

Global View

site Laboratory satellite systems
 abbreviation NAU
 country Ukraine
 city Kiev
 comment Konin V., Shyshkov F. InsideGNSS, Jan-Feb 2015,
 P.50 - 54
 program Pegasus
 version 4.8.2
 date 10/11/2015

Position Domain

start: 07:20:50 10.11.2015 (week: 1870 sec: 199250)
end: 11:23:33 10.11.2015 (week: 1870 sec: 213813)
duration: 04:02:44 ..

quality

valid samples 14193
total samples 14564

Event tables

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

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	199869	1.32644	8.77169	0.151218	1.11284	16.0978	0.0691301
max normVer	199872	1.36157	9.09345	0.14973	1.27248	16.6309	0.0765128
max HPE	199873	1.36984	9.21949	0.148581	1.19207	16.6952	0.0714021
max VPE	199872	1.36157	9.09345	0.14973	1.27248	16.6309	0.0765128
min HPL	199909	1.05235	8.76542	0.120057	0.331996	16.1351	0.020576
min VPL	199864	1.24074	8.77036	0.141469	0.719542	16.0893	0.0447218

First Glance analysis

Duration 14564
Number of Samples 14564
Number of invalid sample 371
Number of no position solution samples 13774
Number of missing sample 0
Logging Loss 0
Processing Loss 2.5474
Number of Misleading Information 0
Data gaps 0

Discontinuities

0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
419	419	419	0	419

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.32934	1.32934	1.32934	NaN	1.32934
HPEscale 95%	NaN	5.64512	5.64512	NaN	5.64512
VPE 95%	0.890866	0.890866	0.890866	NaN	0.890866
VPEscale 95%	NaN	2.53657	1.7756	NaN	1.7756

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.0295216	0.0295216	0.0295216	0	0.0295216
measurements	0.0287696	0.0287696	0.0287696	0	0.0287696
Operational	0.0287696	0.0287696	0.0287696	0	0.0287696

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	--	--	--	--
Long	--	--	--	--	--
Independent	--	--	--	--	--
P(disc.)	--	--	--	--	--
P(slide)	--	--	--	--	--

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

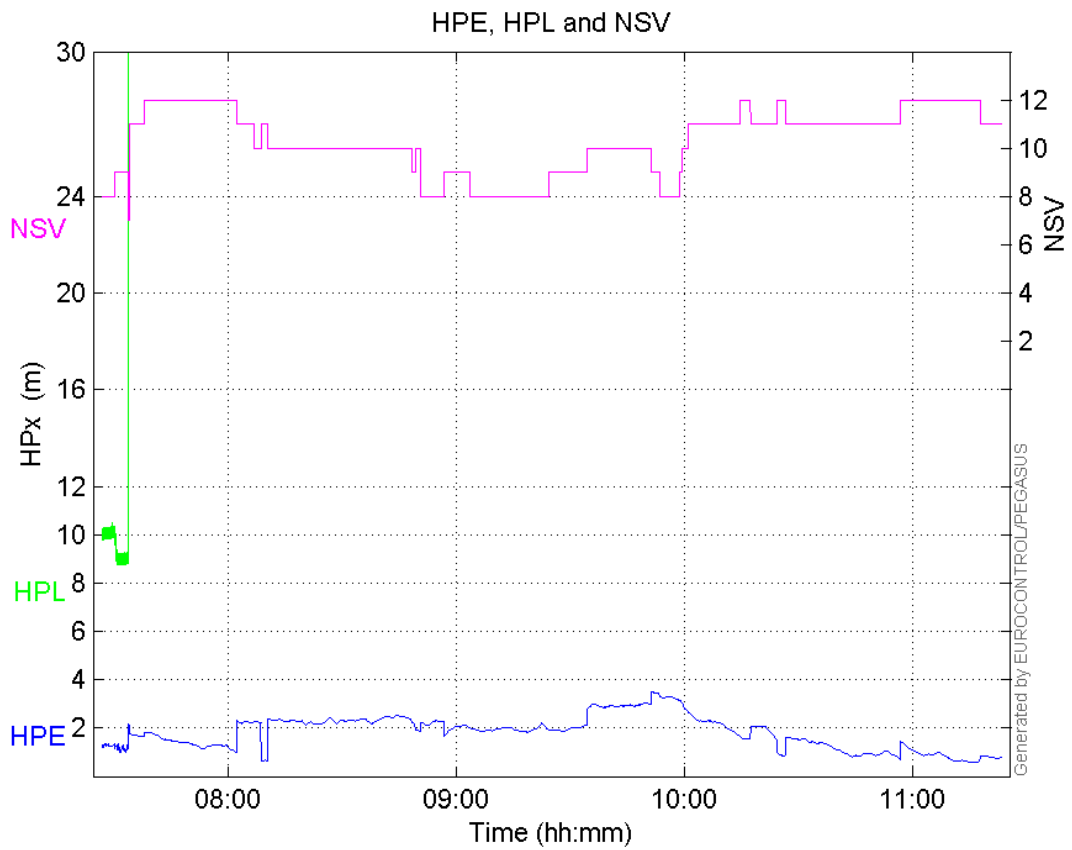
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	419	419	419	0	419
SIS Availability	0.0295216	0.0295216	0.0295216	0	0.0295216
Local Availability	0.0287696	0.0287696	0.0287696	0	0.0287696
Operational Availability	0.0287696	0.0287696	0.0287696	0	0.0287696
HPE 95%	1.32934	1.32934	1.32934	NaN	1.32934
HPEscale 95%	NaN	5.64512	5.64512	NaN	5.64512
VPE 95%	0.890866	0.890866	0.890866	NaN	0.890866
VPEscale 95%	NaN	2.53657	1.7756	NaN	1.7756
All Discontinuity Events	--	--	--	--	--
Long Discontinuity Events	--	--	--	--	--
Independent Discontinuity Events	--	--	--	--	--

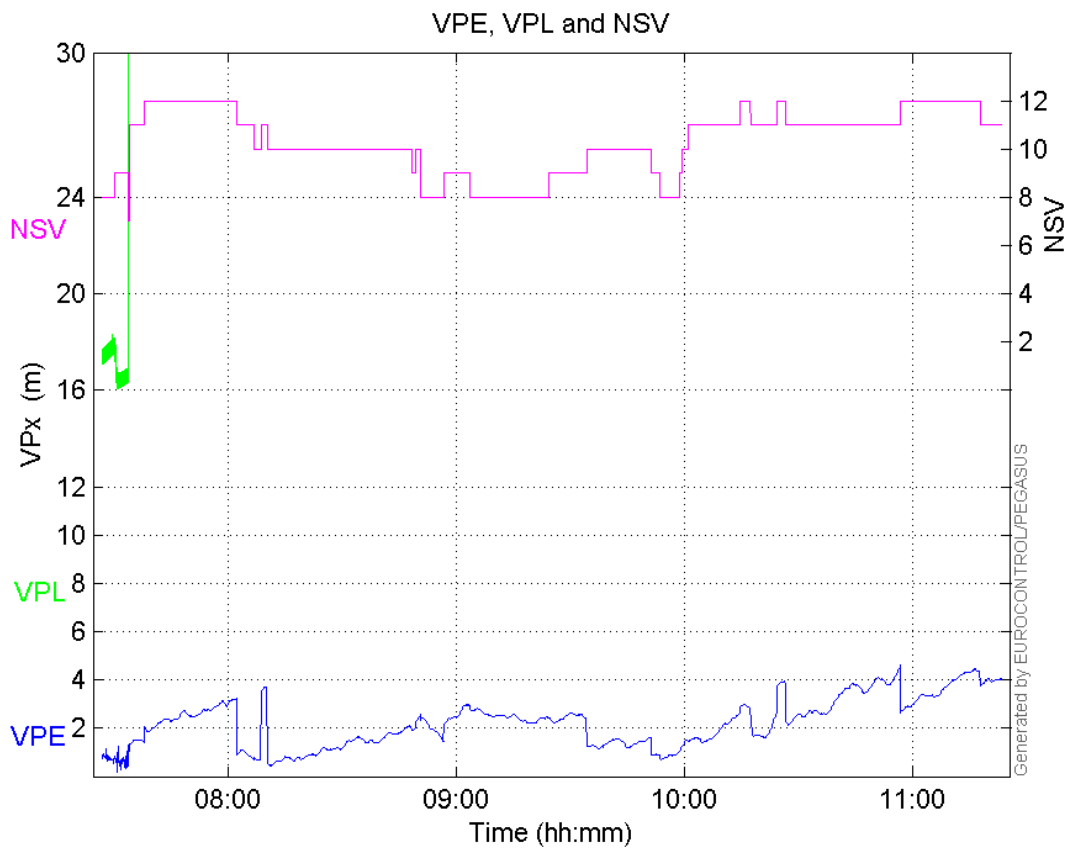
P(discontinuity)	--	--	--	--	--
P(sliding window)	--	--	--	--	--
All Integrity Events	0	0	0	0	0
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

Time Series

HPE, HPL and NSV:

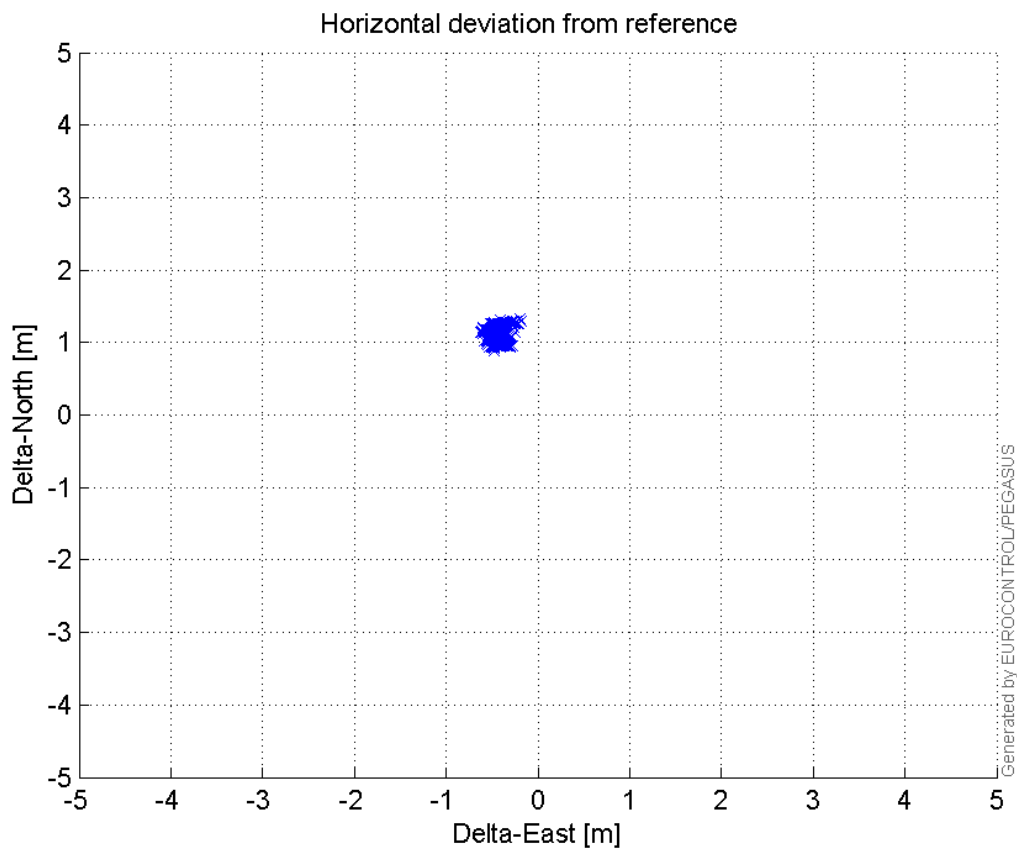


VPE, VPL and NSV:



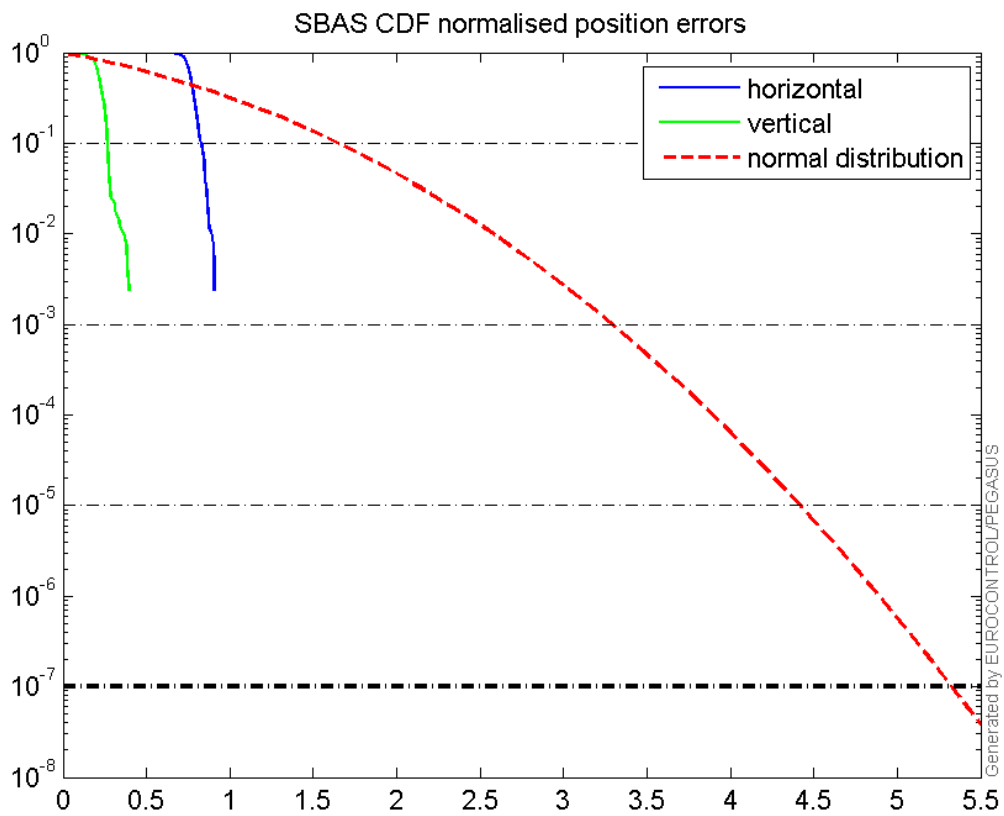
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

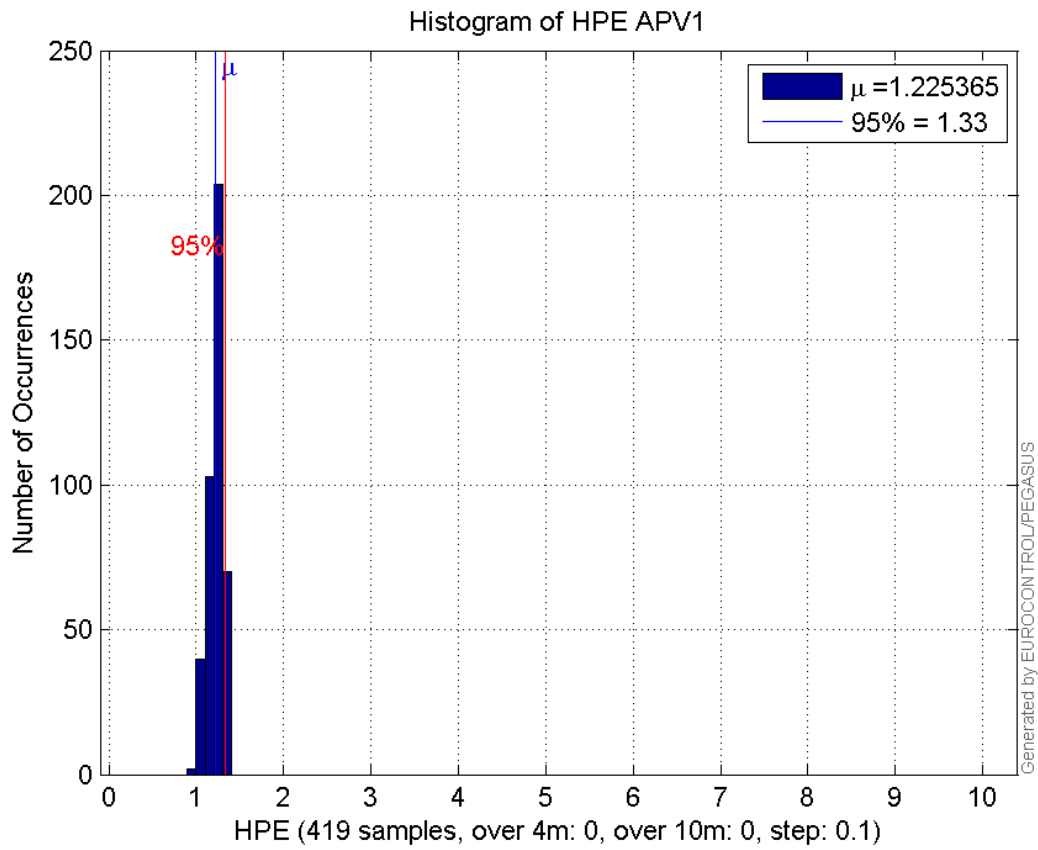
number	419
sum	513.42774
sum2	632.29867
prctile95	1.3293443
prctile99	1.3576854
number	419
sum	292.59226
sum2	214.33241
prctile95	0.89086567
prctile99	1.1427207
number	419
sum	4009.5742
sum2	38498.843
prctile95	10.311765
prctile99	10.350964
number	419
sum	7195.3429
sum2	123860.3
prctile95	18.051155
prctile99	18.323465
number	419
sum	53.690409

sum2 6.9022232
prctile95 0.14112802
prctile99 0.14893739
number 419
sum 17.014398
sum2 0.72259167
prctile95 0.050731389
prctile99 0.069834384
number 419
sum 513.42774
sum2 632.29867
prctile95 1.3293443
prctile99 1.3576854
number 419
sum 292.59226
sum2 214.33241
prctile95 0.89086567
prctile99 1.1427207
number 419
sum 4009.5742
sum2 38498.843
prctile95 10.311765
prctile99 10.350964
number 419
sum 7195.3429
sum2 123860.3
prctile95 18.051155
prctile99 18.323465
number 419
sum 53.690409
sum2 6.9022232
prctile95 0.14112802
prctile99 0.14893739
number 419
sum 17.014398
sum2 0.72259167
prctile95 0.050731389
prctile99 0.069834384

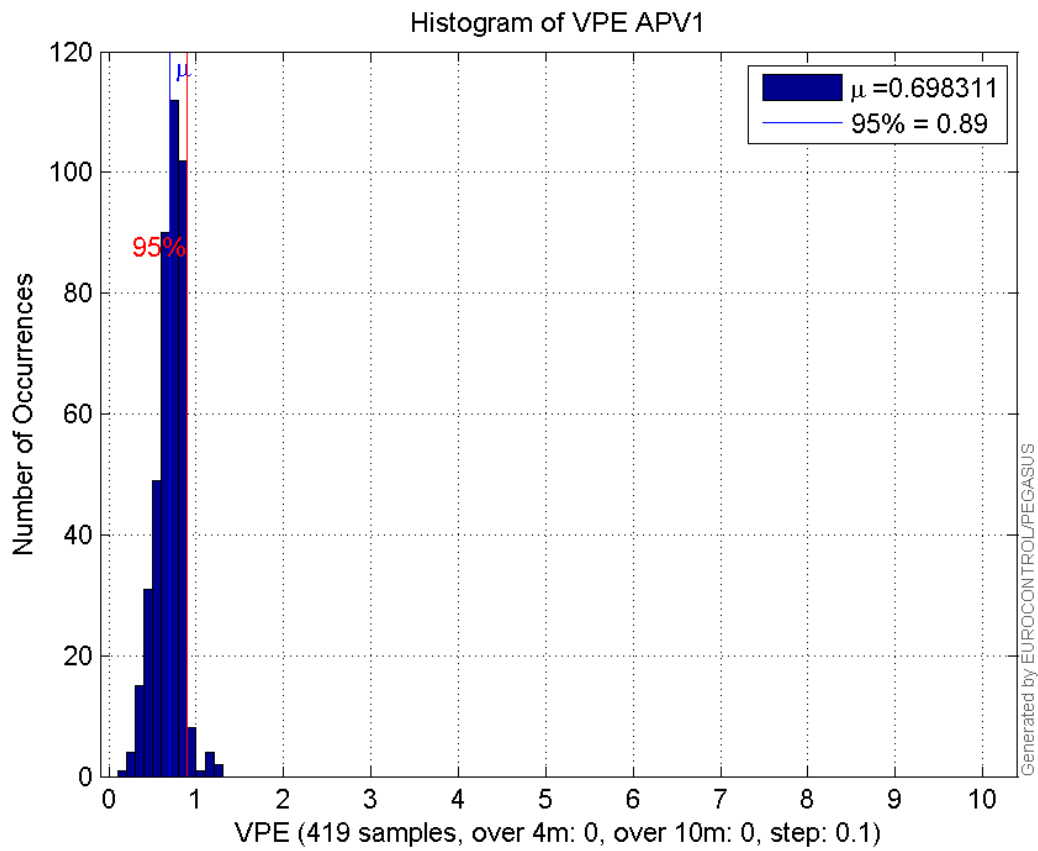
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.22536	0.0869819	1.25524	1.32934	1.35769	1.22844
HPL	9.56939	0.556962	9.80632	10.3118	10.351	9.58555
VPE	0.698311	0.154765	0.710417	0.890866	1.14272	0.715215
VPL	17.1727	0.84314	17.2477	18.0512	18.3235	17.1933

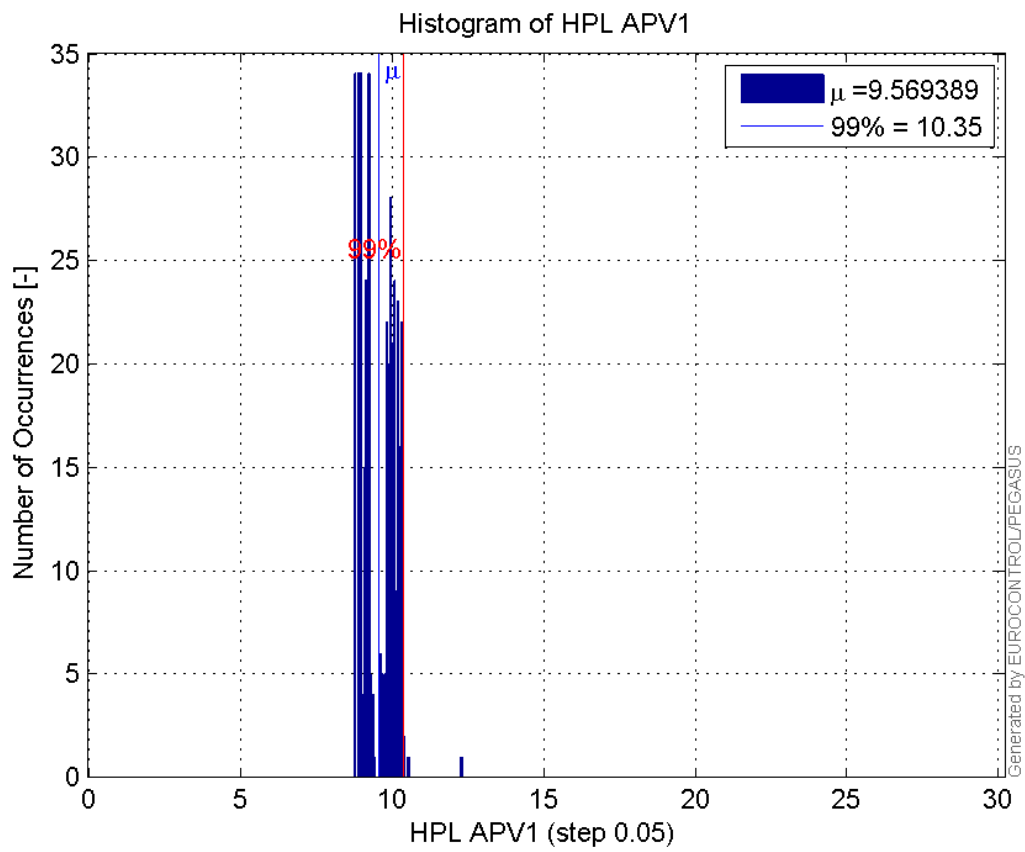
Histogram of HPE APV1:



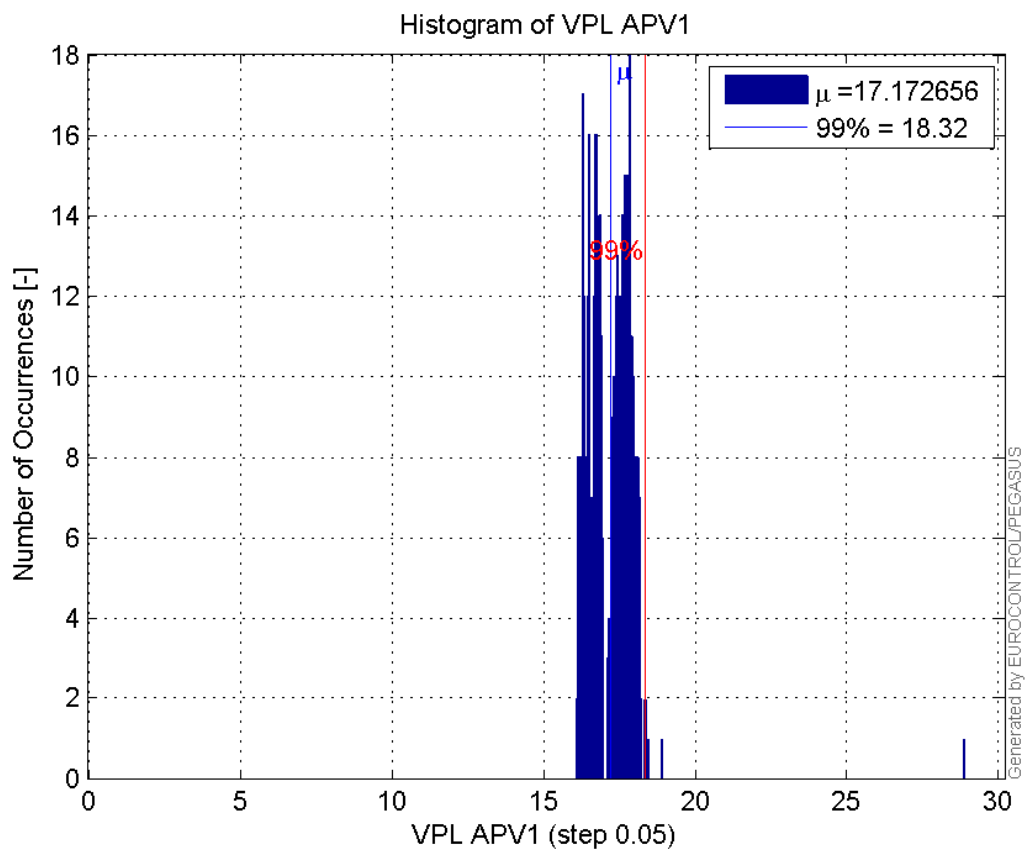
Histogram of VPE APV1:



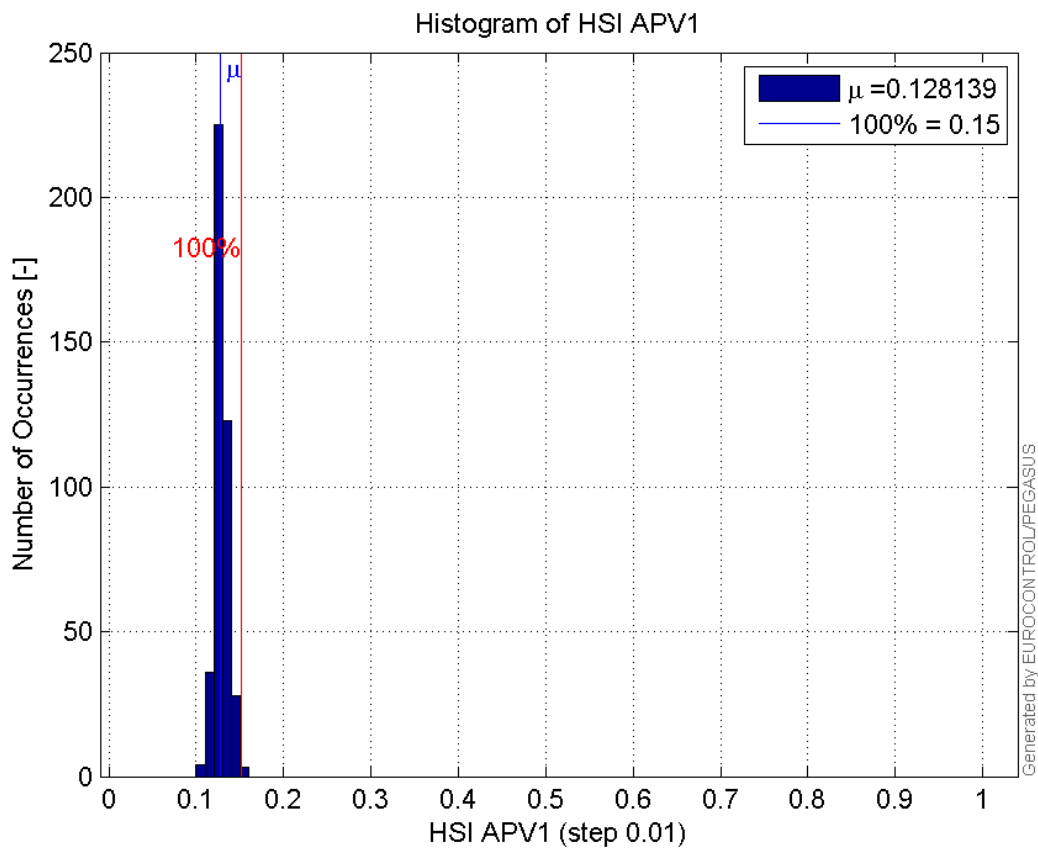
Histogram of HPL APV1:



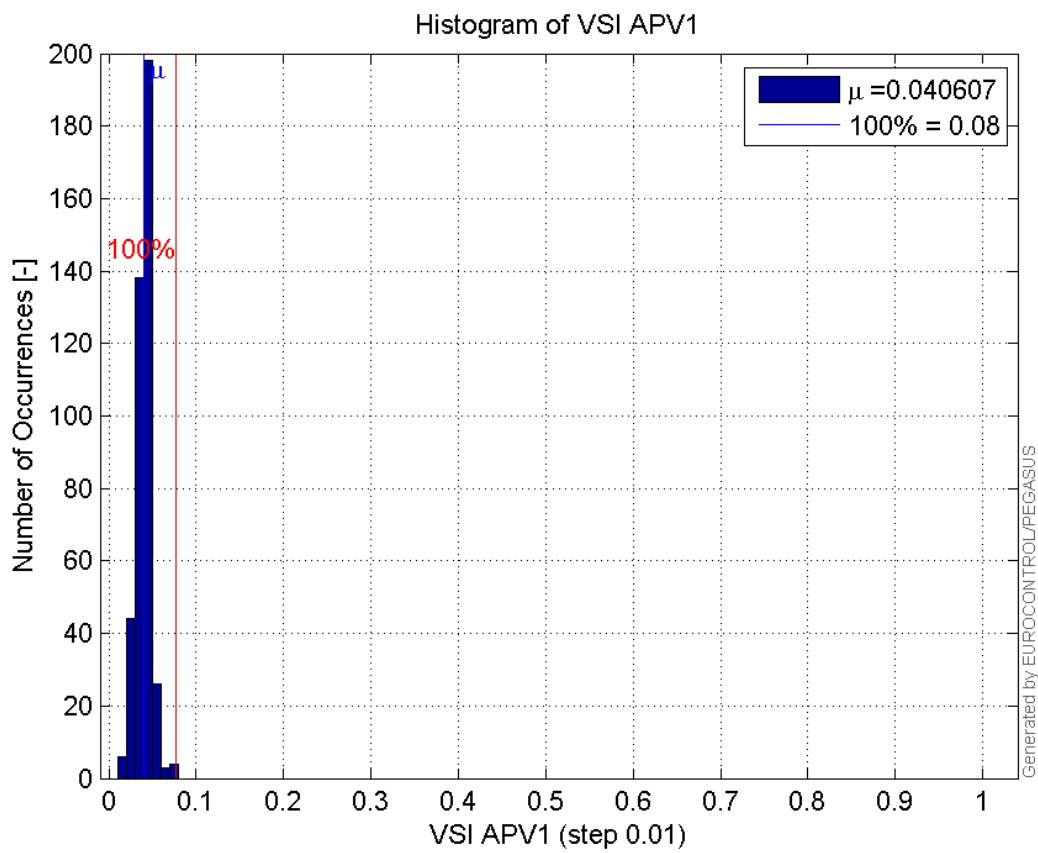
Histogram of VPL APV1:



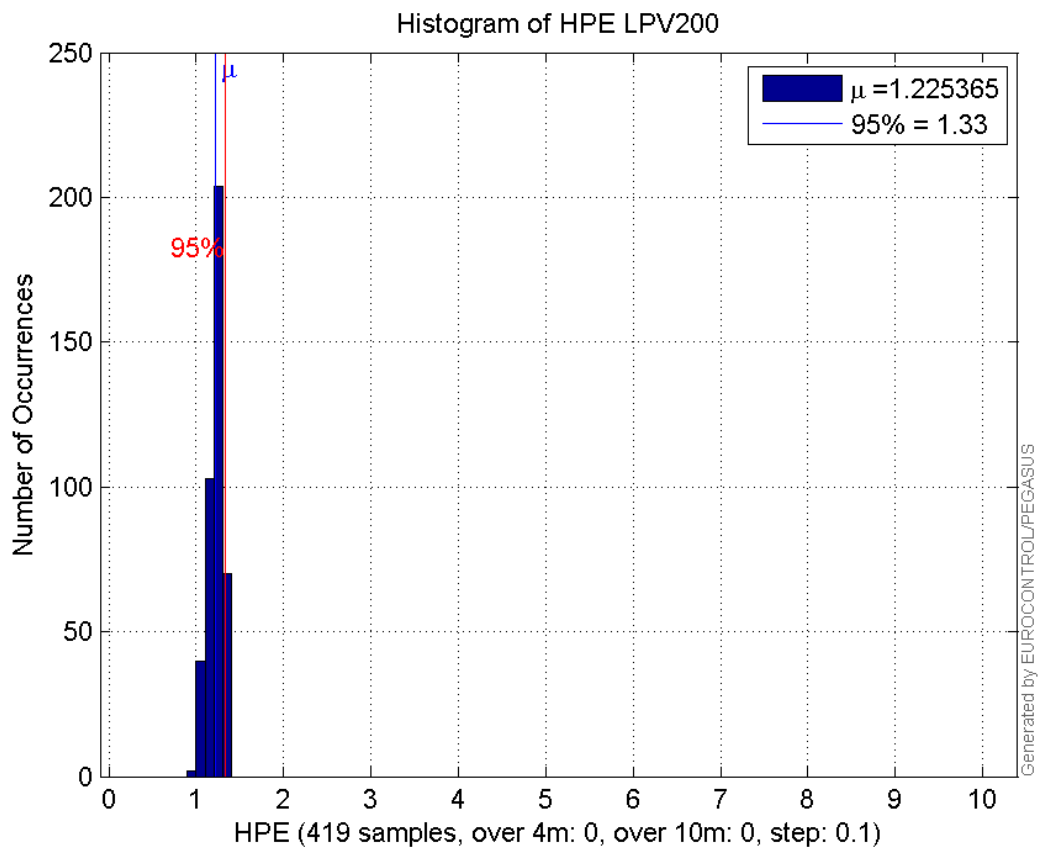
Histogram of HSI APV1:



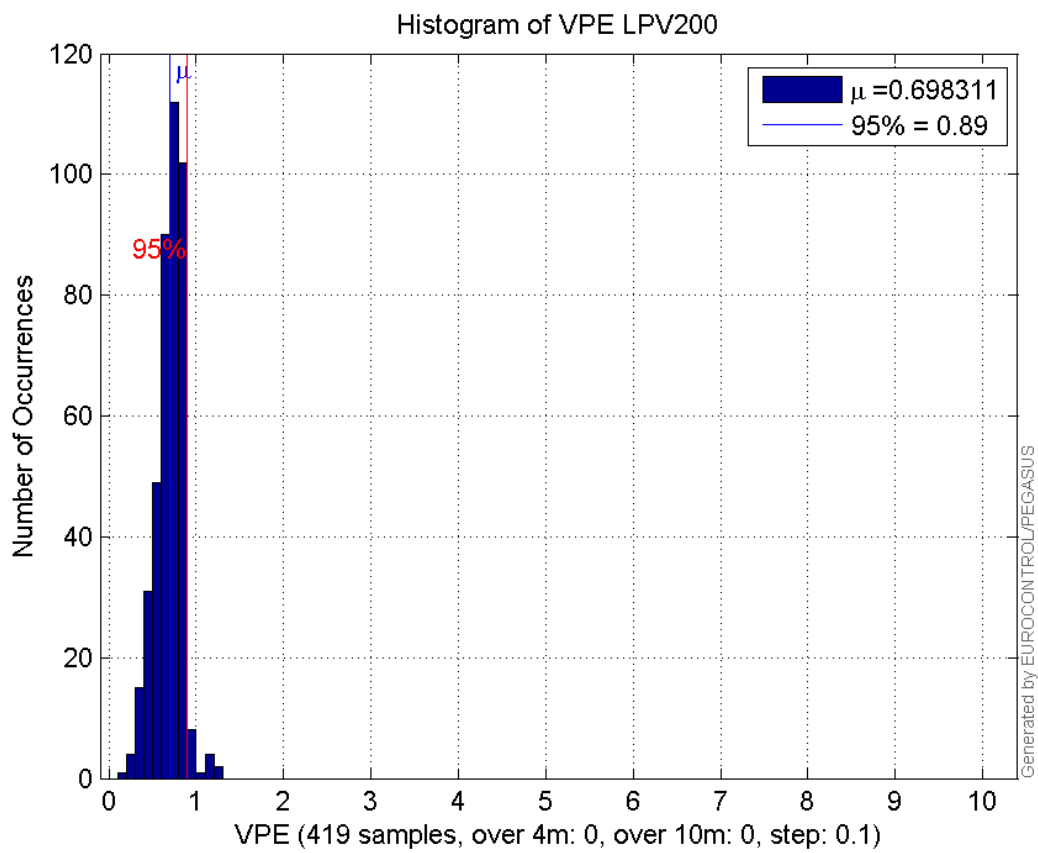
Histogram of VSI APV1:



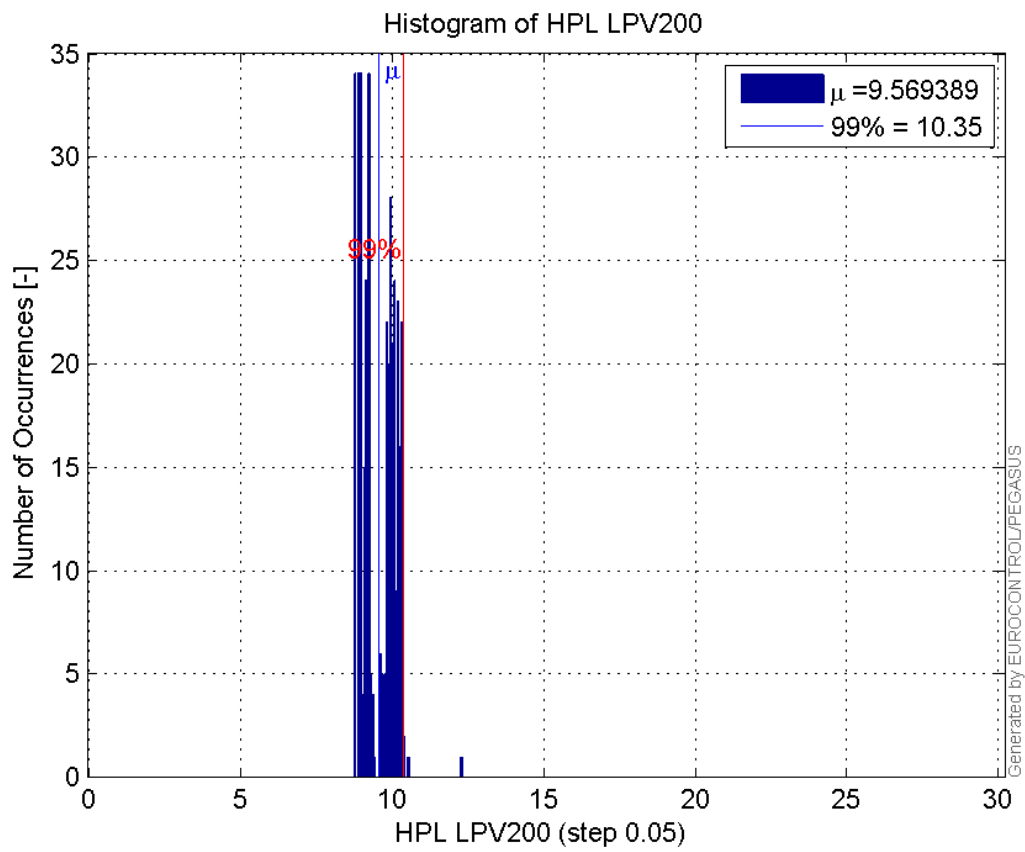
Histogram of HPE LPV200:



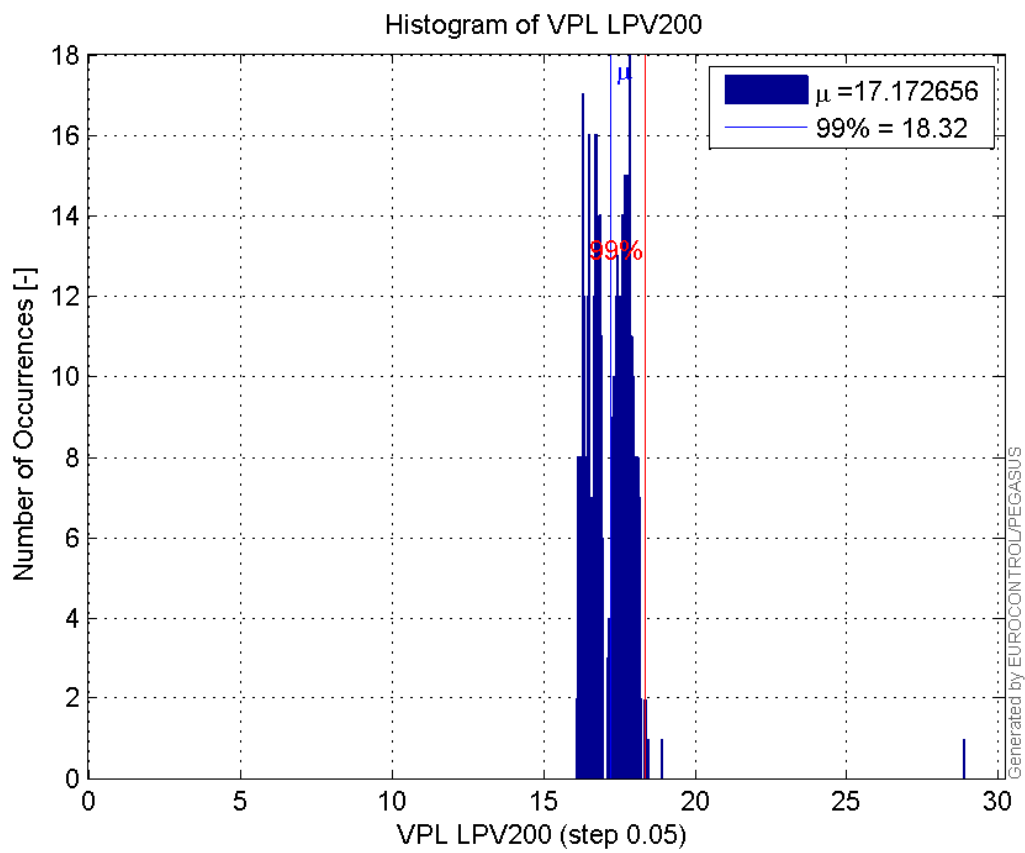
Histogram of VPE LPV200:



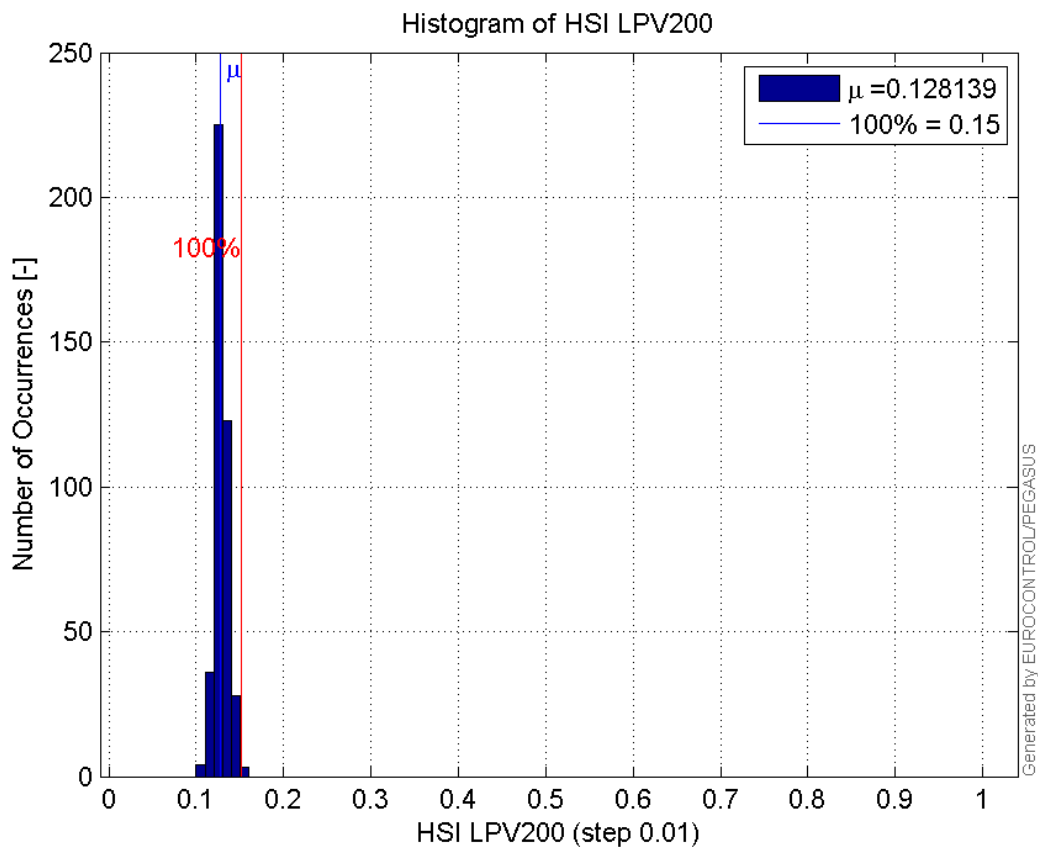
Histogram of HPL LPV200:



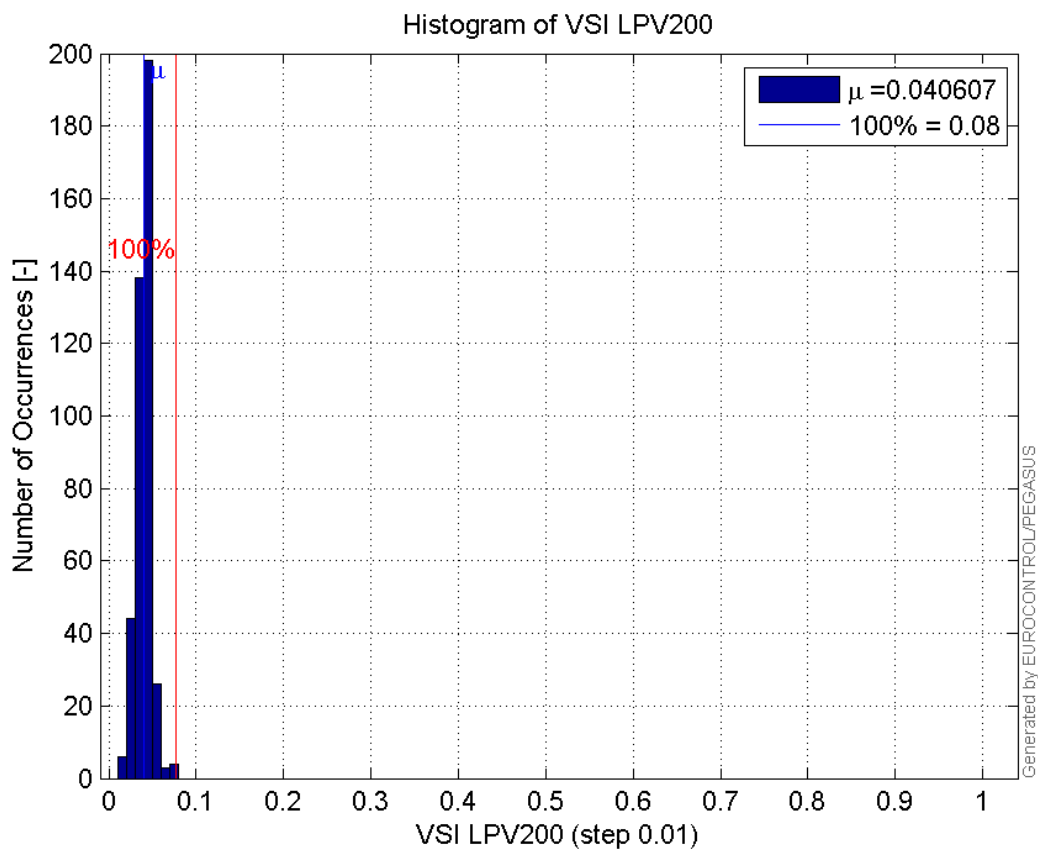
Histogram of VPL LPV200:



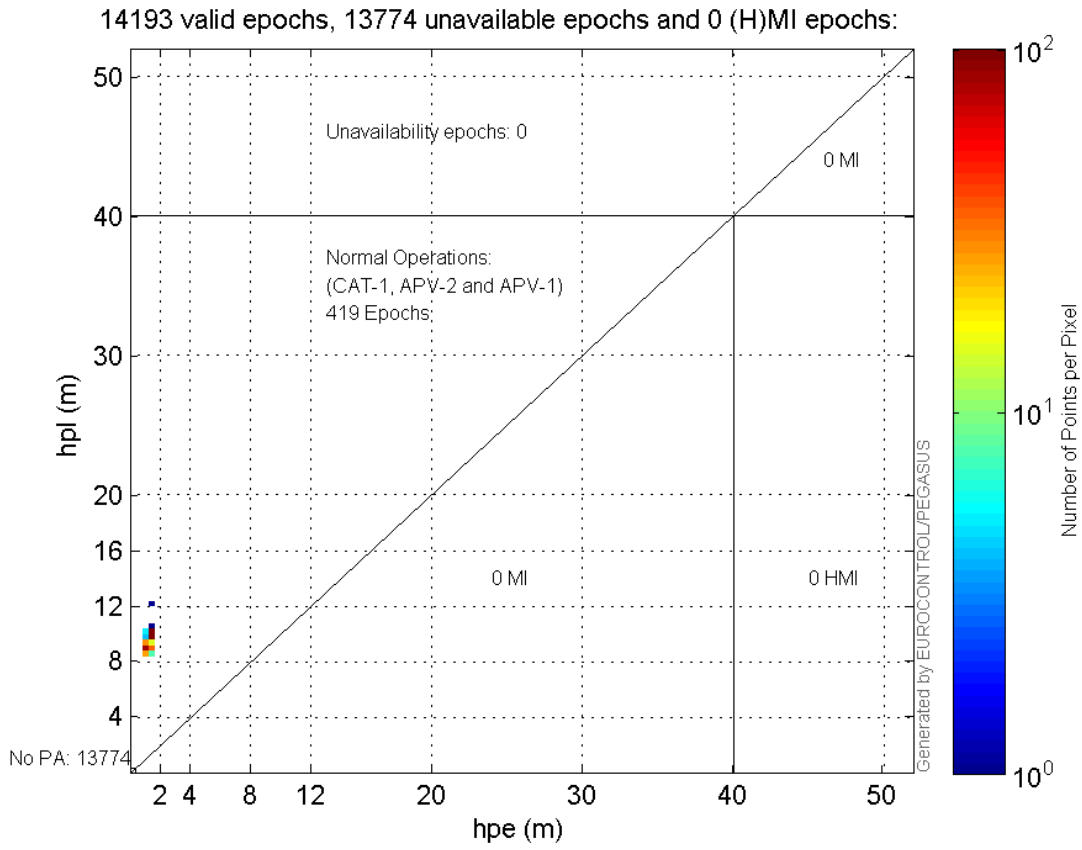
Histogram of HSI LPV200:



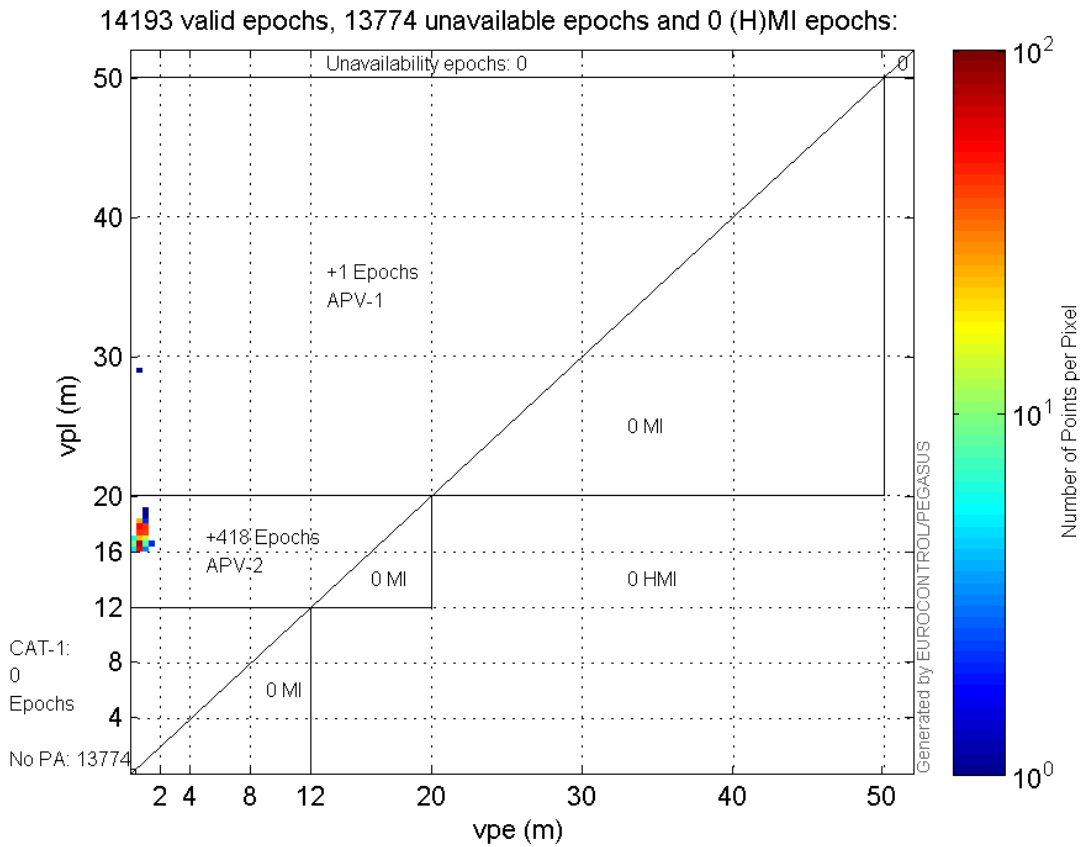
Histogram of VSI LPV200:



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_11_10EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_11_10EGNOS/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	123
gnss_mode	settings	sbas

results

Name	Section	Value
init_lat	results	50.439
init_lon	results	30.4297
init_alt	results	229.3556
mi_numbers	results	0

Range Domain

start: 07:20:50 10.11.2015 (week: 1870 sec: 199250)
end: 11:23:33 10.11.2015 (week: 1870 sec: 213813)
duration: 04:02:44 ..

quality

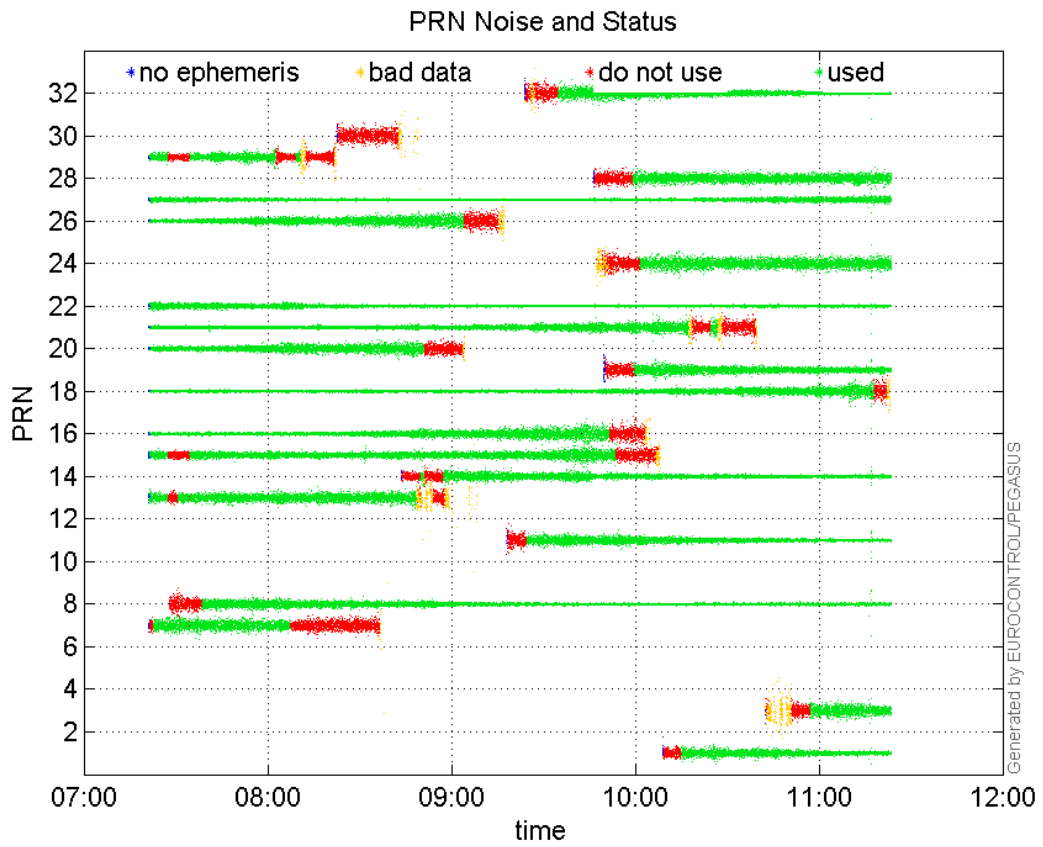
valid samples 14564
total samples 14564

PRN overview

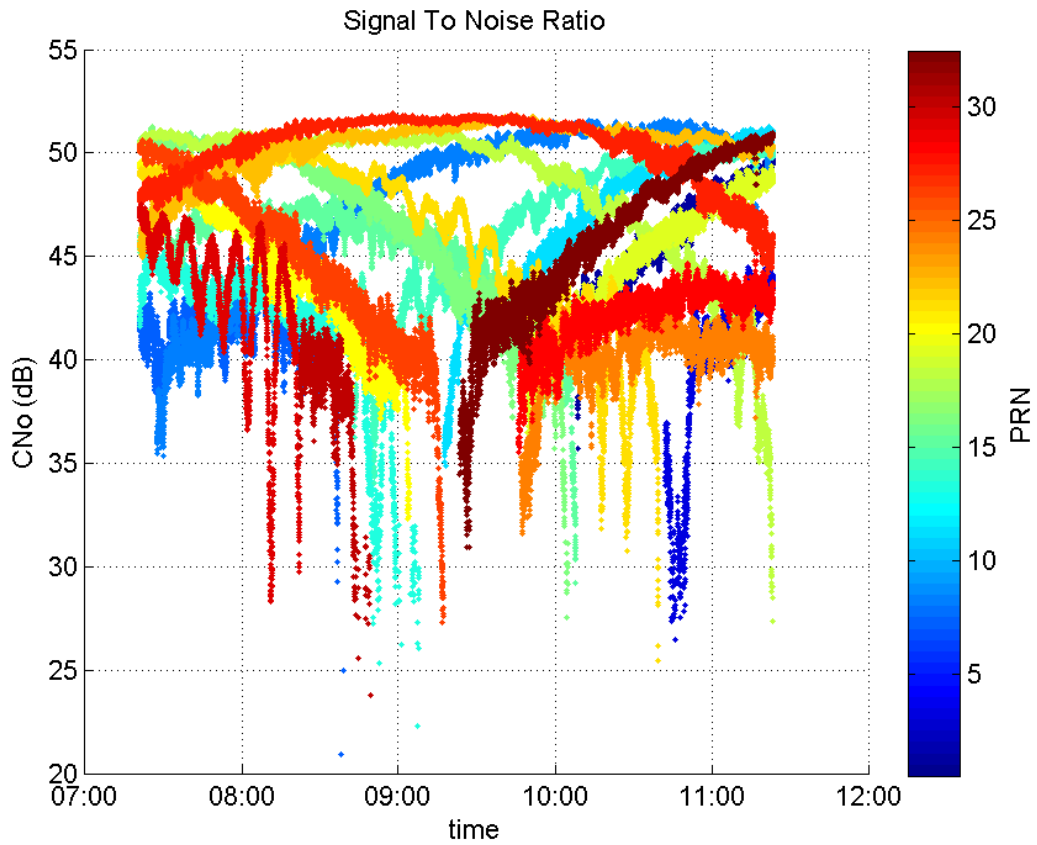
Number of Visible GPS Satellites 21
Number of Visible SBAS Satellites 3

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



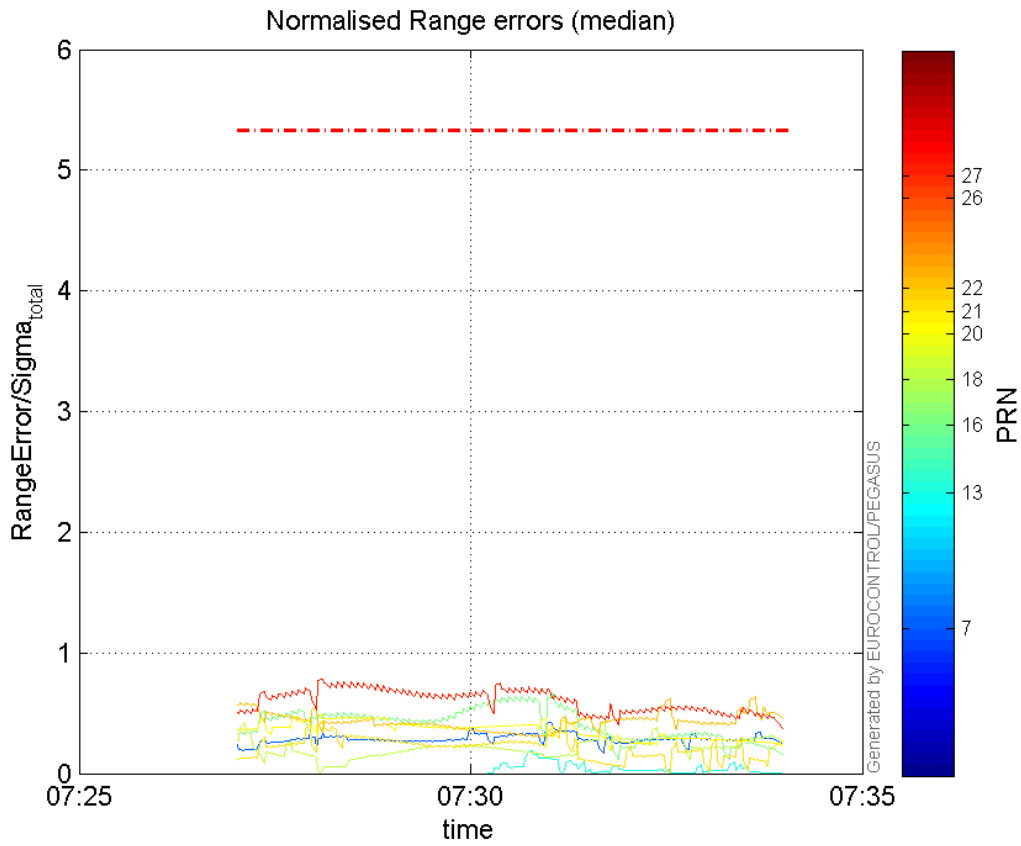
range errors

Number of Overbounding Norm Errors 0

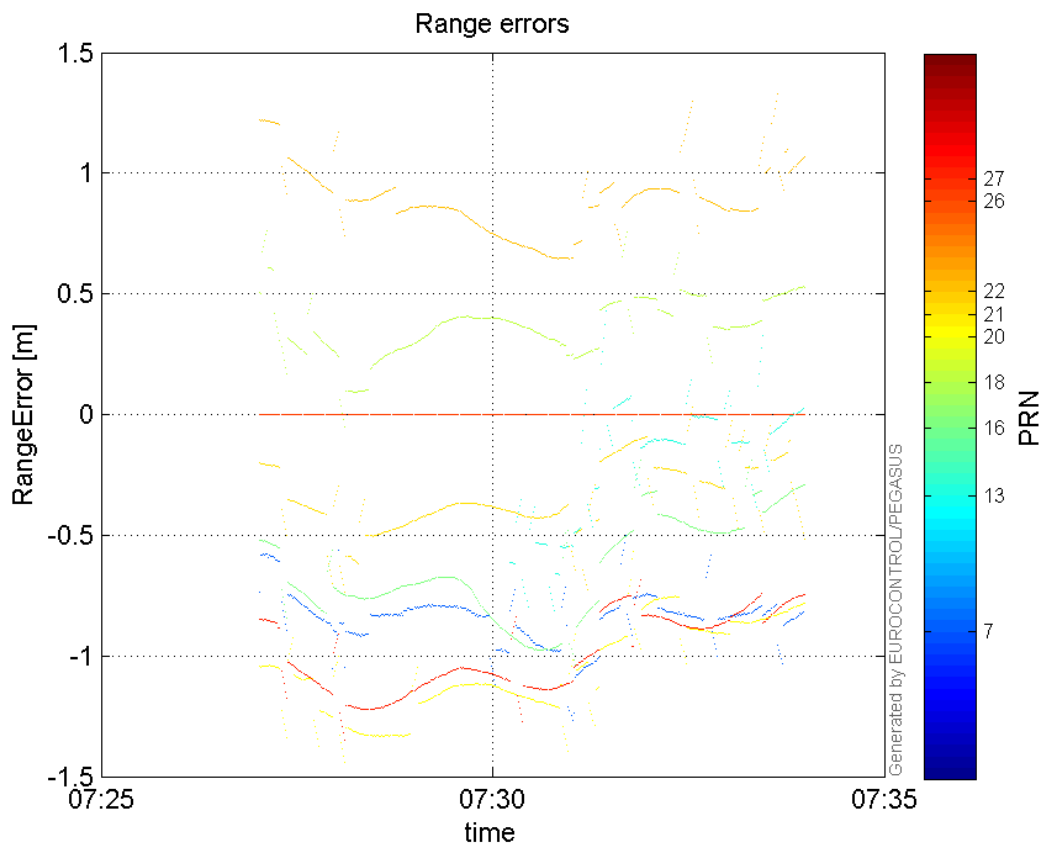
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1870	199861	7	0.427171	-1.26753	2.96726
1870	199847	13	0.192851	-0.810616	4.20333
1870	199862	16	0.665357	-1.01563	1.52645
1870	199903	18	0.431028	0.757533	1.7575
1870	199687	20	0.49557	-1.44237	2.91053
1870	199873	21	0.448885	-0.727991	1.62178
1870	200018	22	0.638182	1.3277	2.08044
1870	199621	26	0	0	1.70214
1870	199687	27	0.786195	-1.34799	1.71457

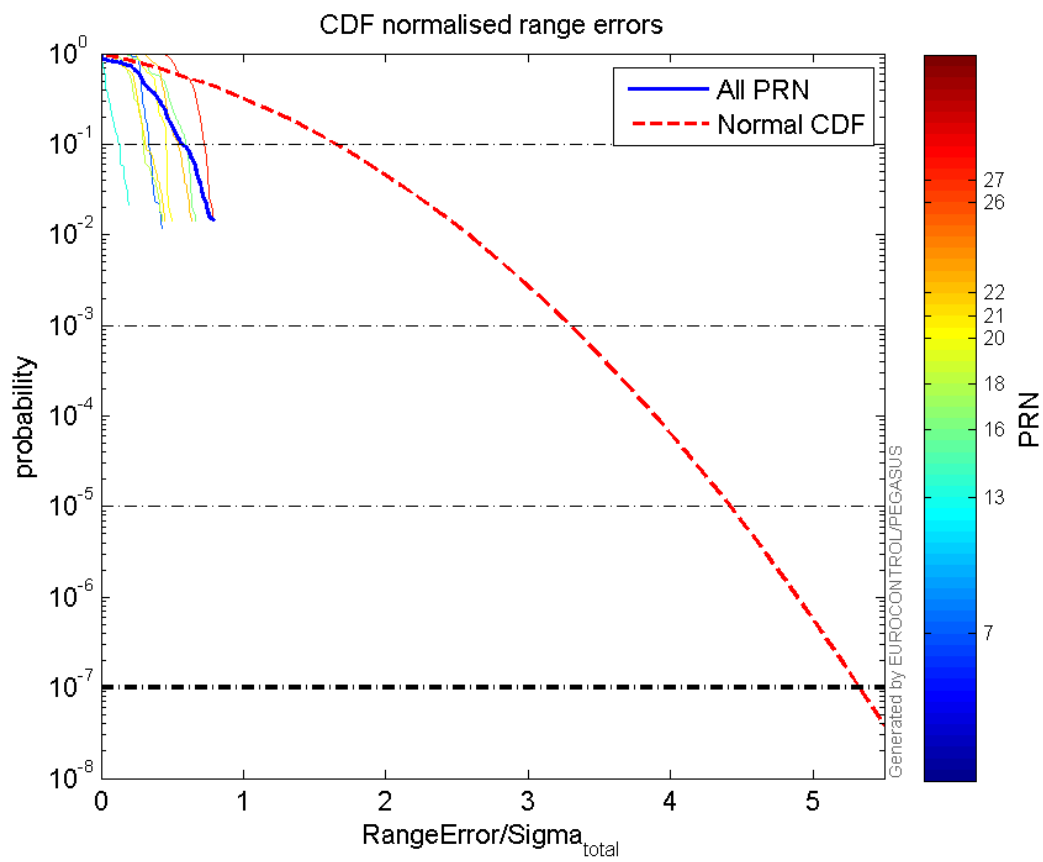
Normalised Range errors (median):



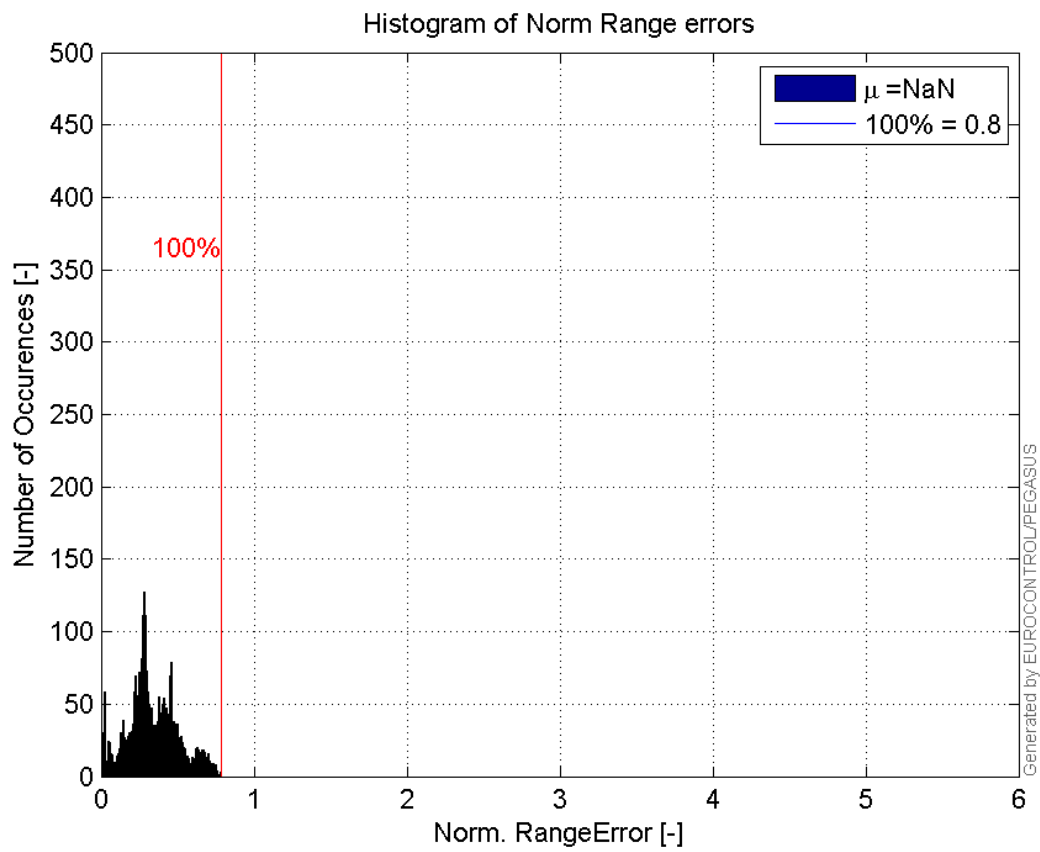
Range errors:



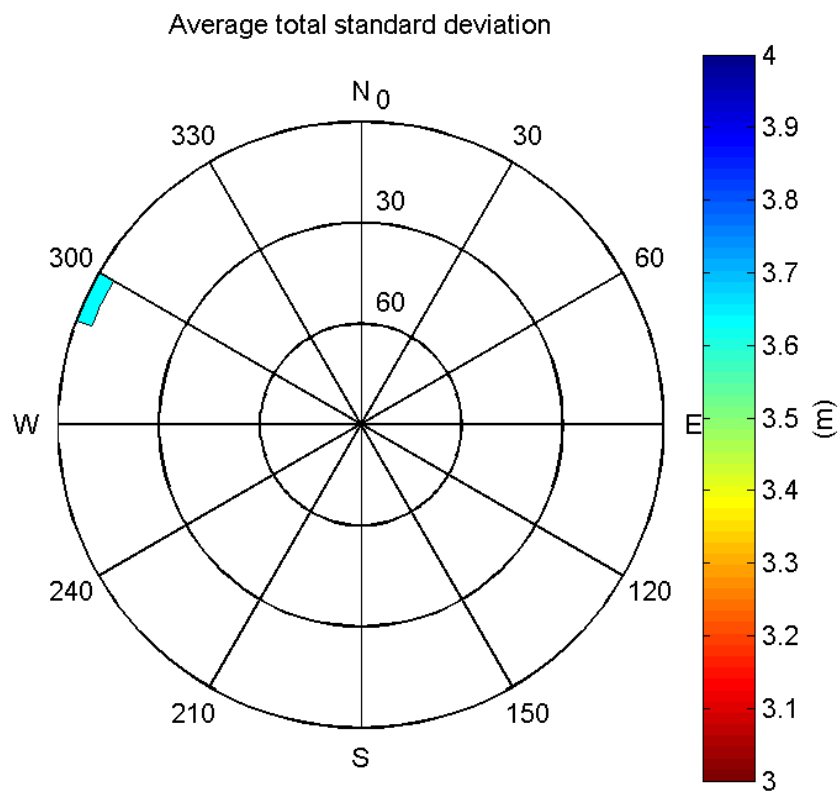
CDF normalised range errors:



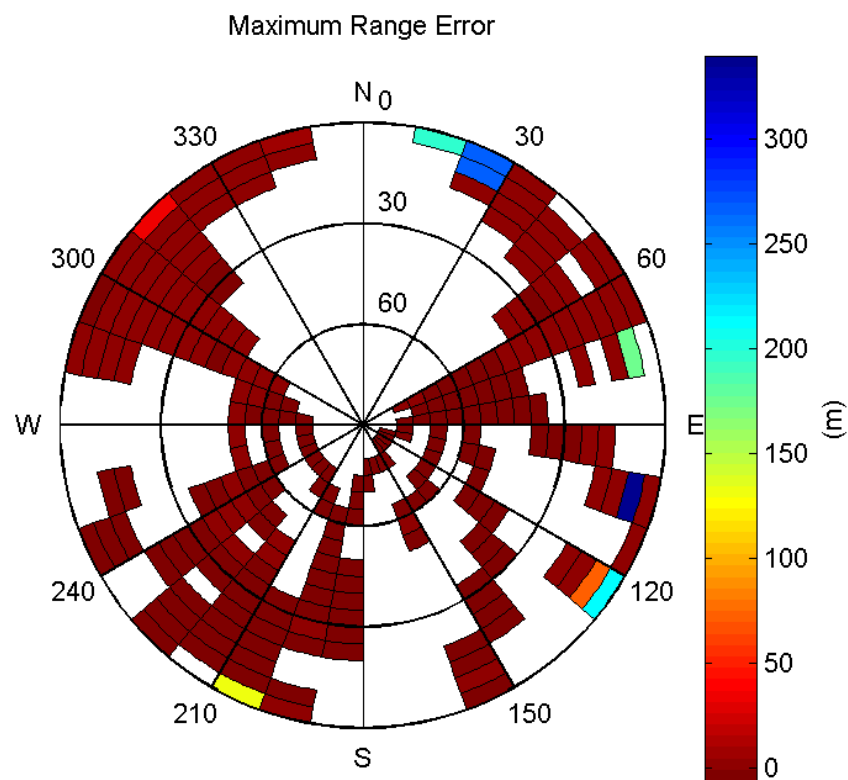
Histogram of Norm Range errors:



Sigma Sky Plot:

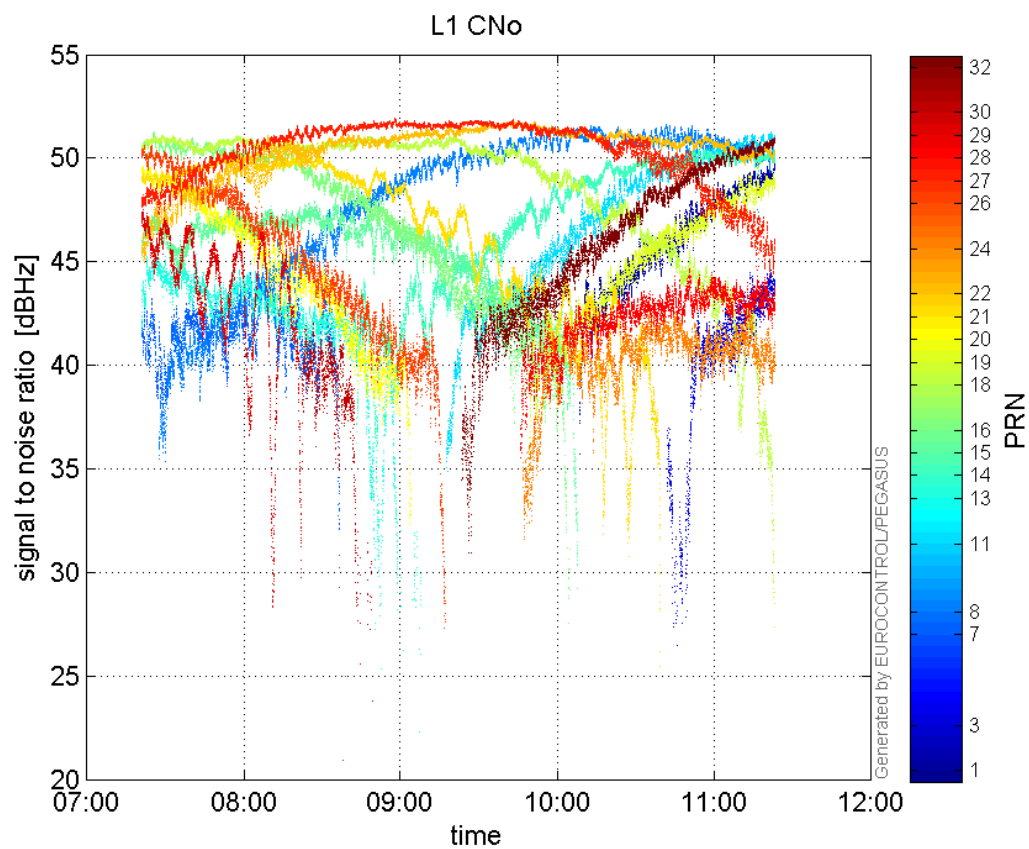


Norm Error Sky Plot:

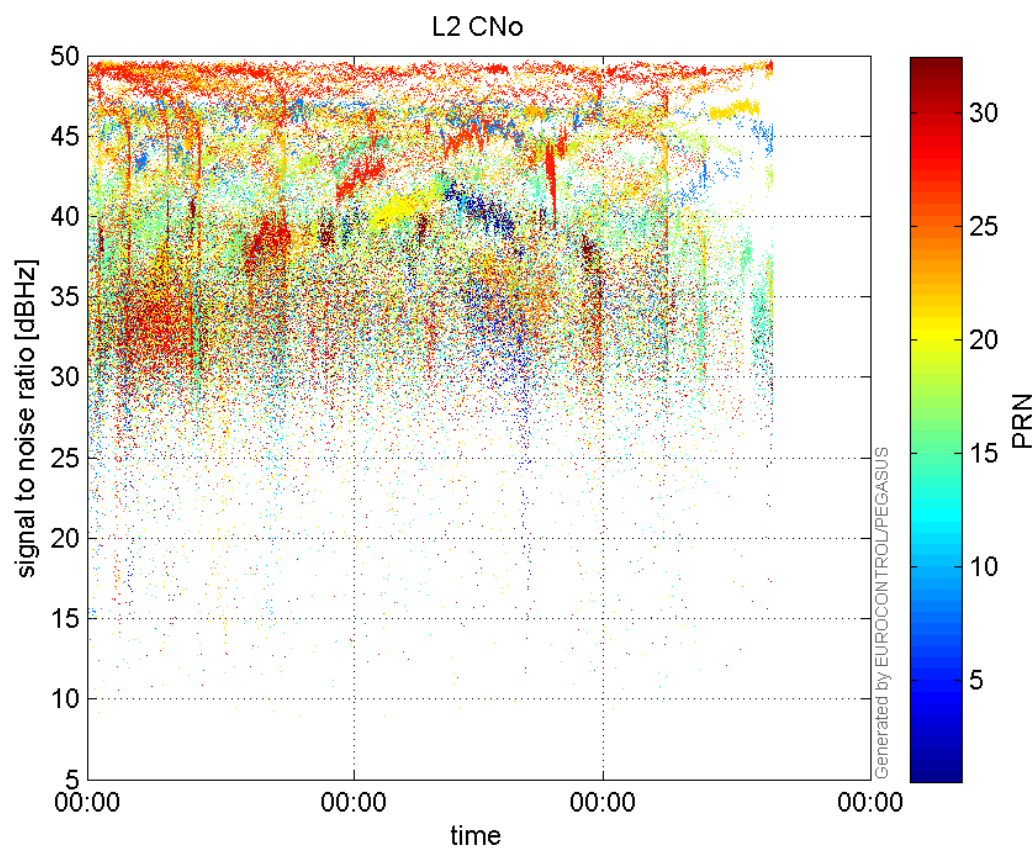


signal quality

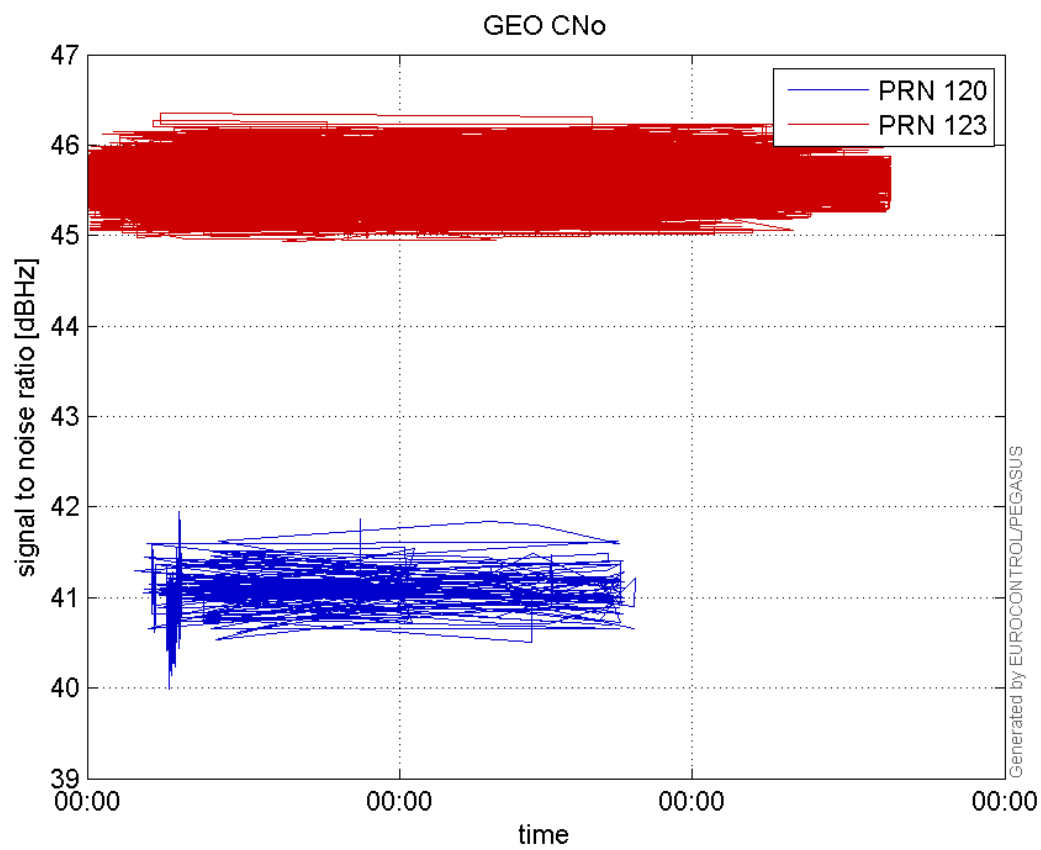
L1 CNo:



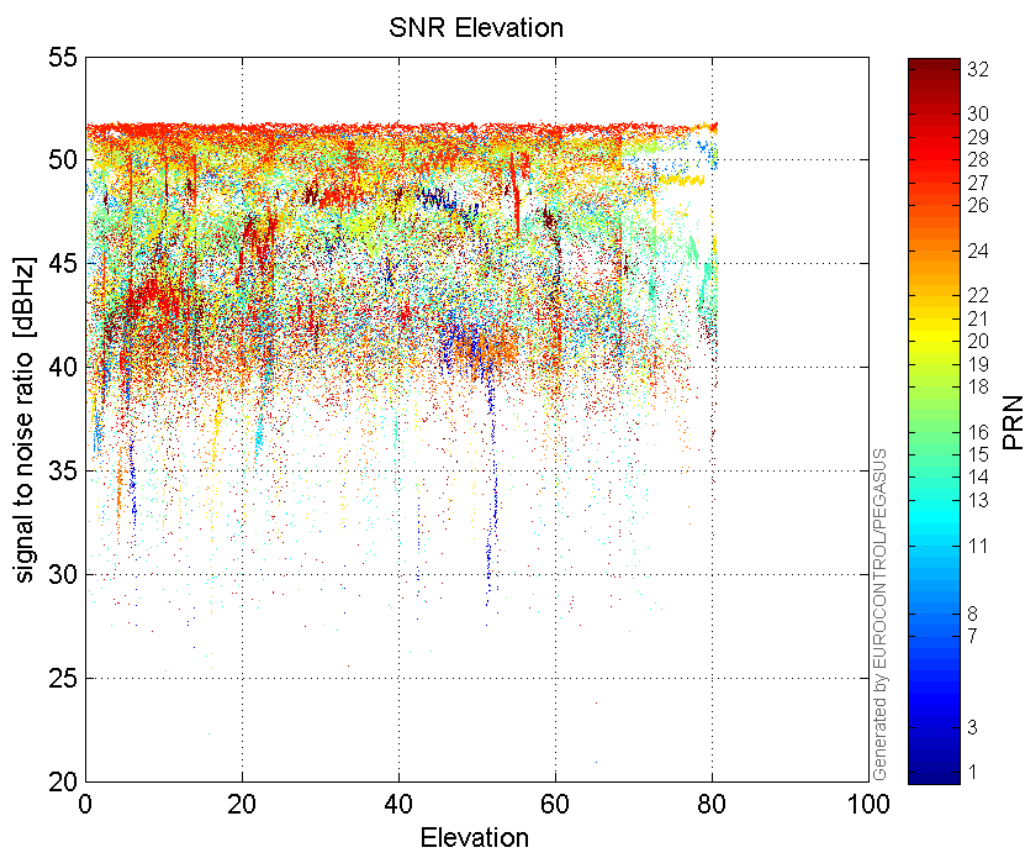
L2 CNo:



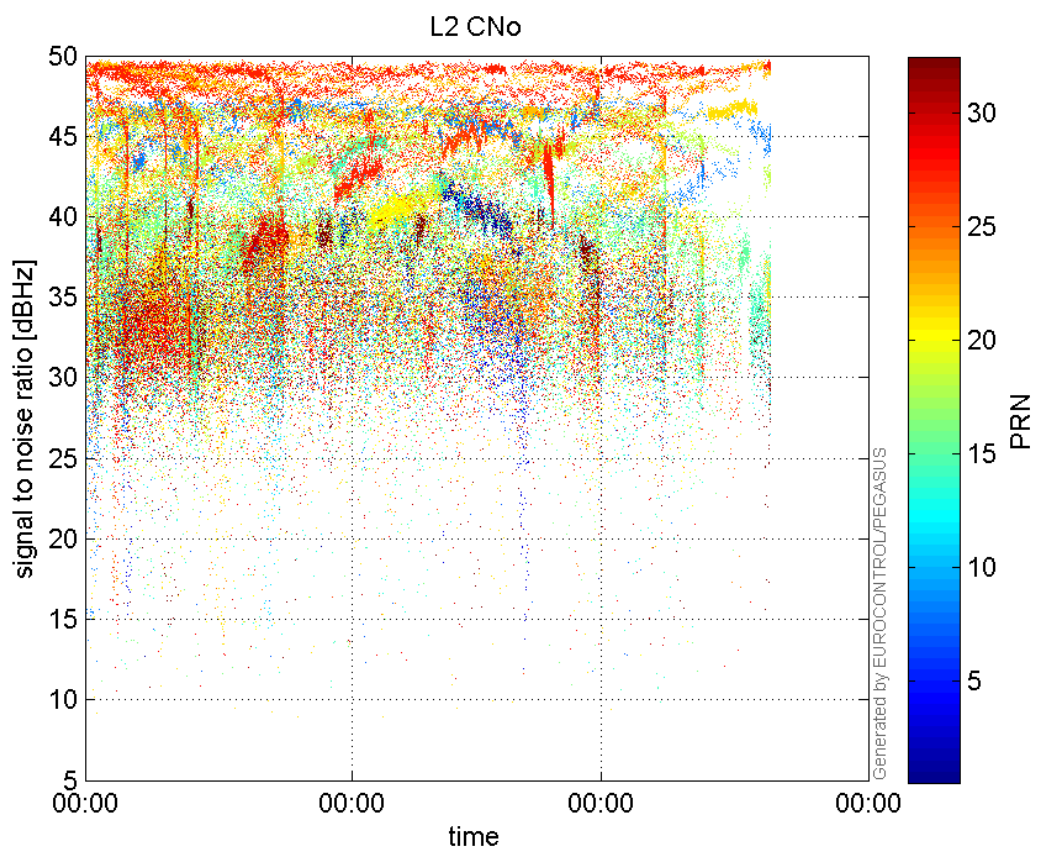
GEO CNo:



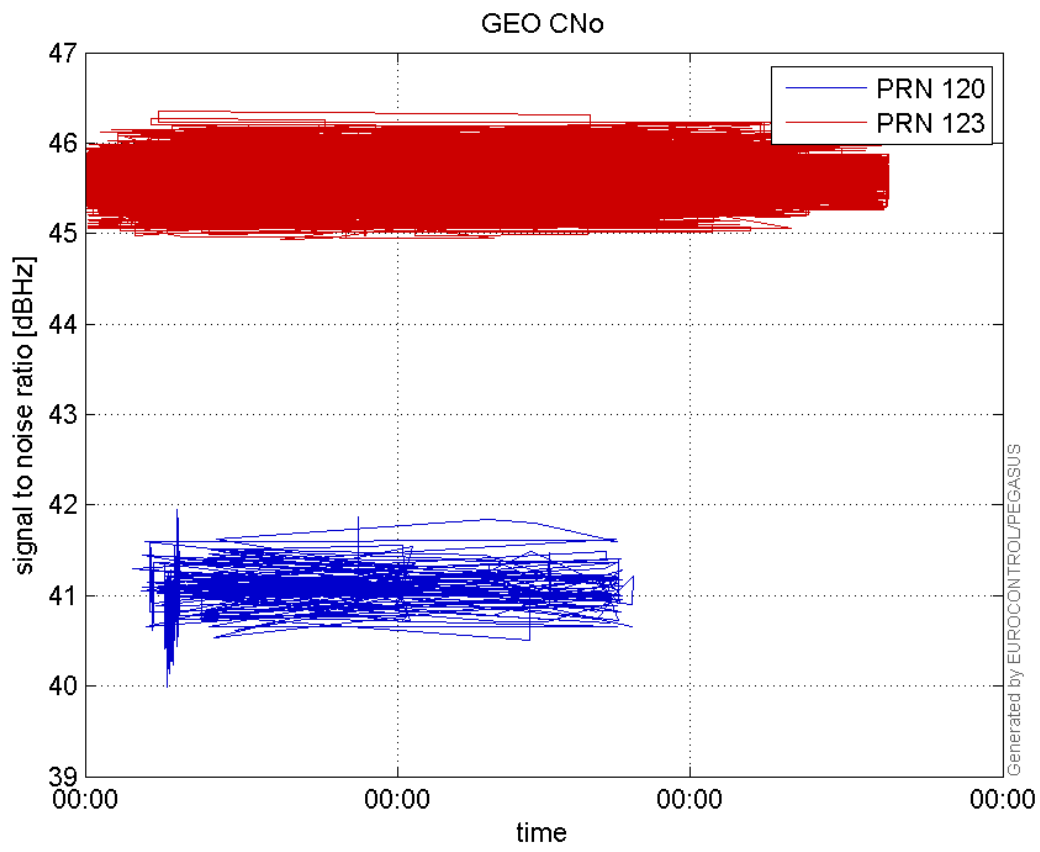
SNR Elevation:



L2 CNo:

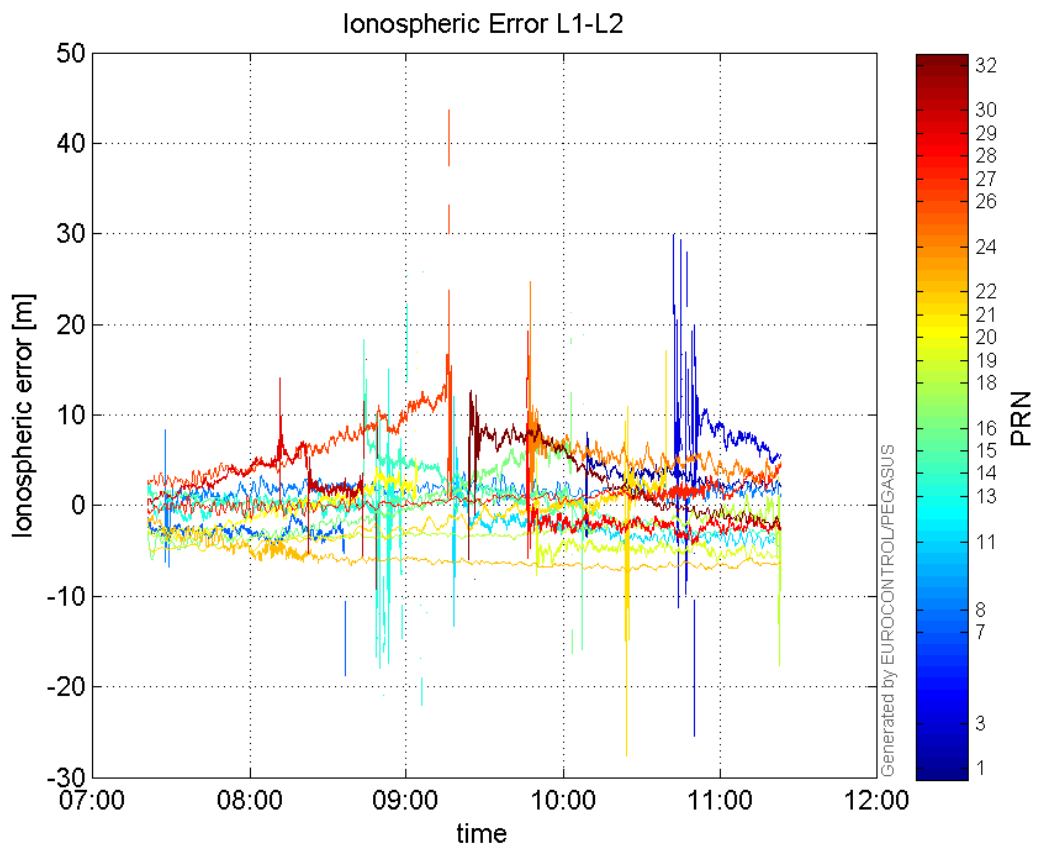


GEO CNo:



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_11_10EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_11_10EGNOS/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	123
gnss_mode	settings	sbas

results

Name	Section	Value
init_lat	results	50.439
init_lon	results	30.4297
init_alt	results	229.3556
mi_numbers	results	0

SBAS Messages

start: 07:20:49.129 10.11.2015 (week: 1870 sec: 199249.129)
end: 11:23:32.129 10.11.2015 (week: 1870 sec: 213812.129)
duration: 04:02:43 ..

quality

valid samples 29102
total samples 29102
number of SBAS PRNs 3

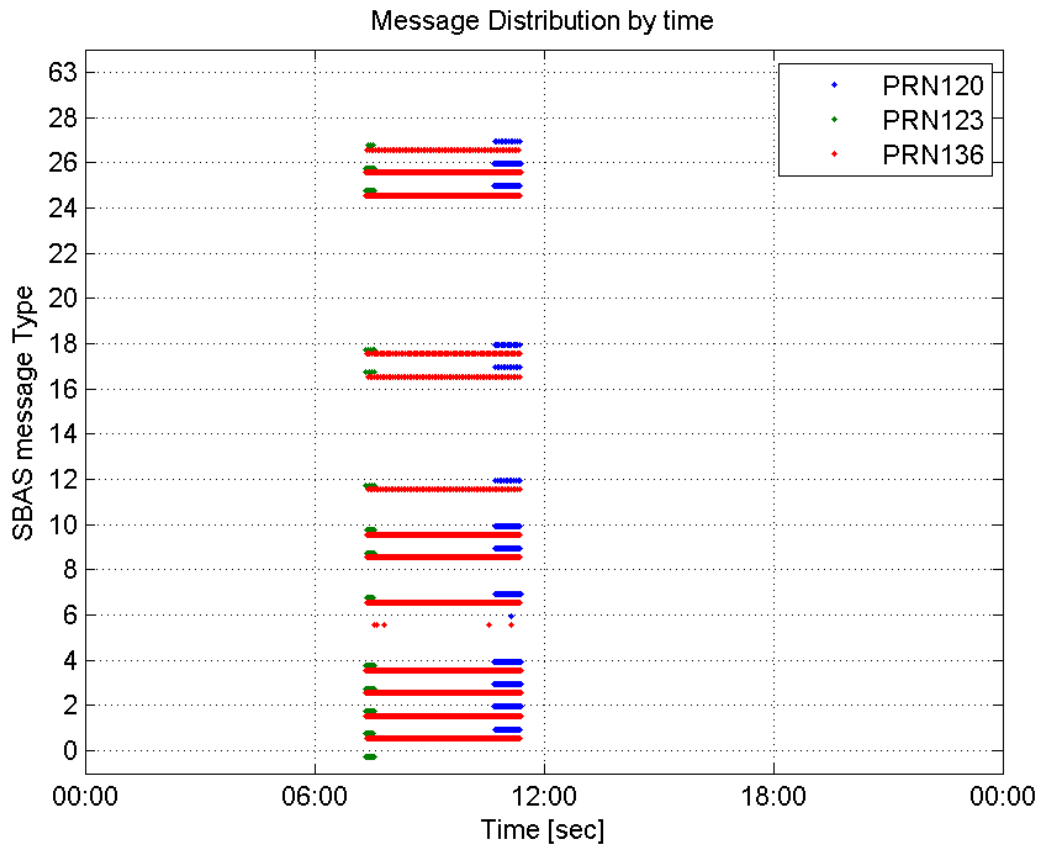
SBAS SIS Overview

Message Type 6 repetitions :

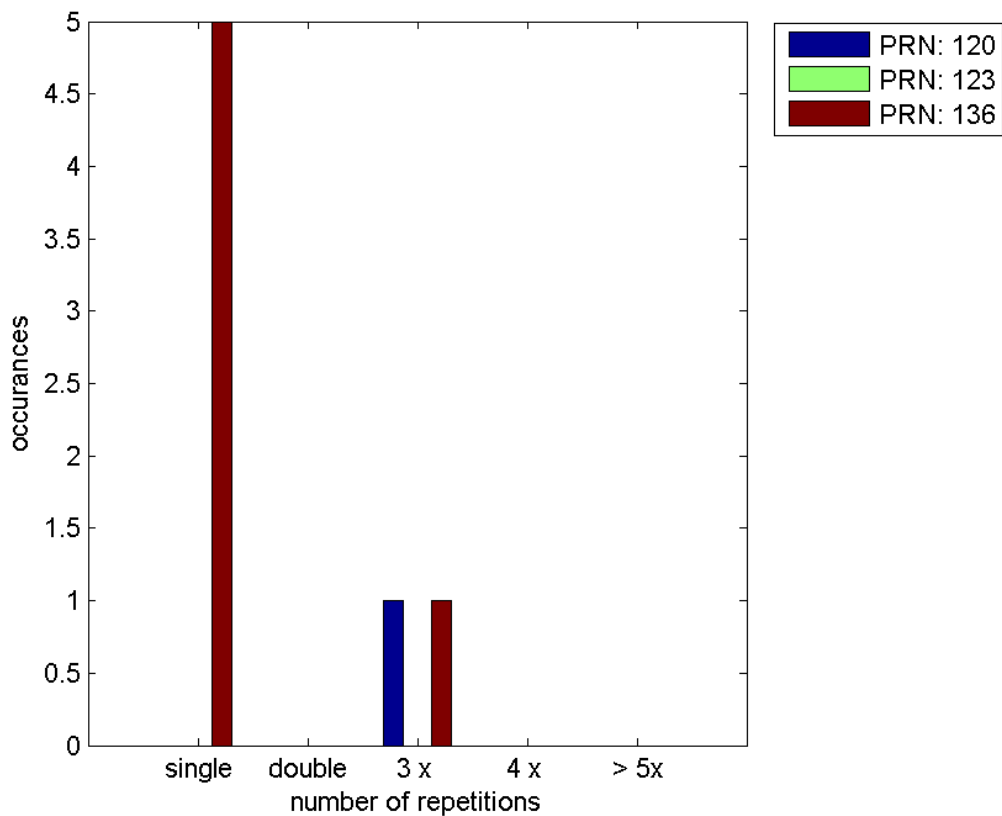
	single	double	3 x	4 x	> 5x
PRN 120	0	0	1	0	0

PRN 123	0	0	0	0	0
PRN 136	5	0	1	0	0

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

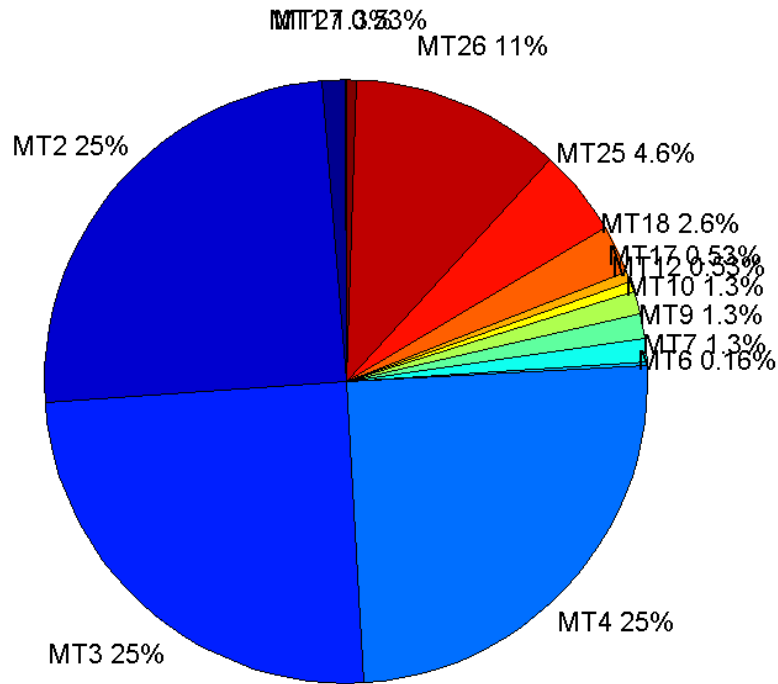
	number of messages	%
MT 0	0	0
MT 1	31	1.25202
MT 2	616	24.8788
MT 3	615	24.8384
MT 4	616	24.8788
MT 5	0	0
MT 6	4	0.161551
MT 7	32	1.29241
MT 9	32	1.29241
MT 10	31	1.25202
MT 12	13	0.52504
MT 17	13	0.52504
MT 18	65	2.6252
MT 24	0	0
MT 25	115	4.64459
MT 26	280	11.3086
MT 27	13	0.52504
MT 28	0	0
MT 62	0	0
MT 63	0	0

Total	2476	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	80	78.5	0	0	0
MT 2	4	7	4.02276	1	0	0
MT 3	4	8	4.02443	1	0	0
MT 4	4	8	4.02276	1	0	0
MT 5	--	--	--	--	--	--
MT 6	1	1	1	0	0	0
MT 7	76	81	78.3548	0	0	0
MT 9	76	81	78.2903	0	0	0
MT 10	76	81	78.6667	0	0	0
MT 12	188	201	193	12	0	0
MT 17	188	196	193	0	0	0
MT 18	4	168	36.6875	0	0	0
MT 24	--	--	--	--	--	--
MT 25	8	40	21.5175	0	0	0
MT 26	4	39	8.83513	0	0	0
MT 27	188	200	193.583	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 123

Broadcast SBAS Messages :

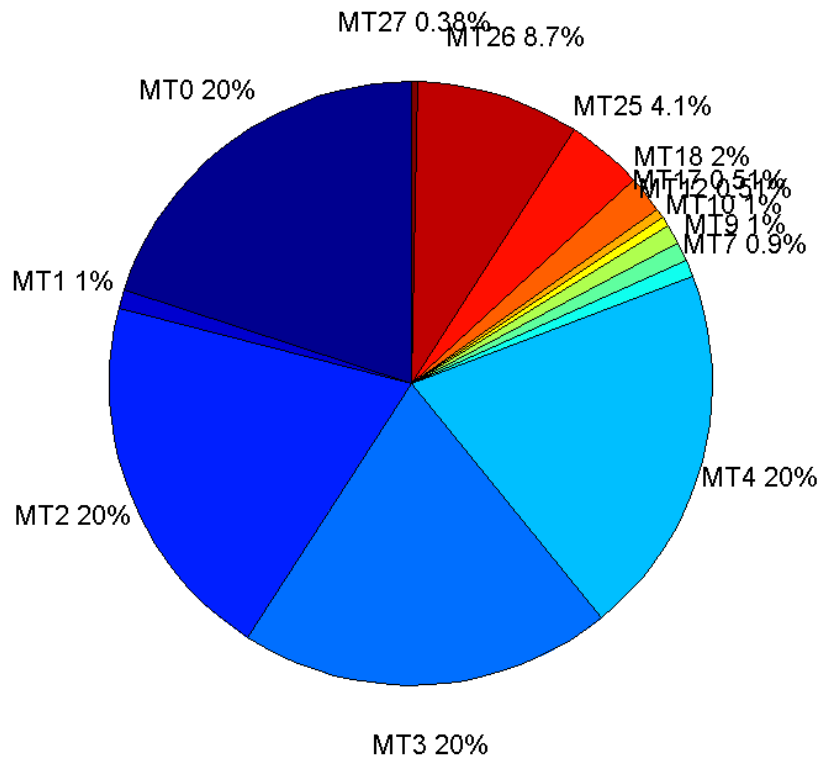
	number of messages	%
MT 0	156	19.9488
MT 1	8	1.02302
MT 2	156	19.9488
MT 3	156	19.9488
MT 4	156	19.9488
MT 5	0	0
MT 6	0	0
MT 7	7	0.895141
MT 9	8	1.02302
MT 10	8	1.02302
MT 12	4	0.511509
MT 17	4	0.511509
MT 18	16	2.04604
MT 24	0	0
MT 25	32	4.09207
MT 26	68	8.69565
MT 27	3	0.383632
MT 28	0	0
MT 62	0	0
MT 63	0	0

Total	782	100
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Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	5	6	5.0129	0	0	0
MT 1	100	101	100.286	0	0	0
MT 2	5	6	5.0129	0	0	0
MT 3	5	6	5.0129	0	0	0
MT 4	5	6	5.0129	0	0	0
MT 5	--	--	--	--	--	--
MT 6	--	--	--	--	--	--
MT 7	100	101	100.333	0	0	0
MT 9	100	101	100.286	0	0	0
MT 10	100	101	100.286	0	0	0
MT 12	241	250	245.667	3	0	3
MT 17	241	250	244	0	0	0
MT 18	5	220	49.4667	0	0	0
MT 24	--	--	--	--	--	--
MT 25	20	30	24.9032	0	0	0
MT 26	5	55	11.3731	0	0	0
MT 27	241	251	246	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 123:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

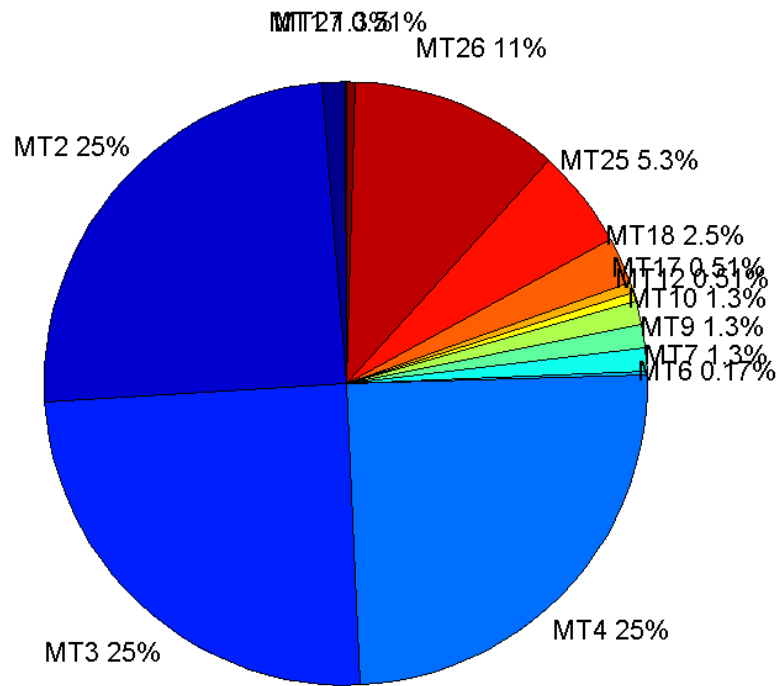
	number of messages	%
MT 0	0	0
MT 1	324	1.25368
MT 2	6393	24.7369
MT 3	6394	24.7408
MT 4	6393	24.7369
MT 5	0	0
MT 6	44	0.170252
MT 7	324	1.25368
MT 9	324	1.25368
MT 10	325	1.25755
MT 12	131	0.506887
MT 17	131	0.506887
MT 18	655	2.53444
MT 24	0	0
MT 25	1361	5.26621
MT 26	2913	11.2715
MT 27	132	0.510757
MT 28	0	0
MT 62	0	0
MT 63	0	0

Total	25844	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	0	84	44.8111	0	0	0
MT 2	0	8	2.27769	6	0	0
MT 3	0	8	2.27796	6	0	0
MT 4	0	8	2.27769	6	0	0
MT 5	--	--	--	--	--	--
MT 6	0	9858	298.605	5	5	5
MT 7	0	86	44.8359	0	0	0
MT 9	0	82	44.7988	0	0	0
MT 10	0	82	44.6481	0	0	0
MT 12	0	201	109.831	73	0	0
MT 17	0	201	109.8	0	0	0
MT 18	0	171	21.8746	0	0	0
MT 24	--	--	--	--	--	--
MT 25	0	60	10.6904	0	0	0
MT 26	0	56	4.99966	0	0	0
MT 27	0	201	108.992	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_11_10EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2015_11_10EGNOS/02_Convertor/02_Convertor

Configuration

Name	Section	Value
Receiver	Configuration	Novatel OEM4
Leap_Seconds	Configuration	15
Correction_mode	Configuration	SBAS MODE 0
Dual_Frequency	Configuration	no