

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 27/09/2016

SBAS Messages

start: 06:42:4.129 29.08.2016 (week: 1912 sec: 110524.129)
end: 11:43:21.129 29.08.2016 (week: 1912 sec: 128601.129)
duration: 05:01:17 ..

quality

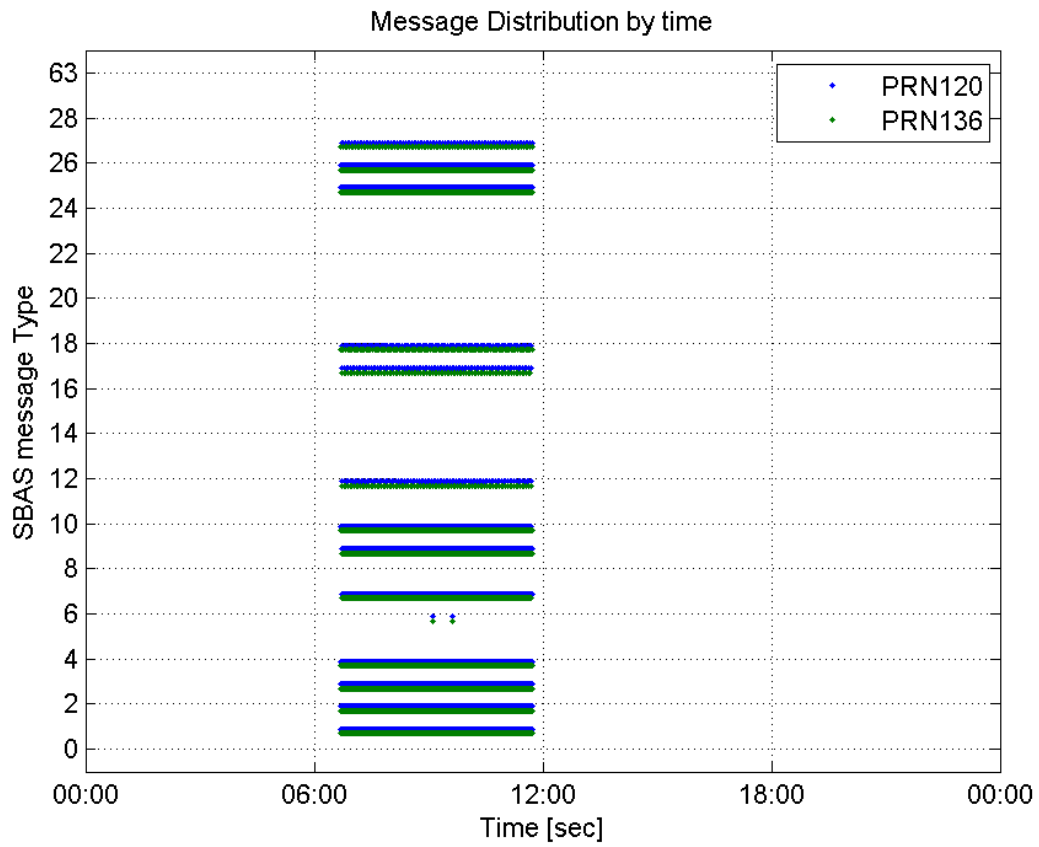
valid samples 36156
total samples 36156
number of SBAS PRNs 2

SBAS SIS Overview

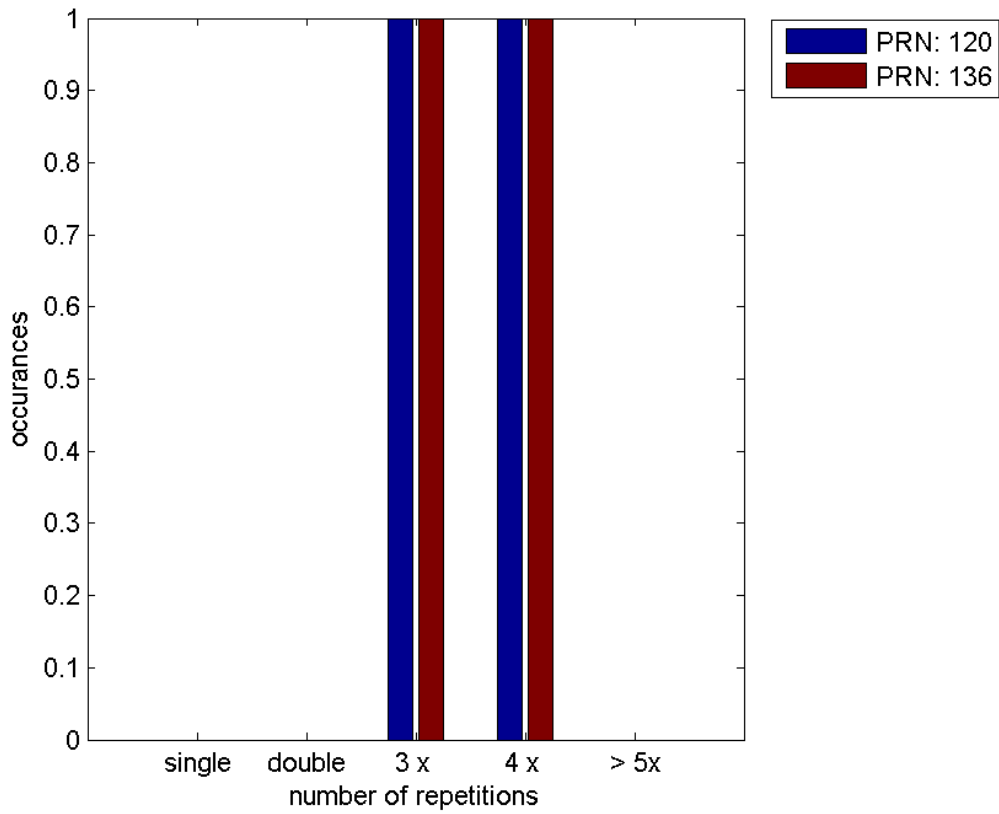
Message Type 6 repetitions :

	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:



Broadcast SBAS Messages :

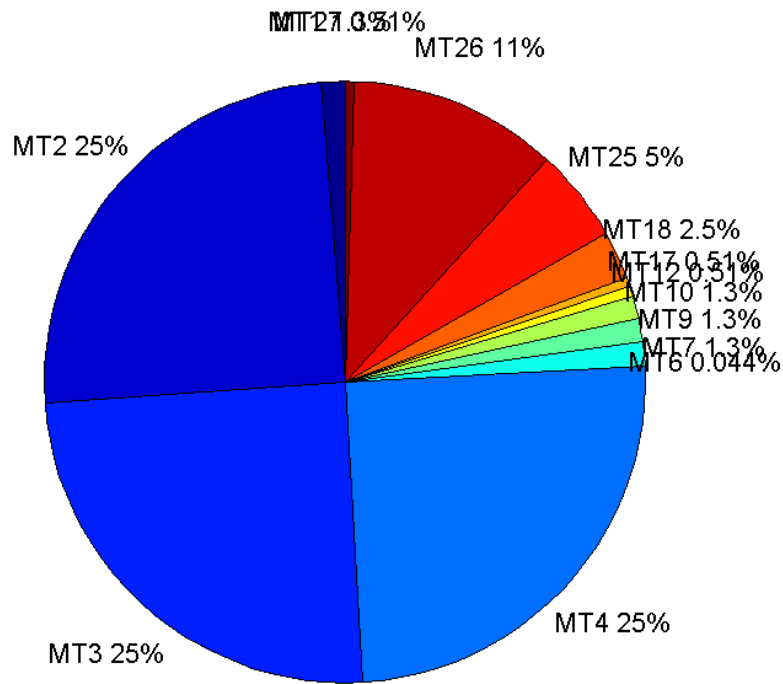
	number of messages	%
MT 0	0	0
MT 1	227	1.25567
MT 2	4493	24.8534
MT 3	4494	24.8589
MT 4	4494	24.8589
MT 5	0	0
MT 6	8	0.0442527
MT 7	227	1.25567
MT 9	227	1.25567
MT 10	227	1.25567
MT 12	92	0.508906
MT 17	92	0.508906
MT 18	460	2.54453
MT 24	0	0
MT 25	910	5.03374
MT 26	2034	11.2512
MT 27	93	0.514437
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	18078	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	81	79.7035	0	0	0
MT 2	4	7	4.02293	2	0	0
MT 3	4	8	4.02315	2	0	0
MT 4	4	8	4.02315	2	0	0
MT 5	--	--	--	--	--	--
MT 6	1	1812	259.714	1	1	1
MT 7	76	81	79.6637	0	0	0
MT 9	76	81	79.646	0	0	0
MT 10	76	81	79.7212	0	0	0
MT 12	186	201	195.714	91	0	0
MT 17	189	201	195.758	0	0	0
MT 18	4	168	38.8867	0	0	0
MT 24	--	--	--	--	--	--
MT 25	2	52	19.8515	0	0	0
MT	4	32	8.88785	0	0	0

26						
MT 27	190	201	195.783	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

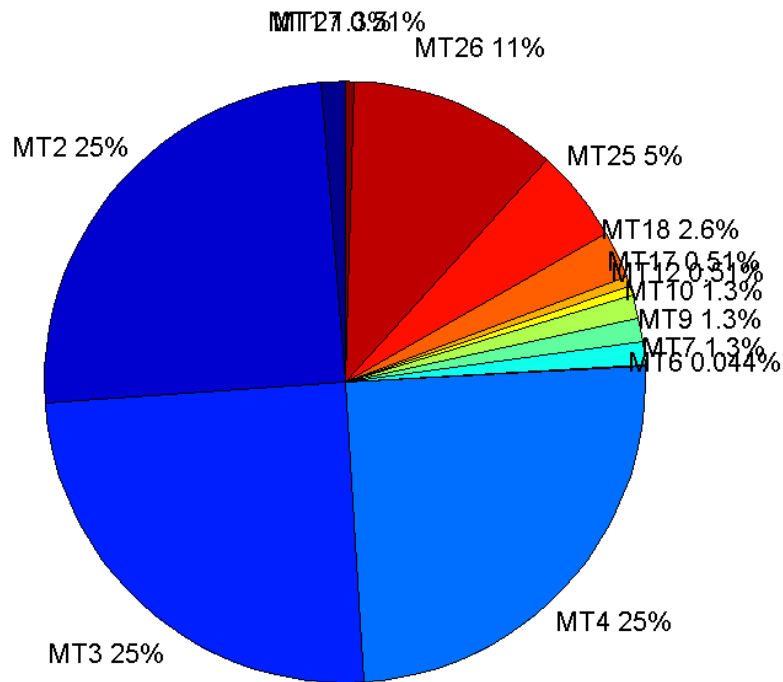
	number of messages	%
MT 0	0	0
MT 1	227	1.25567
MT 2	4496	24.87
MT 3	4496	24.87
MT 4	4496	24.87
MT 5	0	0
MT 6	8	0.0442527
MT 7	226	1.25014
MT 9	227	1.25567
MT 10	227	1.25567

MT 12	92	0.508906
MT 17	92	0.508906
MT 18	461	2.55006
MT 24	0	0
MT 25	910	5.03374
MT 26	2027	11.2125
MT 27	93	0.514437
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	18078	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	77	81	79.7788	0	0	0
MT 2	4	8	4.02091	2	0	0
MT 3	4	8	4.02091	2	0	0
MT 4	4	8	4.02091	2	0	0
MT 5	--	--	--	--	--	--
MT 6	1	1812	259.714	1	1	1
MT 7	75	81	79.6978	0	0	0
MT 9	76	81	79.7434	0	0	0
MT 10	76	81	79.7965	0	0	0
MT 12	190	201	196.11	91	0	0
MT 17	191	201	196.022	0	0	0
MT 18	4	161	39.2217	0	0	0
MT 24	--	--	--	--	--	--
MT 25	2	44	19.8658	0	0	0
MT 26	4	32	8.9151	0	0	0
MT 27	187	201	196.152	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_08_29_EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateJob/job/2016_08_29_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: 06:42:05 29.08.2016 (week: 1912 sec: 110525)
end: 11:43:22 29.08.2016 (week: 1912 sec: 128602)
duration: 05:01:18 ..

quality

valid samples 17717
total samples 18078

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	116862	2.20159	11.8912	0.185145	0.429944	15.0843	0.0285027
max normVer	111253	1.36111	18.3051	0.0743571	-1.63753	15.3473	0.106698
max HPE	128054	3.07032	104.076	0.0295008	-0.375266	75.2684	0.00498571
max VPE	118607	1.89081	44.4062	0.0425798	-3.9071	117.607	0.0332217
min HPL	127202	1.13217	8.56373	0.132205	0.571764	17.6546	0.0323861
min VPL	115415	1.43058	10.609	0.134846	0.152553	13.1317	0.0116172

APV-I discontinuity events :

#	Epoch	duration	stable period
1	112134	190	1248
2	112915	1	591
3	112919	1	3
4	112923	1	3
5	112927	1	3
6	112930	2	2
7	112933	3	1
8	112937	3	1
9	112941	518	1
10	118600	540	5141
11	127996	196	8856

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	112134	190	1248
2	112370	1089	46
3	118600	581	5141
4	119574	192	393
5	127996	196	8230

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	112134	190	1248
2	112370	1089	46
3	118600	581	5141
4	119574	192	393
5	127996	196	8230

First Glance analysis

Duration	18078
Number of Samples	18078
Number of invalid sample	361
Number of no position solution samples	0
Number of missing sample	0
Logging Loss	0
Processing Loss	1.9969
Number of Misleading Information	0
Data gaps	0
Discontinuities	0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
17717	16261	15469	0	15469

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.81342	1.81366	1.82082	NaN	1.82082
HPEscale 95%	NaN	6.07449	6.0973	NaN	6.0973
VPE 95%	1.3748	1.24203	1.24202	NaN	1.24202
VPEscale 95%	NaN	3.3787	2.38763	NaN	2.38763

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.917819	0.873116	0	0.873116
measurements	0.980031	0.899491	0.855681	0	0.855681
Operational	0.980031	0.899491	0.855681	0	0.855681

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	11	5	--	5
Long	--	4	5	--	5
Independent	--	3	5	--	5
P(disc.)	NaN	0.00276736	0.00484841	NaN	0.00484841
P(slide)	NaN	0.00455077	0.00484841	NaN	0.00484841

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

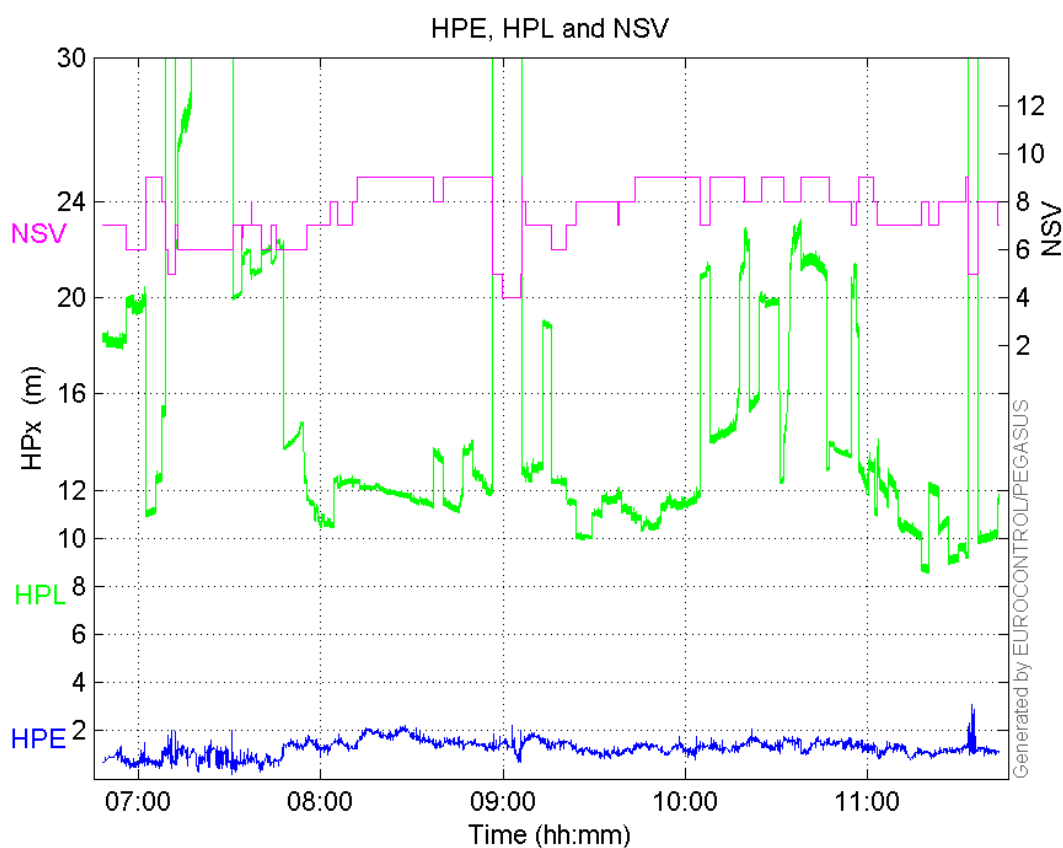
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	17717	16261	15469	0	15469
SIS Availability	1	0.917819	0.873116	0	0.873116

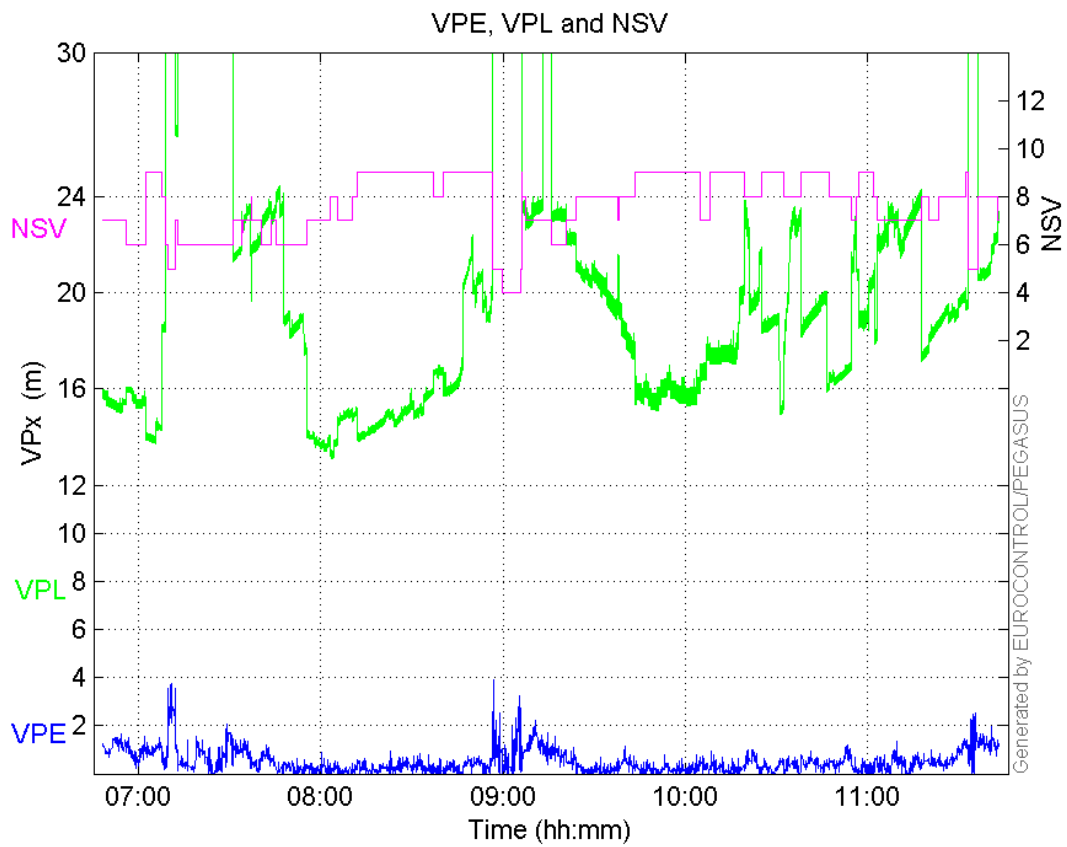
Local Availability	0.980031	0.899491	0.855681	0	0.855681
Operational Availability	0.980031	0.899491	0.855681	0	0.855681
HPE 95%	1.81342	1.81366	1.82082	NaN	1.82082
HPEscale 95%	NaN	6.07449	6.0973	NaN	6.0973
VPE 95%	1.3748	1.24203	1.24202	NaN	1.24202
VPEscale 95%	NaN	3.3787	2.38763	NaN	2.38763
All Discontinuity Events	--	11	5	--	5
Long Discontinuity Events	--	4	5	--	5
Independent Discontinuity Events	--	3	5	--	5
P(discontinuity)	NaN	0.00276736	0.00484841	NaN	0.00484841
P(sliding window)	NaN	0.00455077	0.00484841	NaN	0.00484841
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:

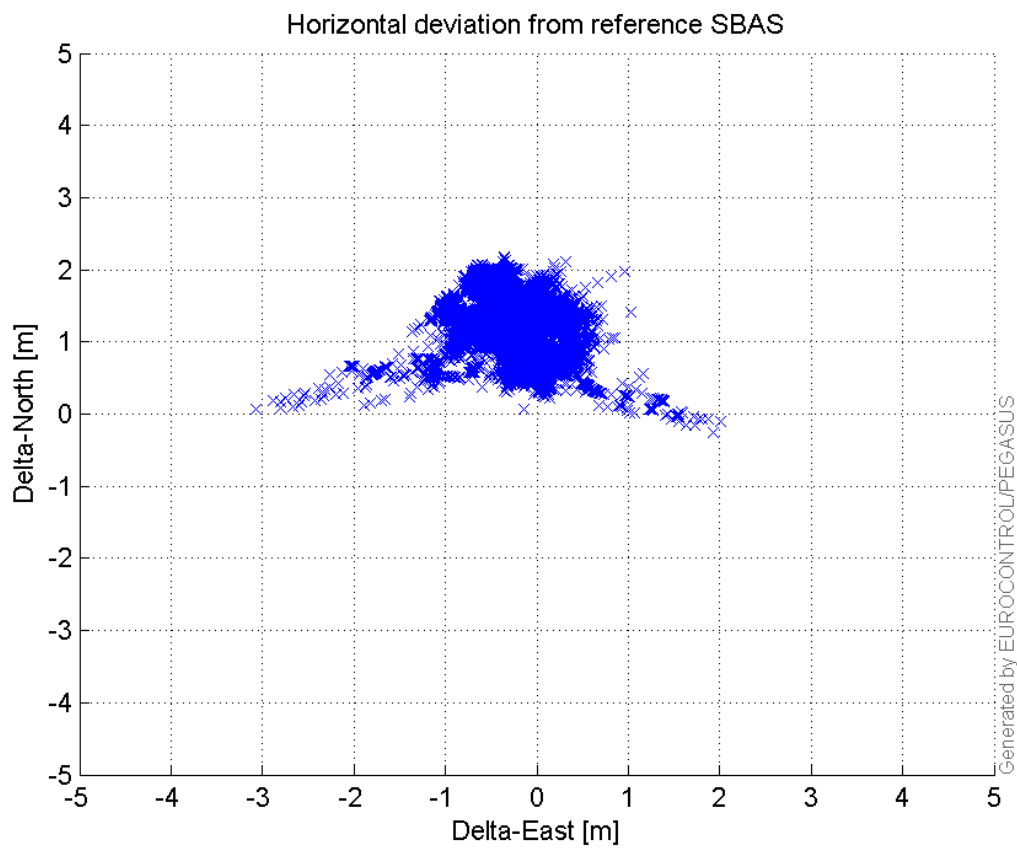


VPE, VPL and NSV:



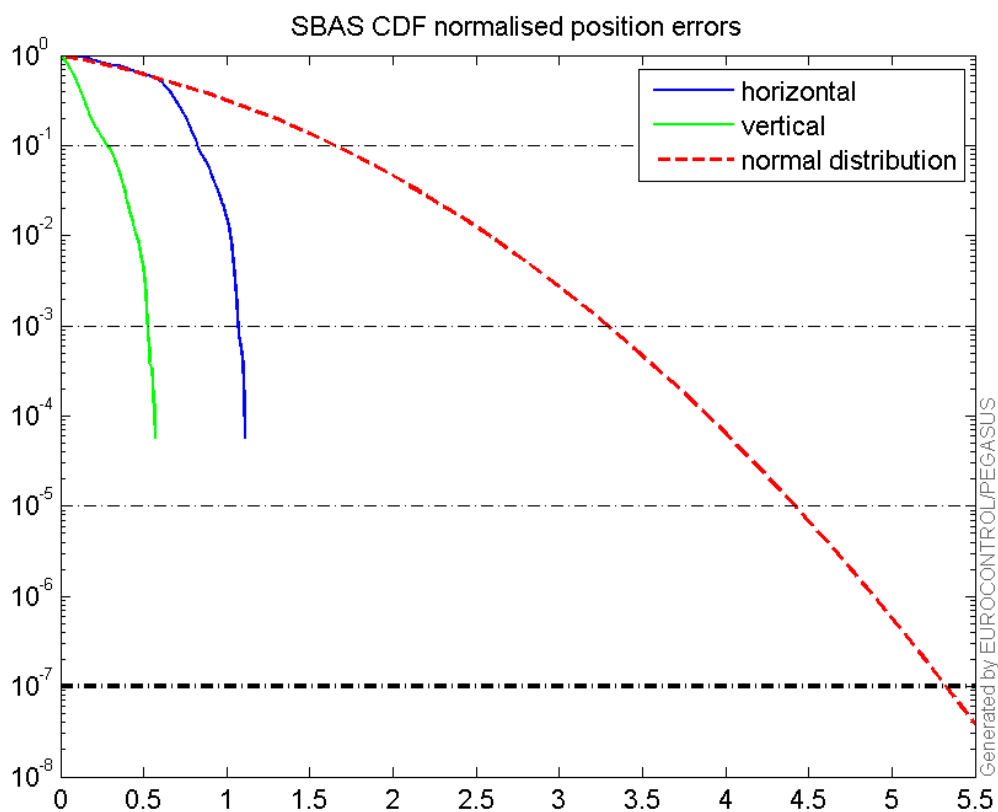
Horizontal deviation

Horizontal deviation from reference SBAS:



CDF position

SBAS CDF position domain:



Statistics

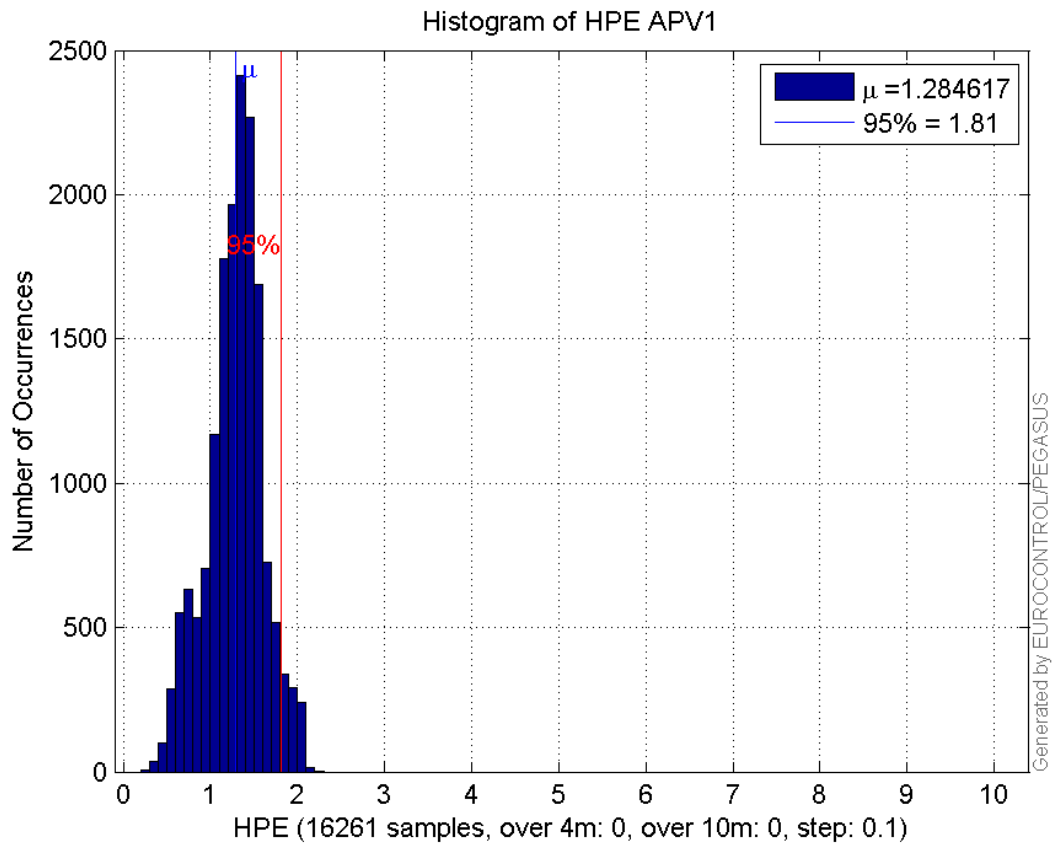
number	16261
sum	20889.16
sum2	28556.42
prctile95	1.8136649
prctile99	2.0343246
number	16261
sum	7624.7943
sum2	5868.2473
prctile95	1.2420285
prctile99	1.514219
number	16261
sum	238328.69
sum2	3919081.4
prctile95	22.40853
prctile99	32.625181
number	16261
sum	316899.89
sum2	6685001.6
prctile95	26.702885
prctile99	42.099925
number	16261
sum	1585.4417
sum2	175.95129

prctile95 0.15186218
prctile99 0.17075647
number 16261
sum 396.70766
sum2 15.982356
prctile95 0.067573903
prctile99 0.08724156
number 15469
sum 20000.196
sum2 27479.793
prctile95 1.8208227
prctile99 2.0363813
number 15469
sum 7094.453
sum2 5414.4108
prctile95 1.2420235
prctile99 1.5162193
number 15469
sum 216000.92
sum2 3257205.1
prctile95 21.88071
prctile99 22.499592
number 15469
sum 285252.01
sum2 5405481.4
prctile95 23.387165
prctile99 23.886017
number 15469
sum 1550.564
sum2 174.05954
prctile95 0.15243254
prctile99 0.17098127
number 15469
sum 383.30072
sum2 15.689257
prctile95 0.068218121
prctile99 0.08780086

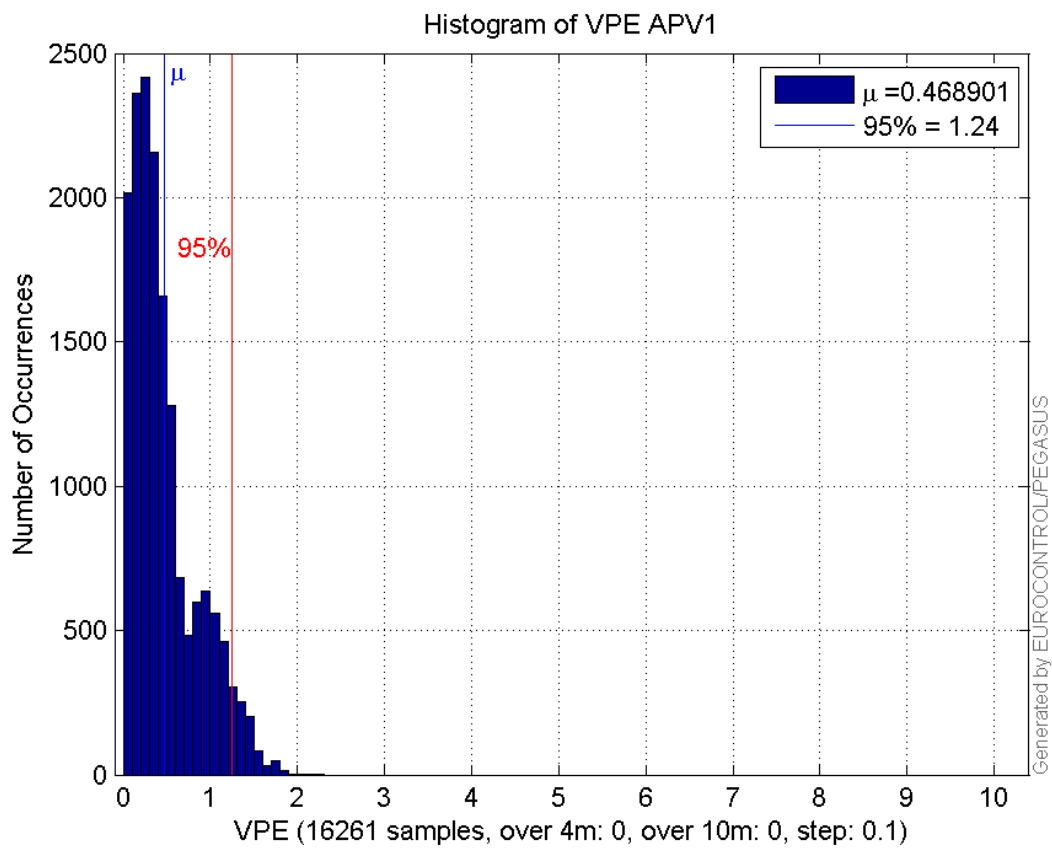
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.28462	0.325414	1.3153	1.81366	2.03432	1.32519
HPL	14.6565	5.11868	12.3514	22.4085	32.6252	15.5245
VPE	0.468901	0.375526	0.364603	1.24203	1.51422	0.600732
VPL	19.4883	5.5958	18.6809	26.7029	42.0999	20.2758

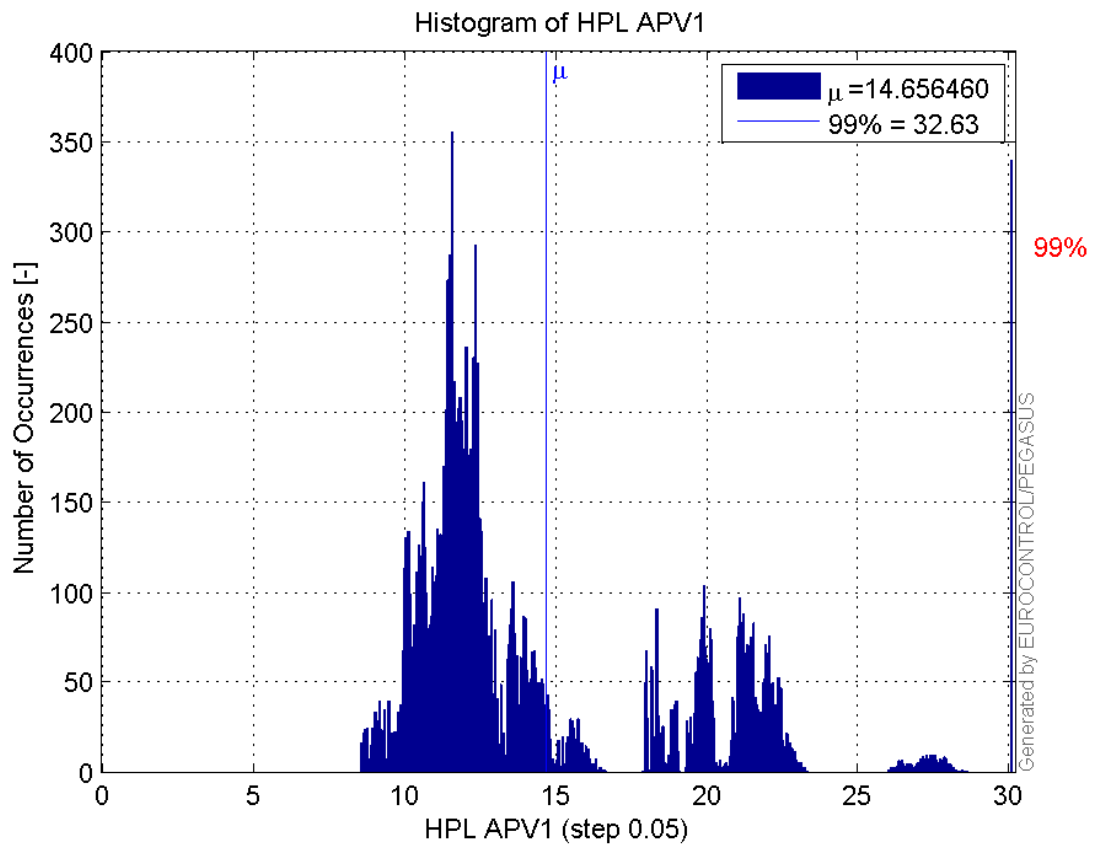
Histogram of HPE APV1:



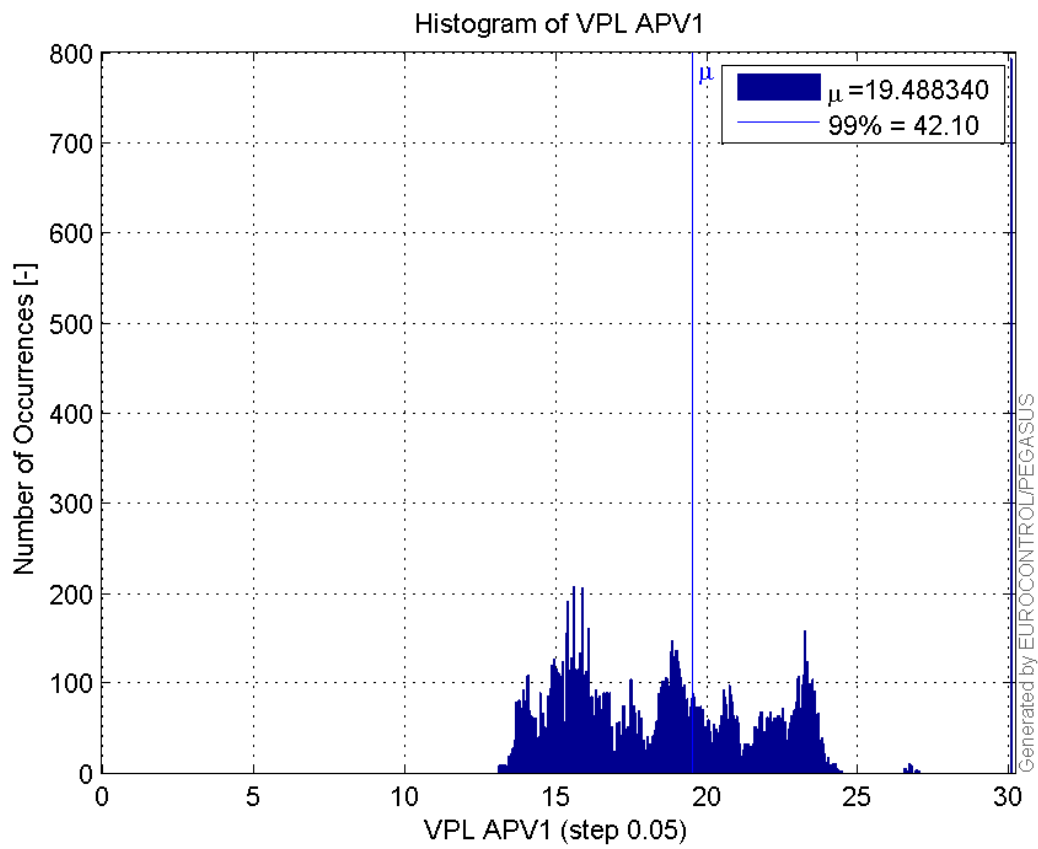
Histogram of VPE APV1:



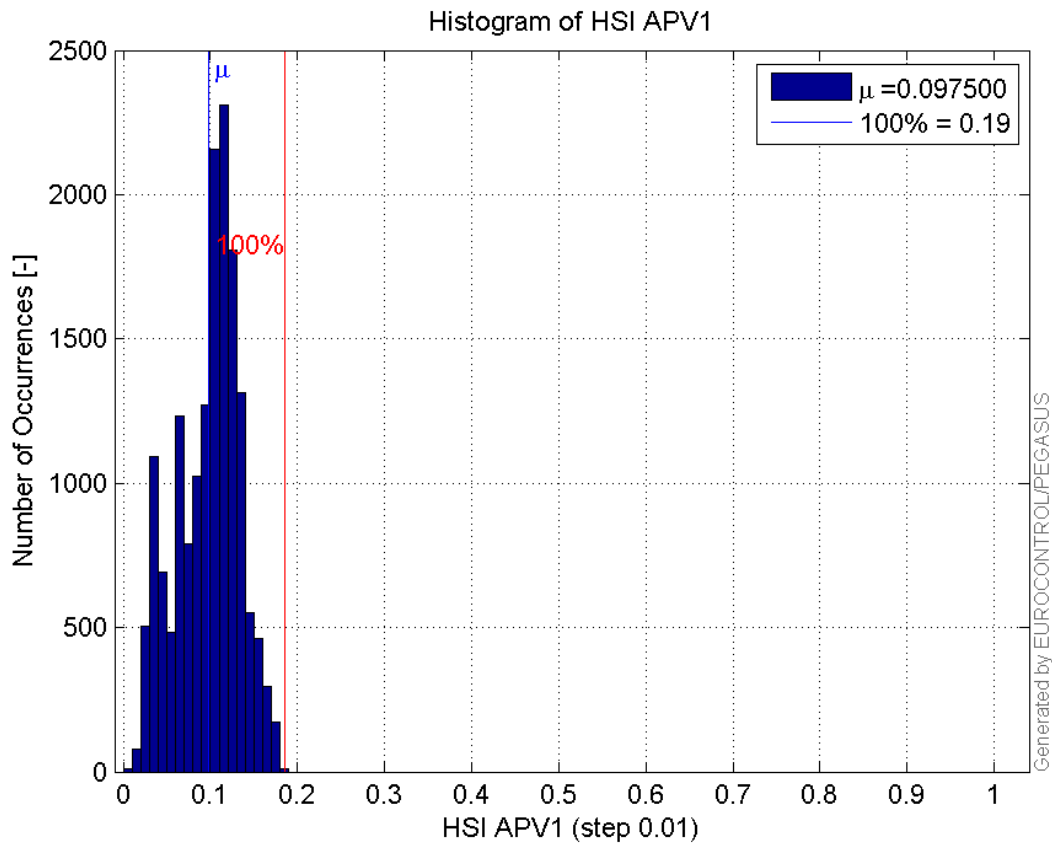
Histogram of HPL APV1:



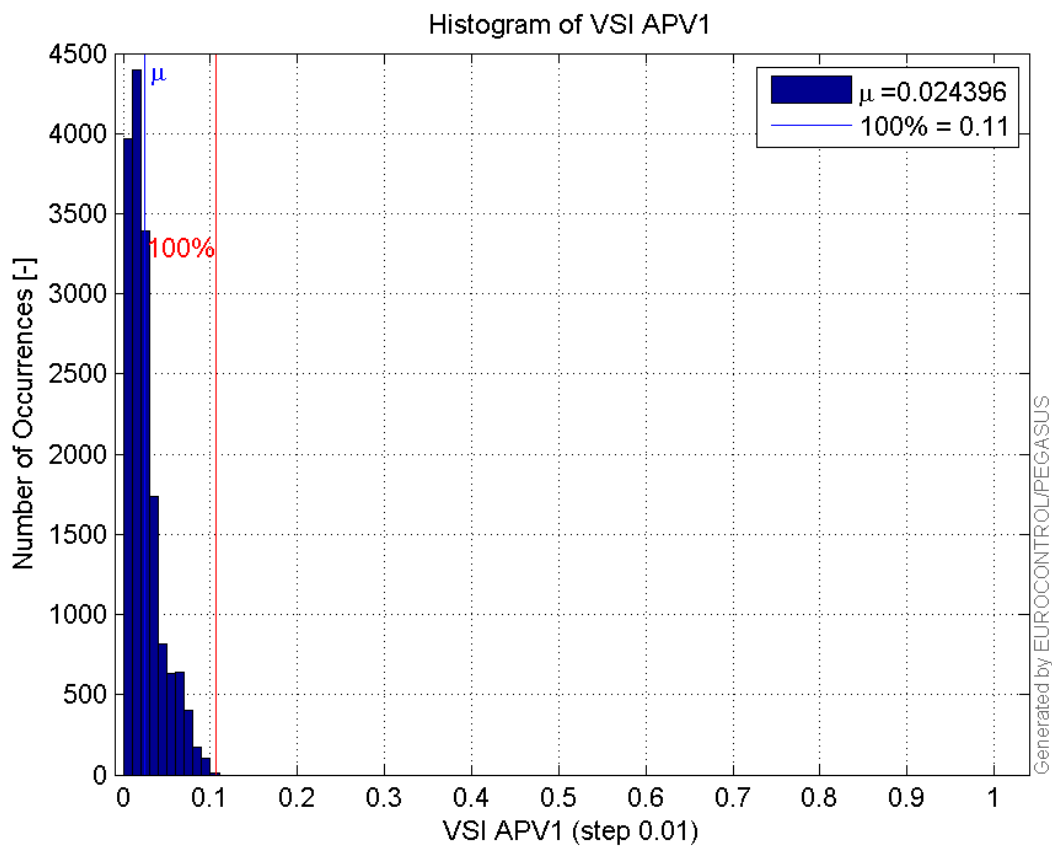
Histogram of VPL APV1:



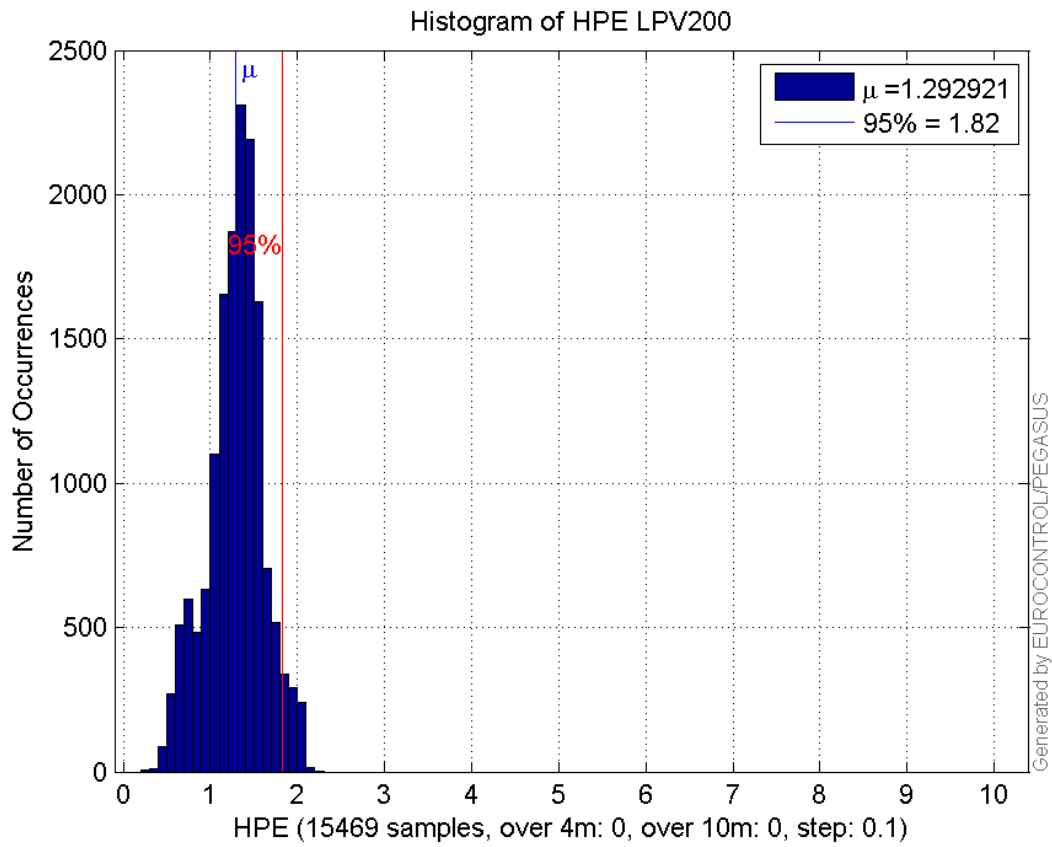
Histogram of HSI APV1:



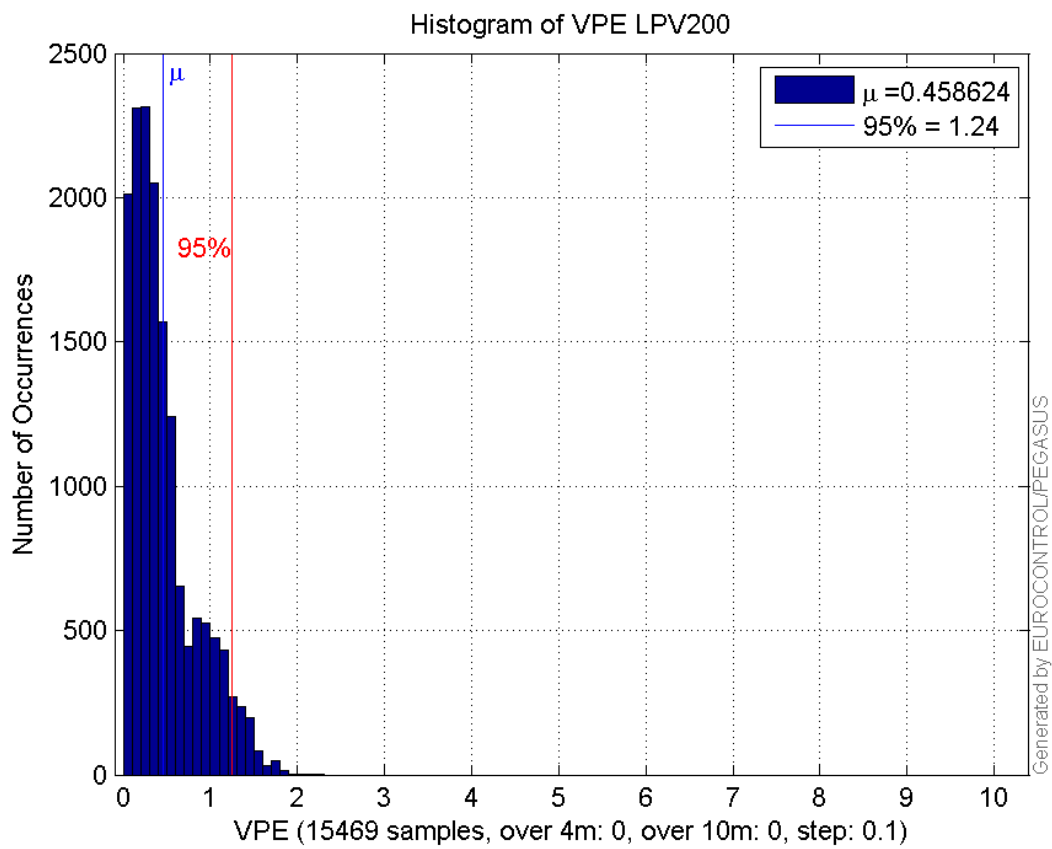
Histogram of VSI APV1:



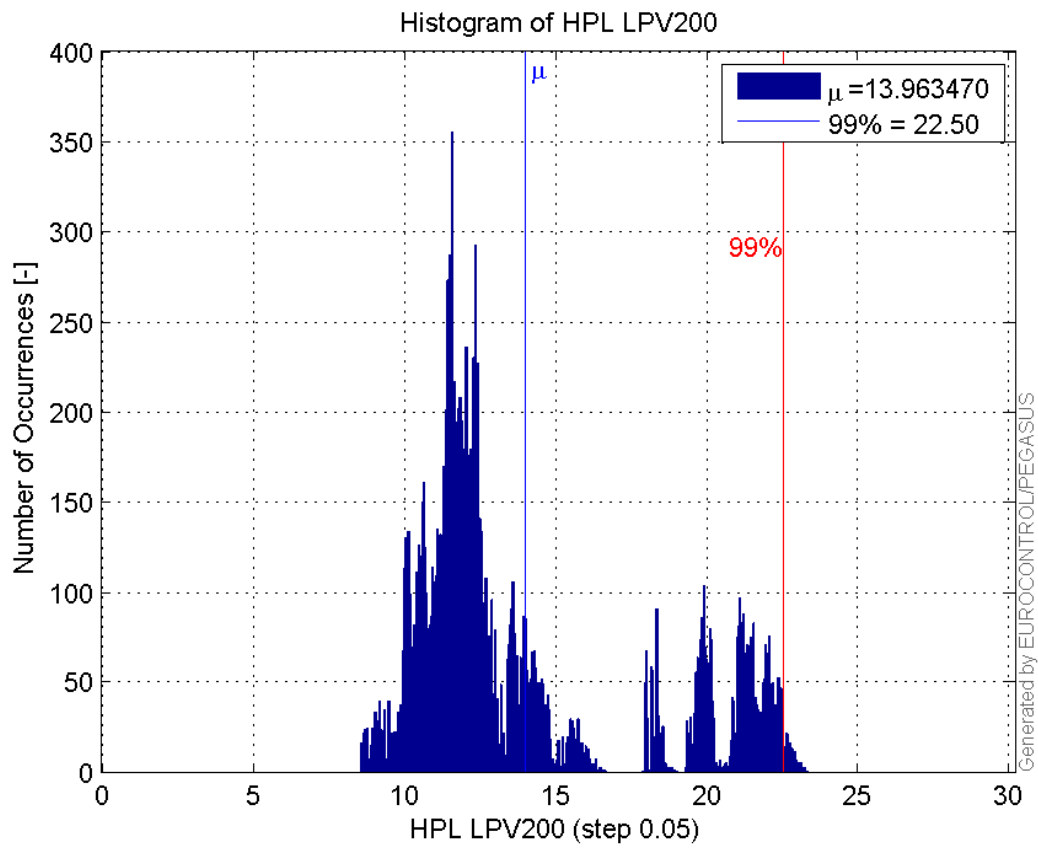
Histogram of HPE LPV200:



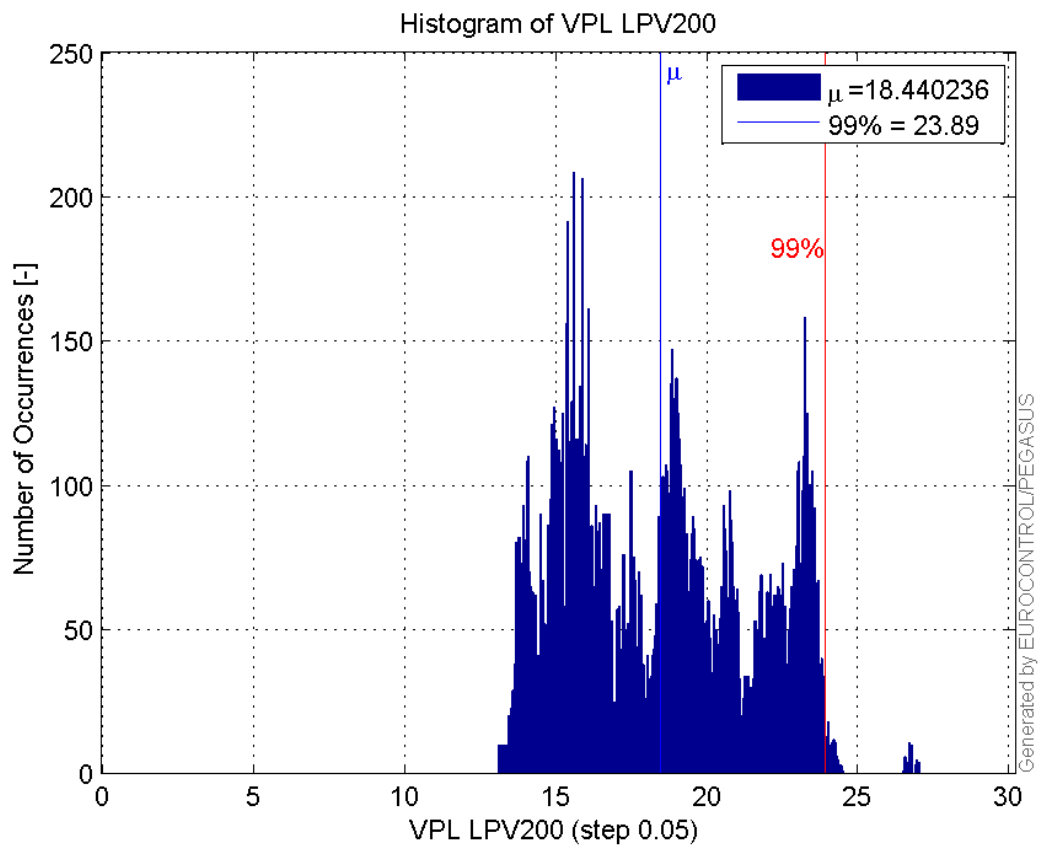
Histogram of VPE LPV200:



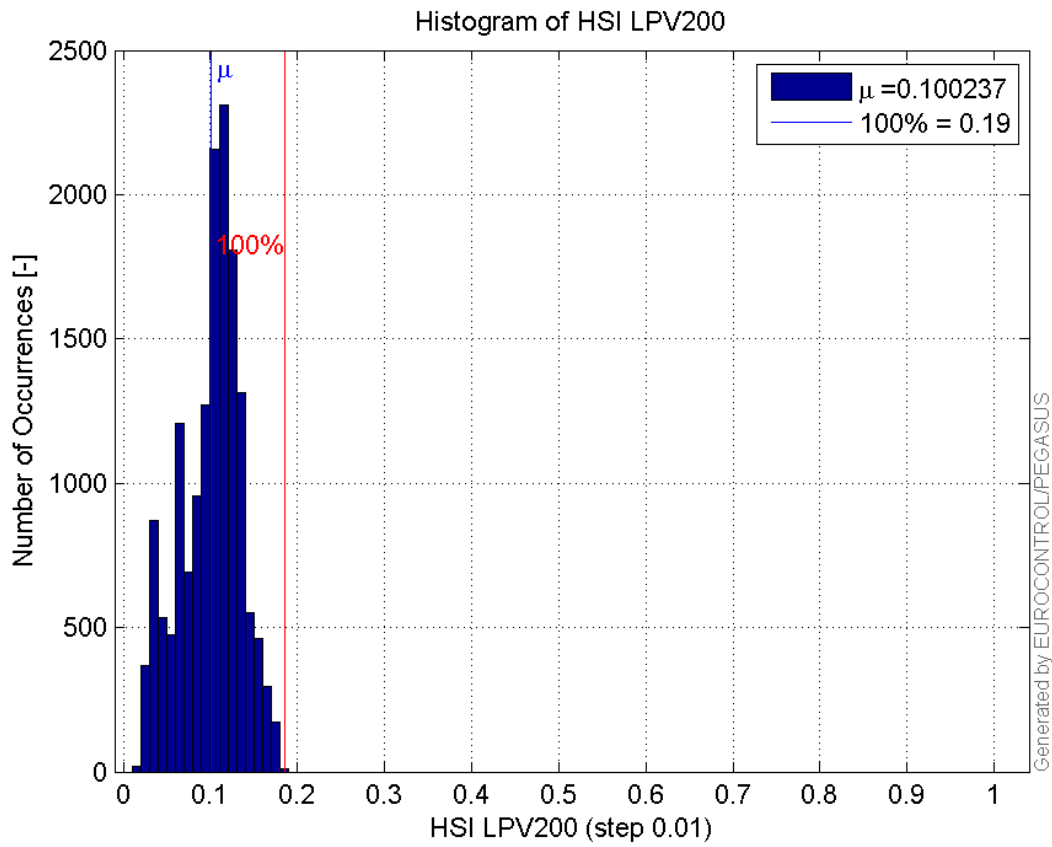
Histogram of HPL LPV200:



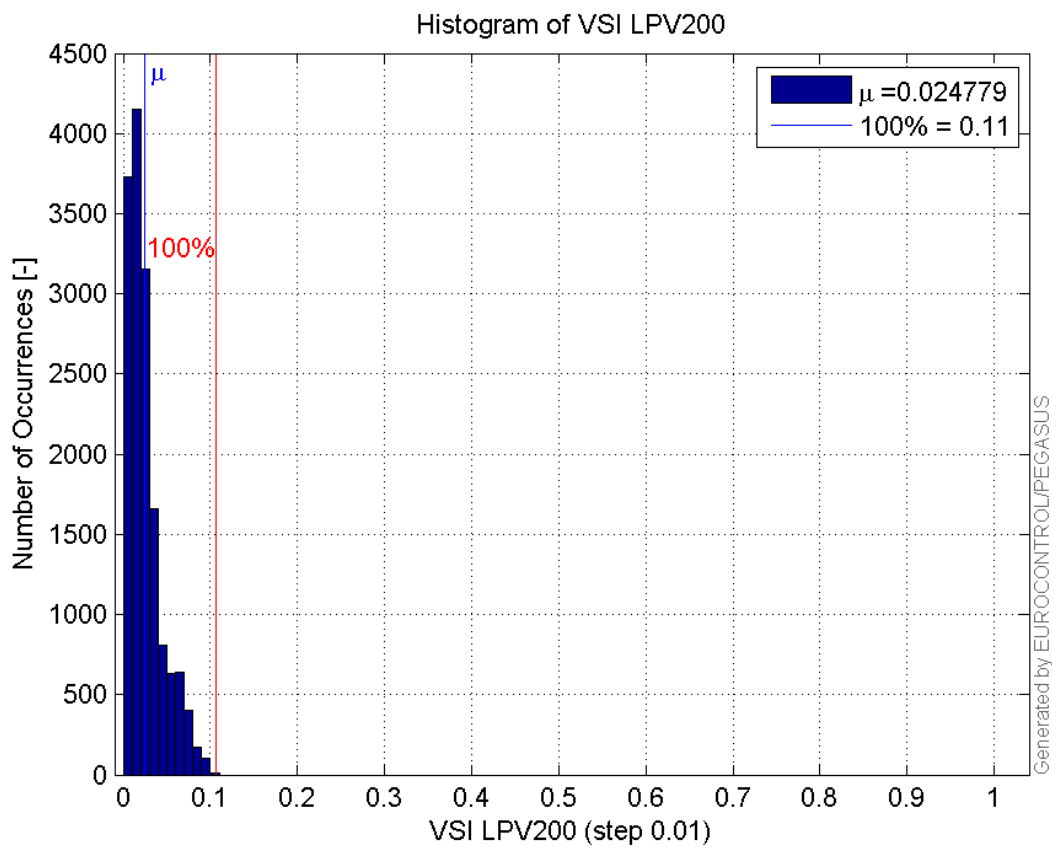
Histogram of VPL LPV200:



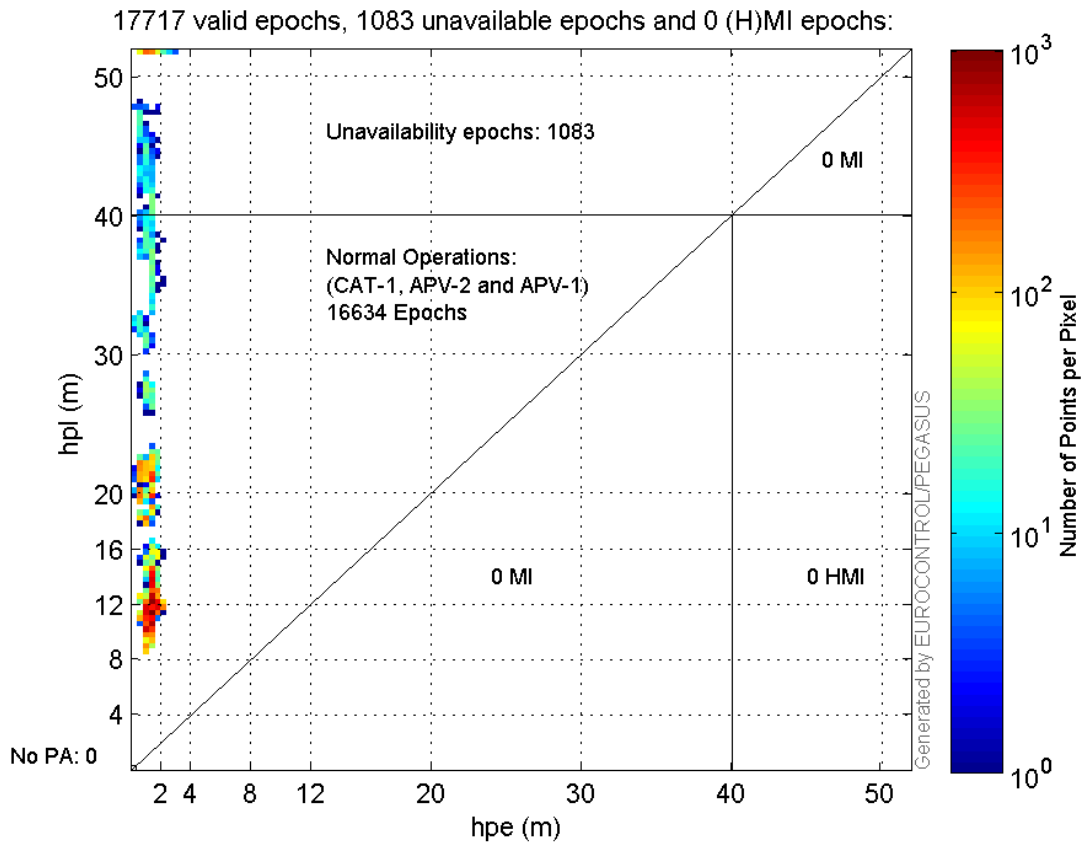
Histogram of HSI LPV200:



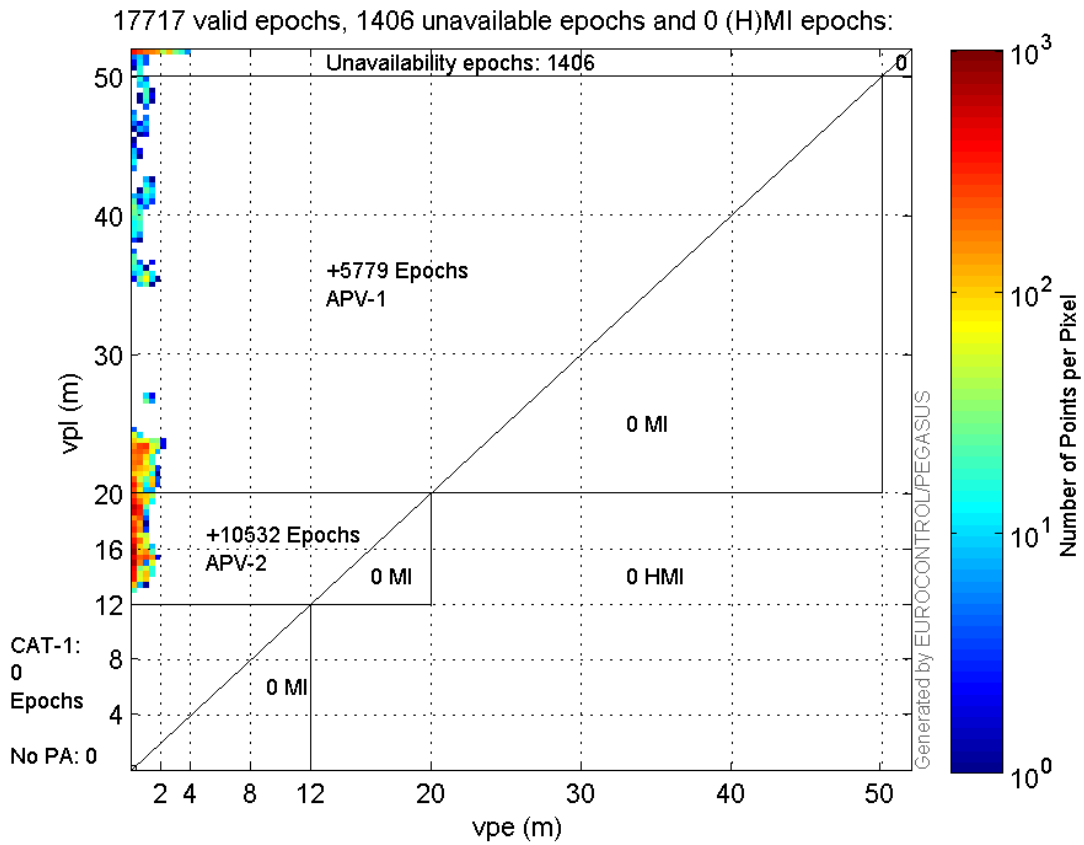
Histogram of VSI LPV200:



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_08_29_EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateJob/job/2016_08_29_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	50.439
init_lon	results	30.4297
init_alt	results	230.348
mi_numbers	results	0

Range Domain

start: 06:42:05 29.08.2016 (week: 1912 sec: 110525)
end: 11:43:22 29.08.2016 (week: 1912 sec: 128602)
duration: 05:01:18 ..

quality

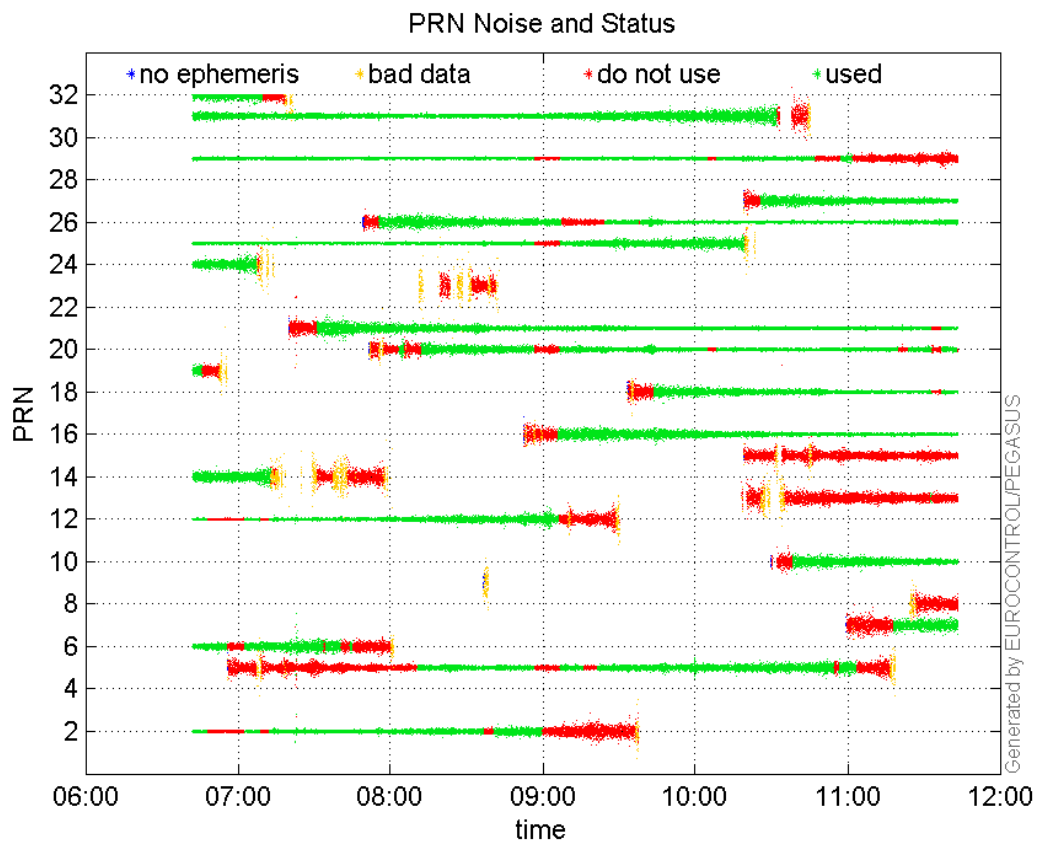
valid samples 18078
total samples 18078

PRN overview

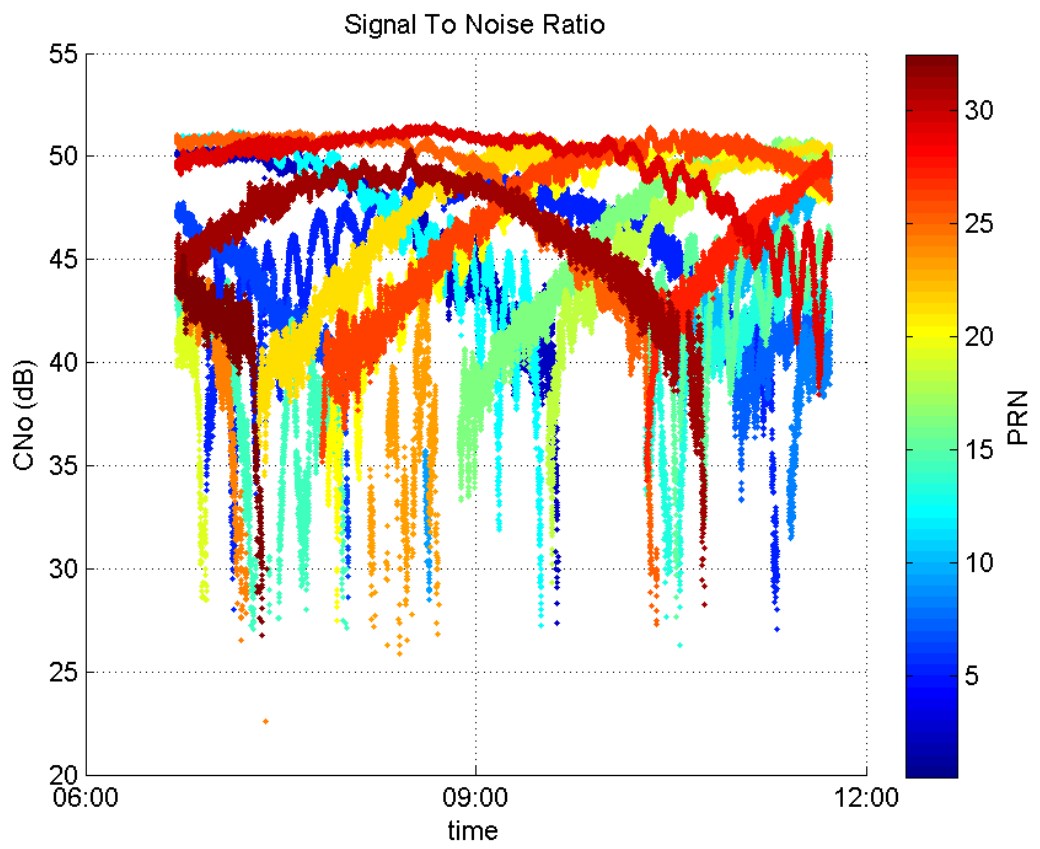
Number of Visible GPS Satellites 24
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



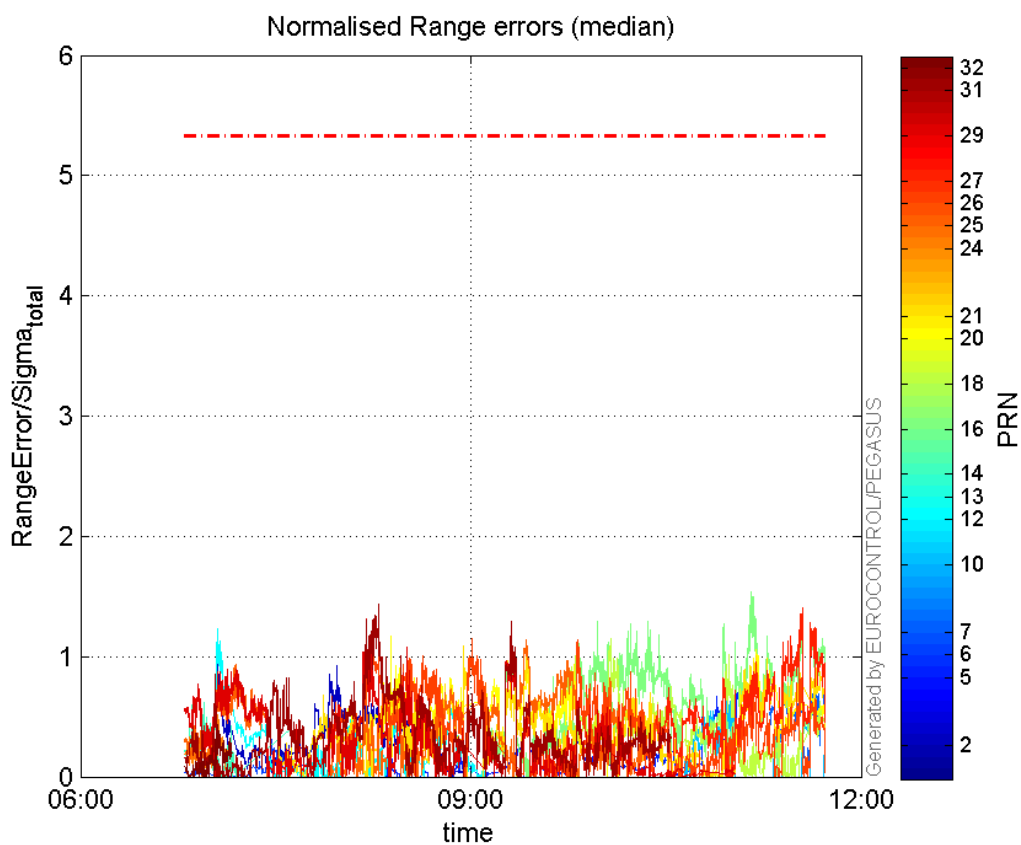
range errors

Number of Overbounding Norm Errors 0

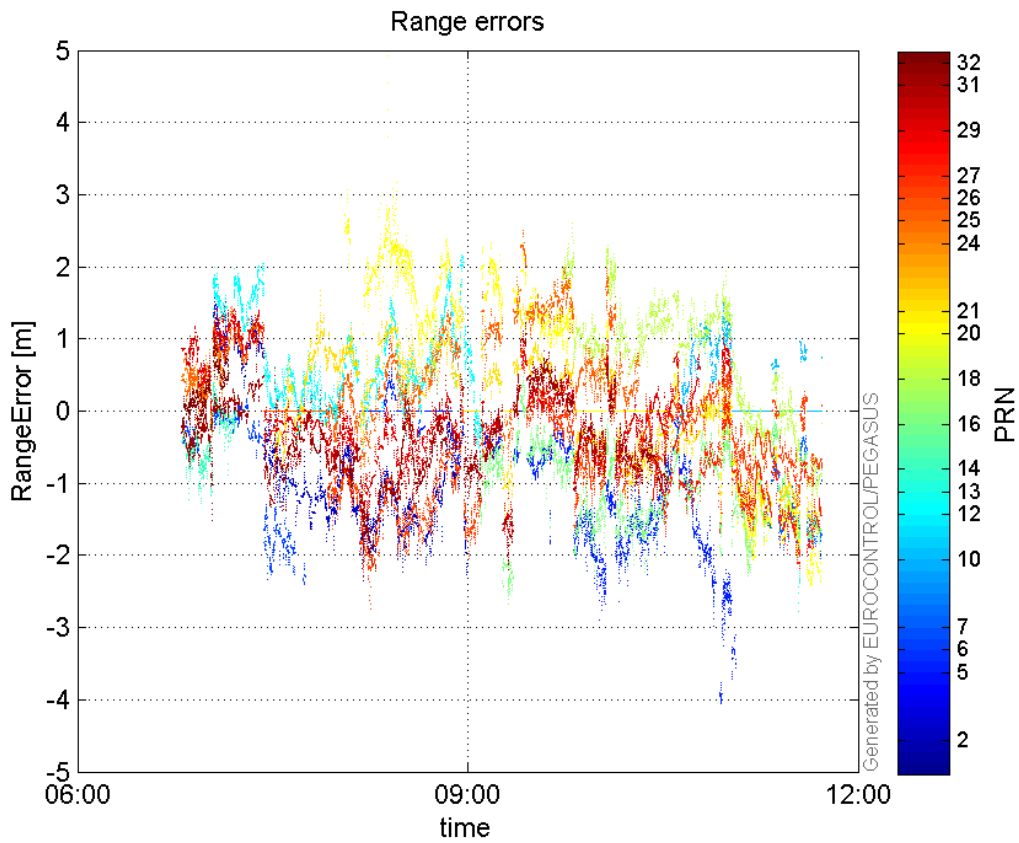
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1912	111795	2	0.951326	1.65487	1.73954
1912	126203	5	0.732983	-3.55331	4.84774
1912	113261	6	0.314008	-1.73539	5.52659
1912	127923	7	0.700512	-1.887	2.69375
1912	125879	10	0.640451	1.49381	2.33243
1912	111796	12	1.22713	1.98571	1.61817
1912	127955	13	0.308653	-2.77411	8.98781
1912	111415	14	0.613473	-1.2754	2.07898
1912	126568	16	1.53906	-2.28933	1.48748
1912	122687	18	1.15087	2.30698	2.00455
1912	116581	20	1.16838	4.92471	4.21499
1912	118605	21	1.08877	1.72778	1.5869
1912	111785	24	0.511165	1.25611	2.45734
1912	120347	25	1.14331	2.50383	2.18998
1912	116097	26	1.18016	-2.74387	2.32501
1912	127971	27	1.40664	-2.17716	1.54777
1912	115901	29	1.31642	-1.86279	1.41504
1912	116242	31	1.43844	-2.21231	1.53799
1912	111795	32	0.430431	1.06199	2.46728

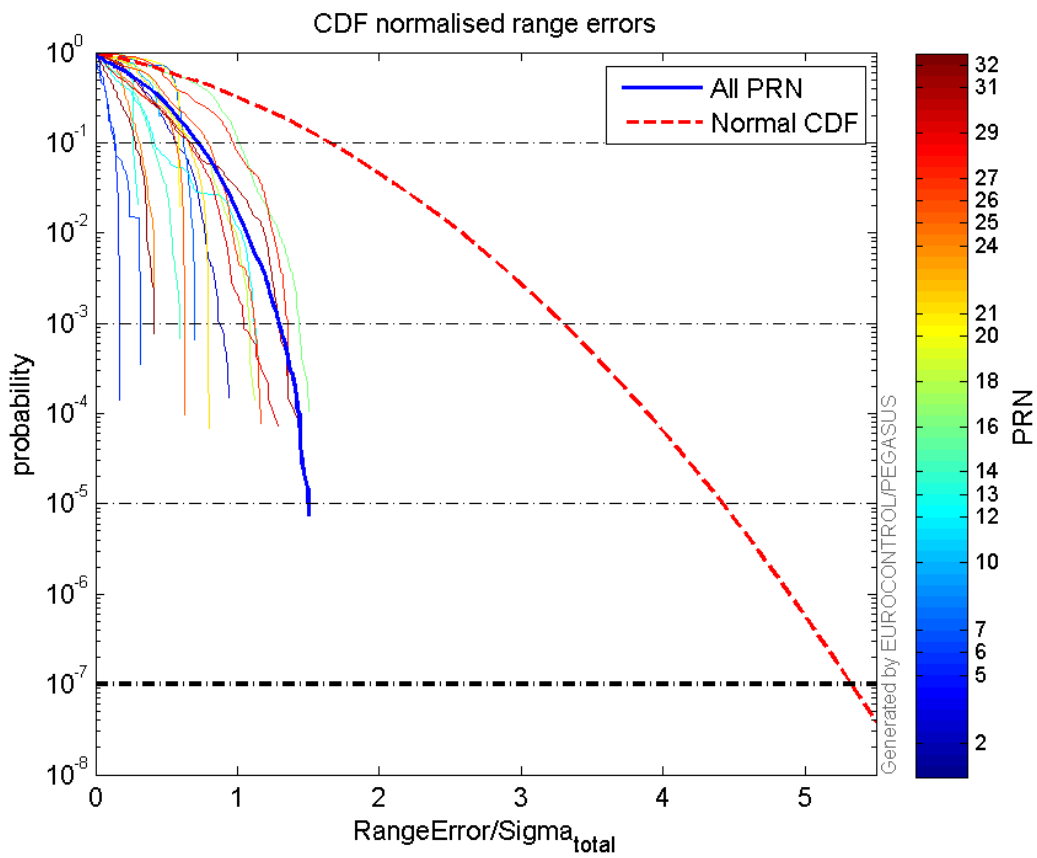
Normalised Range errors (median):



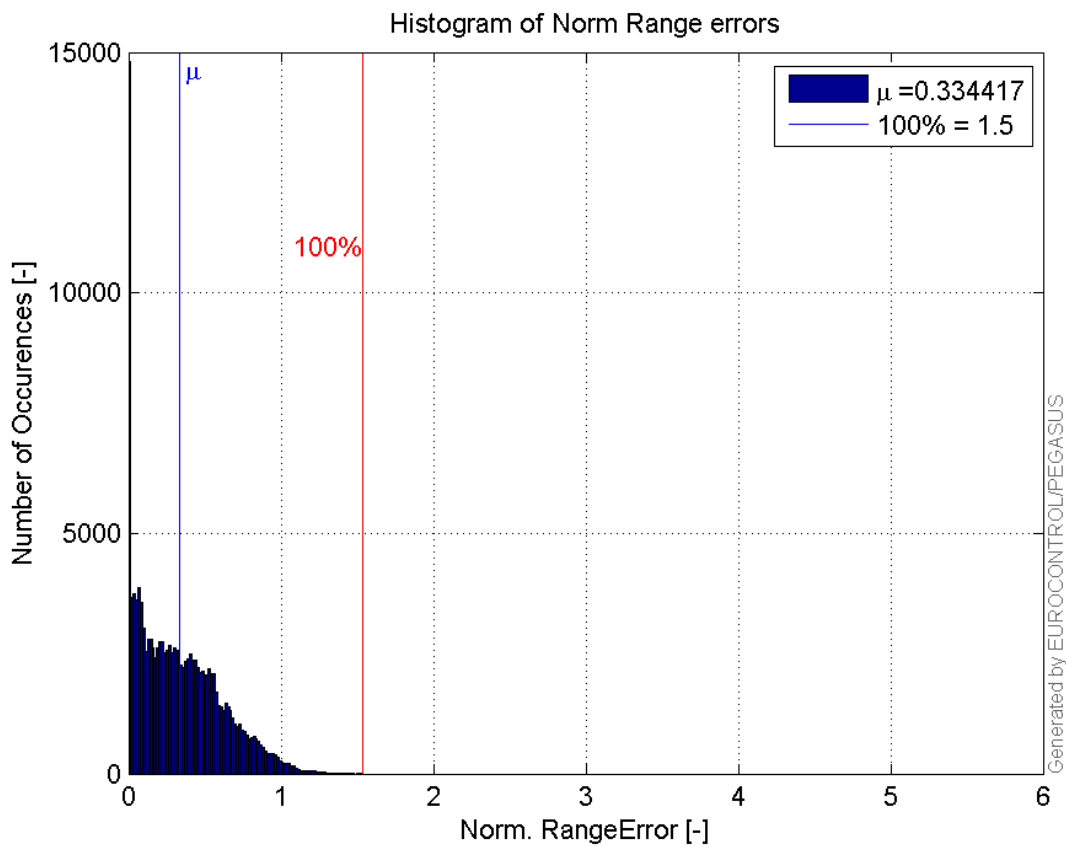
Range errors:



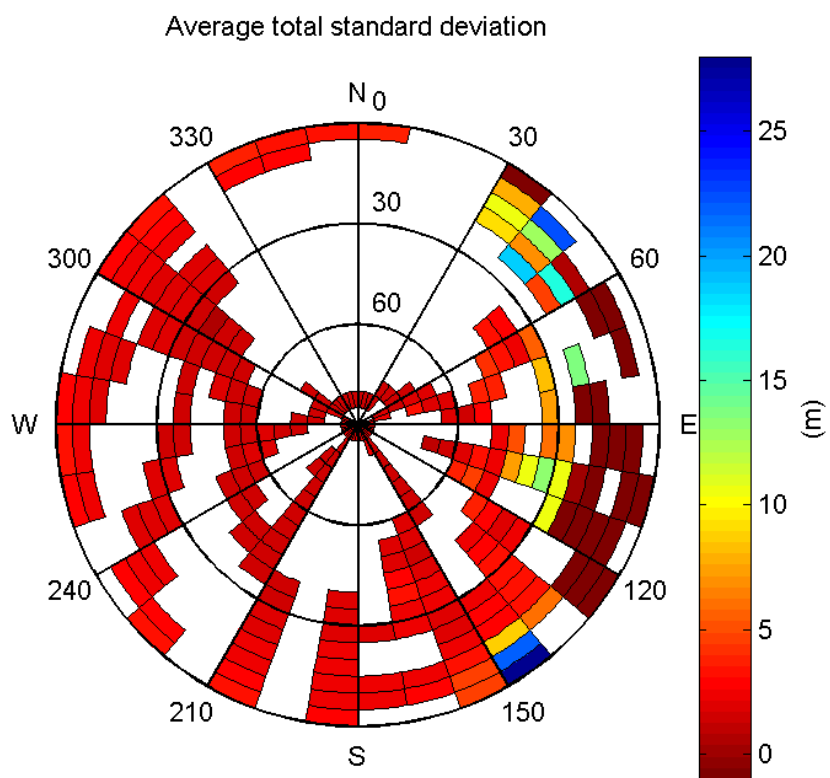
CDF normalised range errors:



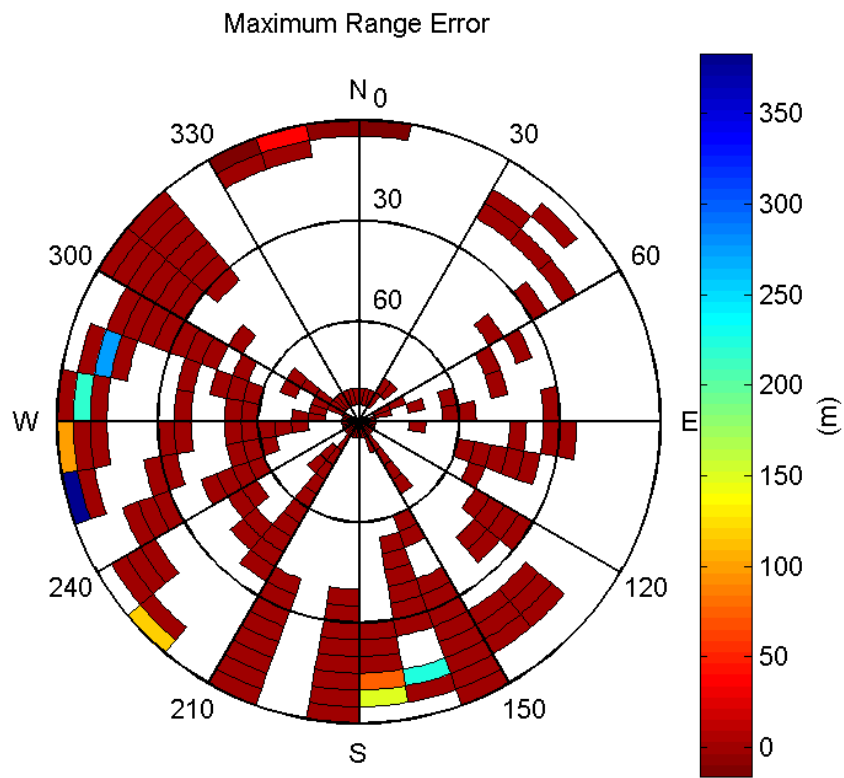
Histogram of Norm Range errors:



Sigma Sky Plot:

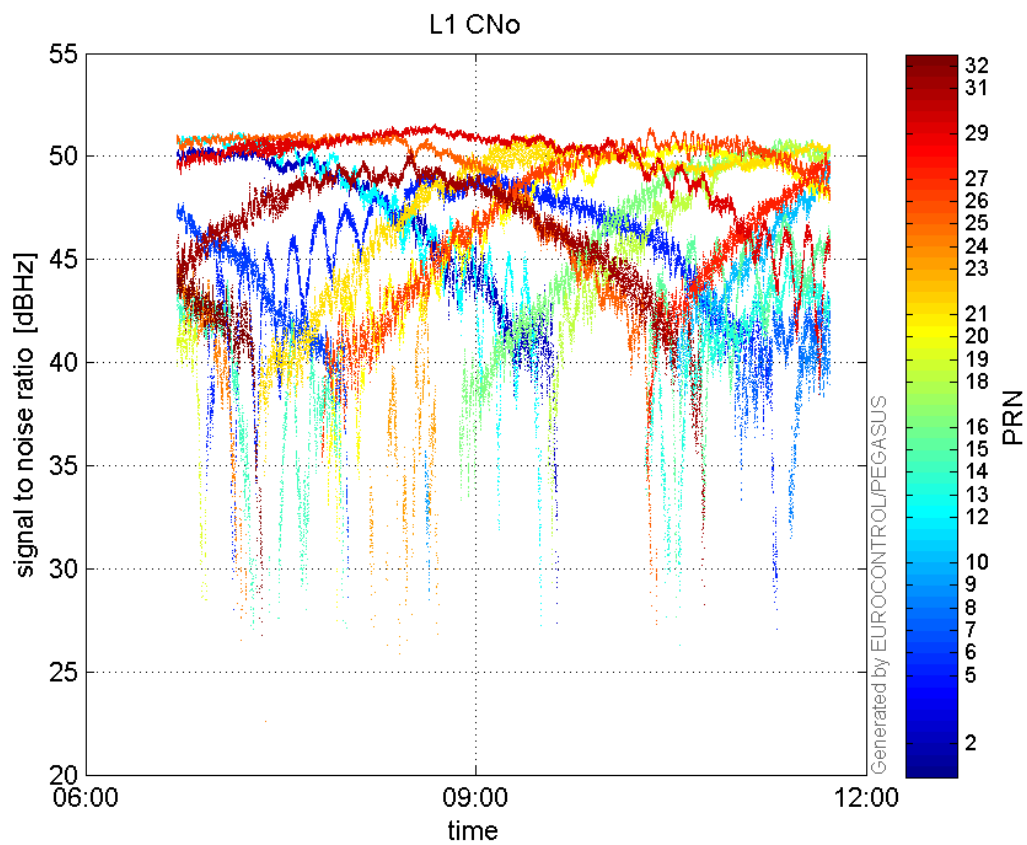


Norm Error Sky Plot:

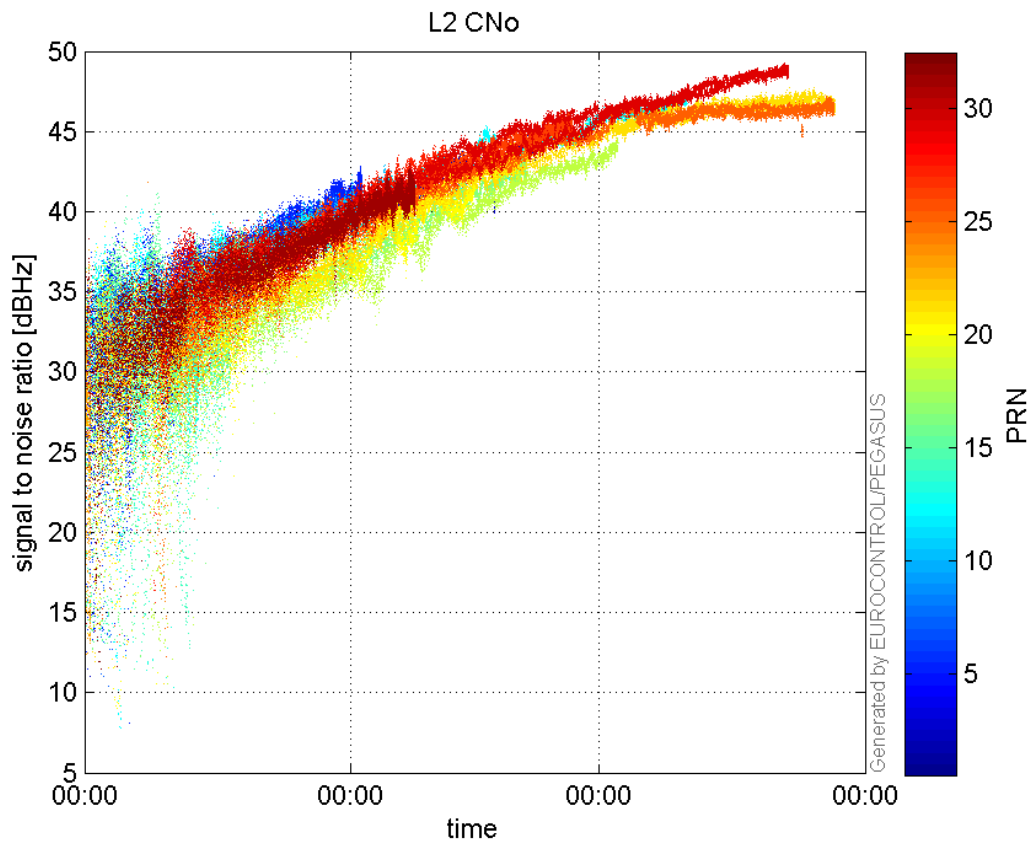


signal quality

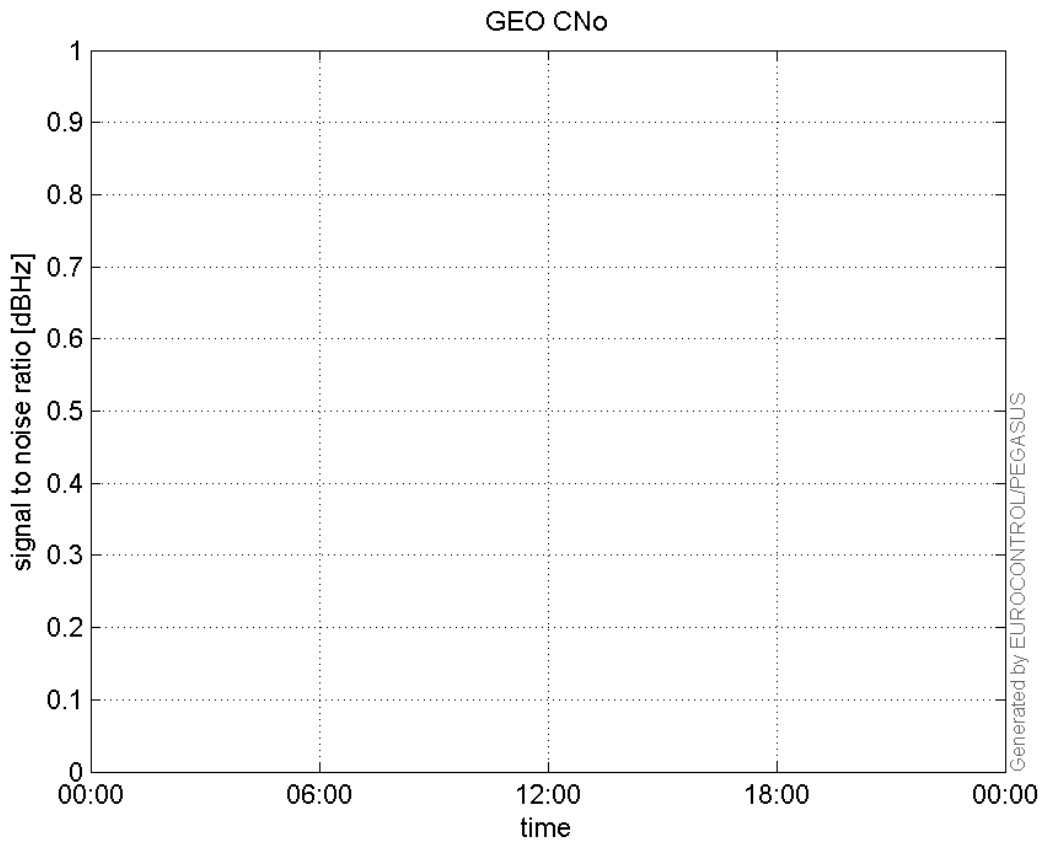
L1 CNo:



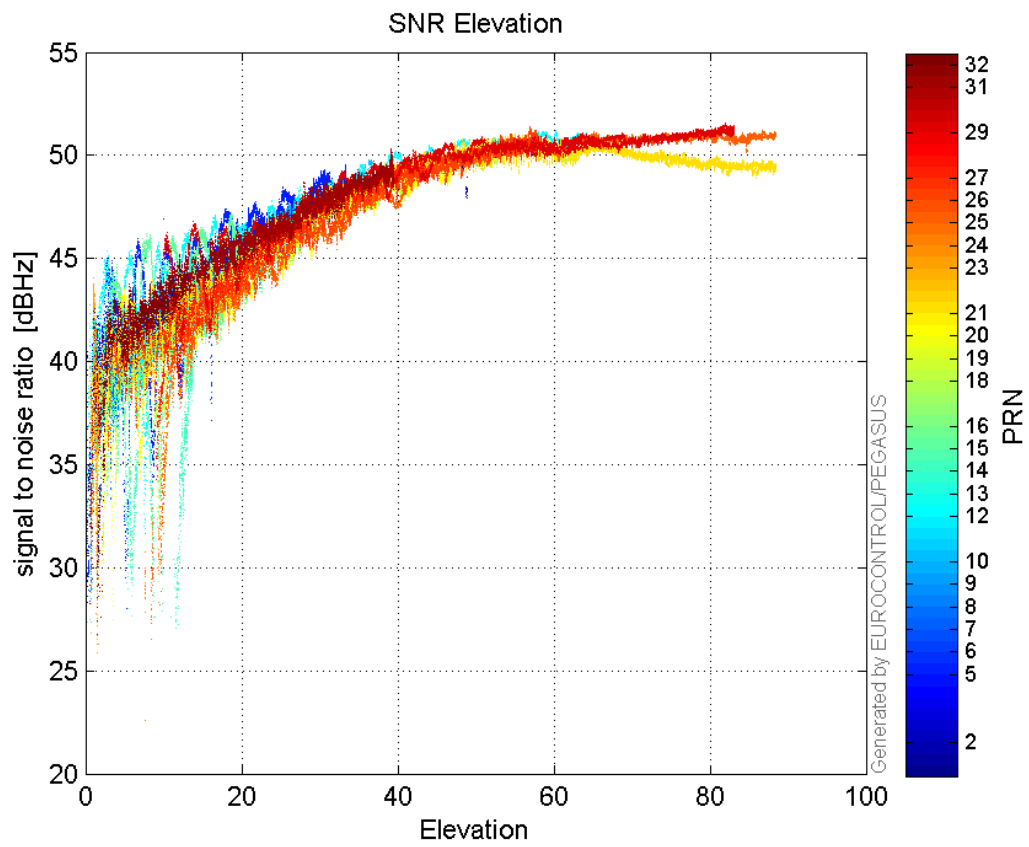
L2 CNo:



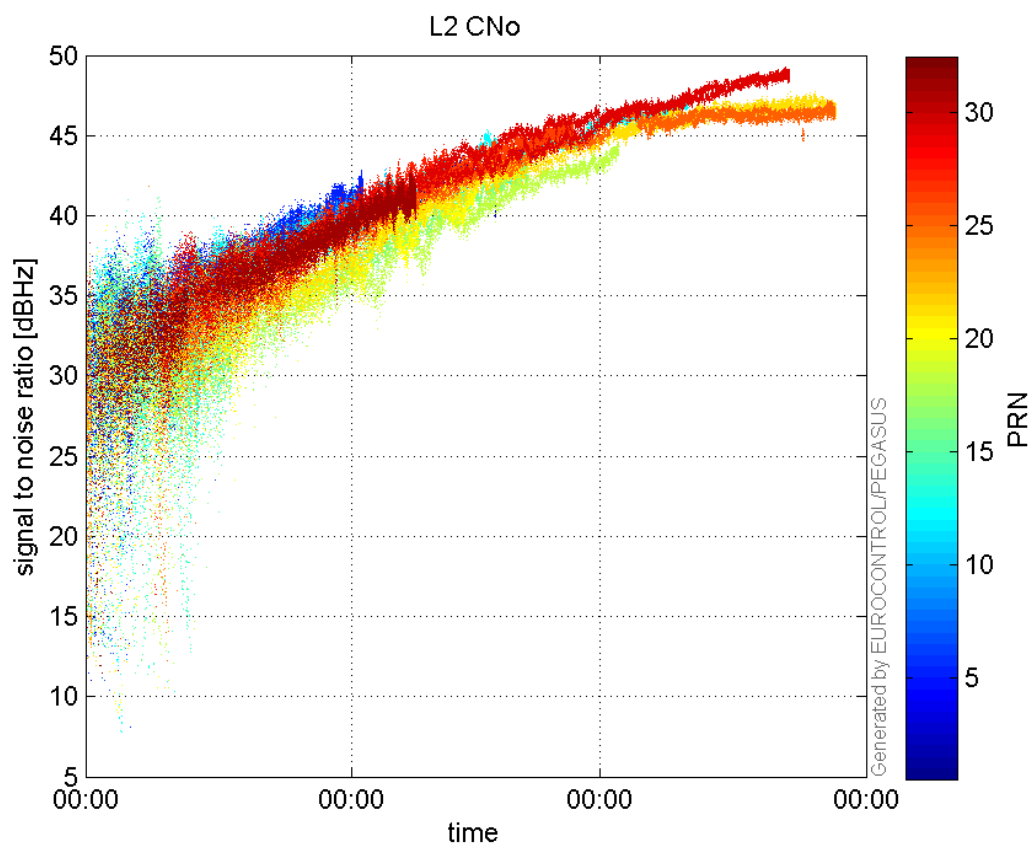
GEO CNo:



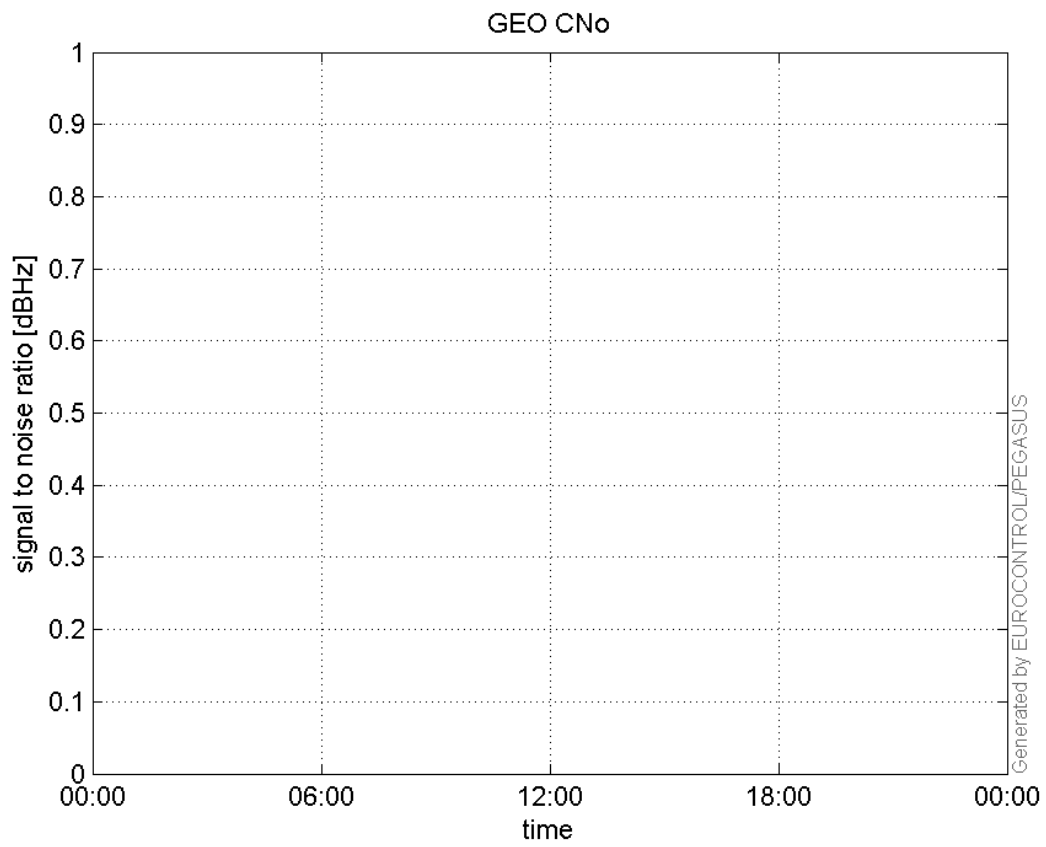
SNR Elevation:



L2 CNo:

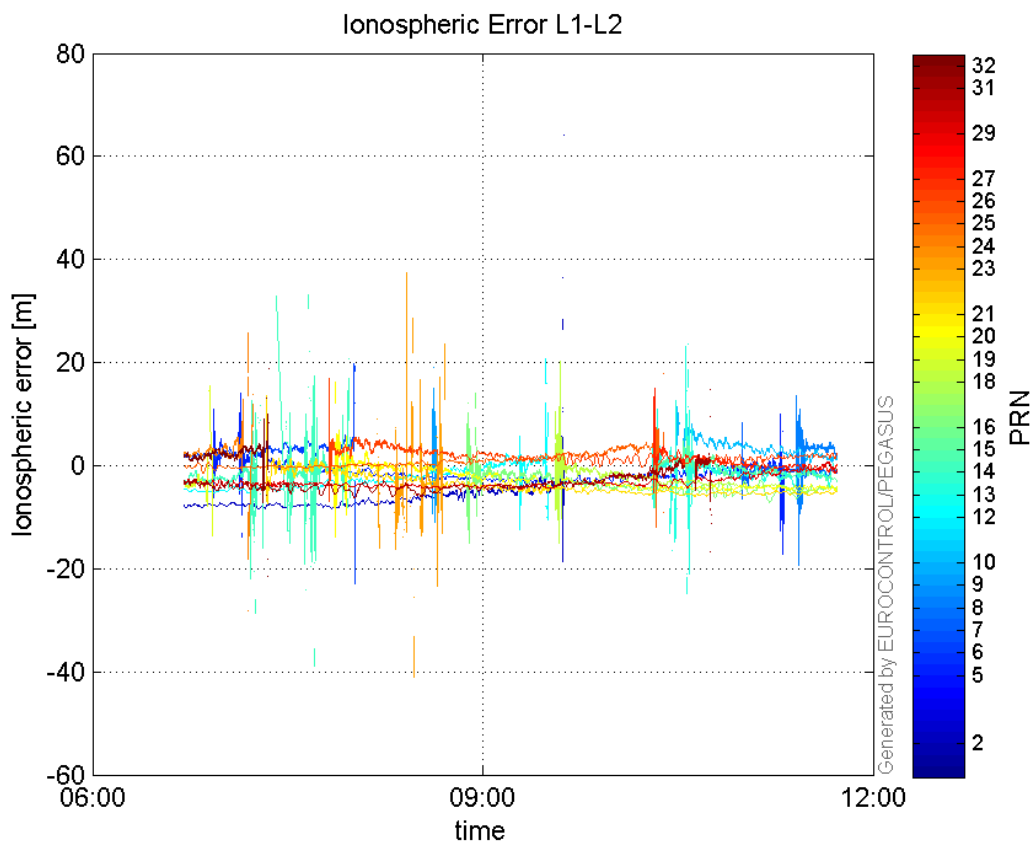


GEO CNo:



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_08_29_EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateJob/job/2016_08_29_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	50.439
init_lon	results	30.4297
init_alt	results	230.348
mi_numbers	results	0