

Global View

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

SBAS Messages

start: 04:54:44.129 21.10.2015 (week: 1867 sec: 276884.129)
end: 12:12:53.129 21.10.2015 (week: 1867 sec: 303173.129)
duration: 07:18:8.99999 ..

quality

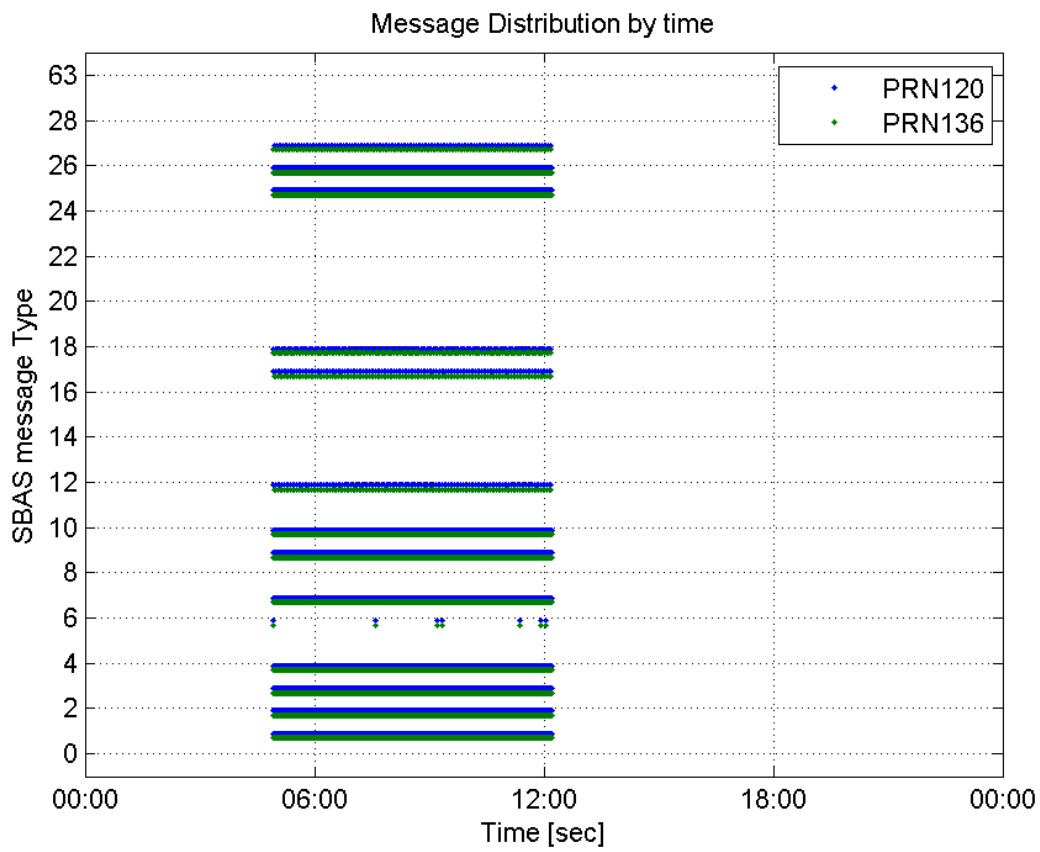
valid samples 52551
total samples 52551
number of SBAS PRNs 2

SBAS SIS Overview

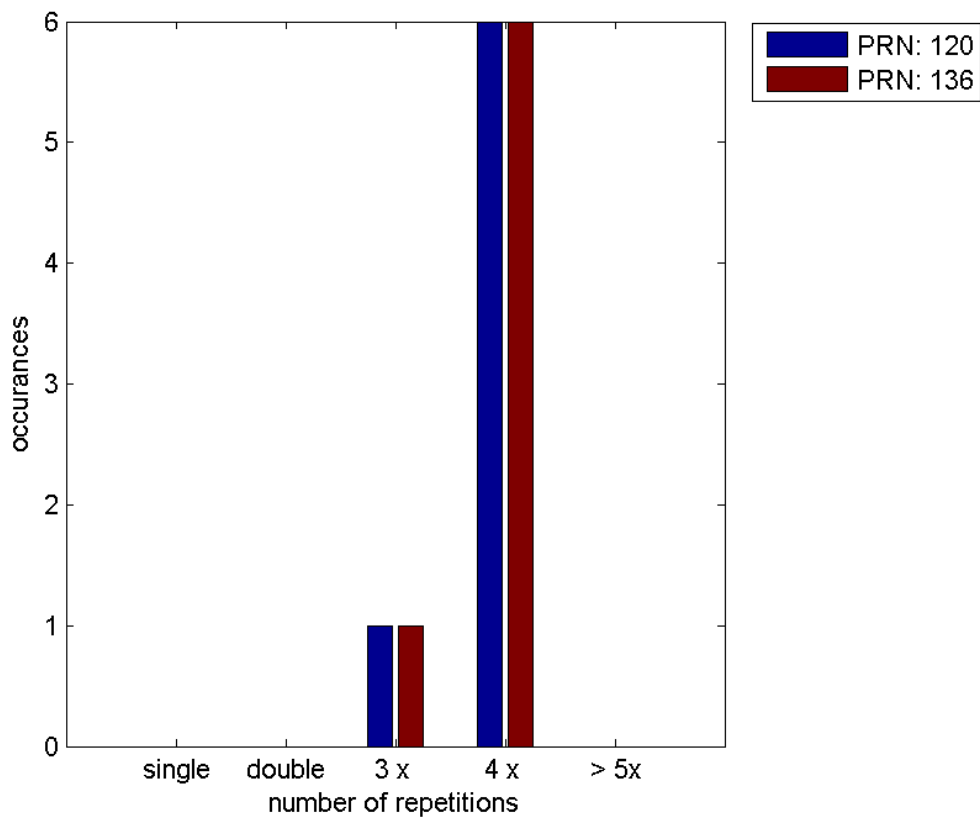
Message Type 6 repetitions :

	single	double	3 x	4 x	> 5x
PRN 120	0	0	1	6	0
PRN 136	0	0	1	6	0

Message Distribution by time:



Message Type 6 repetitions:



Broadcast SBAS Messages :

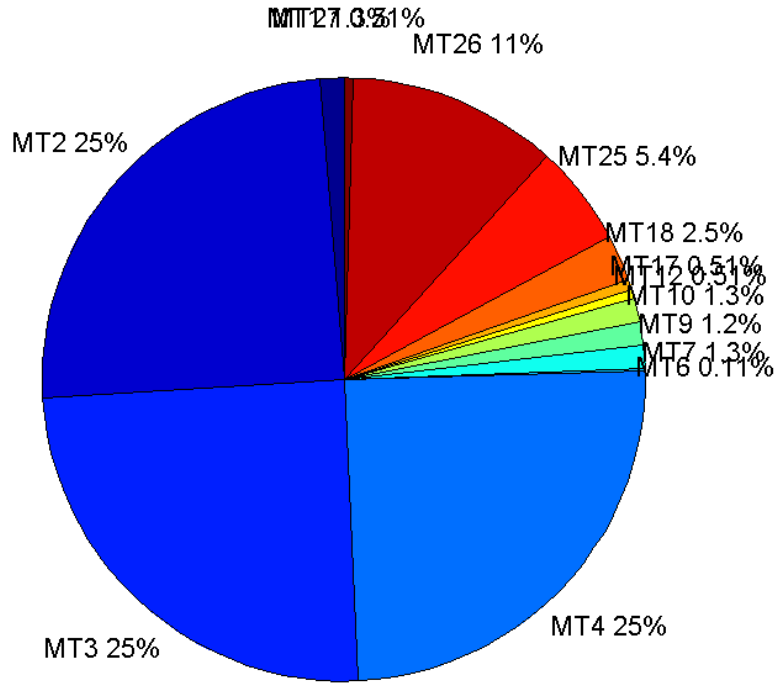
	number of messages	%
MT 0	0	0
MT 1	329	1.25281
MT 2	6497	24.7401
MT 3	6497	24.7401
MT 4	6497	24.7401
MT 5	0	0
MT 6	28	0.106622
MT 7	330	1.25662
MT 9	328	1.249
MT 10	329	1.25281
MT 12	134	0.510262
MT 17	133	0.506454
MT 18	667	2.53989
MT 24	0	0
MT 25	1415	5.38822
MT 26	2944	11.2105
MT 27	133	0.506454
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	26261	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	83	79.8018	0	0	0
MT 2	4	32	4.04618	8	1	1
MT 3	4	36	4.04695	8	1	1
MT 4	4	32	4.04618	8	1	1
MT 5	--	--	--	--	--	--
MT 6	1	9573	948.296	6	6	6
MT 7	75	82	79.8146	0	0	0
MT 9	75	160	80.0183	0	0	0
MT 10	76	86	79.8537	0	0	0
MT 12	188	203	196.414	133	0	0
MT 17	188	392	197.909	0	0	0
MT 18	4	187	39.3033	0	0	0
MT 24	--	--	--	--	--	--
MT 25	2	47	18.5877	0	0	0
MT						

26	1	40	8.93068	0	0	0
MT 27	188	201	196.447	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

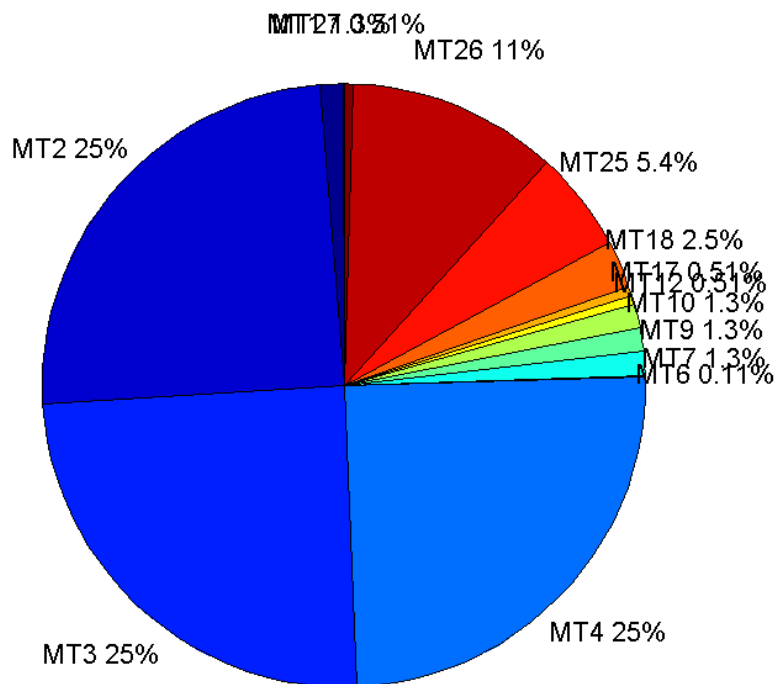
	number of messages	%
MT 0	0	0
MT 1	330	1.25523
MT 2	6502	24.7318
MT 3	6501	24.728
MT 4	6501	24.728
MT 5	0	0
MT 6	28	0.106504
MT 7	330	1.25523
MT 9	330	1.25523

MT 10	330	1.25523
MT 12	134	0.5097
MT 17	134	0.5097
MT 18	670	2.5485
MT 24	0	0
MT 25	1417	5.38988
MT 26	2949	11.2172
MT 27	134	0.5097
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	26290	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	75	82	79.6809	0	0	0
MT 2	4	8	4.04384	7	0	0
MT 3	4	8	4.044	7	0	0
MT 4	4	8	4.04385	7	0	0
MT 5	--	--	--	--	--	--
MT 6	1	9573	948.296	6	6	6
MT 7	74	81	79.7599	0	0	0
MT 9	75	82	79.7599	0	0	0
MT 10	75	82	79.69	0	0	0
MT 12	183	201	196.105	133	0	0
MT 17	183	202	196.075	0	0	0
MT 18	2	184	39.012	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	49	18.5487	0	0	0
MT 26	3	63	8.91316	0	0	0
MT 27	188	201	196.09	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:/PegasusDateGob/job/2015_10_21EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2015_10_21EGNOS/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: 04:54:45 21.10.2015 (week: 1867 sec: 276885)
end: 12:12:53 21.10.2015 (week: 1867 sec: 303173)
duration: 07:18:09 ..

quality

valid samples 25913
total samples 26289

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	291298	1.67416	9.0956	0.184063	2.00336	16.6442	0.120364
max normVer	300187	1.80758	14.3476	0.125985	2.99048	17.3611	0.172252
max HPE	287441	2.50149	26.9401	0.0928538	0.939141	37.6001	0.0249771
max VPE	300757	1.96697	14.1887	0.138629	3.12925	18.2728	0.171252
min HPL	291147	1.52665	8.75831	0.174308	1.55482	16.1193	0.0964568
min VPL	298743	1.24662	10.0651	0.123856	0.594049	12.0389	0.0493441

Position discontinuity events :

#	Epoch	duration	stable period
1	292384	25	15123

APV-I discontinuity events :

#	Epoch	duration	stable period
1	288869	257	11326
2	292384	29	3258
3	299605	137	7192

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	287427	16	9884
2	288869	257	1426
3	292384	29	3258
4	299605	137	7192

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	287427	16	9884
2	288869	257	1426
3	292384	29	3258
4	299605	137	7192

First Glance analysis

Duration 26289
Number of Samples 26289
Number of invalid sample 376
Number of no position solution samples 25

Number of missing sample	0
Logging Loss	0
Processing Loss	1.4303
Number of Misleading Information	0
Data gaps	0
Discontinuities	1

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
25888	25208	25192	0	25192

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.8824	1.8852	1.88402	NaN	1.88402
HPEscale 95%	NaN	6.00224	6.00245	NaN	6.00245
VPE 95%	2.02361	2.03772	2.03775	NaN	2.03775
VPEscale 95%	NaN	5.79739	4.05826	NaN	4.05826

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.999035	0.972794	0.972176	0	0.972176
measurements	0.984746	0.95888	0.958272	0	0.958272
Operational	0.984746	0.95888	0.958272	0	0.958272

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	1	3	4	--	4
Long	1	3	4	--	4
Independent	1	3	4	--	4
P(disc.)	0.000579419	0.00178515	0.00238171	NaN	0.00238171
P(slide)	0.000579419	0.00178515	0.00238171	NaN	0.00238171

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

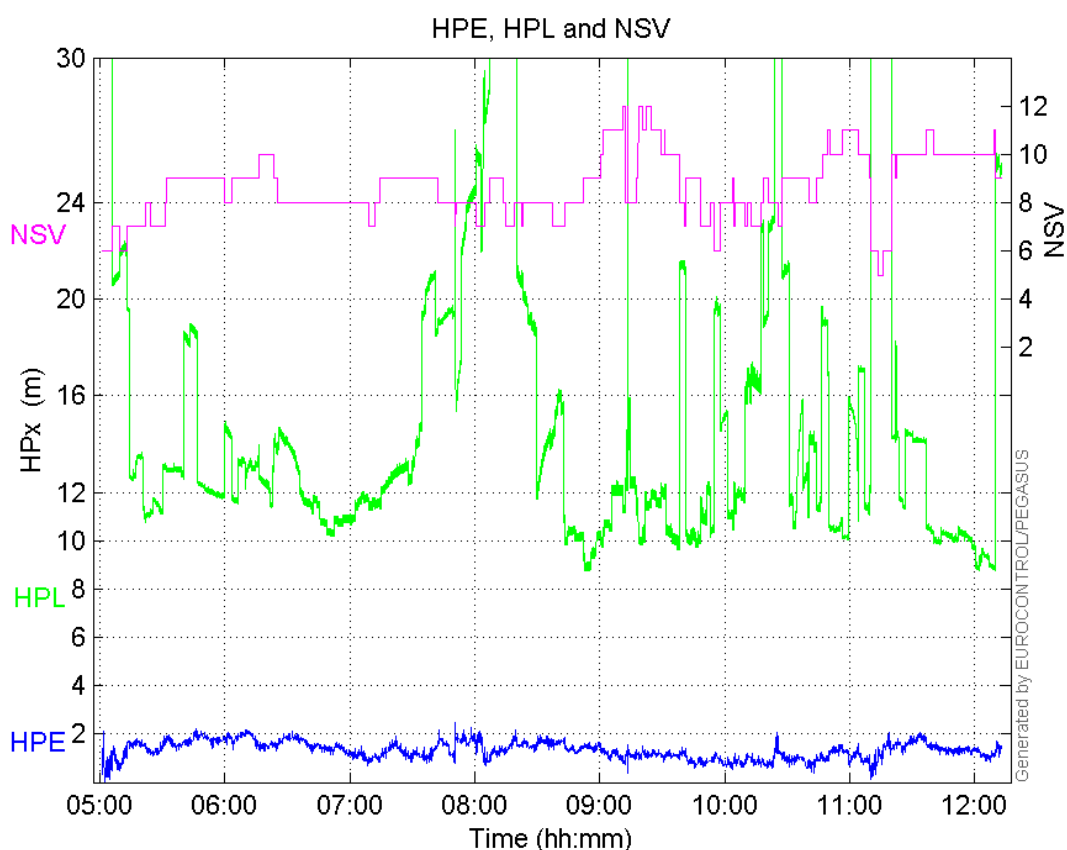
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	25888	25208	25192	0	25192
SIS Availability	0.999035	0.972794	0.972176	0	0.972176
Local Availability	0.984746	0.95888	0.958272	0	0.958272
Operational Availability	0.984746	0.95888	0.958272	0	0.958272
HPE 95%	1.8824	1.8852	1.88402	NaN	1.88402

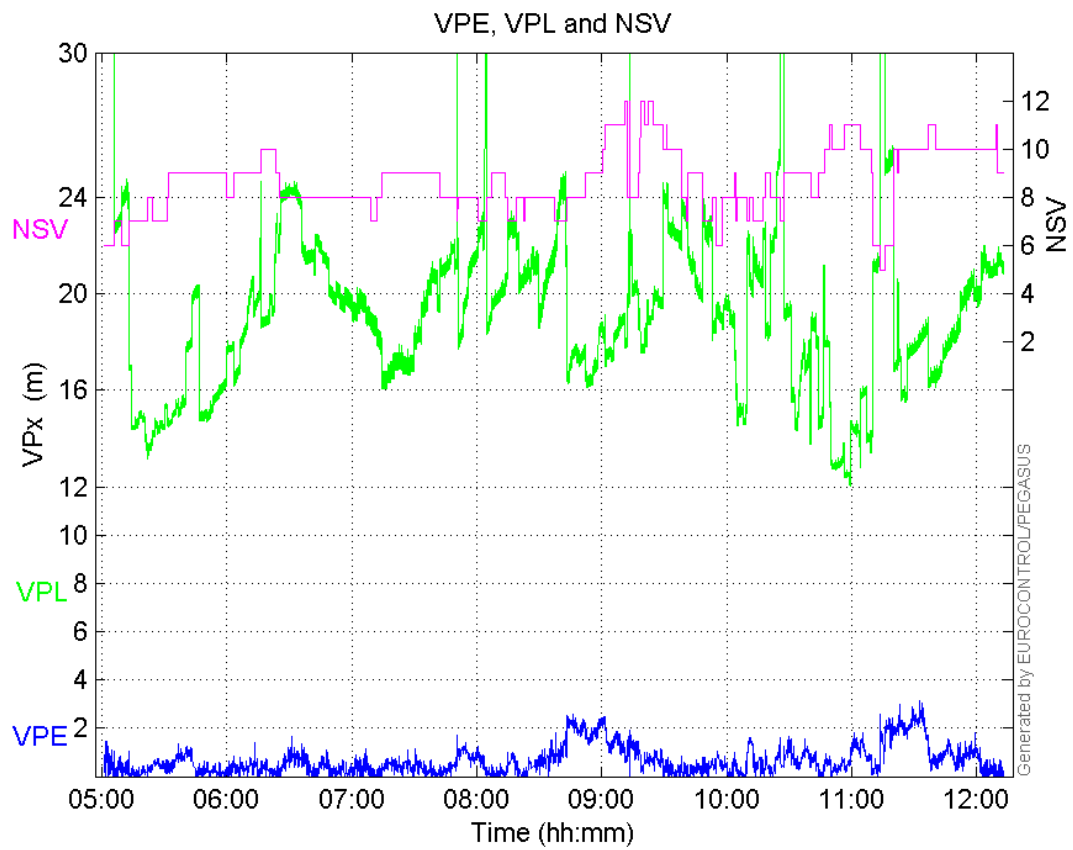
HPEScale 95%	NaN	6.00224	6.00245	NaN	6.00245
VPE 95%	2.02361	2.03772	2.03775	NaN	2.03775
VPEscale 95%	NaN	5.79739	4.05826	NaN	4.05826
All Discontinuity Events	1	3	4	--	4
Long Discontinuity Events	1	3	4	--	4
Independent Discontinuity Events	1	3	4	--	4
P(discontinuity)	0.000579419	0.00178515	0.00238171	NaN	0.00238171
P(sliding window)	0.000579419	0.00178515	0.00238171	NaN	0.00238171
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:

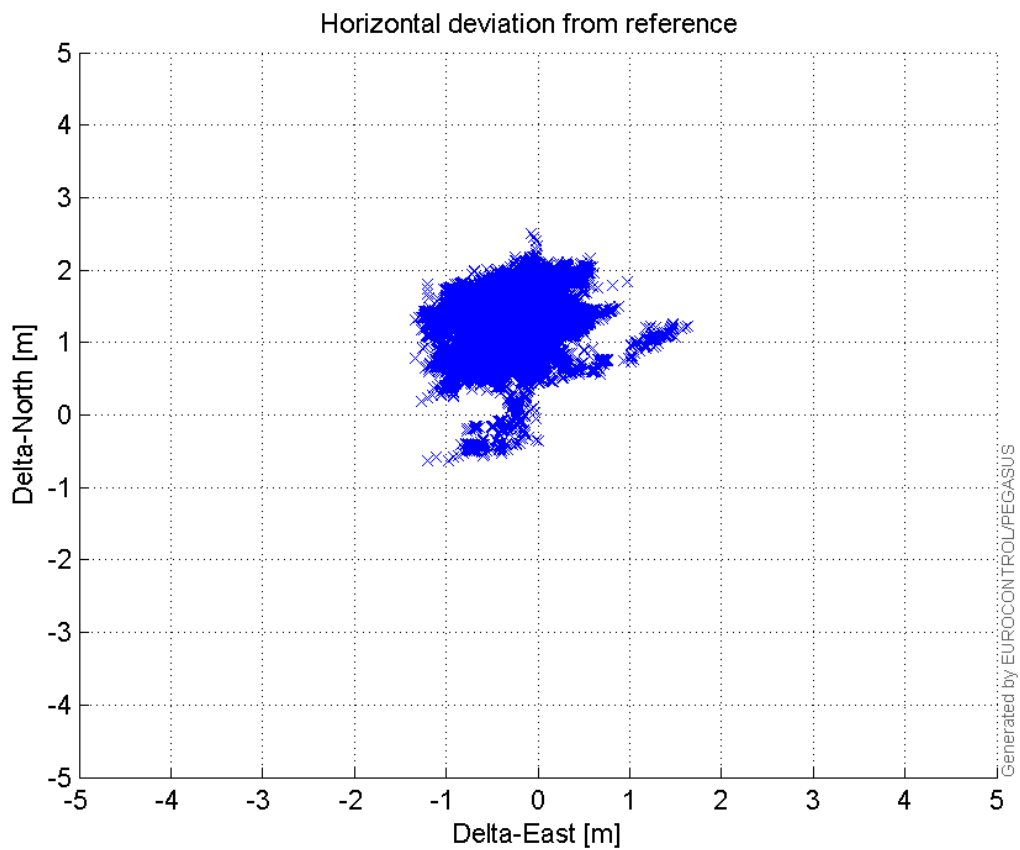


VPE, VPL and NSV:



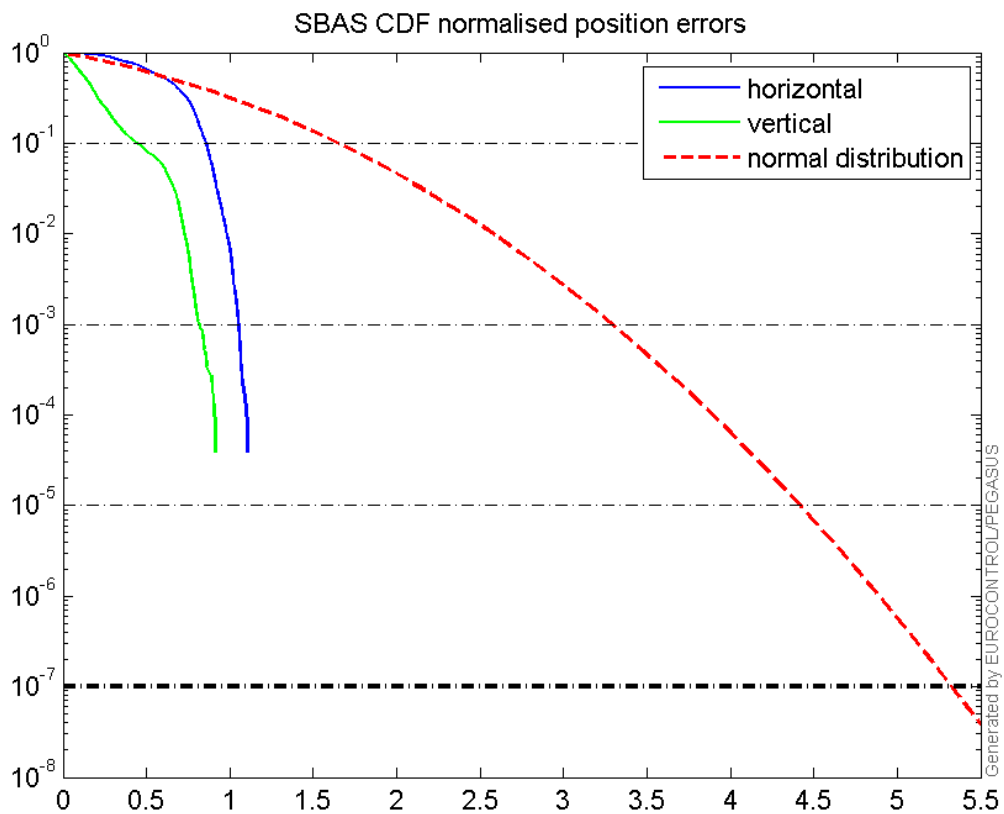
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

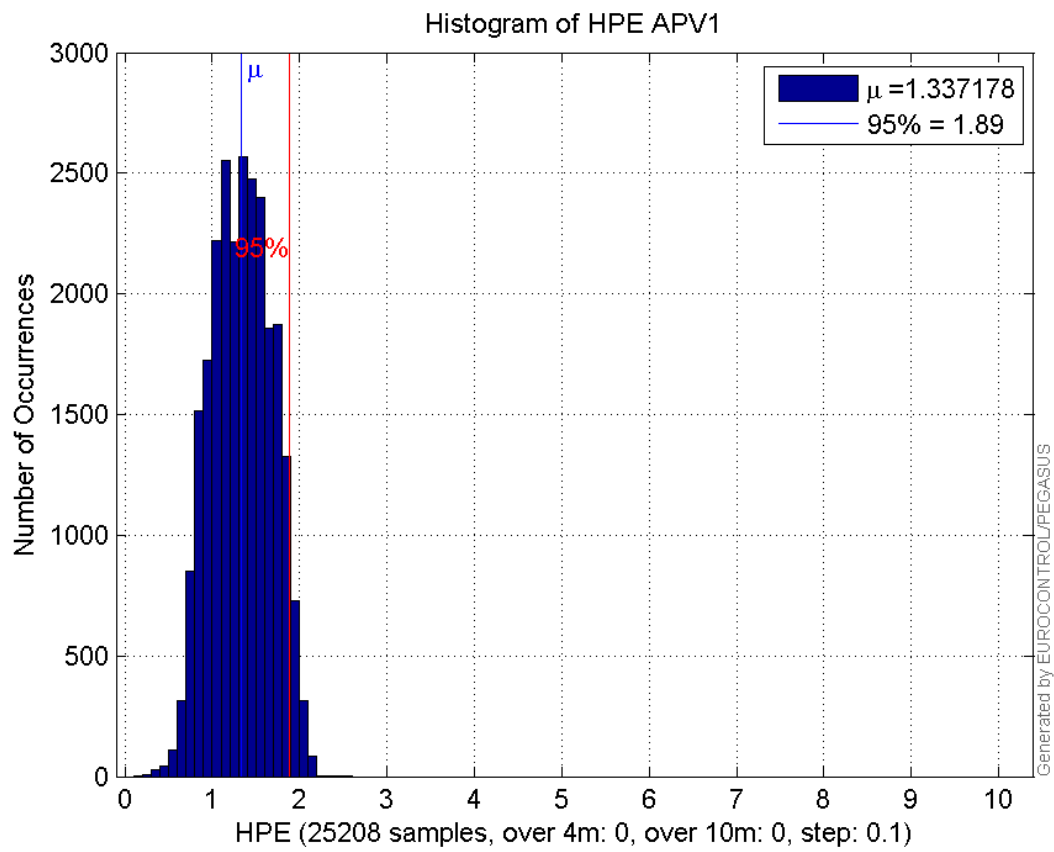
number	25208
sum	33707.586
sum2	48018.235
prctile95	1.8851959
prctile99	2.0319526
number	25208
sum	16741.239
sum2	19690.29
prctile95	2.0377208
prctile99	2.3934025
number	25208
sum	373333.28
sum2	6430792.4
prctile95	28.47325
prctile99	38.099604
number	25208
sum	480014.61
sum2	9372950.8
prctile95	24.06431
prctile99	25.662516
number	25208
sum	2529.042

sum2 285.06031
prctile95 0.15005589
prctile99 0.16365107
number 25208
sum 907.5855
sum2 59.714094
prctile95 0.11594786
prctile99 0.13691655
number 25192
sum 33673.965
sum2 47947.009
prctile95 1.8840163
prctile99 2.0306615
number 25192
sum 16718.079
sum2 19655.883
prctile95 2.0377474
prctile99 2.3934149
number 25192
sum 372905.11
sum2 6419333.7
prctile95 28.48005
prctile99 38.100596
number 25192
sum 479419.34
sum2 9350802.7
prctile95 24.05419
prctile99 25.623606
number 25192
sum 2527.7855
sum2 284.96083
prctile95 0.15006117
prctile99 0.16365866
number 25192
sum 906.96291
sum2 59.68923
prctile95 0.11595024
prctile99 0.13691926

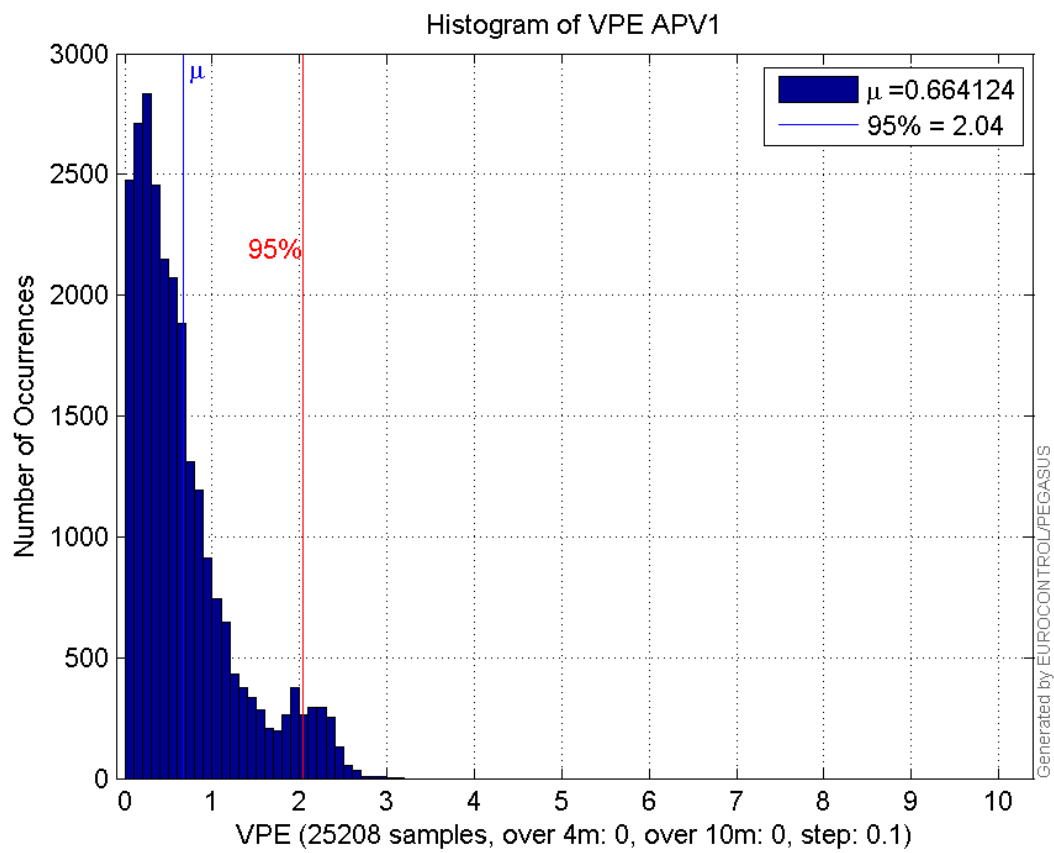
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.33718	0.341819	1.34274	1.8852	2.03195	1.38017
HPL	14.8101	5.9809	12.5185	28.4733	38.0996	15.9721
VPE	0.664124	0.583151	0.498378	2.03772	2.3934	0.883806
VPL	19.0422	3.03664	19.1202	24.0643	25.6625	19.2828

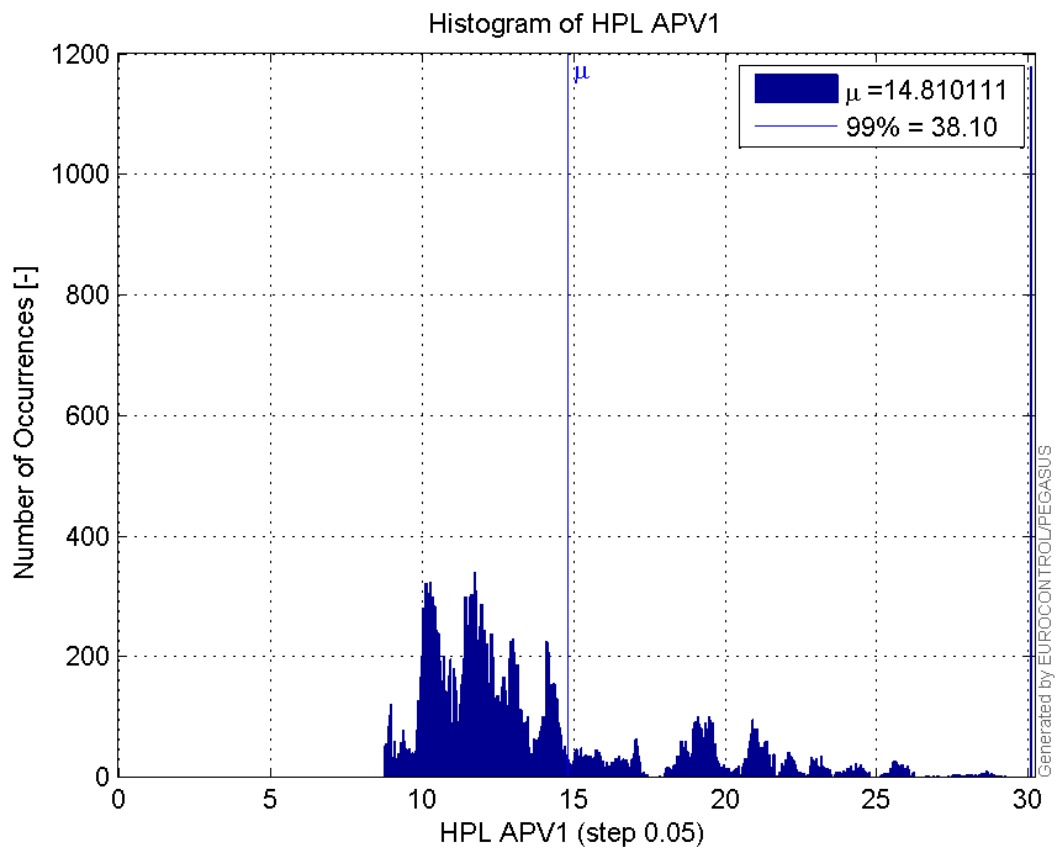
Histogram of HPE APV1:



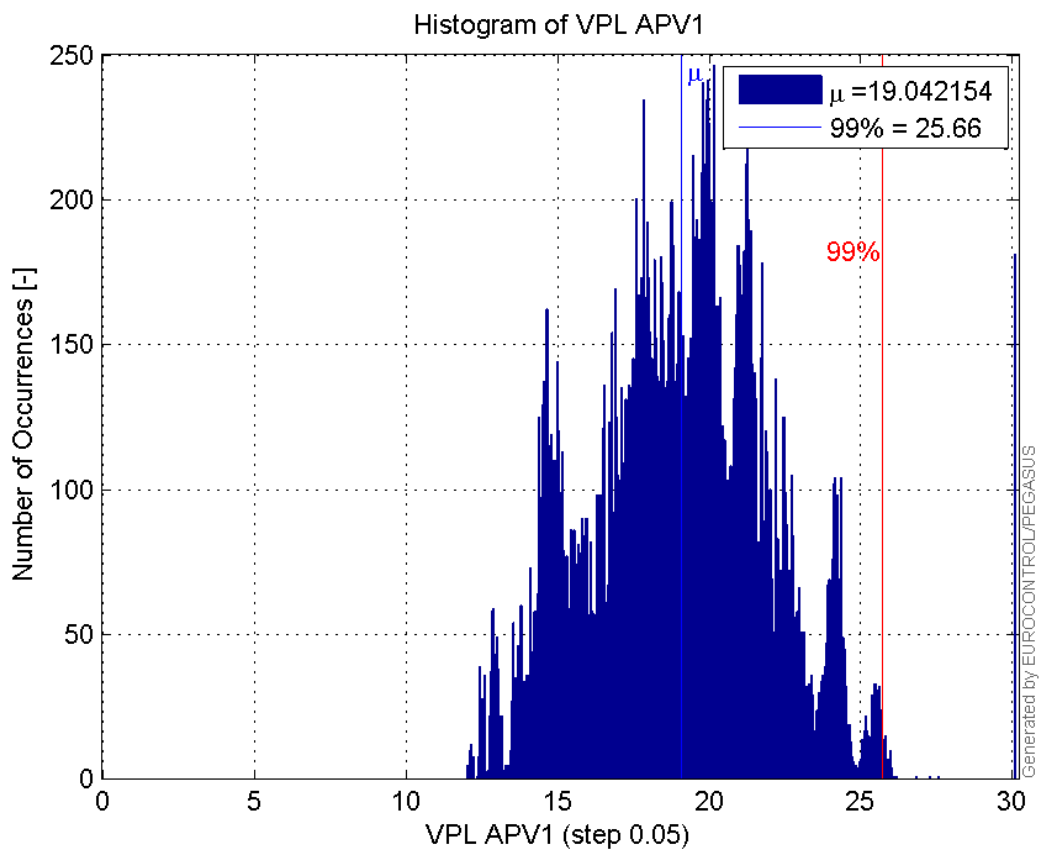
Histogram of VPE APV1:



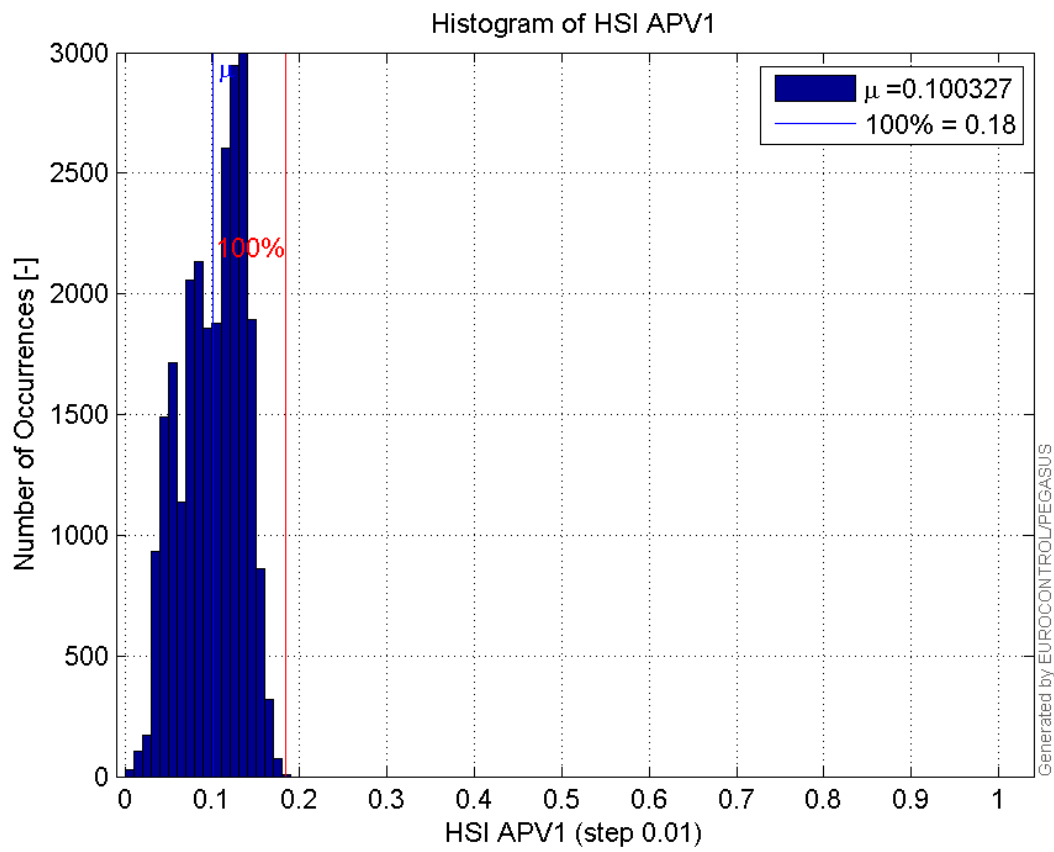
Histogram of HPL APV1:



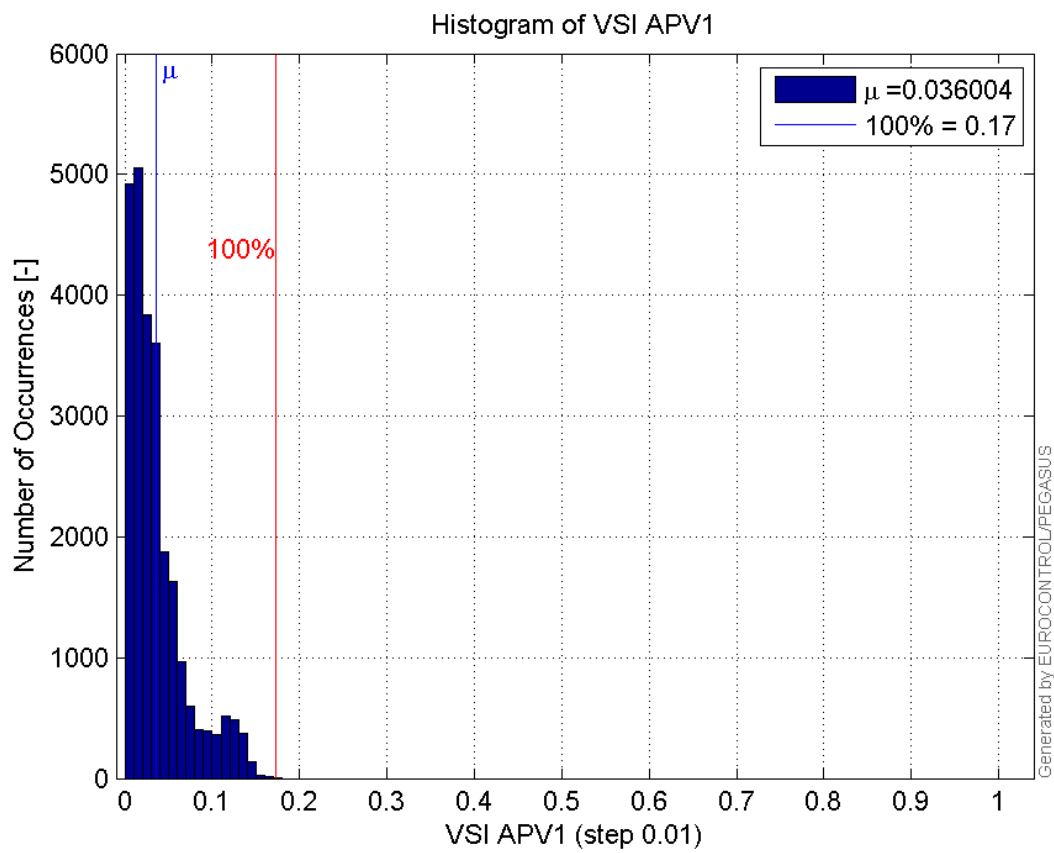
Histogram of VPL APV1:



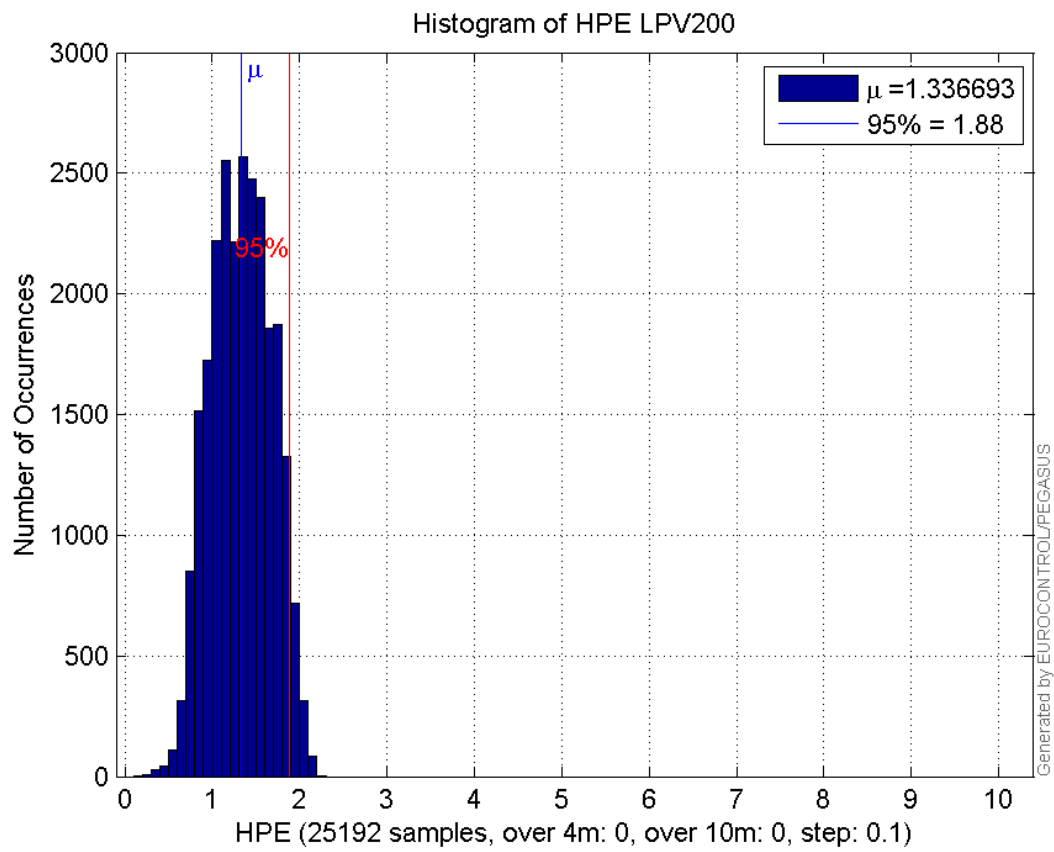
Histogram of HSI APV1:



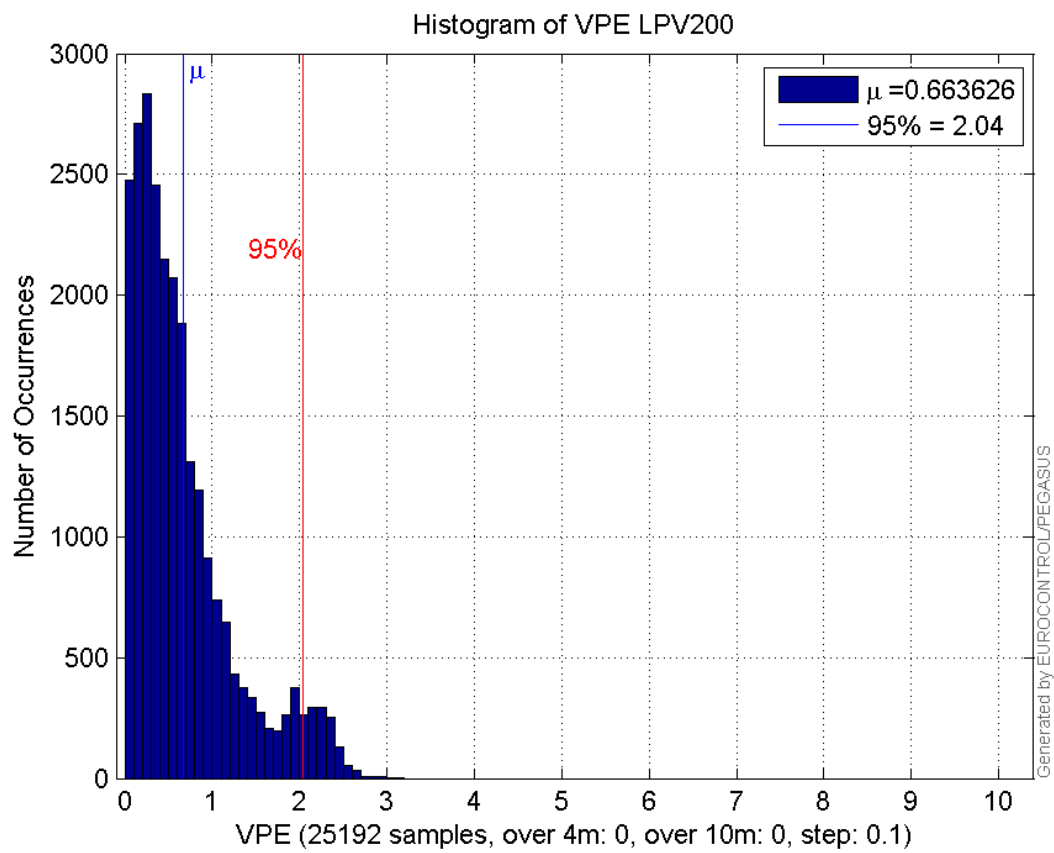
Histogram of VSI APV1:



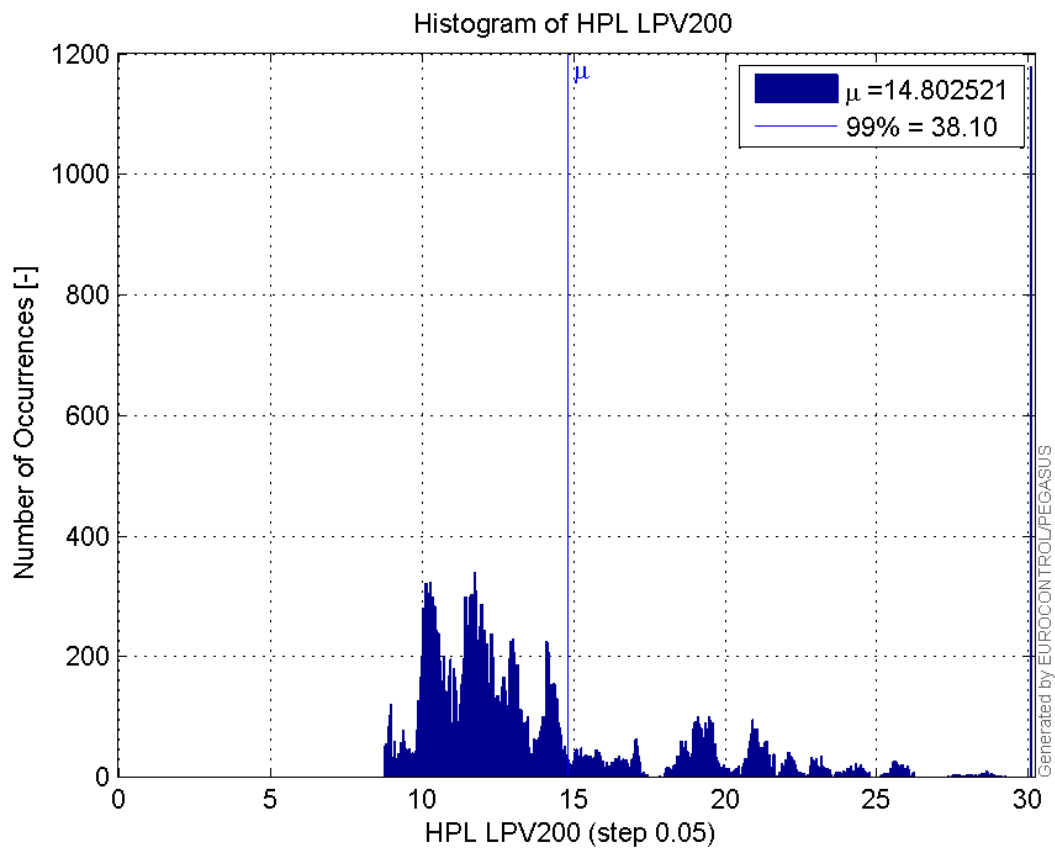
Histogram of HPE LPV200:



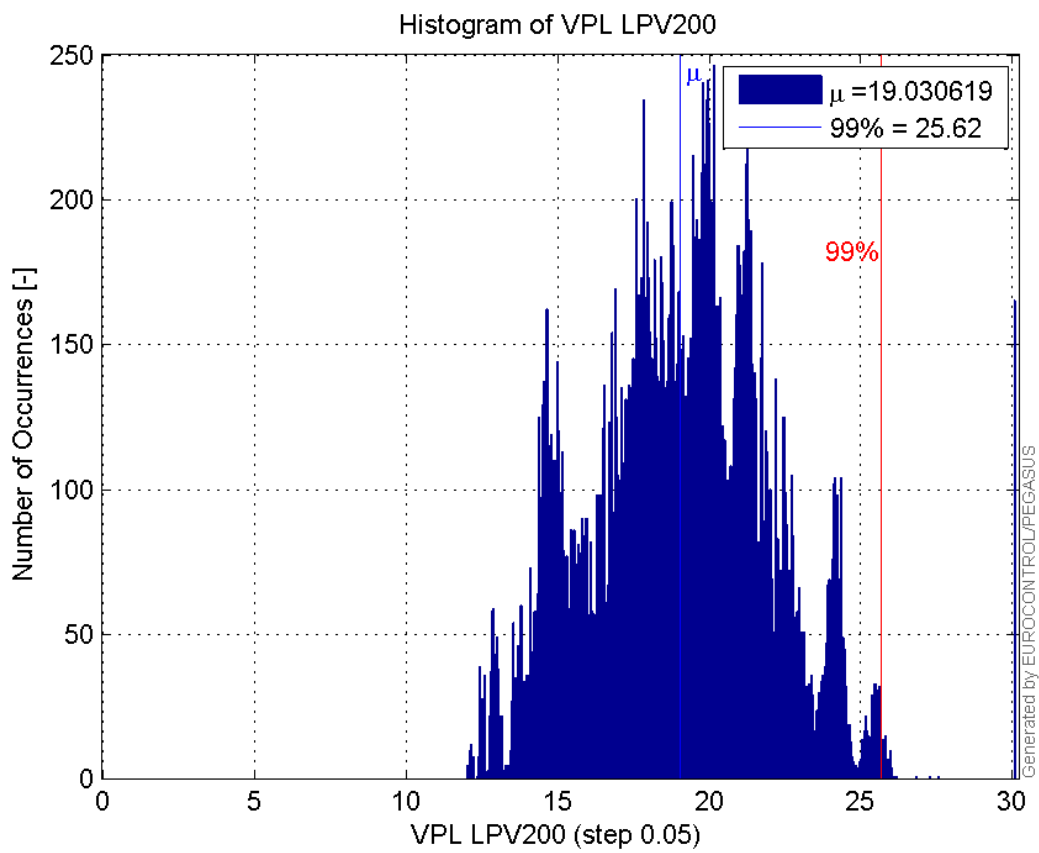
Histogram of VPE LPV200:



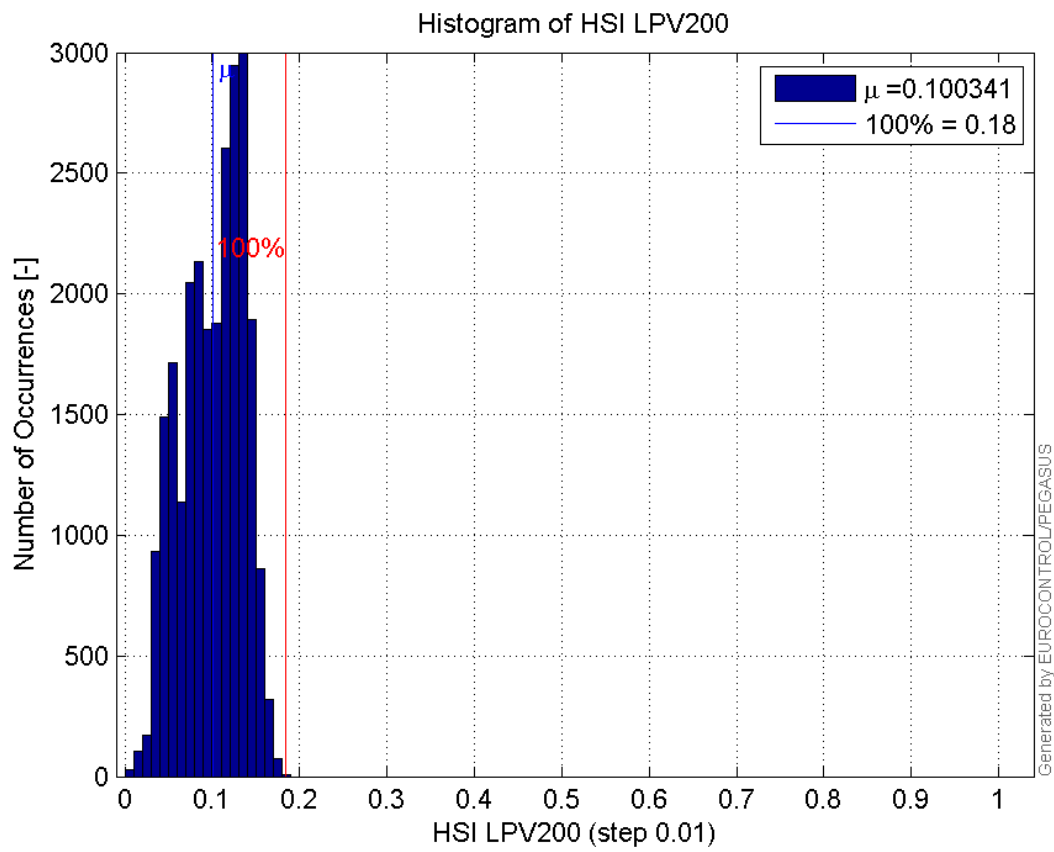
Histogram of HPL LPV200:



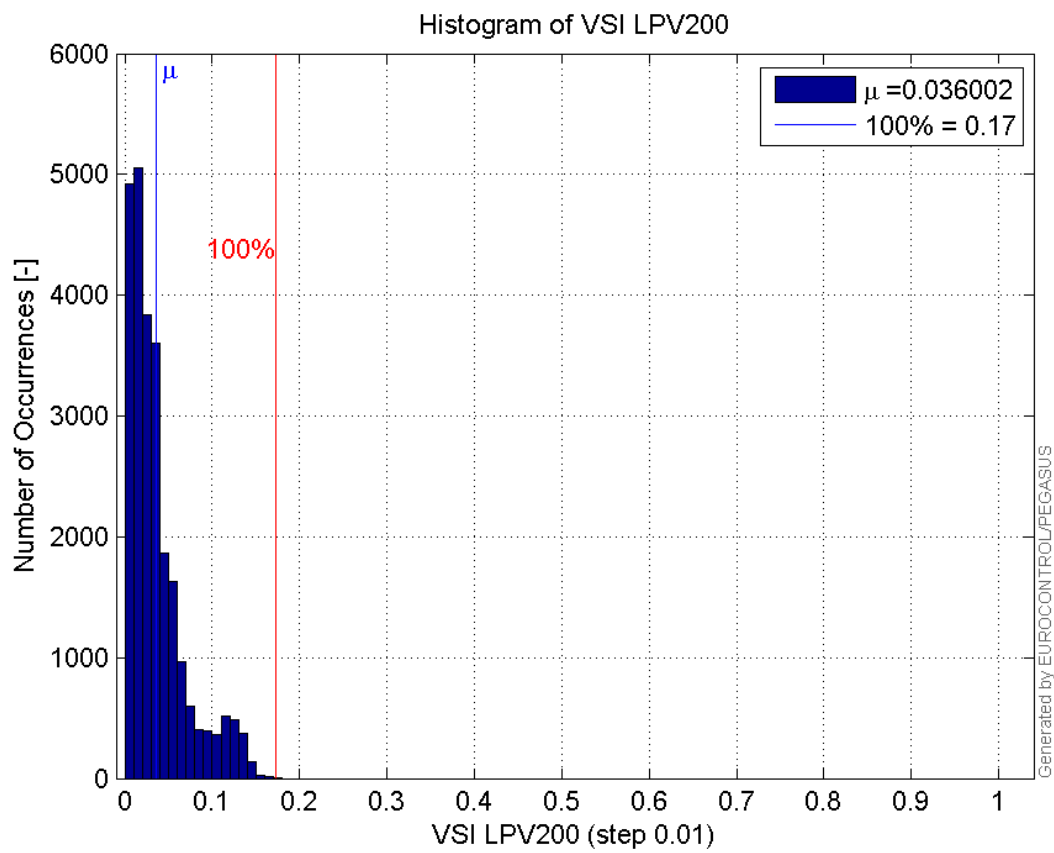
Histogram of VPL LPV200:



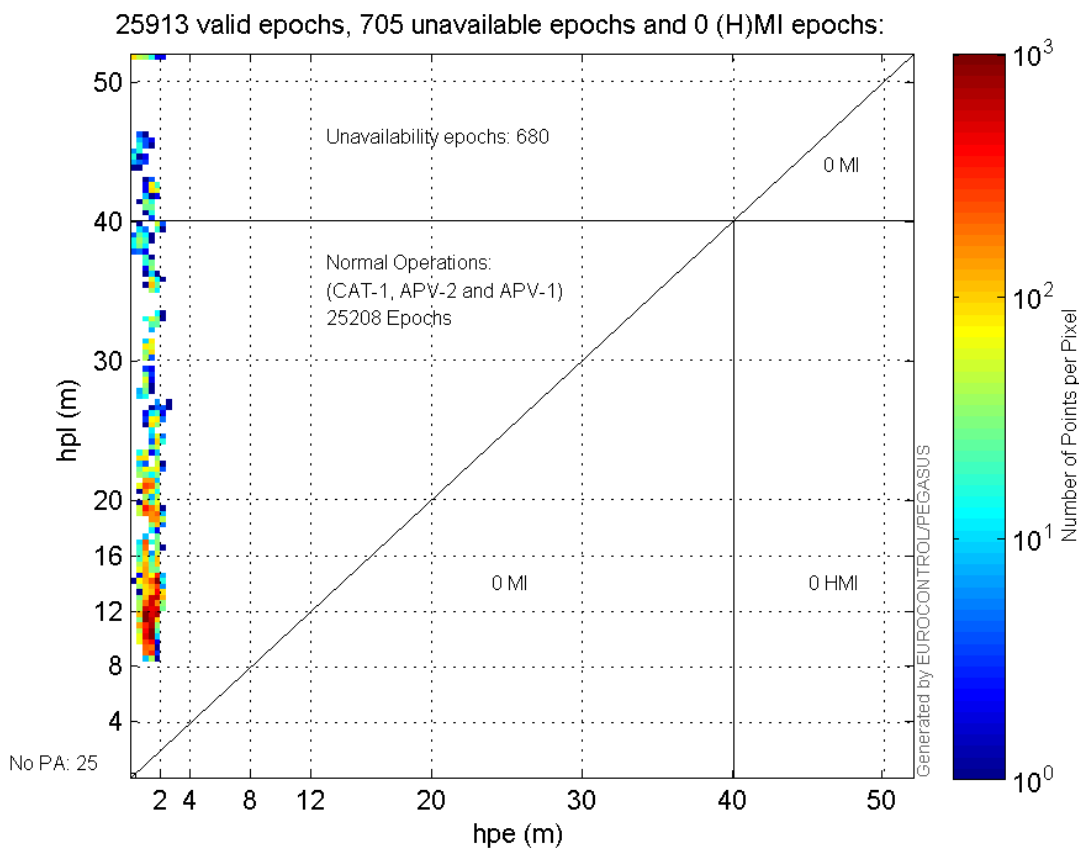
Histogram of HSI LPV200:



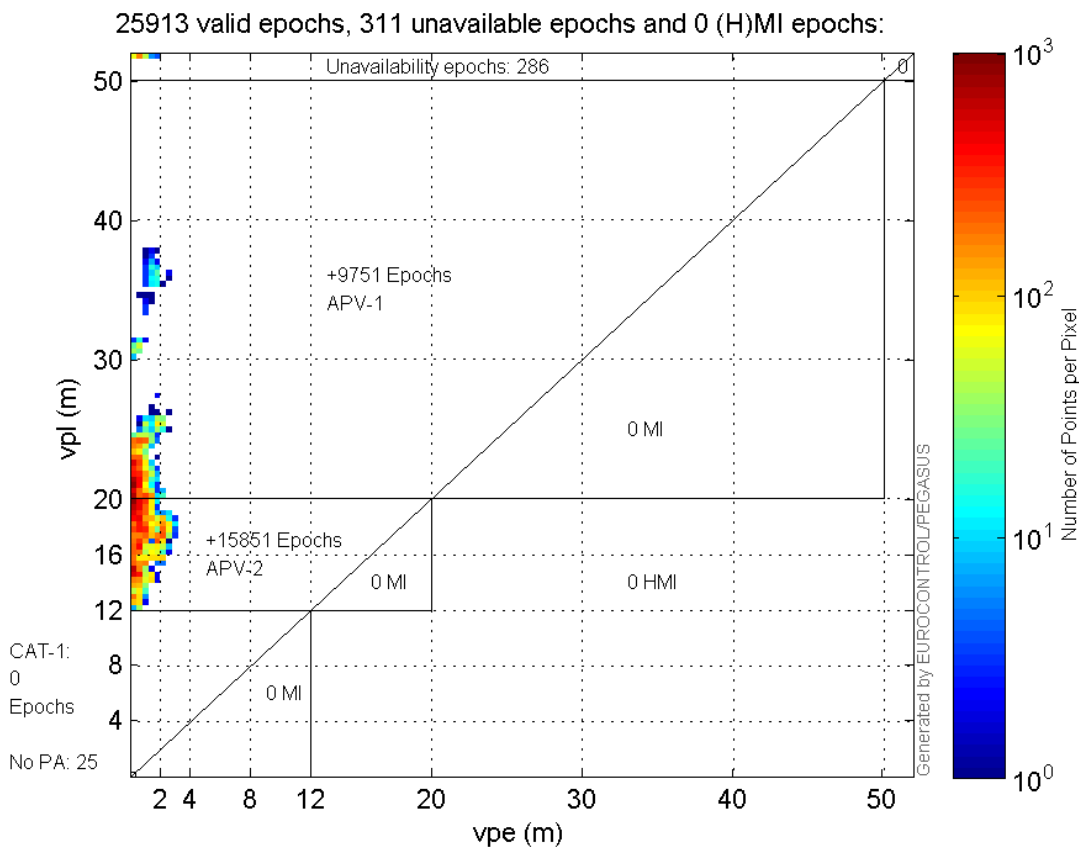
Histogram of VSI LPV200:



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:/PegasusDateGob/job/2015_10_21EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_10_21EGNOS/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	50.4392
init_lon	results	30.4298
init_alt	results	251.3734
mi_numbers	results	0

Range Domain

start: 04:54:45 21.10.2015 (week: 1867 sec: 276885)
end: 12:12:53 21.10.2015 (week: 1867 sec: 303173)
duration: 07:18:09 ..

quality

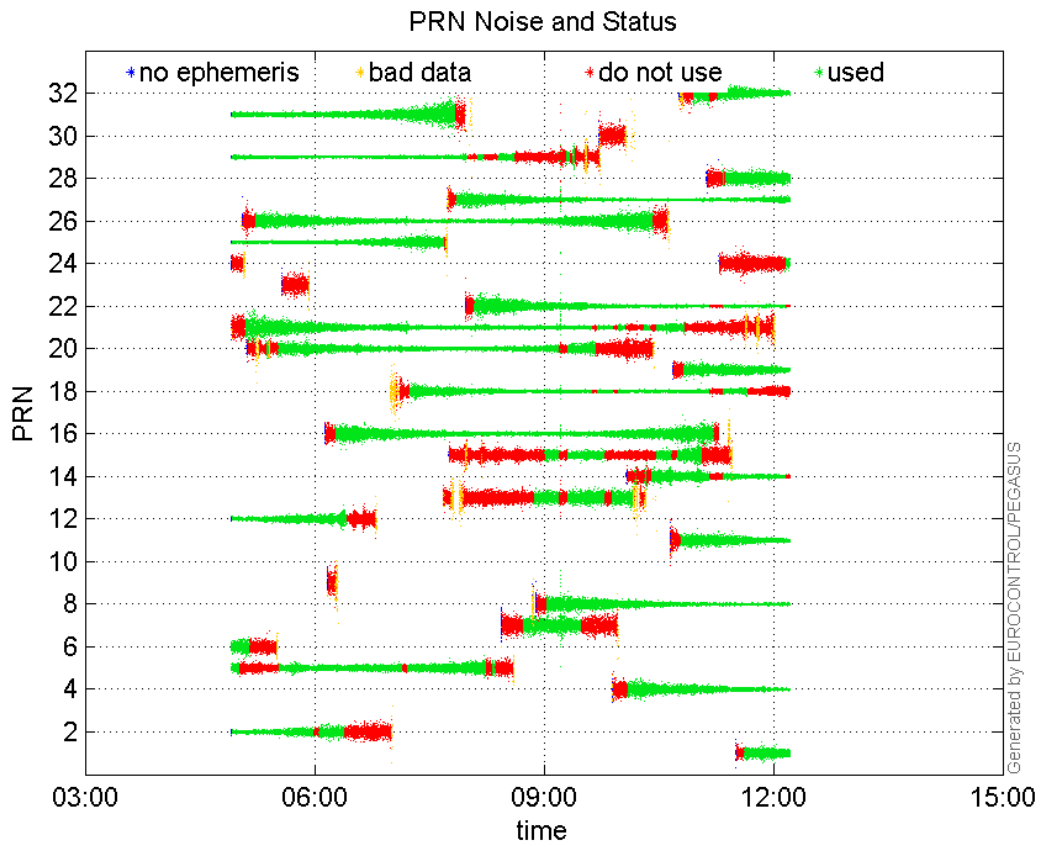
valid samples 26289
total samples 26289

PRN overview

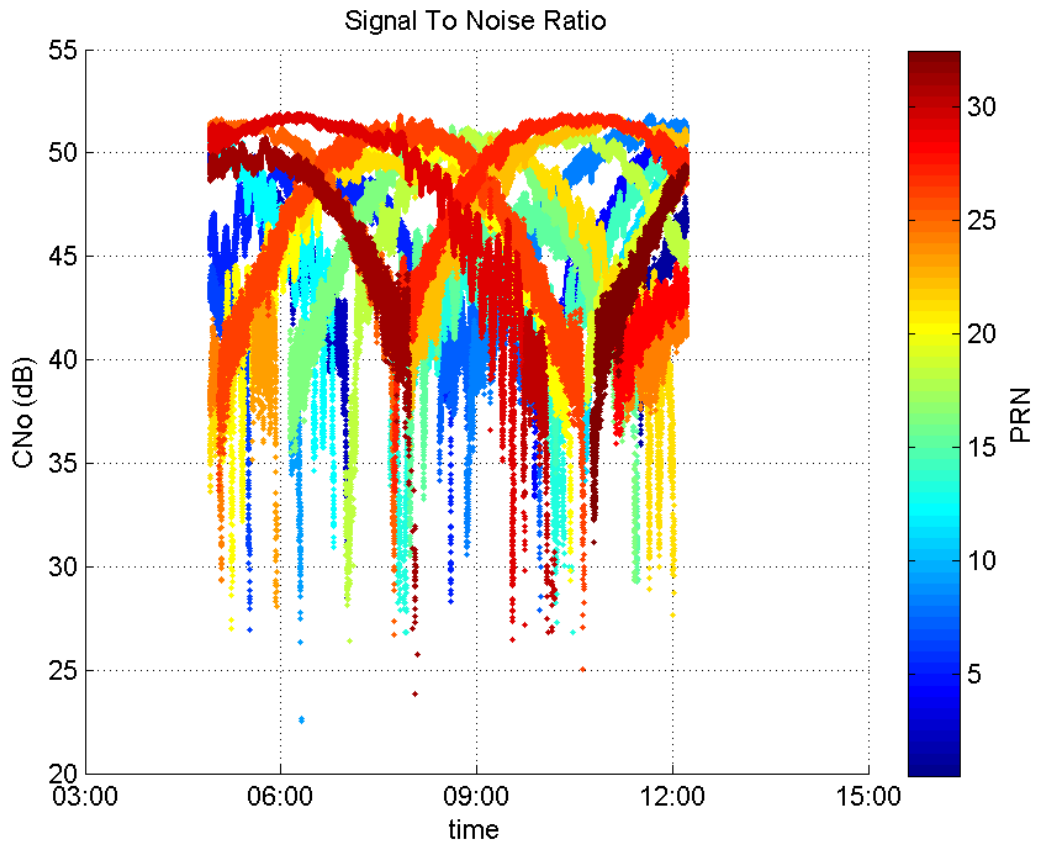
Number of Visible GPS Satellites 29
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:

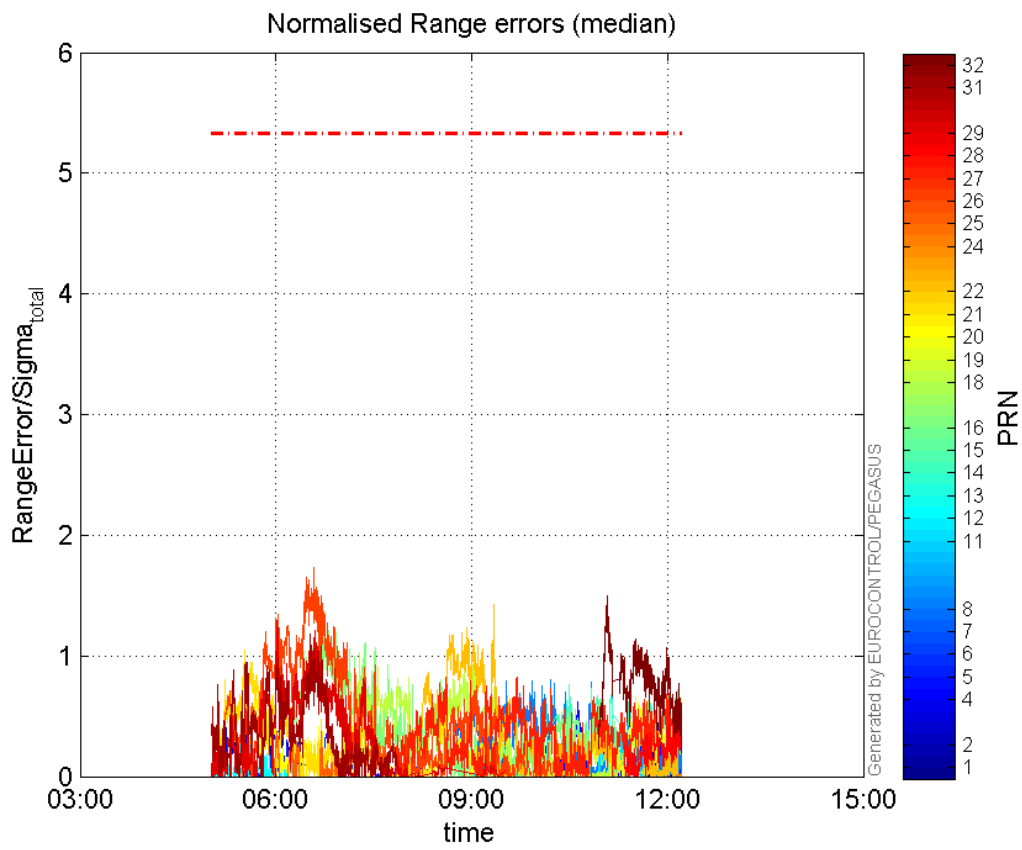


Number of Overbounding Norm Errors 0

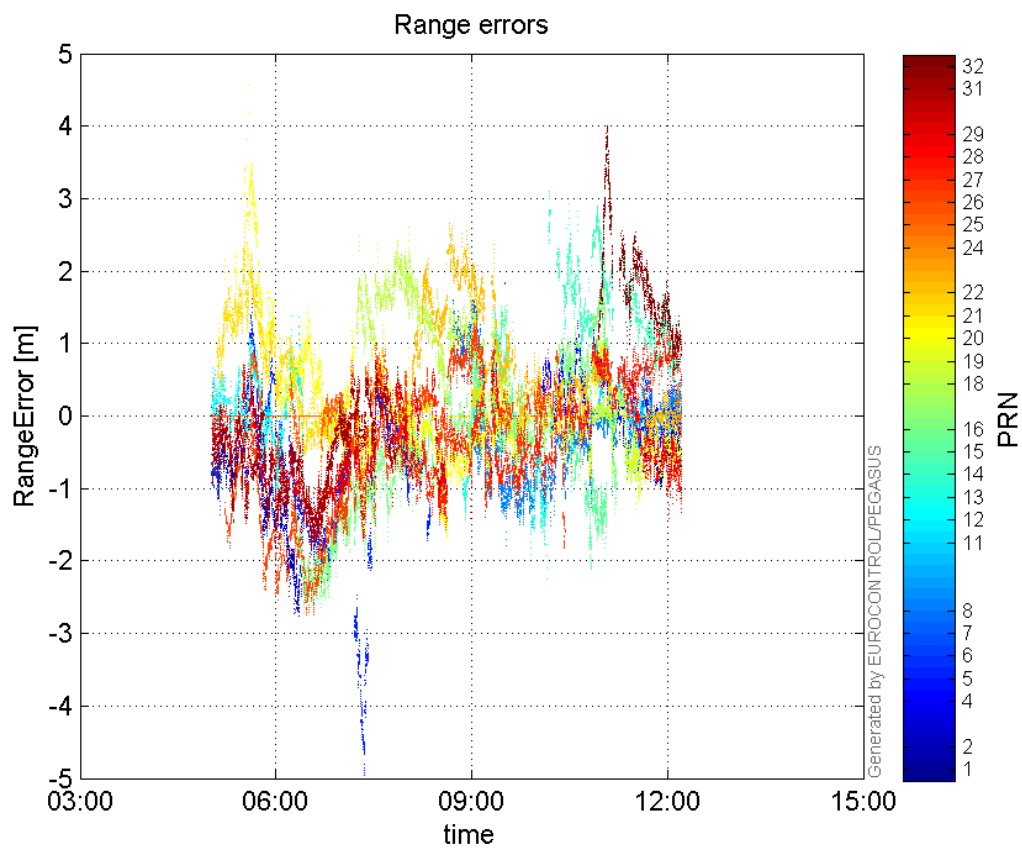
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1867	303134	1	0.557232	-1.05065	1.88548
1867	280129	2	0.46416	-1.73294	3.7335
1867	297449	4	0.616124	1.30746	2.12206
1867	283667	5	0.420334	-2.34496	5.57881
1867	277699	6	0.0634159	-1.36509	21.526
1867	291733	7	0.624291	1.75746	2.81513
1867	295963	8	0.799578	-1.52277	1.90446
1867	298876	11	0.51372	1.14205	2.2231
1867	281668	12	0.399458	1.37848	3.45088
1867	295773	13	0.593989	-2.24137	3.77341
1867	296968	14	0.757802	2.92188	3.85573
1867	298210	15	0.733896	-2.11147	2.87707
1867	283691	16	1.20763	-2.50814	2.07692
1867	285423	18	1.02376	2.48045	2.42289
1867	300626	19	0.658398	-1.30159	1.9769
1867	279628	20	0.673543	3.01096	4.47033
1867	279061	21	1.04308	2.59323	2.48612
1867	292823	22	1.42816	2.36964	1.65923
1867	303134	24	0.0217255	-0.567328	26.1135
1867	279517	25	0.60451	0.857223	1.41805
1867	282868	26	1.73299	-2.64812	1.52806
1867	290175	27	0.821127	-1.5589	1.89848
1867	303134	28	0.548091	-1.33312	2.4323
1867	280842	29	1.28828	-1.89842	1.47361
1867	282684	31	1.17903	-2.12144	1.79932
1867	299094	32	1.49388	4.0104	2.68455

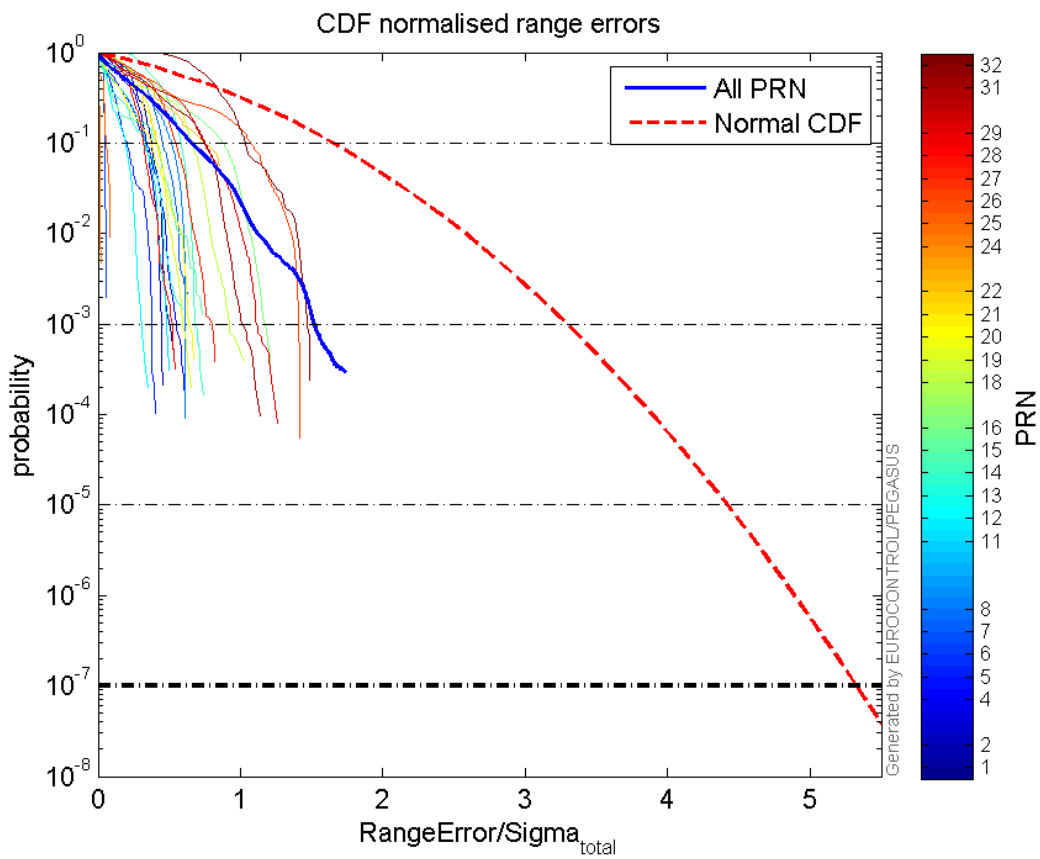
 Normalised Range errors (median):



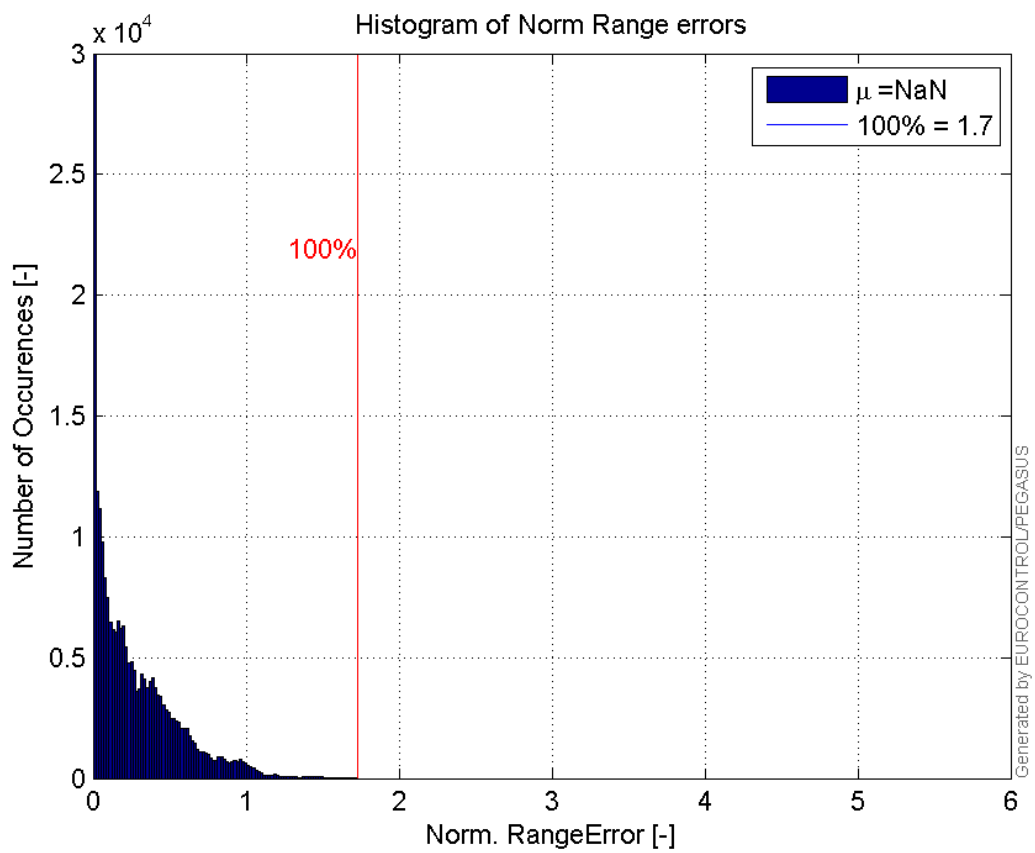
Range errors:



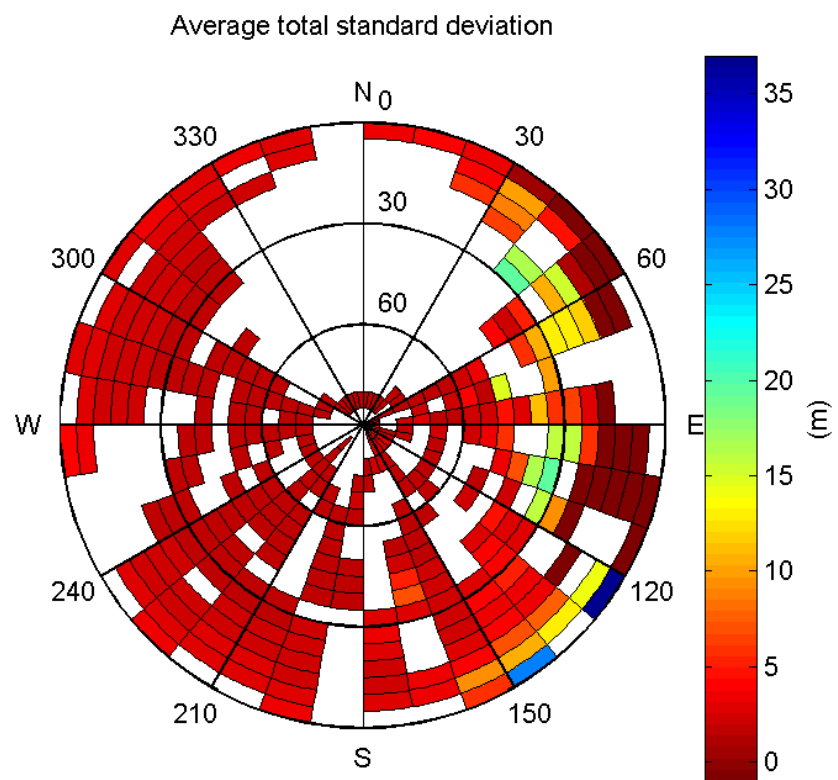
CDF normalised range errors:



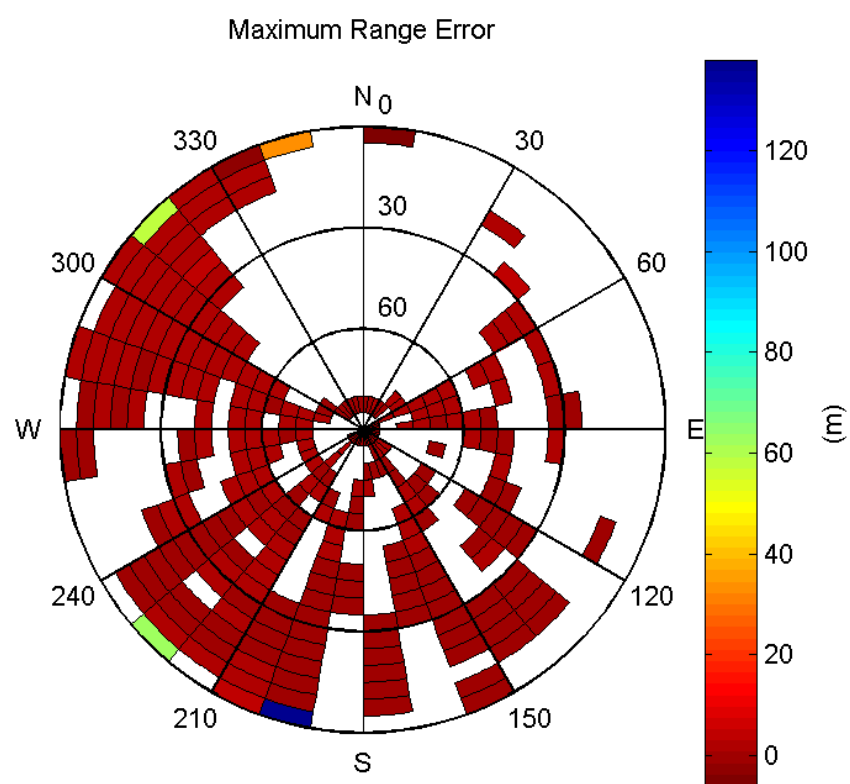
Histogram of Norm Range errors:



Sigma Sky Plot:

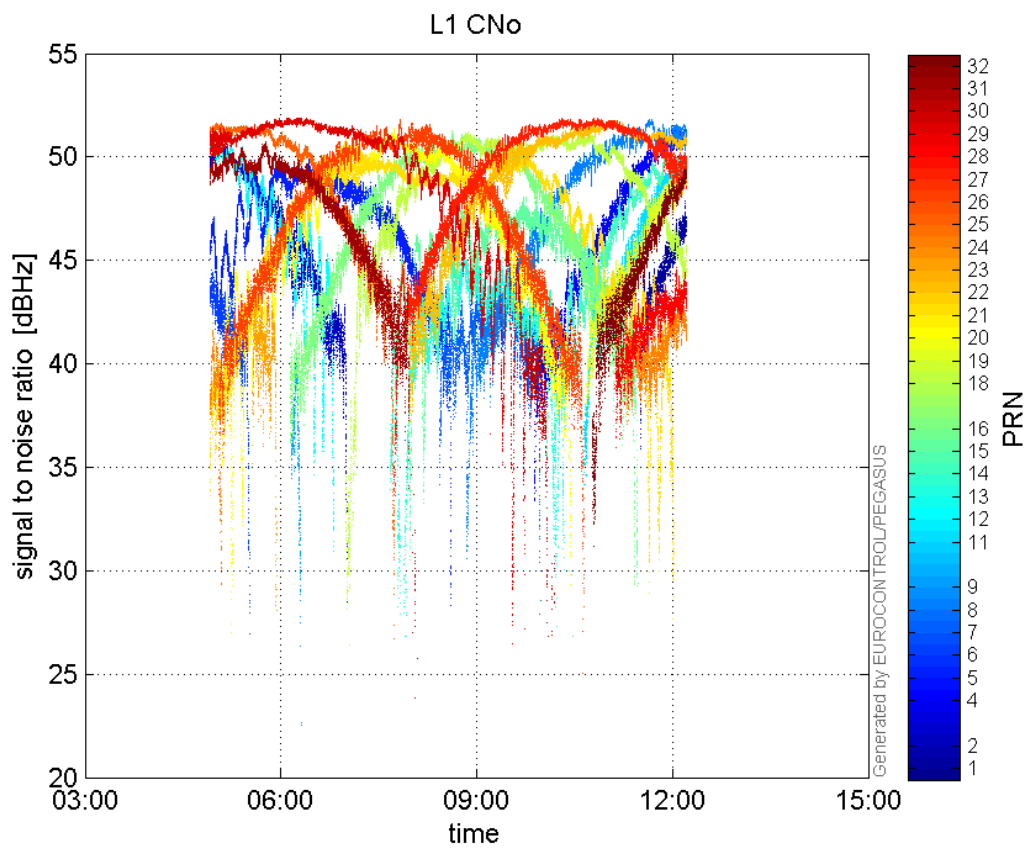


Norm Error Sky Plot:

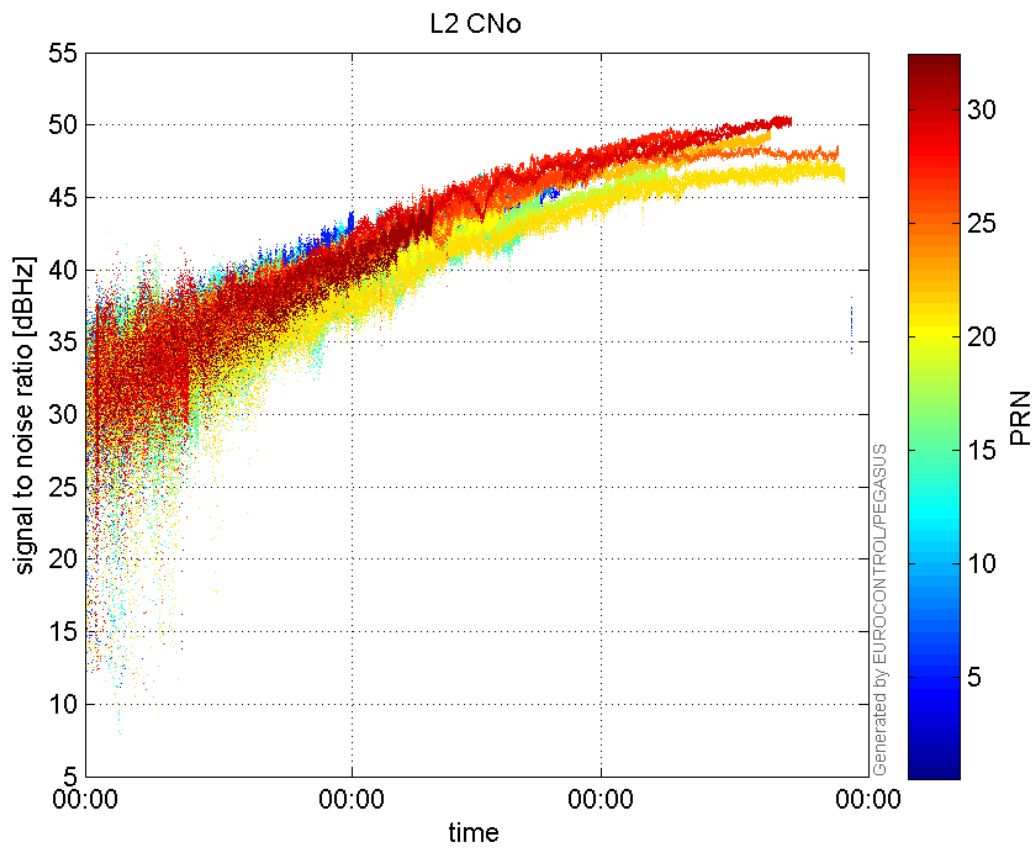


signal quality

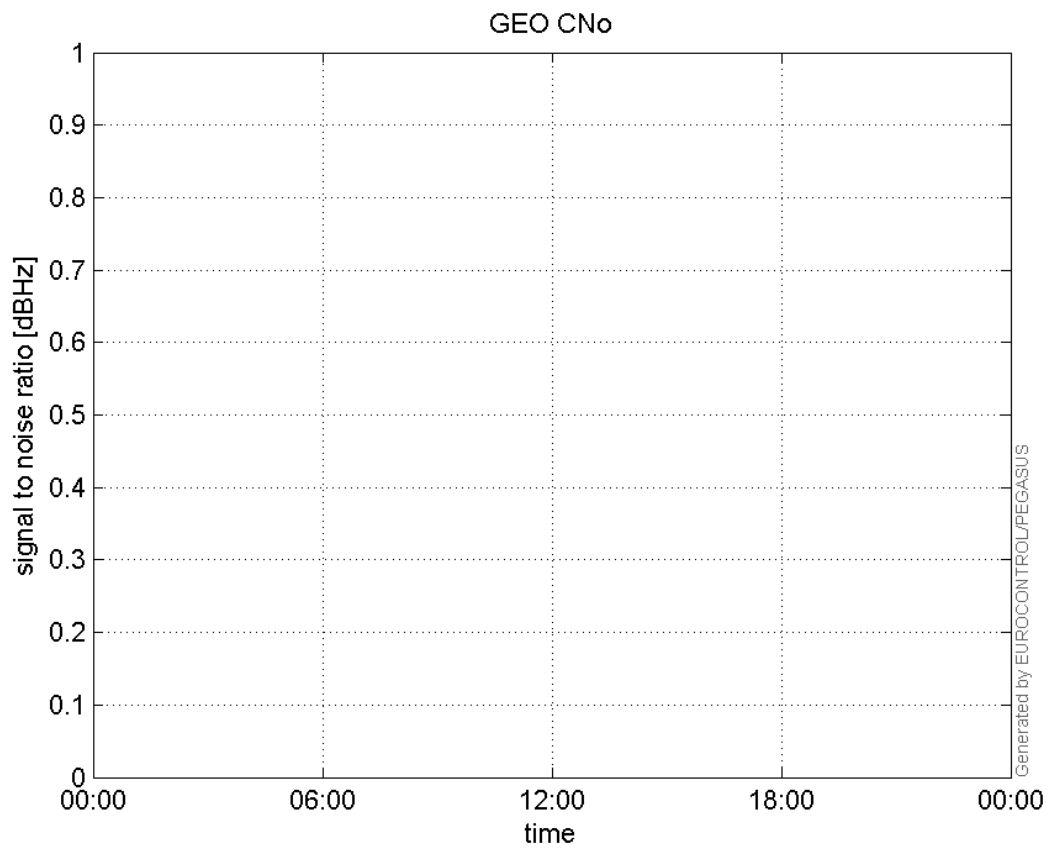
L1 CNo:



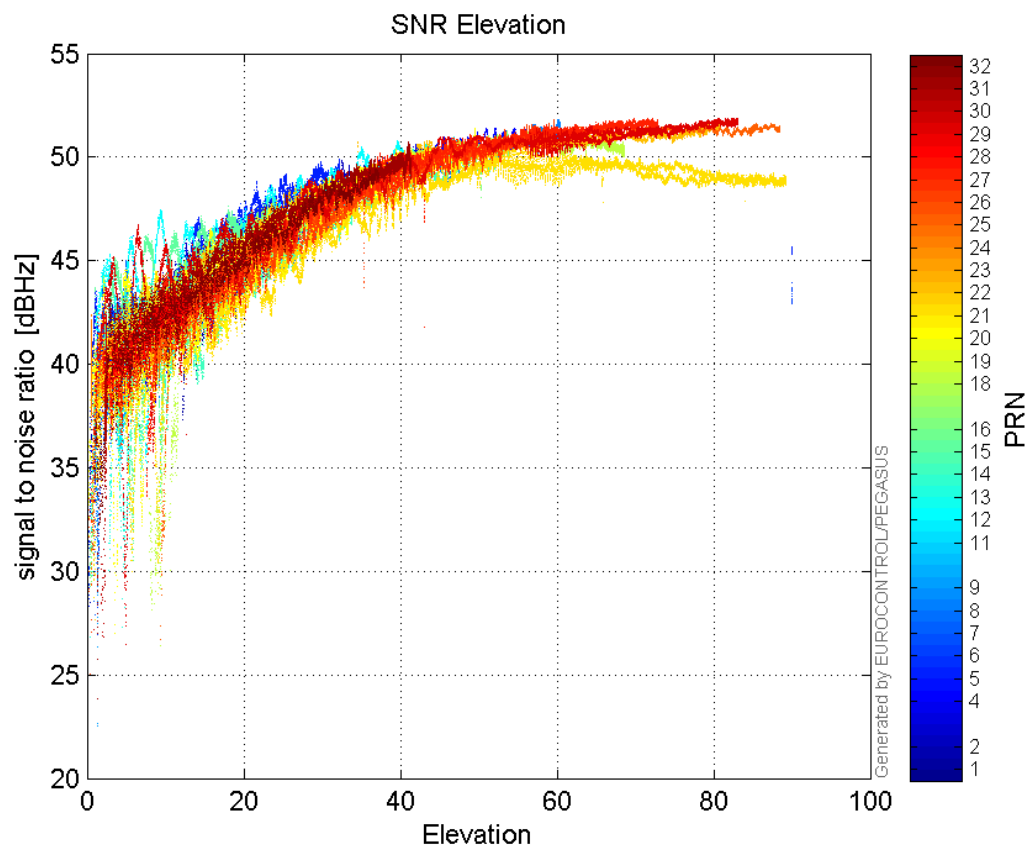
L2 CNo:



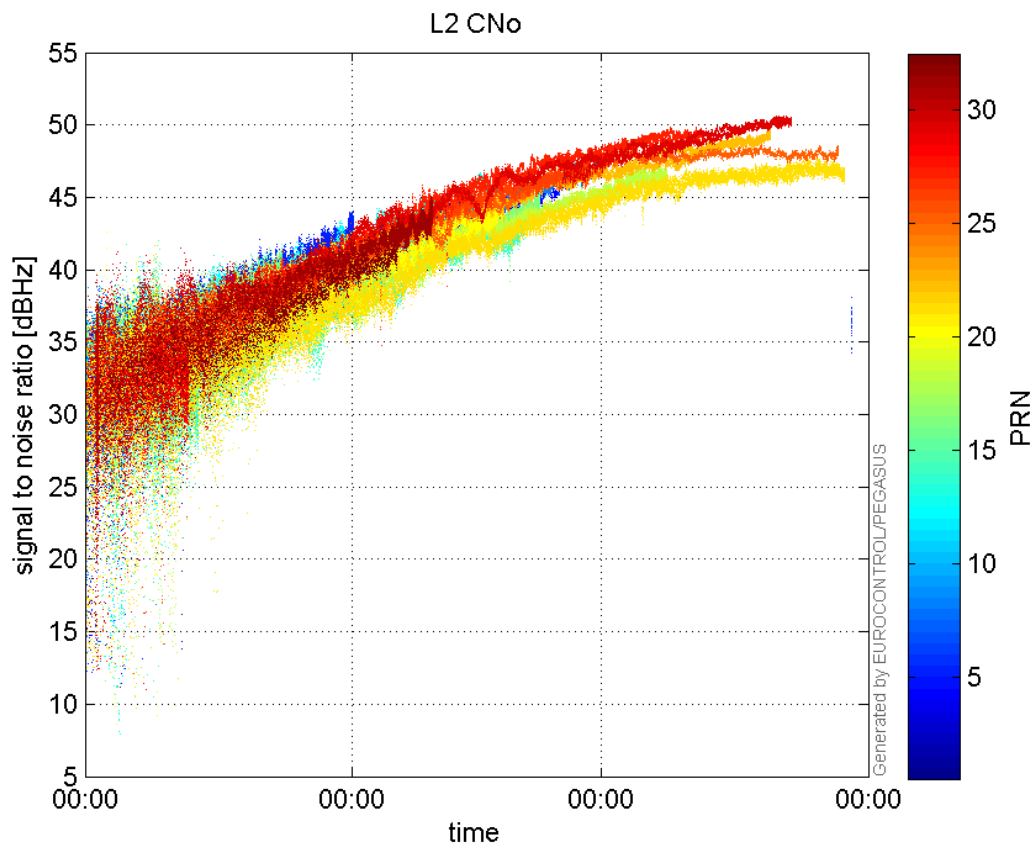
GEO CNo:



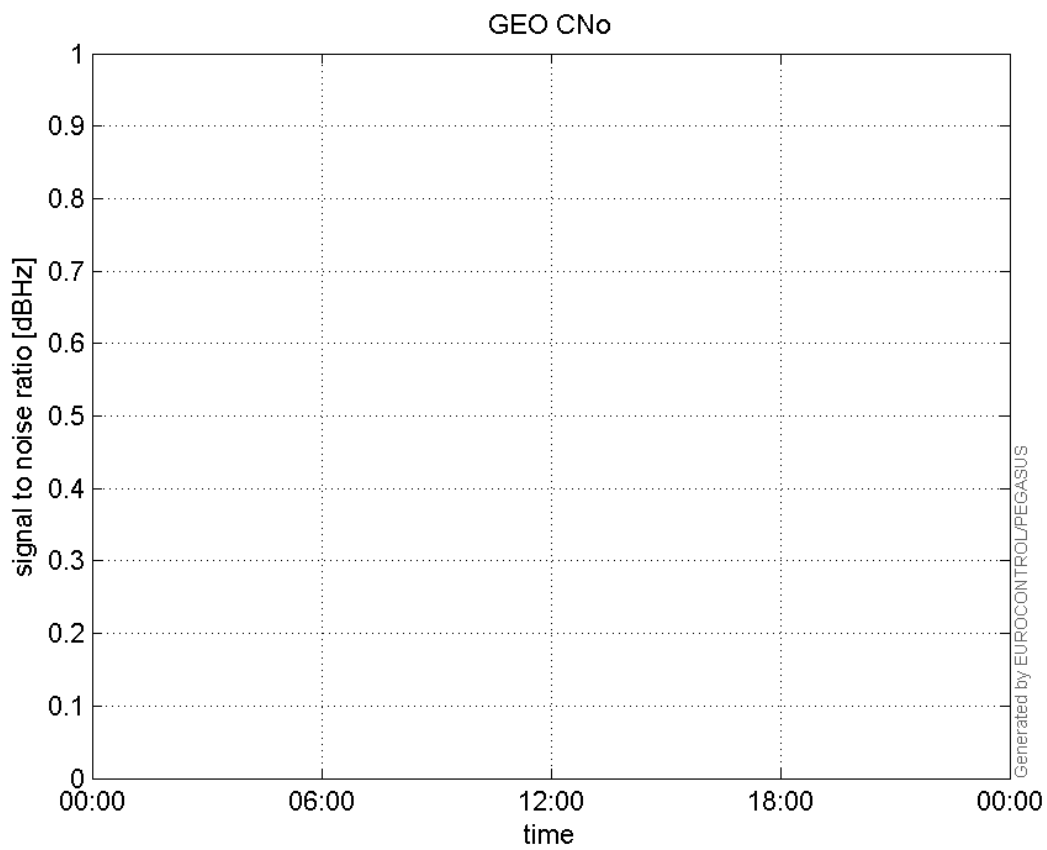
SNR Elevation:



L2 CNo:

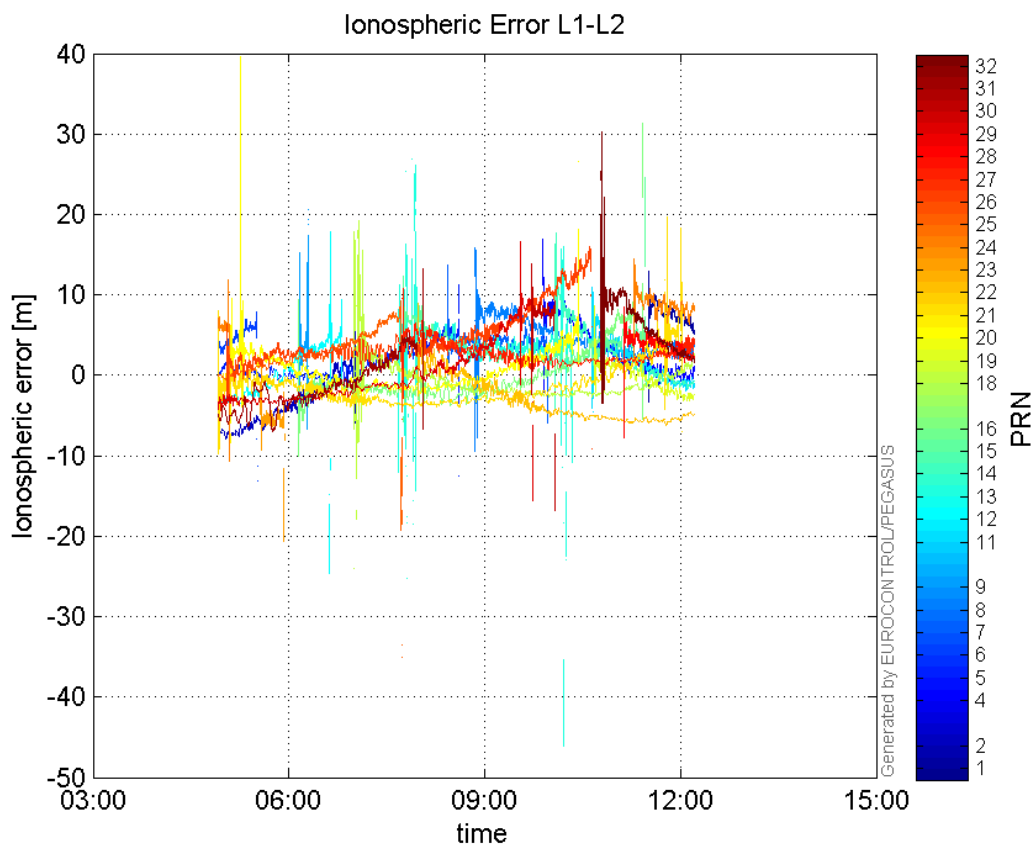


GEO CNo:



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:/PegasusDateGob/job/2015_10_21EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_10_21EGNOS/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	50.4392
init_lon	results	30.4298
init_alt	results	251.3734
mi_numbers	results	0