

Global View

site Laboratory satellite systems
 abbreviation NAU
 country Ukraine
 city Kiev
 comment
 program Pegasus
 version 4.8.2
 date 20/10/2015

SBAS Messages

start: 07:59:42.129 14.09.2015 (week: 1862 sec: 115182.129)
end: 14:37:14.129 14.09.2015 (week: 1862 sec: 139034.129)
duration: 06:37:32 ..

quality

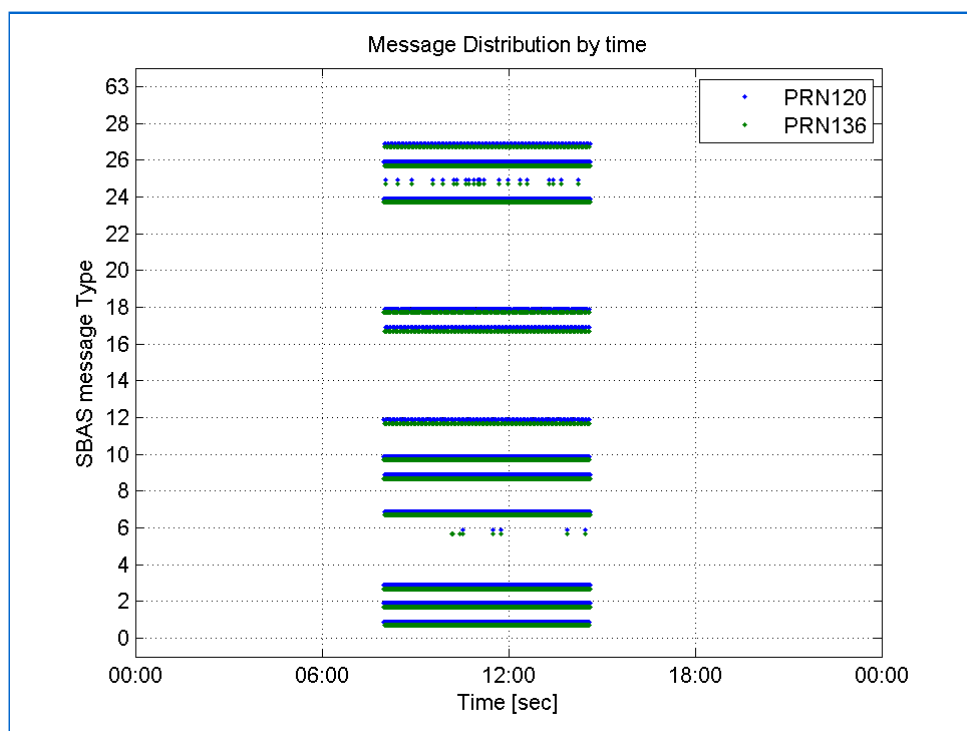
valid samples 47706
total samples 47706
number of SBAS PRNs 2

SBAS SIS Overview

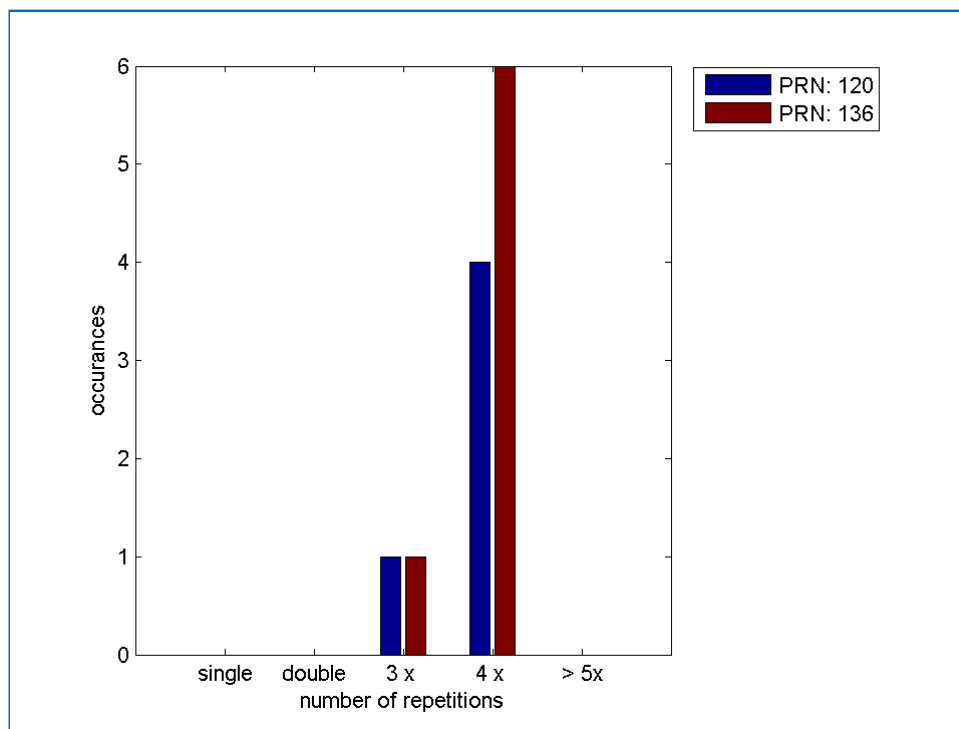
Message Type 6 repetitions :

	single	double	3 x	4 x	> 5x
PRN 120	0	0	1	4	0
PRN 136	0	0	1	6	0

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

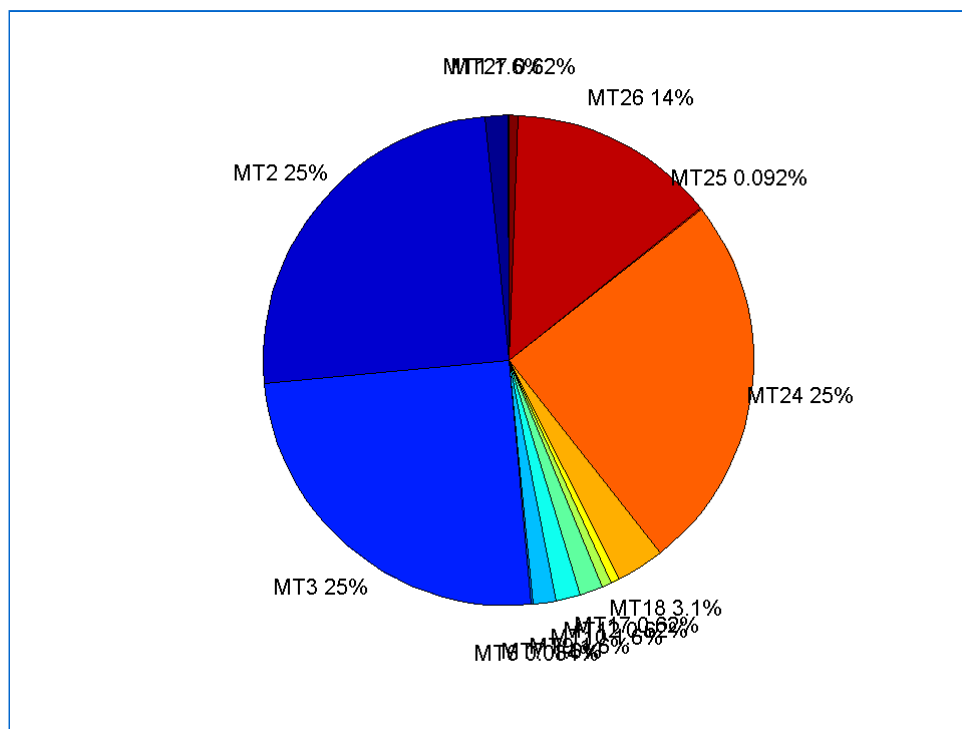
	number of messages	%
MT 0	0	0
MT 1	371	1.55536
MT 2	5956	24.9696
MT 3	5957	24.9738
MT 4	0	0
MT 5	0	0
MT 6	20	0.0838469
MT 7	371	1.55536
MT 9	371	1.55536
MT 10	371	1.55536
MT 12	149	0.624659
MT 17	148	0.620467
MT 18	740	3.10234
MT 24	5957	24.9738
MT 25	22	0.0922316
MT 26	3271	13.7132
MT 27	149	0.624659
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	23853	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	70	64.3189	0	0	0
MT 2	4	8	4.00437	5	0	0
MT 3	4	8	4.00437	5	0	0
MT 4	--	--	--	--	--	--

MT 5	--	--	--	--	--	--
MT 6	1	7672	740.789	4	4	4
MT 7	64	70	64.3189	0	0	0
MT 9	64	70	64.3081	0	0	0
MT 10	64	70	64.3081	0	0	0
MT 12	156	166	160.554	148	0	0
MT 17	156	166	160.558	0	0	0
MT 18	4	130	31.9919	0	0	0
MT 24	4	8	4.00437	0	0	0
MT 25	72	2530	1061.52	0	0	0
MT 26	4	31	7.29113	0	0	0
MT 27	156	168	160.527	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

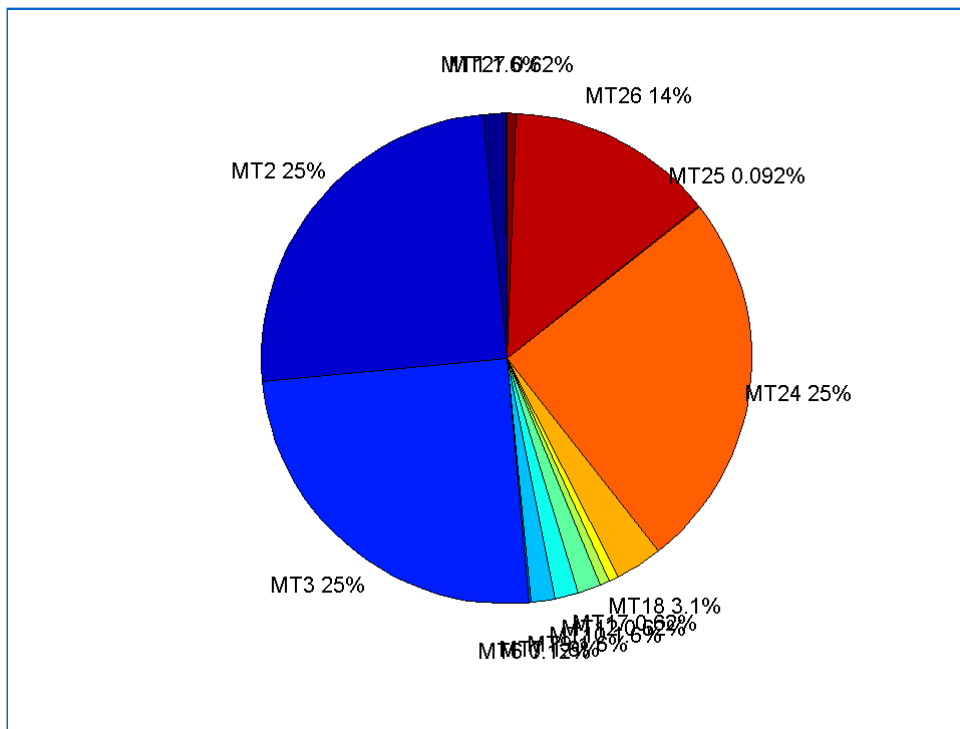
	number of messages	%
MT 0	0	0
MT 1	370	1.55117
MT 2	5955	24.9654
MT 3	5955	24.9654

MT 4	0	0
MT 5	0	0
MT 6	28	0.117386
MT 7	371	1.55536
MT 9	371	1.55536
MT 10	371	1.55536
MT 12	149	0.624659
MT 17	149	0.624659
MT 18	744	3.1191
MT 24	5955	24.9654
MT 25	22	0.0922316
MT 26	3265	13.688
MT 27	148	0.620467
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	23853	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	70	64.3631	0	0	0
MT 2	4	8	4.00537	7	0	0
MT 3	4	8	4.00554	7	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	7672	568.37	6	6	6
MT 7	64	70	64.3297	0	0	0
MT 9	64	70	64.3622	0	0	0
MT 10	64	70	64.3297	0	0	0
MT 12	156	168	160.635	148	0	0
MT 17	156	168	160.608	0	0	0
MT 18	4	150	32.0188	0	0	0
MT 24	4	8	4.00554	0	0	0
MT 25	72	2530	1061.52	0	0	0
MT 26	4	51	7.29718	0	0	0
MT 27	156	167	160.667	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:/PEGASUS_DAT_job/JOB/2015_09_14EGNOS/01_User/01_User
Outputfile	System	D:/PEGASUS_DAT_job/JOB/2015_09_14EGNOS/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

Position Domain

start: 07:59:42 14.09.2015 (week: 1862 sec: 115182)
 end: 14:37:14 14.09.2015 (week: 1862 sec: 139034)
 duration: 06:37:33 ..

quality

valid samples 23492
 total samples 23853

Event tables

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

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	117088	1.65848	9.45108	0.175481	0.944372	14.5468	0.0649196

max normVer	136375	1.52115	21.103	0.0720822	2.32271	20.4951	0.11333
max HPE	135800	4.8395	60.2959	0.0802625	-3.7824	41.4796	0.091187
max VPE	136128	2.84875	78.7014	0.0361969	3.81569	63.8413	0.0597684
min HPL	127997	0.960986	8.076	0.118993	0.302143	16.1482	0.0187106
min VPL	131970	0.699247	10.0596	0.0695104	-0.64337	12.4318	0.051752

APV-1 discontinuity events :

#	Epoch	duration	stable period
1	124366	20	8823
2	135654	707	11268
3	136412	26	51

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	118481	160	2938
2	124366	20	5725
3	135654	707	11268
4	136412	26	51

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	118481	160	2938
2	124366	20	5725
3	135654	707	11268
4	136412	26	51

First Glance analysis

Duration	23853
Number of Samples	23853
Number of invalid sample	361
Number of no position solution samples	0
Number of missing sample	0
Logging Loss	0
Processing Loss	1.5134
Number of Misleading Information	0
Data gaps	0
Discontinuities	0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
23492	22739	22579	0	22579

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.62692	1.58043	1.58102	NaN	1.58102
HPEscale 95%	NaN	5.08097	5.084	NaN	5.084
VPE 95%	1.47603	1.15567	1.15503	NaN	1.15503
VPEscale 95%	NaN	3.1436	2.20666	NaN	2.20666

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.967947	0.961136	0	0.961136
measurements	0.984866	0.953297	0.94659	0	0.94659
Operational	0.984866	0.953297	0.94659	0	0.94659

Discontinuity events :

#	Epoch	duration	stable period

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	3	4	--	4
Long	--	3	4	--	4
Independent	--	3	4	--	4
P(disc.)	NaN	0.00197898	0.00265734	NaN	0.00265734
P(slide)	NaN	0.00197898	0.00265734	NaN	0.00265734

Integrity events :

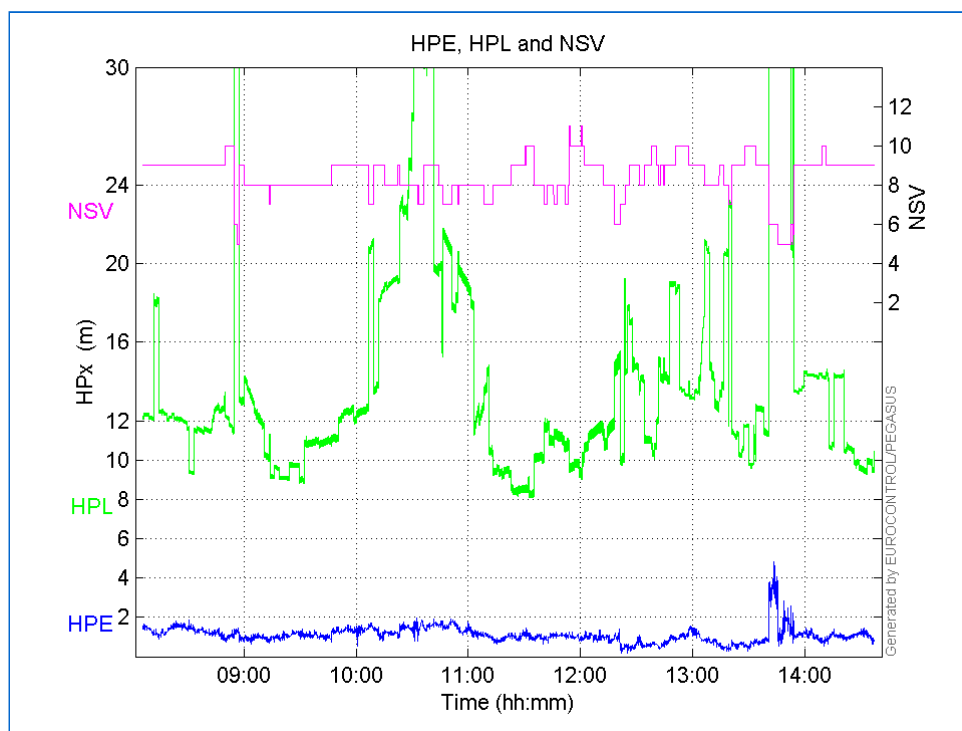
	MI	HMI APV-1	HMI LPV-200	HMI CAT-1	HMI APV-35m
Total	0	0	0	0	0
Horizontal	0	0	0	0	0
Vertical	0	0	0	0	0

Performance Summary :

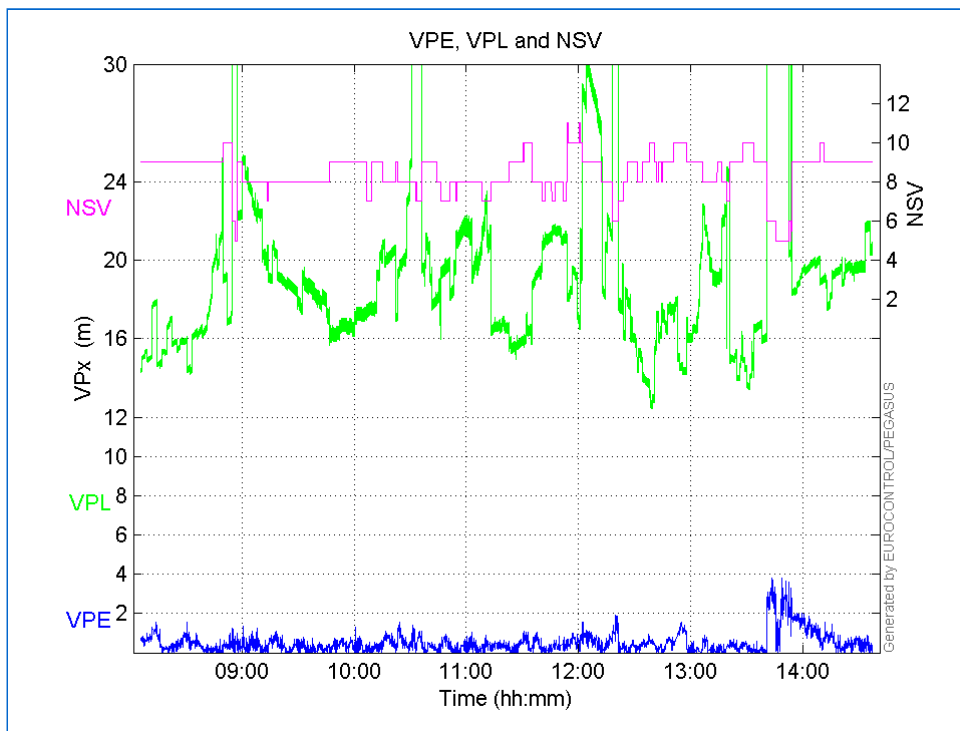
	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	23492	22739	22579	0	22579
SIS Availability	1	0.967947	0.961136	0	0.961136
Local Availability	0.984866	0.953297	0.94659	0	0.94659
Operational Availability	0.984866	0.953297	0.94659	0	0.94659
HPE 95%	1.62692	1.58043	1.58102	NaN	1.58102
HPEscale 95%	NaN	5.08097	5.084	NaN	5.084
VPE 95%	1.47603	1.15567	1.15503	NaN	1.15503
VPEscale 95%	NaN	3.1436	2.20666	NaN	2.20666
All Discontinuity Events	--	3	4	--	4
Long Discontinuity Events	--	3	4	--	4
Independent Discontinuity Events	--	3	4	--	4
P(discontinuity)	NaN	0.00197898	0.00265734	NaN	0.00265734
P(sliding window)	NaN	0.00197898	0.00265734	NaN	0.00265734
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:

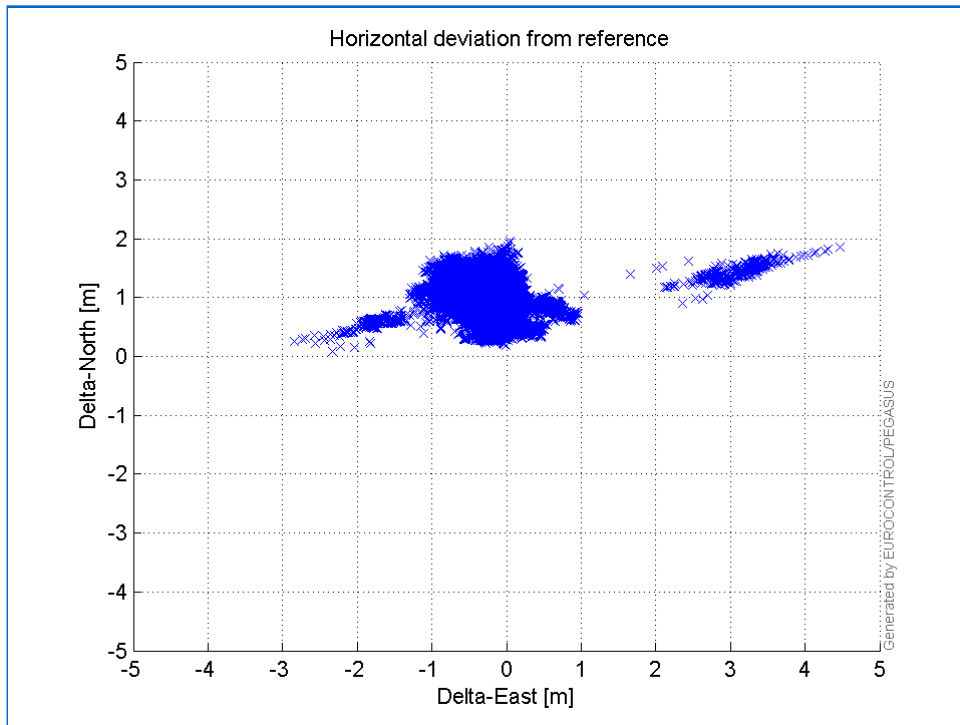


VPE, VPL and NSV:



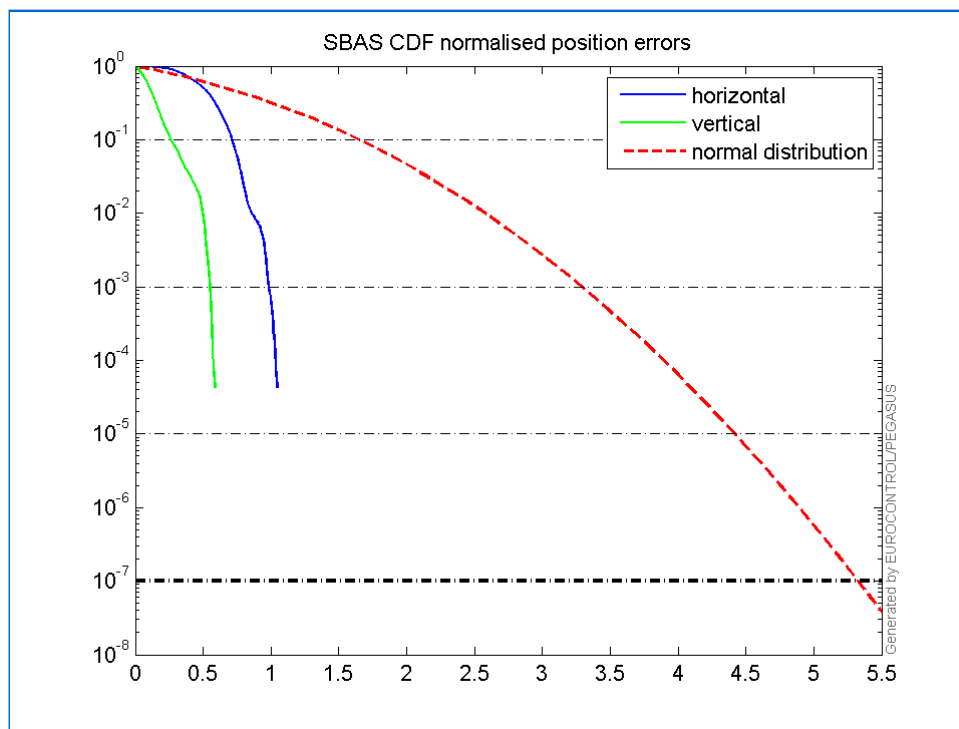
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

```

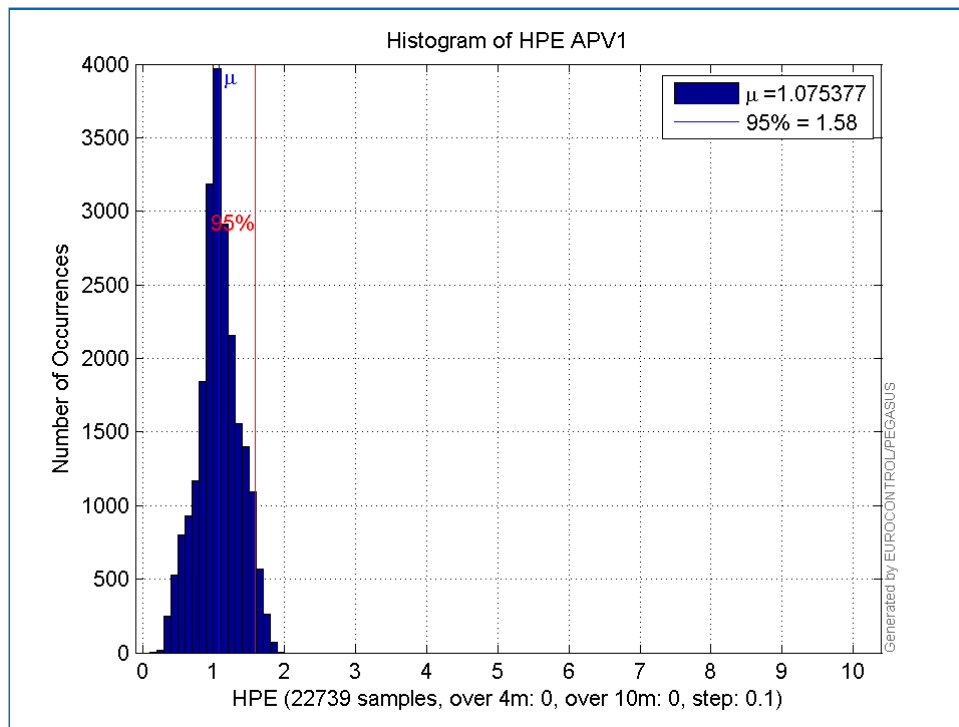
number 22739
sum 24453.001
sum2 28294.046
prctile95 1.5804257
prctile99 1.7294848
number 22739
sum 10162.486
sum2 7446.5603
prctile95 1.1556742
prctile99 1.73237
number 22739
sum 313879.72
sum2 4969641.6
prctile95 22.88946
prctile99 36.908199
number 22739
sum 433612.22
sum2 8605480.9
prctile95 27.615575
prctile99 32.85382
number 22739
sum 1907.9174
sum2 177.4083
prctile95 0.12702416
prctile99 0.14393173
number 22739
sum 541.24708
sum2 21.184391
prctile95 0.062871945
prctile99 0.093099313
number 22579
sum 24248.767
sum2 28032.808
prctile95 1.5810218
prctile99 1.729726
number 22579
sum 10063.469

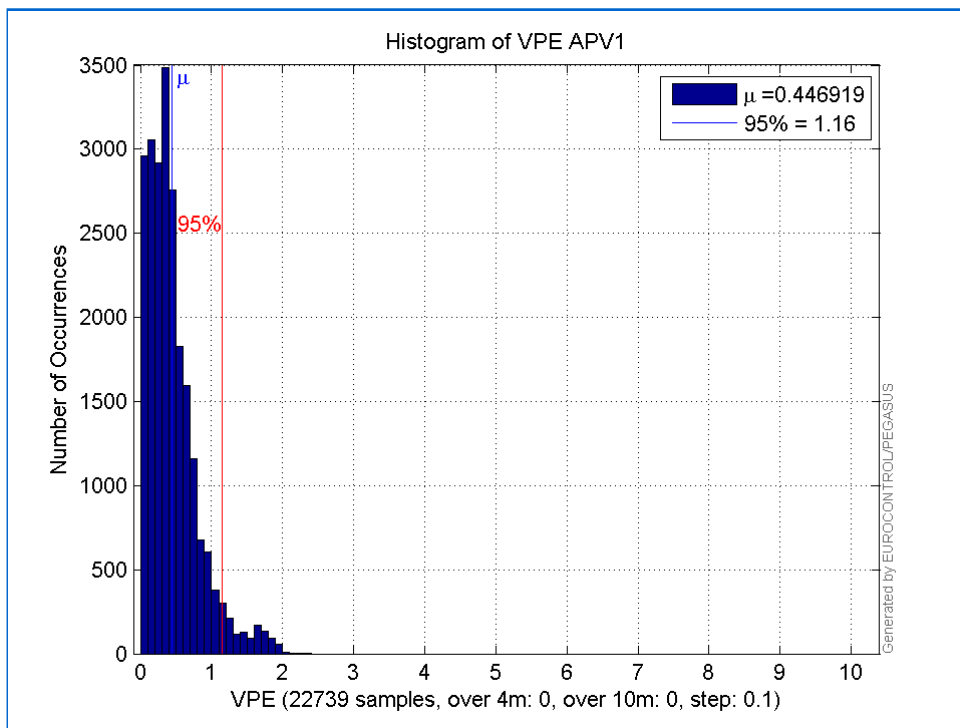
```

sum2 7368.2233
prctile95 1.1550268
prctile99 1.7328379
number 22579
sum 308773.36
sum2 4806638.9
prctile95 22.547475
prctile99 36.909213
number 22579
sum 427387.72
sum2 8363265.1
prctile95 25.32037
prctile99 31.802655
number 22579
sum 1901.517
sum2 177.15171
prctile95 0.12709995
prctile99 0.14397923
number 22579
sum 538.71024
sum2 21.133362
prctile95 0.063047441
prctile99 0.093161655

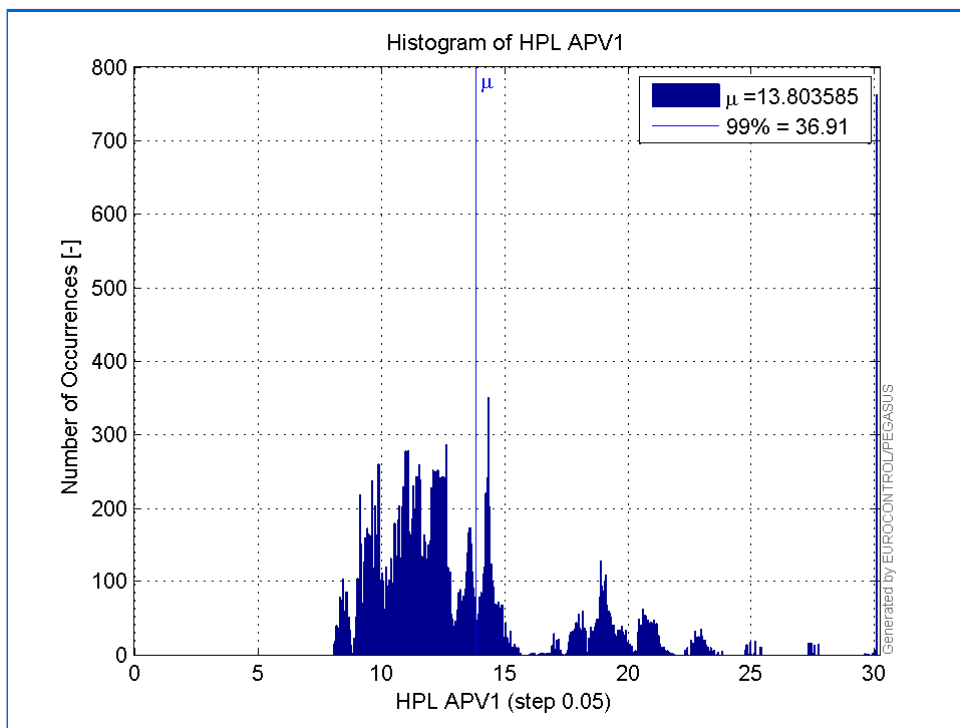
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.07538	0.296418	1.06249	1.58043	1.72948	1.11548
HPL	13.8036	5.2928	12.2043	22.8895	36.9082	14.7835
VPE	0.446919	0.35742	0.371609	1.15567	1.73237	0.572258
VPL	19.0691	3.84916	18.7247	27.6156	32.8538	19.4537

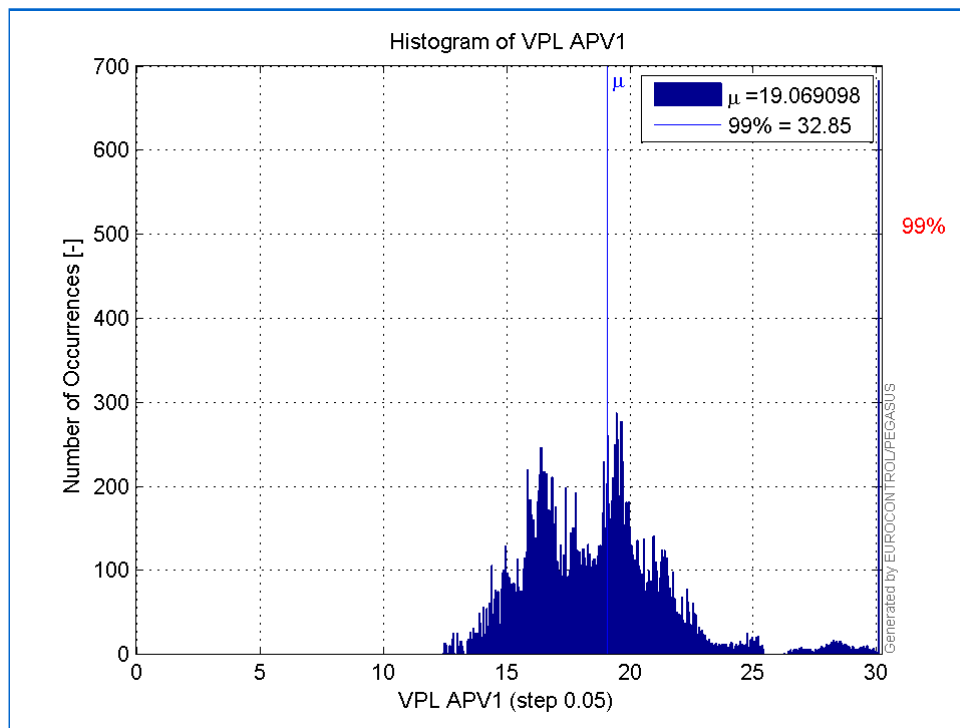
Histogram of HPE APV1:

Histogram of VPE APV1:



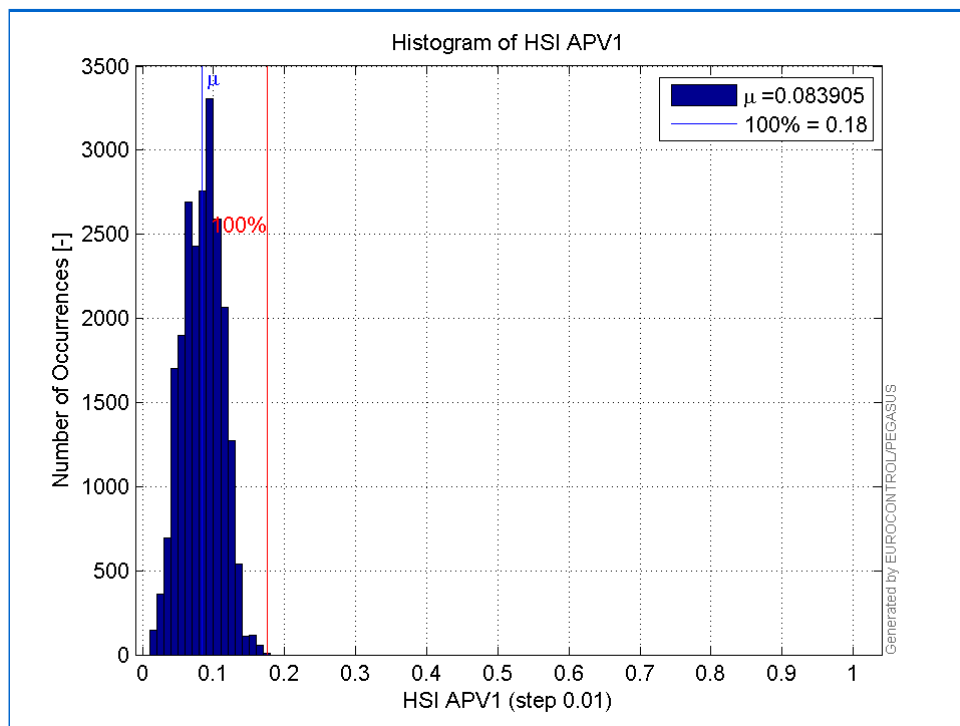
Histogram of HPL APV1:



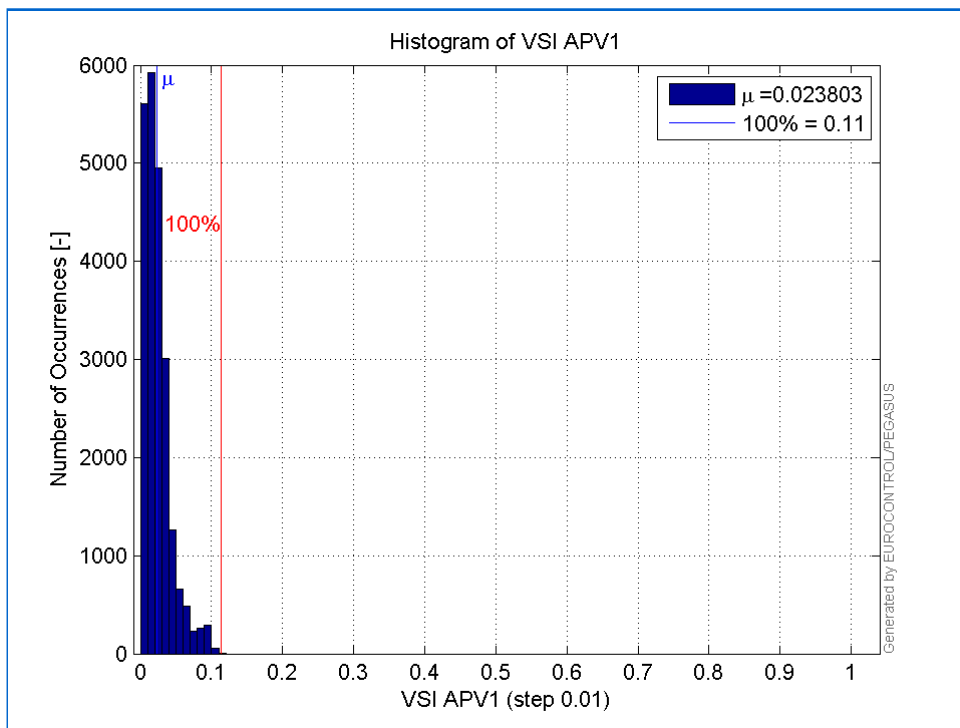
Histogram of VPL APV1:



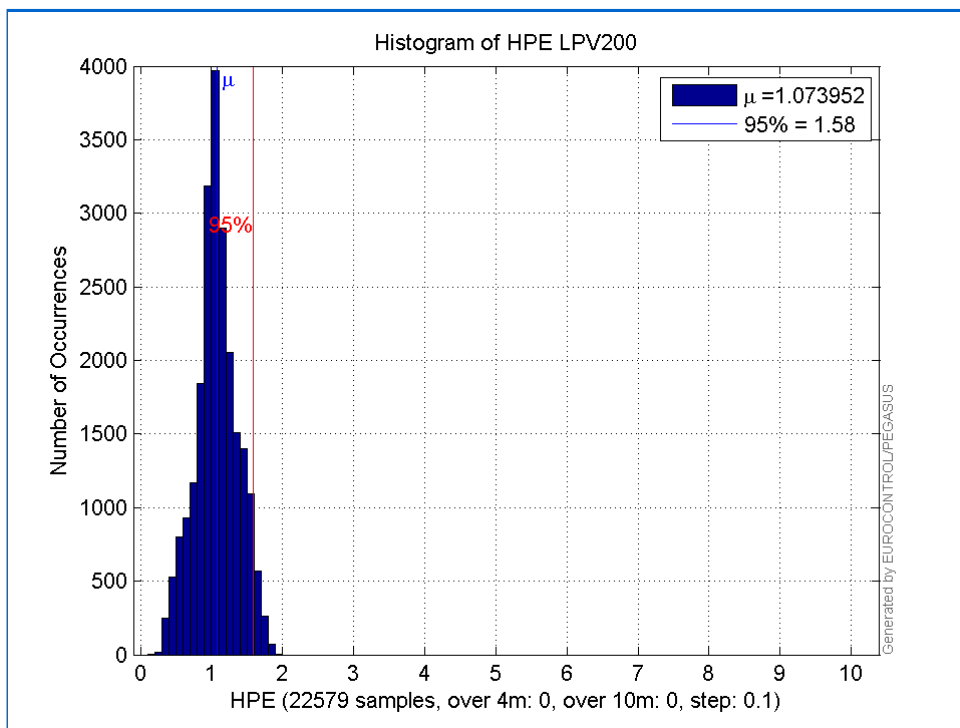
Histogram of HSI APV1:



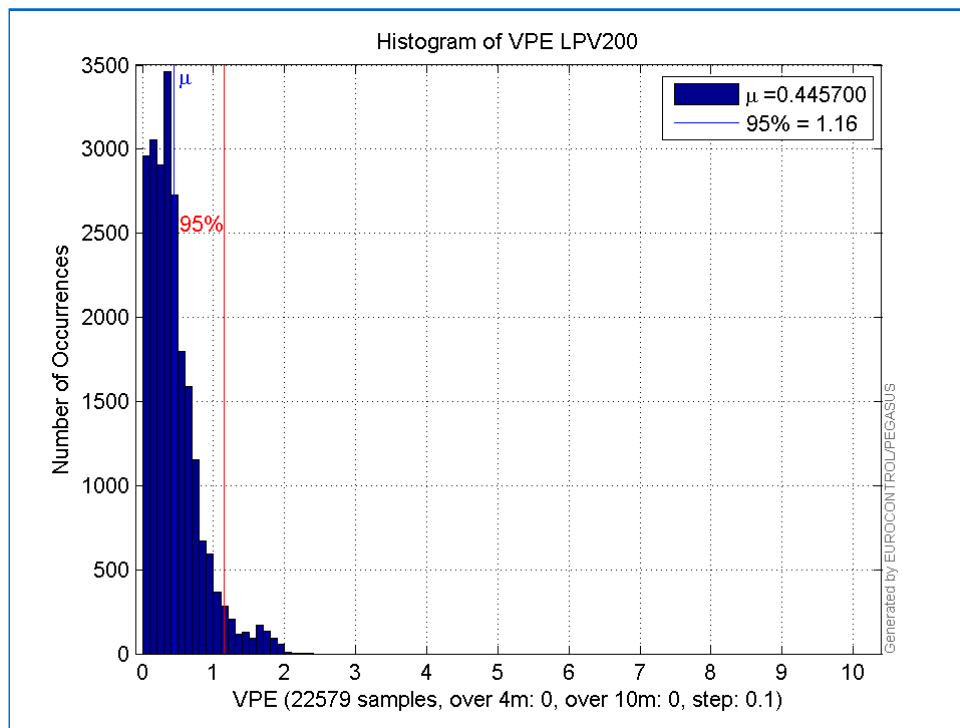
Histogram of VSI APV1:



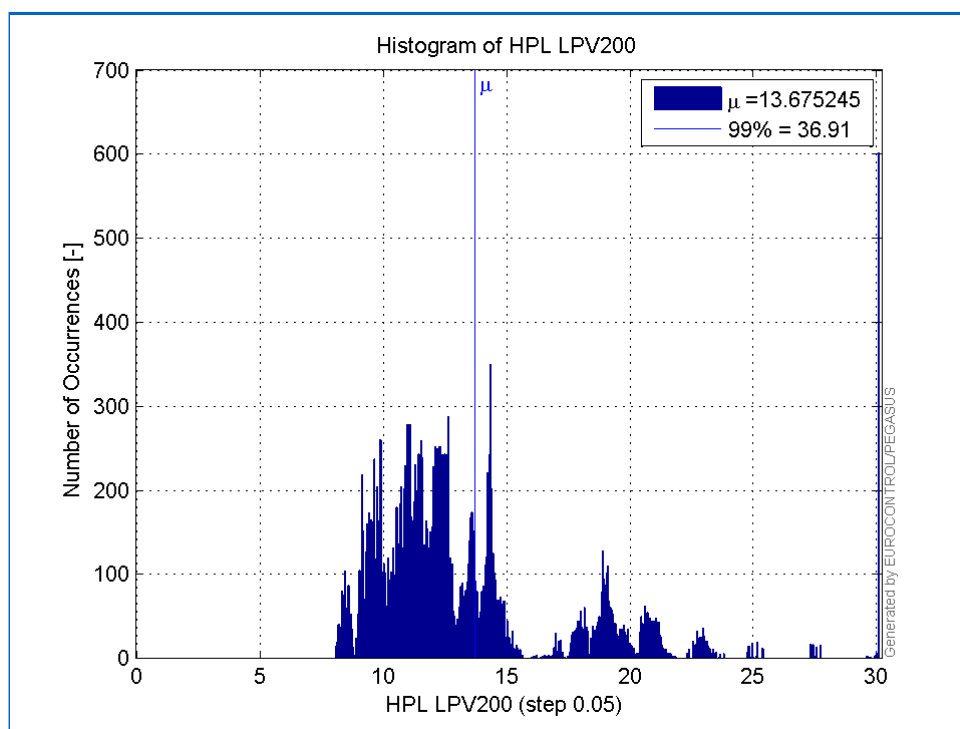
Histogram of HPE LPV200:



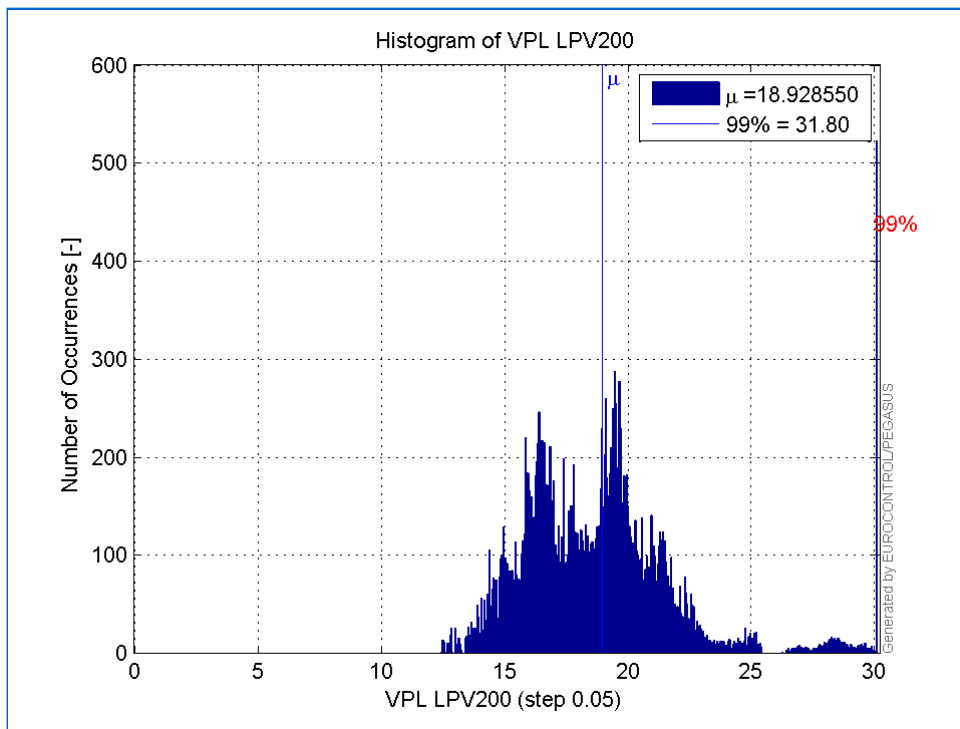
Histogram of VPE LPV200:



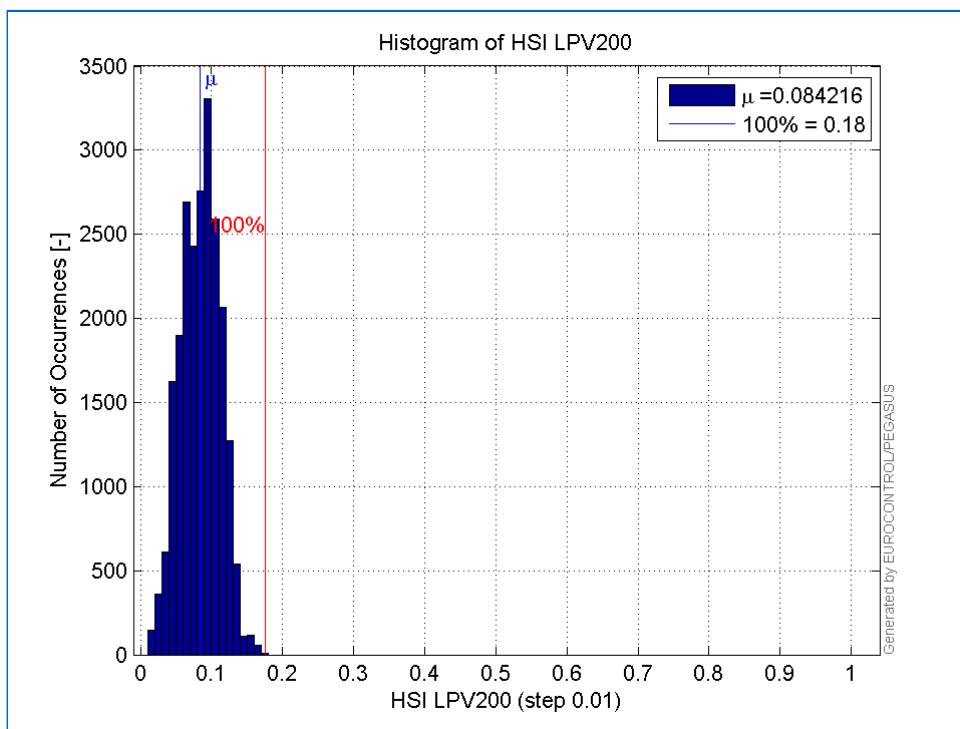
Histogram of HPL LPV200:



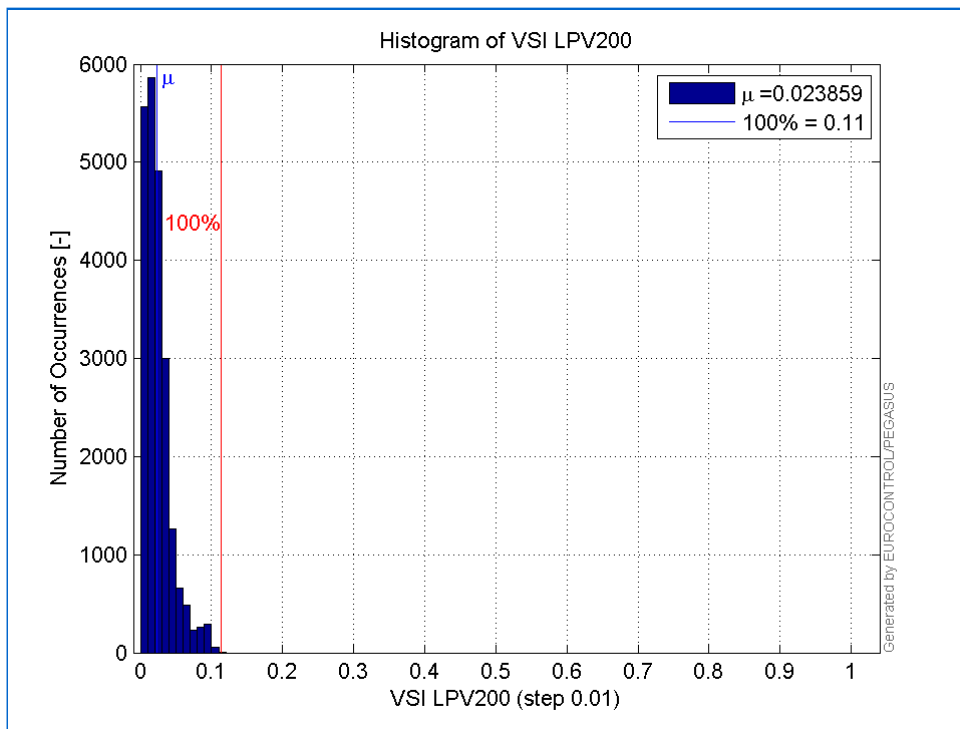
Histogram of VPL LPV200:



Histogram of HSI LPV200:

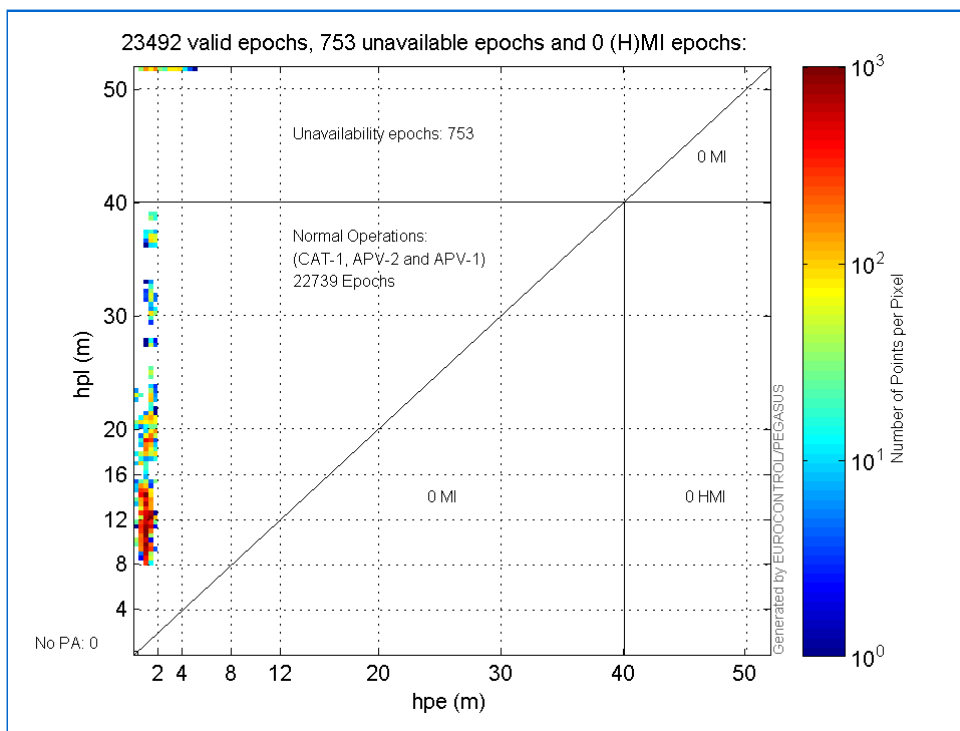


Histogram of VSI LPV200:

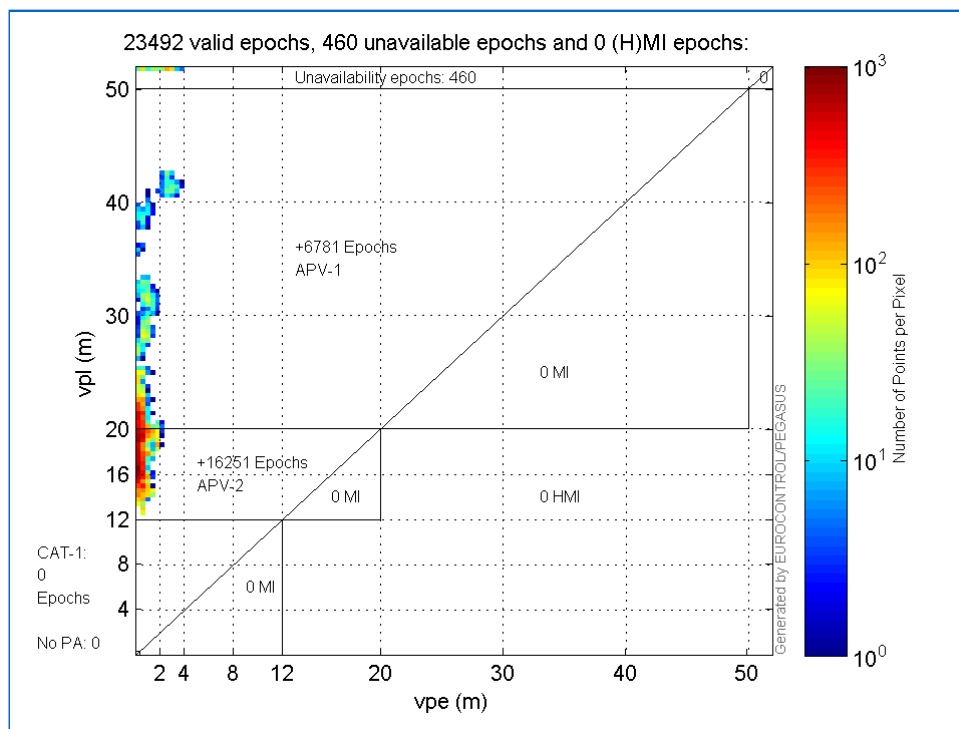


Stanford Plots

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:/PEGASUS_DAT_job/JOB/2015_09_14EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_09_14EGNOS/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	233.7199
mi_numbers	results	0

Range Domain

start: 07:59:42 14.09.2015 (week: 1862 sec: 115182)

end: 14:37:14 14.09.2015 (week: 1862 sec: 139034)
duration: 06:37:33 ..

quality

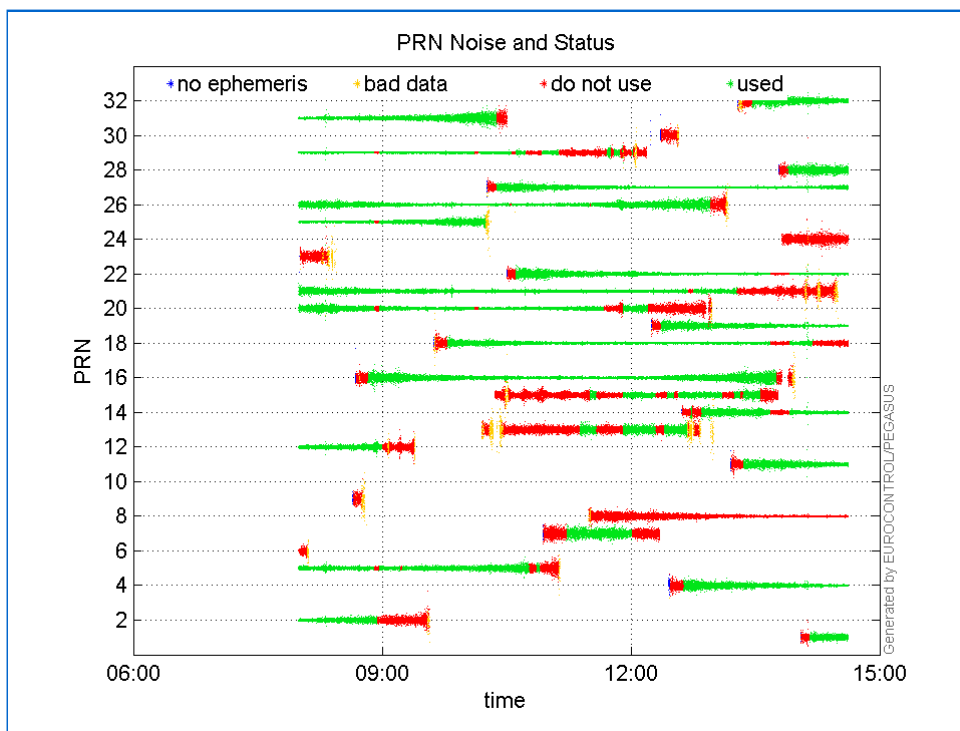
valid samples 23853
total samples 23853

PRN overview

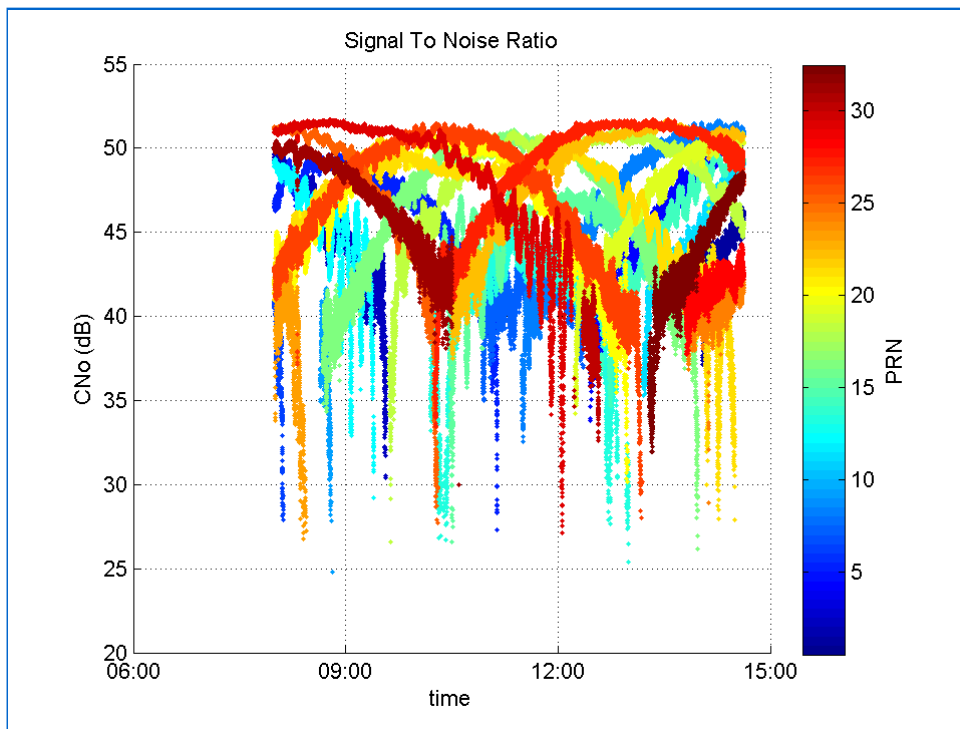
Number of Visible GPS Satellites 29
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



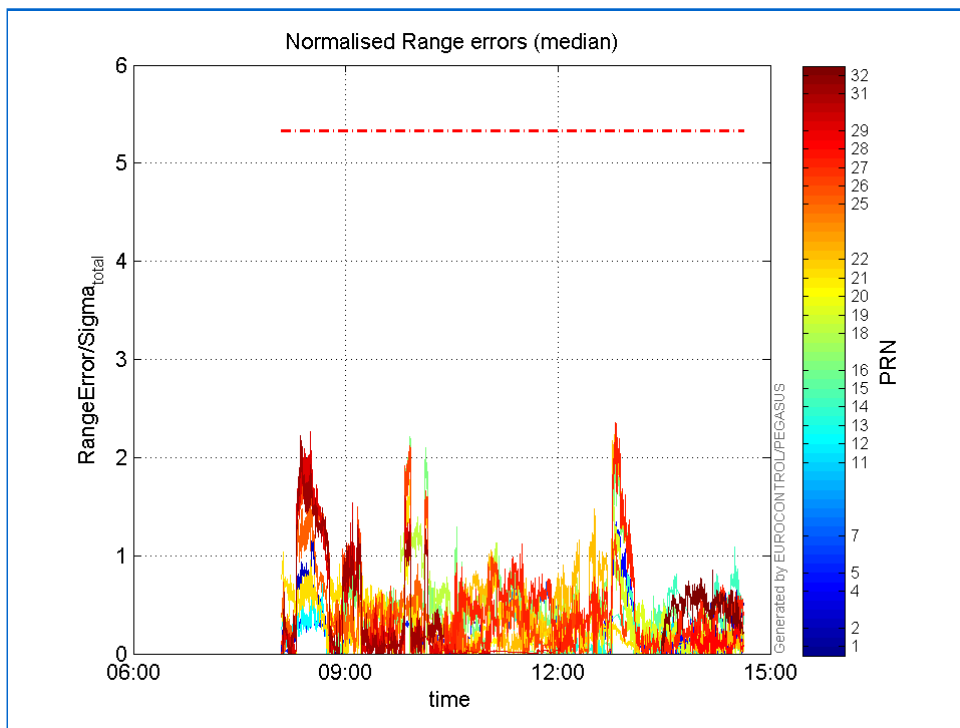
range errors

Number of Overbounding Norm Errors 0

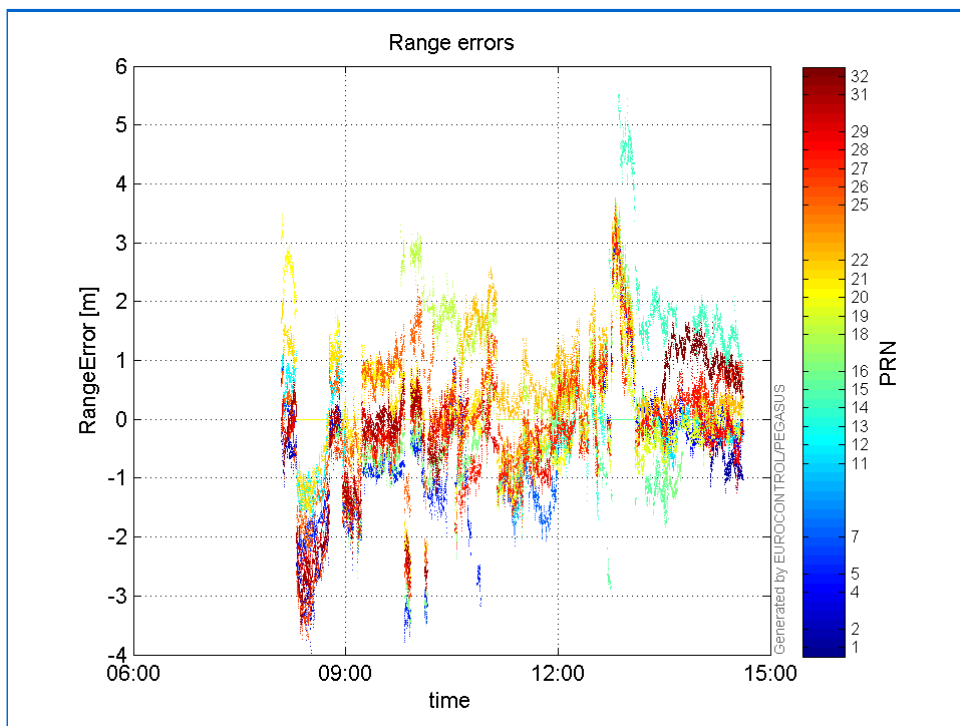
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1862	138666	1	0.649543	-1.18993	1.83196
1862	117169	2	1.20834	-3.53326	2.92407
1862	132553	4	1.34058	3.47695	2.59362
1862	117193	5	0.748932	-2.12782	2.84115
1862	127410	7	0.807876	-2.14733	2.658
1862	135461	11	0.403315	-0.868387	2.15312
1862	117613	12	0.714222	-1.893	2.65044
1862	127753	13	0.536671	-2.02994	3.78247
1862	138611	14	1.09322	2.09038	1.91213
1862	134471	15	0.587487	-1.62494	2.76591
1862	122054	16	2.21194	-3.47492	1.57098
1862	132437	18	1.59605	3.10564	1.94583
1862	132534	19	1.30755	2.56021	1.95802
1862	122057	20	1.07503	-2.78019	2.58615
1862	122058	21	1.77382	-2.52201	1.4218
1862	132510	22	2.31849	3.75457	1.6194
1862	116986	25	1.54616	-2.37325	1.53493
1862	122074	26	2.12447	-3.02362	1.42324
1862	132510	27	2.35208	3.28087	1.39488
1862	138666	28	0.486832	-1.24952	2.56663
1862	117029	29	2.26774	-3.26449	1.43954
1862	116511	31	2.22568	-3.53732	1.58933
1862	137449	32	0.856119	1.64761	1.92451

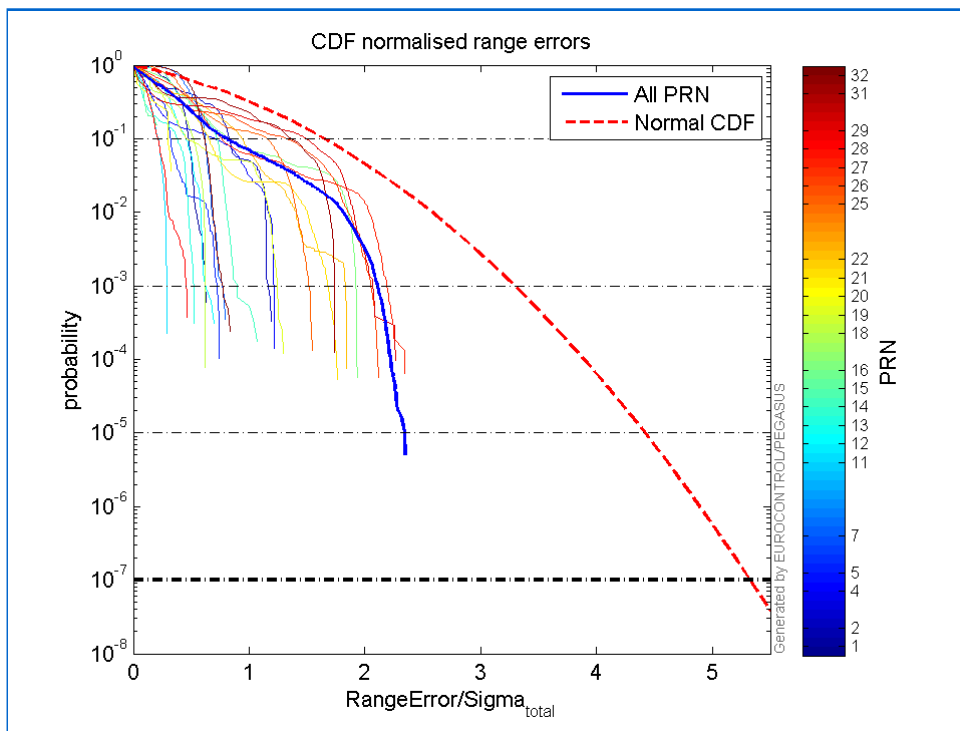
Normalised Range errors (median):



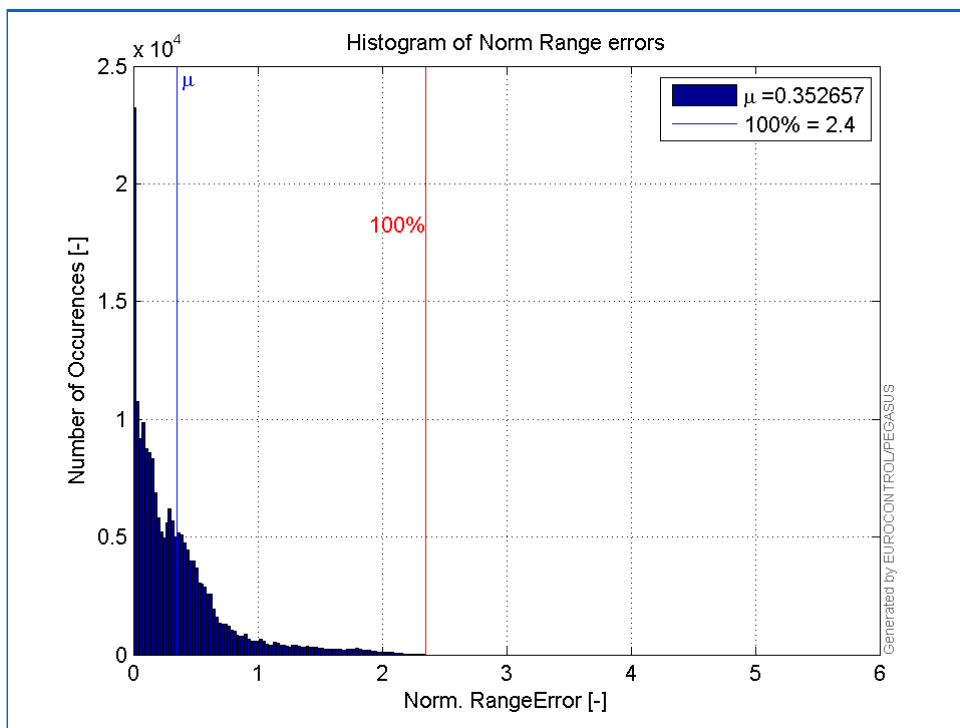
Range errors:



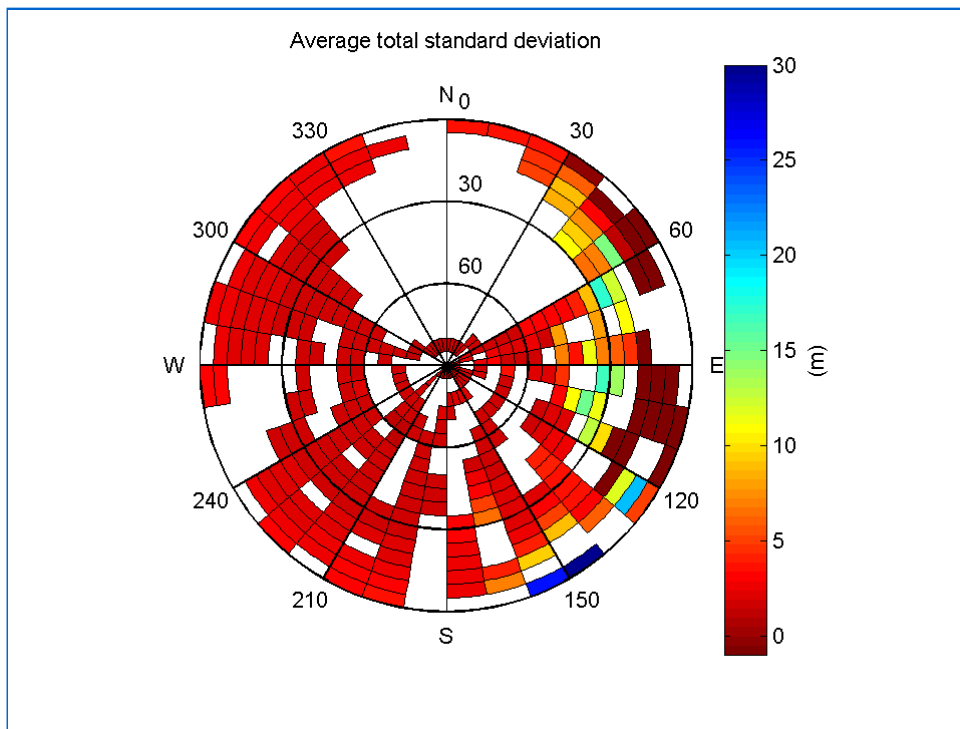
CDF normalised range errors:



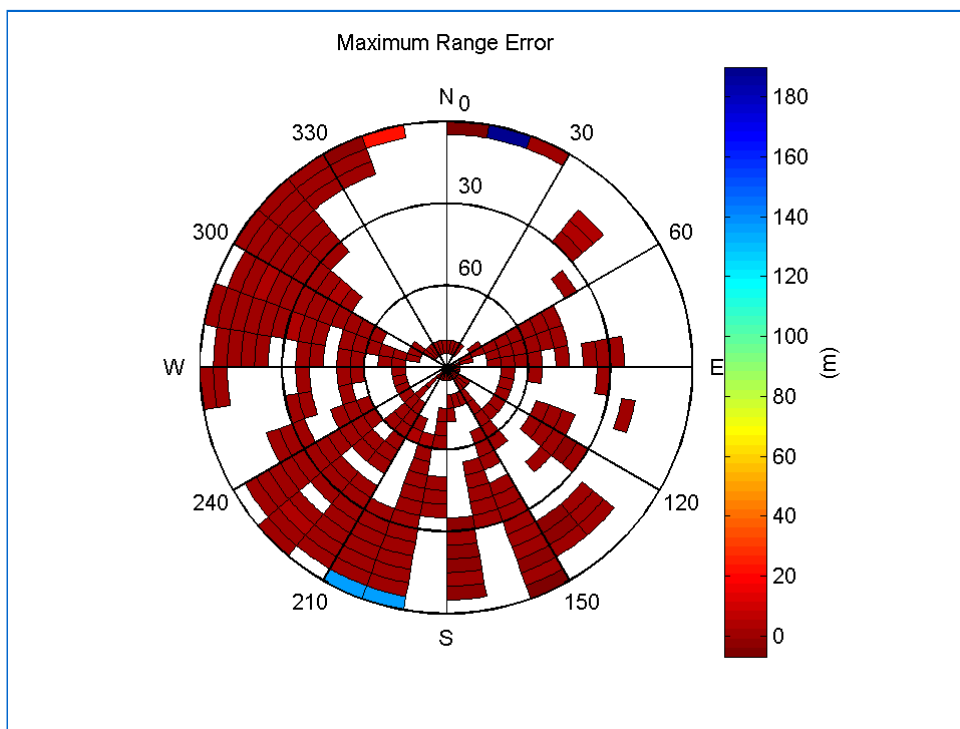
Histogram of Norm Range errors:



Sigma Sky Plot:

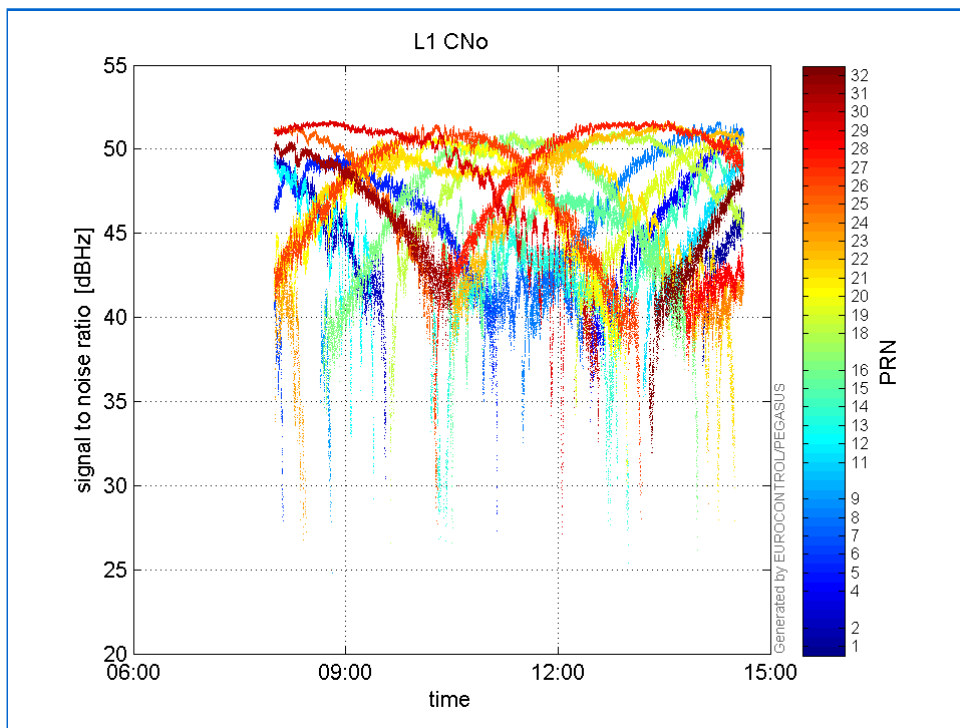


Norm Error Sky Plot:

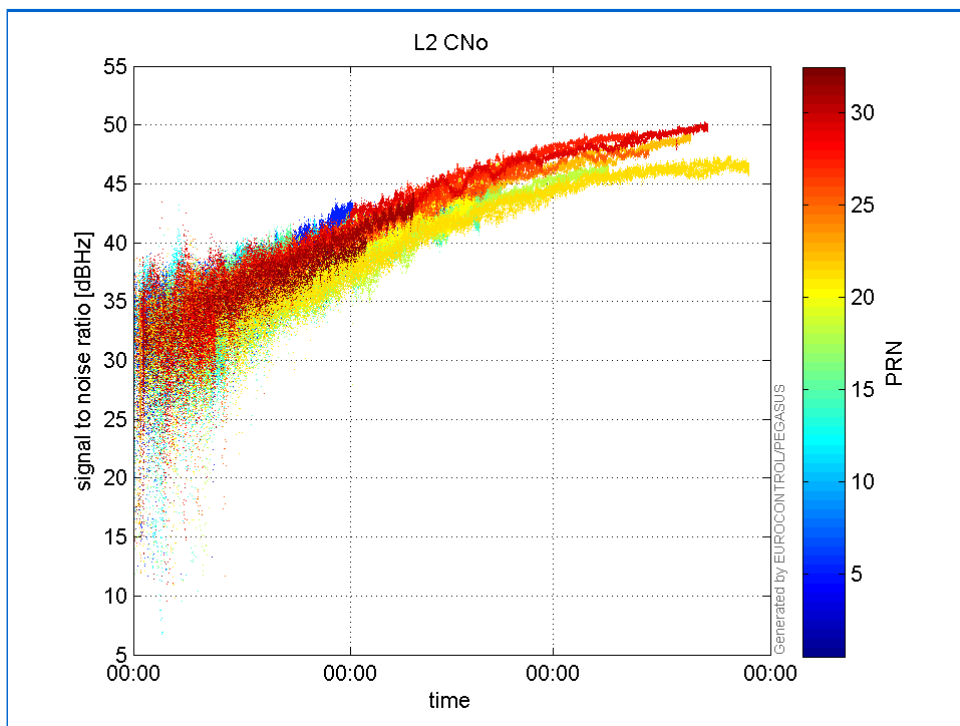


signal quality

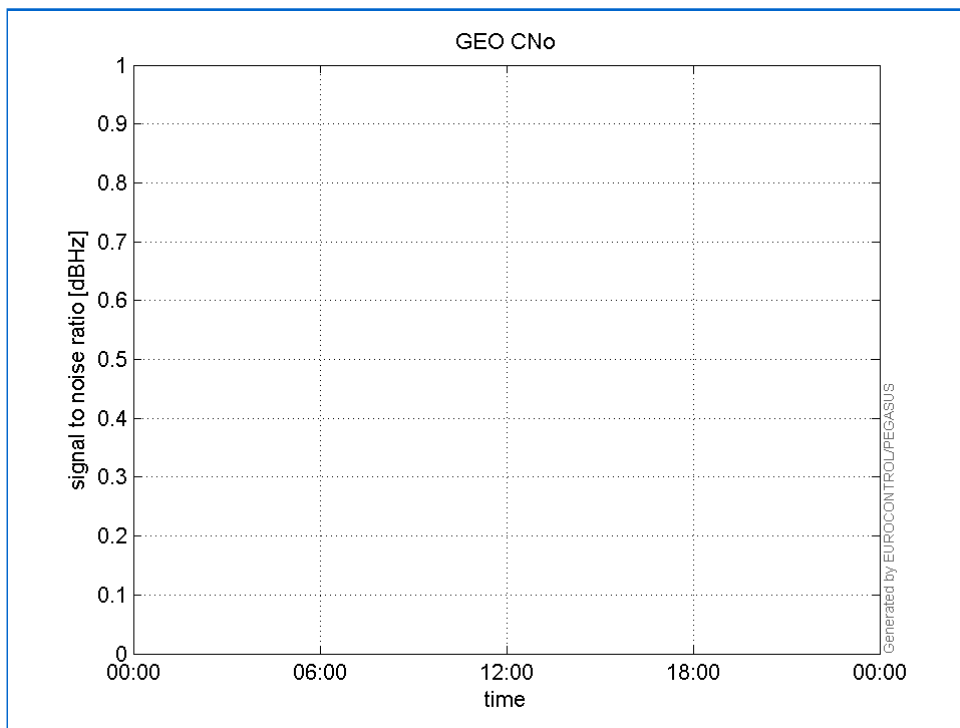
L1 CNo:



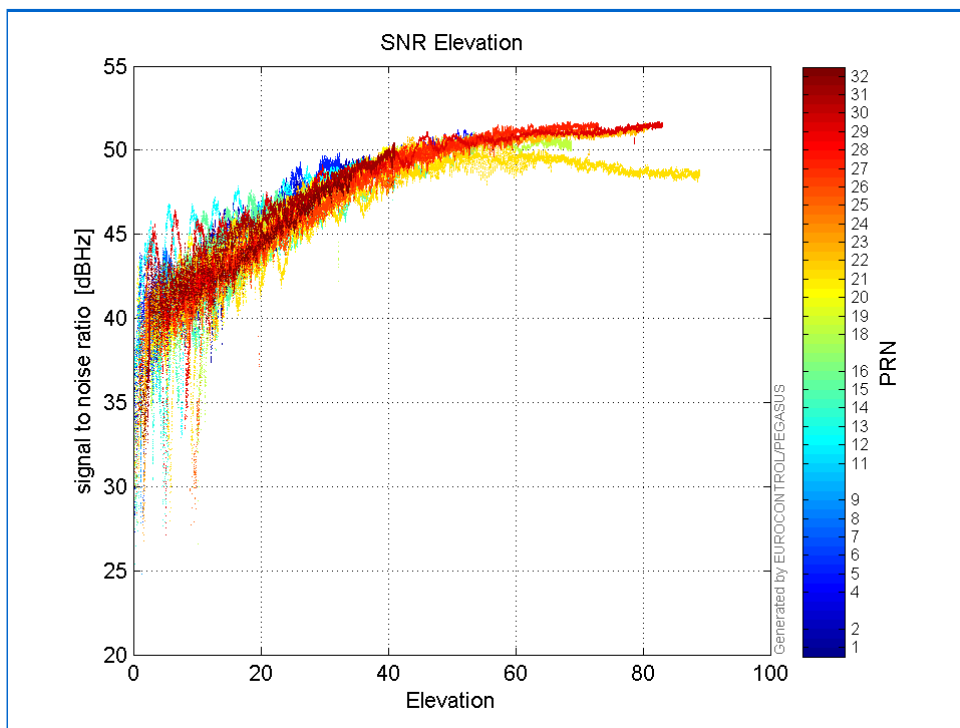
L2 CNo:



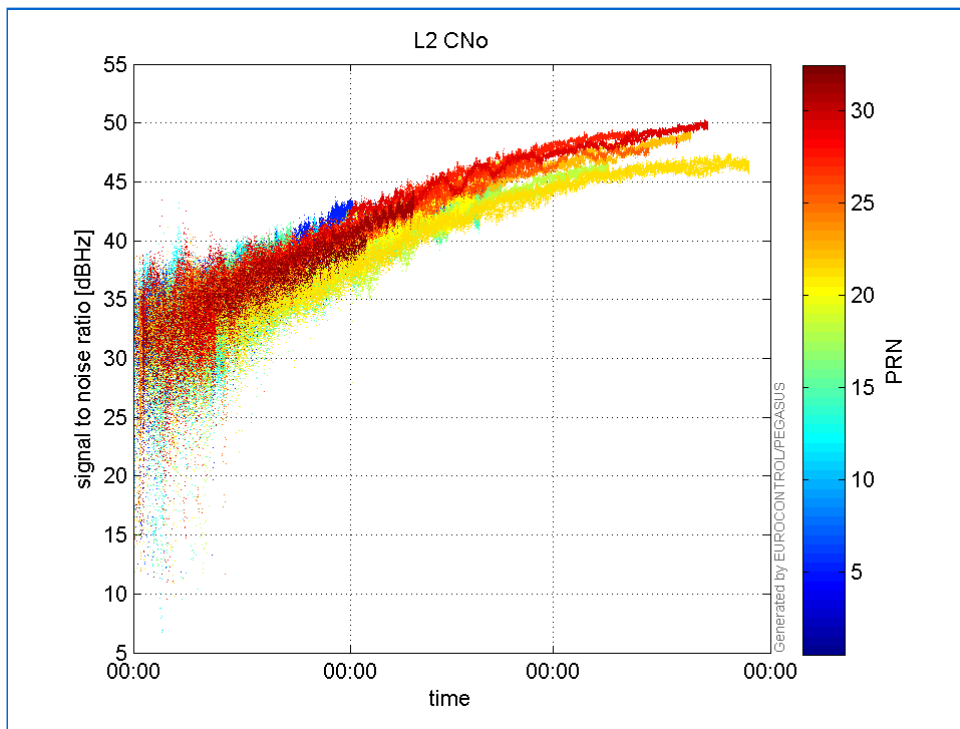
GEO CNo:



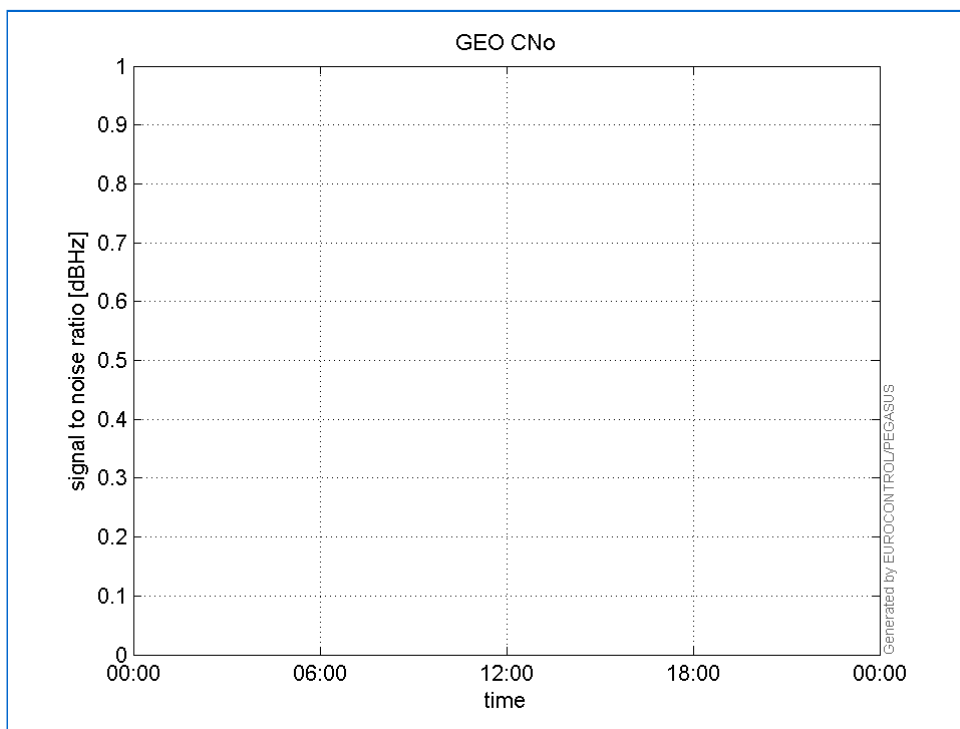
SNR Elevation:



L2 CNo:

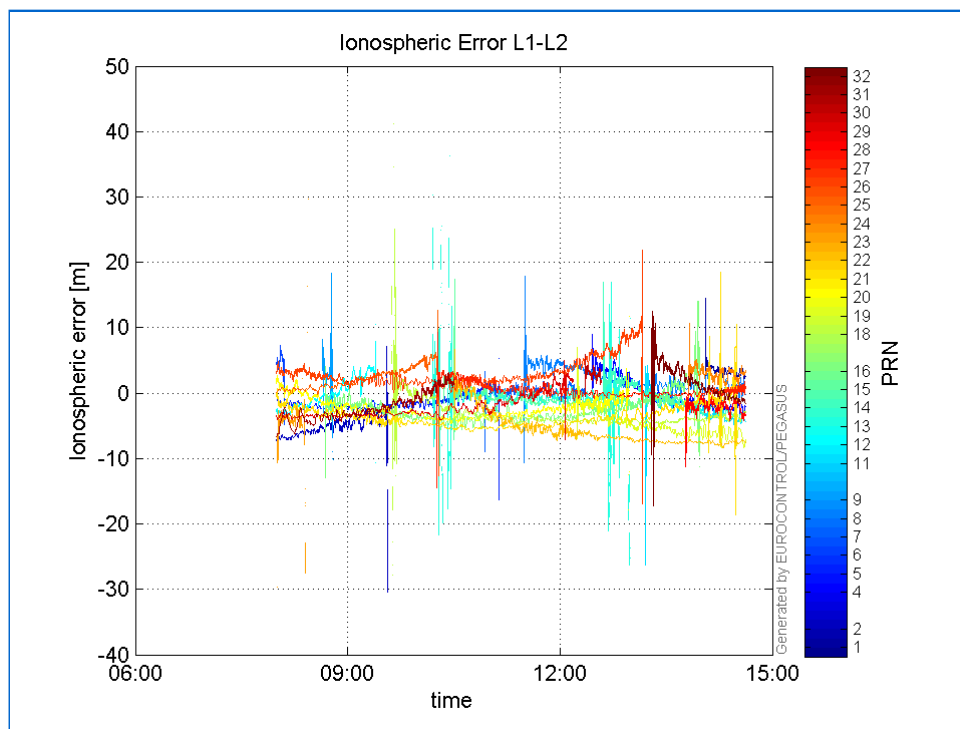


GEO CNo:



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:/PEGASUS_DAT_job/JOB/2015_09_14EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_09_14EGNOS/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	233.7199
mi_numbers	results	0