Global View

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

SBAS Messages

start: 08:10:43.129 19.10.2015 (week: 1867 sec: 115843.129)
end: 14:14:43.129 19.10.2015 (week: 1867 sec: 137683.129)
duration: 06:03:60 ..

quality

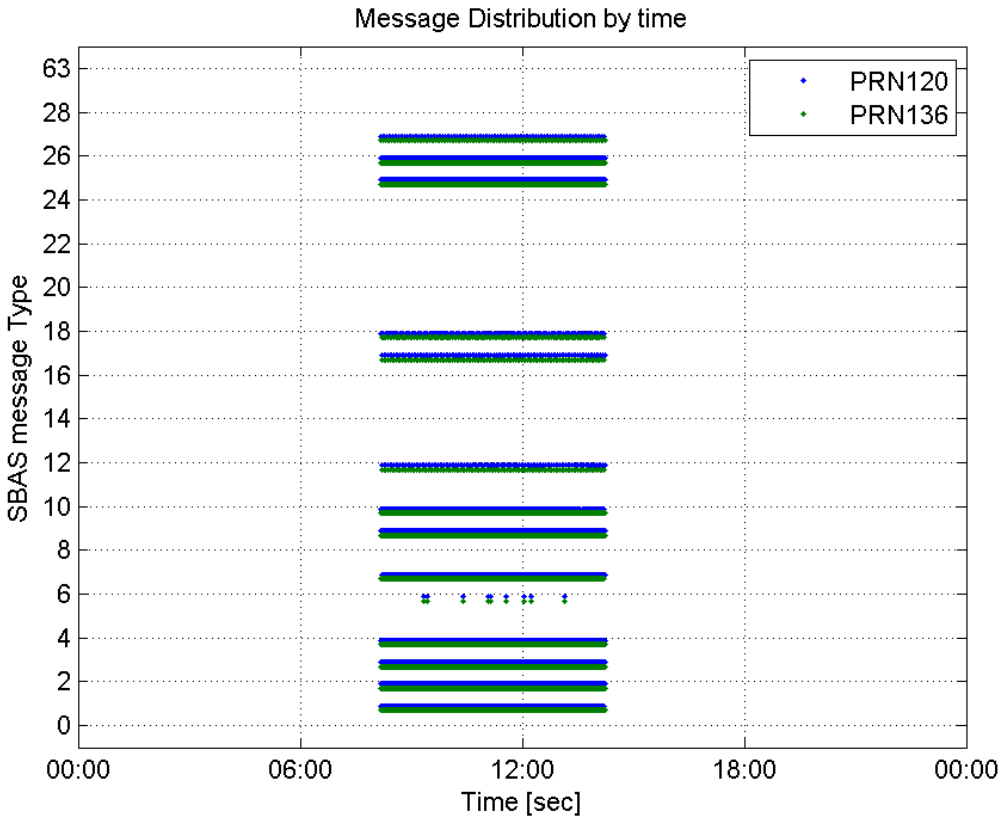
valid samples	43609
total samples	43609
number of SBAS PRNs	2

SBAS SIS Overview

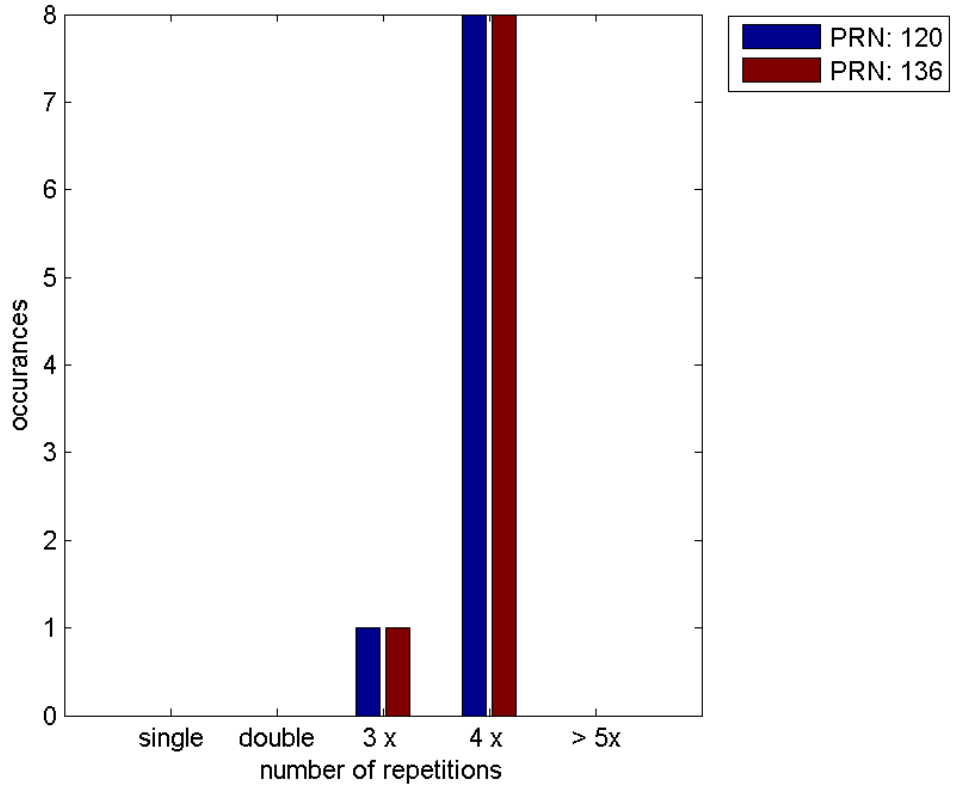
Message Type 6 repetitions :

	single	double	3 x	4 x	> 5x
PRN 120	0	0	1	8	0
PRN 136	0	0	1	8	0

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

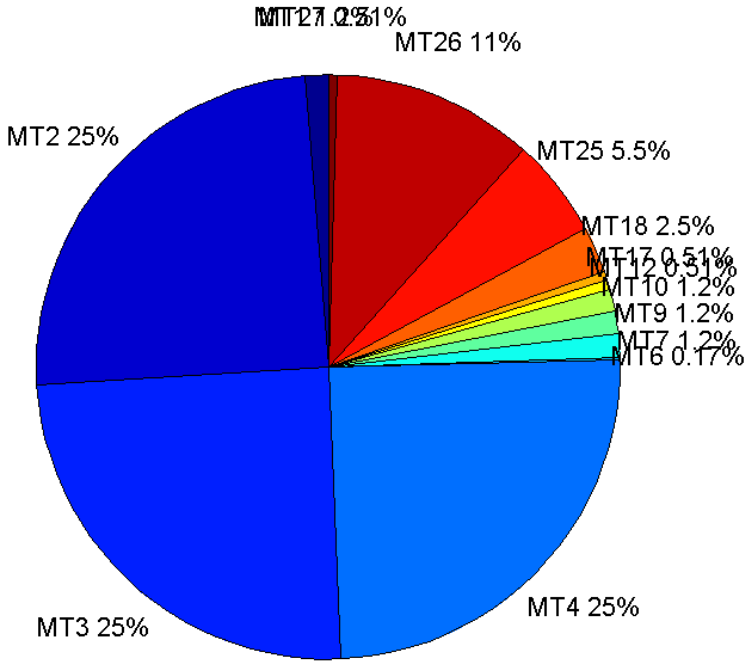
	number of messages	%
MT 0	0	0
MT 1	272	1.24954
MT 2	5380	24.7152
MT 3	5379	24.7106
MT 4	5379	24.7106
MT 5	0	0
MT 6	36	0.16538
MT 7	272	1.24954
MT 9	272	1.24954
MT 10	271	1.24495
MT 12	111	0.509923
MT 17	110	0.505329
MT 18	551	2.53124
MT 24	0	0
MT 25	1191	5.47133
MT 26	2433	11.177
MT 27	111	0.509923
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	21768	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	160	80.1993	1	0	0
MT 2	4	49	4.06005	11	2	2
MT 3	4	49	4.06025	11	2	2
MT 4	4	49	4.06006	11	2	2
MT 5	--	--	--	--	--	--
MT 6	1	3572	390.743	8	8	8
MT 7	76	158	80.2583	1	0	0
MT 9	76	162	80.2288	0	0	0
MT 10	75	160	80.537	2	0	0
MT 12	186	207	197.109	110	0	0
MT 17	190	391	198.917	0	0	0
MT 18	1	189	39.5018	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	65	18.3445	0	0	0
MT 26	1	57	8.97615	0	0	0
MT 27	188	201	197.027	0	0	0

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

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

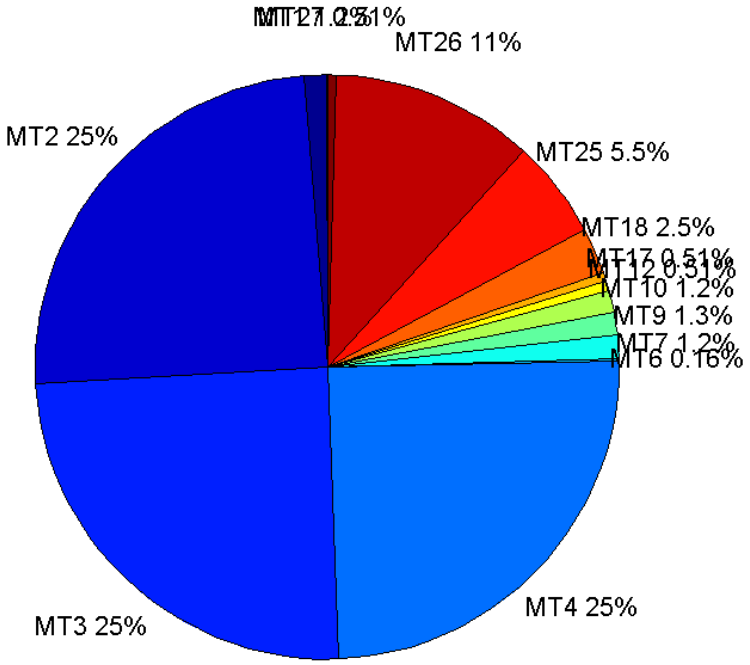
	number of messages	%
MT 0	0	0
MT 1	273	1.24994
MT 2	5392	24.6875
MT 3	5393	24.6921
MT 4	5392	24.6875
MT 5	0	0
MT 6	36	0.164828
MT 7	273	1.24994
MT 9	274	1.25452
MT 10	273	1.24994
MT 12	111	0.508218
MT 17	111	0.508218
MT 18	555	2.54109
MT 24	0	0

MT 25	1195	5.47136
MT 26	2451	11.222
MT 27	112	0.512797
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	21841	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	85	79.9265	0	0	0
MT 2	4	8	4.05027	9	0	0
MT 3	4	8	4.05045	9	0	0
MT 4	4	8	4.05045	9	0	0
MT 5	--	--	--	--	--	--
MT 6	1	3572	390.743	8	8	8
MT 7	76	88	79.9265	0	0	0
MT 9	76	84	79.9744	0	0	0
MT 10	76	84	80.0404	0	0	0
MT 12	188	205	196.218	110	0	0
MT 17	188	201	196.245	0	0	0
MT 18	4	179	39.009	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	60	18.2722	0	0	0
MT 26	3	63	8.91143	0	0	0
MT 27	188	201	196.207	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_19EGNOS/01_User/01_User
Outputfile	System	D:/PEGASUS_DAT_job/JOB/2015_10_19EGNOS/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: 08:10:43 19.10.2015 (week: 1867 sec: 115843)
end: 14:14:44 19.10.2015 (week: 1867 sec: 137684)
duration: 06:04:02 ..

quality

valid samples 21481
total samples 21842

Event tables

Position discontinuity events type	all
APV-I discontinuity events type	long
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	118858	1.66713	8.52882	0.19547	1.55185	15.7512	0.0985225
max normVer	127824	1.88168	14.208	0.132438	2.79248	16.7855	0.166363
max HPE	136118	3.25417	41.0496	0.0792741	-2.77469	45.6447	0.0607889
max VPE	127824	1.88168	14.208	0.132438	2.79248	16.7855	0.166363
min HPL	137591	1.11753	7.33463	0.152364	0.183176	10.4688	0.0174973
min VPL	137556	1.04264	7.39382	0.141015	0.443343	10.4417	0.0424589

Position discontinuity events :

#	Epoch	duration	stable period
1	126691	37	10487
2	135357	21	8629

APV-I discontinuity events :

#	Epoch	duration	stable period
1	126690	42	10486
2	135357	25	8625
3	136069	65	687

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	126690	42	10486
2	135357	25	8625
3	136069	365	687
4	136675	3	241
5	136679	3	1
6	136683	3	1
7	136687	3	1
8	136691	3	1
9	136695	3	1
10	136699	3	1
11	136703	3	1
12	136707	3	1
13	136711	3	1
14	136715	3	1
15	136719	3	1
16	136723	3	1
17	136727	3	1
18	136731	3	1
19	136735	3	1

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	126690	42	10486
2	135357	25	8625
3	136069	365	687
4	136675	3	241
5	136679	3	1
6	136683	3	1
7	136687	3	1
8	136691	3	1
9	136695	3	1
10	136699	3	1
11	136703	3	1
12	136707	3	1
13	136711	3	1
14	136715	3	1
15	136719	3	1
16	136723	3	1
17	136727	3	1
18	136731	3	1
19	136735	3	1

CAT-I discontinuity events :

#	Epoch	duration	stable period
1	126331	10831	3
2	137171	4	1
3	137243	4	1
4	137310	23	1
5	137339	193	2

First Glance analysis

Duration	21842
Number of Samples	21842
Number of invalid sample	361
Number of no position solution samples	58
Number of missing sample	0
Logging Loss	0
Processing Loss	1.6528
Number of Misleading Information	0
Data gaps	0
Discontinuities	2

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
21423	21293	21001	254	21001

Accuracy statistics :

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

HPE 95%	1.64098	1.63279	1.62639	1.17375	1.62639
HPEscale 95%	NaN	5.60606	5.61145	6.2974	5.61145
VPE 95%	1.74034	1.73754	1.73574	0.985252	1.73574
VPEscale 95%	NaN	4.95349	3.47376	0.9916	3.47376

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.9973	0.991248	0.977655	0.0118244	0.977655
measurements	0.980817	0.974865	0.961496	0.011629	0.961496
Operational	0.980817	0.974865	0.961496	0.011629	0.961496

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	2	26	19	57	19
Long	2	3	3	5	3
Independent	2	3	3	0	3
P(disc.)	0.00140036	0.00211337	0.00214276	0	0.00214276
P(slide)	0.00140036	0.0037571	0.00357126	0.397638	0.00357126

Integrity events :

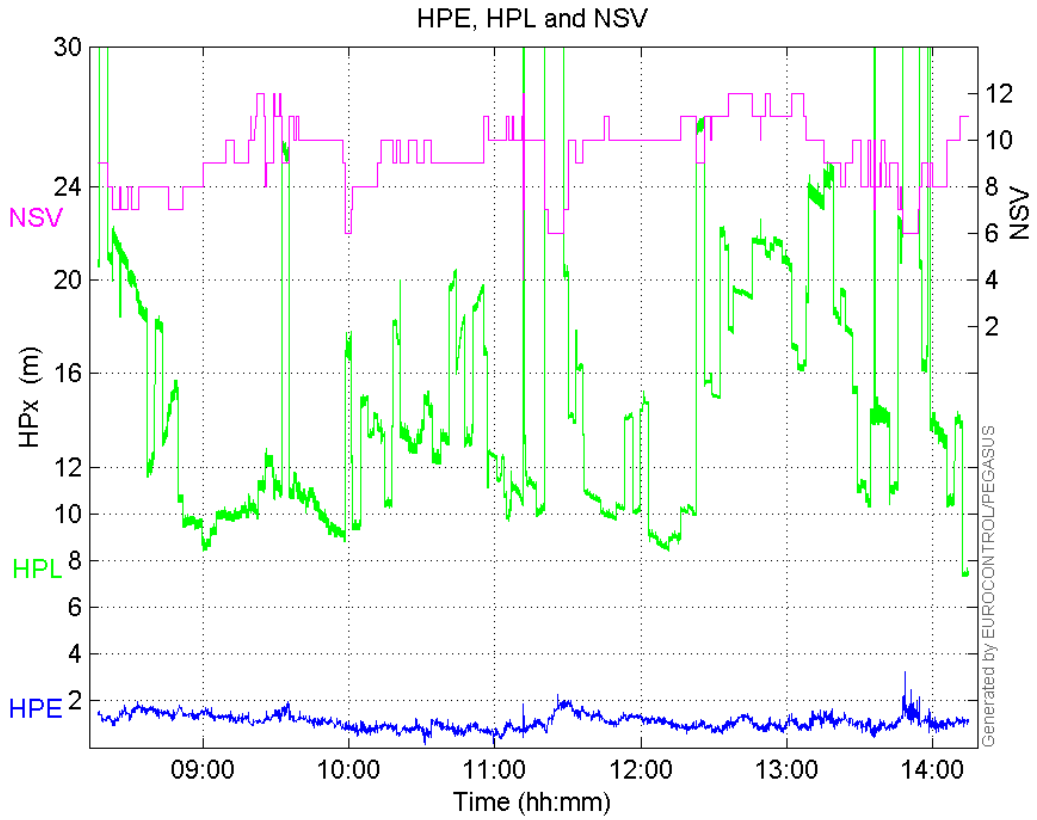
	MI	HMI APV-1	HMI LPV-200	HMI CAT-1	HMI APV-35m
Total	0	0	0	0	0
Horizontal	0	0	0	0	0
Vertical	0	0	0	0	0

Performance Summary :

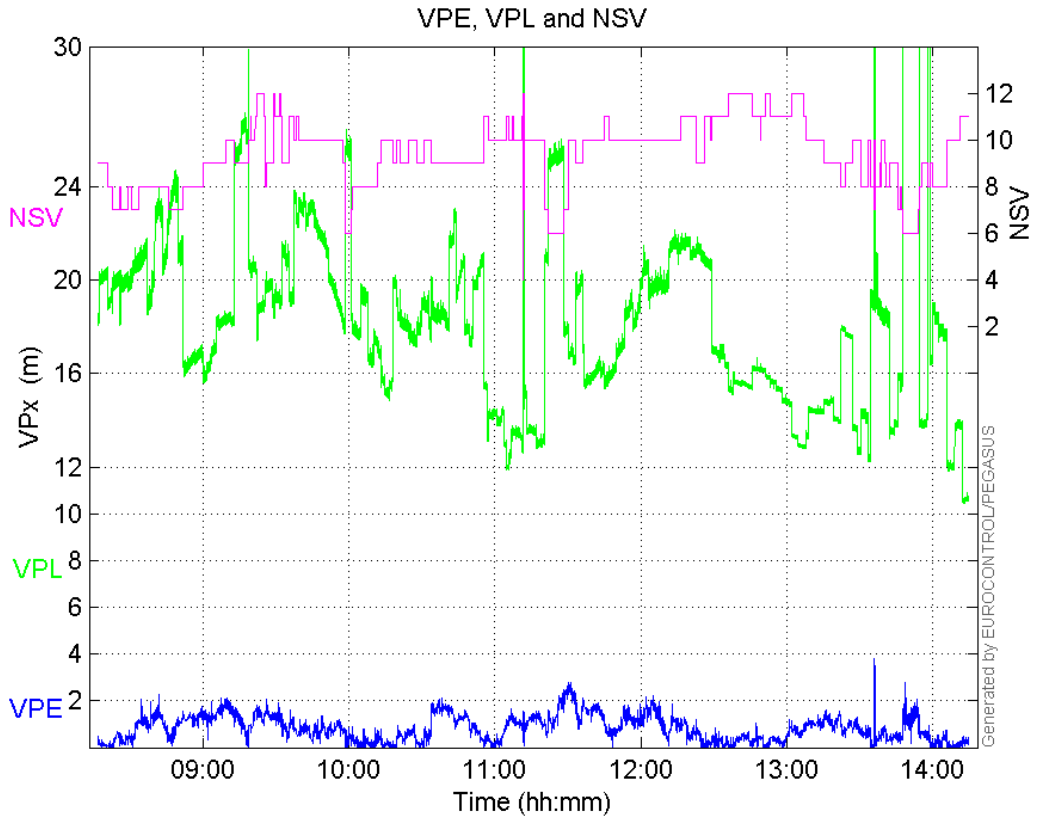
	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	21423	21293	21001	254	21001
SIS Availability	0.9973	0.991248	0.977655	0.0118244	0.977655
Local Availability	0.980817	0.974865	0.961496	0.011629	0.961496
Operational Availability	0.980817	0.974865	0.961496	0.011629	0.961496
HPE 95%	1.64098	1.63279	1.62639	1.17375	1.62639
HPEscale 95%	NaN	5.60606	5.61145	6.2974	5.61145
VPE 95%	1.74034	1.73754	1.73574	0.985252	1.73574
VPEscale 95%	NaN	4.95349	3.47376	0.9916	3.47376
All Discontinuity Events	2	26	19	57	19
Long Discontinuity Events	2	3	3	5	3
Independent Discontinuity Events	2	3	3	0	3
P(discontinuity)	0.00140036	0.00211337	0.00214276	0	0.00214276
P(sliding window)	0.00140036	0.0037571	0.00357126	0.397638	0.00357126
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:

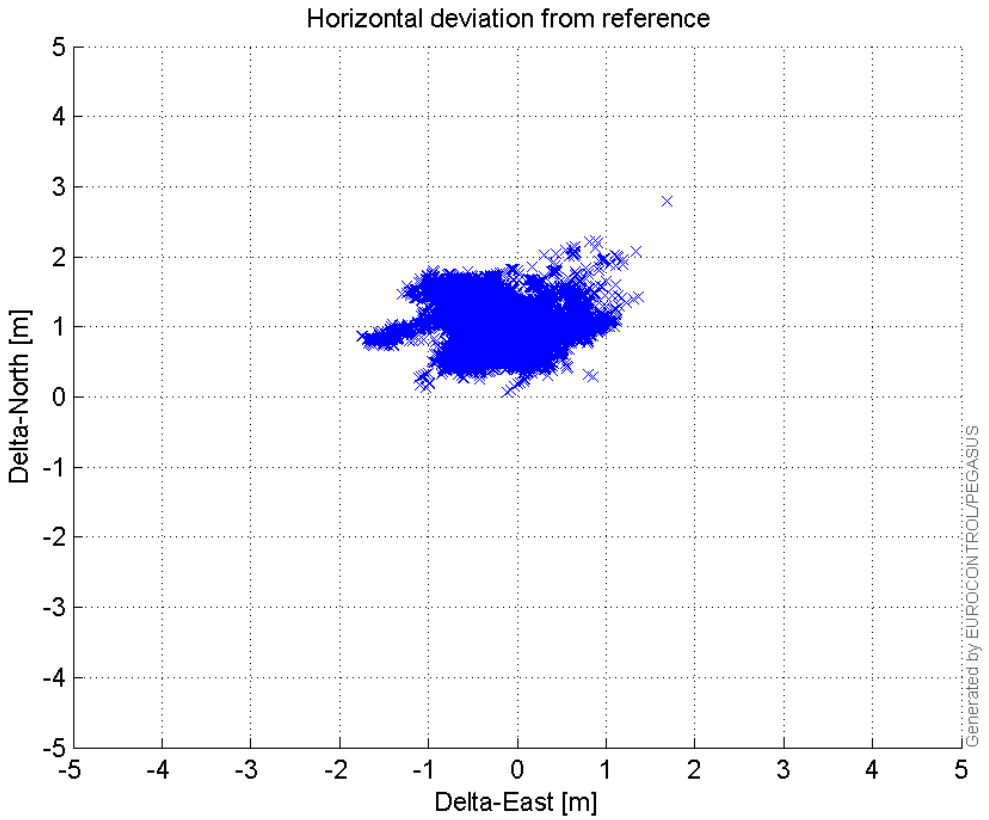


VPE, VPL and NSV:



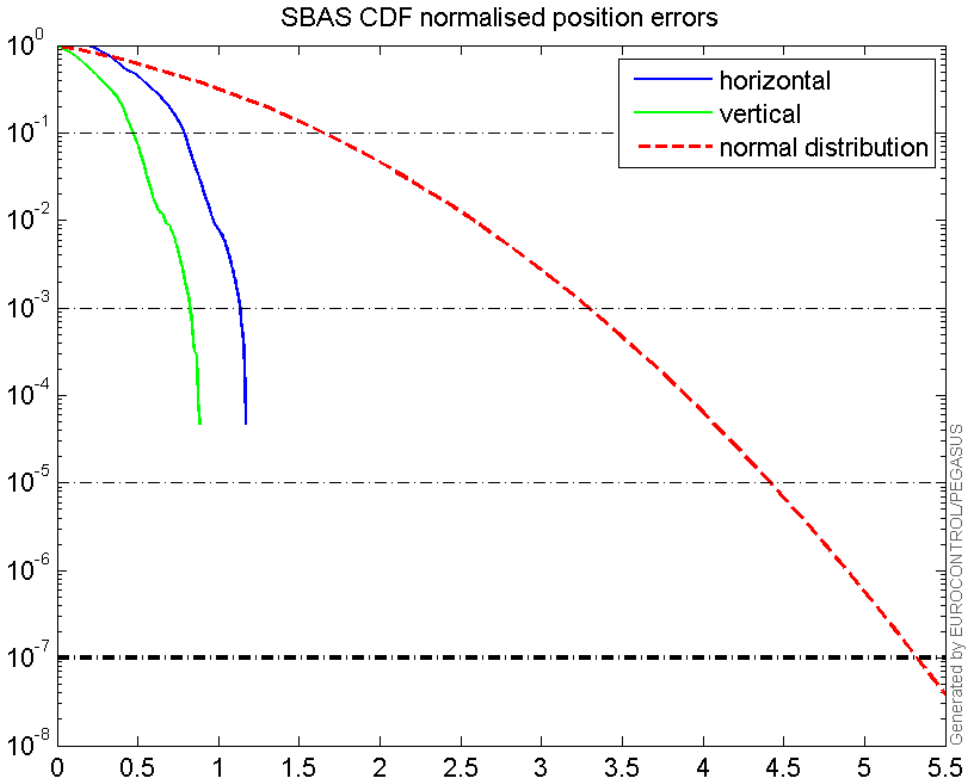
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

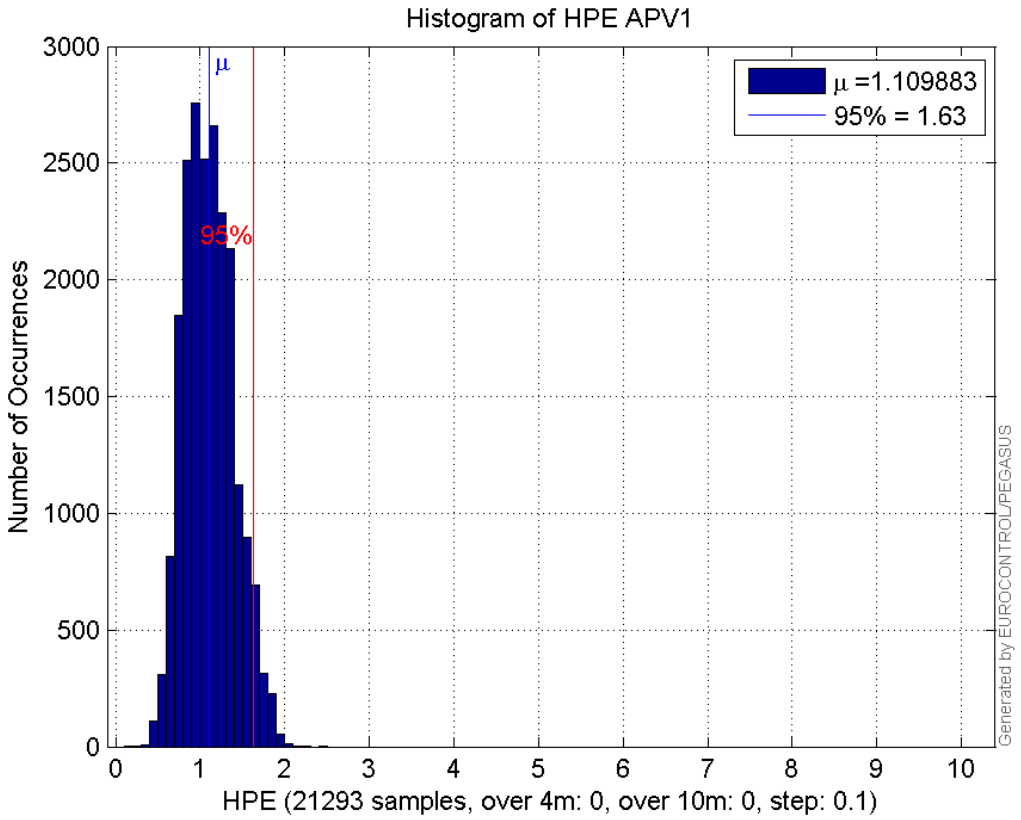
number	21293
sum	23632.747
sum2	28013.94
prctile95	1.6327943
prctile99	1.8225516
number	21293
sum	17749.977
sum2	21003.841
prctile95	1.7375351
prctile99	2.2154349
number	21293
sum	326031.12
sum2	5841308.3
prctile95	26.774225
prctile99	36.813975
number	21293
sum	391222.72
sum2	7584487
prctile95	25.124655
prctile99	41.310523
number	21293
sum	1747.3996
sum2	167.78855
prctile95	0.1401514
prctile99	0.16148288
number	21293
sum	987.54034
sum2	65.987575
prctile95	0.099069785
prctile99	0.12555885
number	21001
sum	23204.962
sum2	27373.737
prctile95	1.6263903
prctile99	1.8193907
number	21001
sum	17400.167
sum2	20528.398
prctile95	1.7357418
prctile99	2.2171146
number	21001
sum	315118.82
sum2	5432578.5
prctile95	25.34013
prctile99	35.313137
number	21001
sum	379137.18
sum2	7081979.9
prctile95	23.837875
prctile99	26.059474
number	21001
sum	1735.9643

sum2	167.33284
prctile95	0.14028631
prctile99	0.16160189
number	21001
sum	979.19135
sum2	65.719102
prctile95	0.099250337
prctile99	0.12568778

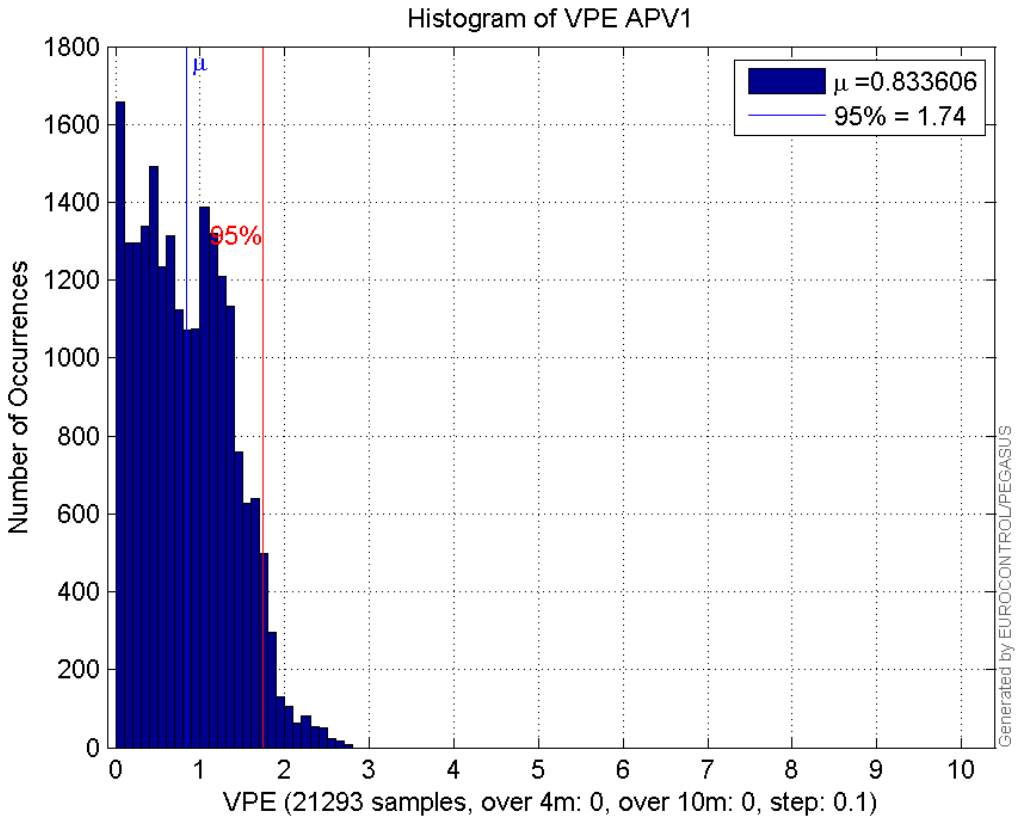
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.10988	0.289489	1.09255	1.63279	1.82255	1.14701
HPL	15.3117	6.31546	13.477	26.7742	36.814	16.5629
VPE	0.833606	0.539939	0.790783	1.73754	2.21543	0.993187
VPL	18.3733	4.31496	18.1305	25.1247	41.3105	18.8732

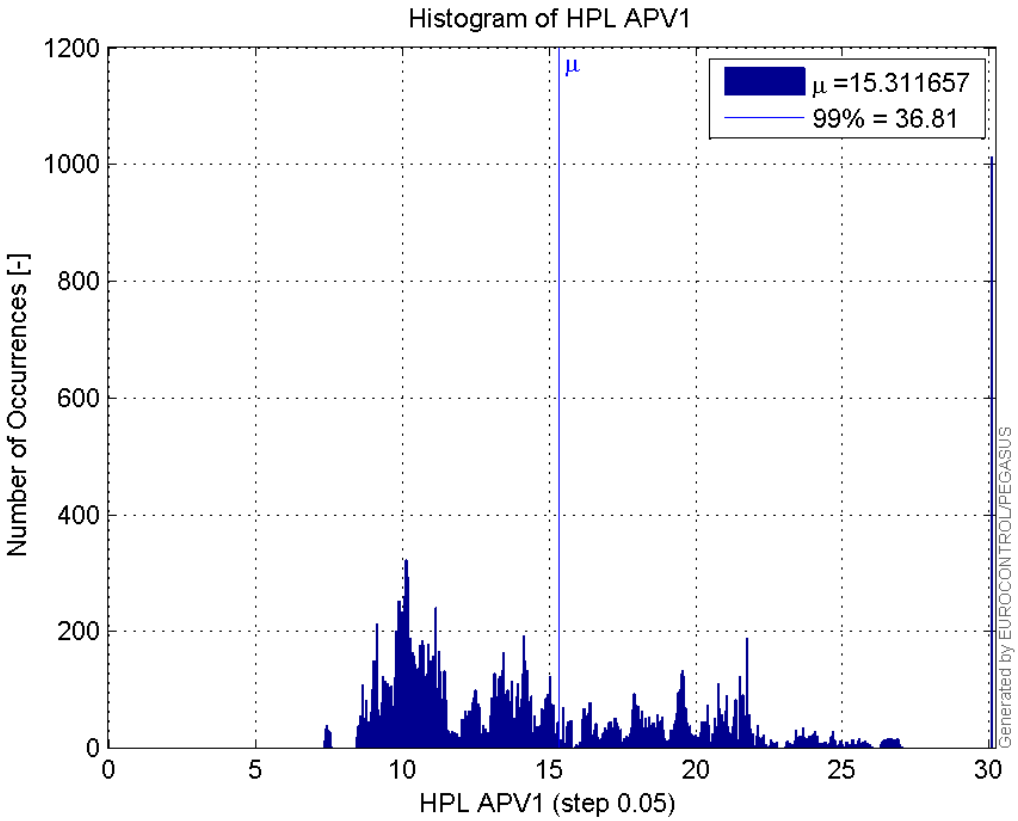
Histogram of HPE APV1:



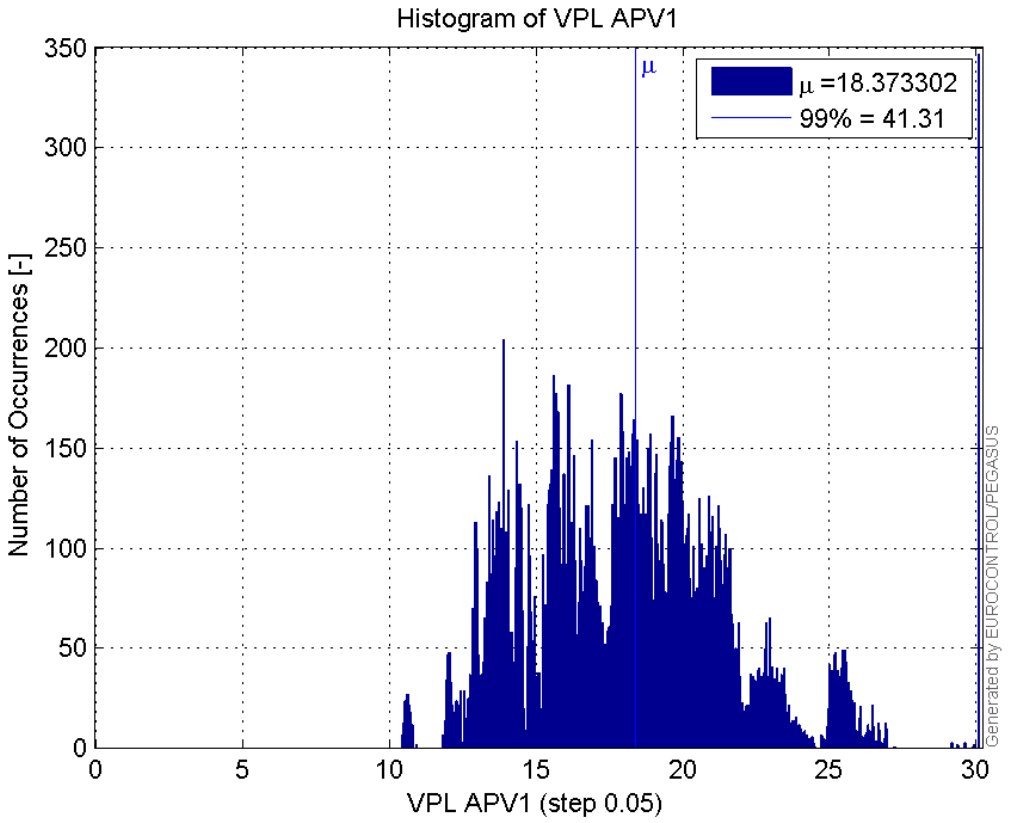
Histogram of VPE APV1:



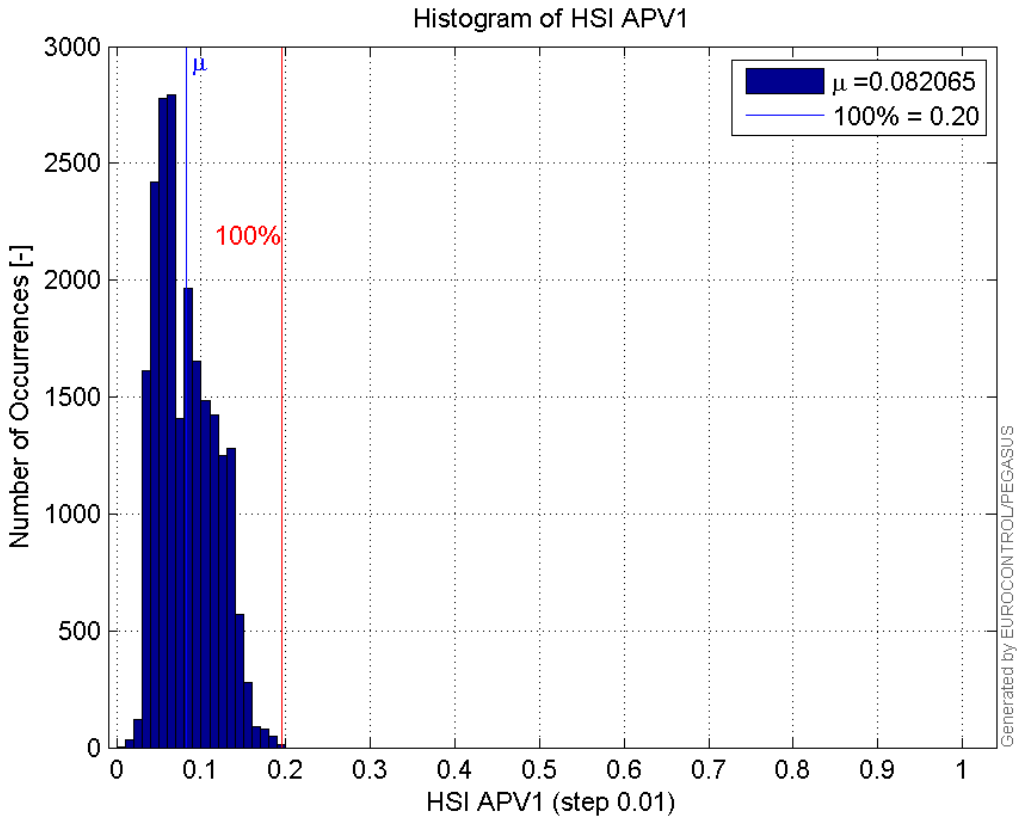
Histogram of HPL APV1:



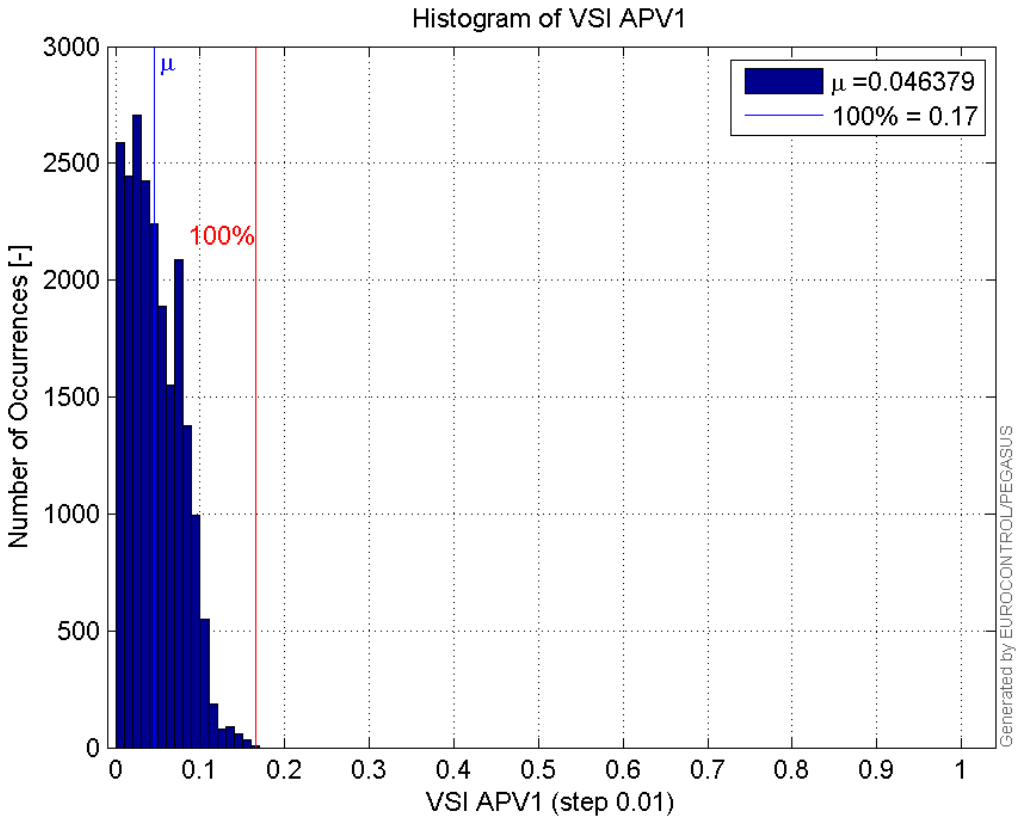
Histogram of VPL APV1:



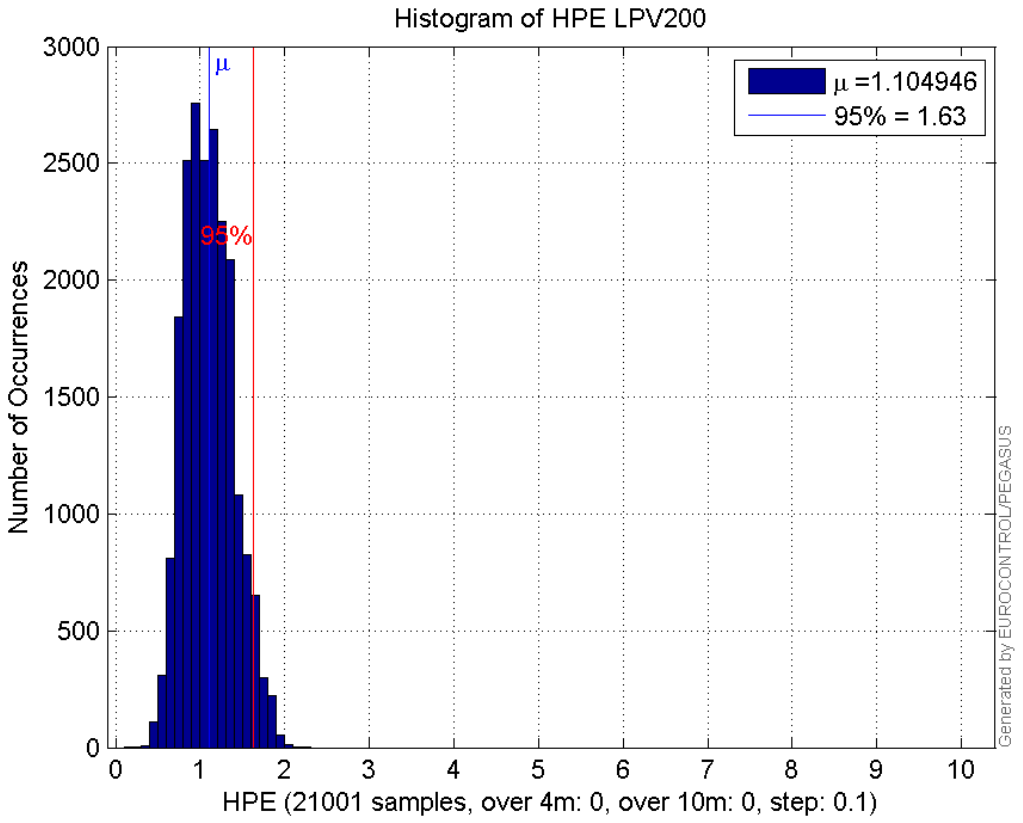
Histogram of HSI APV1:



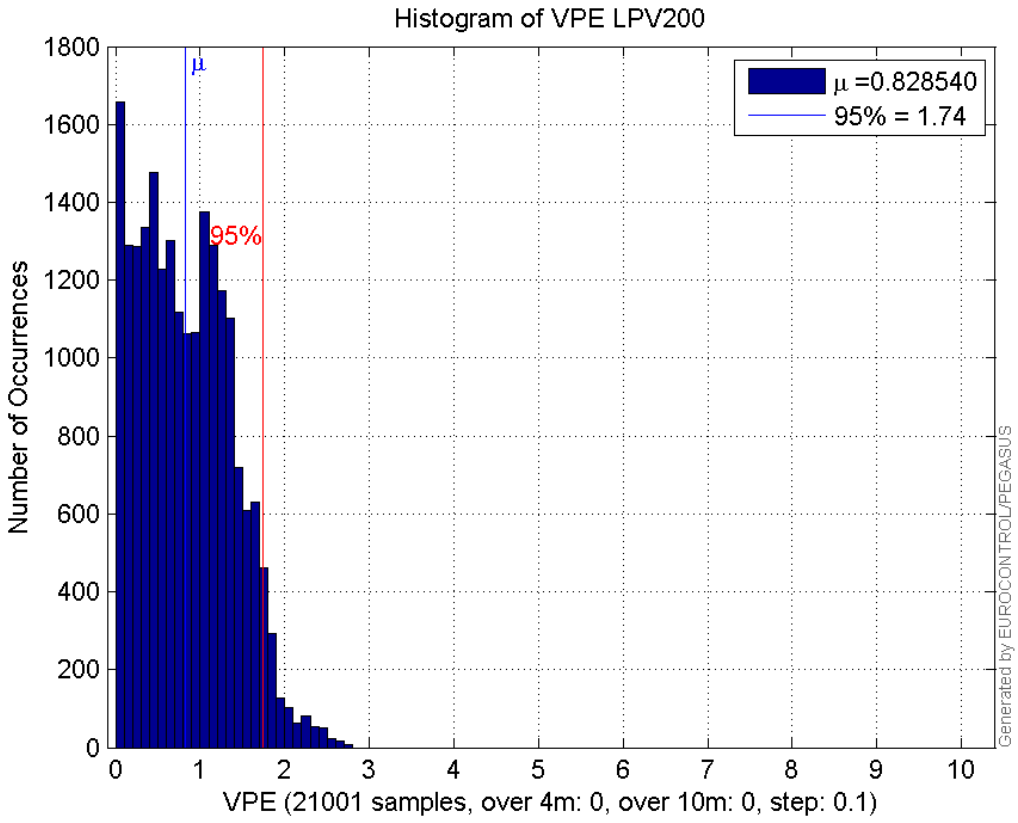
Histogram of VSI APV1:



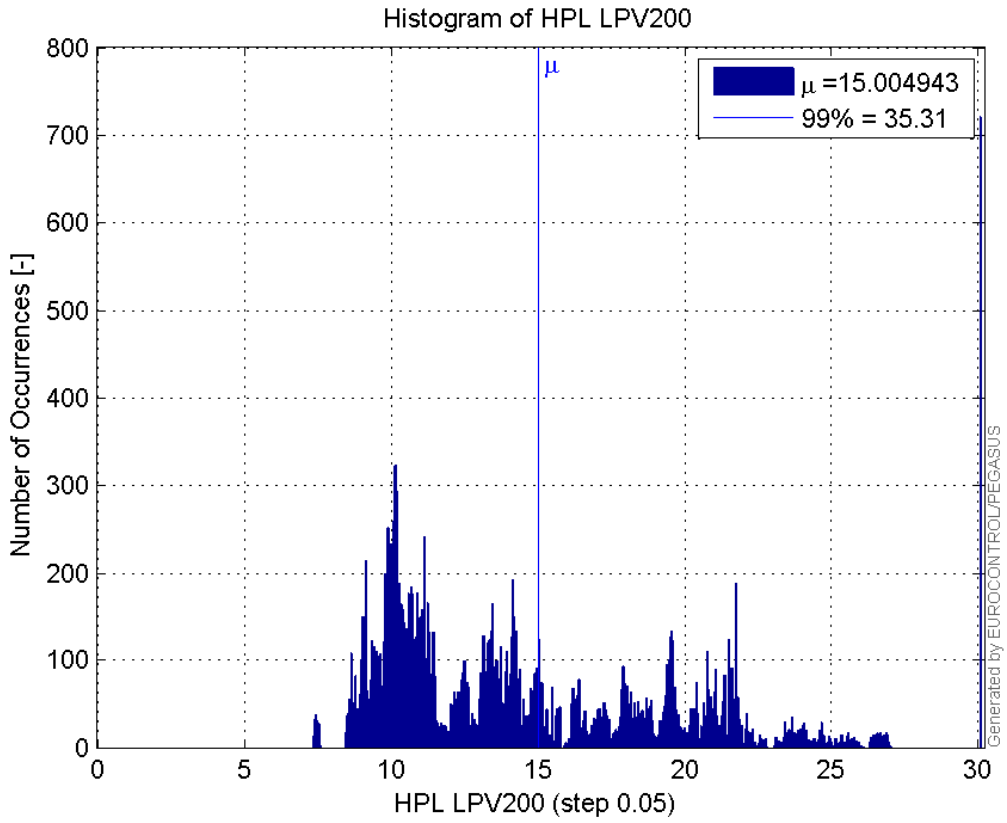
Histogram of HPE LPV200:



Histogram of VPE LPV200:

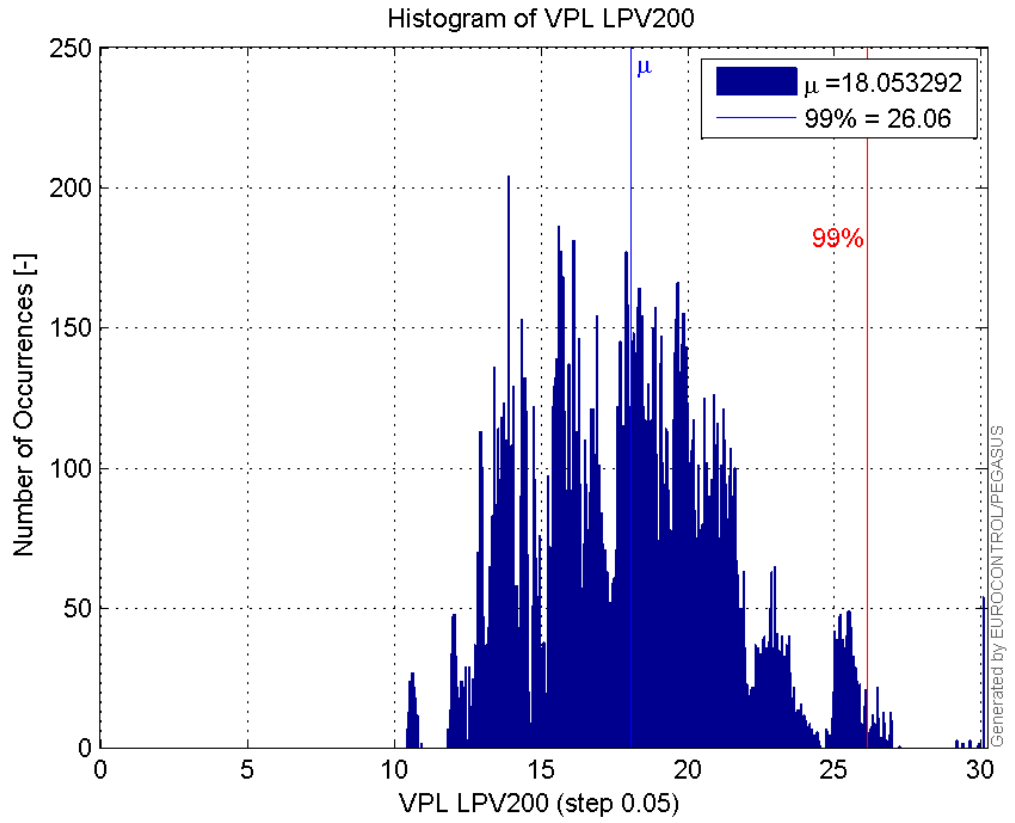


Histogram of HPL LPV200:

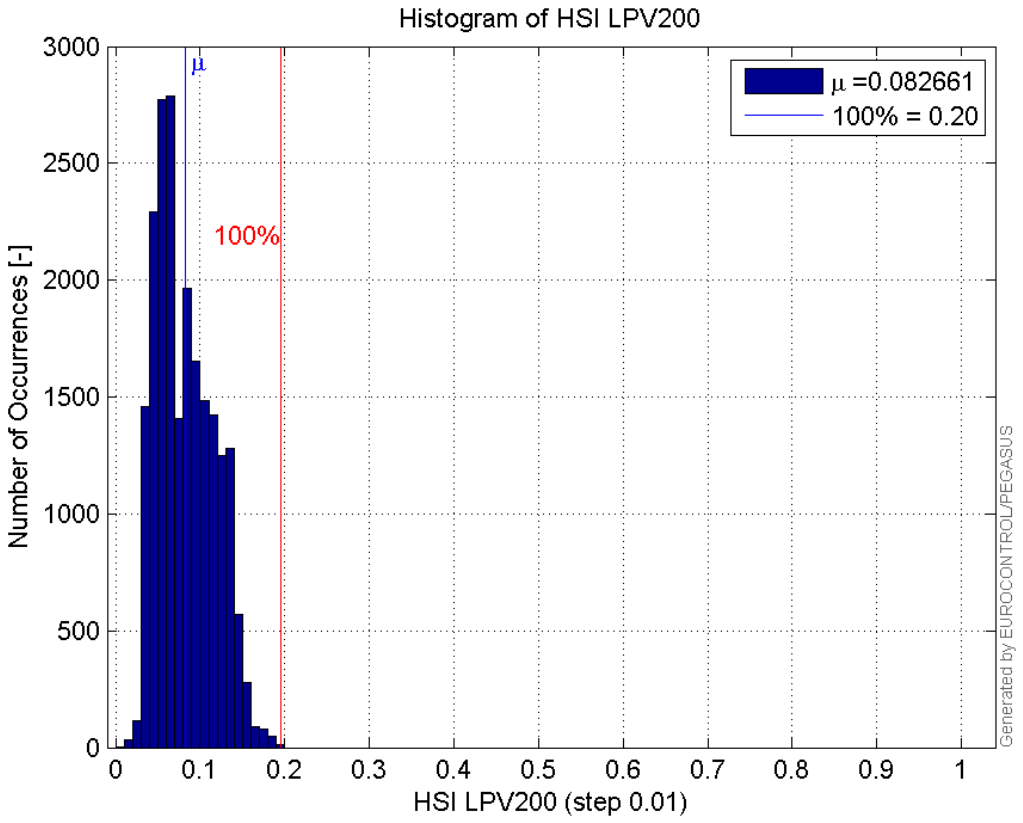


9

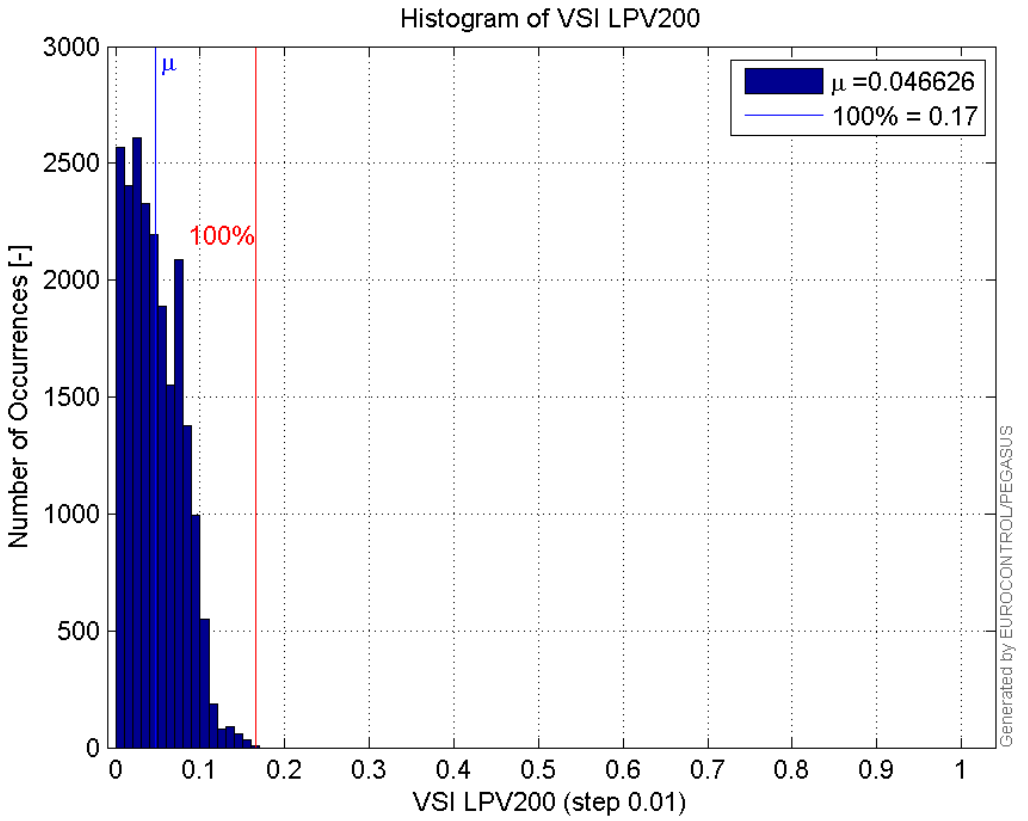
Histogram of VPL LPV200:



Histogram of HSI LPV200:

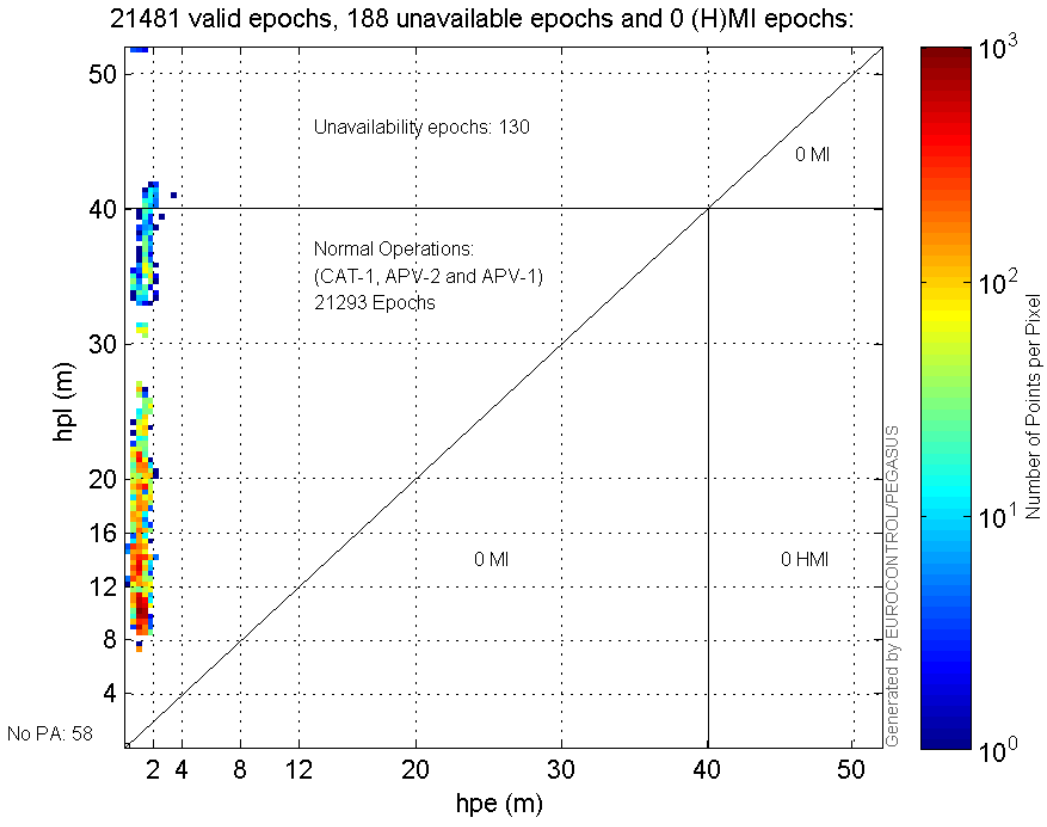


Histogram of VSI LPV200:

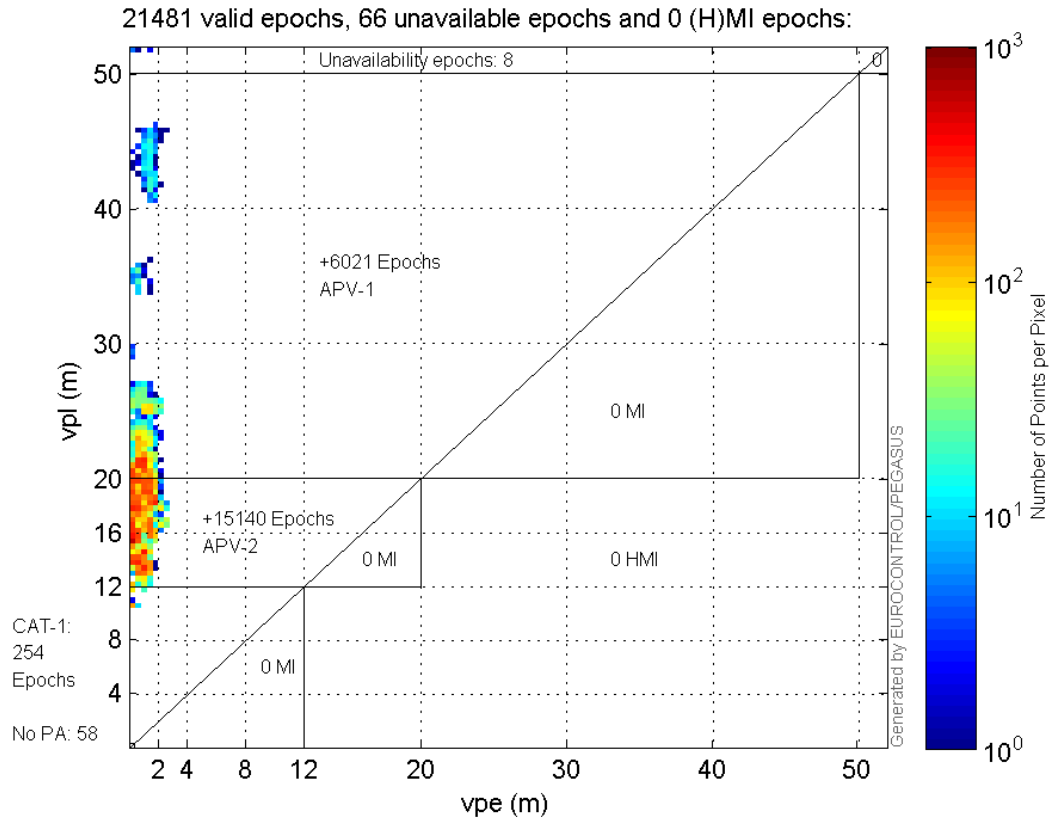


Stanford Plots

Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.2.1
input_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_19EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_19EGNOS/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	30.4297
init_alt	results	236.6021
mi_numbers	results	0

Range Domain

start: 08:10:43 19.10.2015 (week: 1867 sec: 115843)
end: 14:14:44 19.10.2015 (week: 1867 sec: 137684)
duration: 06:04:02 ..

quality

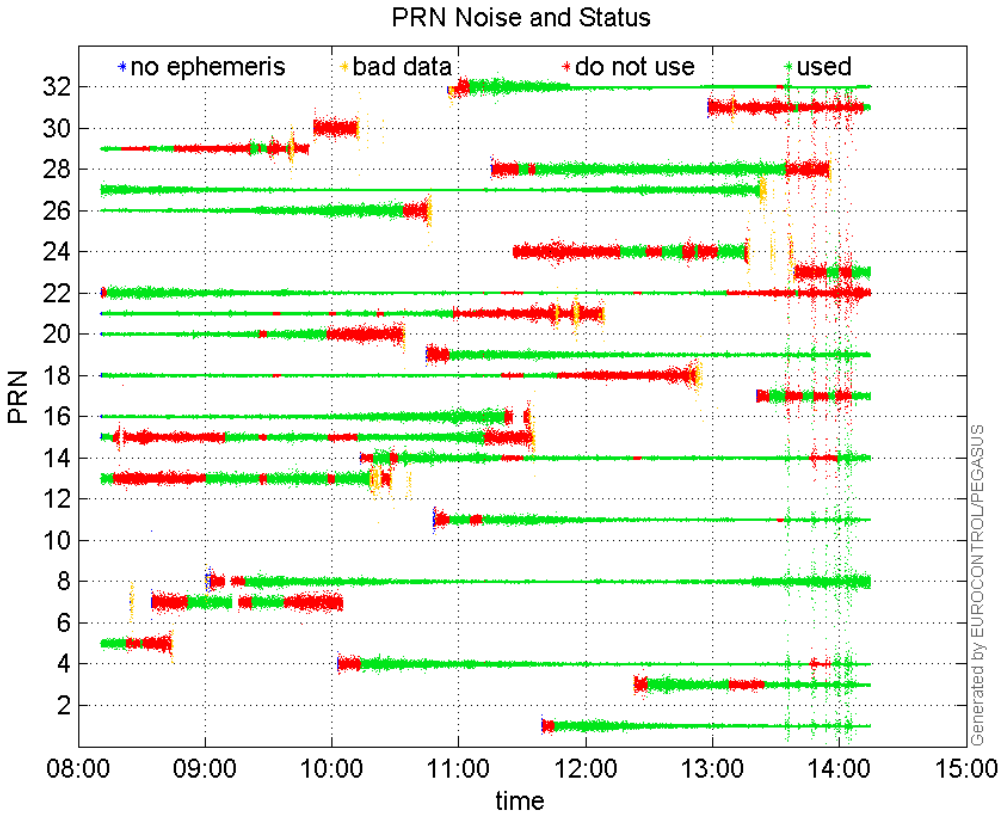
valid samples 21842
total samples 21842

PRN overview

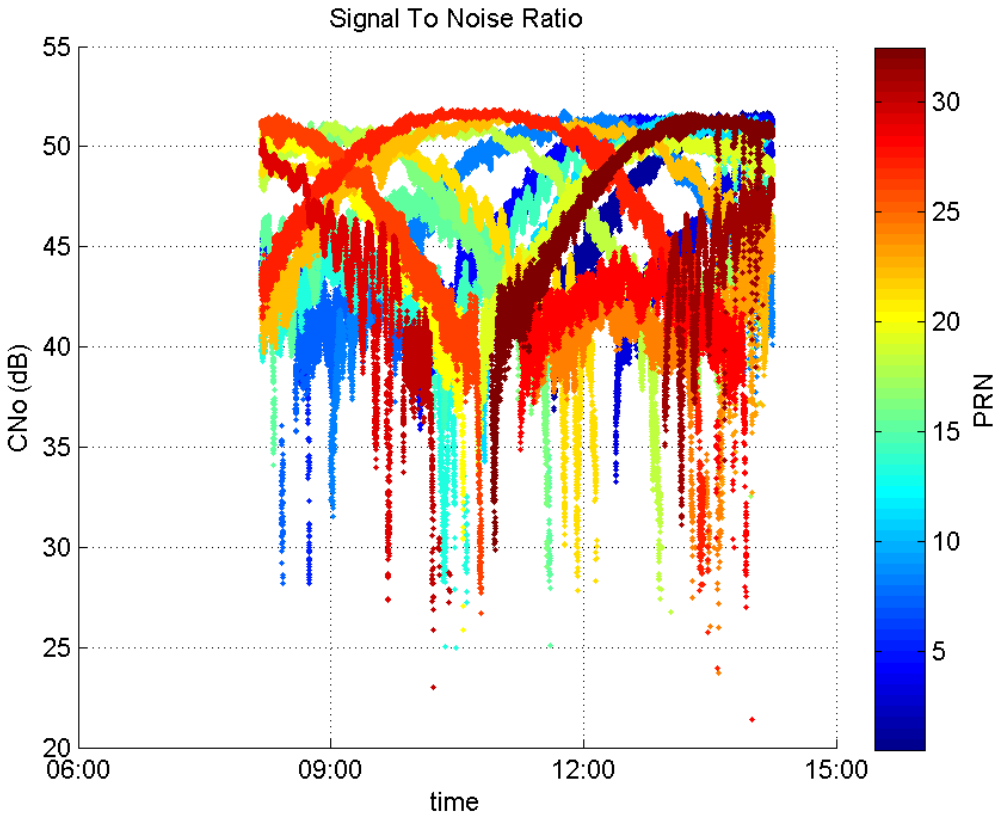
Number of Visible GPS Satellites 26
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



range errors

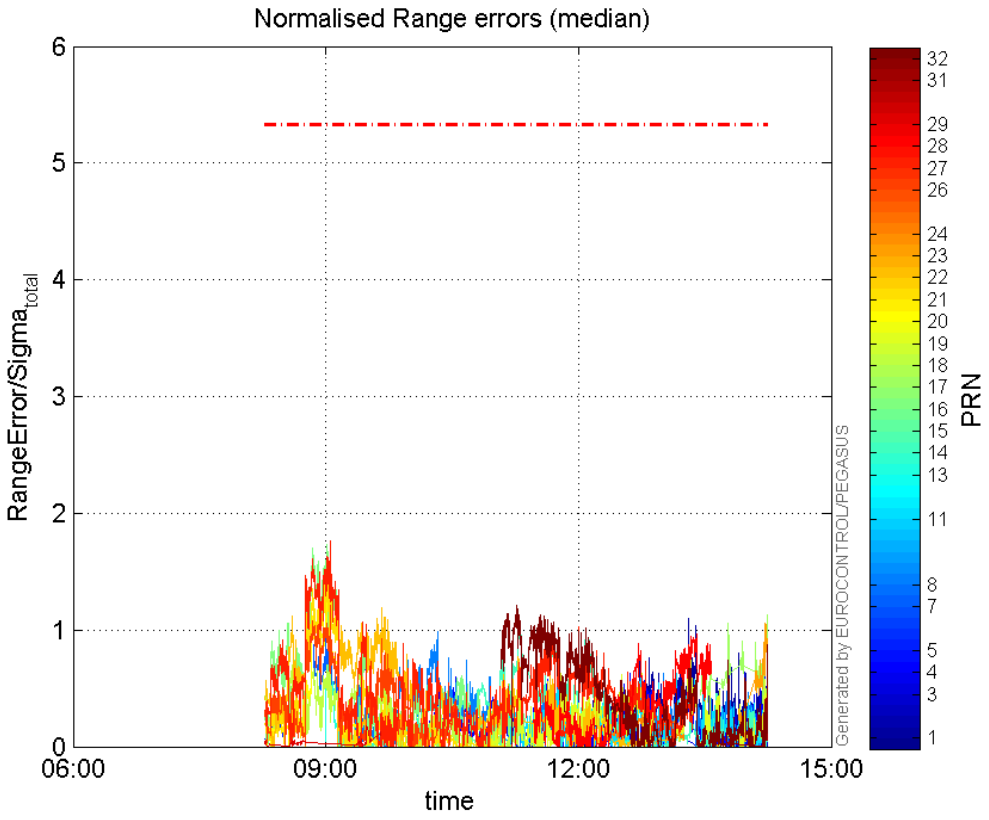
Number of Overbounding Norm Errors 0

Max Norm Errors :

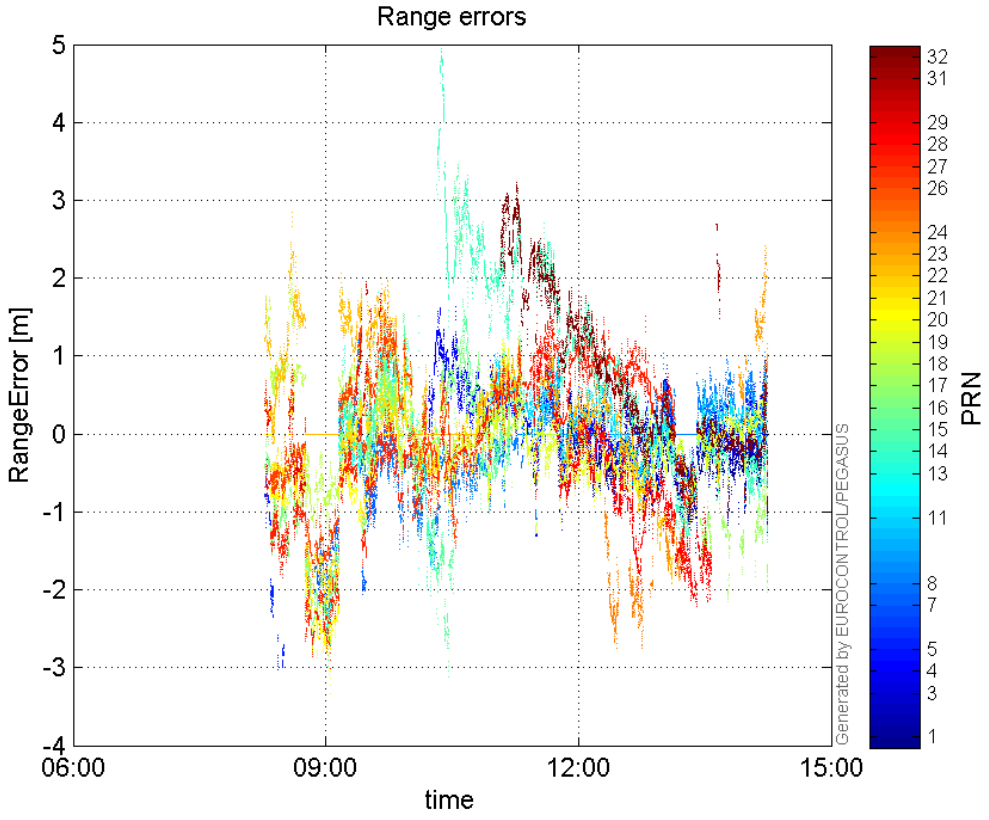
GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1867	134306	1	1.09828	-1.6575	1.50918
1867	137676	3	0.886679	-1.26864	1.43077
1867	127754	4	0.815932	-1.31172	1.60764
1867	116756	5	0.296157	-3.02056	10.1992
1867	118772	7	0.921492	-2.54424	2.761
1867	123564	8	0.986649	-1.72384	1.74717
1867	133812	11	0.628288	-0.91447	1.45549
1867	118918	13	0.697417	-2.98269	4.27677
1867	127064	14	1.09181	2.89216	2.64896
1867	124042	15	0.32426	-3.11325	9.60112
1867	118857	16	1.72795	-2.57048	1.48759
1867	137676	17	1.13134	-2.03535	1.79906
1867	117415	18	0.847314	1.76154	2.07897
1867	134393	19	0.78137	-1.2013	1.53743
1867	118936	20	1.48283	-3.10257	2.09234
1867	119012	21	1.58585	-2.6423	1.66618
1867	121199	22	1.19473	1.99603	1.6707
1867	137566	23	1.05445	2.42304	2.29791
1867	131876	24	0.274138	-2.07161	7.5568
1867	119012	26	1.21089	-2.12054	1.75123
1867	119012	27	1.76557	-3.00655	1.70287
1867	134642	28	0.963038	-2.213	2.29793

1867	120541	29	0.183772	1.9594	10.6621
1867	137630	31	0.409669	0.94121	2.29749
1867	126950	32	1.20831	3.23551	2.67773

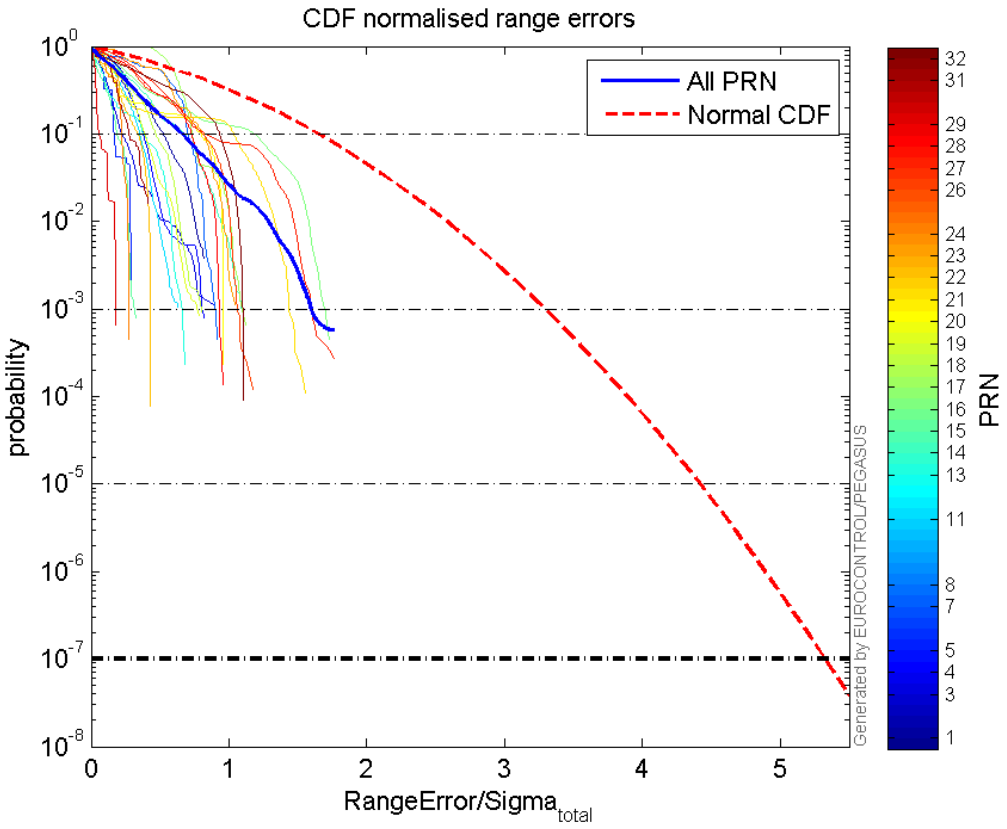
Normalised Range errors (median):



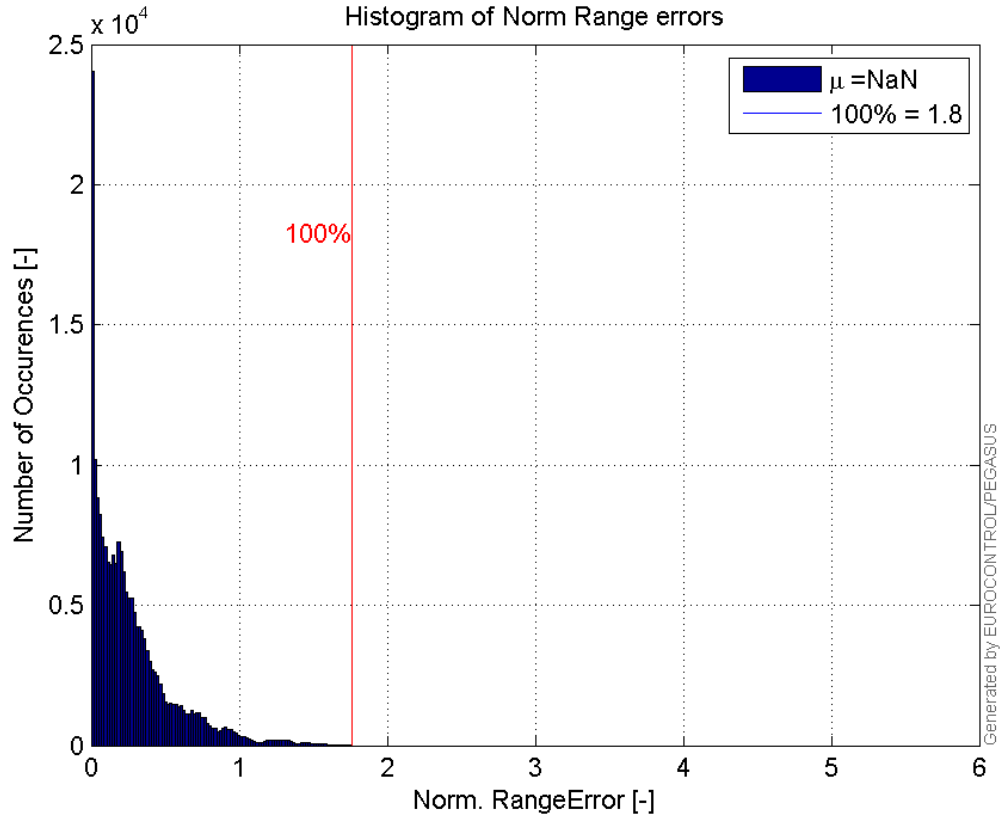
Range errors:



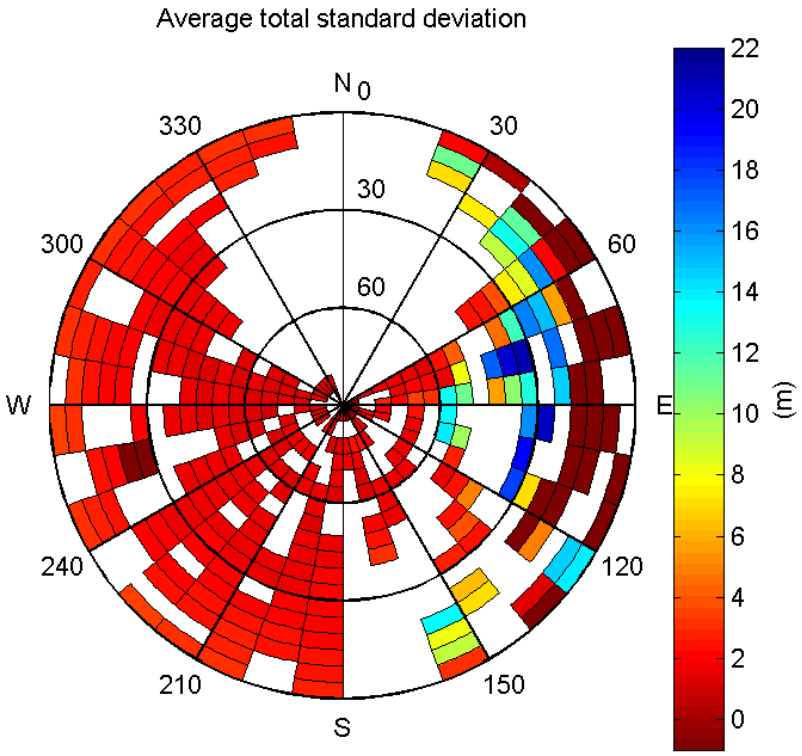
CDF normalised range errors:



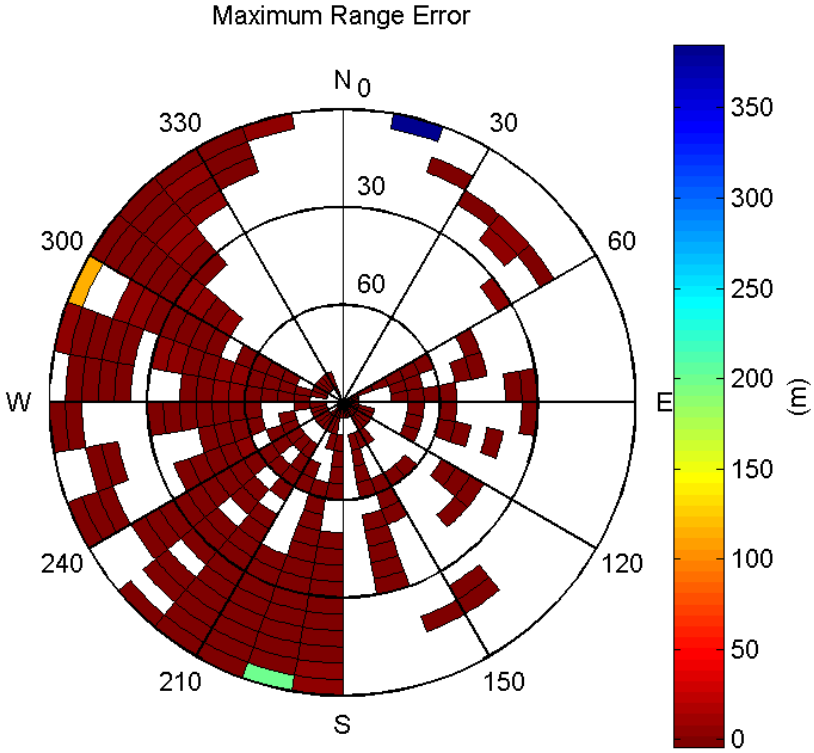
Histogram of Norm Range errors:



Sigma Sky Plot:

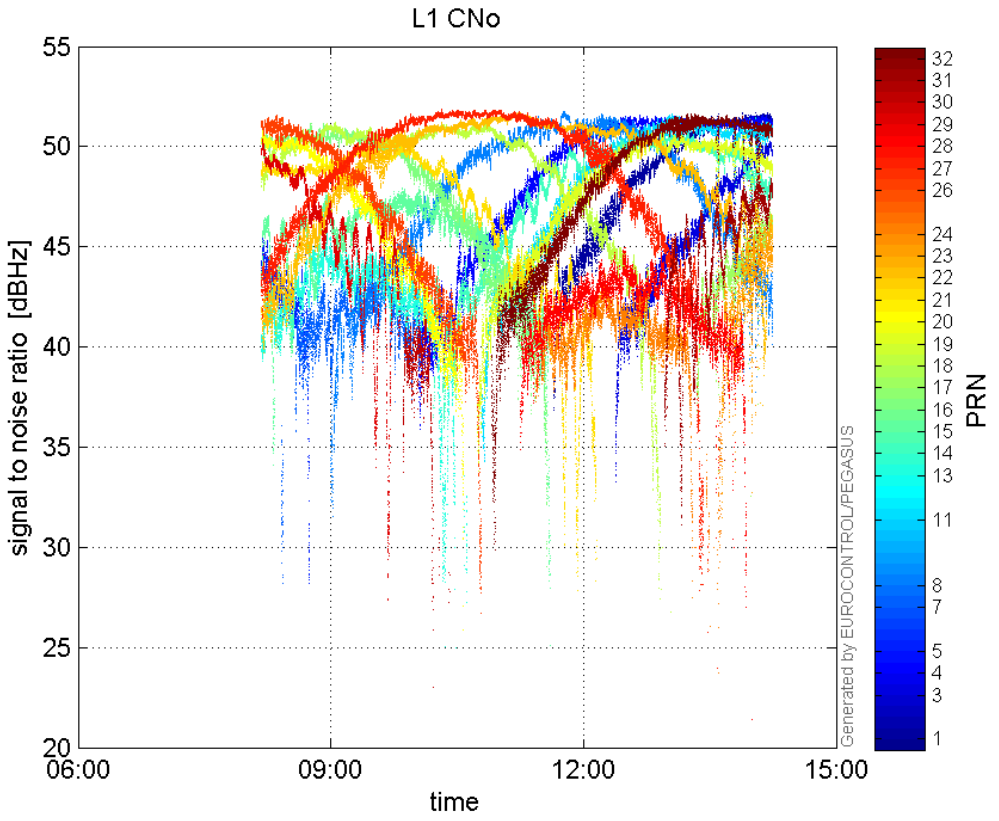


Norm Error Sky Plot:

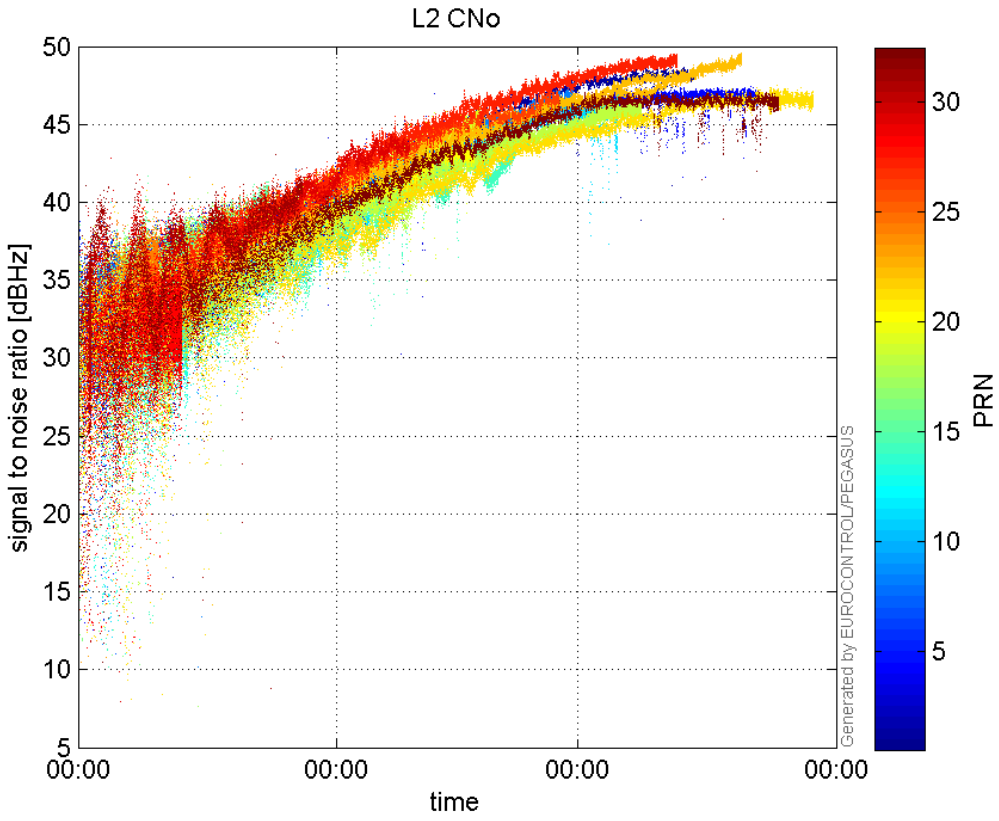


signal quality

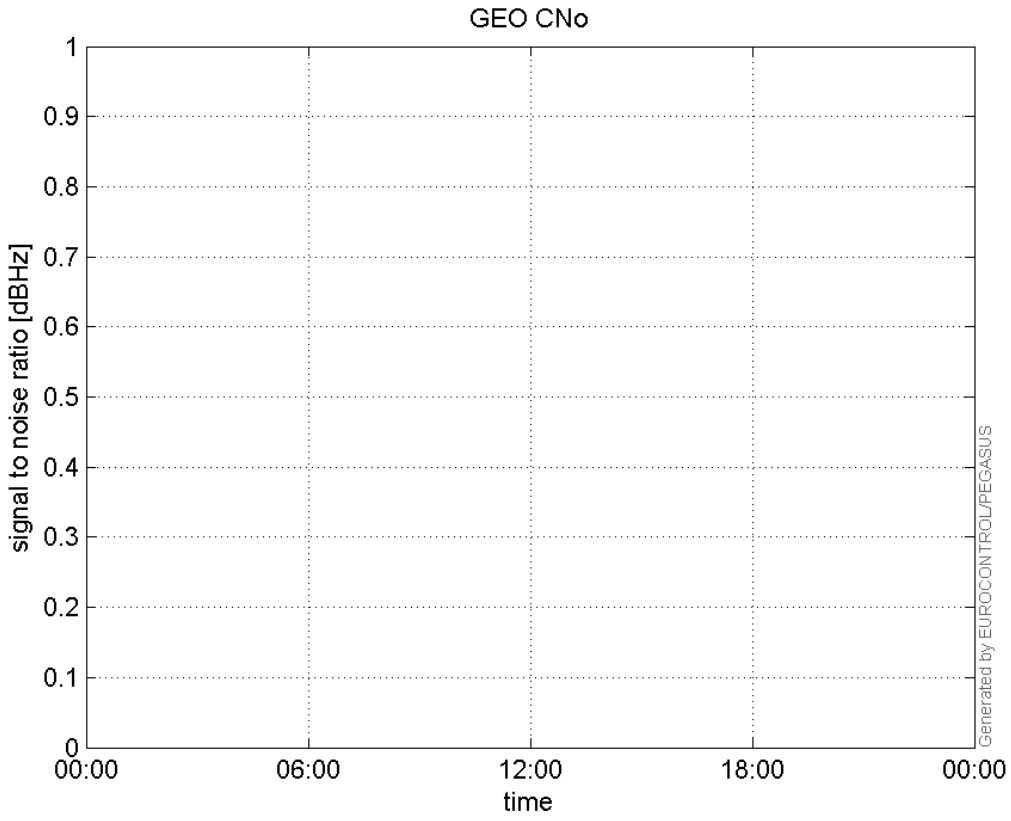
L1 CNo:



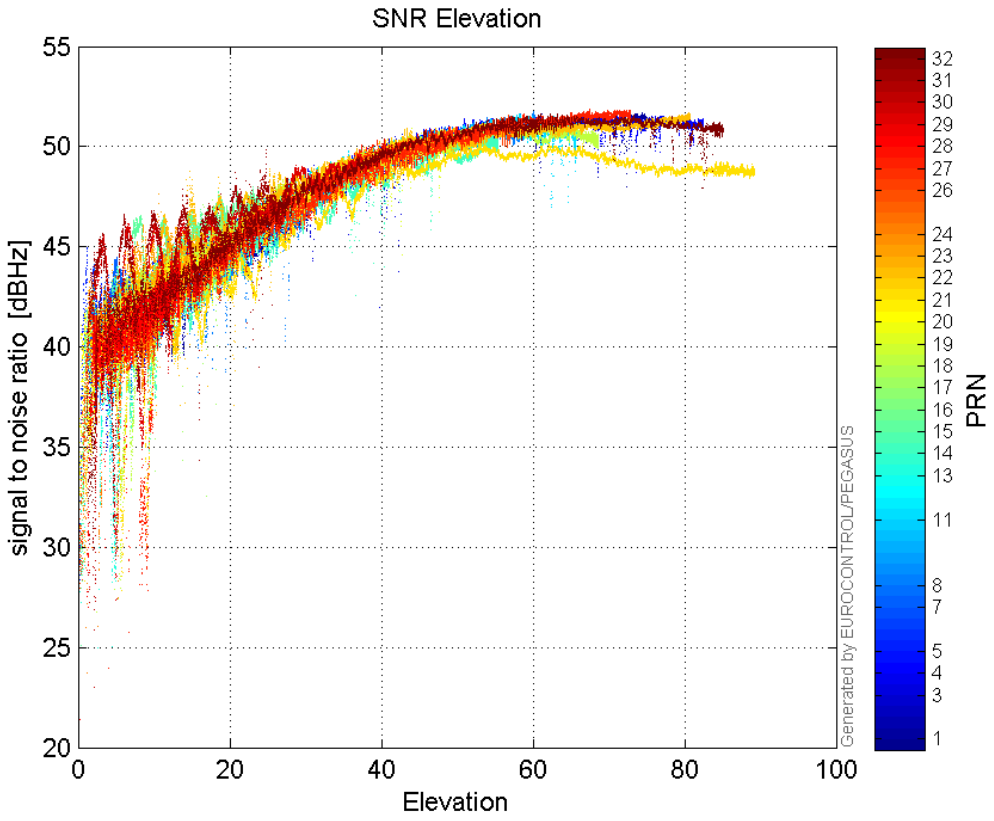
L2 CNo:



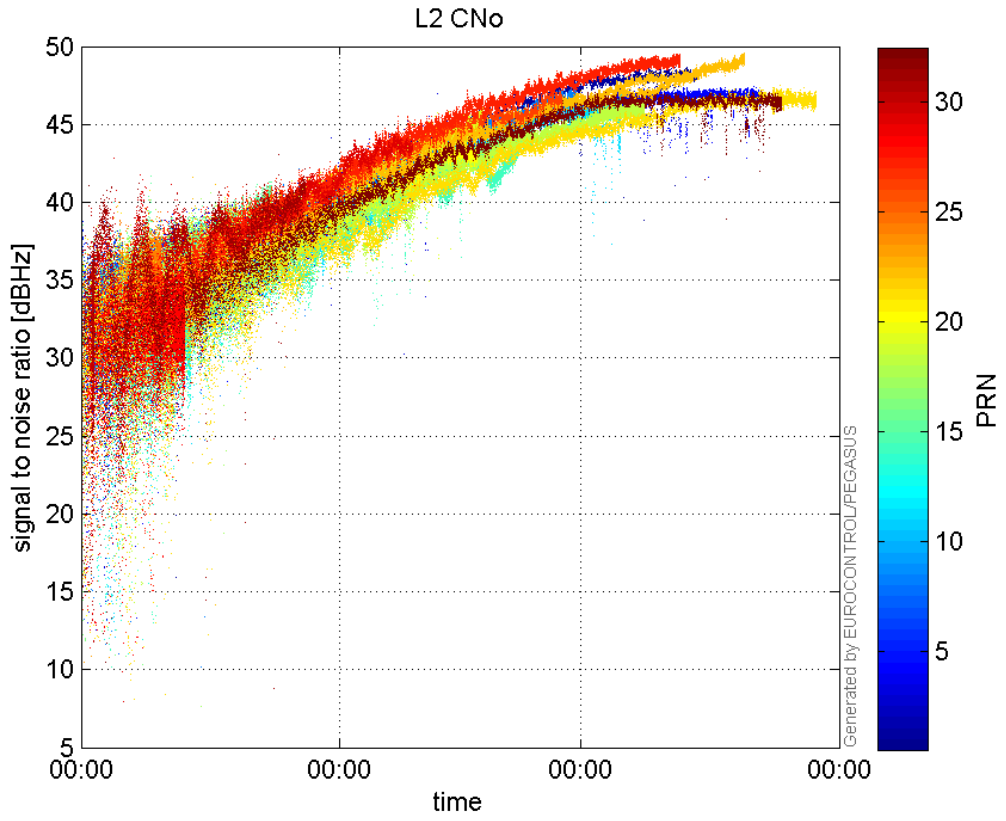
GEO CNo:



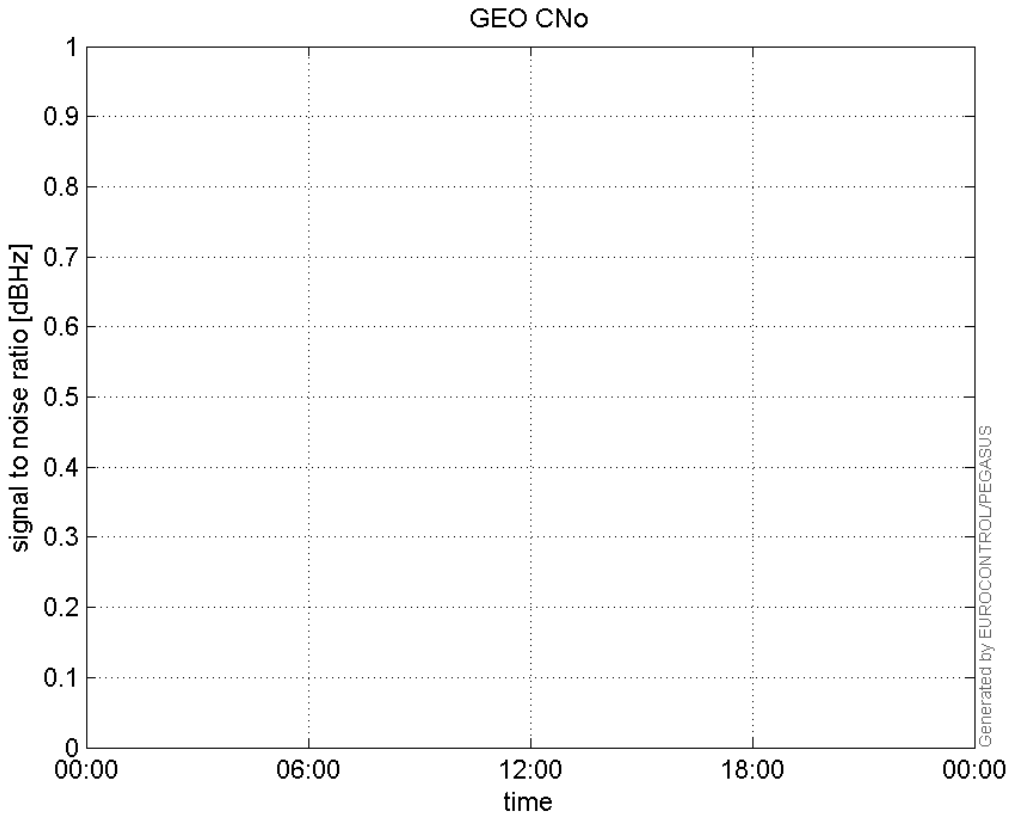
SNR Elevation:



L2 CNo:

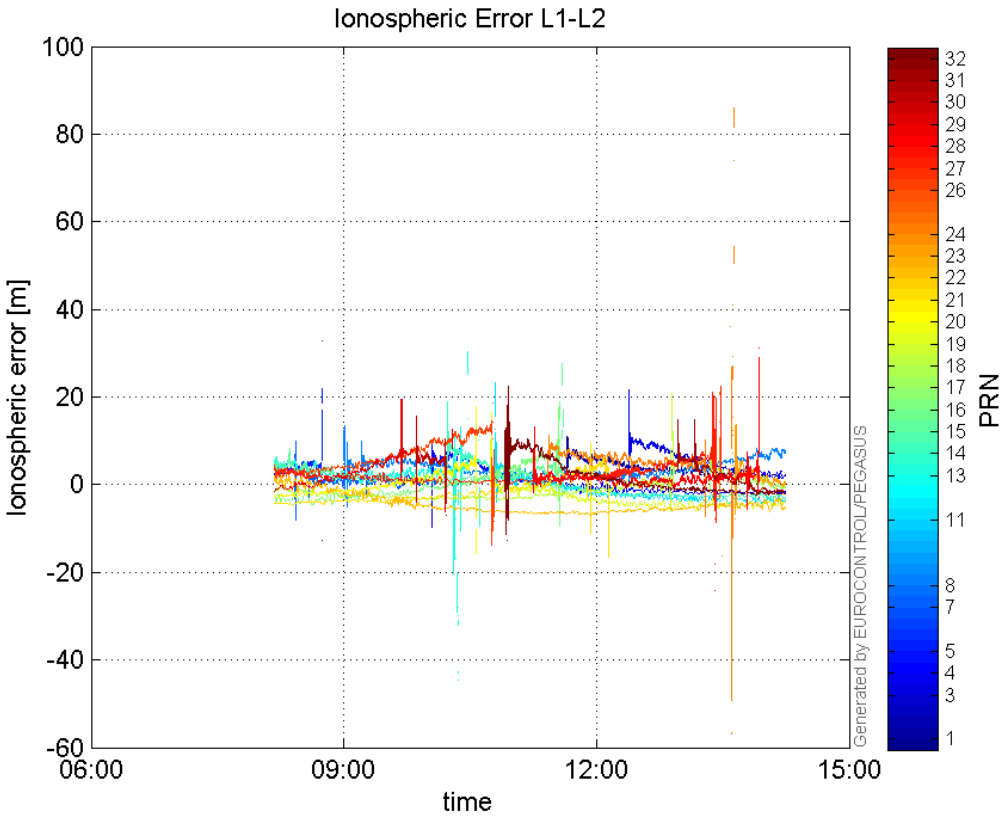


GEO CNo:



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_19EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_10_19EGNOS/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	30.4297
init_alt	results	236.6021
mi_numbers	results	0