

Global View

version 4.8.2
 site Laboratory satellite systems
 abbreviation NAU
 country Ukraine
 city Kiev
 comment
 program Pegasus
 date 05/11/2015

SBAS Messages

start: 05:48:34.129 04.11.2015 (week: 1869 sec: 280114.129)
end: 12:20:51.129 04.11.2015 (week: 1869 sec: 303651.129)
duration: 06:32:17 ..

quality

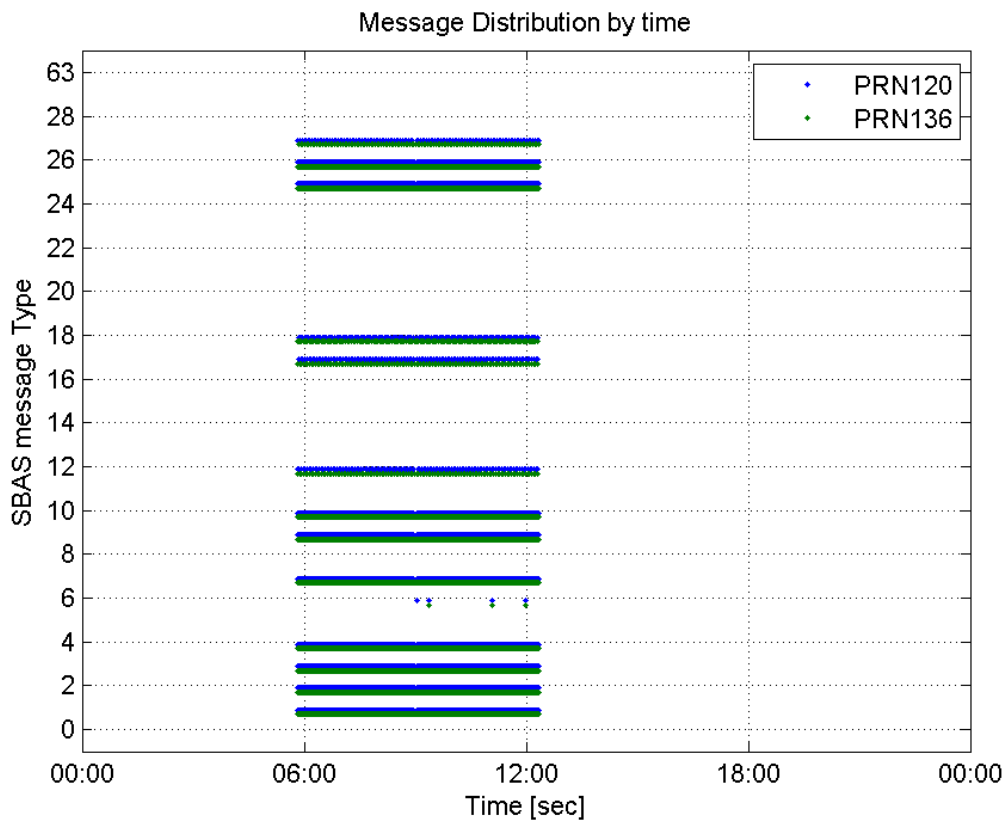
valid samples 46861
total samples 46861
number of SBAS PRNs 2

SBAS SIS Overview

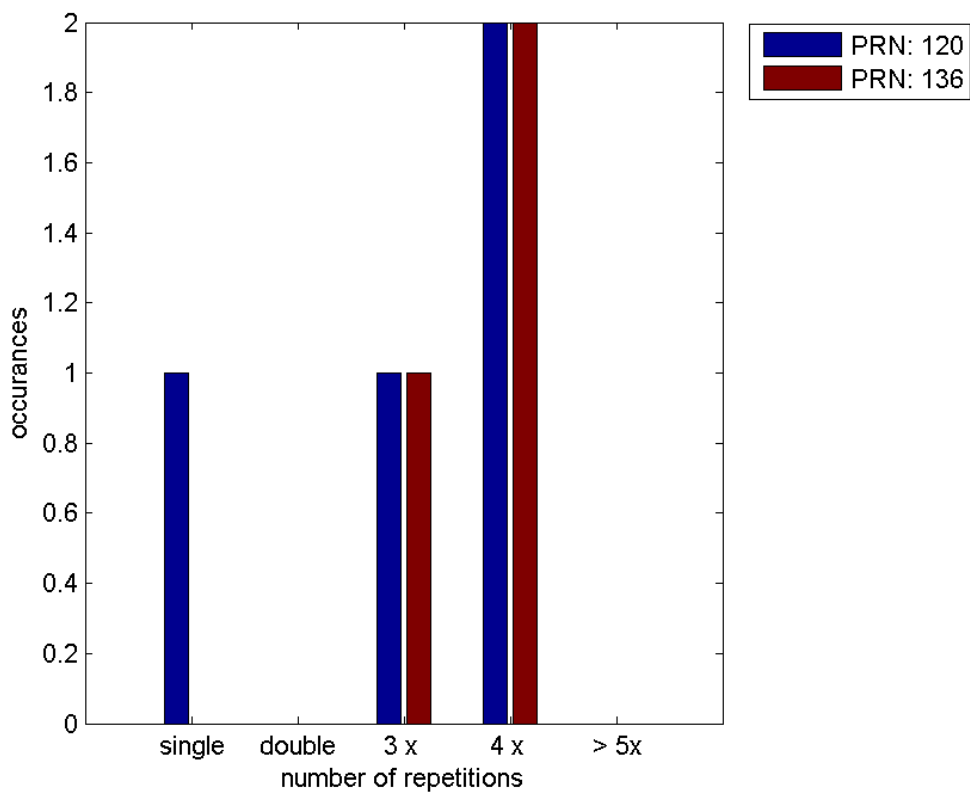
Message Type 6 repetitions :

	single	double	3 x	4 x	> 5x
PRN 120	1	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 :

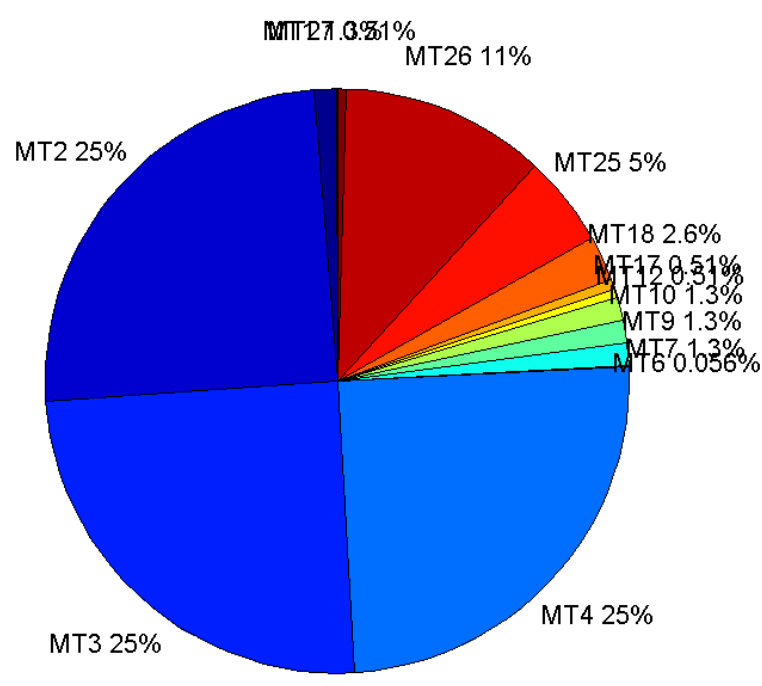
	number of messages	%
MT 0	0	0
MT 1	293	1.25622
MT 2	5794	24.8414
MT 3	5793	24.8371
MT 4	5792	24.8328
MT 5	0	0
MT 6	13	0.0557366
MT 7	293	1.25622
MT 9	293	1.25622
MT 10	293	1.25622
MT 12	120	0.514492
MT 17	119	0.510204
MT 18	595	2.55102
MT 24	0	0
MT 25	1175	5.03773
MT 26	2631	11.2802
MT 27	120	0.514492
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	23324	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	317	80.3288	1	0	0
MT 2	4	214	4.06232	4	1	1
MT 3	4	219	4.06319	4	1	1
MT 4	4	218	4.06372	5	1	1
MT 5	--	--	--	--	--	--
MT 6	1	6212	878.167	3	3	3
MT 7	76	317	80.3356	1	0	1
MT 9	76	317	80.3356	0	0	0
MT 10	76	323	80.2637	1	0	1
MT 12	184	389	196.84	119	1	1
MT 17	184	388	196.881	0	0	0
MT 18	4	350	39.1852	1	0	0
MT 24	--	--	--	--	--	--
MT 25	1	229	20.0153	0	0	0
MT 26	4	225	8.94753	0	0	0
MT 27	188	390	196.891	0	0	0

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

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

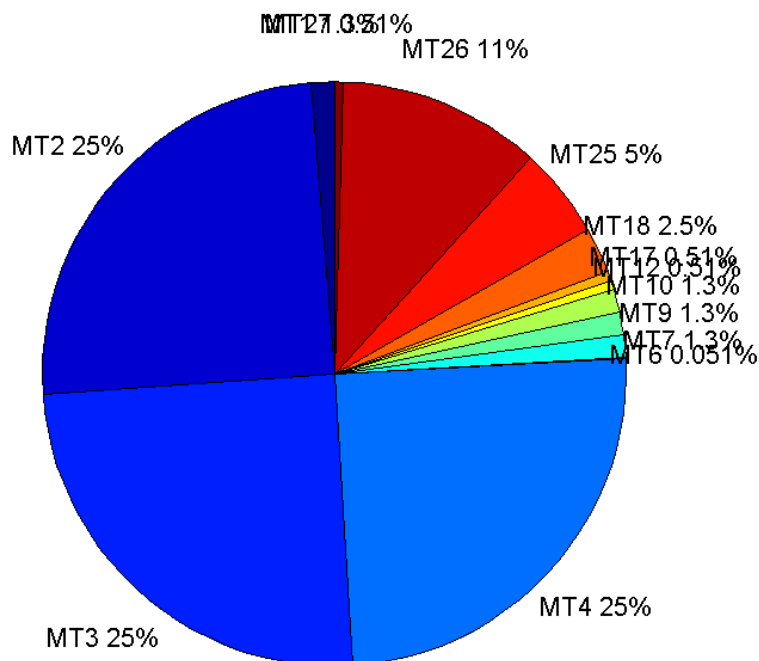
	number of messages	%
MT 0	0	0
MT 1	296	1.25759
MT 2	5852	24.863
MT 3	5852	24.863
MT 4	5850	24.8545
MT 5	0	0
MT 6	12	0.0509836
MT 7	296	1.25759
MT 9	296	1.25759
MT 10	297	1.26184
MT 12	120	0.509836
MT 17	120	0.509836
MT 18	600	2.54918
MT 24	0	0

MT 25	1187	5.04312
MT 26	2639	11.2121
MT 27	120	0.509836
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	23537	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	81	79.4407	0	0	0
MT 2	4	8	4.02256	3	0	0
MT 3	4	8	4.02256	3	0	0
MT 4	4	8	4.02342	4	0	0
MT 5	--	--	--	--	--	--
MT 6	1	6212	855.727	2	2	2
MT 7	76	82	79.4508	0	0	0
MT 9	75	81	79.4814	0	0	0
MT 10	76	81	79.4831	0	0	0
MT 12	188	201	196.151	119	0	0
MT 17	188	201	196.118	0	0	0
MT 18	4	172	39.0167	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	56	19.8238	0	0	0
MT 26	3	56	8.9185	0	0	0
MT 27	184	201	196.16	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_11_04EGNOS/01_User/01_User
Outputfile	System	D:/PEGASUS_DAT_job/JOB/2015_11_04EGNOS/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: 05:48:35 04.11.2015 (week: 1869 sec: 280115)
end: 12:20:52 04.11.2015 (week: 1869 sec: 303652)
duration: 06:32:18 ..

quality

valid samples 23177
total samples 23538

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 all

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	295212	1.84961	9.58303	0.193009	2.00087	12.0054	0.166664
max normVer	296219	2.09487	17.0827	0.122631	3.23711	15.6316	0.207088
max HPE	295715	8.57682	107.94	0.0794592	-2.48491	61.7007	0.0402736
max VPE	303491	2.87169	51.3552	0.0559183	-3.39405	49.588	0.068445
min HPL	300328	0.308771	8.44181	0.0365764	0.157482	19.3134	0.00815404
min VPL	295181	1.63295	9.48355	0.172188	1.89506	11.6625	0.162491

Position discontinuity events :

#	Epoch	duration	stable period
1	291519	313	11043

APV-I discontinuity events :

#	Epoch	duration	stable period
1	291519	428	11043
2	295671	398	3724
3	303425	144	7356

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	291519	428	11043
2	295671	398	3724
3	303425	144	7356

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	291519	428	11043
2	295671	398	3724
3	303425	144	7356

CAT-I discontinuity events :

#	Epoch	duration	stable period
1	295207	1	28
2	295211	1	3
3	295215	1	3
4	295218	430	2
5	295649	2	1
6	295654	1	3

First Glance analysis

Duration	23538
Number of Samples	23538
Number of invalid sample	361
Number of no position solution samples	313
Number of missing sample	0
Logging Loss	0
Processing Loss	1.5337
Number of Misleading Information	0
Data gaps	0
Discontinuities	1

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
22864	22207	22207	46	22207

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.79869	1.66513	1.66513	1.78748	1.66513
HPEscale 95%	NaN	4.42196	4.42196	7.54947	4.42196
VPE 95%	2.0648	2.05494	2.05494	2.07573	2.05494
VPEscale 95%	NaN	5.99292	4.19504	2.10543	4.19504

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.986495	0.958148	0.958148	0.00198473	0.958148
measurements	0.971365	0.943453	0.943453	0.00195429	0.943453
Operational	0.971365	0.943453	0.943453	0.00195429	0.943453

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	1	3	3	6	3
Long	1	3	3	1	3
Independent	1	3	3	0	3
P(disc.)	0.000656053	0.00202639	0.00202639	0	0.00202639
P(slide)	0.000656053	0.00202639	0.00202639	0.586957	0.00202639

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

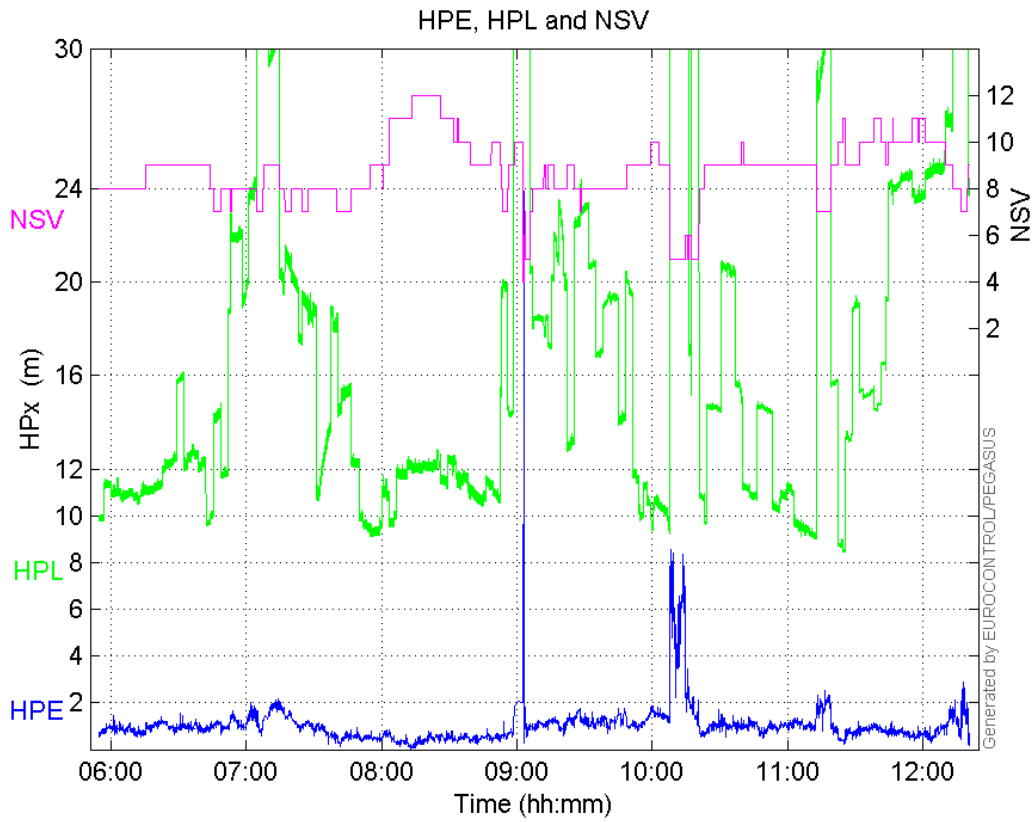
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	22864	22207	22207	46	22207
SIS Availability	0.986495	0.958148	0.958148	0.00198473	0.958148
Local Availability	0.971365	0.943453	0.943453	0.00195429	0.943453
Operational Availability	0.971365	0.943453	0.943453	0.00195429	0.943453

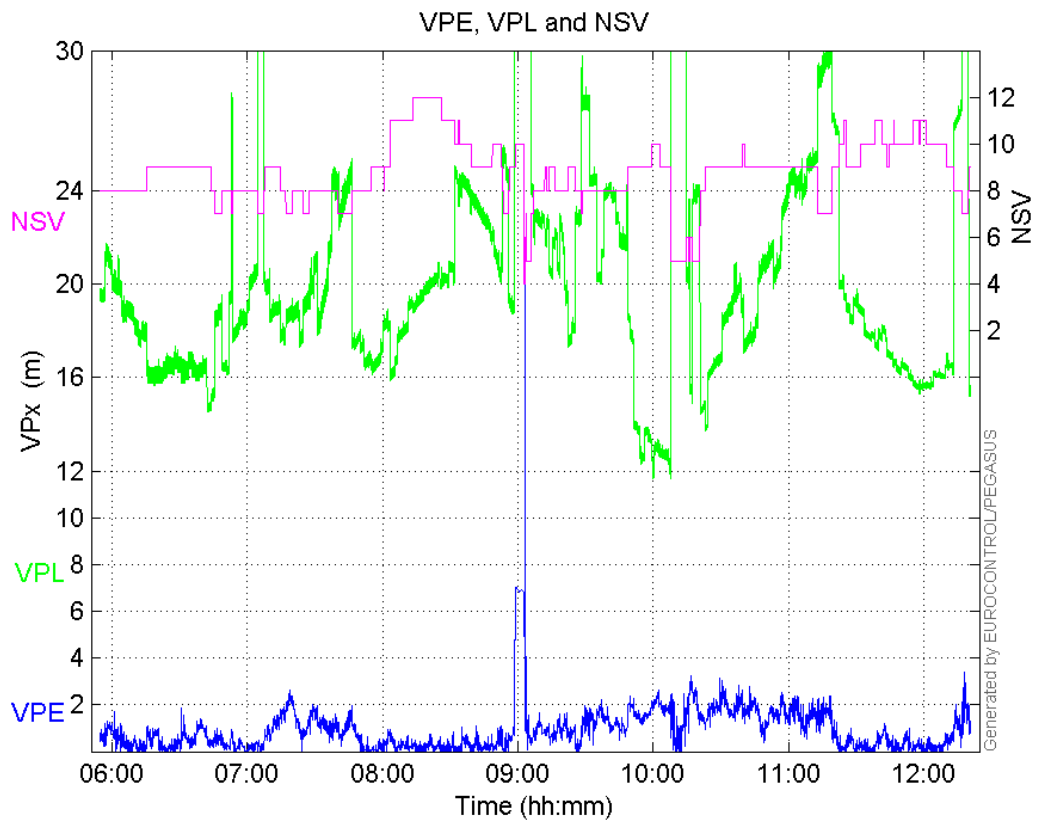
HPE 95%	1.79869	1.66513	1.66513	1.78748	1.66513
HPEscale 95%	NaN	4.42196	4.42196	7.54947	4.42196
VPE 95%	2.0648	2.05494	2.05494	2.07573	2.05494
VPEscale 95%	NaN	5.99292	4.19504	2.10543	4.19504
All Discontinuity Events	1	3	3	6	3
Long Discontinuity Events	1	3	3	1	3
Independent Discontinuity Events	1	3	3	0	3
P(discontinuity)	0.000656053	0.00202639	0.00202639	0	0.00202639
P(sliding window)	0.000656053	0.00202639	0.00202639	0.586957	0.00202639
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:

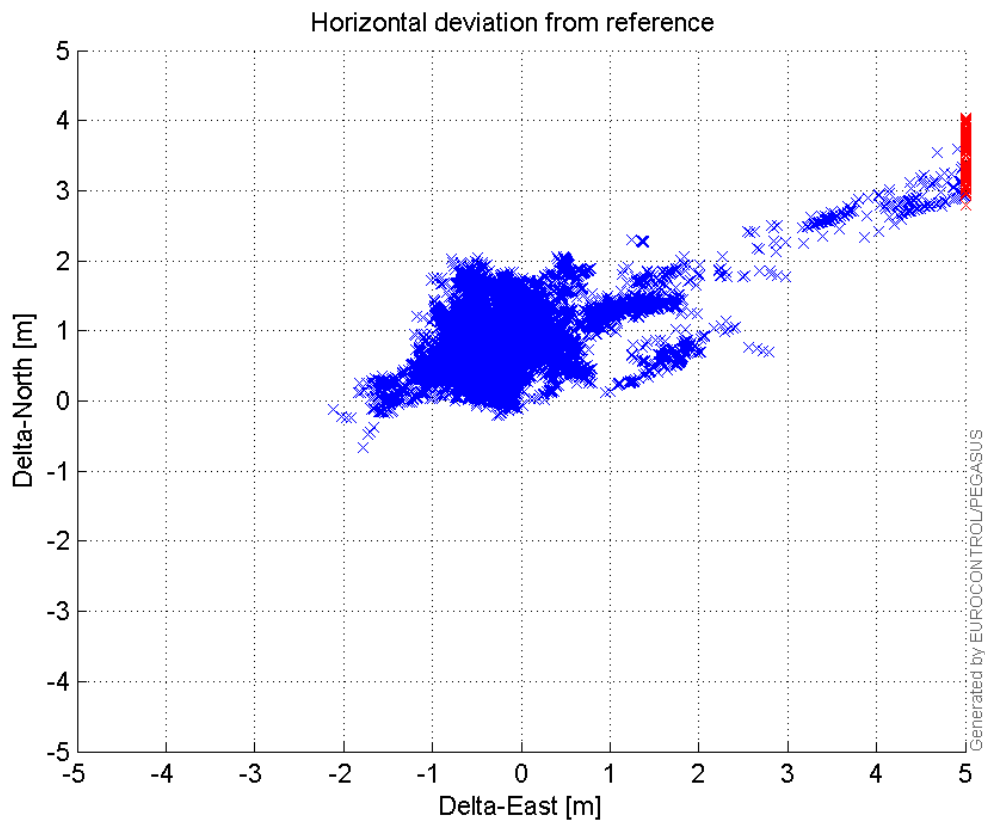


VPE, VPL and NSV:



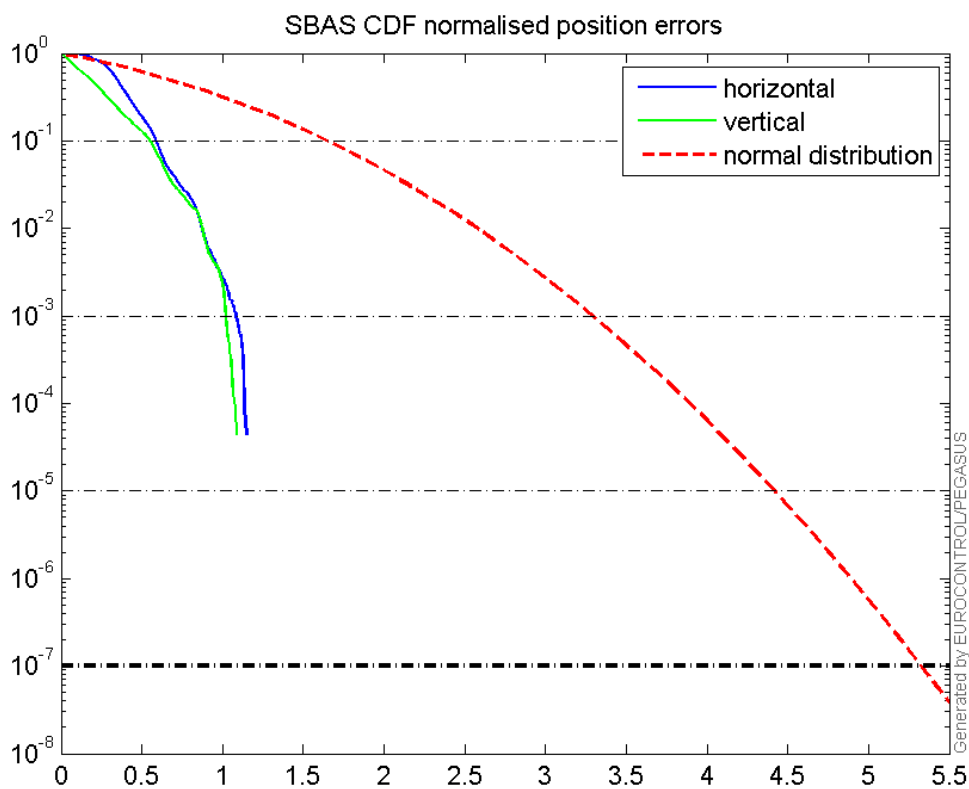
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

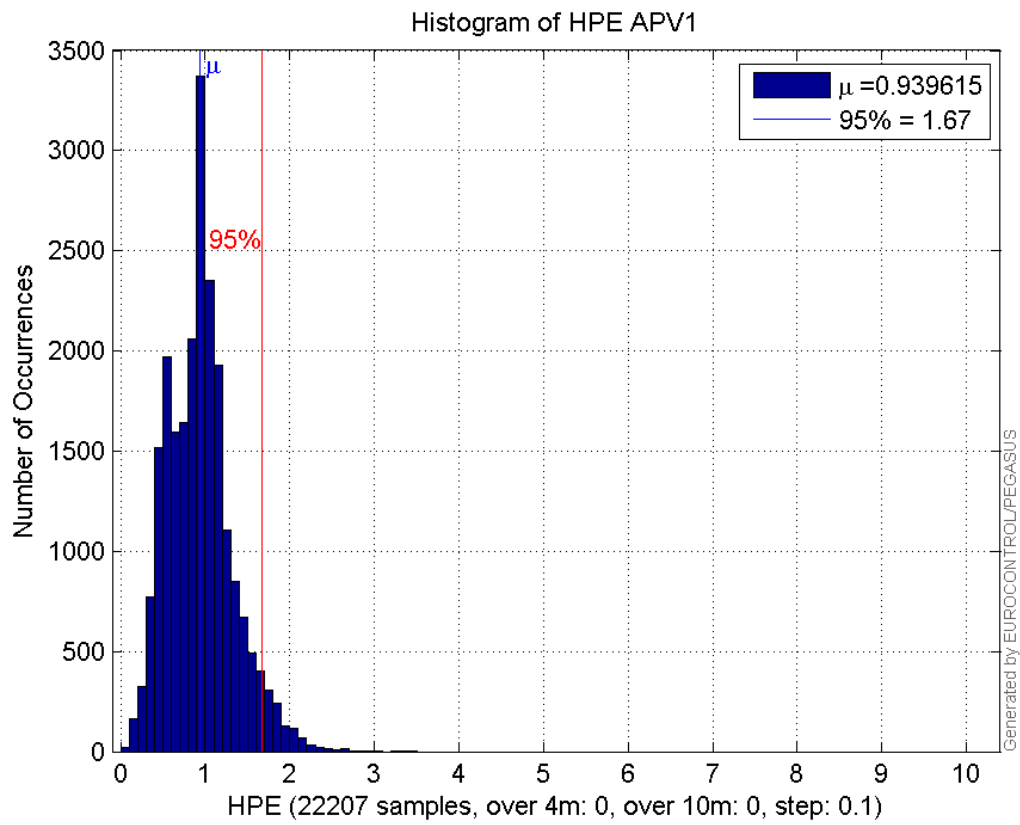
number	22207
sum	20866.04
sum2	22968.311
prctile95	1.665135
prctile99	2.0495772
number	22207
sum	18987.868
sum2	26297.88
prctile95	2.0549355
prctile99	2.4482933
number	22207
sum	361661.85
sum2	6831820.8
prctile95	30.089615
prctile99	37.549575
number	22207
sum	436128.31
sum2	8865100.4
prctile95	26.78229
prctile99	29.801634
number	22207
sum	1378.6682
sum2	101.9806
prctile95	0.11054904
prctile99	0.14559735
number	22207

sum 995.87803
sum2 77.566247
prctile95 0.11985841
prctile99 0.16417197
number 22207
sum 20866.04
sum2 22968.311
prctile95 1.665135
prctile99 2.0495772
number 22207
sum 18987.868
sum2 26297.88
prctile95 2.0549355
prctile99 2.4482933
number 22207
sum 361661.85
sum2 6831820.8
prctile95 30.089615
prctile99 37.549575
number 22207
sum 436128.31
sum2 8865100.4
prctile95 26.78229
prctile99 29.801634
number 22207
sum 1378.6682
sum2 101.9806
prctile95 0.11054904
prctile99 0.14559735
number 22207
sum 995.87803
sum2 77.566247
prctile95 0.11985841
prctile99 0.16417197

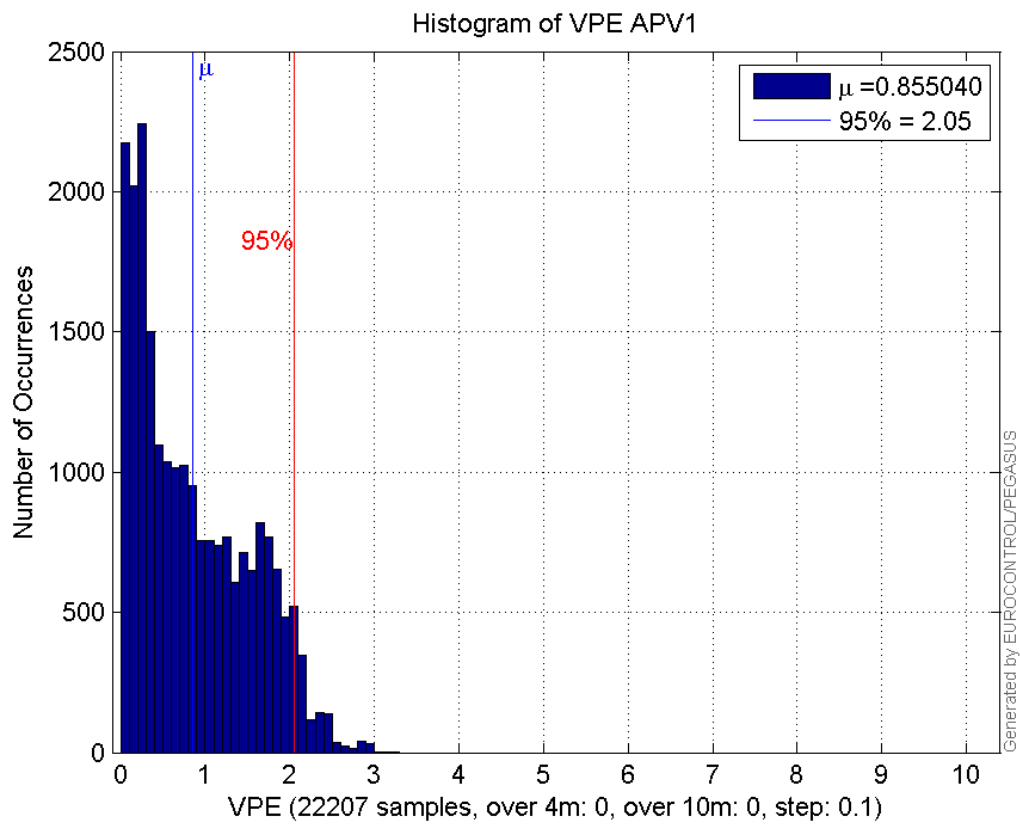
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	0.939615	0.389117	0.936024	1.66513	2.04958	1.017
HPL	16.2859	6.51251	14.343	30.0896	37.5496	17.5397
VPE	0.85504	0.673159	0.701777	2.05494	2.44829	1.08822
VPL	19.6392	3.67483	19.0157	26.7823	29.8016	19.9801

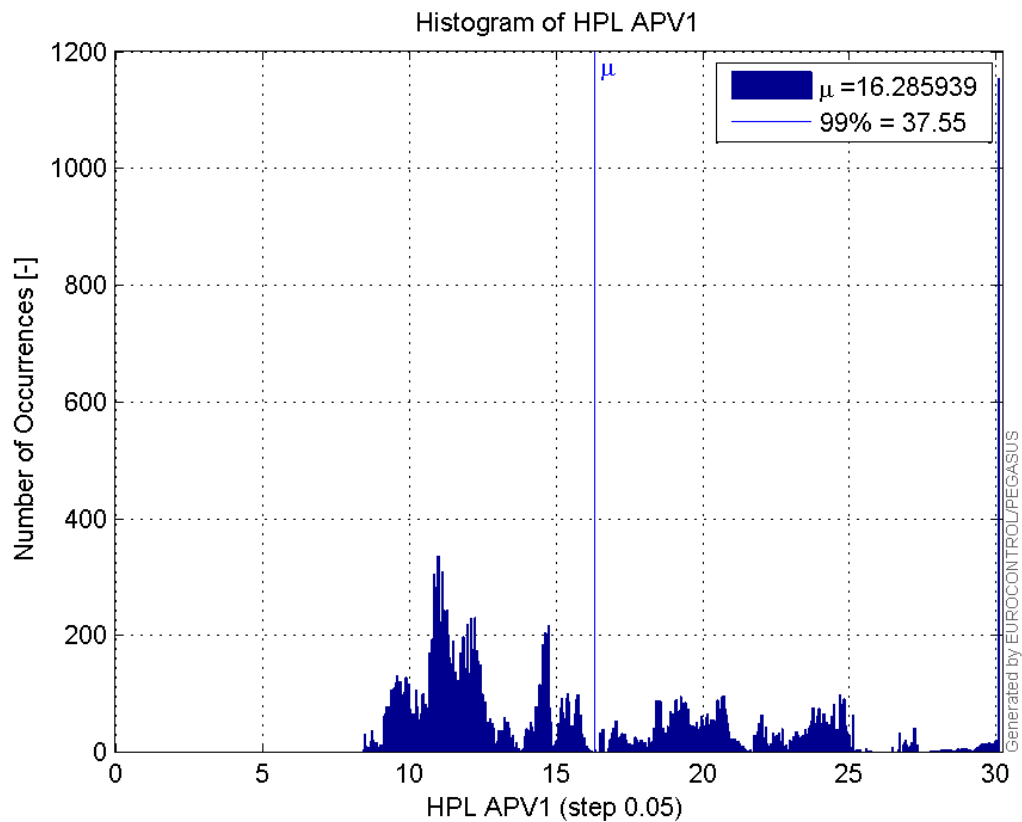
Histogram of HPE APV1:



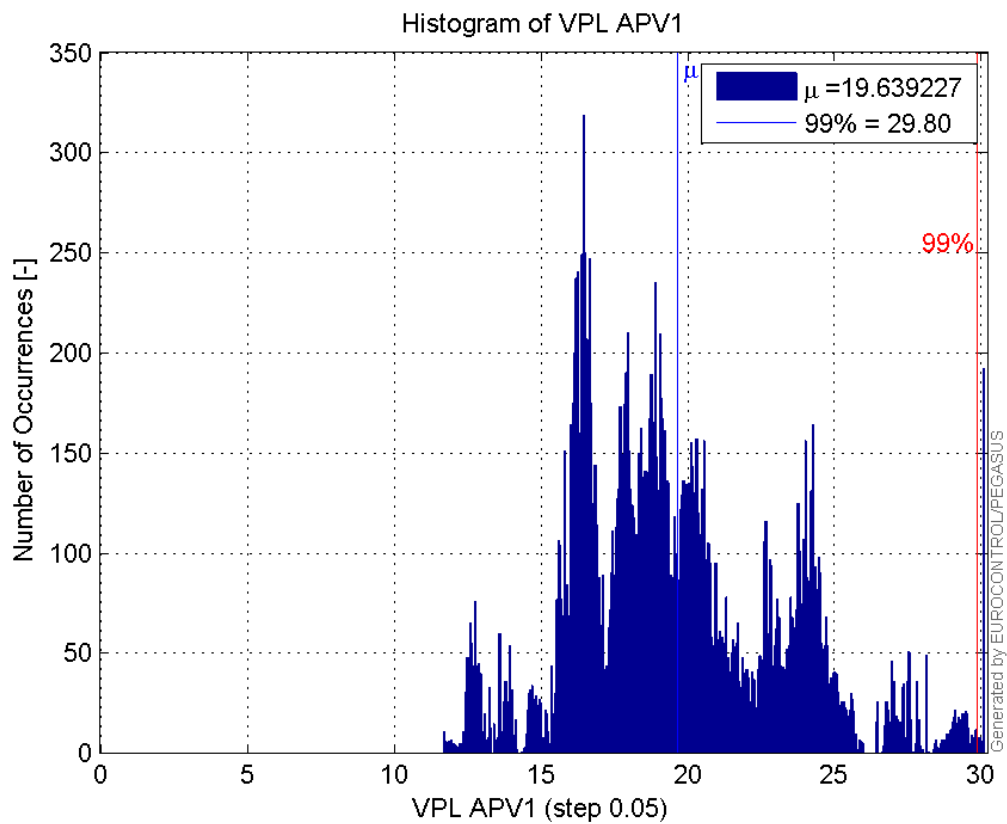
Histogram of VPE APV1:



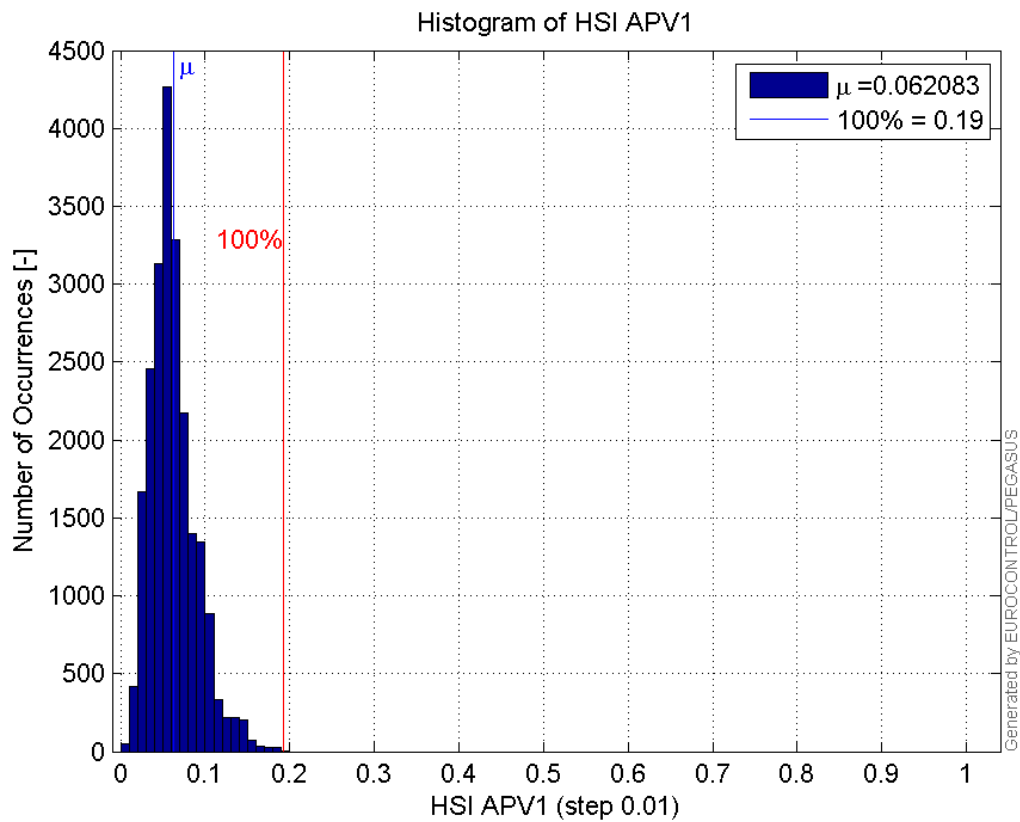
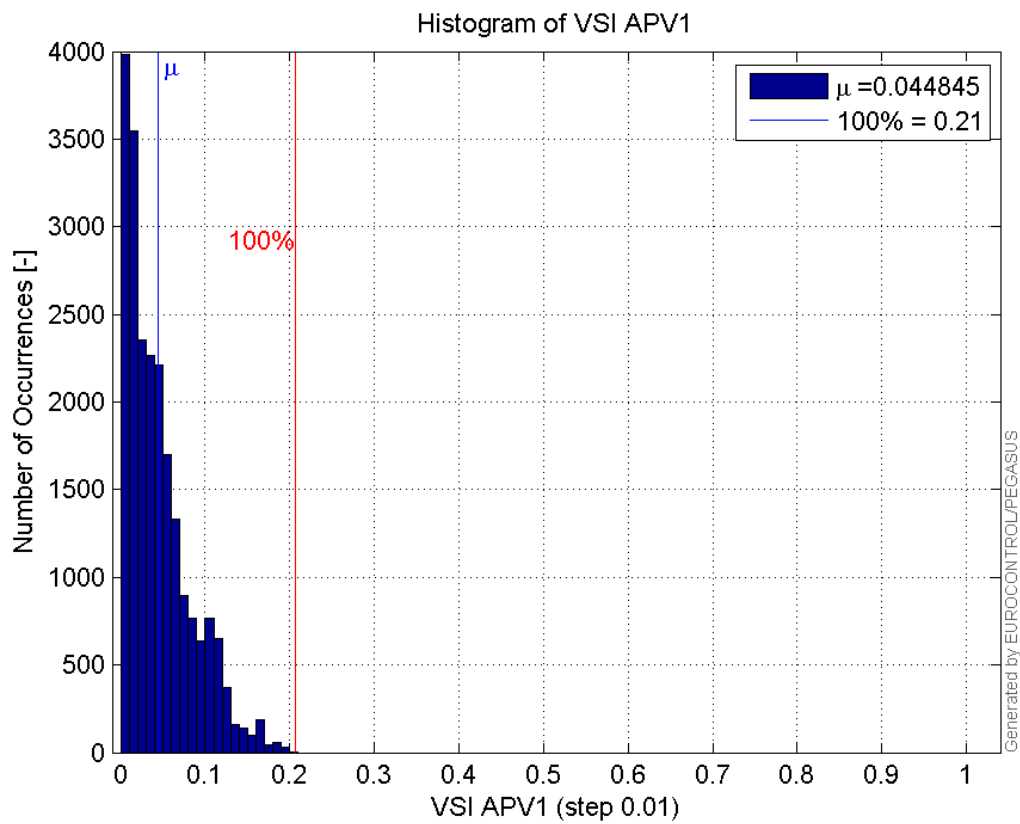
Histogram of HPL APV1:

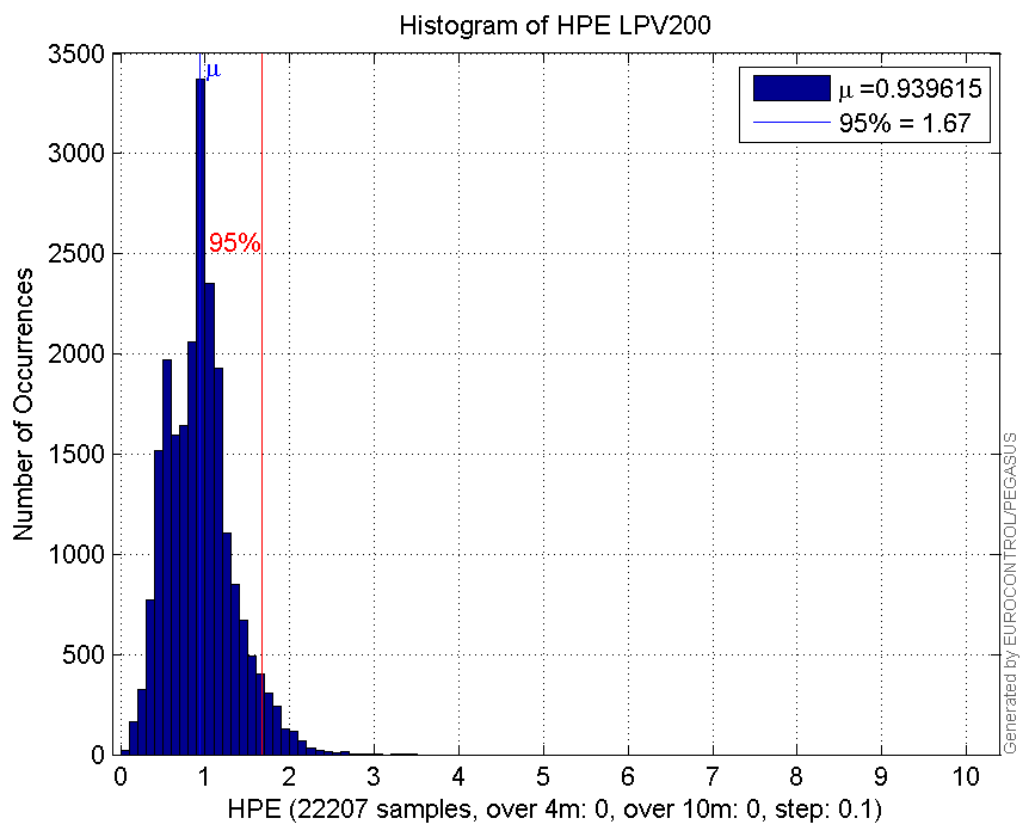


Histogram of VPL APV1:

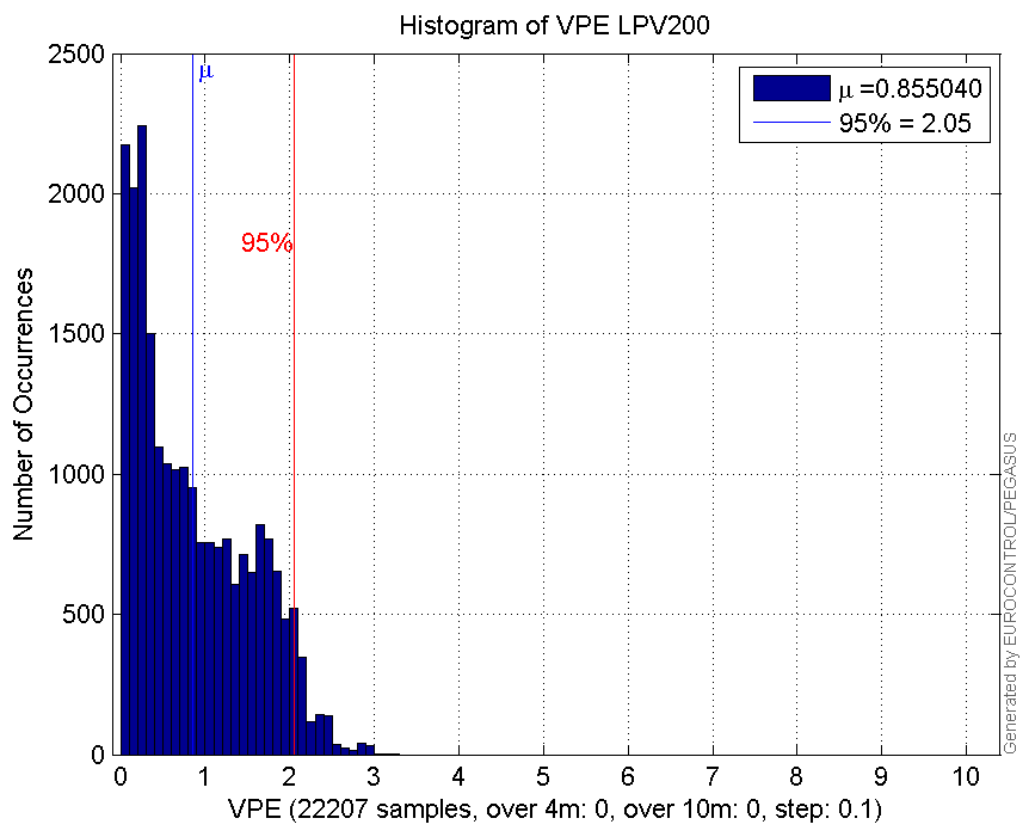


Histogram of HSI APV1:

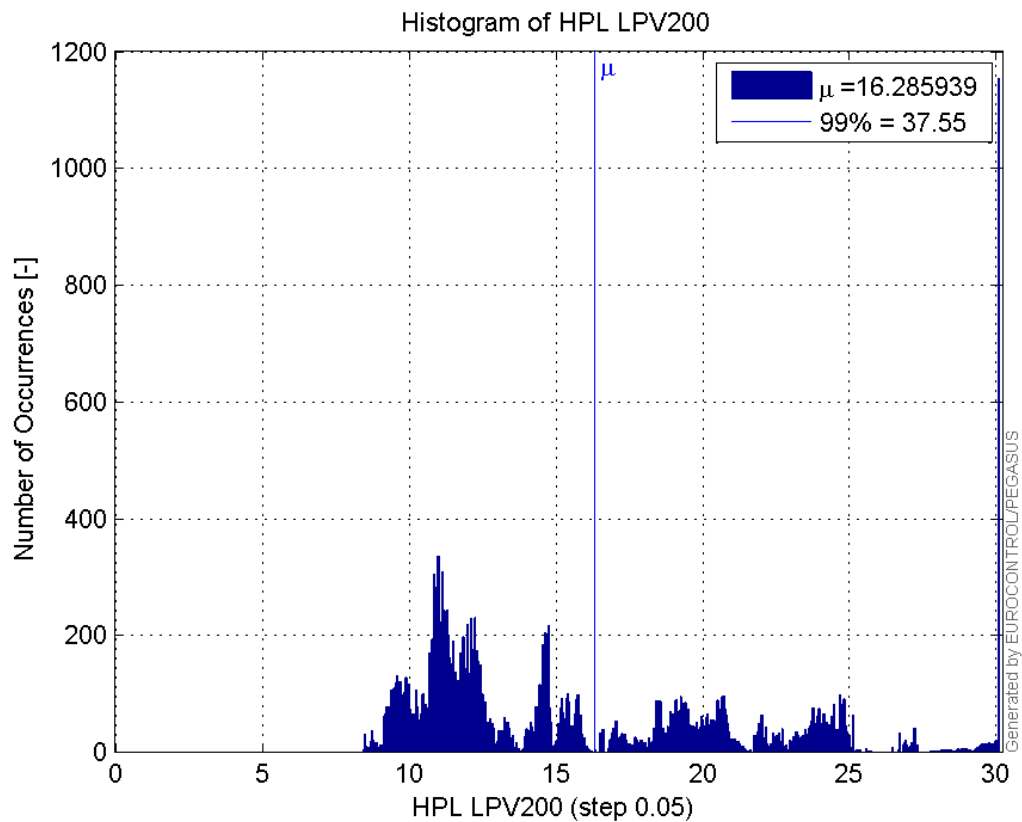
**Histogram of VSI APV1:****Histogram of HPE LPV200:**



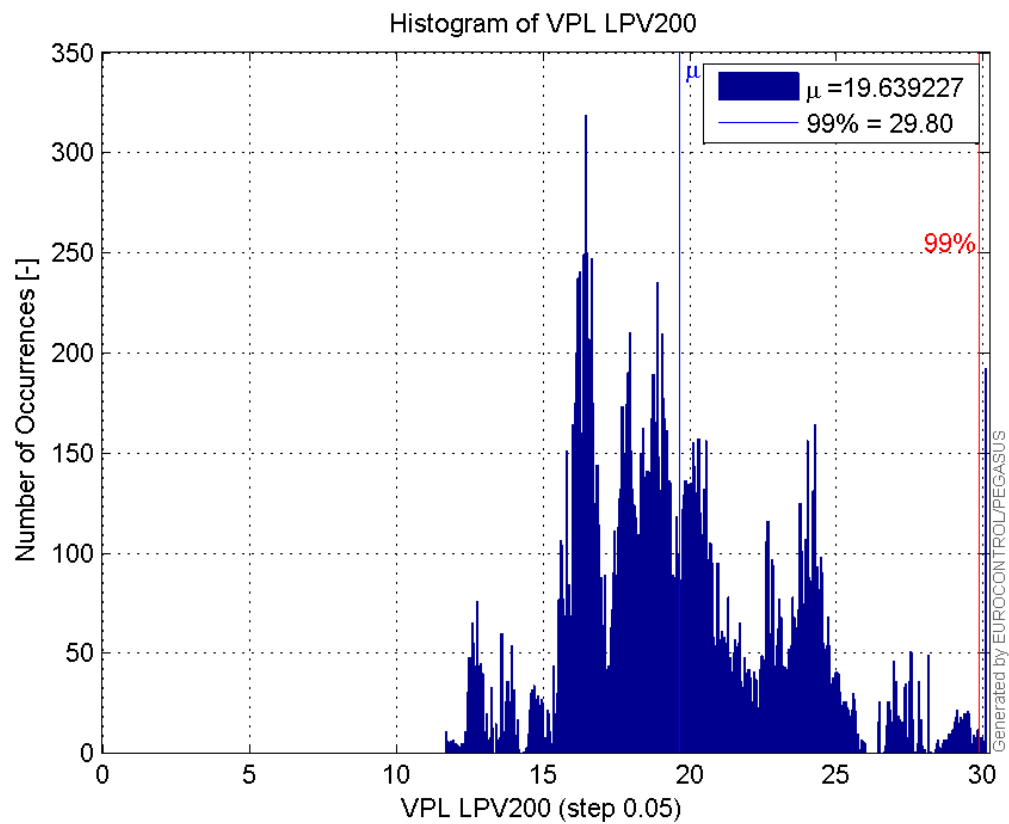
Histogram of VPE LPV200:



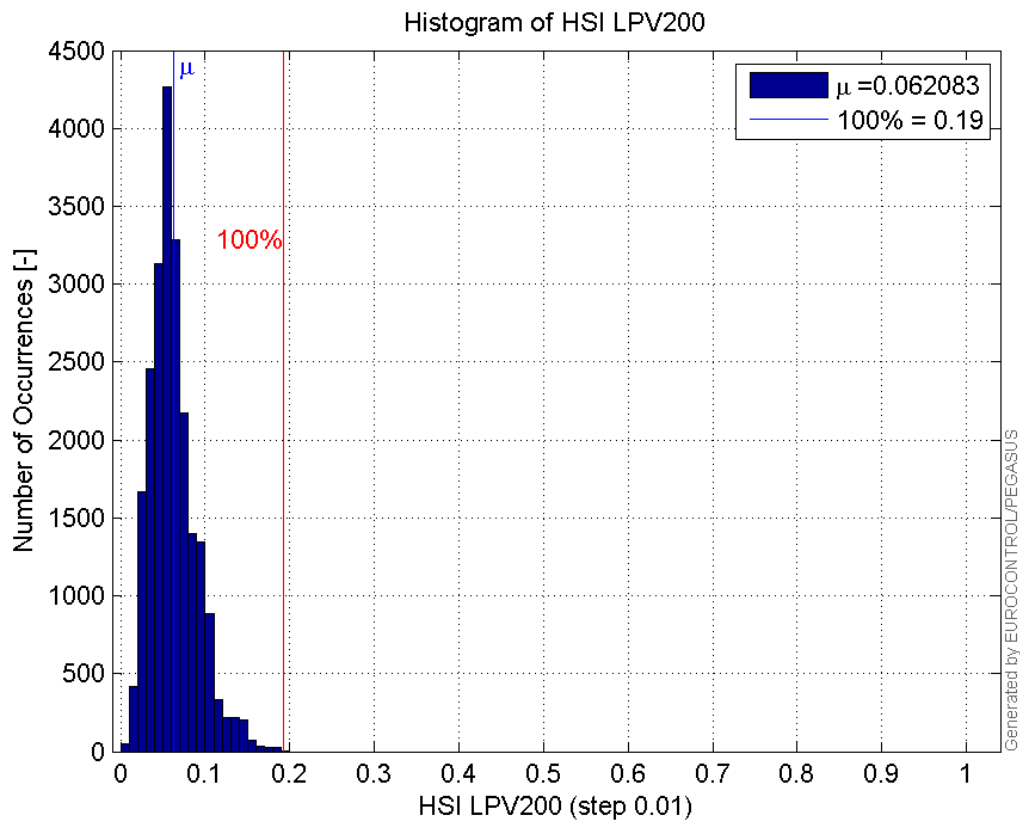
Histogram of HPL LPV200:



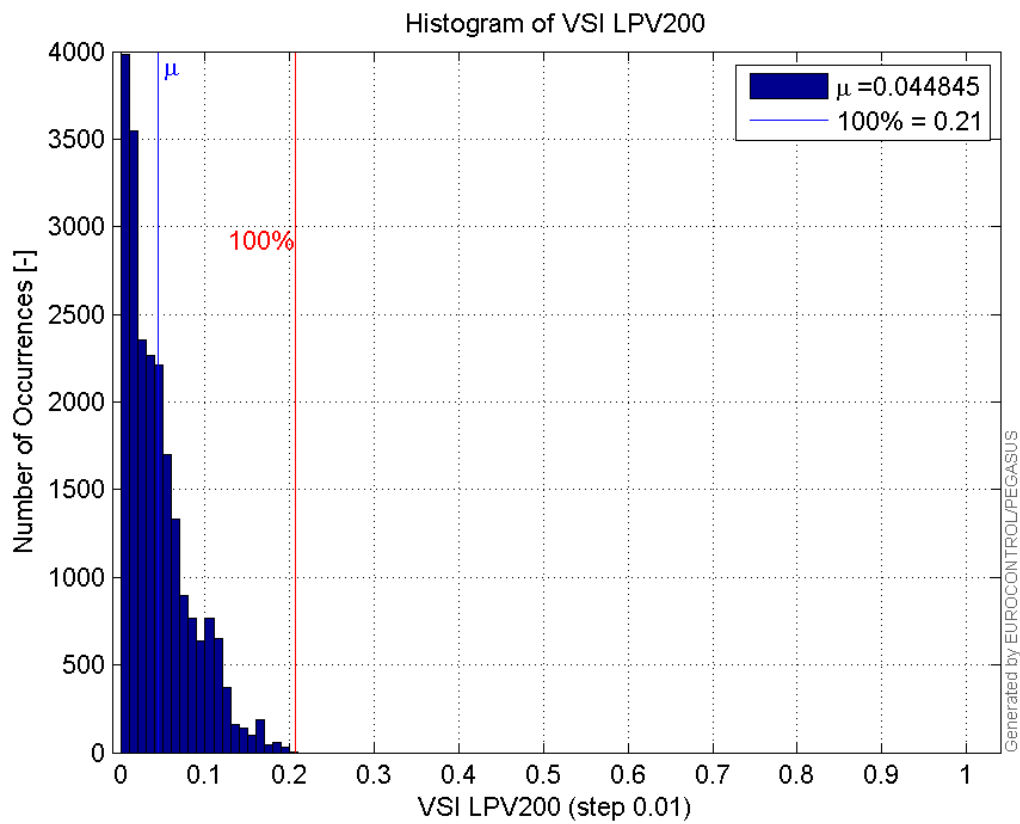
Histogram of VPL LPV200:



Histogram of HSI LPV200:

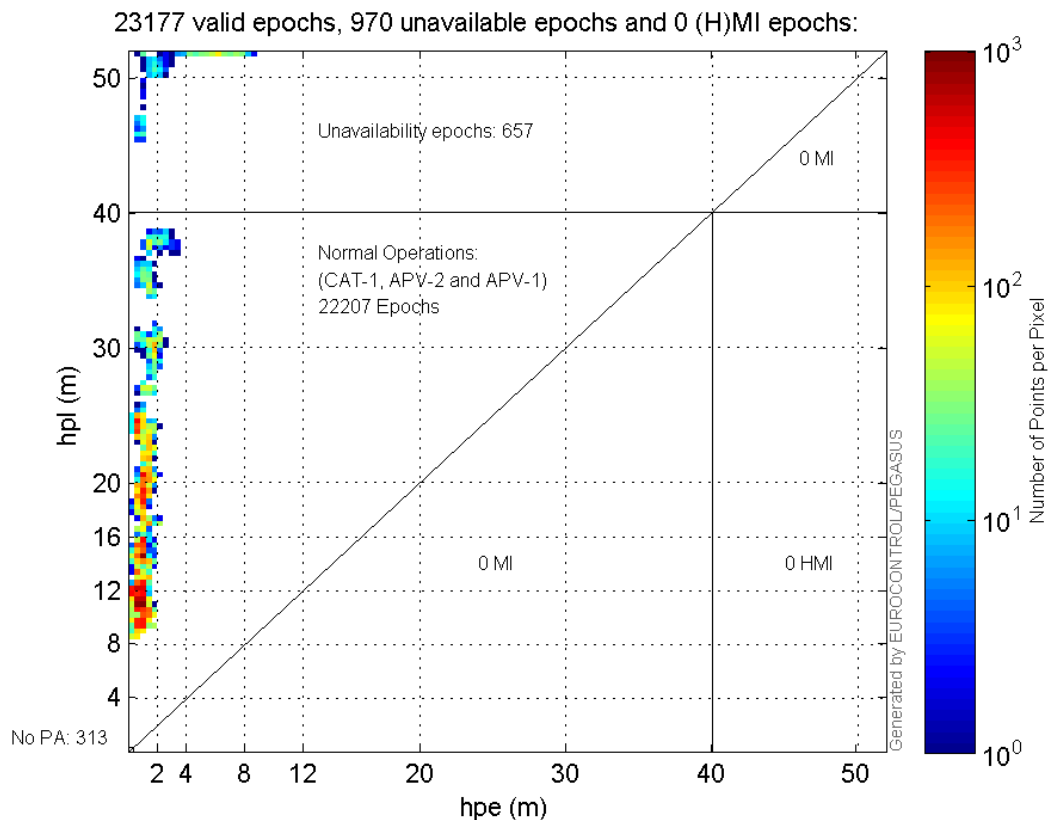


Histogram of VSI LPV200:

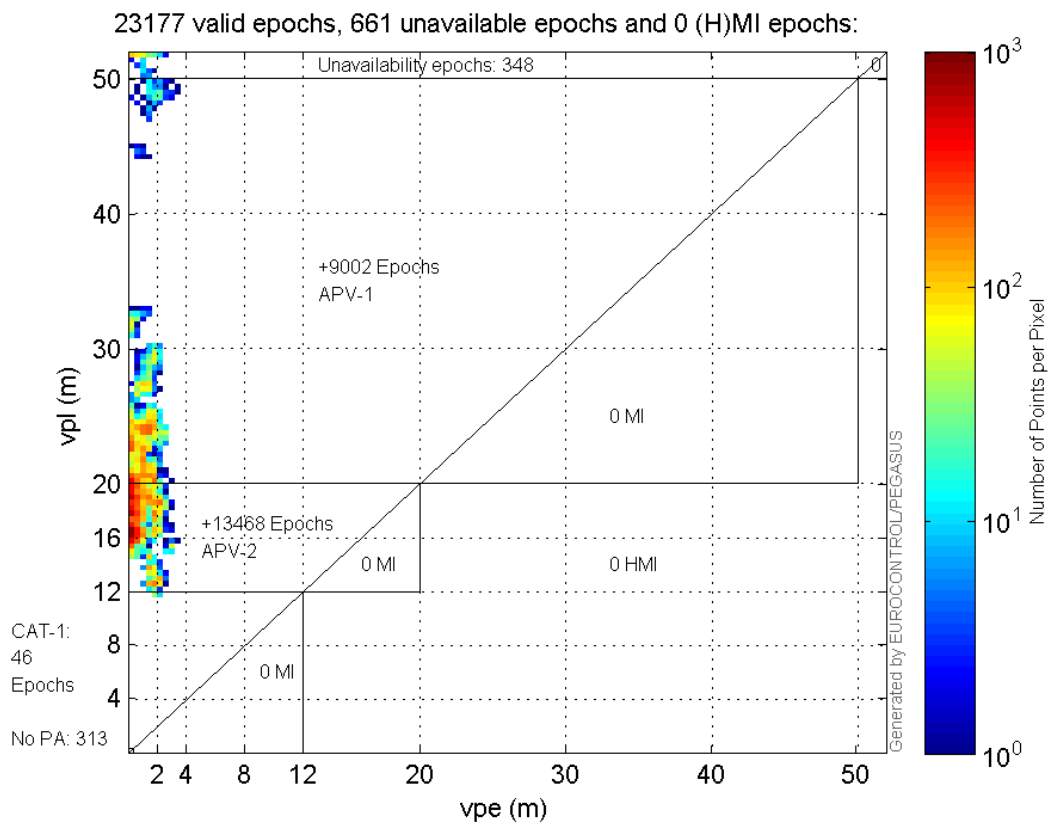


Stanford Plots

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_11_04EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_11_04EGNOS/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	256.4693
mi_numbers	results	0

Range Domain

start: 05:48:35 04.11.2015 (week: 1869 sec: 280115)
end: 12:20:52 04.11.2015 (week: 1869 sec: 303652)
duration: 06:32:18 ..

quality

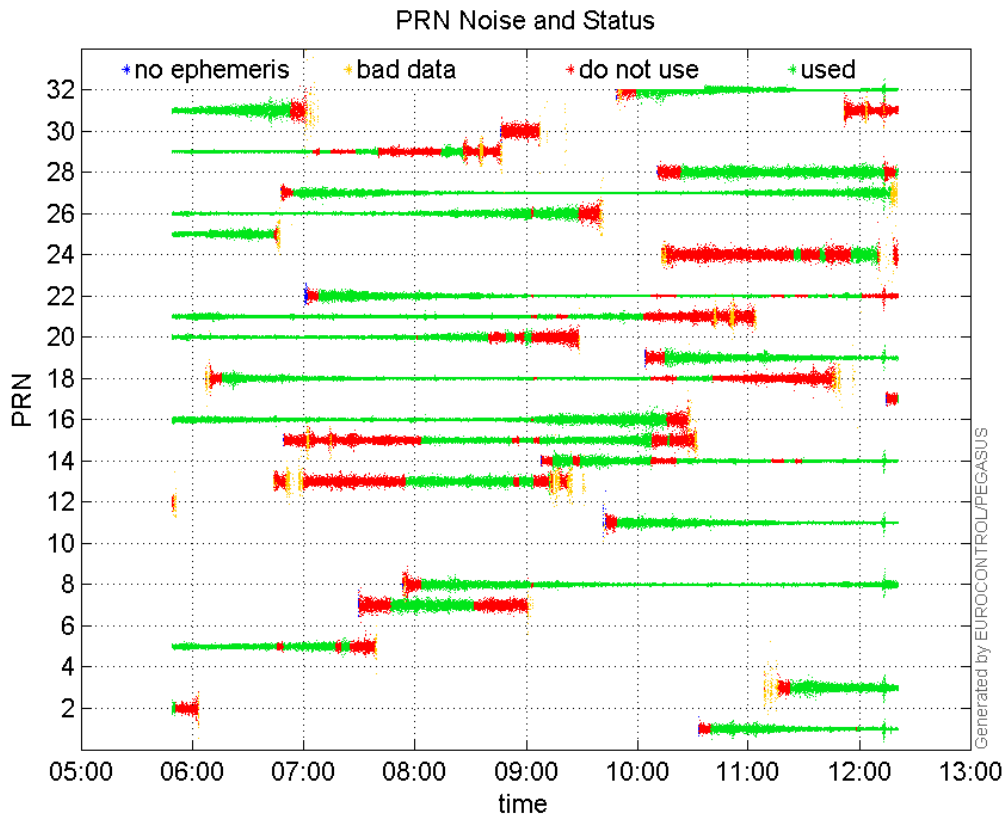
valid samples 23538
total samples 23538

PRN overview

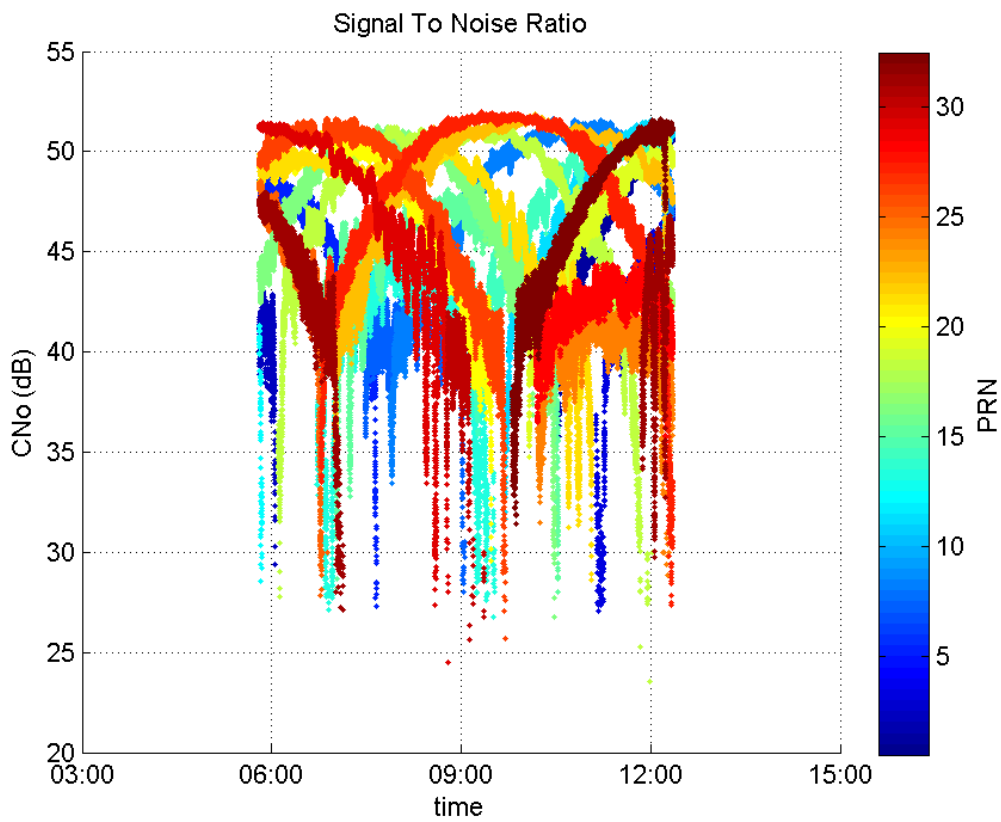
Number of Visible GPS Satellites 27
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



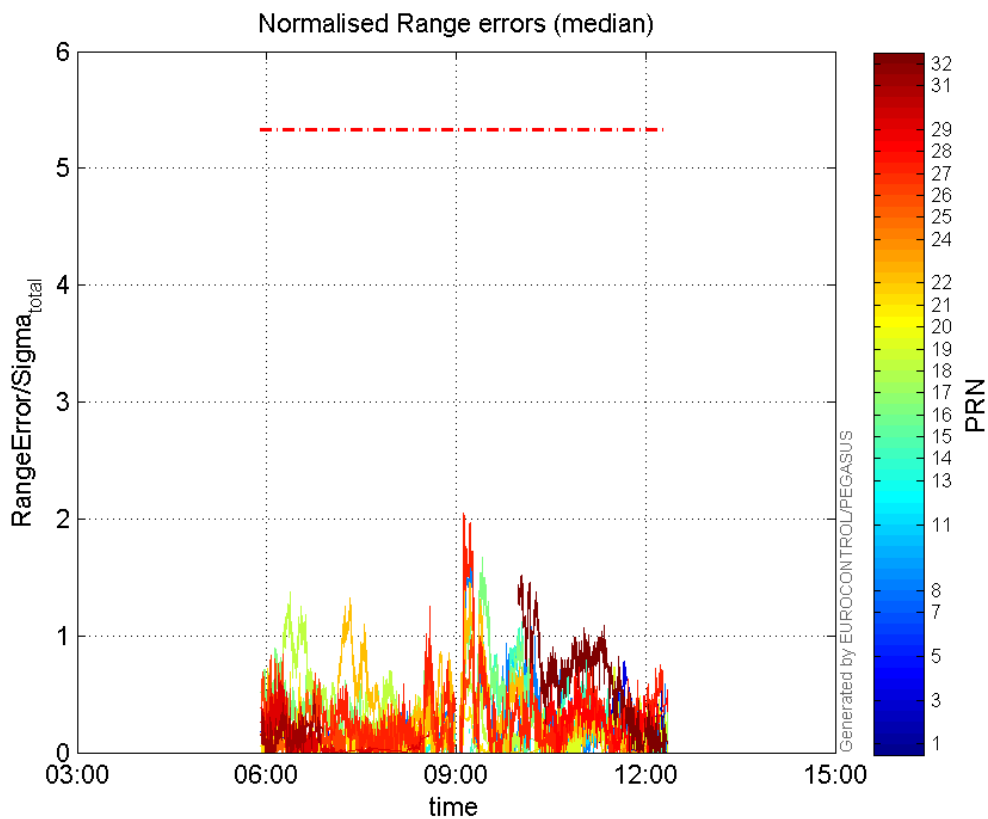
range errors

Number of Overbounding Norm Errors 0

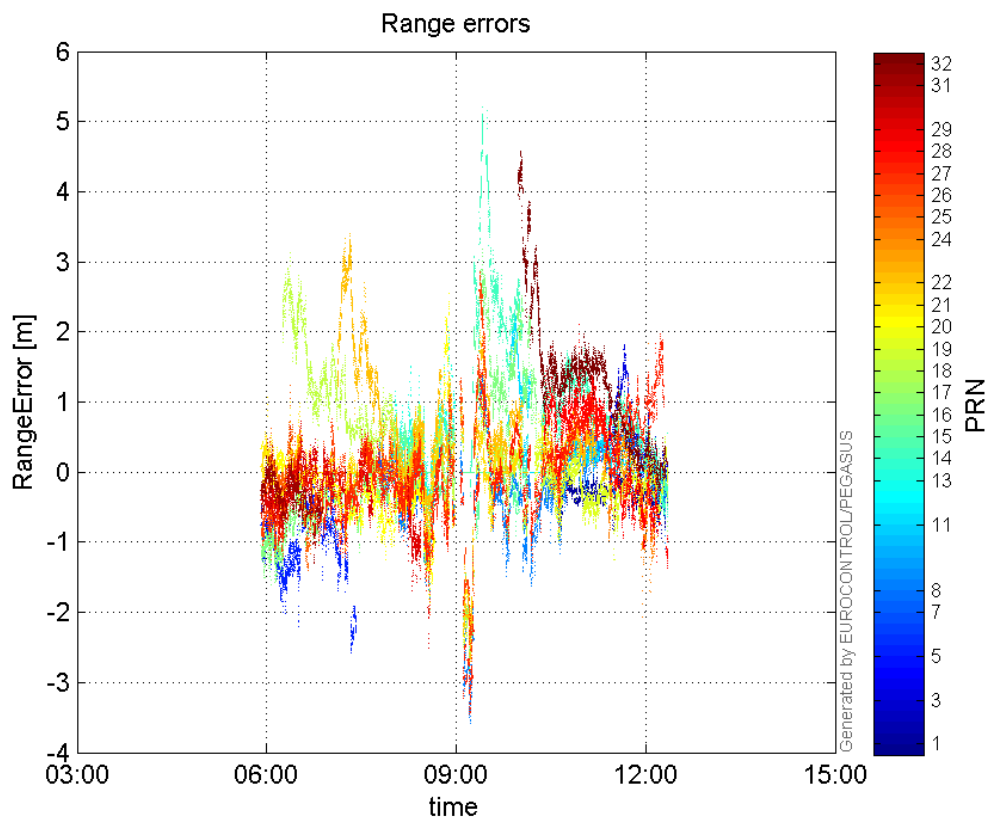
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1869	303285	1	0.589588	-0.942314	1.59826
1869	301178	3	0.78386	1.82525	2.32854
1869	280612	5	0.298253	-1.28382	4.30448
1869	289812	7	0.371335	-1.07118	2.88467
1869	292440	8	1.86708	-3.58818	1.92181
1869	294924	11	0.918254	2.29849	2.50311
1869	291150	13	0.36382	2.07499	5.70335
1869	295355	14	1.12254	2.50972	2.23576
1869	296257	15	0.199698	-0.716169	3.58626
1869	293069	16	1.66807	3.18572	1.90983
1869	303647	17	0.352275	-0.967515	2.74648
1869	282113	18	1.3798	3.12366	2.26385
1869	300679	19	0.734128	-1.24366	1.69407
1869	287612	20	0.4263	-1.24655	2.92411
1869	290081	21	0.880107	-1.61304	1.83278
1869	292370	22	1.45993	-2.70192	1.85072
1869	300365	24	0.248388	-0.816112	3.28563
1869	282113	25	0.547079	1.23399	2.2556
1869	292468	26	1.00815	-2.691	2.66924
1869	292022	27	2.05047	-3.12622	1.52463
1869	298608	28	0.765803	2.10307	2.74624
1869	281491	29	0.66201	-1.03123	1.55772
1869	283488	31	0.501738	-1.30816	2.60726
1869	295357	32	1.519	4.35124	2.86454

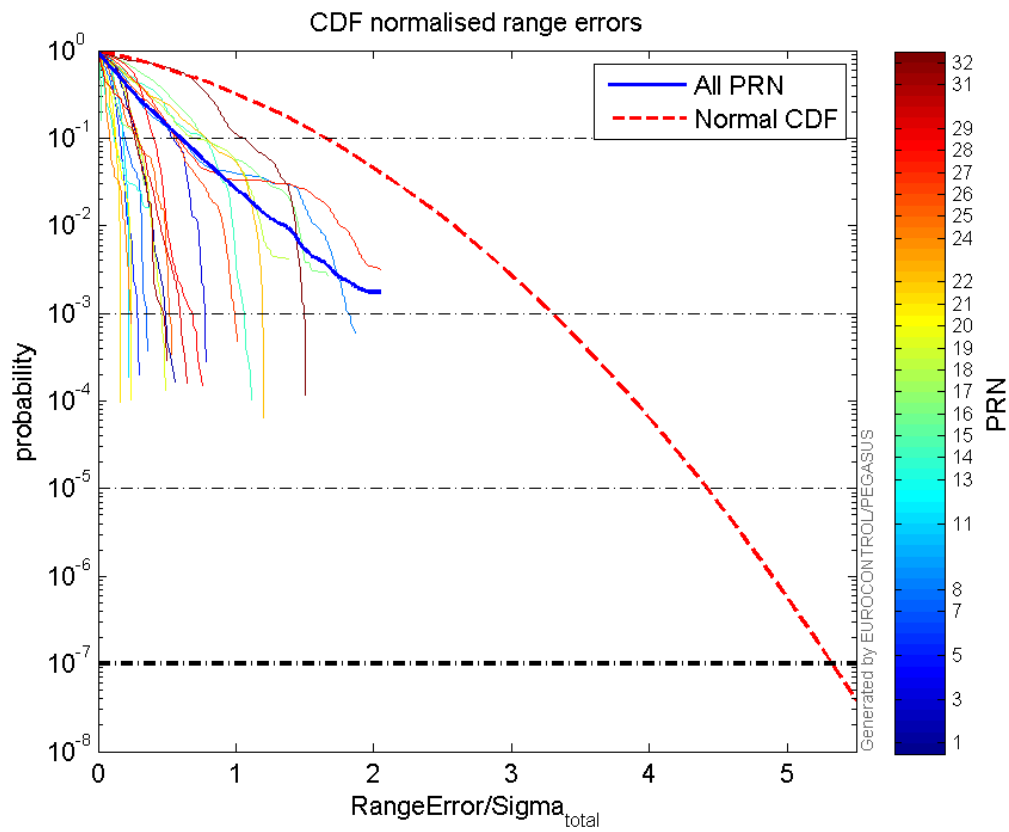
Normalised Range errors (median):



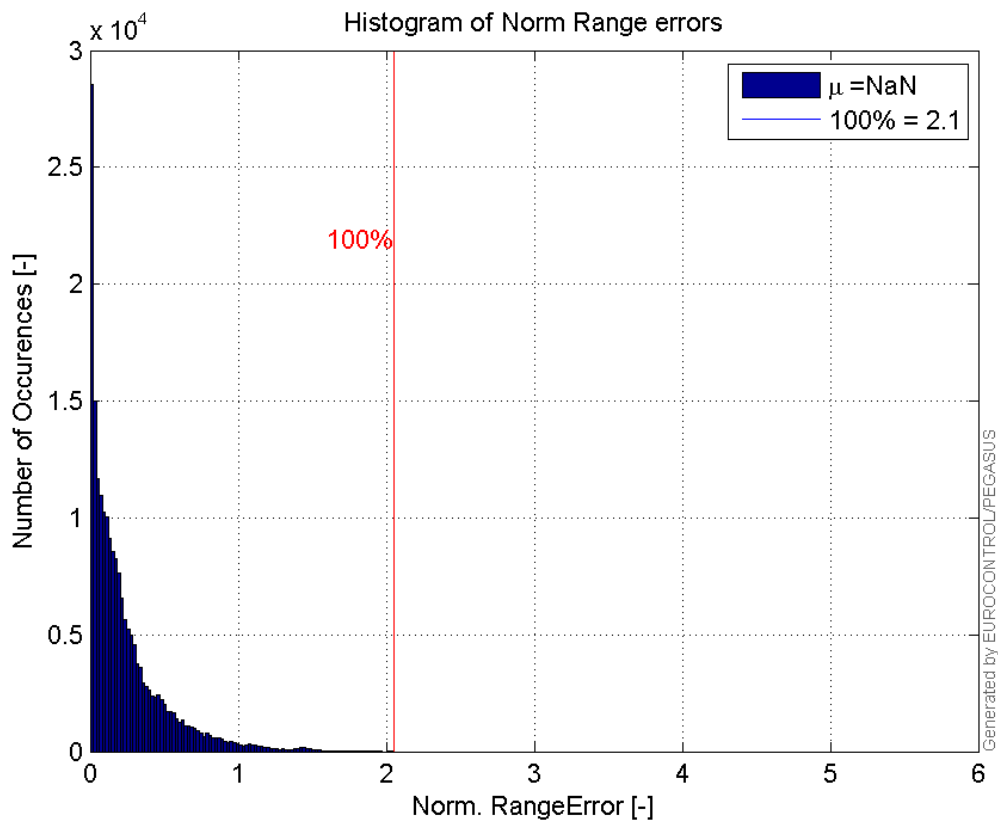
Range errors:



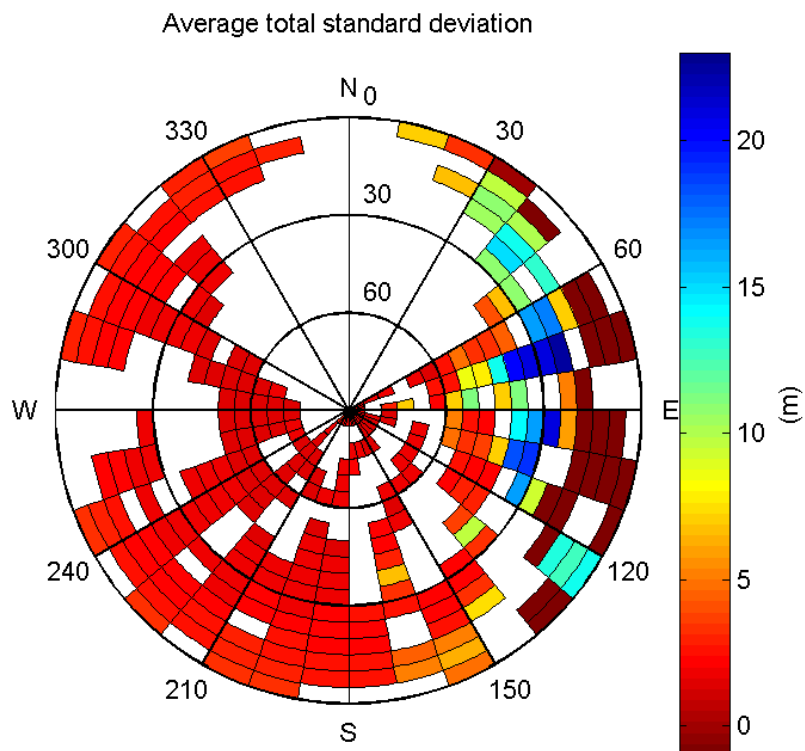
CDF normalised range errors:



Histogram of Norm Range errors:

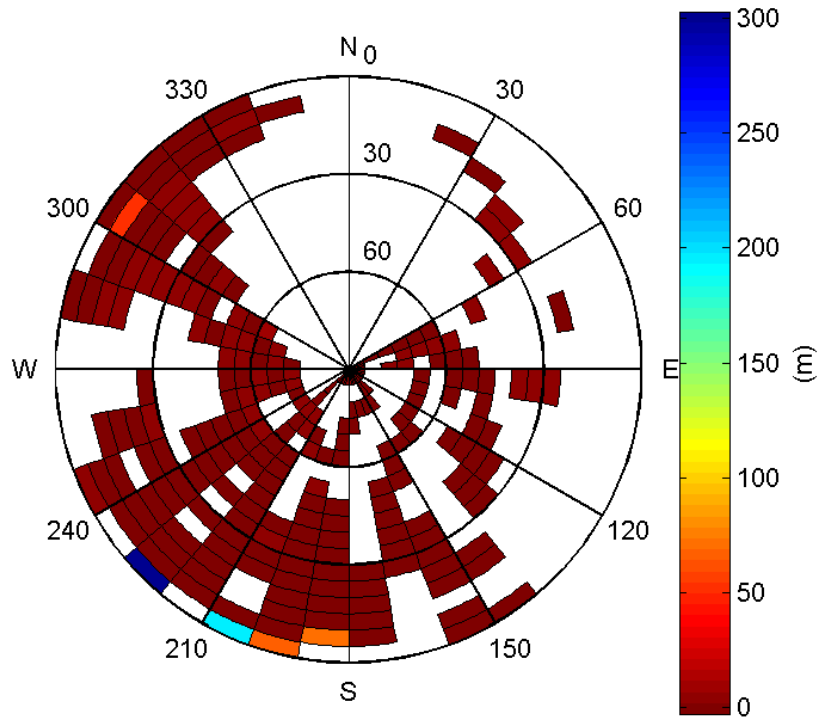


Sigma Sky Plot:



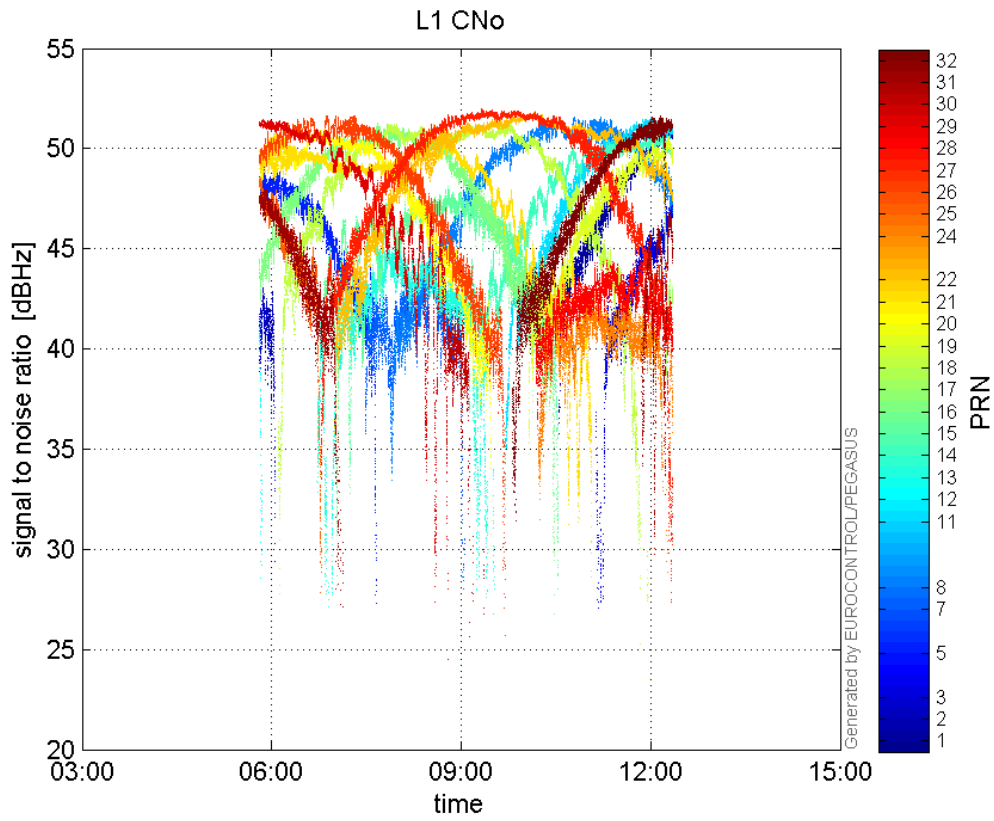
Norm Error Sky Plot:

Maximum Range Error

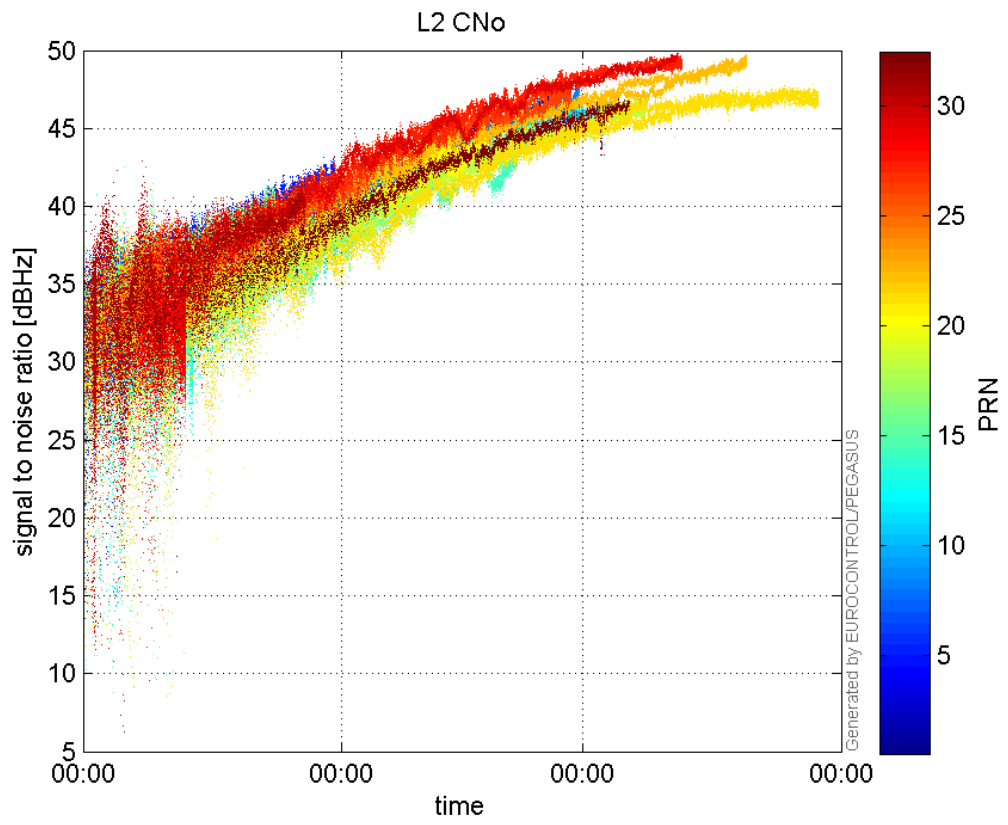


signal quality

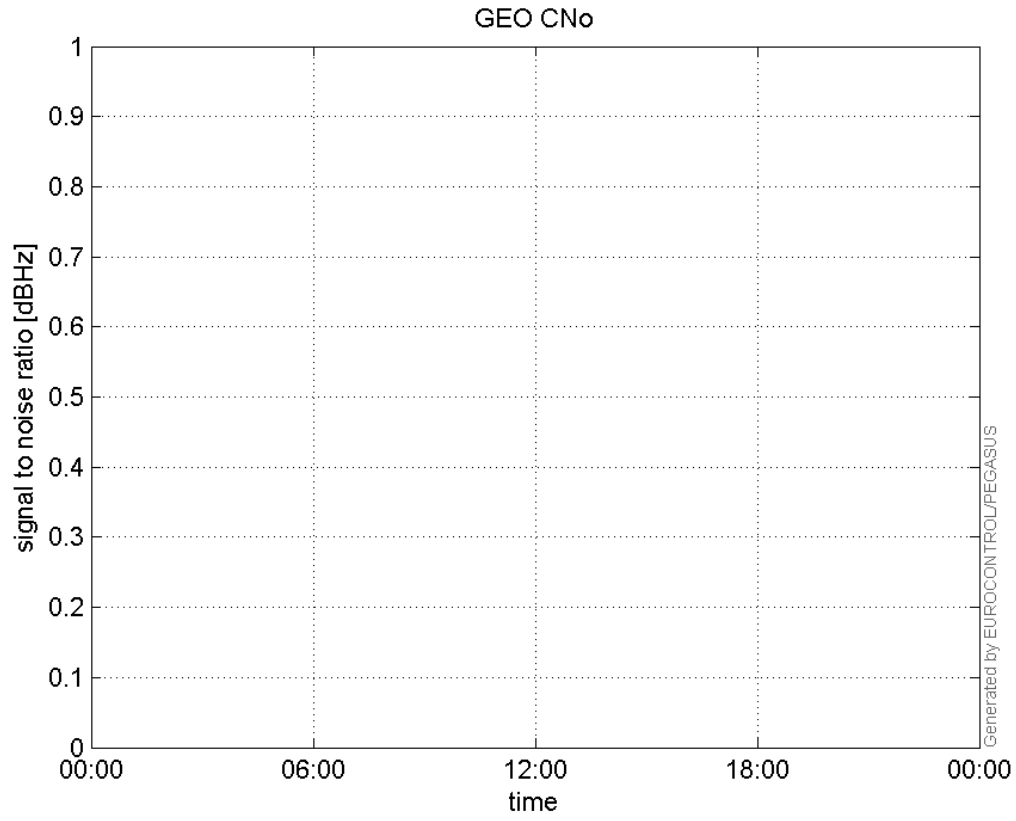
L1 CNo:



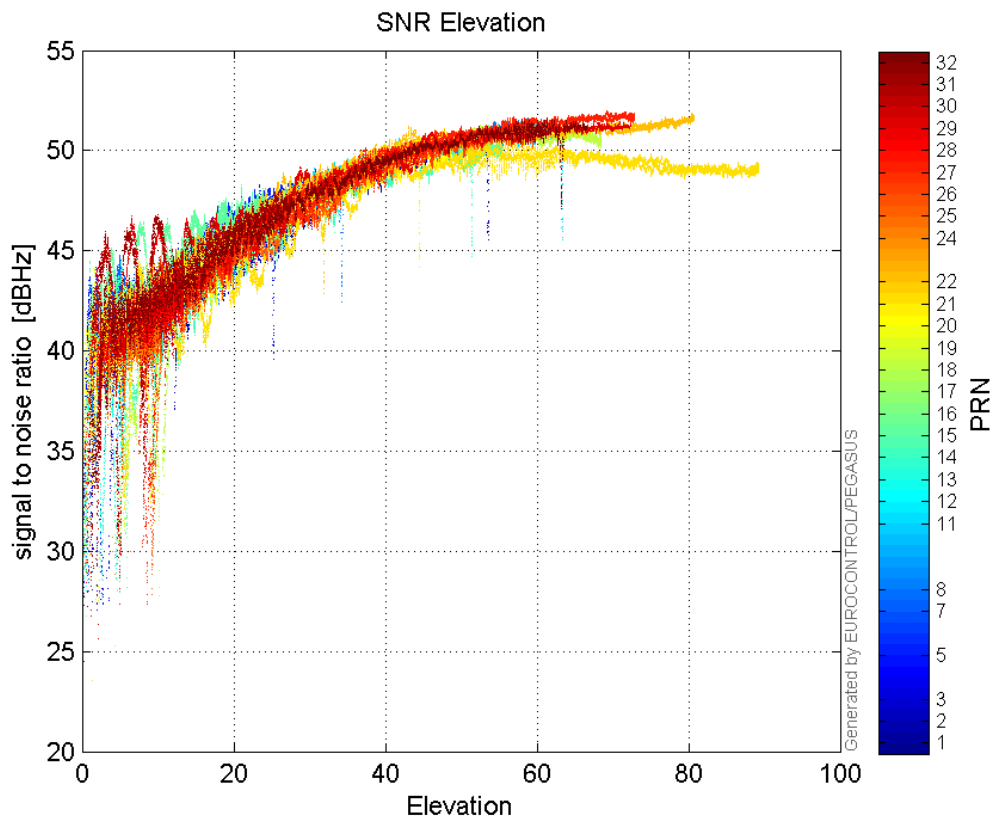
L2 CNo:



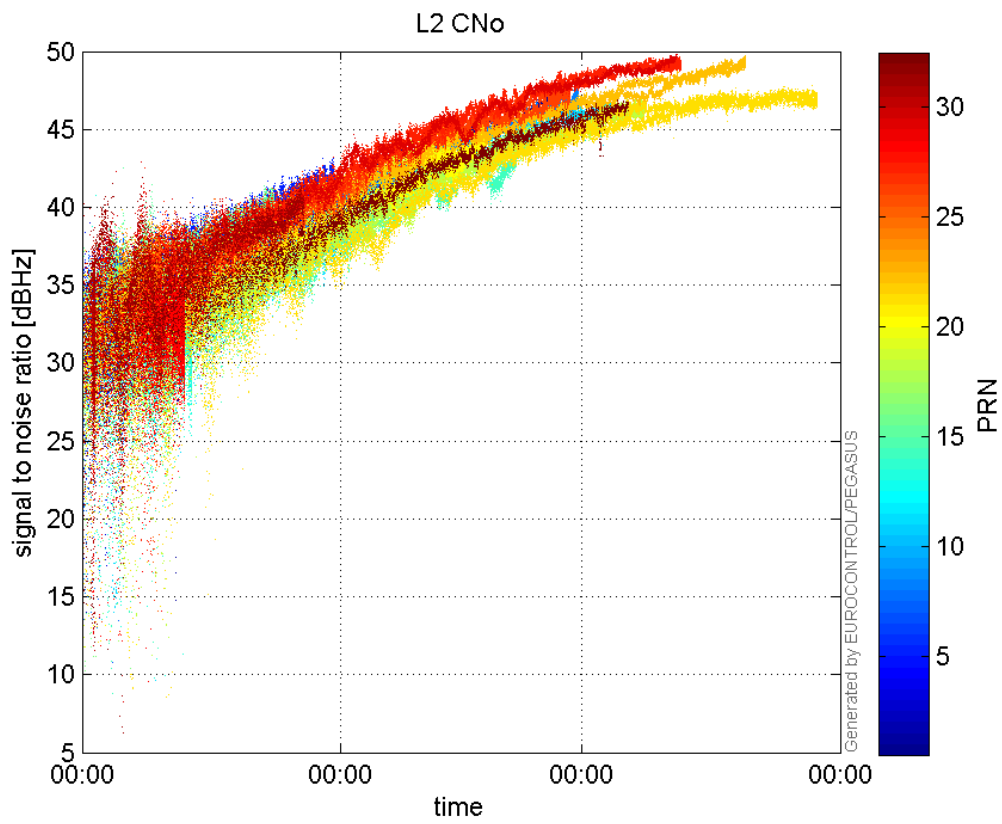
GEO CNo:



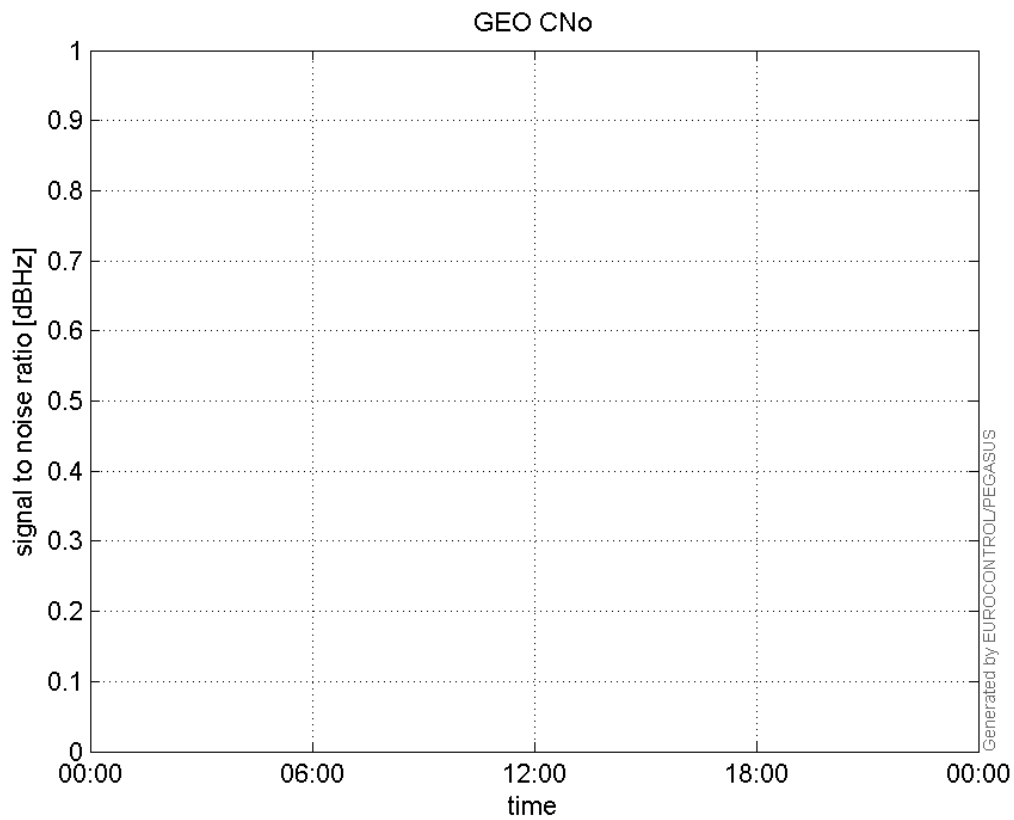
SNR Elevation:



L2 CNo:

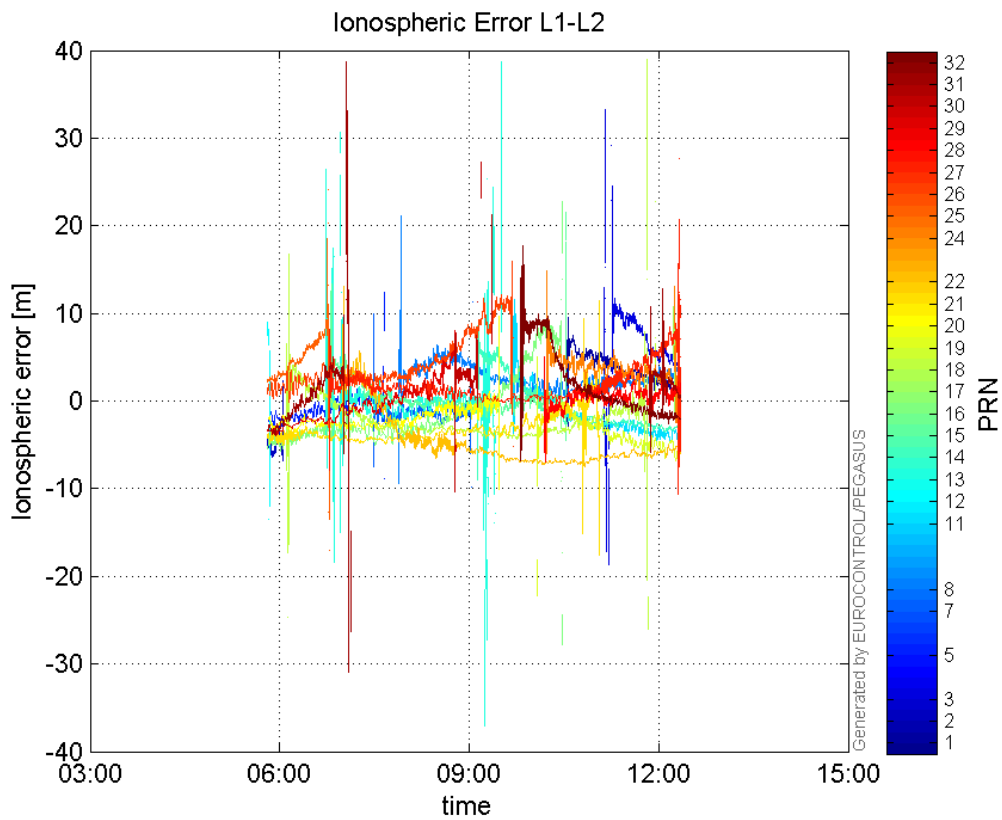


GEO CNo:



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_11_04EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PEGASUS_DAT_job/JOB/2015_11_04EGNOS/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	256.4693
mi_numbers	results	0