

DLV3 - x

DLV3 - Constellation



SV Details Mask Angle Details

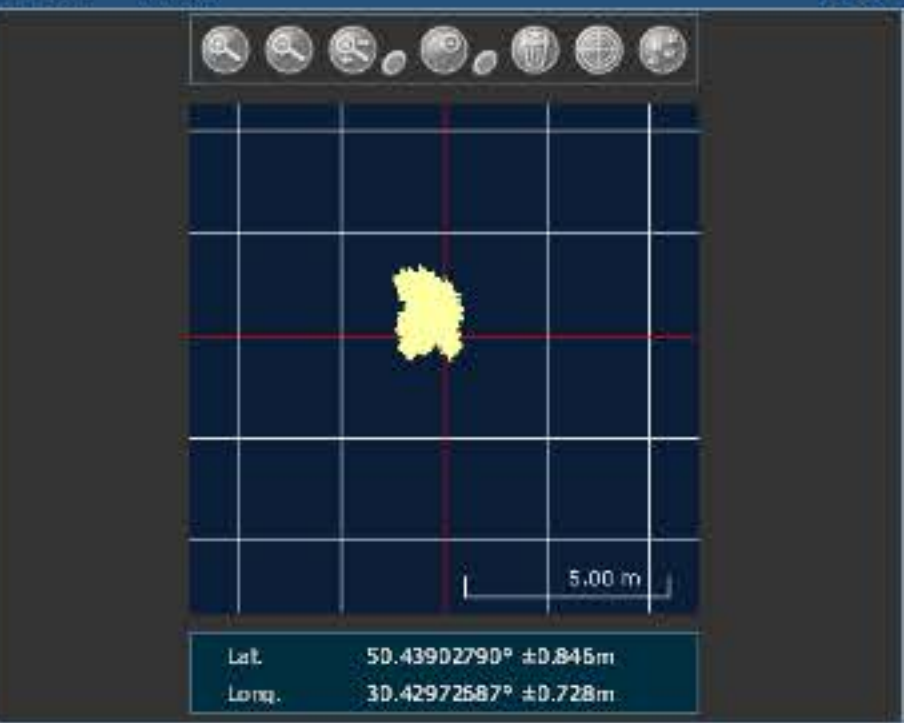
GPS 0 GLONASS 90 SBAS 5

-90 +90 -90 +90 -90 +90

DLV3 - Position

Latitude	50.43902790°	+/- 0.85m
Longitude	30.42972687°	+/- 0.73m
Hgt. (MSL)	190.414m	+/- 1.83m
Solution type	SBAS	
Iono correction	Multi-frequency	
Advanced RTK status	N/A	
Solution age	0 second	
Differential age	6 seconds	
# of satellites used in solution	8	
	GPS	● L1 L2 L5
	GLONASS	■ L1 L2
Solution status	Computed	
Thu 17/03/2016 14:47:05 GMT		
Thu 17/03/2016 16:47:05 Local		

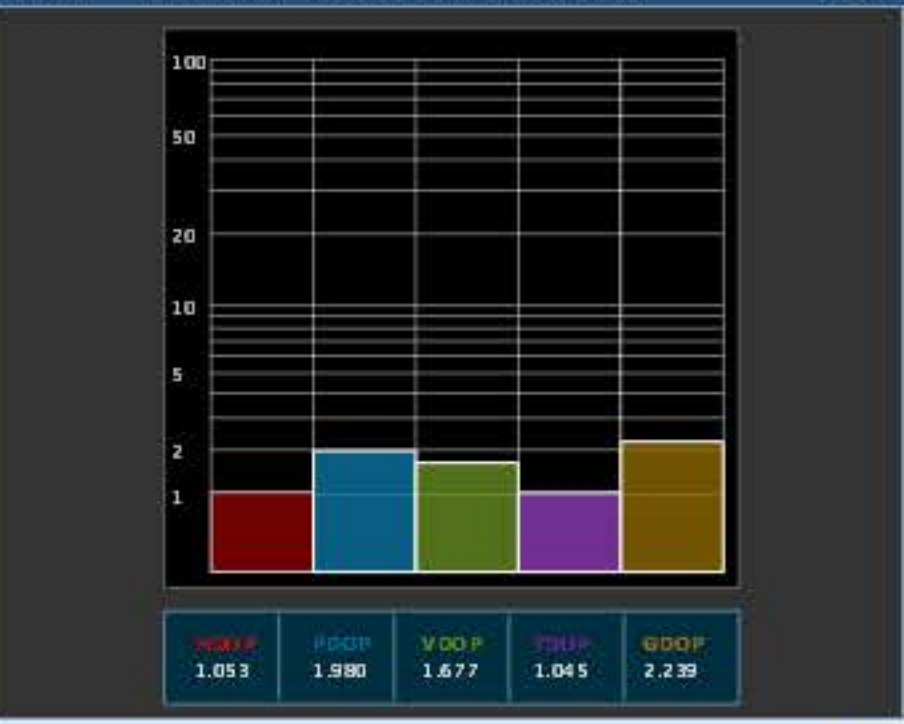
DLV3 - Plan



DLV3 - GPS Tracking Channel Status



DLV3 - Dilution Of Precision (DOP)



DLV3 - Console Window

```
<OK
[COM1]
<OK
[COM1]
<OK
[COM1]
Command
```

ENTER

Global View

site Laboratory satellite systems
abbreviation NAU PRN
country Ukraine
city Kiev
comment Konin V., Shyshkov F. InsideGNSS, Jan-Feb 2015,
P.50 - 54
program Pegasus
version 4.8.4
date 17/03/2016

Range Domain

start: 11:18:16 17.03.2016 (week: 1888 sec: 386296)
end: 14:46:10 17.03.2016 (week: 1888 sec: 398770)
duration: 03:27:55 ..

quality

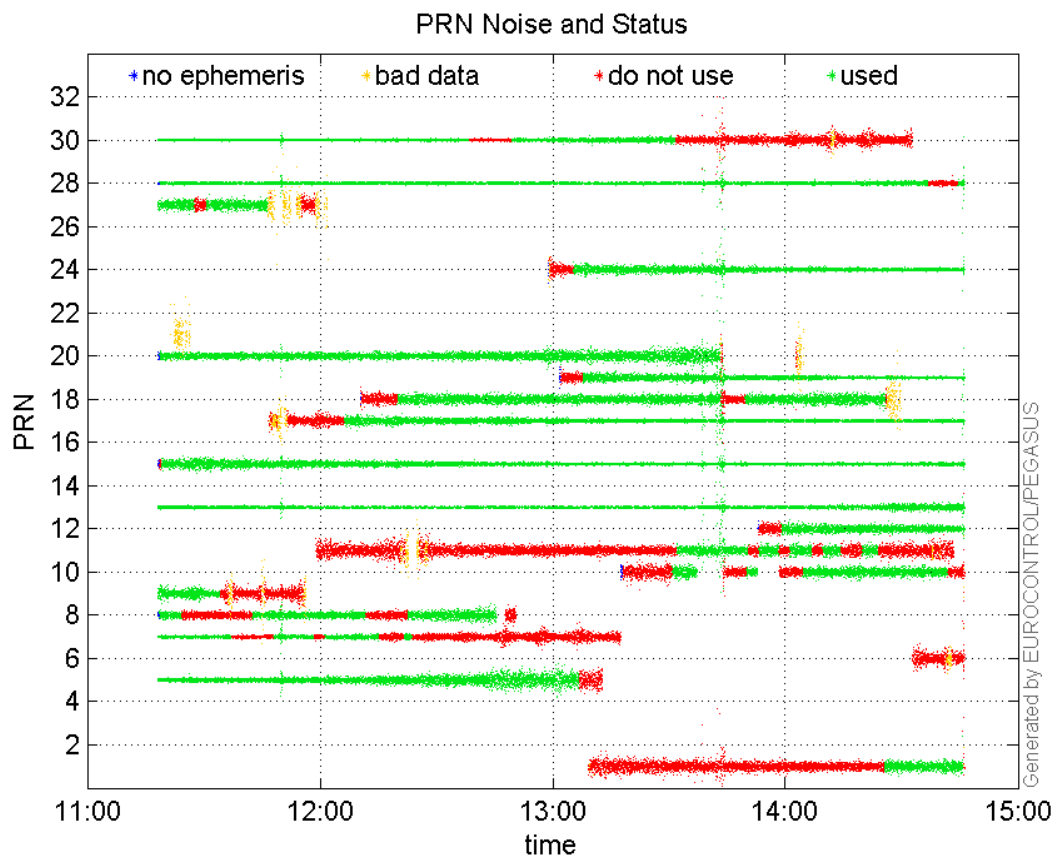
valid samples 12475
total samples 12475

PRN overview

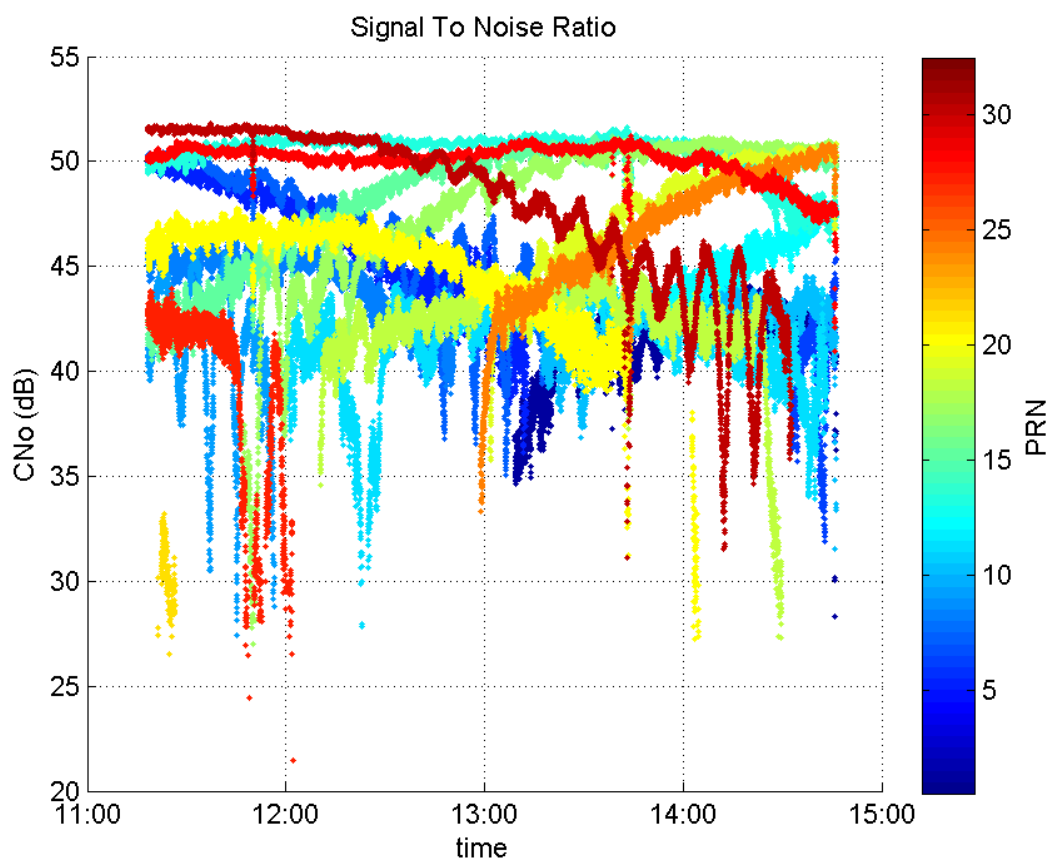
Number of Visible GPS Satellites 20
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



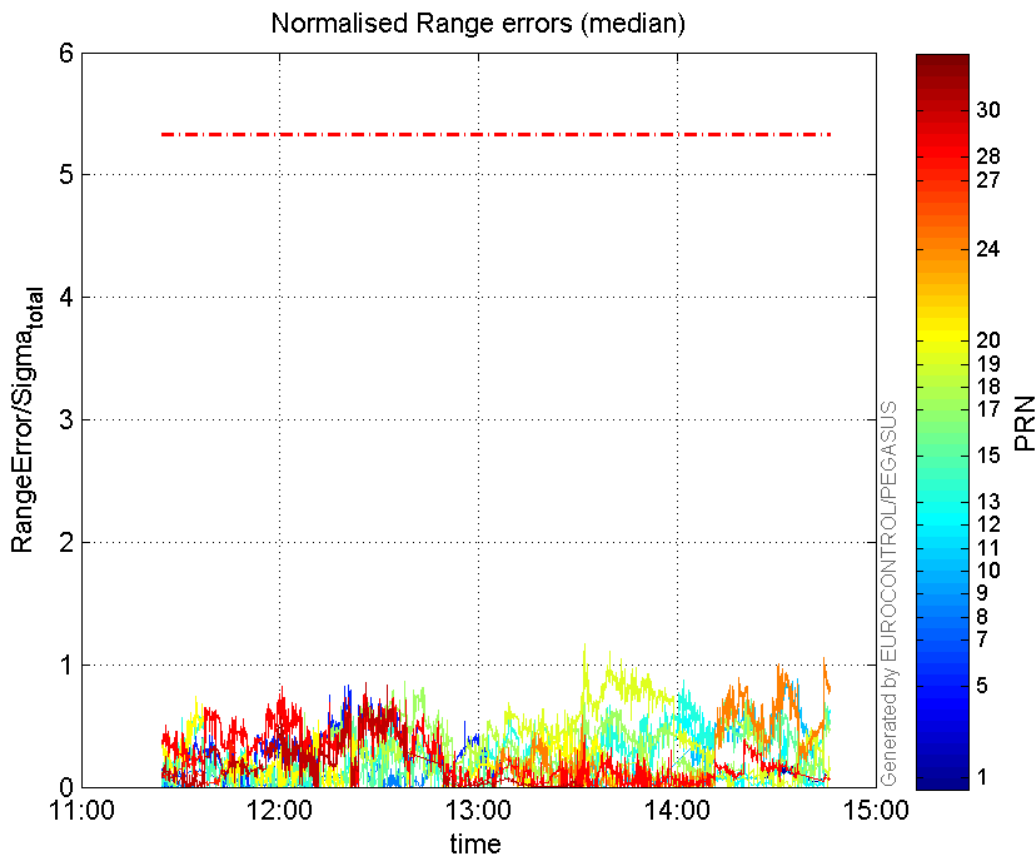
range errors

Number of Overbounding Norm Errors 0

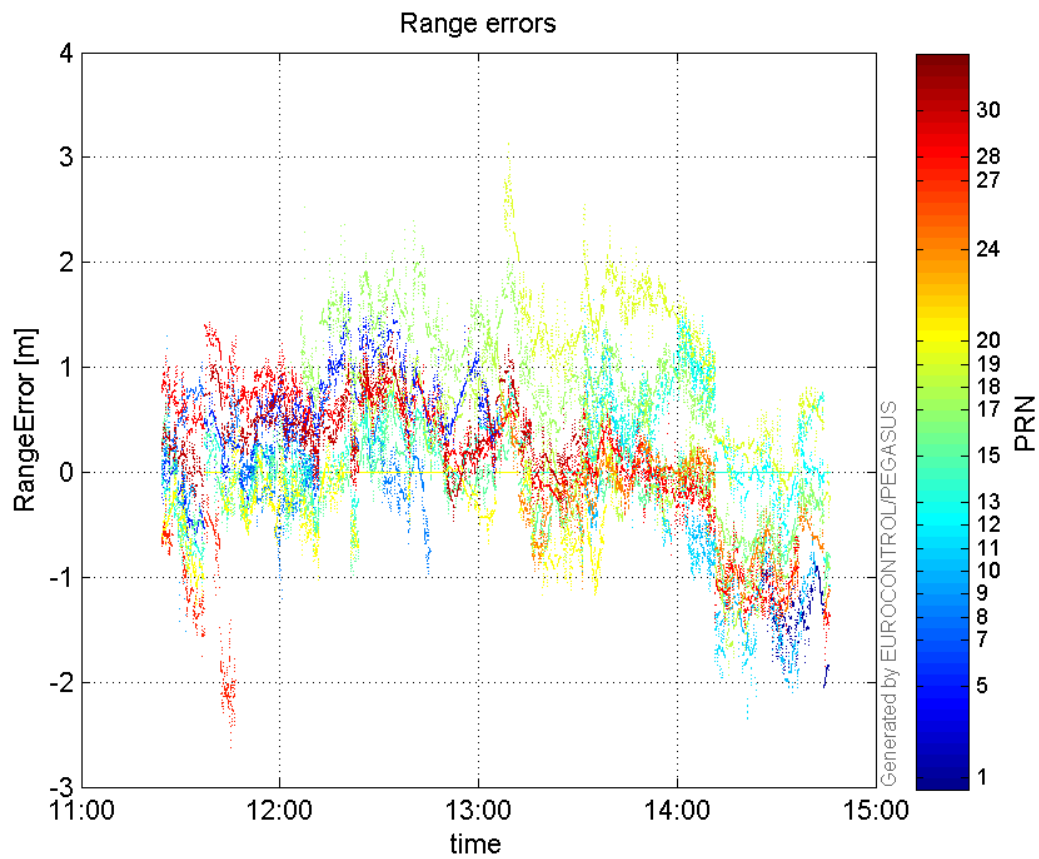
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1888	398330	1	0.176302	-1.81129	10.2738
1888	390052	5	0.832678	1.72072	2.06649
1888	389694	7	0.184353	1.56532	8.4909
1888	390310	8	0.358751	1.05981	2.95417
1888	386752	9	0.0739112	1.3037	17.6388
1888	398189	10	0.881624	-2.04604	2.32076
1888	394981	11	0.327042	1.30557	3.99204
1888	396121	12	0.674816	1.67373	2.48028
1888	396122	13	0.874672	1.42891	1.63366
1888	397820	15	0.833696	-1.28295	1.53887
1888	391063	17	0.864398	2.30985	2.67221
1888	396944	18	0.751849	-1.93185	2.56947
1888	394327	19	1.16933	2.54612	2.17743
1888	387269	20	0.739427	-1.25946	1.7033
1888	398661	24	1.05559	-1.44649	1.37031
1888	387912	27	0.380912	-2.62206	6.88364
1888	388831	28	0.818112	1.23313	1.50729
1888	390367	30	0.855304	1.33564	1.5616

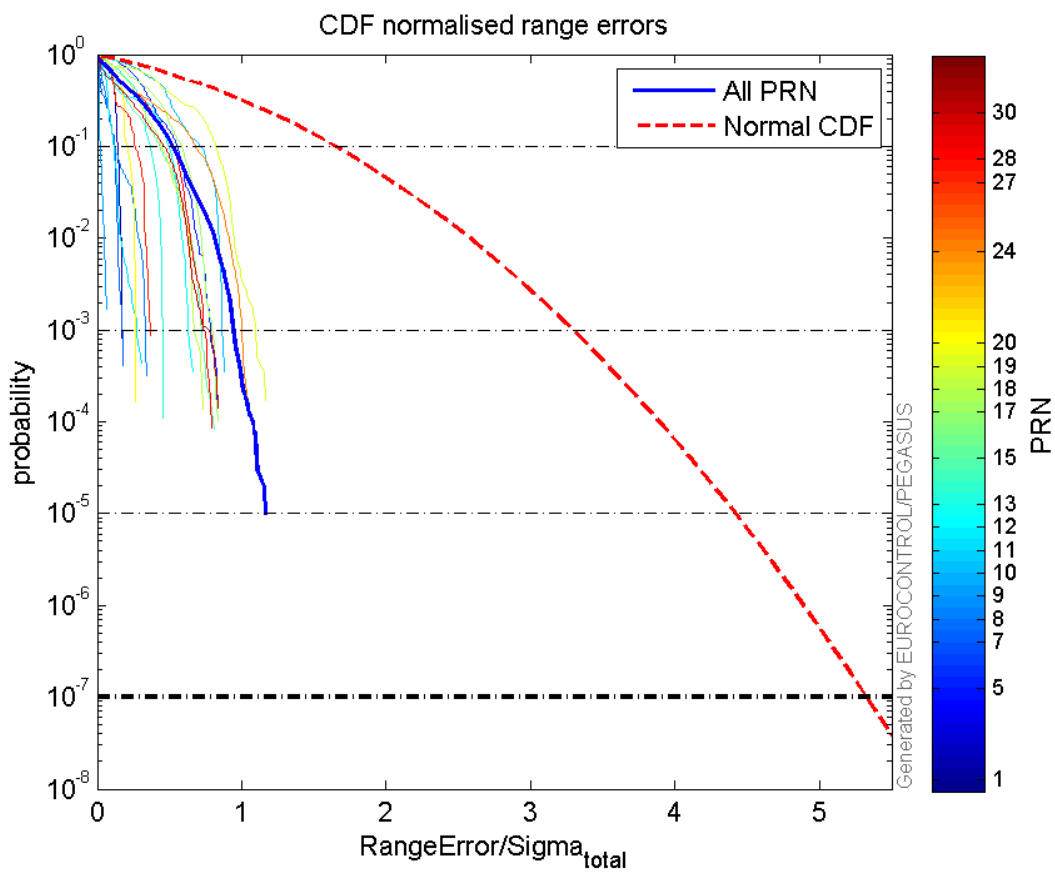
Normalised Range errors (median):



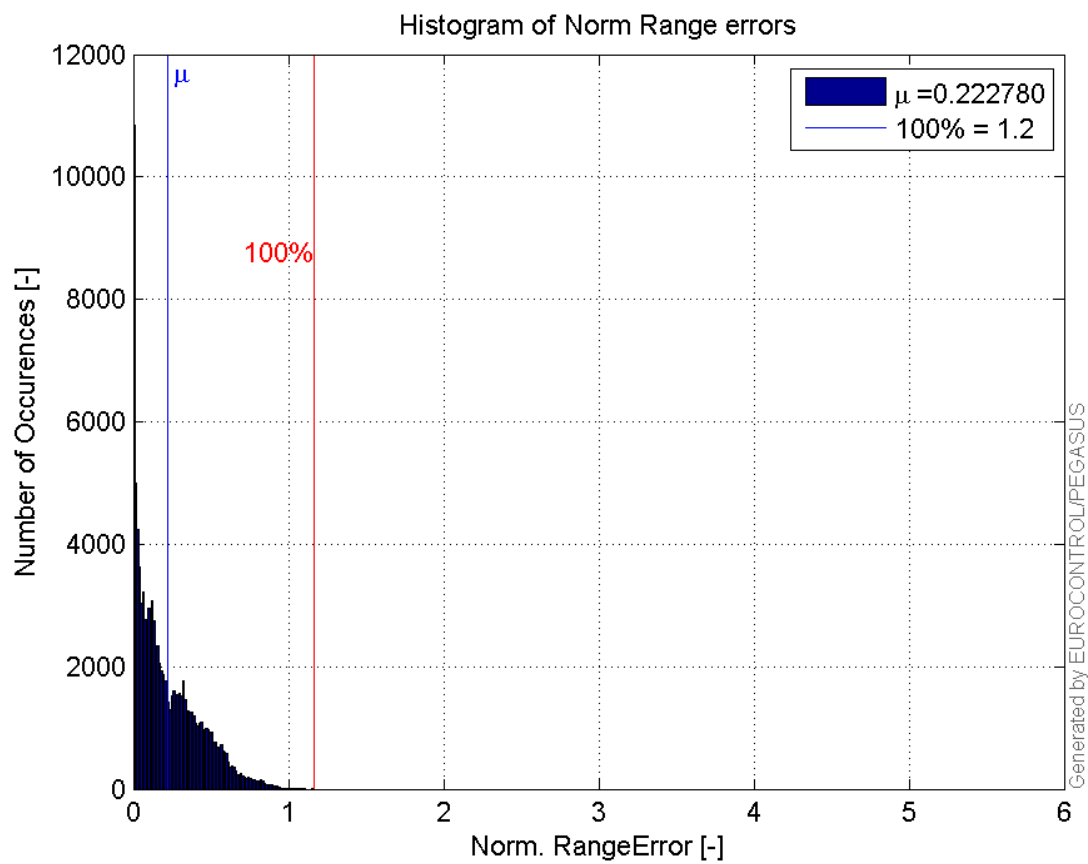
Range errors:



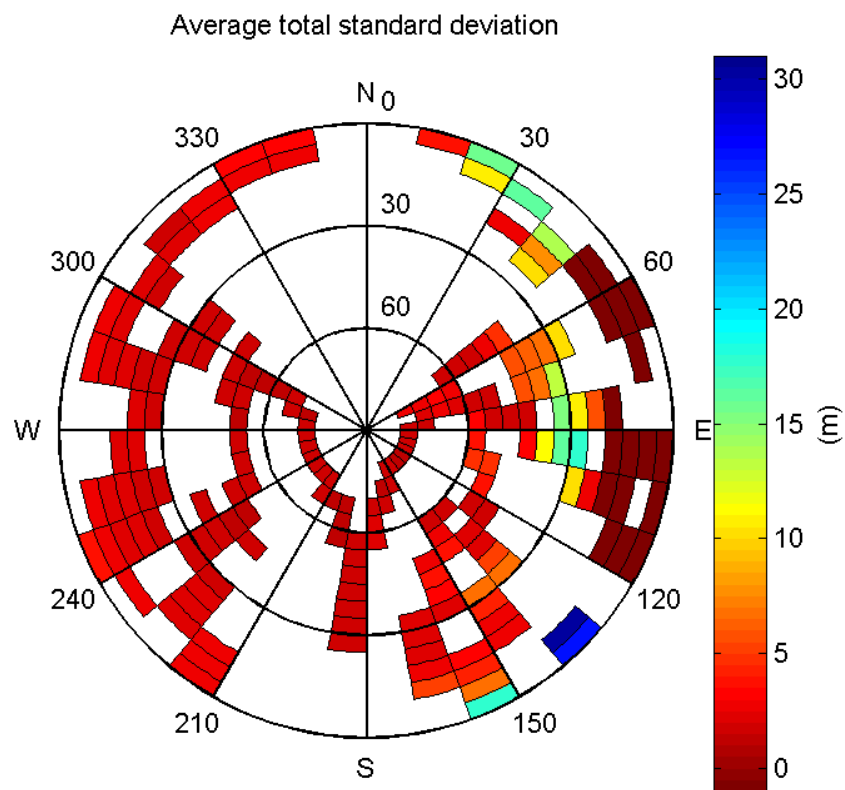
CDF normalised range errors:



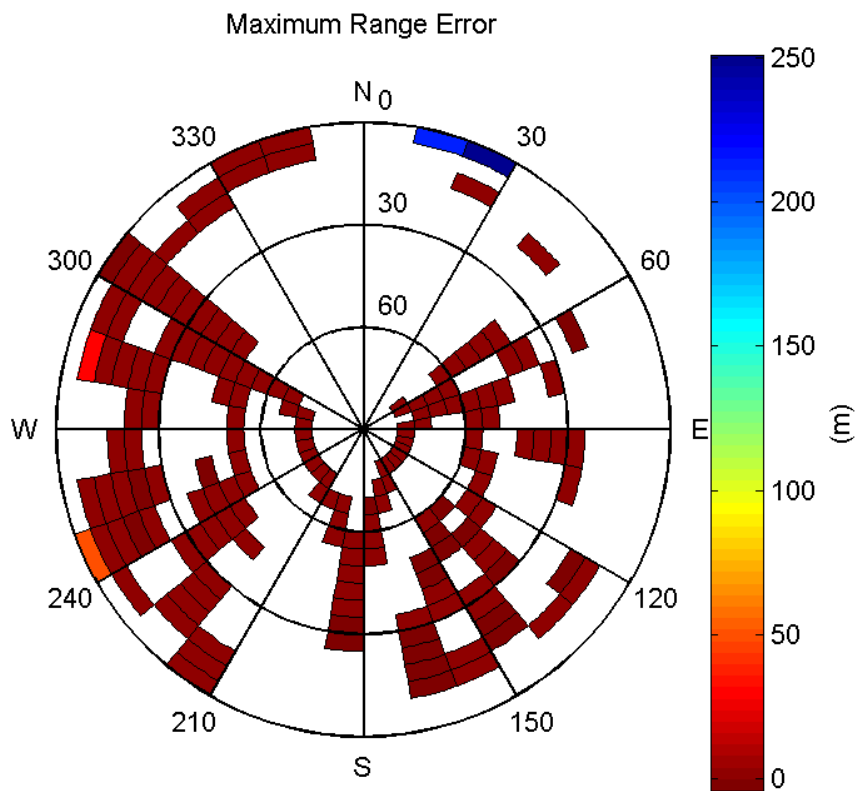
Histogram of Norm Range errors:



Sigma Sky Plot:

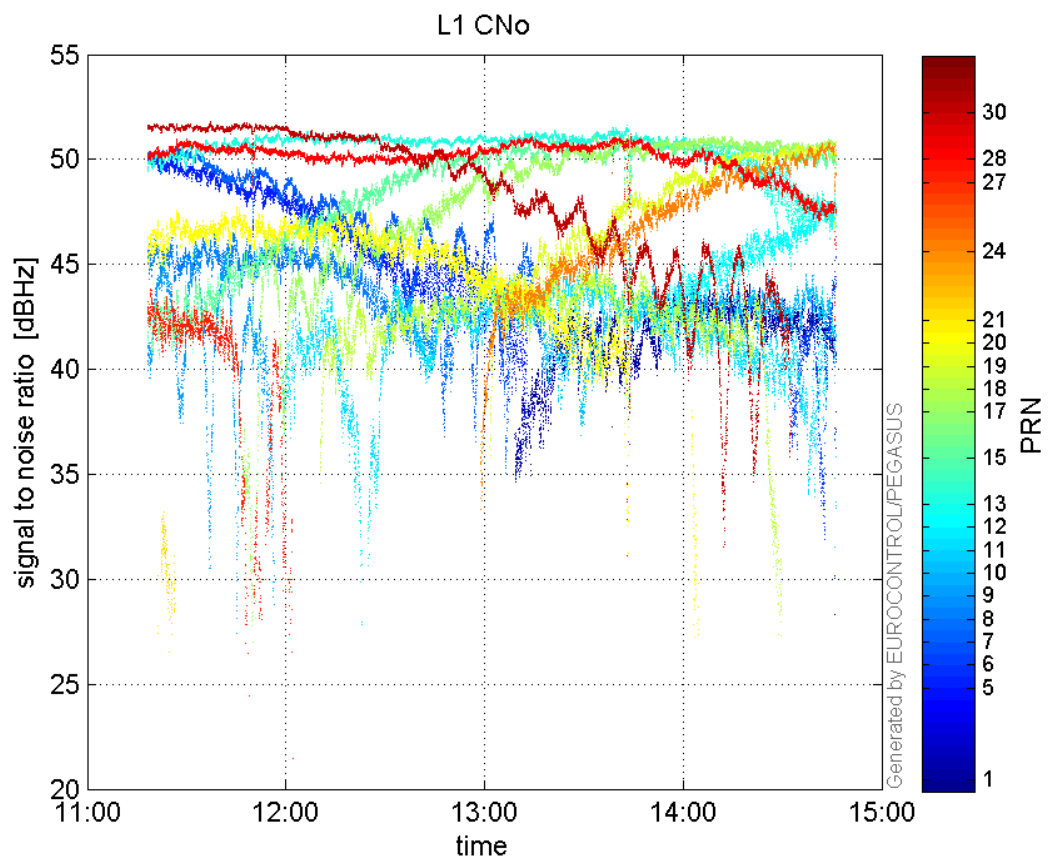


Norm Error Sky Plot:

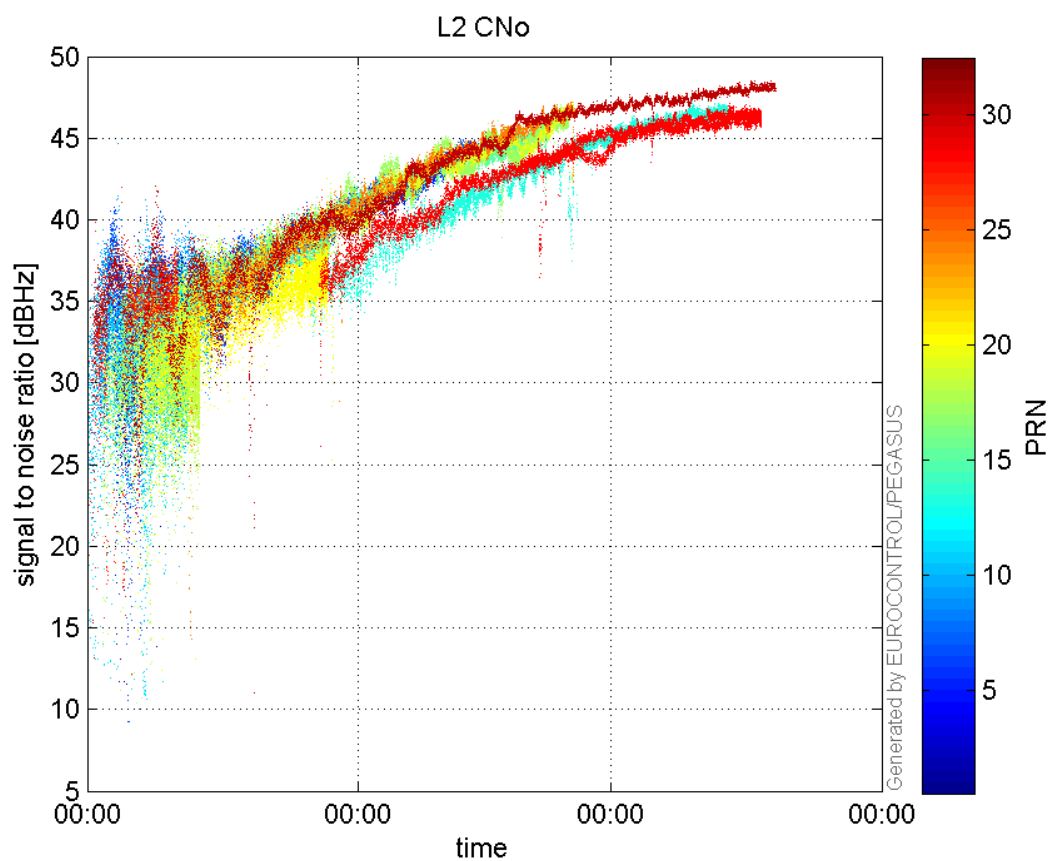


signal quality

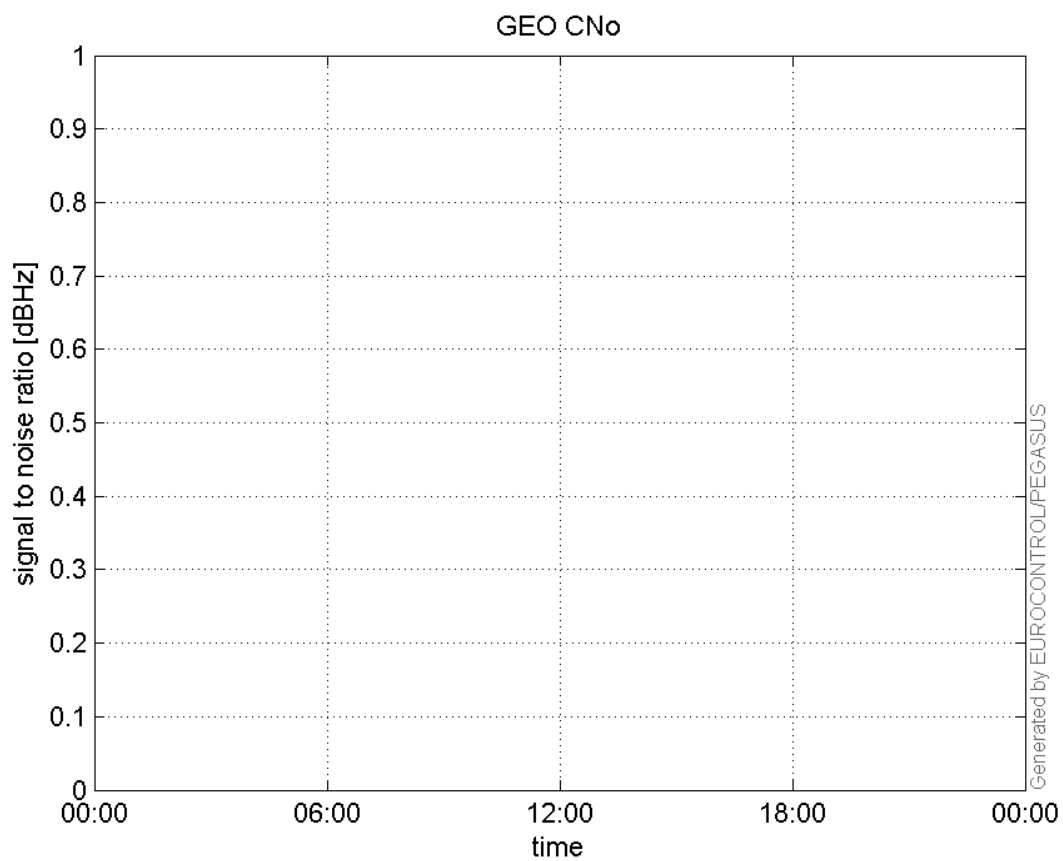
L1 CNo:



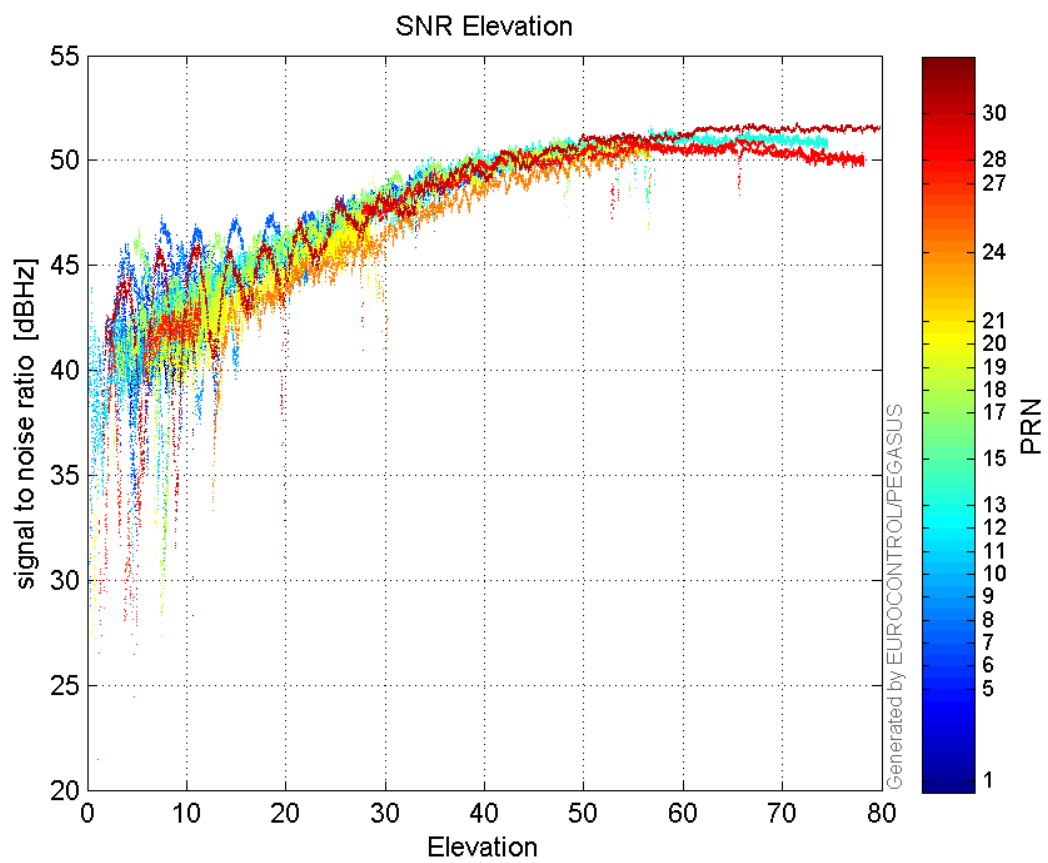
L2 CNo:



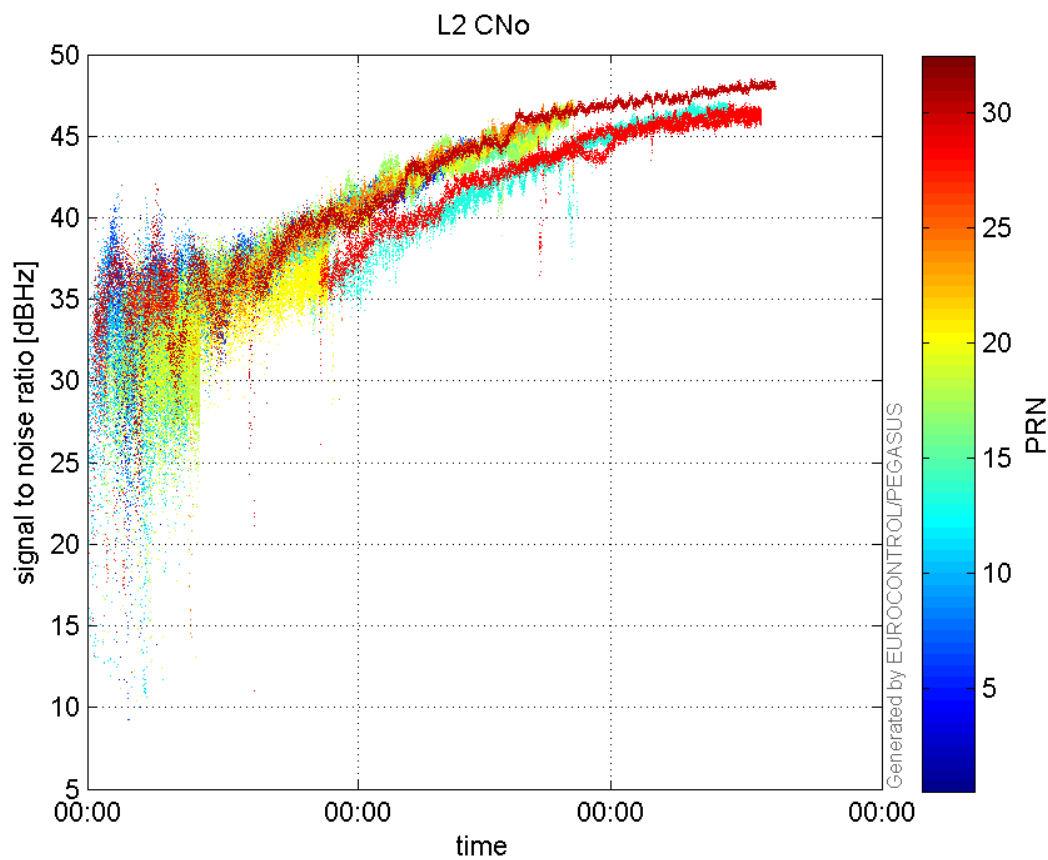
GEO CNo:



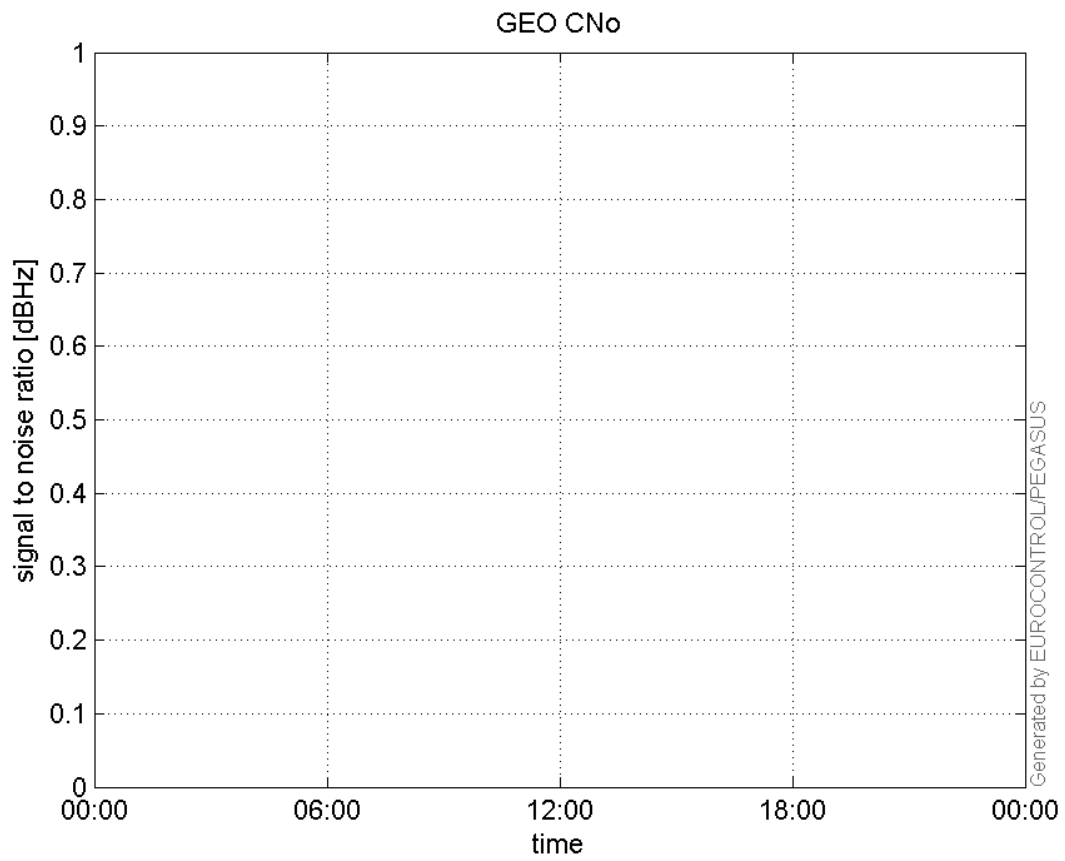
SNR Elevation:



L2 CNo:

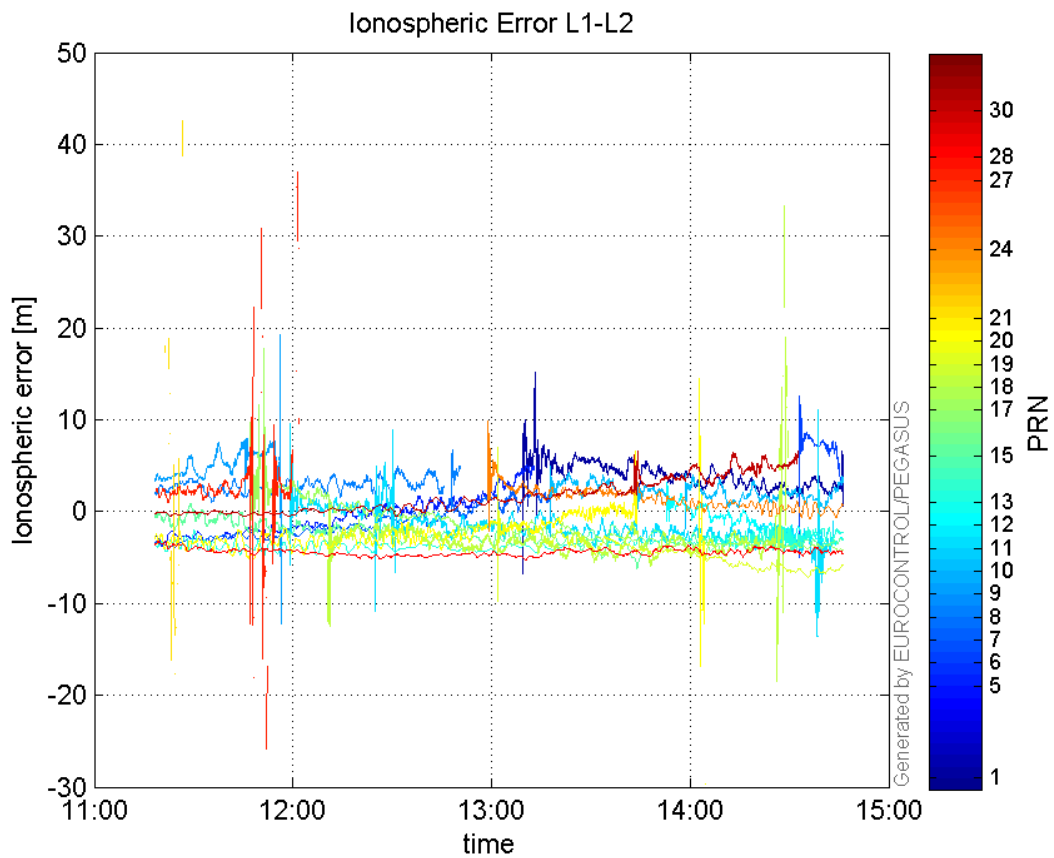


GEO CNo:



dual frequency

Ionospheric Error L1-L2:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.4.0
input_prefix	system	D:/PegasusDateGob/job/2016_03_17_1/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2016_03_17_1/04_GNSS_Solution/04_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	136
gnss_mode	settings	sbas

results

Name	Section	Value
init_lat	results	50.439
init_lon	results	30.4297
init_alt	results	215.7538
mi_numbers	results	0

SBAS Messages

start: 11:18:15.129 17.03.2016 (week: 1888 sec: 386295.129)
end: 14:46:9.129 17.03.2016 (week: 1888 sec: 398769.129)
duration: 03:27:54 ..

quality

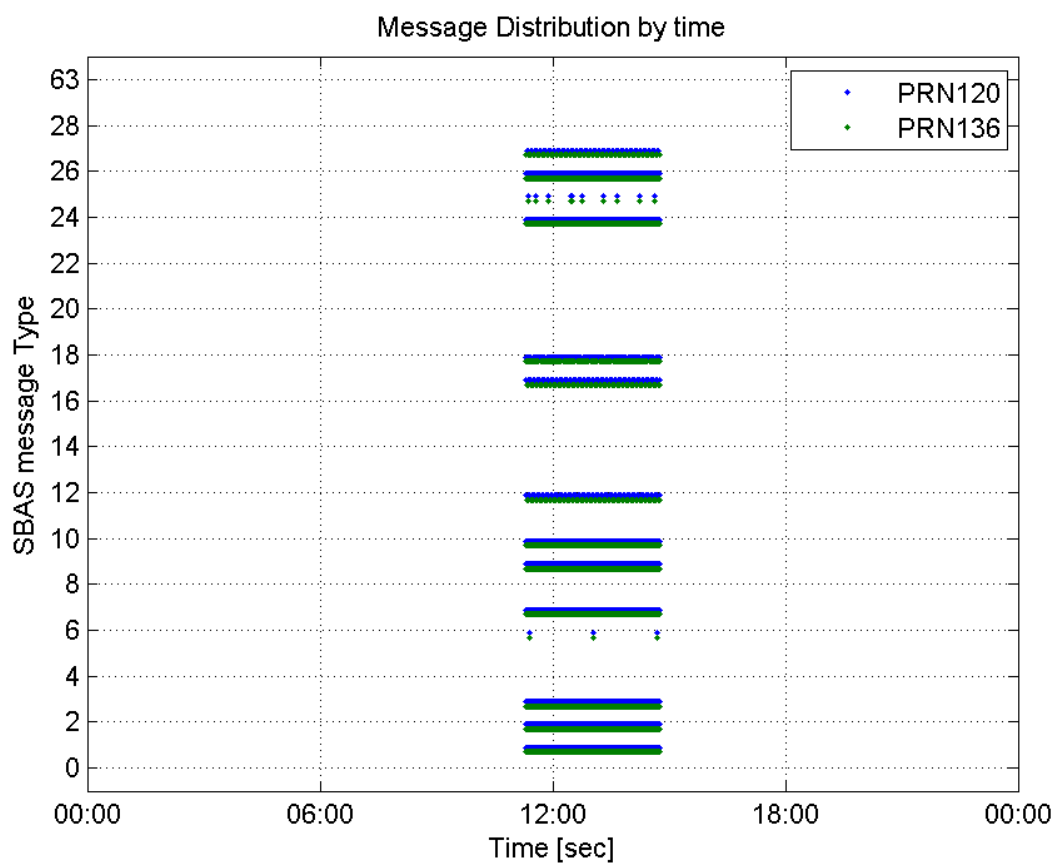
valid samples 24933
total samples 24933
number of SBAS PRNs 2

SBAS SIS Overview

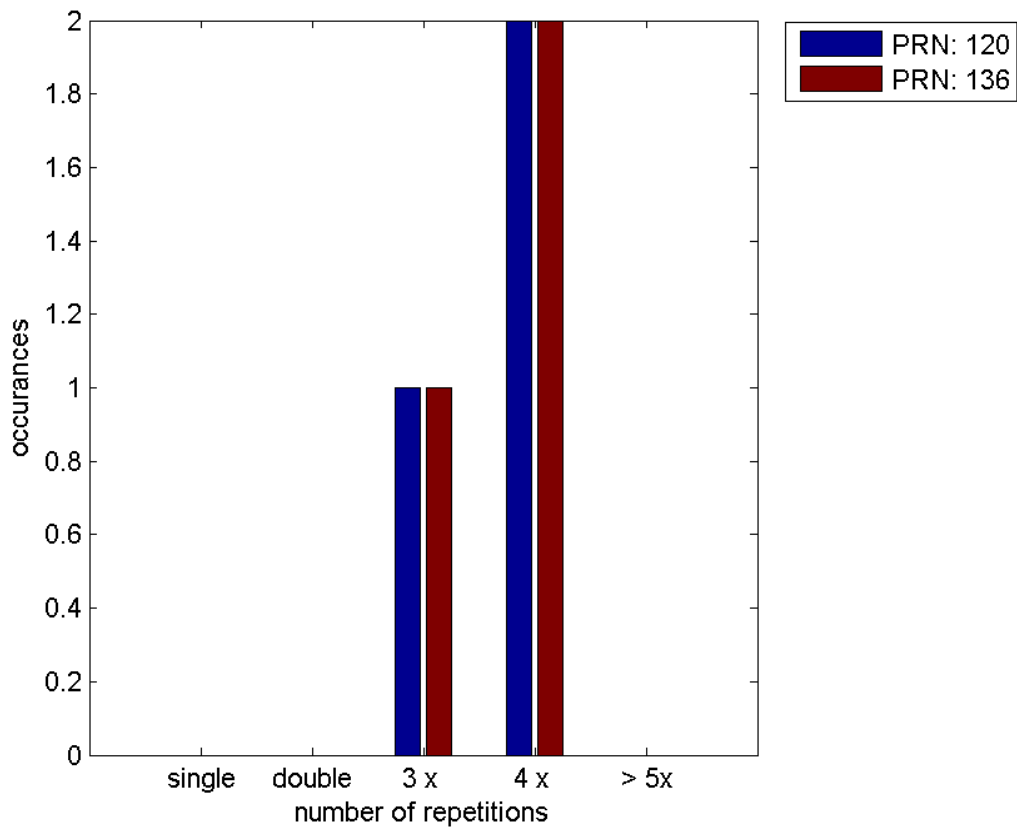
Message Type 6 repetitions :

	single	double	3 x	4 x	> 5x
PRN 120	0	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 :

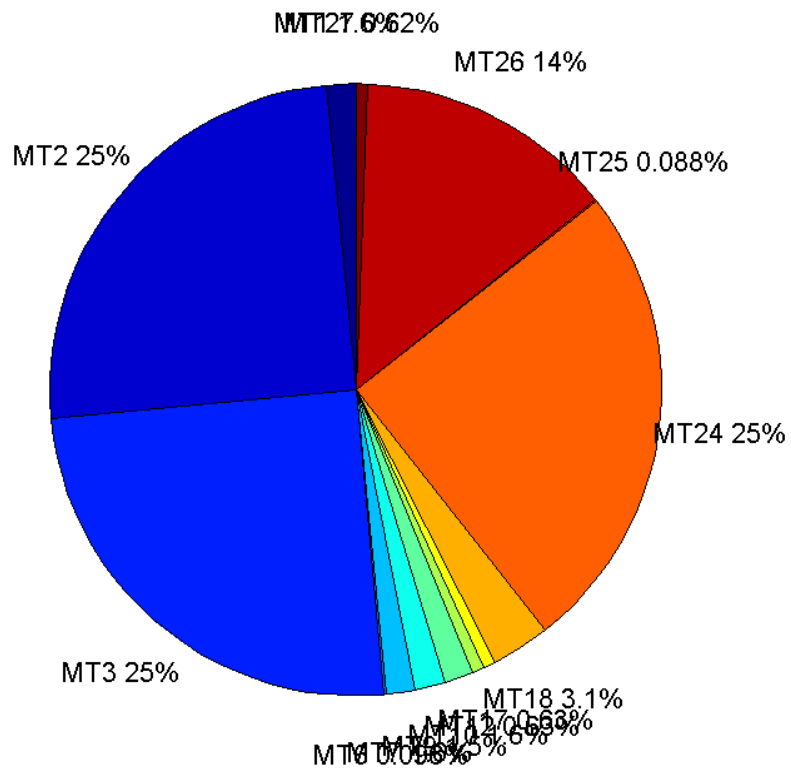
	number of messages	%
MT 0	0	0
MT 1	194	1.55711
MT 2	3110	24.9619
MT 3	3111	24.9699
MT 4	0	0
MT 5	0	0
MT 6	12	0.0963159
MT 7	194	1.55711
MT 9	193	1.54908
MT 10	194	1.55711
MT 12	78	0.626053
MT 17	78	0.626053
MT 18	390	3.13027
MT 24	3111	24.9699
MT 25	11	0.0882896
MT 26	1706	13.6929
MT 27	77	0.618027
MT 28	0	0
MT 62	0	0
MT 63	0	0

Total	12459	100
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Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	128	64.601	1	0	0
MT 2	4	20	4.01094	4	1	1
MT 3	4	16	4.01061	5	0	1
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	5989	1082.09	2	2	2
MT 7	64	70	64.2694	0	0	0
MT 9	64	128	64.6042	0	0	0
MT 10	64	71	64.2694	0	0	0
MT 12	156	168	160.416	77	0	0
MT 17	156	168	160.468	0	0	0
MT 18	4	140	31.856	0	0	0
MT 24	4	16	4.00932	0	0	0
MT 25	61	2138	1167.1	0	0	0
MT 26	4	24	7.30088	0	0	0
MT 27	160	168	160.526	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

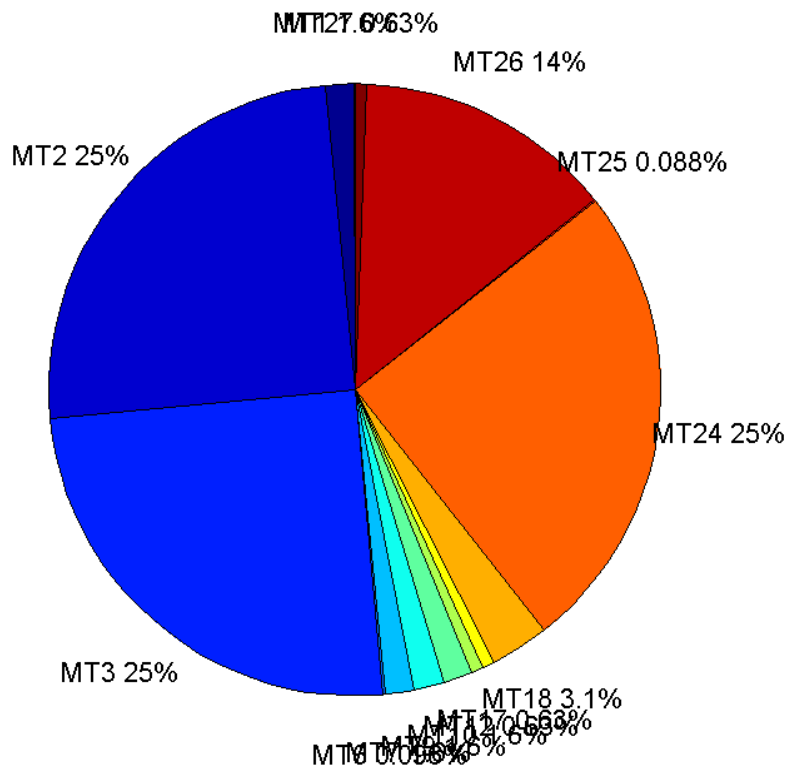
	number of messages	%
MT 0	0	0
MT 1	194	1.55523
MT 2	3114	24.9639
MT 3	3114	24.9639
MT 4	0	0
MT 5	0	0
MT 6	12	0.0962001
MT 7	194	1.55523
MT 9	195	1.56325
MT 10	194	1.55523
MT 12	78	0.625301
MT 17	78	0.625301
MT 18	390	3.1265
MT 24	3114	24.9639
MT 25	11	0.0881834
MT 26	1708	13.6925
MT 27	78	0.625301
MT 28	0	0
MT 62	0	0
MT 63	0	0

Total	12474	100
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Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	70	64.2694	0	0	0
MT 2	4	8	4.00578	3	0	0
MT 3	4	8	4.00546	3	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	5989	1082.09	2	2	2
MT 7	64	70	64.2694	0	0	0
MT 9	64	70	64.268	0	0	0
MT 10	64	71	64.2694	0	0	0
MT 12	156	168	160.468	77	0	0
MT 17	160	168	160.519	0	0	0
MT 18	4	136	31.8458	0	0	0
MT 24	4	8	4.00546	0	0	0
MT 25	61	2138	1167.1	0	0	0
MT 26	4	25	7.30404	0	0	0
MT 27	156	168	160.468	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/2016_03_17_1/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2016_03_17_1/02_Convertor/02_Convertor

Configuration

Name	Section	Value
Receiver	Configuration	Novatel OEM4
Leap_Seconds	Configuration	17
Correction_mode	Configuration	SBAS MODE 0/2
Dual_Frequency	Configuration	no

Position Domain

start: 11:18:16 17.03.2016 (week: 1888 sec: 386296)
end: 14:46:10 17.03.2016 (week: 1888 sec: 398770)
duration: 03:27:55 ..

quality

valid samples 12114

total samples 12475

Event tables

Position discontinuity events type no (0)
APV-I discontinuity events type no (0)
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	394979	1.21159	9.08551	0.133354	0.869385	16.0704	0.0540985
max normVer	395401	1.36275	10.7635	0.126608	2.69883	19.748	0.136664
max HPE	387020	1.72434	17.3265	0.0995202	1.8877	28.6166	0.0659652
max VPE	395375	1.19579	10.9278	0.109426	2.82539	21.9807	0.12854
min HPL	390179	0.828457	8.78236	0.0943319	0.944877	12.3591	0.0764519
min VPL	391058	0.694009	8.92353	0.077773	0.332525	12.0424	0.0276129

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	398514	226	11857
2	398741	3	1

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	398514	226	11857
2	398741	3	1

First Glance analysis

Duration 12475
Number of Samples 12475
Number of invalid sample 361
Number of no position solution samples 0
Number of missing sample 0
Logging Loss 0
Processing Loss 2.8938
Number of Misleading Information 0
Data gaps 0
Discontinuities 0

Number of Samples :

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

12114	12114	11860	0	11860
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Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.26347	1.26347	1.26517	NaN	1.26517
HPEscale 95%	NaN	4.14405	4.1485	NaN	4.1485
VPE 95%	1.41636	1.41636	1.4276	NaN	1.4276
VPEscale 95%	NaN	3.57069	2.50888	NaN	2.50888

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	1	0.979033	0	0.979033
measurements	0.971062	0.971062	0.950701	0	0.950701
Operational	0.971062	0.971062	0.950701	0	0.950701

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	--	2	--	2
Long	--	--	1	--	1
Independent	--	--	1	--	1
P(disc.)	NaN	NaN	0.00126476	NaN	0.00126476
P(slide)	NaN	NaN	0.00134907	NaN	0.00134907

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

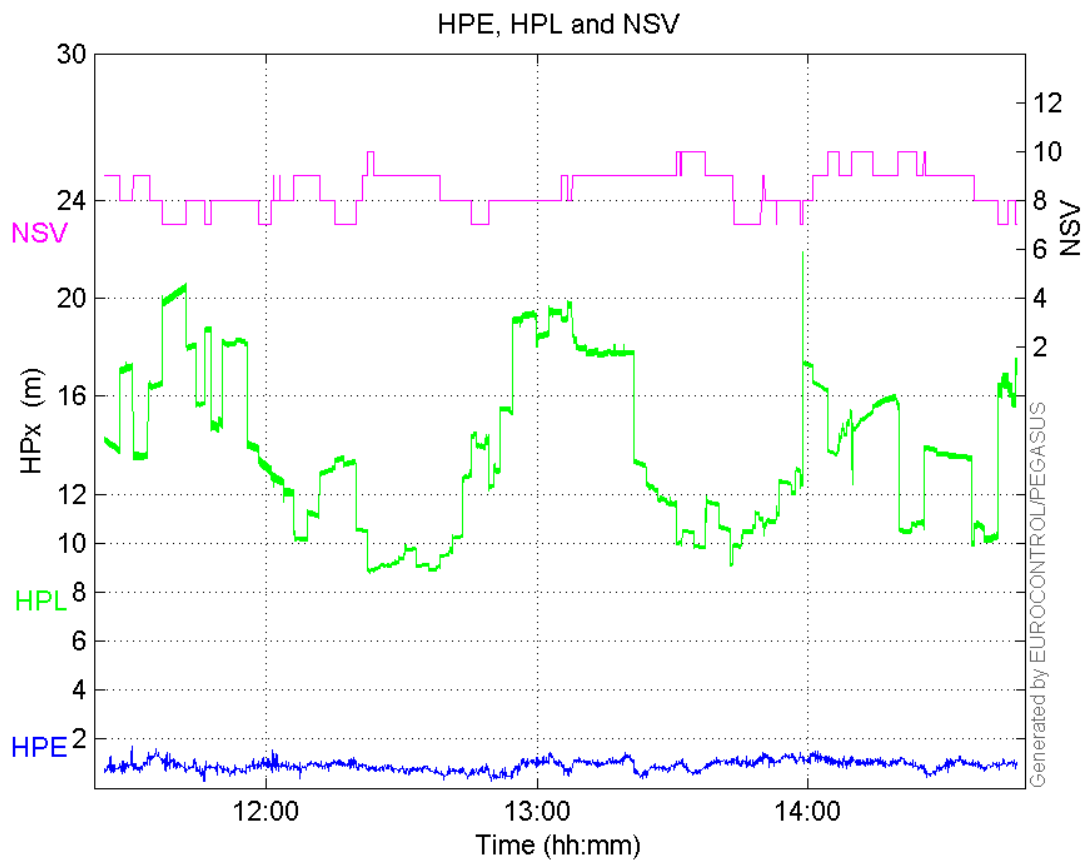
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	12114	12114	11860	0	11860
SIS Availability	1	1	0.979033	0	0.979033
Local Availability	0.971062	0.971062	0.950701	0	0.950701
Operational Availability	0.971062	0.971062	0.950701	0	0.950701
HPE 95%	1.26347	1.26347	1.26517	NaN	1.26517
HPEscale 95%	NaN	4.14405	4.1485	NaN	4.1485
VPE 95%	1.41636	1.41636	1.4276	NaN	1.4276
VPEscale 95%	NaN	3.57069	2.50888	NaN	2.50888
All Discontinuity Events	--	--	2	--	2
Long Discontinuity Events	--	--	1	--	1
Independent Discontinuity Events	--	--	1	--	1
P(discontinuity)	NaN	NaN	0.00126476	NaN	0.00126476
P(sliding window)	NaN	NaN	0.00134907	NaN	0.00134907
All Integrity Events	0	0	0	0	0

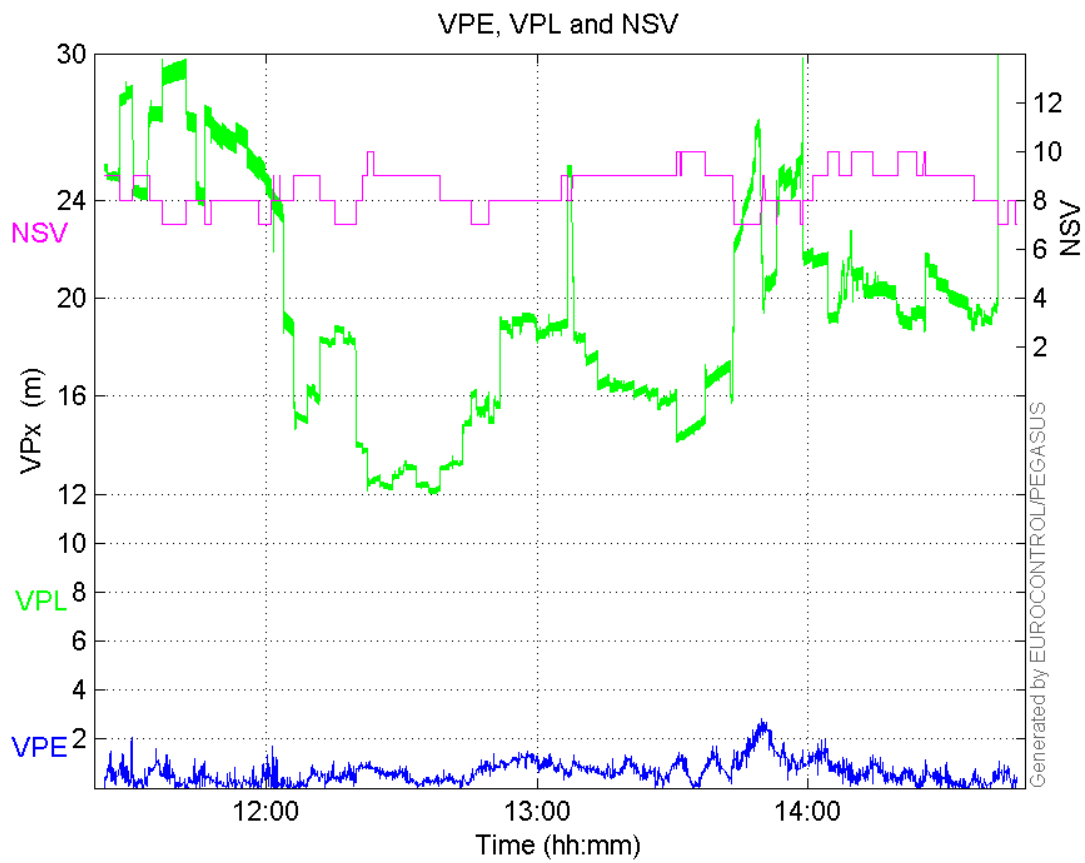
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

Time Series

HPE, HPL and NSV:

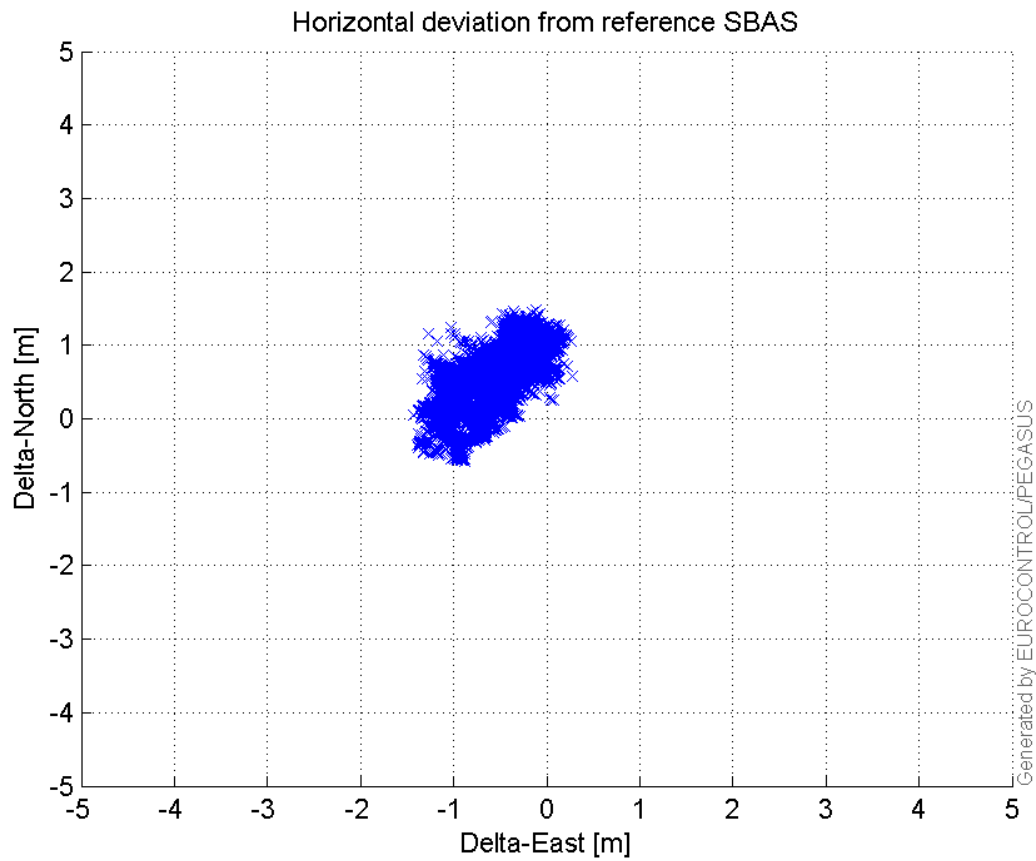


VPE, VPL and NSV:



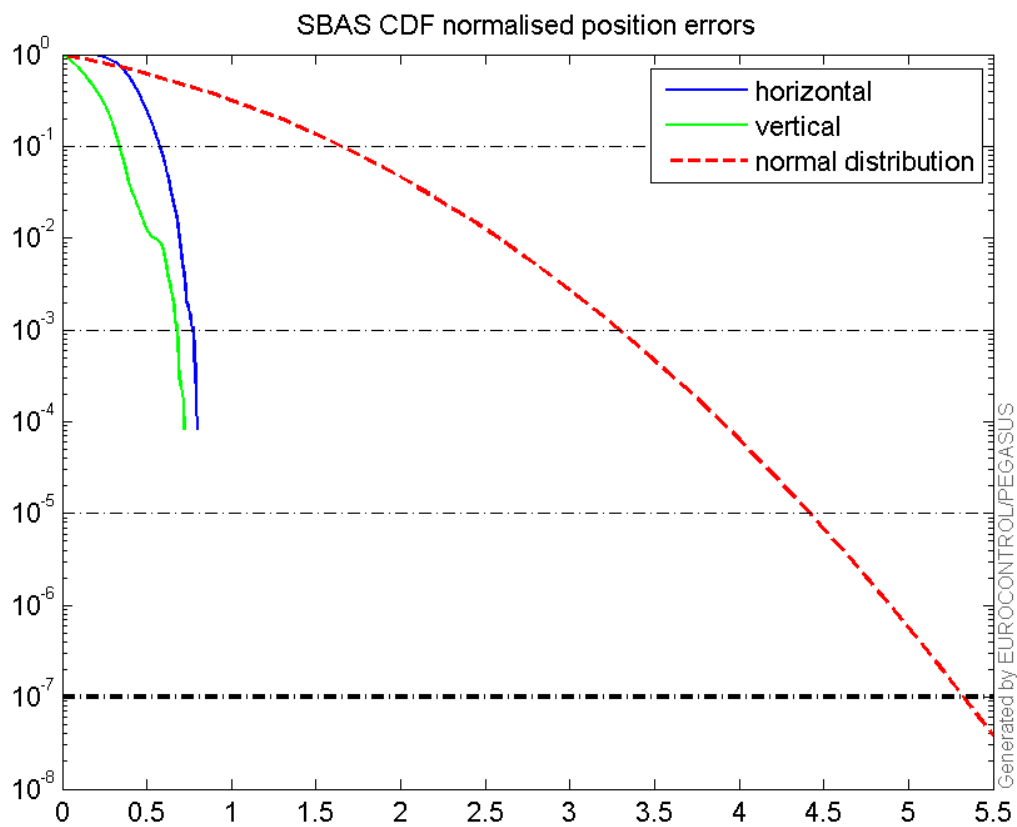
Horizontal deviation

Horizontal deviation from reference SBAS:



CDF position

SBAS CDF position domain:



Statistics

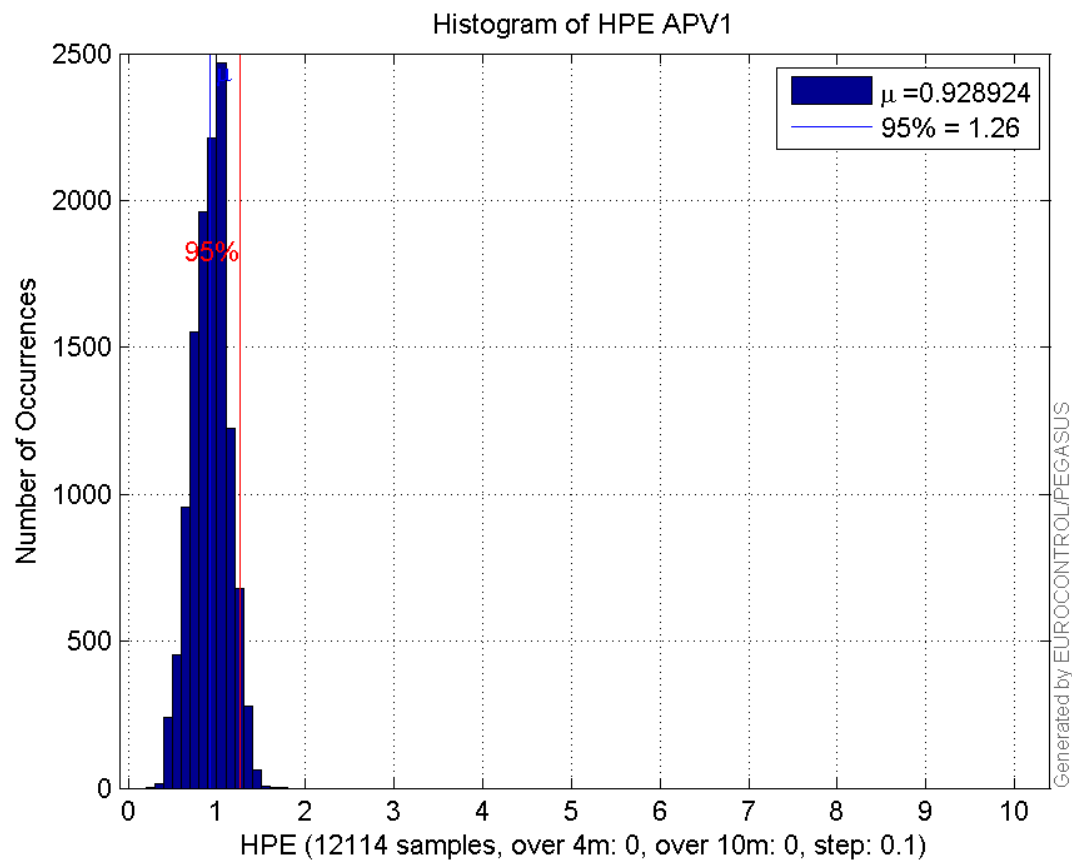
number	12114
sum	11252.981
sum2	10942.419
prctile95	1.2634656
prctile99	1.3755956
number	12114
sum	7867.3494
sum2	7523.4548
prctile95	1.4163593
prctile99	2.3329642
number	12114
sum	167460.08
sum2	2441193.7
prctile95	19.3297
prctile99	20.236096
number	12114
sum	242250.98
sum2	5163961.4
prctile95	28.62174
prctile99	36.51376
number	12114

sum 848.51673
sum2 63.876209
prctile95 0.10360134
prctile99 0.11514668
number 12114
sum 412.74569
sum2 20.227766
prctile95 0.071413866
prctile99 0.10269173
number 11860
sum 10998.79
sum2 10686.929
prctile95 1.2651745
prctile99 1.3765762
number 11860
sum 7745.8289
sum2 7450.4818
prctile95 1.4275997
prctile99 2.3343656
number 11860
sum 163303.22
sum2 2373118.9
prctile95 19.33835
prctile99 20.24068
number 11860
sum 233004.25
sum2 4827216.7
prctile95 27.8145
prctile99 29.50297
number 11860
sum 832.97516
sum2 62.920611
prctile95 0.10371253
prctile99 0.1152131
number 11860
sum 409.41946
sum2 20.173239
prctile95 0.071682368
prctile99 0.10375712

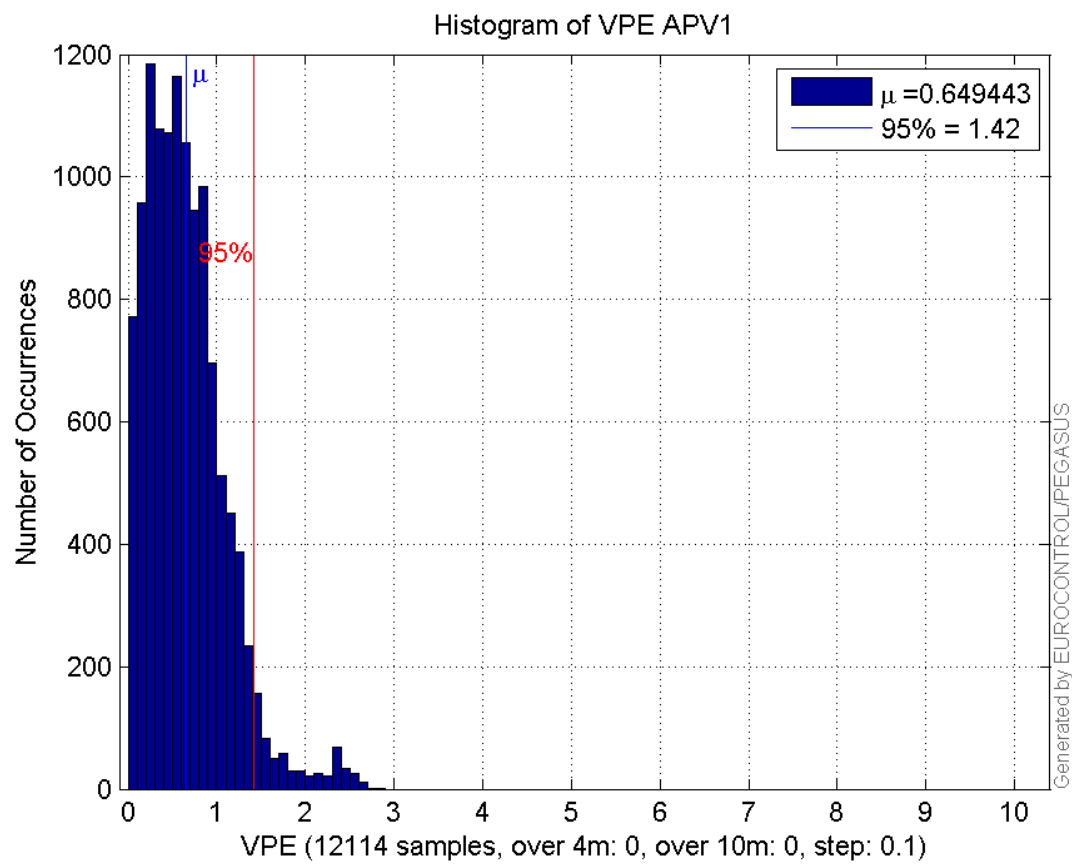
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	0.928924	0.200976	0.94276	1.26347	1.3756	0.950414
HPL	13.8237	3.22879	13.5232	19.3297	20.2361	14.1957
VPE	0.649443	0.446425	0.586233	1.41636	2.33296	0.78807
VPL	19.9976	5.13599	19.1696	28.6217	36.5138	20.6466

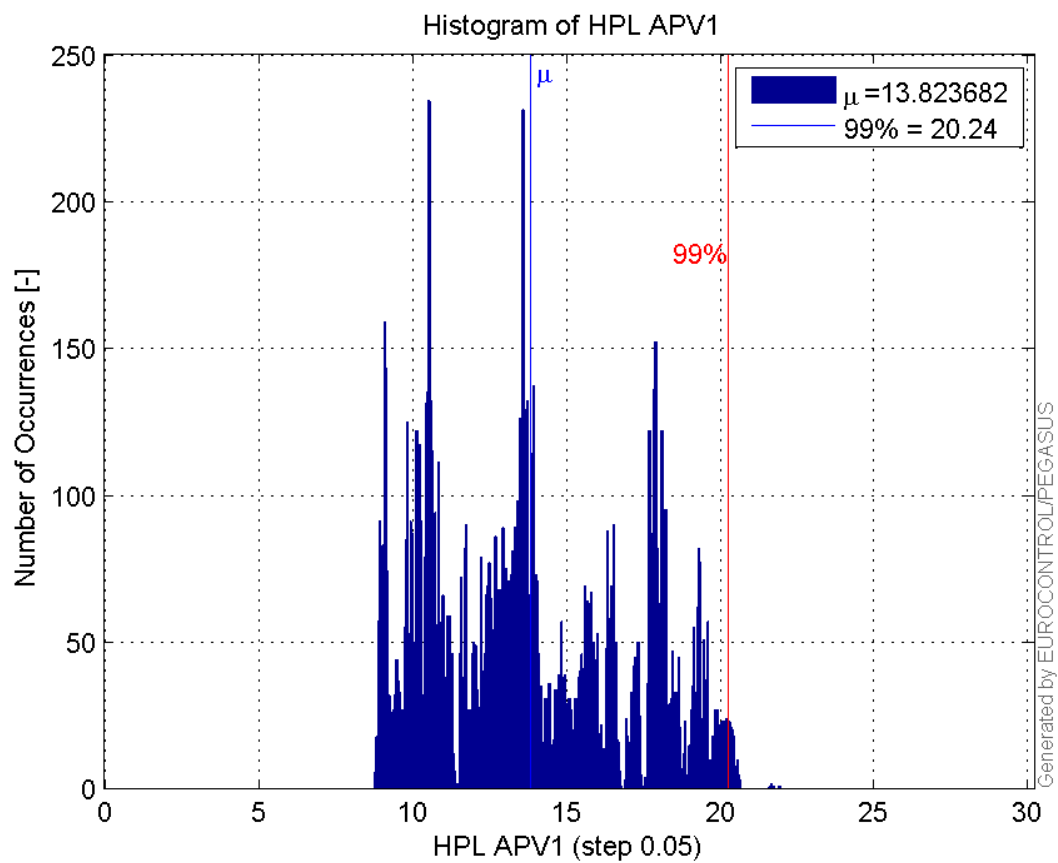
Histogram of HPE APV1:



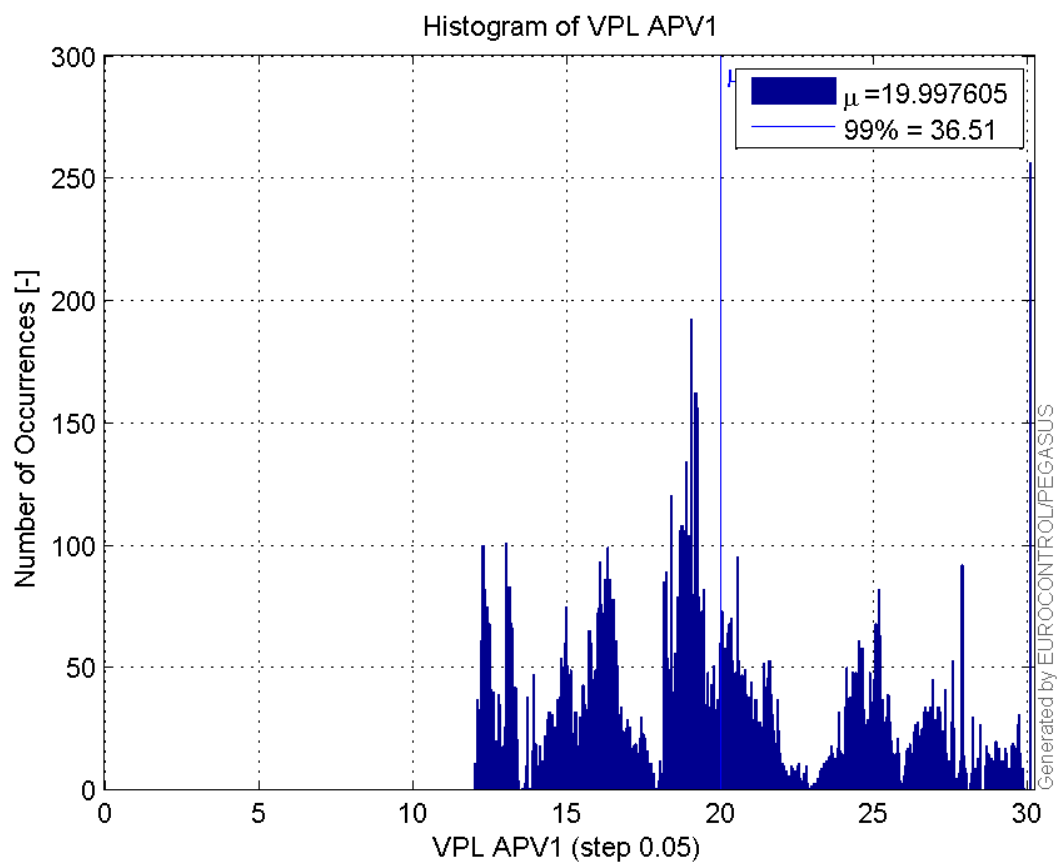
Histogram of VPE APV1:



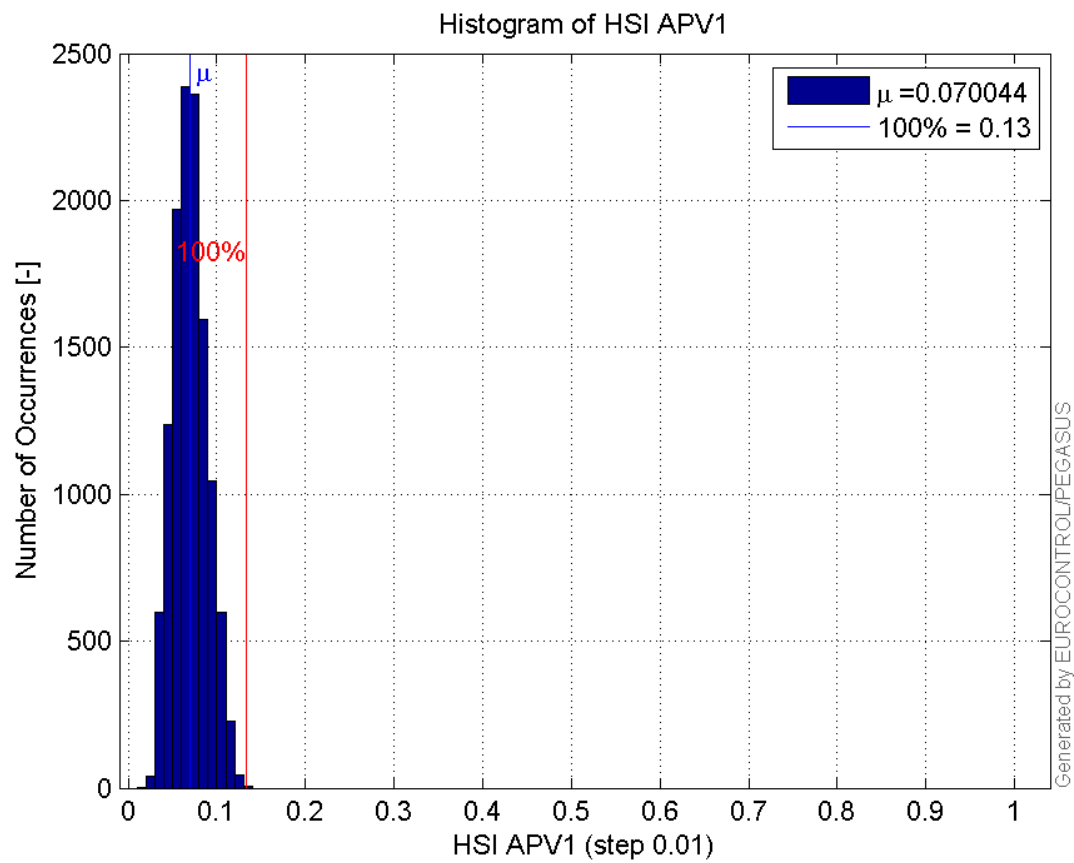
Histogram of HPL APV1:



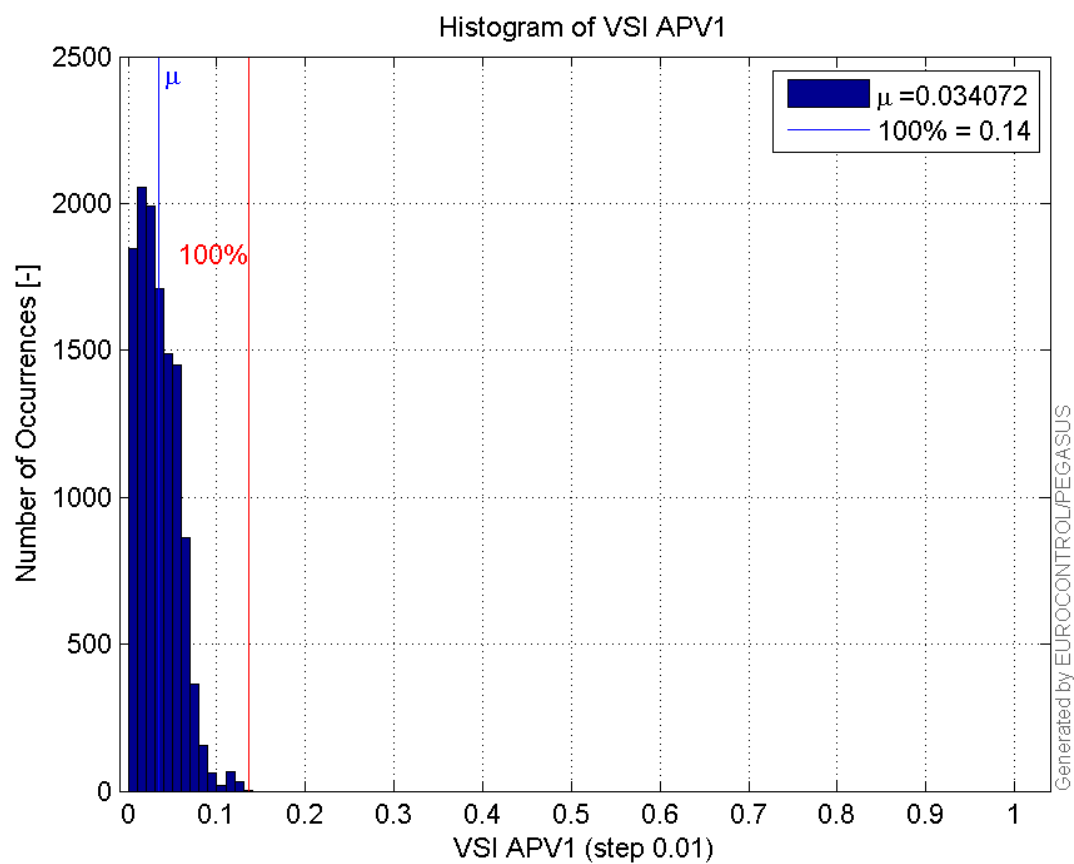
Histogram of VPL APV1:



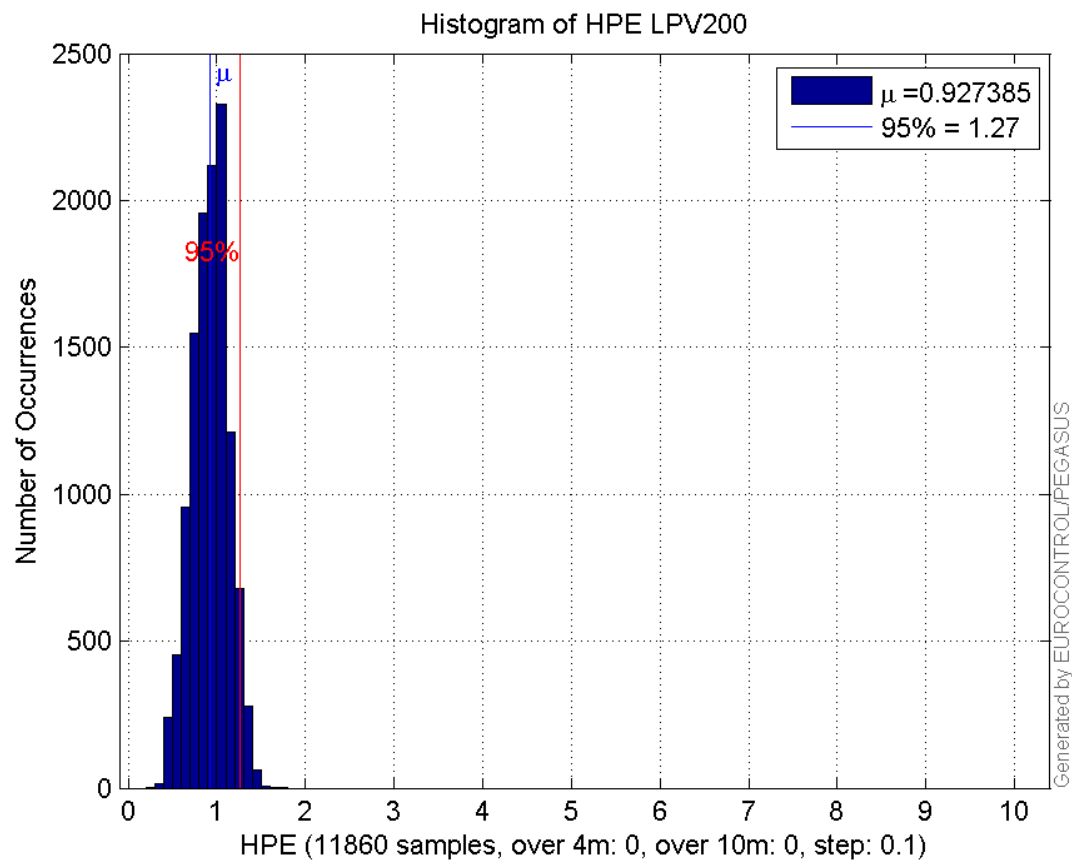
Histogram of HSI APV1:



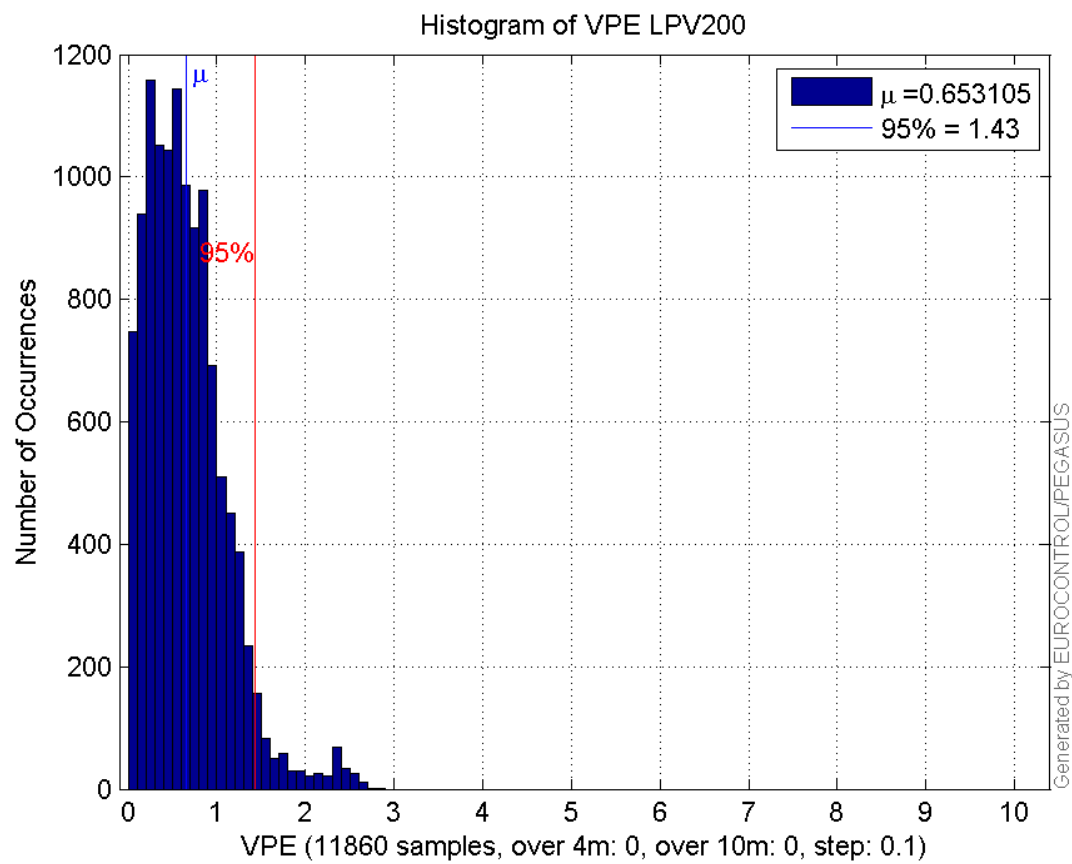
Histogram of VSI APV1:



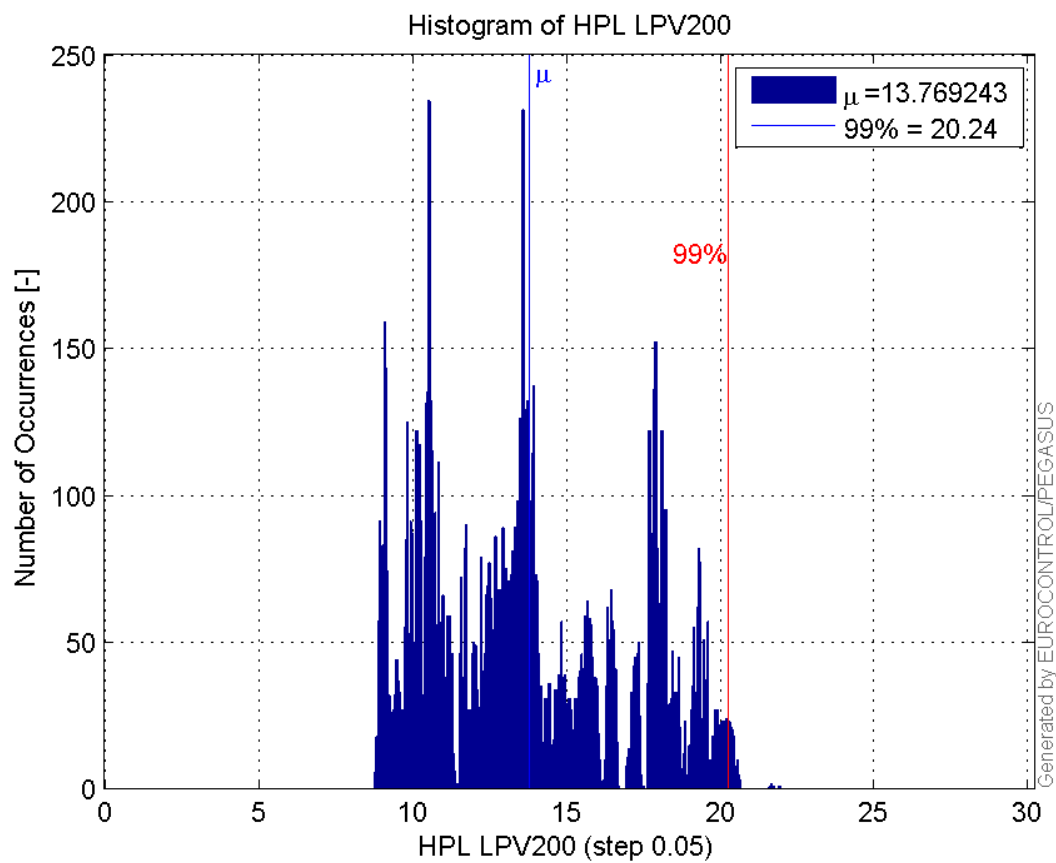
Histogram of HPE LPV200:



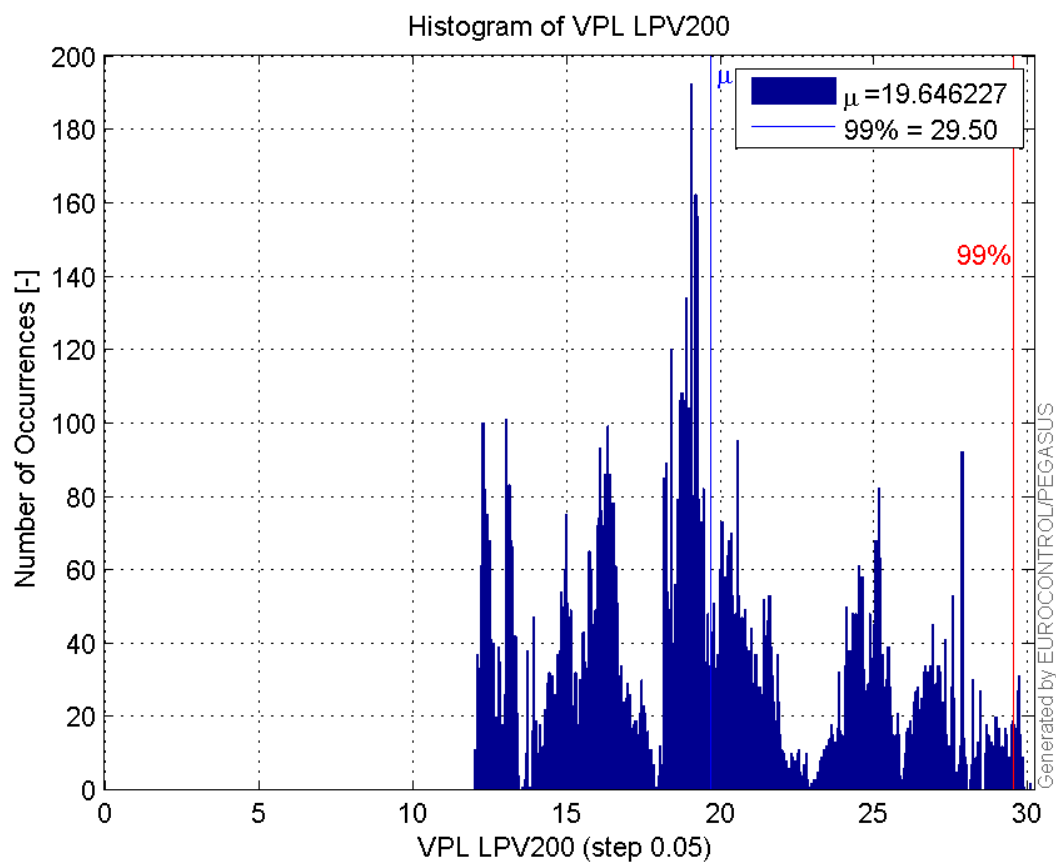
Histogram of VPE LPV200:



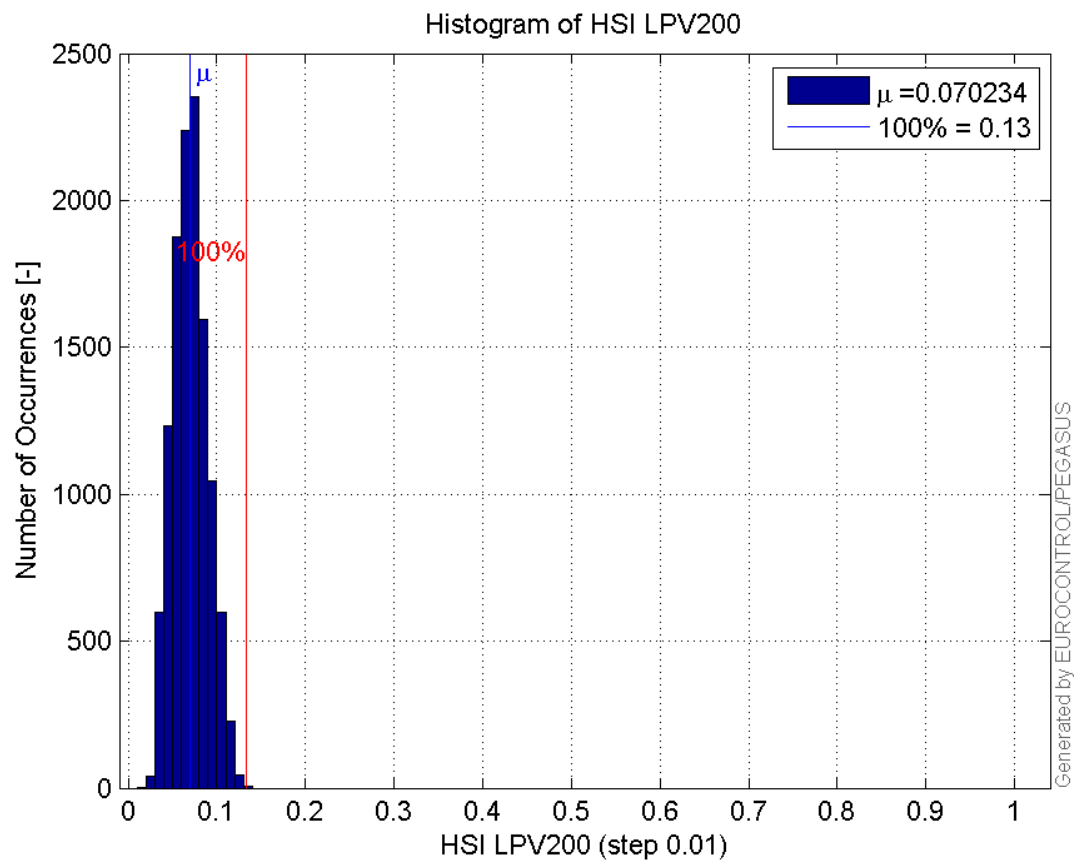
Histogram of HPL LPV200:



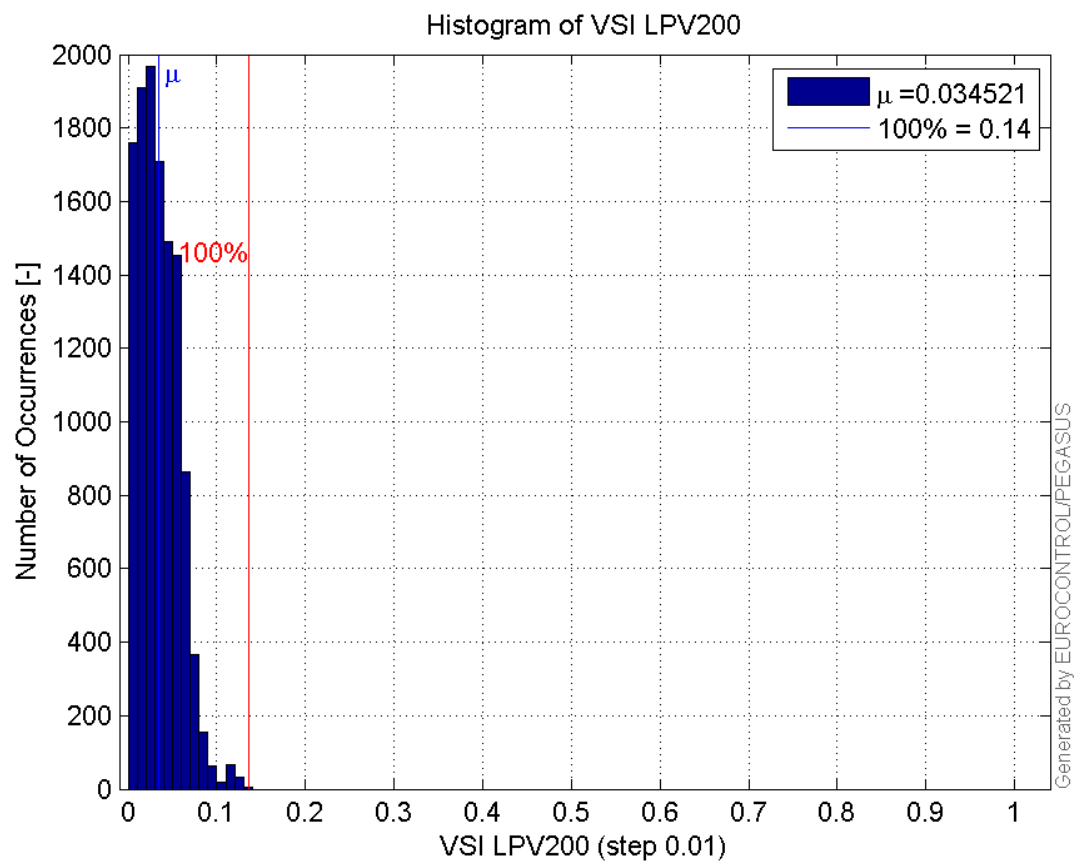
Histogram of VPL LPV200:



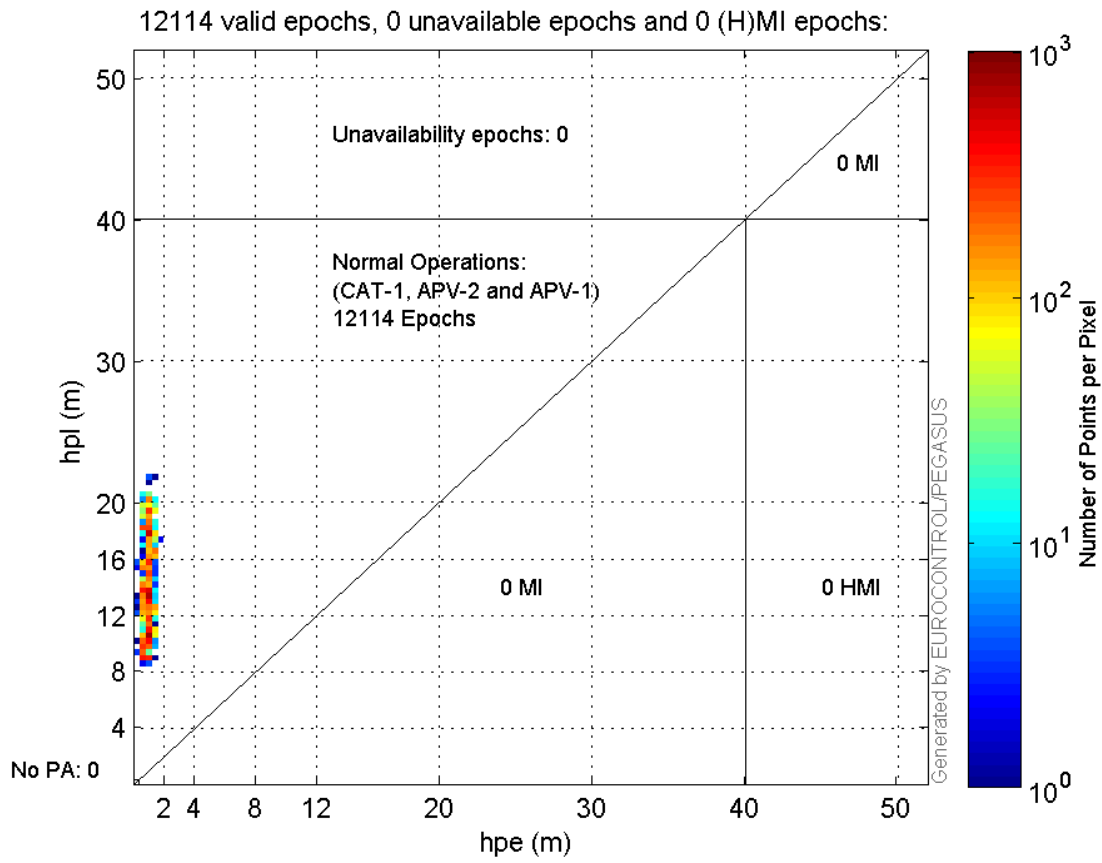
Histogram of HSI LPV200:



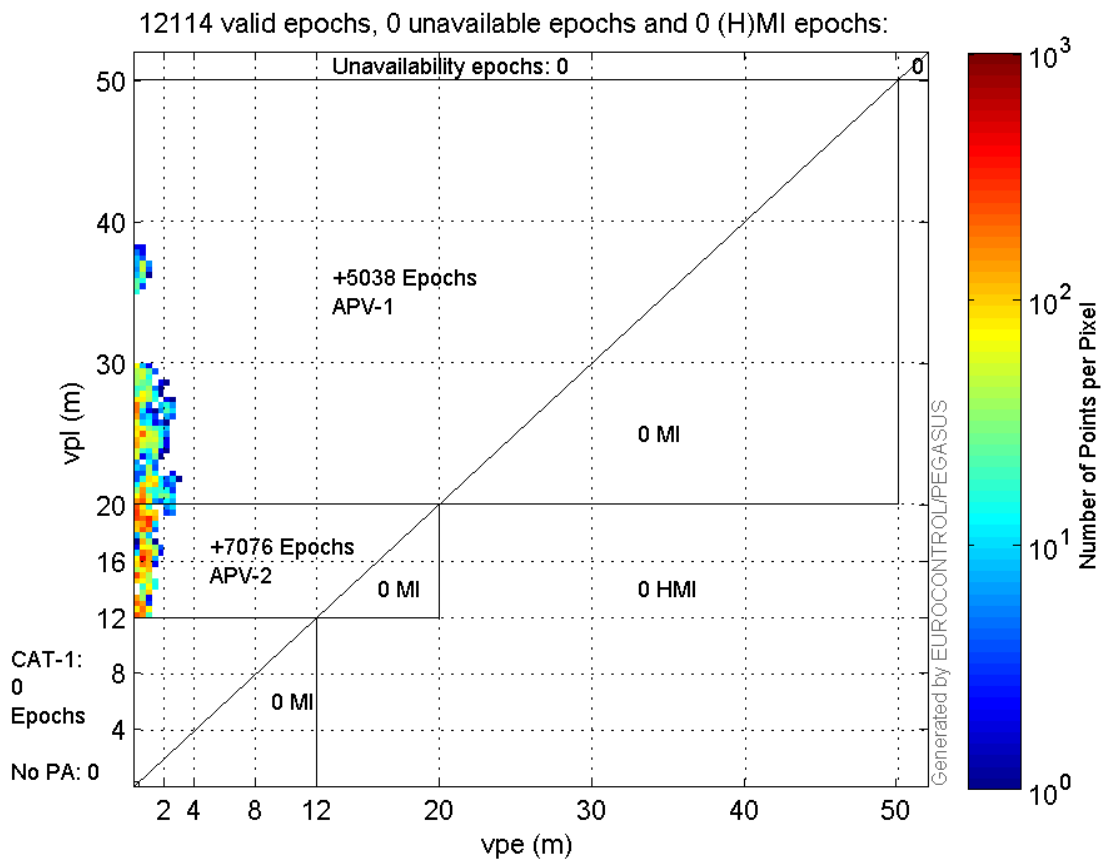
Histogram of VSI LPV200:



Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.4.0
input_prefix	system	D:/PegasusDateGob/job/2016_03_17_1/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2016_03_17_1/04_GNSS_Solution/04_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	136
gnss_mode	settings	sbas

results

Name	Section	Value
init_lat	results	50.439
init_lon	results	30.4297
init_alt	results	215.7538
mi_numbers	results	0