

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: 08:10:21.129 15.10.2015 (week: 1866 sec: 375021.129)
end: 14:57:19.129 15.10.2015 (week: 1866 sec: 399439.129)
duration: 06:46:58 ..

quality

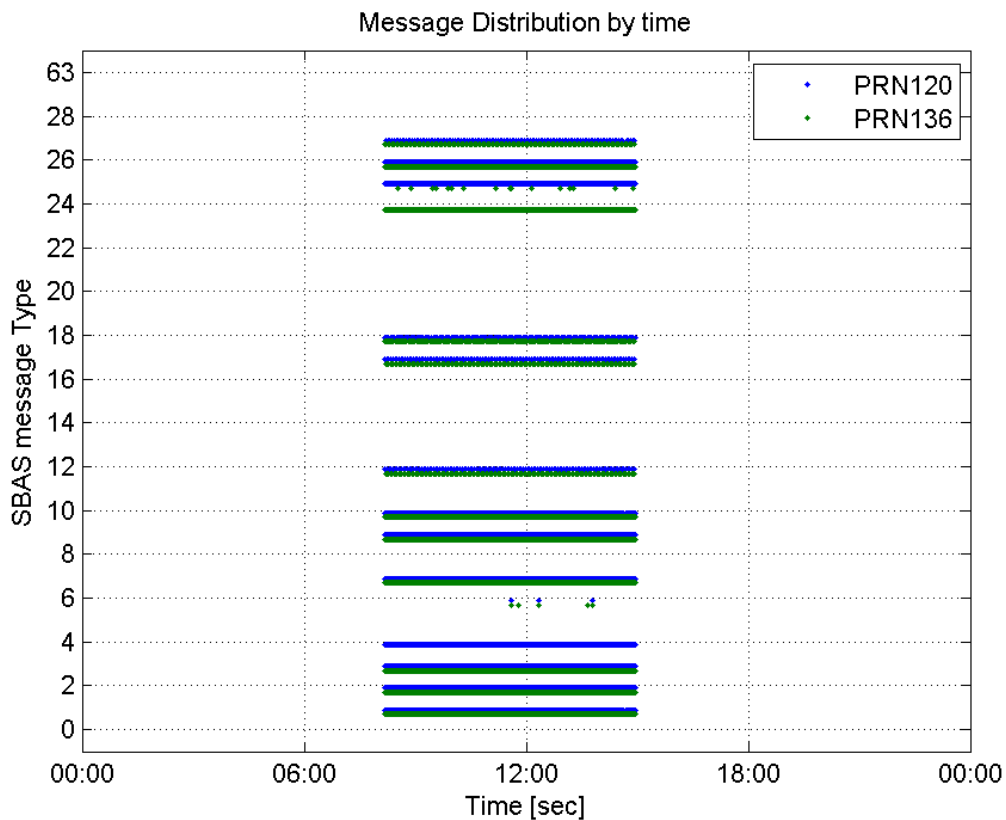
valid samples 48773
total samples 48773
number of SBAS PRNs 2

SBAS SIS Overview

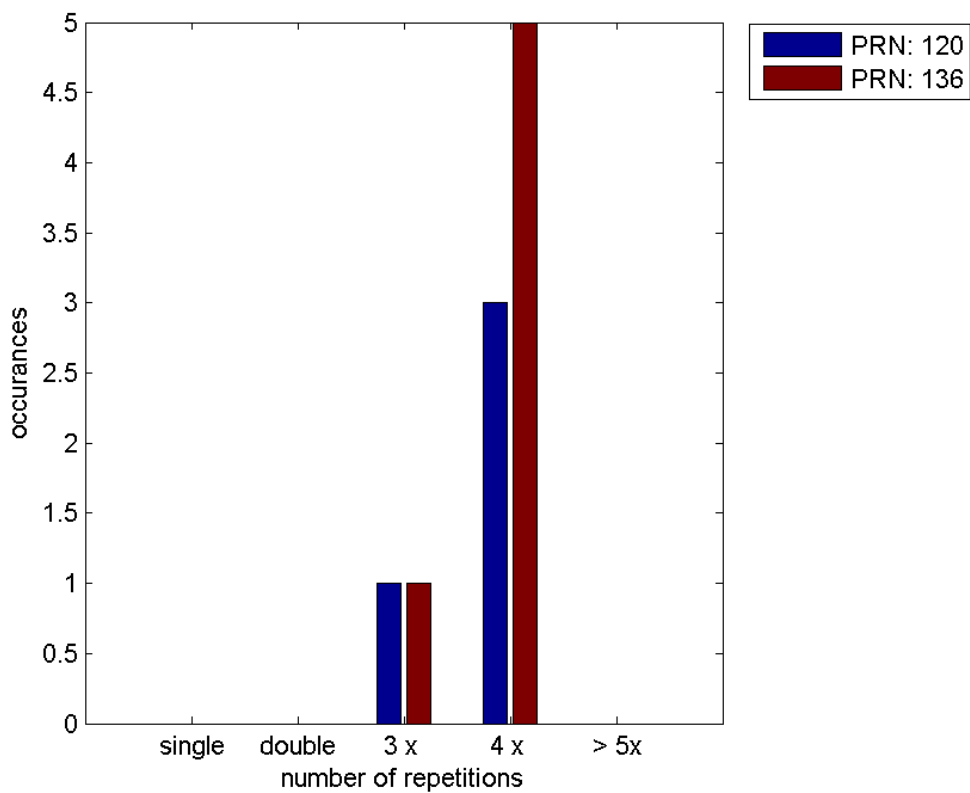
Message Type 6 repetitions :

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

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

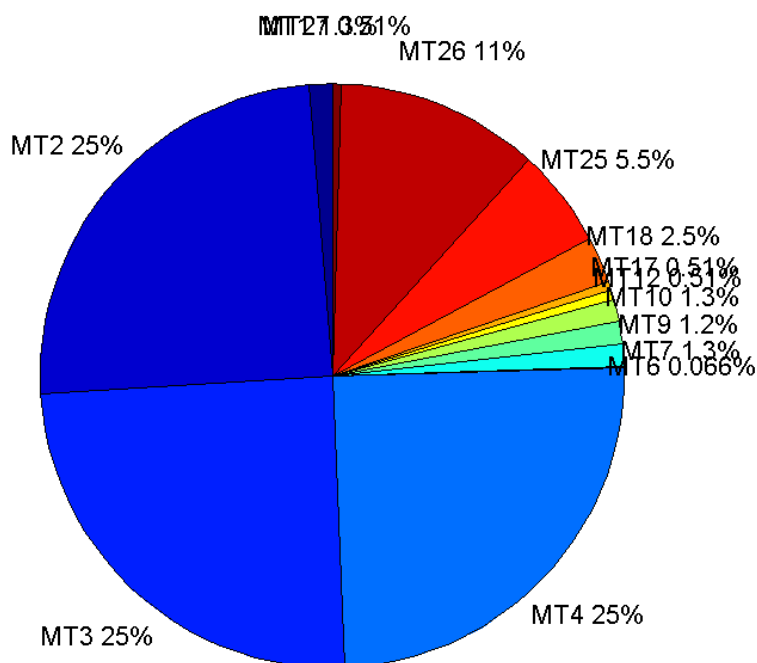
	number of messages	%
MT 0	0	0
MT 1	305	1.25236
MT 2	6021	24.7228
MT 3	6022	24.7269
MT 4	6021	24.7228
MT 5	0	0
MT 6	16	0.0656976
MT 7	305	1.25236
MT 9	304	1.24825
MT 10	305	1.25236
MT 12	124	0.509157
MT 17	124	0.509157
MT 18	621	2.54989
MT 24	0	0
MT 25	1334	5.47754
MT 26	2729	11.2056
MT 27	123	0.505051
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	24354	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	160	80.1809	1	0	0
MT 2	4	68	4.05548	7	1	1
MT 3	4	68	4.05531	7	1	1
MT 4	4	68	4.05548	7	1	1
MT 5	--	--	--	--	--	--
MT 6	1	5209	525.133	3	3	3
MT 7	76	159	80.1546	1	0	0
MT 9	76	160	80.1815	0	0	0
MT 10	75	159	80.1546	1	0	0
MT 12	190	201	196.764	123	0	0
MT 17	191	203	196.699	0	0	0
MT 18	4	159	39.3597	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	80	18.2948	0	0	0
MT 26	1	76	8.94685	0	0	0
MT 27	188	384	198.32	0	0	0

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

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

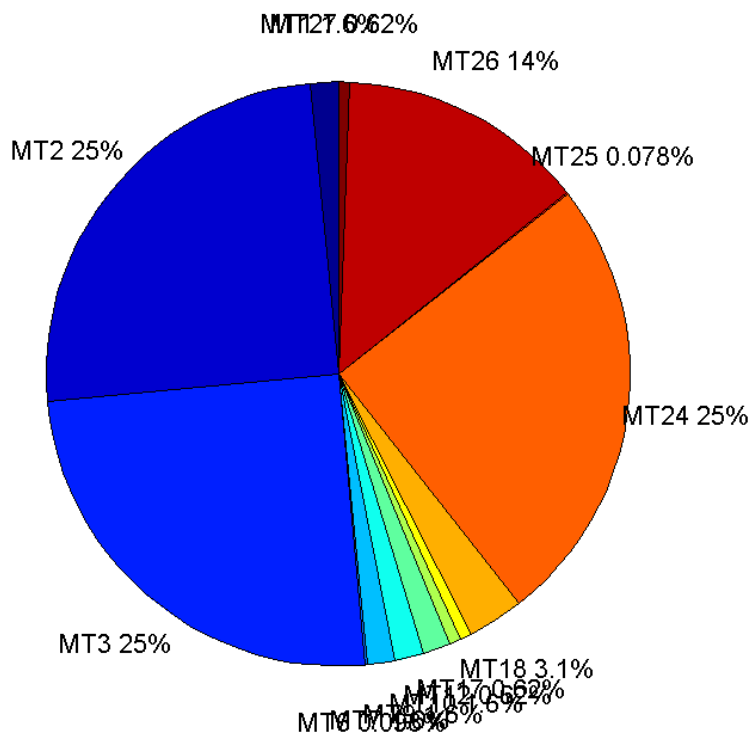
	number of messages	%
MT 0	0	0
MT 1	380	1.55617
MT 2	6097	24.9683
MT 3	6096	24.9642
MT 4	0	0
MT 5	0	0
MT 6	24	0.0982841
MT 7	380	1.55617
MT 9	380	1.55617
MT 10	380	1.55617
MT 12	152	0.622466
MT 17	152	0.622466
MT 18	760	3.11233
MT 24	6096	24.9642

MT 25	19	0.0778083
MT 26	3351	13.7229
MT 27	152	0.622466
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	24419	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	73	64.277	0	0	0
MT 2	4	8	4.00541	7	0	0
MT 3	4	8	4.00541	7	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	4776	345.652	5	5	5
MT 7	64	72	64.277	0	0	0
MT 9	64	75	64.277	0	0	0
MT 10	64	75	64.277	0	0	0
MT 12	156	175	160.51	151	0	0
MT 17	156	175	160.536	0	0	0
MT 18	4	147	31.9697	0	0	0
MT 24	4	8	4.00541	0	0	0
MT 25	23	4043	1275.22	0	0	0
MT 26	1	45	7.28746	0	0	0
MT 27	156	175	160.563	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_15EGNOS/01_User/01_User
Outputfile	System	D:/PEGASUS_DAT_job/JOB/2015_10_15EGNOS/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: 08:10:21 15.10.2015 (week: 1866 sec: 375021)
end: 14:57:20 15.10.2015 (week: 1866 sec: 399440)
duration: 06:47:00 ..

quality

valid samples 24050
total samples 24420

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 long

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	389028	1.48718	10.4175	0.142758	-0.0278506	16.1974	0.00171945
max normVer	395583	0.581689	10.5812	0.0549739	-2.25976	12.4286	0.181819
max HPE	381037	2.52415	35.8408	0.0704268	-0.722386	20.3585	0.0354833
max VPE	382576	0.680629	10.032	0.0678458	-2.39006	21.1218	0.113156
min HPL	386546	0.526683	8.07962	0.0651866	-0.271789	10.6343	0.0255577
min VPL	386543	0.54733	8.10154	0.0675587	-0.224412	10.6125	0.021146

Position discontinuity events :

#	Epoch	duration	stable period
1	398355	56	22964

APV-I discontinuity events :

#	Epoch	duration	stable period
1	398354	61	22963

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	379770	140	4379
2	379968	168	58
3	398354	61	18218

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	379770	140	4379
2	379968	168	58
3	398354	61	18218

CAT-I discontinuity events :

#	Epoch	duration	stable period
1	386608	6895	141
2	393703	2623	151
3	396630	372	304
4	397224	21	222
5	397302	64	1
6	397403	4	1
7	397412	401	1
8	397914	30	2

First Glance analysis

Duration	24420
Number of Samples	24420
Number of invalid sample	370
Number of no position solution samples	56
Number of missing sample	0
Logging Loss	0
Processing Loss	1.5152
Number of Misleading Information	0
Data gaps	0
Discontinuities	1

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
23994	23989	23681	1429	23681

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.43833	1.43807	1.43958	1.08864	1.43958
HPEscale 95%	NaN	4.47885	4.48568	4.28372	4.48568
VPE 95%	1.73317	1.73258	1.73412	1.06082	1.73412
VPEscale 95%	NaN	5.29611	3.71585	1.11626	3.71585

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.997672	0.997464	0.984657	0.0594179	0.984657
measurements	0.982555	0.982351	0.969738	0.0585176	0.969738
Operational	0.982555	0.982351	0.969738	0.0585176	0.969738

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	1	1	3	80	3
Long	1	1	3	8	3
Independent	1	1	3	4	3
P(disc.)	0.000625156	0.000625287	0.00190026	0.0419874	0.00190026
P(slide)	0.000625156	0.000625287	0.00190026	0.156053	0.00190026

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

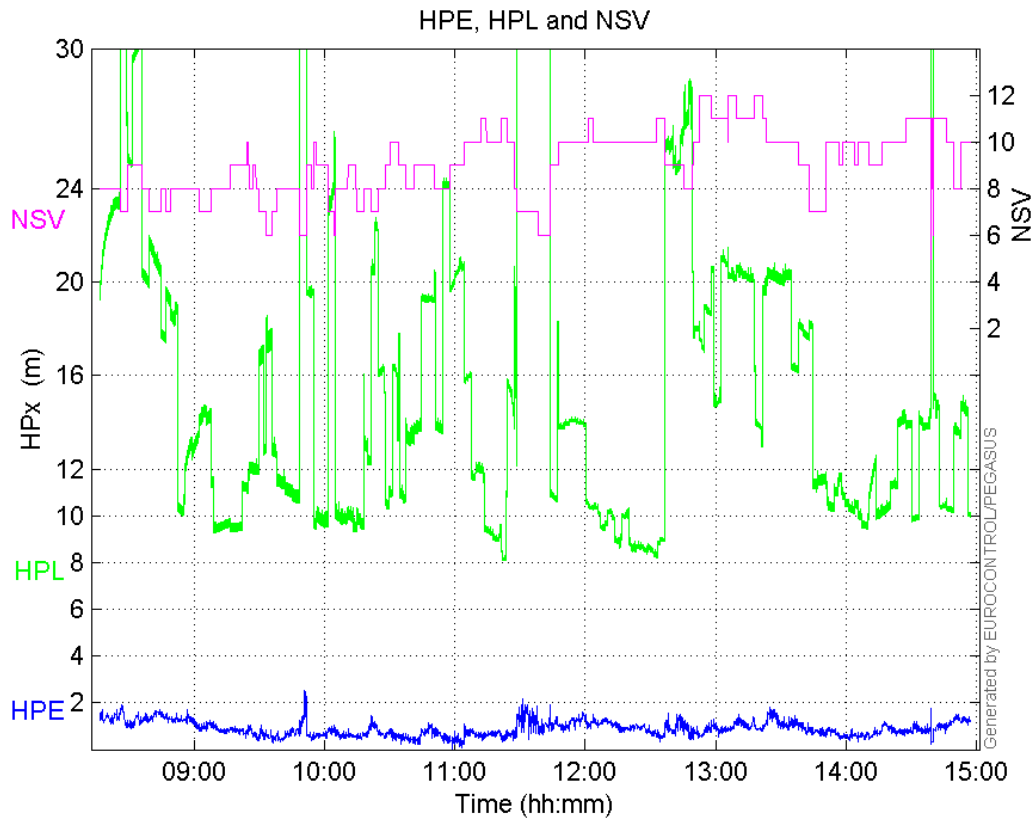
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	23994	23989	23681	1429	23681
SIS Availability	0.997672	0.997464	0.984657	0.0594179	0.984657
Local Availability	0.982555	0.982351	0.969738	0.0585176	0.969738
Operational Availability	0.982555	0.982351	0.969738	0.0585176	0.969738

HPE 95%	1.43833	1.43807	1.43958	1.08864	1.43958
HPEscale 95%	NaN	4.47885	4.48568	4.28372	4.48568
VPE 95%	1.73317	1.73258	1.73412	1.06082	1.73412
VPEscale 95%	NaN	5.29611	3.71585	1.11626	3.71585
All Discontinuity Events	1	1	3	80	3
Long Discontinuity Events	1	1	3	8	3
Independent Discontinuity Events	1	1	3	4	3
P(discontinuity)	0.000625156	0.000625287	0.00190026	0.0419874	0.00190026
P(sliding window)	0.000625156	0.000625287	0.00190026	0.156053	0.00190026
All Integrity Events	0	0	0	0	0
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

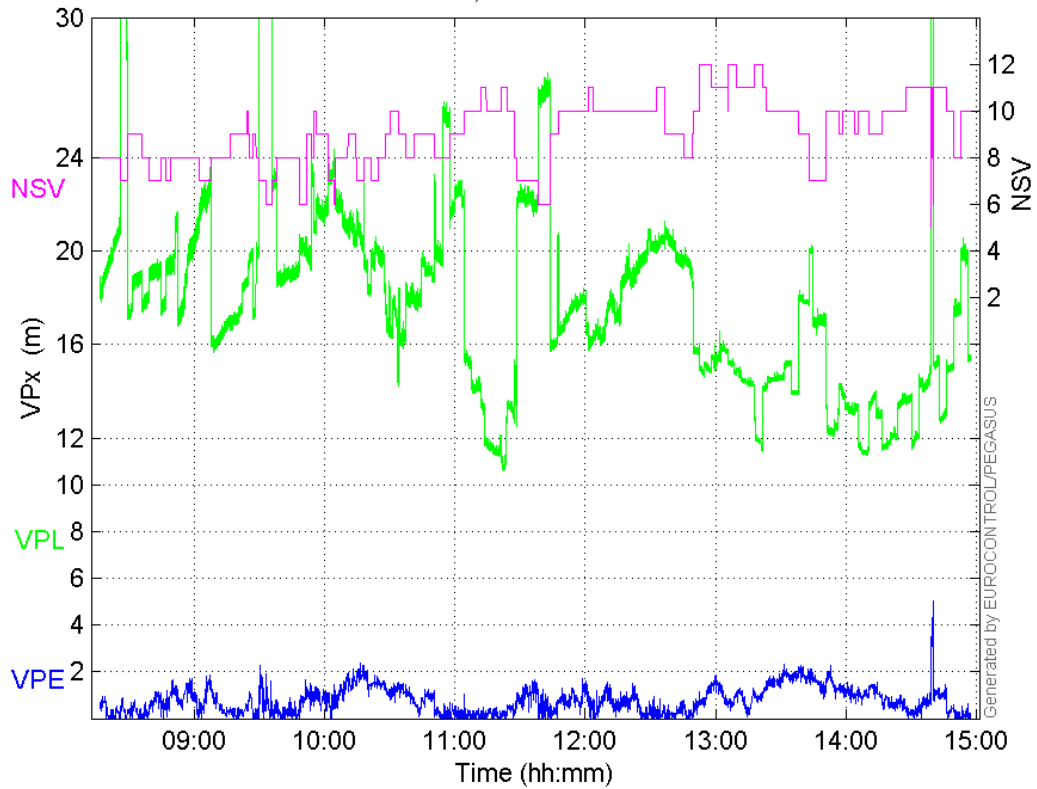
Time Series

HPE, HPL and NSV:



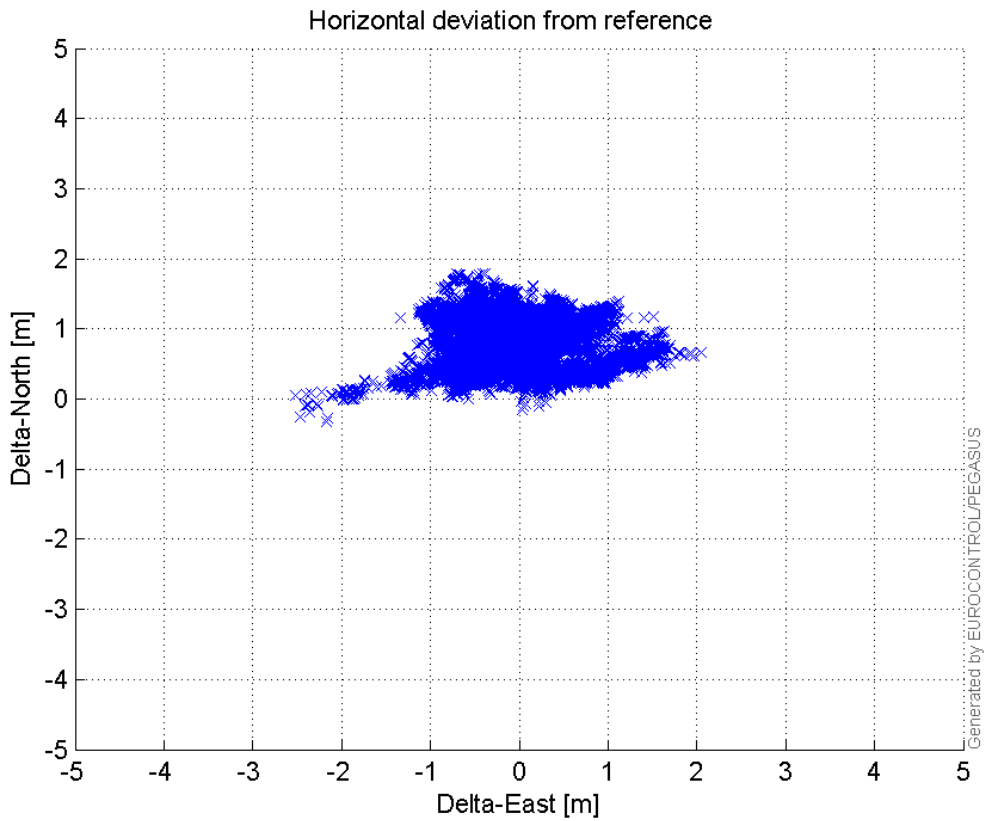
VPE, VPL and NSV:

VPE, VPL and NSV



Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

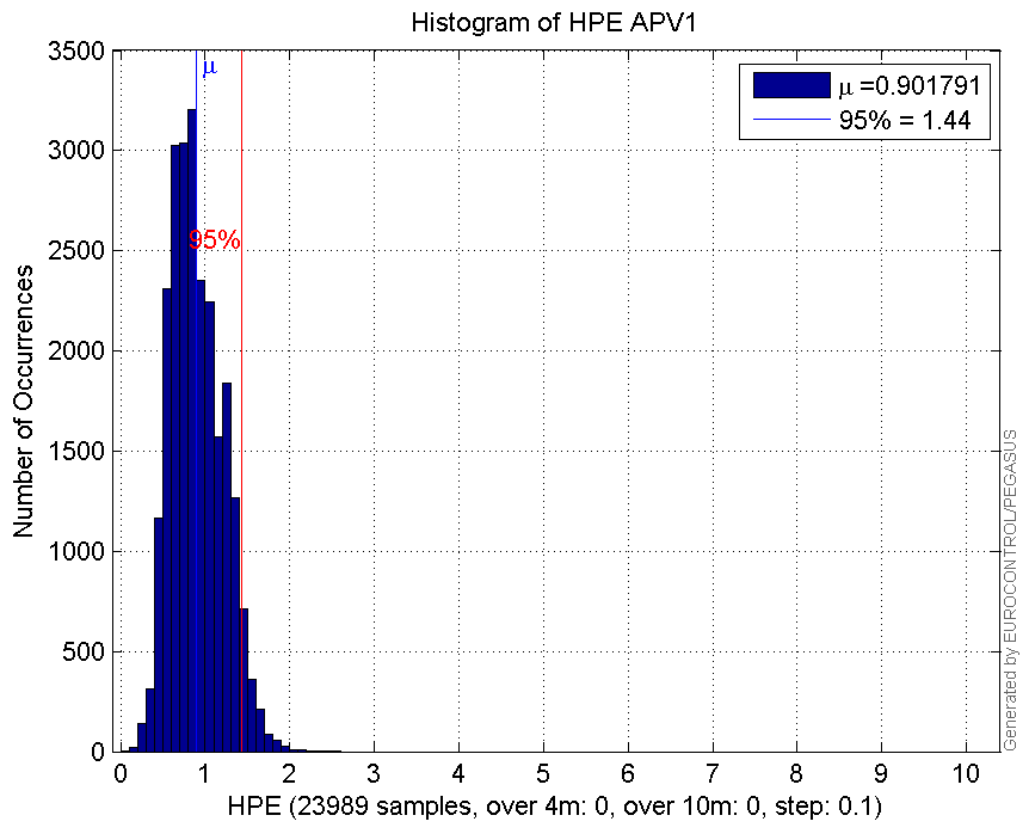
number	23989
sum	21633.062
sum2	21758.712
prctile95	1.4380655
prctile99	1.6599066
number	23989
sum	18585.132
sum2	20849.53
prctile95	1.7325829
prctile99	1.973618
number	23989
sum	381206.5
sum2	7233294.5
prctile95	33.72424
prctile99	37.232113
number	23989
sum	430723.91
sum2	8241480.3
prctile95	23.5101
prctile99	40.072855
number	23989
sum	1514.9699
sum2	110.89568
prctile95	0.11197134
prctile99	0.12669346
number	23989

sum 1103.6283
sum2 77.048028
prctile95 0.10592213
prctile99 0.13468164
number 23681
sum 21448.259
sum2 21643.587
prctile95 1.4395792
prctile99 1.6622875
number 23681
sum 18318.798
sum2 20527.313
prctile95 1.7341158
prctile99 1.9736339
number 23681
sum 375902.13
sum2 7141868.3
prctile95 33.84712
prctile99 37.238674
number 23681
sum 417595.17
sum2 7679968.3
prctile95 22.911695
prctile99 28.621145
number 23681
sum 1504.2265
sum2 110.50577
prctile95 0.11214199
prctile99 0.12687389
number 23681
sum 1097.2689
sum2 76.862328
prctile95 0.10616709
prctile99 0.13492356

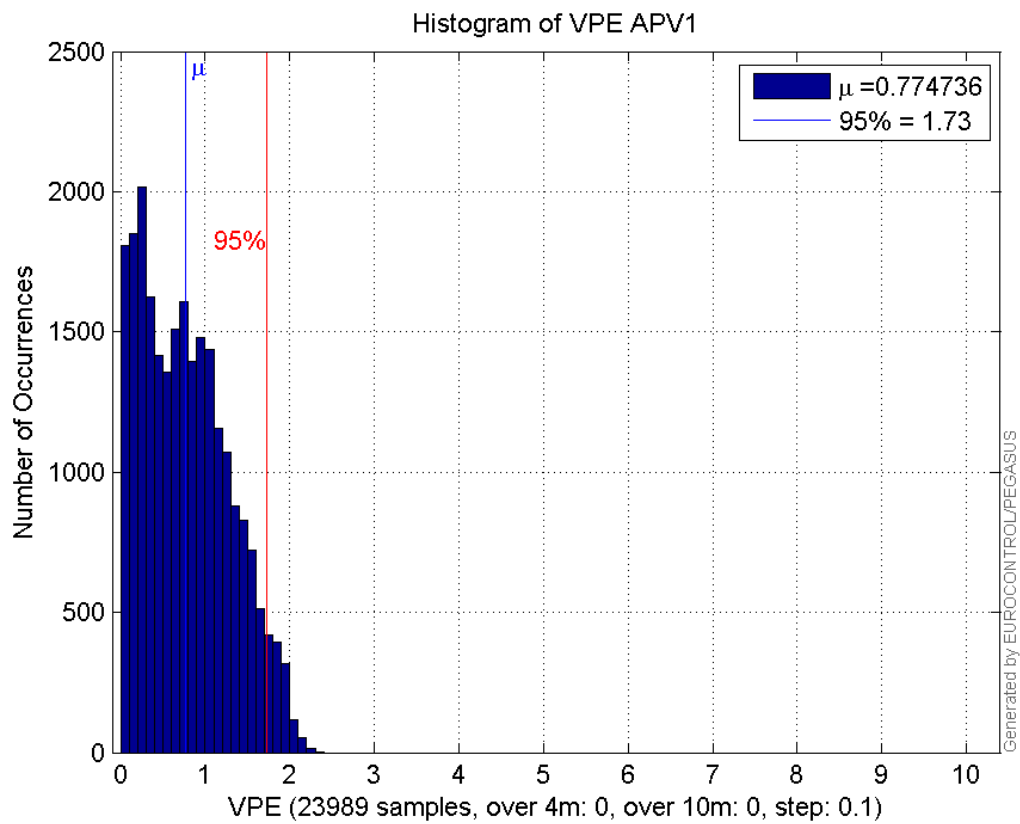
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	0.901791	0.306277	0.860185	1.43807	1.65991	0.952381
HPL	15.8909	7.00051	13.8711	33.7242	37.2321	17.3645
VPE	0.774736	0.51858	0.725308	1.73258	1.97362	0.932271
VPL	17.9551	4.601	17.7354	23.5101	40.0729	18.5352

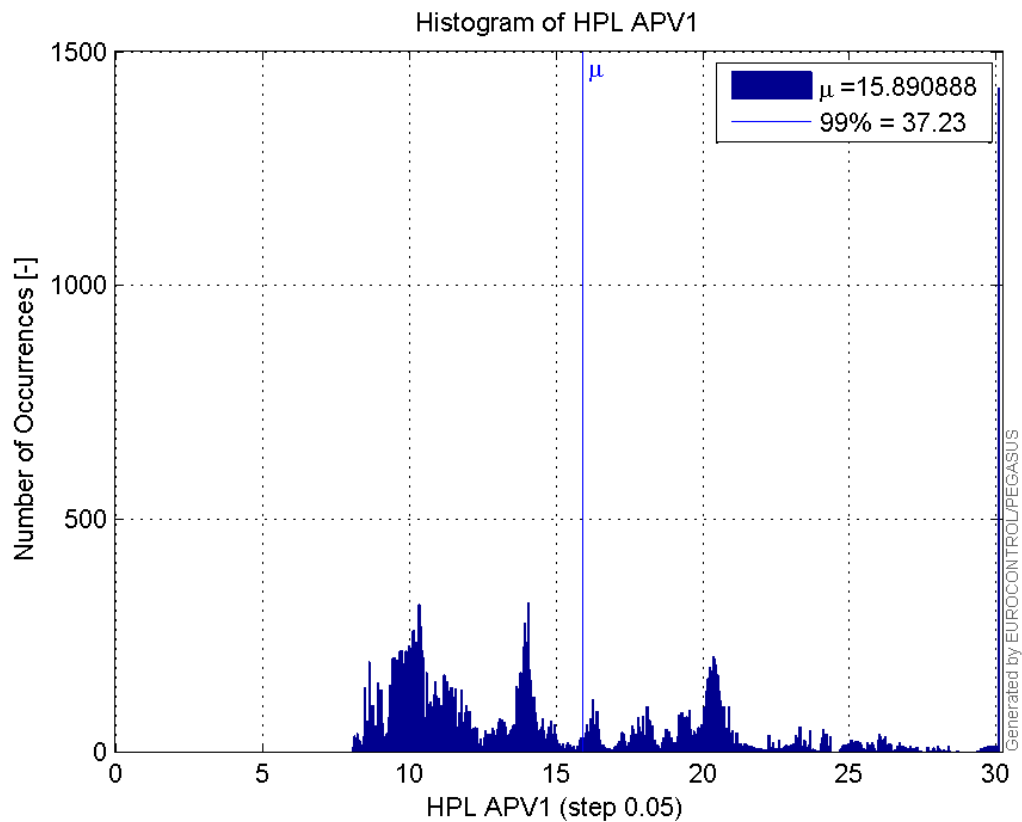
Histogram of HPE APV1:



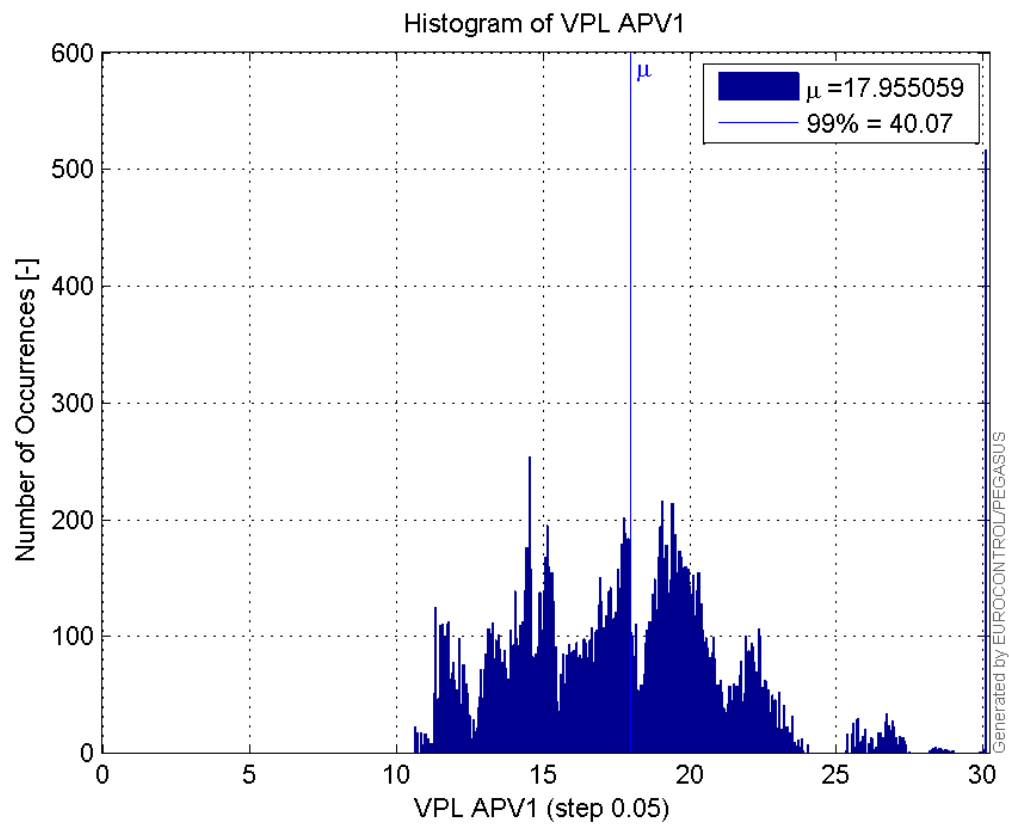
Histogram of VPE APV1:



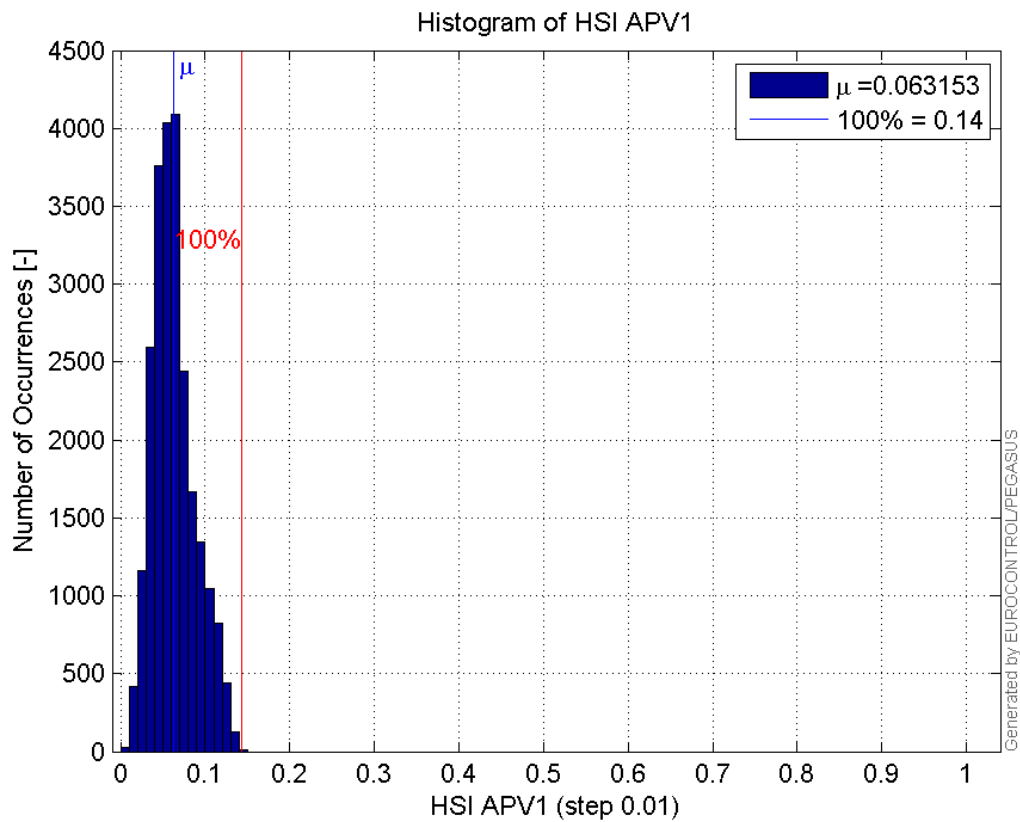
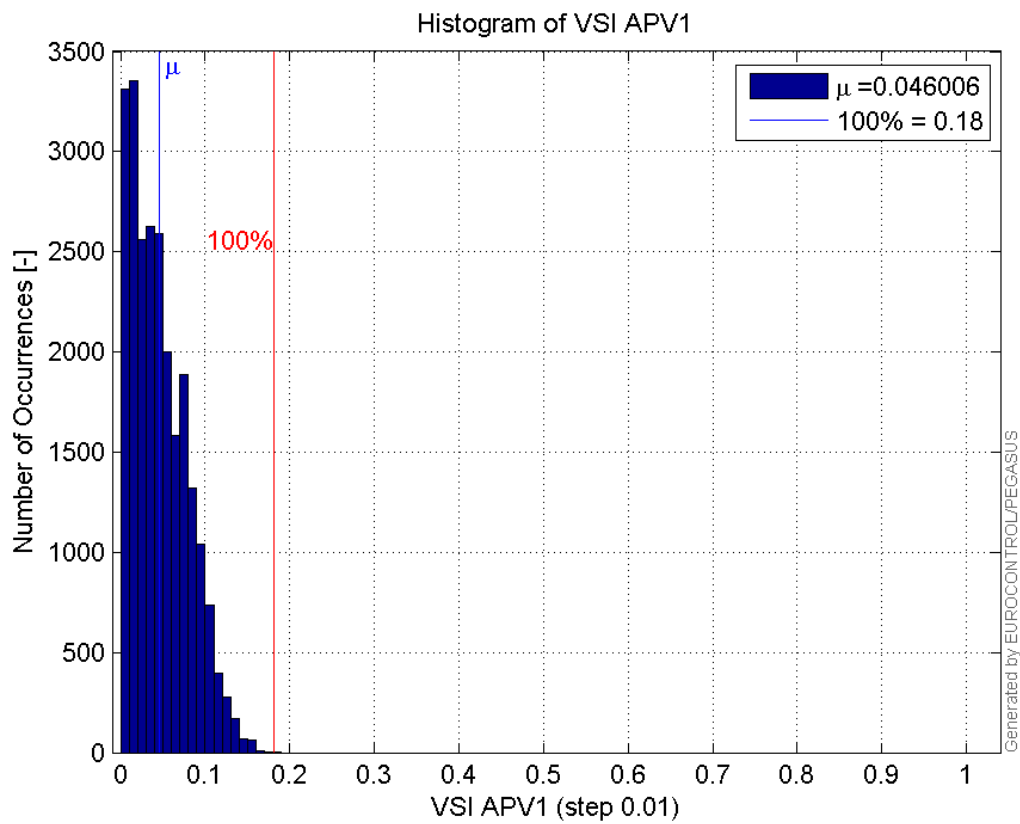
Histogram of HPL APV1:

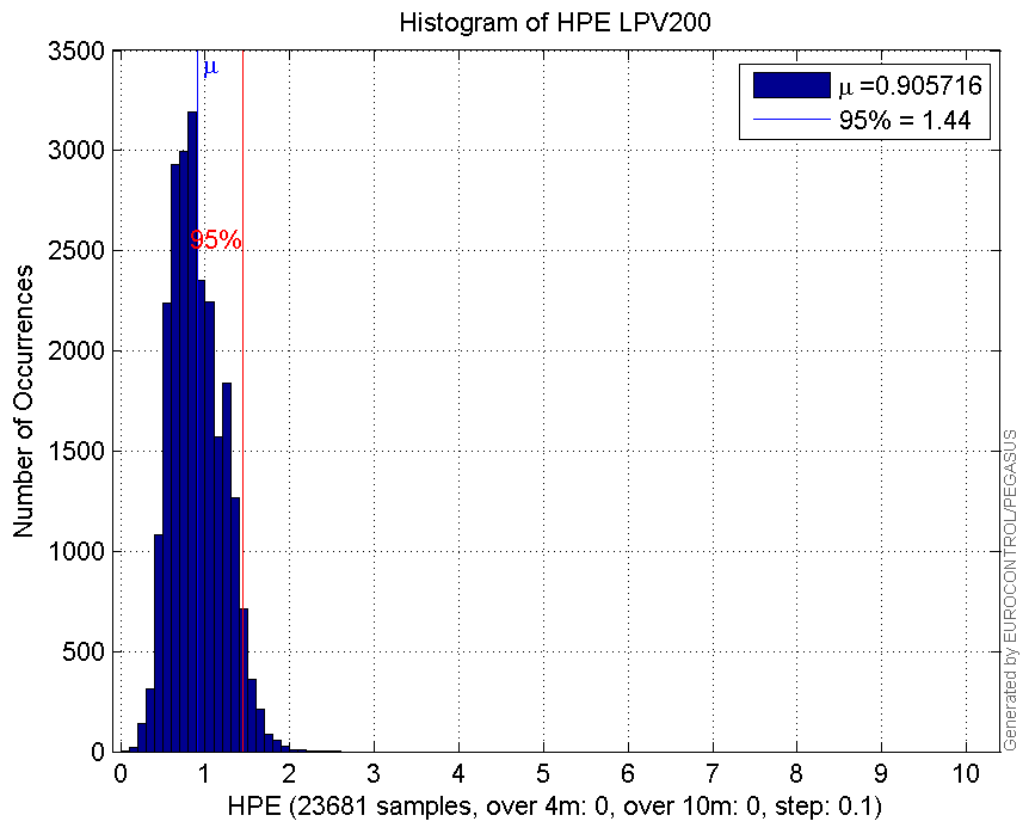


Histogram of VPL APV1:

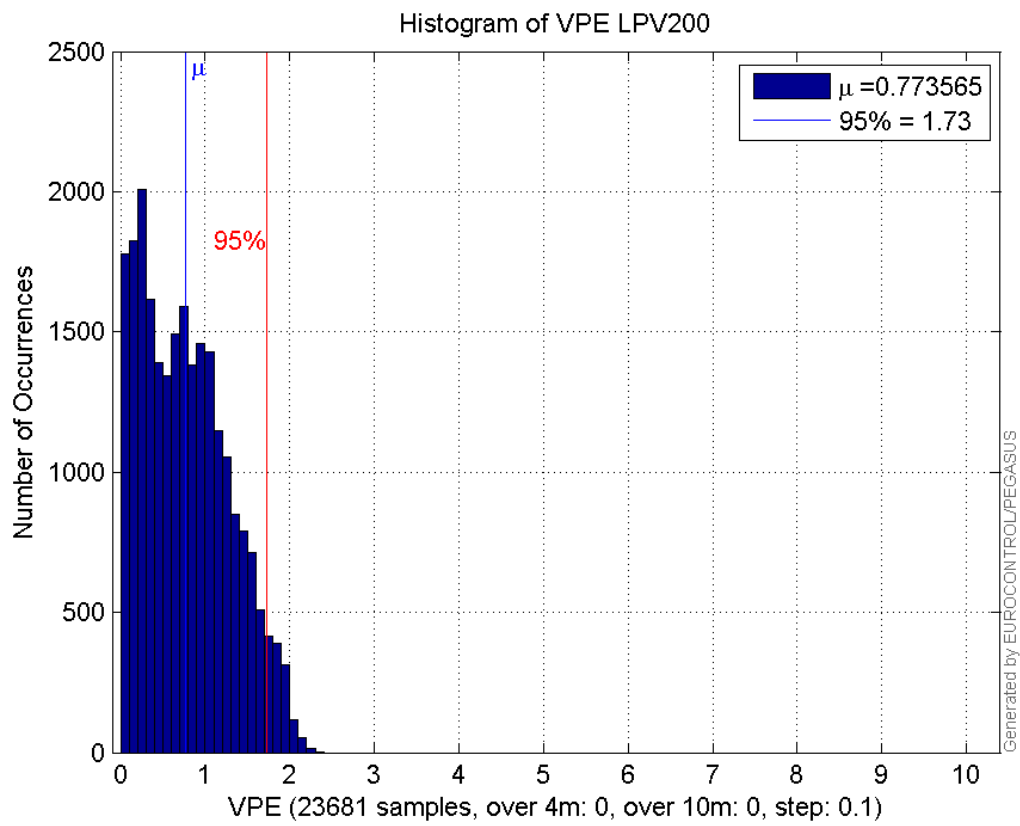


Histogram of HSI APV1:

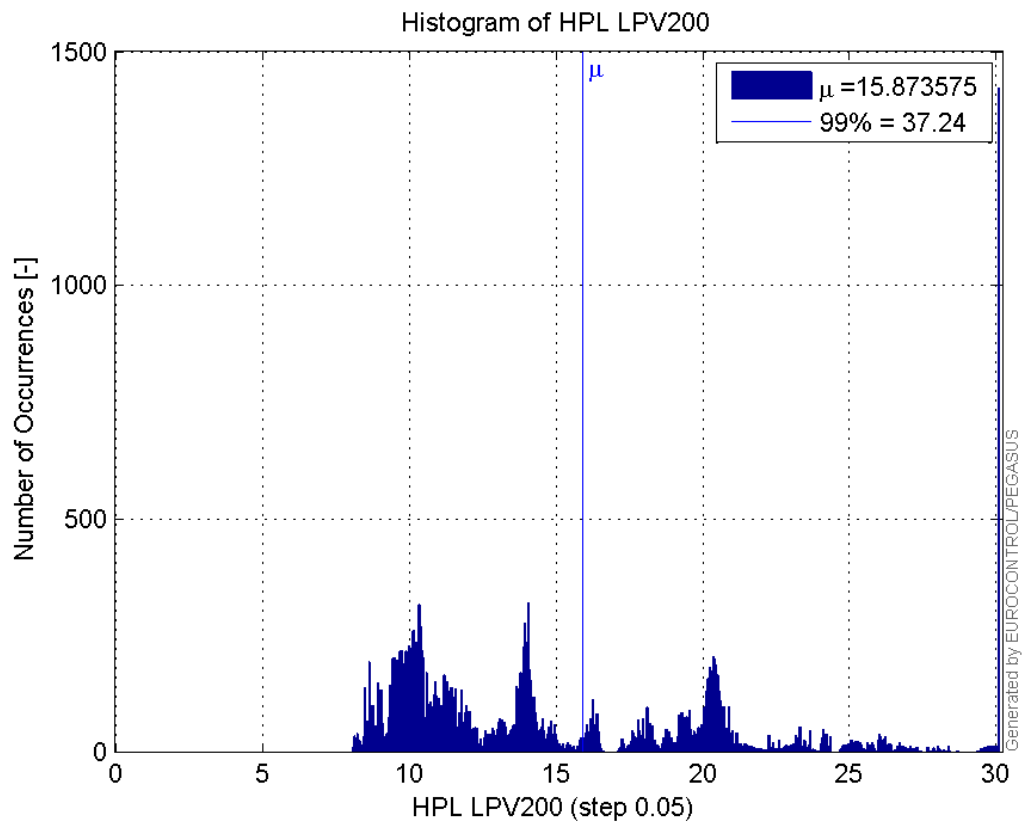
**Histogram of VSI APV1:****Histogram of HPE LPV200:**



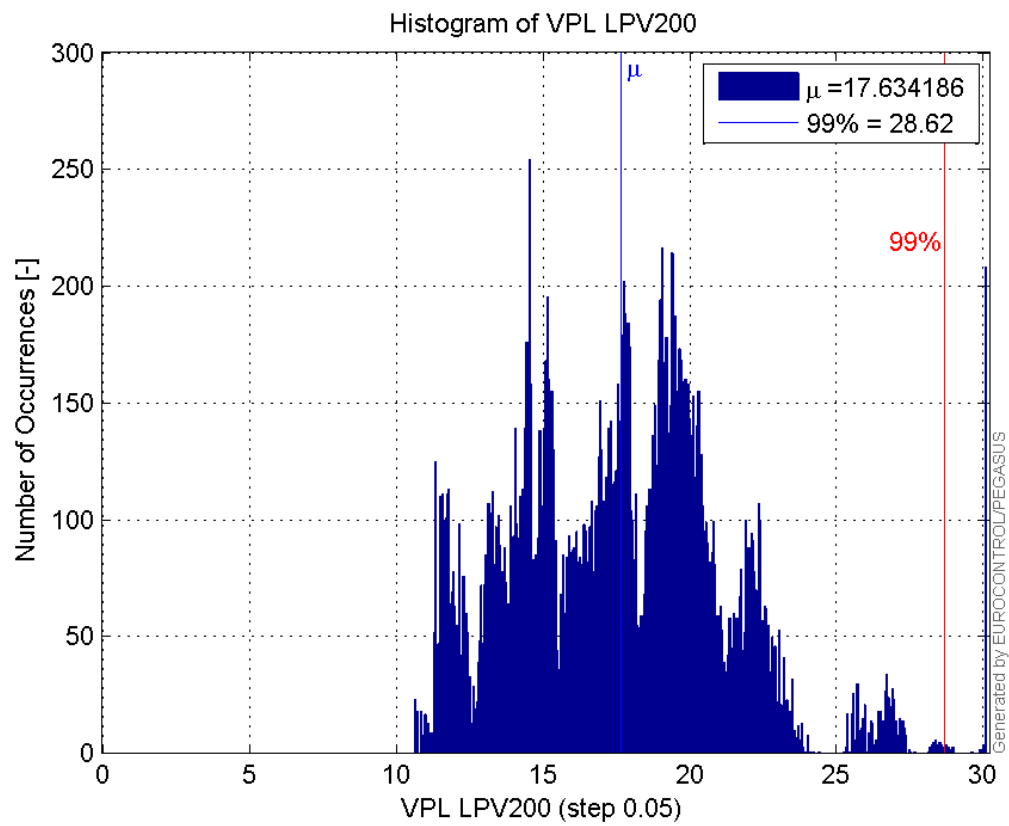
Histogram of VPE LPV200:



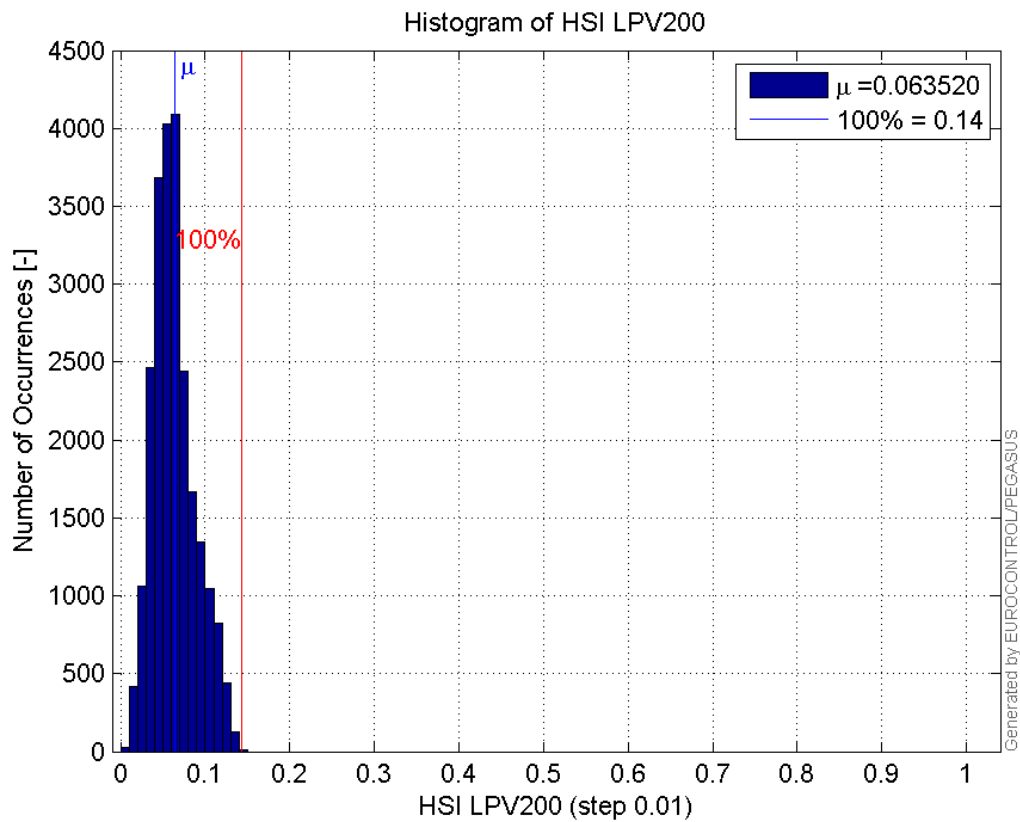
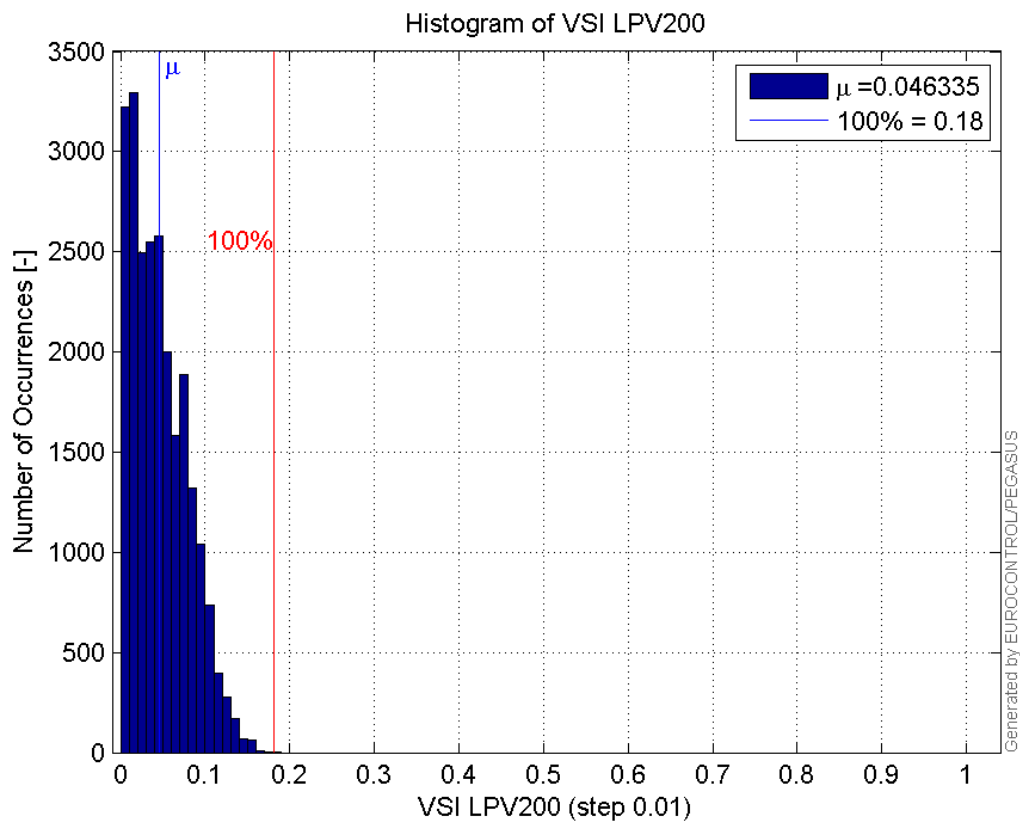
Histogram of HPL LPV200:

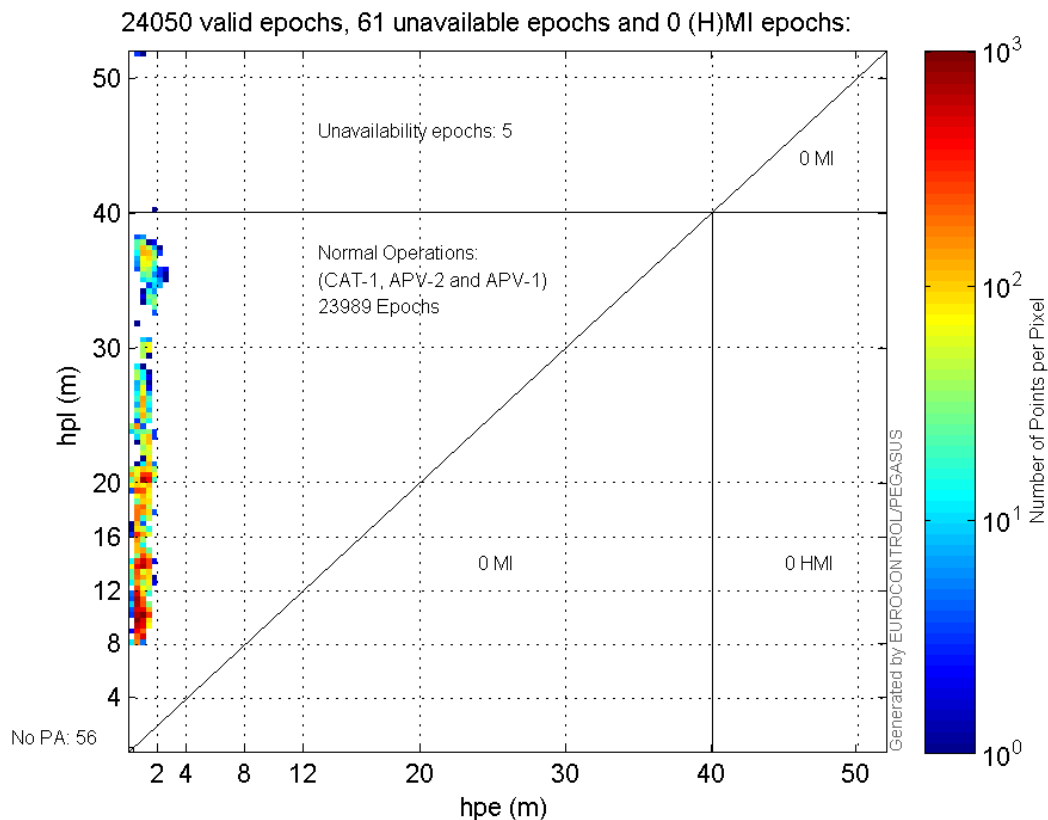


Histogram of VPL LPV200:

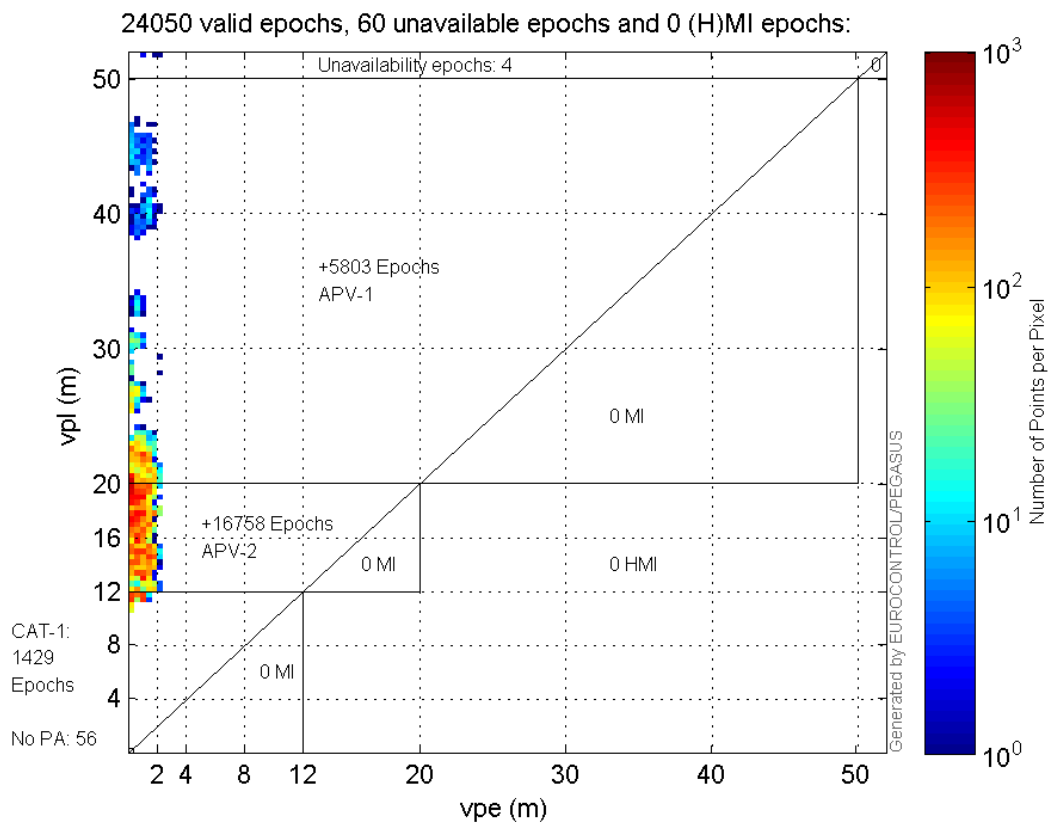


Histogram of HSI LPV200:

**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_15EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_15EGNOS/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	50.4391
init_lon	results	30.4296
init_alt	results	244.1027
mi_numbers	results	0

Range Domain

start: 08:10:21 15.10.2015 (week: 1866 sec: 375021)
end: 14:57:20 15.10.2015 (week: 1866 sec: 399440)
duration: 06:47:00 ..

quality

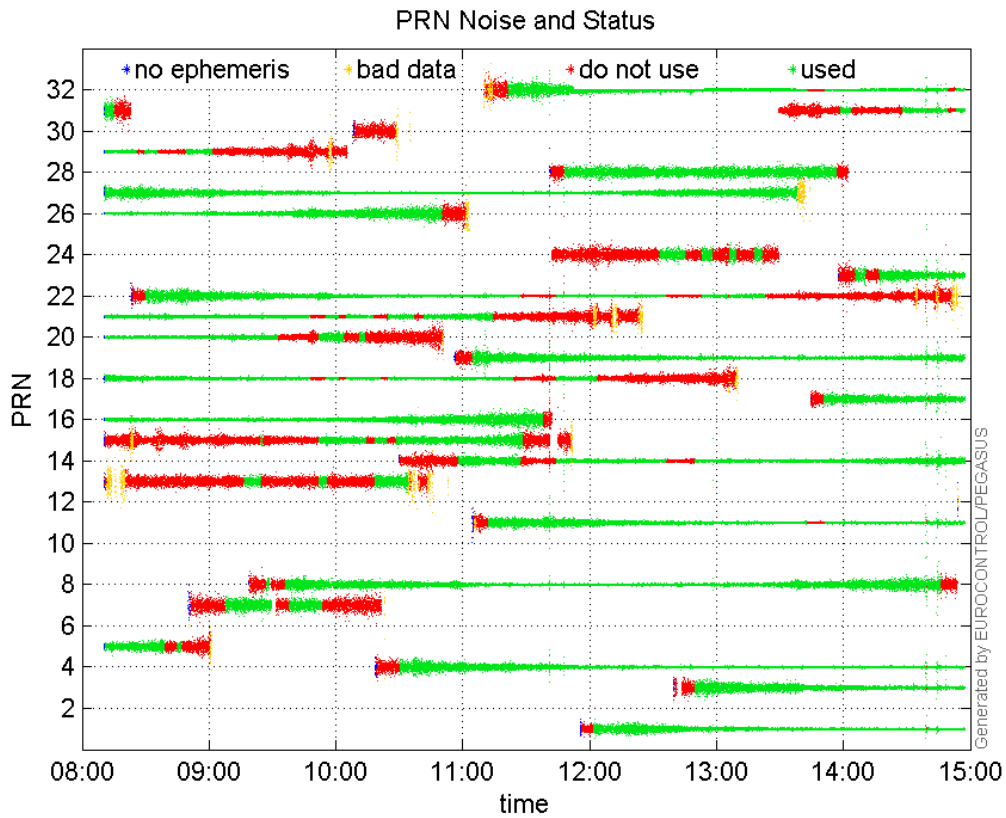
valid samples 24420
total samples 24420

PRN overview

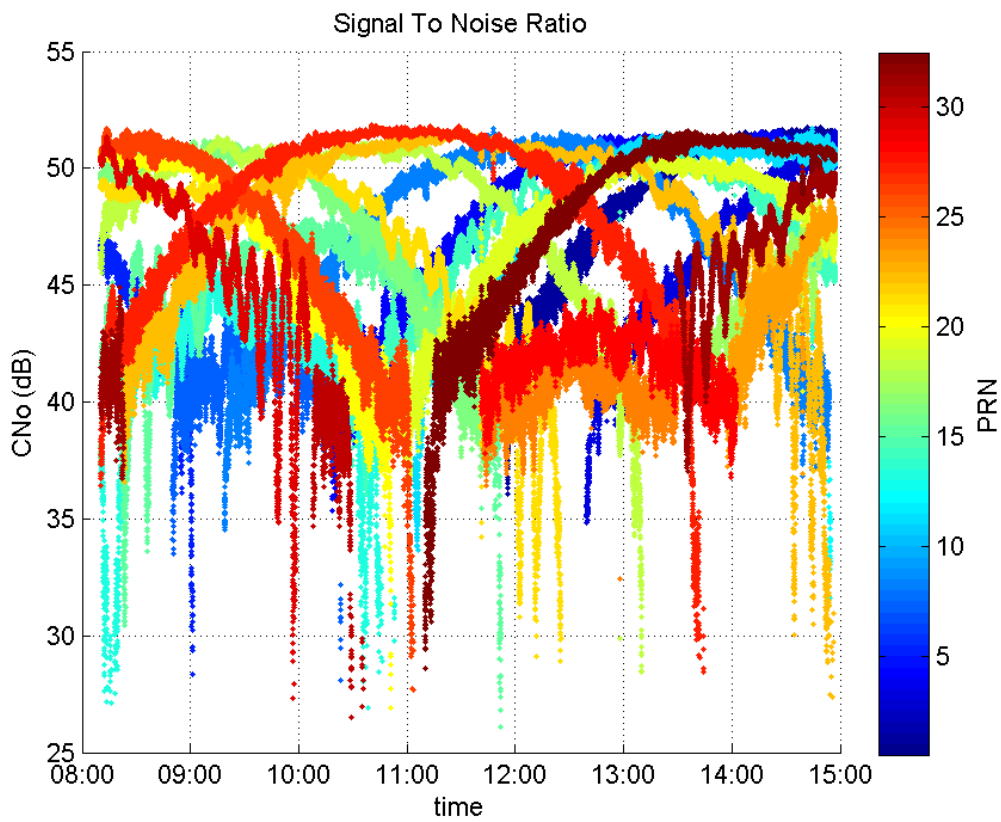
Number of Visible GPS Satellites 27
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



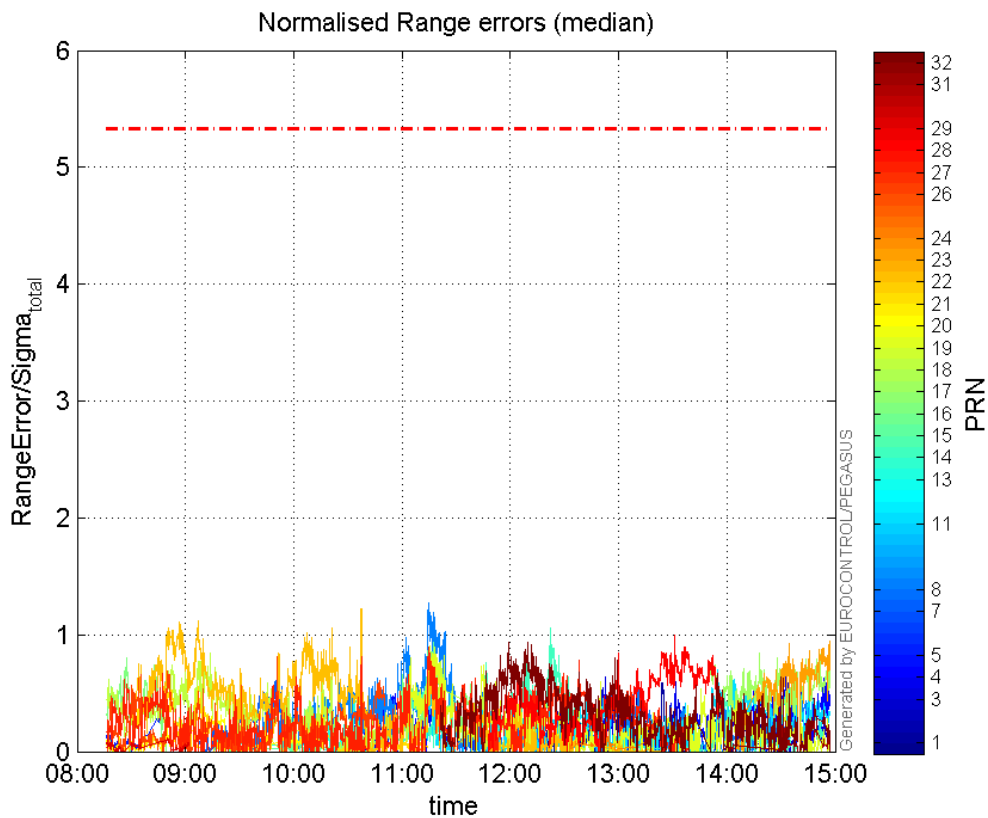
range errors

Number of Overbounding Norm Errors 0

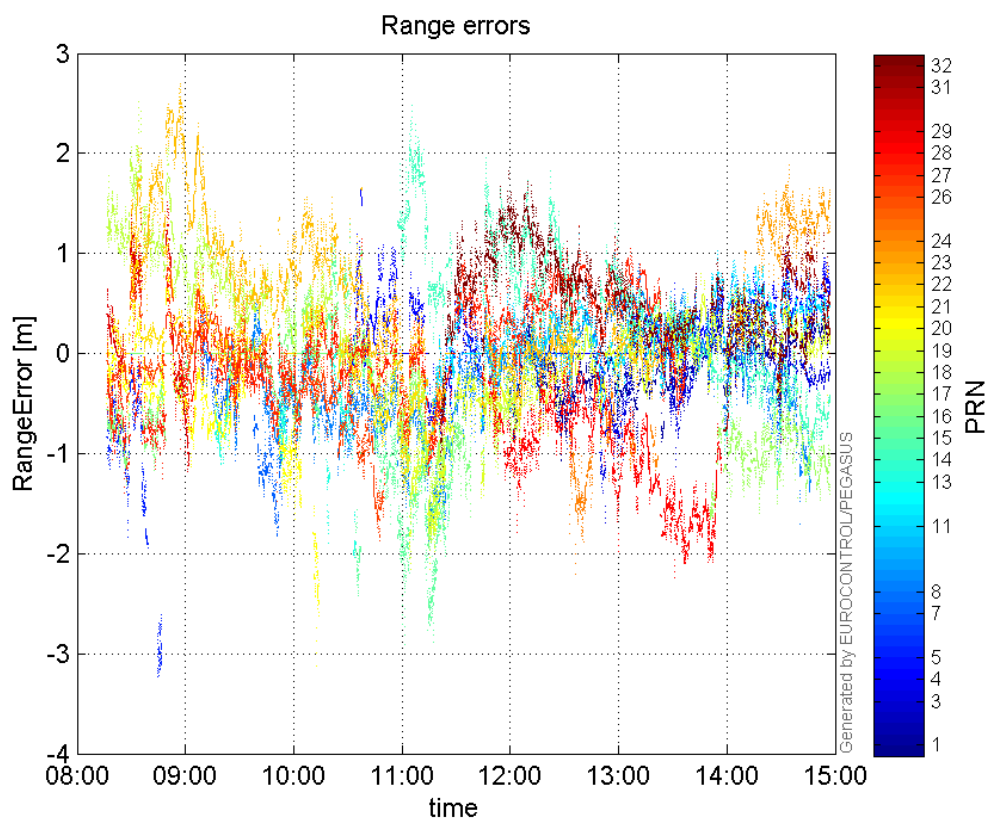
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1866	393028	1	0.624178	-0.96423	1.5448
1866	391956	3	0.640385	-1.69821	2.65186
1866	397956	4	0.717295	1.02945	1.43518
1866	377087	5	0.306952	-3.23336	10.5337
1866	381057	7	0.652701	-1.82348	2.79375
1866	386078	8	1.27086	-1.81857	1.43097
1866	391087	11	0.703078	1.1934	1.69739
1866	383646	13	0.458581	-2.03278	4.43275
1866	390153	14	1.06235	1.82976	1.72237
1866	386247	15	0.930668	-2.87929	3.09379
1866	386119	16	0.883281	-1.95315	2.21125
1866	397091	17	0.847564	-1.59688	1.88408
1866	386118	18	0.885284	-1.96304	2.21741
1866	386126	19	0.901803	-2.16079	2.39608
1866	379172	20	0.310339	-0.950835	3.06386
1866	377391	21	0.595942	1.31228	2.20203
1866	383861	22	1.22435	1.65473	1.35151
1866	399439	23	0.944095	1.64049	1.73763
1866	393651	24	0.294599	-1.13535	3.85388
1866	381065	26	0.817619	-1.47764	1.80725
1866	386081	27	0.894664	-1.2144	1.35738
1866	394281	28	0.997529	-2.24493	2.2505
1866	377391	29	0.113155	1.5172	13.4081
1866	398915	31	0.288575	1.26183	4.3726
1866	389385	32	0.938496	1.72073	1.8335

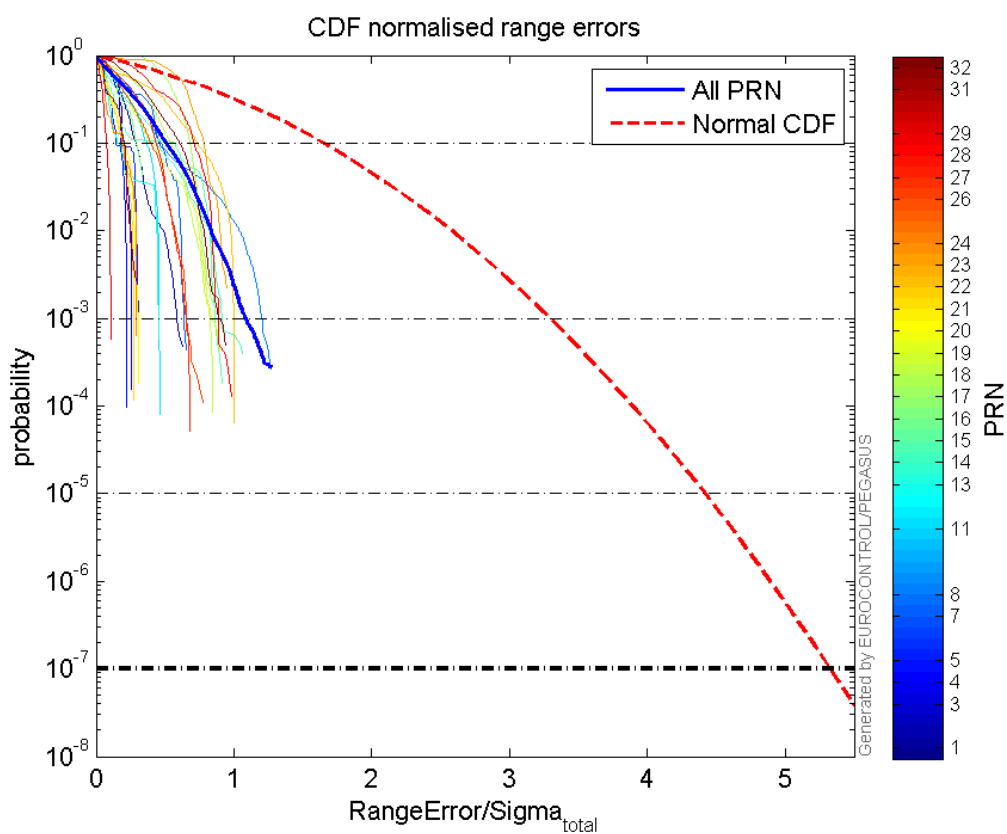
Normalised Range errors (median):



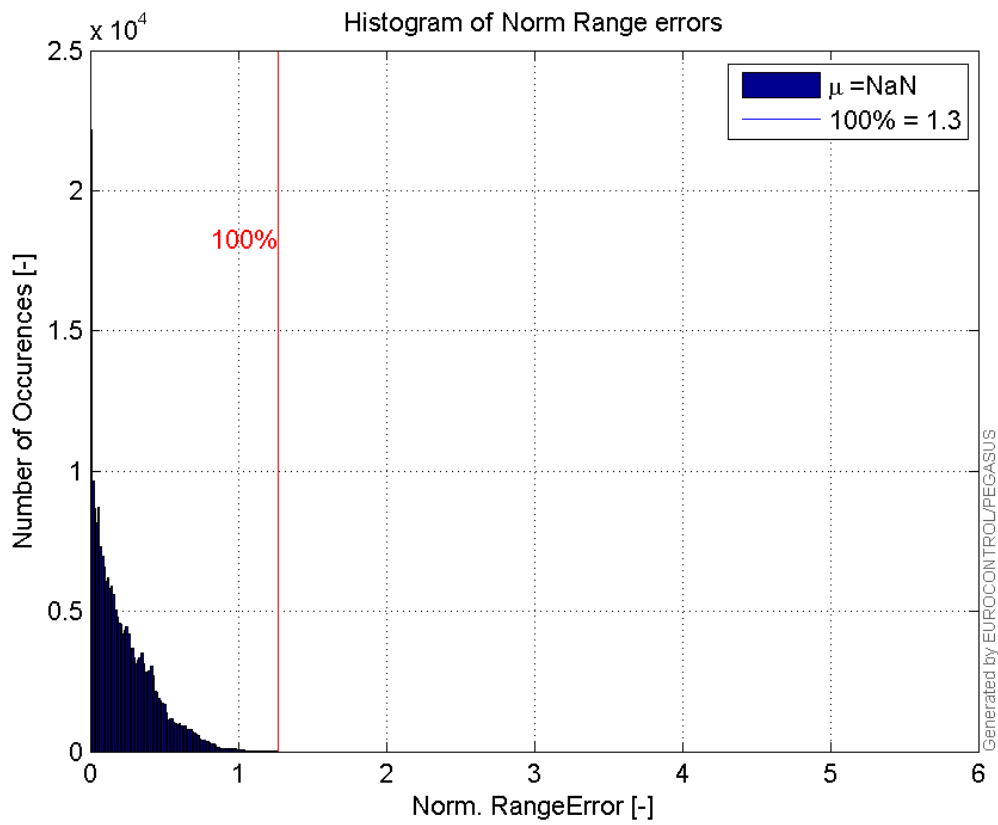
Range errors:



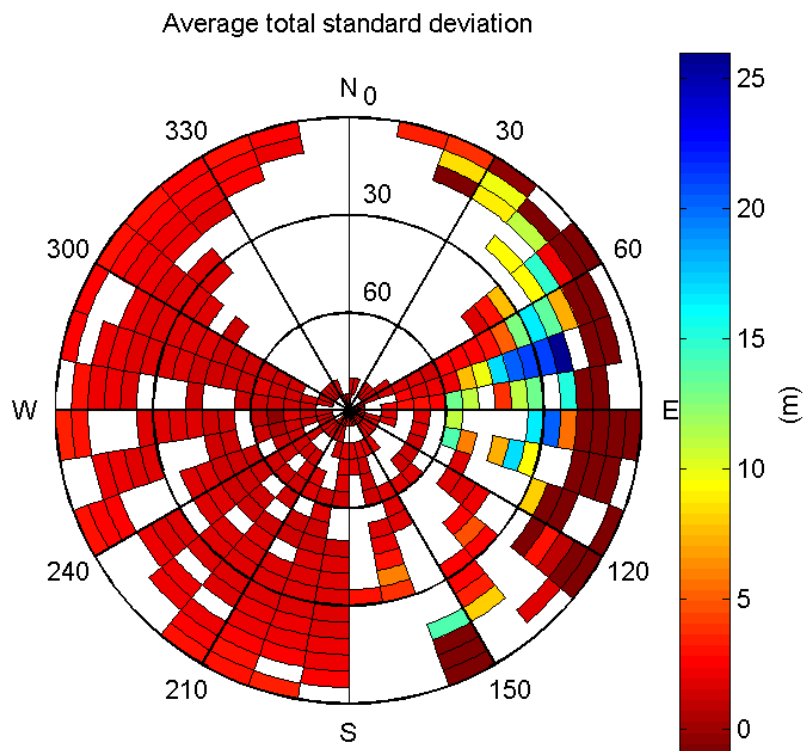
CDF normalised range errors:



Histogram of Norm Range errors:

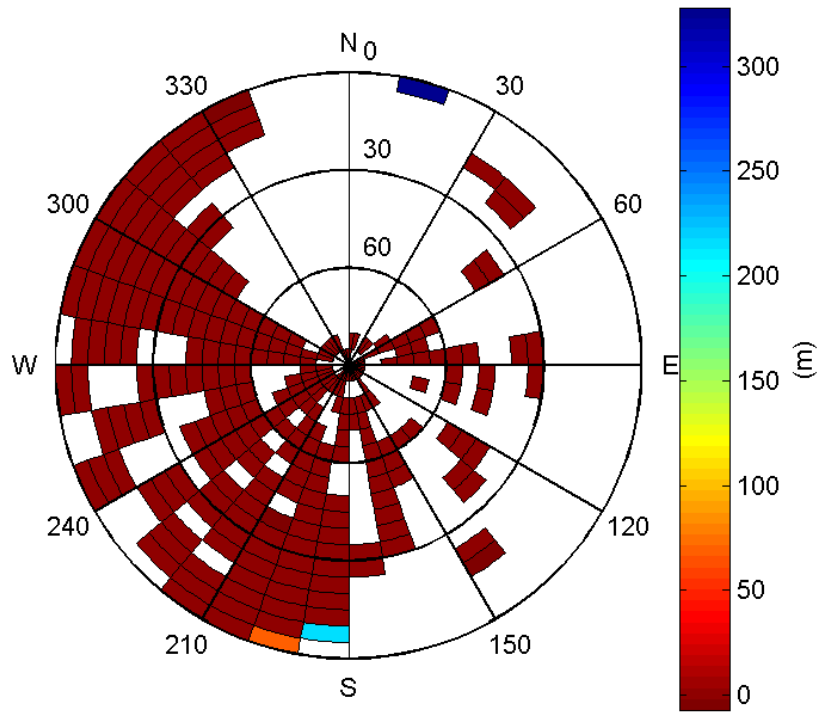


Sigma Sky Plot:



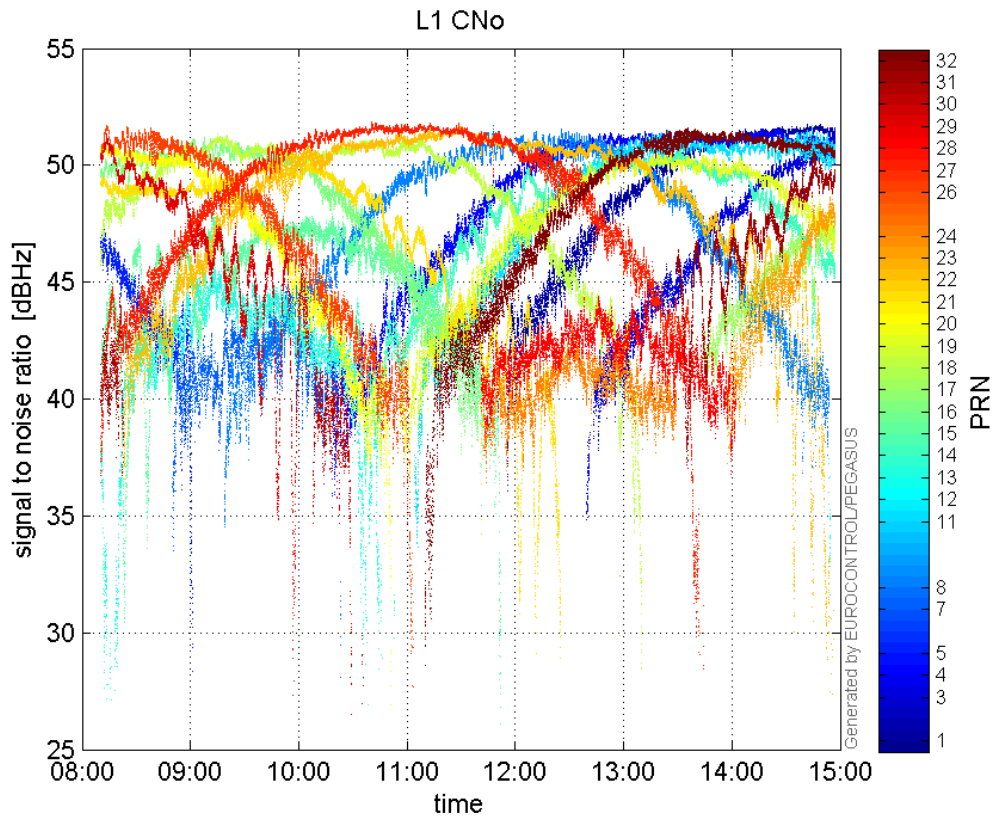
Norm Error Sky Plot:

Maximum Range Error

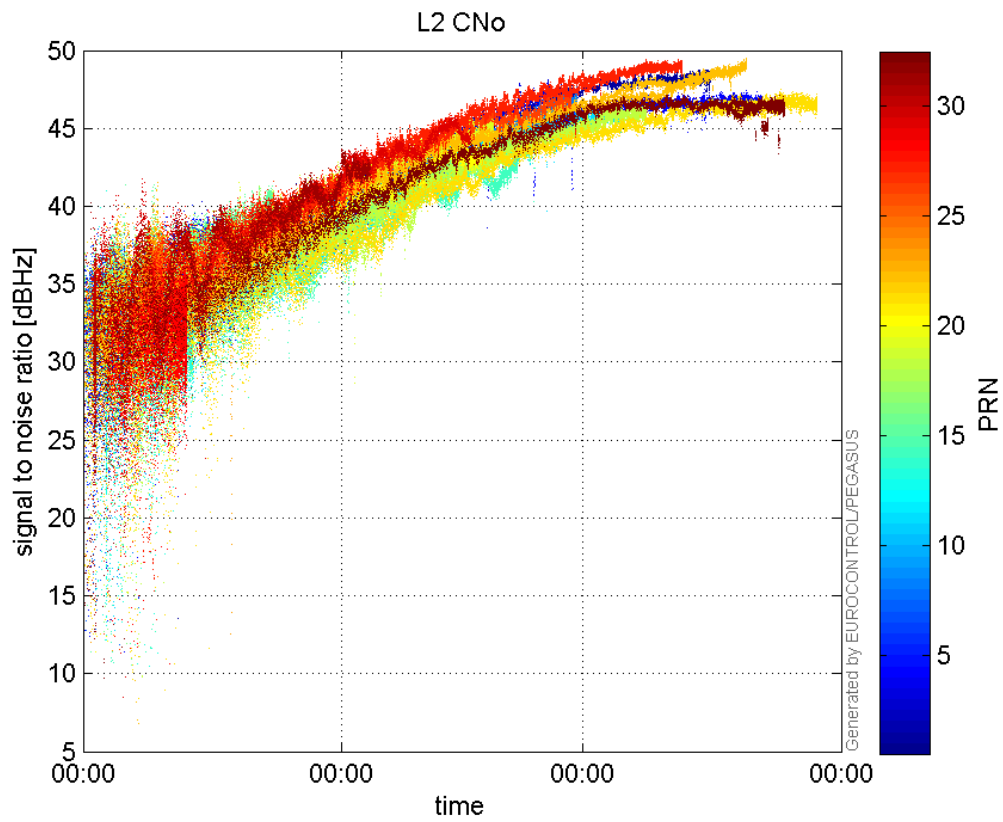


signal quality

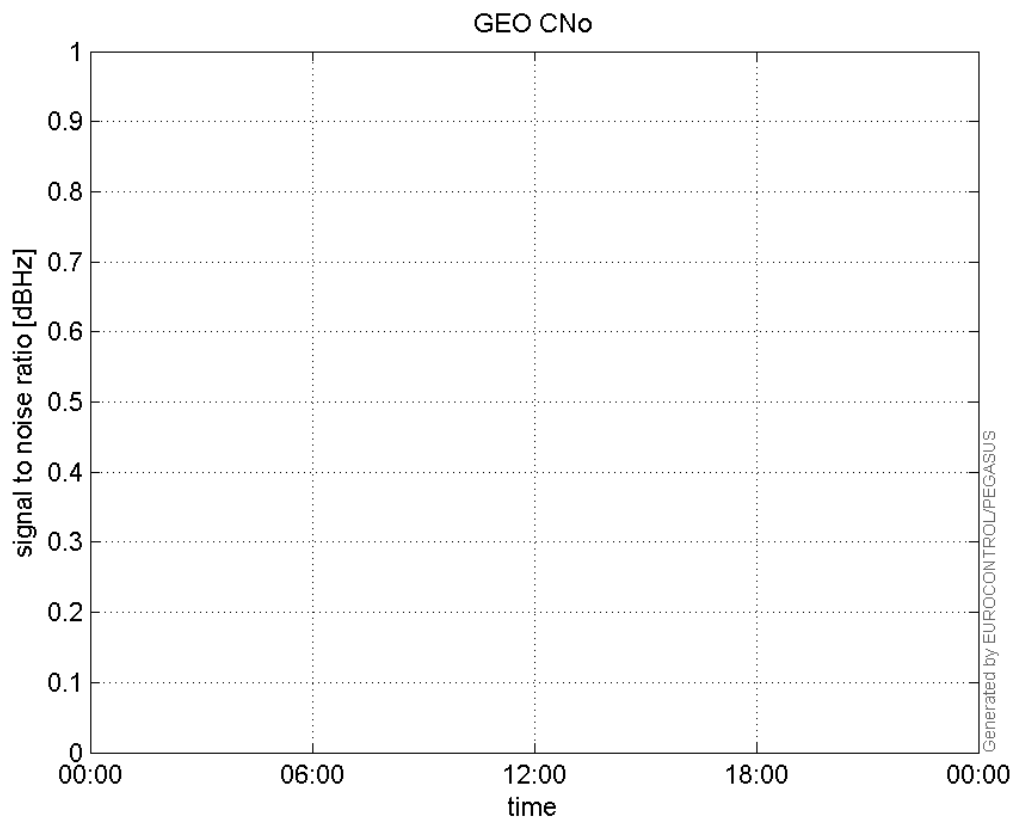
L1 CNo:



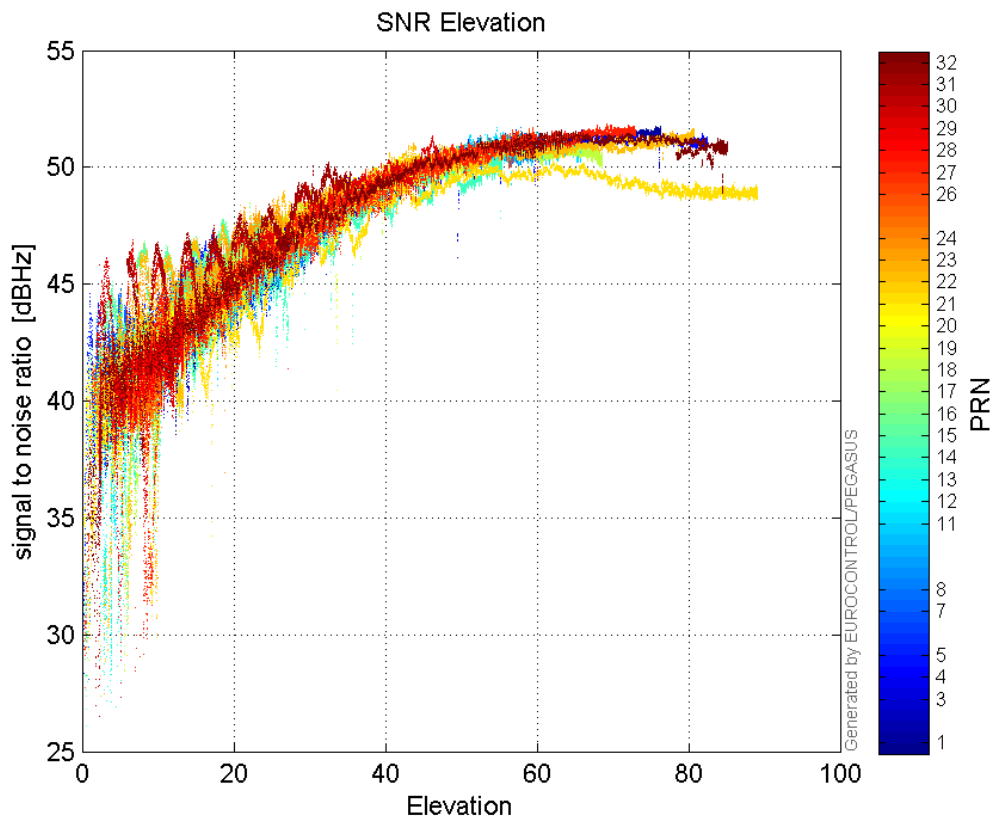
L2 CNo:



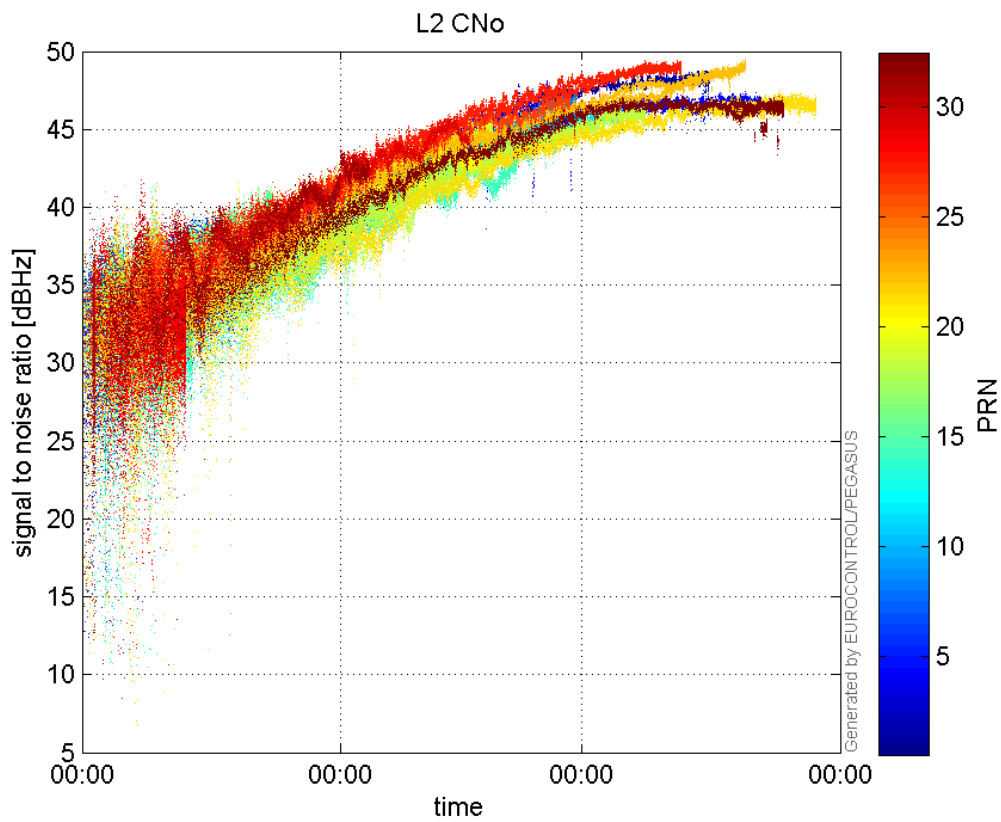
GEO CNo:



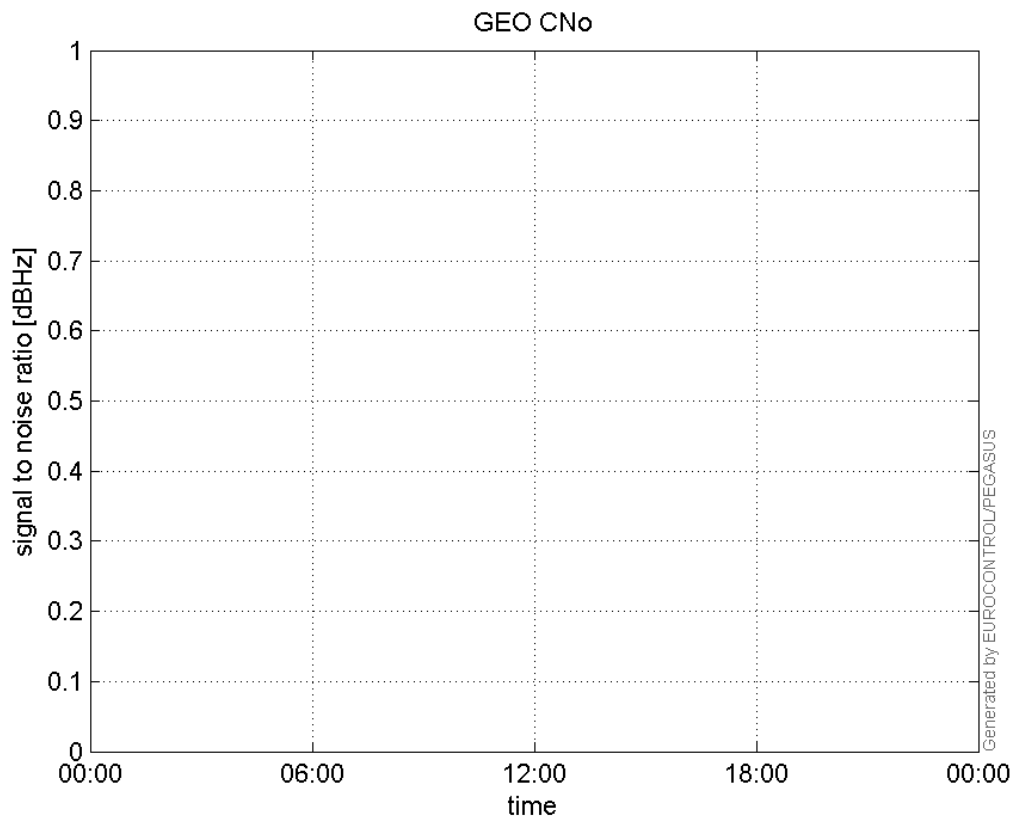
SNR Elevation:



L2 CNo:

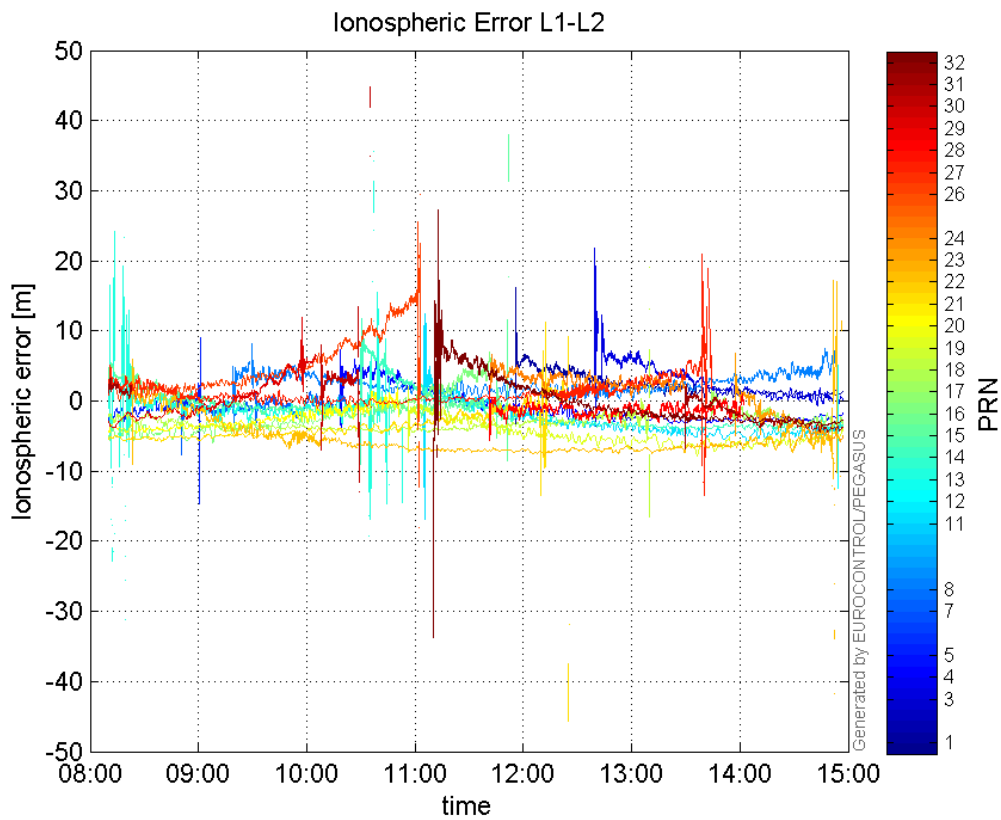


GEO CNo:



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_15EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_15EGNOS/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	50.4391
init_lon	results	30.4296
init_alt	results	244.1027
mi_numbers	results	0