

DLV3 - x

DLV3 - Constellation

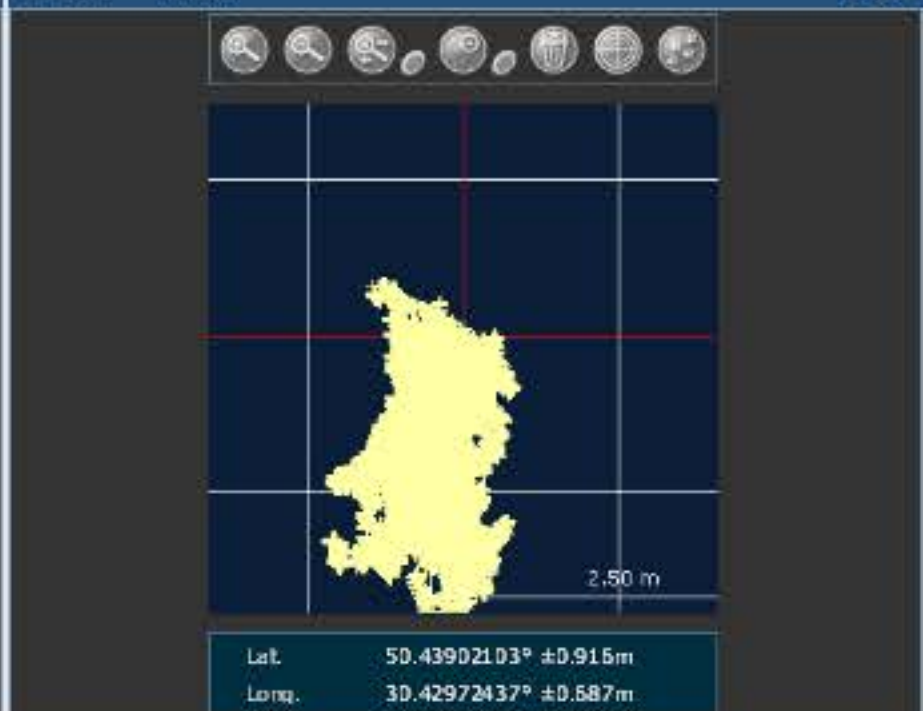


SV Details		Mask Angle Details									
PRN	AZ	ELEV	C/No	STATUS	No SV						
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DLV3 - Position

Latitude	50.43902103°	+/-	0.92m
Longitude	30.42972437°	+/-	0.59m
Hgt. (MSL)	190.431m	+/-	1.78m
Solution type	SBAS		
Ionospheric correction	Multi-frequency		
Advanced RTK status	N/A		
Solution age	0 second		
Differential age	5 seconds		
# of satellites used in solution	8		
	GPS	L1	L2
	GLONASS	L1	L2
Solution status	Computed		
Wed 23/12/2015 13:17:05 GMT			
Wed 23/12/2015 15:17:05 Local			

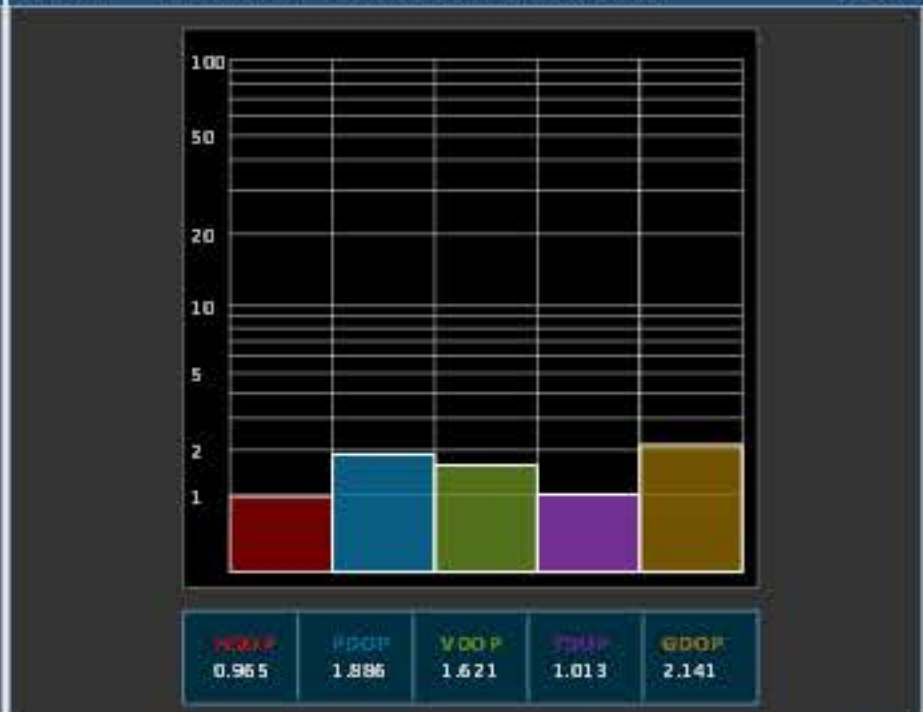
DLV3 - Plan



DLV3 - GPS Tracking Channel Status



DLV3 - Dilution Of Precision (DOP)



DLV3 - Console Window

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

DLV3 - Logging Control Window

COM1 (Current Port)

Global View

version 4.8.4
program Pegasus
comment Konin V., Shyshkov F. InsideGNSS, Jan-Feb 2015,
P.50 - 54
city Kiev
country Ukraine
abbreviation NAU
site Laboratory satellite systems
date 26/12/2015

Range Domain

start: 06:21:53 23.12.2015 (week: 1876 sec: 282113)
end: 16:02:37 23.12.2015 (week: 1876 sec: 316957)
duration: 09:40:45 ..

quality

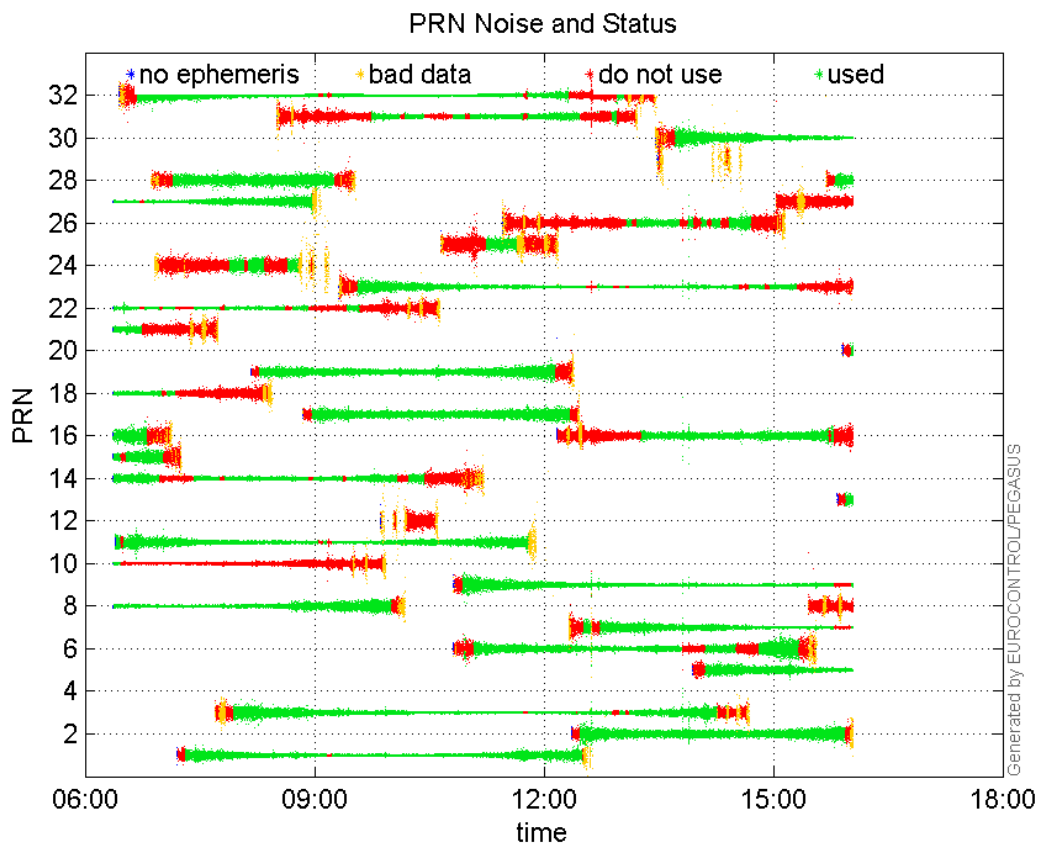
valid samples 34845
total samples 34845

PRN overview

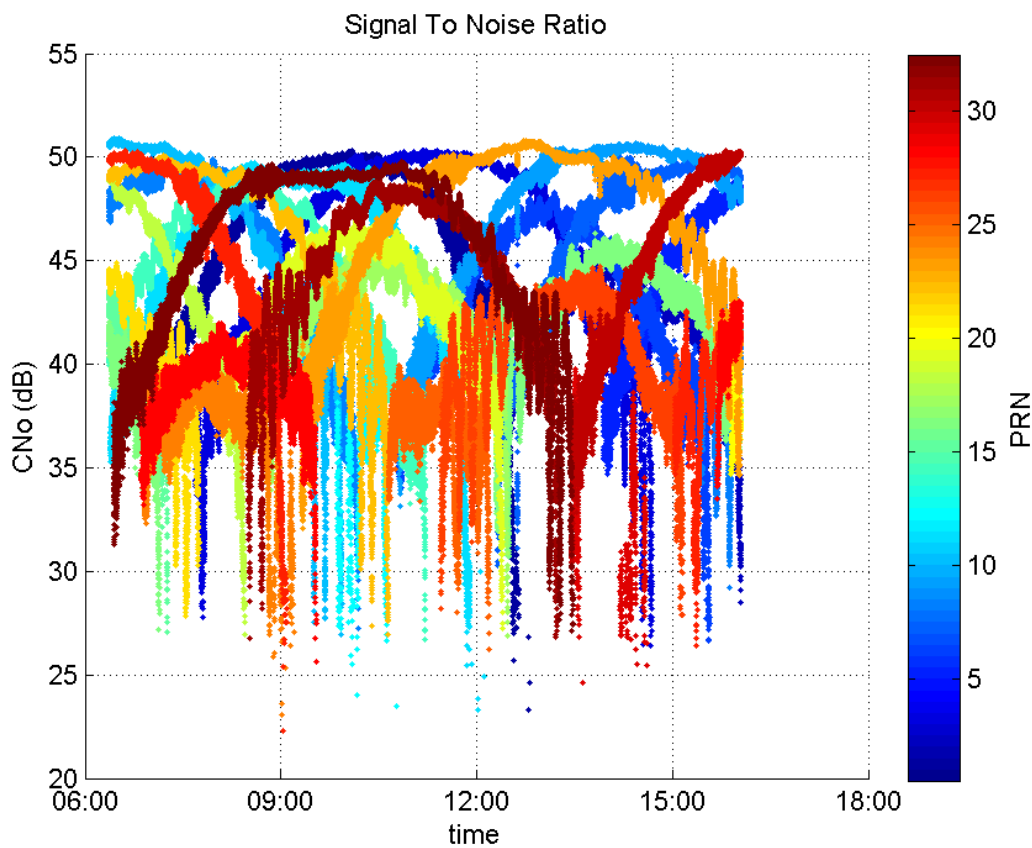
Number of Visible GPS Satellites 31
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



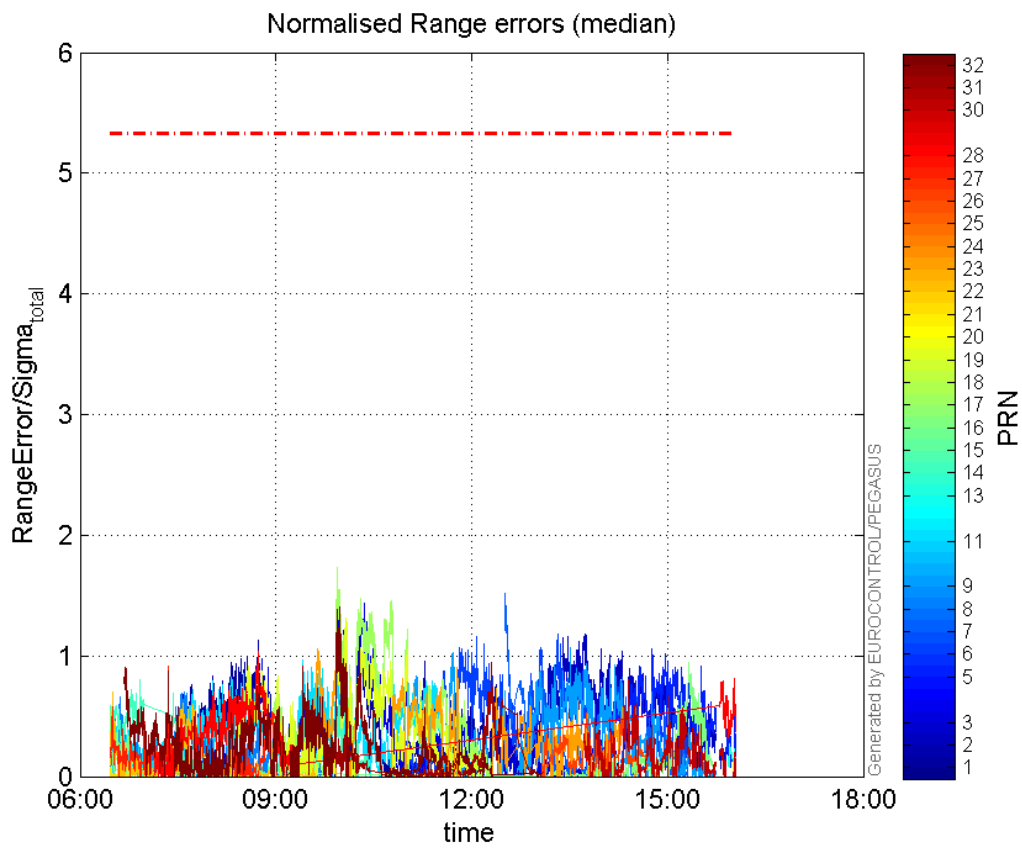
range errors

Number of Overbounding Norm Errors 0

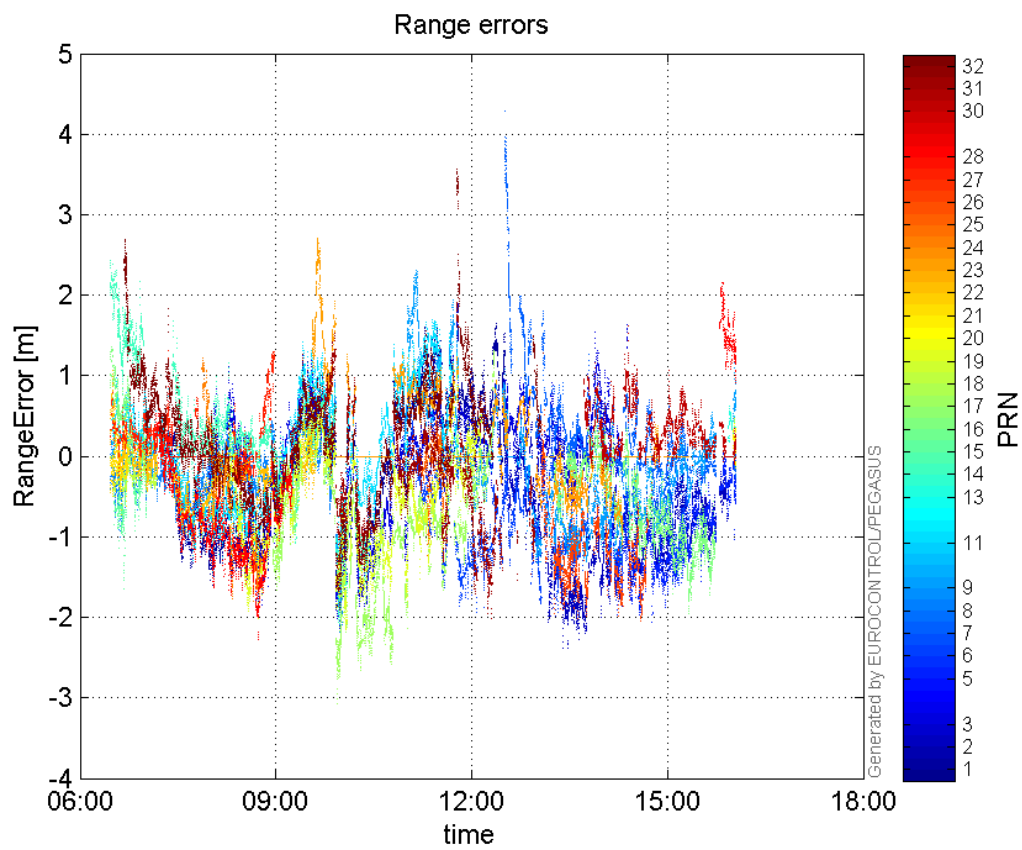
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1876	295103	1	1.29409	-1.7749	1.37155
1876	308684	2	1.18166	-2.19734	1.85953
1876	295102	3	1.48198	-2.07655	1.4012
1876	312346	5	1.05384	-2.05415	1.9492
1876	307167	6	1.1807	-1.93196	1.63628
1876	304227	7	1.52197	4.29332	2.8209
1876	295104	8	0.769445	-2.18714	2.84248
1876	307824	9	1.06677	-1.78297	1.67138
1876	295104	11	1.06461	-1.57875	1.48294
1876	316607	13	0.27119	0.619997	2.28621
1876	295468	14	0.847859	-2.00457	2.36428
1876	283112	15	0.331839	-0.9529	2.87157
1876	314392	16	0.945586	-1.95037	2.0626
1876	295004	17	1.73144	-3.07707	1.77717
1876	283135	18	0.234181	-0.601576	2.56885
1876	295479	19	1.31503	-2.11536	1.6086
1876	316863	20	0.166906	0.469462	2.81273
1876	282489	21	0.0771009	-0.450828	5.84725
1876	282581	22	0.699829	1.06254	1.51828
1876	293890	23	1.06149	2.69875	2.54241
1876	288261	24	0.128203	-0.515627	4.02197
1876	300962	25	0.141177	0.829195	5.87344
1876	308747	26	0.521649	-1.97693	3.78977
1876	285641	27	0.91428	1.31052	1.43339
1876	290610	28	1.03312	-2.28182	2.20867
1876	311037	30	0.79781	1.62559	2.03757
1876	303509	31	0.946727	-2.01318	2.12646
1876	295104	32	1.40578	-1.90759	1.35696

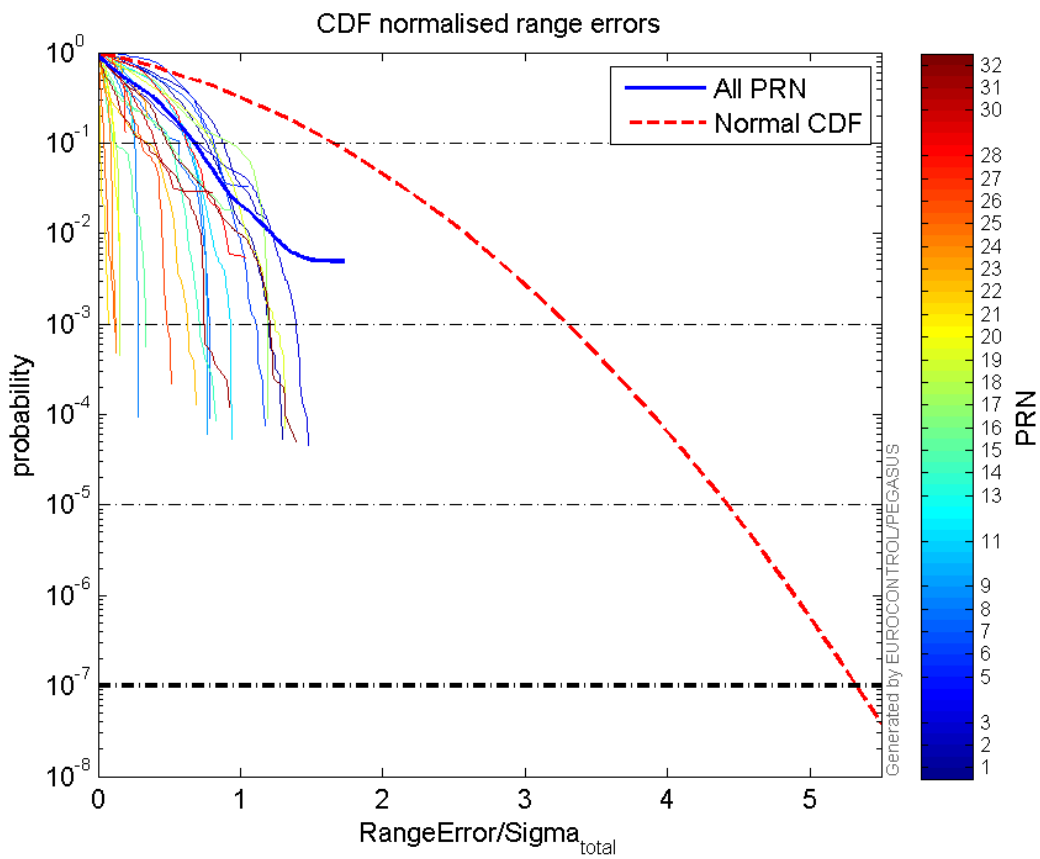
Normalised Range errors (median):



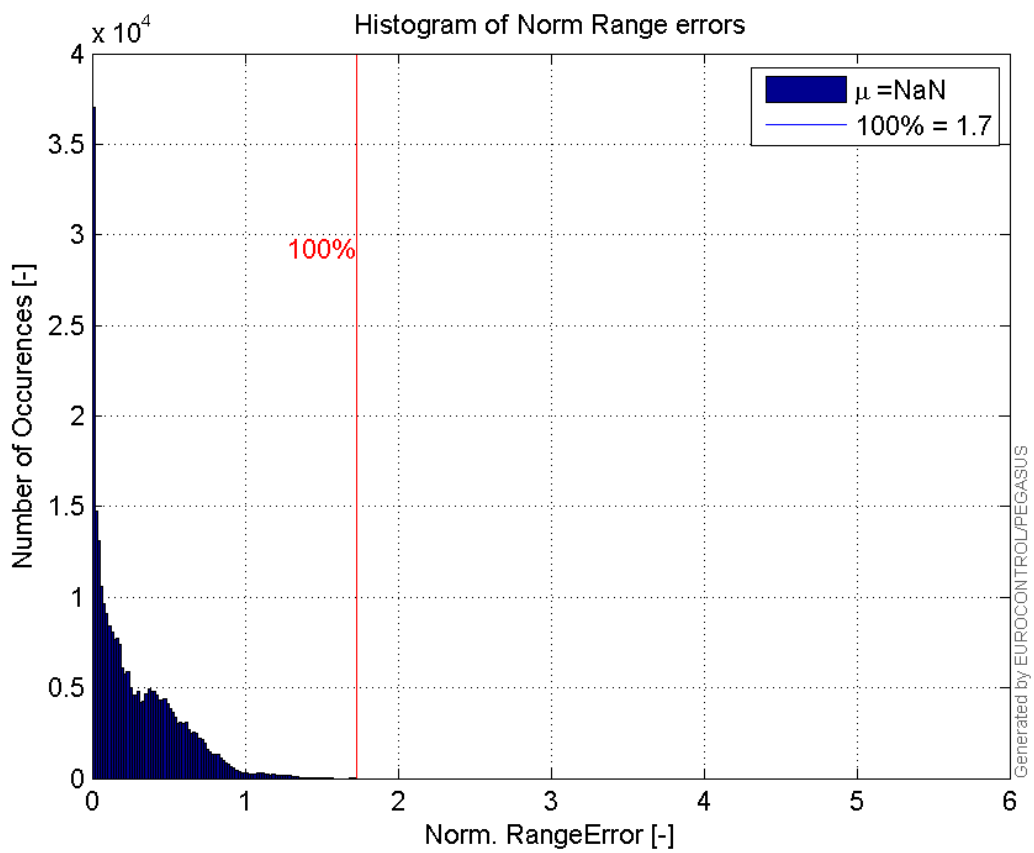
Range errors:



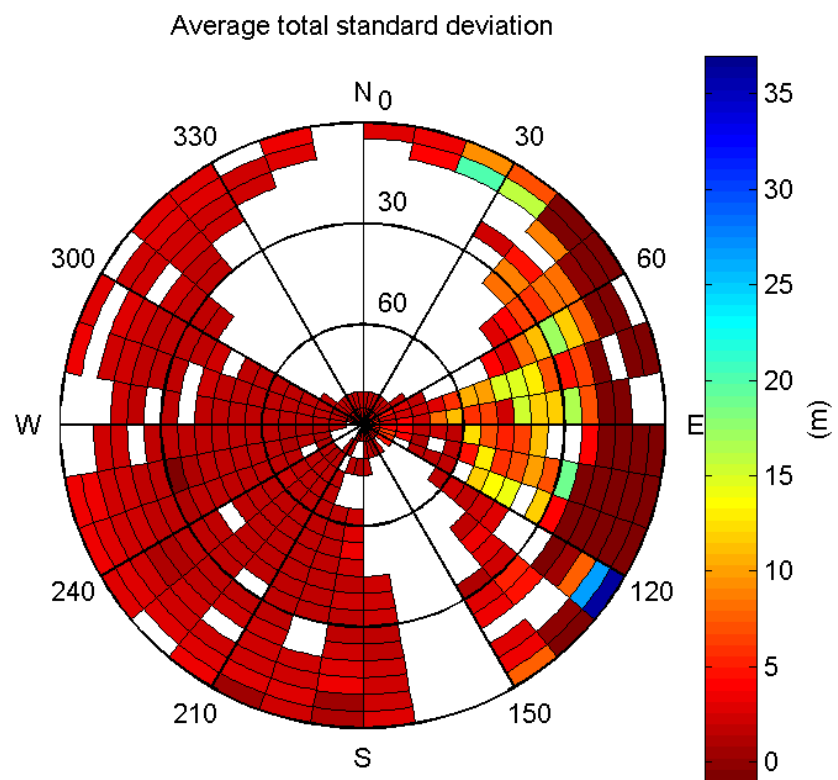
CDF normalised range errors:



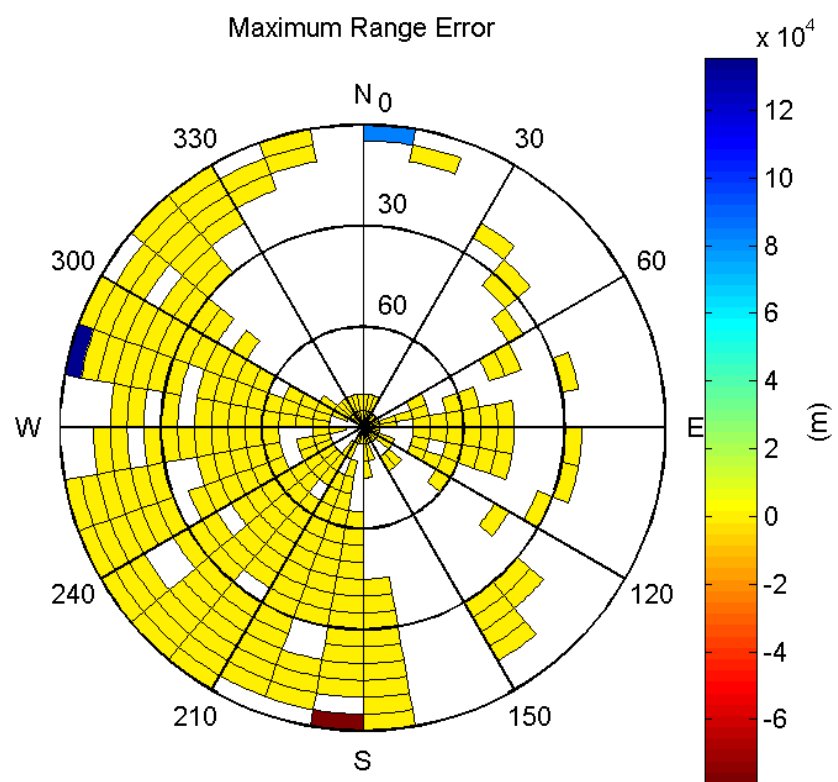
Histogram of Norm Range errors:



Sigma Sky Plot:

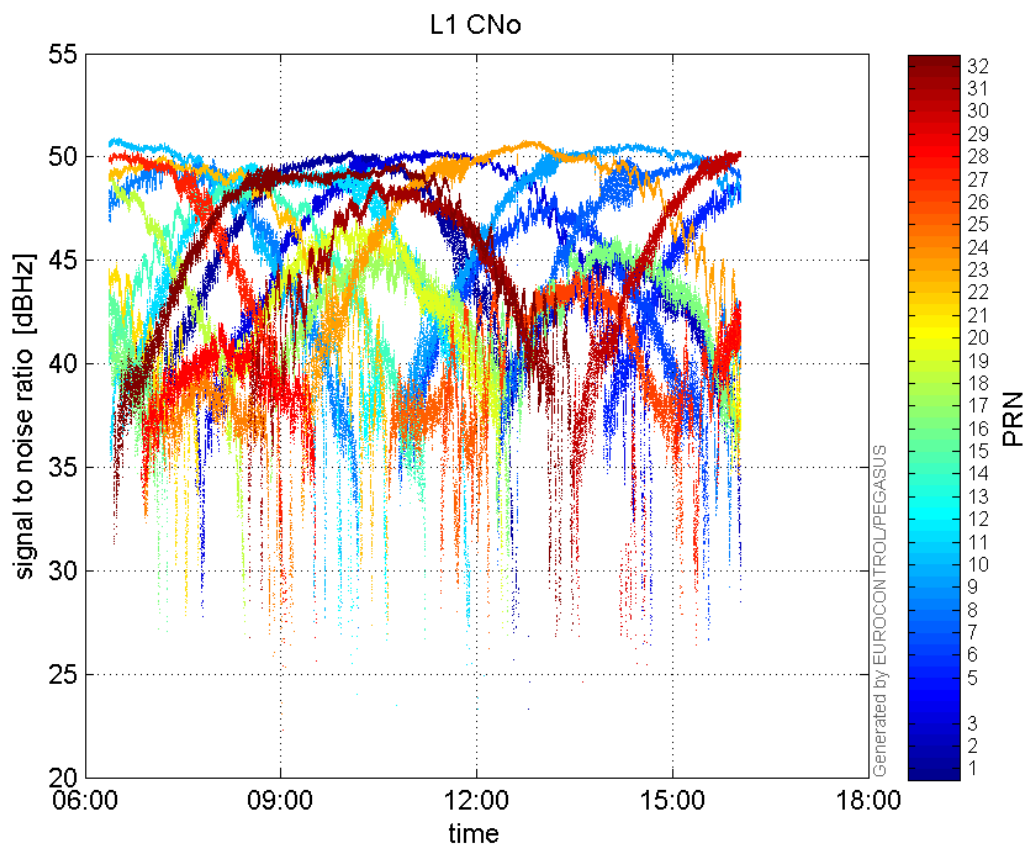


Norm Error Sky Plot:

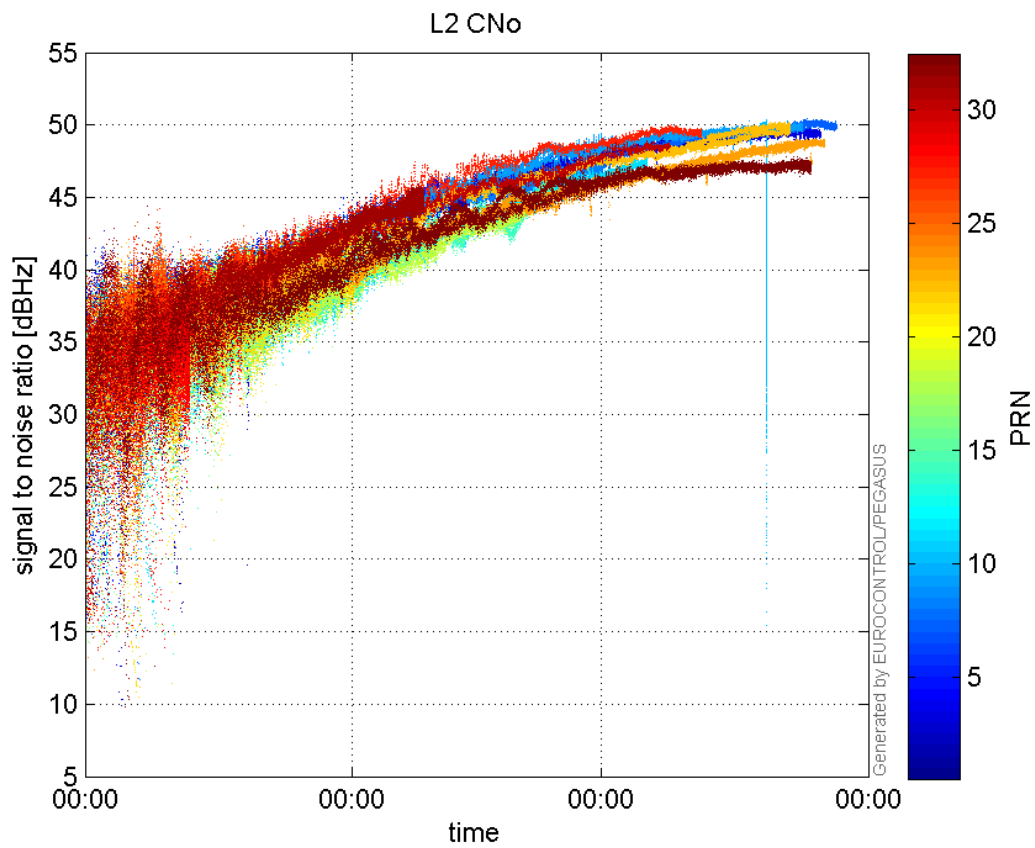


signal quality

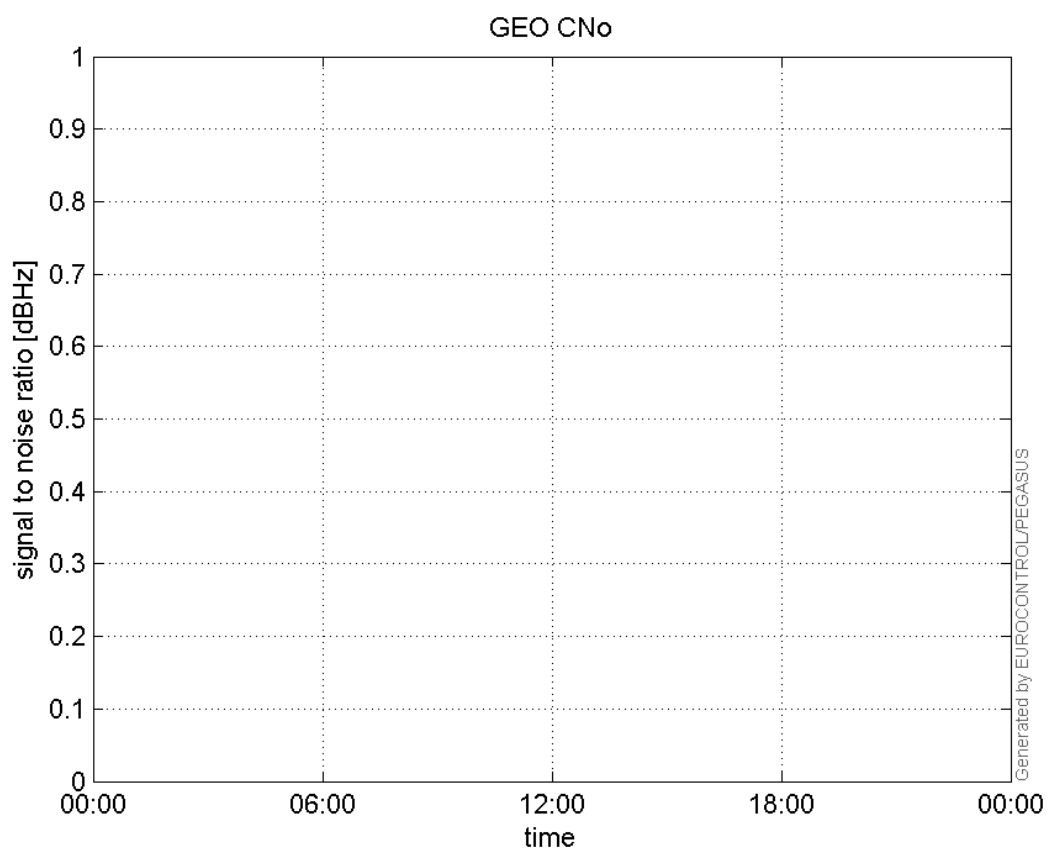
L1 CNo:



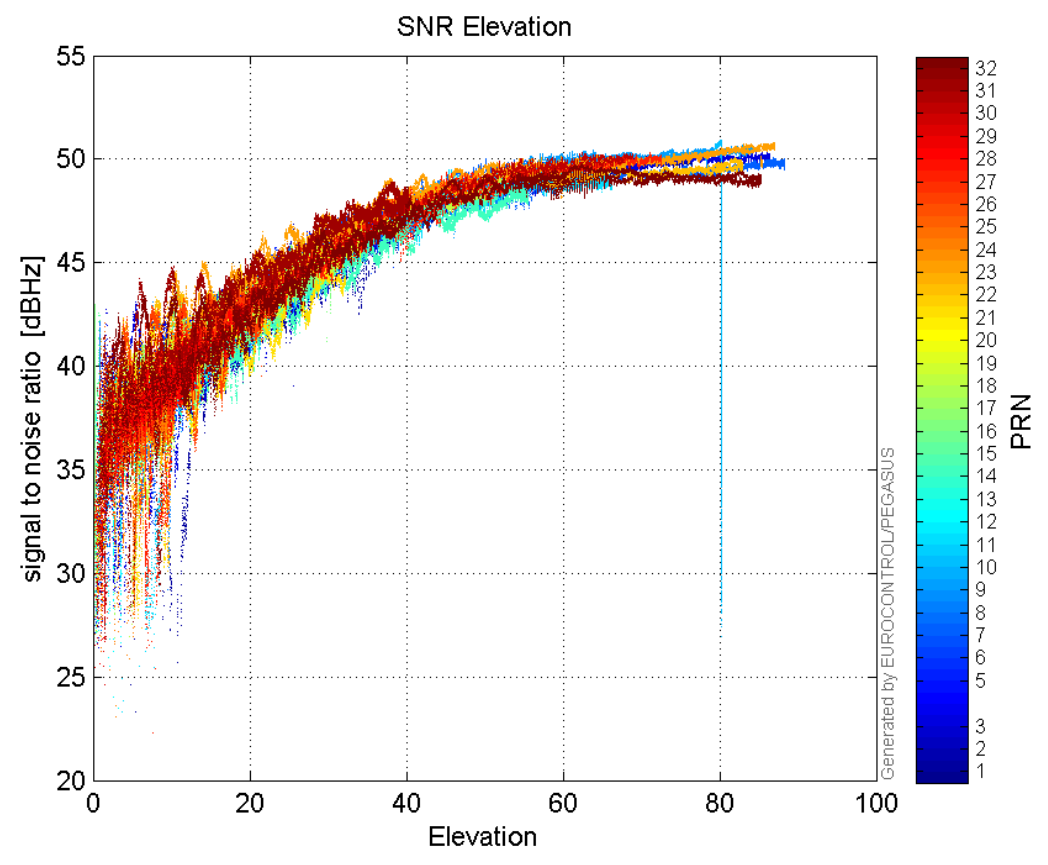
L2 CNo:



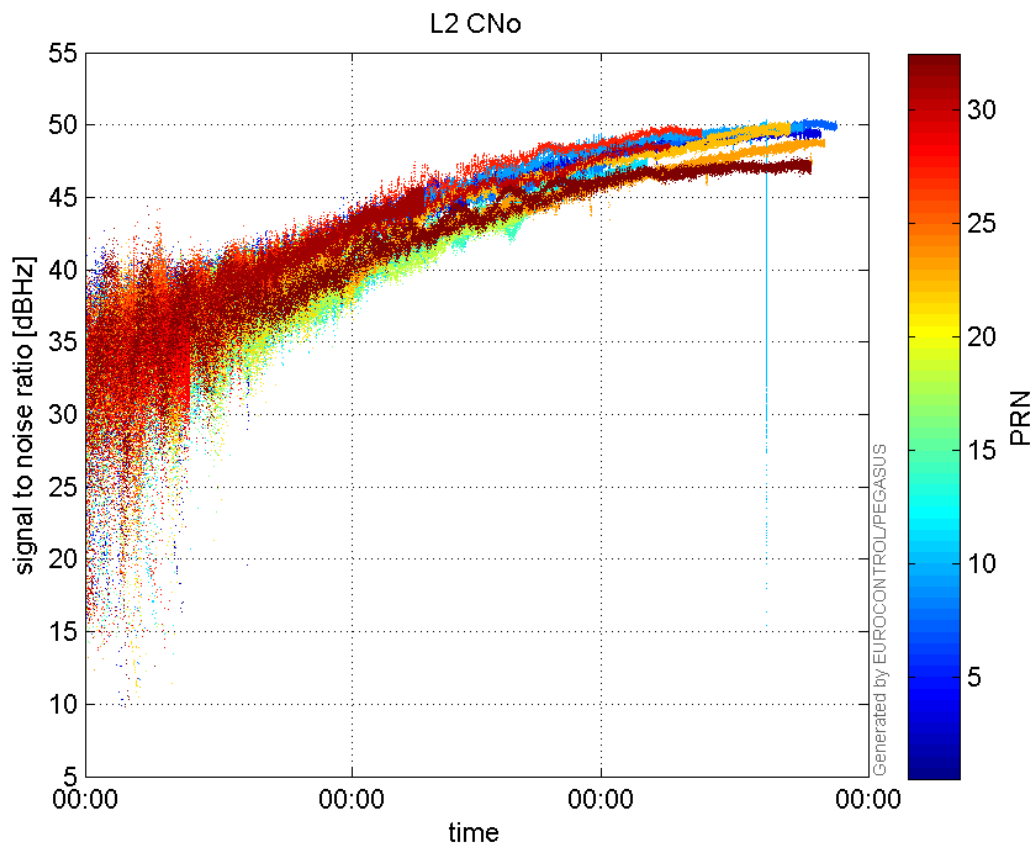
GEO CNo:



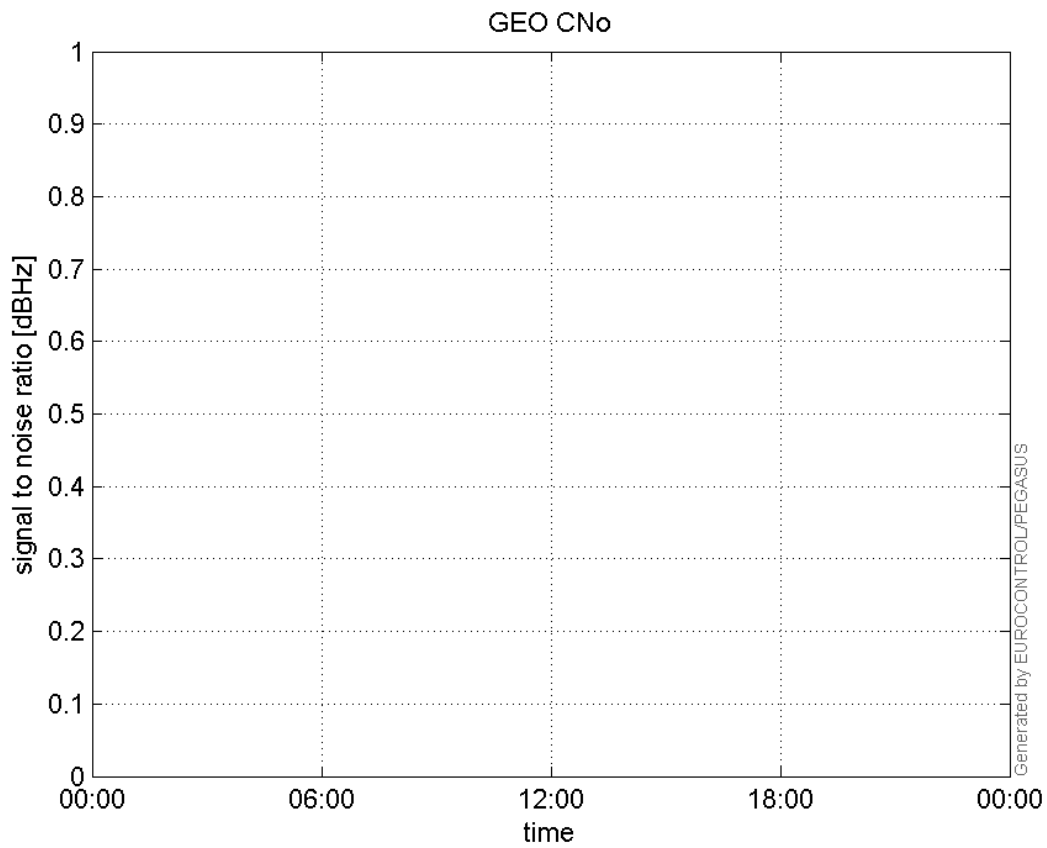
SNR Elevation:



L2 CNo:

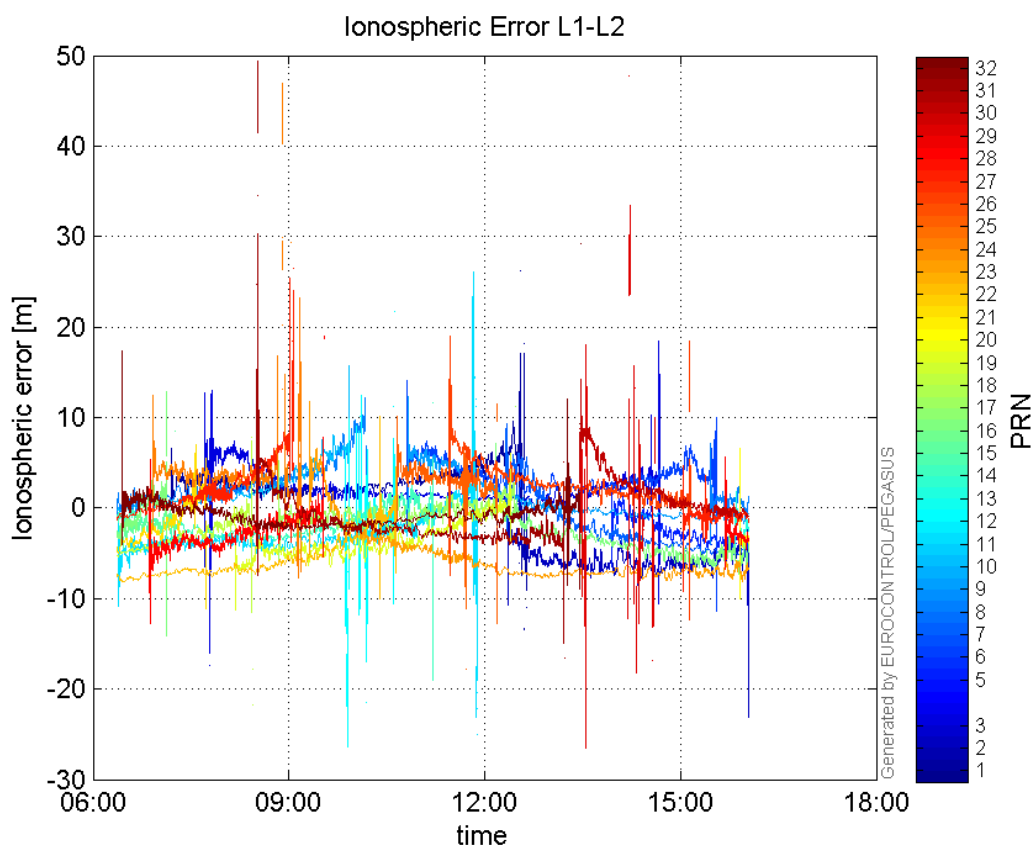


GEO CNo:



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/2015_12_23EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_12_23EGNOS/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	50.439
init_lon	results	30.4297
init_alt	results	221.5955
mi_numbers	results	0

Position Domain

start: 06:21:53 23.12.2015 (week: 1876 sec: 282113)
end: 16:02:37 23.12.2015 (week: 1876 sec: 316957)
duration: 09:40:45 ..

quality

valid samples 34477
total samples 34845

Event tables

Position discontinuity events type all
APV-I discontinuity events type all
APV-35m discontinuity events type long
LPV-200 discontinuity events type long
CAT-I discontinuity events type long

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	303640	1.64659	8.94646	0.184049	-0.424159	12.6714	0.0334737
max normVer	304284	1.87761	14.5169	0.12934	2.11999	15.6413	0.135538
max HPE	316663	16.2372	441.912	0.036743	-2.67643	109.262	0.0244955
max VPE	304780	2.98446	46.5079	0.064171	4.4185	72.7981	0.0606953
min HPL	295502	1.26083	8.36363	0.150751	0.0805937	13.1618	0.0061233
min VPL	291496	0.985208	21.2187	0.0464311	0.174624	10.8841	0.0160439

Position discontinuity events :

#	Epoch	duration	stable period
1	315878	184	33397
2	316774	46	712

APV-I discontinuity events :

#	Epoch	duration	stable period
1	284470	122	1989
2	284752	157	160
3	304613	270	19704
4	305656	269	773
5	315718	1123	9793

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	284470	122	1989
2	284752	157	160
3	297189	31	12280
4	297256	116	2
5	297425	835	1
6	304613	270	6305
7	305656	269	773
8	312210	282	1
9	315449	41	1
10	315718	1123	228

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	284470	122	1989
2	284752	157	160
3	297189	31	12280
4	297256	116	2
5	297425	835	1
6	304613	270	6305
7	305656	269	773
8	312210	282	1
9	315449	41	1
10	315718	1123	228

CAT-I discontinuity events :

#	Epoch	duration	stable period
1	291497	2102	58
2	293965	281	366
3	294395	54	2
4	294542	160	69

First Glance analysis

Duration	34845
Number of Samples	34845
Number of invalid sample	368
Number of no position solution samples	230
Number of missing sample	0
Logging Loss	0
Processing Loss	1.0561
Number of Misleading Information	0
Data gaps	0
Discontinuities	2

Number of Samples :

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

34247	32536	31147	647	31147
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Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.94032	1.7421	1.6322	1.01159	1.6322
HPEscale 95%	NaN	5.20723	5.24661	2.8816	5.24661
VPE 95%	1.66702	1.53041	1.40985	0.540884	1.40985
VPEscale 95%	NaN	3.91445	2.75534	0.562286	2.75534

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.993329	0.943702	0.903414	0.0187661	0.903414
measurements	0.982838	0.933735	0.893873	0.0185679	0.893873
Operational	0.982838	0.933735	0.893873	0.0185679	0.893873

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	2	5	70	62	70
Long	2	5	10	4	10
Independent	2	5	6	3	6
P(disc.)	0.000875989	0.00230514	0.00288952	0.0695518	0.00288952
P(slide)	0.000875989	0.00230514	0.00754487	0.304482	0.00754487

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

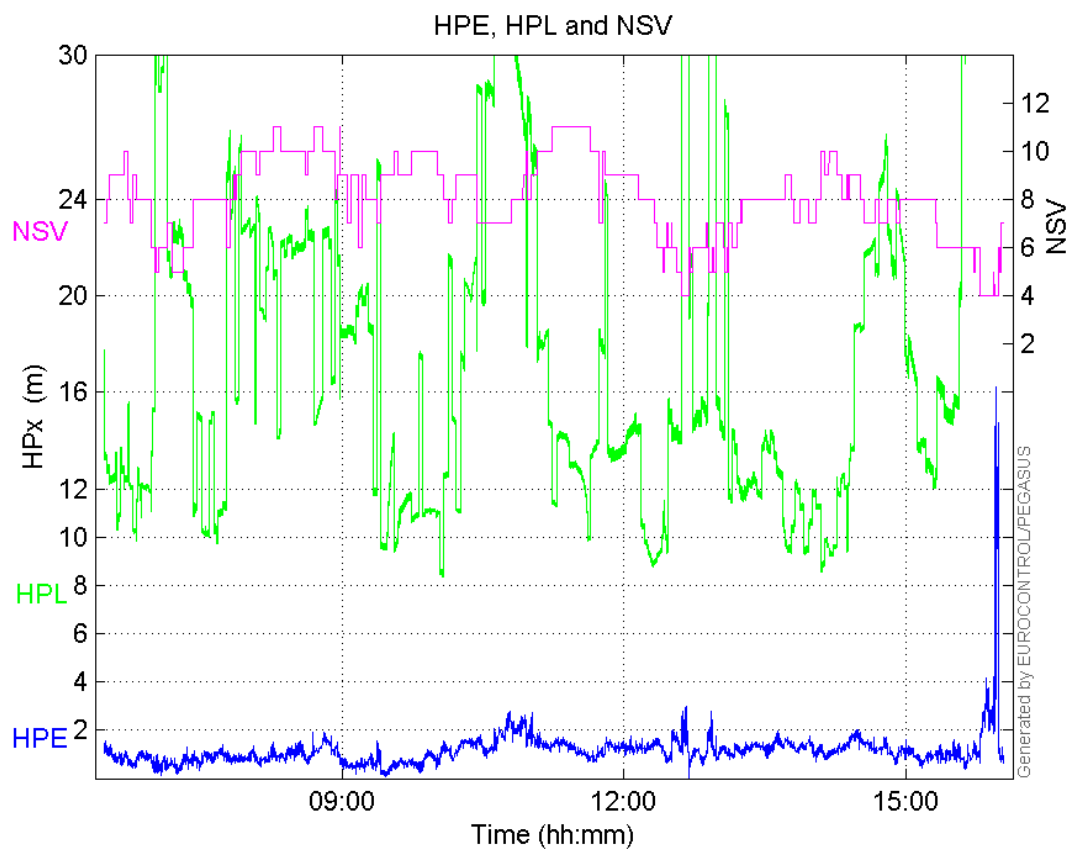
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	34247	32536	31147	647	31147
SIS Availability	0.993329	0.943702	0.903414	0.0187661	0.903414
Local Availability	0.982838	0.933735	0.893873	0.0185679	0.893873
Operational Availability	0.982838	0.933735	0.893873	0.0185679	0.893873
HPE 95%	1.94032	1.7421	1.6322	1.01159	1.6322
HPEscale 95%	NaN	5.20723	5.24661	2.8816	5.24661
VPE 95%	1.66702	1.53041	1.40985	0.540884	1.40985
VPEscale 95%	NaN	3.91445	2.75534	0.562286	2.75534
All Discontinuity Events	2	5	70	62	70
Long Discontinuity Events	2	5	10	4	10
Independent Discontinuity Events	2	5	6	3	6
P(discontinuity)	0.000875989	0.00230514	0.00288952	0.0695518	0.00288952
P(sliding window)	0.000875989	0.00230514	0.00754487	0.304482	0.00754487

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

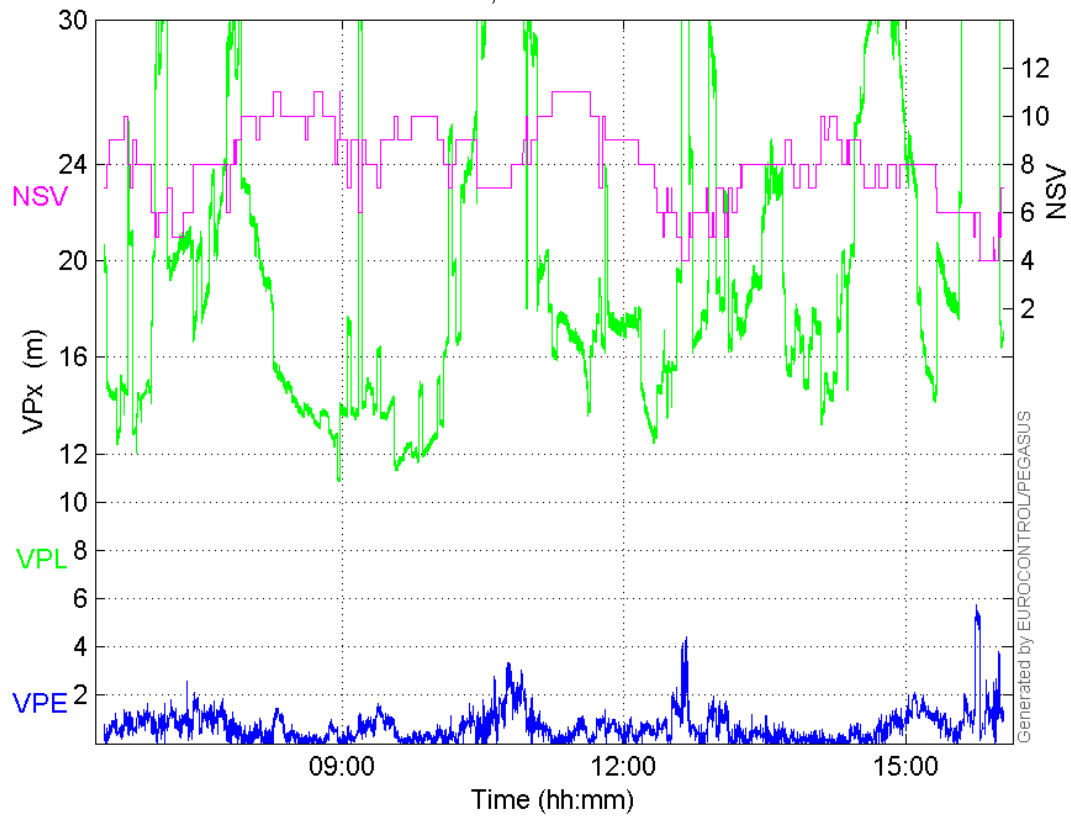
Time Series

HPE, HPL and NSV:



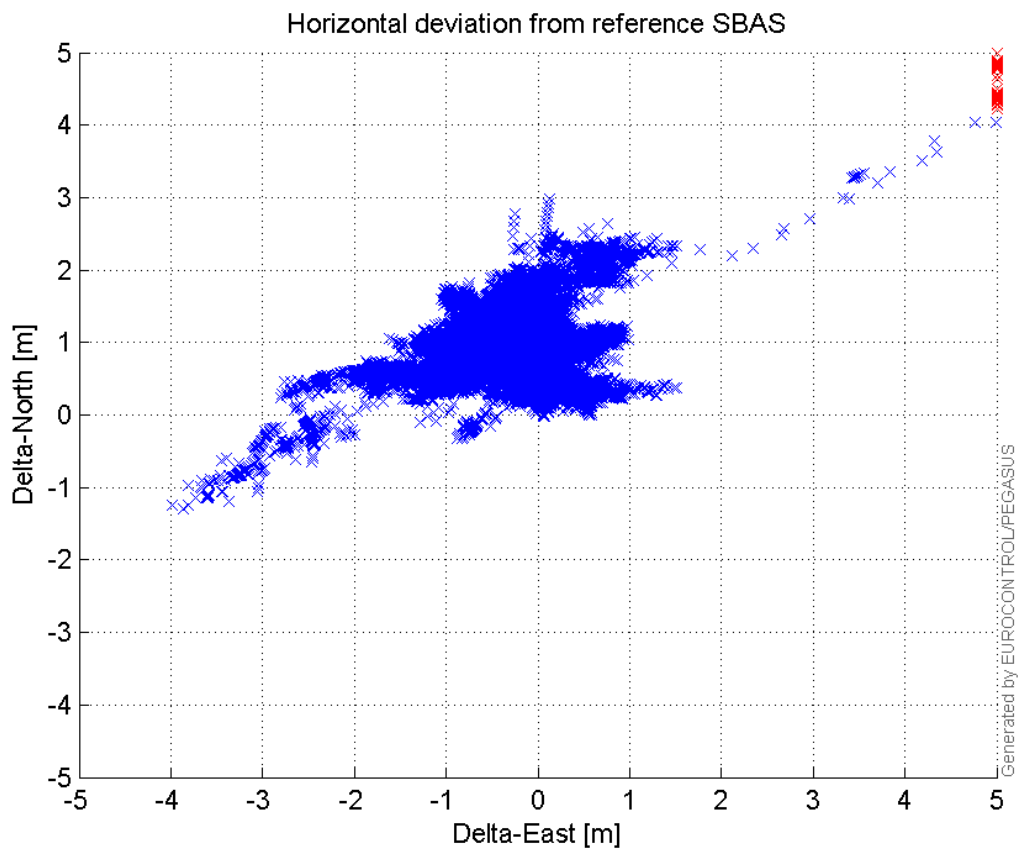
VPE, VPL and NSV:

VPE, VPL and NSV



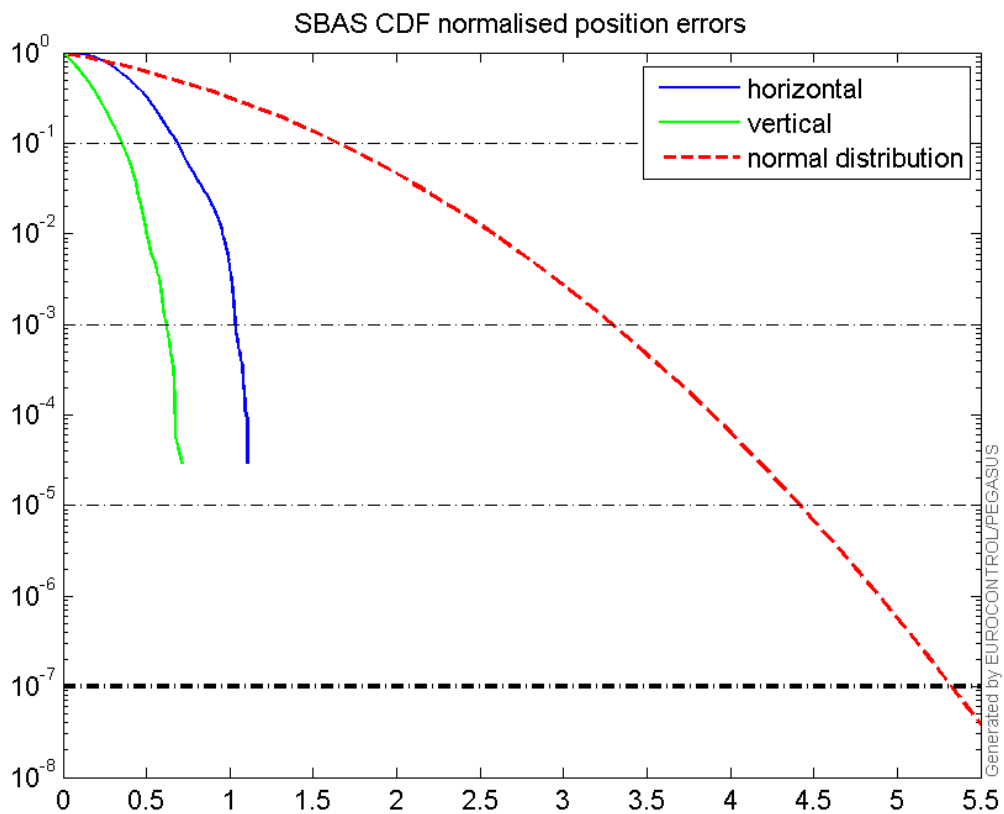
Horizontal deviation

Horizontal deviation from reference SBAS:



CDF position

SBAS CDF position domain:



Statistics

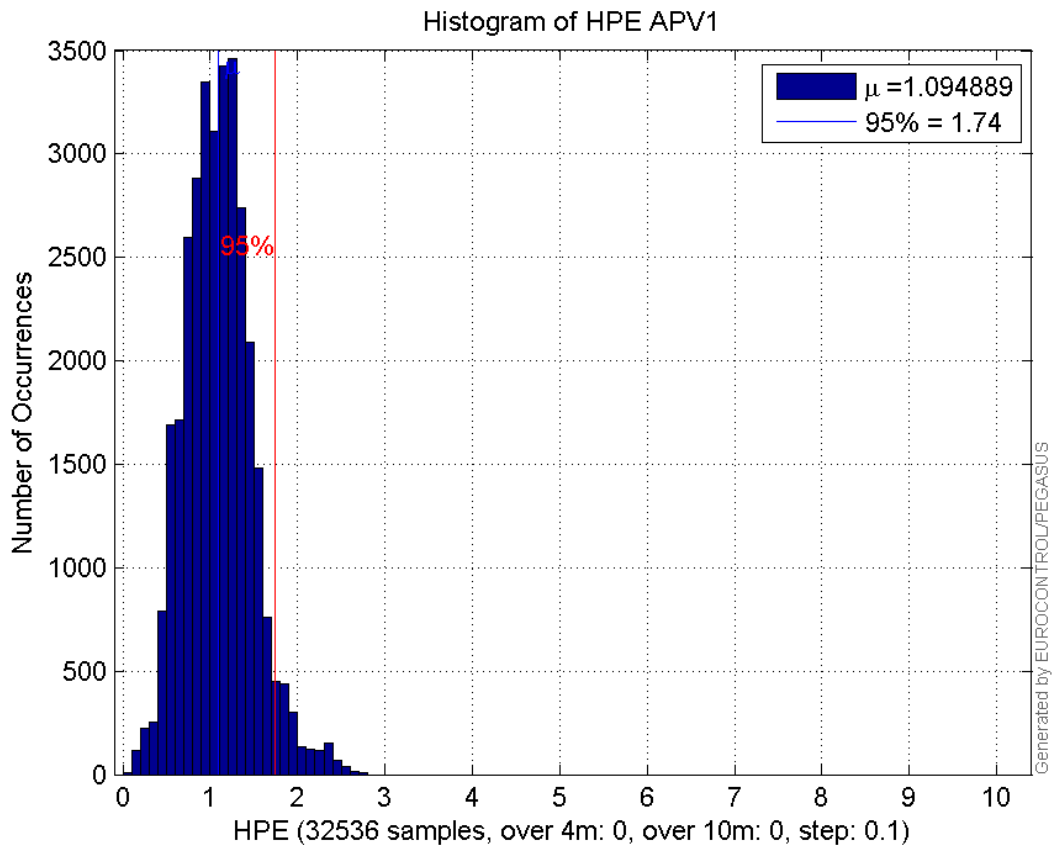
number	32536
sum	35623.295
sum2	43793.857
prctile95	1.7421007
prctile99	2.2707566
number	32536
sum	20105.571
sum2	20677.037
prctile95	1.5304101
prctile99	2.2999325
number	32536
sum	550335.23
sum2	10614726
prctile95	28.75214
prctile99	36.605582
number	32536
sum	641556.61
sum2	14068815
prctile95	34.28657
prctile99	40.97824
number	32536
sum	2338.2928

sum2 201.35522
prctile95 0.13018063
prctile99 0.15996143
number 32536
sum 1026.8135
sum2 50.85422
prctile95 0.078289076
prctile99 0.094461892
number 31147
sum 33280.744
sum2 39551.774
prctile95 1.6322041
prctile99 2.0009168
number 31147
sum 18127.722
sum2 16962.987
prctile95 1.4098472
prctile99 1.9249733
number 31147
sum 505697.75
sum2 9147744.6
prctile95 26.756055
prctile99 32.820115
number 31147
sum 588174.57
sum2 12008298
prctile95 30.16072
prctile99 34.035932
number 31147
sum 2264.9301
sum2 197.25496
prctile95 0.13116528
prctile99 0.16054813
number 31147
sum 975.51254
sum2 48.373986
prctile95 0.07872407
prctile99 0.09496634

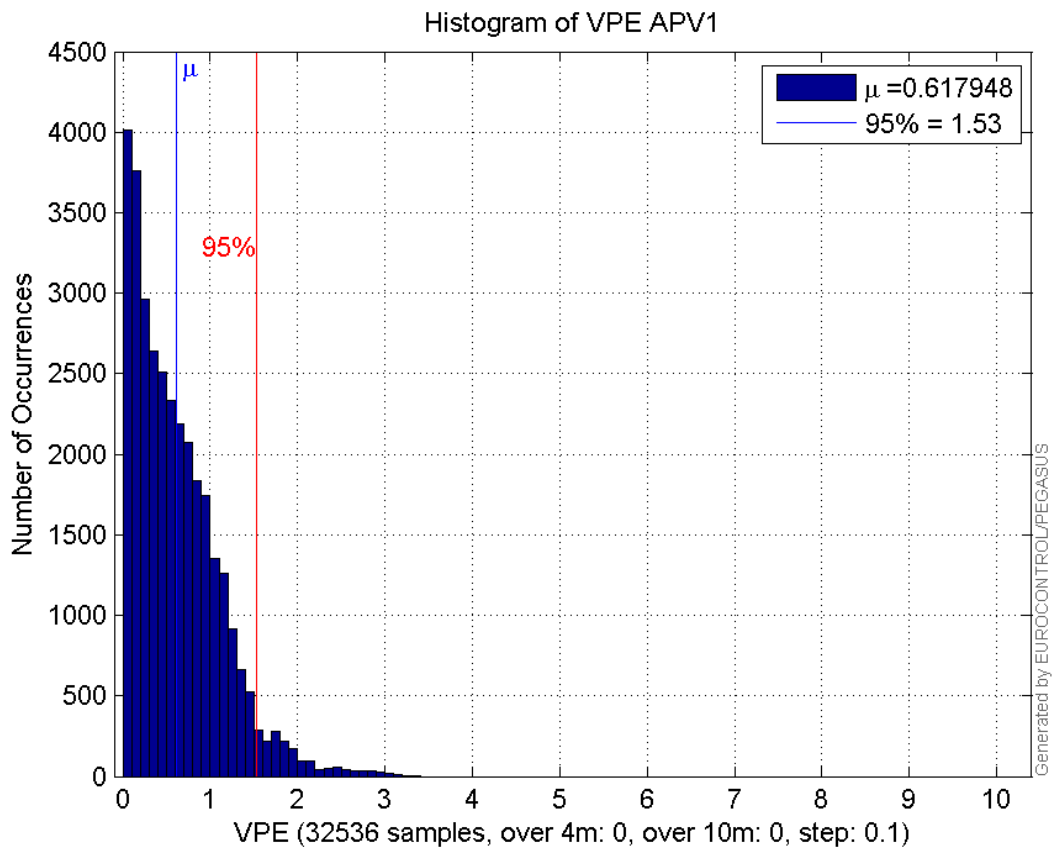
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.09489	0.383713	1.08575	1.7421	2.27076	1.16018
HPL	16.9147	6.33571	14.7597	28.7521	36.6056	18.0623
VPE	0.617948	0.503647	0.515771	1.53041	2.29993	0.79719
VPL	19.7184	6.60267	17.6624	34.2866	40.9782	20.7944

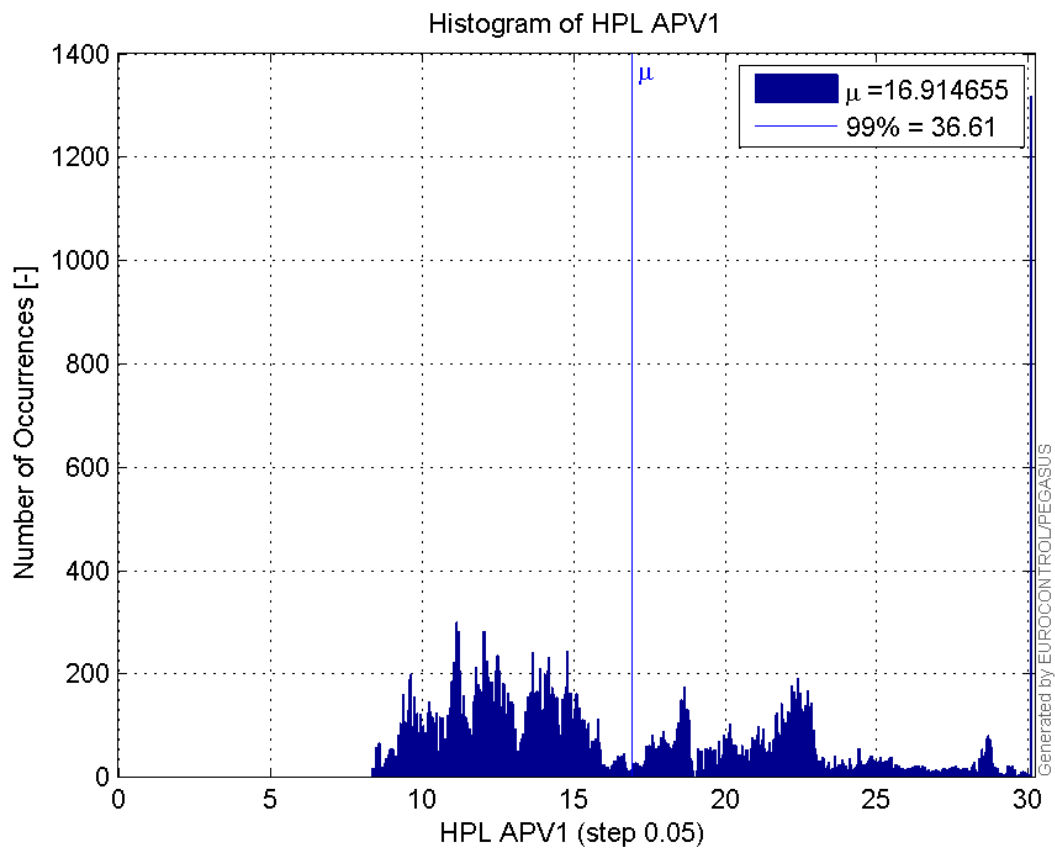
Histogram of HPE APV1:



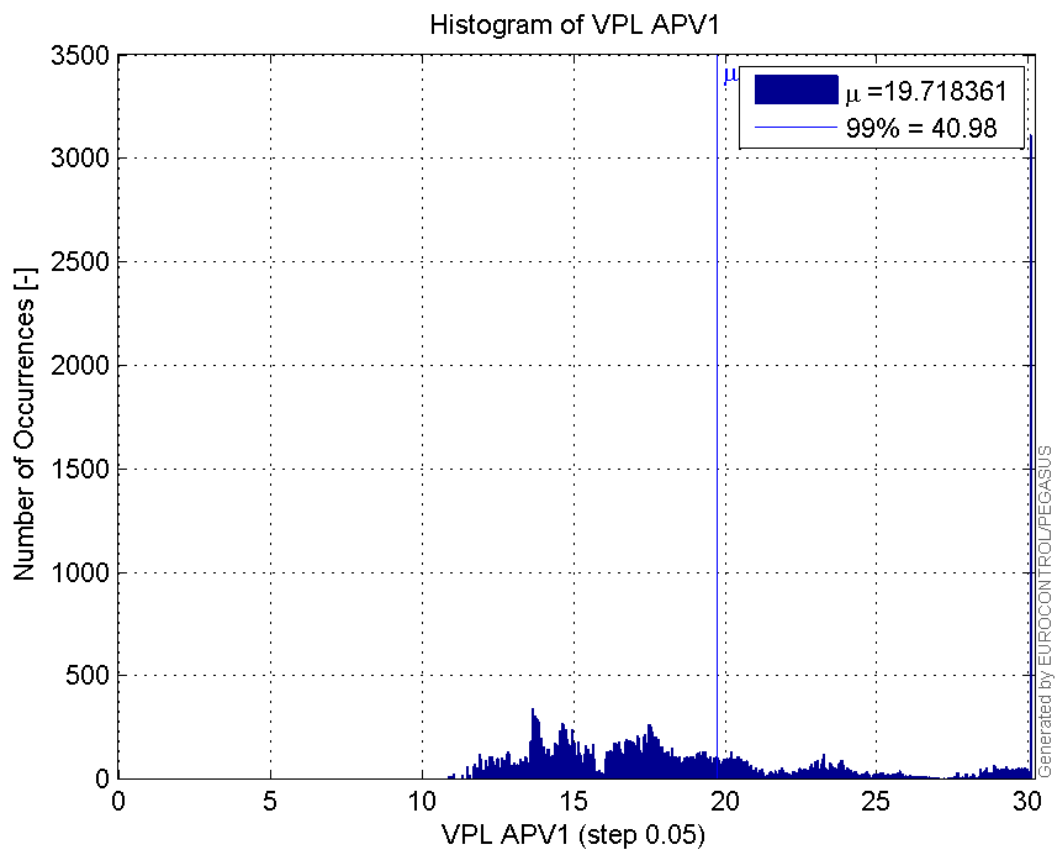
Histogram of VPE APV1:



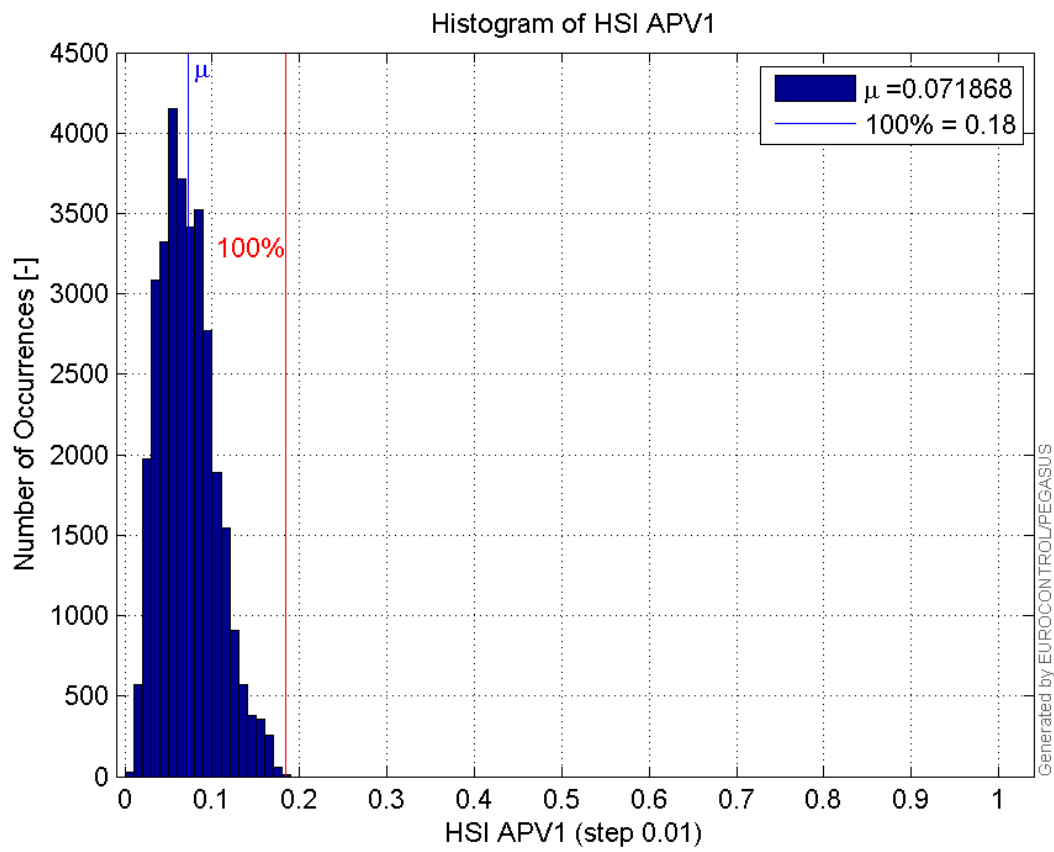
Histogram of HPL APV1:



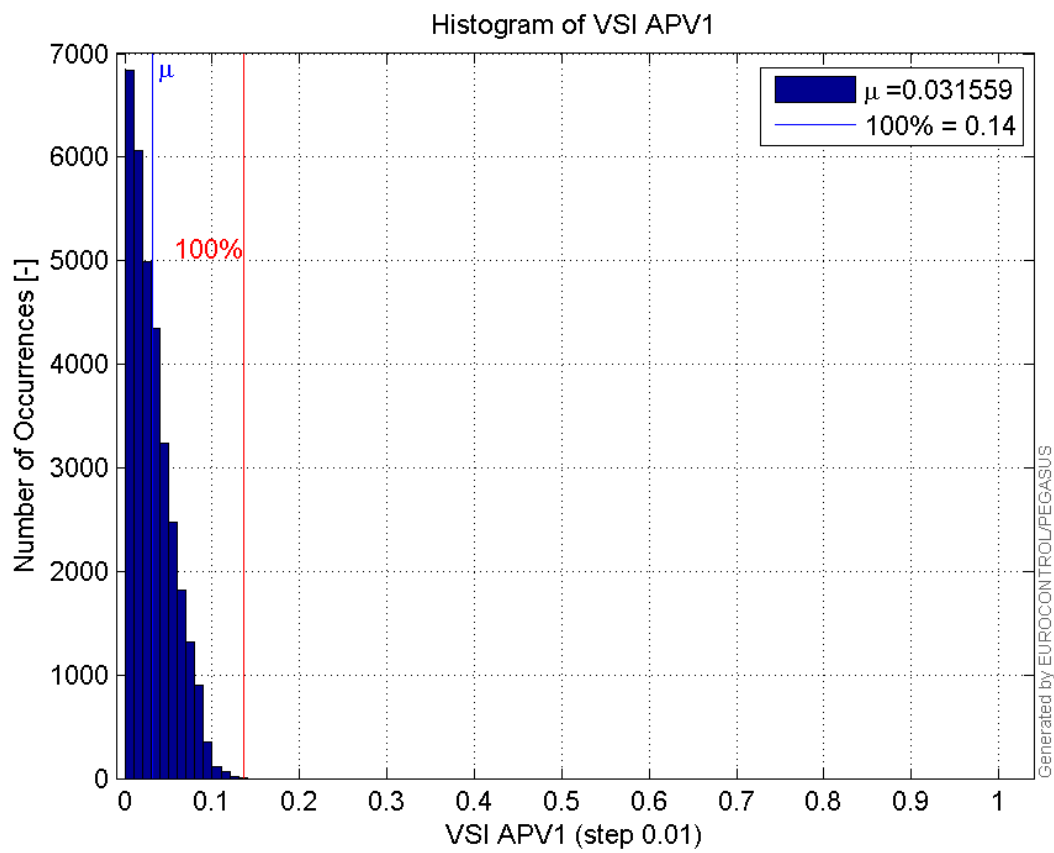
Histogram of VPL APV1:



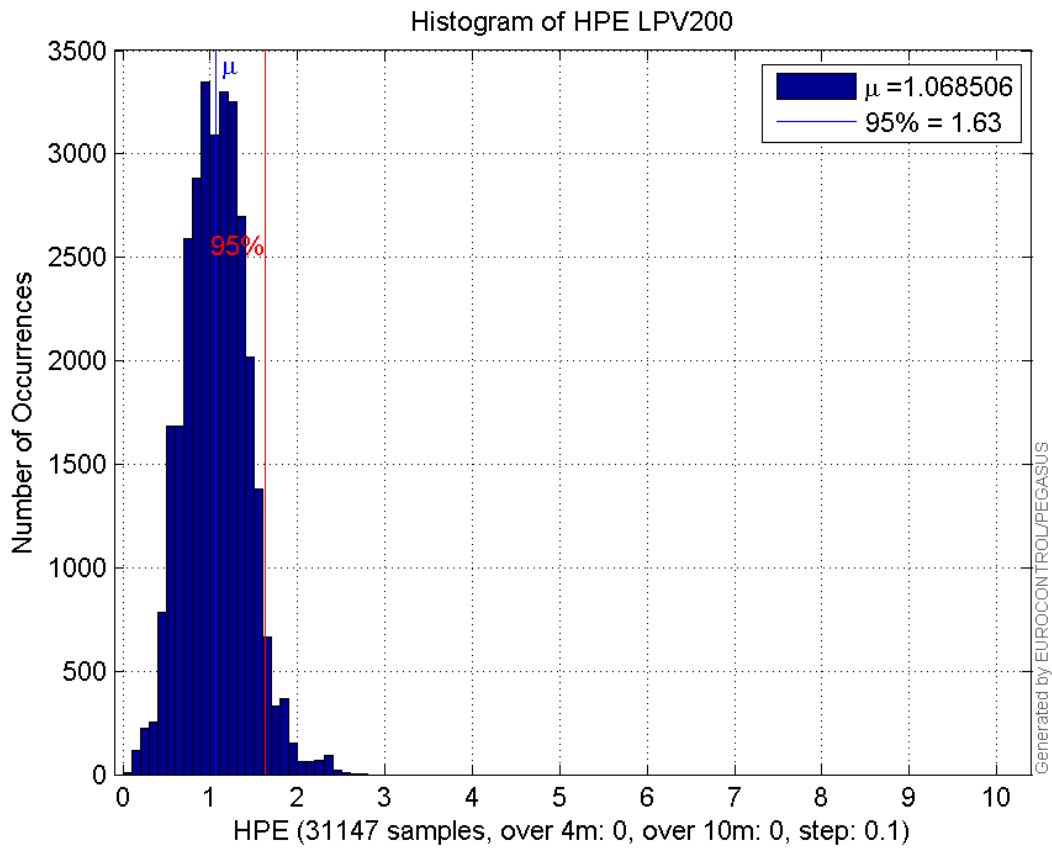
Histogram of HSI APV1:



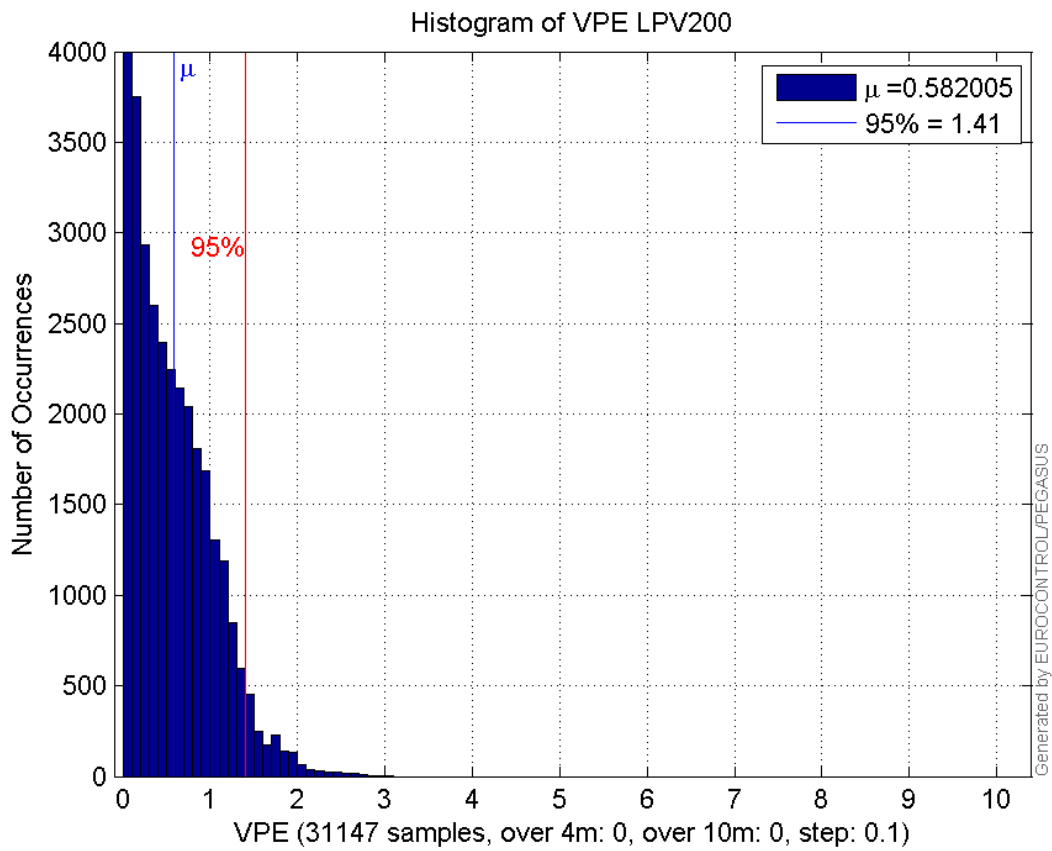
Histogram of VSI APV1:



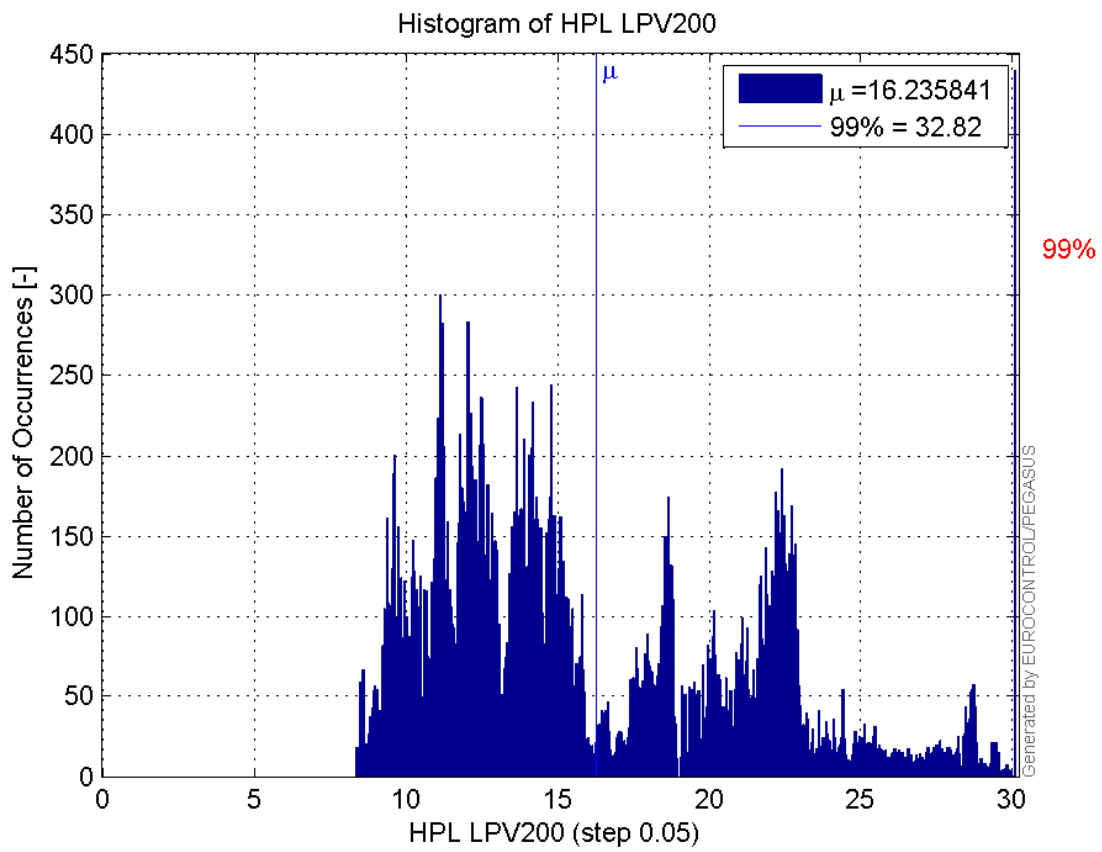
Histogram of HPE LPV200:



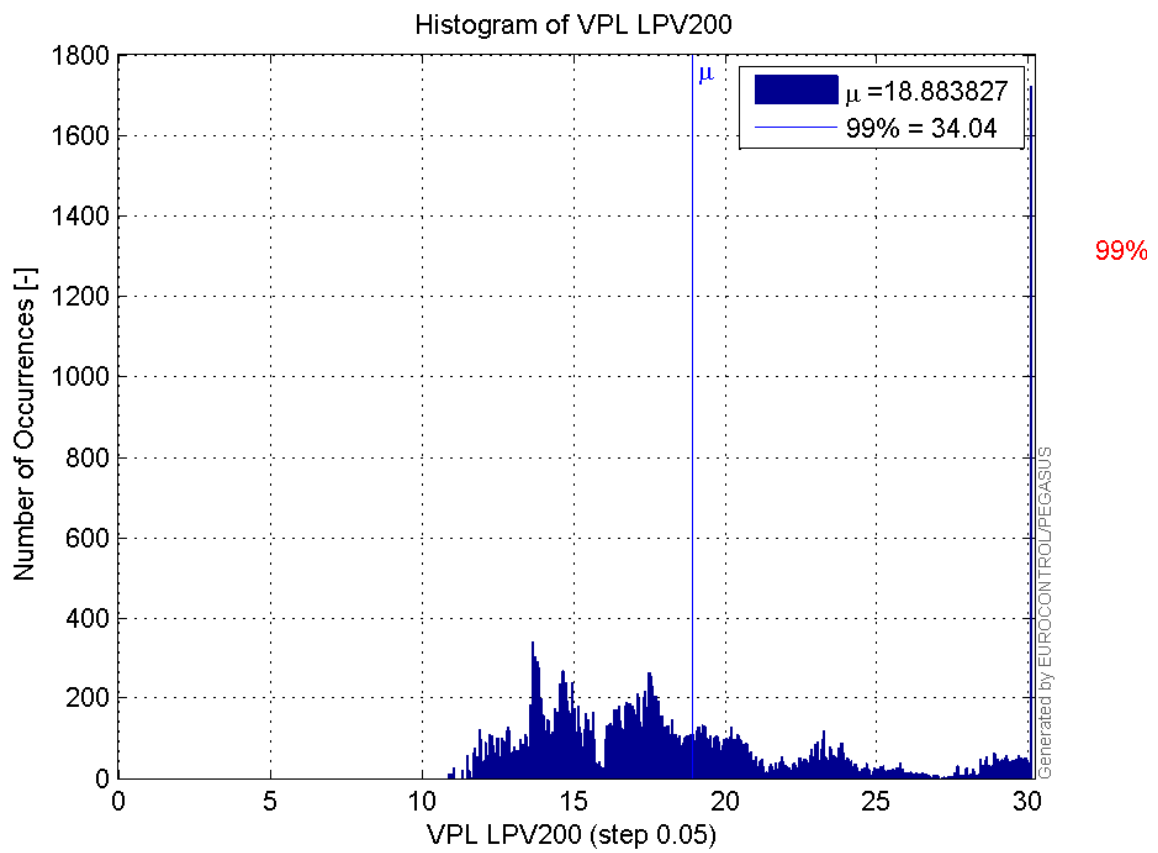
Histogram of VPE LPV200:



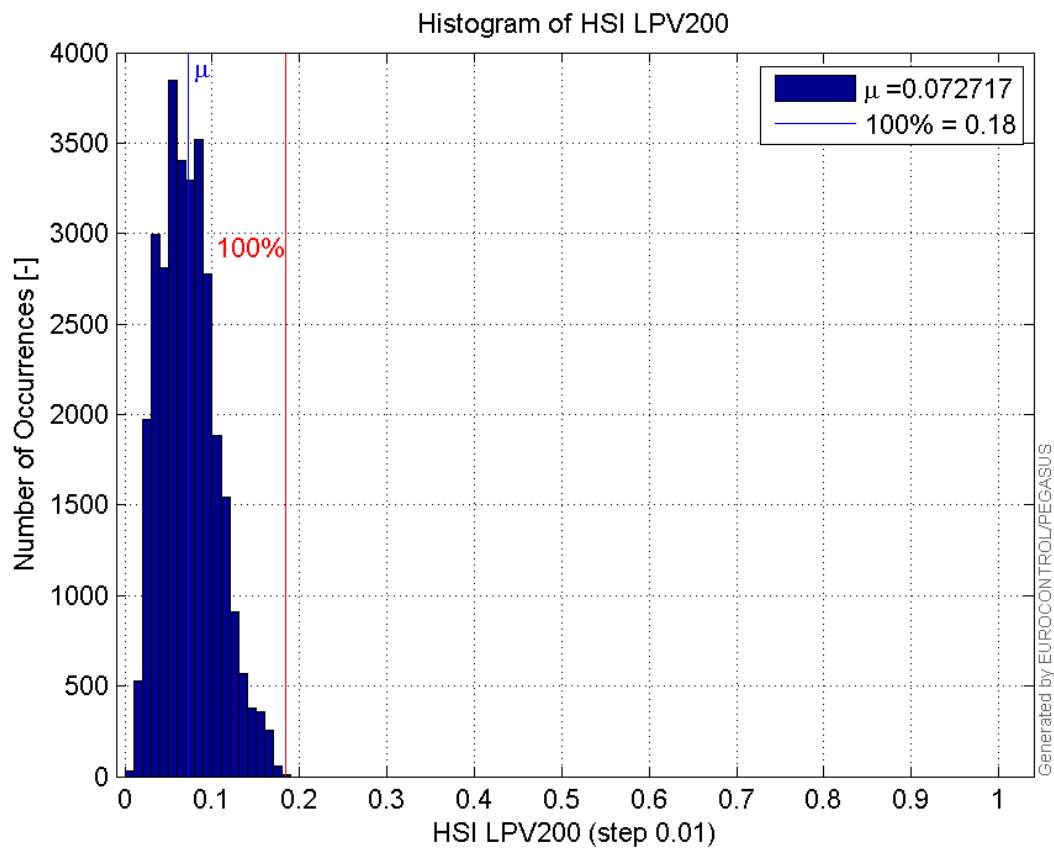
Histogram of HPL LPV200:



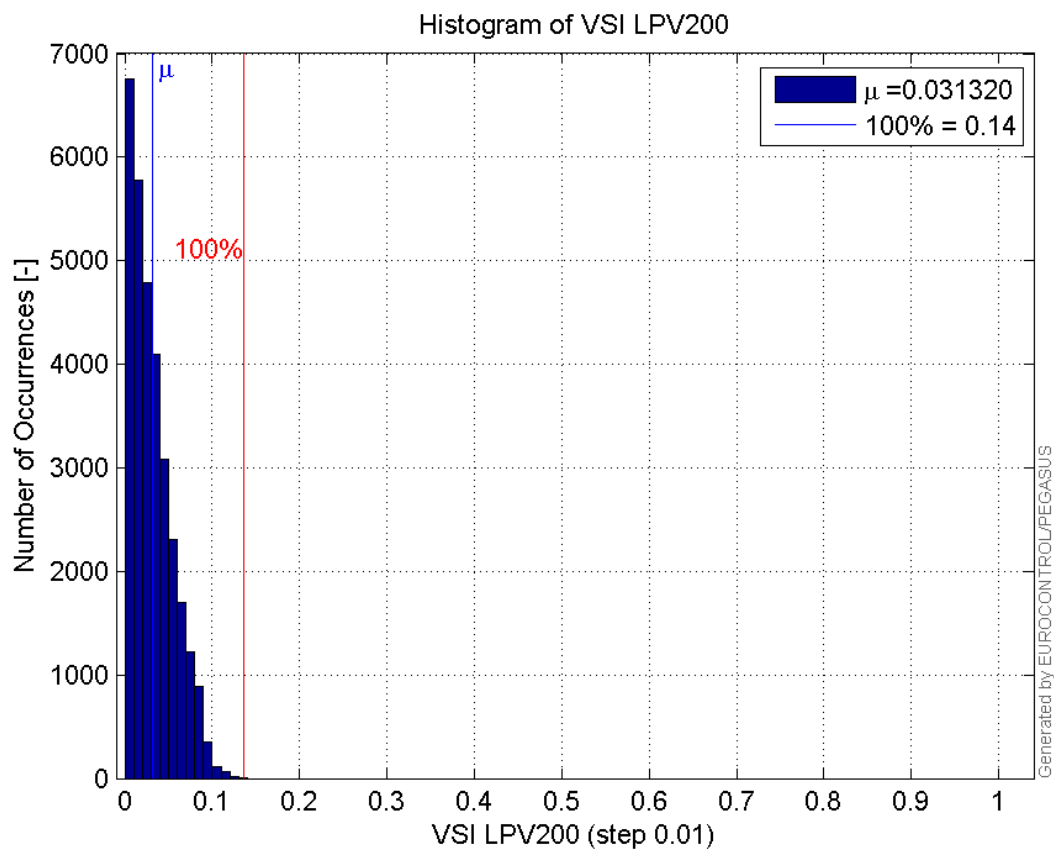
Histogram of VPL LPV200:



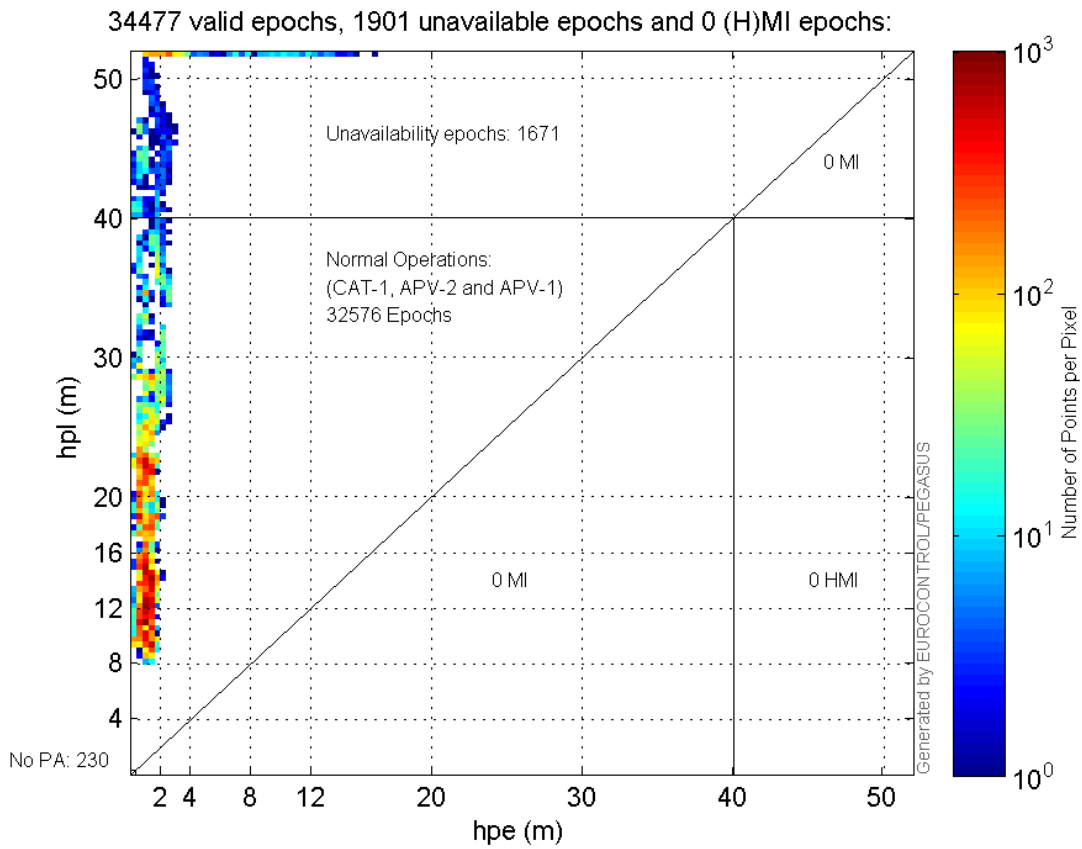
Histogram of HSI LPV200:



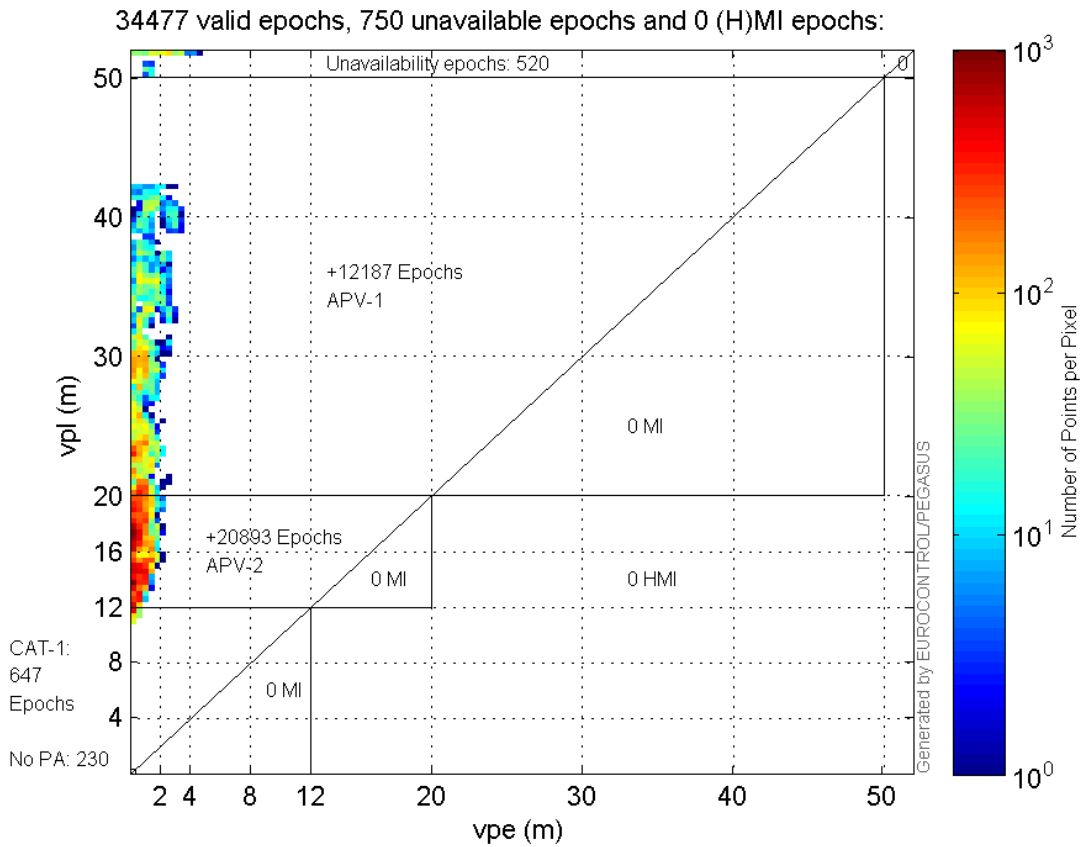
Histogram of VSI LPV200:



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/2015_12_23EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_12_23EGNOS/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	50.439
init_lon	results	30.4297
init_alt	results	221.5955
mi_numbers	results	0

SBAS Messages

start: 06:21:53.129 23.12.2015 (week: 1876 sec: 282113.129)
end: 16:02:37.129 23.12.2015 (week: 1876 sec: 316957.129)
duration: 09:40:44 ..

quality

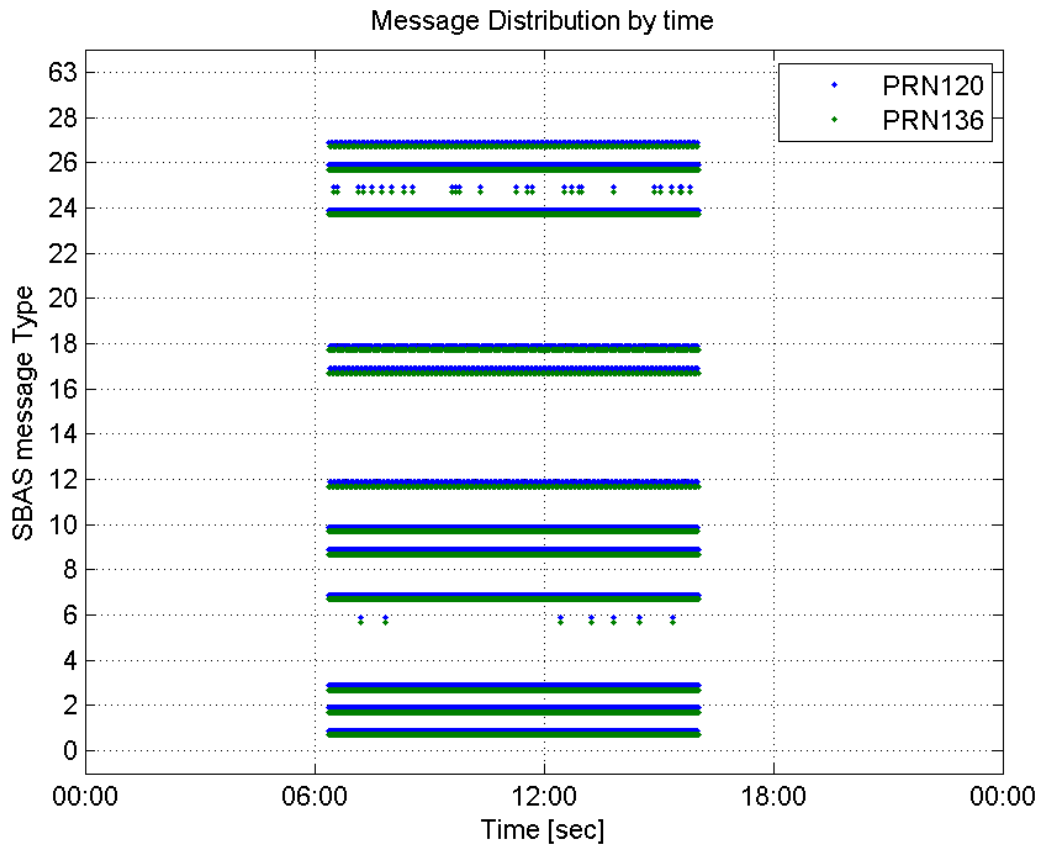
valid samples 69690
total samples 69690
number of SBAS PRNs 2

SBAS SIS Overview

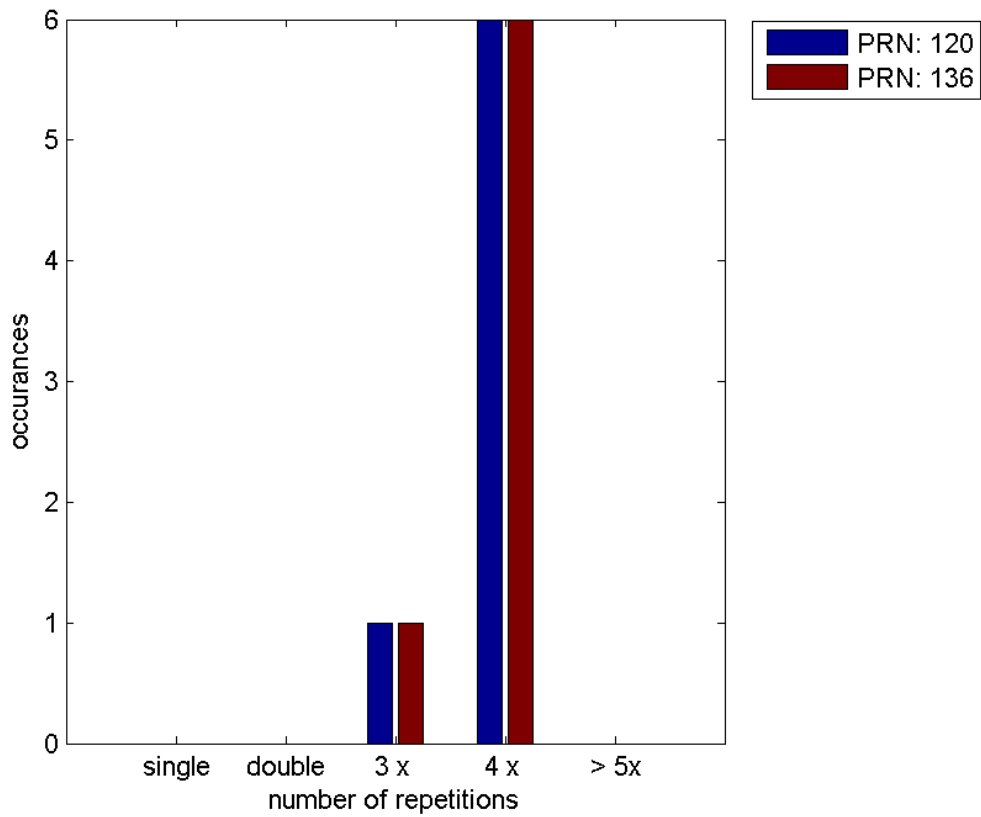
Message Type 6 repetitions :

	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:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

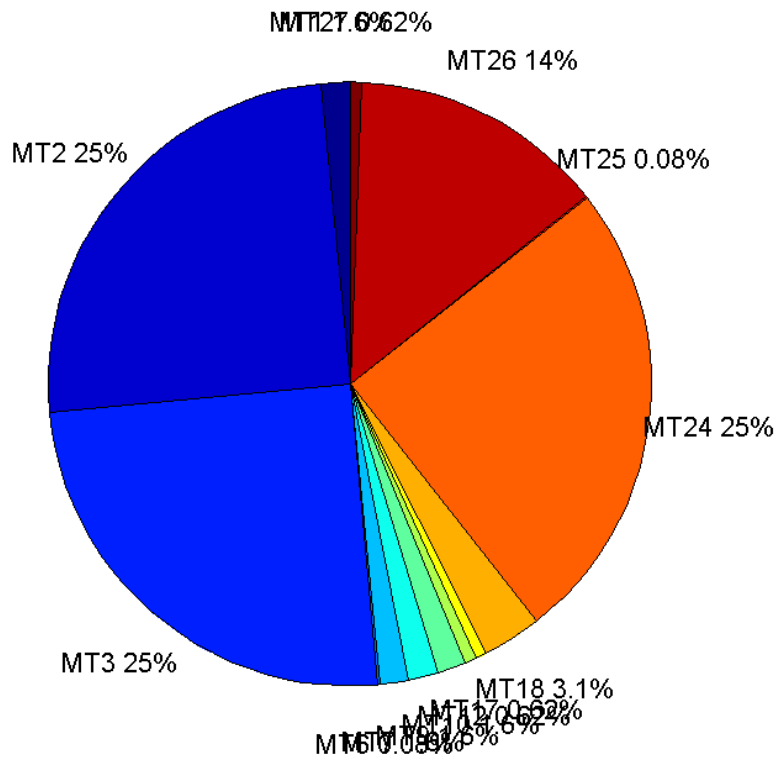
	number of messages	%
MT 0	0	0
MT 1	542	1.55546
MT 2	8701	24.9706
MT 3	8701	24.9706
MT 4	0	0
MT 5	0	0
MT 6	28	0.0803559
MT 7	543	1.55833
MT 9	542	1.55546
MT 10	542	1.55546
MT 12	217	0.622758
MT 17	217	0.622758
MT 18	1085	3.11379
MT 24	8701	24.9706
MT 25	28	0.0803559
MT 26	4781	13.7208
MT 27	217	0.622758
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	34845	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	71	64.2495	0	0	0
MT 2	4	8	4.0046	7	0	0
MT 3	4	8	4.00471	7	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	16438	1087.19	6	6	6
MT 7	64	71	64.2491	0	0	0
MT 9	64	71	64.2569	0	0	0
MT 10	64	71	64.2569	0	0	0
MT 12	160	170	160.421	216	0	0
MT 17	156	170	160.421	0	0	0
MT 18	4	146	31.9917	0	0	0
MT 24	4	8	4.0046	0	0	0

MT 25	46	3801	1243.48	0	0	0
MT 26	4	32	7.28933	0	0	0
MT 27	156	170	160.421	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

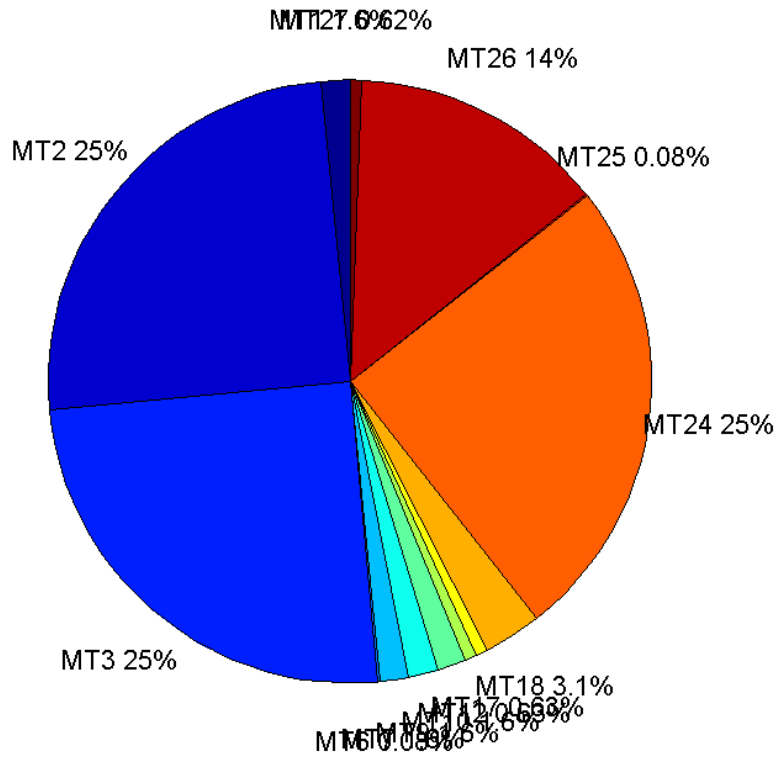
	number of messages	%
MT 0	0	0
MT 1	542	1.55546
MT 2	8701	24.9706
MT 3	8701	24.9706
MT 4	0	0
MT 5	0	0
MT 6	28	0.0803559

MT 7	543	1.55833
MT 9	543	1.55833
MT 10	542	1.55546
MT 12	218	0.625628
MT 17	218	0.625628
MT 18	1088	3.1224
MT 24	8701	24.9706
MT 25	28	0.0803559
MT 26	4775	13.7035
MT 27	217	0.622758
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	34845	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	71	64.2495	0	0	0
MT 2	4	8	4.0046	7	0	0
MT 3	4	8	4.00471	7	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	16438	1087.19	6	6	6
MT 7	64	71	64.2491	0	0	0
MT 9	64	71	64.2491	0	0	0
MT 10	64	71	64.2495	0	0	0
MT 12	156	170	160.438	217	0	0
MT 17	156	170	160.419	0	0	0
MT 18	4	142	32.0359	0	0	0
MT 24	4	8	4.0046	0	0	0
MT 25	46	3801	1243.48	0	0	0
MT 26	4	47	7.29263	0	0	0
MT 27	156	170	160.421	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_12_23EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2015_12_23EGNOS/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