

Global View

country Ukraine
 abbreviation NAU
 site Laboratory satellite systems
 version 4.8.2
 comment Konin V., Shyshkov F. InsideGNSS, Jan-Feb 2015,
 P.50 - 54
 city Kiev
 program Pegasus
 date 10/12/2015

Position Domain

start: 07:27:12 10.12.2015 (week: 1874 sec: 372432)
end: 12:41:27 10.12.2015 (week: 1874 sec: 391287)
duration: 05:14:16 ..

quality

valid samples 18495
total samples 18856

Event tables

Position discontinuity events type no (0)
APV-I discontinuity events type long
APV-35m discontinuity events type long
LPV-200 discontinuity events type long
CAT-I discontinuity events type nothing

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	373202	1.92463	11.9174	0.161497	1.55579	14.0502	0.110731
max normVer	376260	1.0967	9.11101	0.120371	3.66893	21.7672	0.168553
max HPE	381972	4.92859	145.228	0.0339369	2.32976	64.2735	0.0362475
max VPE	376260	1.0967	9.11101	0.120371	3.66893	21.7672	0.168553
min HPL	376226	1.30522	8.6581	0.150751	2.79998	20.53	0.136385
min VPL	381066	0.828705	12.4372	0.0666312	-0.479534	12.8935	0.0371919

APV-I discontinuity events :

#	Epoch	duration	stable period
1	373303	161	510
2	373970	297	506
3	378760	77	4493

4	378868	52	1
5	379103	512	132
6	380009	113	394
7	381966	144	1844

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	373303	161	510
2	373970	297	506
3	378608	364	4341
4	379103	512	131
5	380009	113	394
6	381966	144	1844
7	387093	1102	2
8	388255	40	1

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	373303	161	510
2	373970	297	506
3	378608	364	4341
4	379103	512	131
5	380009	113	394
6	381966	144	1844
7	387093	1102	2
8	388255	40	1

First Glance analysis

Duration	18856
Number of Samples	18856
Number of invalid sample	361
Number of no position solution samples	0
Number of missing sample	0
Logging Loss	0
Processing Loss	1.9145
Number of Misleading Information	0
Data gaps	0
Discontinuities	0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
18495	17116	15627	0	15627

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.83012	1.82719	1.7905	NaN	1.7905

HPEScale 95%	NaN	4.32502	4.38151	NaN	4.38151
VPE 95%	2.28324	2.26953	2.30143	NaN	2.30143
VPEscale 95%	NaN	5.61525	3.99731	NaN	3.99731

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.925439	0.844931	0	0.844931
measurements	0.980855	0.907722	0.828755	0	0.828755
Operational	0.980855	0.907722	0.828755	0	0.828755

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	26	75	--	75
Long	--	7	8	--	8
Independent	--	6	6	--	6
P(disc.)	NaN	0.00525824	0.00575926	NaN	0.00575926
P(slide)	NaN	0.00759523	0.0151661	NaN	0.0151661

Integrity events :

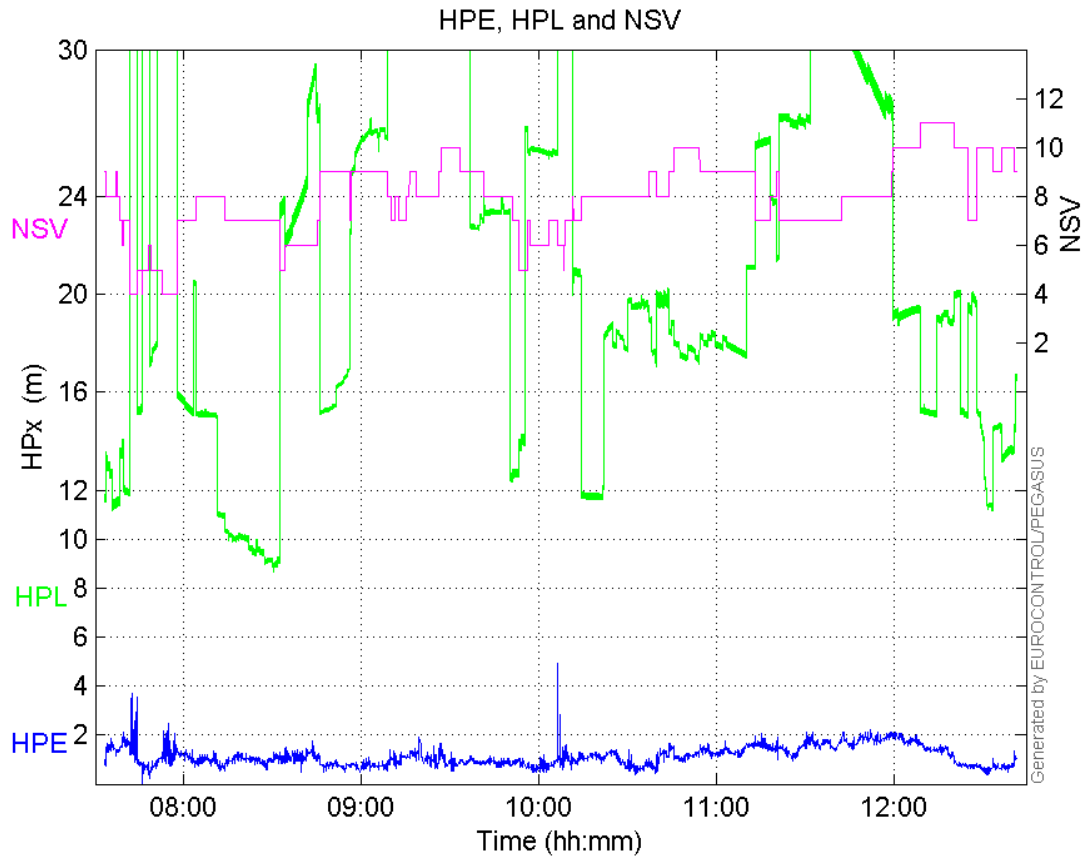
	MI	HMI APV-1	HMI LPV-200	HMI CAT-1	HMI APV-35m
Total	0	0	0	0	0
Horizontal	0	0	0	0	0
Vertical	0	0	0	0	0

Performance Summary :

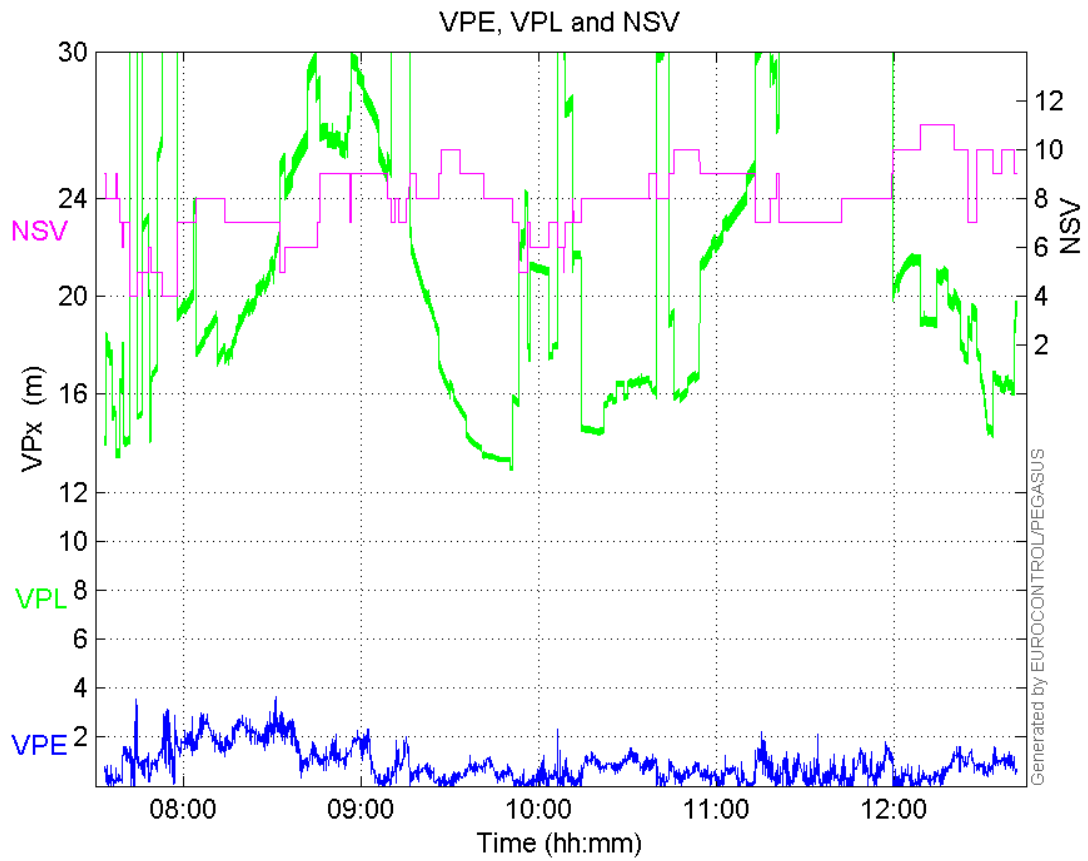
	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	18495	17116	15627	0	15627
SIS Availability	1	0.925439	0.844931	0	0.844931
Local Availability	0.980855	0.907722	0.828755	0	0.828755
Operational Availability	0.980855	0.907722	0.828755	0	0.828755
HPE 95%	1.83012	1.82719	1.7905	NaN	1.7905
HPEScale 95%	NaN	4.32502	4.38151	NaN	4.38151
VPE 95%	2.28324	2.26953	2.30143	NaN	2.30143
VPEscale 95%	NaN	5.61525	3.99731	NaN	3.99731
All Discontinuity Events	--	26	75	--	75
Long Discontinuity Events	--	7	8	--	8
Independent Discontinuity Events	--	6	6	--	6
P(discontinuity)	NaN	0.00525824	0.00575926	NaN	0.00575926
P(sliding window)	NaN	0.00759523	0.0151661	NaN	0.0151661
All Integrity Events	0	0	0	0	0
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

Time Series

HPE, HPL and NSV:

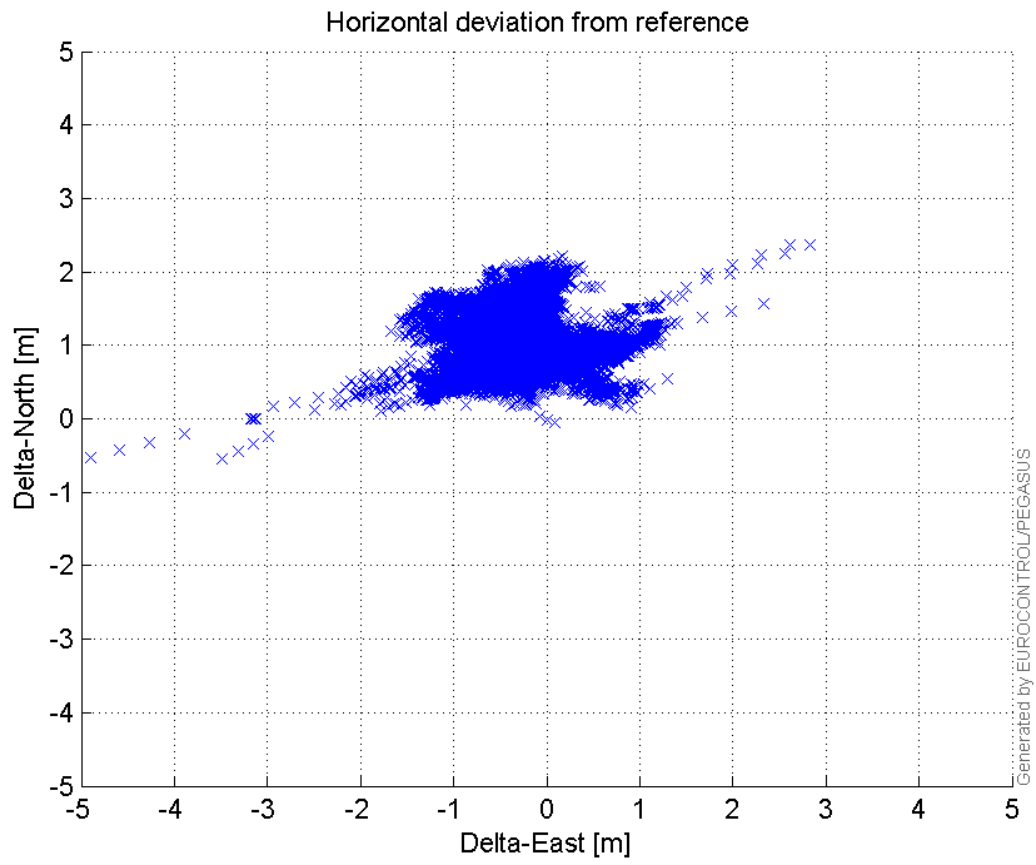


VPE, VPL and NSV:



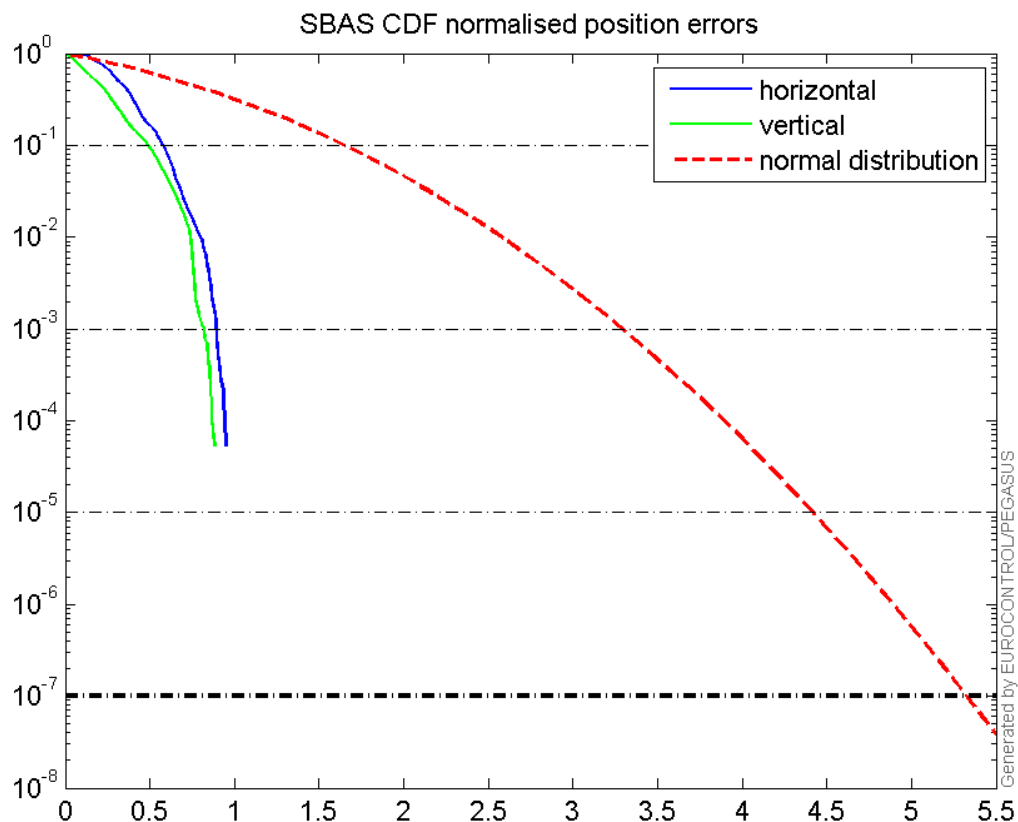
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

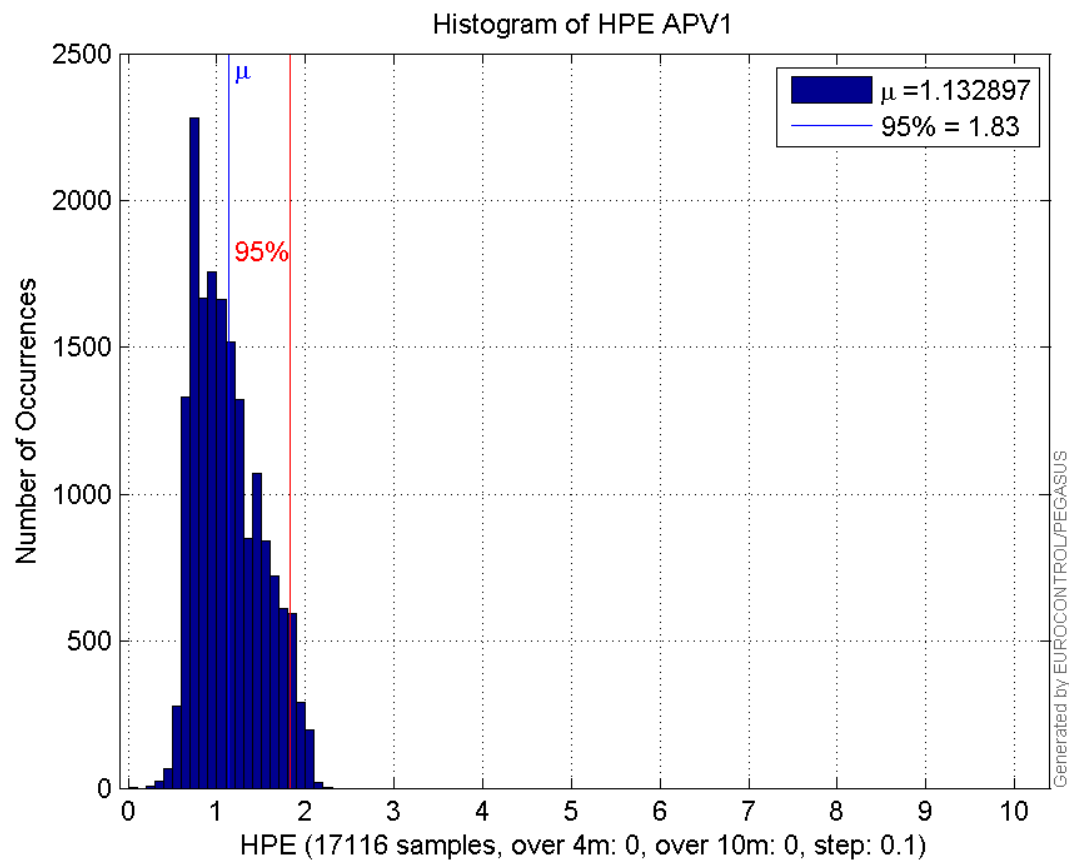
number	17116
sum	19390.664
sum2	24374.148
prctile95	1.8271885
prctile99	2.0124228
number	17116
sum	15124.735
sum2	20785.867
prctile95	2.2695273
prctile99	2.6228107
number	17116
sum	363457.3
sum2	8742188.9
prctile95	37.70692
prctile99	39.424784
number	17116
sum	389653.96
sum2	9805164.6
prctile95	38.5548
prctile99	41.005426
number	17116
sum	1018.787
sum2	72.211147
prctile95	0.1081256
prctile99	0.13446224
number	17116

sum 735.17538
sum2 51.03951
prctile95 0.11230496
prctile99 0.13892145
number 15627
sum 17002.981
sum2 20419.786
prctile95 1.790496
prctile99 2.0021979
number 15627
sum 14259.665
sum2 19997.974
prctile95 2.3014253
prctile99 2.6315197
number 15627
sum 313870.5
sum2 7073699.4
prctile95 34.794635
prctile99 39.250069
number 15627
sum 331780.99
sum2 7547719.1
prctile95 32.9702
prctile99 34.44093
number 15627
sum 945.39298
sum2 68.367668
prctile95 0.10953771
prctile99 0.13535601
number 15627
sum 712.81543
sum2 50.512879
prctile95 0.1142089
prctile99 0.13921523

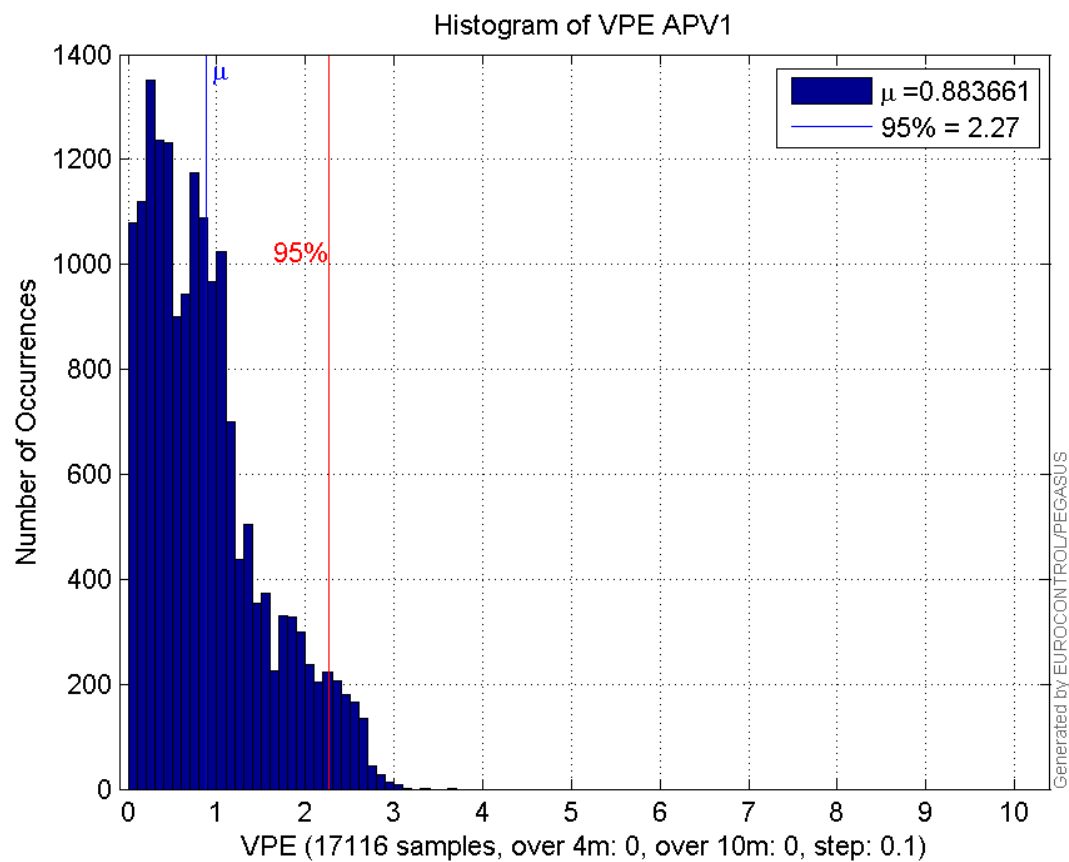
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.1329	0.374979	1.0683	1.82719	2.01242	1.19334
HPL	21.2349	7.73575	19.3997	37.7069	39.4248	22.6
VPE	0.883661	0.658469	0.7603	2.26953	2.62281	1.102
VPL	22.7655	7.38928	20.9573	38.5548	41.0054	23.9346

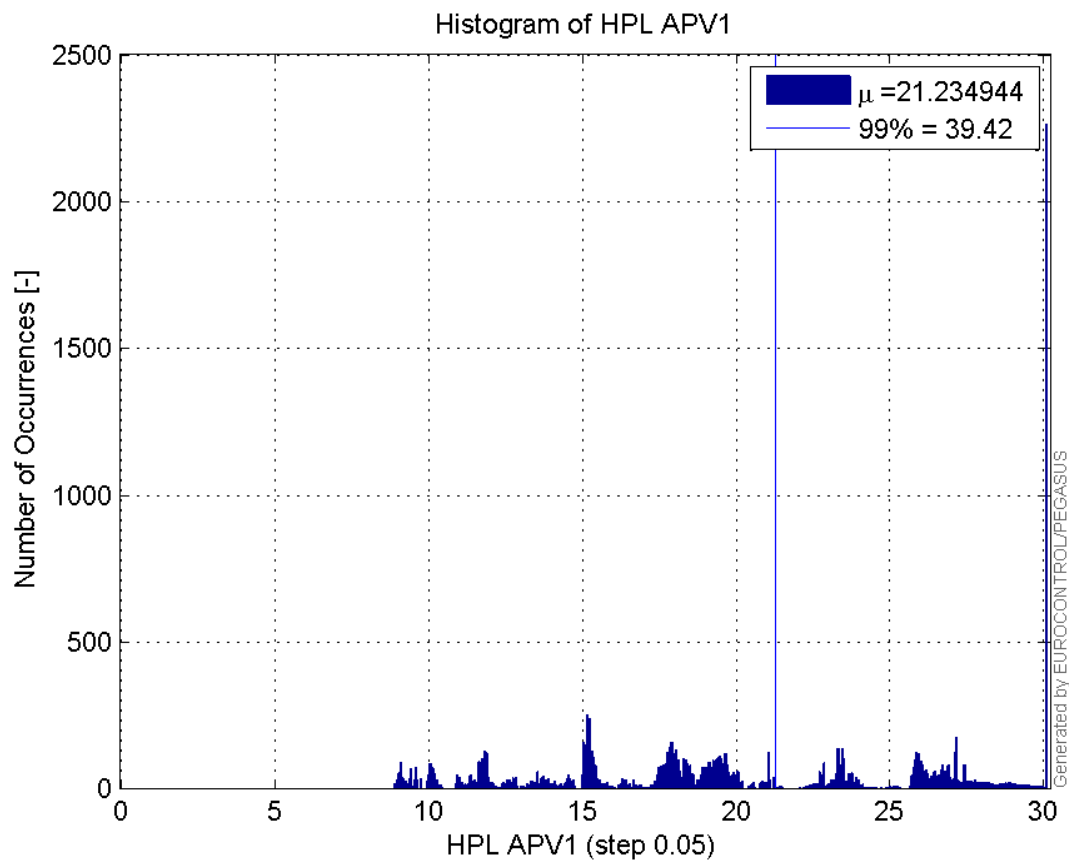
Histogram of HPE APV1:



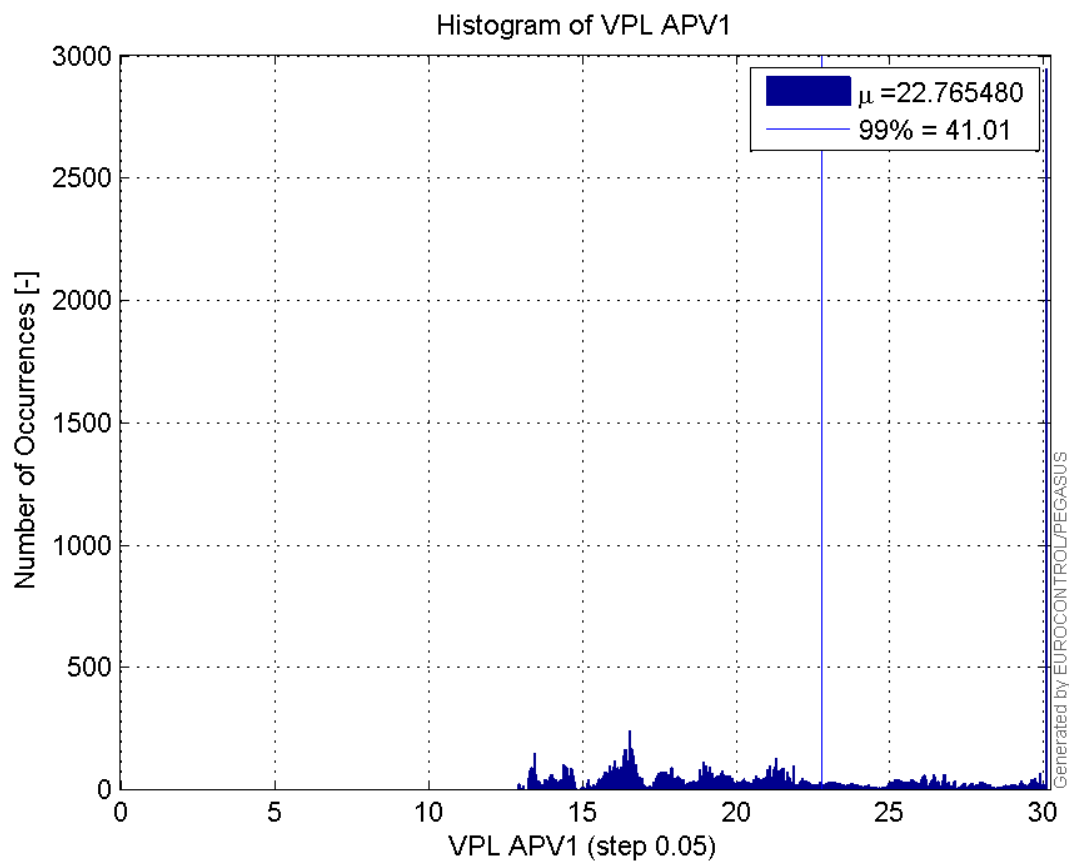
Histogram of VPE APV1:



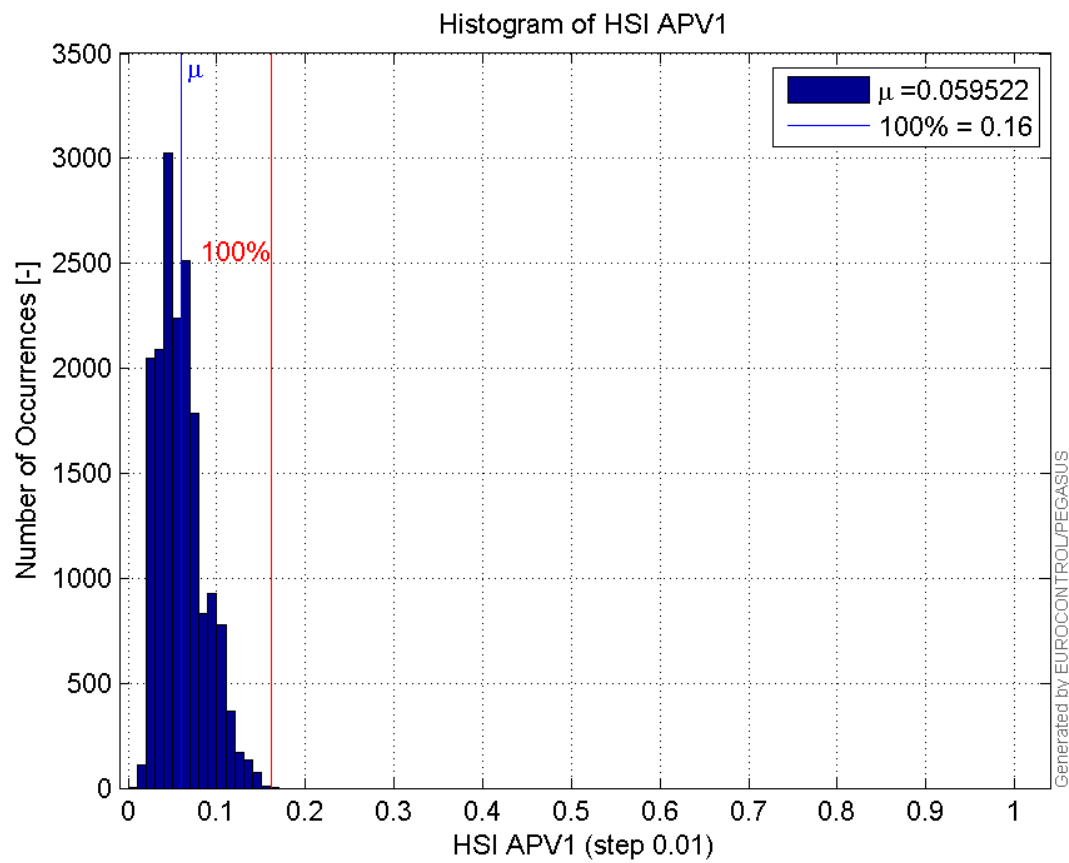
Histogram of HPL APV1:



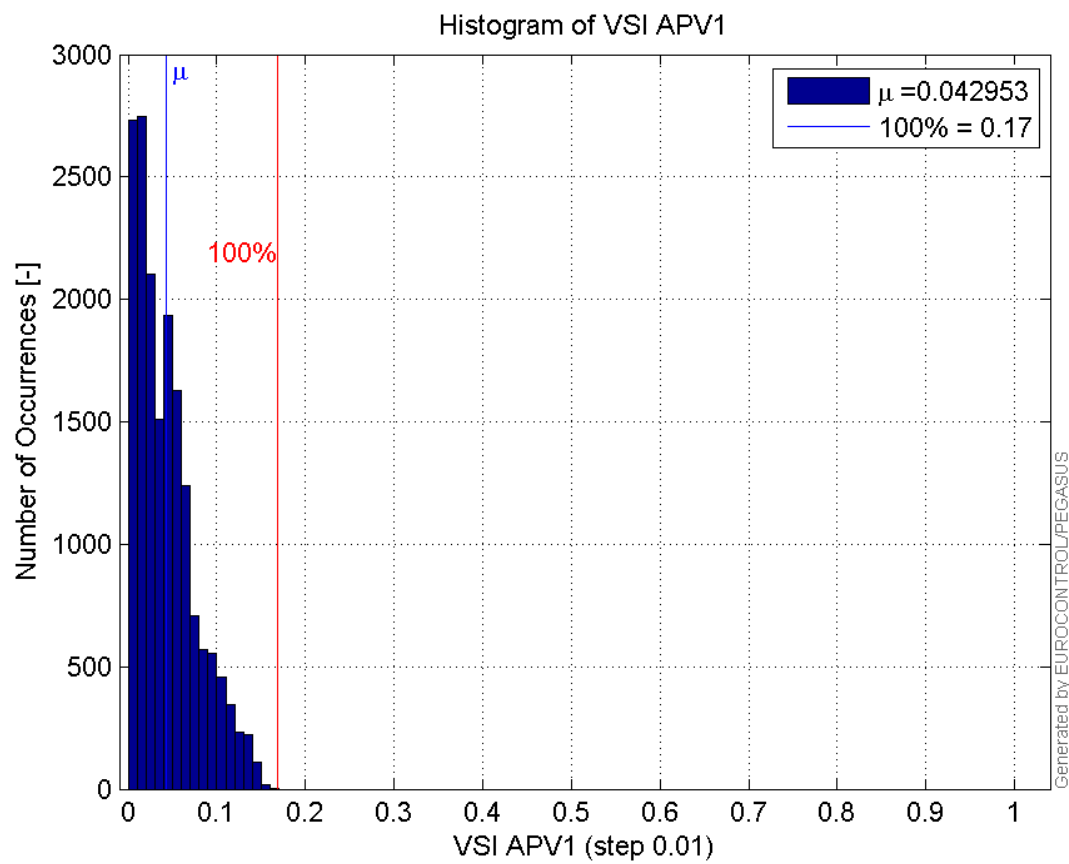
Histogram of VPL APV1:



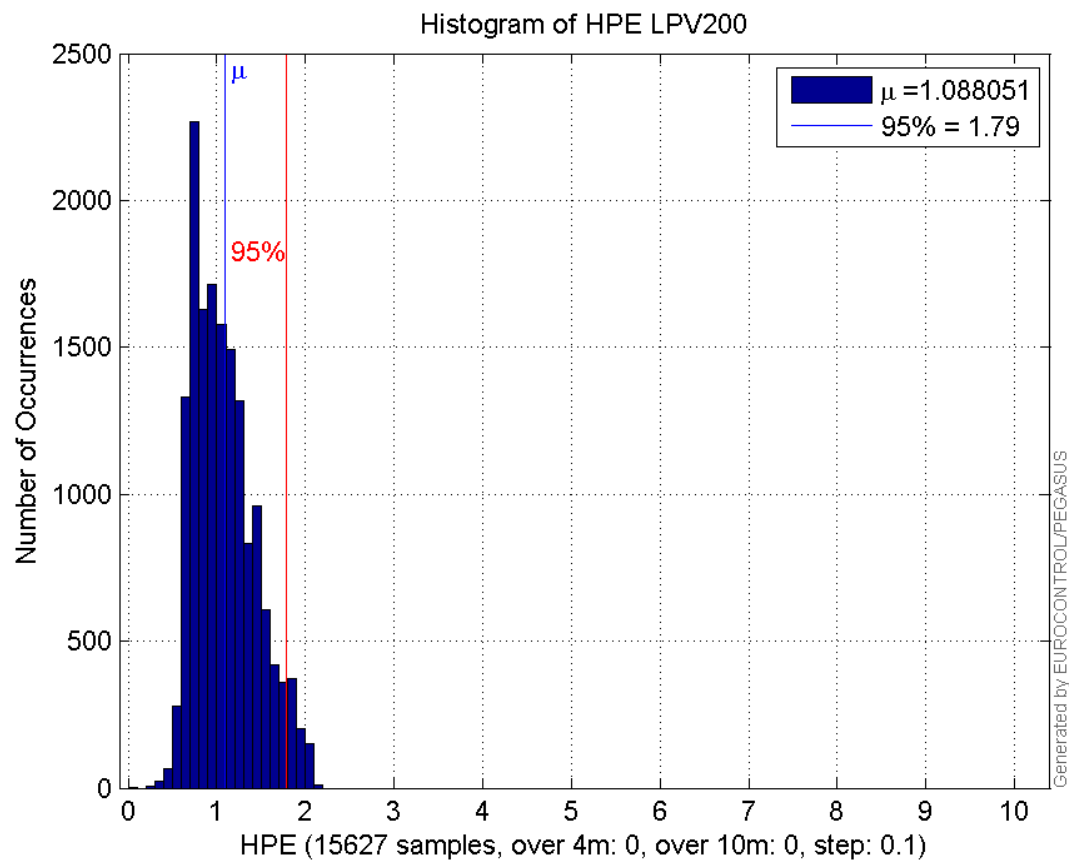
Histogram of HSI APV1:



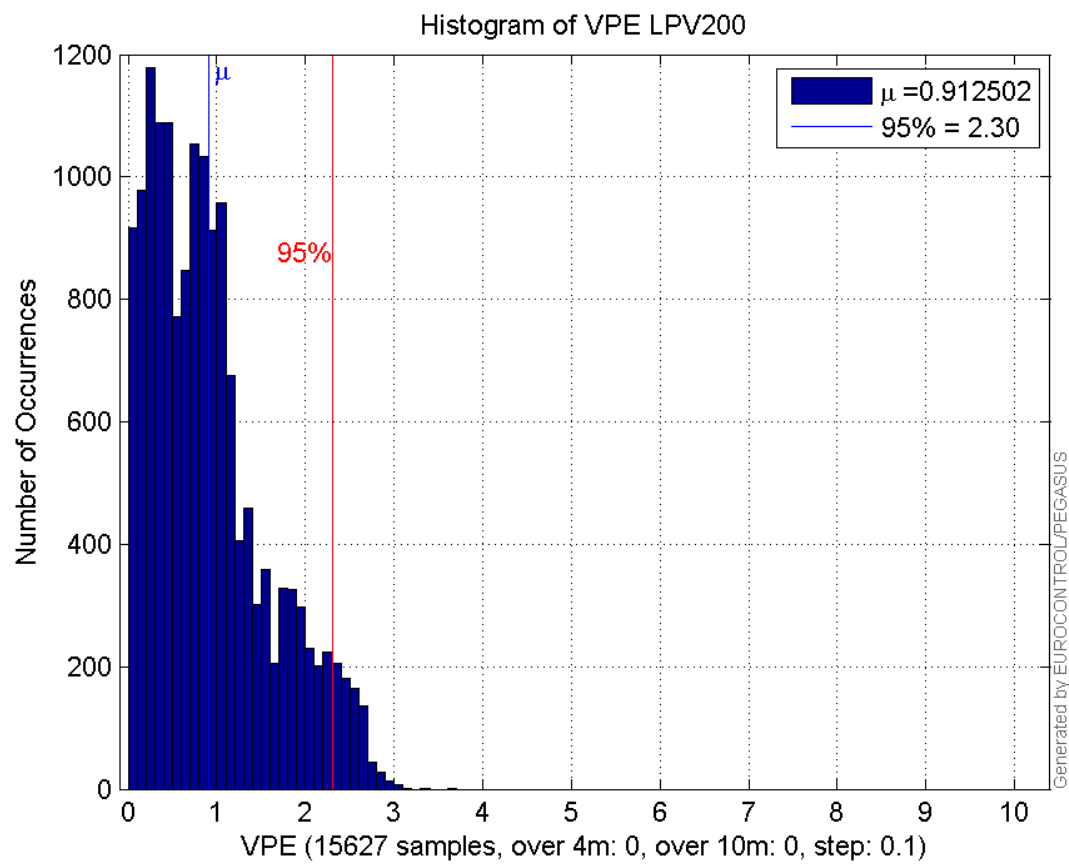
Histogram of VSI APV1:



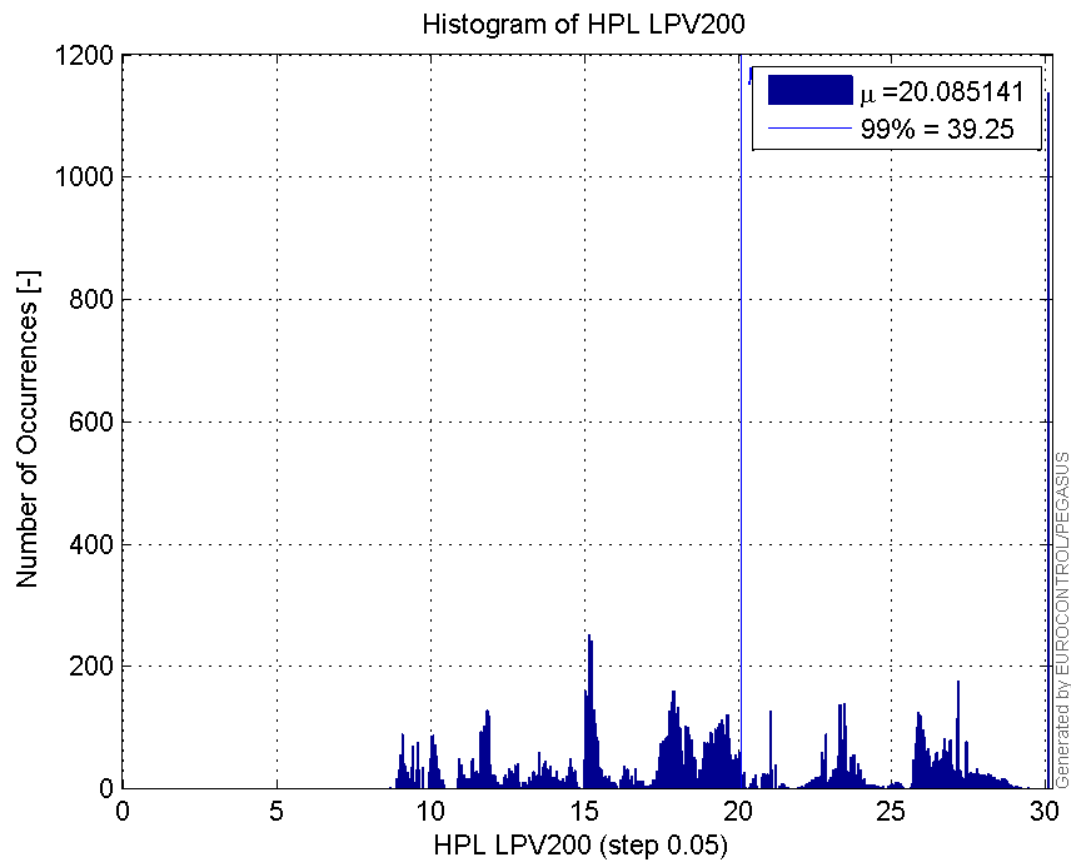
Histogram of HPE LPV200:



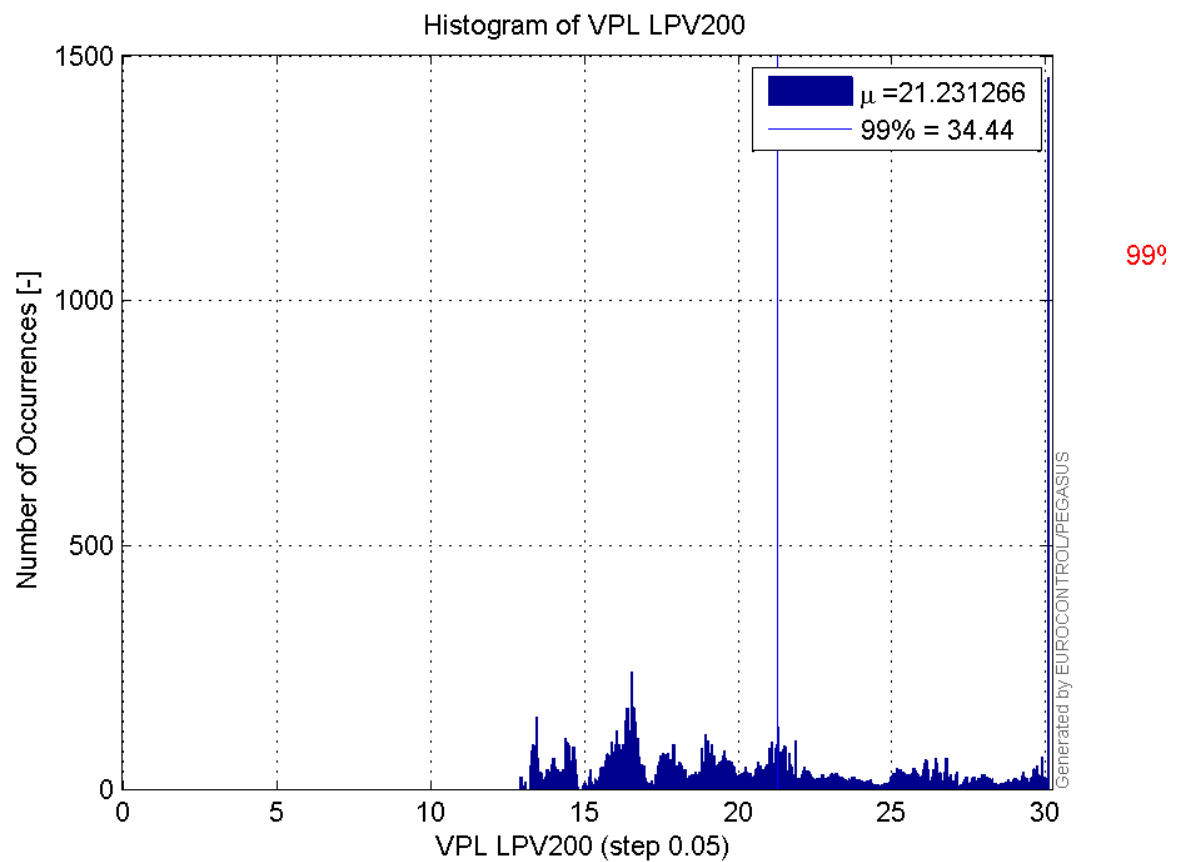
Histogram of VPE LPV200:



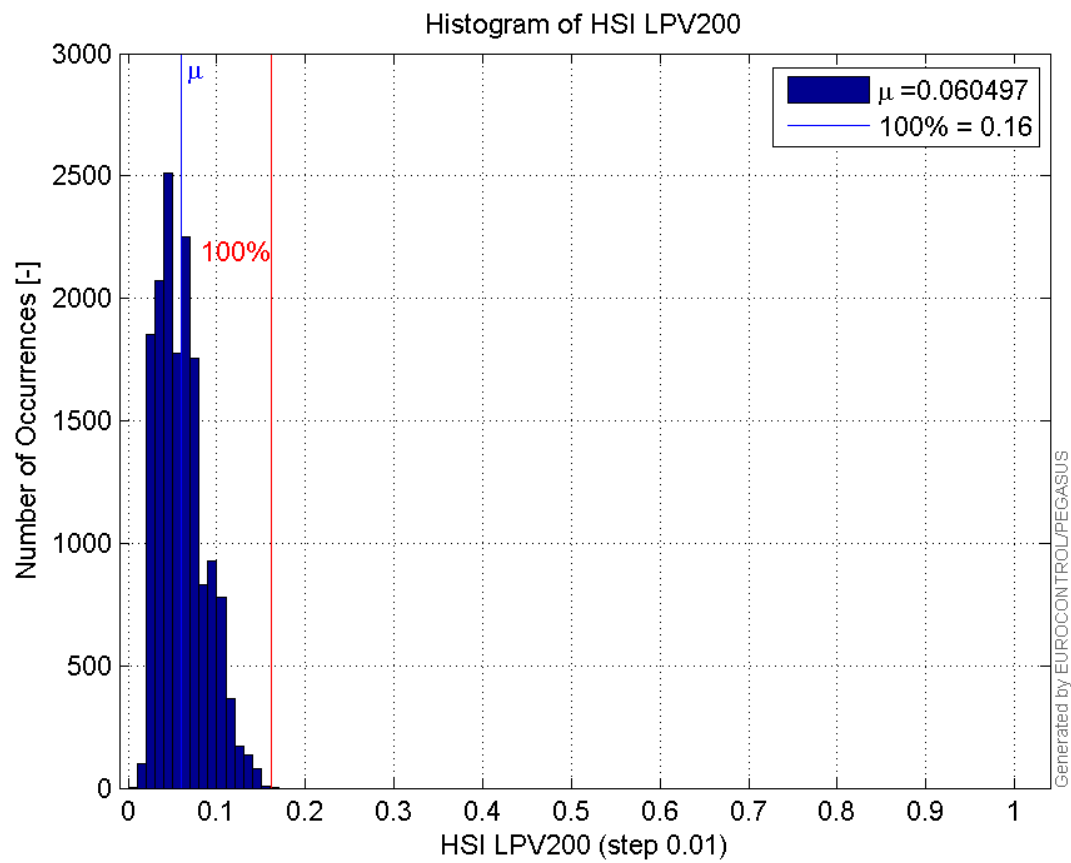
Histogram of HPL LPV200:



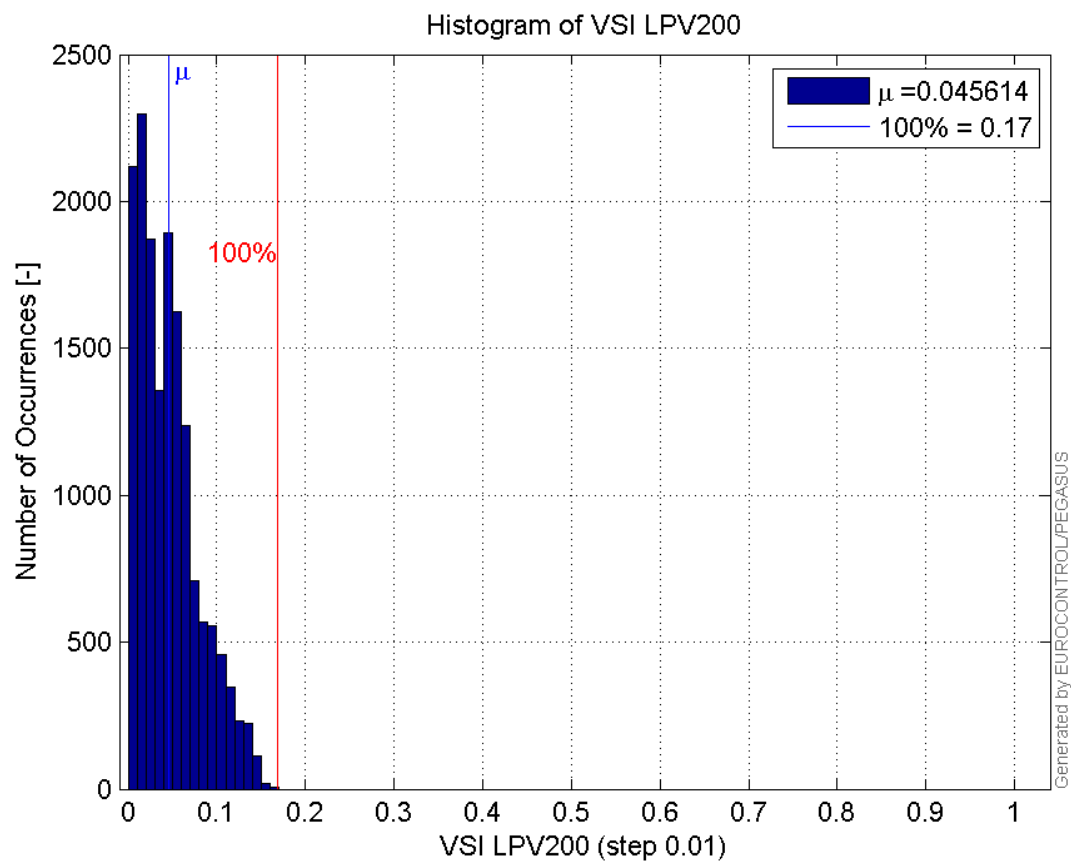
Histogram of VPL LPV200:



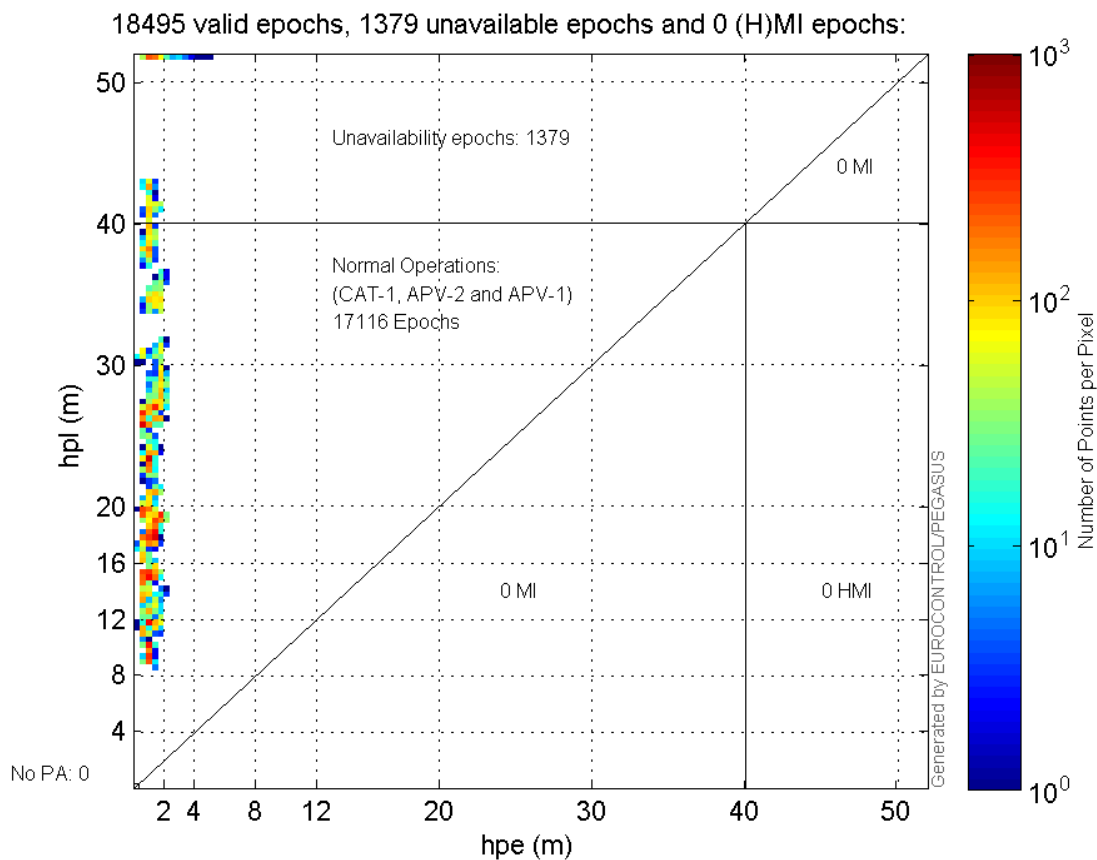
Histogram of HSI LPV200:



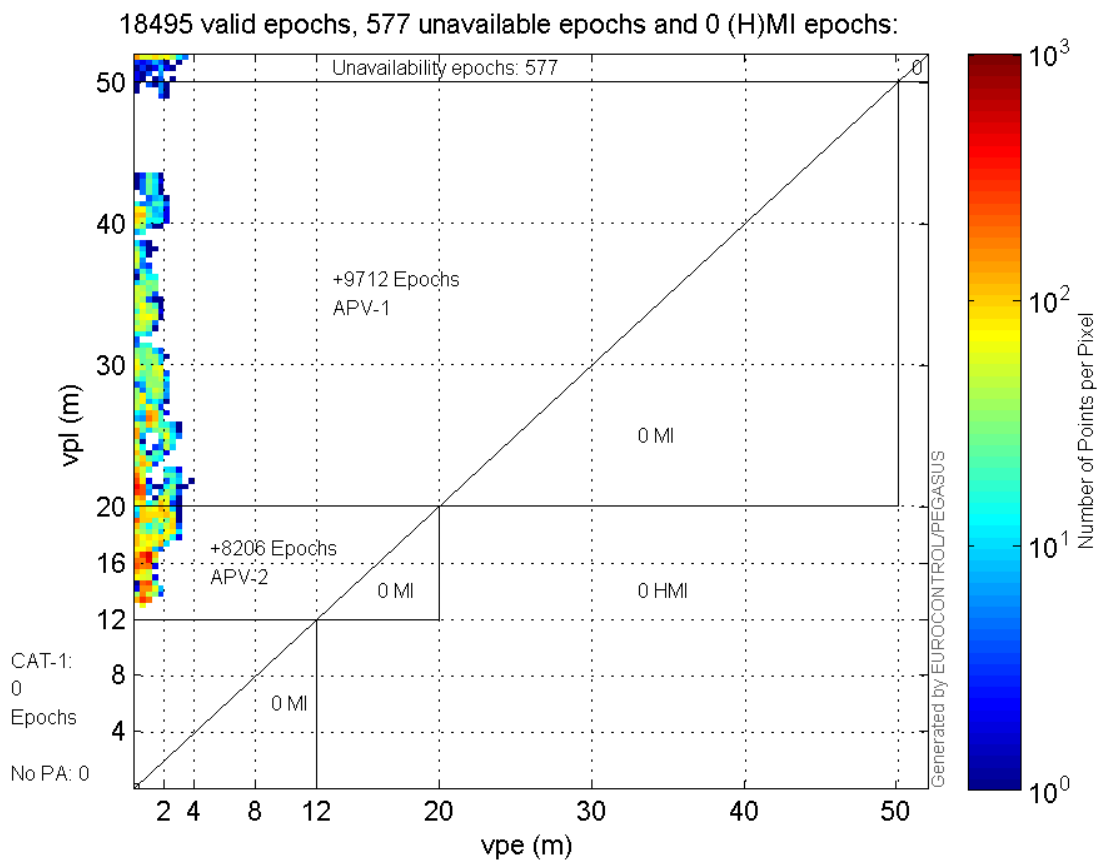
Histogram of VSI LPV200:



Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.2.1
input_prefix	system	D:/PegasusDateGob/job/2015_12_10EgLB/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_12_10EgLB/03_GNSS_Solution/03_GNSS_Solution_sol

settings

Name	Section	Value
ref_lat	settings	50.439
ref_lon	settings	30.4297
ref_alt	settings	215.271
smoothing	settings	yes
smoothing_constant	settings	100
smoothing_max_gap	settings	10
smoothing_max_divergence	settings	3
min_elevation	settings	5
aad_model	settings	a
output_range_file	settings	yes
sbas_prn	settings	120
gnss_mode	settings	sbas

results

Name	Section	Value
init_lat	results	50.439
init_lon	results	30.4297
init_alt	results	223.6552
mi_numbers	results	0

SBAS Messages

start: 07:27:12.129 10.12.2015 (week: 1874 sec: 372432.129)
end: 12:41:27.129 10.12.2015 (week: 1874 sec: 391287.129)
duration: 05:14:15 ..

quality

valid samples 37712
total samples 37712
number of SBAS PRNs 2

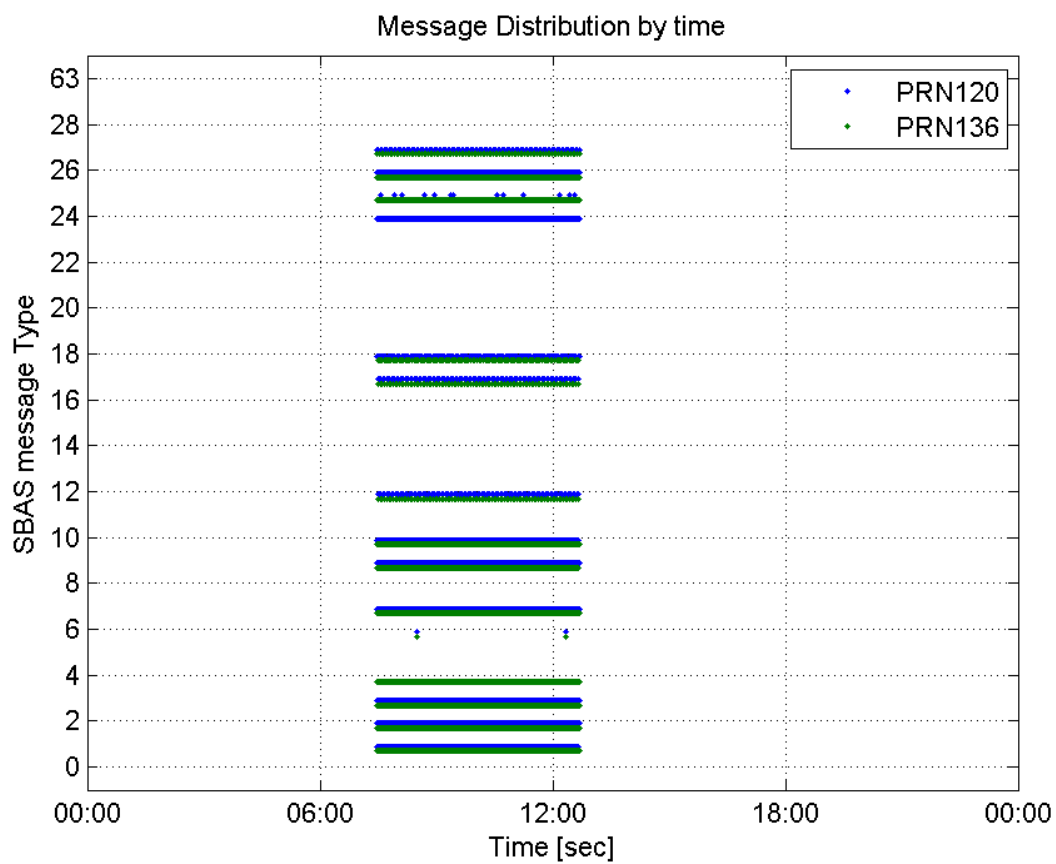
SBAS SIS Overview

Message Type 6 repetitions :

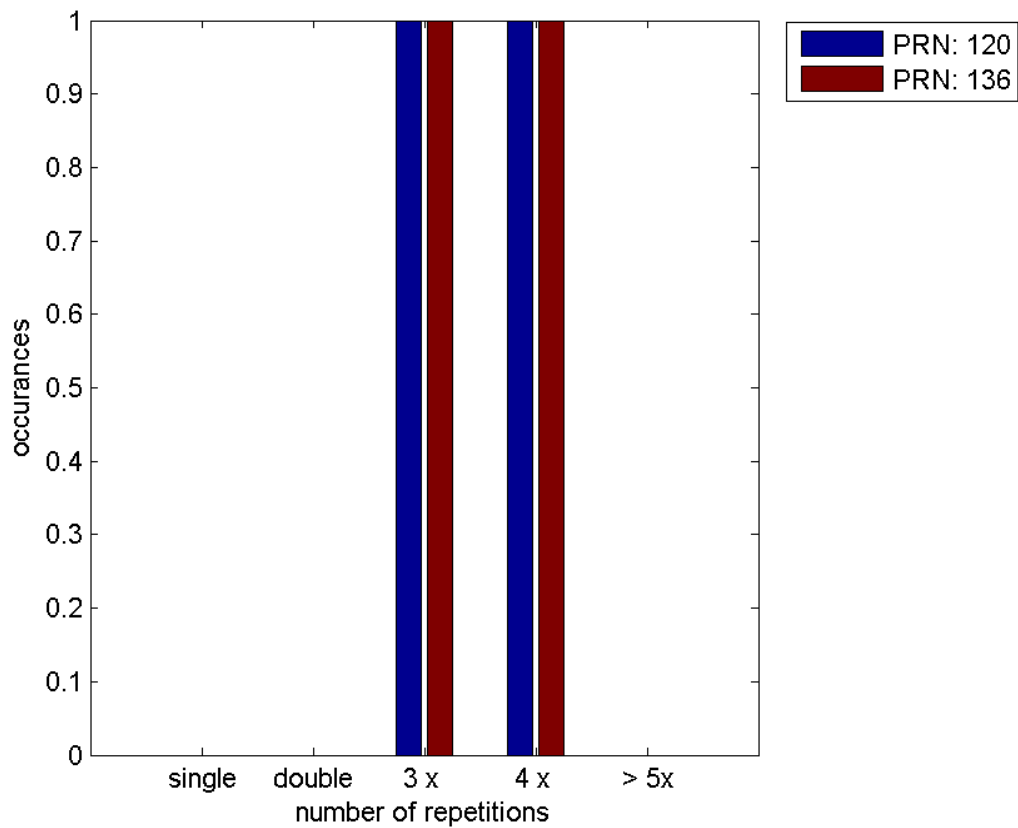
	single	double	3 x	4 x	> 5x

PRN 120	0	0	1	1	0
PRN 136	0	0	1	1	0

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

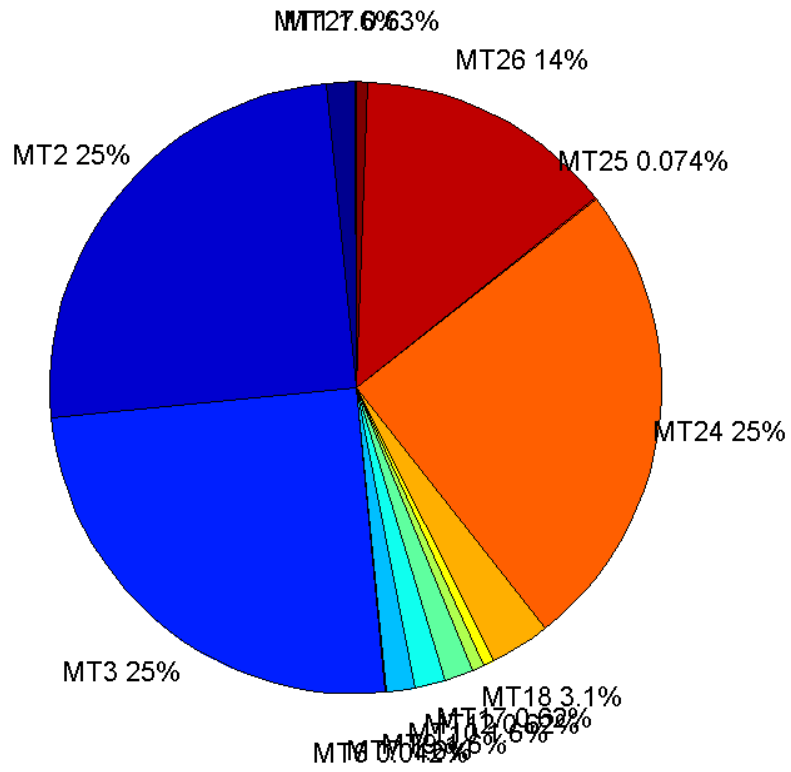
	number of messages	%
MT 0	0	0
MT 1	294	1.55919
MT 2	4711	24.9841
MT 3	4711	24.9841
MT 4	0	0
MT 5	0	0
MT 6	8	0.0424268
MT 7	294	1.55919
MT 9	294	1.55919
MT 10	293	1.55388
MT 12	117	0.620492
MT 17	117	0.620492
MT 18	586	3.10776
MT 24	4710	24.9788
MT 25	14	0.0742469
MT 26	2589	13.7304
MT 27	118	0.625796
MT 28	0	0
MT 62	0	0
MT 63	0	0

Total	18856	100
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Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	68	64.1706	0	0	0
MT 2	4	7	4.00297	2	0	0
MT 3	4	7	4.00297	2	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	13785	1970.14	1	1	1
MT 7	64	68	64.1706	0	0	0
MT 9	64	68	64.1843	0	0	0
MT 10	64	68	64.1849	0	0	0
MT 12	156	167	160.362	116	0	0
MT 17	156	171	160.362	0	0	0
MT 18	4	139	32.0718	0	0	0
MT 24	4	7	4.00297	0	0	0
MT 25	9	4106	1387.46	0	0	0
MT 26	4	35	7.28053	0	0	0
MT 27	156	168	160.359	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

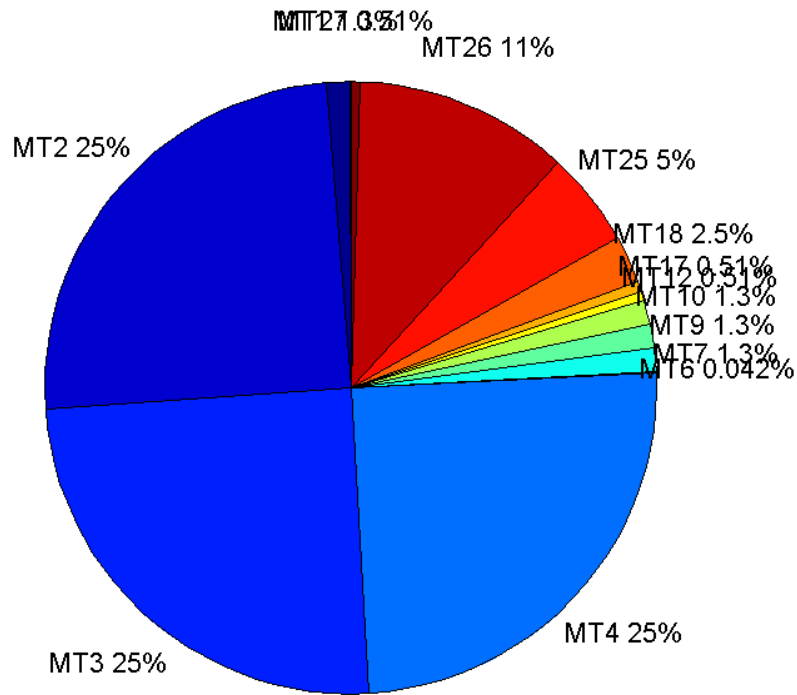
	number of messages	%
MT 0	0	0
MT 1	237	1.25689
MT 2	4685	24.8462
MT 3	4685	24.8462
MT 4	4684	24.8409
MT 5	0	0
MT 6	8	0.0424268
MT 7	237	1.25689
MT 9	237	1.25689
MT 10	237	1.25689
MT 12	96	0.509122
MT 17	96	0.509122
MT 18	480	2.54561
MT 24	0	0
MT 25	947	5.02227
MT 26	2130	11.2961
MT 27	97	0.514425
MT 28	0	0
MT 62	0	0
MT 63	0	0

Total	18856	100
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Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	84	79.6525	0	0	0
MT 2	4	8	4.02498	2	0	0
MT 3	4	8	4.02477	2	0	0
MT 4	4	8	4.02498	2	0	0
MT 5	--	--	--	--	--	--
MT 6	1	13785	1970.14	1	1	1
MT 7	76	81	79.6483	0	0	0
MT 9	76	81	79.5678	0	0	0
MT 10	76	81	79.5508	0	0	0
MT 12	188	201	195.211	95	0	0
MT 17	184	201	195.211	0	0	0
MT 18	4	171	38.7829	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	52	19.9091	0	0	0
MT 26	4	52	8.8558	0	0	0
MT 27	184	201	195.188	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 136:



Parameters

System

Name	Section	Value
Name	System	Convertor
Version	System	4.3
Inputfile	System	D:/PegasusDateGob/job/2015_12_10EgLB/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2015_12_10EgLB/02_Convertor/02_Convertor

Configuration

Name	Section	Value
Receiver	Configuration	Novatel OEM4
Leap_Seconds	Configuration	17
Correction_mode	Configuration	SBAS MODE 0
Dual_Frequency	Configuration	no

Range Domain

start: 07:27:12 10.12.2015 (week: 1874 sec: 372432)
end: 12:41:27 10.12.2015 (week: 1874 sec: 391287)
duration: 05:14:16 ..

quality

valid samples 18856

total samples 18856

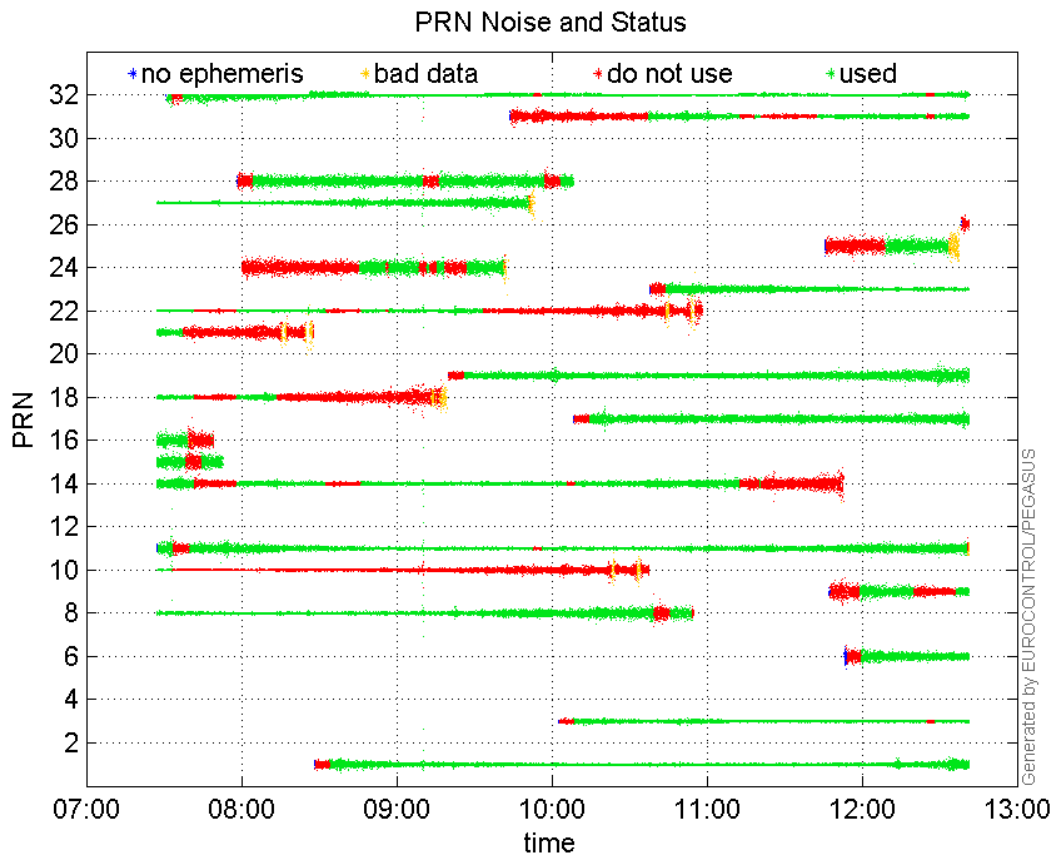
PRN overview

Number of Visible GPS Satellites 23

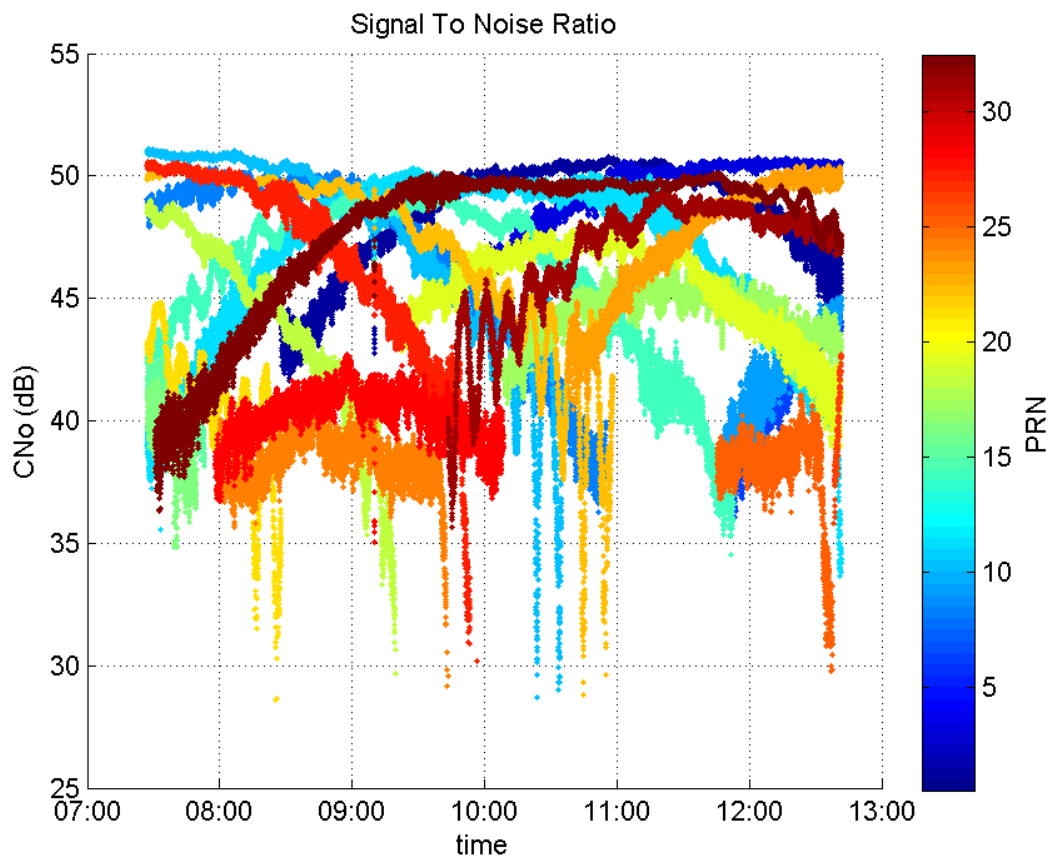
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



range errors

Number of Overbounding Norm Errors 0

Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1874	385706	1	1.02237	-1.47843	1.44609
1874	387771	3	1.47519	-2.30703	1.56389
1874	388958	6	1.12178	-2.72631	2.43033
1874	380216	8	0.869968	1.49959	1.72373
1874	389776	9	0.583305	1.51223	2.59251
1874	387031	11	0.697848	1.29574	1.85677
1874	373178	14	0.842012	2.02308	2.40267
1874	373033	15	0.302743	-1.3068	4.31653
1874	372925	16	0.195498	0.478734	2.44879
1874	388816	17	1.40831	-2.59088	1.83971
1874	372857	18	0.617405	-1.09847	1.77917
1874	384755	19	1.5047	-2.36745	1.57338
1874	372832	21	0.0227011	-0.526473	23.1916
1874	376344	22	0.593019	-0.860545	1.45113
1874	390231	23	0.765245	1.11365	1.45528
1874	378506	24	0.25037	1.71809	6.86221
1874	390790	25	0.213429	-0.738769	3.46143
1874	376798	27	1.04097	1.66192	1.5965
1874	374869	28	0.73314	1.9221	2.62174
1874	390660	31	0.323473	-1.74544	5.39593

1874

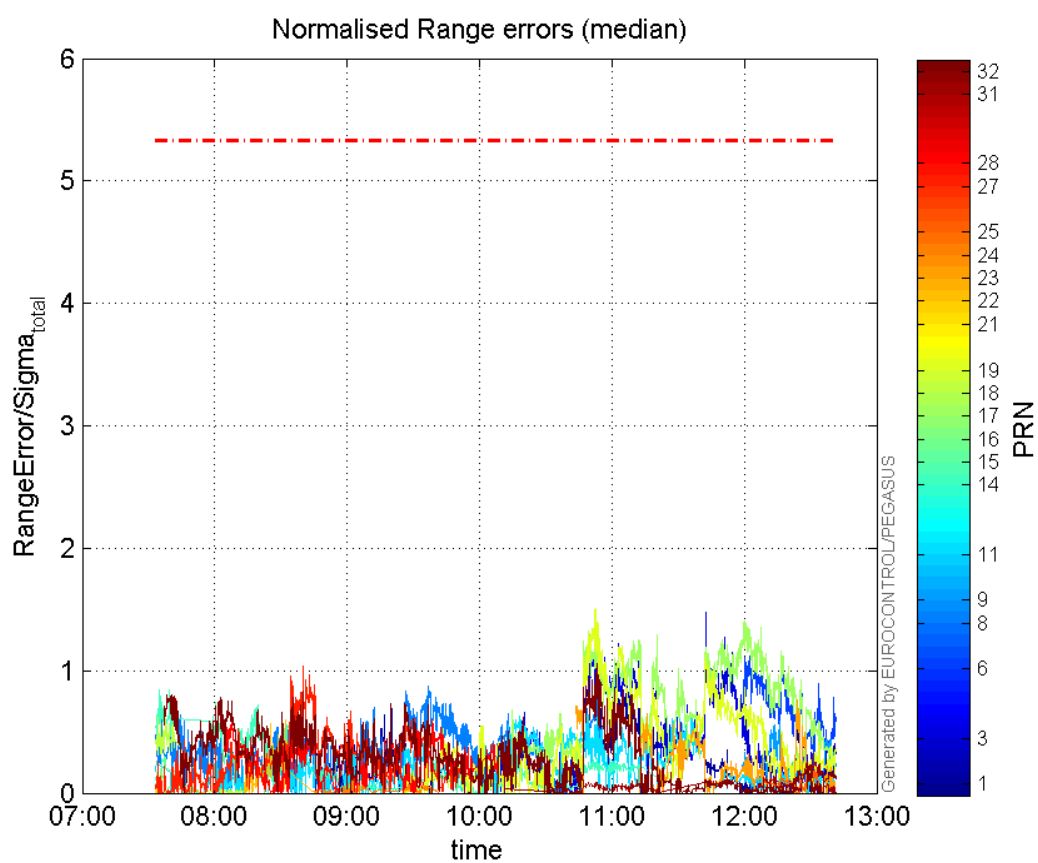
384785

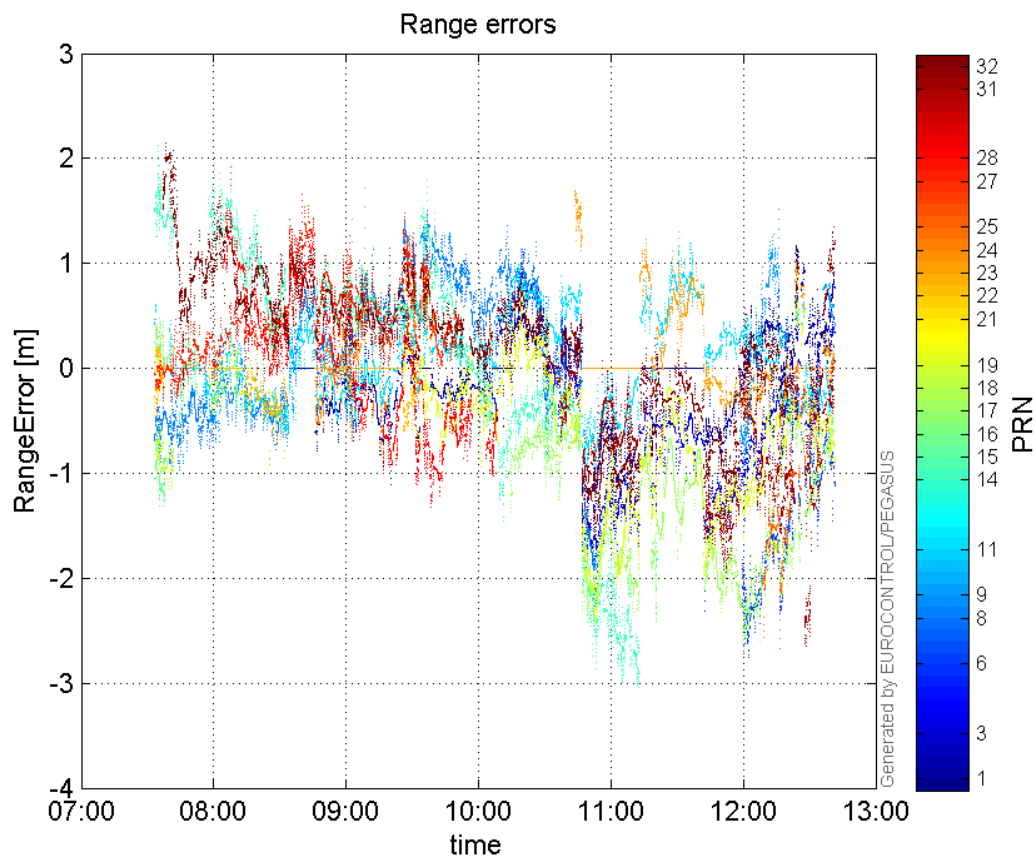
32

1.05978

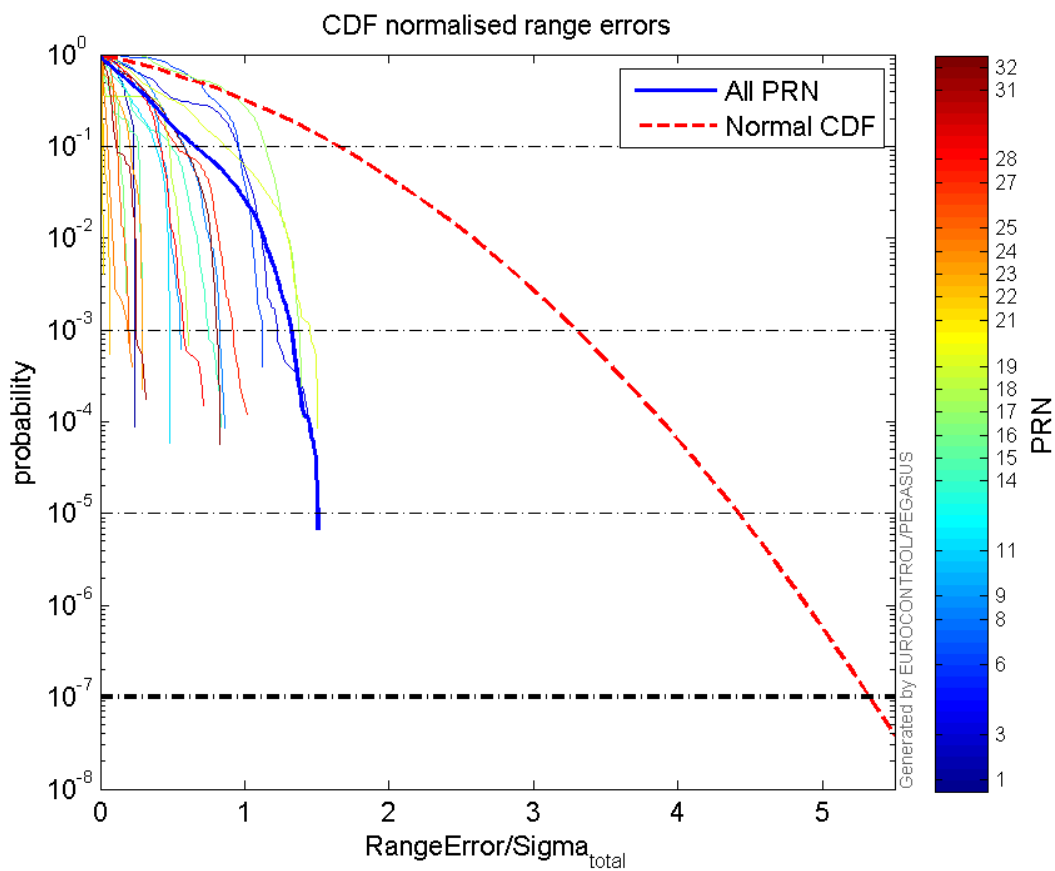
-1.617

1.52579

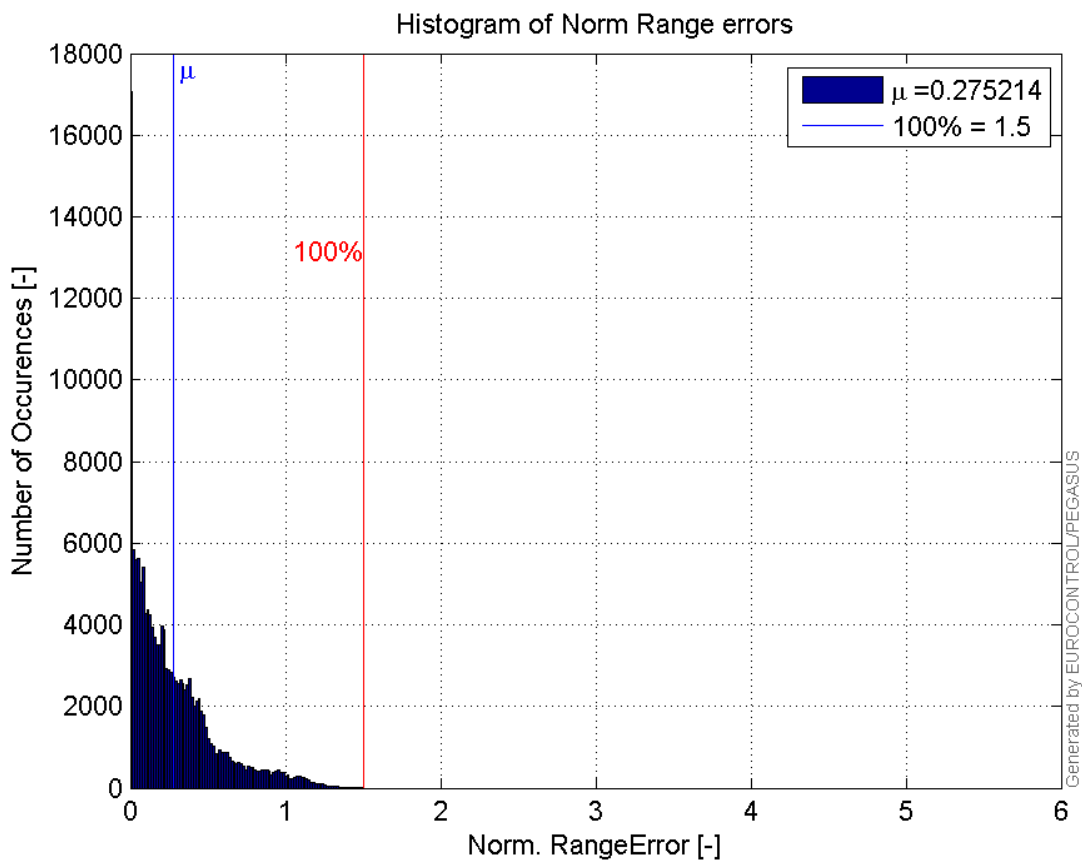
Normalised Range errors (median):**Range errors:**



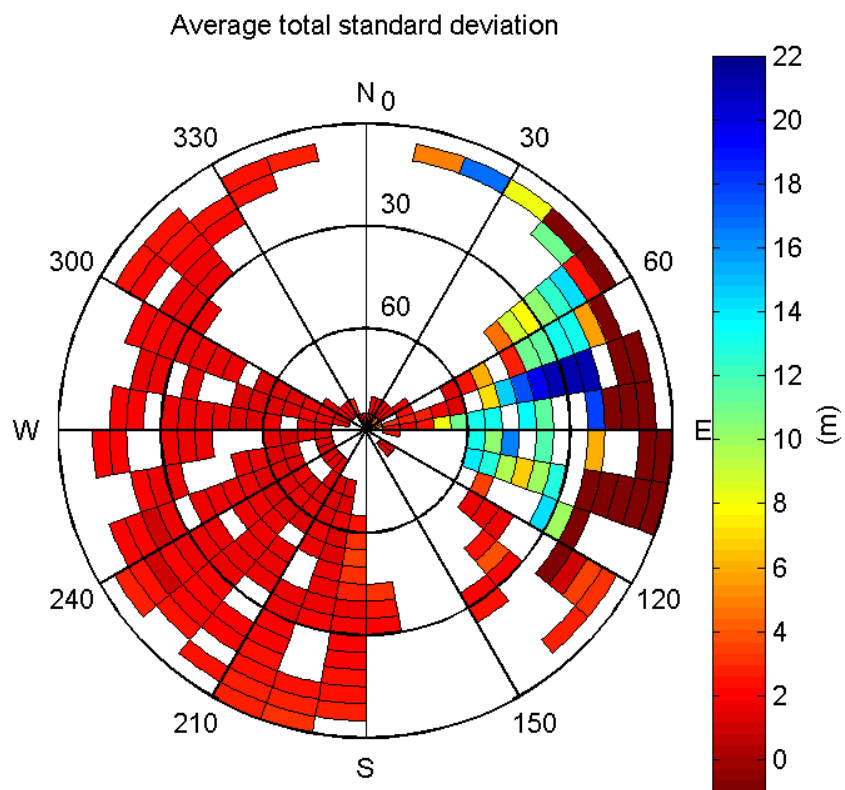
CDF normalised range errors:



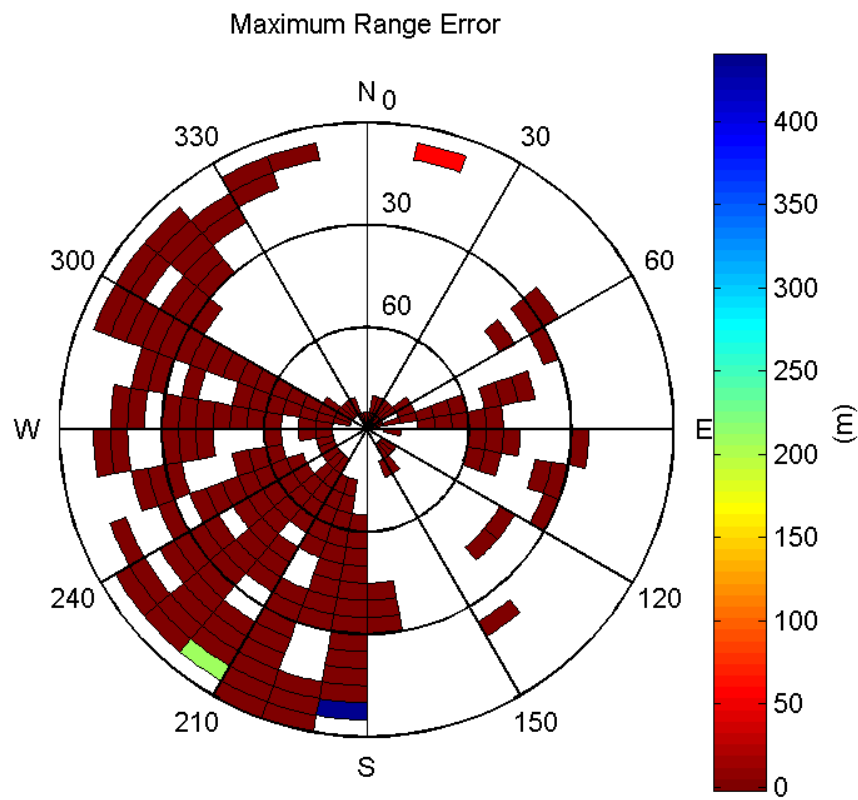
Histogram of Norm Range errors:



Sigma Sky Plot:

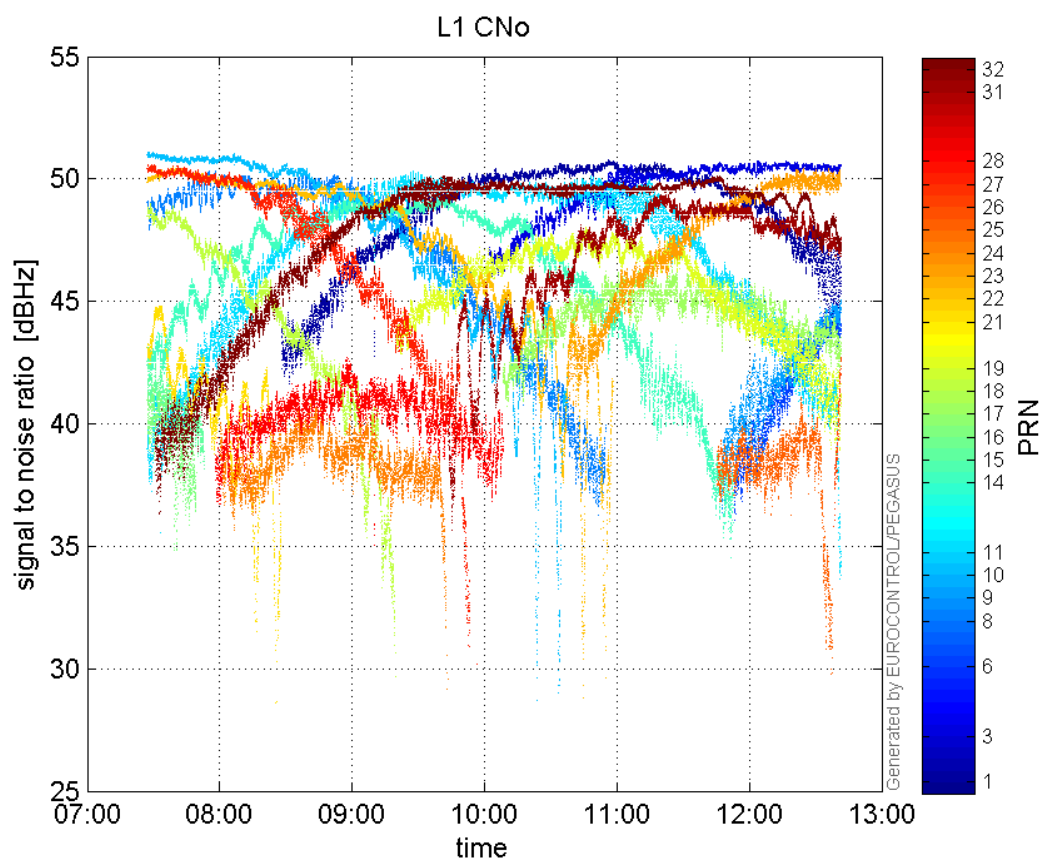


Norm Error Sky Plot:

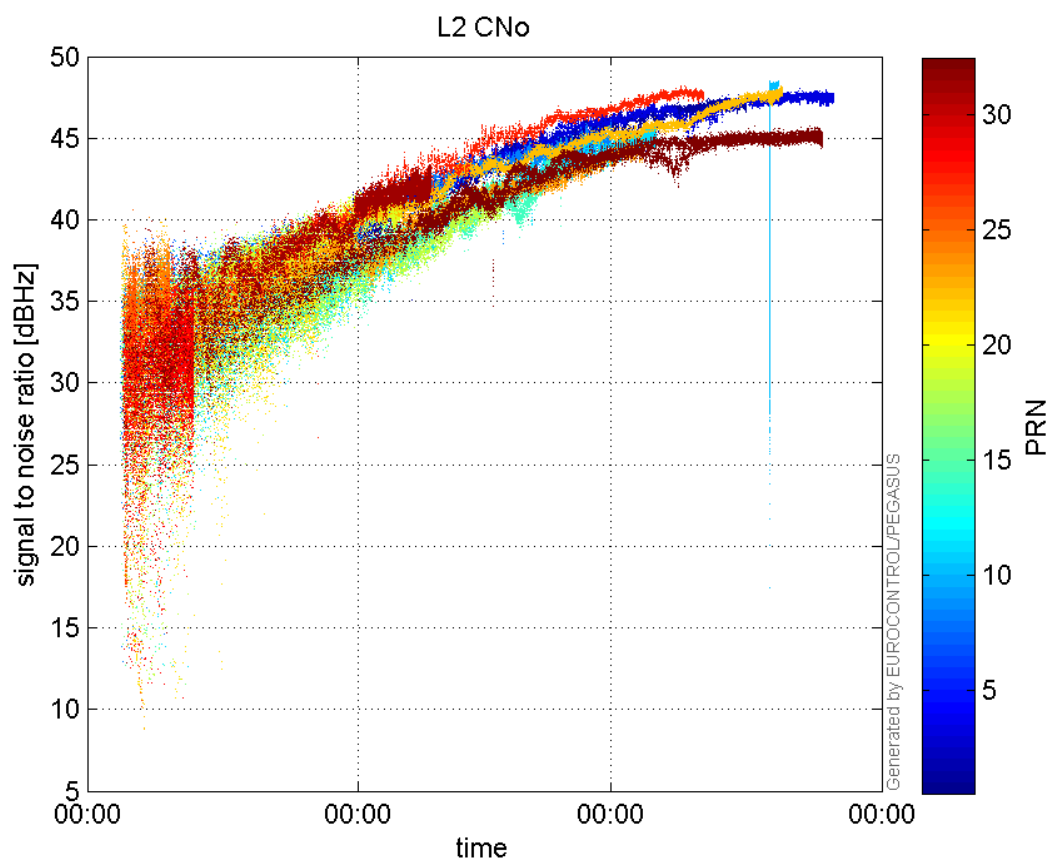


signal quality

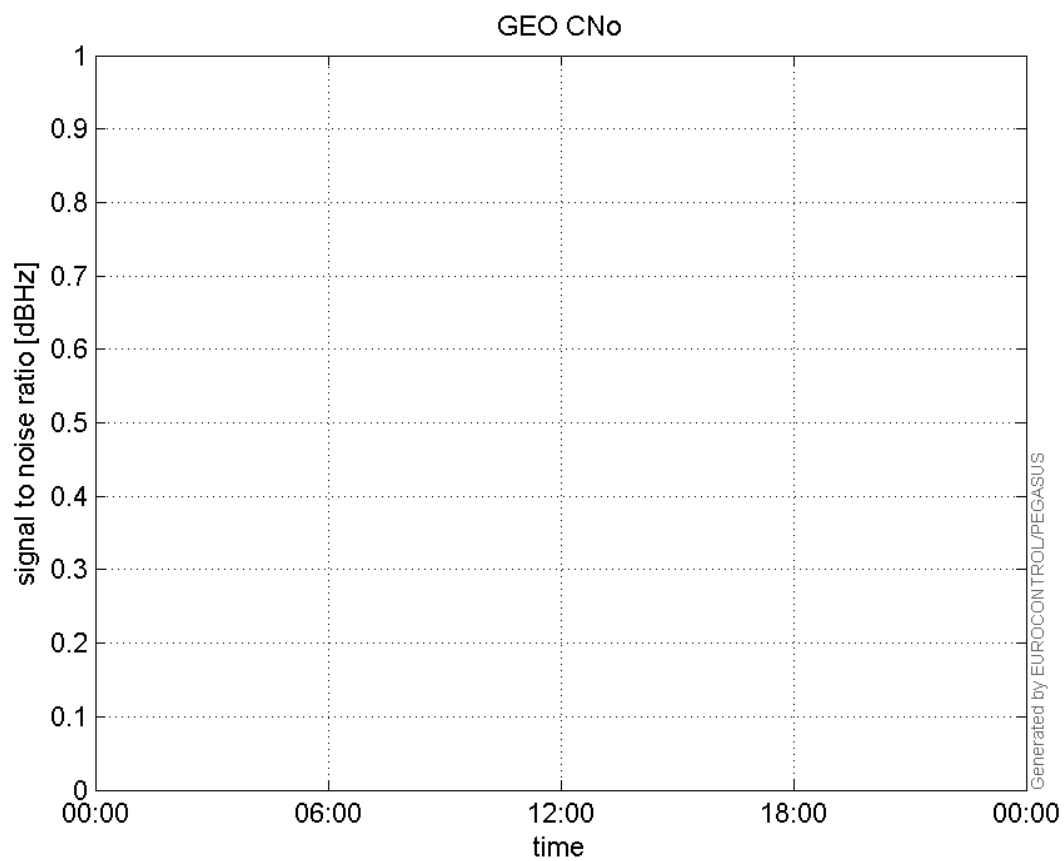
L1 CNo:



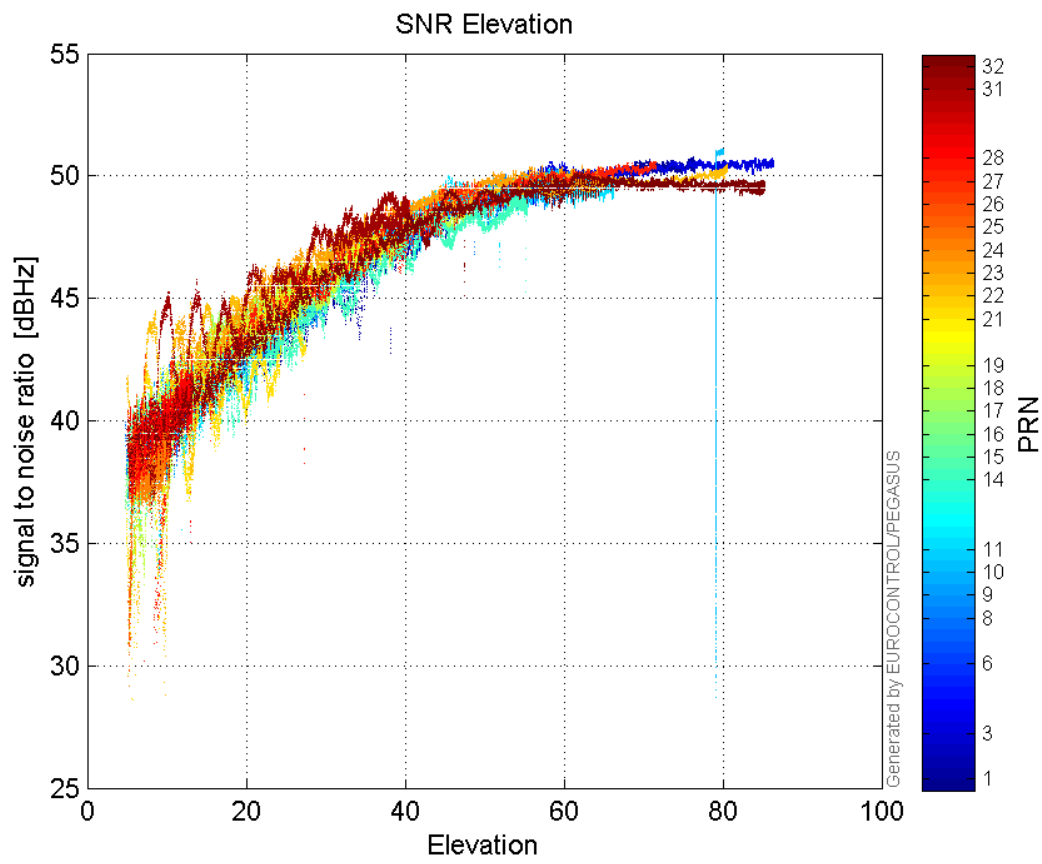
L2 CNo:



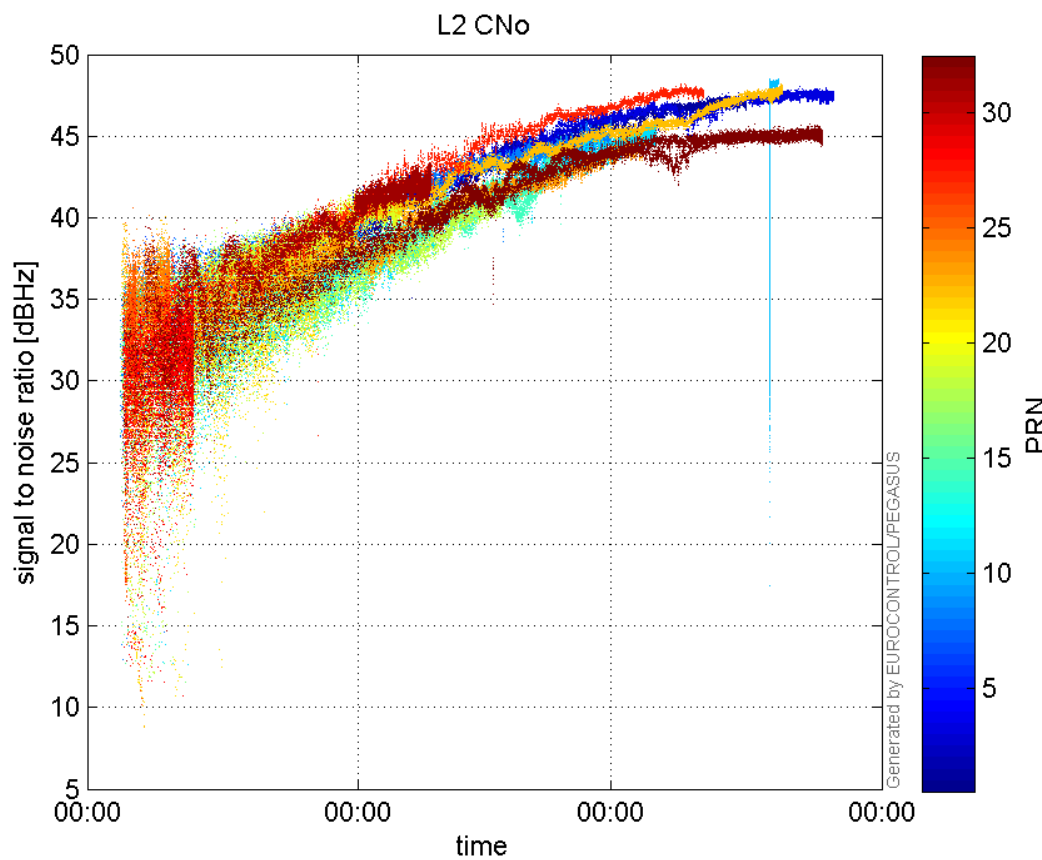
GEO CNo:



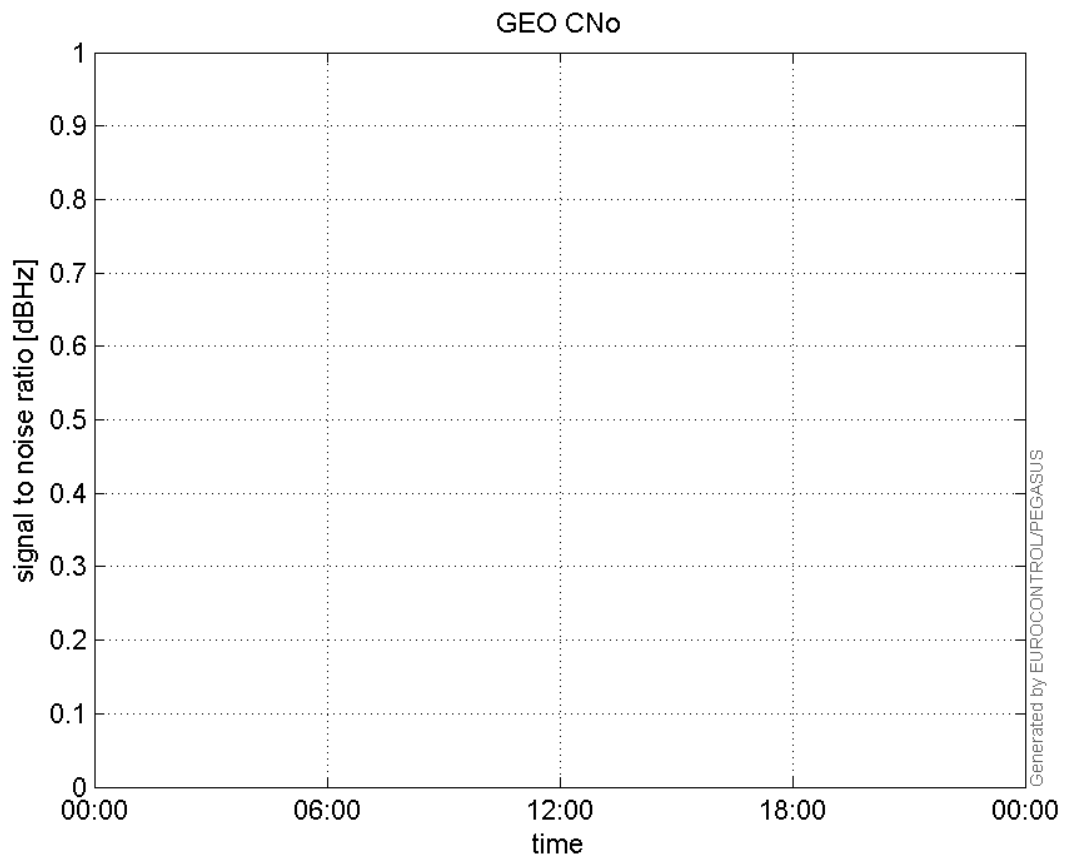
SNR Elevation:



L2 CNo:

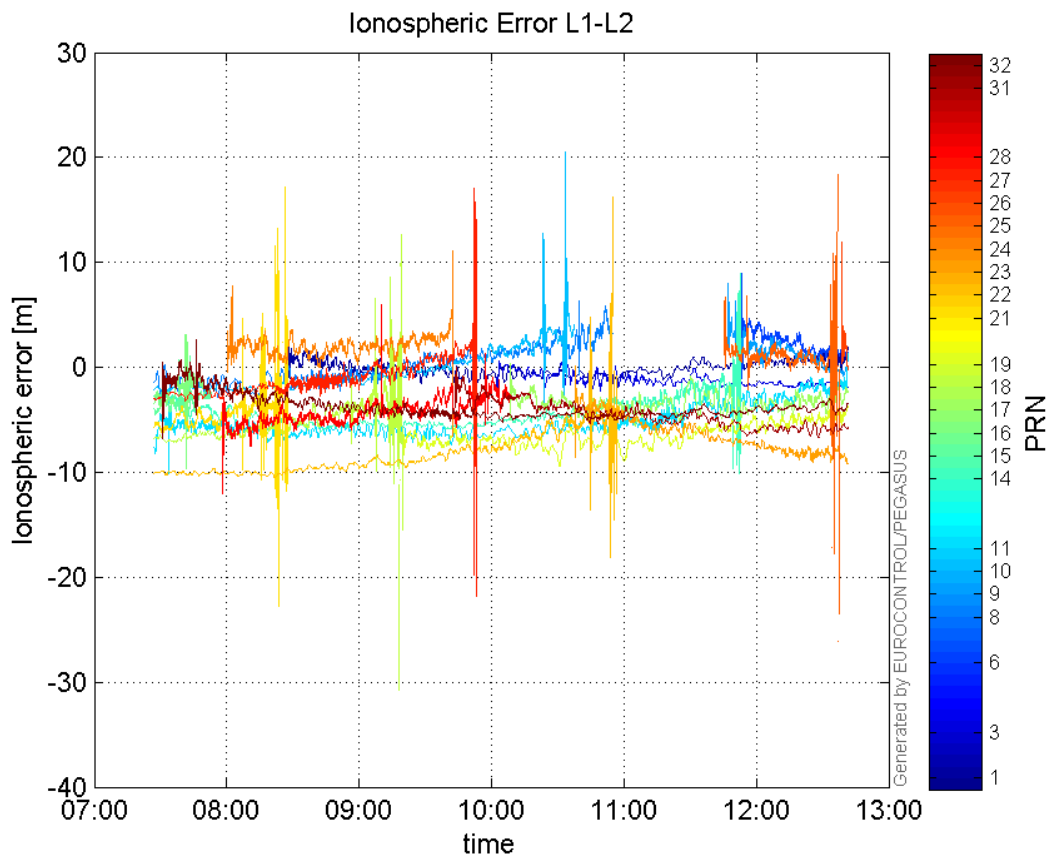


GEO CNo:



dual frequency

Ionospheric Error L1-L2:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.2.1
input_prefix	system	D:/PegasusDateGob/job/2015_12_10EgLB/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_12_10EgLB/03_GNSS_Solution/03_GNSS_Solution_sol

settings

Name	Section	Value
ref_lat	settings	50.439
ref_lon	settings	30.4297
ref_alt	settings	215.271
smoothing	settings	yes
smoothing_constant	settings	100
smoothing_max_gap	settings	10
smoothing_max_divergence	settings	3
min_elevation	settings	5
aad_model	settings	a
output_range_file	settings	yes
sbas_prn	settings	120
gnss_mode	settings	sbas

results

Name	Section	Value
init_lat	results	50.439
init_lon	results	30.4297
init_alt	results	223.6552
mi_numbers	results	0