

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 4.8.4
 date 05/07/2016

SBAS Messages

start: 08:32:44.129 13.06.2016 (week: 1901 sec: 117164.129)
end: 11:05:48.129 13.06.2016 (week: 1901 sec: 126348.129)
duration: 02:33:04 ..

quality

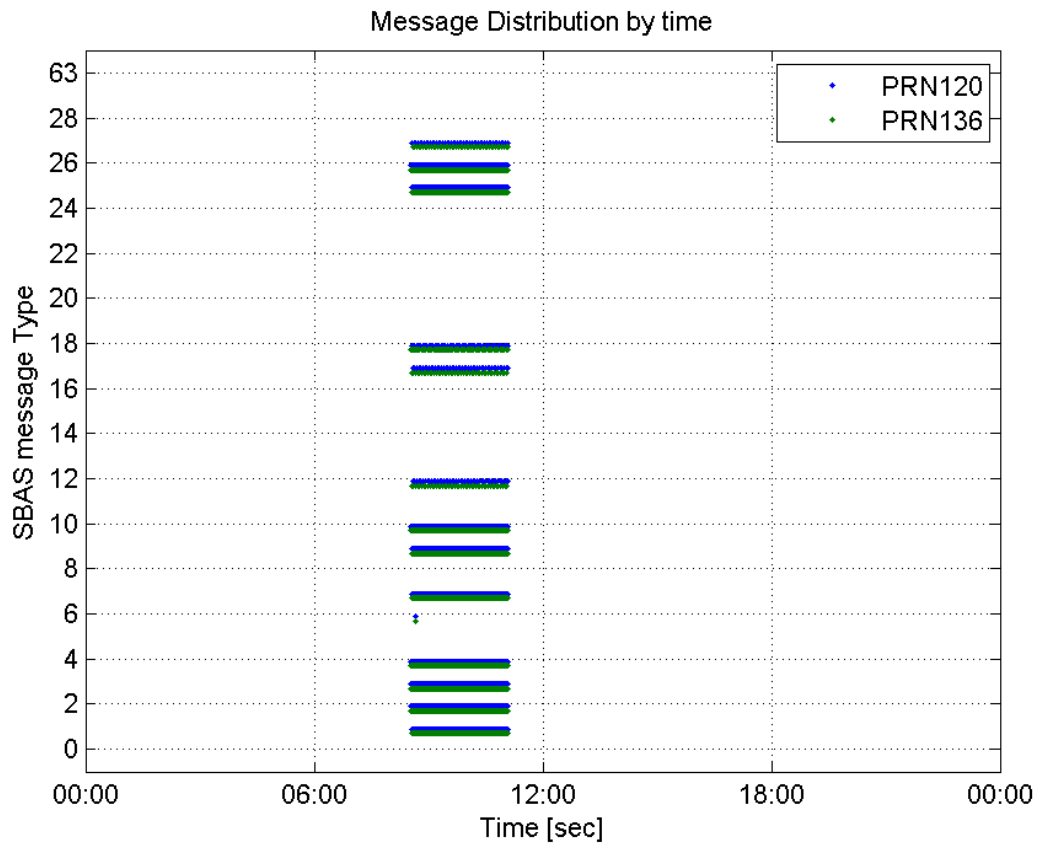
valid samples 18370
total samples 18370
number of SBAS PRNs 2

SBAS SIS Overview

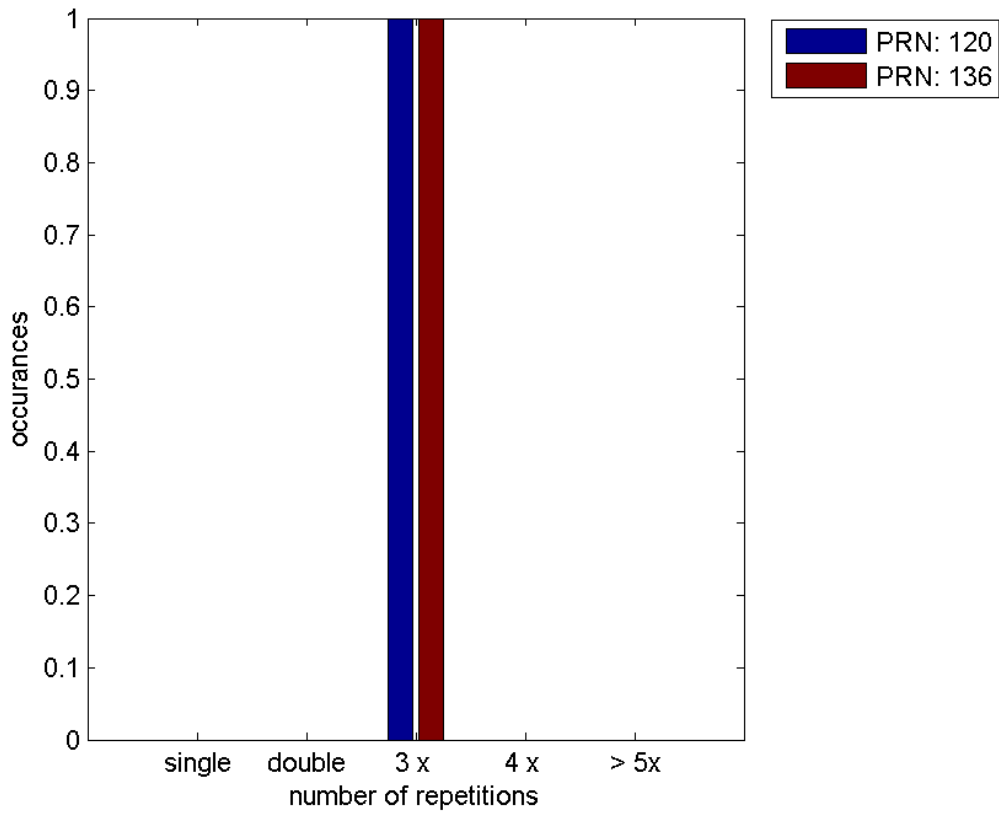
Message Type 6 repetitions :

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

Message Distribution by time:



Message Type 6 repetitions:



Broadcast SBAS Messages :

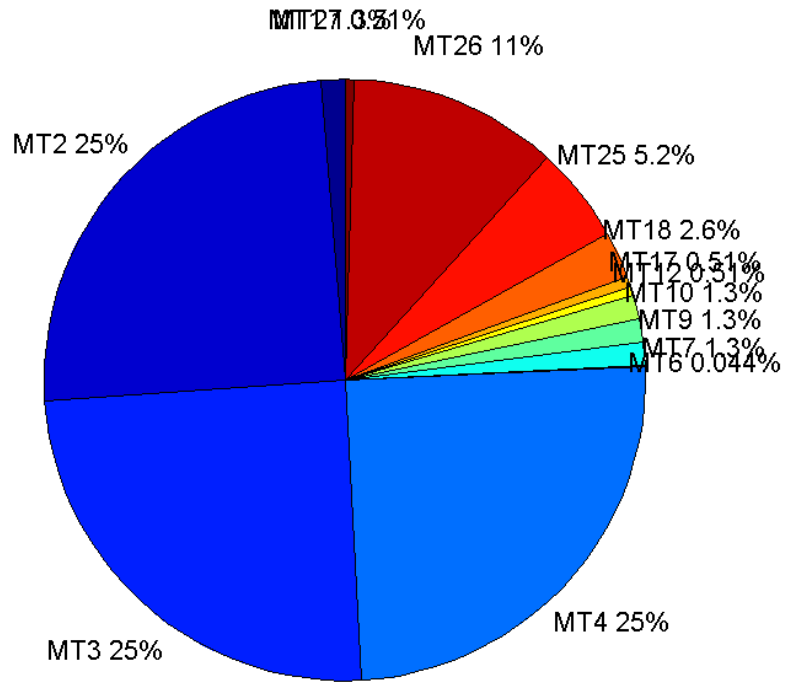
	number of messages	%
MT 0	0	0
MT 1	115	1.25204
MT 2	2280	24.8231
MT 3	2280	24.8231
MT 4	2280	24.8231
MT 5	0	0
MT 6	4	0.0435493
MT 7	115	1.25204
MT 9	115	1.25204
MT 10	116	1.26293
MT 12	47	0.511704
MT 17	47	0.511704
MT 18	235	2.55852
MT 24	0	0
MT 25	476	5.18236
MT 26	1028	11.1922
MT 27	47	0.511704
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	9185	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	80	79.7807	0	0	0
MT 2	4	7	4.02808	1	0	0
MT 3	4	7	4.02852	1	0	0
MT 4	4	7	4.02808	1	0	0
MT 5	--	--	--	--	--	--
MT 6	1	1	1	0	0	0
MT 7	76	81	79.7544	0	0	0
MT 9	76	81	79.6228	0	0	0
MT 10	76	81	79.7478	0	0	0
MT 12	188	201	196.326	46	0	0
MT 17	192	201	196.413	0	0	0
MT 18	4	160	38.7521	0	0	0
MT 24	--	--	--	--	--	--
MT 25	3	36	19.2737	0	0	0
MT	4	36	8.93379	0	0	0

26						
MT 27	190	201	196.413	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

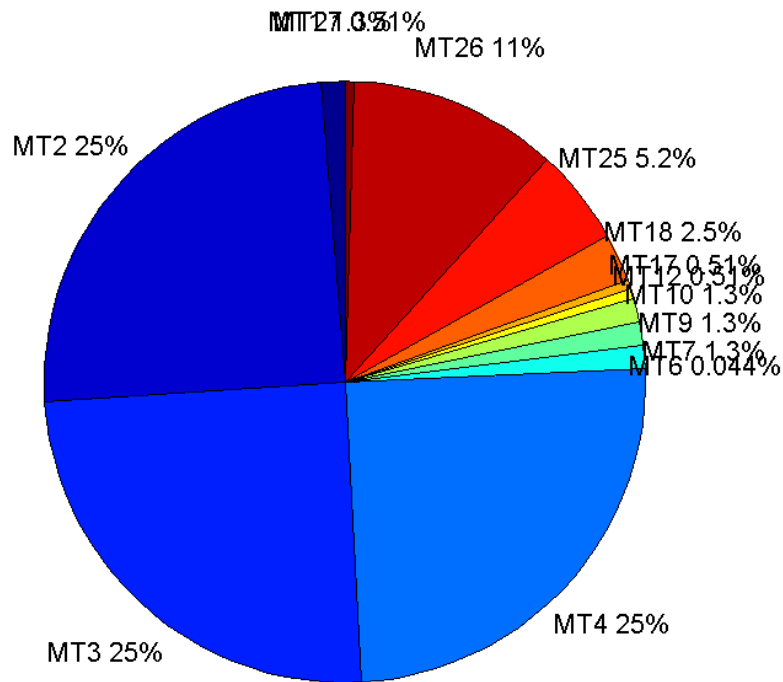
	number of messages	%
MT 0	0	0
MT 1	115	1.25204
MT 2	2279	24.8122
MT 3	2279	24.8122
MT 4	2279	24.8122
MT 5	0	0
MT 6	4	0.0435493
MT 7	115	1.25204
MT 9	115	1.25204
MT 10	116	1.26293

MT 12	47	0.511704
MT 17	47	0.511704
MT 18	234	2.54763
MT 24	0	0
MT 25	475	5.17148
MT 26	1033	11.2466
MT 27	47	0.511704
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	9185	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	77	81	79.8421	0	0	0
MT 2	4	8	4.02985	1	0	0
MT 3	4	8	4.03029	1	0	0
MT 4	4	8	4.02985	1	0	0
MT 5	--	--	--	--	--	--
MT 6	1	1	1	0	0	0
MT 7	76	83	79.7368	0	0	0
MT 9	78	81	79.807	0	0	0
MT 10	77	81	79.713	0	0	0
MT 12	187	201	195.87	46	0	0
MT 17	188	201	195.804	0	0	0
MT 18	4	156	39.412	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	36	19.289	0	0	0
MT 26	3	32	8.8905	0	0	0
MT 27	190	201	195.87	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_06_13_EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateJob/job/2016_06_13_EGNOS/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: 08:32:45 13.06.2016 (week: 1901 sec: 117165)
end: 11:05:48 13.06.2016 (week: 1901 sec: 126348)
duration: 02:33:04 ..

quality

valid samples 8823
total samples 9184

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	124158	1.89087	9.14686	0.206723	-0.0846706	14.2566	0.00593905
max normVer	118019	1.50057	10.5494	0.142242	-1.93847	18.4587	0.105017
max HPE	126004	2.42727	17.0253	0.142568	-1.17334	20.8011	0.0564076
max VPE	118019	1.50057	10.5494	0.142242	-1.93847	18.4587	0.105017
min HPL	124130	1.80842	8.90726	0.203028	0.0728116	13.976	0.00520976
min VPL	121219	1.2047	9.2837	0.129765	0.257178	12.5235	0.0205357

APV-I discontinuity events :

#	Epoch	duration	stable period
1	119699	85	2173

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	119699	85	2173

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	119699	85	2173

First Glance analysis

Duration 9184
 Number of Samples 9184
 Number of invalid sample 361
 Number of no position solution samples 0
 Number of missing sample 0
 Logging Loss 0
 Processing Loss 3.9307
 Number of Misleading Information 0
 Data gaps 0
 Discontinuities 0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
8823	8738	8738	0	8738

Accuracy statistics :

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

HPE 95%	1.95256	1.95352	1.95352	NaN	1.95352
HPEscale 95%	NaN	7.0783	7.0783	NaN	7.0783
VPE 95%	1.28904	1.29001	1.29001	NaN	1.29001
VPEscale 95%	NaN	3.48194	2.43736	NaN	2.43736

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.990366	0.990366	0	0.990366
measurements	0.960693	0.951437	0.951437	0	0.951437
Operational	0.960693	0.951437	0.951437	0	0.951437

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	1	1	--	1
Long	--	1	1	--	1
Independent	--	1	1	--	1
P(disc.)	NaN	0.00171664	0.00171664	NaN	0.00171664
P(slide)	NaN	0.00171664	0.00171664	NaN	0.00171664

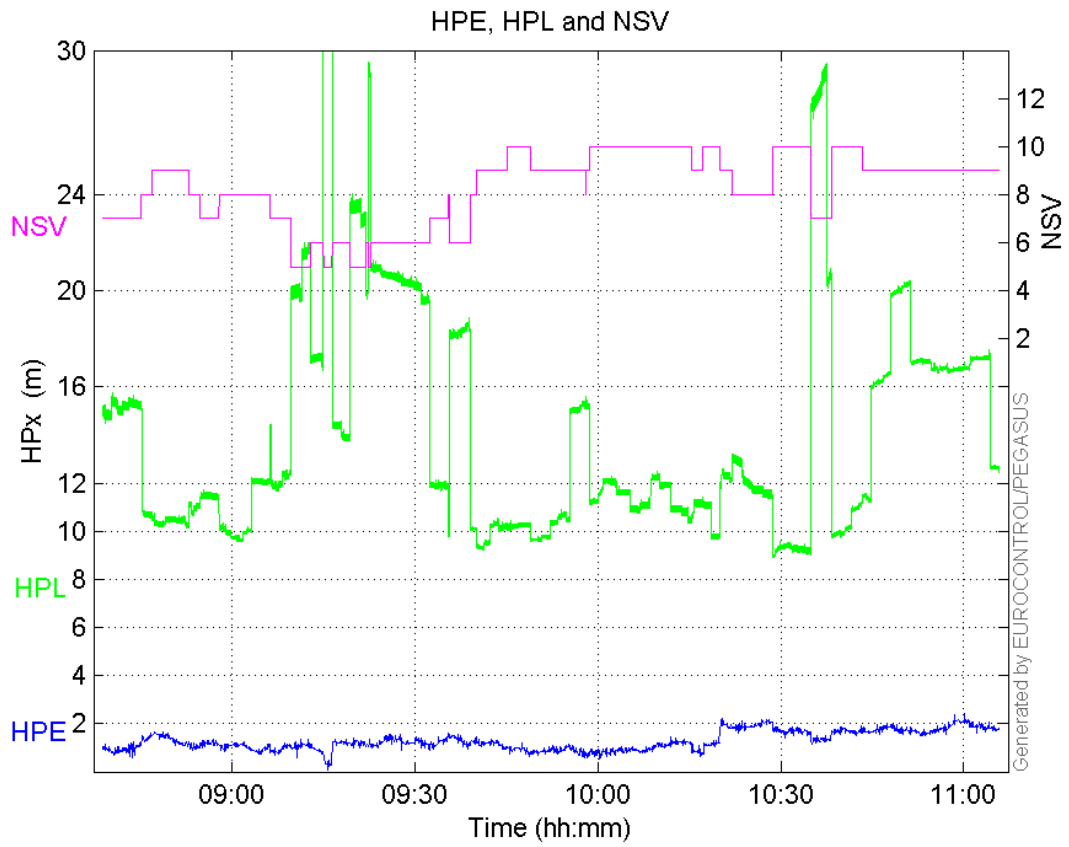
Integrity events :

	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

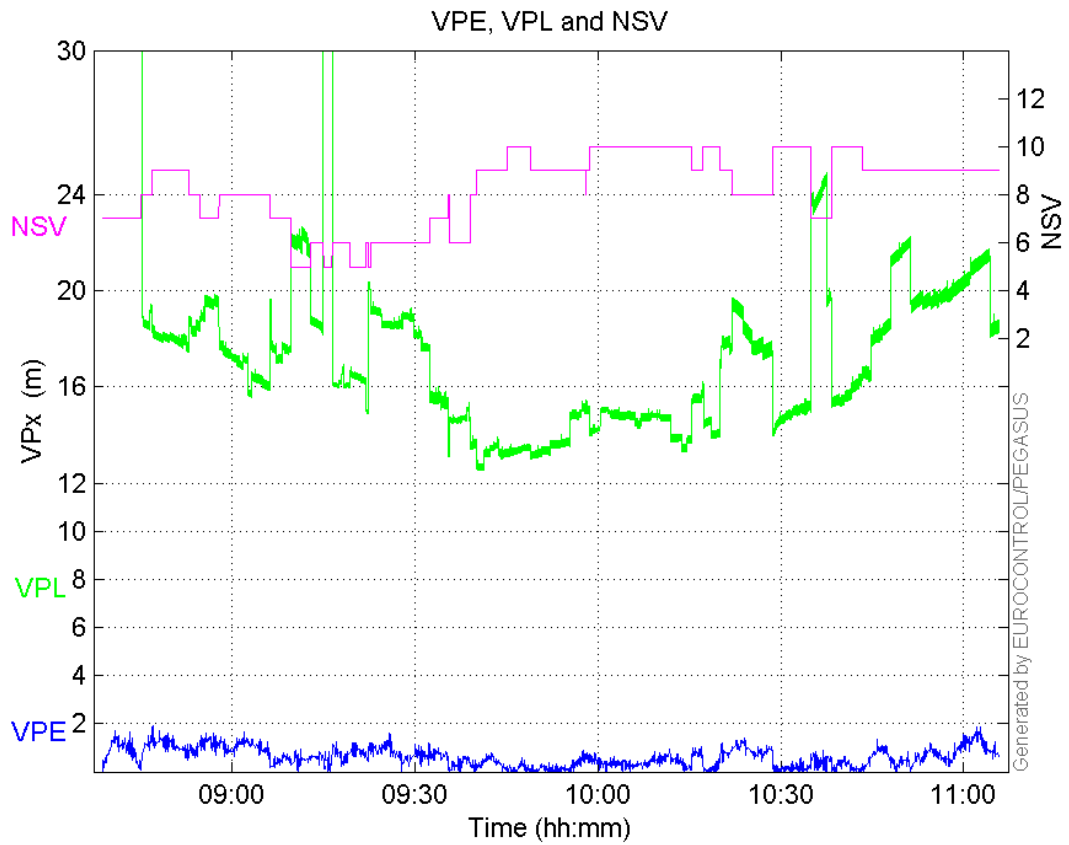
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	8823	8738	8738	0	8738
SIS Availability	1	0.990366	0.990366	0	0.990366
Local Availability	0.960693	0.951437	0.951437	0	0.951437
Operational Availability	0.960693	0.951437	0.951437	0	0.951437
HPE 95%	1.95256	1.95352	1.95352	NaN	1.95352
HPEscale 95%	NaN	7.0783	7.0783	NaN	7.0783
VPE 95%	1.28904	1.29001	1.29001	NaN	1.29001
VPEscale 95%	NaN	3.48194	2.43736	NaN	2.43736
All Discontinuity Events	--	1	1	--	1
Long Discontinuity Events	--	1	1	--	1
Independent Discontinuity Events	--	1	1	--	1
P(discontinuity)	NaN	0.00171664	0.00171664	NaN	0.00171664
P(sliding window)	NaN	0.00171664	0.00171664	NaN	0.00171664
All Integrity Events	0	0	0	0	0
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

HPE, HPL and NSV:

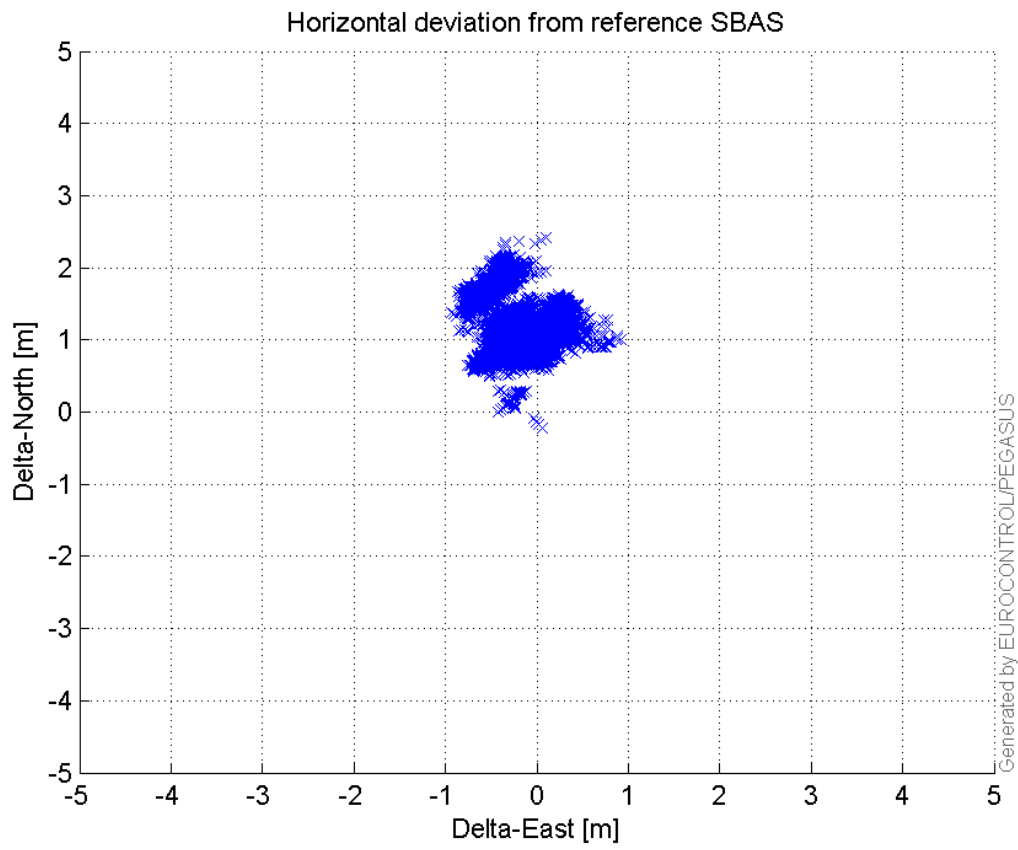


VPE, VPL and NSV:



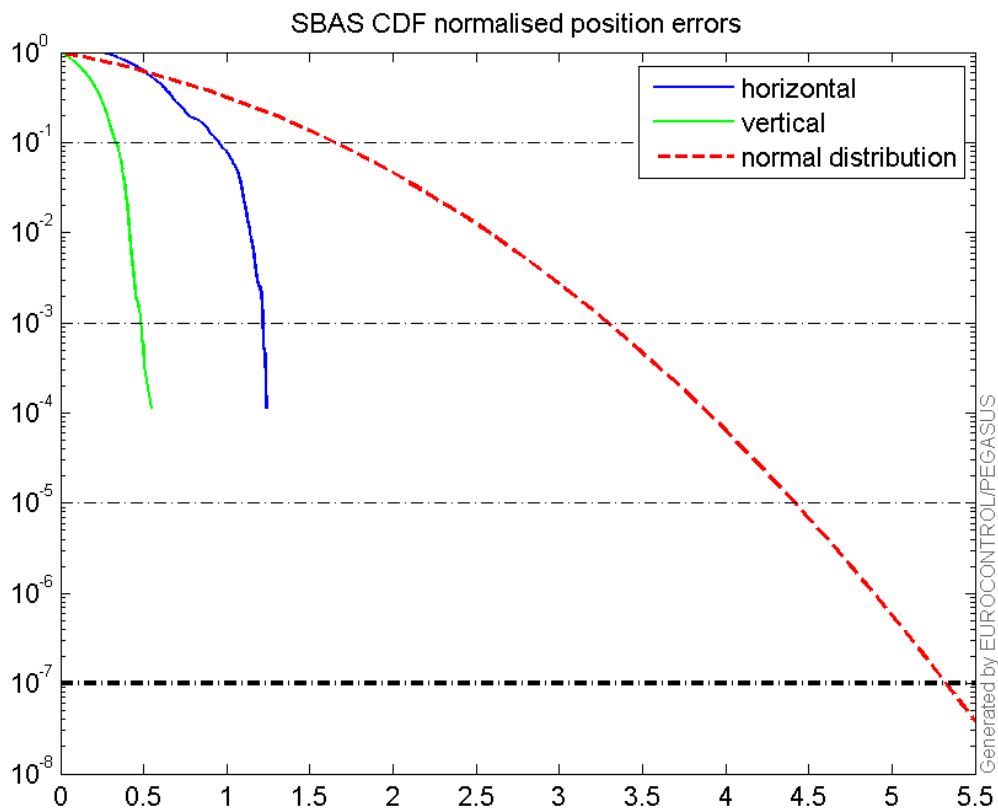
Horizontal deviation

Horizontal deviation from reference SBAS:



CDF position

SBAS CDF position domain:



Statistics

```

number  8738
sum      11344.173
sum2     15959.227
prctile95  1.9535191
prctile99  2.1072396
number  8738
sum      5442.2599
sum2     4686.7125
prctile95  1.2900084
prctile99  1.5015507
number  8738
sum      121204.92
sum2     1846165.7
prctile95  21.11096
prctile99  28.428492
number  8738
sum      153453.39
sum2     2824800.5
prctile95  24.23102
prctile99  31.23222
number  8738
sum      877.33724
sum2     100.30777
prctile95  0.17695742
prctile99  0.18997452
number  8738
sum      303.13735

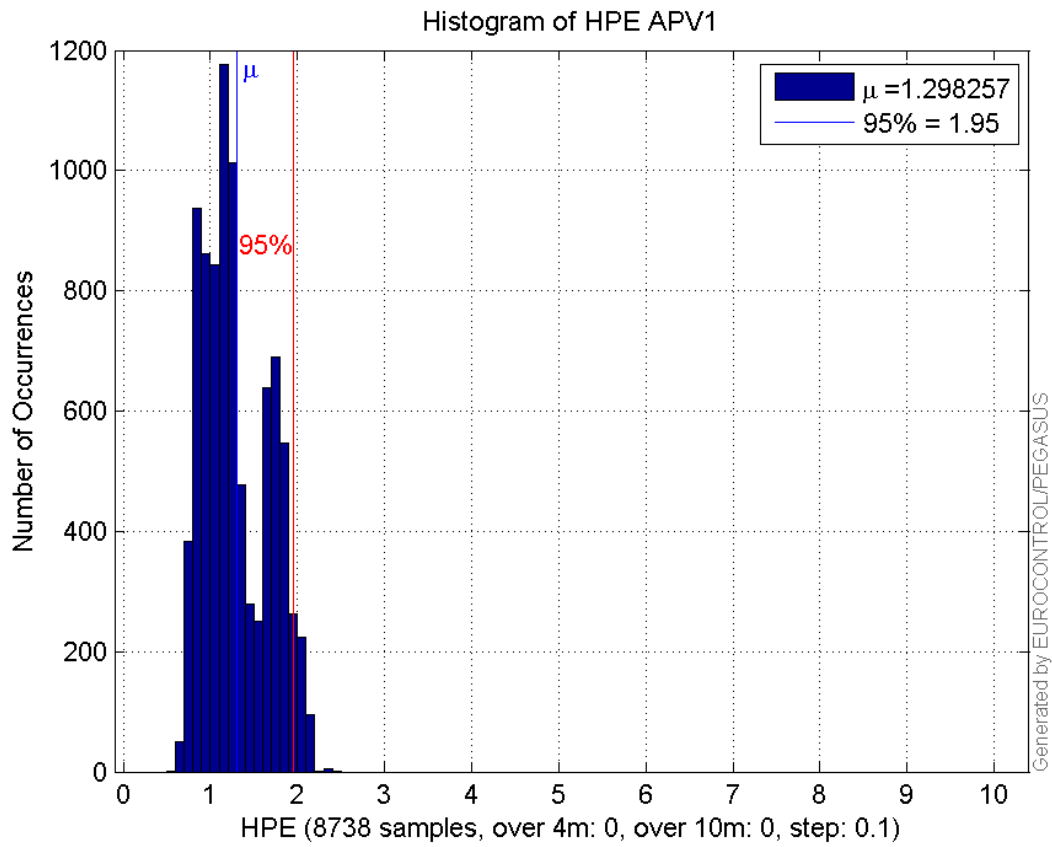
```

sum2 14.022936
prctile95 0.06963873
prctile99 0.077590592
number 8738
sum 11344.173
sum2 15959.227
prctile95 1.9535191
prctile99 2.1072396
number 8738
sum 5442.2599
sum2 4686.7125
prctile95 1.2900084
prctile99 1.5015507
number 8738
sum 121204.92
sum2 1846165.7
prctile95 21.11096
prctile99 28.428492
number 8738
sum 153453.39
sum2 2824800.5
prctile95 24.23102
prctile99 31.23222
number 8738
sum 877.33724
sum2 100.30777
prctile95 0.17695742
prctile99 0.18997452
number 8738
sum 303.13735
sum2 14.022936
prctile95 0.06963873
prctile99 0.077590592

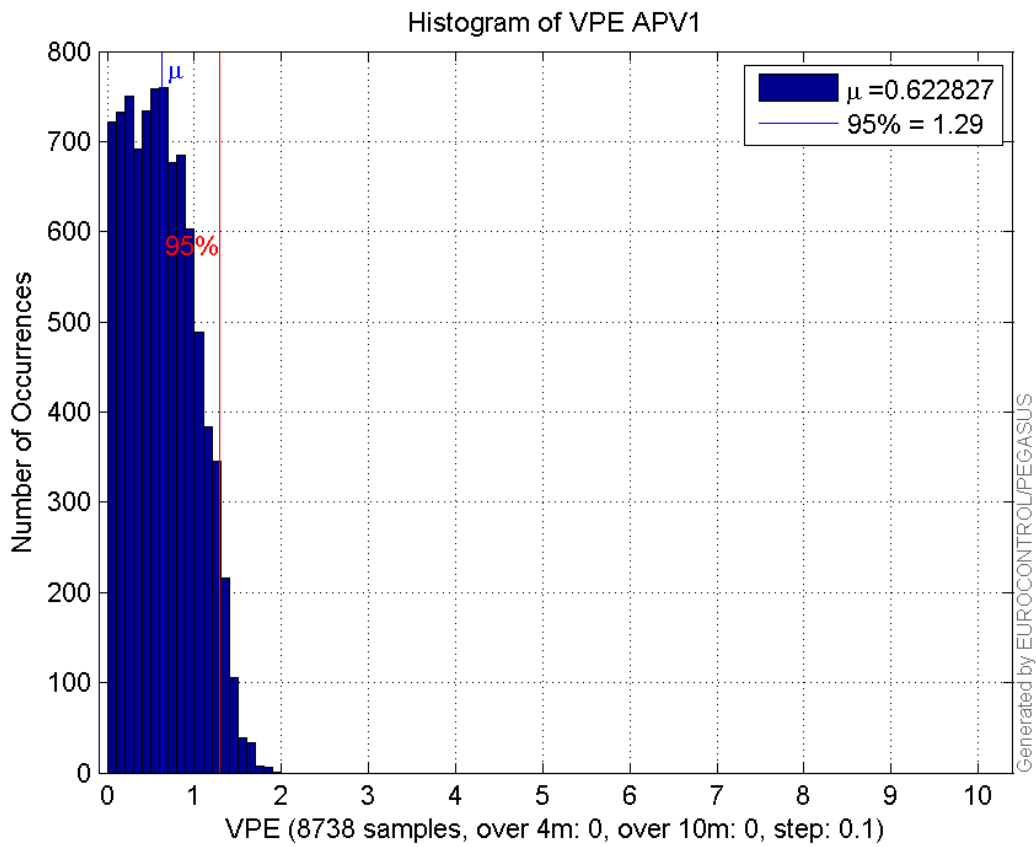
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.29826	0.375447	1.20826	1.95352	2.10724	1.35145
HPL	13.871	4.3448	11.9611	21.111	28.4285	14.5355
VPE	0.622827	0.38531	0.597286	1.29001	1.50155	0.732366
VPL	17.5616	3.85604	17.1796	24.231	31.2322	17.9799

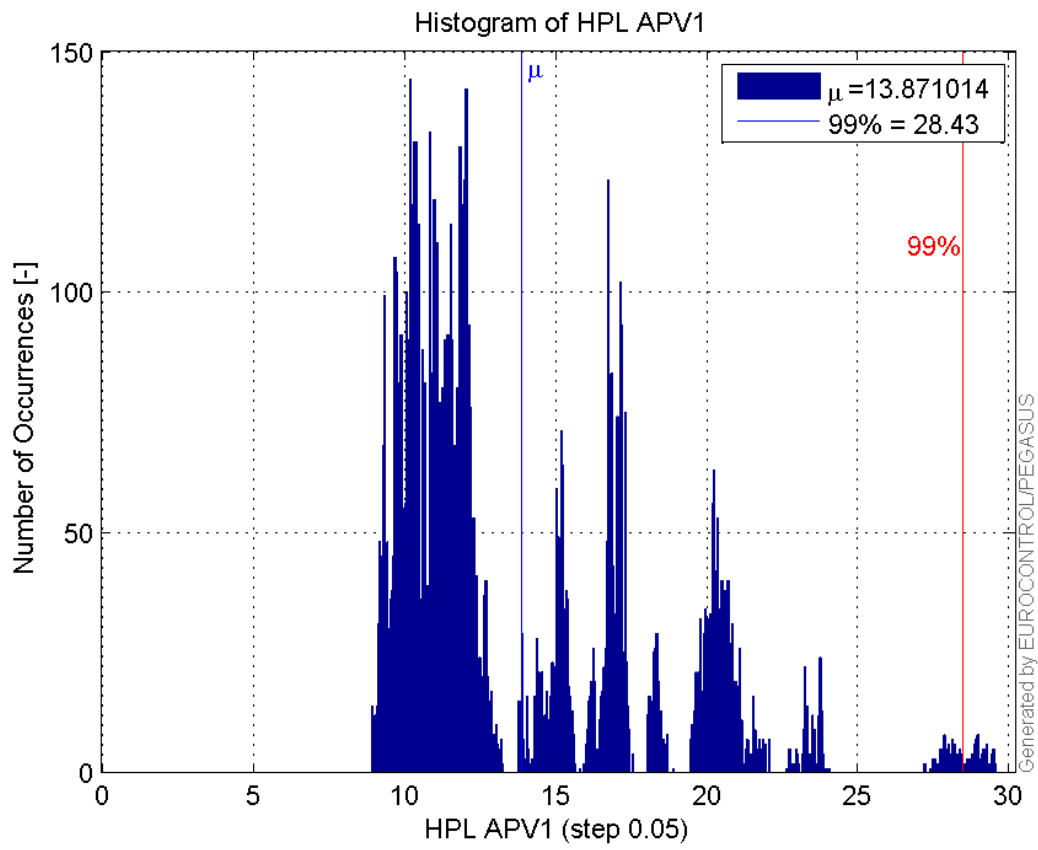
Histogram of HPE APV1:



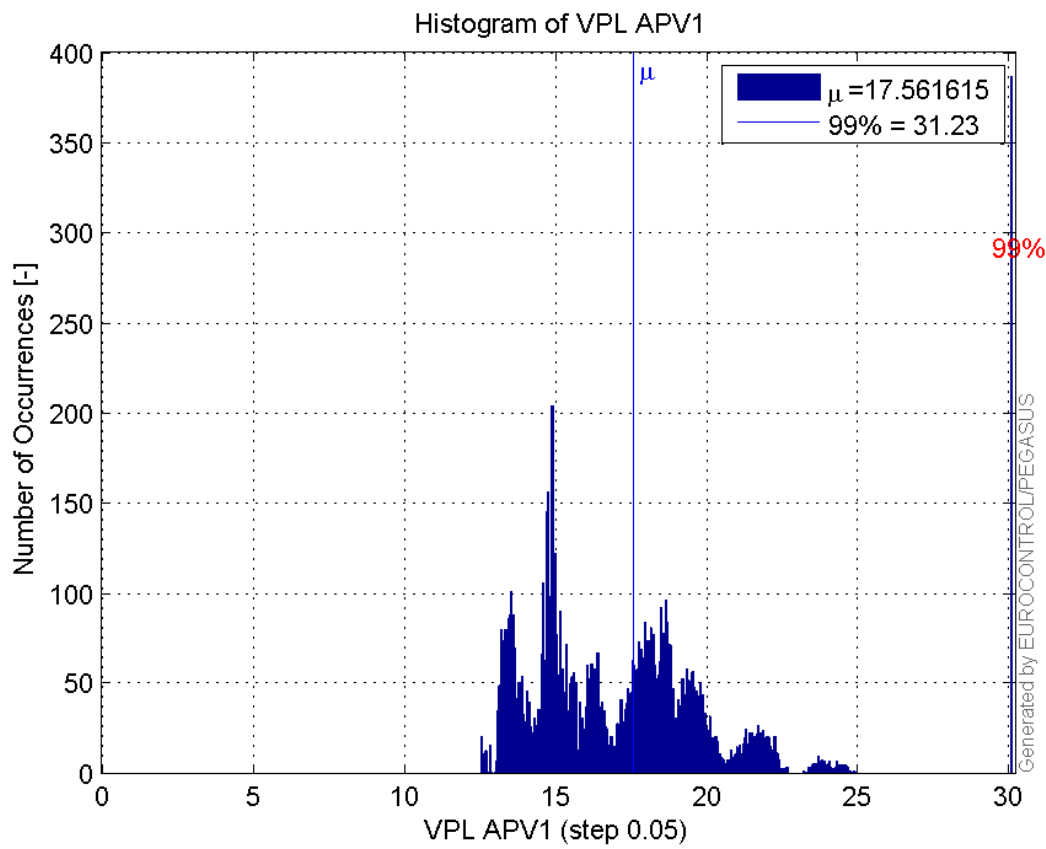
Histogram of VPE APV1:



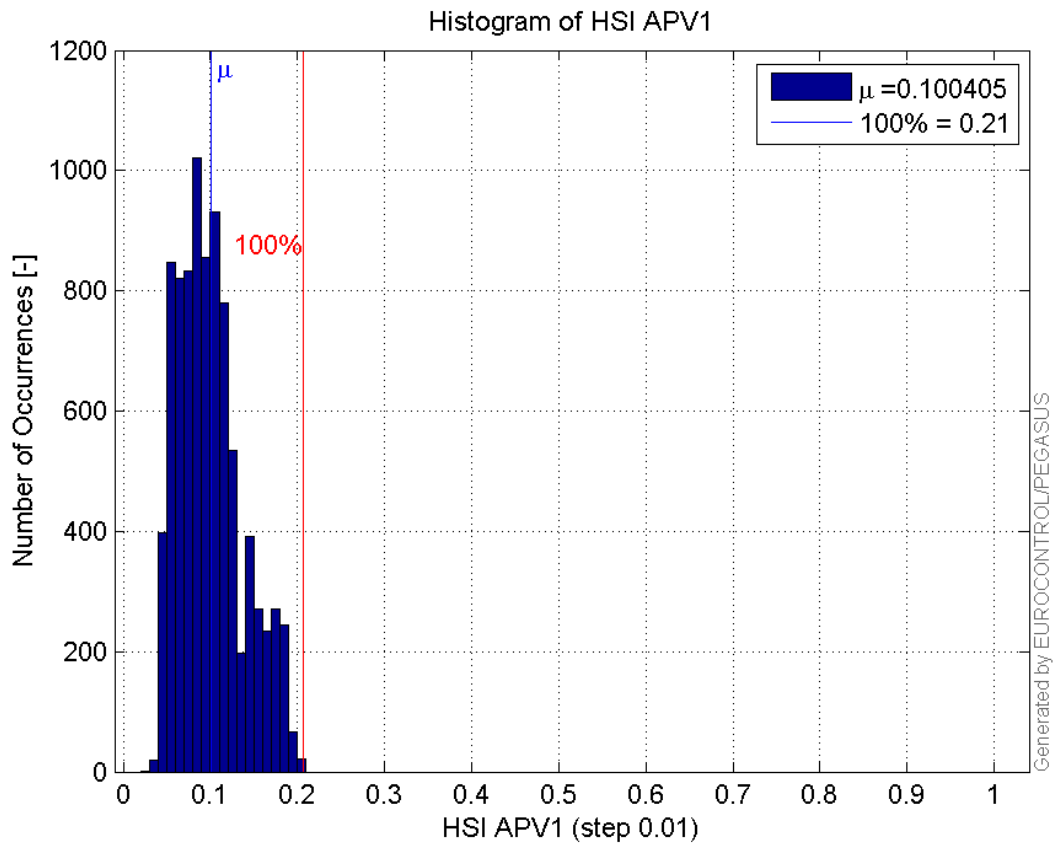
Histogram of HPL APV1:



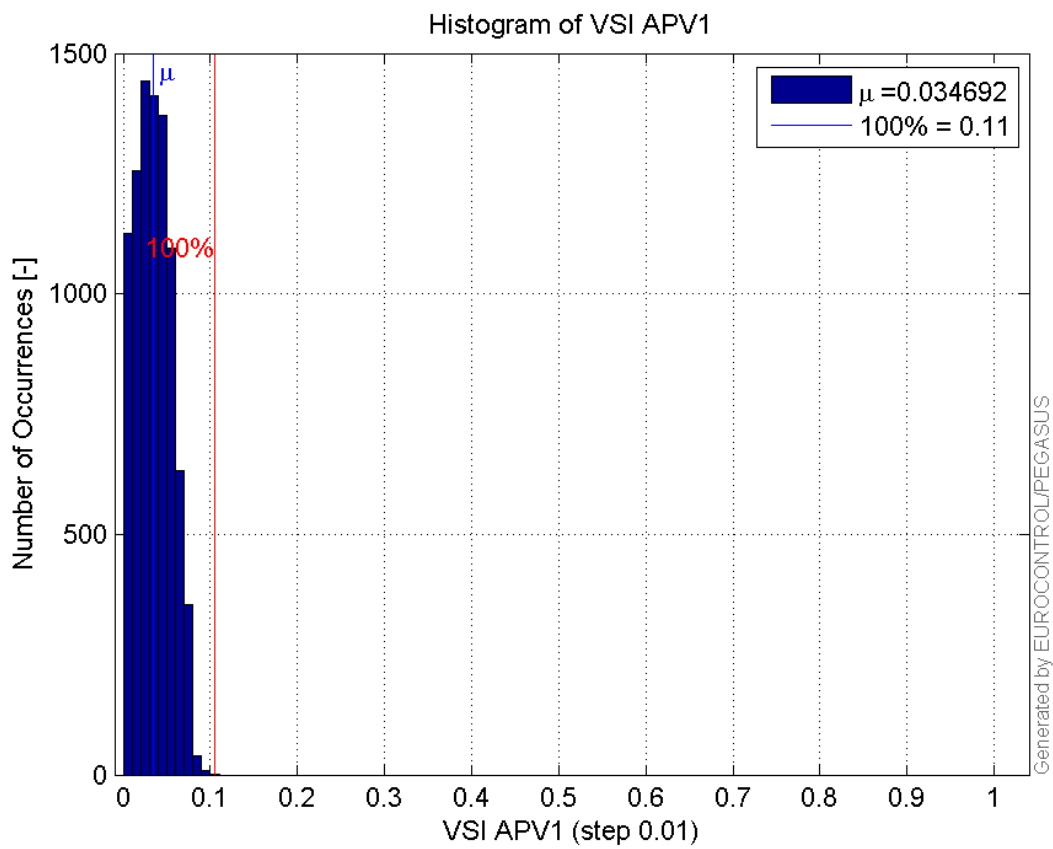
Histogram of VPL APV1:



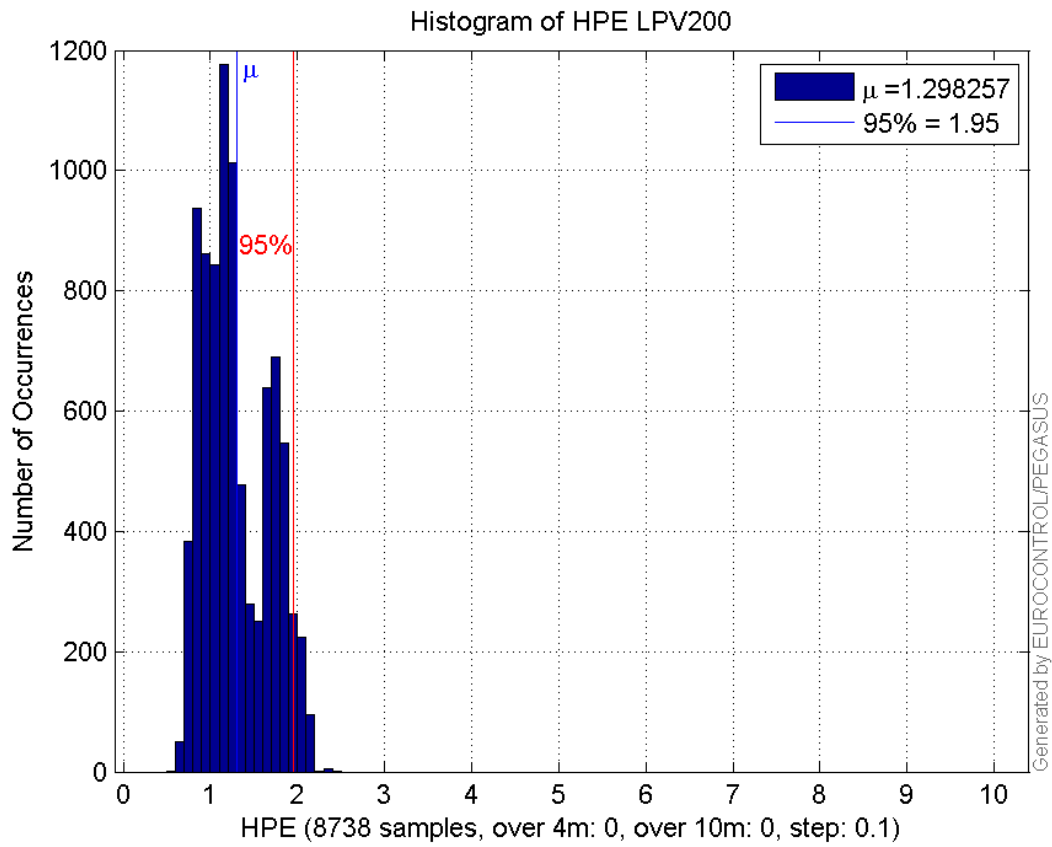
Histogram of HSI APV1:



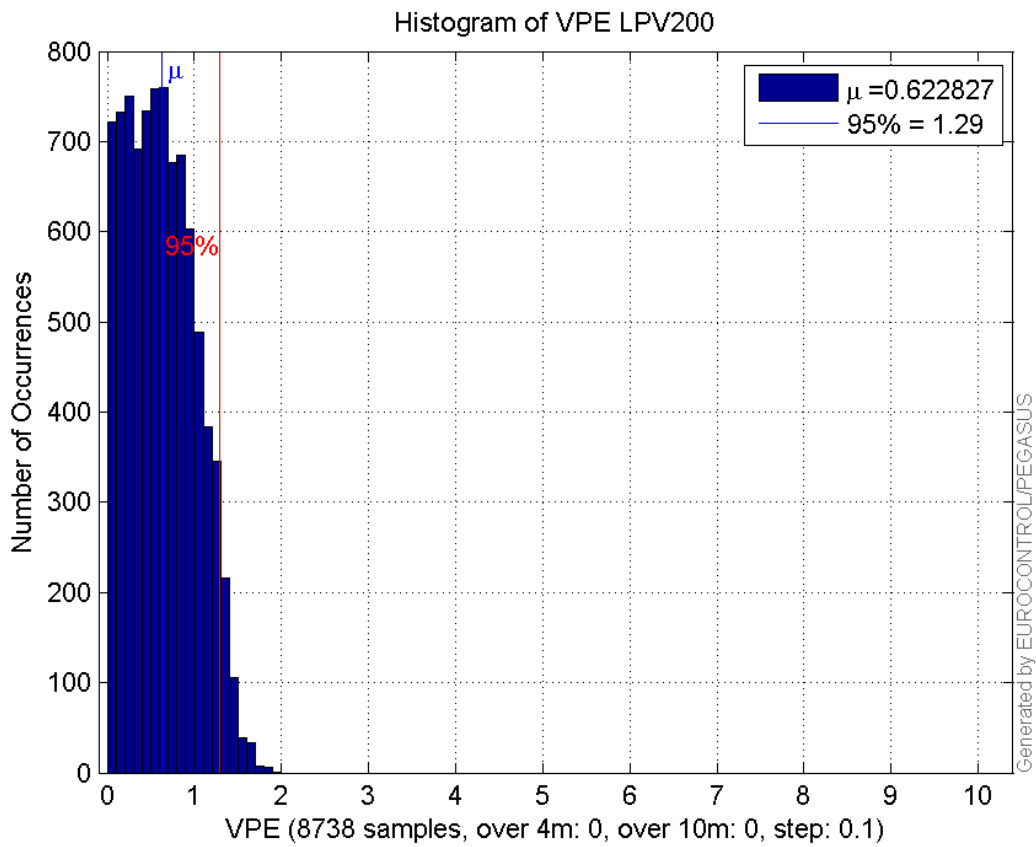
Histogram of VSI APV1:



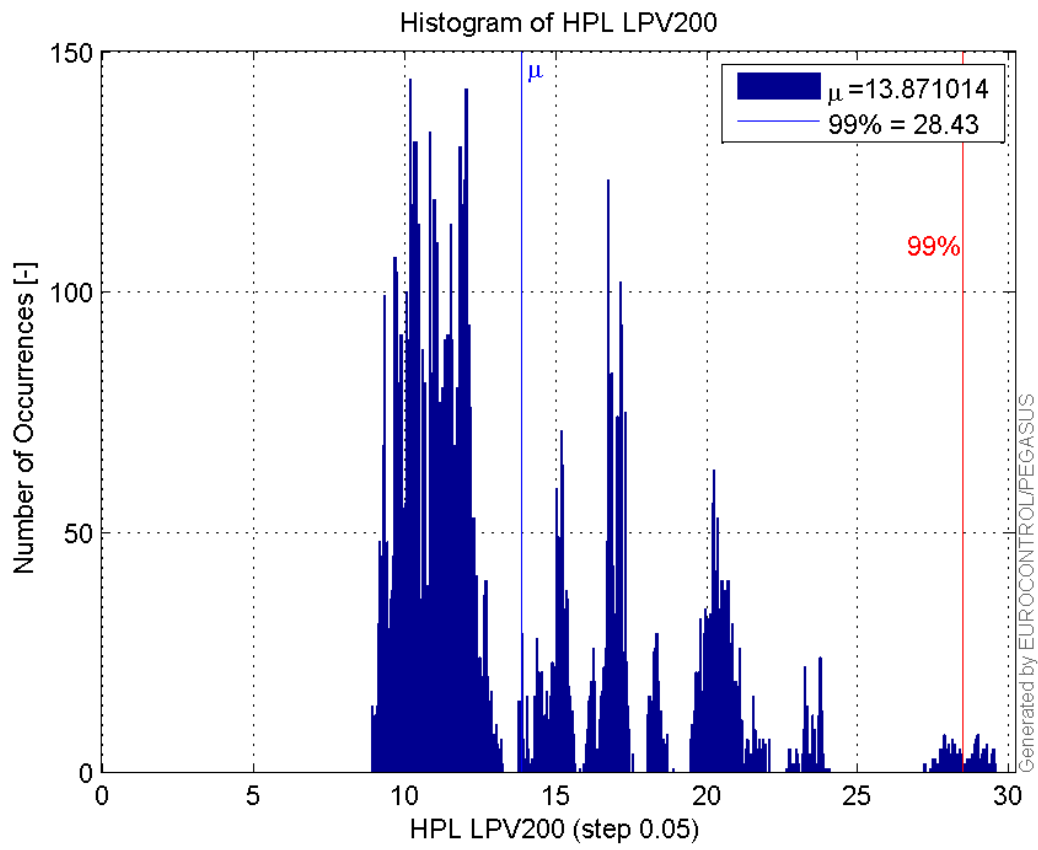
Histogram of HPE LPV200:



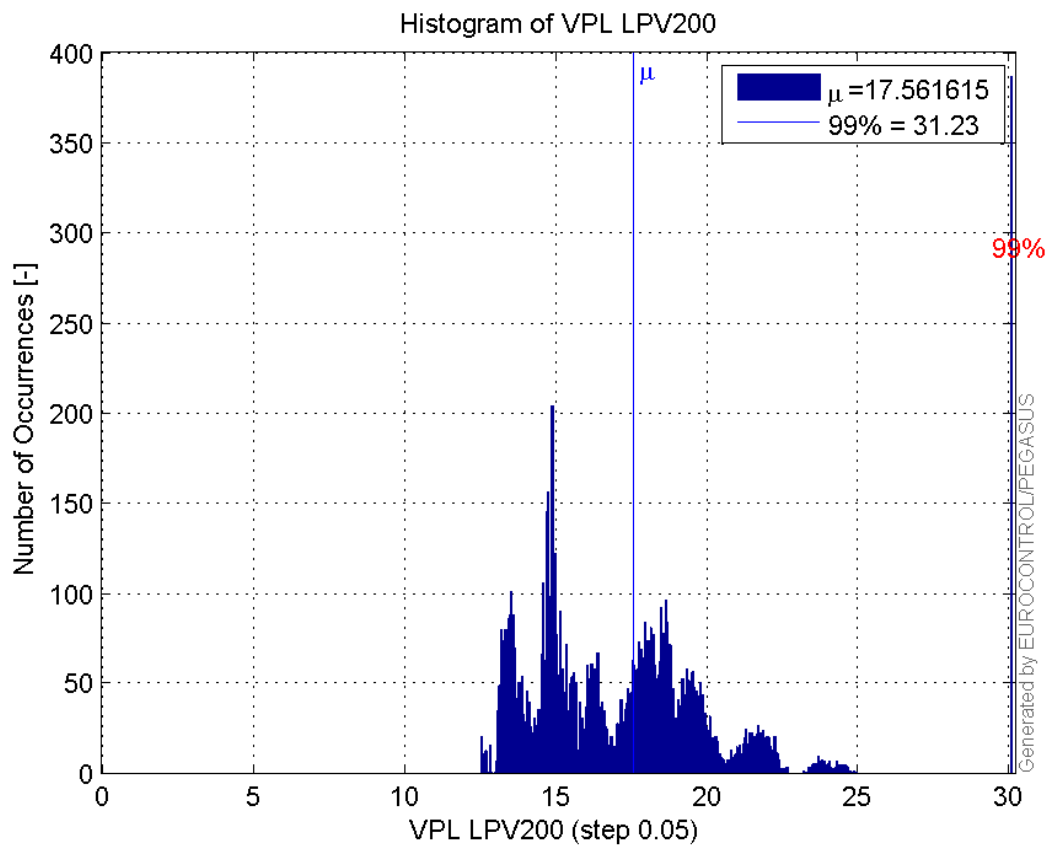
Histogram of VPE LPV200:



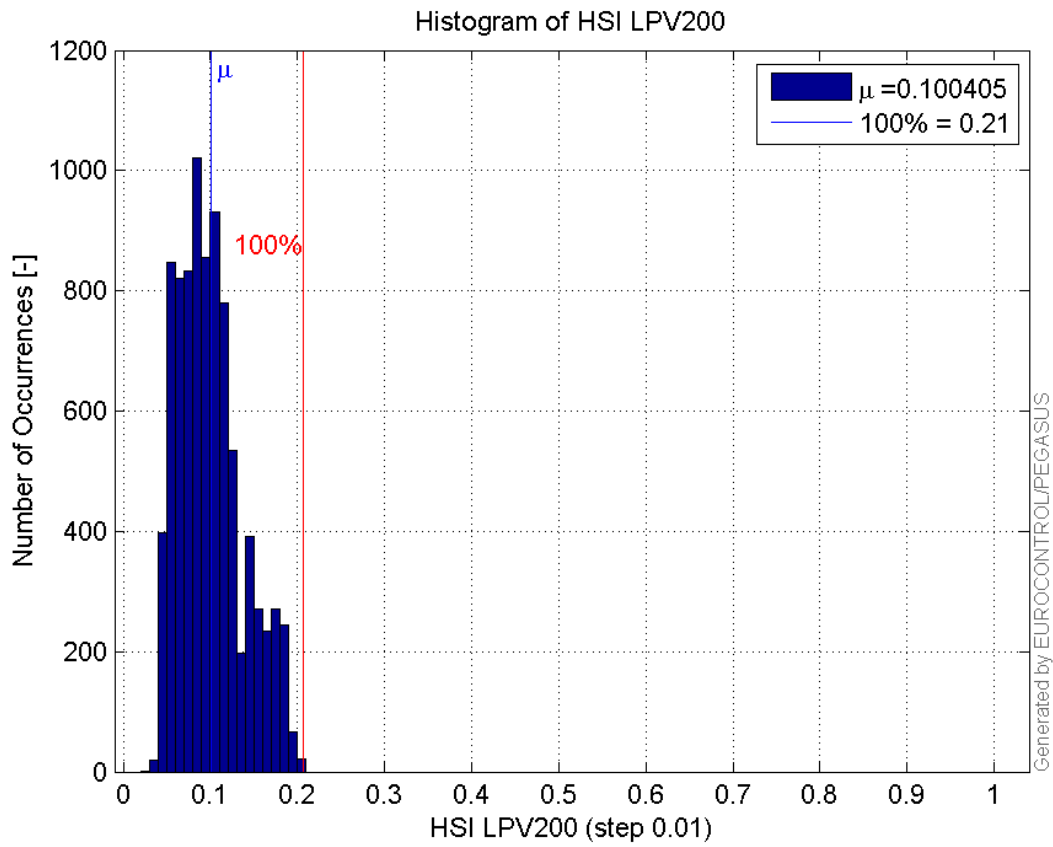
Histogram of HPL LPV200:



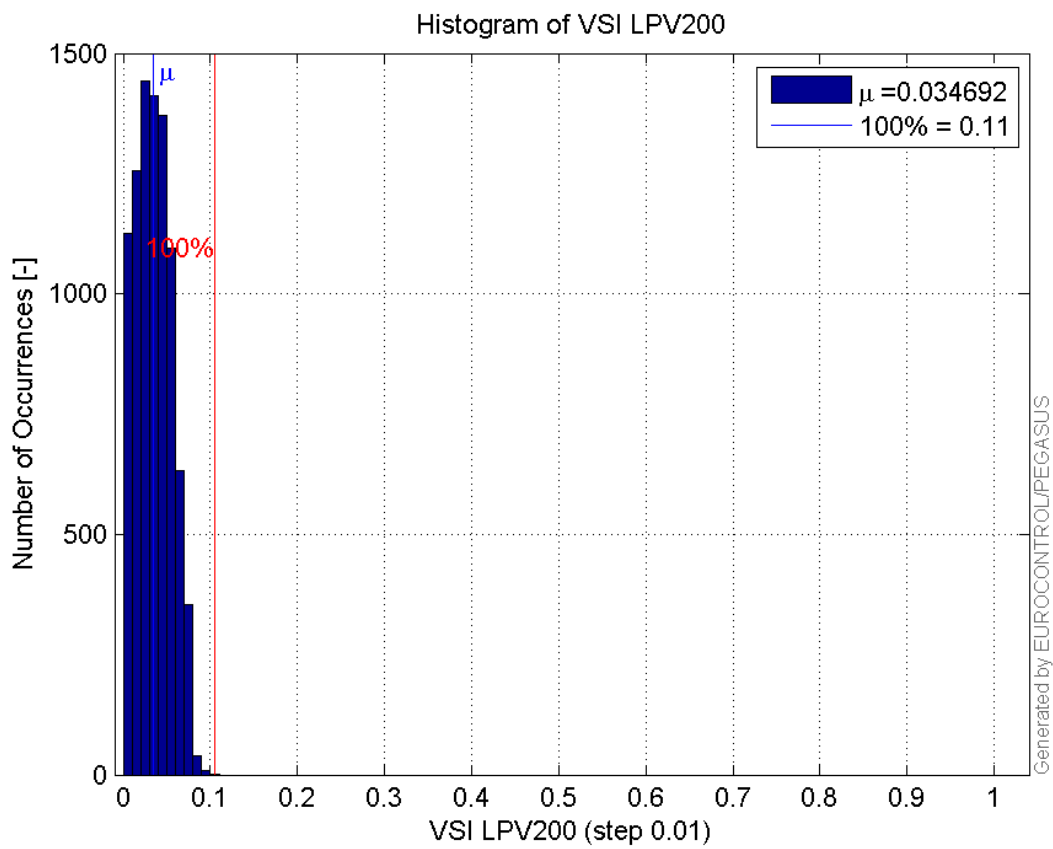
Histogram of VPL LPV200:



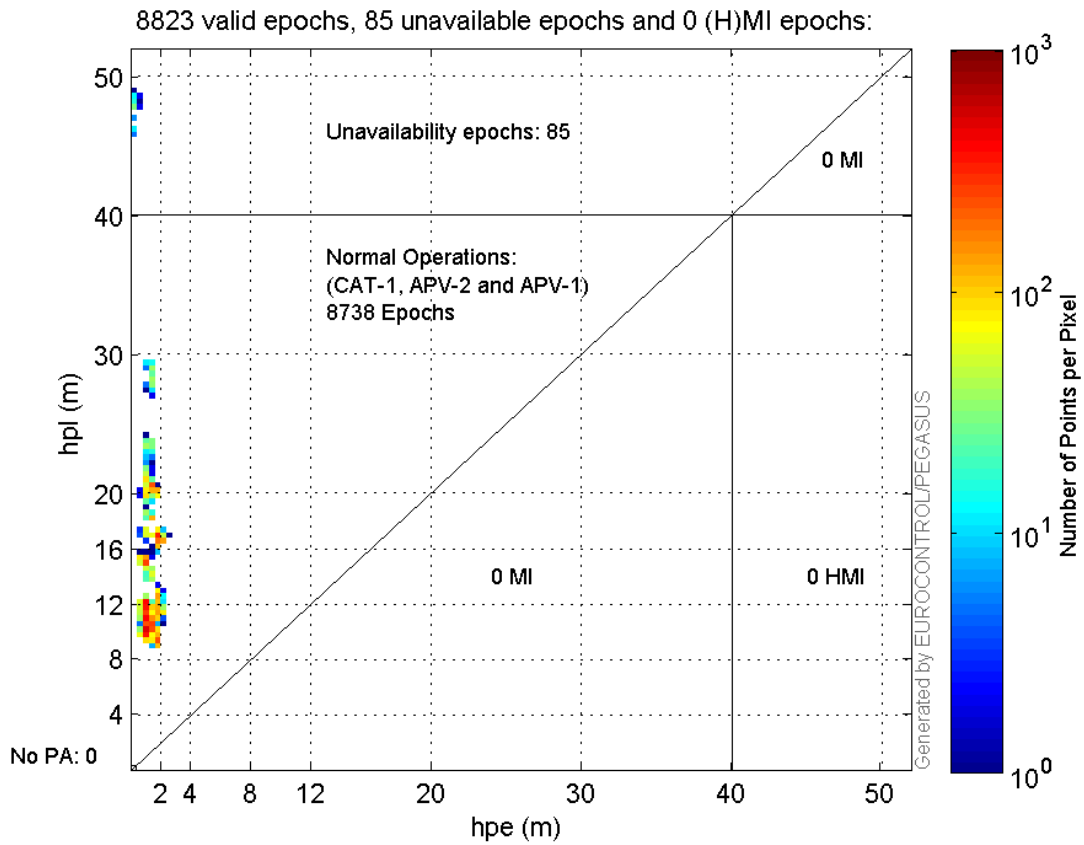
Histogram of HSI LPV200:



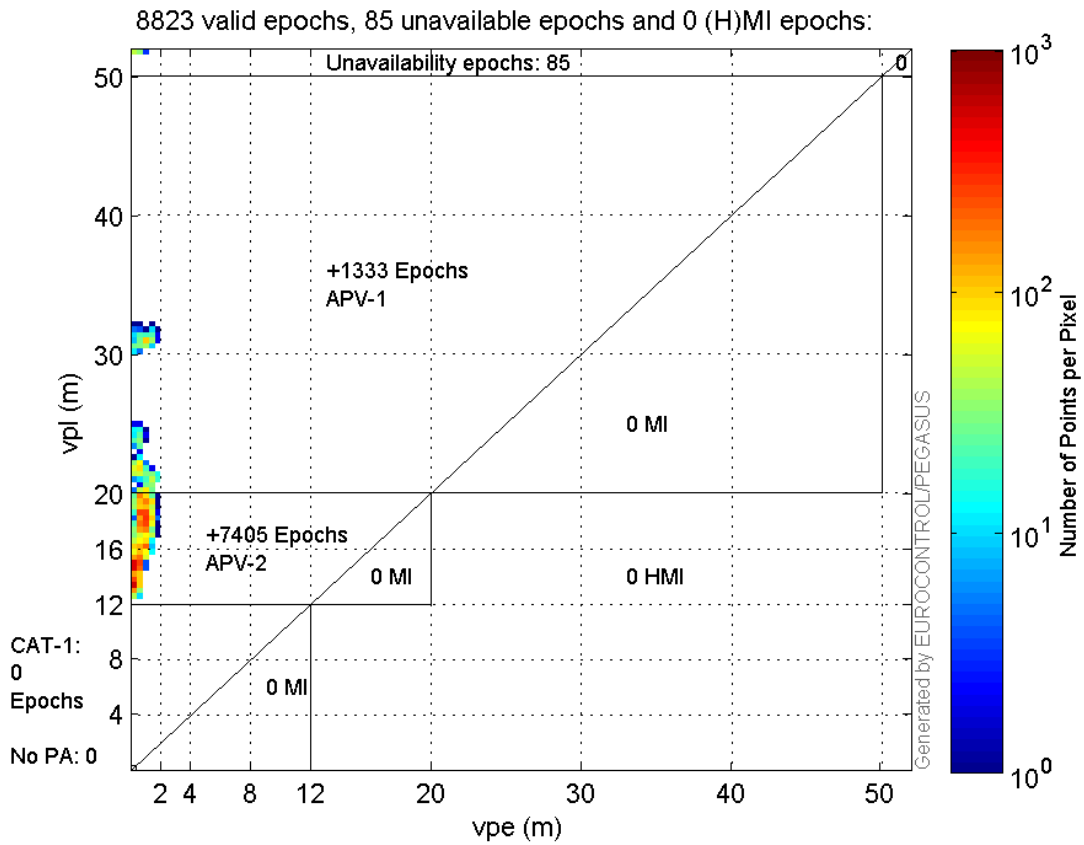
Histogram of VSI LPV200:



Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.4.0
input_prefix	system	D:/PegasusDateJob/job/2016_06_13_EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateJob/job/2016_06_13_EGNOS/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	50.4394
init_lon	results	30.4296
init_alt	results	396.1691
mi_numbers	results	0

Range Domain

start: 08:32:45 13.06.2016 (week: 1901 sec: 117165)
end: 11:05:48 13.06.2016 (week: 1901 sec: 126348)
duration: 02:33:04 ..

quality

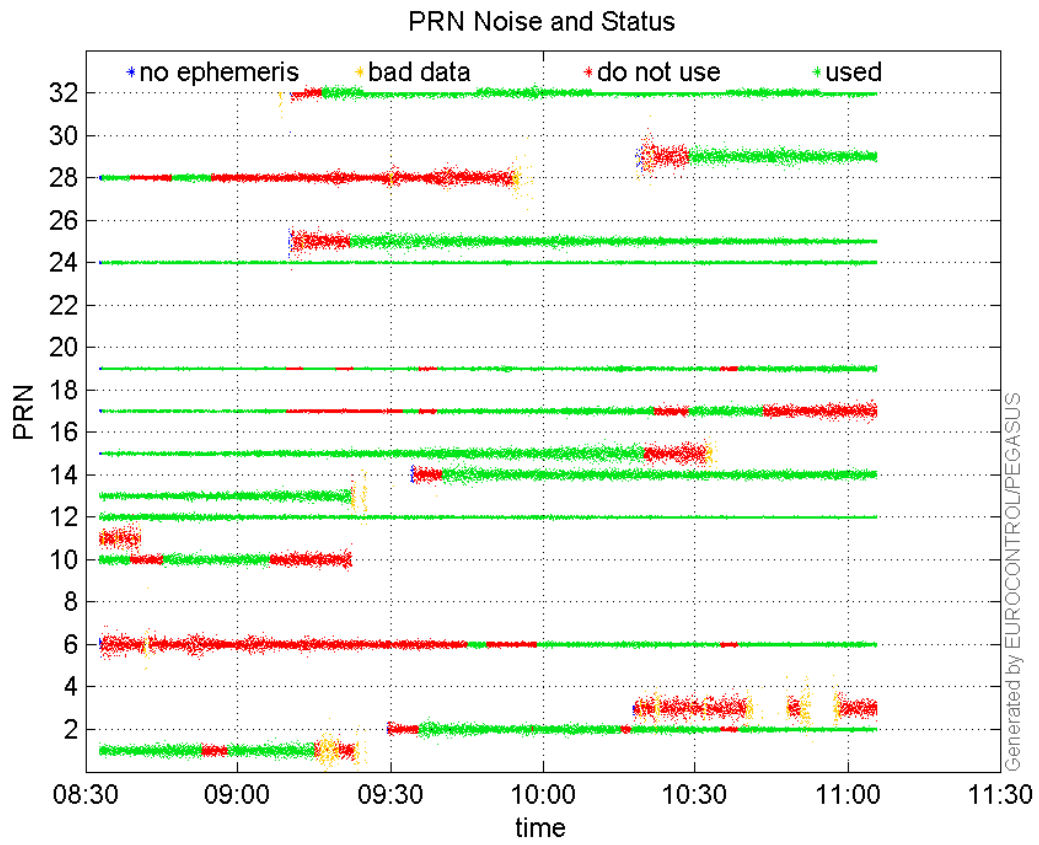
valid samples 9184
total samples 9184

PRN overview

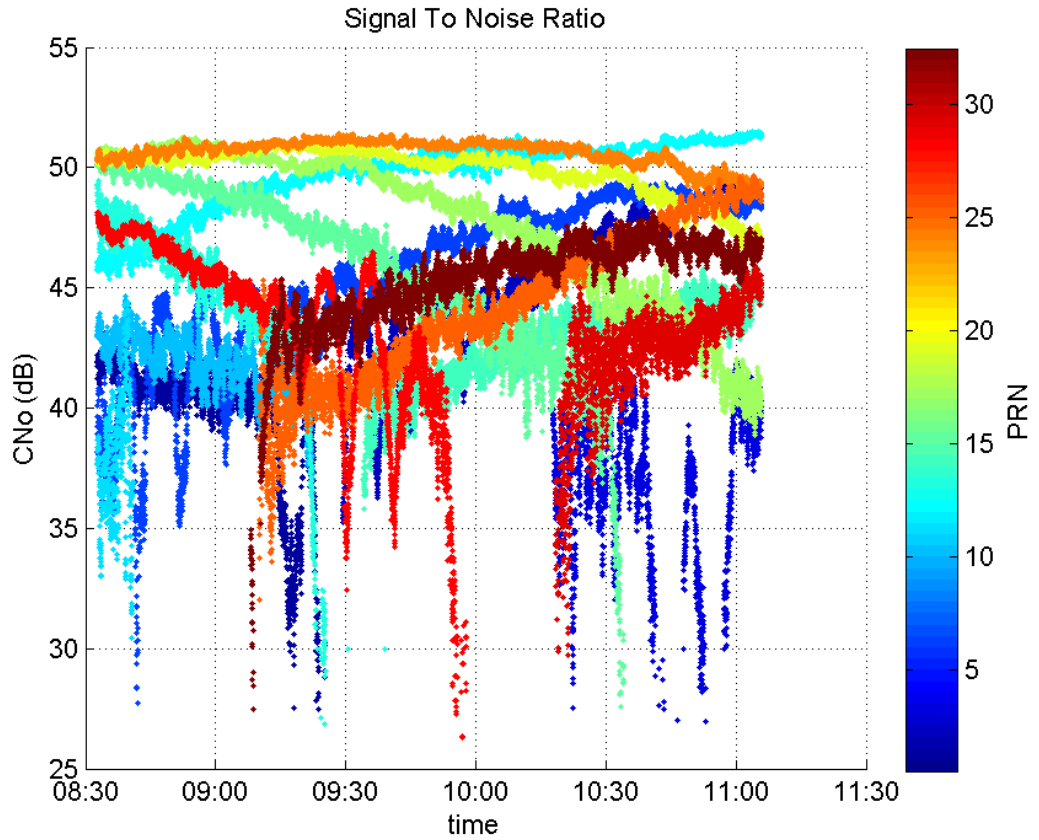
Number of Visible GPS Satellites 17
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



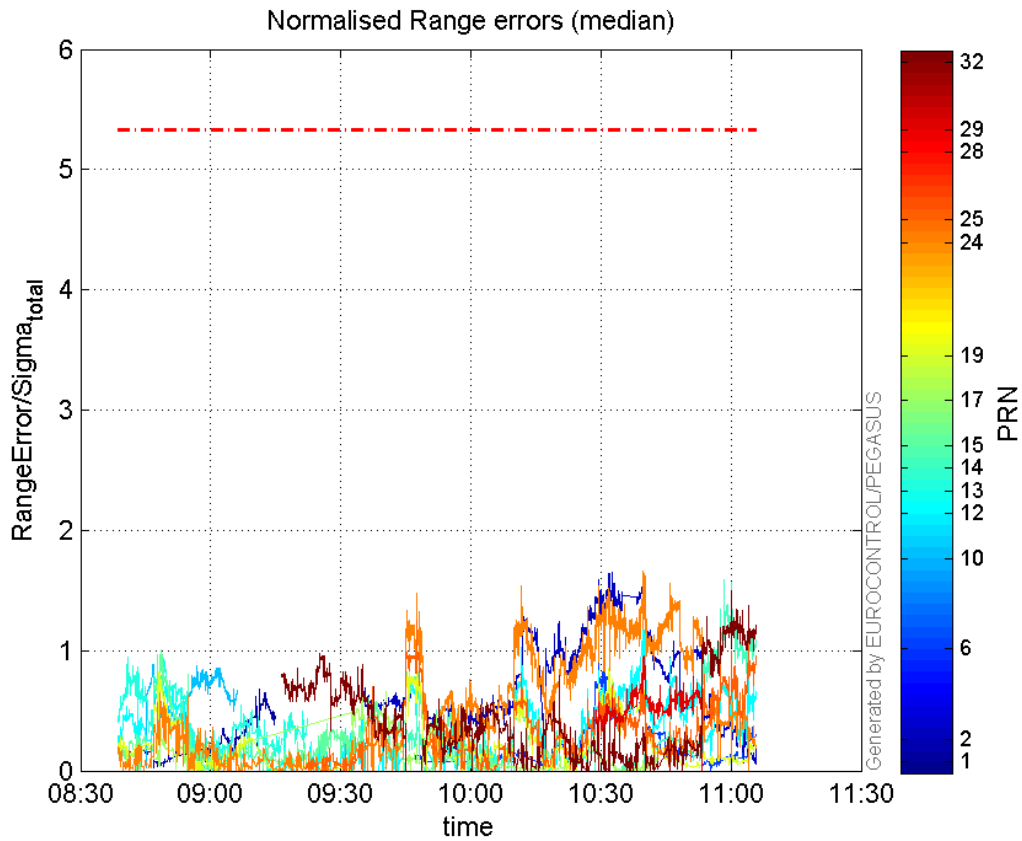
range errors

Number of Overbounding Norm Errors 0

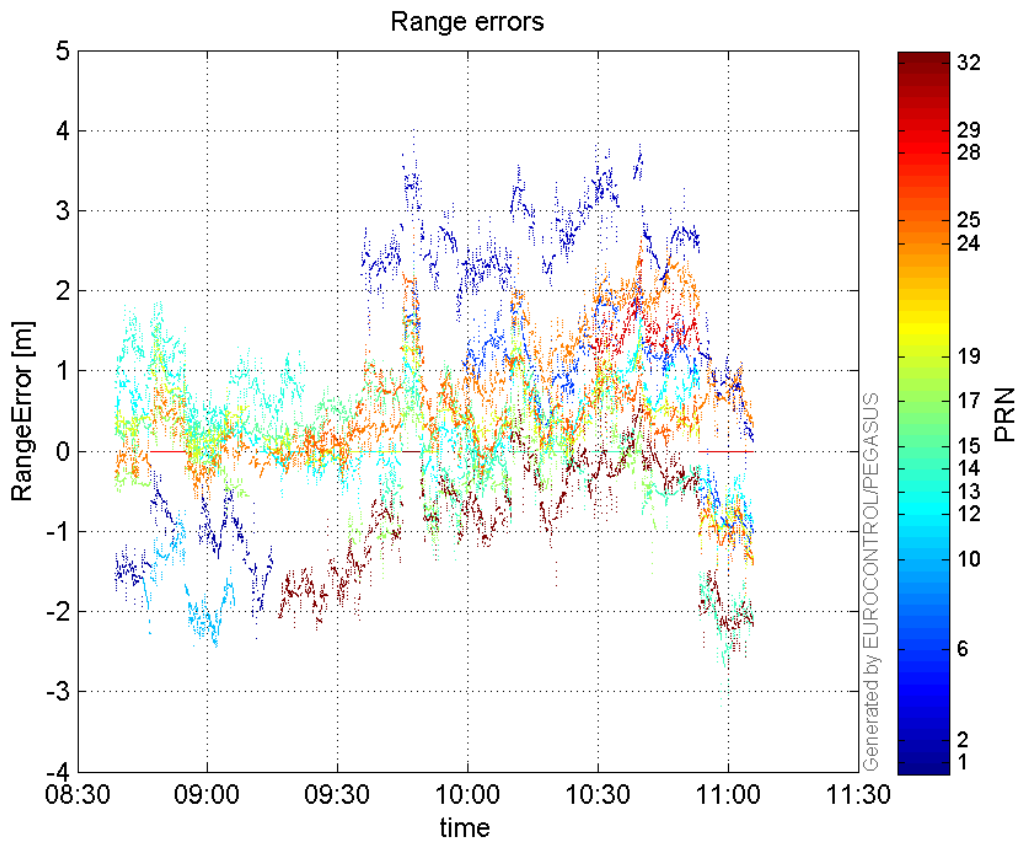
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1901	119479	1	0.6778	-2.33244	3.44119
1901	124359	2	1.65231	3.6799	2.22712
1901	124250	6	0.915778	2.20138	2.40384
1901	118008	10	0.882981	-2.27764	2.57949
1901	124810	12	1.18037	1.64095	1.3902
1901	118105	13	0.957584	1.84424	1.92593
1901	125908	14	1.59027	-3.18687	2.00398
1901	121653	15	1.10182	2.32398	2.10921
1901	120895	17	0.703051	-1.62322	2.30883
1901	121682	19	1.0793	1.87564	1.73783
1901	124790	24	1.66527	2.59867	1.56051
1901	121653	25	1.24939	2.7846	2.22876
1901	118011	28	0	0	17.6061
1901	124790	29	0.960722	2.6167	2.72368
1901	126005	32	1.49843	-2.78747	1.86027

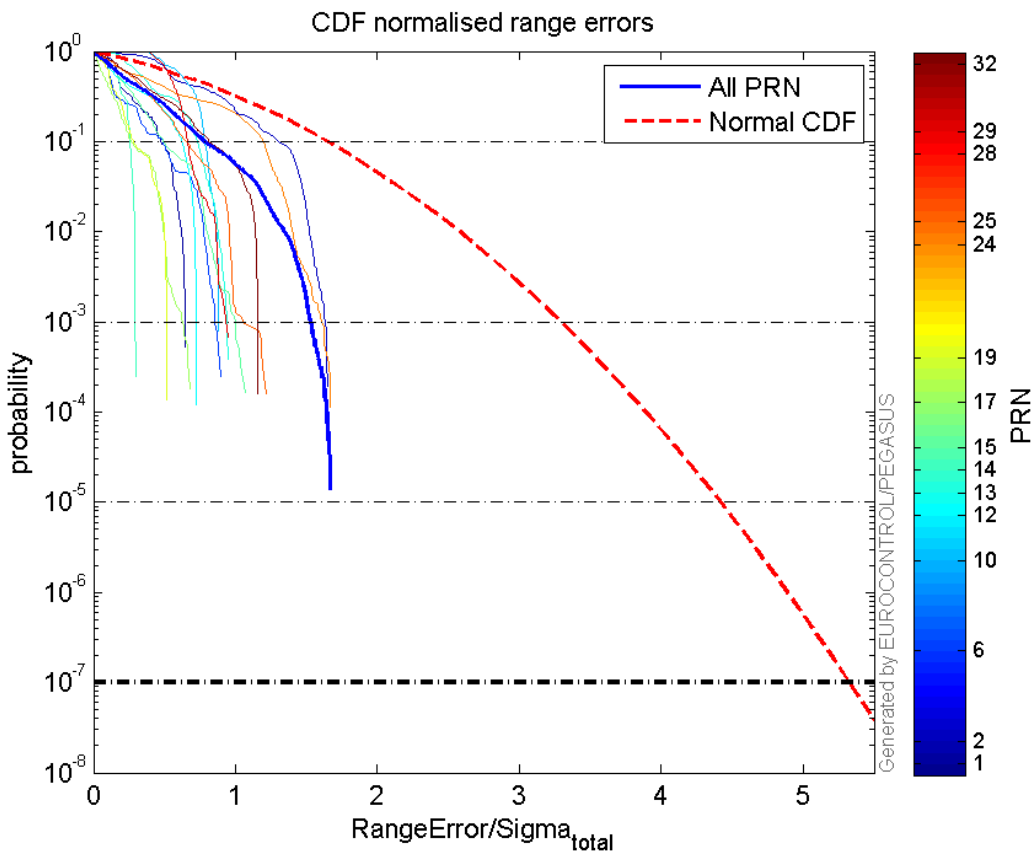
Normalised Range errors (median):



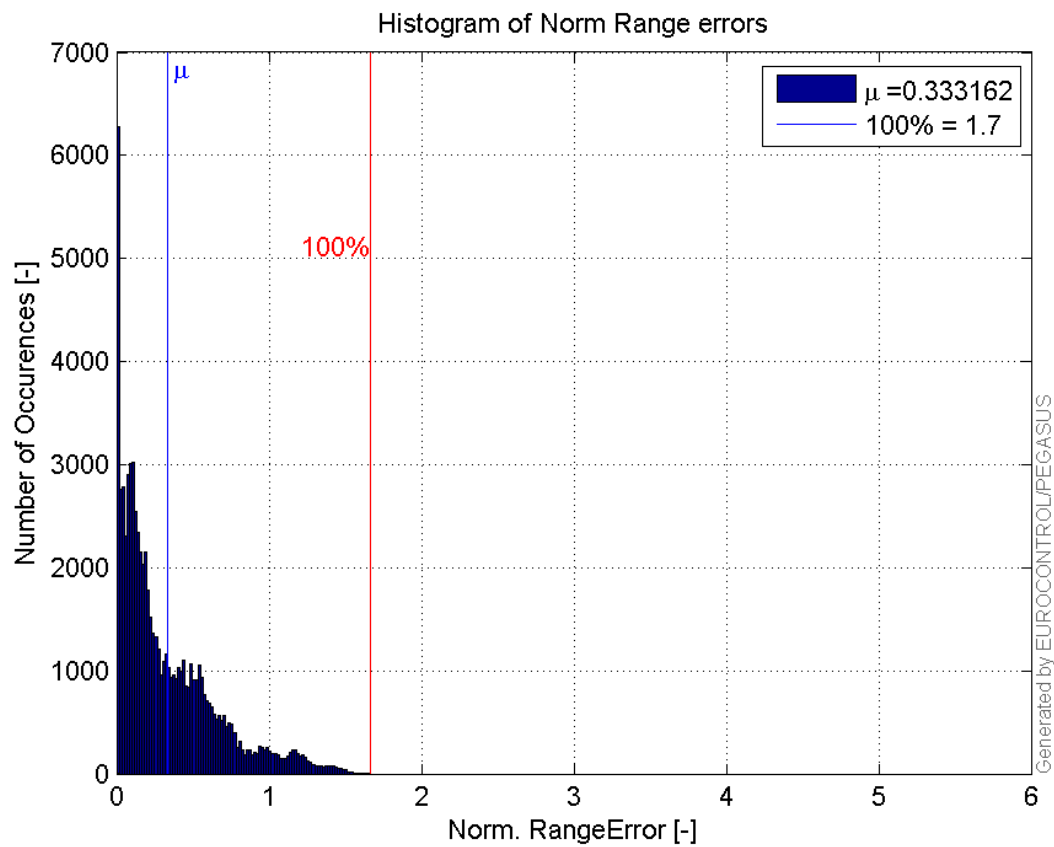
Range errors:



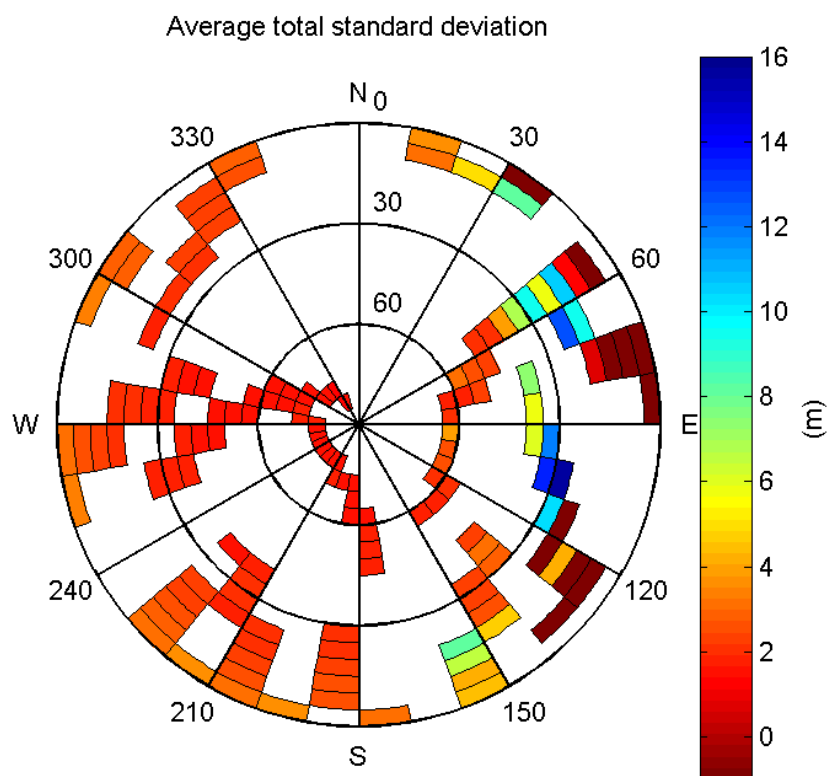
CDF normalised range errors:



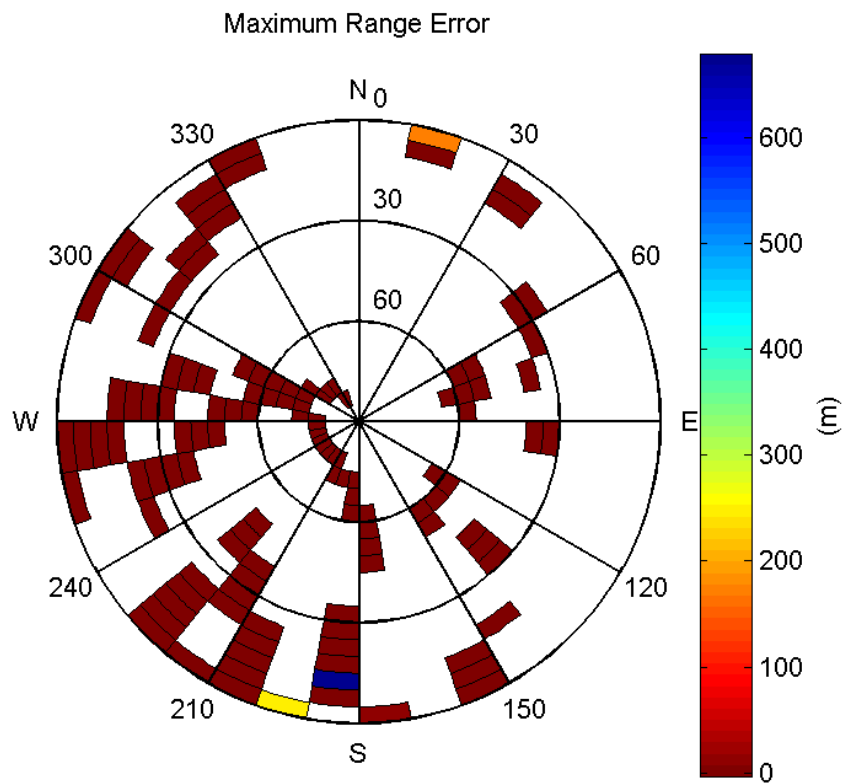
Histogram of Norm Range errors:



Sigma Sky Plot:

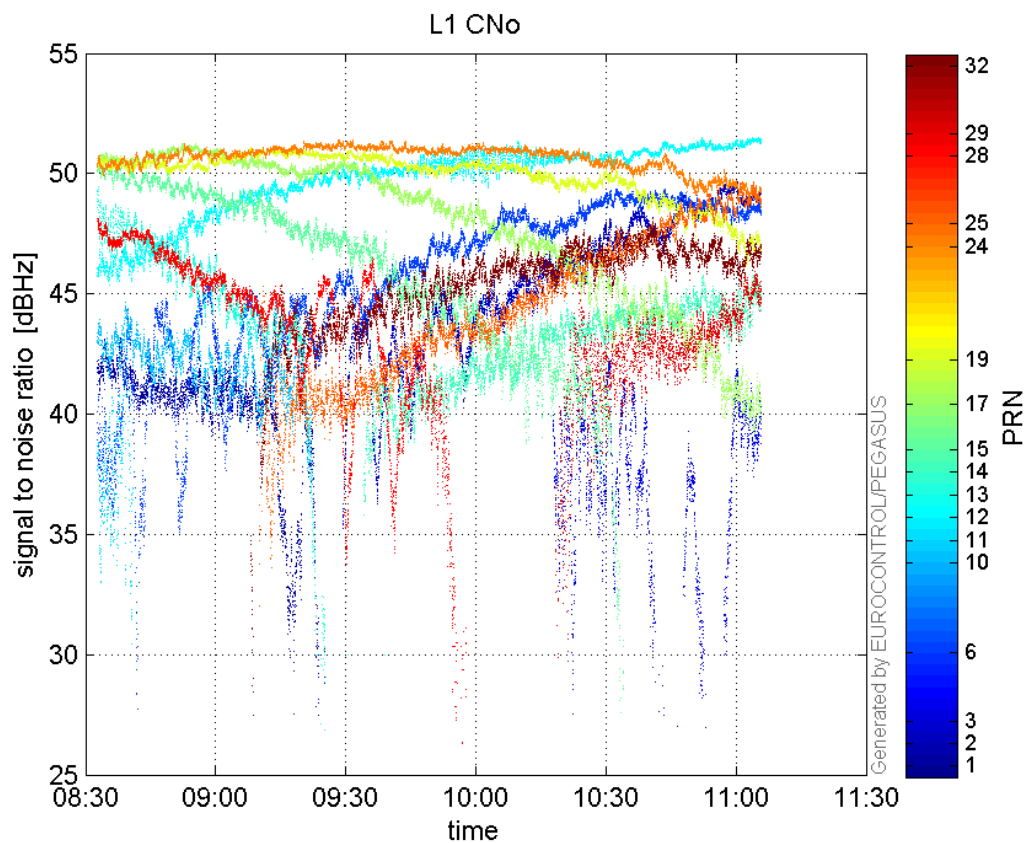


Norm Error Sky Plot:

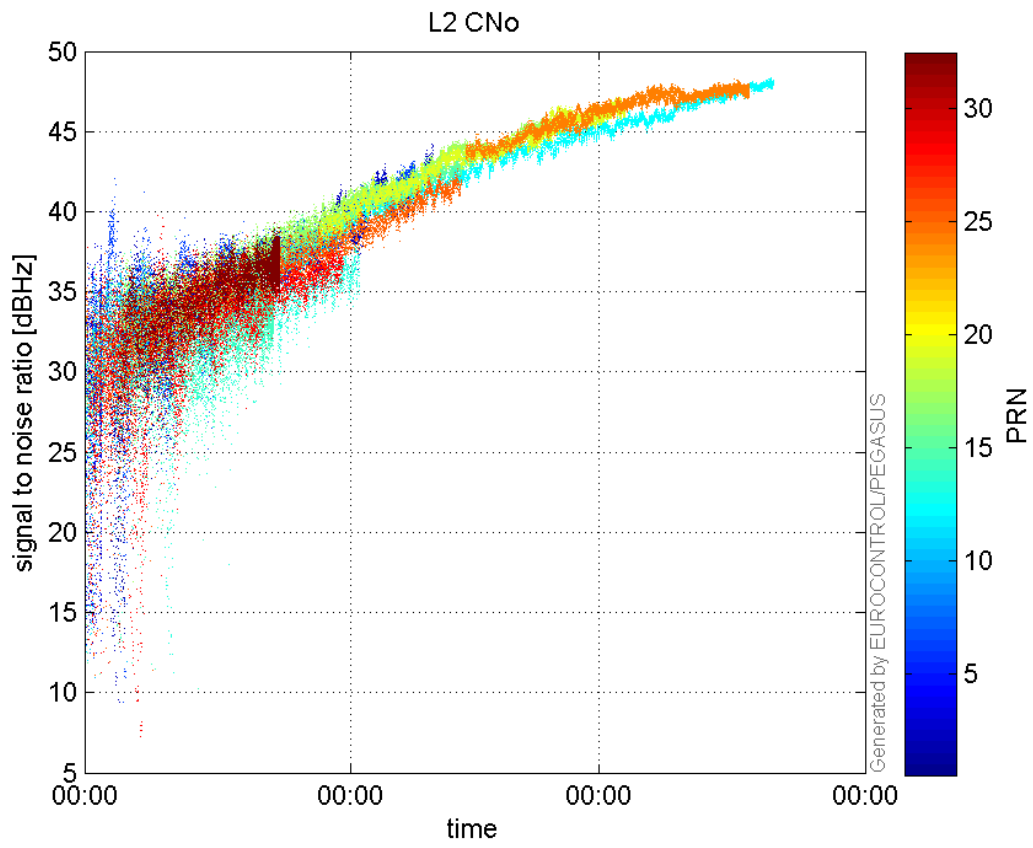


signal quality

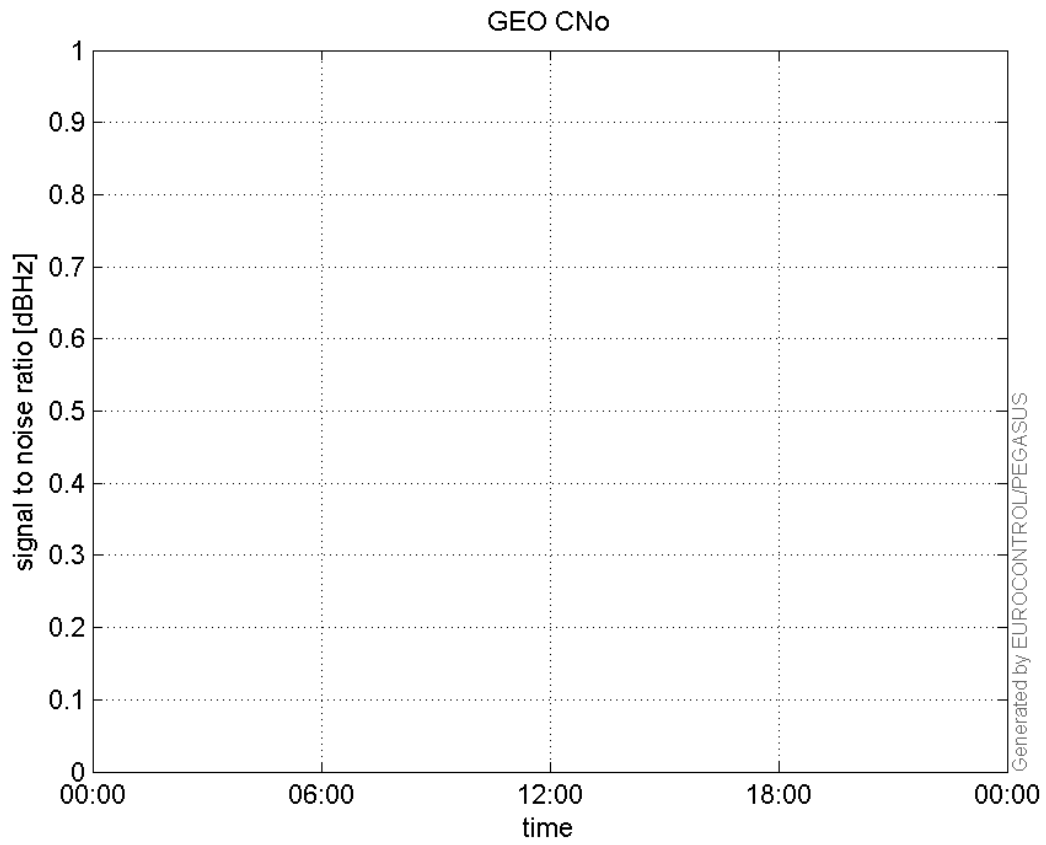
L1 CNo:



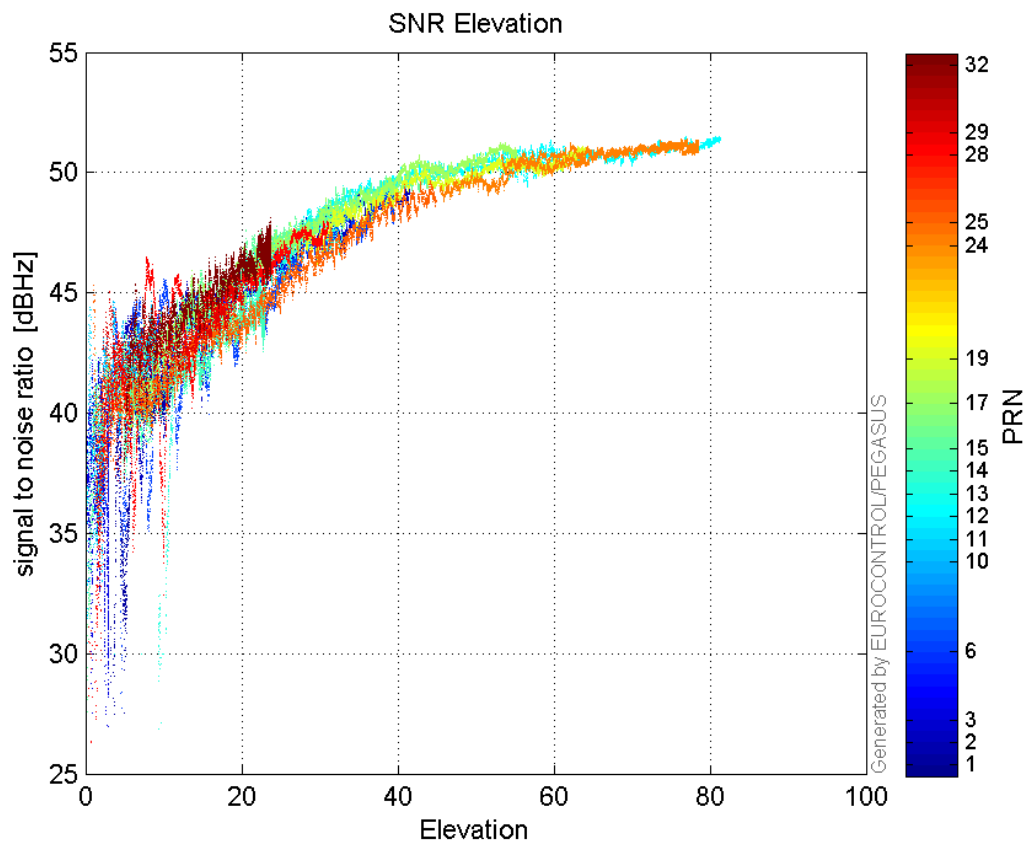
L2 CNo:



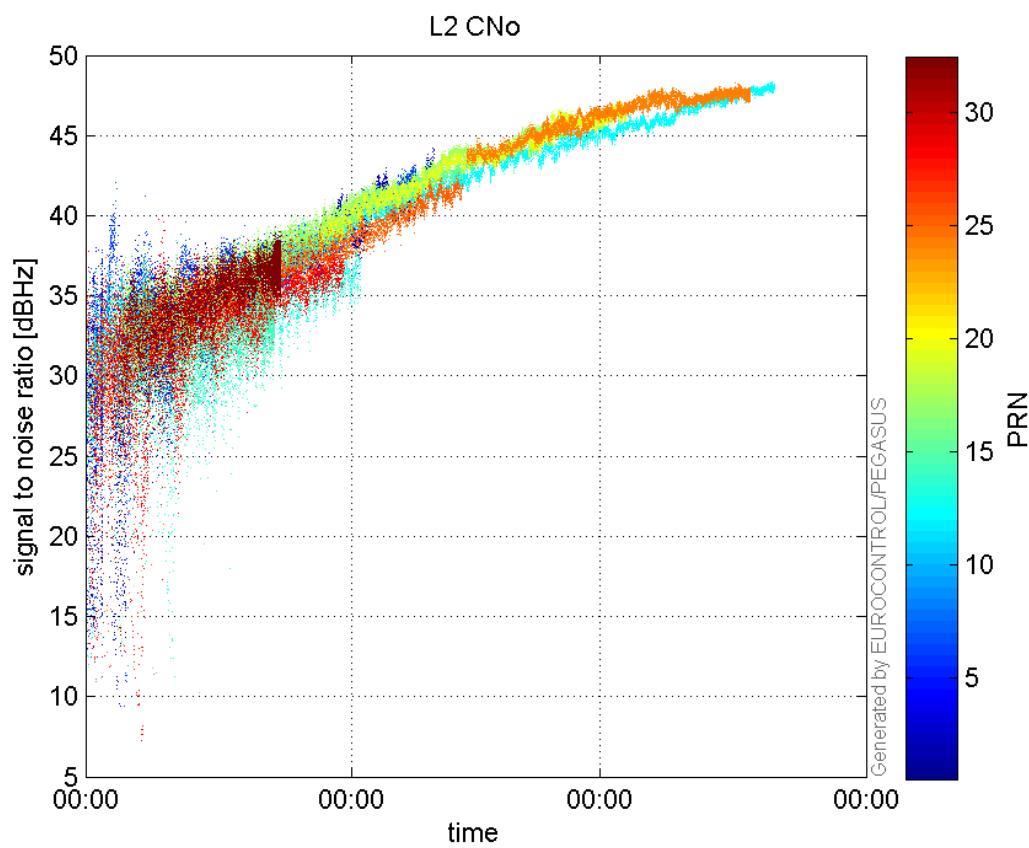
GEO CNo:



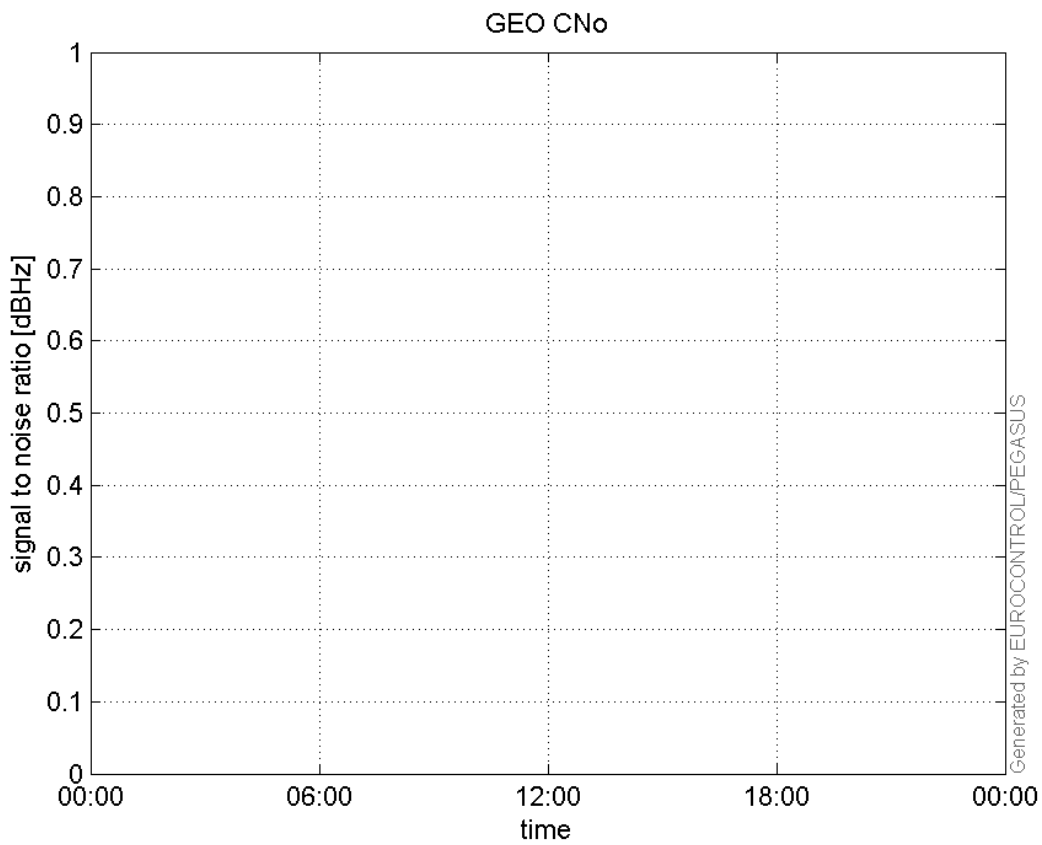
SNR Elevation:



L2 CNo:

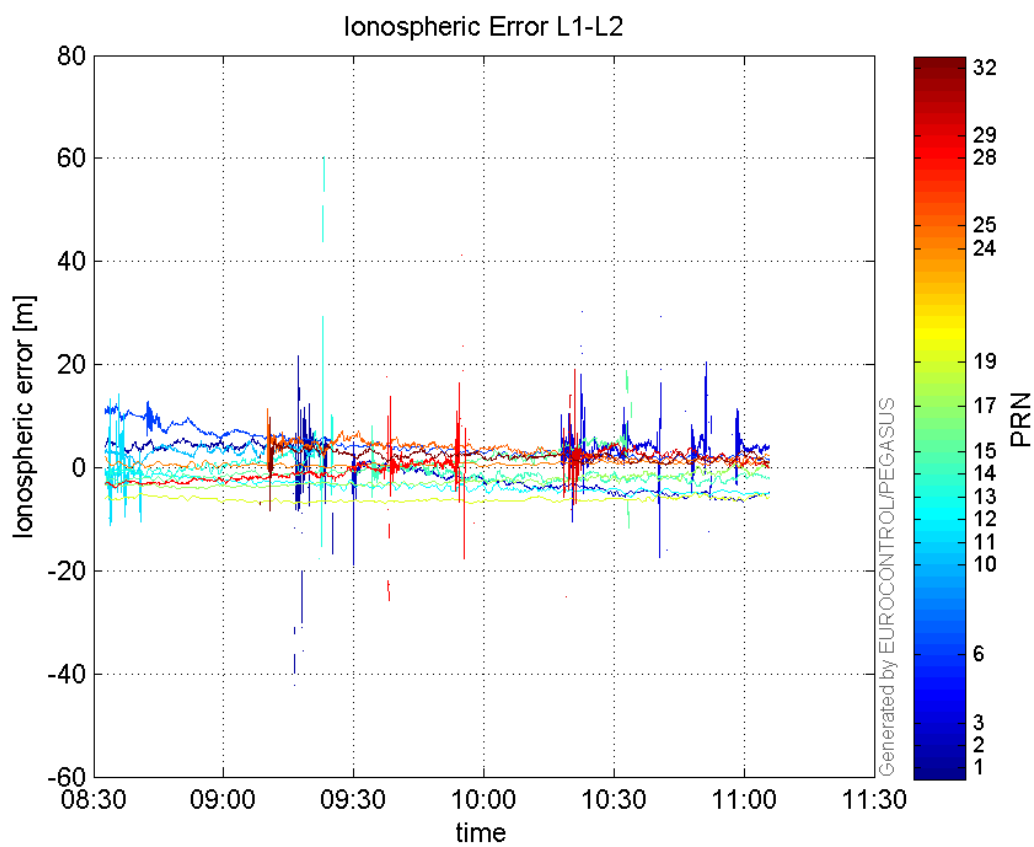


GEO CNo:



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_06_13_EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateJob/job/2016_06_13_EGNOS/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	50.4394
init_lon	results	30.4296
init_alt	results	396.1691
mi_numbers	results	0