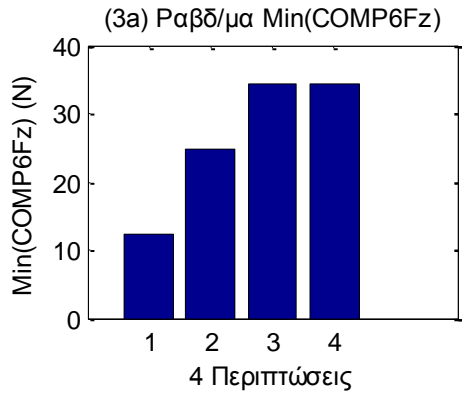


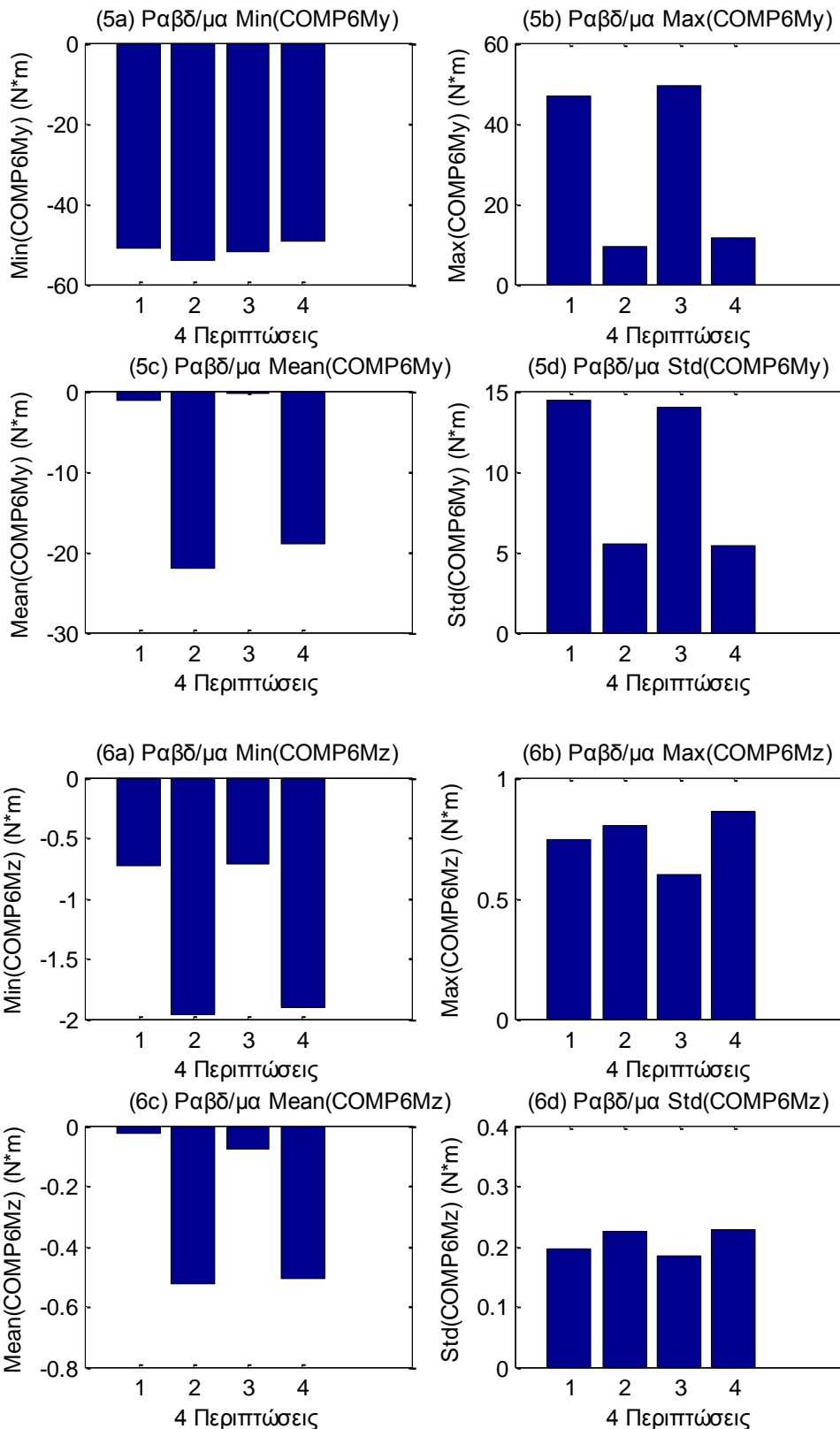




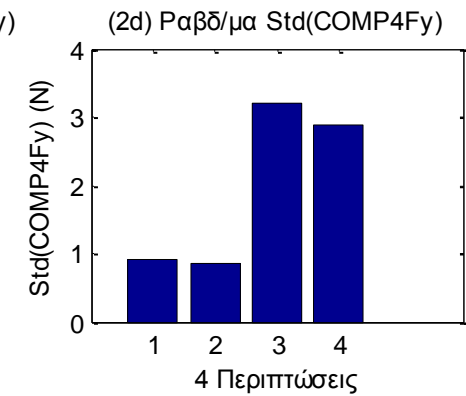
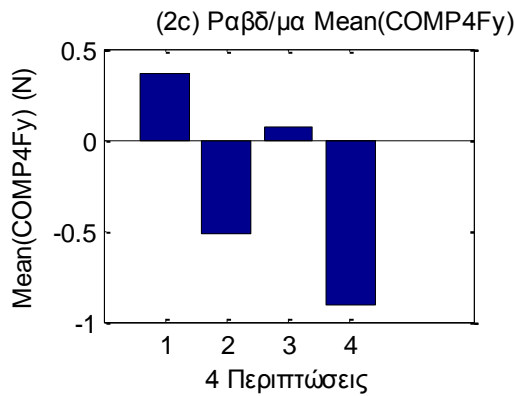
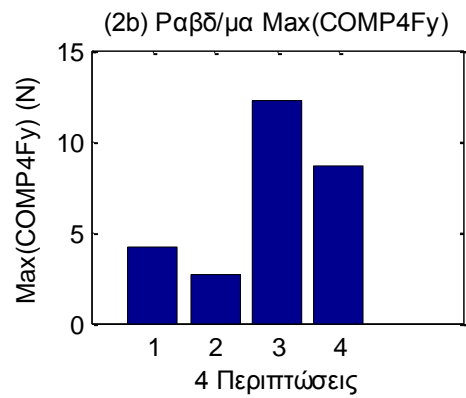
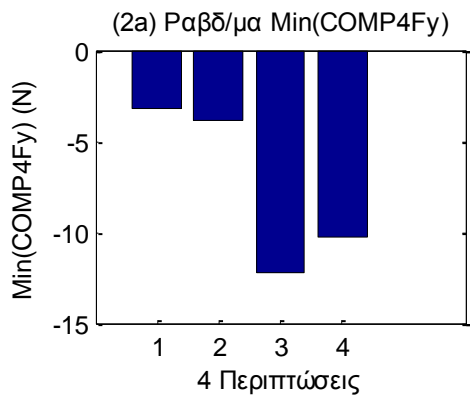
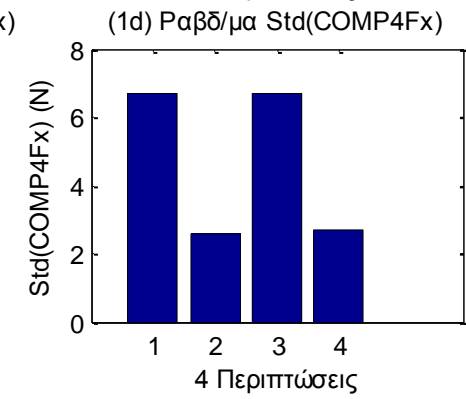
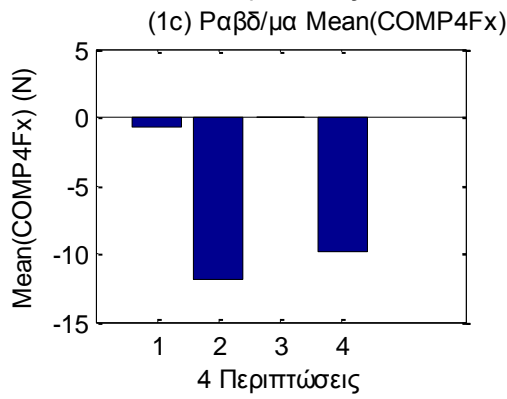
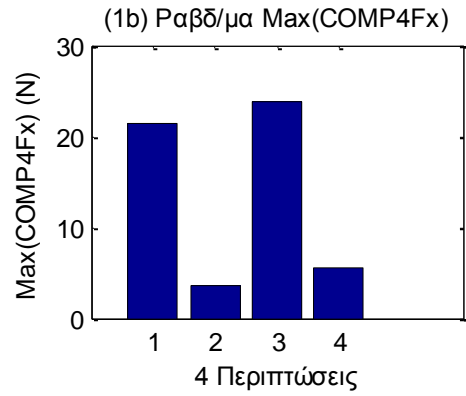
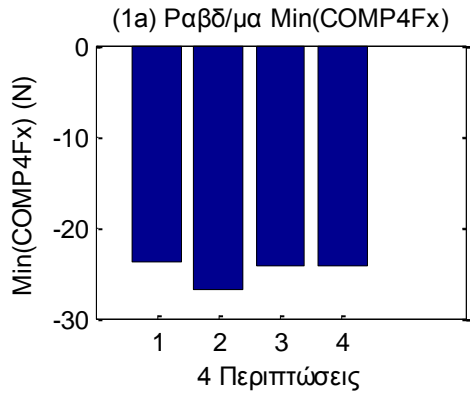
Σχήματα 1.8.1.1 (1-11) Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τα 11 όργανα μέτρησης του ύψους κύματος

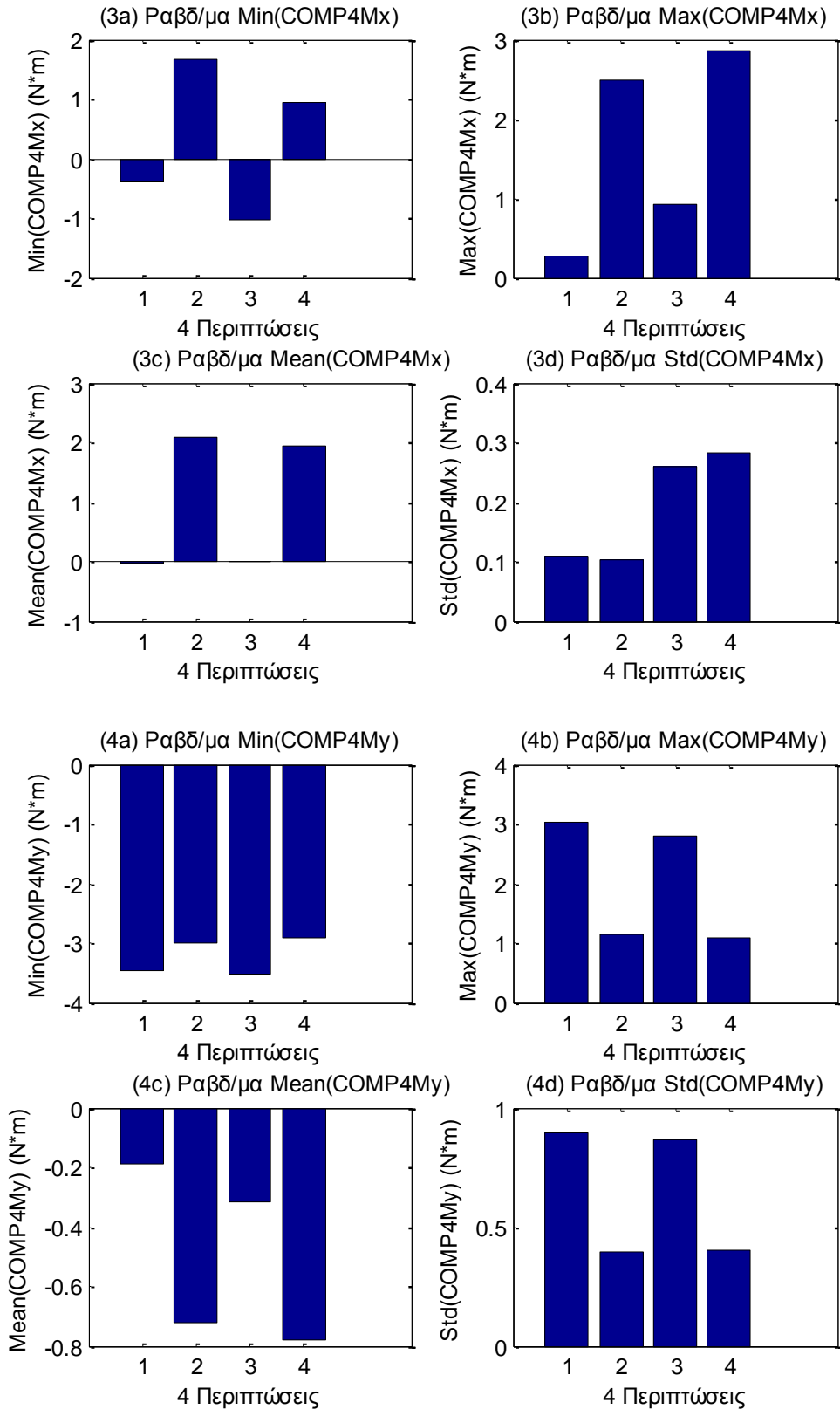




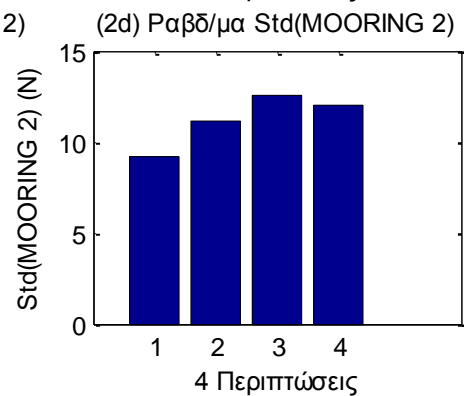
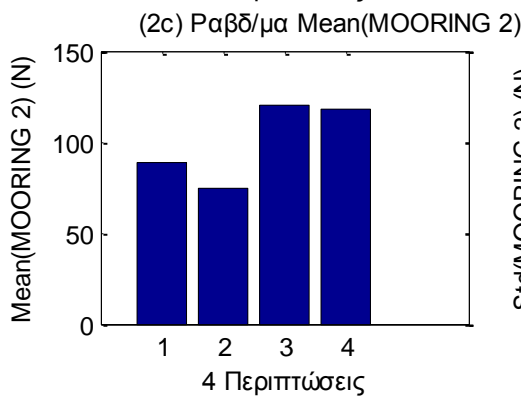
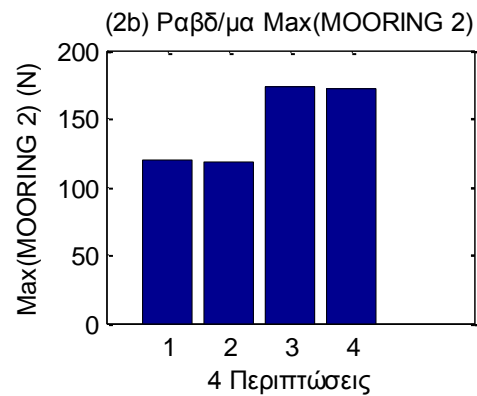
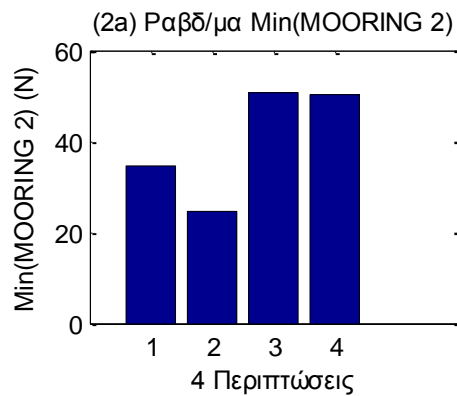
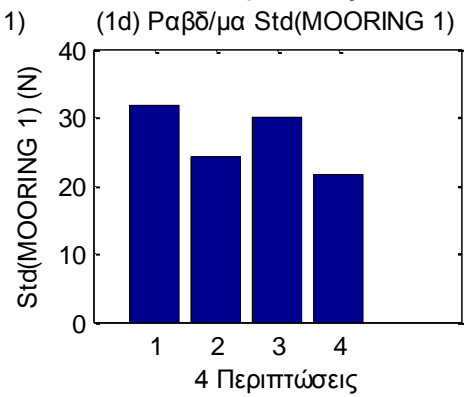
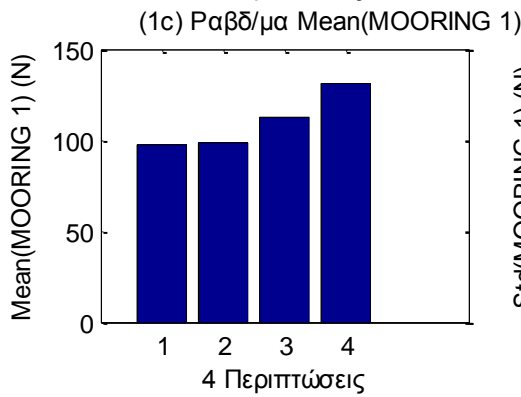
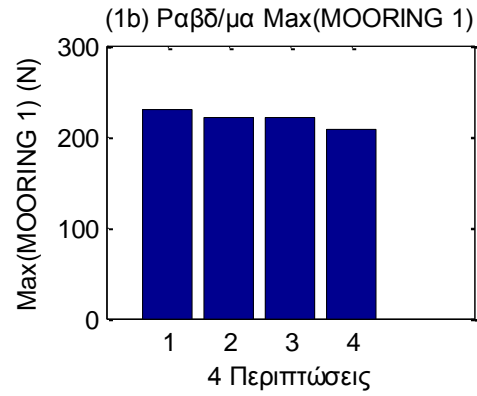
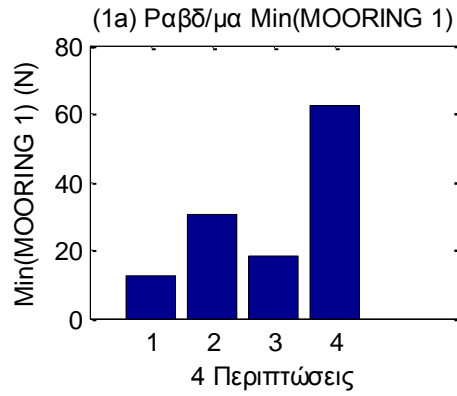


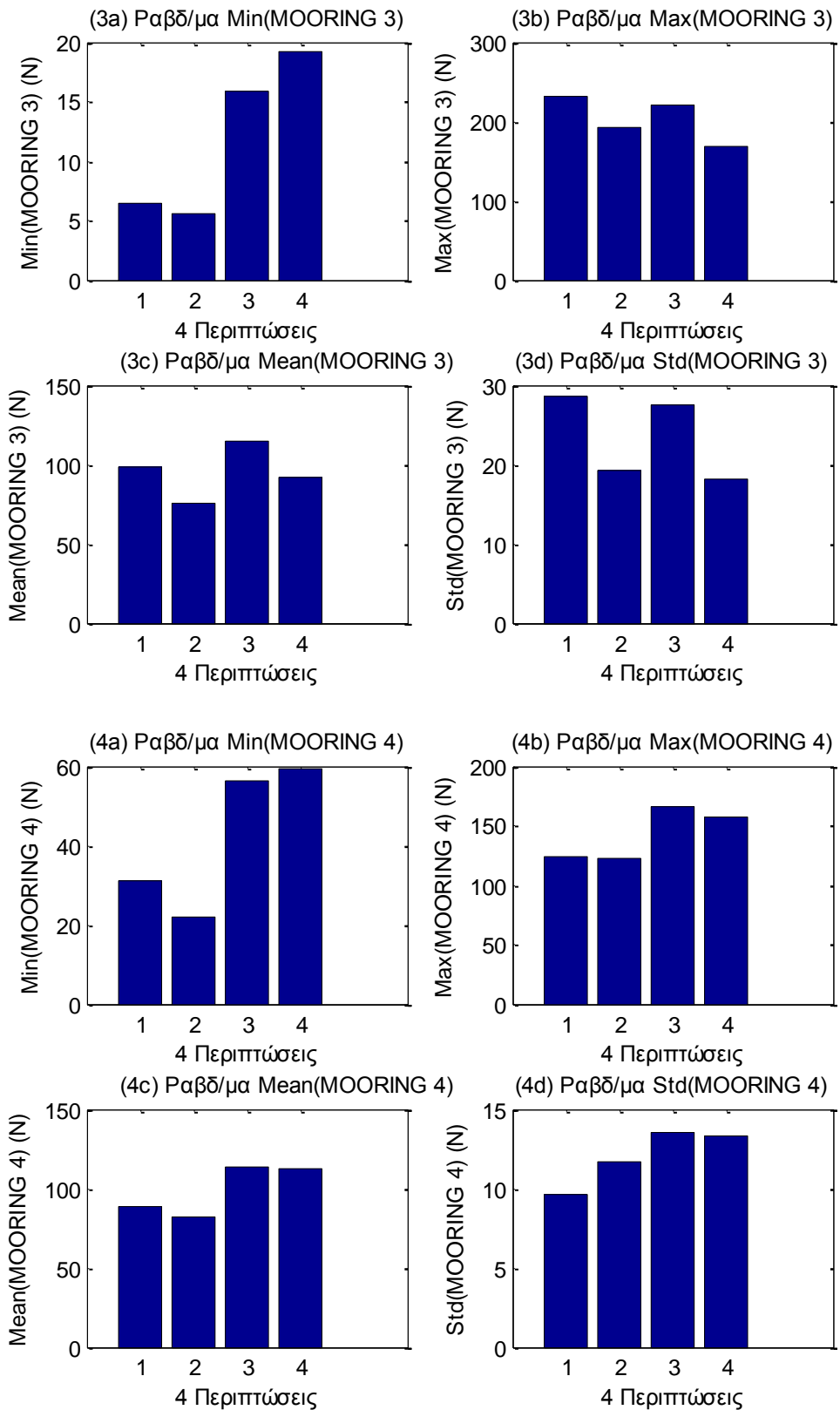
Σχήματα 1.8.1.2 Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις, για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



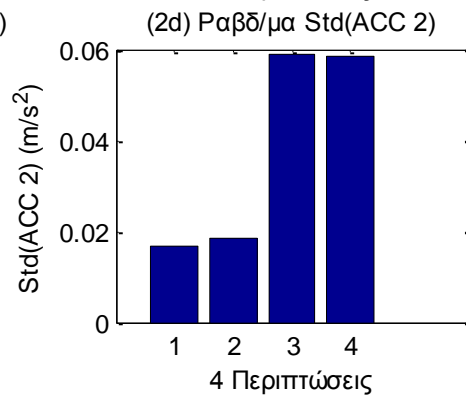
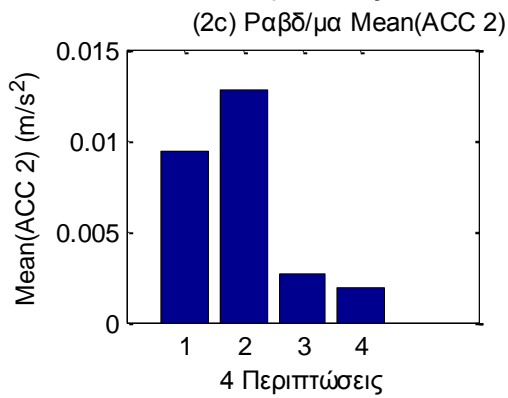
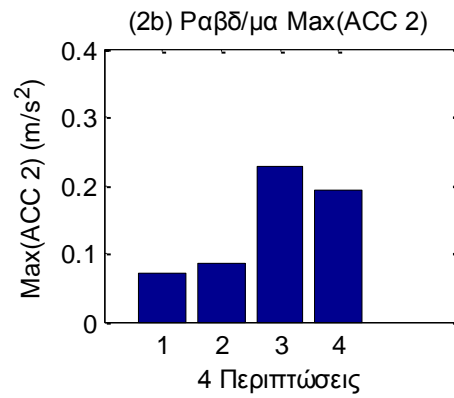
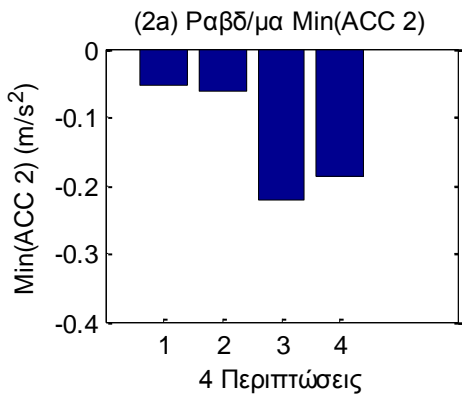
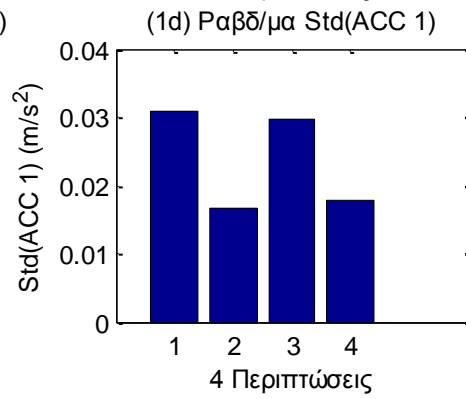
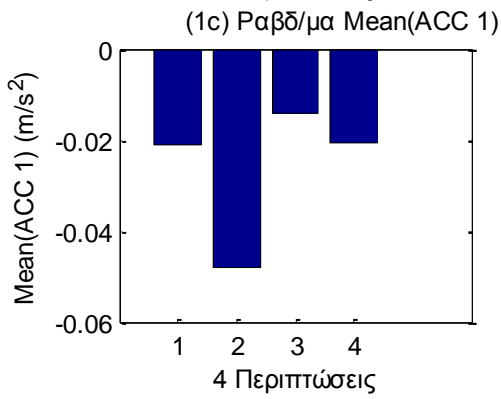
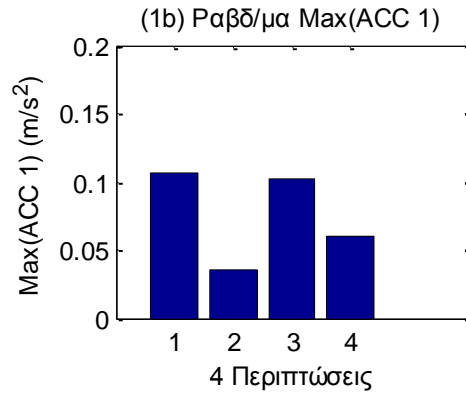
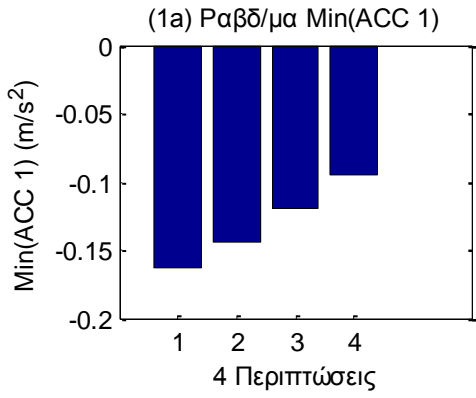


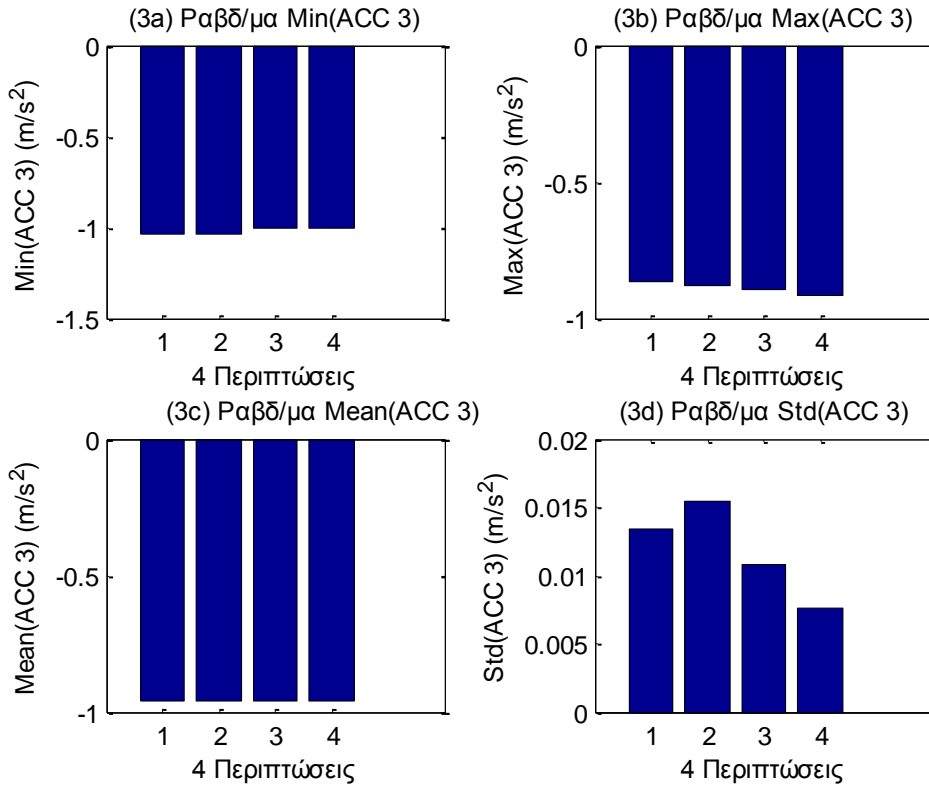
Σχήματα 1.8.1.3 Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις, για τις δυο δυνάμεις στις δυο διευθύνσεις (1) surge και (2) sway και των δυο ροπών στους αντίστοιχους δυο άξονες (3) roll και (4) pitch



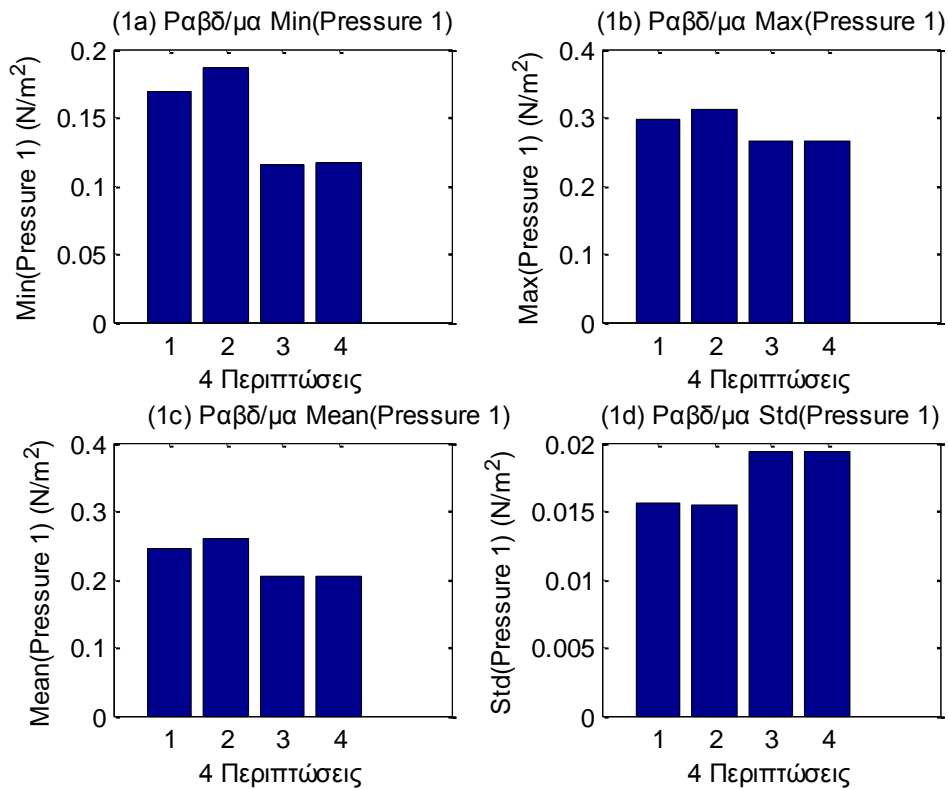


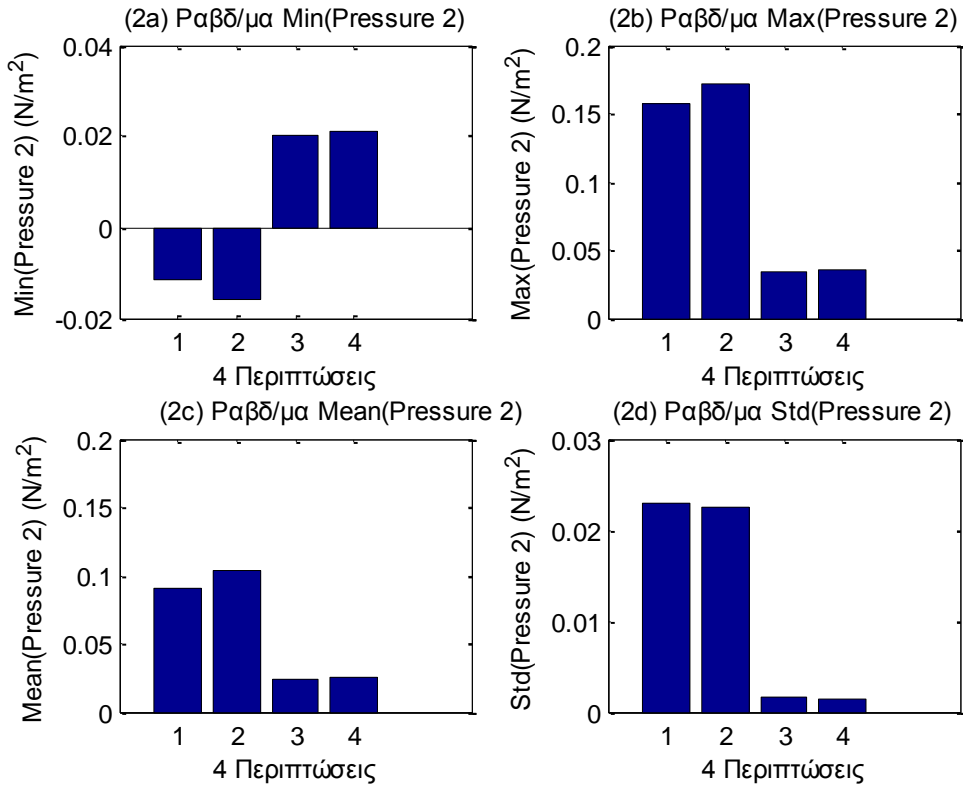
Σχήματα 1.8.1.4 Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τις δυνάμεις στις 4 γραμμές αγκύρωσης



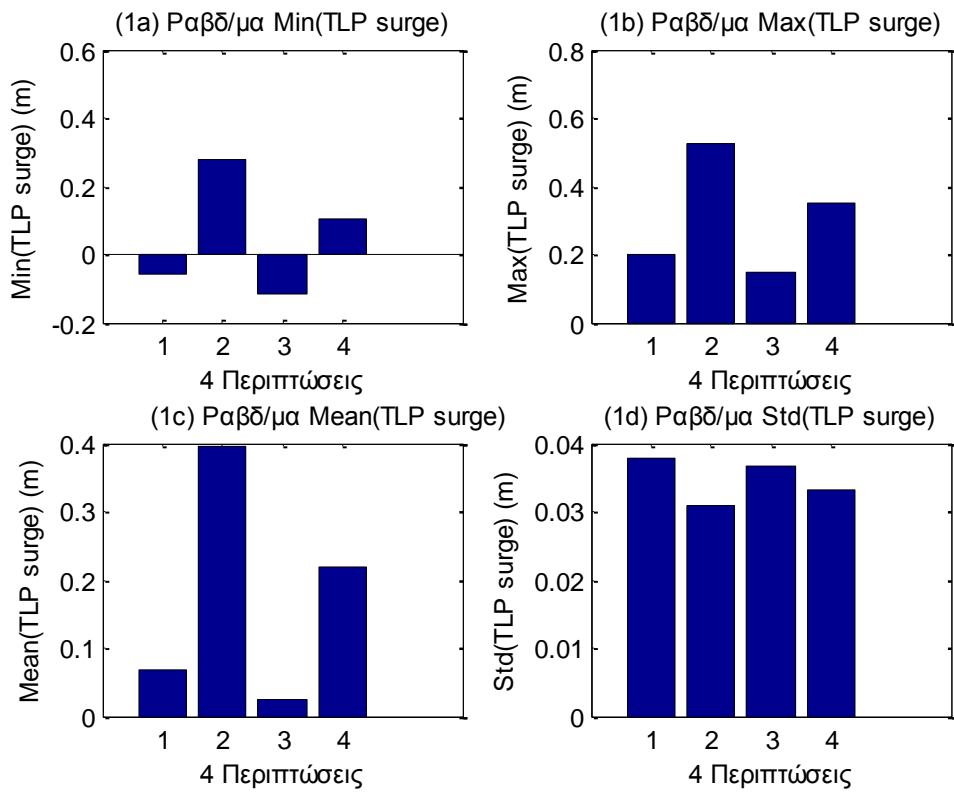


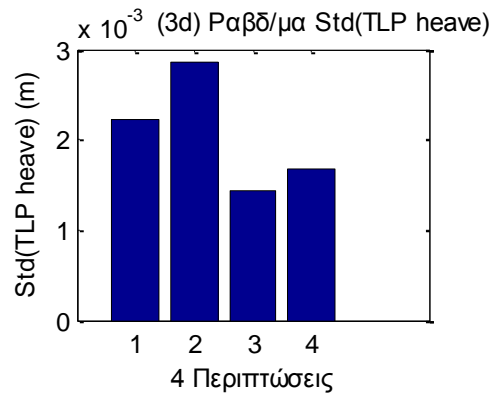
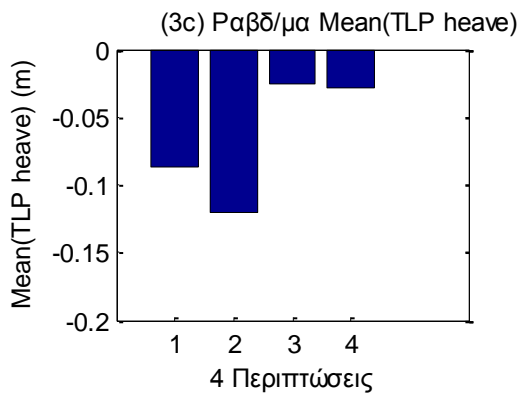
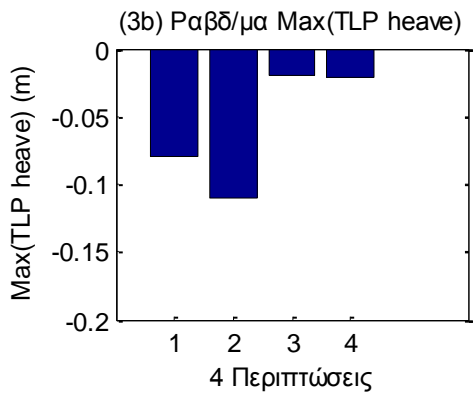
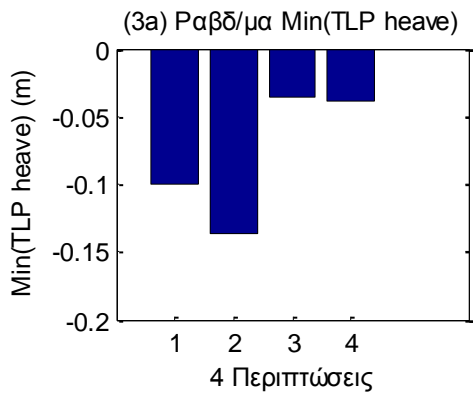
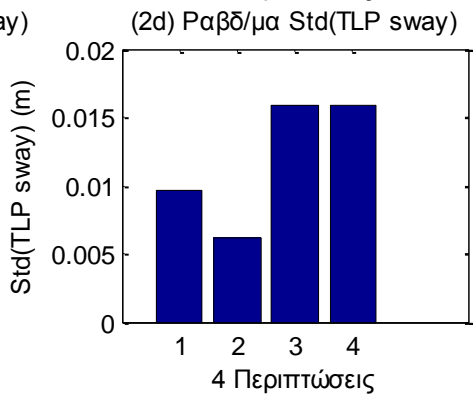
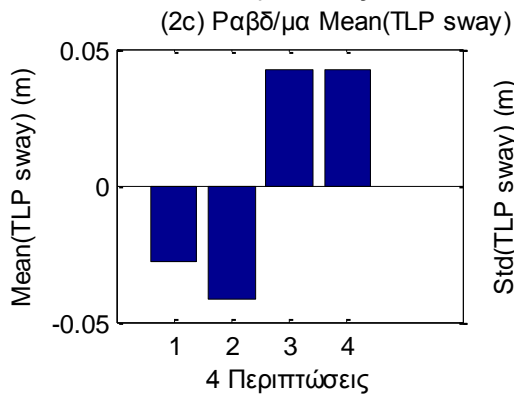
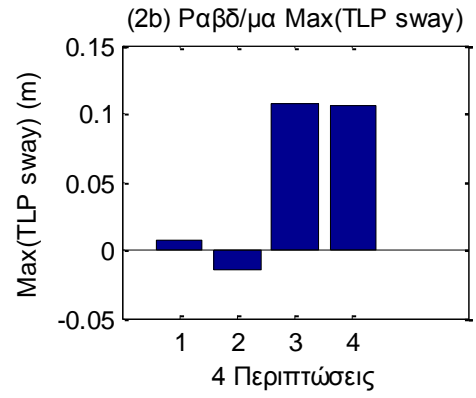
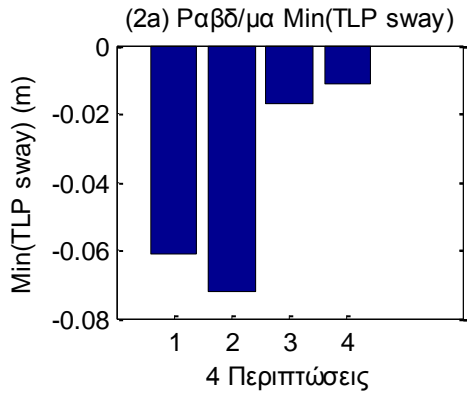
Σχήματα 1.8.1.5 (1-3) Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc 1, (2) Acc 2 και (3) Acc 3

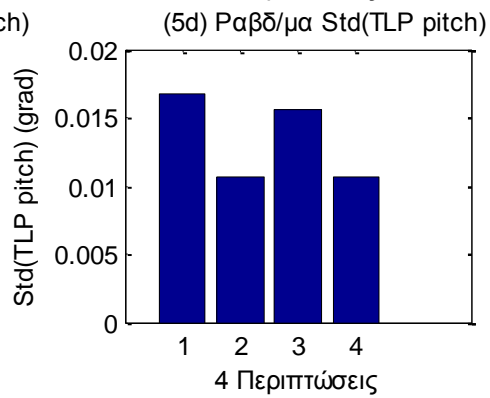
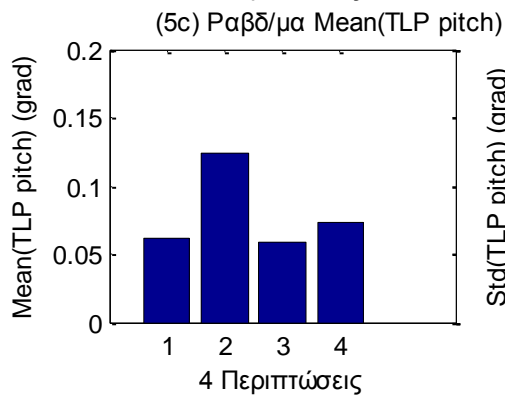
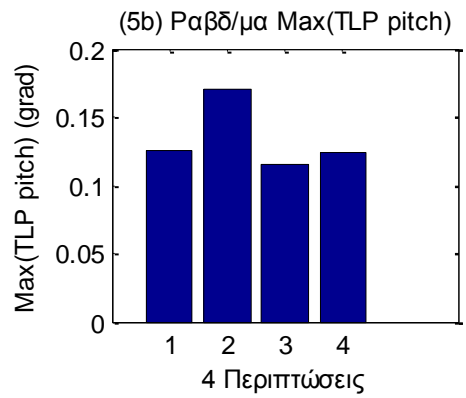
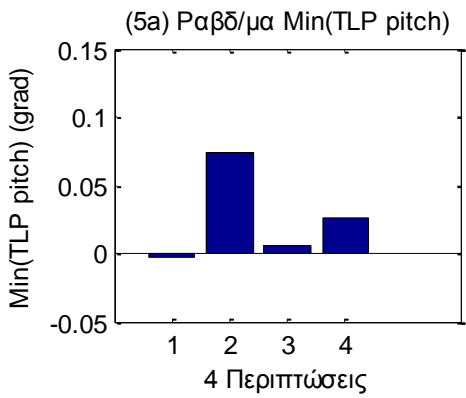
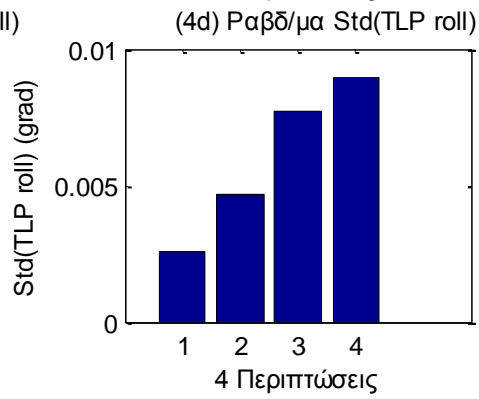
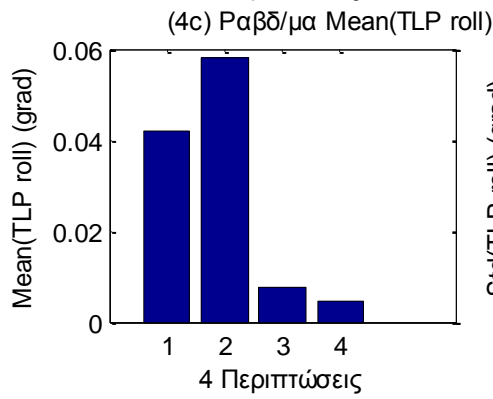
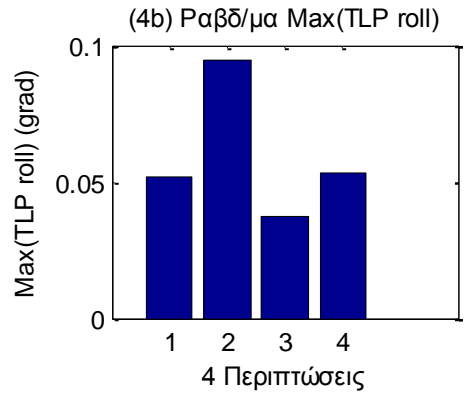
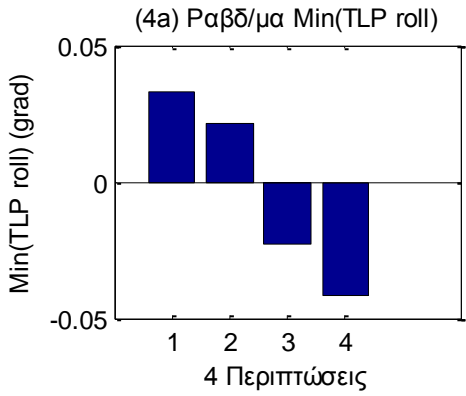


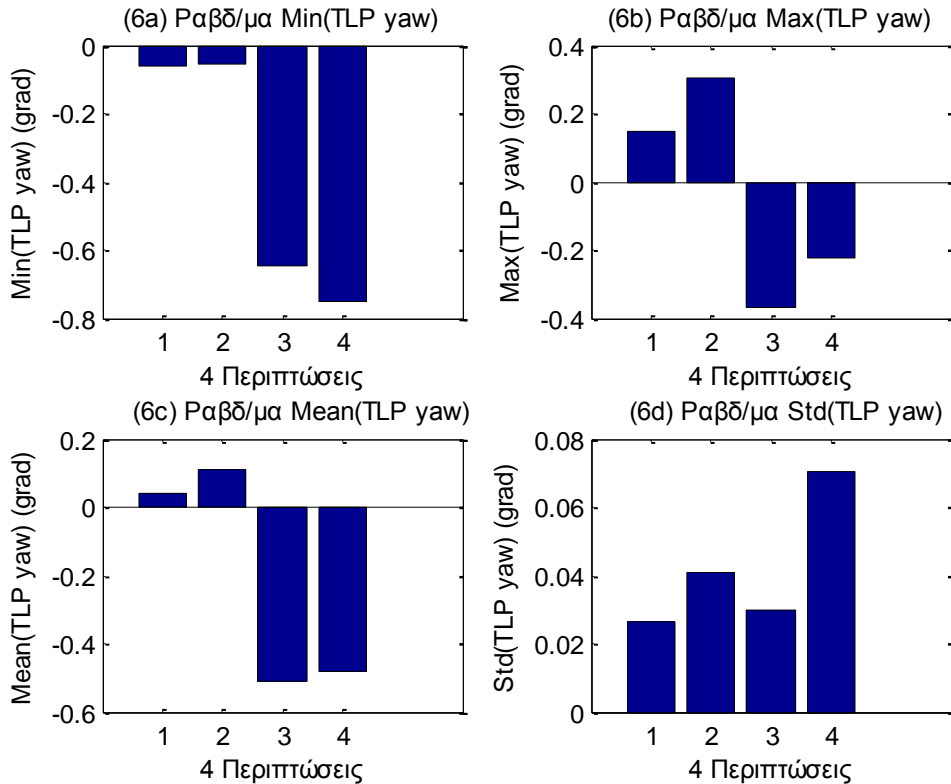


Σχήματα 1.8.1.6 (1-2) Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τα δυο όργανα μέτρησης της πίεσης







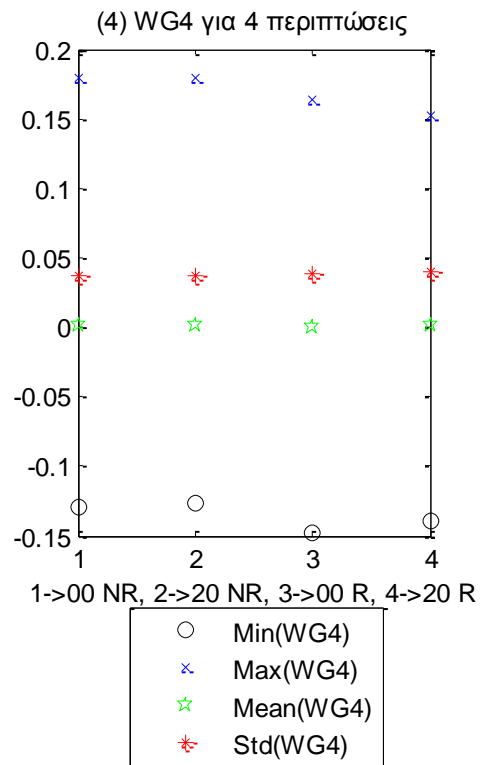
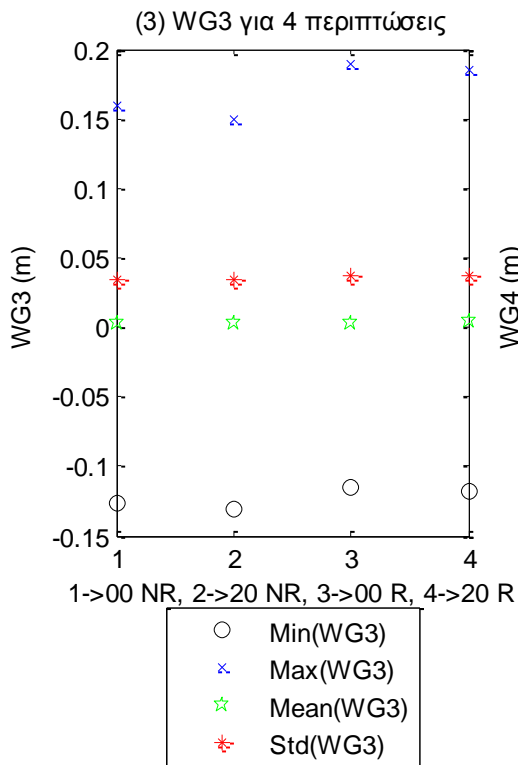
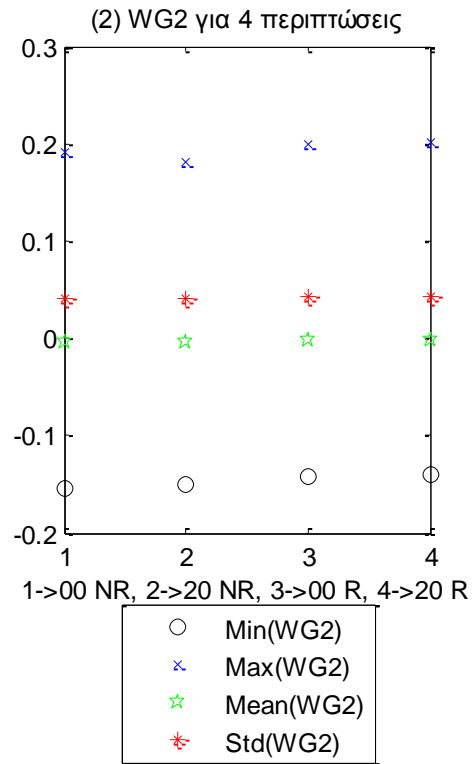
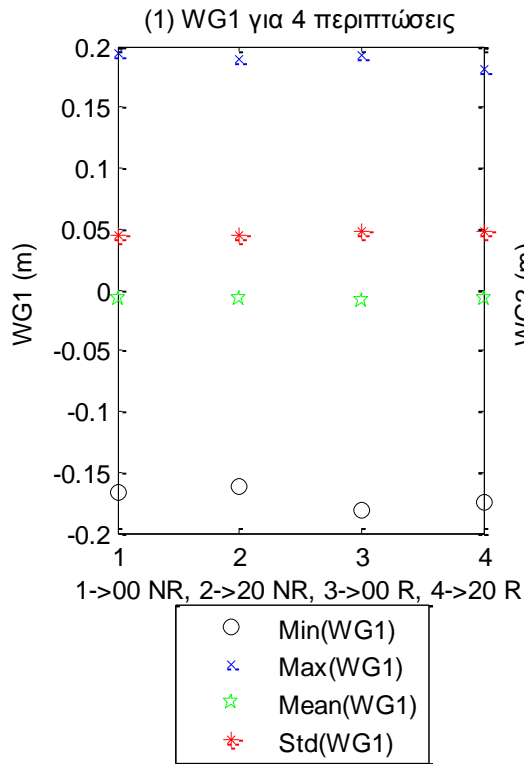


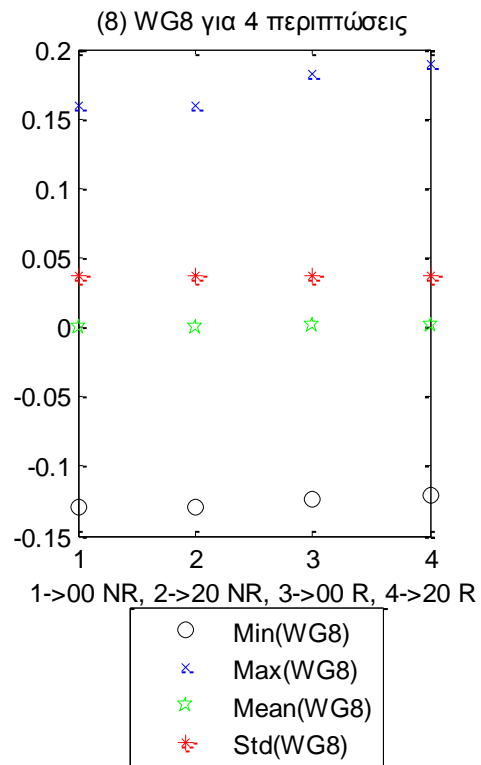
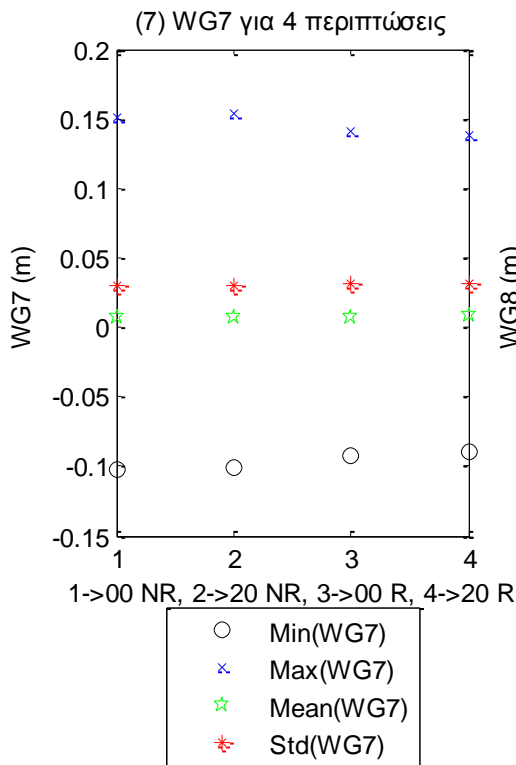
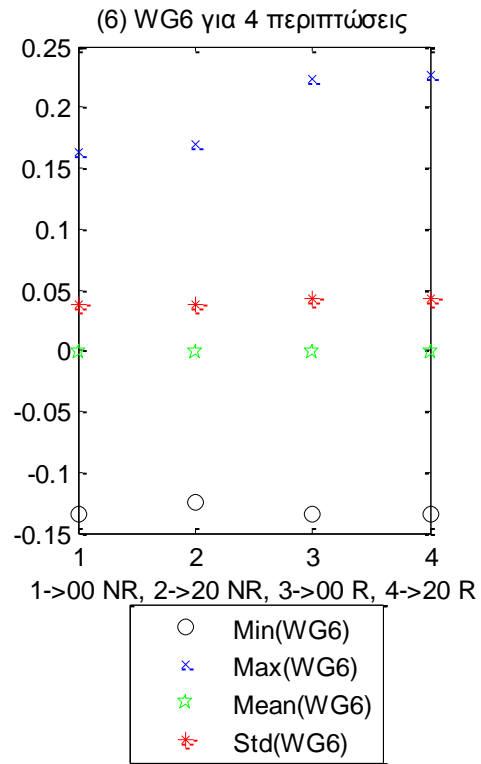
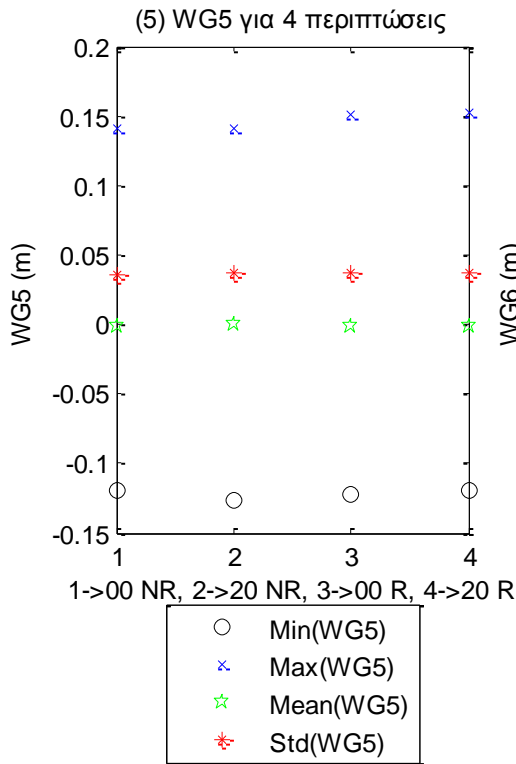
Σχήματα 1.8.1.7 Ραβδοδιαγράμματα (a) min, (b) max, (c) mean και (d) std για τέσσερις περιπτώσεις για τις τρεις μετατοπίσεις (1) surge, (2) sway και (3) heave και των τριών περιστροφών στους τρεις άξονες (4) roll, (5) pitch και (6) yaw

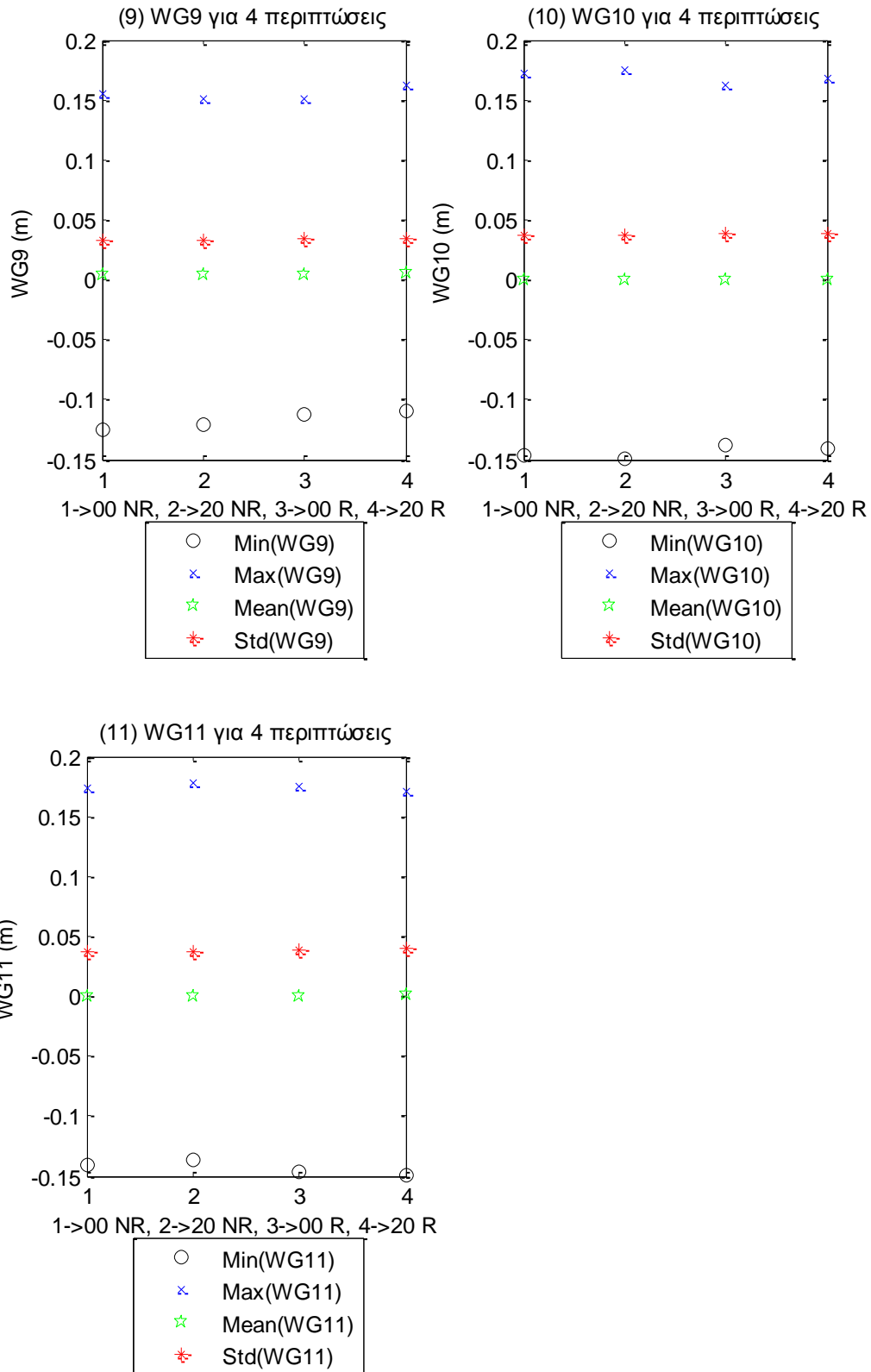
Στα παραπάνω σχήματα παρουσιάζουμε τα Ραβδοδιαγράμματα για την ελάχιστη (min), τη μέγιστη (max), τη μέση τιμή (mean) και τη διακύμανση (std) για τα 11 όργανα μέτρησης του ύψους κύματος (Σχήματα 5.9.1.1) (1—11), για τις τρεις δυνάμεις και τις τρεις ροπές στη βάση της Α/Γ (Σχήματα 5.9.1.2) (1-6), για τις δύο δυνάμεις και τις δύο ροπές στο Ρότορα της Α/Γ (Σχήματα 5.9.1.3) (1-4), τις τέσσερις γραμμές αγκύρωσης (Σχήματα 5.9.1.4) (1-4), για τα τρία επιταχυνσιόμετρα (Σχήματα 5.9.1.5) (1-3), για τα δυο όργανα μέτρησης της πίεσης (Σχήματα 5.9.1.6) (1-2) και, τέλος, για τις τρεις μετατοπίσεις και τις τρεις περιστροφές (Σχήματα 5.9.1.7) (1-6).

Παρατηρούμε σημαντικές διαφορές σε όλα τα ραβδοδιαγράμματα για την ελάχιστη τη μέγιστη και τη μέση τιμή, ενώ, υπάρχουν μικρές διαφοροποιήσεις στα αντίστοιχα ραβδοδιαγράμματα για τη διακύμανση. Στα έντεκα όργανα μέτρησης του κύματος, οι διαφορές μεταξύ των τεσσάρων περιπτώσεων είναι μικρές.

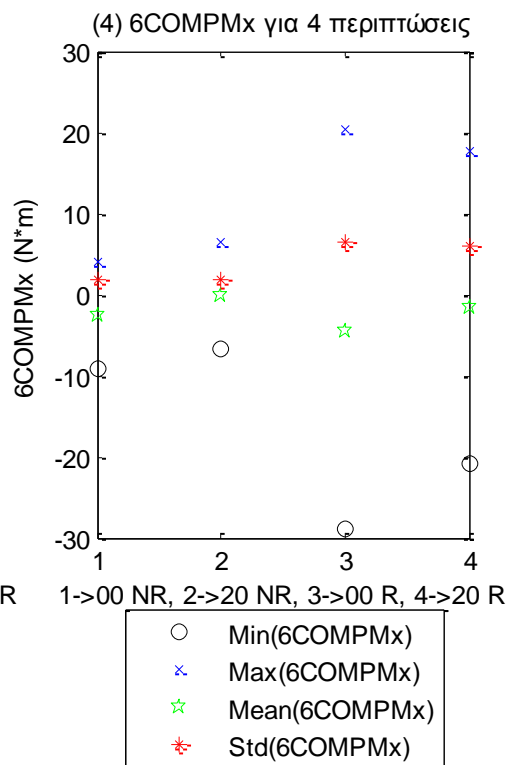
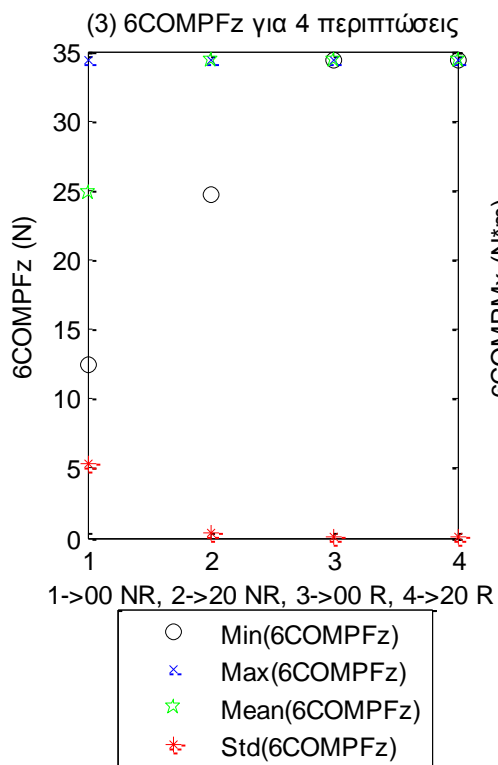
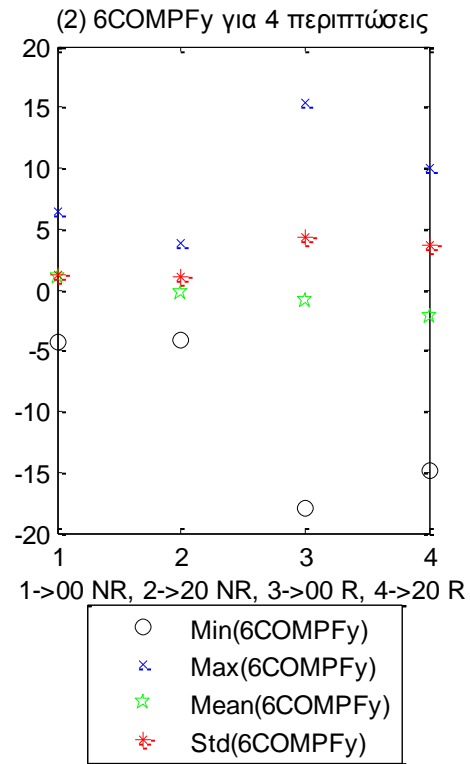
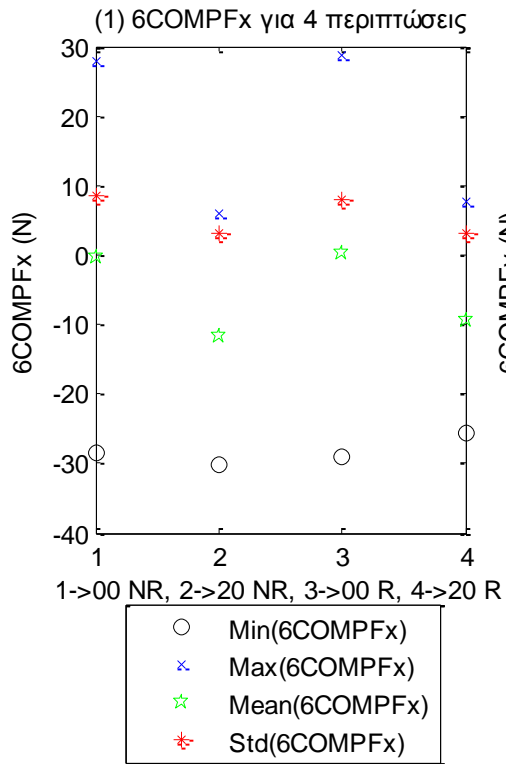
Στα σχήματα που ακολουθούν, παρατίθενται σε κοινά γραφήματα η ελάχιστη, η μέγιστη, η μέση τιμή και η τυπική απόκλιση για κάθε όργανο μέτρησης για τη TLP.

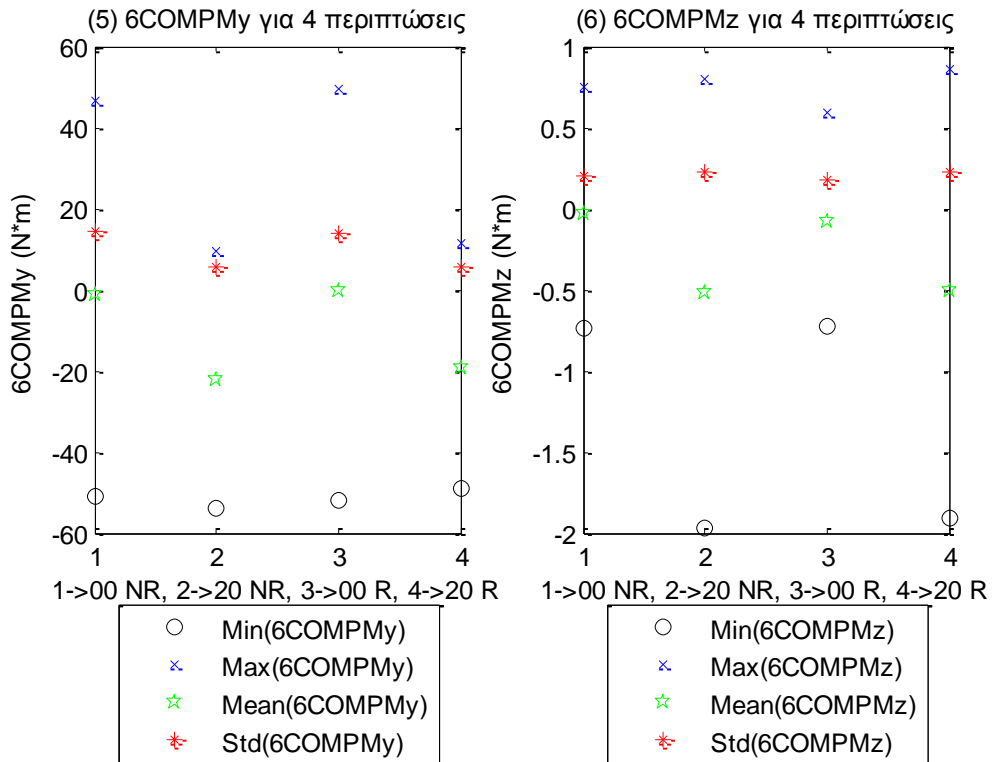




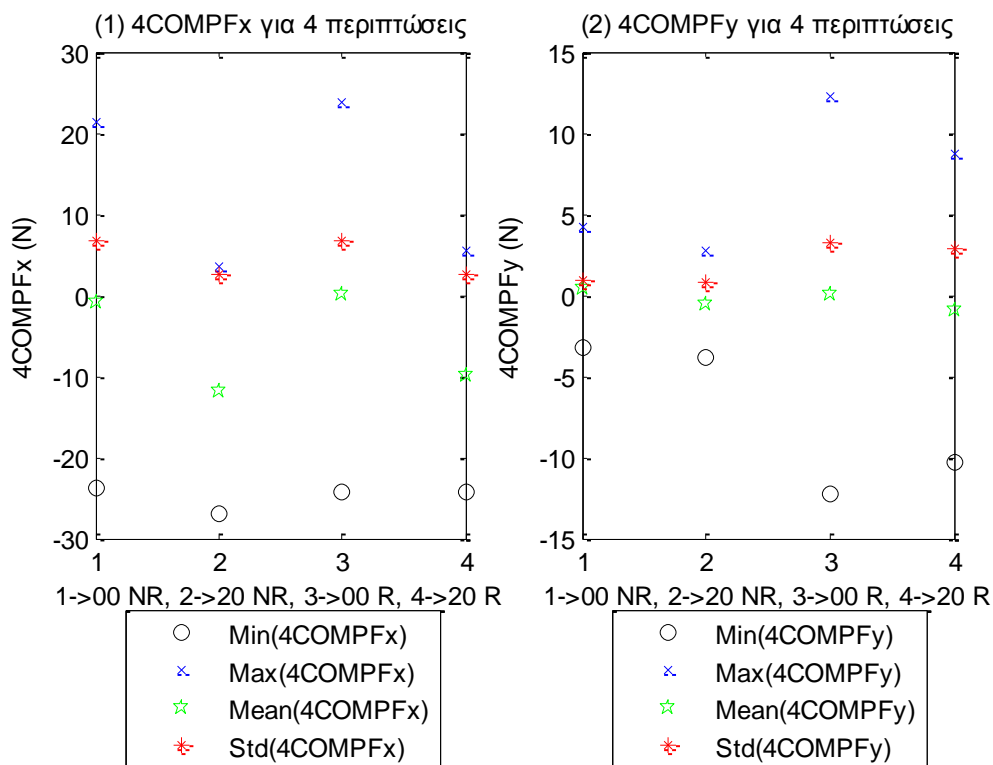


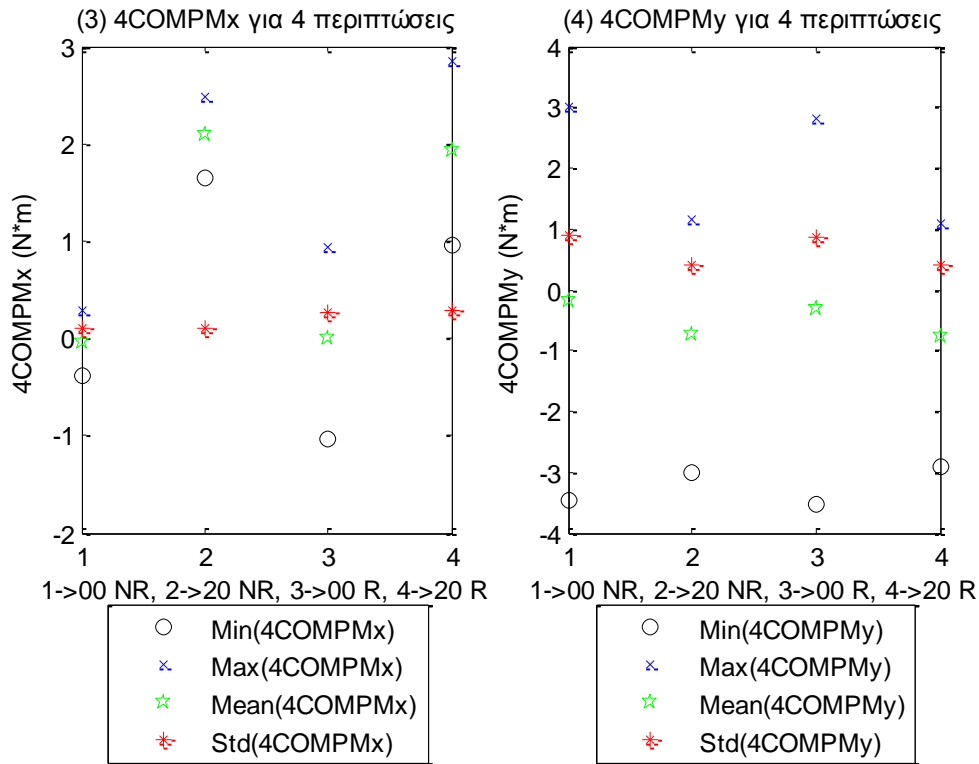
Σχήματα 1.8.2.1 (1-11) Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τα 11 όργανα μέτρησης του ύψους κύματος



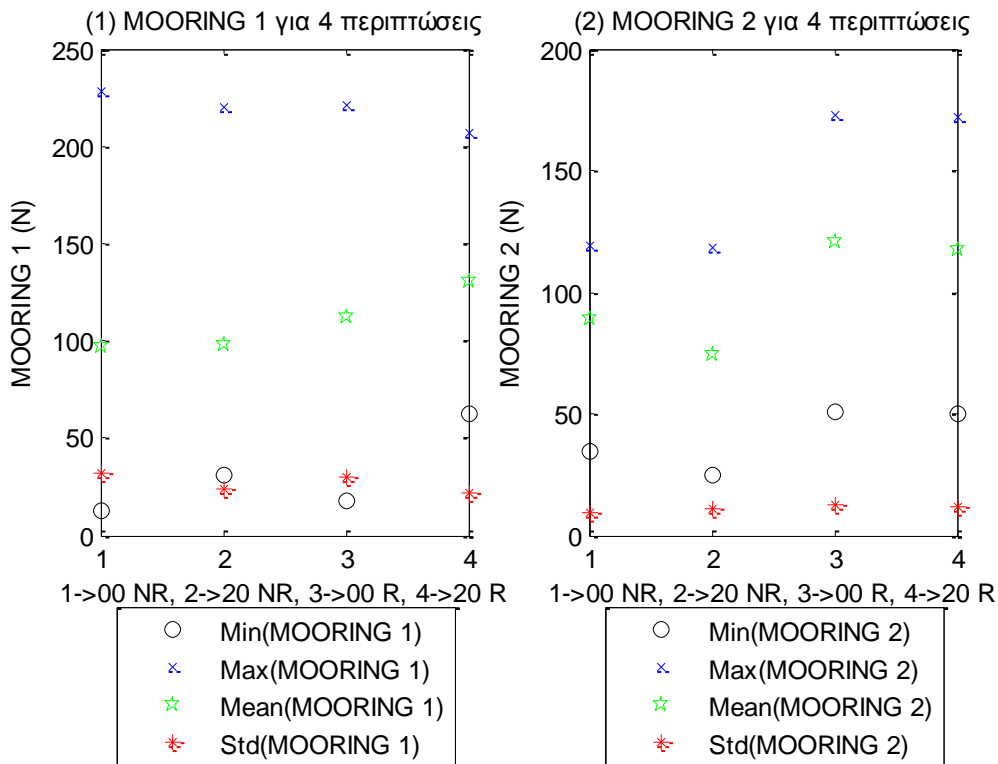


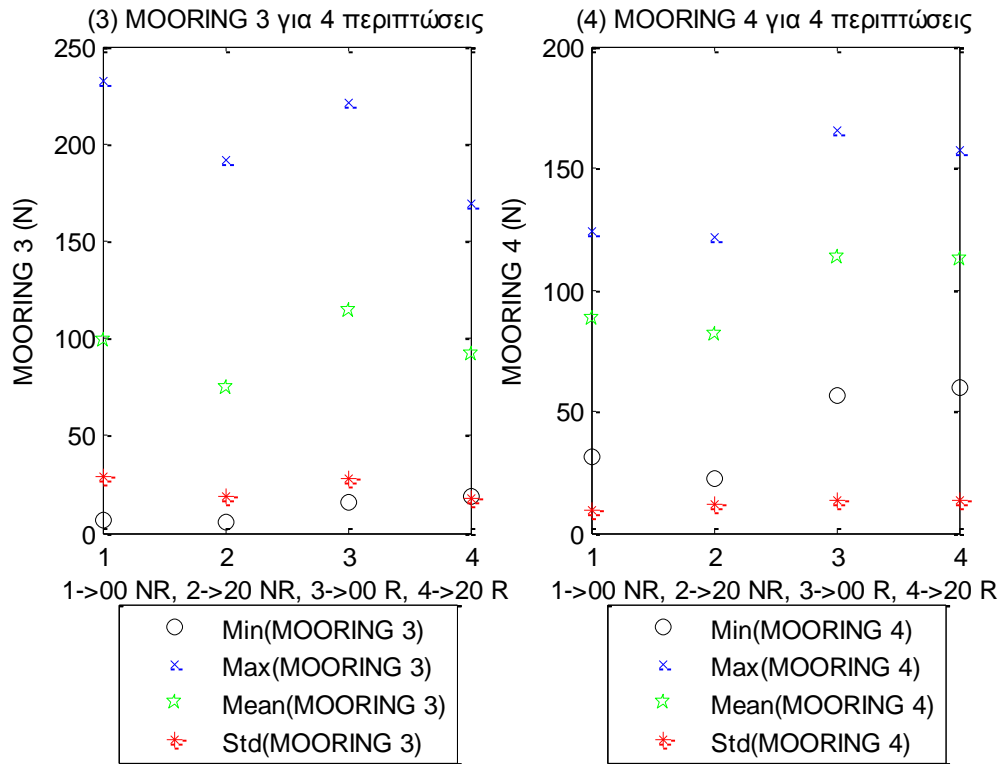
Σχήματα 1.8.2.2 Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις τρεις δυνάμεις στις τρεις διευθύνσεις (1) surge, (2) sway και (3) heave και των τριών ροπών στους αντίστοιχους τρεις άξονες (4) roll, (5) pitch και (6) yaw



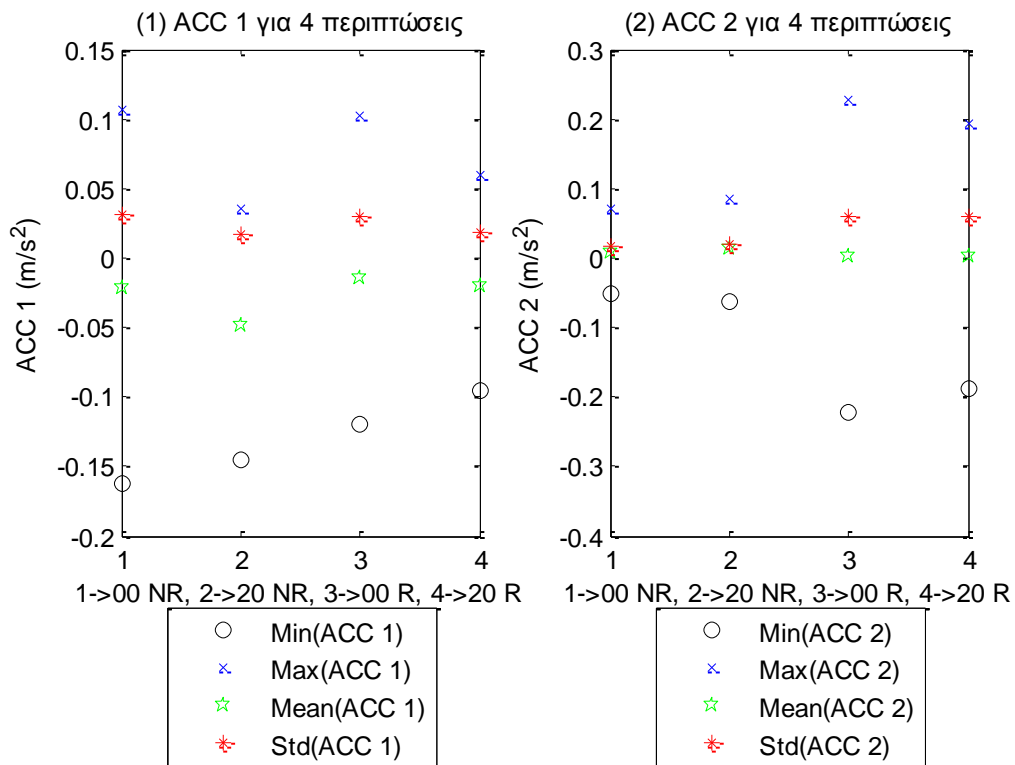


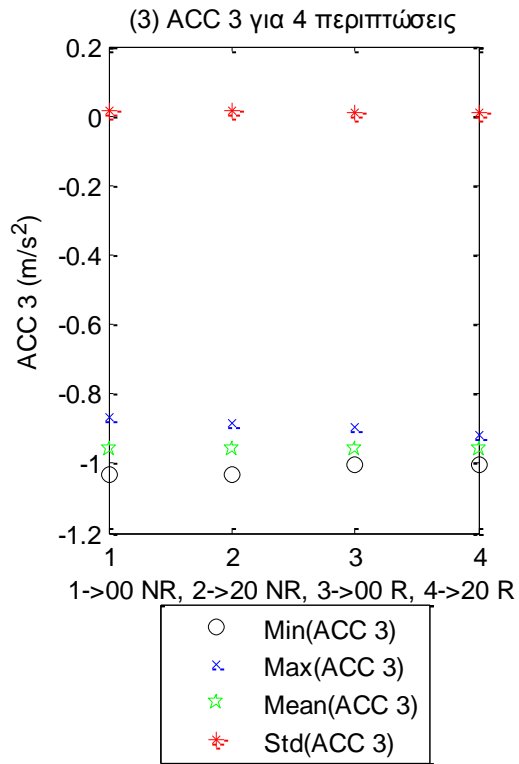
Σχήματα 1.8.2.3 Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις δύο δυνάμεις (1-2) και τις δύο ροπές (3-4) στο Ρότορα της Α/Γ



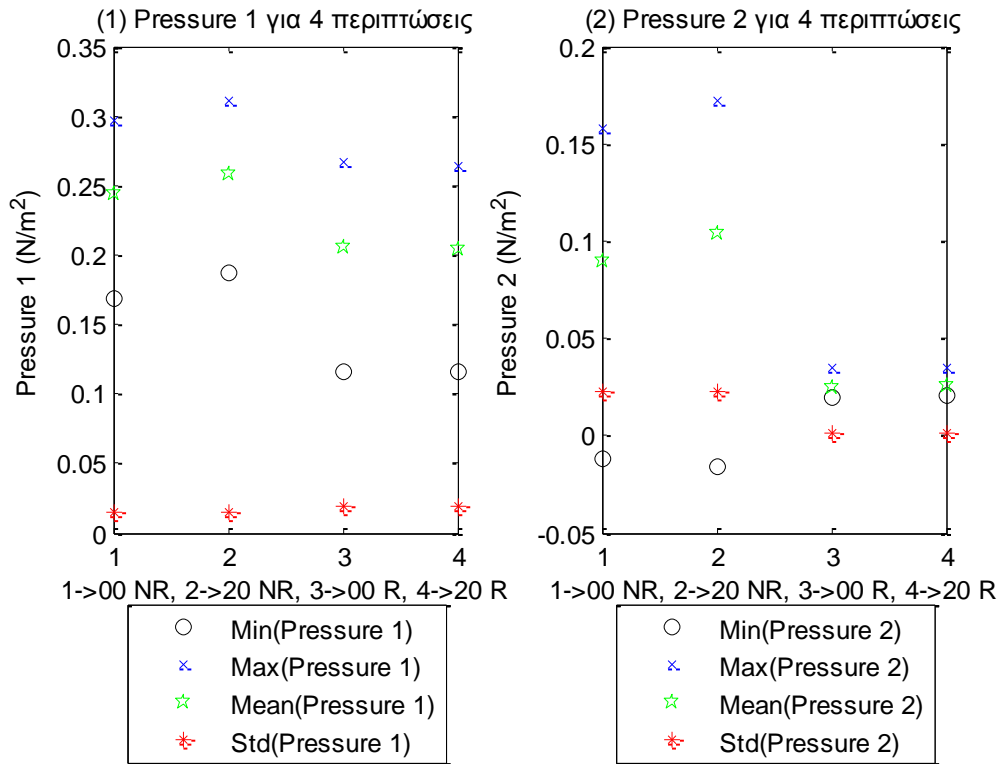


Σχήματα 1.8.2.4 (1-4) Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τις δυνάμεις στις 4 γραμμές αγκύρωσης

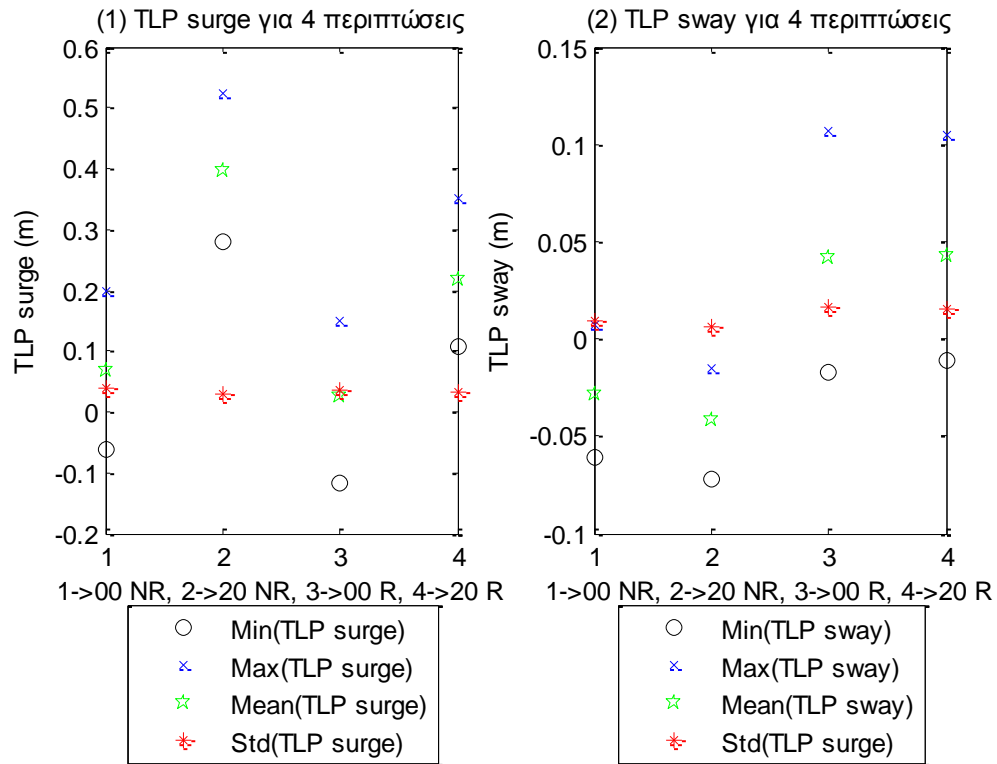


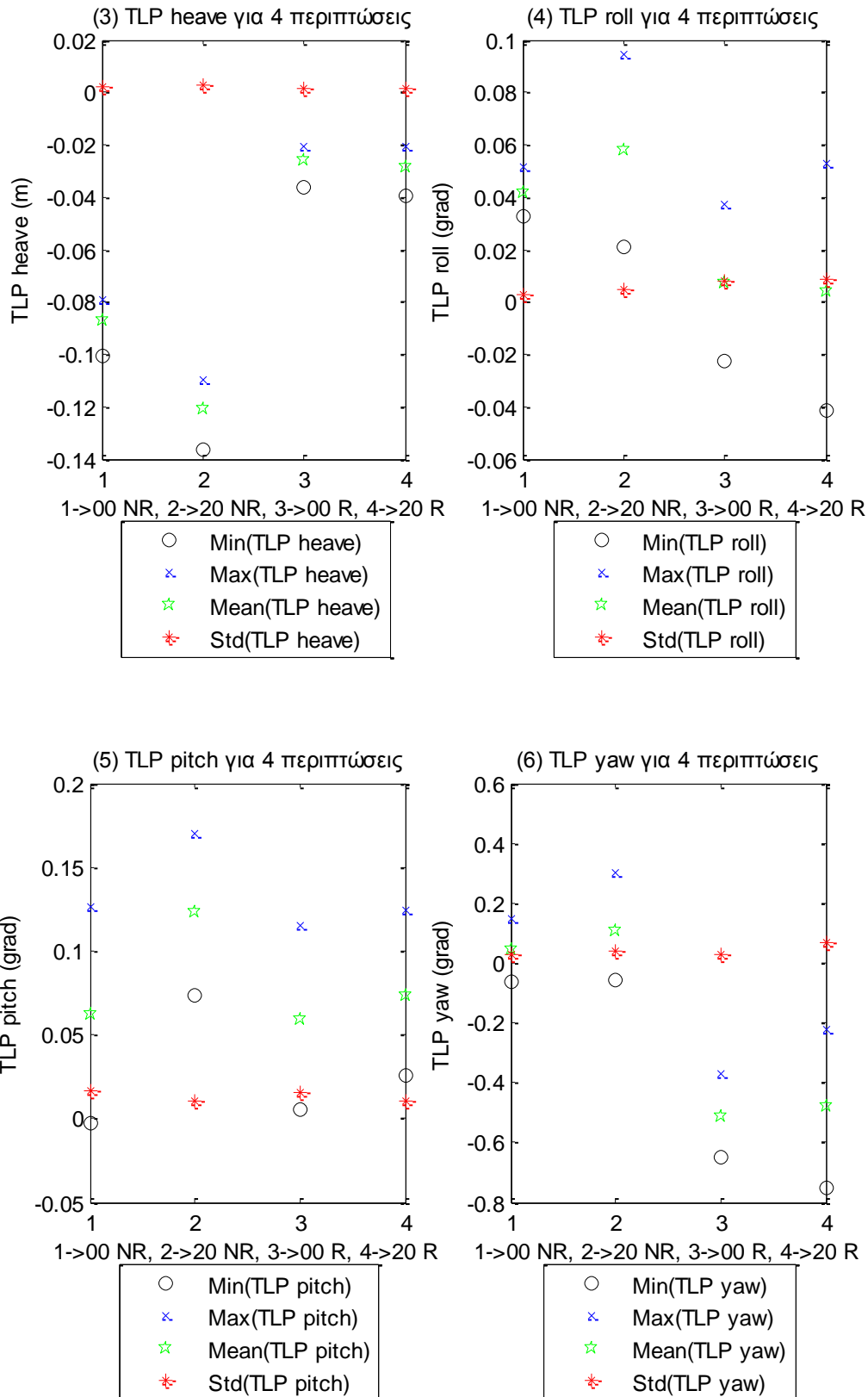


Σχήματα 1.8.2.5 (1-3) Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τα τρία όργανα μέτρησης της επιτάχυνσης (1) Acc 1, (2) Acc 2 και (3) Acc 3



Σχήματα 1.8.2.6 (1-3) Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις για τα δυο όργανα μέτρησης της πίεσης (1) Pressure 1 και (2) Pressure 2





Σχήματα 1.8.2.7 Κοινά γραφήματα min, max, mean και std για τέσσερις περιπτώσεις 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

