

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: 06:50:29.129 13.10.2015 (week: 1866 sec: 197429.129)
end: 13:29:35.129 13.10.2015 (week: 1866 sec: 221375.129)
duration: 06:39:06 ..

quality

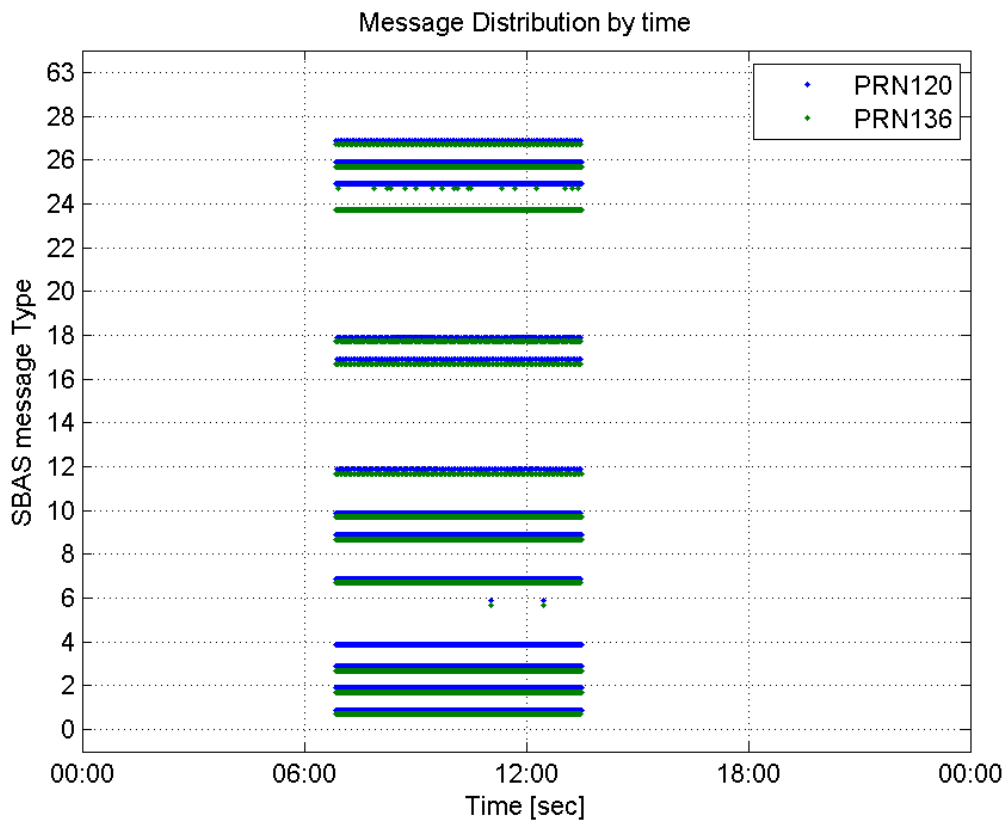
valid samples 47894
total samples 47894
number of SBAS PRNs 2

SBAS SIS Overview

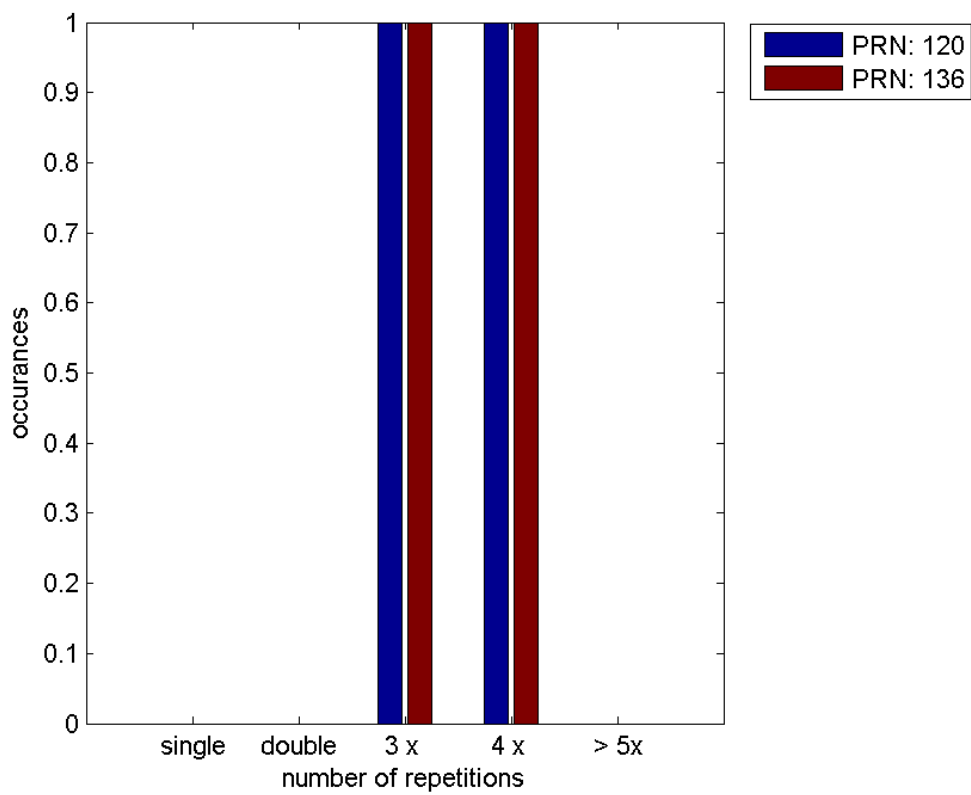
Message Type 6 repetitions :

	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:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

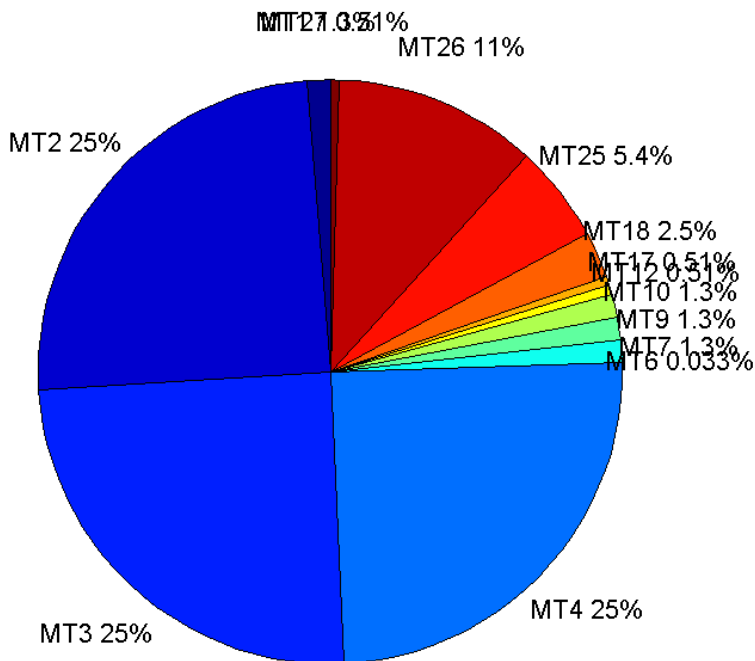
	number of messages	%
MT 0	0	0
MT 1	301	1.25694
MT 2	5926	24.7463
MT 3	5926	24.7463
MT 4	5925	24.7421
MT 5	0	0
MT 6	8	0.0334071
MT 7	300	1.25277
MT 9	301	1.25694
MT 10	300	1.25277
MT 12	122	0.509458
MT 17	122	0.509458
MT 18	610	2.54729
MT 24	0	0
MT 25	1291	5.39107
MT 26	2693	11.2457
MT 27	122	0.509458
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	23947	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	82	79.7333	0	0	0
MT 2	4	8	4.04118	3	0	0
MT 3	4	8	4.04118	3	0	0
MT 4	4	7	4.04136	3	0	0
MT 5	--	--	--	--	--	--
MT 6	1	5107	730.429	1	1	1
MT 7	76	82	79.7592	0	0	0
MT 9	76	81	79.76	0	0	0
MT 10	75	87	79.7993	0	0	0
MT 12	188	203	195.992	121	0	0
MT 17	188	202	195.983	0	0	0
MT 18	4	158	39.0213	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	60	18.5388	0	0	0
MT 26	1	40	8.89116	0	0	0
MT 27	184	205	196	0	0	0

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

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

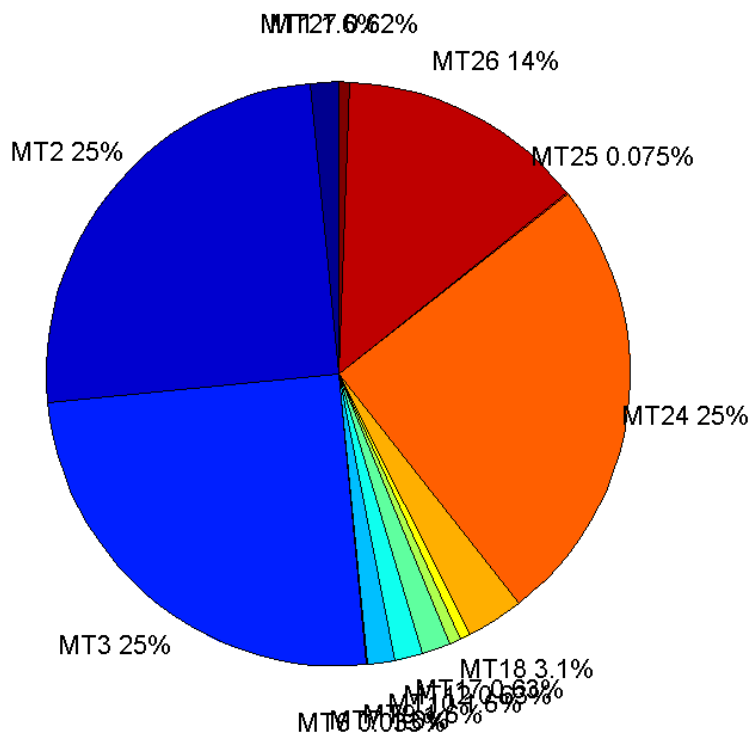
	number of messages	%
MT 0	0	0
MT 1	373	1.55761
MT 2	5984	24.9885
MT 3	5984	24.9885
MT 4	0	0
MT 5	0	0
MT 6	8	0.0334071
MT 7	373	1.55761
MT 9	373	1.55761
MT 10	373	1.55761
MT 12	150	0.626383
MT 17	150	0.626383
MT 18	746	3.11521
MT 24	5983	24.9843

MT 25	18	0.075166
MT 26	3283	13.7094
MT 27	149	0.622207
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	23947	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	68	64.1882	0	0	0
MT 2	4	8	4.00201	2	0	0
MT 3	4	8	4.00217	2	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	5107	730.429	1	1	1
MT 7	64	68	64.1882	0	0	0
MT 9	64	68	64.1882	0	0	0
MT 10	64	68	64.1882	0	0	0
MT 12	160	167	160.443	149	0	0
MT 17	160	167	160.443	0	0	0
MT 18	4	139	32.0832	0	0	0
MT 24	4	8	4.00217	0	0	0
MT 25	255	3438	1373.82	0	0	0
MT 26	4	32	7.29129	0	0	0
MT 27	160	167	160.446	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_13EGNOS/01_User/01_User
Outputfile	System	D:/PEGASUS_DAT_job/JOB/2015_10_13EGNOS/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: 06:50:30 13.10.2015 (week: 1866 sec: 197430)
end: 13:29:36 13.10.2015 (week: 1866 sec: 221376)
duration: 06:39:07 ..

quality

valid samples 23586
total samples 23947

Event tables

Position discontinuity events type no (0)
APV-I discontinuity events type long
APV-35m discontinuity events type long
LPV-200 discontinuity events type long
CAT-I discontinuity events type long

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	206693	1.55141	9.52715	0.162841	0.954198	16.9643	0.0562474
max normVer	206313	1.49029	9.97158	0.149454	1.69575	17.0503	0.0994557
max HPE	203680	2.38385	24.3613	0.0978539	-0.0437063	22.0279	0.00198413
max VPE	206100	1.45024	14.9195	0.0972042	2.04358	24.2044	0.0844302
min HPL	214323	0.688088	8.16869	0.0842348	0.0172617	10.7817	0.00160102
min VPL	214255	0.672092	8.37463	0.0802533	-0.0512466	10.6849	0.00479617

CAT-I discontinuity events :

#	Epoch	duration	stable period
1	214325	228	243
2	214582	6782	21

First Glance analysis

Duration 23947
Number of Samples 23947
Number of invalid sample 361
Number of no position solution samples 0
Number of missing sample 0
Logging Loss 0
Processing Loss 1.5075
Number of Misleading Information 0
Data gaps 0
Discontinuities 0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
23586	23533	23406	361	23406

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.56574	1.56553	1.56601	0.805853	1.56601
HPEscale 95%	NaN	5.13518	5.1386	3.51452	5.1386
VPE 95%	1.16747	1.16843	1.17018	0.397732	1.17018
VPEscale 95%	NaN	3.32587	2.33076	0.416632	2.33076

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.997753	0.992368	0.0153057	0.992368
measurements	0.984925	0.982712	0.977408	0.015075	0.977408
Operational	0.984925	0.982712	0.977408	0.015075	0.977408

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	31	31	35	31
Long	--	0	0	2	0
Independent	--	0	0	2	0
P(disc.)	NaN	0	0	0.0831025	0
P(slide)	NaN	0.00352696	0.0035461	0.315789	0.0035461

Integrity events :

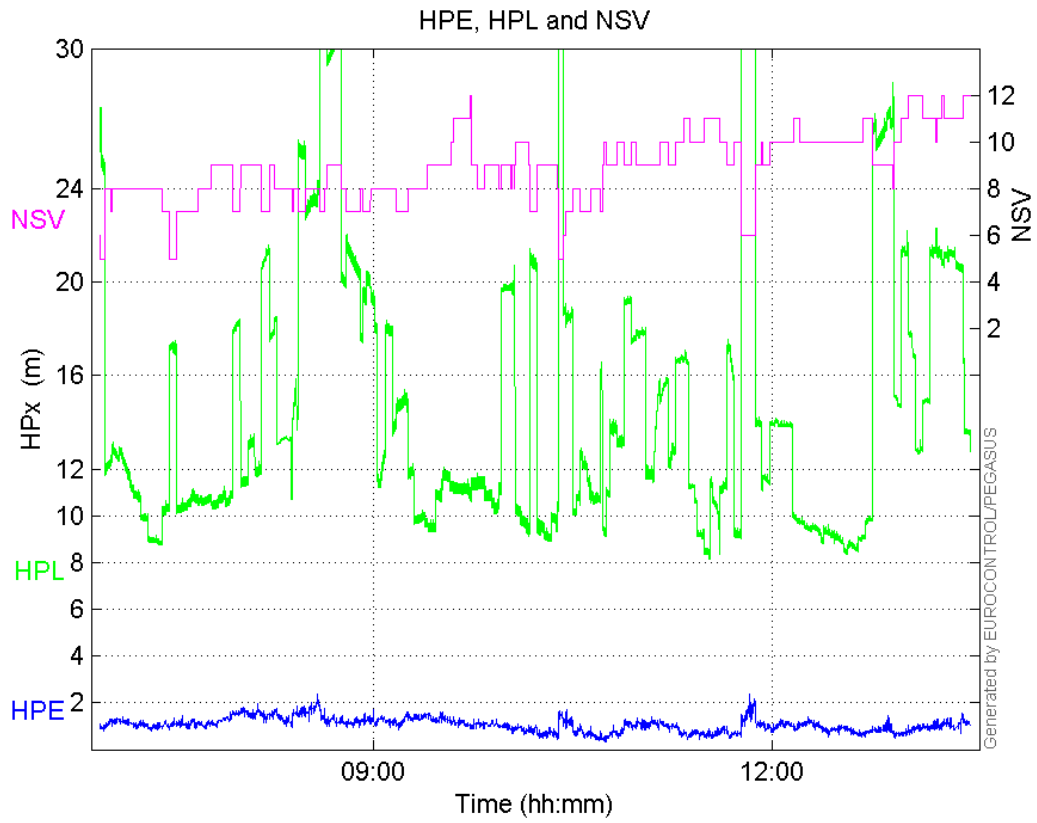
	MI	HMI APV-1	HMI LPV-200	HMI CAT-1	HMI APV-35m
Total	0	0	0	0	0
Horizontal	0	0	0	0	0
Vertical	0	0	0	0	0

Performance Summary :

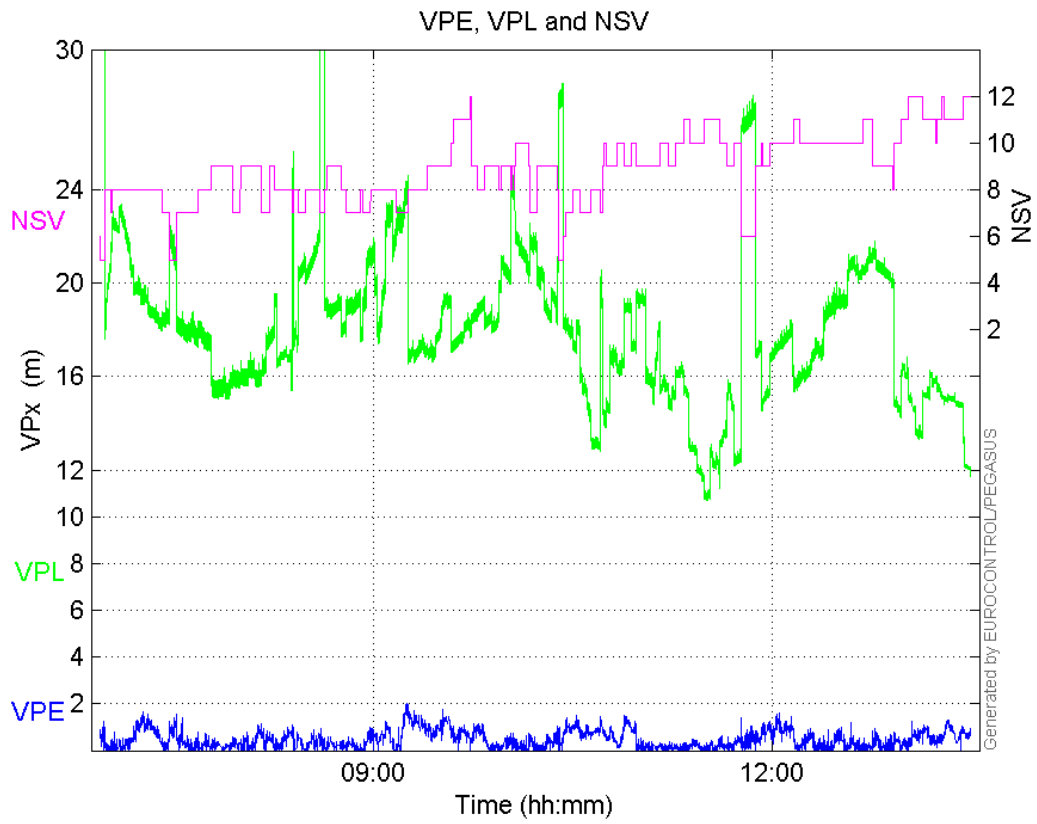
	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	23586	23533	23406	361	23406
SIS Availability	1	0.997753	0.992368	0.0153057	0.992368
Local Availability	0.984925	0.982712	0.977408	0.015075	0.977408
Operational Availability	0.984925	0.982712	0.977408	0.015075	0.977408
HPE 95%	1.56574	1.56553	1.56601	0.805853	1.56601
HPEscale 95%	NaN	5.13518	5.1386	3.51452	5.1386
VPE 95%	1.16747	1.16843	1.17018	0.397732	1.17018
VPEscale 95%	NaN	3.32587	2.33076	0.416632	2.33076
All Discontinuity Events	--	31	31	35	31
Long Discontinuity Events	--	0	0	2	0
Independent Discontinuity Events	--	0	0	2	0
P(discontinuity)	NaN	0	0	0.0831025	0
P(sliding window)	NaN	0.00352696	0.0035461	0.315789	0.0035461
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:

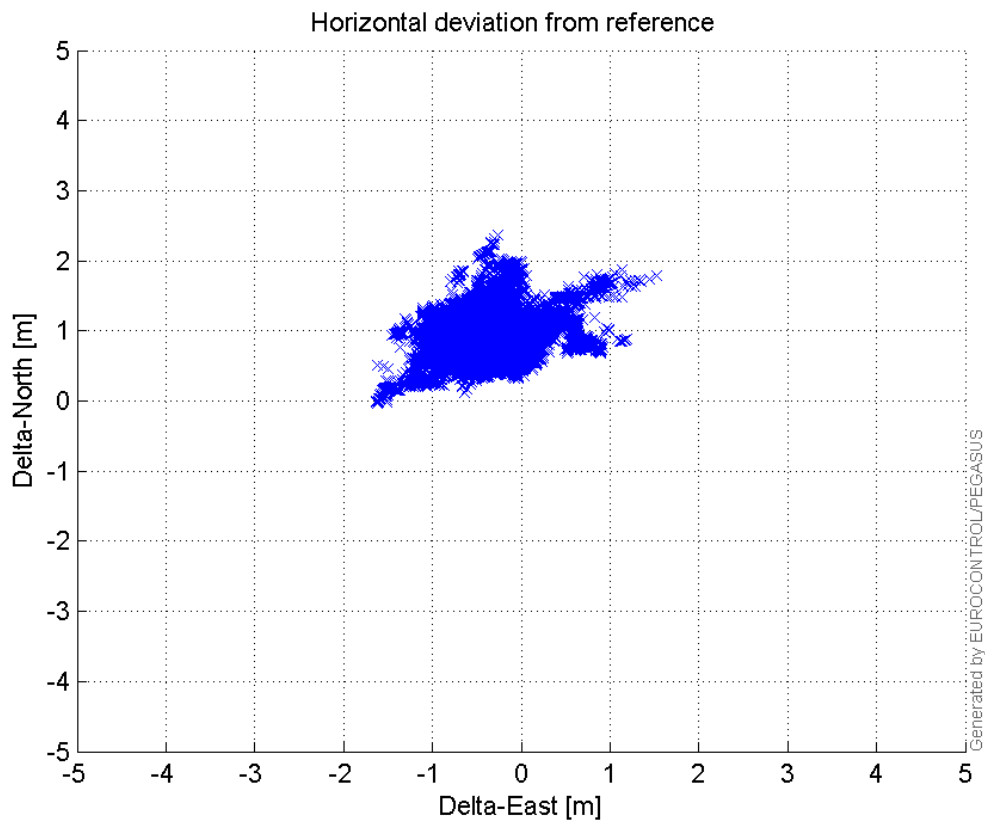


VPE, VPL and NSV:



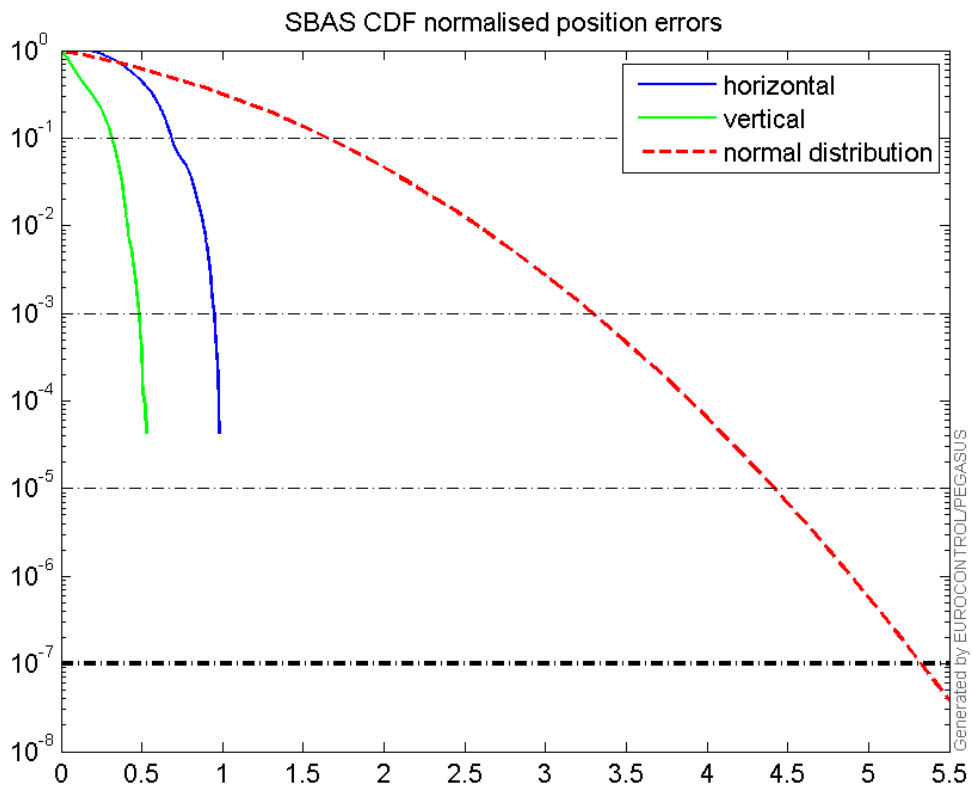
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

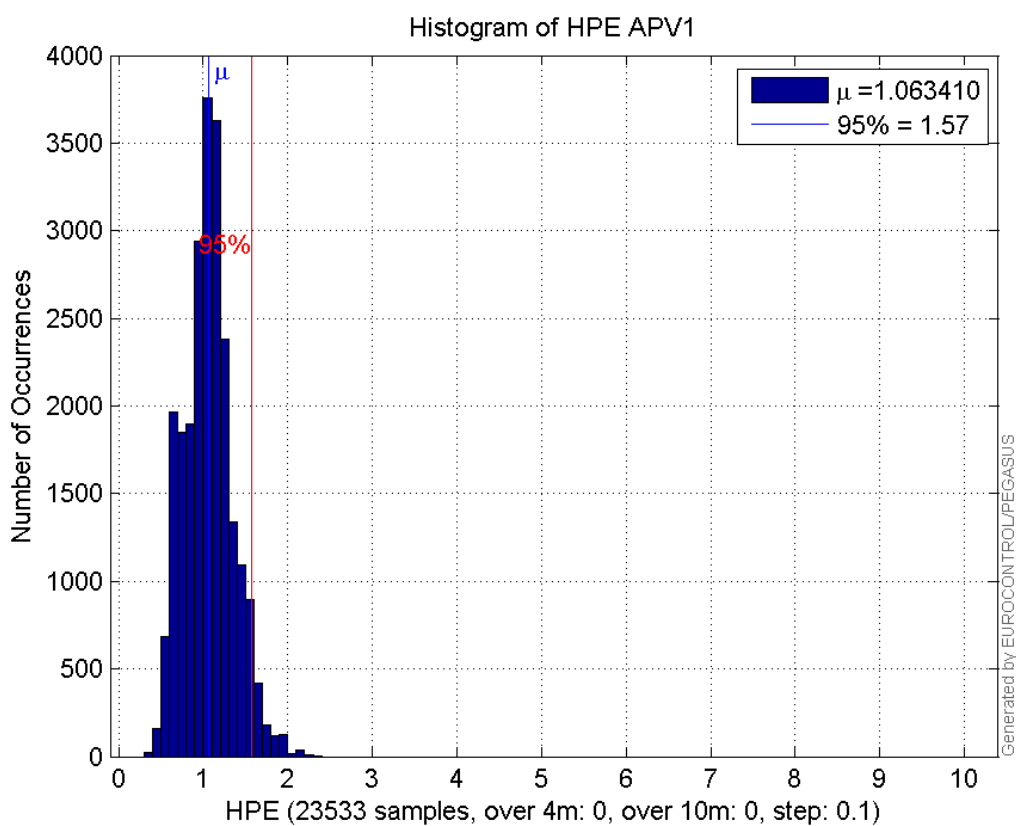
number	23533
sum	25025.216
sum2	28557.375
prctile95	1.5655306
prctile99	1.8632505
number	23533
sum	11119.532
sum2	8417.2226
prctile95	1.1684291
prctile99	1.4098033
number	23533
sum	349770.88
sum2	6133614.5
prctile95	27.132635
prctile99	37.428938
number	23533
sum	425555.78
sum2	7974132
prctile95	22.929525
prctile99	32.361123
number	23533
sum	1864.9301
sum2	166.11366
prctile95	0.12837959
prctile99	0.14688327
number	23533
sum	632.69433
sum2	27.381391
prctile95	0.066517423
prctile99	0.076835379
number	23406
sum	24904.048
sum2	28441.35
prctile95	1.5660118
prctile99	1.8642693
number	23406
sum	11040.004
sum2	8362.9364
prctile95	1.1701764
prctile99	1.4102417
number	23406
sum	346496.71
sum2	6049084.4
prctile95	27.07432
prctile99	37.430276
number	23406
sum	420828.66
sum2	7798000.3
prctile95	22.75952
prctile99	27.461016
number	23406
sum	1860.228
sum2	165.93901
prctile95	0.12846501

prctile99 0.14690598
number 23406
sum 630.55026
sum2 27.34171
prctile95 0.06659303
prctile99 0.076844477

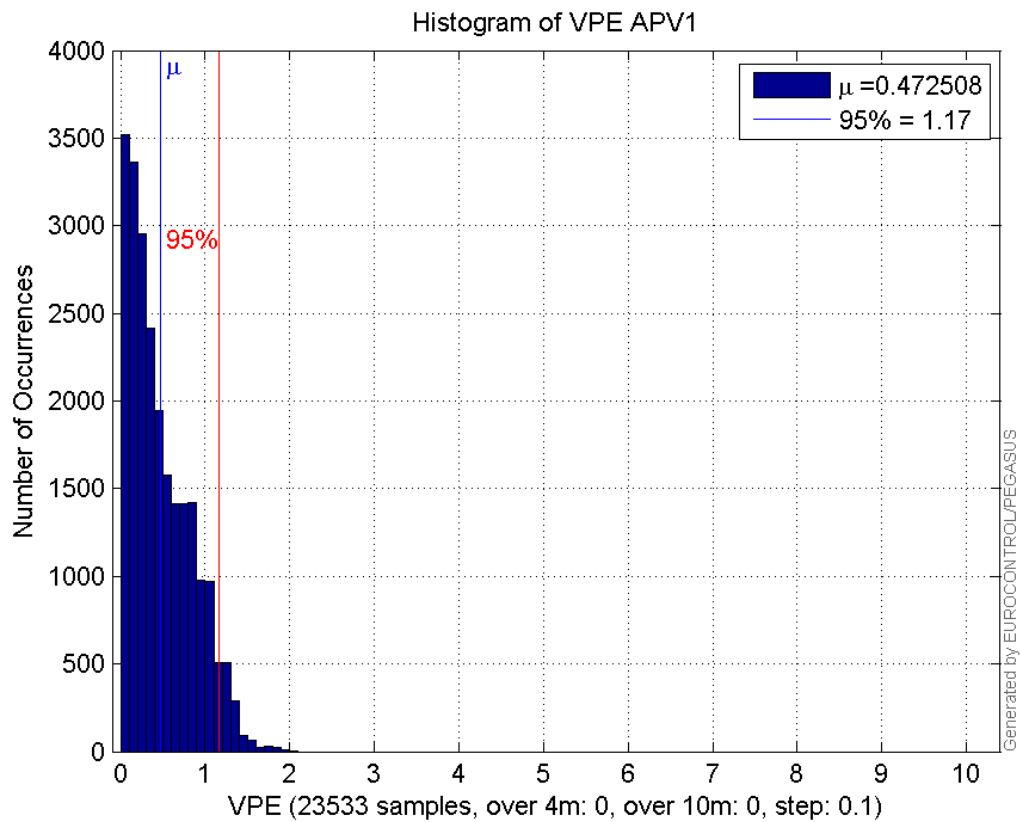
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.06341	0.287519	1.06162	1.56553	1.86325	1.10159
HPL	14.863	6.30333	12.3281	27.1326	37.4289	16.1443
VPE	0.472508	0.366632	0.37801	1.16843	1.4098	0.598061
VPL	18.0834	3.44114	17.8575	22.9295	32.3611	18.4078

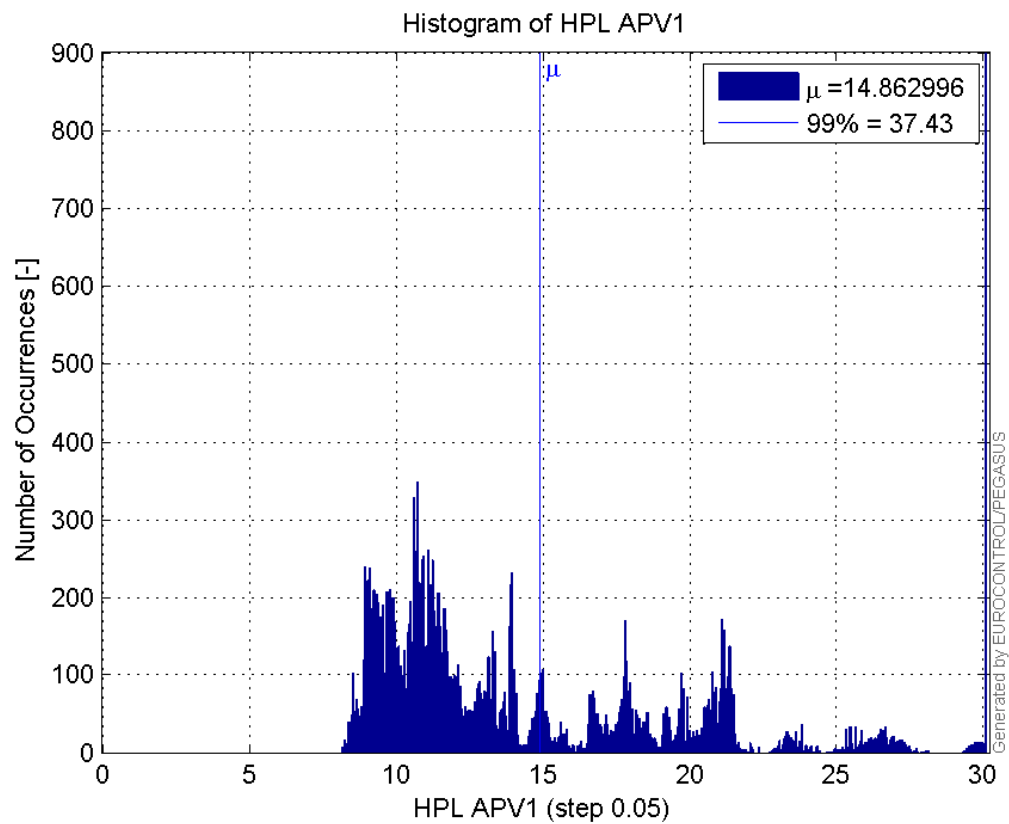
Histogram of HPE APV1:



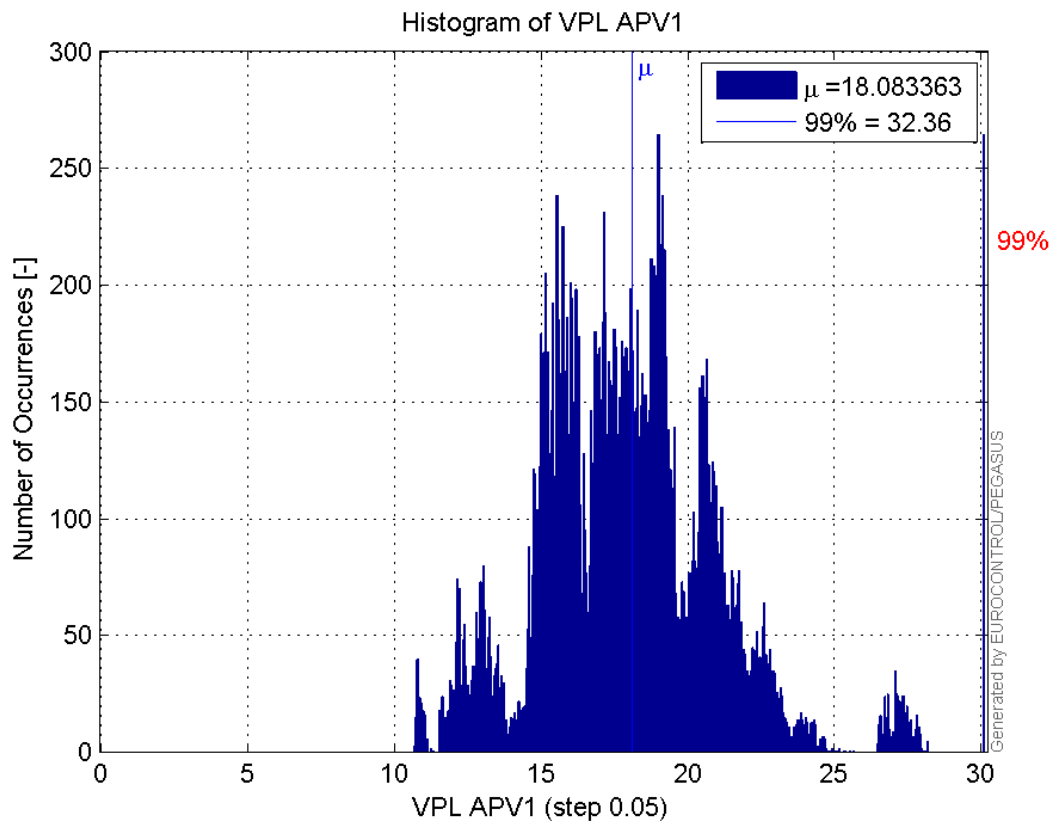
Histogram of VPE APV1:



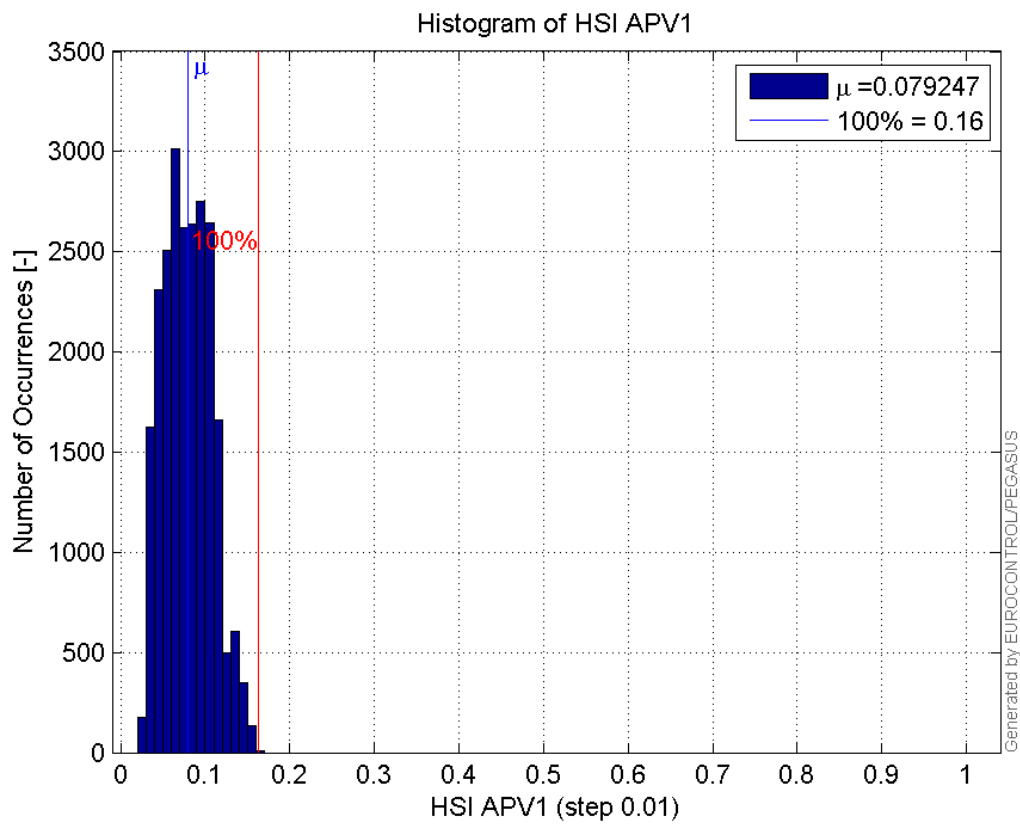
Histogram of HPL APV1:



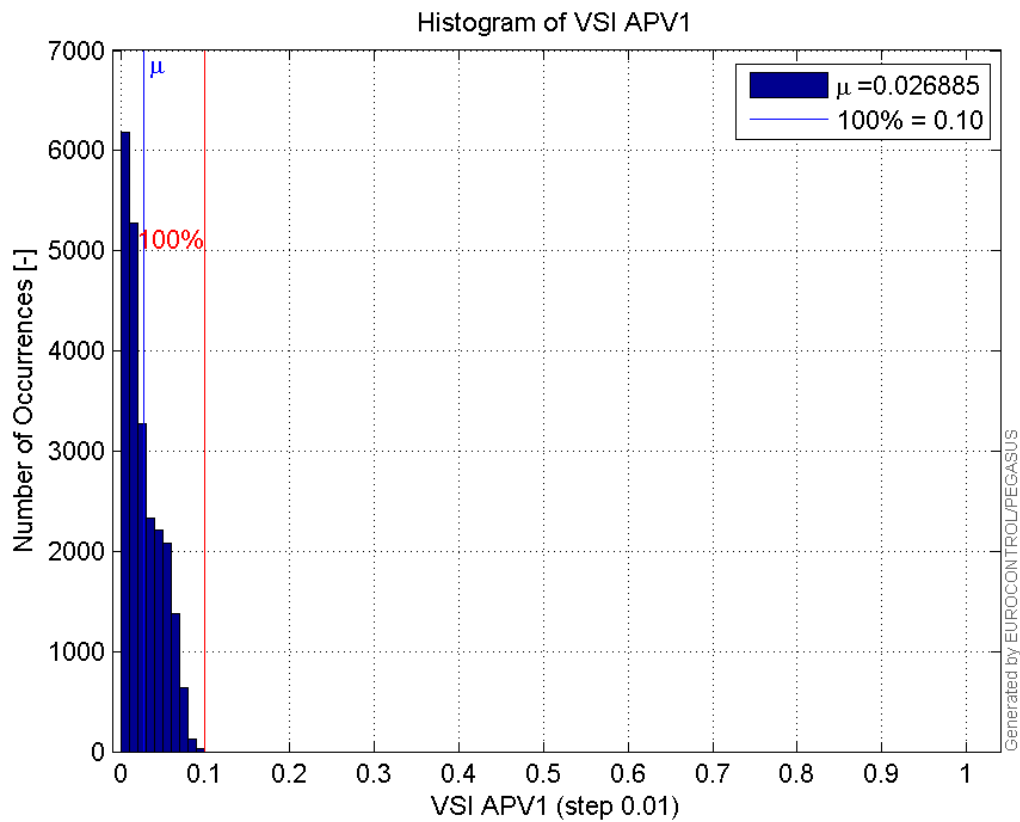
Histogram of VPL APV1:



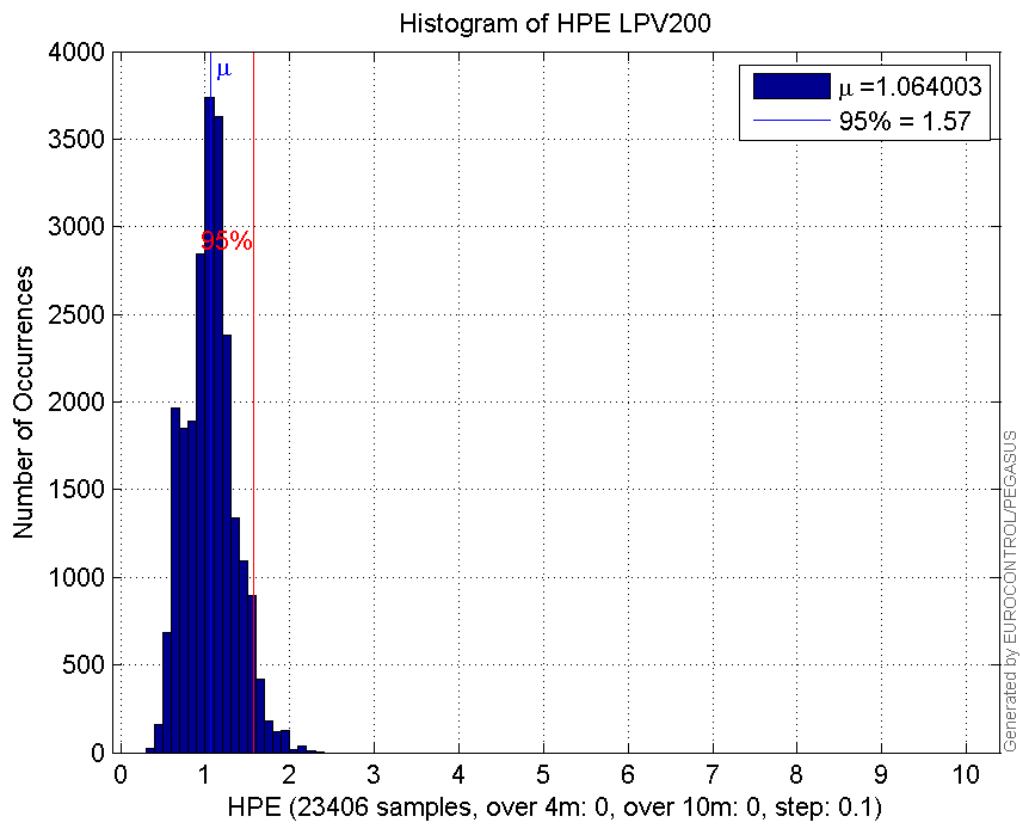
Histogram of HSI APV1:



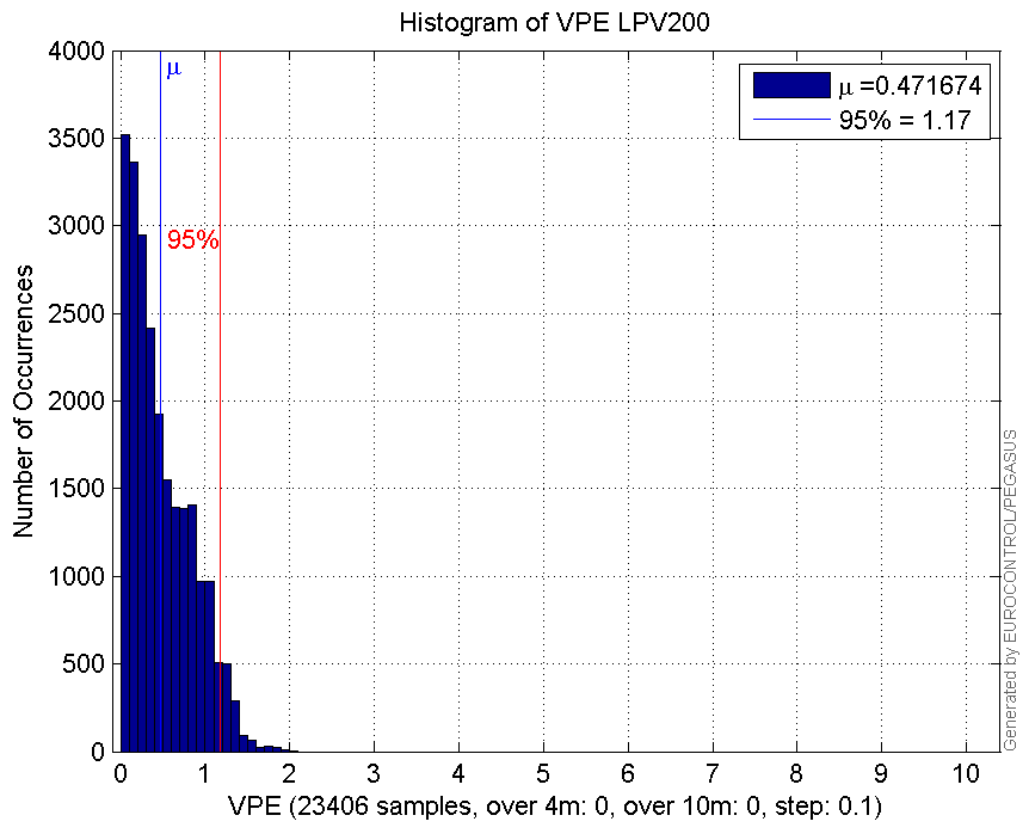
Histogram of VSI APV1:



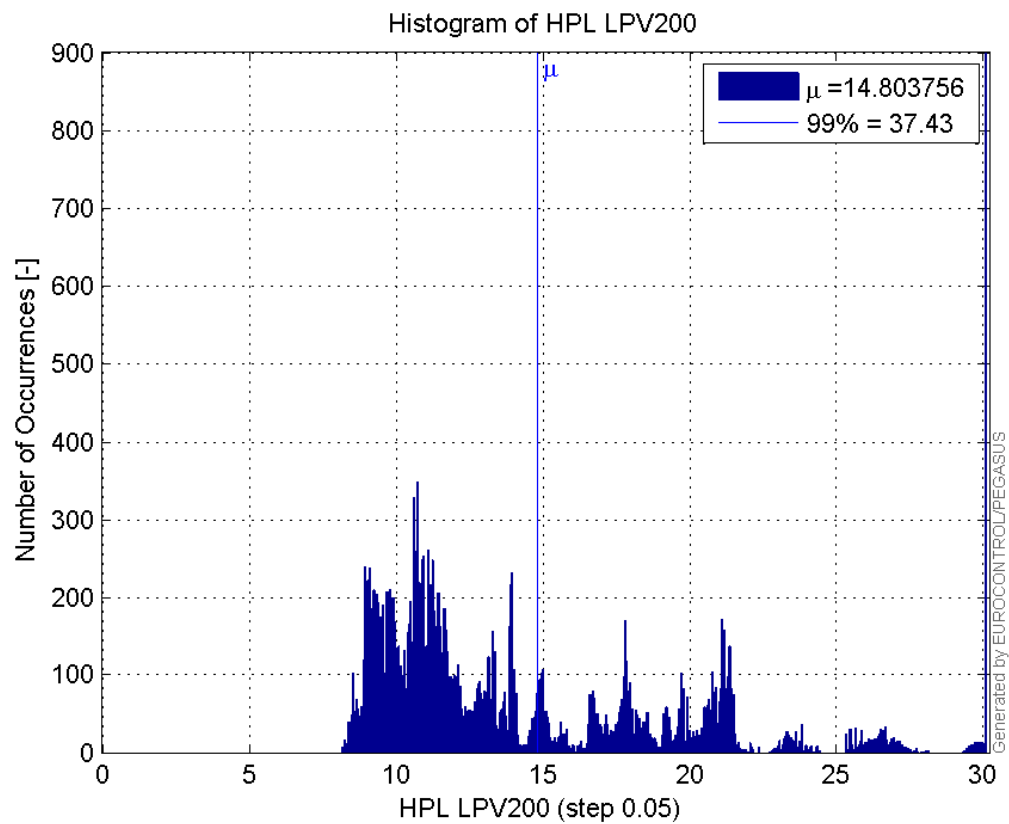
Histogram of HPE LPV200:



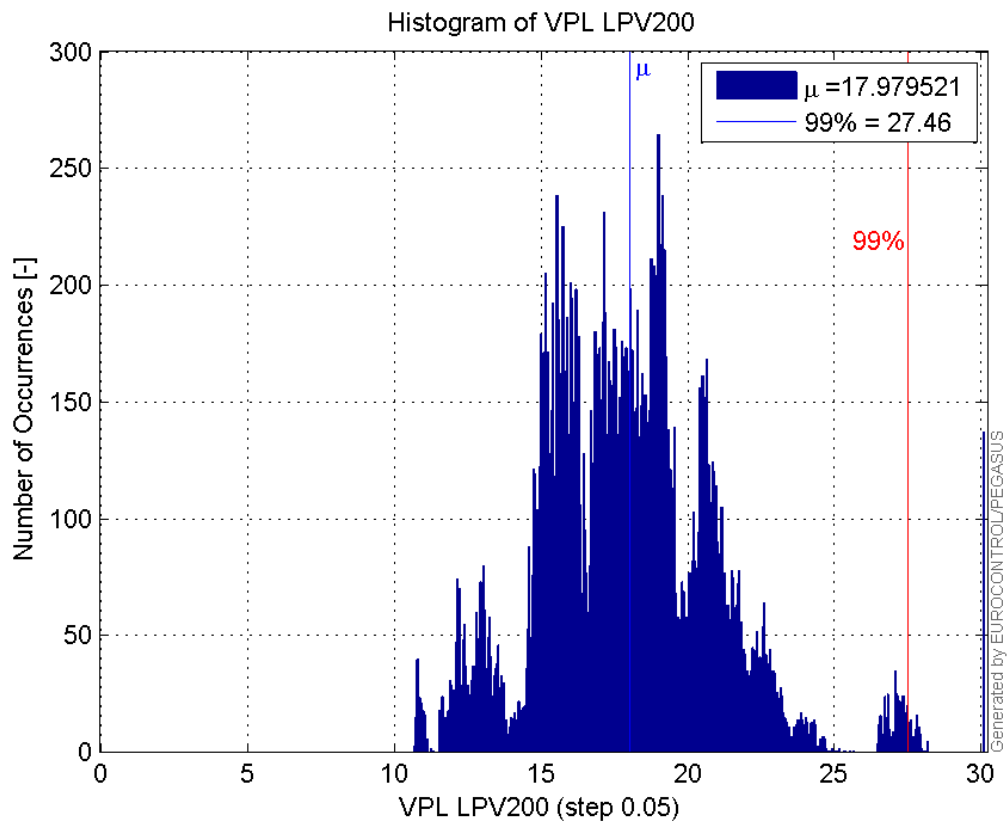
Histogram of VPE LPV200:



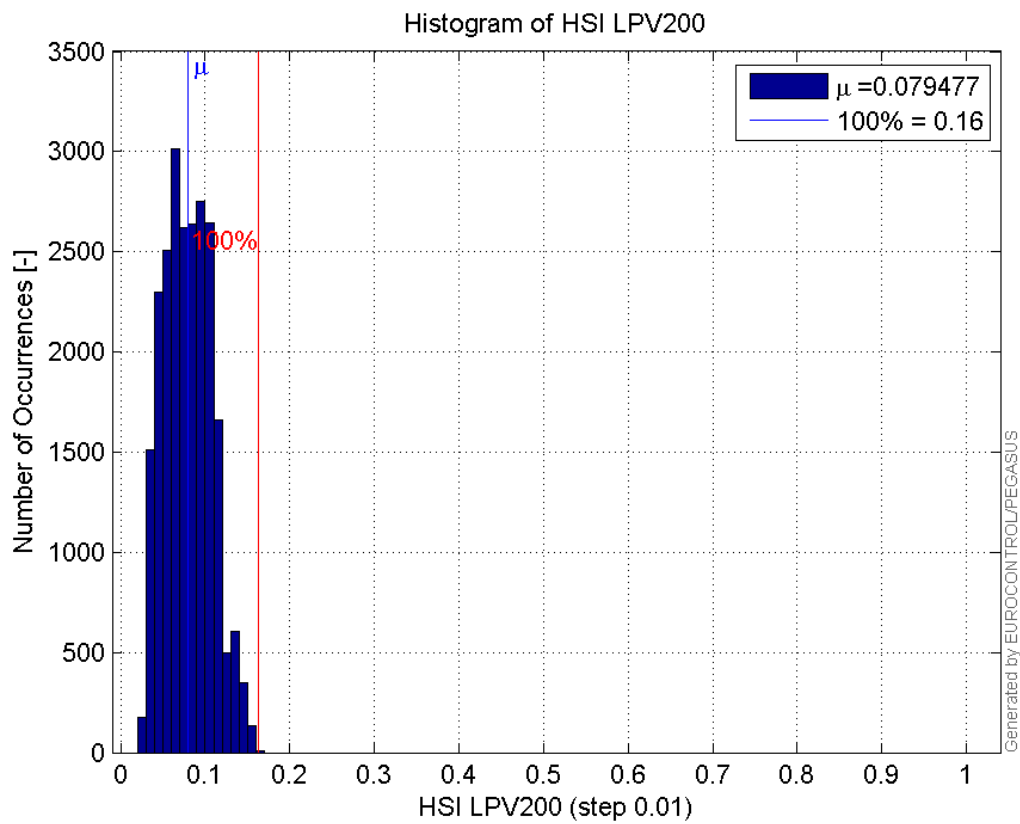
Histogram of HPL LPV200:



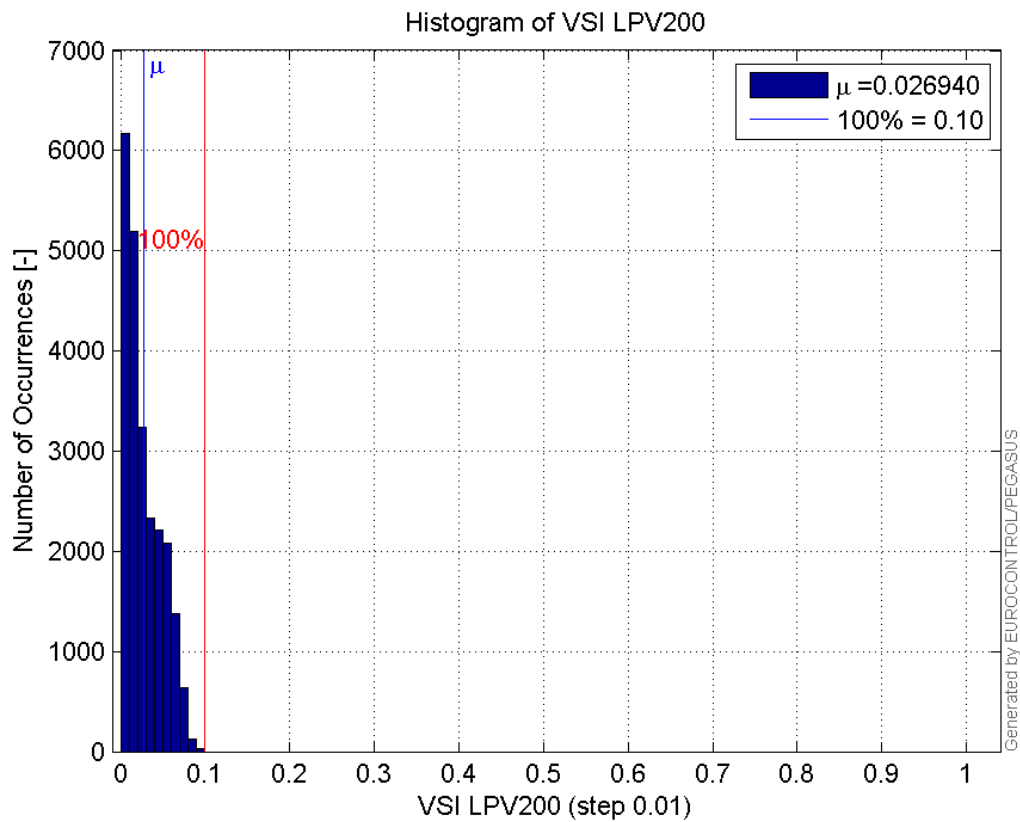
Histogram of VPL LPV200:



Histogram of HSI LPV200:

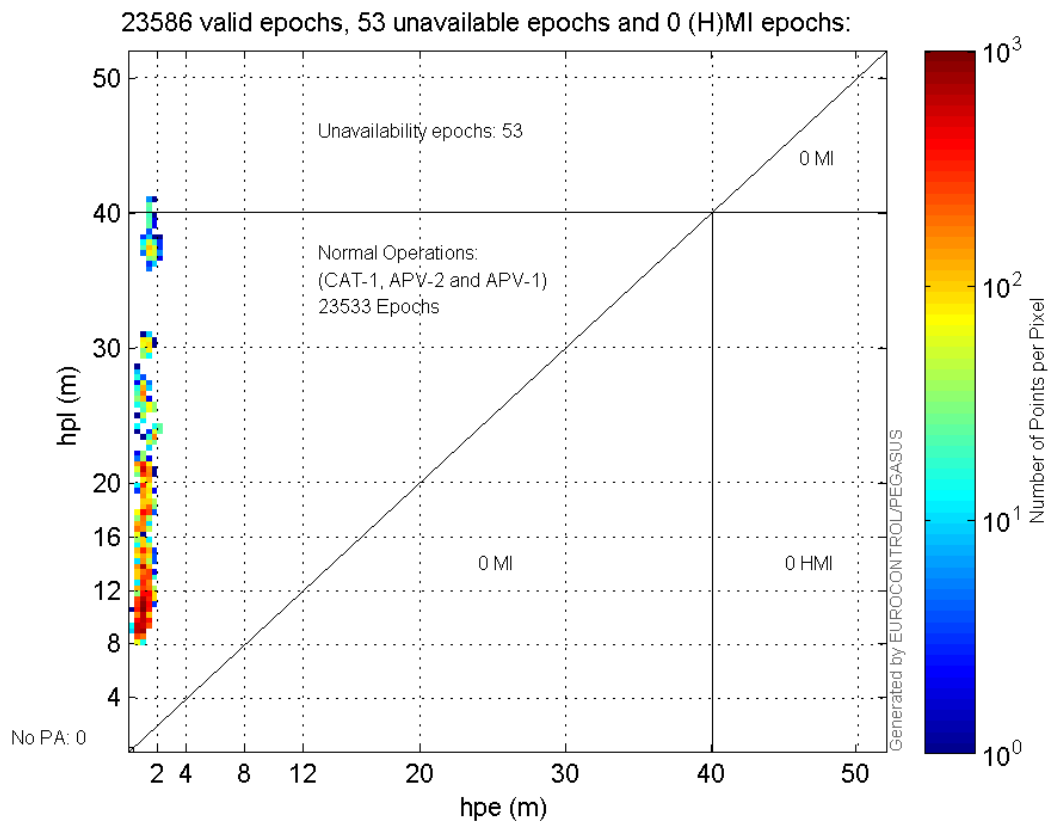


Histogram of VSI LPV200:



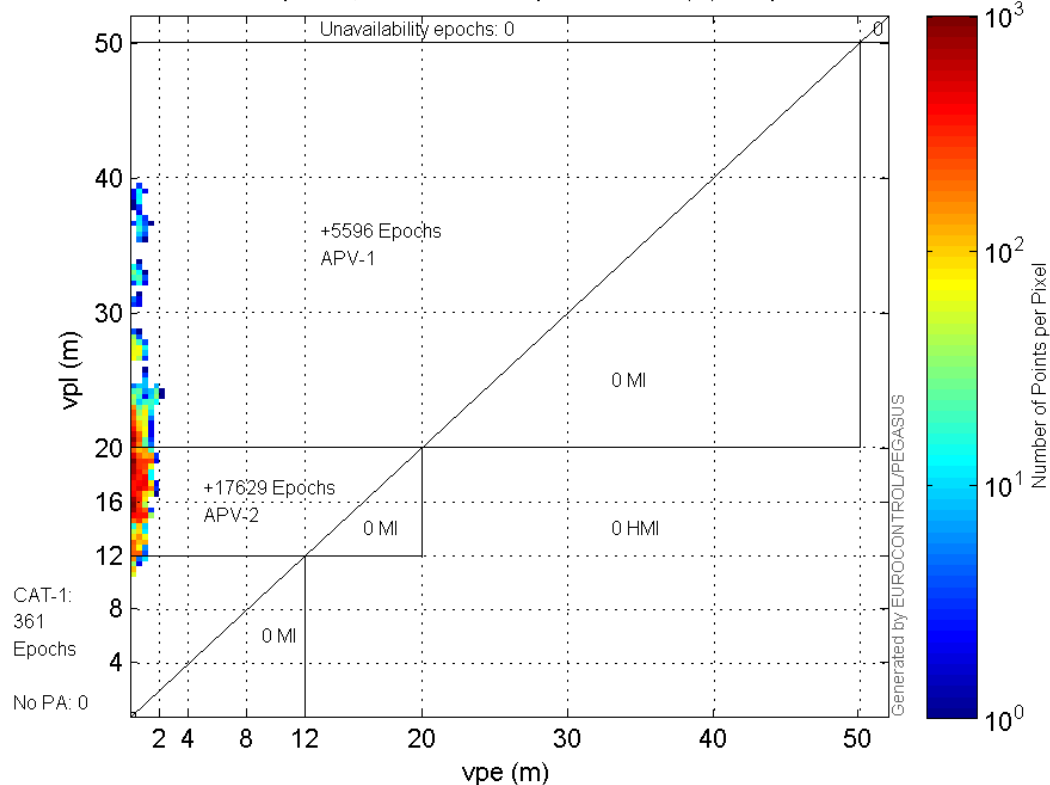
Stanford Plots

Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:

23586 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_13EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_13EGNOS/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	231.2312
mi_numbers	results	0

Range Domain

start: 06:50:30 13.10.2015 (week: 1866 sec: 197430)
end: 13:29:36 13.10.2015 (week: 1866 sec: 221376)
duration: 06:39:07 ..

quality

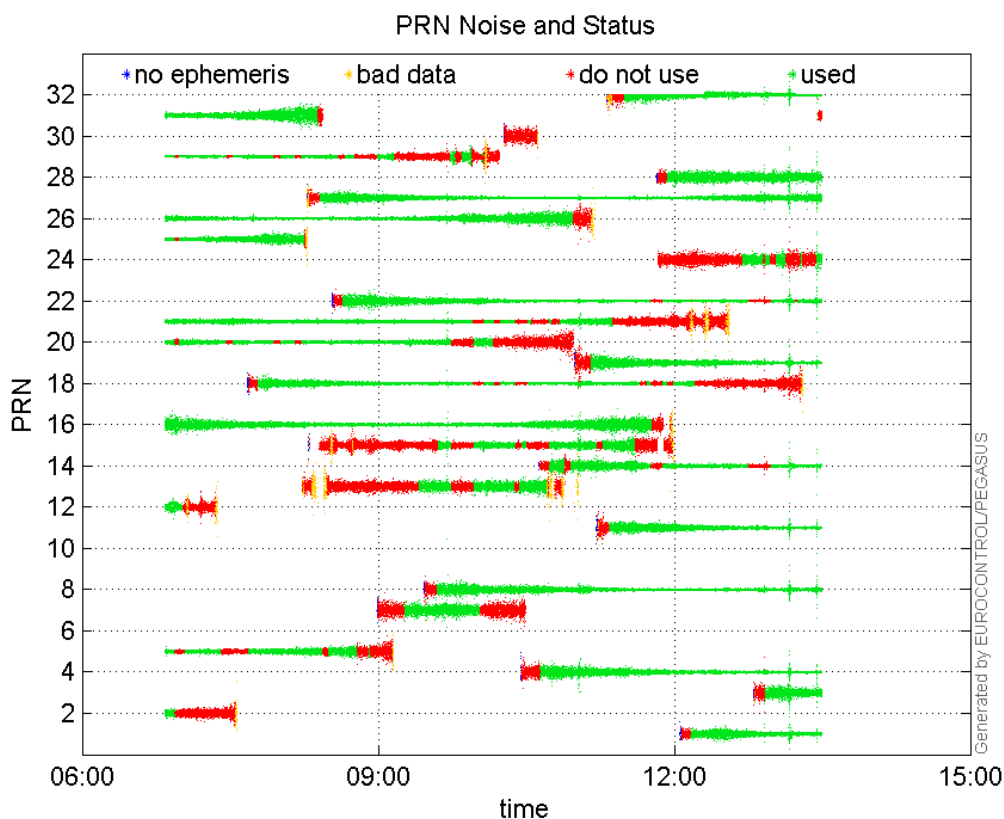
valid samples 23947
total samples 23947

PRN overview

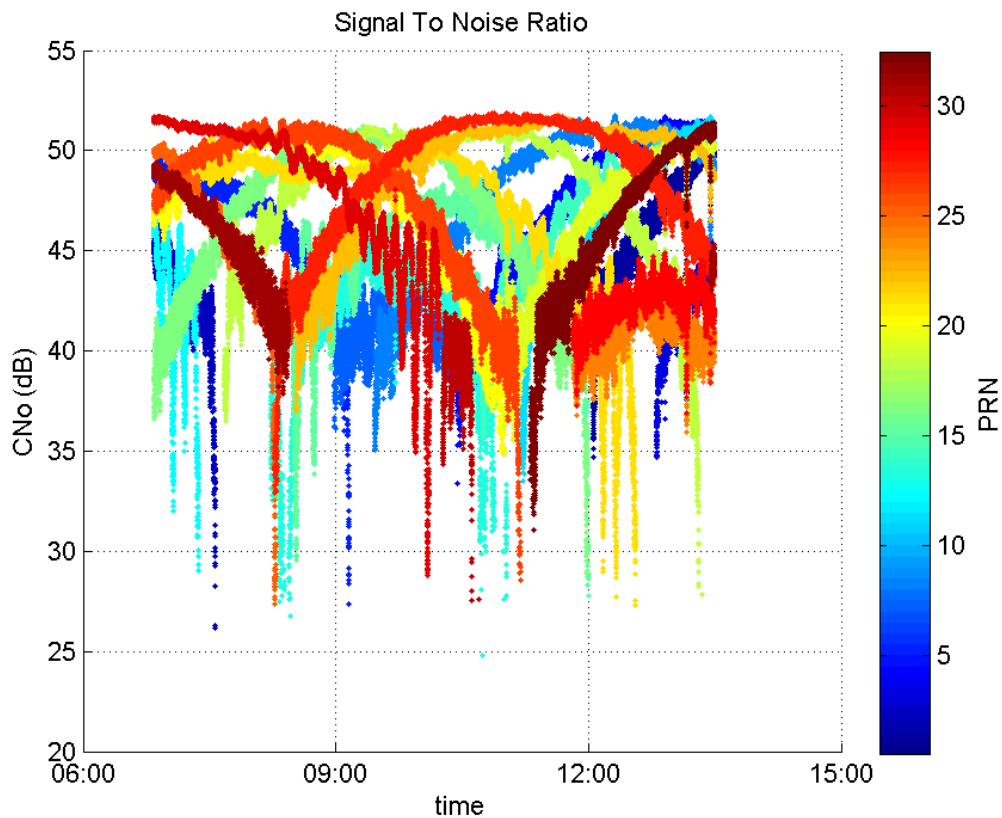
Number of Visible GPS Satellites 27
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



range errors

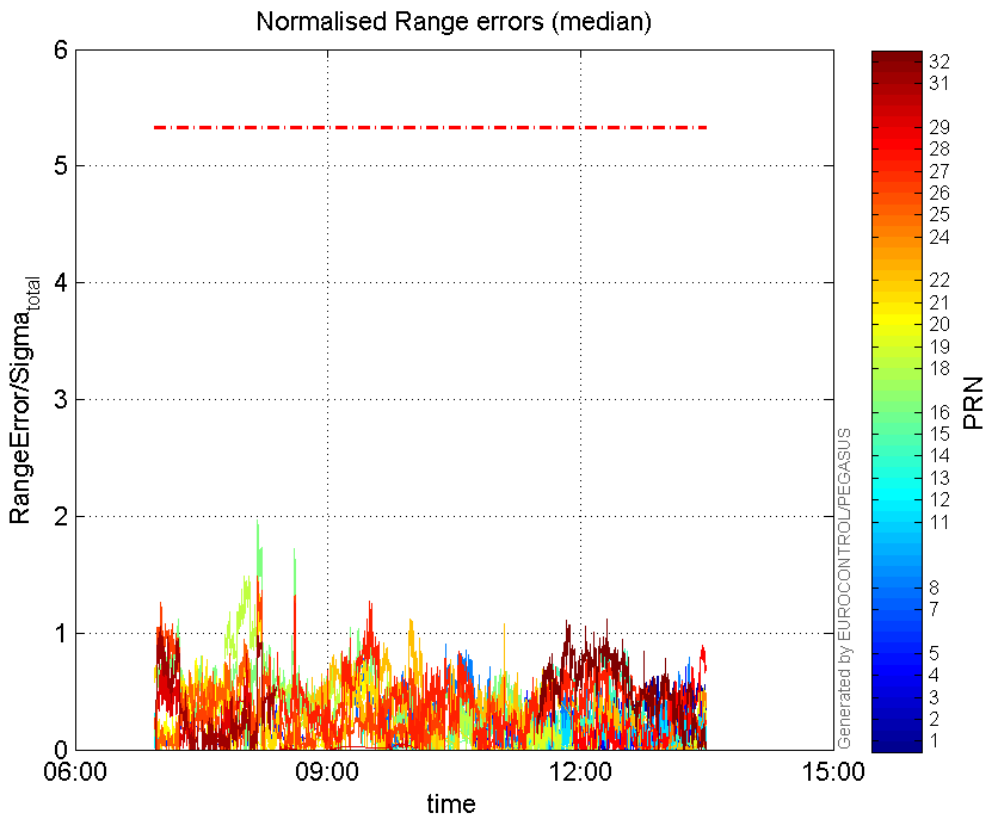
Number of Overbounding Norm Errors 0

Max Norm Errors :

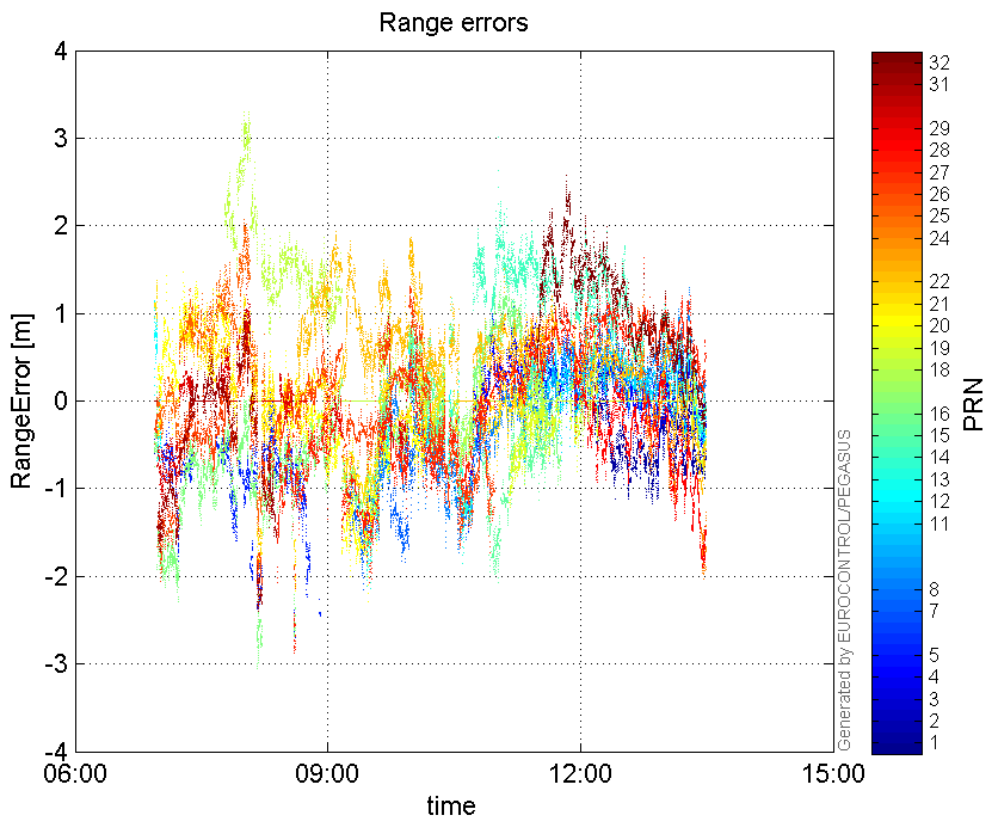
GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1866	219285	1	0.630168	-1.11419	1.76808
1866	197791	2	0.0234027	-0.59377	25.3719
1866	219314	3	0.362366	-1.00377	2.77005
1866	220478	4	0.705684	-1.01212	1.43424
1866	202994	5	0.382322	-1.02958	2.69296
1866	206704	7	0.779594	-2.14763	2.7548
1866	210240	8	0.905286	-1.6796	1.85533
1866	216587	11	0.632544	1.12604	1.78017
1866	197794	12	0.315905	1.1418	3.61438
1866	211033	13	0.590067	-1.73252	2.93614
1866	217123	14	0.976291	1.9339	1.98086
1866	214228	15	0.387607	-1.13369	2.92485
1866	202178	16	1.96662	-3.00092	1.52593
1866	201622	18	1.48982	3.29658	2.21274
1866	221102	19	0.531183	-0.768654	1.44706
1866	199562	20	0.785105	1.36144	1.73408
1866	202233	21	1.44497	-2.0842	1.44238
1866	208707	22	1.11804	1.82082	1.62859
1866	221274	24	0.509165	-2.02445	3.97601
1866	201622	25	0.94337	2.06567	2.18967
1866	202178	26	1.48269	-2.08742	1.40786
1866	207000	27	1.27251	-2.07736	1.63249

1866	221218	28	0.894393	-1.89049	2.11371
1866	198173	29	0.914648	-1.35573	1.48224
1866	198034	31	1.05517	-1.72224	1.63219
1866	217123	32	1.11598	1.99205	1.78501

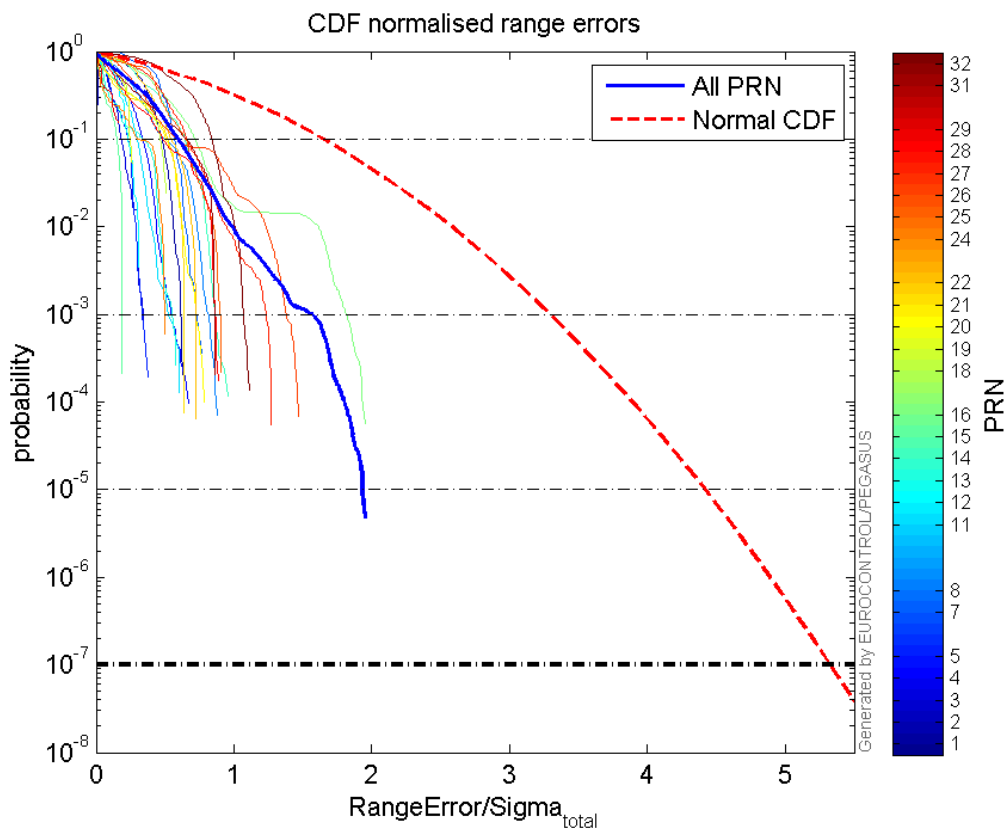
Normalised Range errors (median):



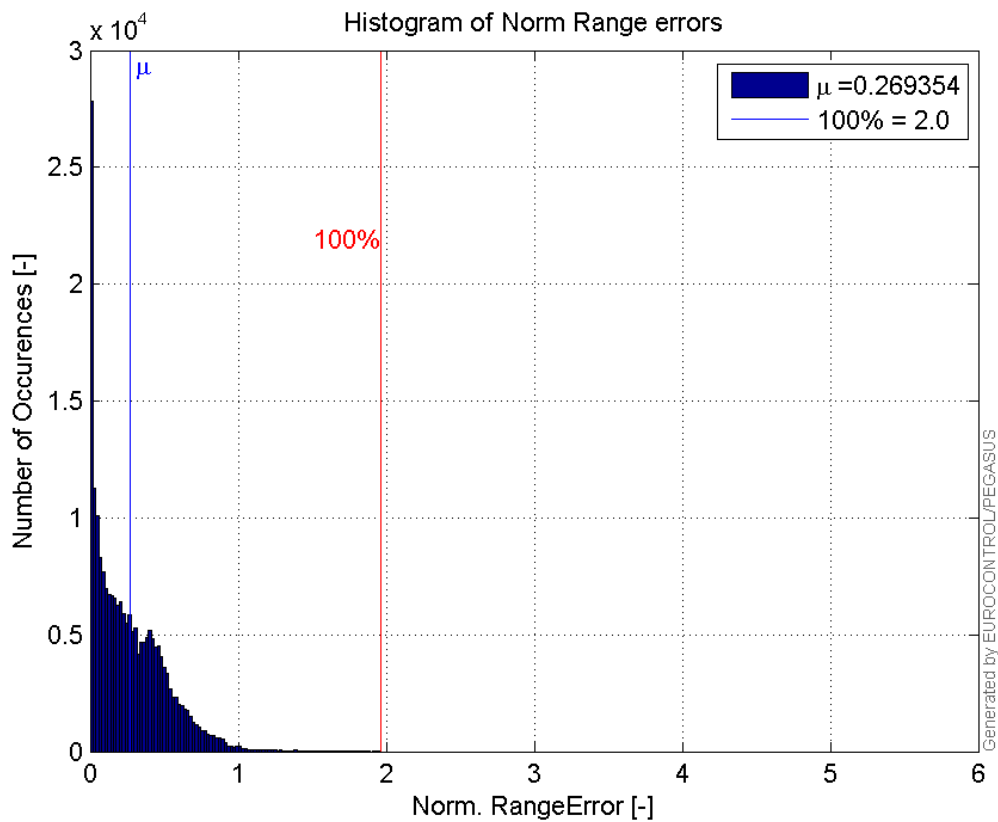
Range errors:



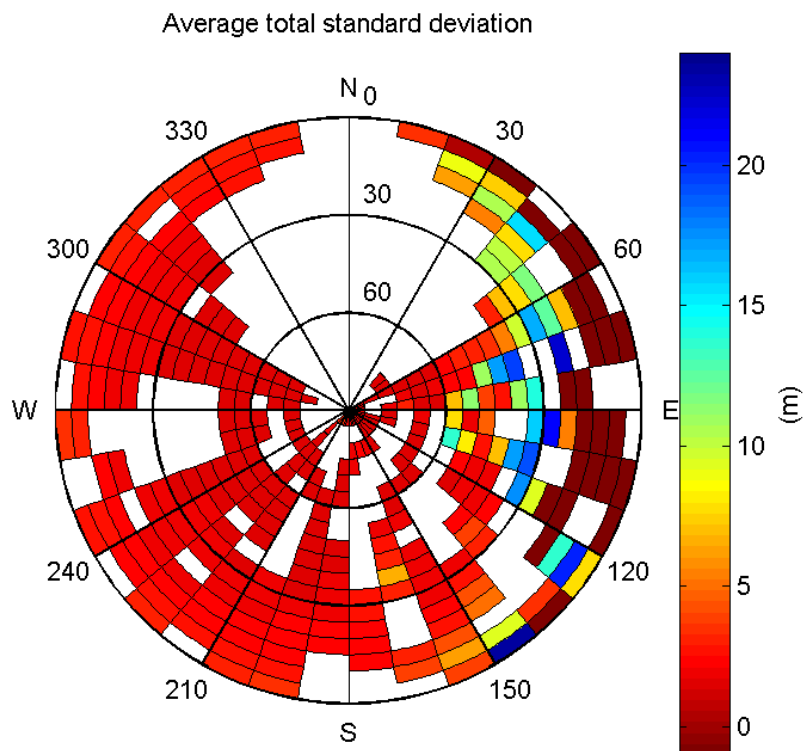
CDF normalised range errors:



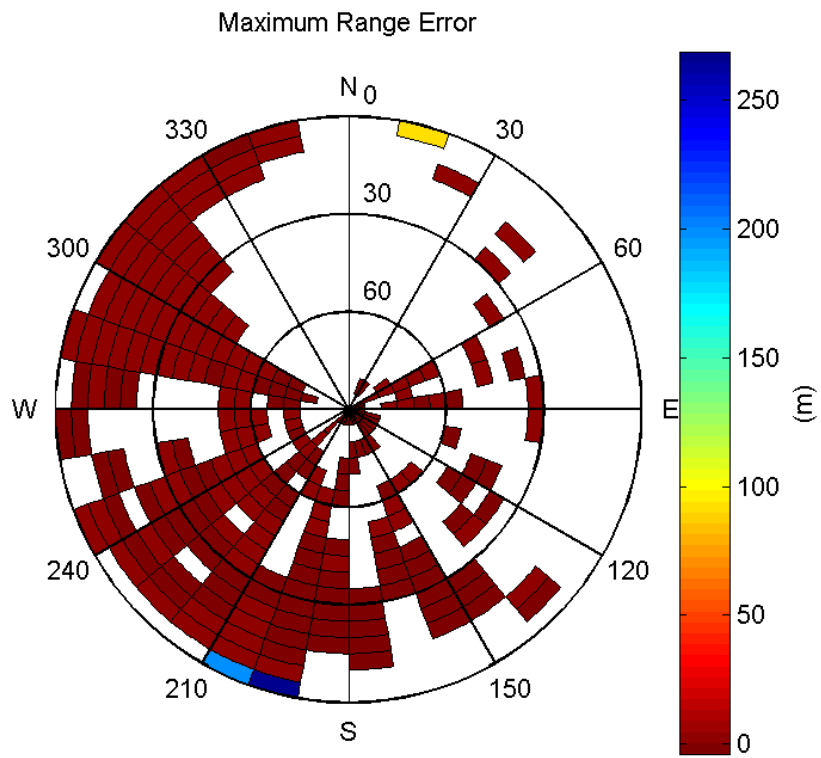
Histogram of Norm Range errors:



Sigma Sky Plot:

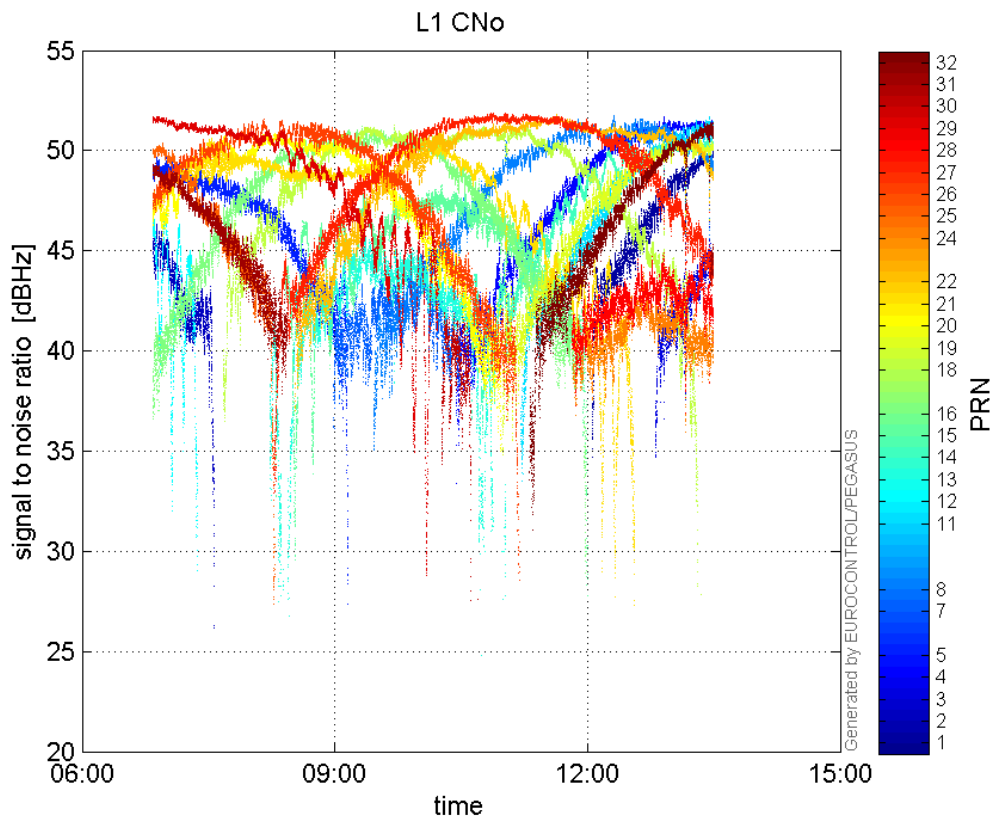


Norm Error Sky Plot:

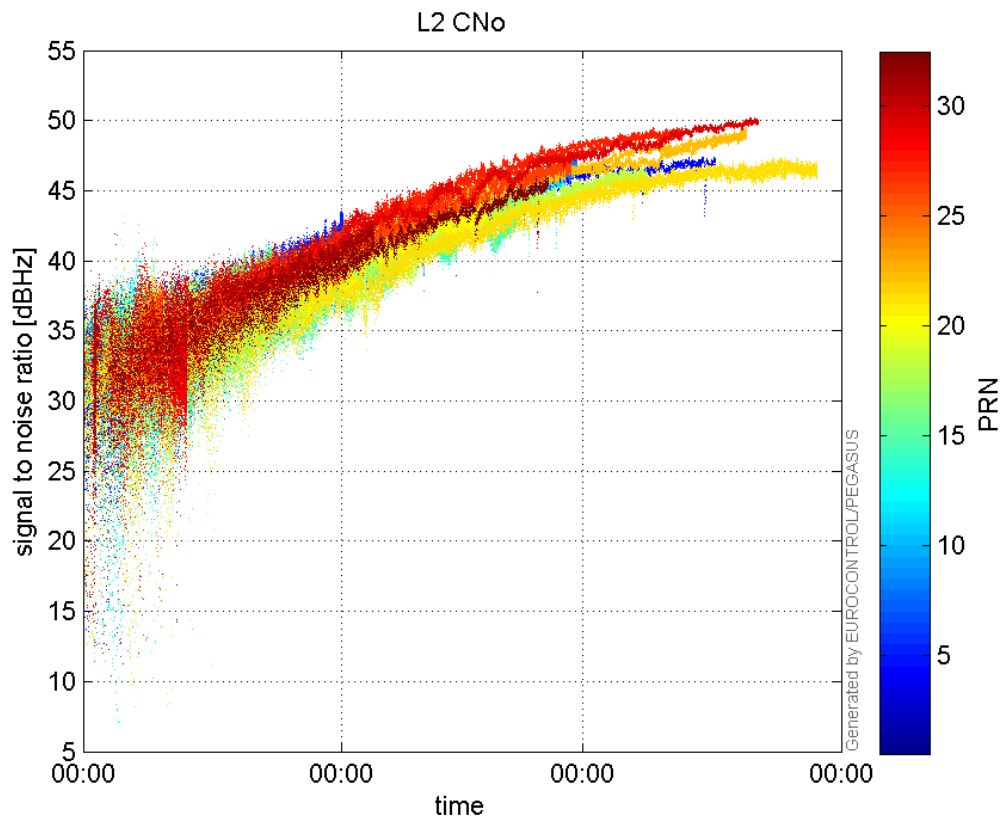


signal quality

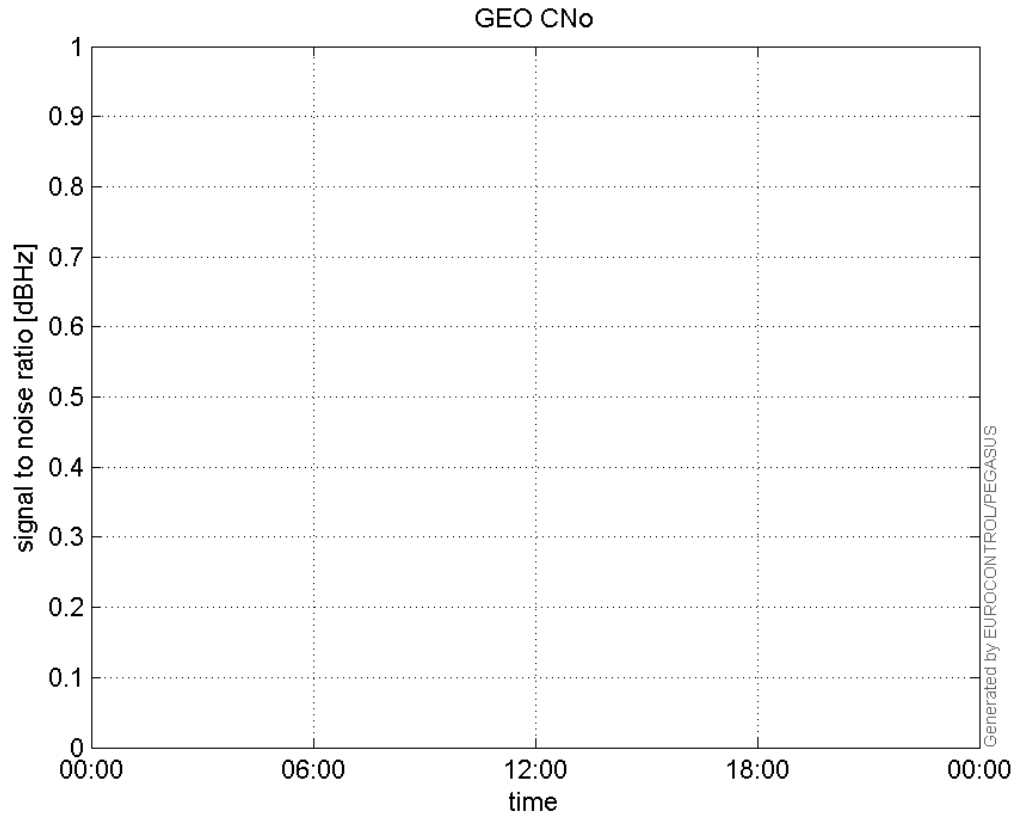
L1 CNo:



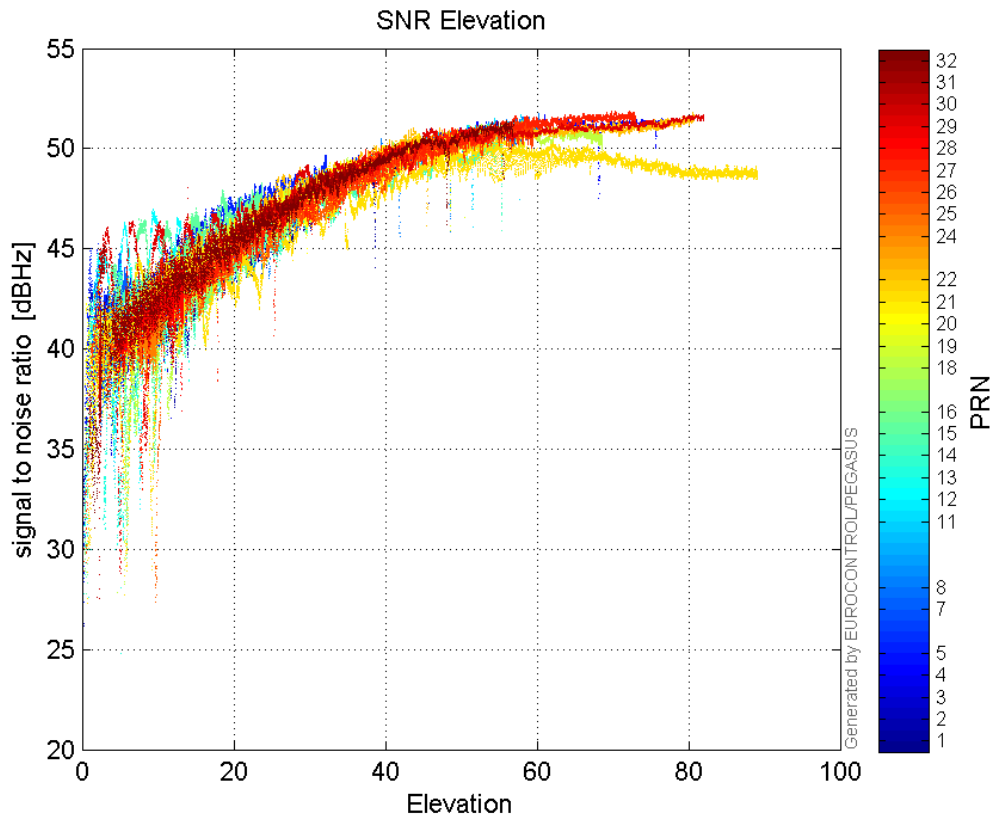
L2 CNo:



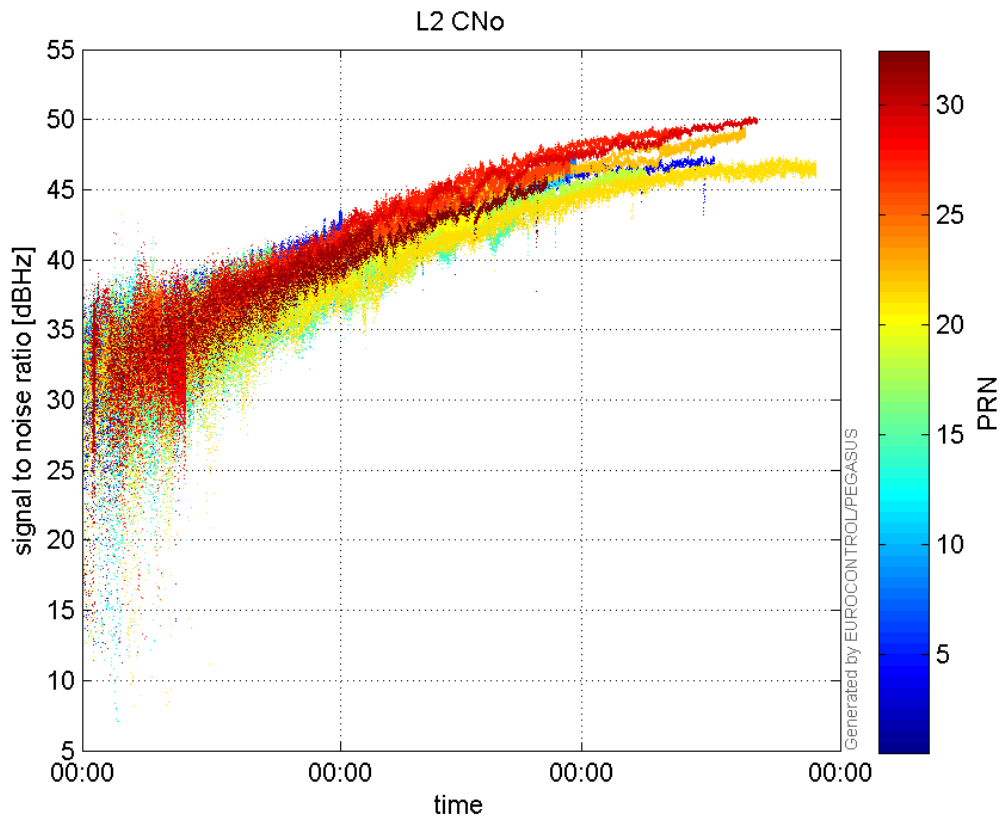
GEO CNo:



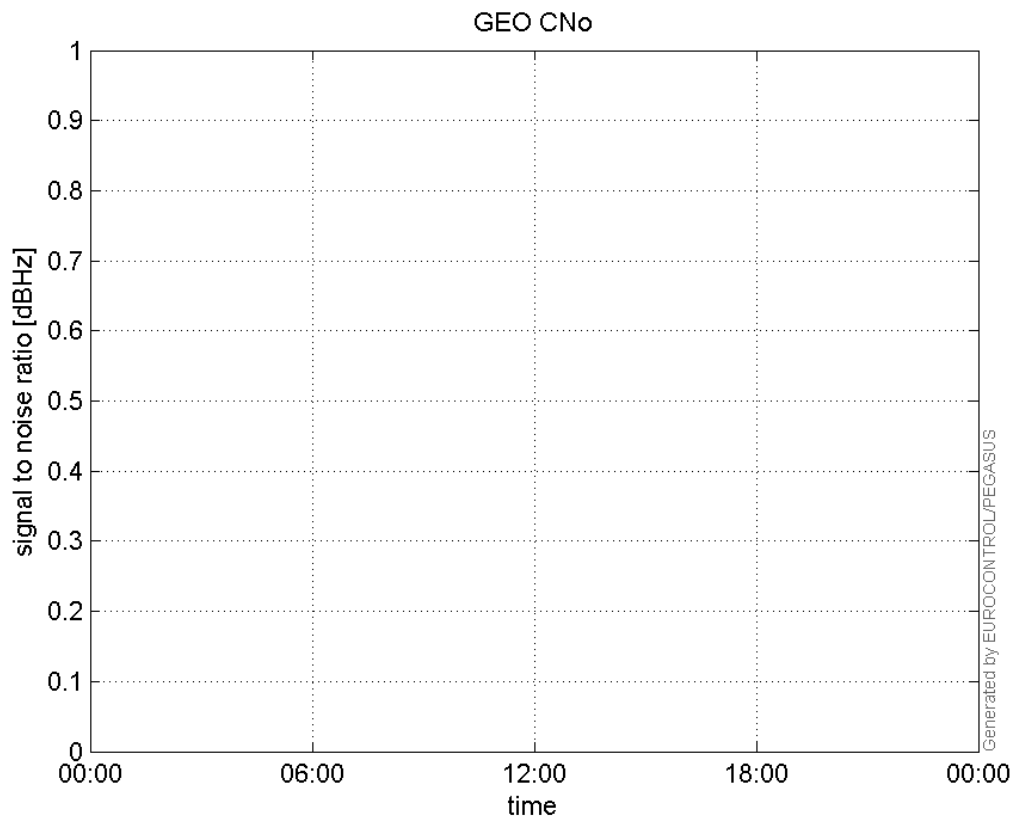
SNR Elevation:



L2 CNo:

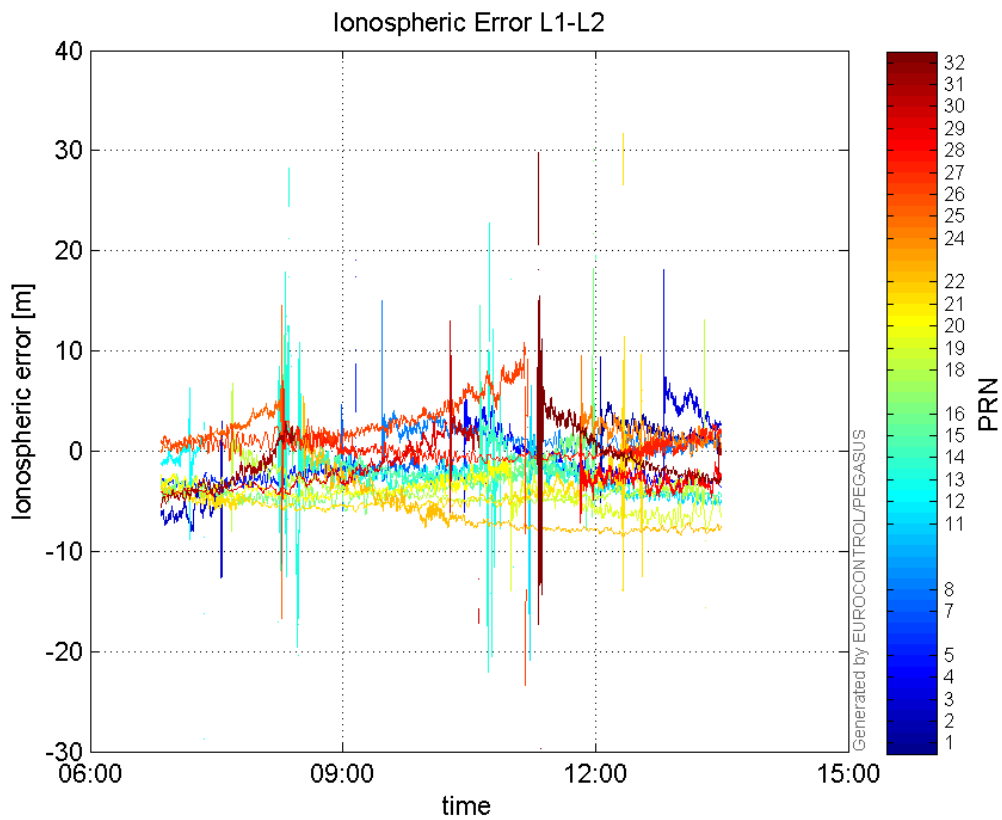


GEO CNo:



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_13EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_13EGNOS/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	231.2312
mi_numbers	results	0