

615 - Constellation

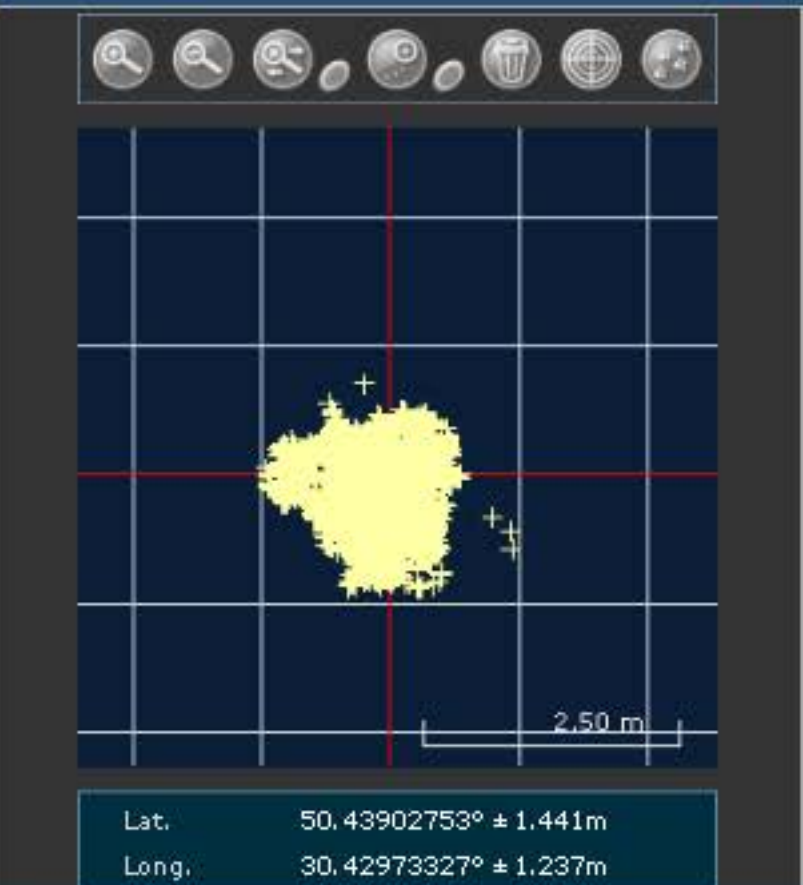


SV Details		Mask Angle Details	
PRN	30	AZ	48.24°
ELEV	31.61°	C/No	50.58
STATUS	No Differential Corr.		

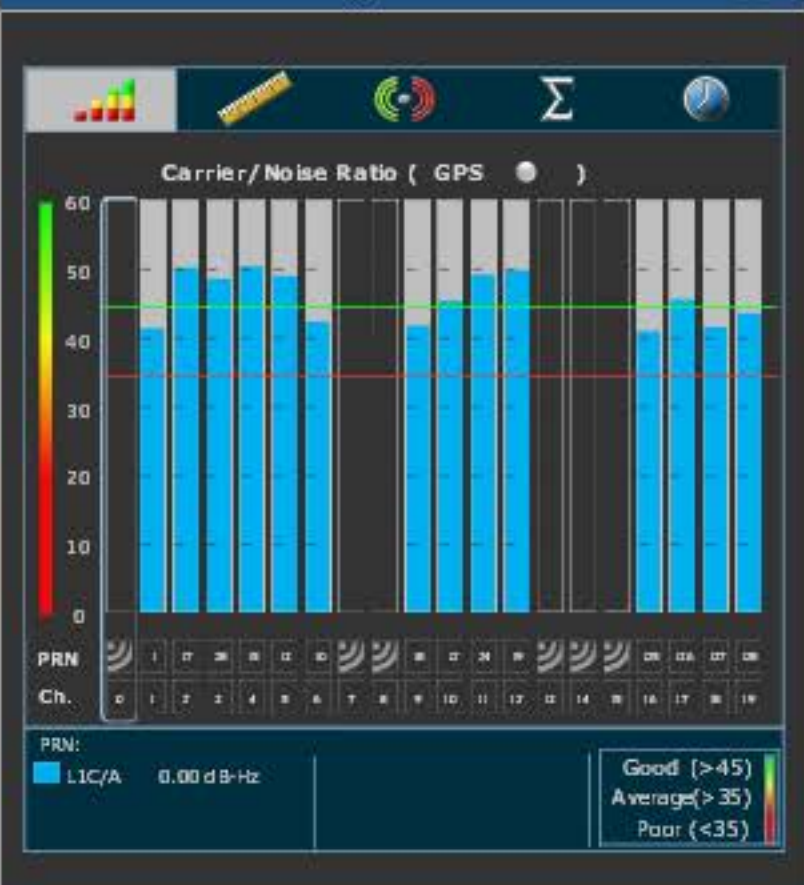
615 - Position

Latitude	50.43902753°	+/-	1.44m
Longitude	30.42973327°	+/-	1.24m
Hgt. (MSL)	189.712m	+/-	3.30m
Solution type	SBAS		
Iono correction	SBAS		
Advanced RTK status	N/A		
Solution age	0 second		
Differential age	7 seconds		
# of satellites	9		
Used in solution	GPS L1 L2 L5 GLO L1 L2 GAL E1		
Solution status	Computed		
Wed 30/03/2016 13:30:27 GMT Wed 30/03/2016 16:30:27 Local			

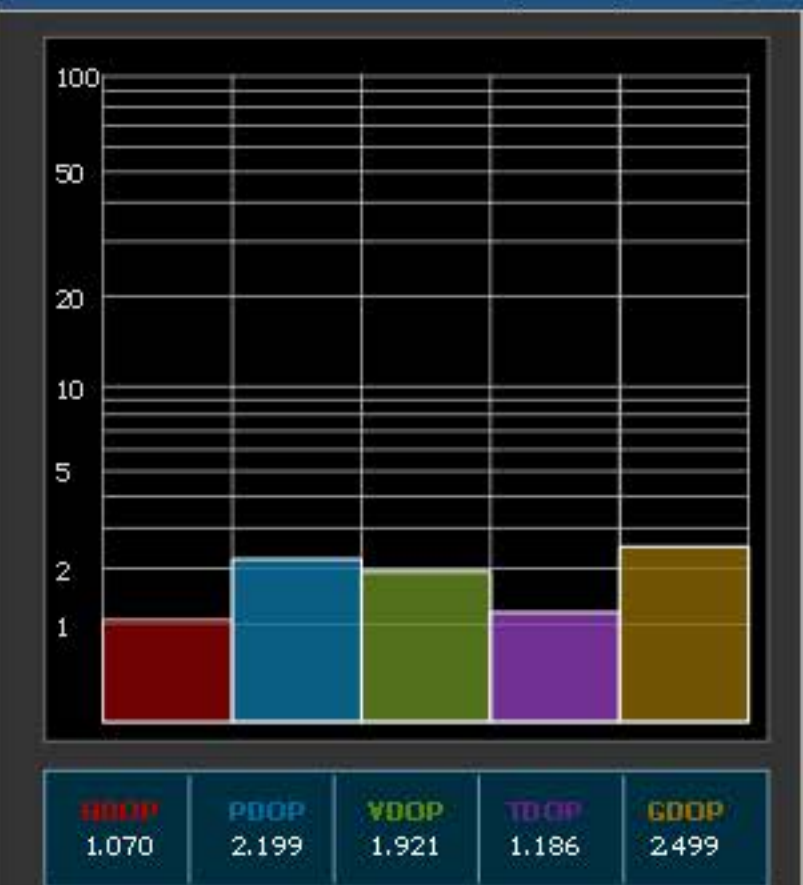
615 - Plan



615 - GPS Tracking Channel Status

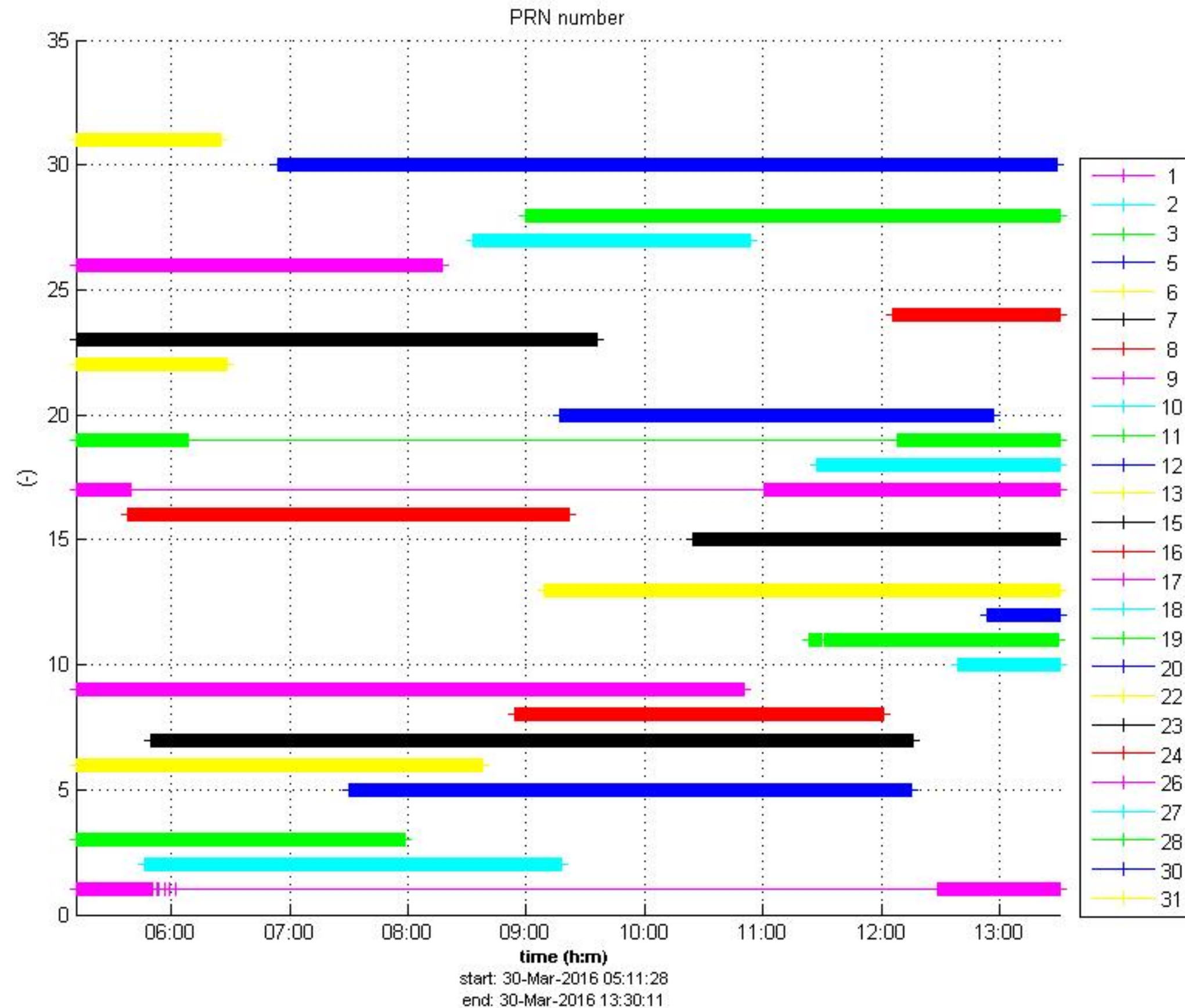


615 - Dilution of Precision (DOP)



615 - Console Window

```
<OK
[COM1]
<OK
[COM1]
Command
```



Range output

hh:mm:ss Time GPS Time

Begin: 30-Mar-2016 05:11:28
1890 277888.25

End: 30-Mar-2016 13:30:11
1890 307811

Init Offset: 29922.75

Data

PRN number

Satellite status summary

pseudorange mode

pseudorange smoothed

pseudorange used

used range rate

pseudorange received

PRNs

Use all PRN

31

38

39

40

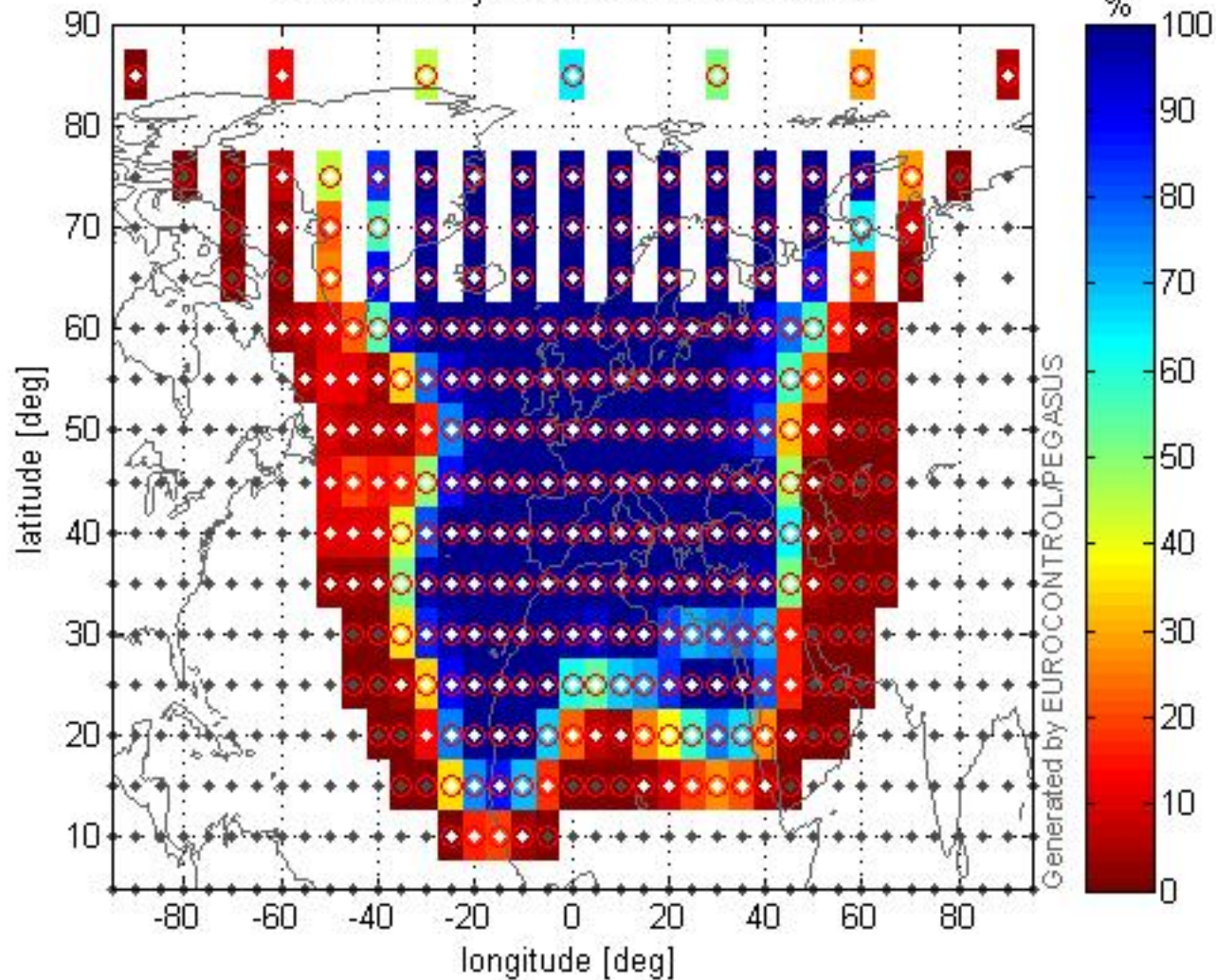
41

42

43

Detach Fig Plot

IGP Availability for 30-Mar-2016 PRN 136



Global View

country Ukraine
 city Kiev
 comment Konin V., Shyshkov F. InsideGNSS, Jan-Feb 2015,
 P.50 - 54
 program Pegasus
 version 4.8.4
 site Laboratory satellite systems
 abbreviation NAU
 date 30/03/2016

SBAS Messages

start: 05:11:27.129 30.03.2016 (week: 1890 sec: 277887.129)
end: 13:30:10.129 30.03.2016 (week: 1890 sec: 307810.129)
duration: 08:18:43 ..

quality

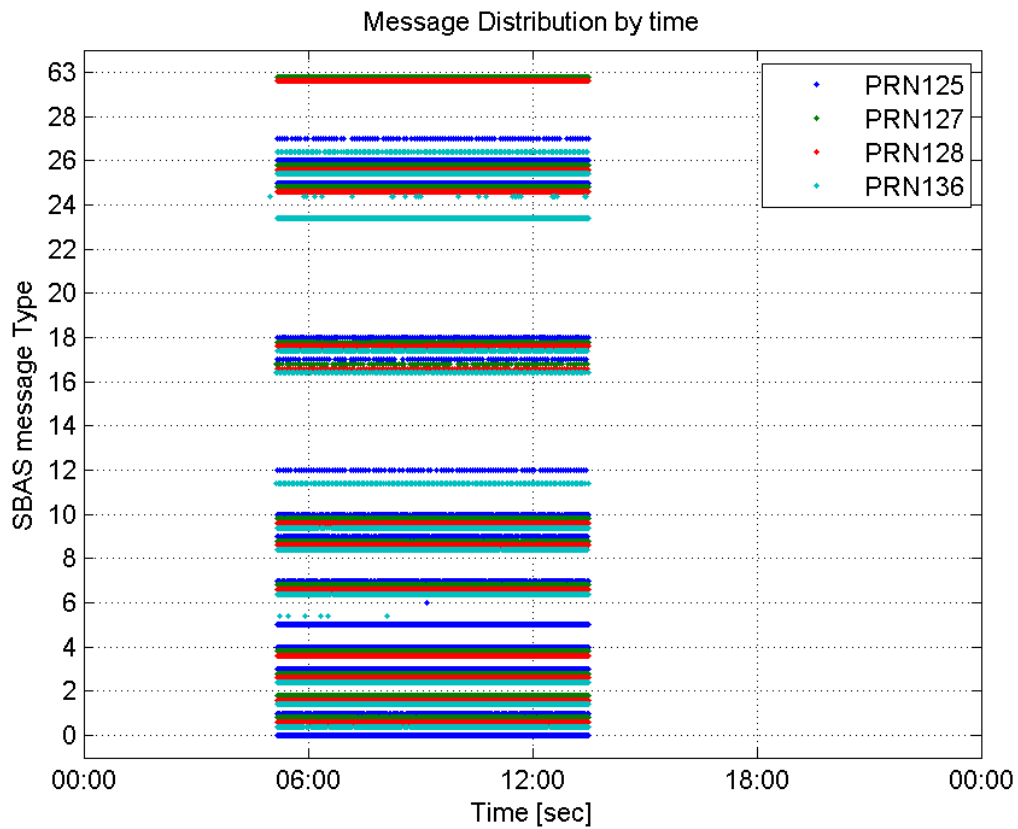
valid samples 109912
total samples 109912
number of SBAS PRNs 4

SBAS SIS Overview

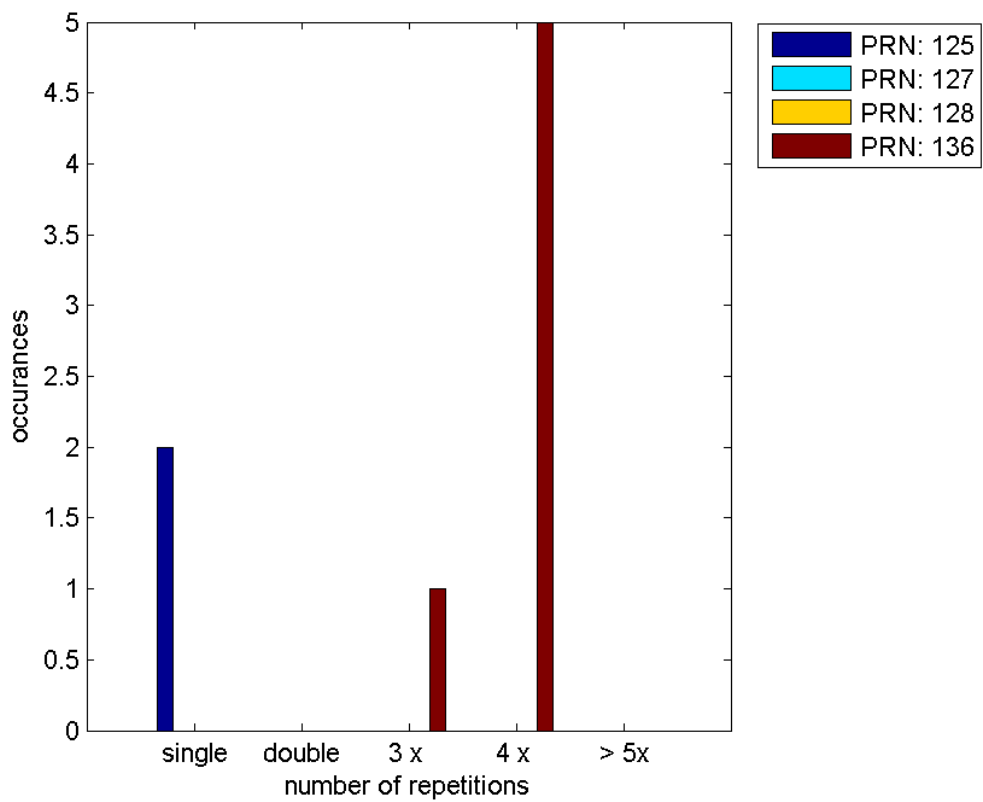
Message Type 6 repetitions :

	single	double	3 x	4 x	> 5x
PRN 125	2	0	0	0	0
PRN 127	0	0	0	0	0
PRN 128	0	0	0	0	0
PRN 136	0	0	1	5	0

Message Distribution by time:



Message Type 6 repetitions:



Broadcast SBAS Messages :

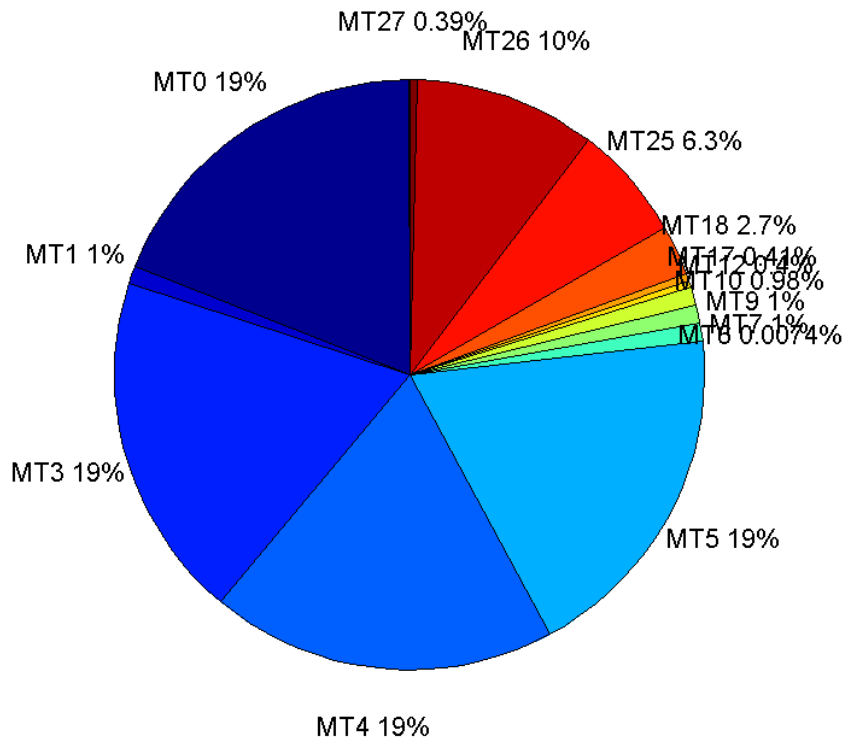
	number of messages	%
MT 0	5152	18.9865
MT 1	273	1.00608
MT 2	0	0
MT 3	5137	18.9313
MT 4	5140	18.9423
MT 5	5136	18.9276
MT 6	2	0.00737055
MT 7	271	0.99871
MT 9	276	1.01714
MT 10	265	0.976598
MT 12	108	0.39801
MT 17	110	0.405381
MT 18	742	2.73448
MT 24	0	0
MT 25	1710	6.30182
MT 26	2706	9.97236
MT 27	107	0.394325
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	27135	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	5	29	5.80916	455	0	0
MT 1	99	300	109.996	24	0	0
MT 2	--	--	--	--	--	--
MT 3	5	30	5.82535	476	3	46
MT 4	5	22	5.82234	466	11	46
MT 5	5	28	5.82804	471	2	54
MT 6	3	3	3	0	0	0
MT 7	96	302	110.815	26	0	1
MT 9	96	203	108.829	0	0	0
MT 10	96	303	113.686	29	0	5
MT 12	241	504	277.832	107	12	107
MT 17	243	750	272.734	0	0	0
MT 18	2	229	40.4035	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	75	17.5061	0	0	0
MT 26	1	91	11.081	0	0	0
MT						

27	241	749	282.755	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 125:



SBAS SIS Analysis

PRN 127

Broadcast SBAS Messages :

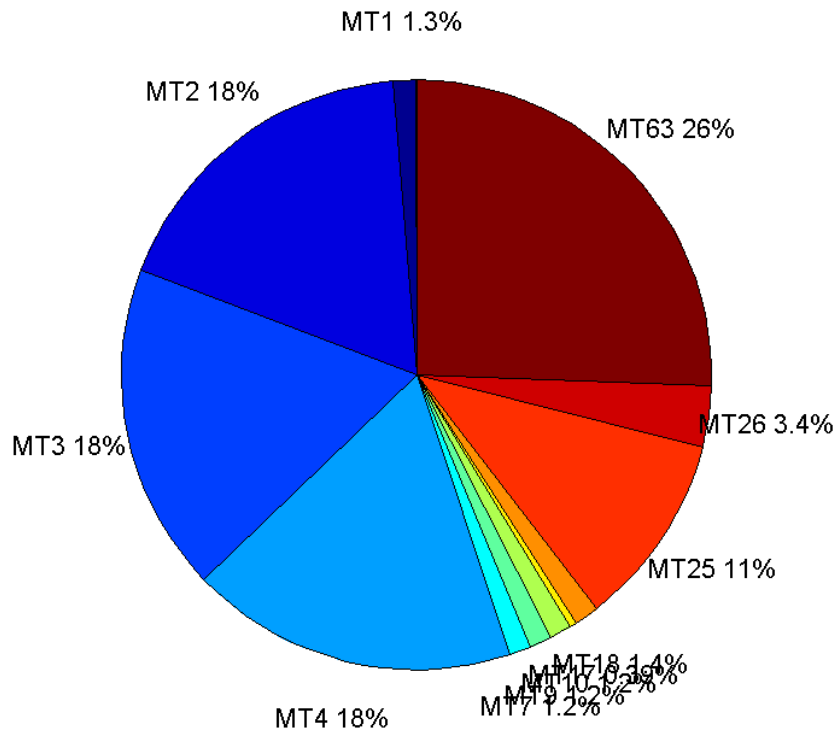
	number of messages	%
MT 0	0	0
MT 1	342	1.25731
MT 2	4885	17.9589
MT 3	4895	17.9957
MT 4	4875	17.9221
MT 5	0	0
MT 6	0	0
MT 7	315	1.15805
MT 9	339	1.24628
MT 10	318	1.16907
MT 12	0	0
MT 17	106	0.389692

MT 18	374	1.37495
MT 24	0	0
MT 25	2880	10.5878
MT 26	916	3.36752
MT 27	0	0
MT 28	0	0
MT 62	0	0
MT 63	6956	25.5726
Total	27201	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	44	182	87.783	10	0	0
MT 2	6	24	6.12654	98	1	4
MT 3	6	24	6.11524	90	1	3
MT 4	6	24	6.13911	108	1	4
MT 5	--	--	--	--	--	--
MT 6	--	--	--	--	--	--
MT 7	66	192	95.2866	4	0	0
MT 9	68	185	88.3669	0	0	0
MT 10	65	196	94.3533	3	0	0
MT 12	--	--	--	--	--	--
MT 17	239	781	285.362	0	0	0
MT 18	1	234	80.4075	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	48	10.3956	0	0	0
MT 26	1	156	32.682	0	0	0
MT 27	--	--	--	--	--	--
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	1	30	4.30208	0	0	0

Message Distribution PRN 127:



SBAS SIS Analysis

PRN 128

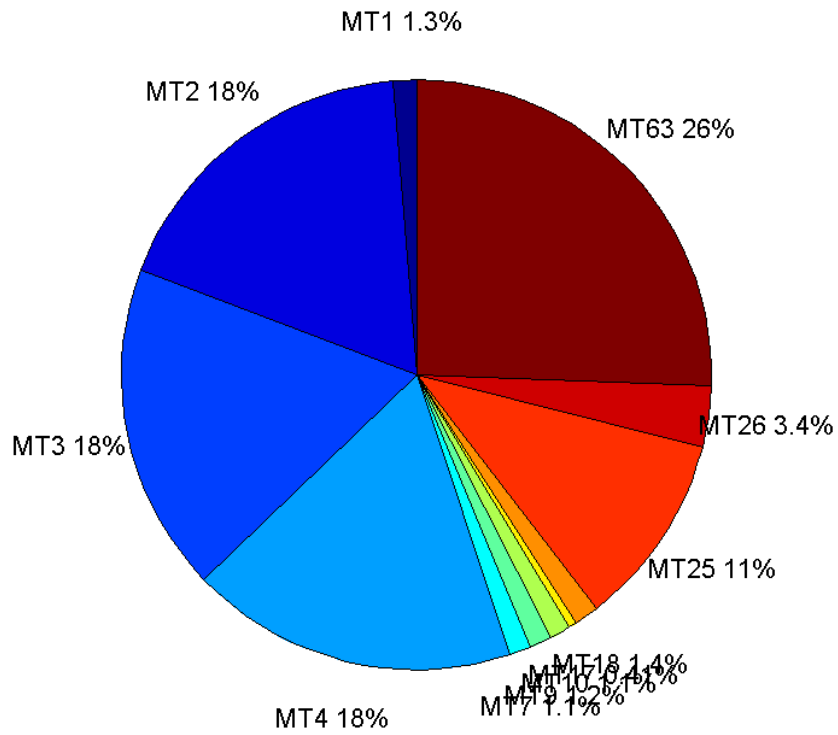
Broadcast SBAS Messages :

	number of messages	%
MT 0	0	0
MT 1	344	1.26806
MT 2	4871	17.9556
MT 3	4880	17.9888
MT 4	4864	17.9298
MT 5	0	0
MT 6	0	0
MT 7	310	1.14273
MT 9	338	1.24595
MT 10	309	1.13904
MT 12	0	0
MT 17	112	0.412858
MT 18	373	1.37496
MT 24	0	0
MT 25	2870	10.5795
MT 26	917	3.38027
MT 27	0	0
MT 28	0	0
MT 62	0	0
MT 63	6940	25.5824
Total	27128	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	60	181	87.2041	7	0	0
MT 2	6	24	6.14415	112	1	4
MT 3	6	24	6.13404	105	1	3
MT 4	6	24	6.15299	119	1	4
MT 5	--	--	--	--	--	--
MT 6	--	--	--	--	--	--
MT 7	67	192	96.6667	11	0	0
MT 9	67	184	88.6291	0	0	0
MT 10	66	292	97.0779	12	0	1
MT 12	--	--	--	--	--	--
MT 17	241	535	268.856	0	0	0
MT 18	1	233	80.5618	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	48	10.4256	0	0	0
MT 26	1	85	32.6463	0	0	0
MT 27	--	--	--	--	--	--
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	1	29	4.31215	0	0	0

Message Distribution PRN 128:



SBAS SIS Analysis

PRN 136

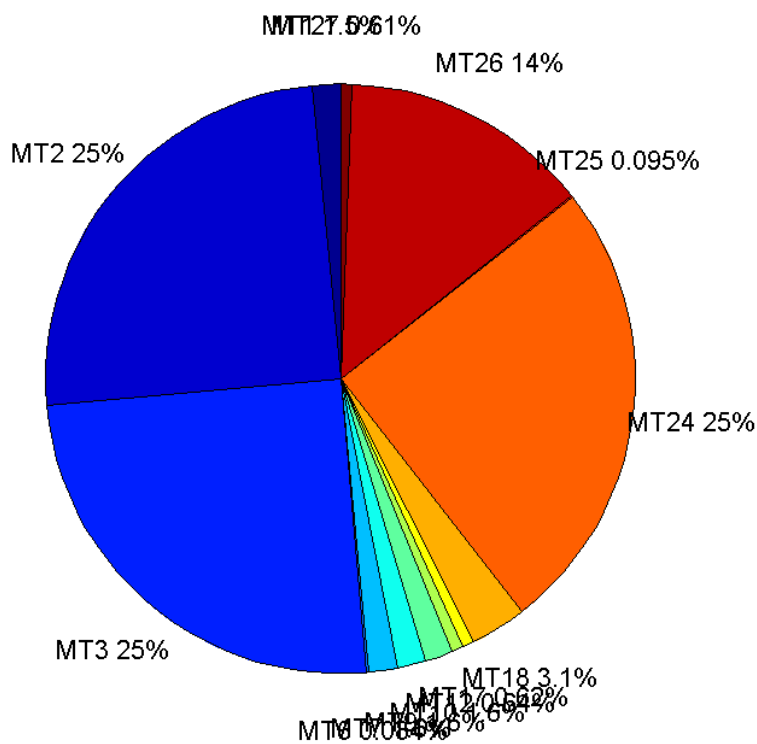
Broadcast SBAS Messages :

	number of messages	%
MT 0	0	0
MT 1	438	1.53965
MT 2	7080	24.8875
MT 3	7112	25
MT 4	0	0
MT 5	0	0
MT 6	24	0.0843645
MT 7	446	1.56777
MT 9	442	1.55371
MT 10	443	1.55723
MT 12	181	0.636249
MT 17	177	0.622188
MT 18	890	3.12852
MT 24	7106	24.9789
MT 25	27	0.09491
MT 26	3909	13.7409
MT 27	173	0.608127
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	28448	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	192	68.4256	27	0	0
MT 2	4	24	4.22687	353	1	7
MT 3	4	20	4.20785	331	2	5
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	5713	451.565	5	5	5
MT 7	64	196	67.1865	18	0	0
MT 9	64	131	67.6599	0	0	0
MT 10	64	201	67.8054	23	0	0
MT 12	156	327	166.7	180	0	7
MT 17	156	327	170.511	0	0	0
MT 18	4	144	33.5861	0	0	0
MT 24	4	16	4.2114	0	0	0
MT 25	24	3908	1168.38	0	0	0
MT 26	4	52	7.6607	0	0	0
MT 27	156	487	173.523	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:/PegasusDateJob/job/2016_03_30EGNOS615/01_User/01_User
Outputfile	System	D:/PegasusDateJob/job/2016_03_30EGNOS615/02_Convertor/02_Convertor

Configuration

Name	Section	Value
Receiver	Configuration	Novatel OEM4
Leap_Seconds	Configuration	17
Correction_mode	Configuration	SBAS MODE 0/2
Dual_Frequency	Configuration	no

Position Domain

start: 05:11:28.25 30.03.2016 (week: 1890 sec: 277888.25)
end: 13:30:11 30.03.2016 (week: 1890 sec: 307811)
duration: 08:18:44 ..

quality

valid samples 99372
total samples 100583

Event tables

Position discontinuity events type all
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	285794	1.98789	10.602	0.187502	-0.144552	17.391	0.0083119
max normVer	279820	1.42388	12.2526	0.116211	-1.73809	14.7958	0.117472
max HPE	292765	39.6204	920.81	0.0430278	-11.8121	258.637	0.0456706
max VPE	292765	39.6204	920.81	0.0430278	-11.8121	258.637	0.0456706
min HPL	285202	0.870543	8.43251	0.103237	0.614836	13.6606	0.045008
min VPL	279519	1.5807	11.7791	0.134196	-0.531424	12.3699	0.0429611

Position discontinuity events :

#	Epoch	duration	stable period
1	280338	0.5	56.75
2	282693	0.5	682.75
3	282747	4.5	53.25
4	283069	0.5	123.5
5	284333	0.5	6.5
6	286353	0.5	129.75
7	288629	0.5	828.5
8	289506	4.25	876.75
9	289590	12.25	79.75
10	290558	0.5	955.75
11	290654	0.5	95.25
12	290938	0.5	283.75
13	292771	184.75	20.75
14	299325	0.5	910.75

APV-I discontinuity events :

#	Epoch	duration	stable period
1	280184	25.25	521.75
2	280950	59	114.5
3	281319	16.25	310
4	282144	159.25	133.75
5	282747	8.5	53.25
6	289506	8.25	876.75
7	289590	16.25	75.75
8	291814	8.75	875.5
9	291900	56.5	77
10	291958	1092	1.25
11	300293	8.25	967.5

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	280184	142.75	521.75
2	280950	59	114.5
3	281319	16.25	310
4	282144	159.25	133.75
5	282460	325.25	156.75
6	289506	8.25	876.75
7	289590	16.25	75.75
8	291814	8.75	875.5
9	291900	56.5	77
10	291958	1092	1.25
11	296396	16.25	64.75
12	296899	4	487
13	296907	3.5	3.5
14	296915	3.25	4.75
15	300293	8.25	675.5

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	280184	142.75	521.75
2	280950	59	114.5
3	281319	16.25	310
4	282144	159.25	133.75
5	282460	325.25	156.75
6	289506	8.25	876.75
7	289590	16.25	75.75
8	291814	8.75	875.5
9	291900	56.5	77
10	291958	1092	1.25
11	296396	16.25	64.75
12	296899	4	487
13	296907	3.5	3.5
14	296915	3.25	4.75
15	300293	8.25	675.5

First Glance analysis

Duration	29924
Number of Samples	100583
Number of invalid sample	1211
Number of no position solution samples	722
Number of missing sample	-10811
Logging Loss	-12.0427
Processing Loss	1.204
Number of Misleading Information	0
Data gaps	53
Discontinuities	67

Number of Samples :

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

98650	94522	92824	0	92824
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Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.67531	1.65105	1.65248	NaN	1.65248
HPEscale 95%	NaN	5.56455	5.57247	NaN	5.57247
VPE 95%	1.35542	1.33608	1.29854	NaN	1.29854
VPEscale 95%	NaN	3.59861	2.51727	NaN	2.51727

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.992734	0.951193	0.934106	0	0.934106
measurements	0.980782	0.939741	0.92286	0	0.92286
Operational	3.29668	3.15874	3.10199	0	3.10199

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	14	30	51	--	51
Long	4	11	15	--	15
Independent	4	10	12	--	12
P(disc.)	0.000608211	0.00158693	0.00193915	NaN	0.00193915
P(slide)	0.00204257	0.0045254	0.00711292	NaN	0.00711292

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

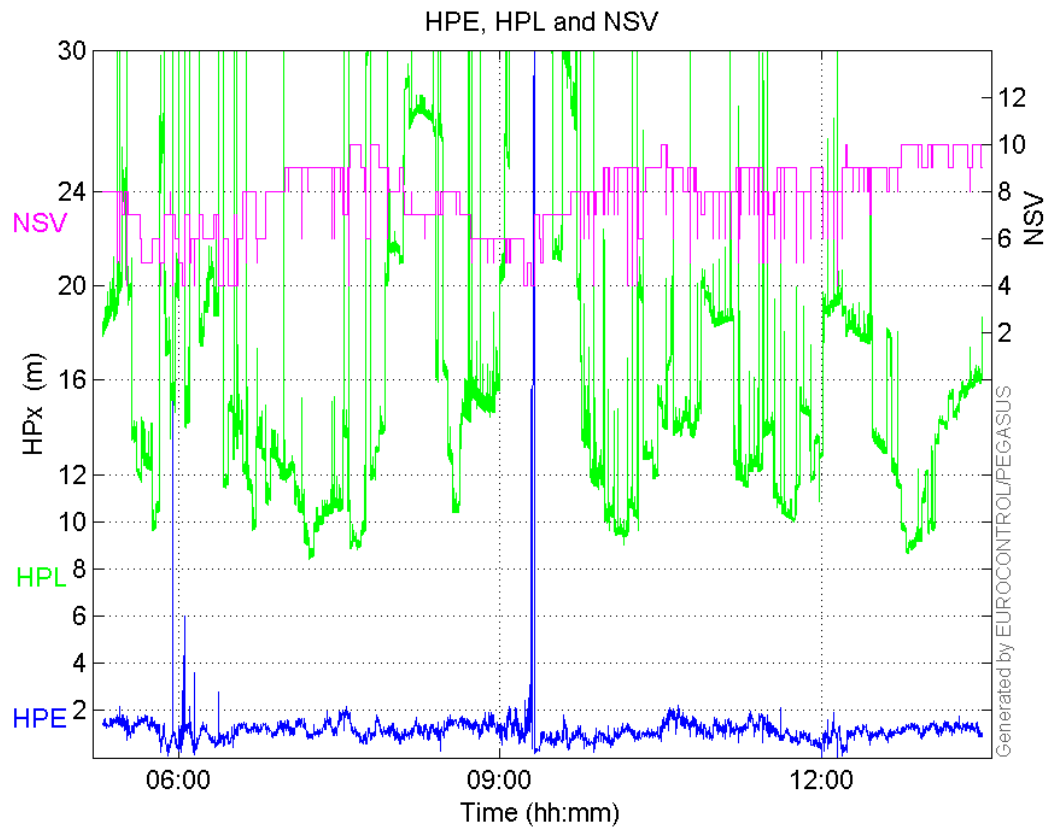
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	98650	94522	92824	0	92824
SIS Availability	0.992734	0.951193	0.934106	0	0.934106
Local Availability	0.980782	0.939741	0.92286	0	0.92286
Operational Availability	3.29668	3.15874	3.10199	0	3.10199
HPE 95%	1.67531	1.65105	1.65248	NaN	1.65248
HPEscale 95%	NaN	5.56455	5.57247	NaN	5.57247
VPE 95%	1.35542	1.33608	1.29854	NaN	1.29854
VPEscale 95%	NaN	3.59861	2.51727	NaN	2.51727
All Discontinuity Events	14	30	51	--	51
Long Discontinuity Events	4	11	15	--	15
Independent Discontinuity Events	4	10	12	--	12
P(discontinuity)	0.000608211	0.00158693	0.00193915	NaN	0.00193915
P(sliding window)	0.00204257	0.0045254	0.00711292	NaN	0.00711292
All Integrity Events	0	0	0	0	0

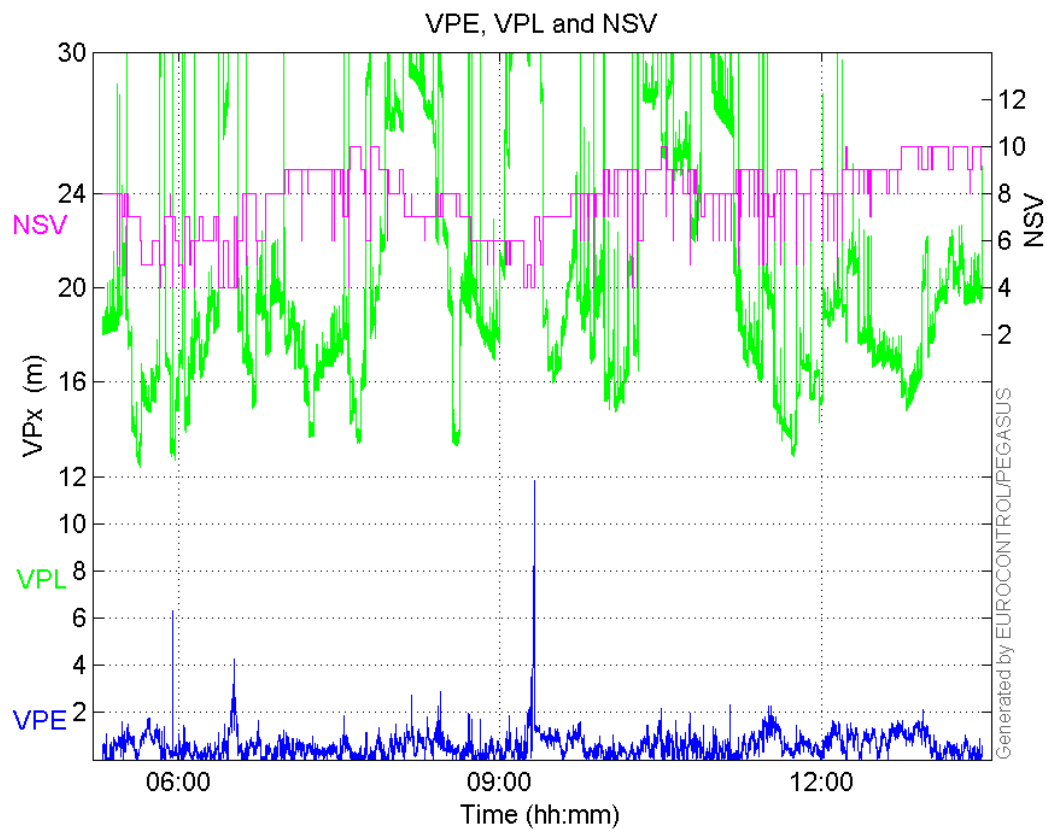
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

Time Series

HPE, HPL and NSV:

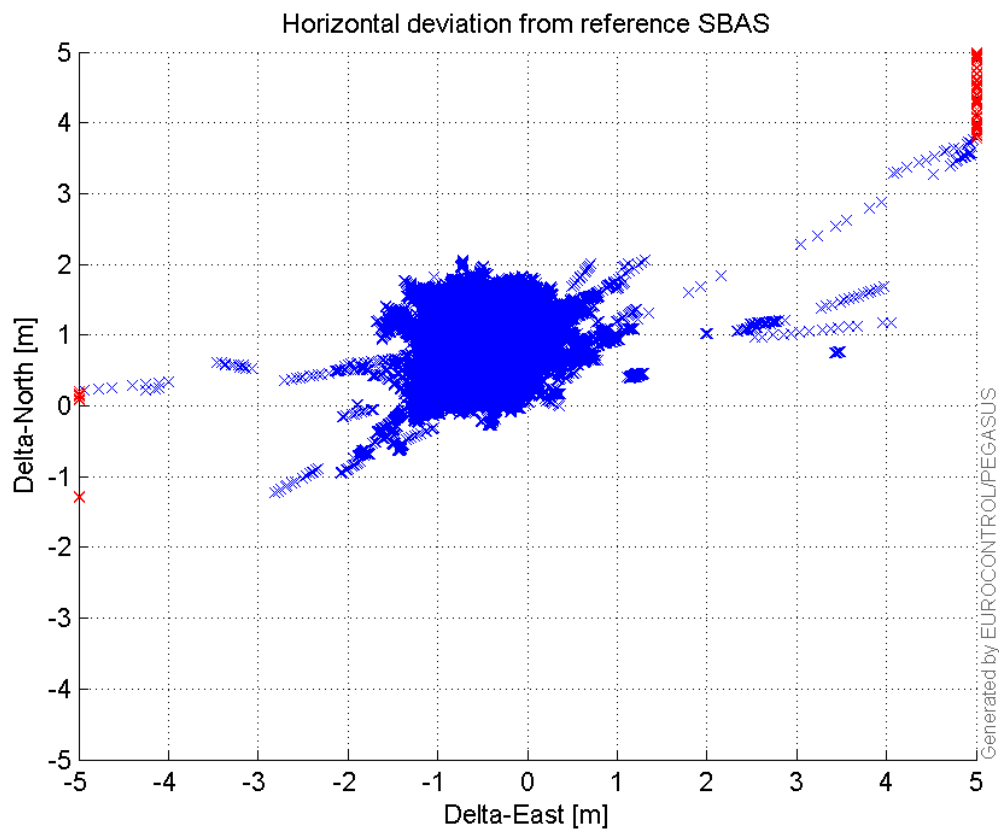


VPE, VPL and NSV:



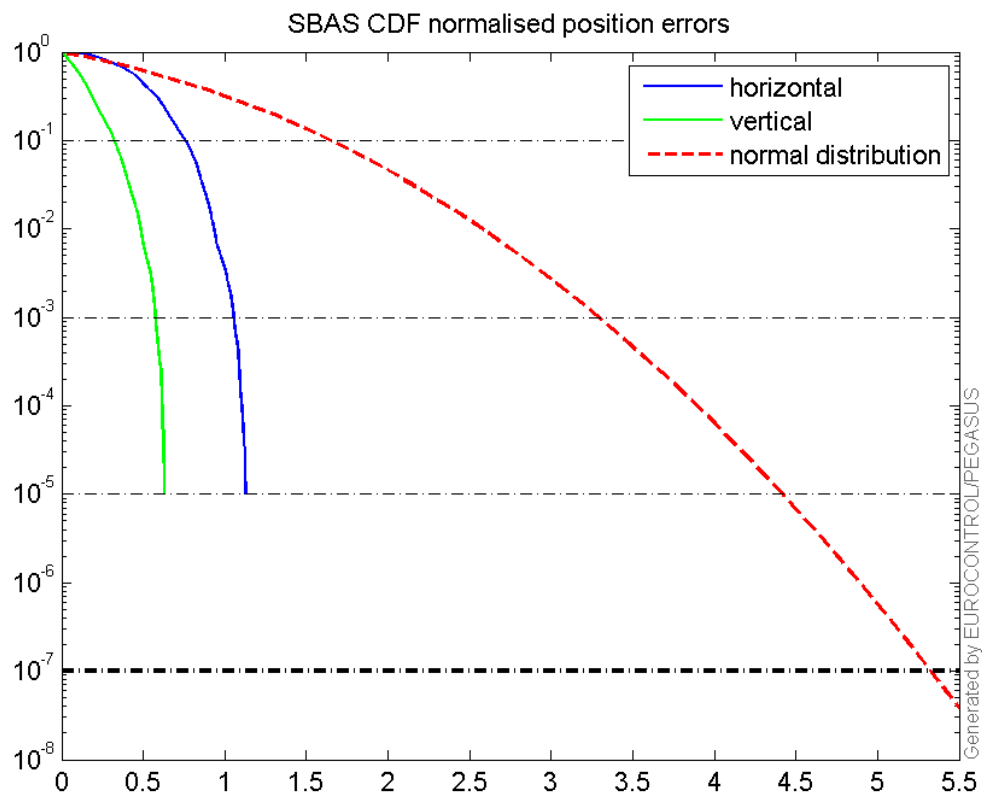
Horizontal deviation

Horizontal deviation from reference SBAS:



CDF position

SBAS CDF position domain:



Statistics

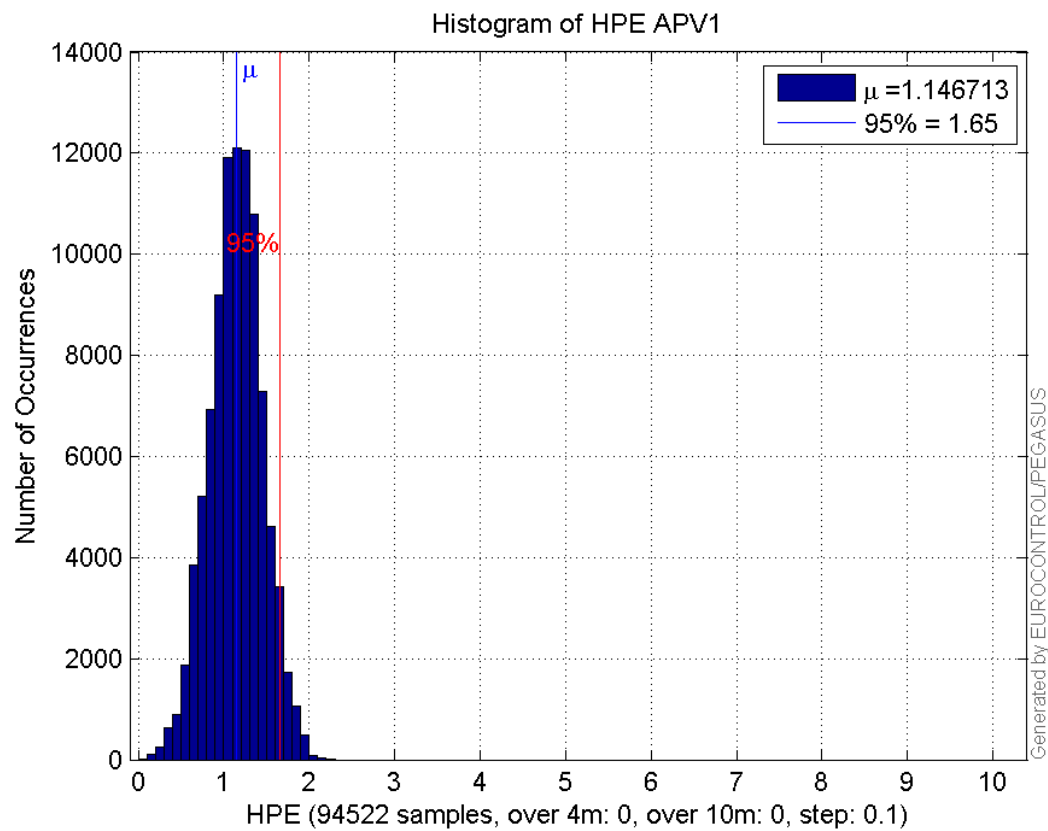
number	94522
sum	108389.58
sum2	133322.14
prctile95	1.6510542
prctile99	1.871554
number	94522
sum	53119.651
sum2	46992.642
prctile95	1.3360827
prctile99	1.6744141
number	94522
sum	1497806.4
sum2	26729071
prctile95	28.4475
prctile99	32.184836
number	94522
sum	1914516.2
sum2	41419174
prctile95	30.344
prctile99	38.878696
number	94522
sum	7672.0624
sum2	727.44893
prctile95	0.13911366

prctile99 0.15587679
number 94522
sum 2720.4261
sum2 123.16986
prctile95 0.07197221
prctile99 0.091116636
number 92824
sum 106854.6
sum2 131850.28
prctile95 1.6524838
prctile99 1.8725512
number 92824
sum 50603.91
sum2 41884.463
prctile95 1.2985371
prctile99 1.5470982
number 92824
sum 1467525.5
sum2 26135065
prctile95 28.50008
prctile99 32.186116
number 92824
sum 1848029.2
sum2 38809538
prctile95 29.06573
prctile99 32.519878
number 92824
sum 7580.1598
sum2 722.01259
prctile95 0.1393117
prctile99 0.15601726
number 92824
sum 2656.4093
sum2 119.88184
prctile95 0.071922117
prctile99 0.091151326

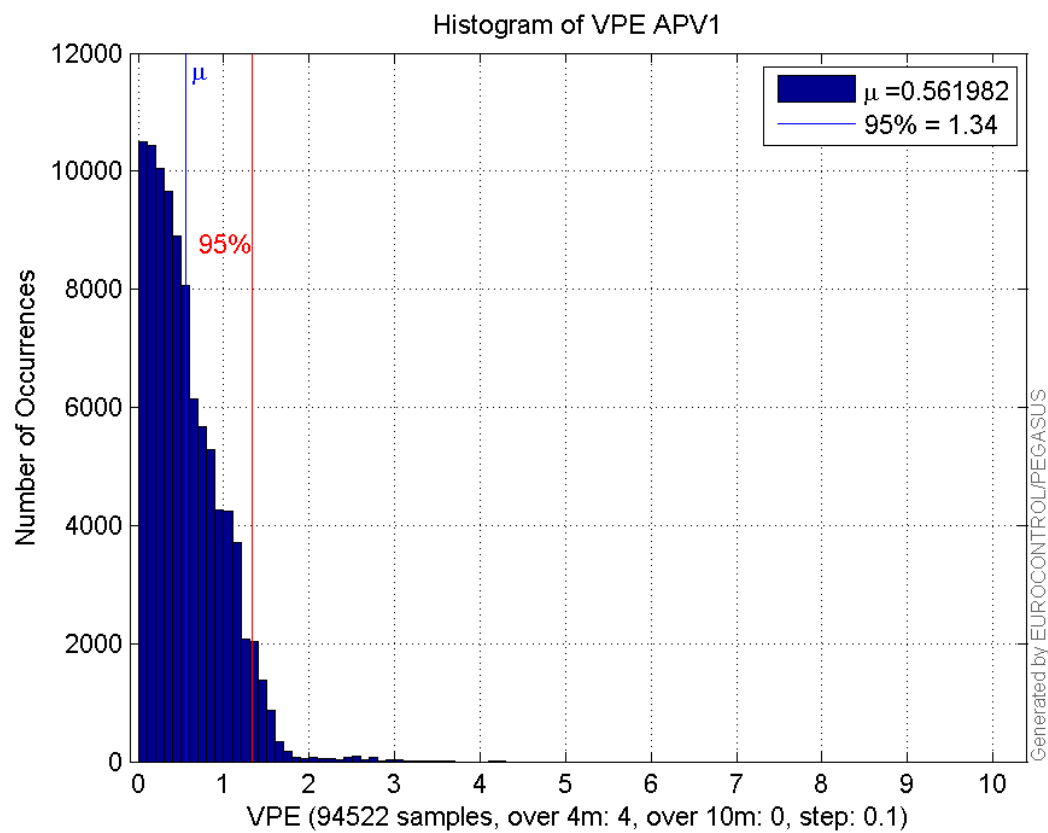
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.14671	0.309093	1.1544	1.65105	1.87155	1.18764
HPL	15.8461	5.62872	14.2206	28.4475	32.1848	16.8161
VPE	0.561982	0.425839	0.474738	1.33608	1.67441	0.705096
VPL	20.2547	5.28611	18.7354	30.344	38.8787	20.9331

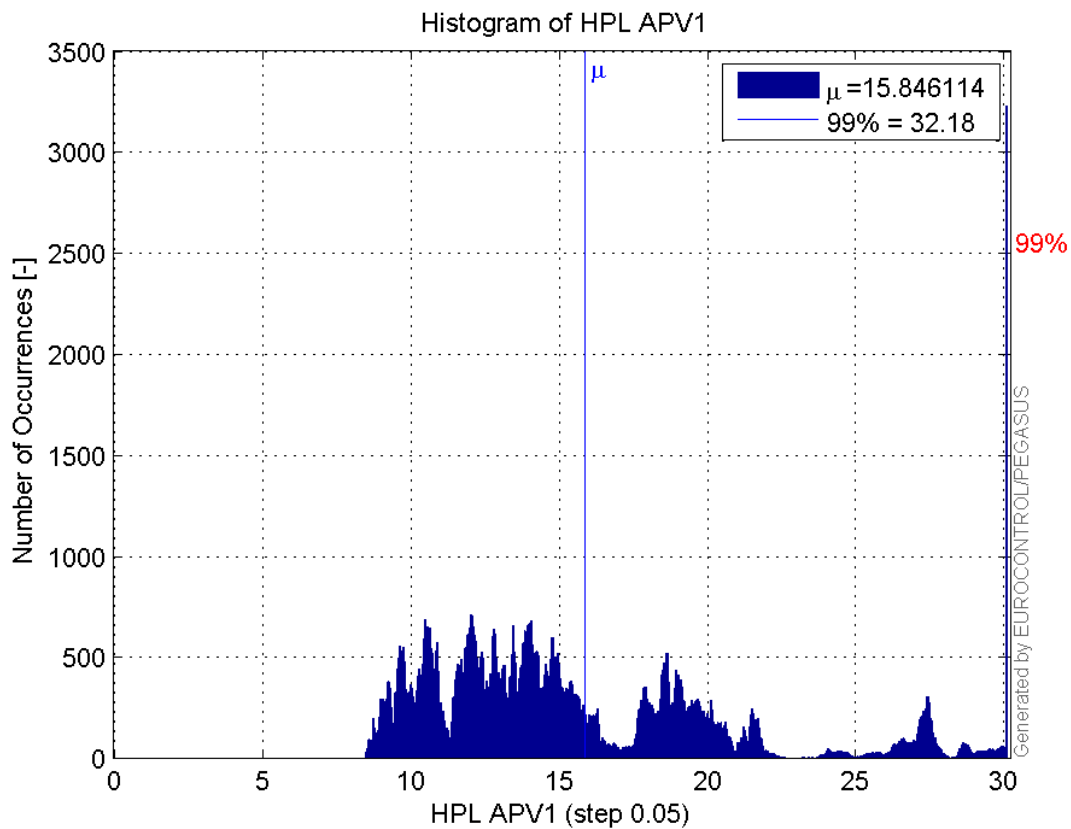
Histogram of HPE APV1:



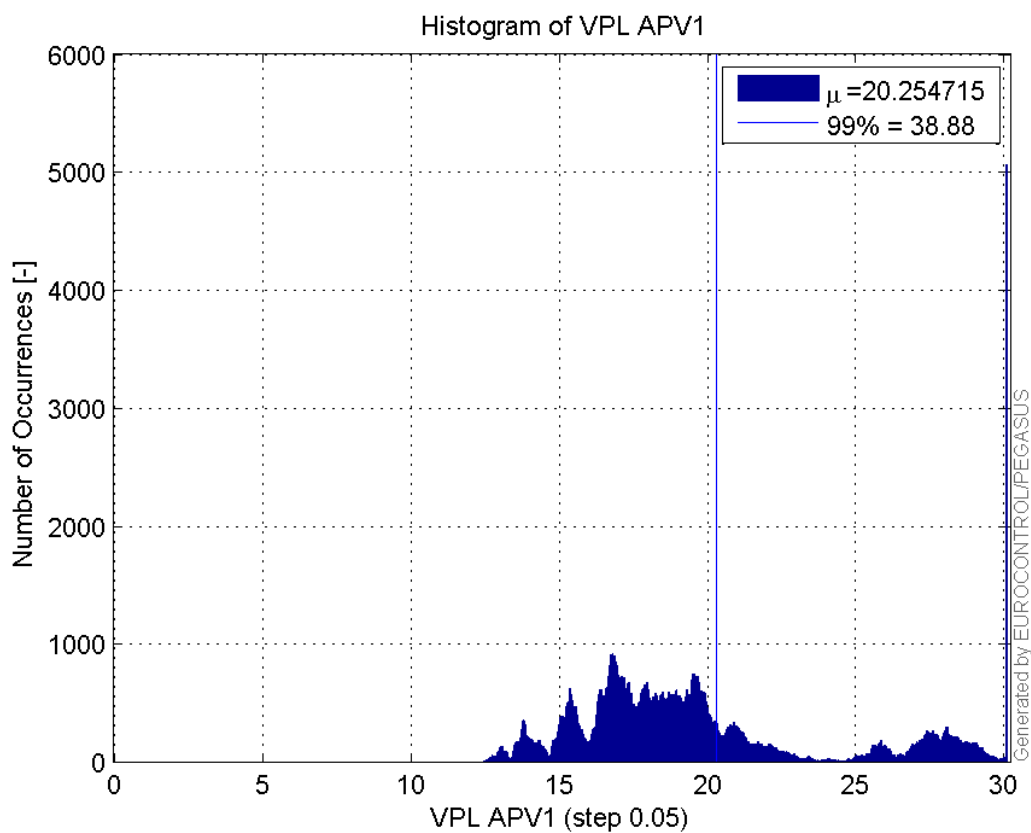
Histogram of VPE APV1:



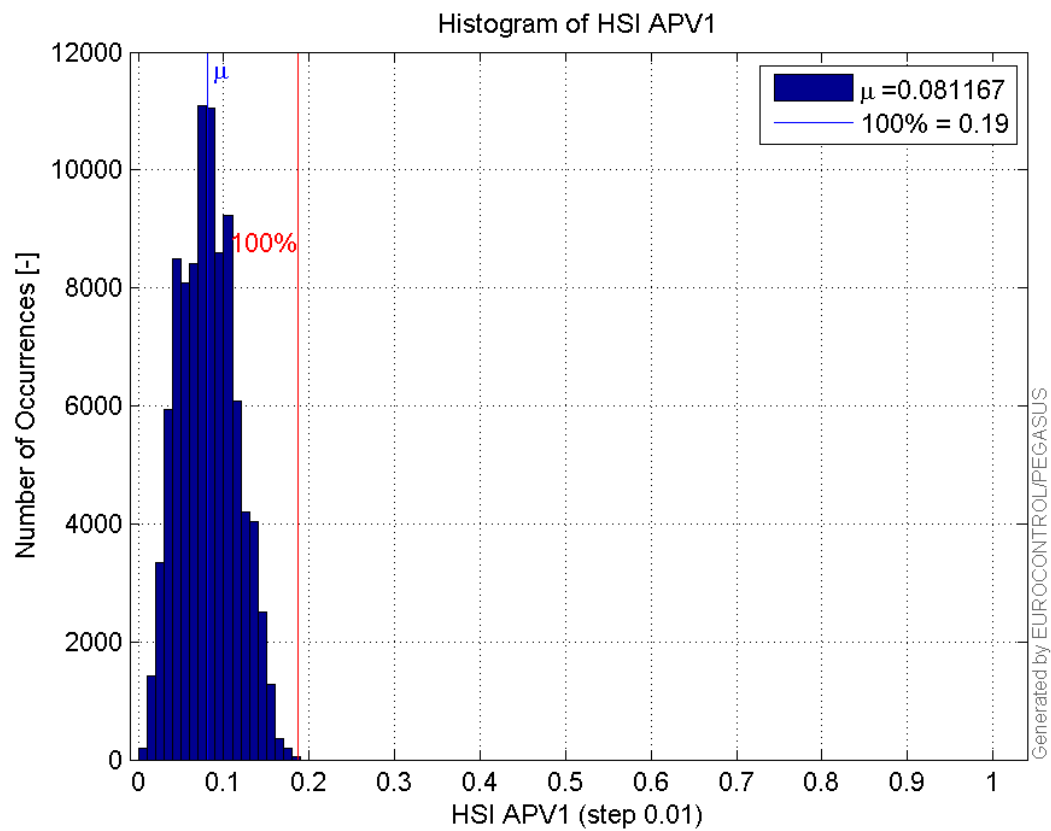
Histogram of HPL APV1:



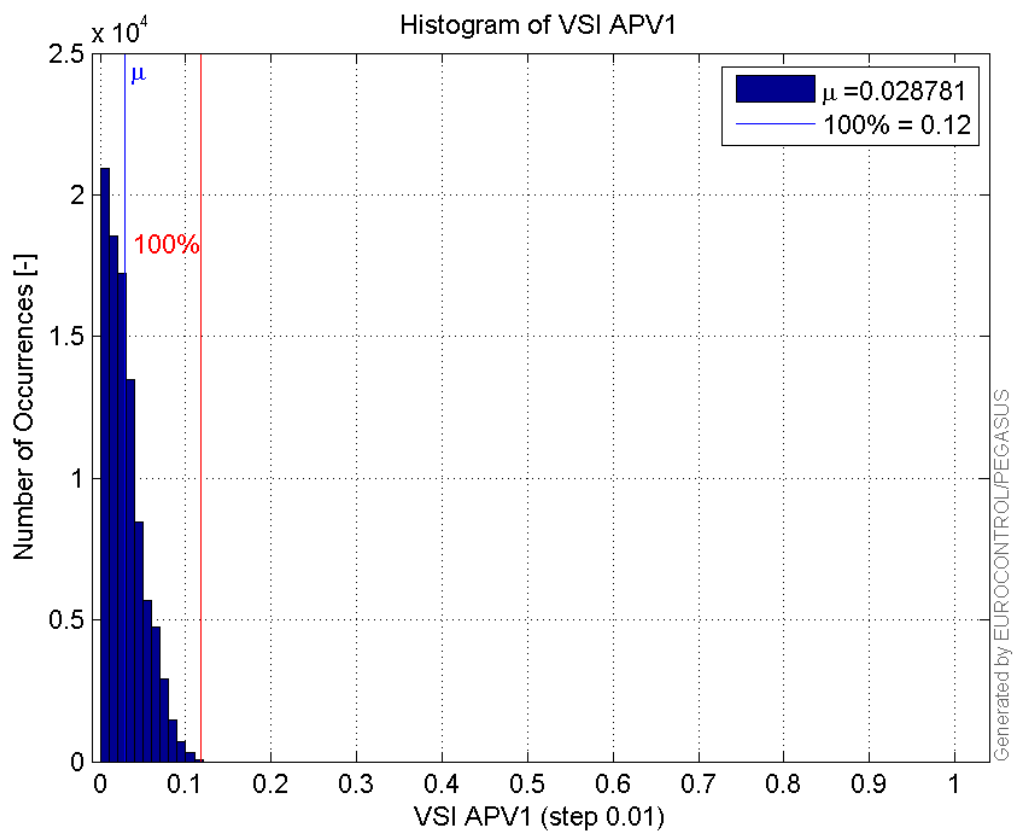
Histogram of VPL APV1:



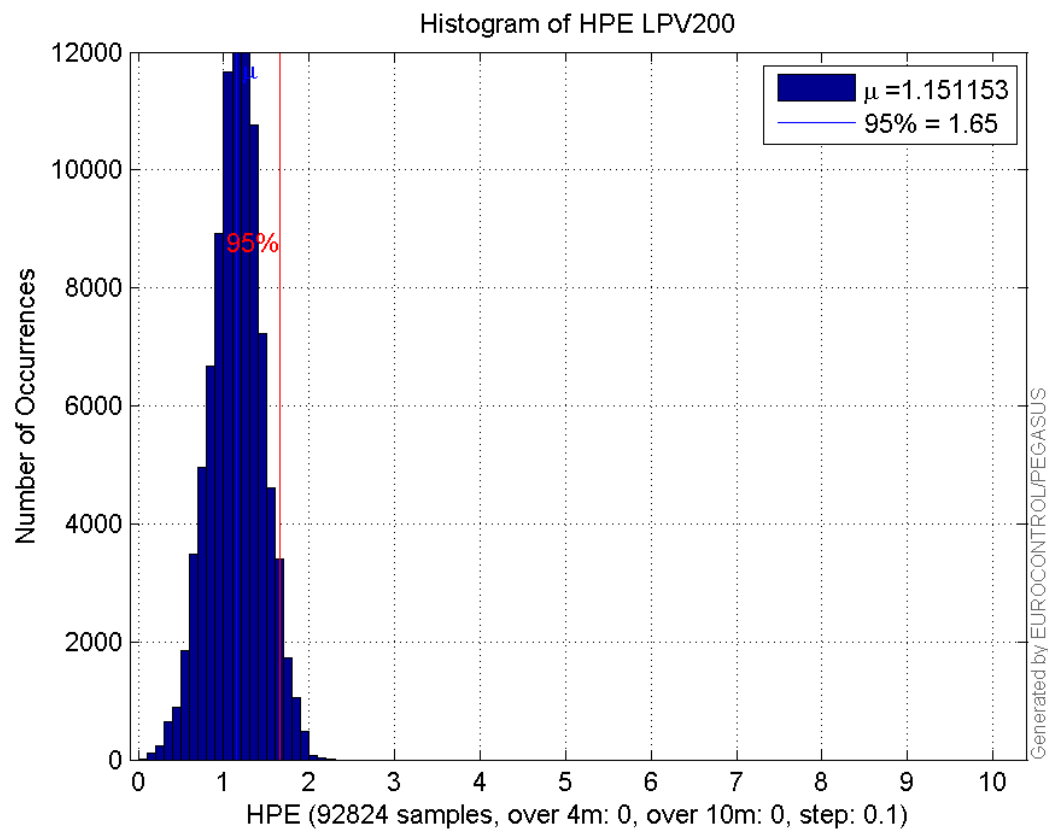
Histogram of HSI APV1:



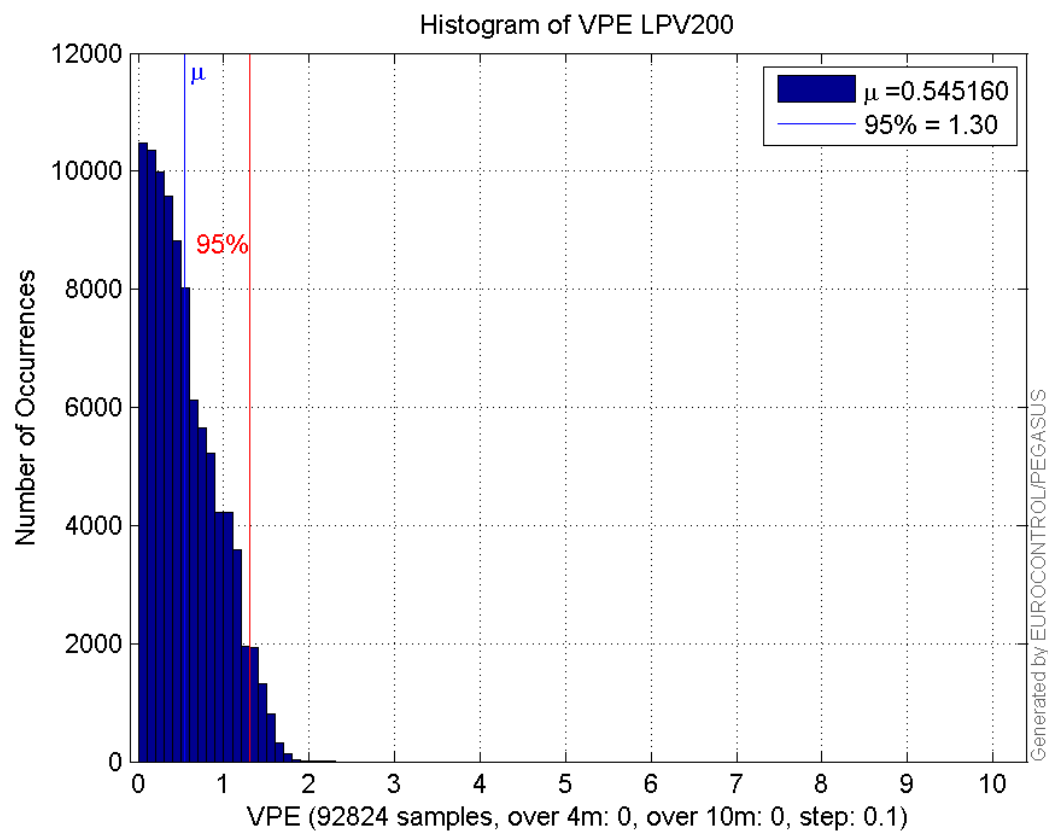
Histogram of VSI APV1:



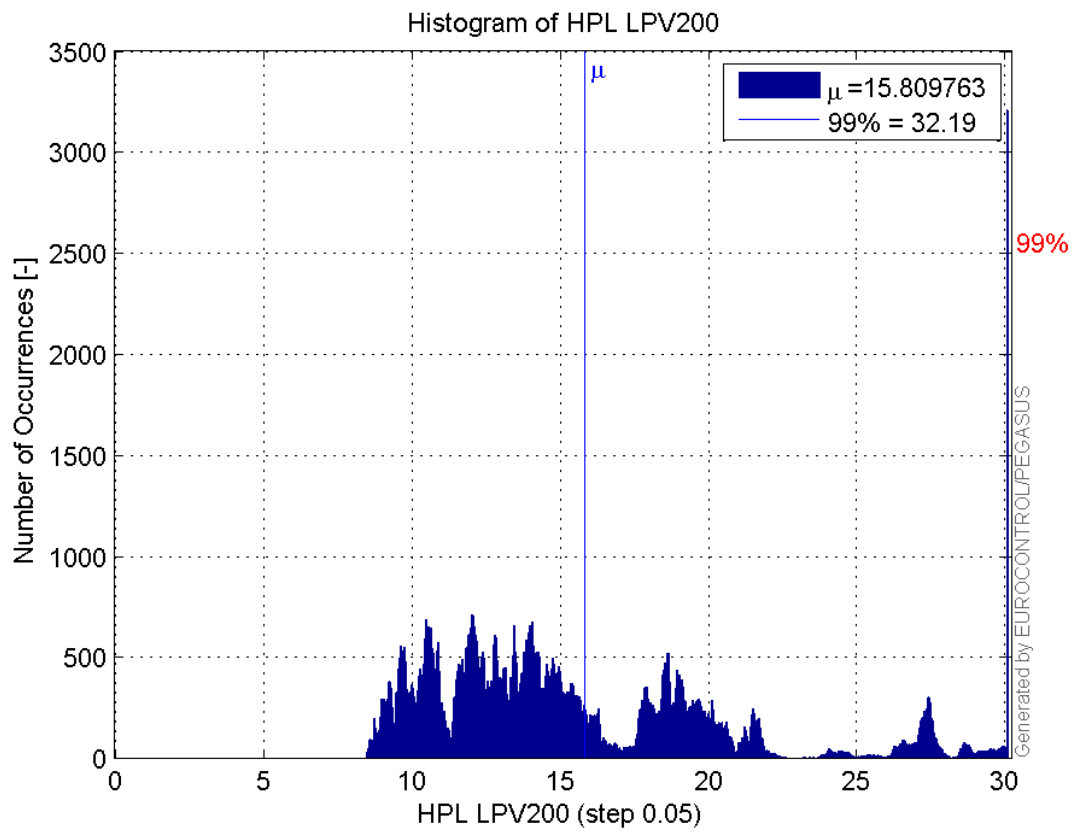
Histogram of HPE LPV200:



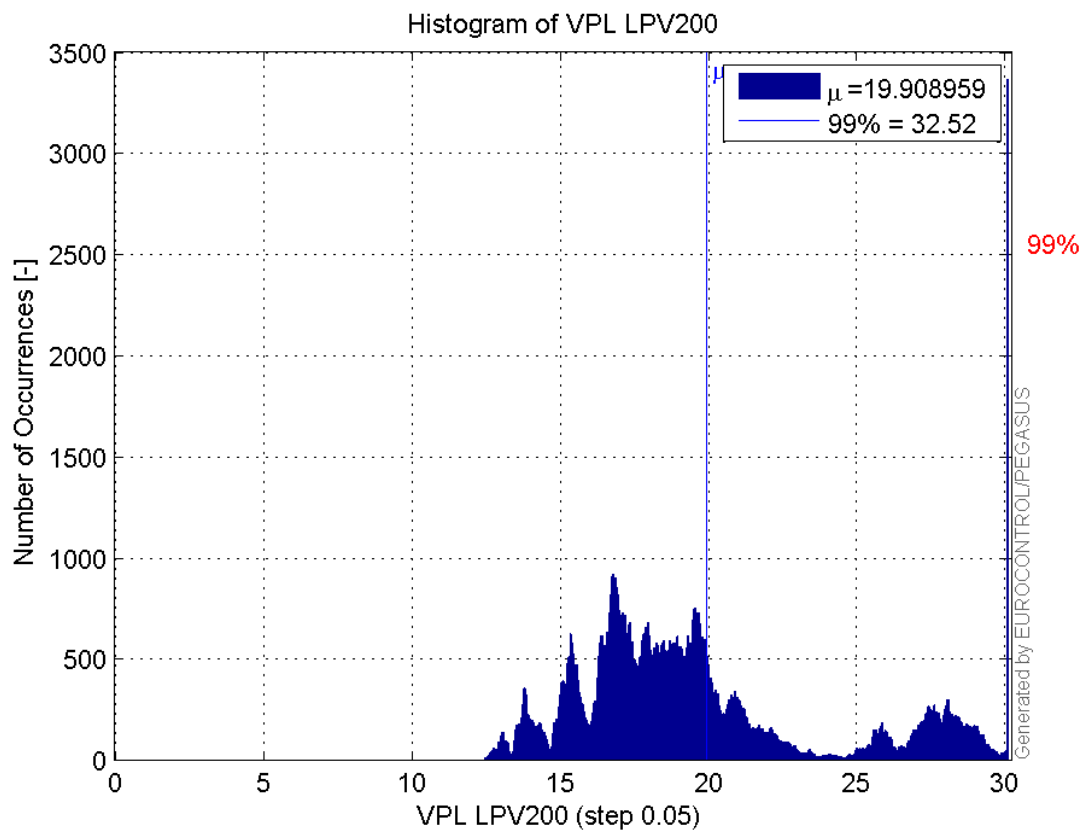
Histogram of VPE LPV200:



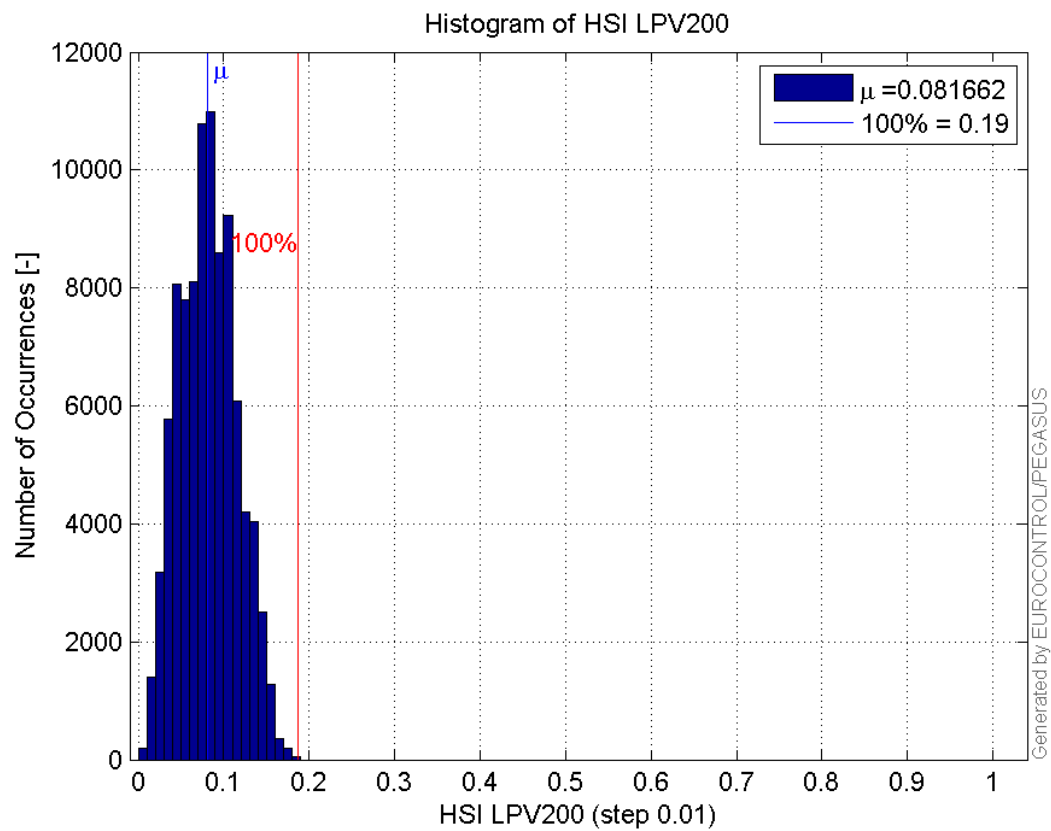
Histogram of HPL LPV200:



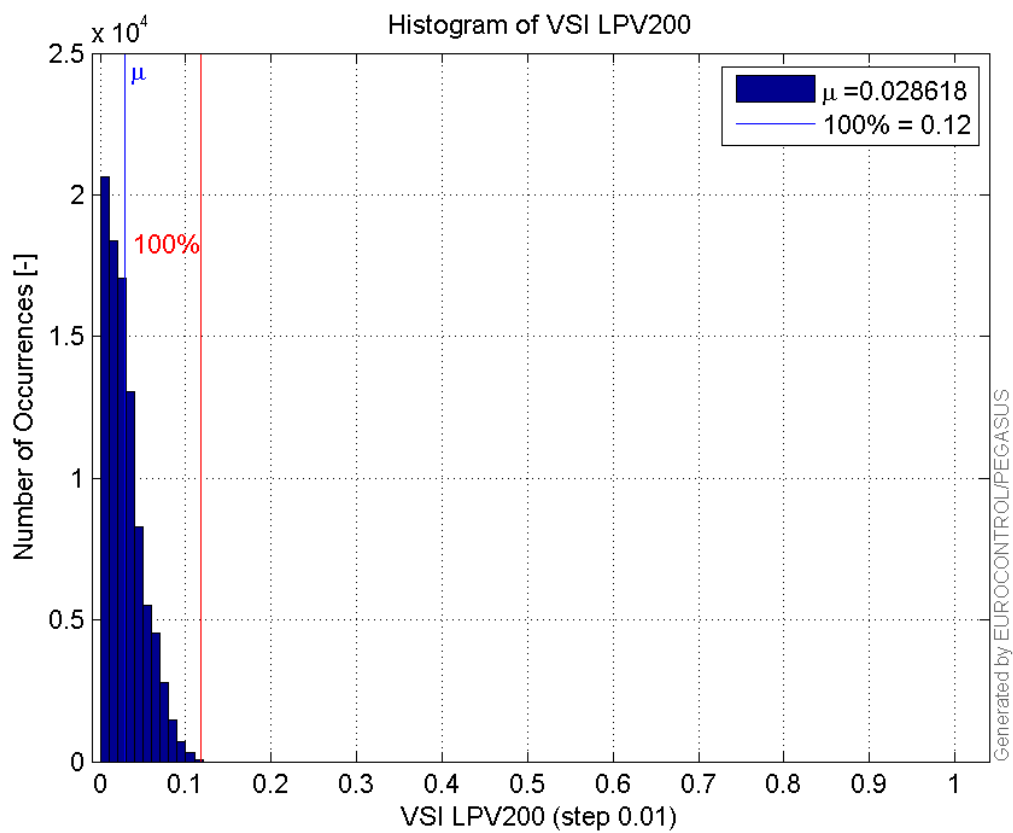
Histogram of VPL LPV200:



Histogram of HSI LPV200:

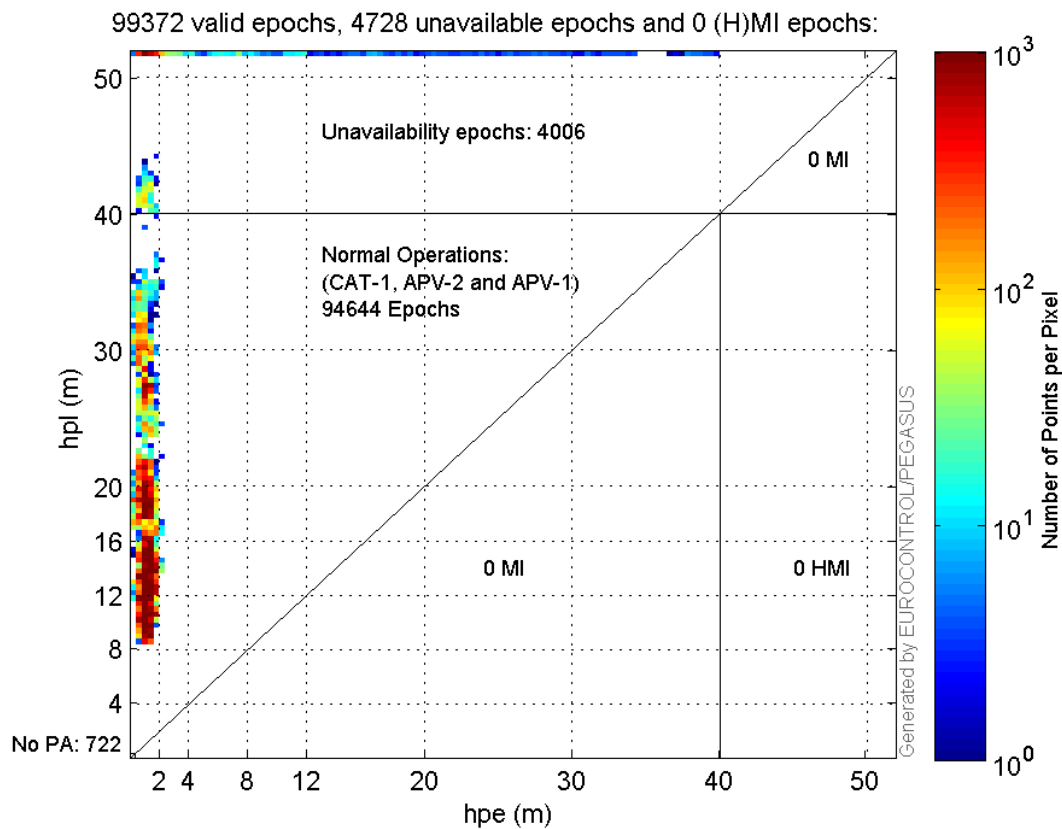


Histogram of VSI LPV200:

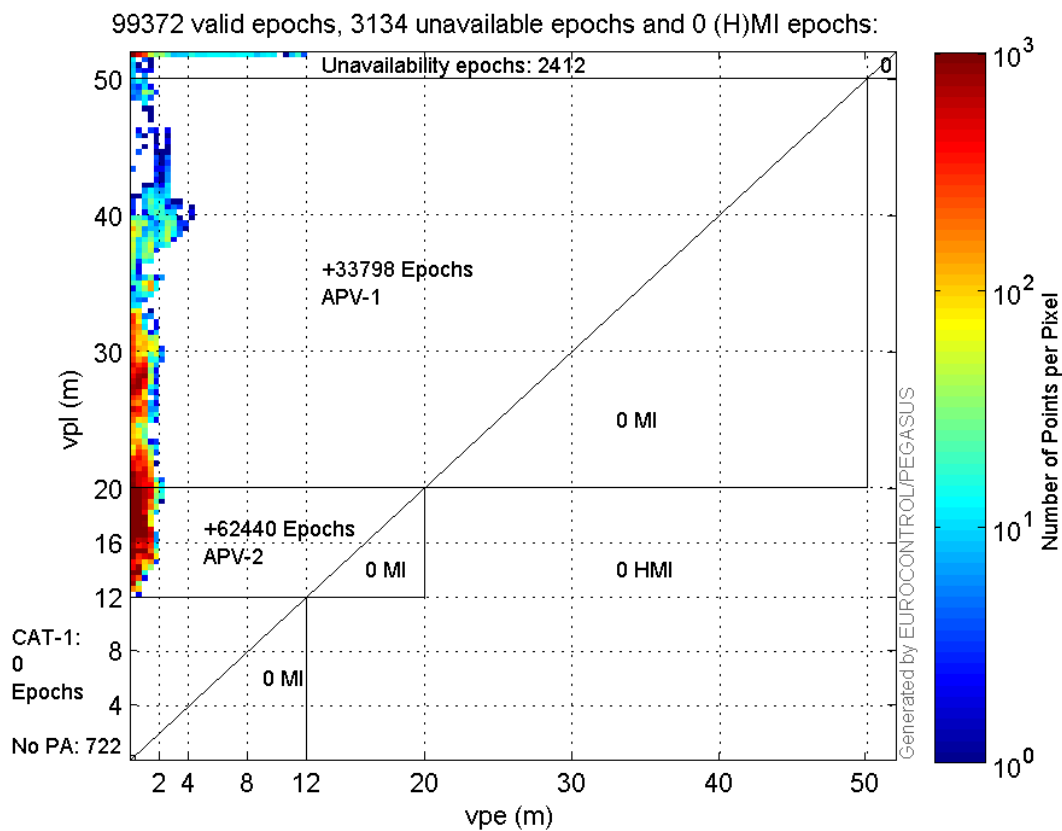


Stanford Plots

Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.4.0
input_prefix	system	D:/PegasusDateJob/job/2016_03_30EGNOS615/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateJob/job/2016_03_30EGNOS615/03_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	136
gnss_mode	settings	sbas

results

Name	Section	Value
init_lat	results	50.439
init_lon	results	30.4297
init_alt	results	228.7026
mi_numbers	results	0

Range Domain

start: 05:11:28.25 30.03.2016 (week: 1890 sec: 277888.25)
end: 13:30:11 30.03.2016 (week: 1890 sec: 307811)
duration: 08:18:44 ..

quality

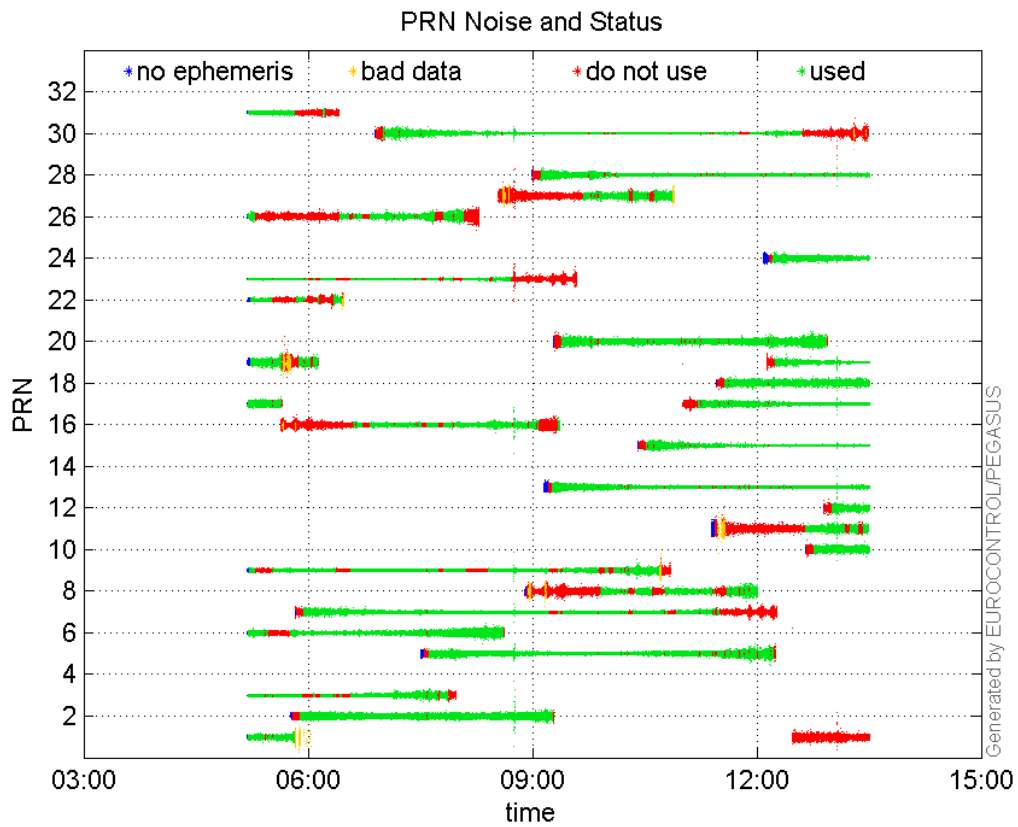
valid samples 100583
total samples 100583

PRN overview

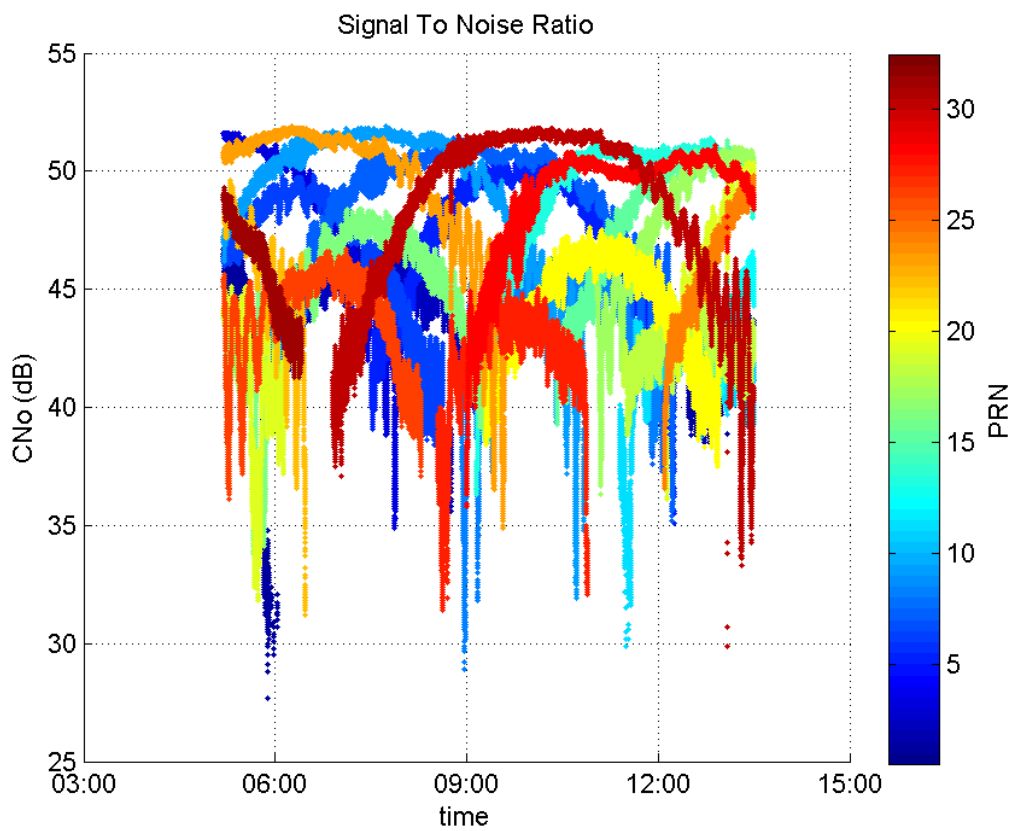
Number of Visible GPS Satellites 26
Number of Visible SBAS Satellites 4

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



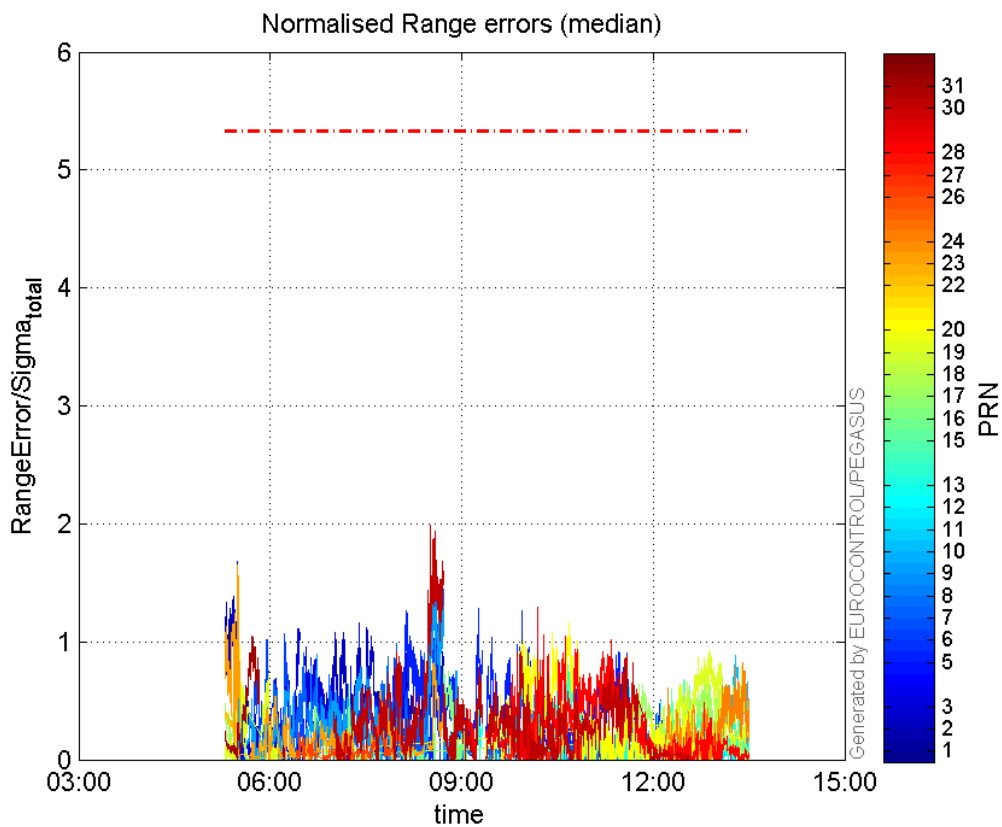
range errors

Number of Overbounding Norm Errors 0

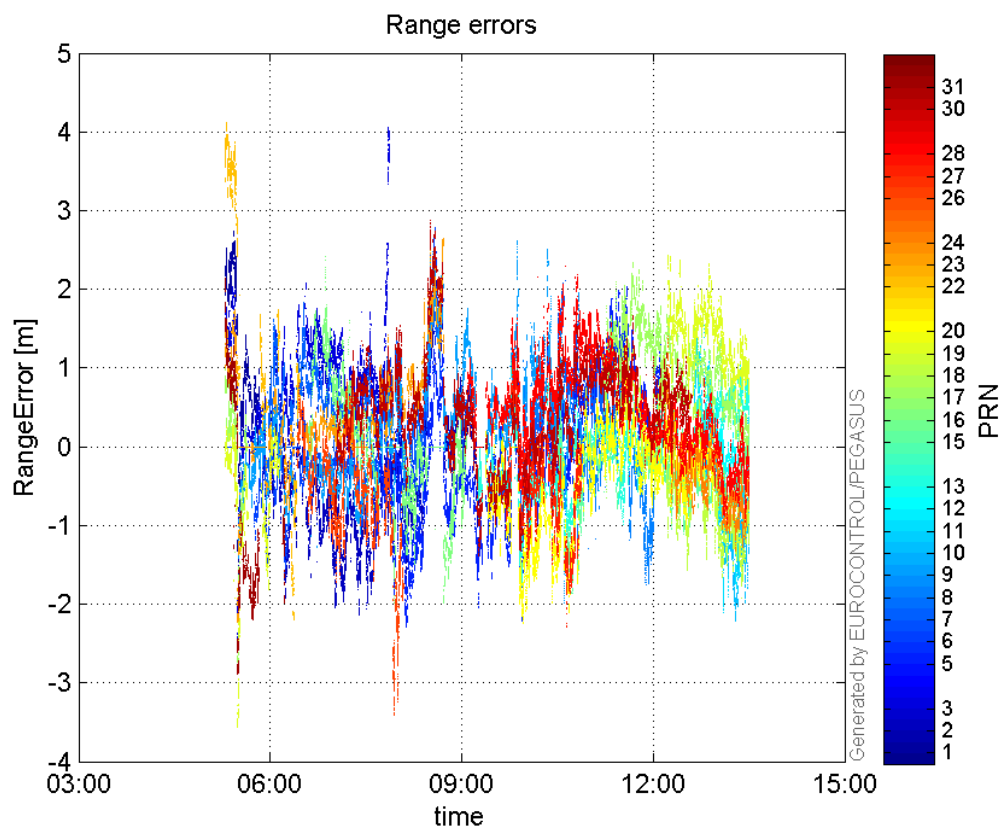
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1890	278714	1	1.38412	2.69731	1.94875
1890	285794	2	1.15798	-2.13373	1.84264
1890	278967	3	1.68653	-2.55239	1.5134
1890	292541	5	1.27781	-2.04734	1.60222
1890	281623	6	1.06973	-1.57752	1.47468
1890	289850	7	1.72449	2.3268	1.34927
1890	301112	8	0.424681	-1.14977	2.70736
1890	289999	9	1.56856	2.47562	1.57828
1890	307018	10	0.885719	-2.21336	2.49894
1890	305258	11	0.353414	1.54525	4.37234
1890	306942	12	0.234176	0.56255	2.40225
1890	297450	13	0.915823	-1.3765	1.50301
1890	298150	15	0.847568	-1.68118	1.98354
1890	290610	16	0.795154	-1.98132	2.49175
1890	278993	17	1.20983	-2.85525	2.36004
1890	307395	18	0.788075	-1.91924	2.43535
1890	278974	19	1.3188	-3.55124	2.69279
1890	297663	20	1.15637	-2.10151	1.81734
1890	278351	22	0.400503	4.11621	10.2776
1890	278967	23	1.65025	-2.22065	1.34564
1890	307483	24	0.825868	-1.27788	1.54731
1890	286937	26	0.385906	-1.26713	3.28353
1890	295303	27	0.544782	-1.50126	2.75571
1890	295887	28	1.29071	2.15658	1.67085
1890	289850	30	1.9853	2.87124	1.44625
1890	279757	31	1.04877	-2.13727	2.03789

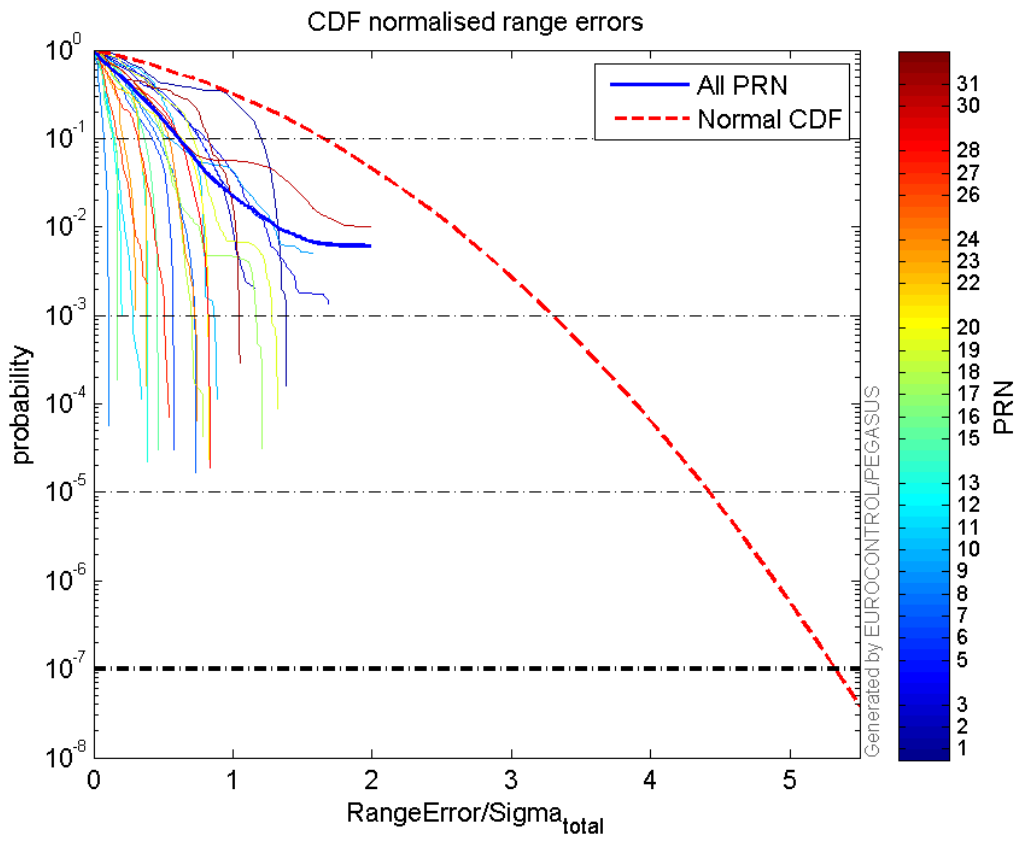
Normalised Range errors (median):



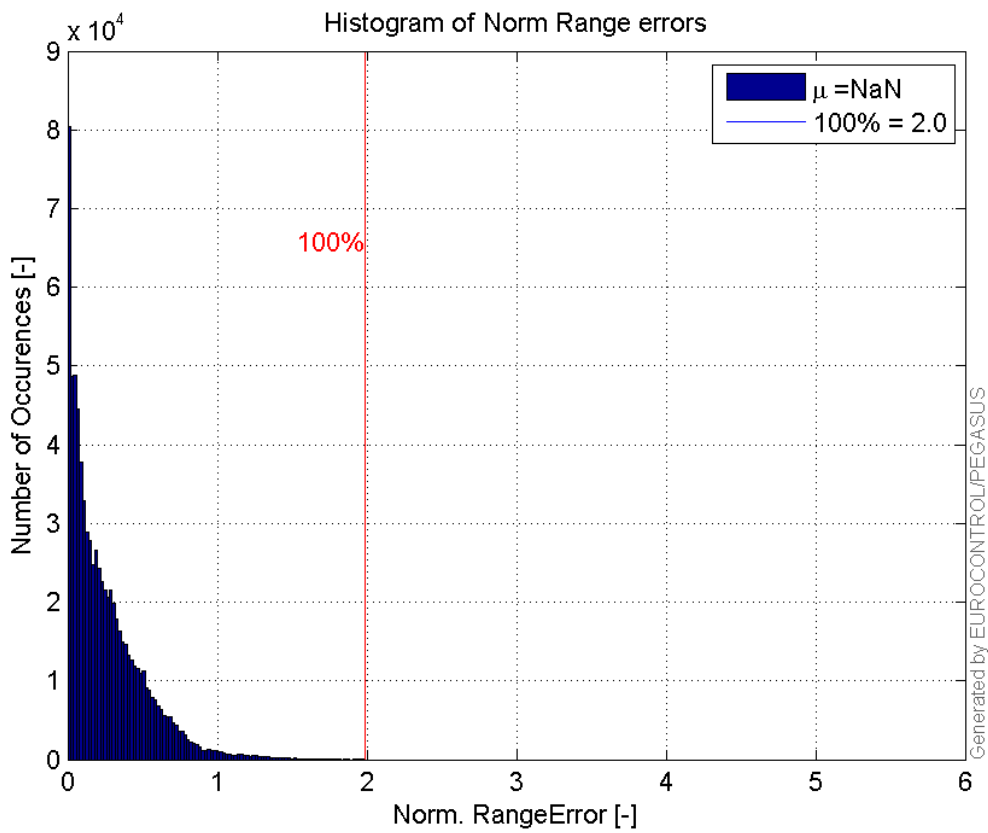
Range errors:



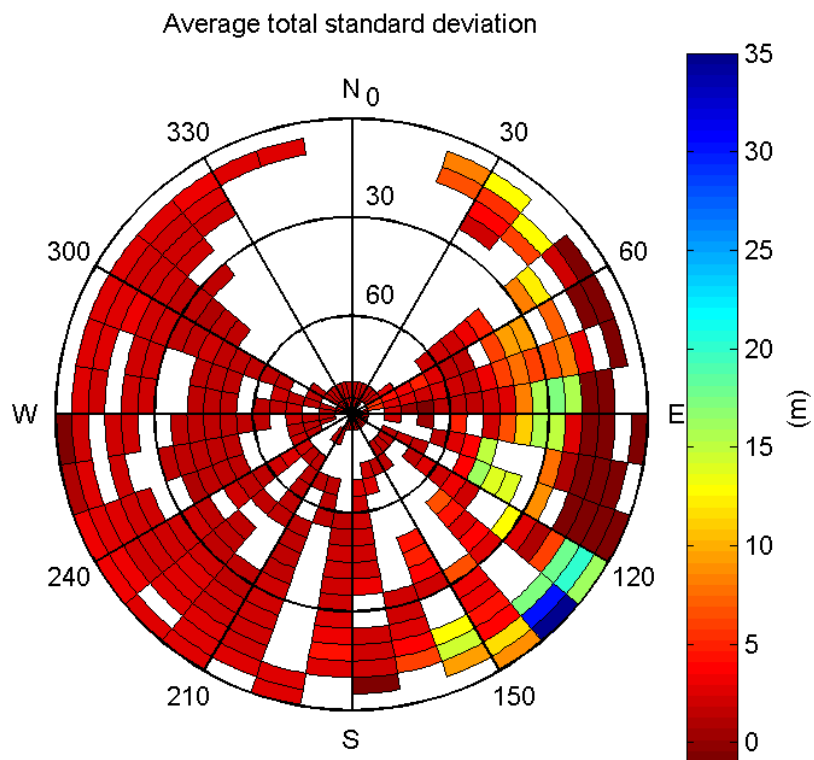
CDF normalised range errors:



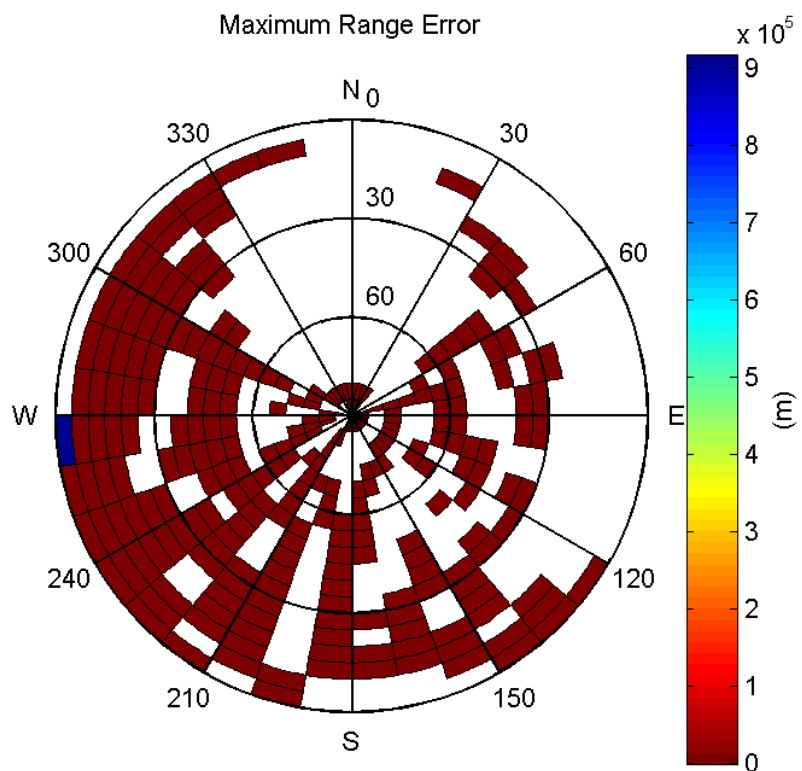
Histogram of Norm Range errors:



Sigma Sky Plot:

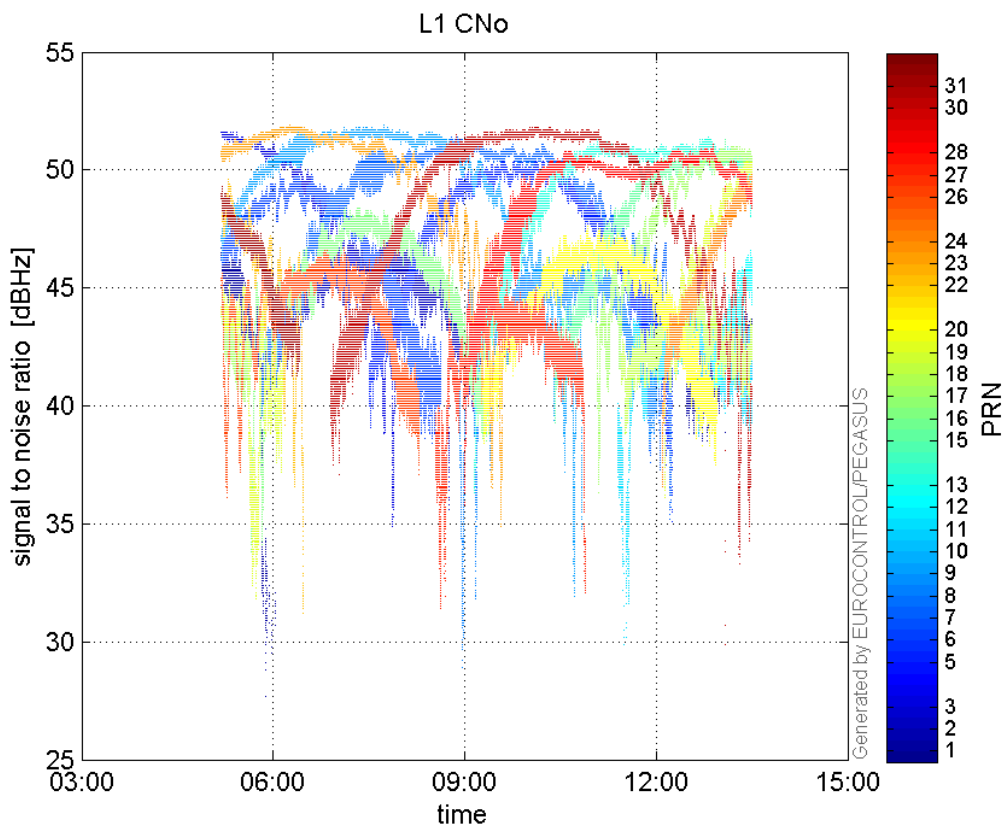


Norm Error Sky Plot:

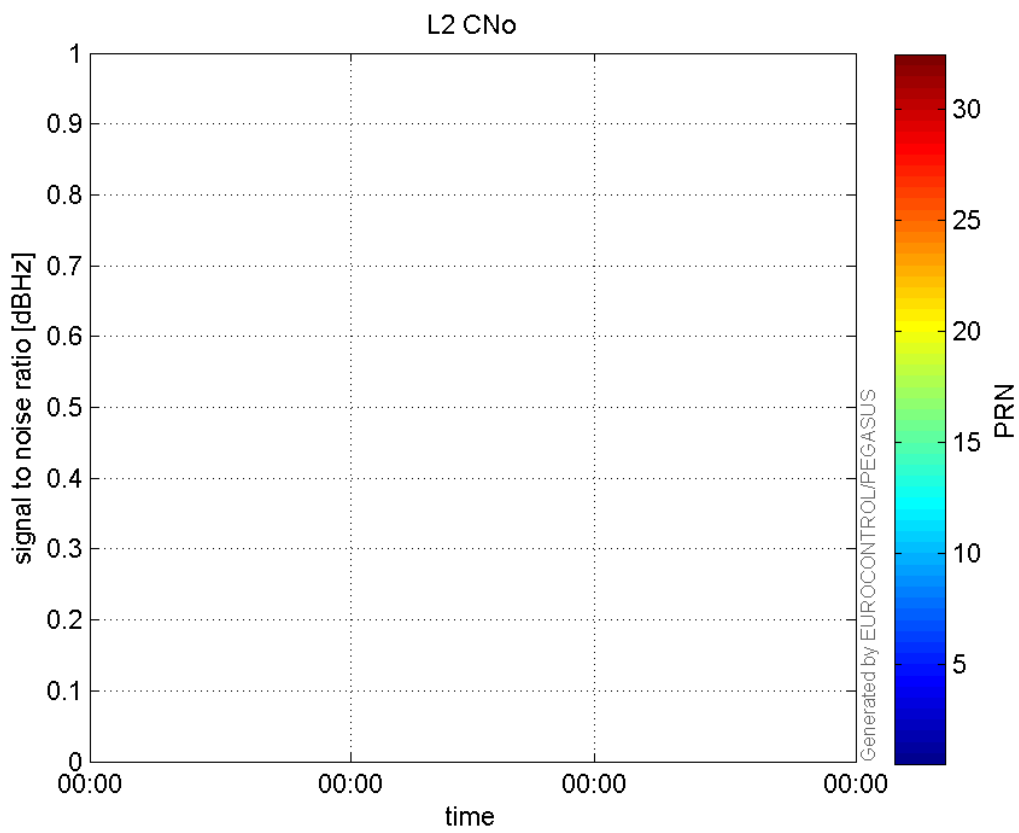


signal quality

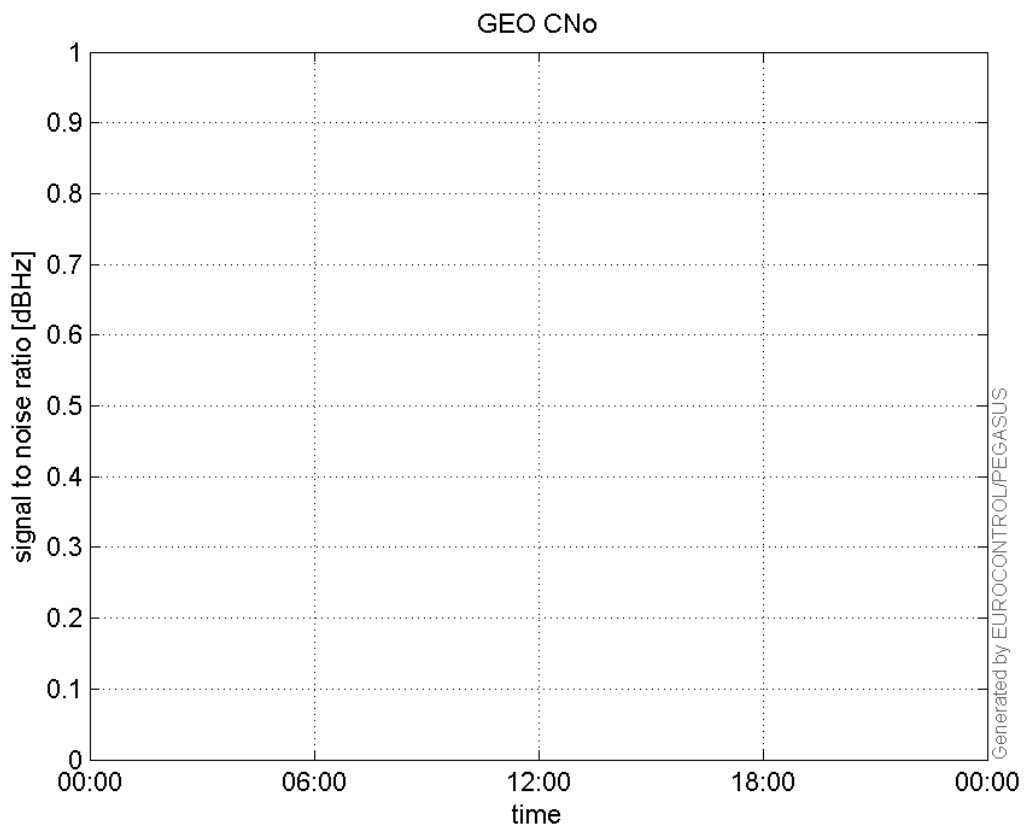
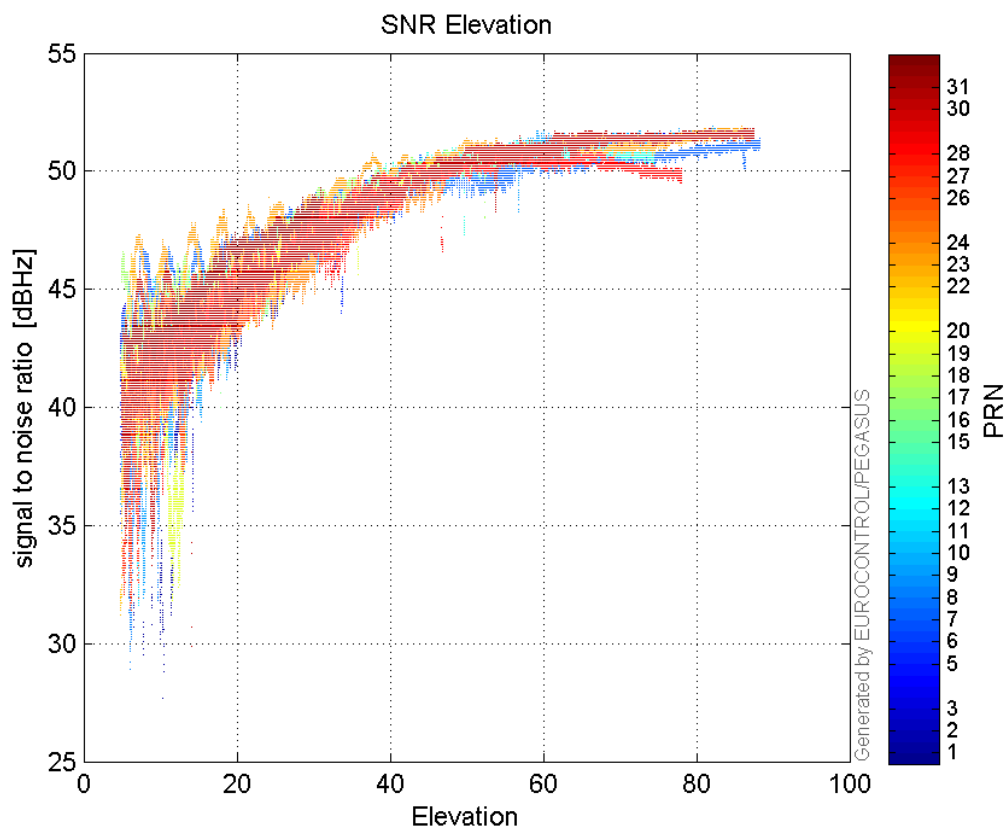
L1 CNo:

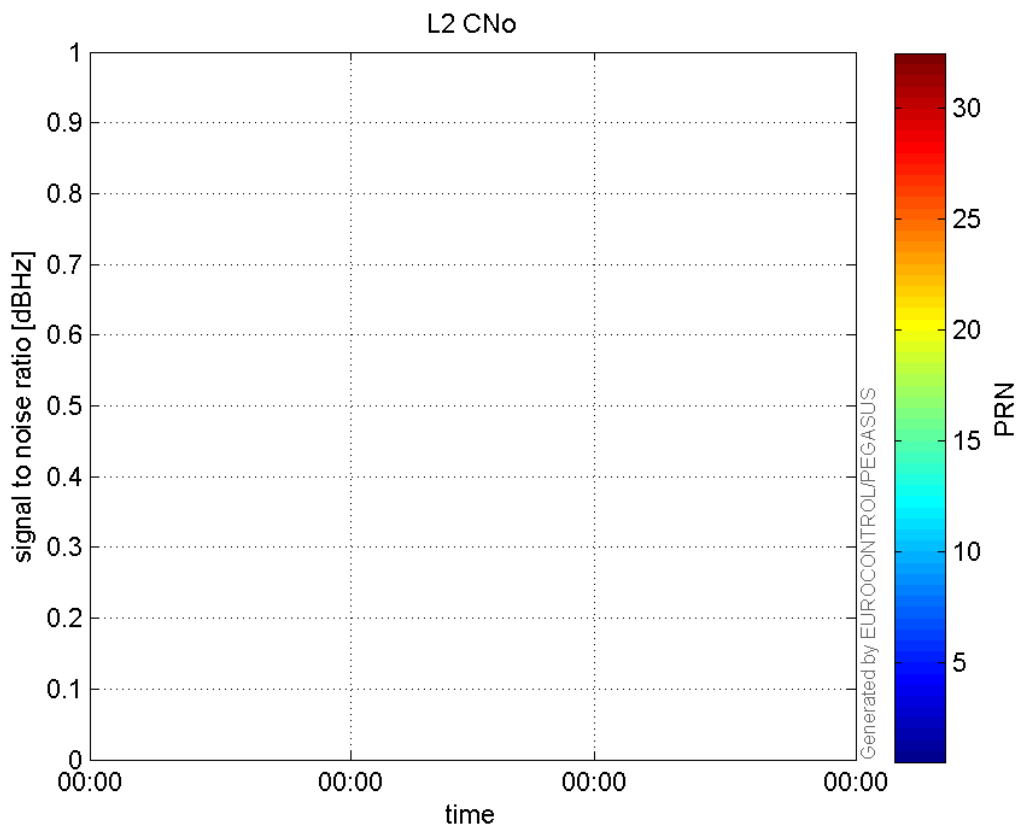


L2 CNo:

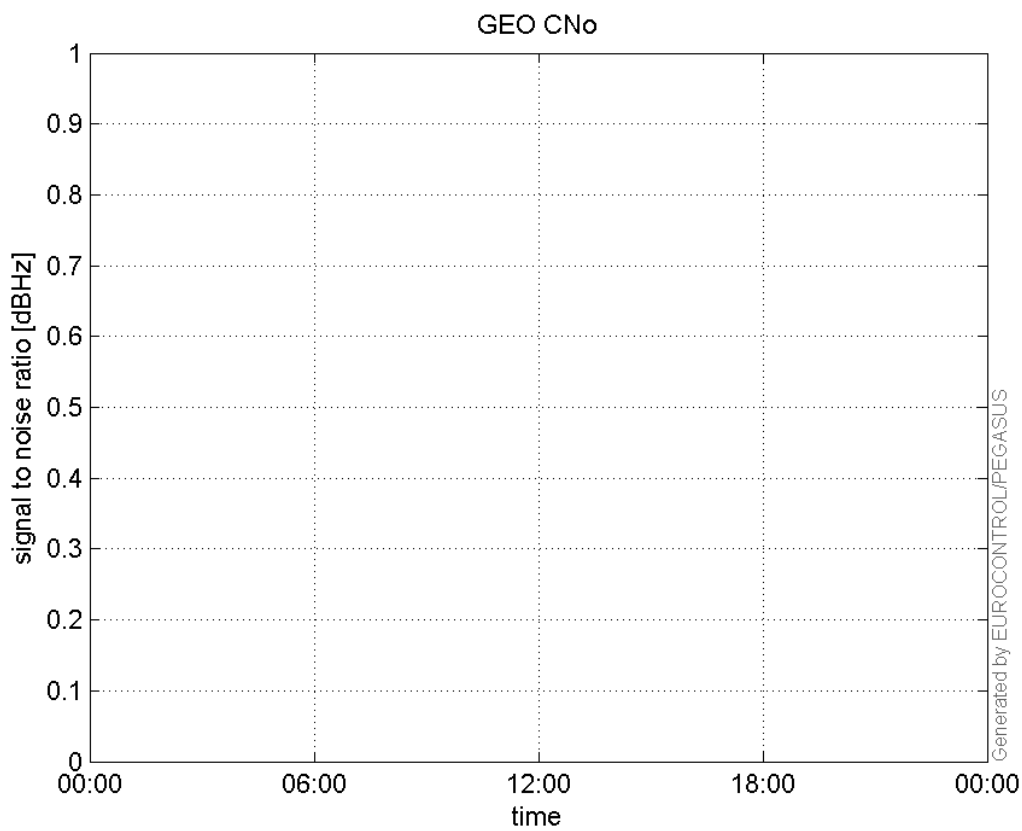


GEO CNo:

**SNR Elevation:****L2 CNo:**

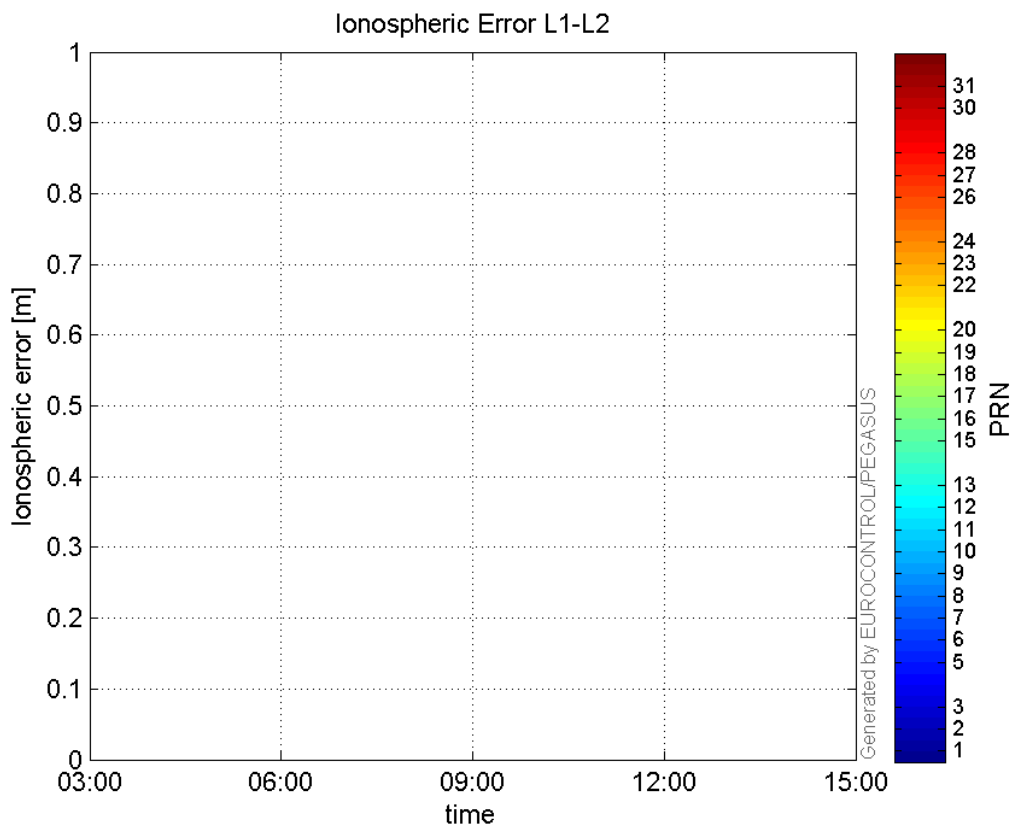


GEO CNo:



dual frequency

Ionospheric Error L1-L2:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.4.0
input_prefix	system	D:/PegasusDateJob/job/2016_03_30EGNOS615/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateJob/job/2016_03_30EGNOS615/03_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	136
gnss_mode	settings	sbas

results

Name	Section	Value
init_lat	results	50.439

init_lon	results	30.4297
init_alt	results	228.7026
mi_numbers	results	0