

Global View

site Laboratory satellite systems
 abbreviation NAU
 country Ukraine
 city Kiev
 comment
 program Pegasus
 version 4.8.2
 date 27/10/2015

SBAS Messages

start: 07:34:1.129 22.10.2015 (week: 1867 sec: 372841.129)
end: 13:33:59.129 22.10.2015 (week: 1867 sec: 394439.129)
duration: 05:59:58 ..

quality

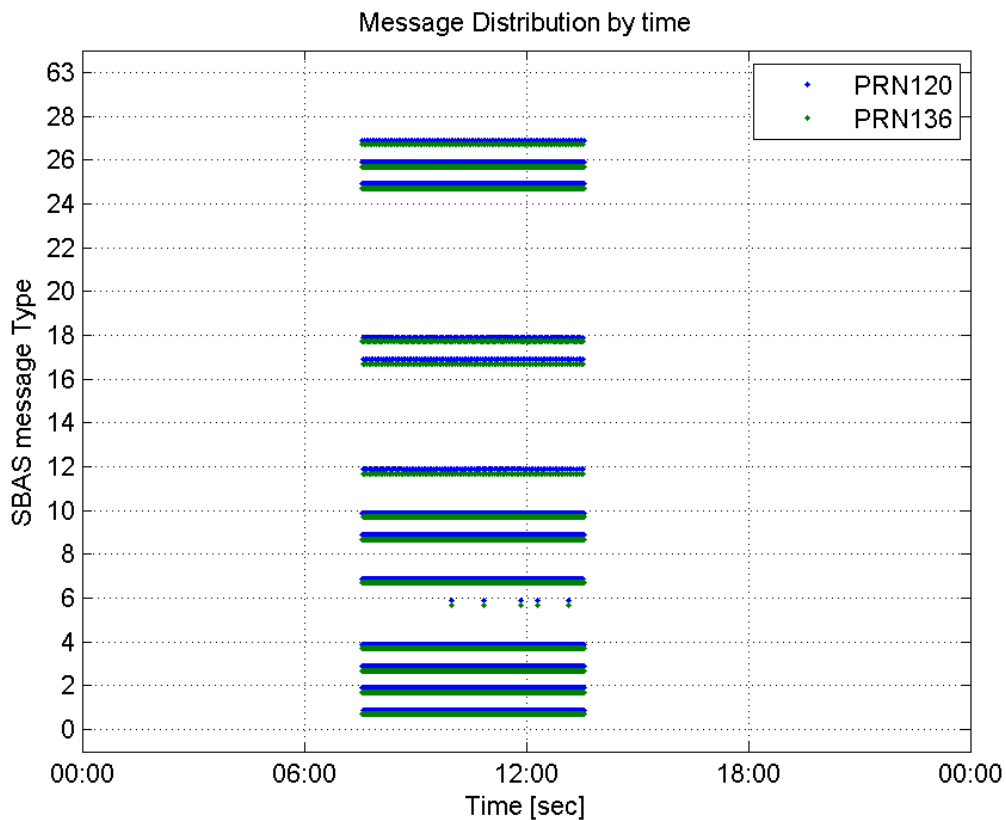
valid samples 43170
total samples 43170
number of SBAS PRNs 2

SBAS SIS Overview

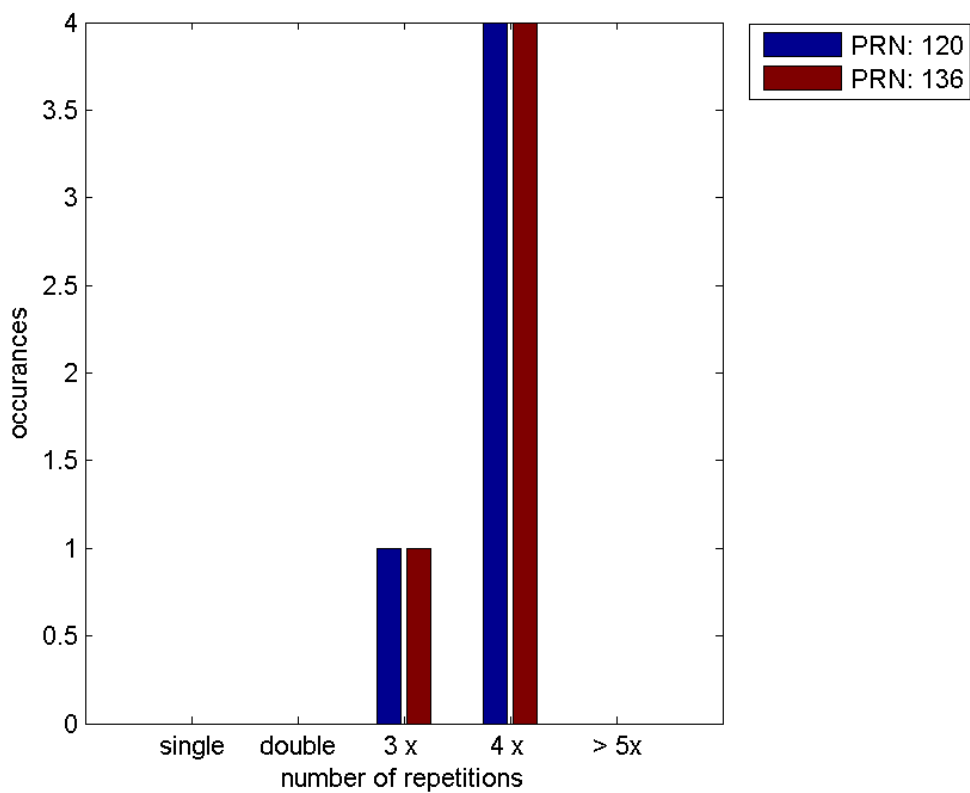
Message Type 6 repetitions :

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

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

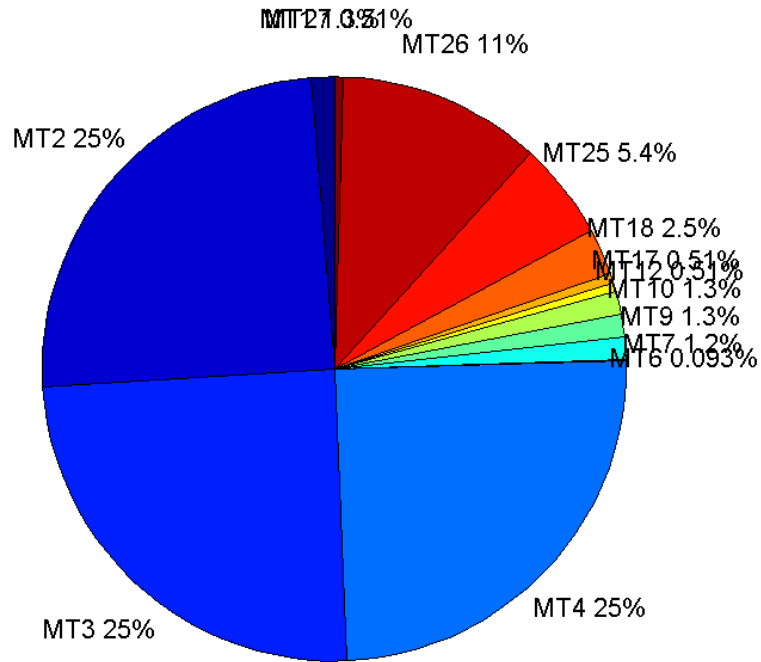
	number of messages	%
MT 0	0	0
MT 1	270	1.25156
MT 2	5333	24.7207
MT 3	5334	24.7254
MT 4	5335	24.73
MT 5	0	0
MT 6	20	0.0927085
MT 7	269	1.24693
MT 9	271	1.2562
MT 10	270	1.25156
MT 12	109	0.505261
MT 17	109	0.505261
MT 18	550	2.54948
MT 24	0	0
MT 25	1170	5.42345
MT 26	2422	11.227
MT 27	111	0.514532
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	21573	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	83	79.8773	0	0	0
MT 2	4	32	4.04951	6	1	1
MT 3	4	32	4.0495	6	1	1
MT 4	4	28	4.04893	6	1	1
MT 5	--	--	--	--	--	--
MT 6	1	3597	598.895	4	4	4
MT 7	76	160	80.1903	1	0	0
MT 9	76	86	79.8037	0	0	0
MT 10	76	83	79.8922	0	0	0
MT 12	189	392	197.88	108	1	1
MT 17	188	395	197.88	0	0	0
MT 18	4	158	39.0146	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	48	18.4696	0	0	0
MT 26	4	48	8.91822	0	0	0
MT 27	189	201	196.1	0	0	0

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

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

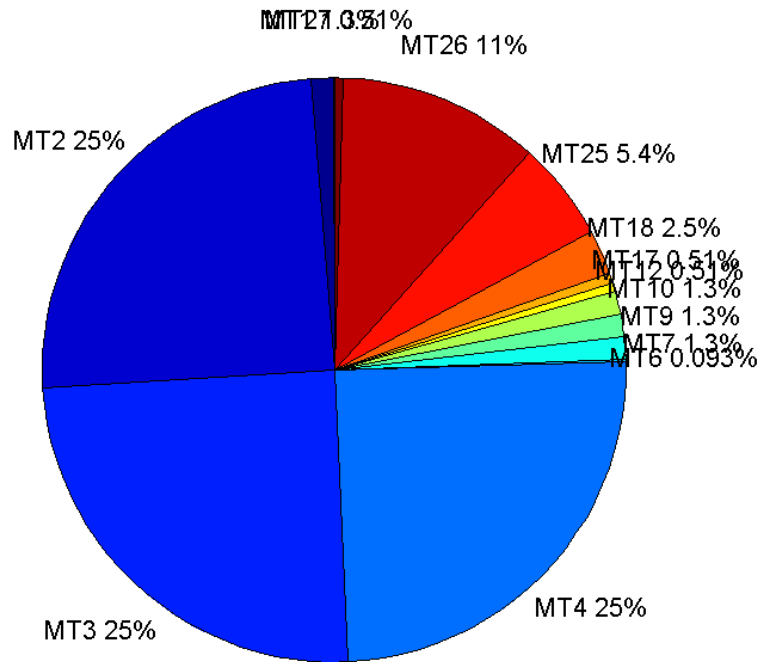
	number of messages	%
MT 0	0	0
MT 1	270	1.25017
MT 2	5344	24.7442
MT 3	5343	24.7395
MT 4	5344	24.7442
MT 5	0	0
MT 6	20	0.0926055
MT 7	271	1.2548
MT 9	271	1.2548
MT 10	270	1.25017
MT 12	110	0.50933
MT 17	110	0.50933
MT 18	550	2.54665
MT 24	0	0

MT 25	1171	5.42205
MT 26	2413	11.1728
MT 27	110	0.50933
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	21597	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	82	79.8848	0	0	0
MT 2	4	8	4.0423	6	0	0
MT 3	4	8	4.04231	6	0	0
MT 4	4	8	4.04174	5	0	0
MT 5	--	--	--	--	--	--
MT 6	1	3597	598.895	4	4	4
MT 7	76	81	79.8704	0	0	0
MT 9	76	81	79.8259	0	0	0
MT 10	76	81	79.8848	0	0	0
MT 12	189	201	196.78	109	0	0
MT 17	190	201	196.743	0	0	0
MT 18	2	178	39.1129	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	52	18.435	0	0	0
MT 26	3	61	8.949	0	0	0
MT 27	189	201	196.743	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_22EGNOS/01_User/01_User
Outputfile	System	D:/PEGASUS_DAT_job/JOB/2015_10_22EGNOS/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: 07:34:01 22.10.2015 (week: 1867 sec: 372841)
end: 13:34:00 22.10.2015 (week: 1867 sec: 394440)
duration: 06:00:00 ..

quality

valid samples 21239
total samples 21600

Event tables

Position discontinuity events type all
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	388523	1.51935	9.20432	0.165069	1.54456	19.7235	0.0783106
max normVer	392999	1.26498	16.3887	0.0771862	-2.52728	13.8165	0.182917
max HPE	374283	2.58634	27.0177	0.0957276	0.769167	23.4542	0.0327944
max VPE	376705	1.3143	15.4005	0.0853413	3.60339	25.2714	0.142588
min HPL	388569	1.39703	9.00461	0.155146	0.908116	19.2826	0.0470951
min VPL	393971	0.822179	10.6766	0.0770075	-1.04972	12.4282	0.0844631

Position discontinuity events :

#	Epoch	duration	stable period
1	393550	21	20348

APV-I discontinuity events :

#	Epoch	duration	stable period
1	380902	29	7700
2	393550	25	12619

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	373580	23	378
2	380902	29	7299
3	393550	25	12619

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	373580	23	378
2	380902	29	7299
3	393550	25	12619

First Glance analysis

Duration 21600
Number of Samples 21600
Number of invalid sample 361
Number of no position solution samples 21
Number of missing sample 0
Logging Loss 0
Processing Loss 1.6713
Number of Misleading Information 0
Data gaps 0
Discontinuities 1

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
21218	21185	21162	0	21162

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.68489	1.68439	1.68157	NaN	1.68157
HPEscale 95%	NaN	5.19597	5.19711	NaN	5.19711
VPE 95%	2.08634	2.08645	2.08659	NaN	2.08659
VPEscale 95%	NaN	6.52001	4.56428	NaN	4.56428

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.999011	0.997458	0.996375	0	0.996375
measurements	0.982315	0.980787	0.979722	0	0.979722
Operational	0.982315	0.980787	0.979722	0	0.979722

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	1	2	3	--	3
Long	1	2	3	--	3
Independent	1	2	3	--	3
P(disc.)	0.000706947	0.0014161	0.00212645	NaN	0.00212645
P(slide)	0.000706947	0.0014161	0.00212645	NaN	0.00212645

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

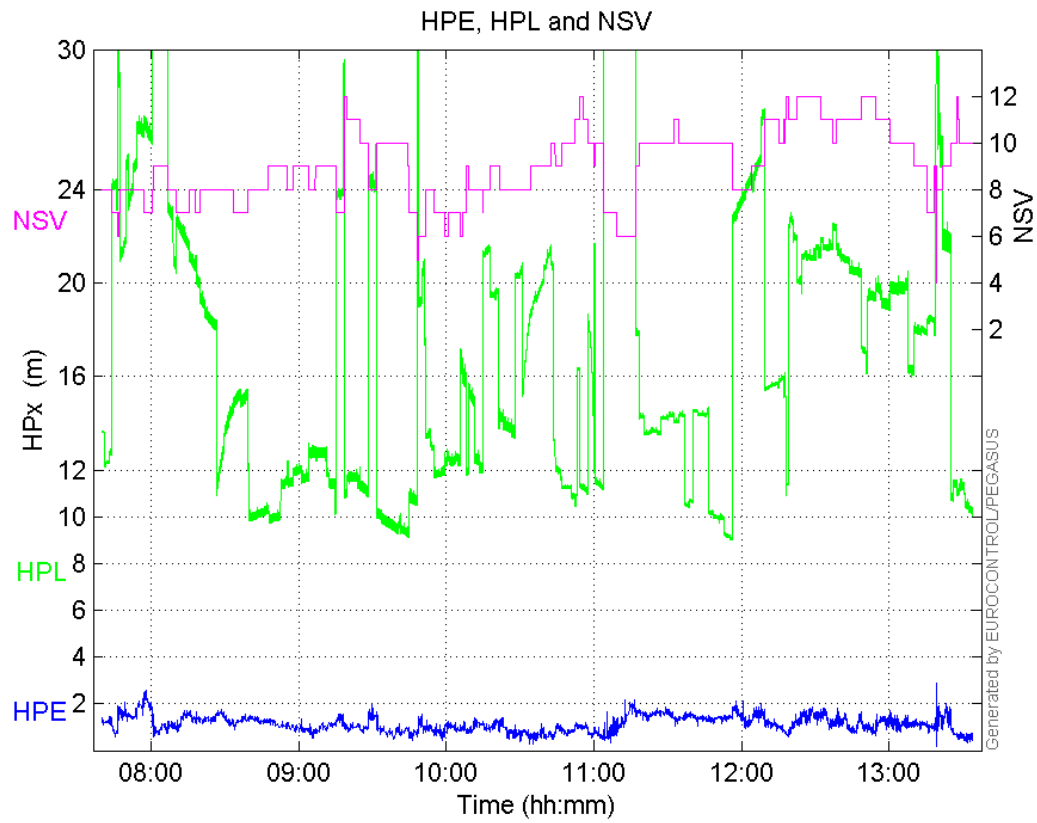
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	21218	21185	21162	0	21162
SIS Availability	0.999011	0.997458	0.996375	0	0.996375
Local Availability	0.982315	0.980787	0.979722	0	0.979722
Operational Availability	0.982315	0.980787	0.979722	0	0.979722
HPE 95%	1.68489	1.68439	1.68157	NaN	1.68157
HPEscale 95%	NaN	5.19597	5.19711	NaN	5.19711
VPE 95%	2.08634	2.08645	2.08659	NaN	2.08659
VPEscale 95%	NaN	6.52001	4.56428	NaN	4.56428
All Discontinuity Events	1	2	3	--	3
Long Discontinuity Events	1	2	3	--	3
Independent Discontinuity Events	1	2	3	--	3
P(discontinuity)	0.000706947	0.0014161	0.00212645	NaN	0.00212645
P(sliding window)	0.000706947	0.0014161	0.00212645	NaN	0.00212645
All Integrity Events	0	0	0	0	0

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

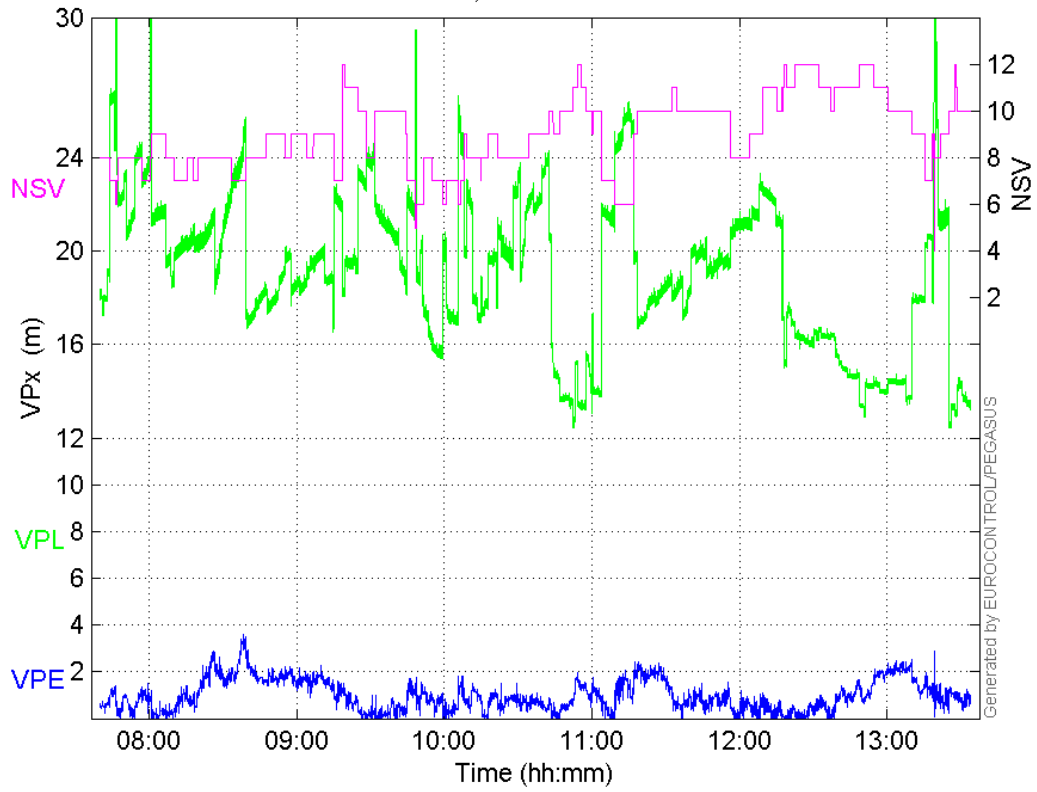
Time Series

HPE, HPL and NSV:



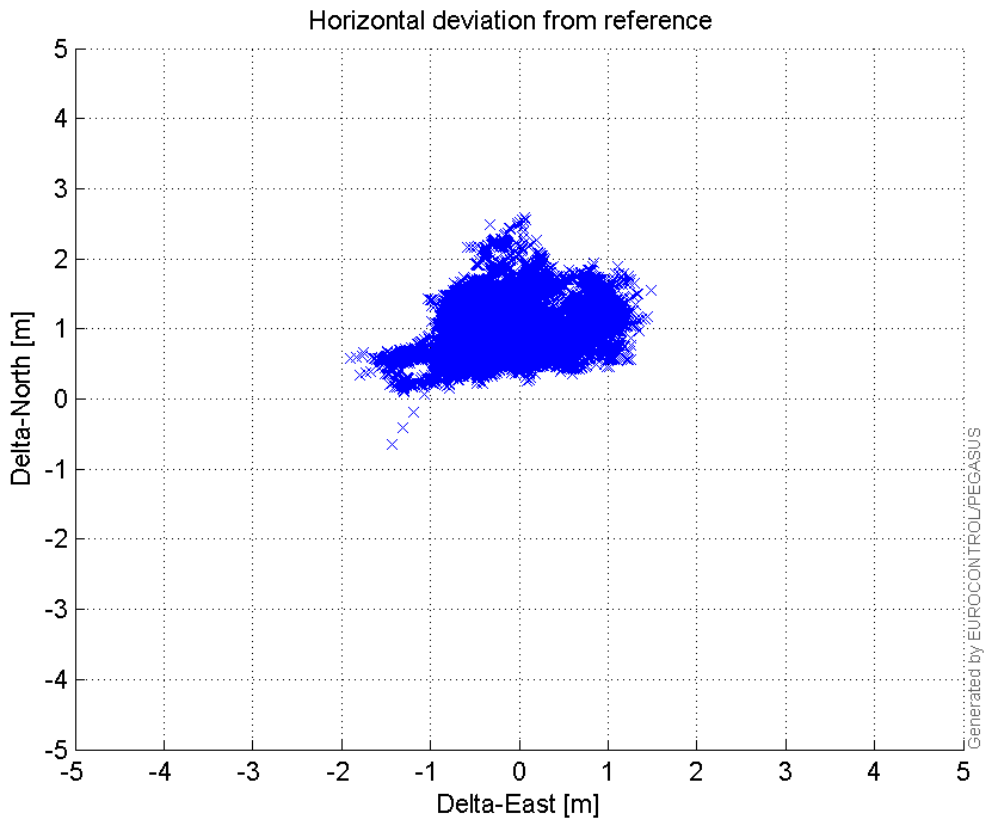
VPE, VPL and NSV:

VPE, VPL and NSV



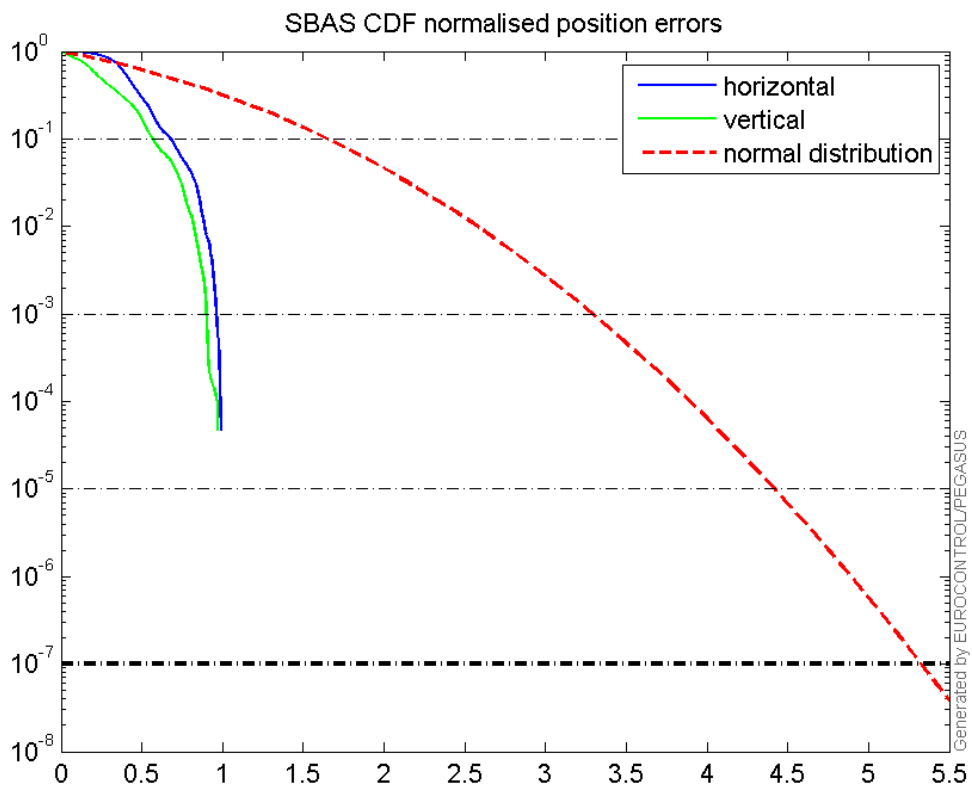
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

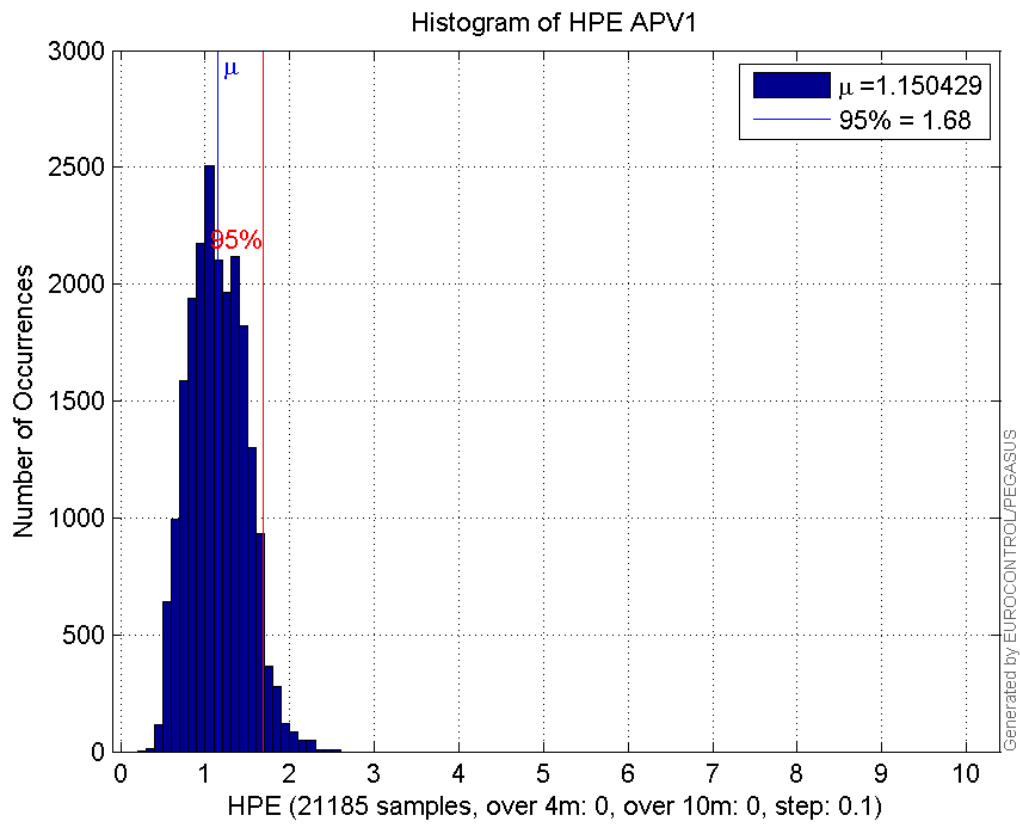
number	21185
sum	24371.848
sum2	30366.025
prctile95	1.6843934
prctile99	1.993676
number	21185
sum	20887.353
sum2	29521.956
prctile95	2.0864536
prctile99	2.6080887
number	21185
sum	368814.78
sum2	7379990.3
prctile95	35.097
prctile99	37.539355
number	21185
sum	404043.79
sum2	7930591.9
prctile95	24.136425
prctile99	26.20702
number	21185
sum	1547.4046
sum2	129.36905
prctile95	0.12989918
prctile99	0.14788689
number	21185

sum 1145.4894
sum2 92.542622
prctile95 0.13040029
prctile99 0.15406309
number 21162
sum 24330.031
sum2 30289.896
prctile95 1.6815678
prctile99 1.9939829
number 21162
sum 20867.012
sum2 29503.323
prctile95 2.0865911
prctile99 2.6108864
number 21162
sum 368122.9
sum2 7359176.9
prctile95 35.10532
prctile99 37.539516
number 21162
sum 403112.31
sum2 7892865.5
prctile95 24.1074
prctile99 26.01426
number 21162
sum 1546.0145
sum2 129.28492
prctile95 0.12992783
prctile99 0.14788706
number 21162
sum 1144.9871
sum2 92.531259
prctile95 0.13040797
prctile99 0.15406744

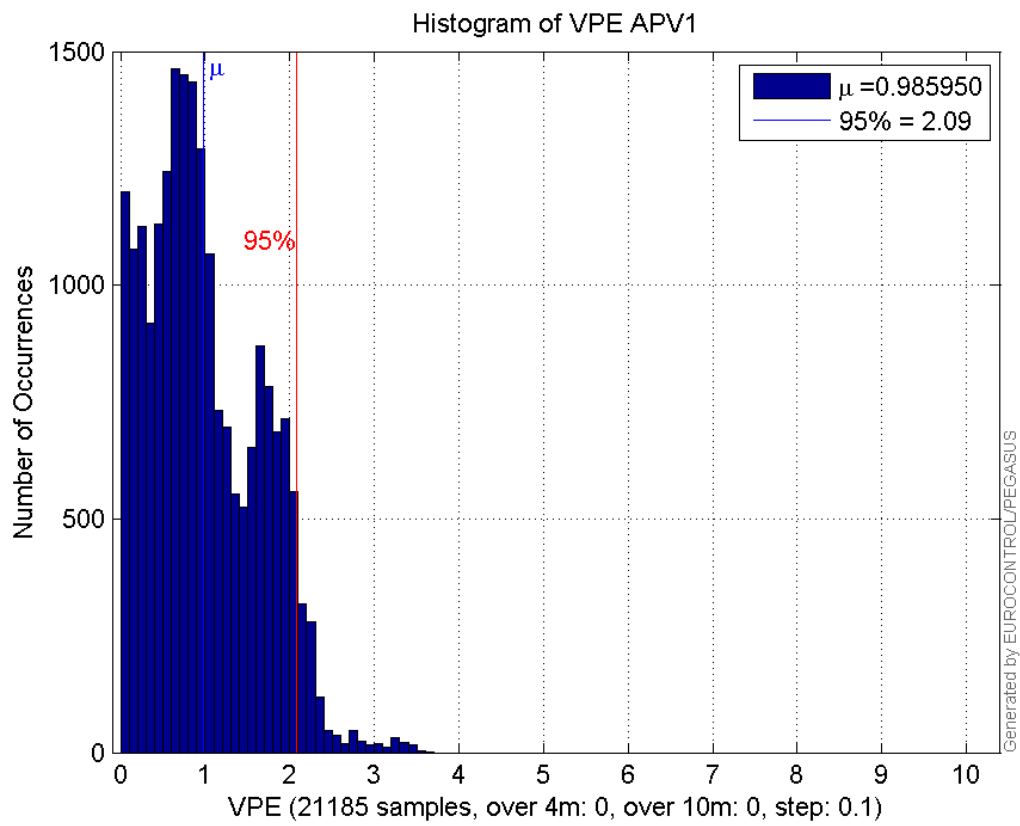
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.15043	0.331498	1.12401	1.68439	1.99368	1.19724
HPL	17.4092	6.72902	15.6206	35.097	37.5394	18.6644
VPE	0.98595	0.649194	0.863673	2.08645	2.60809	1.18048
VPL	19.0722	3.25614	19.2874	24.1364	26.207	19.3481

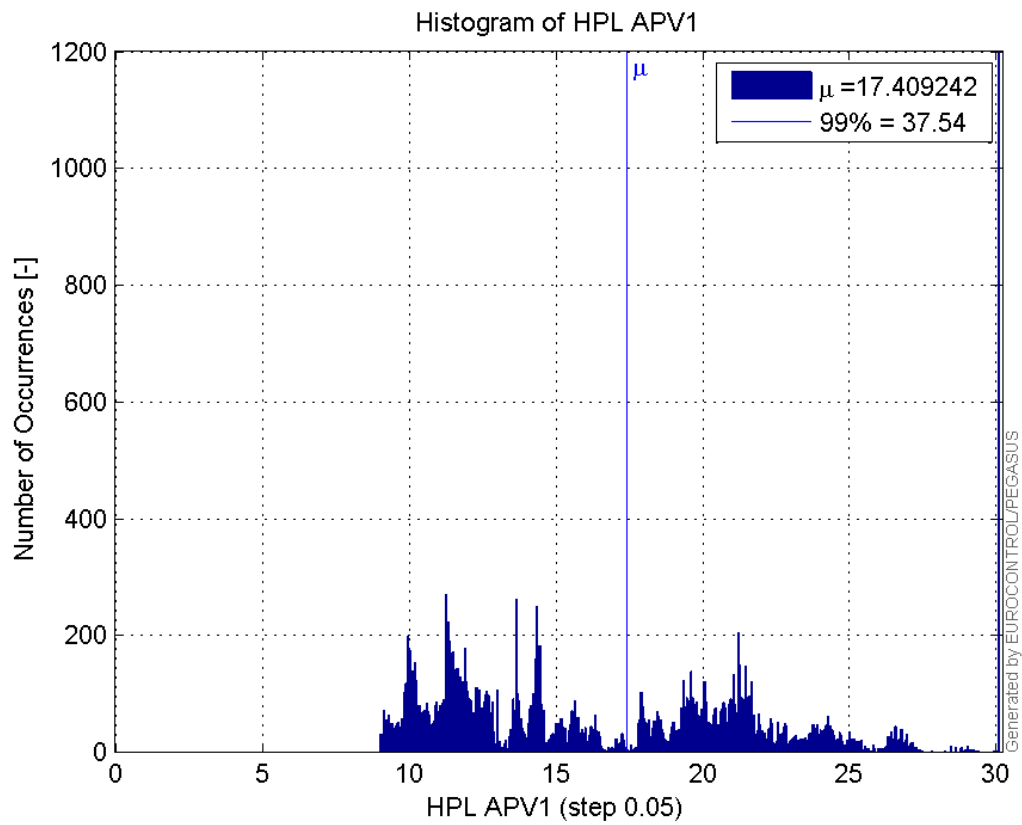
Histogram of HPE APV1:



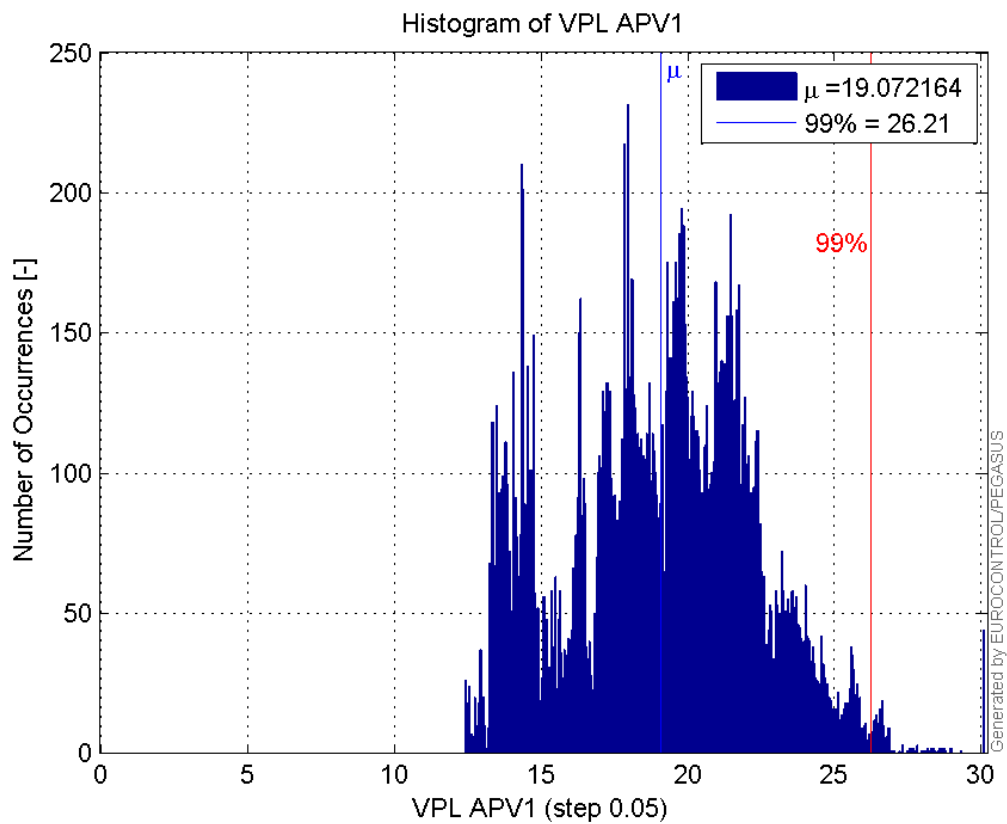
Histogram of VPE APV1:



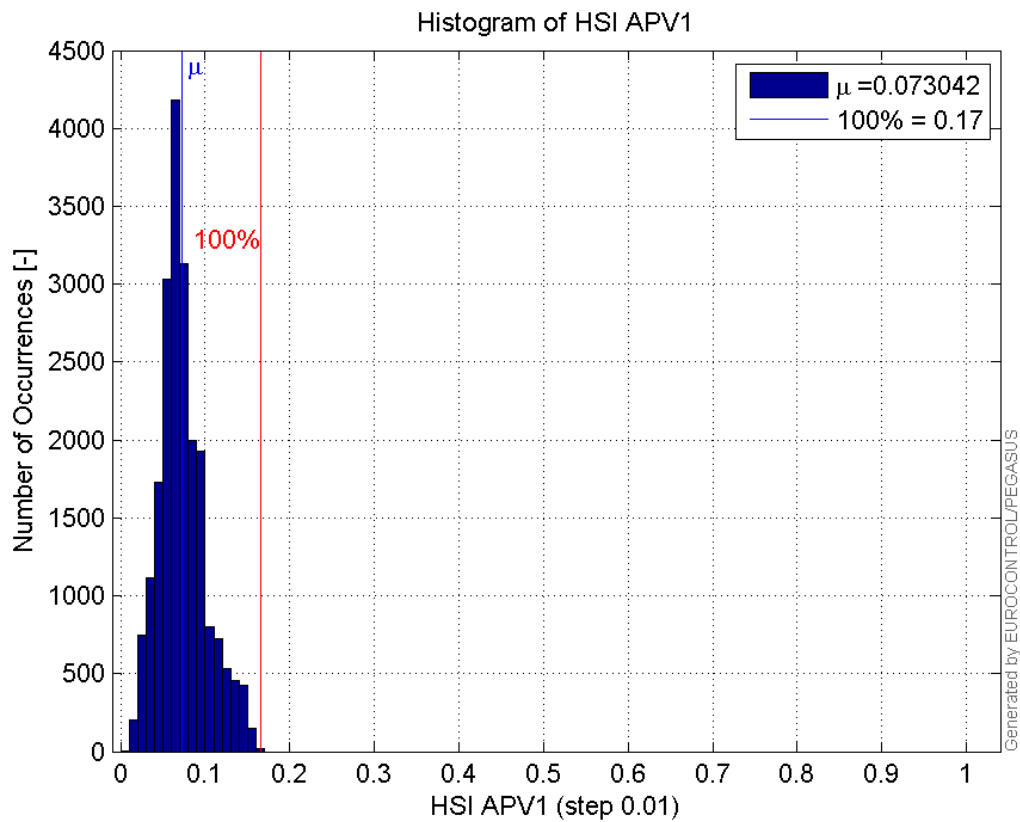
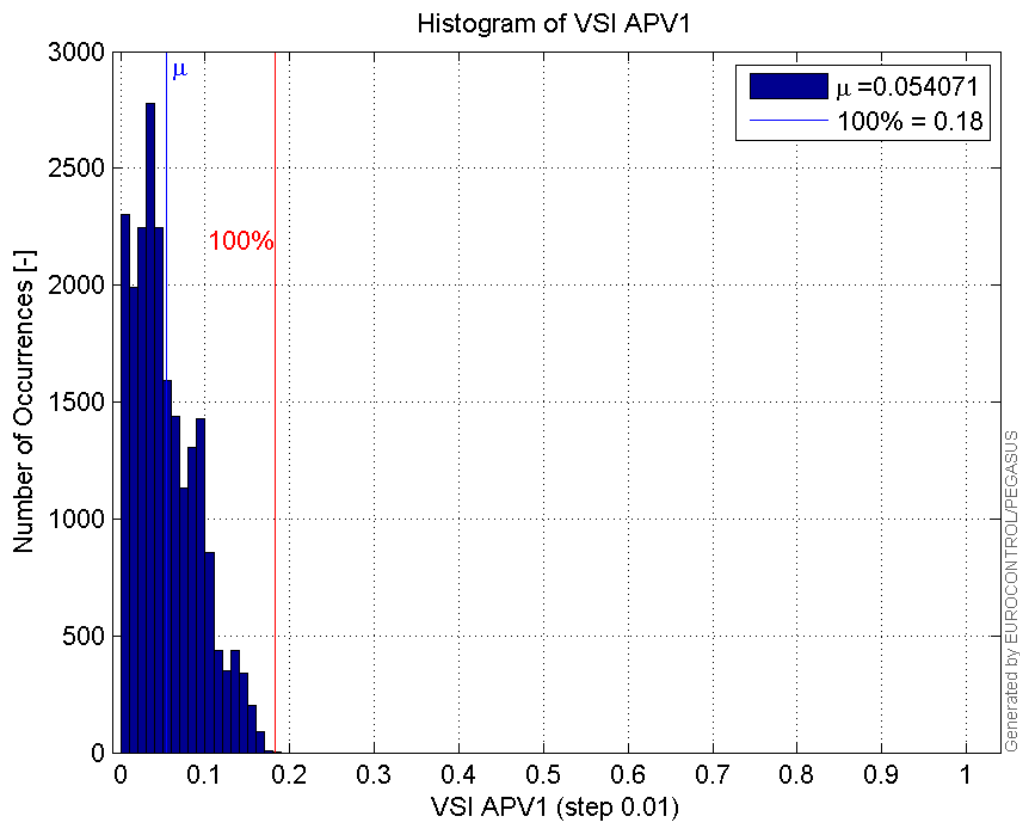
Histogram of HPL APV1:

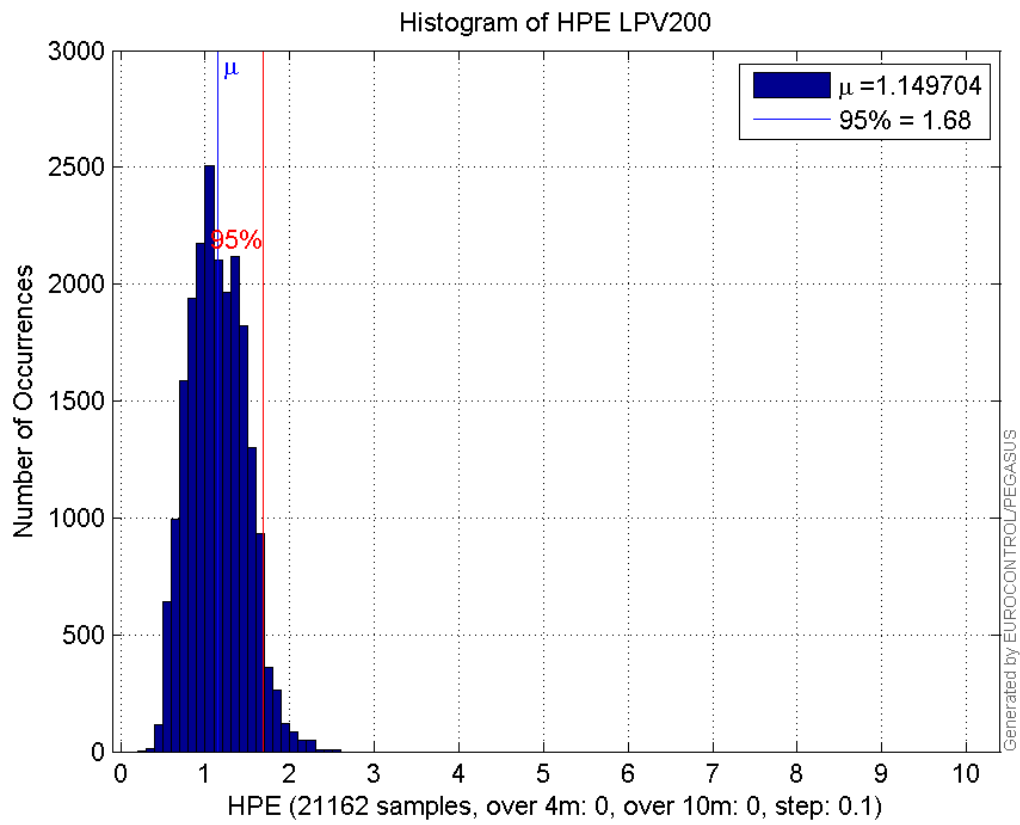


Histogram of VPL APV1:

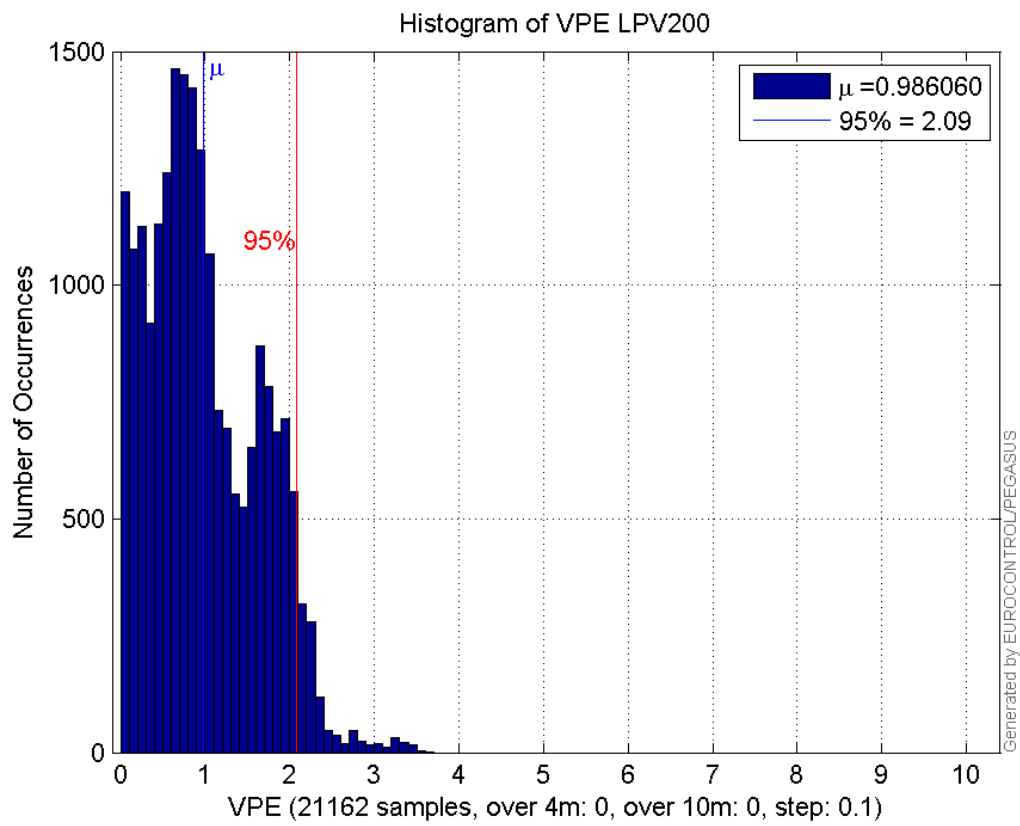


Histogram of HSI APV1:

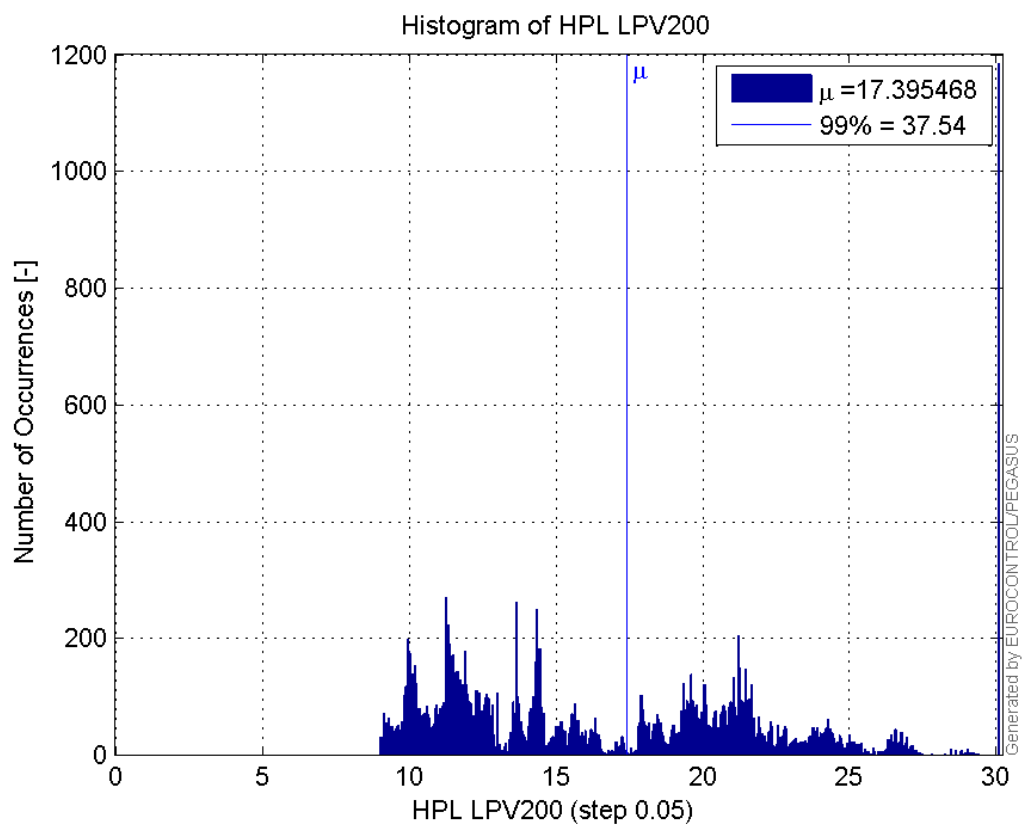
**Histogram of VSI APV1:****Histogram of HPE LPV200:**



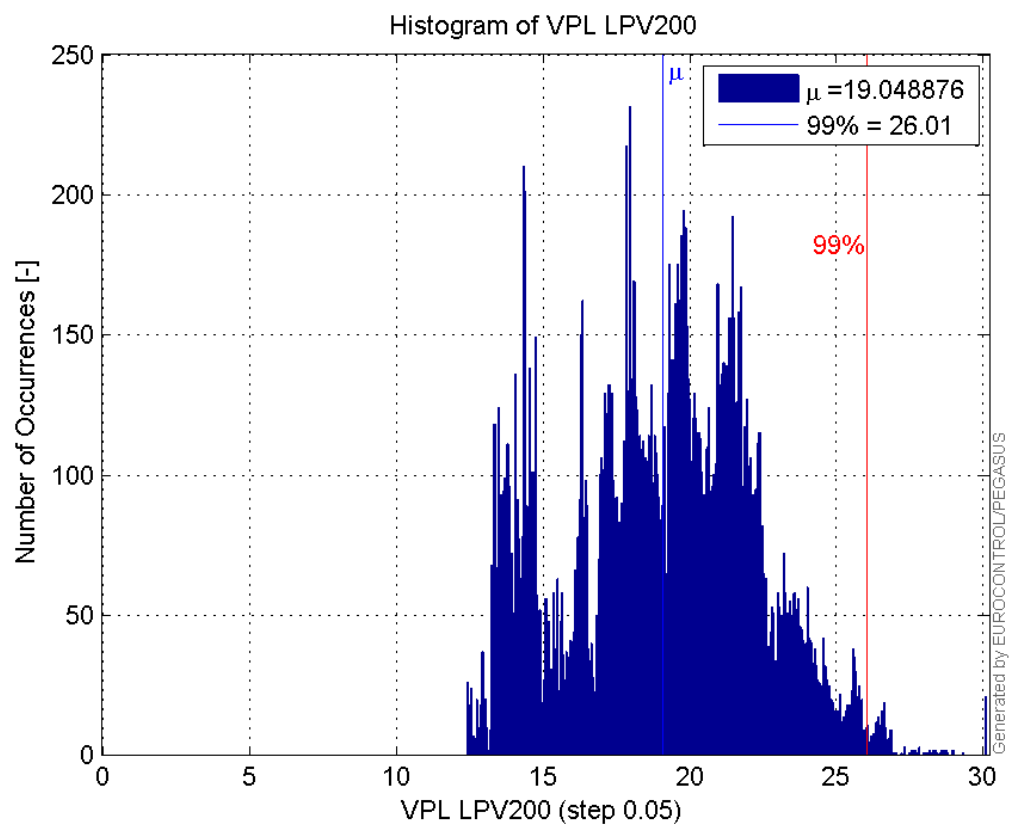
Histogram of VPE LPV200:



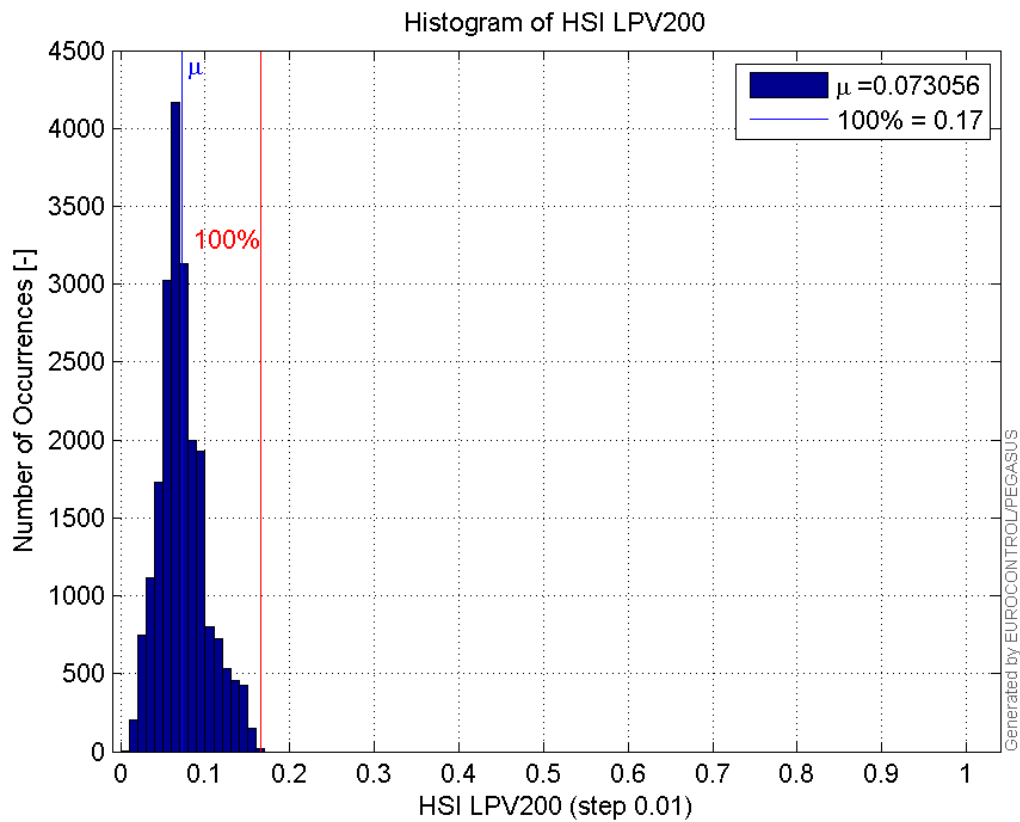
Histogram of HPL LPV200:



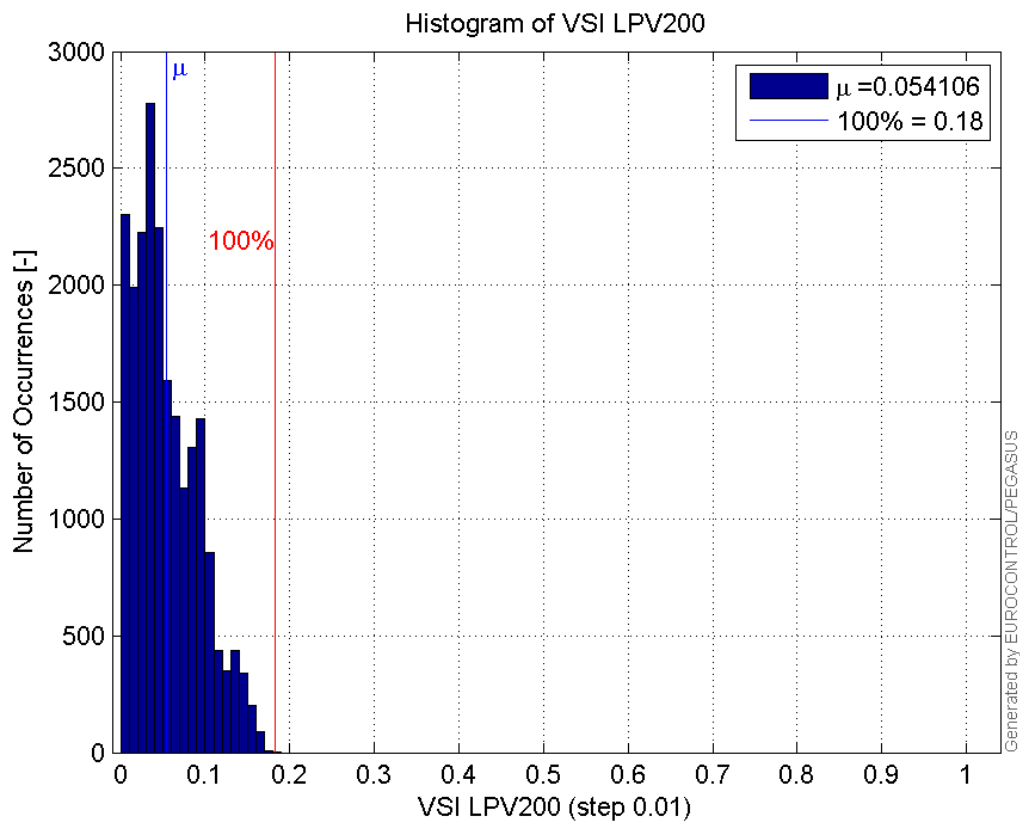
Histogram of VPL LPV200:



Histogram of HSI LPV200:

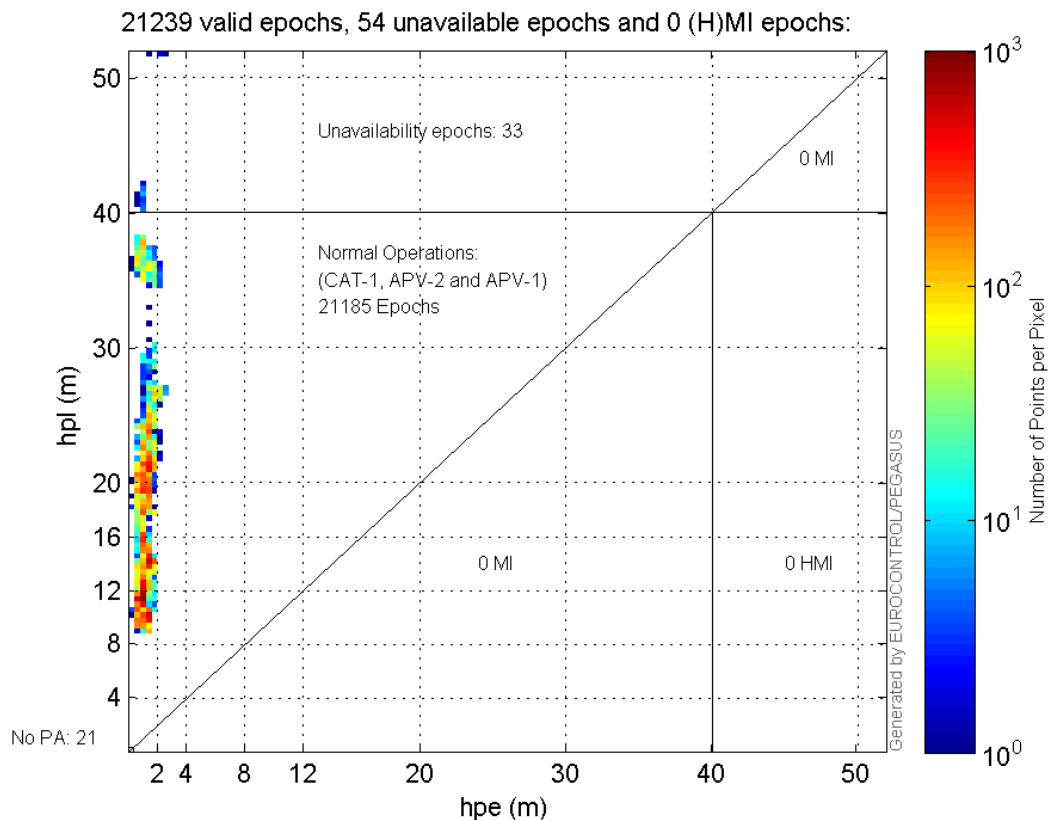


Histogram of VSI LPV200:

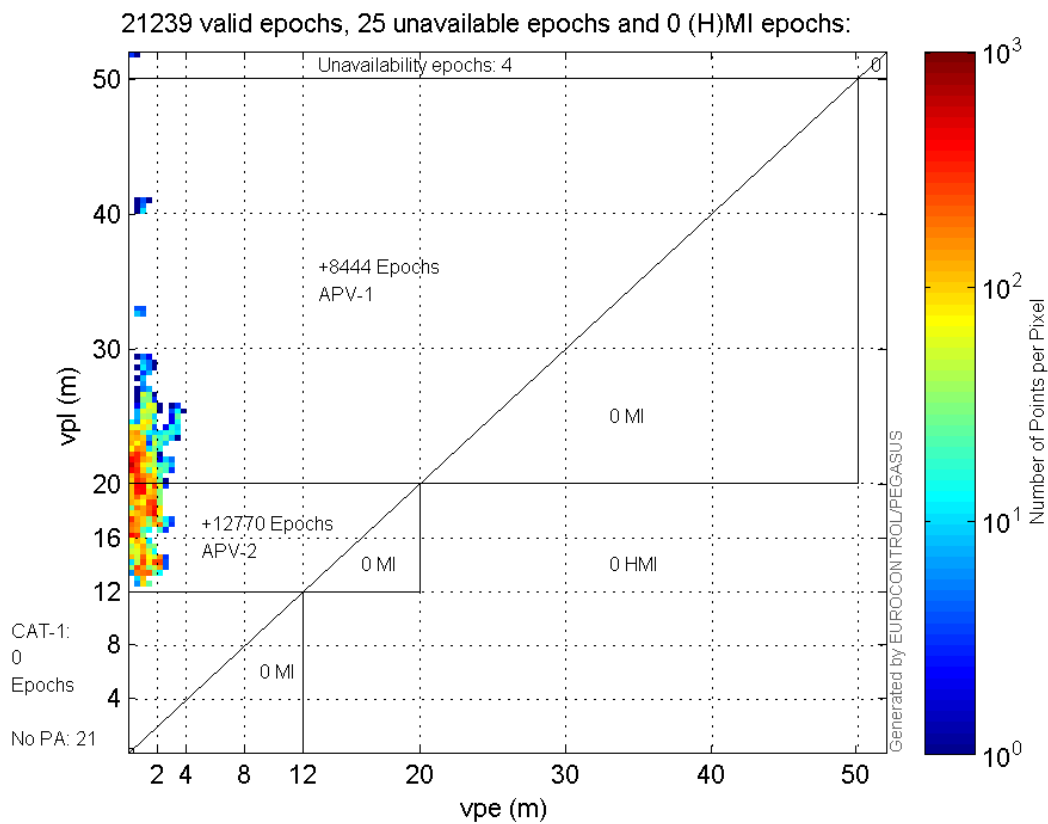


Stanford Plots

Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:



Parameters

system

Name	Section	Value
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name	system	GNSS_Solution
version	system	4.8.2.1
input_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_22EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_22EGNOS/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	225.6918
mi_numbers	results	0

Range Domain

start: 07:34:01 22.10.2015 (week: 1867 sec: 372841)
end: 13:34:00 22.10.2015 (week: 1867 sec: 394440)
duration: 06:00:00 ..

quality

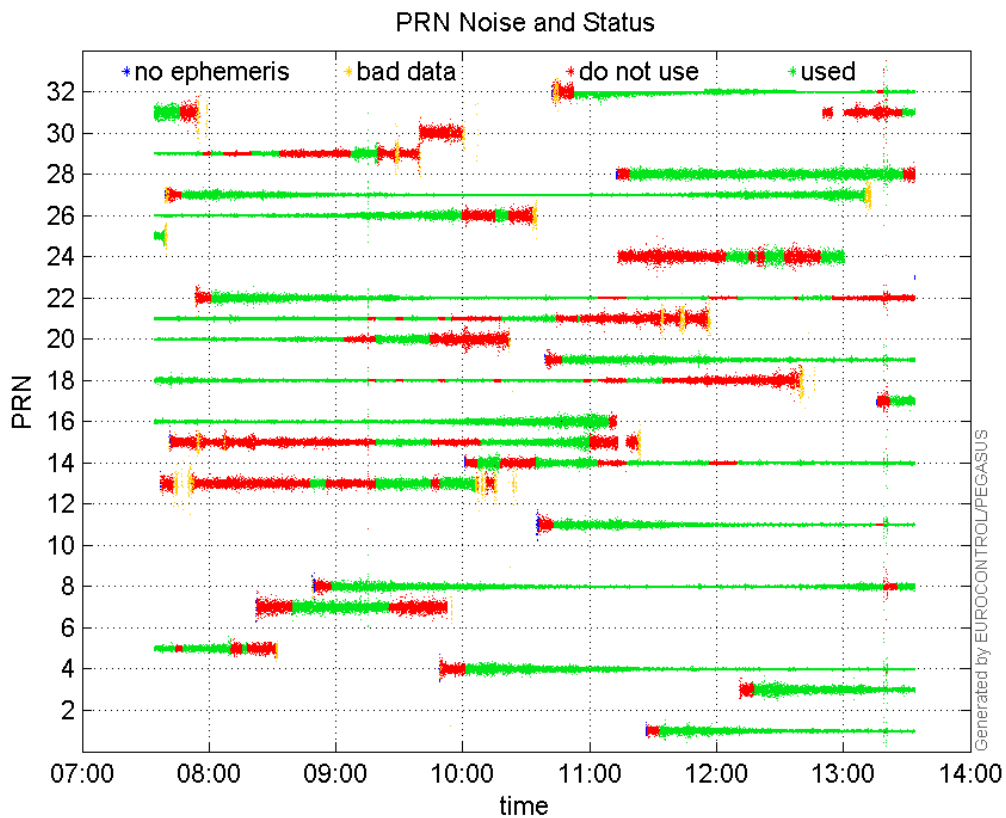
valid samples 21600
total samples 21600

PRN overview

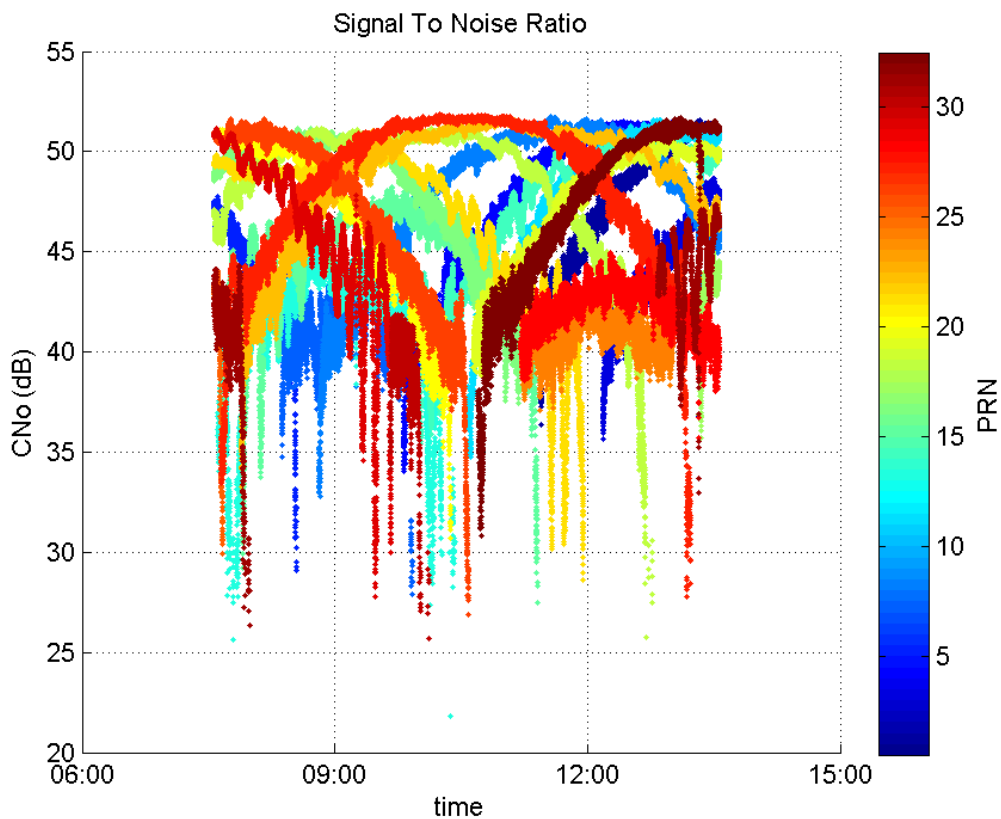
Number of Visible GPS Satellites 27
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



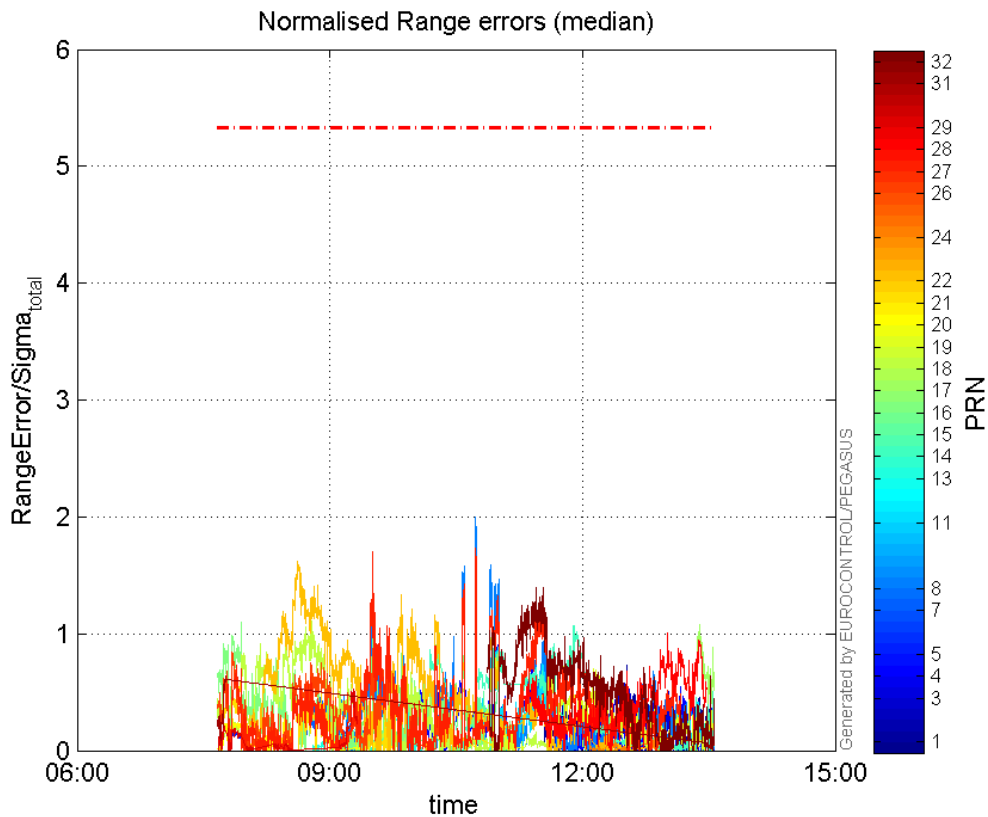
range errors

Number of Overbounding Norm Errors 0

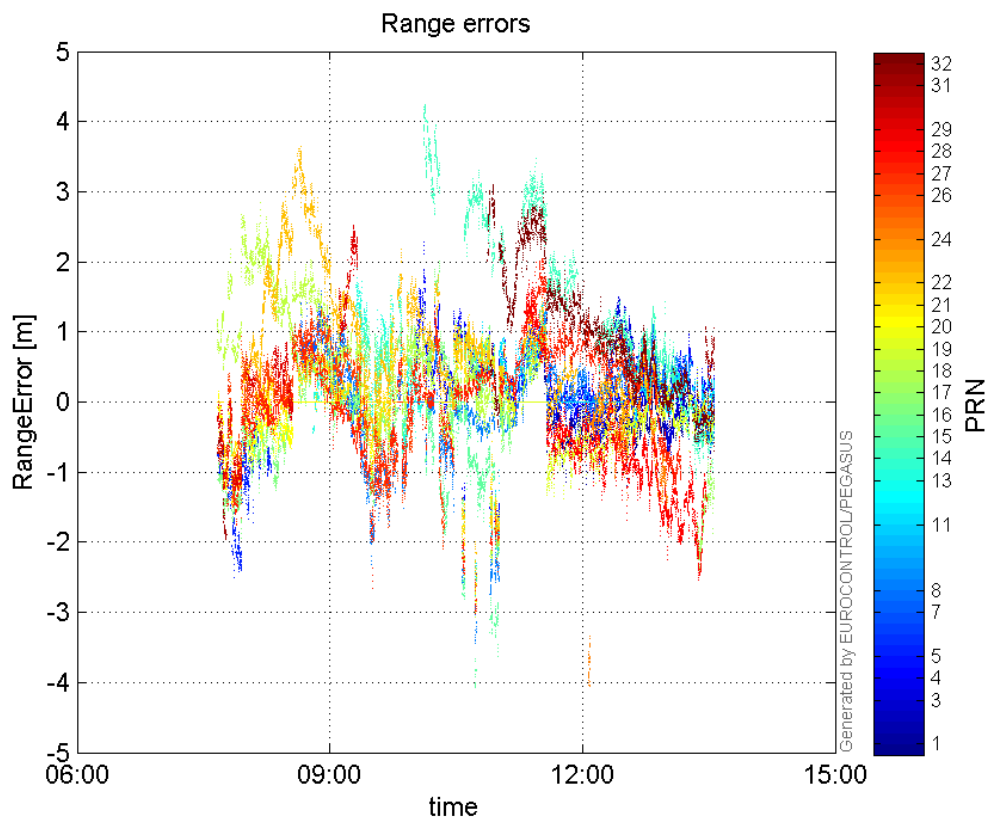
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1867	390718	1	0.728124	-1.19189	1.63693
1867	390619	3	0.577838	1.36774	2.367
1867	384228	4	1.30331	-2.72856	2.09357
1867	373426	5	0.341414	-1.11383	3.2624
1867	377622	7	0.563121	1.58447	2.81372
1867	384226	8	1.99673	-3.32458	1.66502
1867	384230	11	1.04459	-2.78158	2.66283
1867	381367	13	0.472059	1.54778	3.27878
1867	388444	14	1.072	2.06426	1.92561
1867	384228	15	0.977123	-4.07771	4.17318
1867	384230	16	1.14948	-2.7226	2.36854
1867	393827	17	1.08176	-2.40454	2.22279
1867	377191	18	1.12104	2.02713	1.80826
1867	385228	19	0.82827	-2.01561	2.43352
1867	376046	20	0.272692	-0.695783	2.55154
1867	374202	21	0.628247	-1.11793	1.77944
1867	376640	22	1.61899	3.58043	2.21152
1867	389098	24	0.157966	-4.05893	25.695
1867	379852	26	0.872545	-1.72915	1.98173
1867	384229	27	1.72886	-2.98732	1.72791
1867	392418	28	1.01051	-2.25518	2.23172
1867	379021	29	0.525402	2.51585	4.78843
1867	373566	31	0.635725	-1.95414	3.07388
1867	387113	32	1.39534	2.97342	2.13097

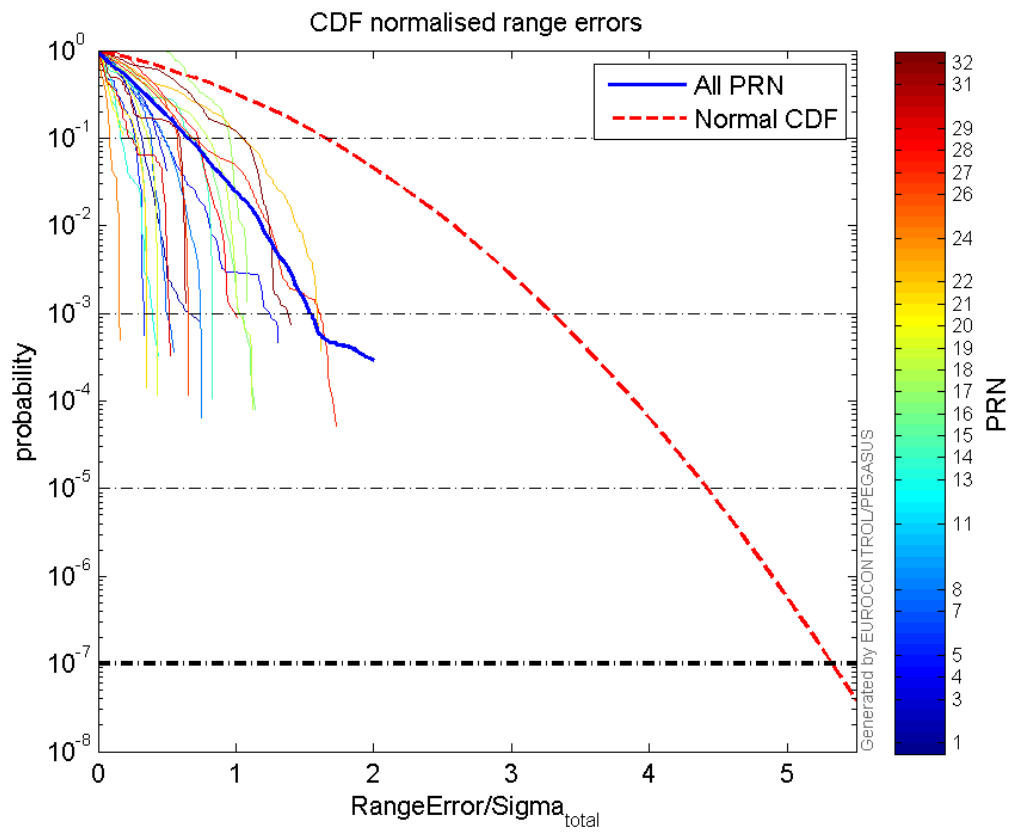
Normalised Range errors (median):



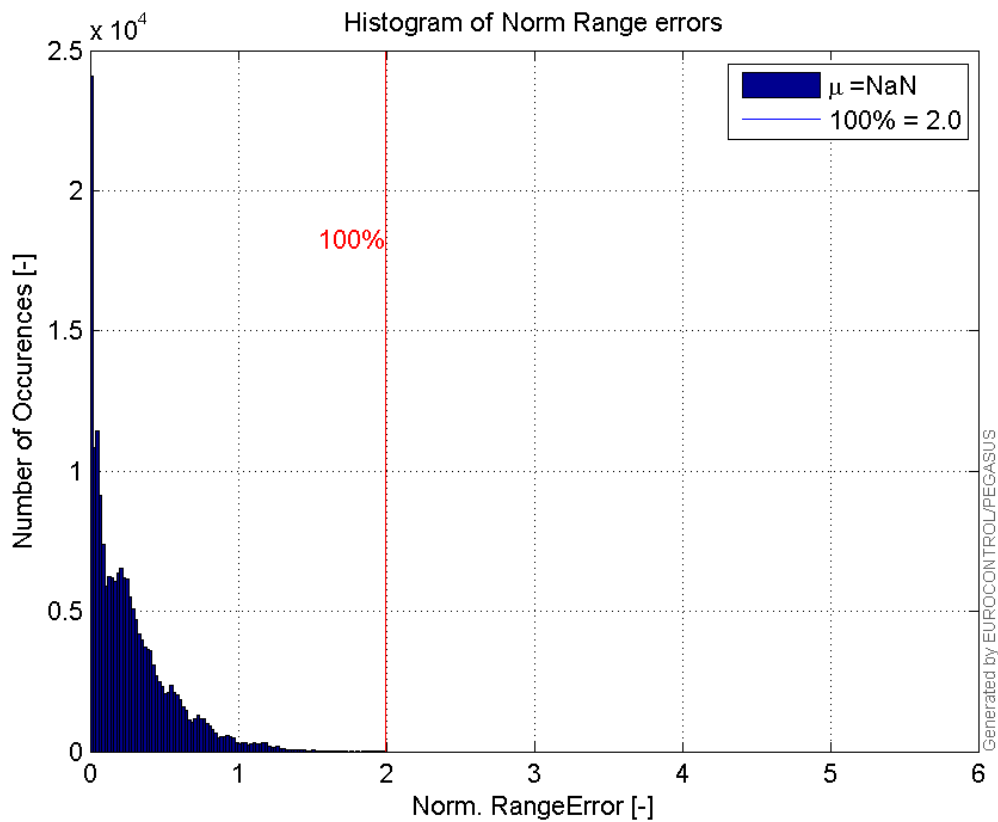
Range errors:



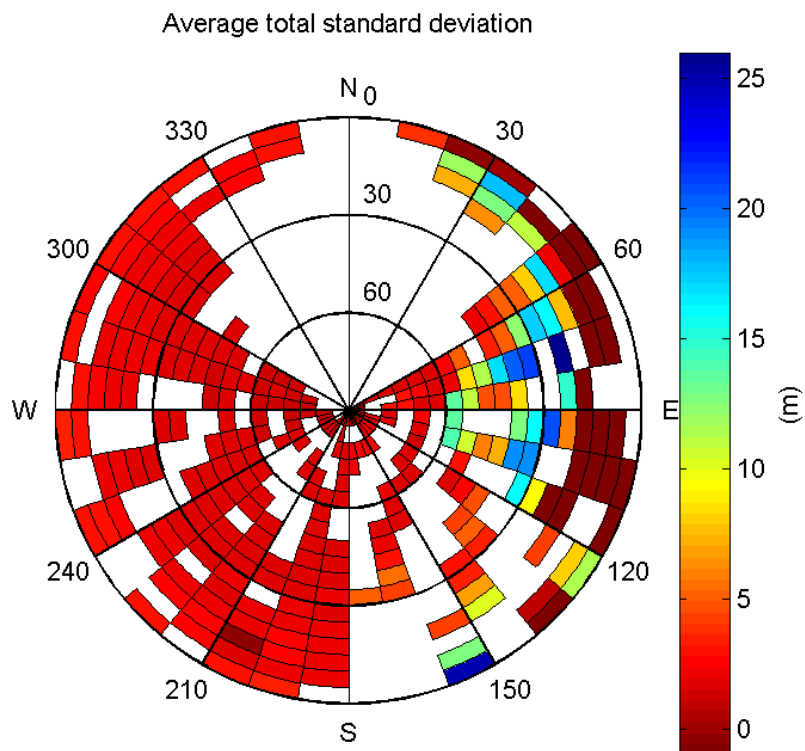
CDF normalised range errors:



Histogram of Norm Range errors:

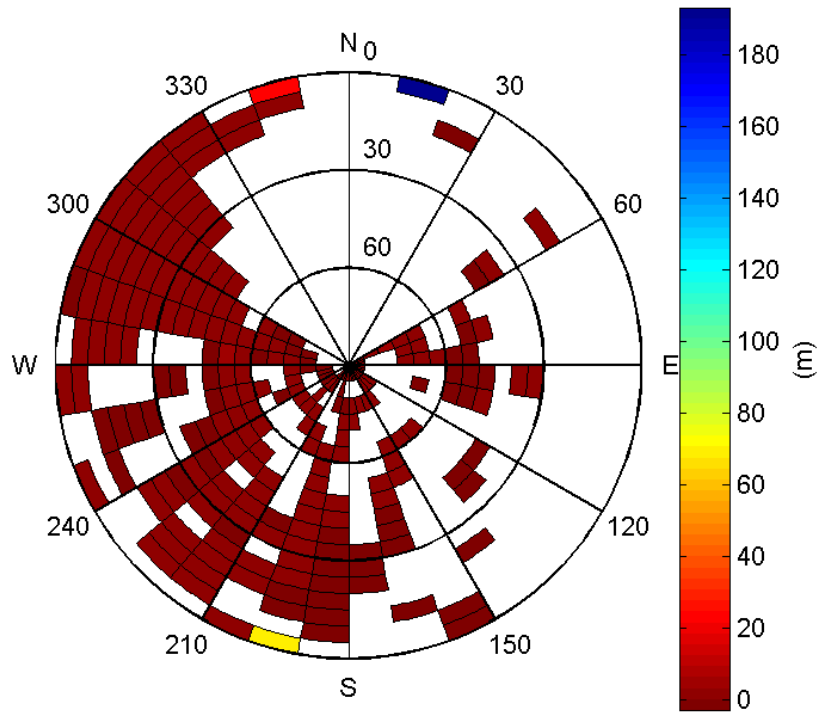


Sigma Sky Plot:



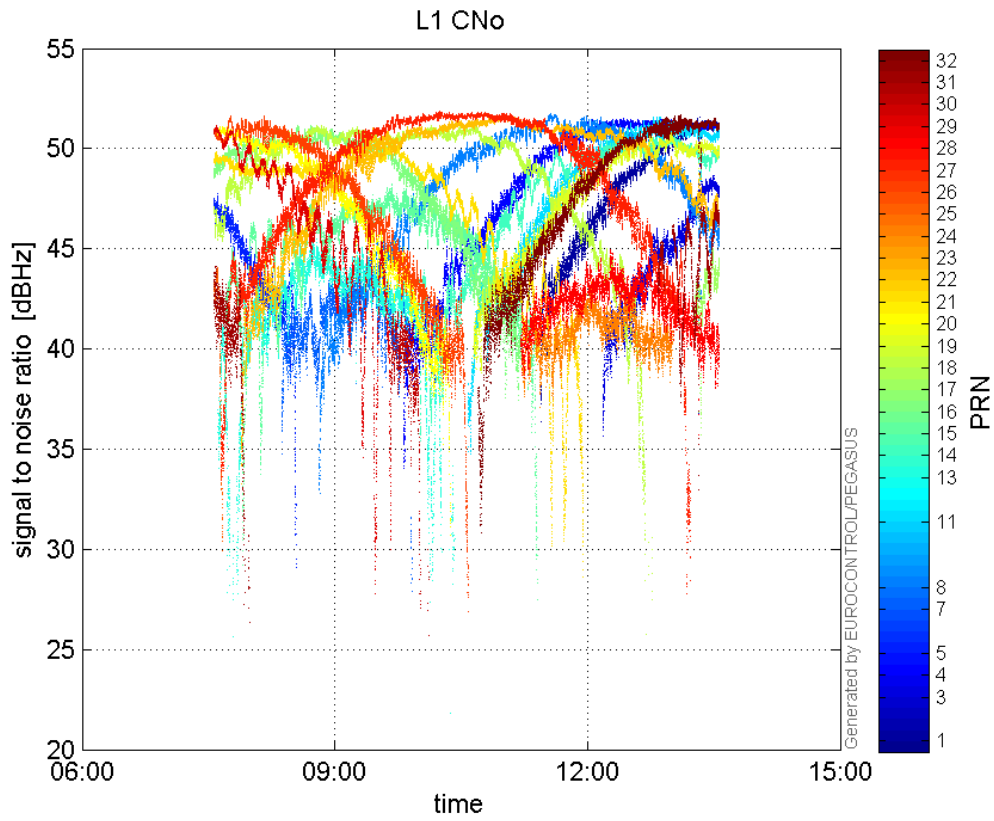
Norm Error Sky Plot:

Maximum Range Error

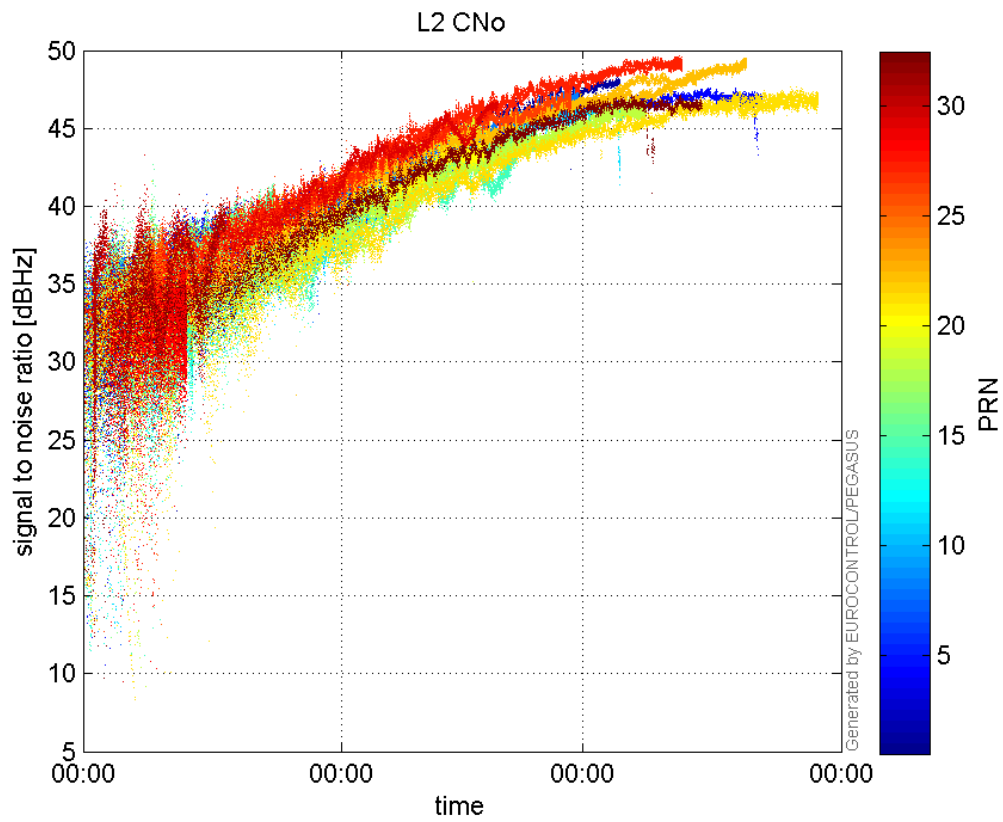


signal quality

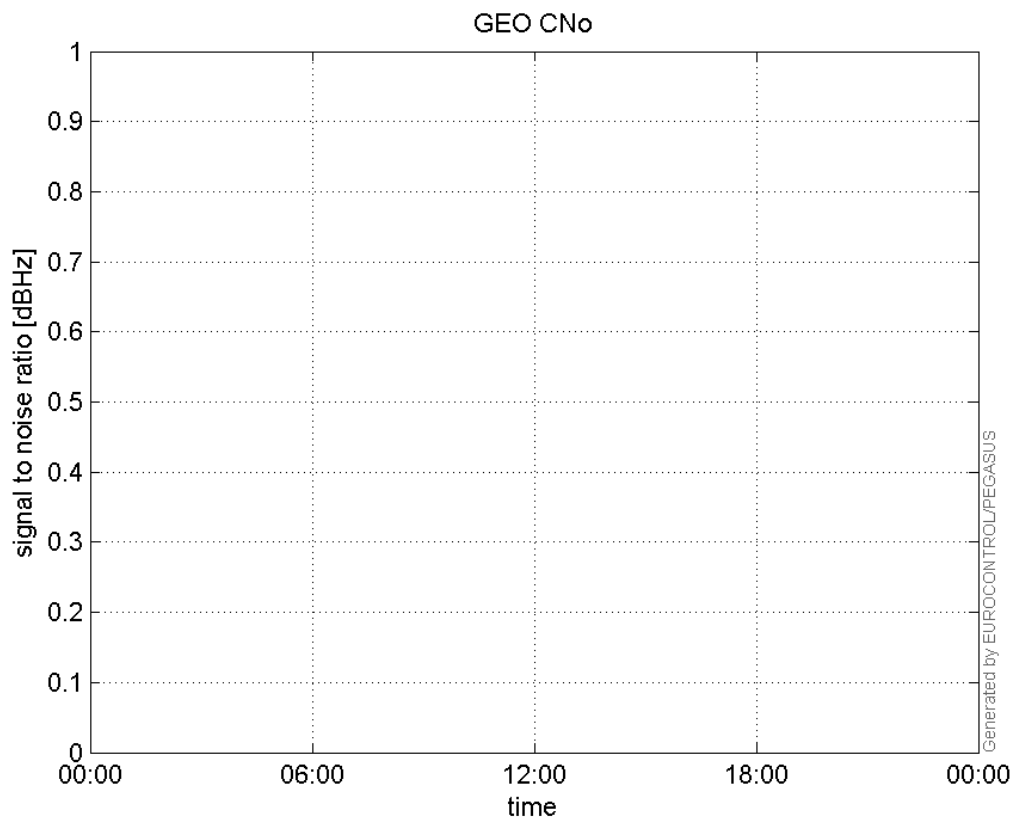
L1 CNo:



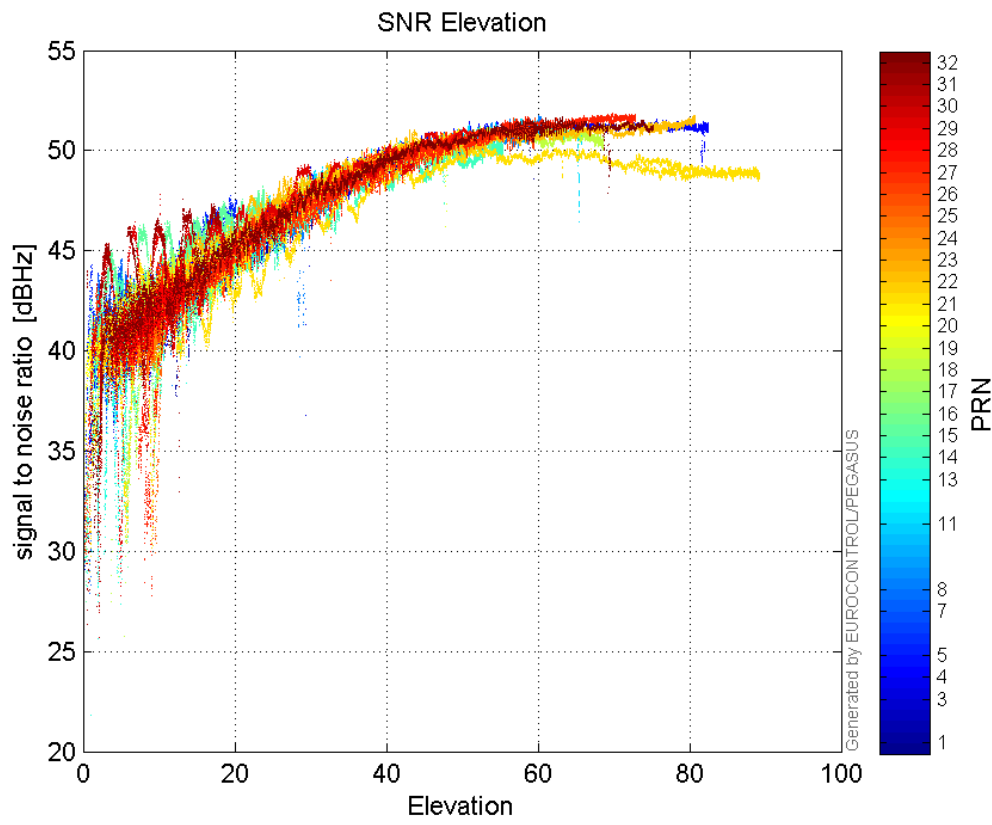
L2 CNo:



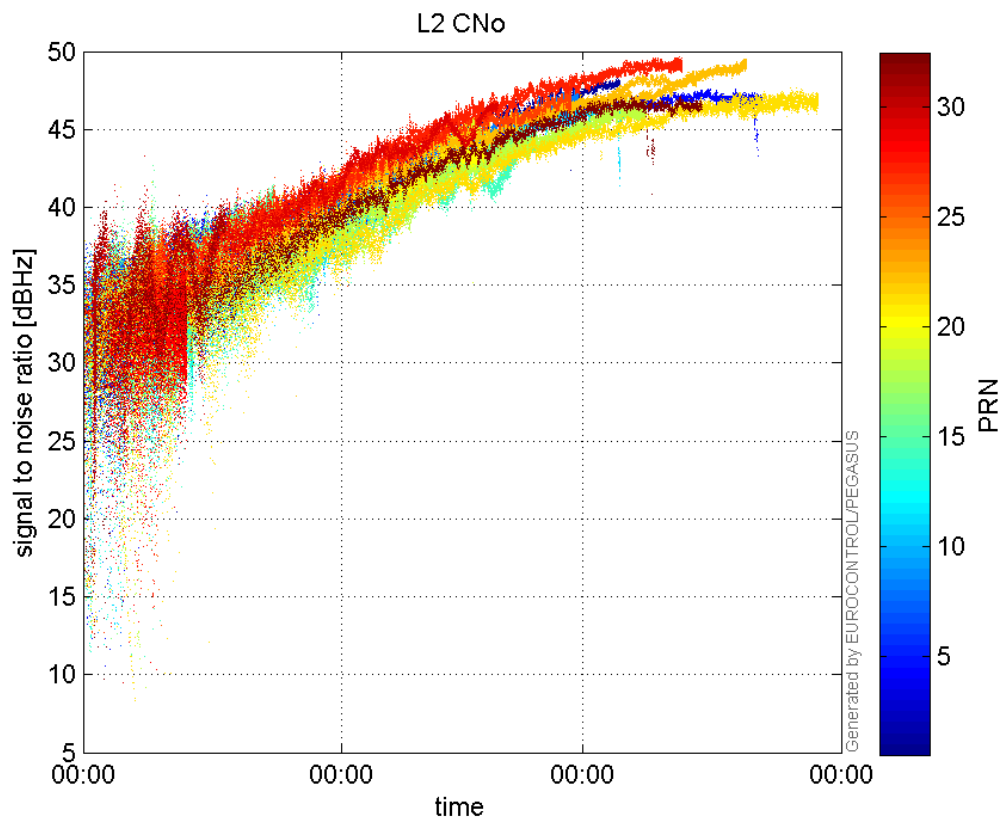
GEO CNo:



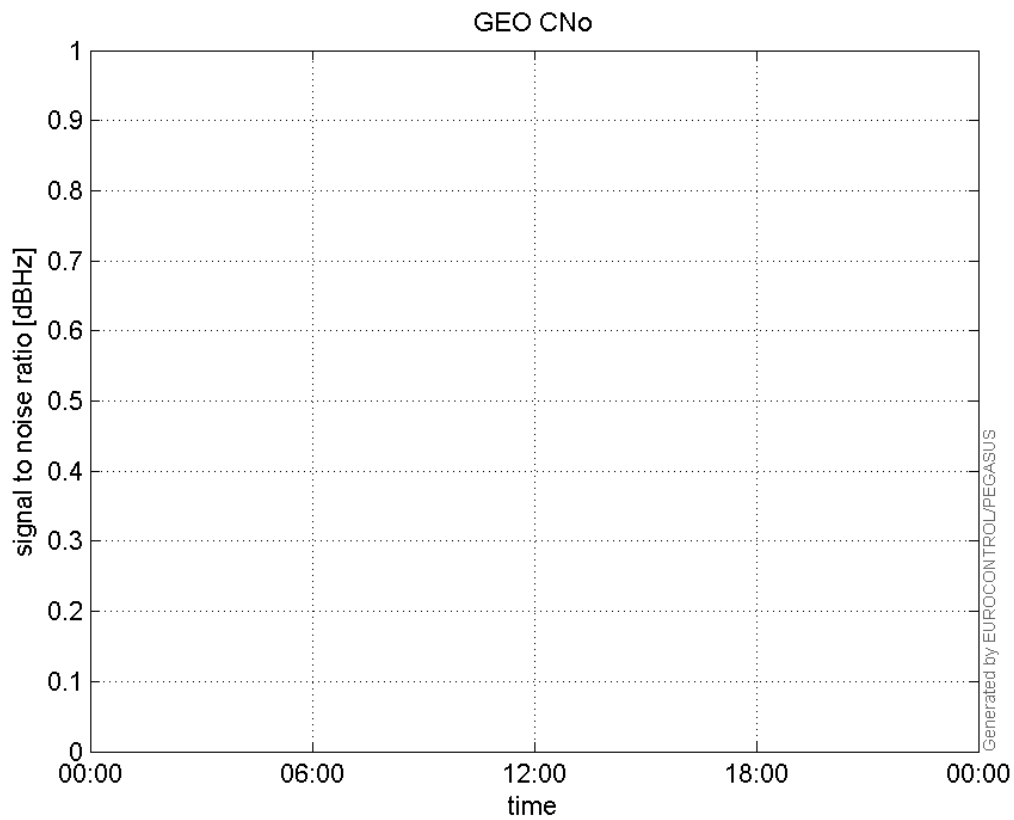
SNR Elevation:



L2 CNo:

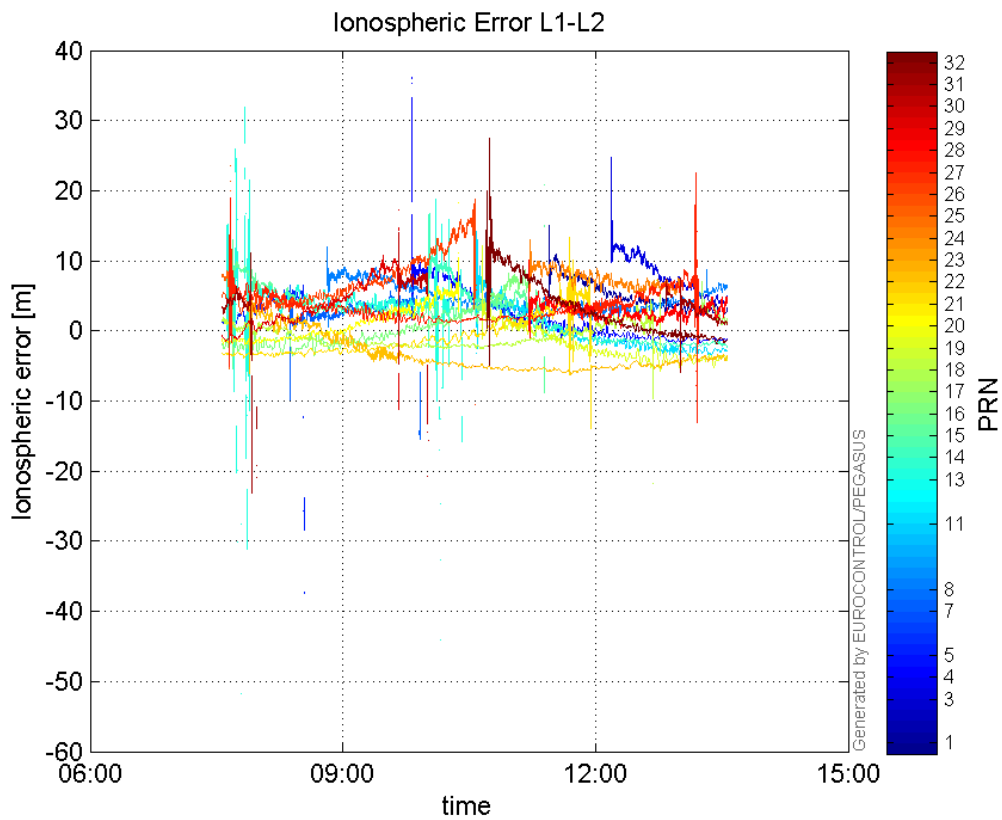


GEO CNo:



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_22EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_22EGNOS/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	225.6918
mi_numbers	results	0