

Global View

site Laboratory satellite systems
 abbreviation NAU
 country Ukraine
 city Kiev
 comment
 program Pegasus
 version 4.8.2
 date 21/10/2015

SBAS Messages

start: 07:31:5.129 20.10.2015 (week: 1867 sec: 199865.129)
end: 13:27:0.128998 20.10.2015 (week: 1867 sec: 221220.129)
duration: 05:55:55 ..

quality

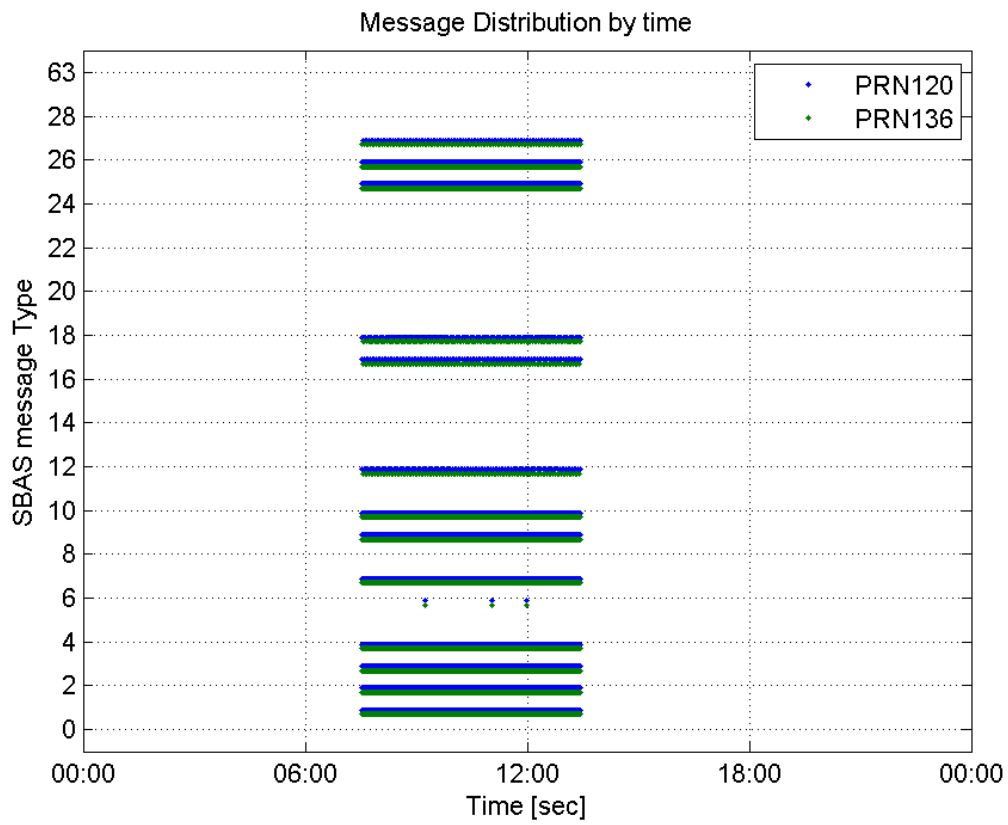
valid samples 42712
total samples 42712
number of SBAS PRNs 2

SBAS SIS Overview

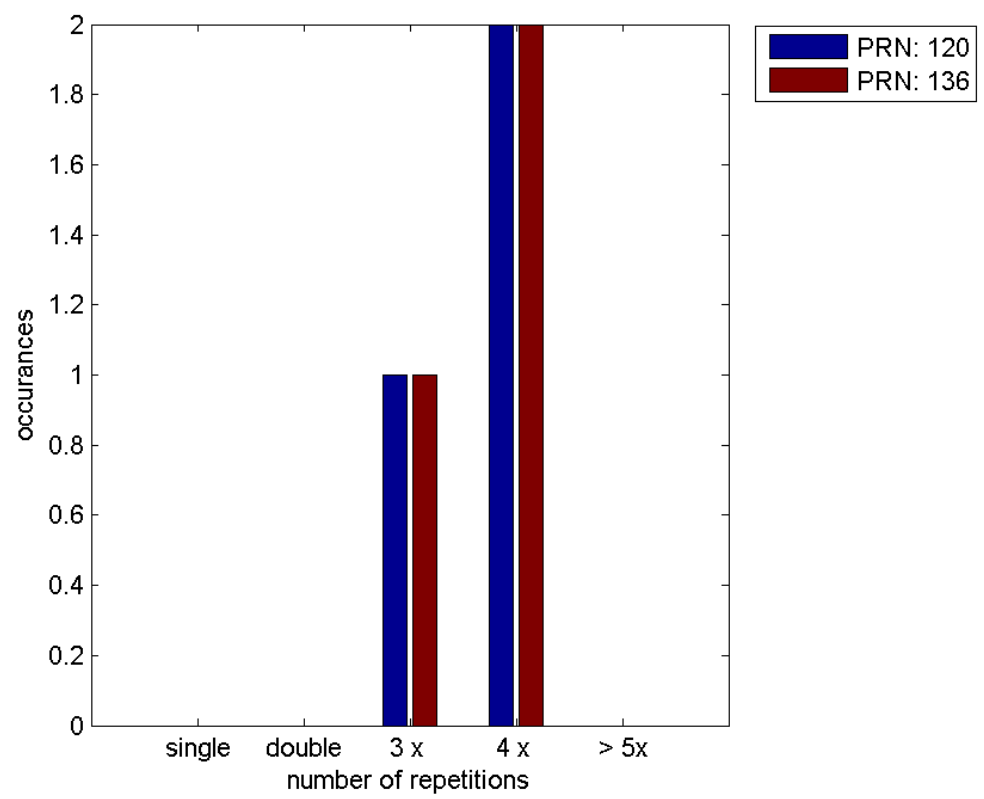
Message Type 6 repetitions :

	single	double	3 x	4 x	> 5x
PRN 120	0	0	1	2	0
PRN 136	0	0	1	2	0

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

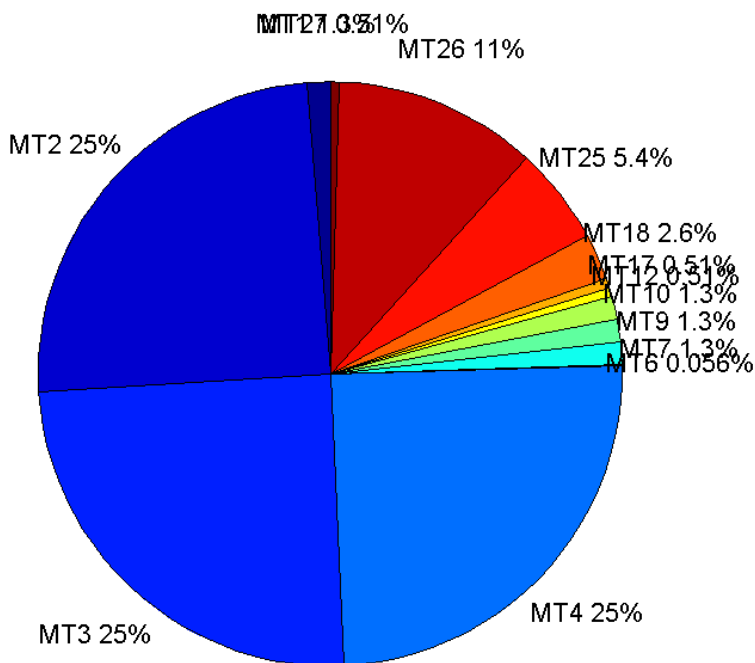
	number of messages	%
MT 0	0	0
MT 1	267	1.25023
MT 2	5283	24.7378
MT 3	5283	24.7378
MT 4	5283	24.7378
MT 5	0	0
MT 6	12	0.0561903
MT 7	267	1.25023
MT 9	267	1.25023
MT 10	267	1.25023
MT 12	109	0.510395
MT 17	109	0.510395
MT 18	545	2.55198
MT 24	0	0
MT 25	1159	5.42705
MT 26	2396	11.2193
MT 27	109	0.510395
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	21356	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	88	79.9624	0	0	0
MT 2	4	8	4.04222	3	0	0
MT 3	4	8	4.04222	3	0	0
MT 4	4	7	4.04241	3	0	0
MT 5	--	--	--	--	--	--
MT 6	1	6489	895.727	2	2	2
MT 7	76	82	79.9511	0	0	0
MT 9	75	81	79.9812	0	0	0
MT 10	76	88	79.9812	0	0	0
MT 12	189	202	196.13	108	0	0
MT 17	187	201	196.167	0	0	0
MT 18	4	158	39.0313	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	44	18.3964	0	0	0
MT 26	3	40	8.91273	0	0	0
MT 27	188	201	196.139	0	0	0

MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

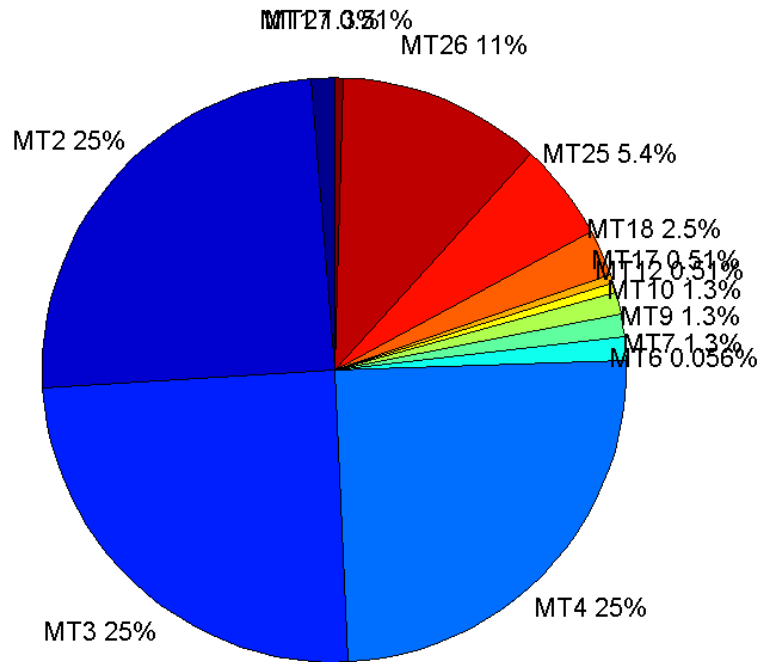
	number of messages	%
MT 0	0	0
MT 1	267	1.25023
MT 2	5286	24.7518
MT 3	5285	24.7471
MT 4	5285	24.7471
MT 5	0	0
MT 6	12	0.0561903
MT 7	267	1.25023
MT 9	267	1.25023
MT 10	267	1.25023
MT 12	108	0.505713
MT 17	108	0.505713
MT 18	541	2.53325
MT 24	0	0

MT 25	1161	5.43641
MT 26	2393	11.2053
MT 27	109	0.510395
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	21356	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	82	79.9436	0	0	0
MT 2	4	8	4.04049	3	0	0
MT 3	4	8	4.04069	3	0	0
MT 4	4	8	4.0405	3	0	0
MT 5	--	--	--	--	--	--
MT 6	1	6489	895.727	2	2	2
MT 7	75	84	79.9774	0	0	0
MT 9	76	83	79.9436	0	0	0
MT 10	76	81	79.9737	0	0	0
MT 12	190	203	196.607	107	0	0
MT 17	186	201	196.607	0	0	0
MT 18	4	178	39.3204	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	40	18.3905	0	0	0
MT 26	1	64	8.92349	0	0	0
MT 27	189	202	196.565	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_10_20EGNOS/01_User/01_User
Outputfile	System	D:/PEGASUS_DAT_job/JOB/2015_10_20EGNOS/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: 07:31:05 20.10.2015 (week: 1867 sec: 199865)
end: 13:27:00 20.10.2015 (week: 1867 sec: 221220)
duration: 05:55:56 ..

quality

valid samples 20995
total samples 21356

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 all

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	204983	1.61557	9.21614	0.175298	2.20272	16.4181	0.134164
max normVer	214594	2.07419	14.0779	0.147337	3.33926	18.0984	0.184506
max HPE	201802	2.59309	34.4809	0.0752037	1.52518	29.7467	0.0512724
max VPE	205462	1.67197	12.1316	0.13782	3.45368	19.6702	0.175579
min HPL	216229	1.13209	8.82081	0.128343	1.49232	19.3761	0.0770185
min VPL	212883	0.991679	9.36835	0.105854	0.791064	11.8605	0.0666973

CAT-I discontinuity events :

#	Epoch	duration	stable period
1	212881	1	0
2	212883	7	1

First Glance analysis

Duration 21356
Number of Samples 21356
Number of invalid sample 361
Number of no position solution samples 0
Number of missing sample 0
Logging Loss 0
Processing Loss 1.6904
Number of Misleading Information 0
Data gaps 0
Discontinuities 0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
20995	20995	20995	3	20995

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.86006	1.86006	1.86006	1.02806	1.86006
HPEscale 95%	NaN	5.84015	5.84015	4.58195	5.84015
VPE 95%	2.39713	2.39713	2.39713	0.797258	2.39713
VPEscale 95%	NaN	6.97665	4.88365	0.800368	4.88365

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	1	1	0.000142891	1
measurements	0.983096	0.983096	0.983096	0.000140476	0.983096
Operational	0.983096	0.983096	0.983096	0.000140476	0.983096

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	--	--	2	--
Long	--	--	--	1	--
Independent	--	--	--	0	--
P(disc.)	--	--	--	0	--
P(slide)	NaN	NaN	NaN	0.333333	NaN

Integrity events :

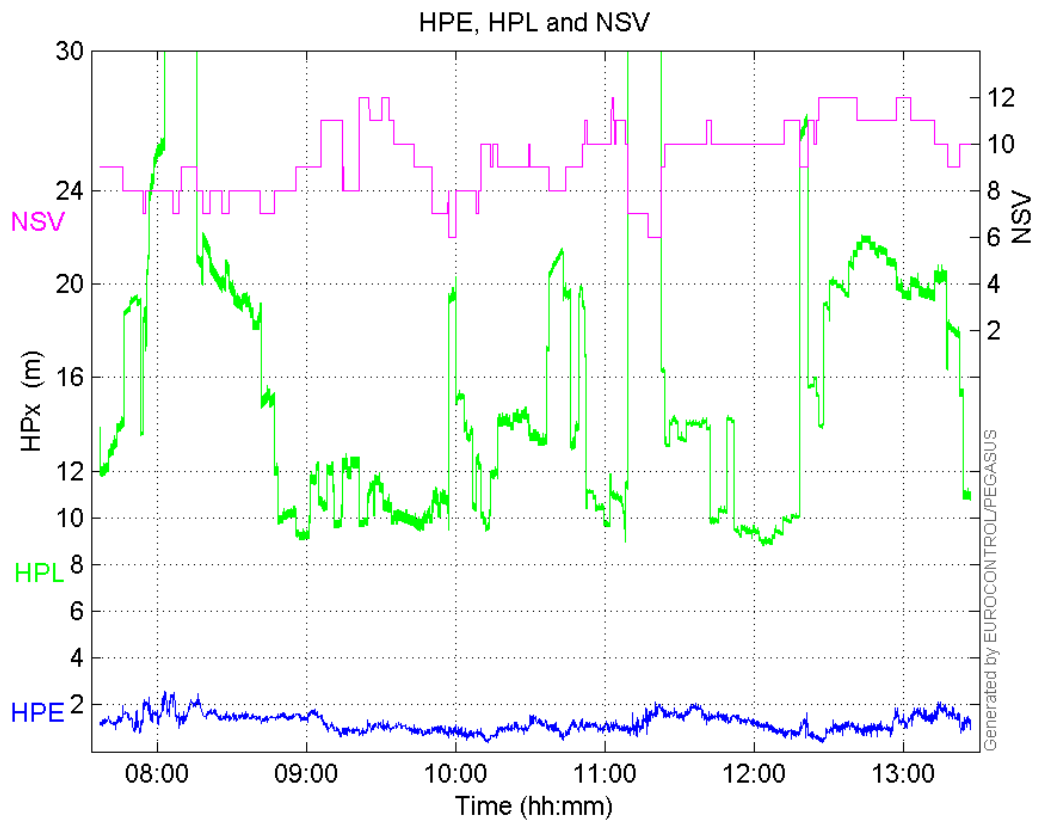
	MI	HMI APV-1	HMI LPV-200	HMI CAT-1	HMI APV-35m
Total	0	0	0	0	0
Horizontal	0	0	0	0	0
Vertical	0	0	0	0	0

Performance Summary :

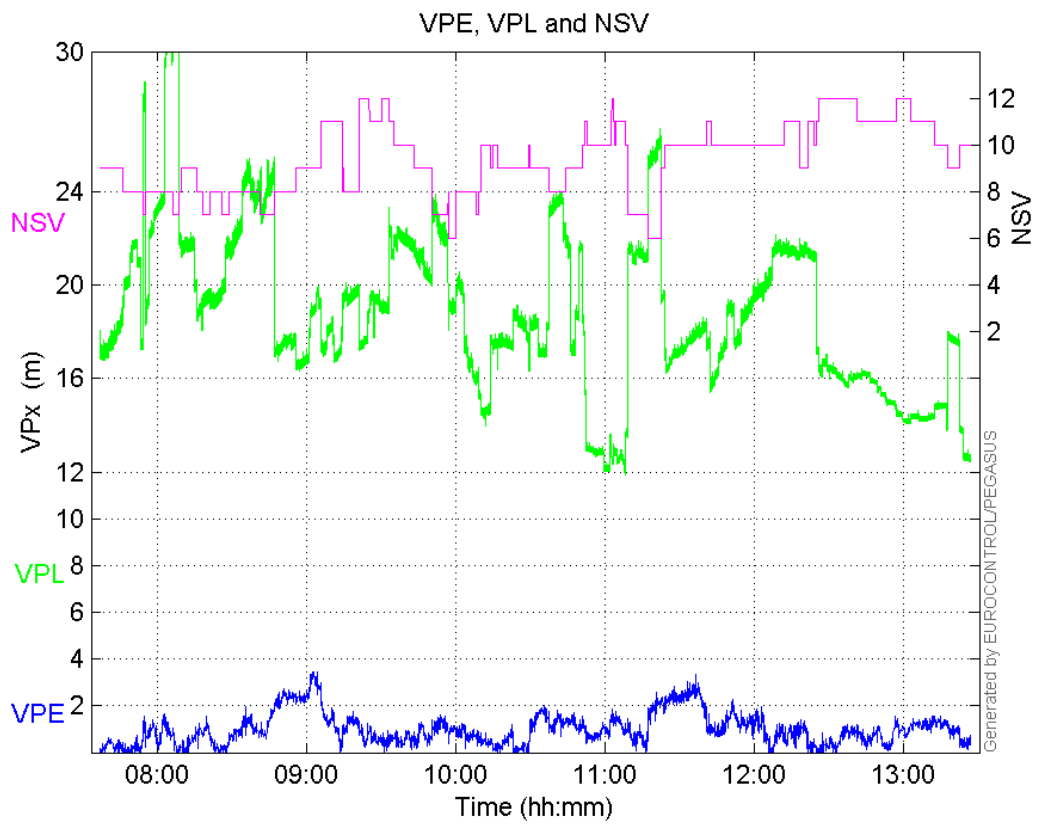
	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	20995	20995	20995	3	20995
SIS Availability	1	1	1	0.000142891	1
Local Availability	0.983096	0.983096	0.983096	0.000140476	0.983096
Operational Availability	0.983096	0.983096	0.983096	0.000140476	0.983096
HPE 95%	1.86006	1.86006	1.86006	1.02806	1.86006
HPEscale 95%	NaN	5.84015	5.84015	4.58195	5.84015
VPE 95%	2.39713	2.39713	2.39713	0.797258	2.39713
VPEscale 95%	NaN	6.97665	4.88365	0.800368	4.88365
All Discontinuity Events	--	--	--	2	--
Long Discontinuity Events	--	--	--	1	--
Independent Discontinuity Events	--	--	--	0	--
P(discontinuity)	--	--	--	0	--
P(sliding window)	NaN	NaN	NaN	0.333333	NaN
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:

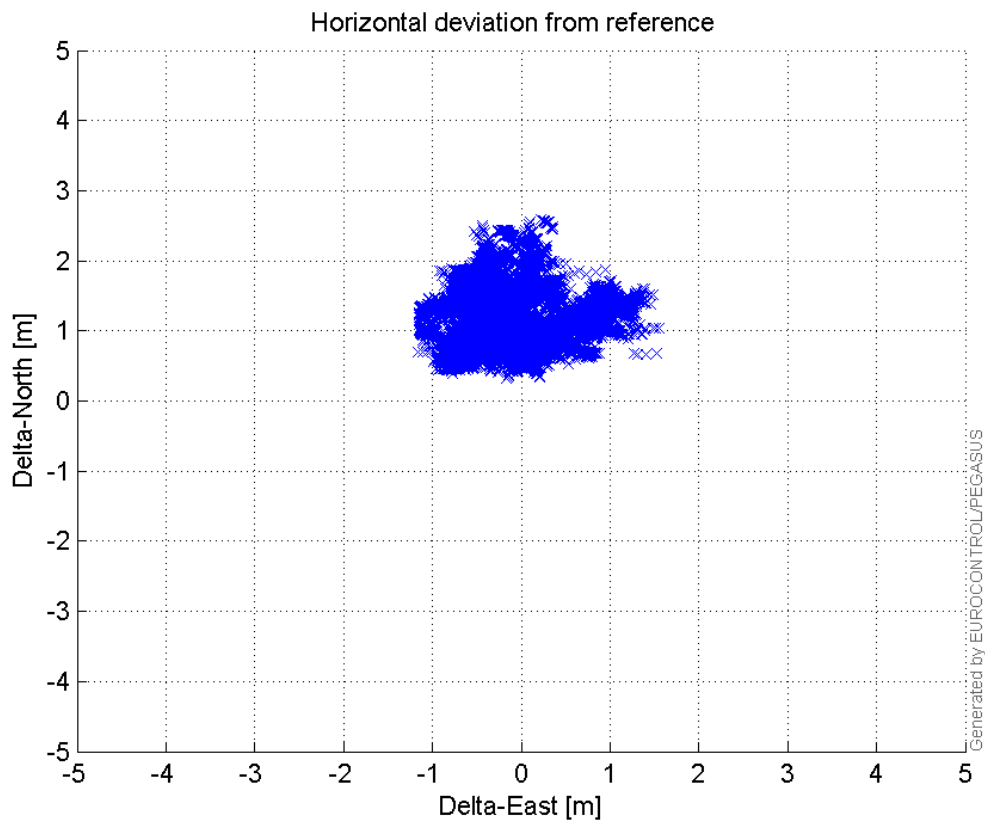


VPE, VPL and NSV:



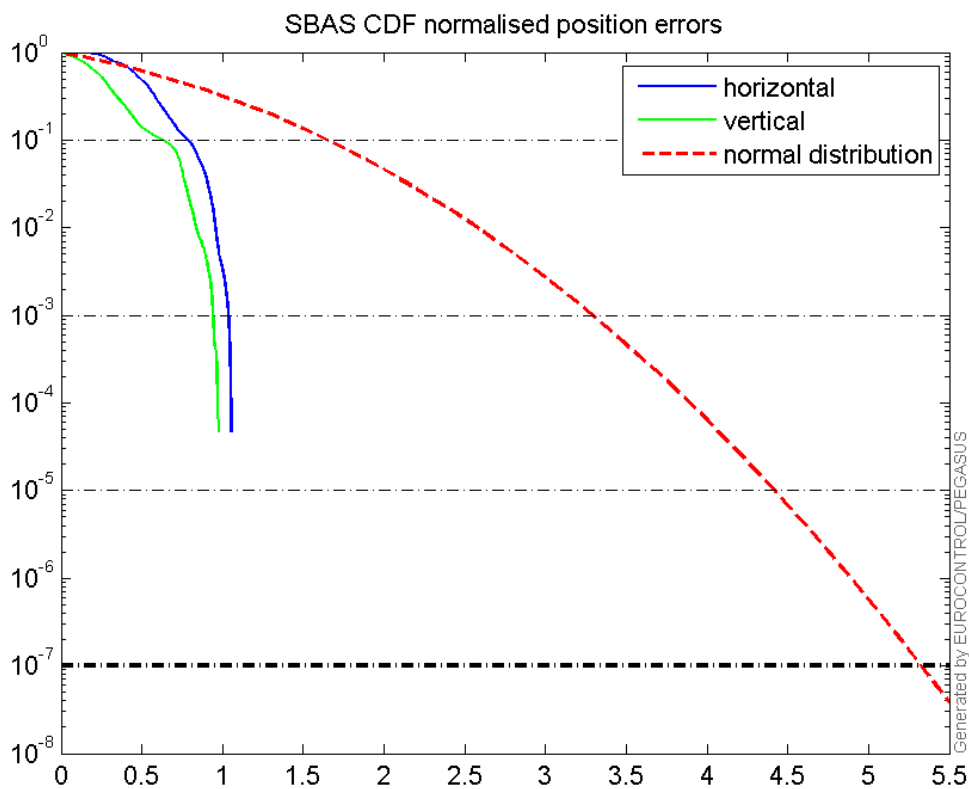
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

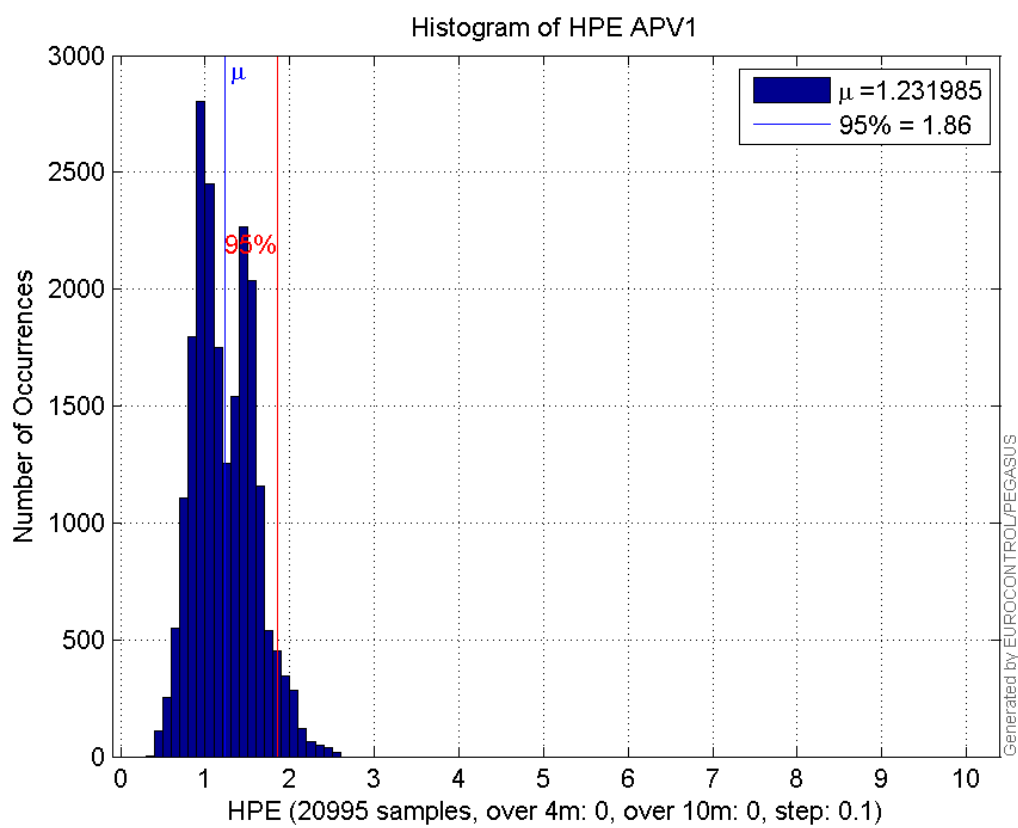
number	20995
sum	25865.526
sum2	34593.127
prctile95	1.8600621
prctile99	2.1575055
number	20995
sum	21051.594
sum2	30385.677
prctile95	2.3971261
prctile99	2.8826197
number	20995
sum	343605.29
sum2	6667929.2
prctile95	35.37685
prctile99	37.76475
number	20995
sum	394423.69
sum2	7656569.1
prctile95	24.302025
prctile99	30.33809
number	20995
sum	1765.0275
sum2	169.4566
prctile95	0.14600377
prctile99	0.15908641
number	20995
sum	1161.3397
sum2	94.764383
prctile95	0.13953291
prctile99	0.15668289
number	20995
sum	25865.526
sum2	34593.127
prctile95	1.8600621
prctile99	2.1575055
number	20995
sum	21051.594
sum2	30385.677
prctile95	2.3971261
prctile99	2.8826197
number	20995
sum	343605.29
sum2	6667929.2
prctile95	35.37685
prctile99	37.76475
number	20995
sum	394423.69
sum2	7656569.1
prctile95	24.302025
prctile99	30.33809
number	20995
sum	1765.0275
sum2	169.4566
prctile95	0.14600377

prctile99 0.15908641
number 20995
sum 1161.3397
sum2 94.764383
prctile95 0.13953291
prctile99 0.15668289

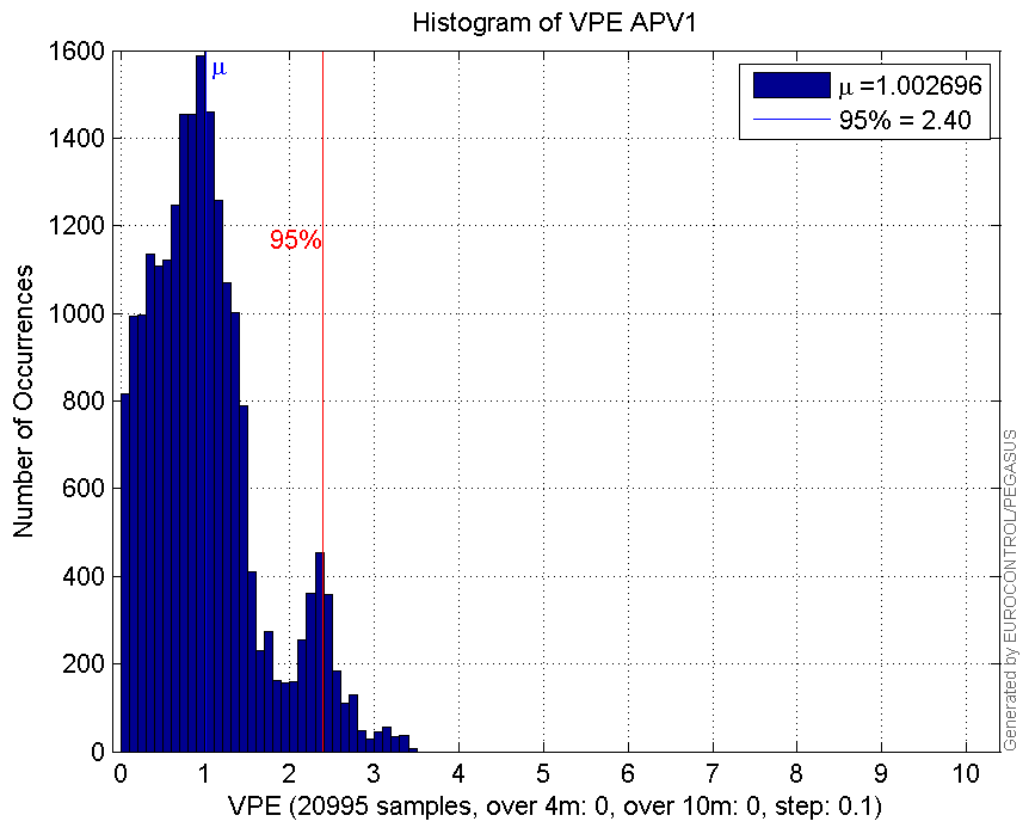
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.23199	0.360421	1.17792	1.86006	2.15751	1.28362
HPL	16.3661	7.05342	14.075	35.3768	37.7647	17.8212
VPE	1.0027	0.664759	0.913703	2.39713	2.88262	1.20303
VPL	18.7866	3.42802	18.3615	24.302	30.3381	19.0967

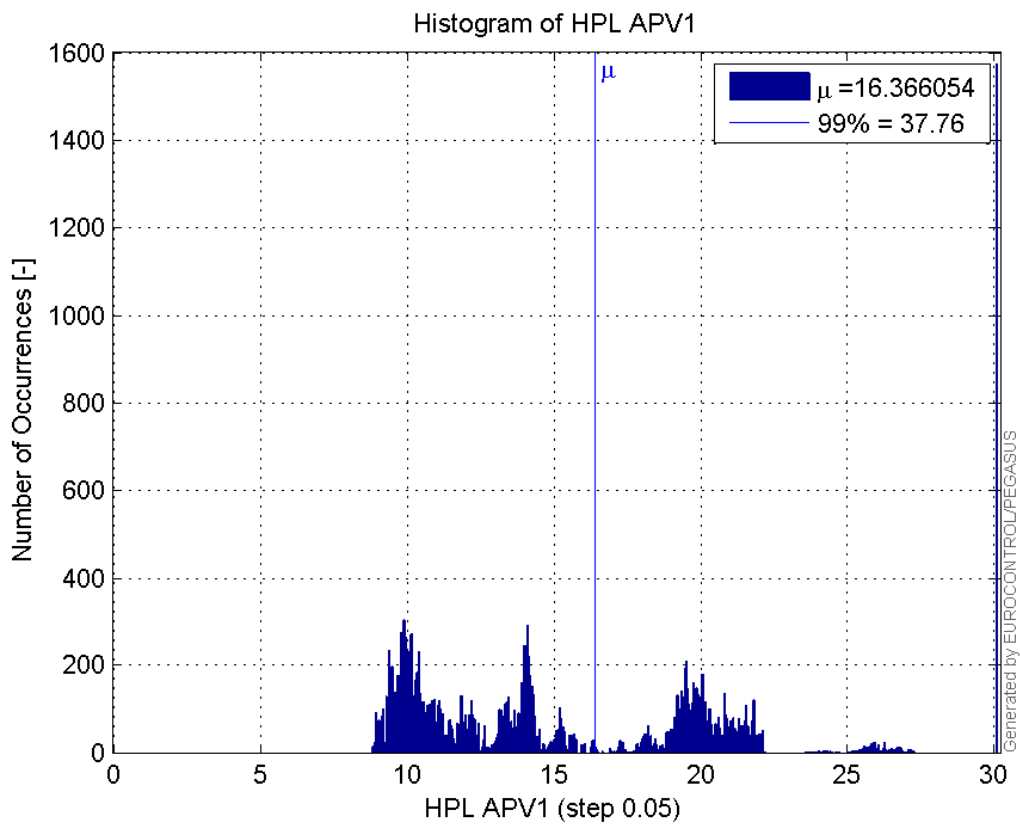
Histogram of HPE APV1:



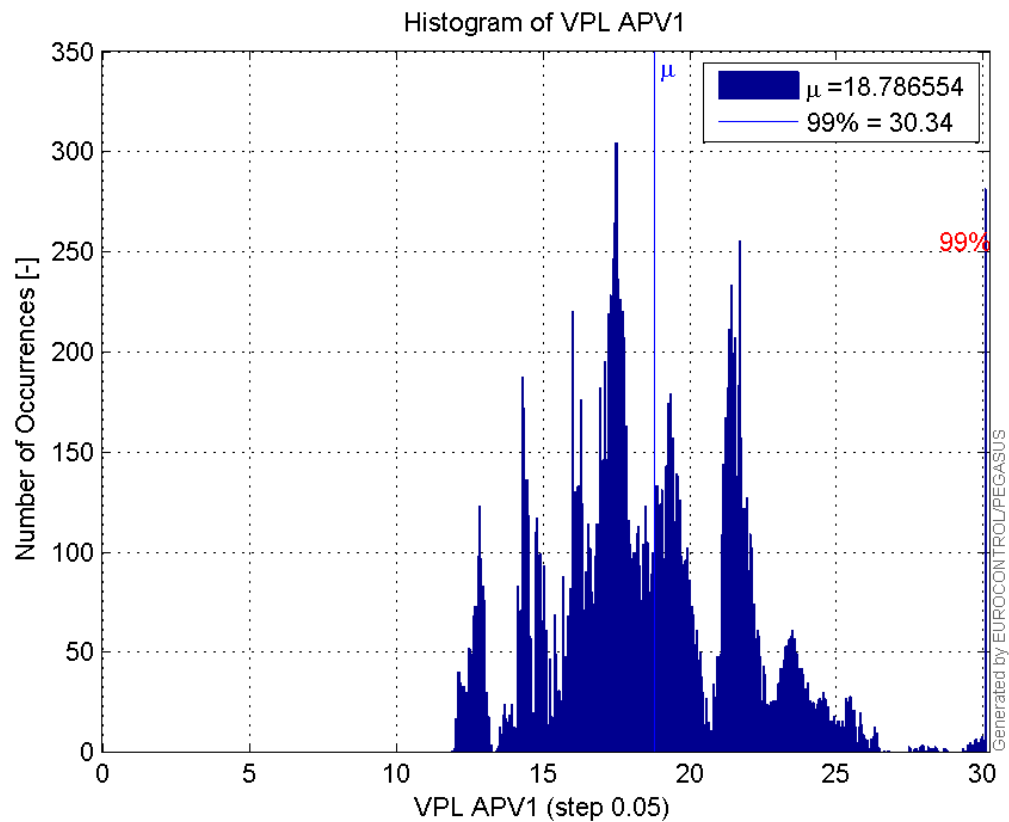
Histogram of VPE APV1:



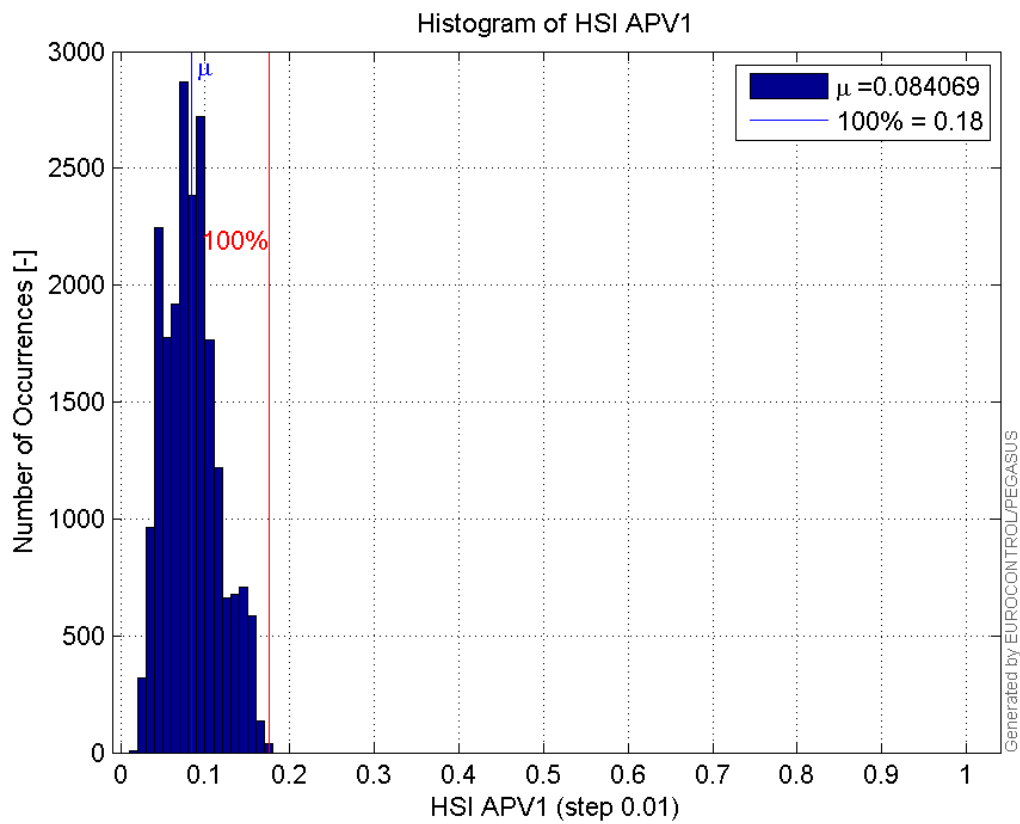
Histogram of HPL APV1:



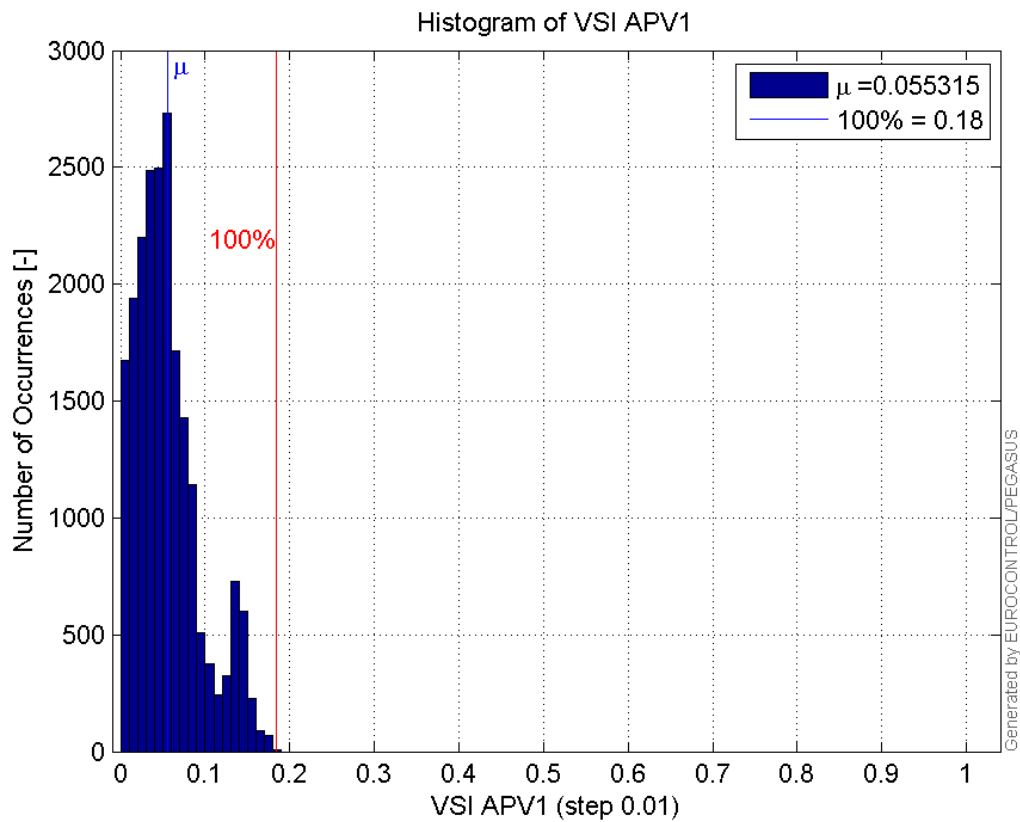
Histogram of VPL APV1:



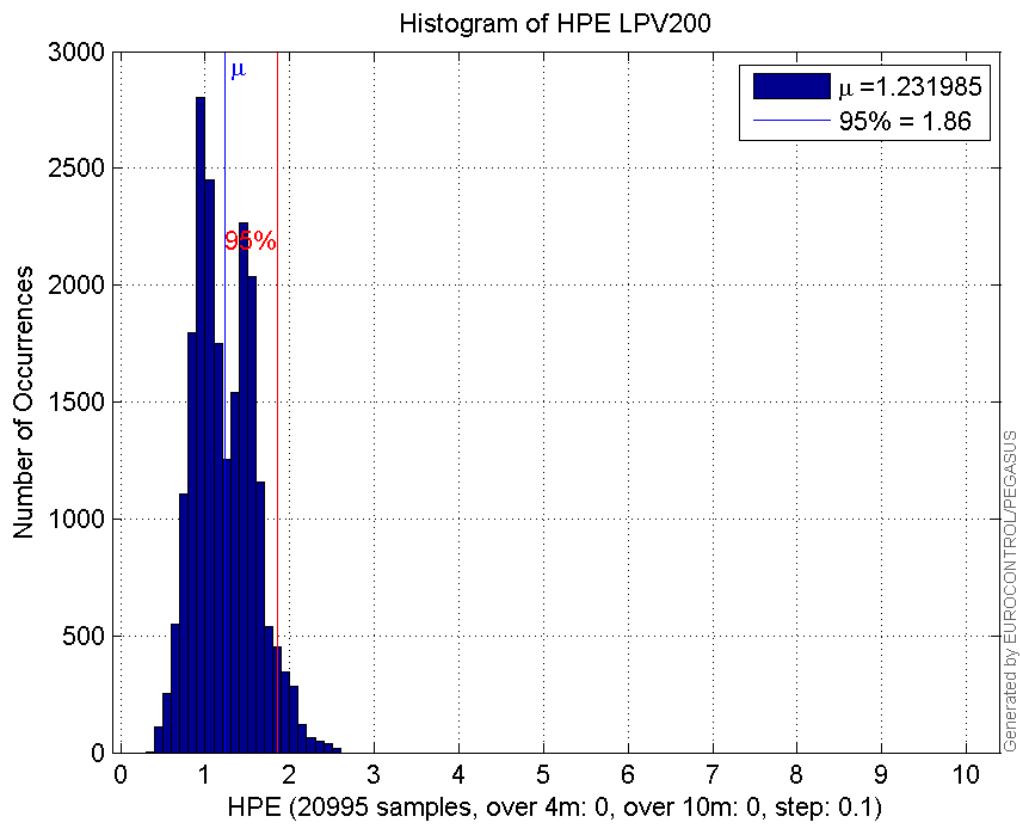
Histogram of HSI APV1:



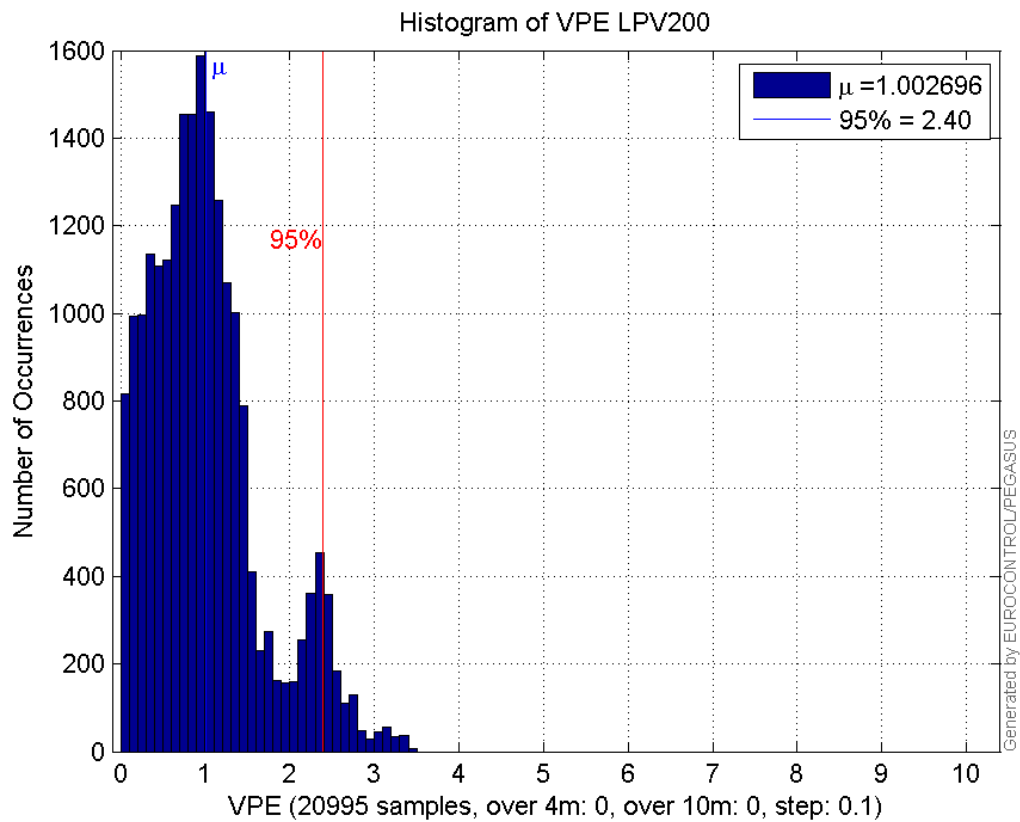
Histogram of VSI APV1:



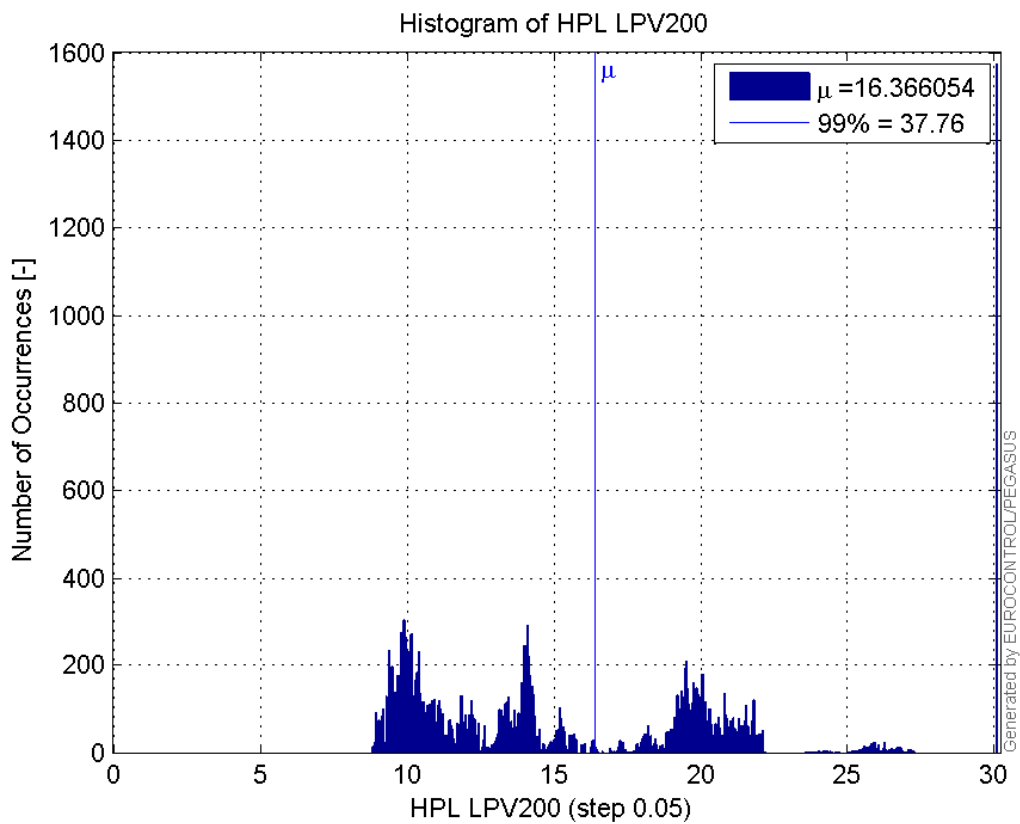
Histogram of HPE LPV200:



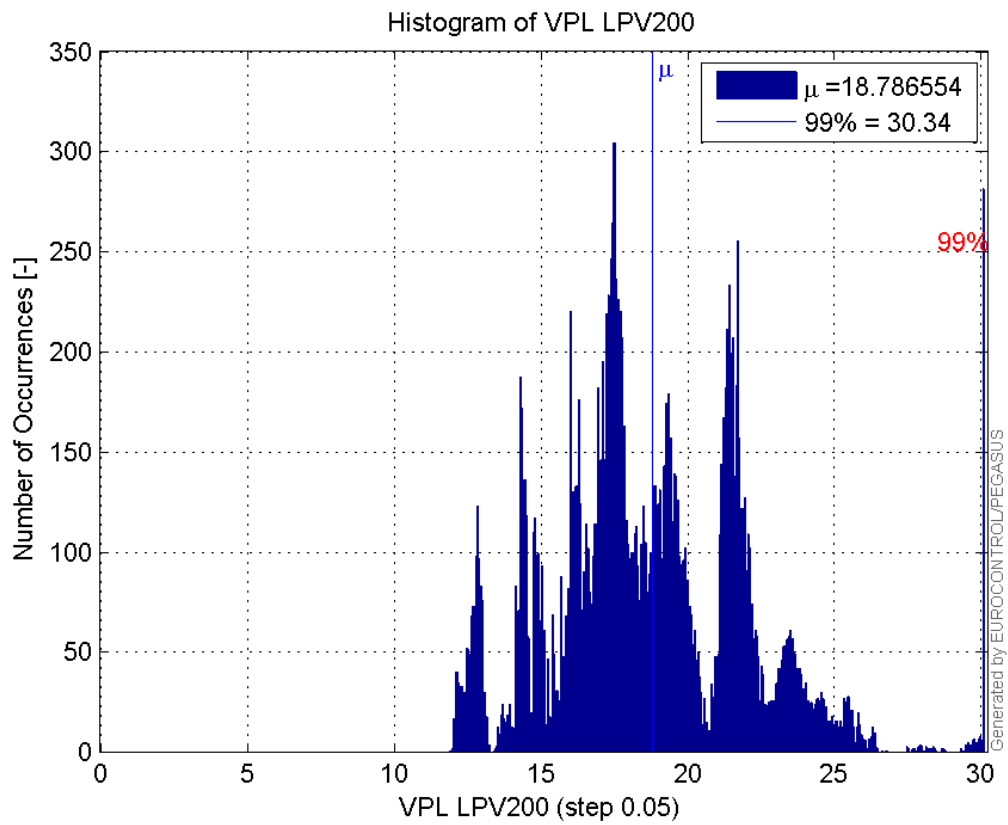
Histogram of VPE LPV200:



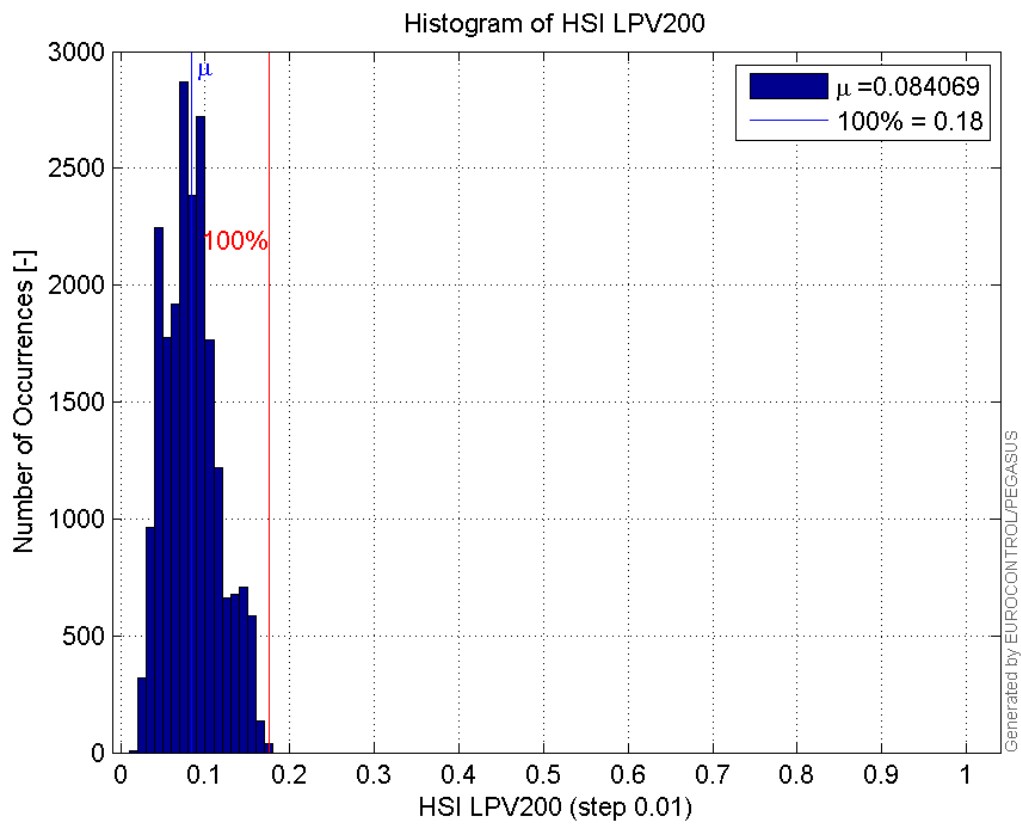
Histogram of HPL LPV200:



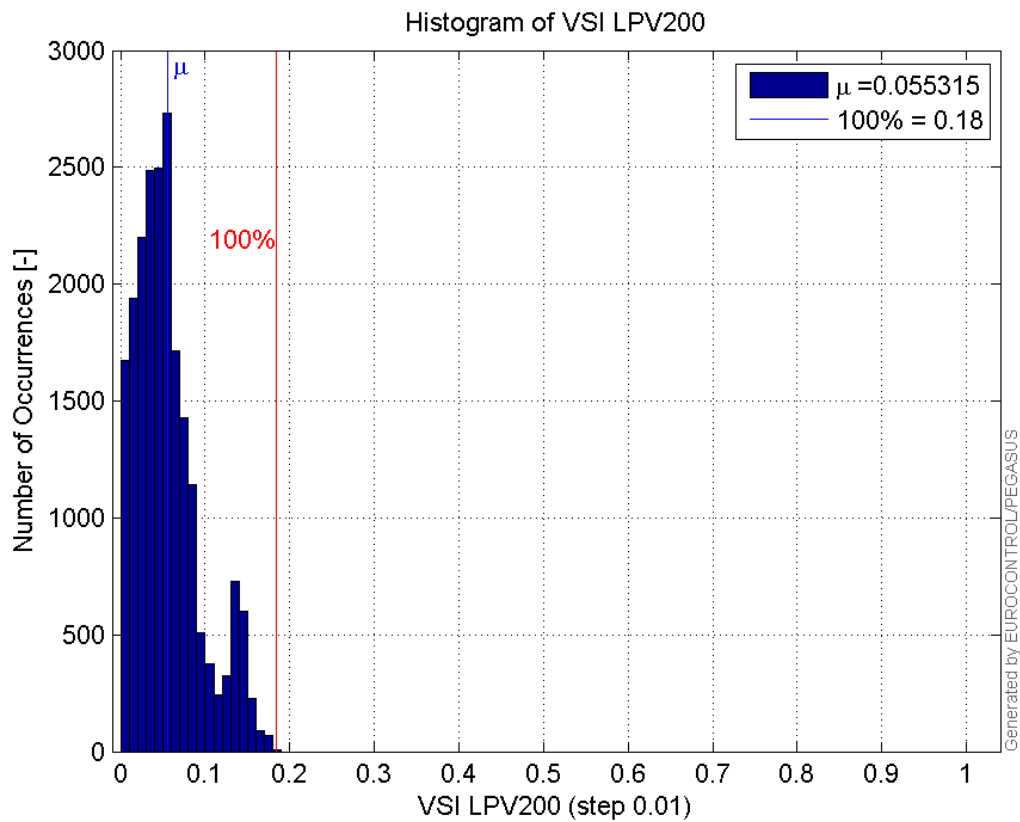
Histogram of VPL LPV200:



Histogram of HSI LPV200:

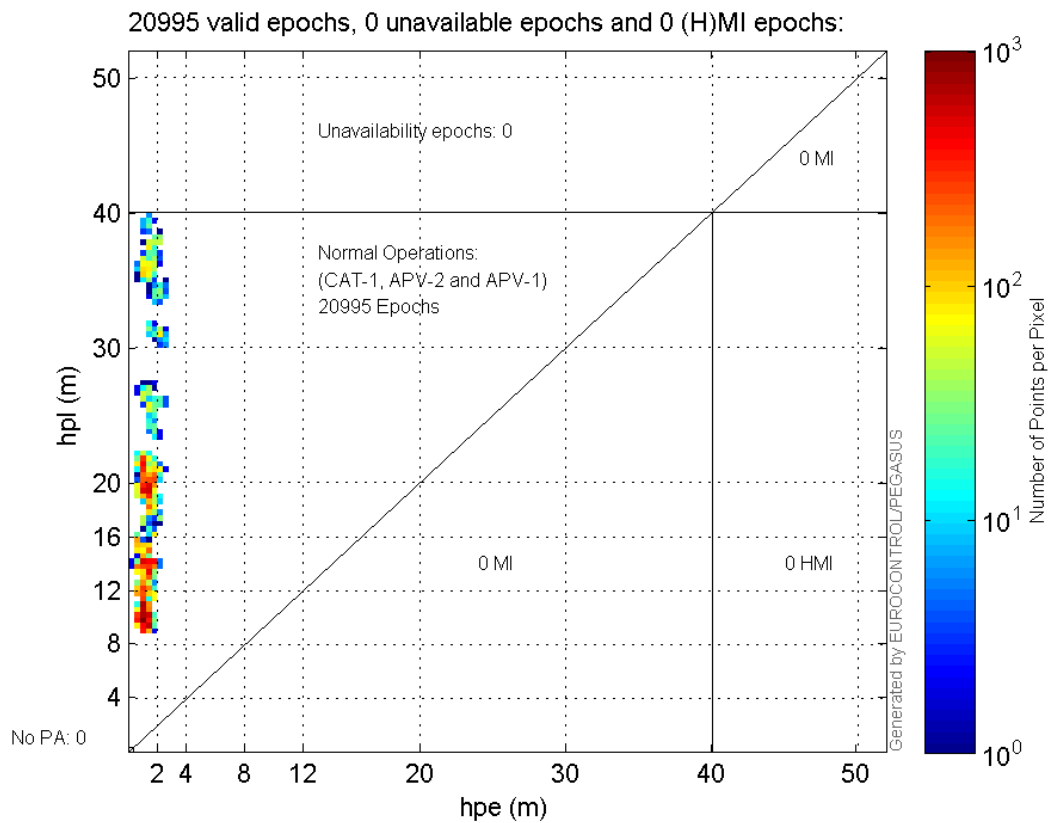


Histogram of VSI LPV200:



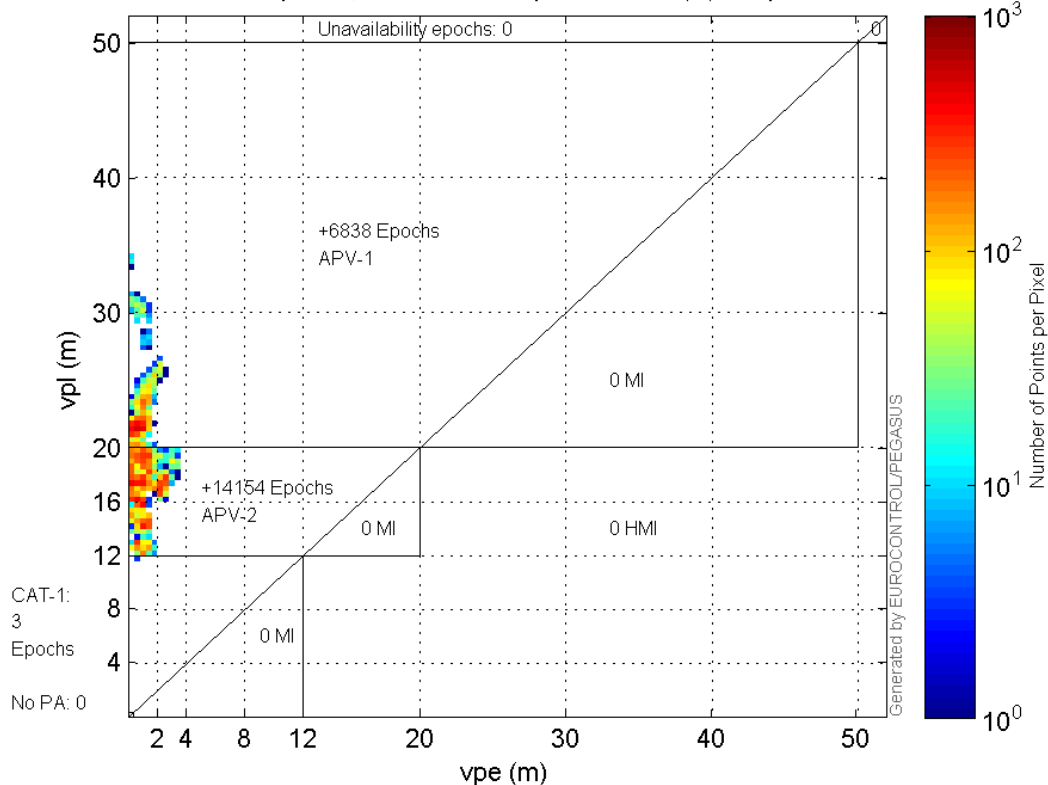
Stanford Plots

Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:

20995 valid epochs, 0 unavailable epochs and 0 (H)MI epochs:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.2.1
input_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_20EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_20EGNOS/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	222.027
mi_numbers	results	0

Range Domain

start: 07:31:05 20.10.2015 (week: 1867 sec: 199865)
end: 13:27:00 20.10.2015 (week: 1867 sec: 221220)
duration: 05:55:56 ..

quality

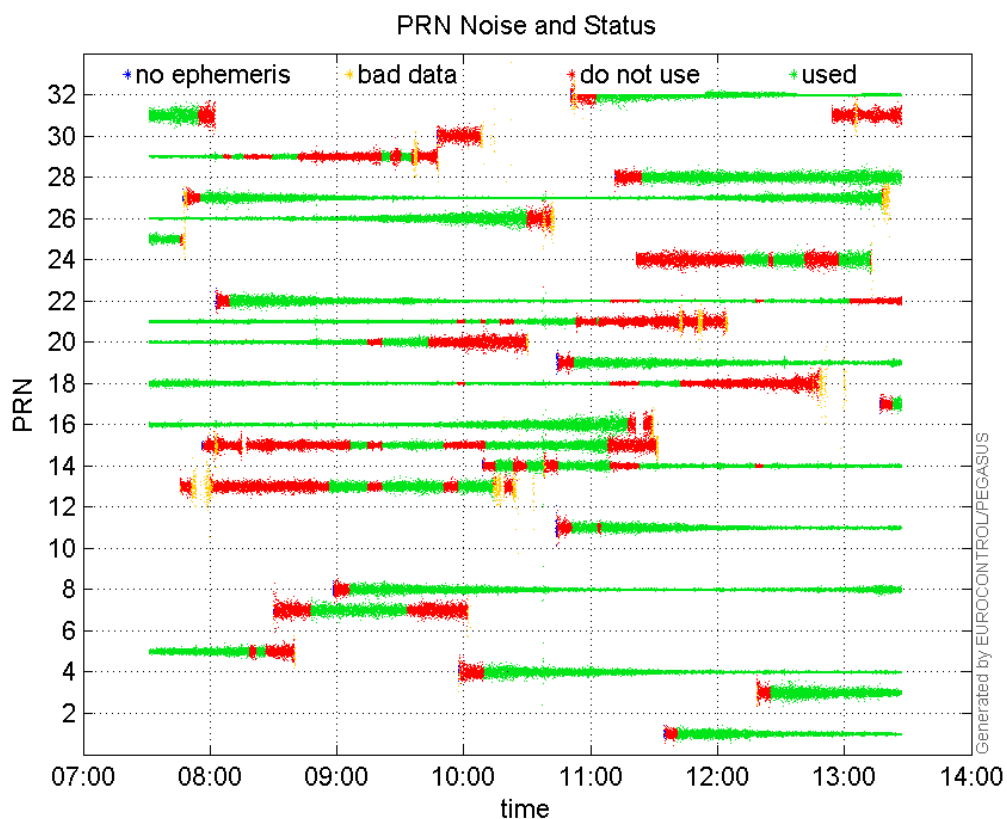
valid samples 21356
total samples 21356

PRN overview

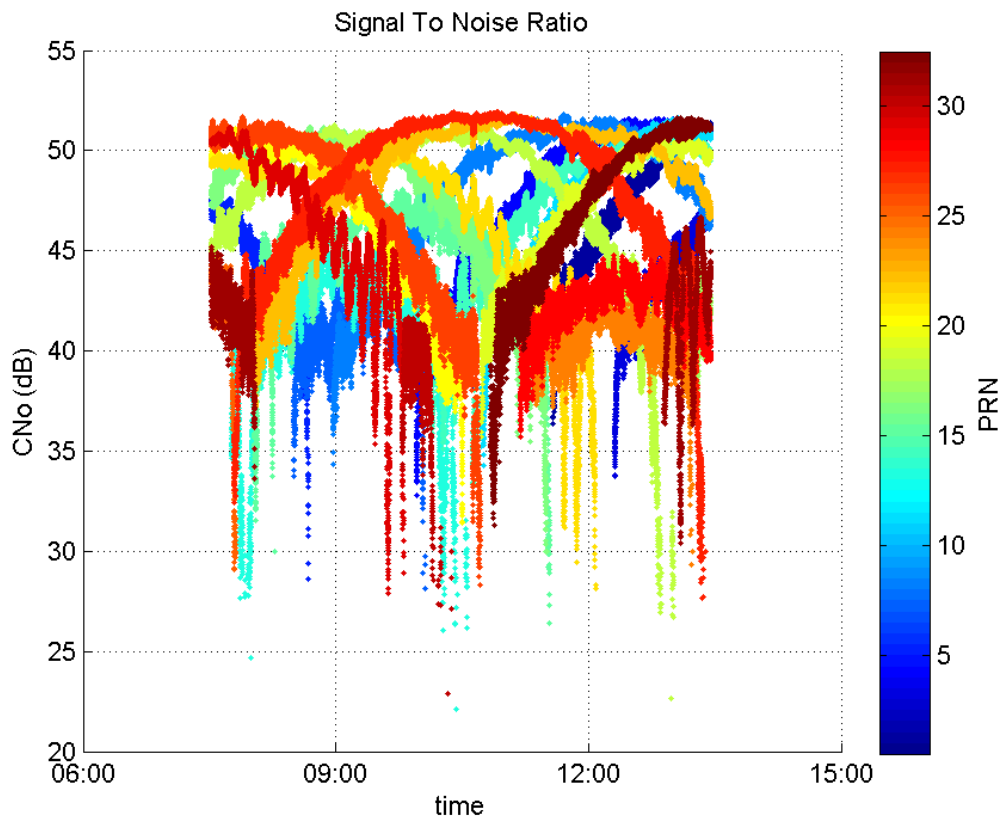
Number of Visible GPS Satellites 26
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



range errors

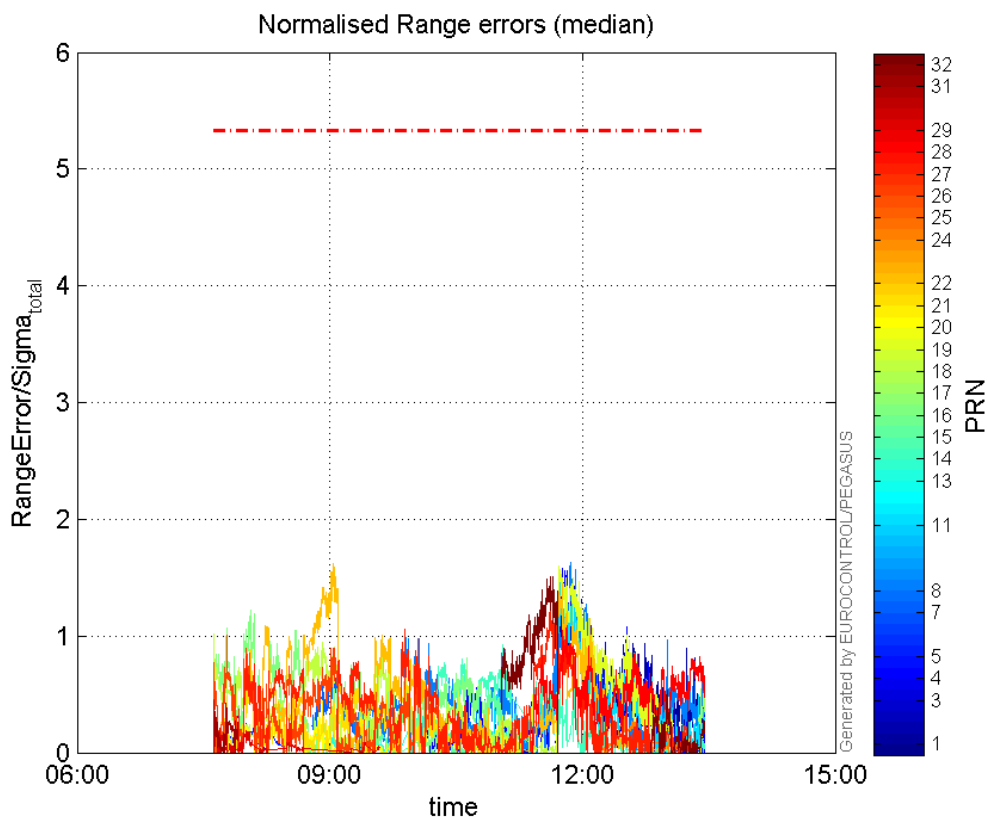
Number of Overbounding Norm Errors 0

Max Norm Errors :

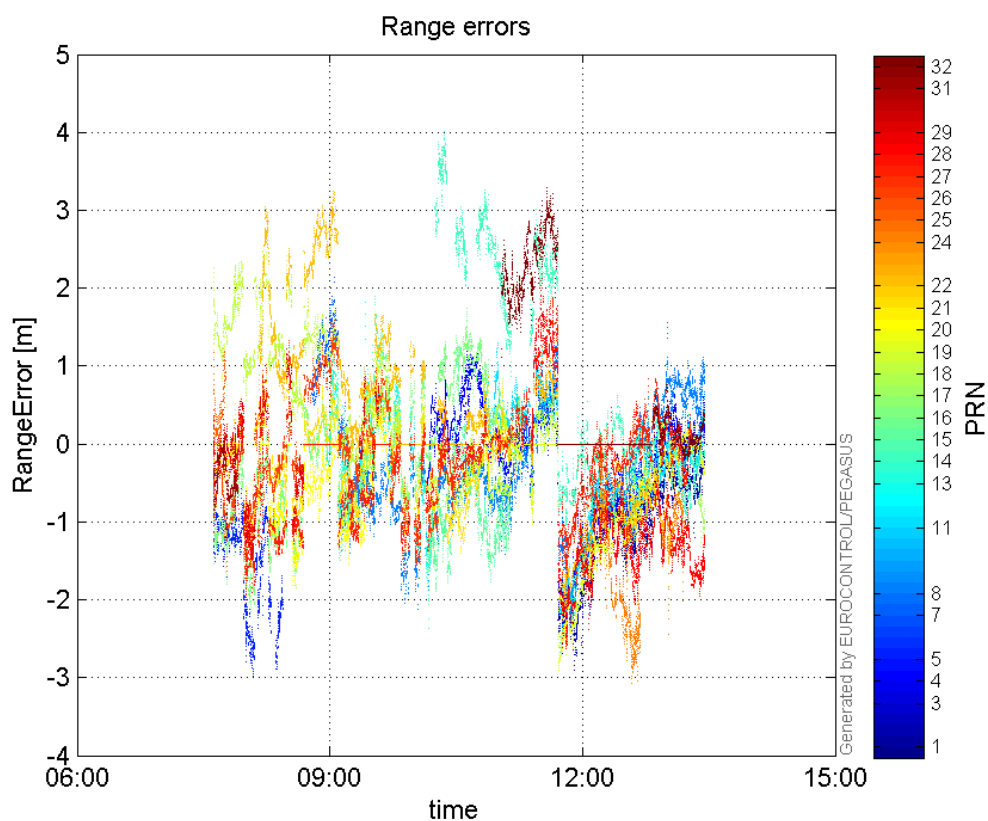
GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1867	215664	1	1.4264	-2.90253	2.03487
1867	218136	3	0.579175	-1.52624	2.63519
1867	215128	4	1.57547	-2.34576	1.48893
1867	201270	5	0.312275	-1.26452	4.04938
1867	205398	7	0.782869	2.13747	2.7303
1867	215491	8	1.62536	-2.25189	1.38547
1867	215055	11	1.48518	-2.67027	1.79795
1867	209423	13	0.700259	-2.36052	3.37093
1867	214946	14	1.08986	2.09306	1.92049
1867	212236	15	0.544655	-1.57668	2.89482
1867	201801	16	1.22045	-2.11787	1.73531
1867	221084	17	0.544666	-1.31996	2.42342
1867	200259	18	1.01822	2.2662	2.22565
1867	215006	19	1.5961	-2.87084	1.79866
1867	206004	20	0.414647	-1.55366	3.74693
1867	201802	21	0.884352	-1.58804	1.79571
1867	205321	22	1.62354	3.24175	1.99672
1867	217815	24	0.314875	-2.5672	8.15308
1867	200259	25	0.44444	1.17086	2.63445
1867	200789	26	1.00275	-1.63738	1.6329
1867	214721	27	1.27159	1.80615	1.42039
1867	215315	28	1.06998	-2.63403	2.46175

1867	200263	29	0.459693	-0.723539	1.57396
1867	200263	31	0.443571	-1.04413	2.35393
1867	214649	32	1.50919	3.18006	2.10713

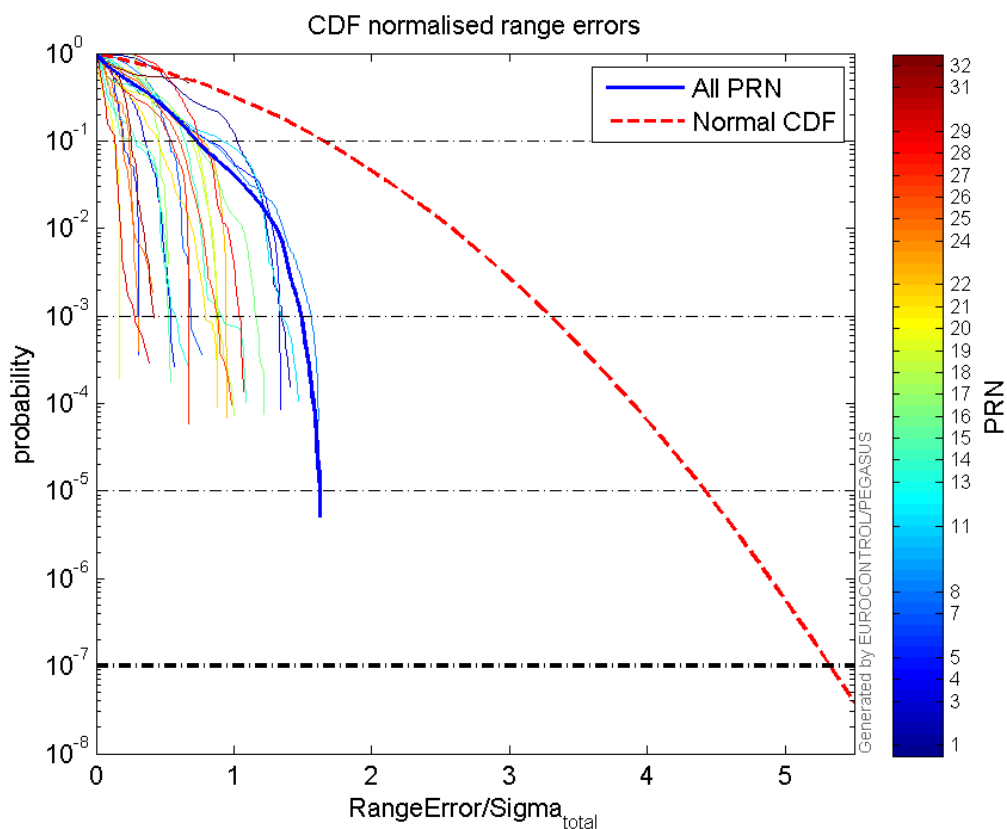
Normalised Range errors (median):



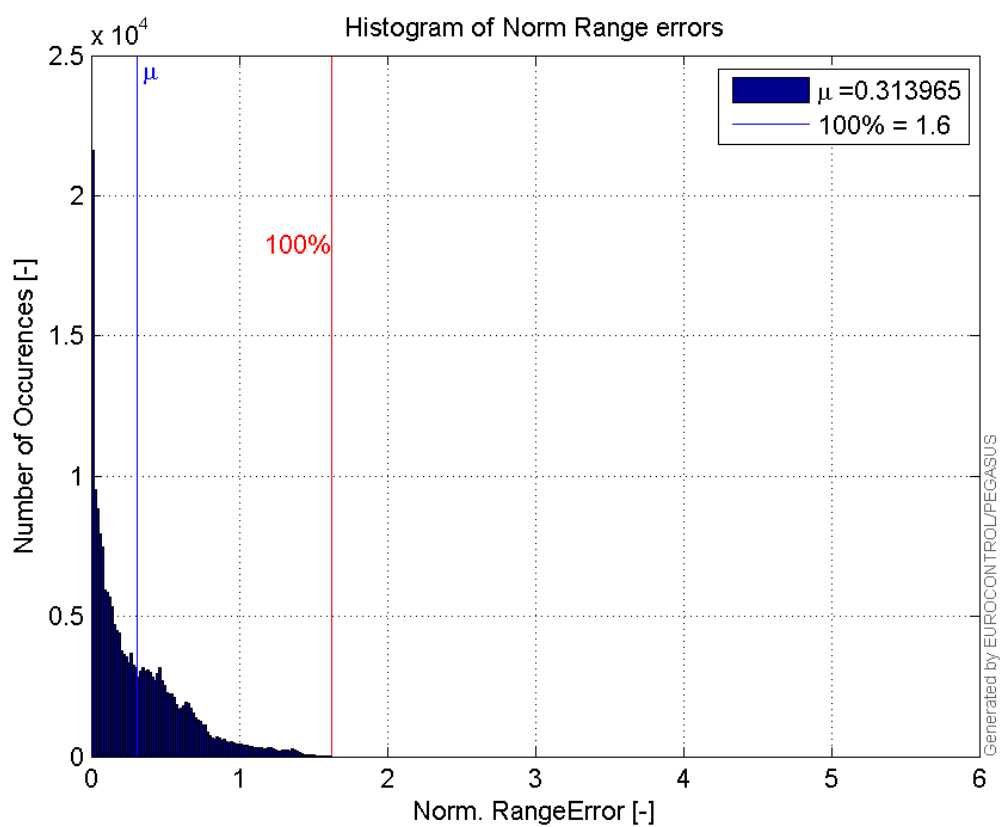
Range errors:



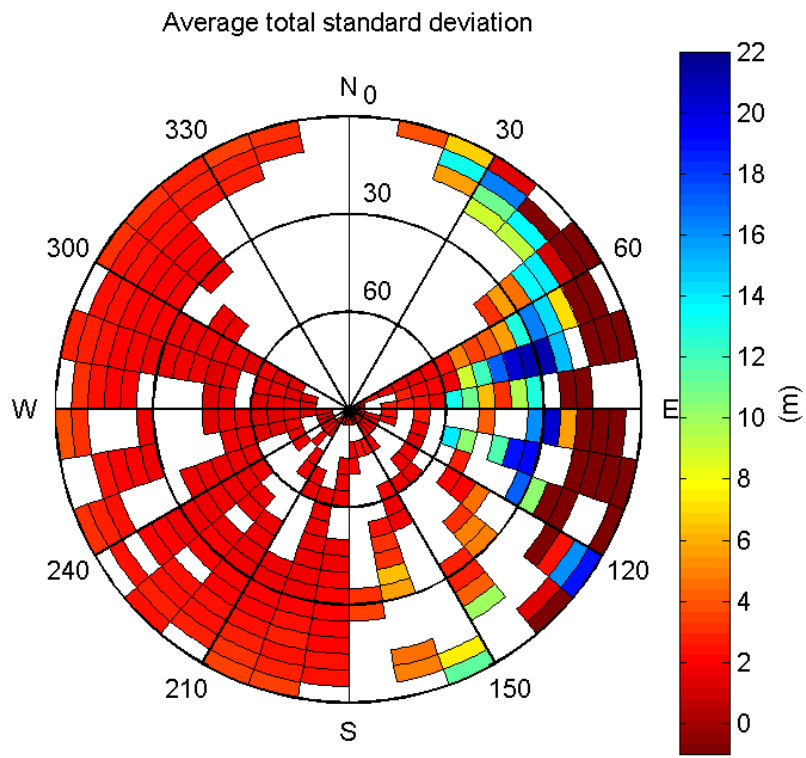
CDF normalised range errors:



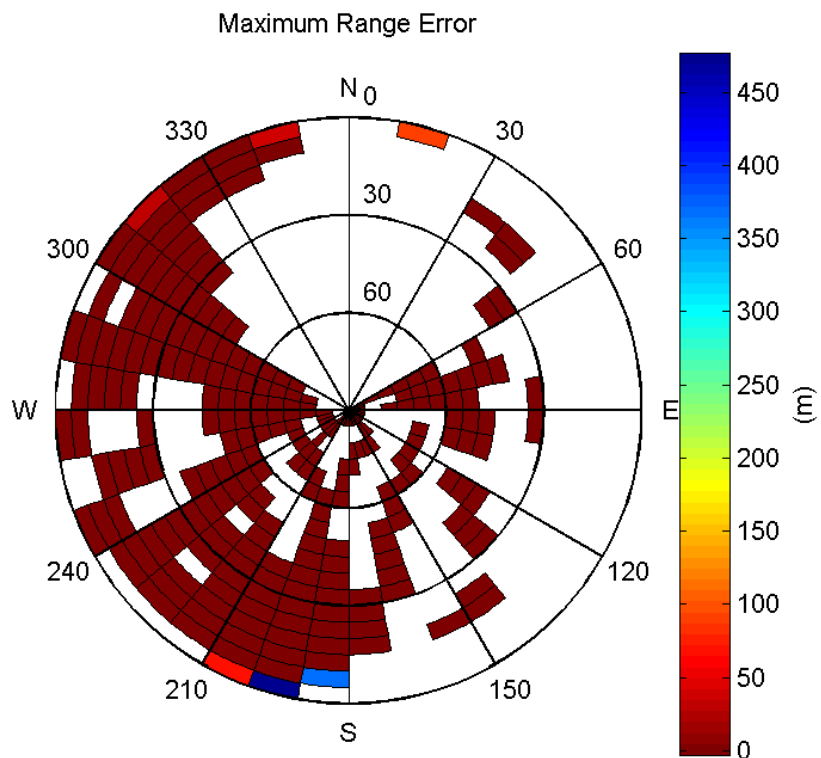
Histogram of Norm Range errors:



Sigma Sky Plot:

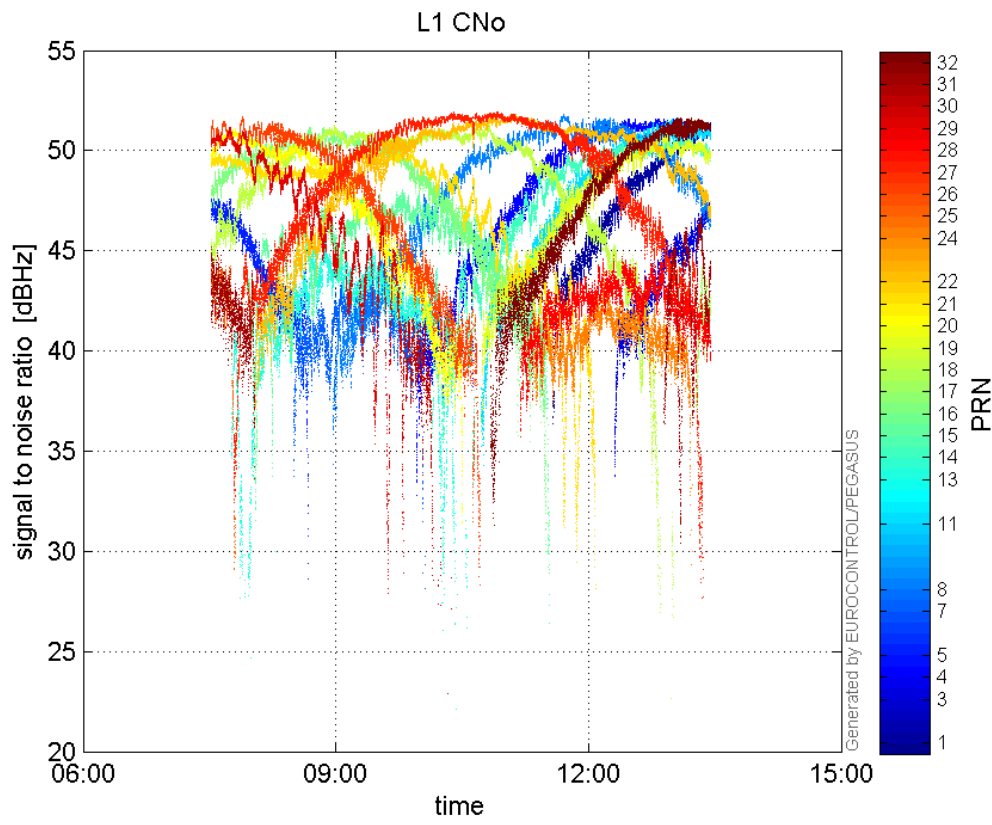


Norm Error Sky Plot:

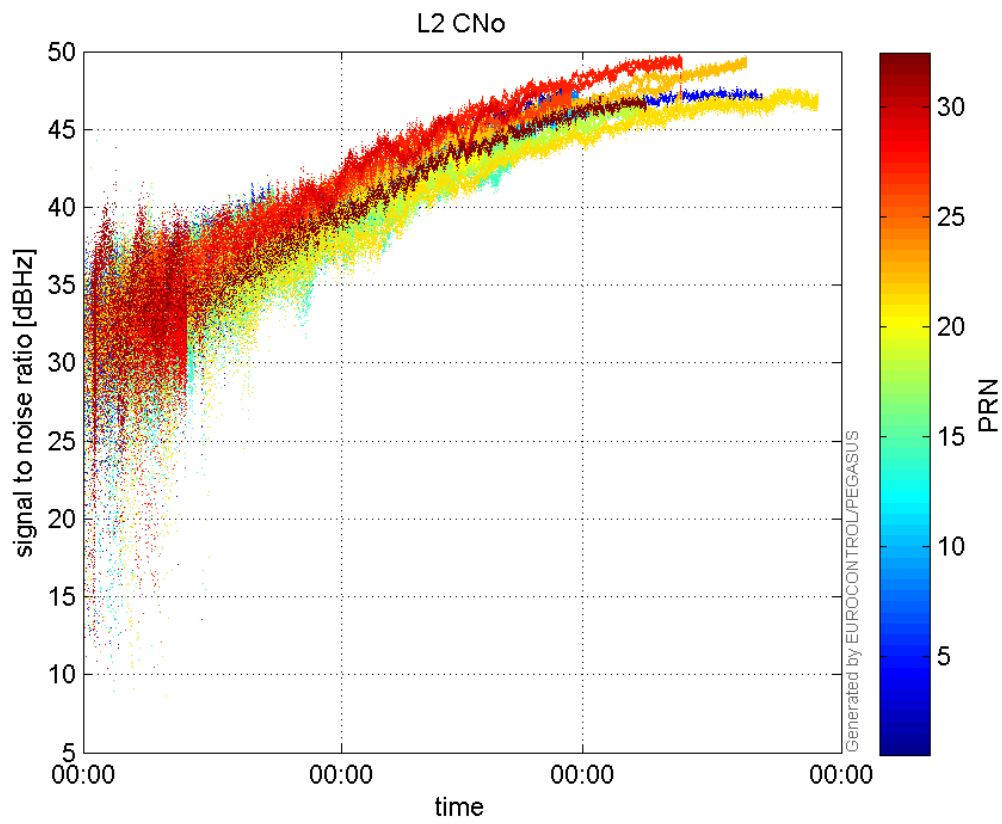


signal quality

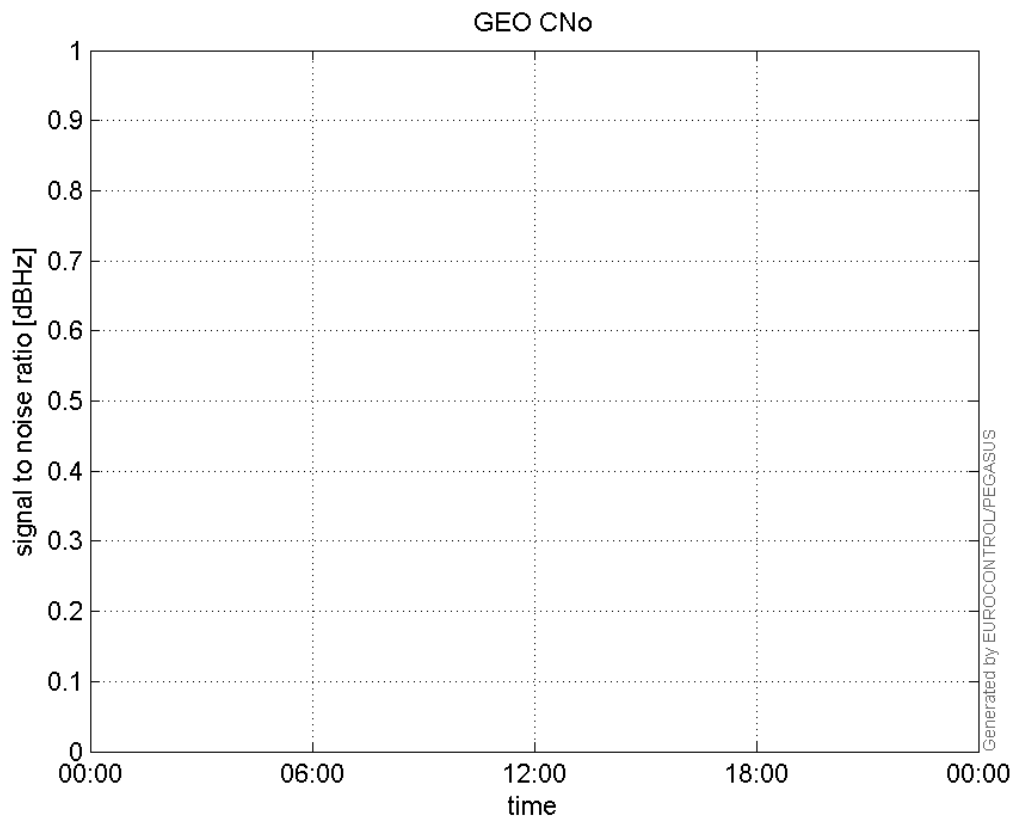
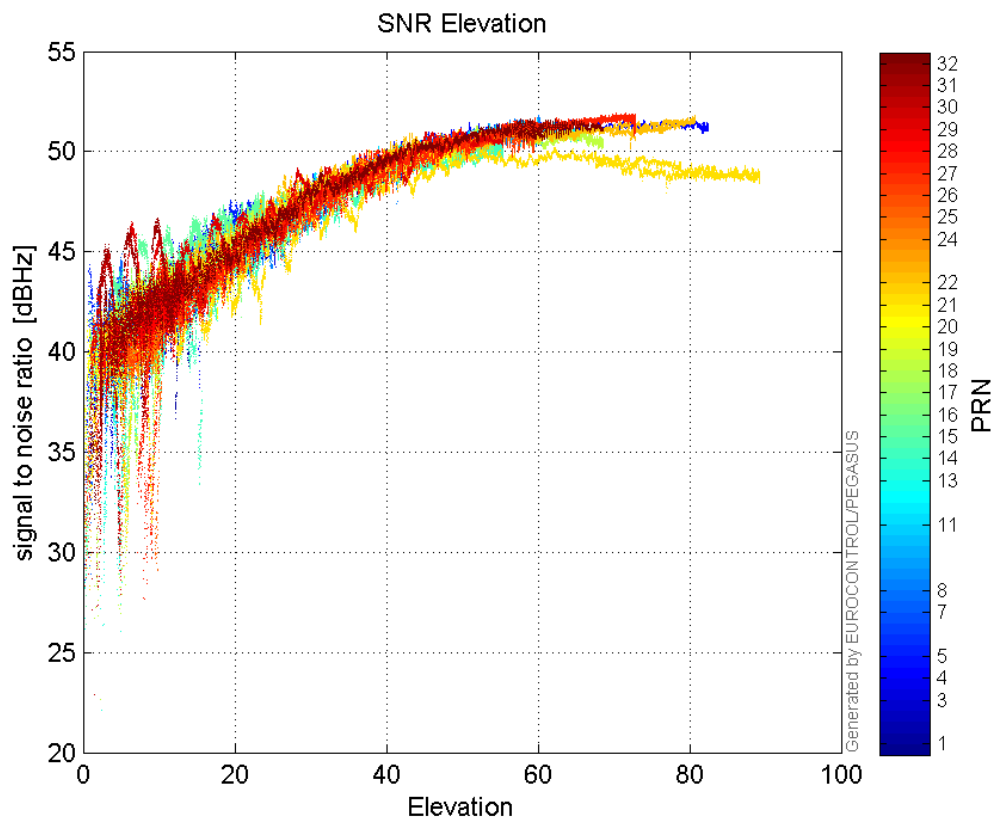
L1 CNo:

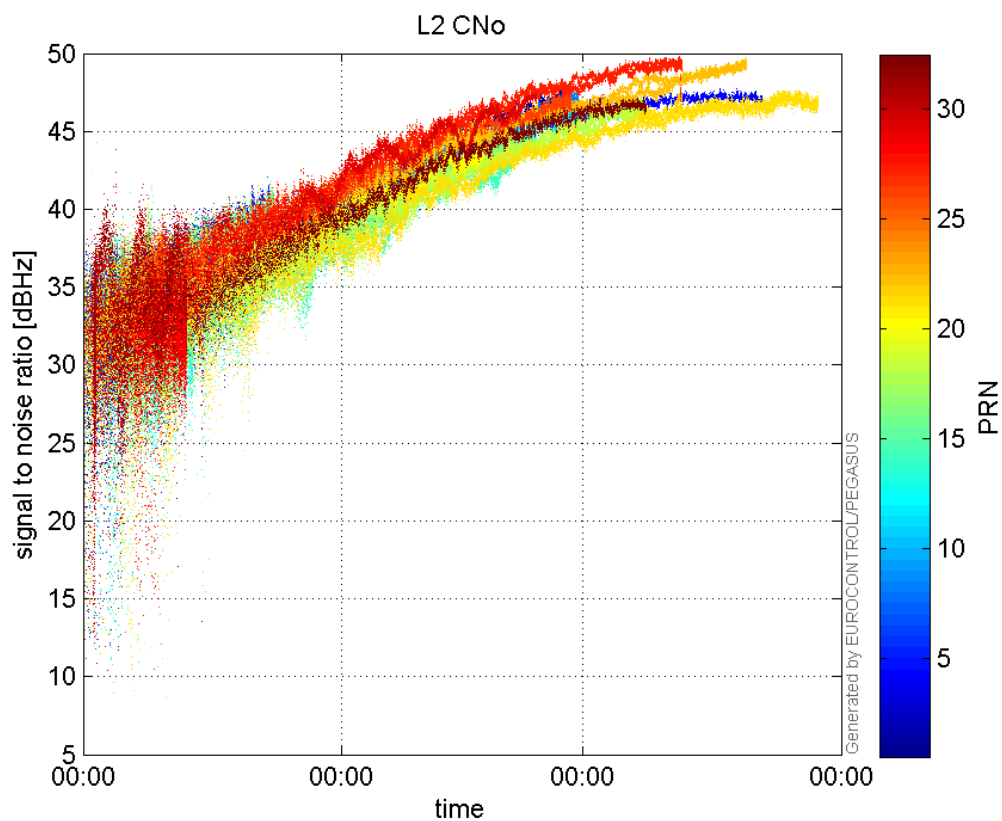


L2 CNo:

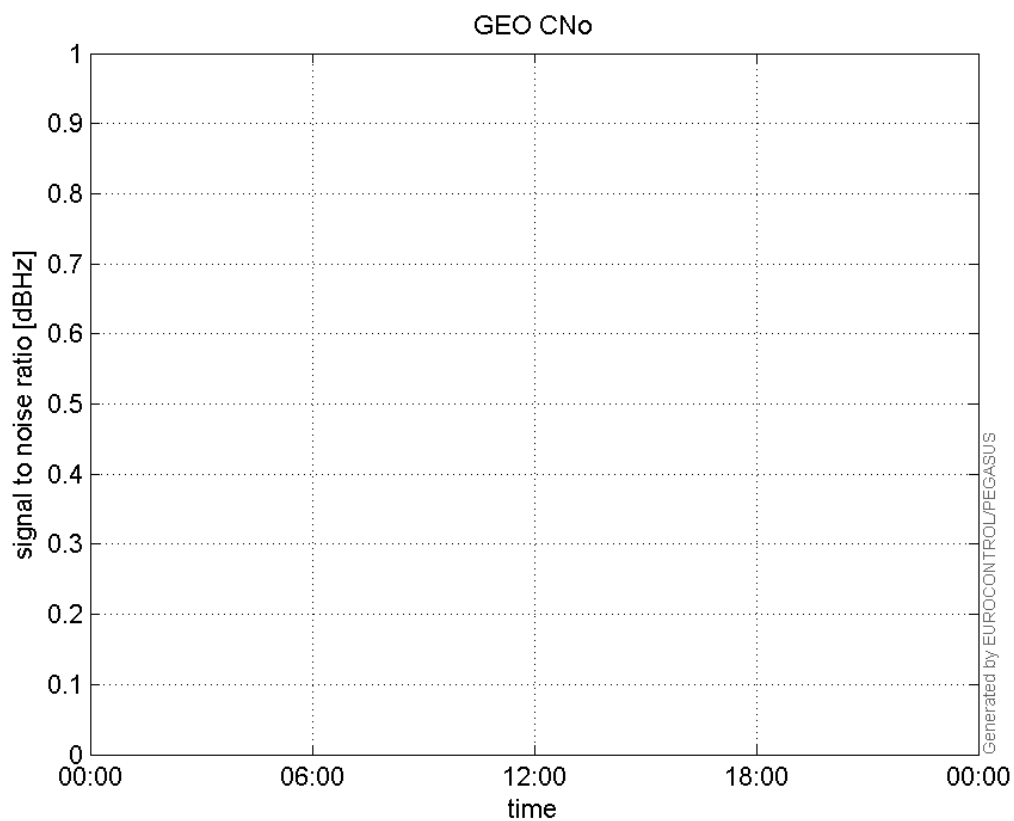


GEO CNo:

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

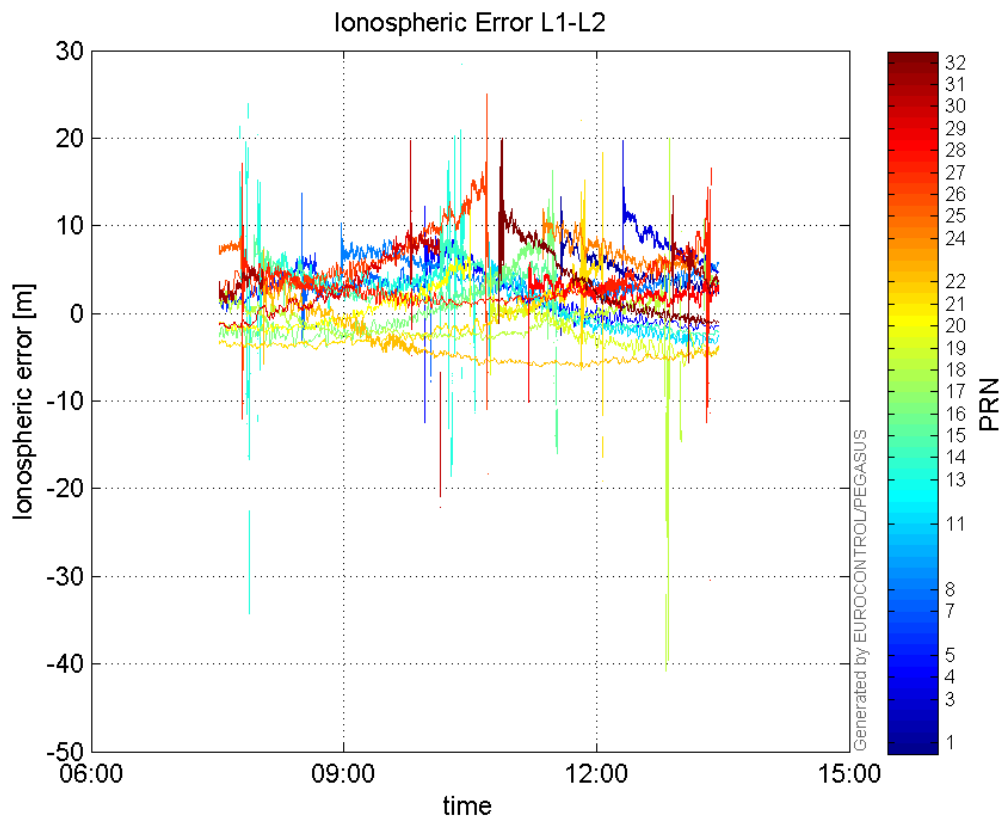


GEO CNo:



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_10_20EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_20EGNOS/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	222.027
mi_numbers	results	0