

Global View

version 4.8.2
program Pegasus
comment Konin V., Shyshkov F. InsideGNSS, Jan-Feb 2015,
P.50 - 54
country Ukraine
city Kiev
abbreviation NAU
site Laboratory satellite systems
date 17/11/2015

Range Domain

start: 10:37:22 16.11.2015 (week: 1871 sec: 124642)
end: 15:48:41 16.11.2015 (week: 1871 sec: 143321)
duration: 05:11:20 ..

quality

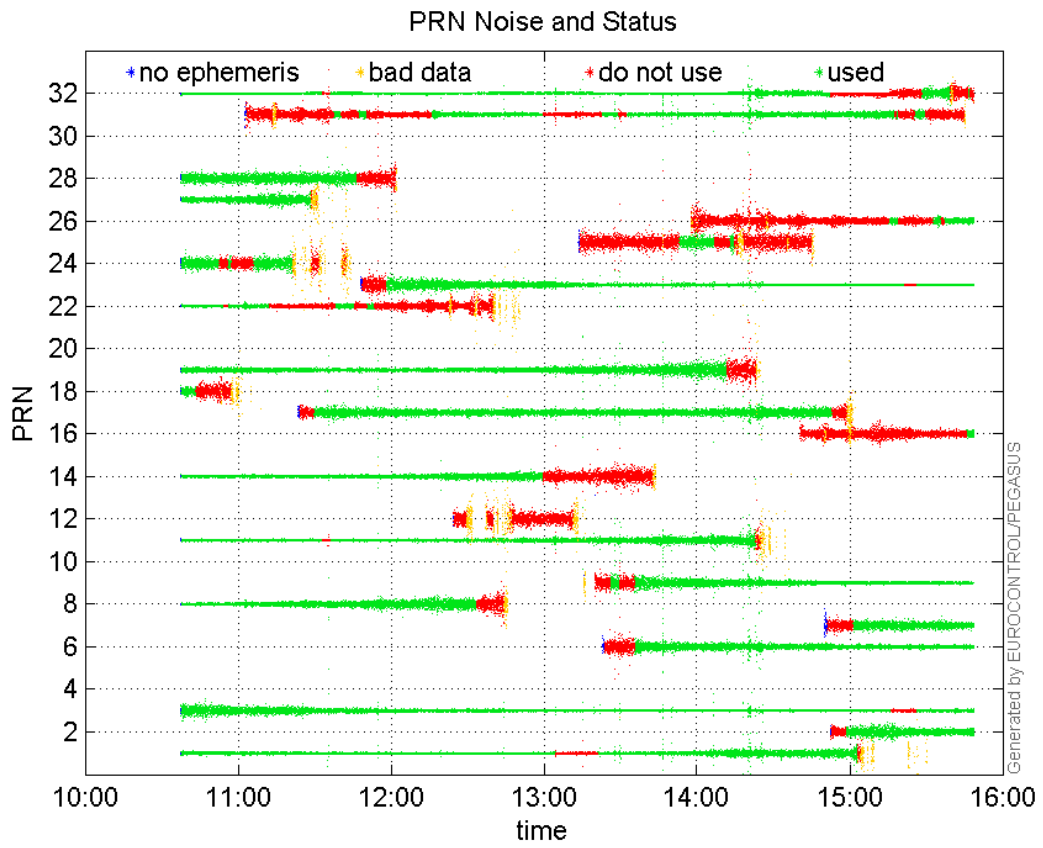
valid samples 18680
total samples 18680

PRN overview

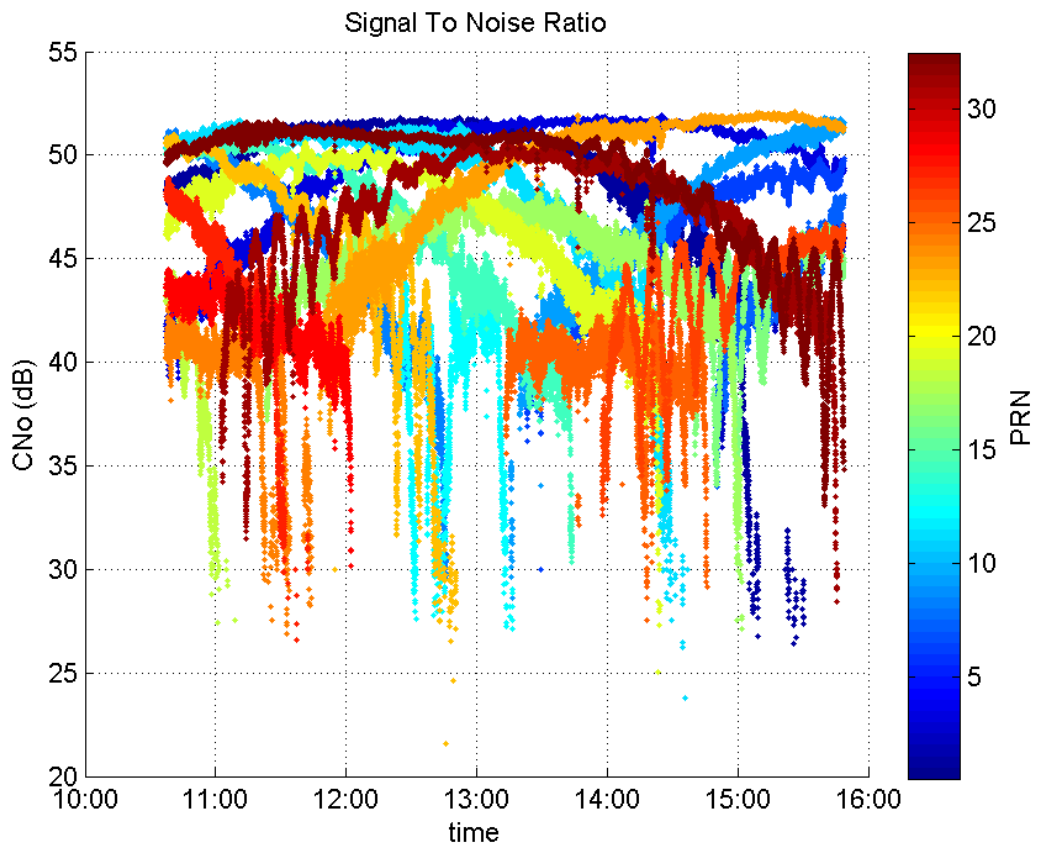
Number of Visible GPS Satellites 23
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



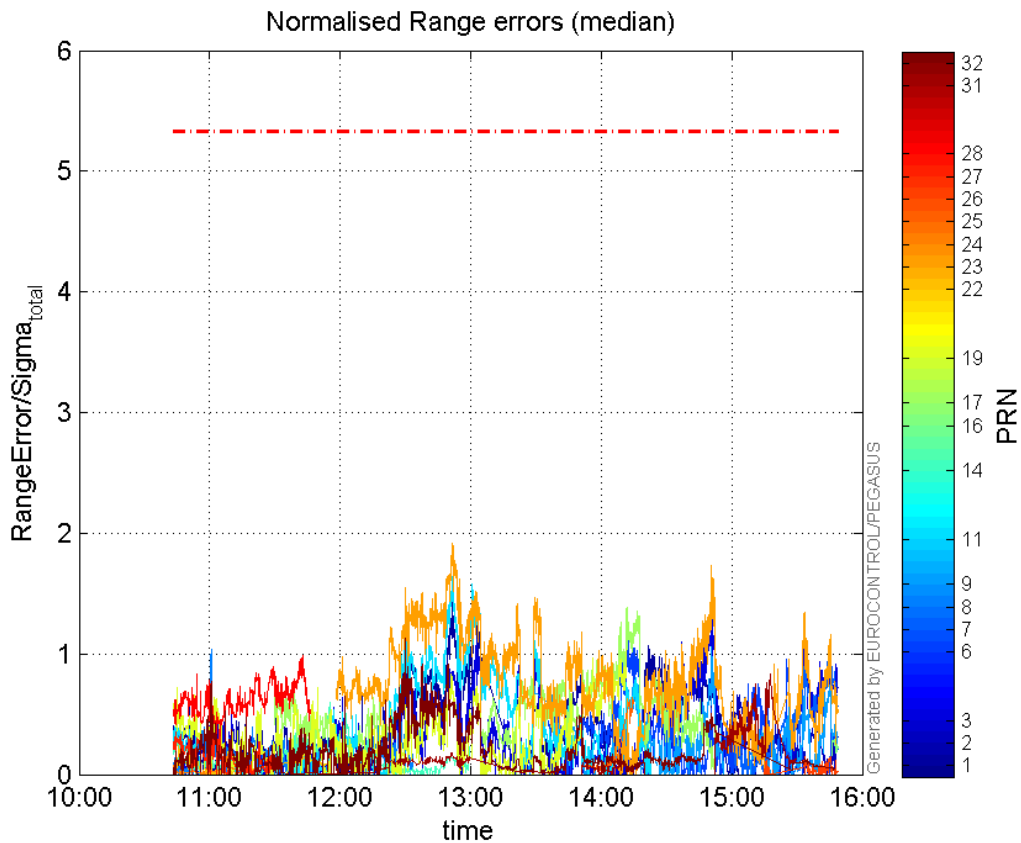
range errors

Number of Overbounding Norm Errors 0

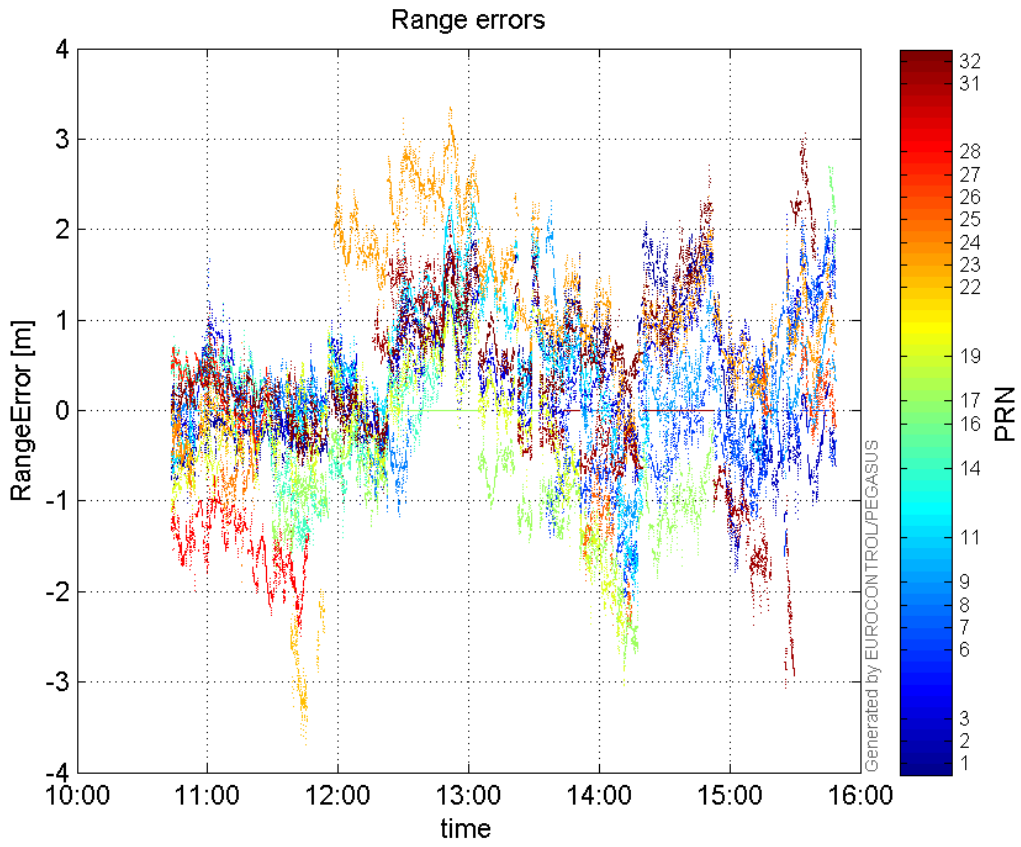
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1871	132686	1	1.45072	1.97172	1.35913
1871	140560	2	0.66417	-1.79119	2.69688
1871	139840	3	1.40116	2.09961	1.49848
1871	137531	6	1.23552	-2.1996	1.7803
1871	143116	7	1.05116	2.2242	2.11595
1871	126040	8	1.03982	1.6731	1.60902
1871	139840	9	1.05884	1.63485	1.54401
1871	132714	11	1.70703	2.52531	1.47936
1871	129729	14	0.639501	-1.41055	2.2057
1871	143230	16	0.290914	2.68895	9.24313
1871	137503	17	1.38013	-2.82156	2.04442
1871	137483	19	1.04211	-3.03427	2.91166
1871	125074	22	0.305116	-0.77182	2.5296
1871	132693	23	1.91567	3.348	1.7477
1871	126490	24	0.164625	-1.23479	7.50064
1871	137656	25	0.639716	-2.32694	3.63745
1871	142408	26	0.151943	1.19299	7.85161
1871	126040	27	0.4965	1.08228	2.17983
1871	128559	28	0.983551	-2.49837	2.54016
1871	141451	31	0.828355	-2.21083	2.66894
1871	131403	32	1.12515	1.48796	1.32246

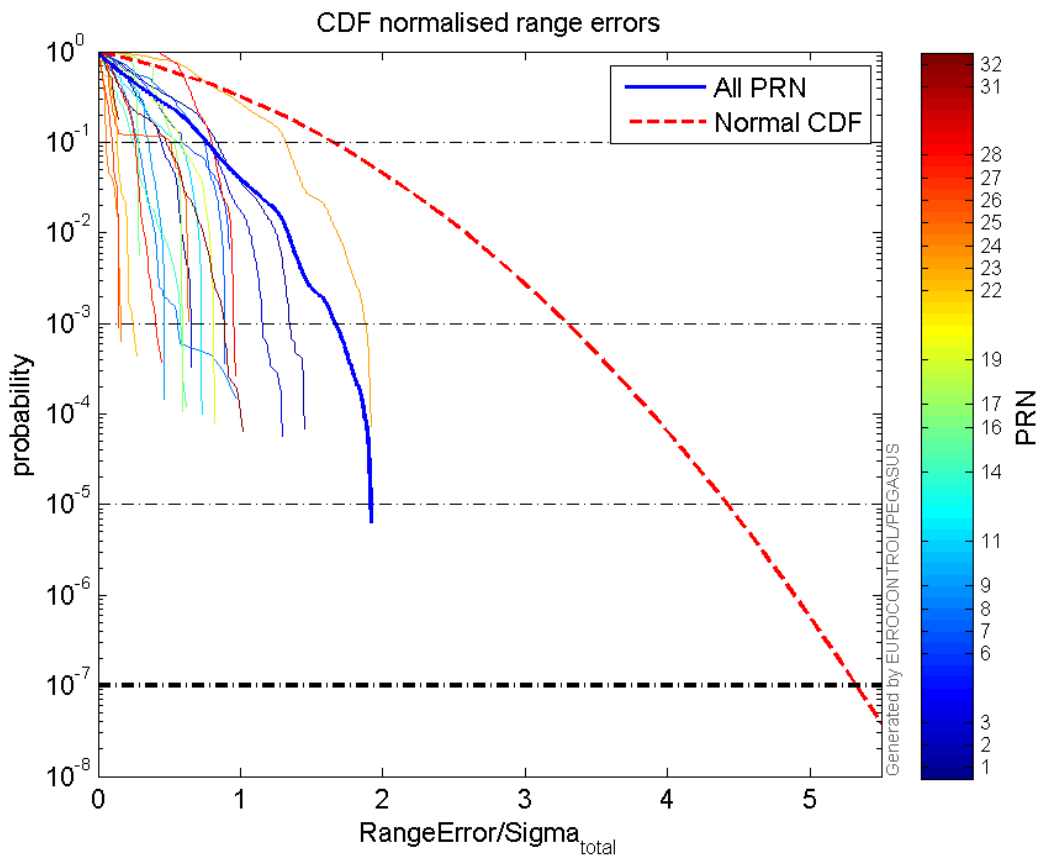
Normalised Range errors (median):



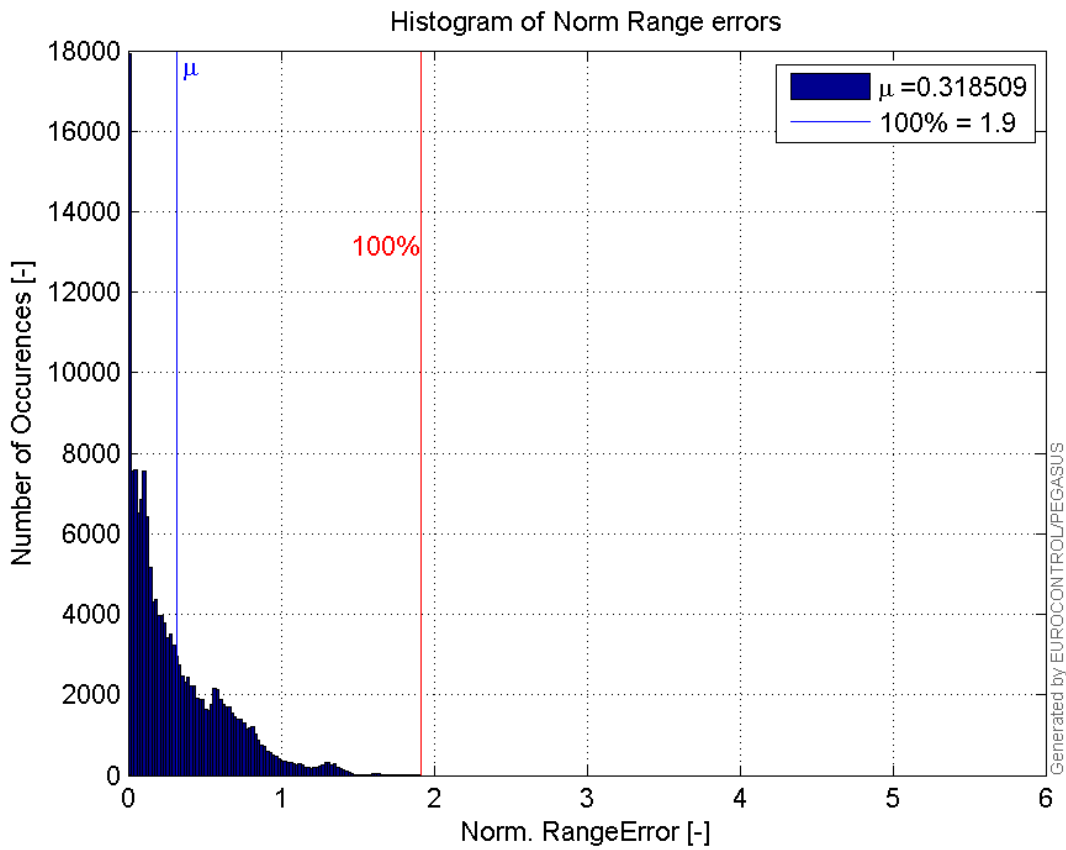
Range errors:



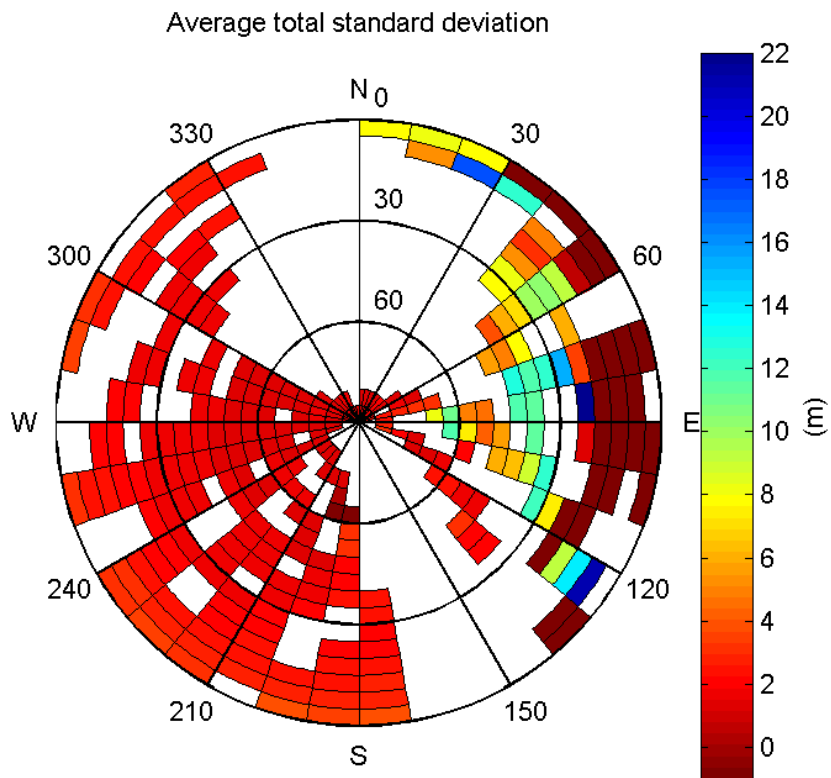
CDF normalised range errors:



Histogram of Norm Range errors:

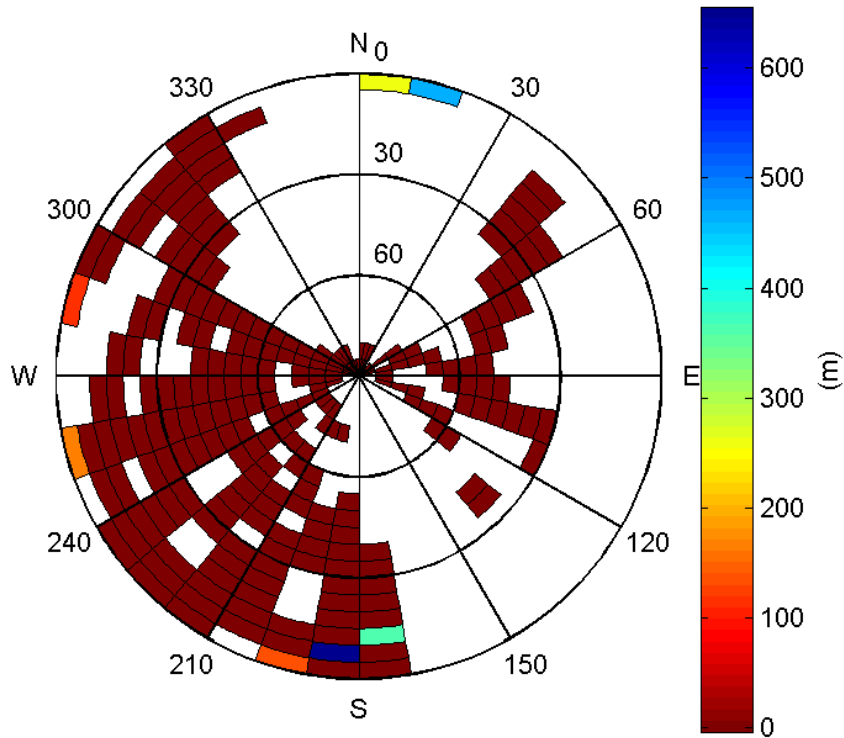


Sigma Sky Plot:



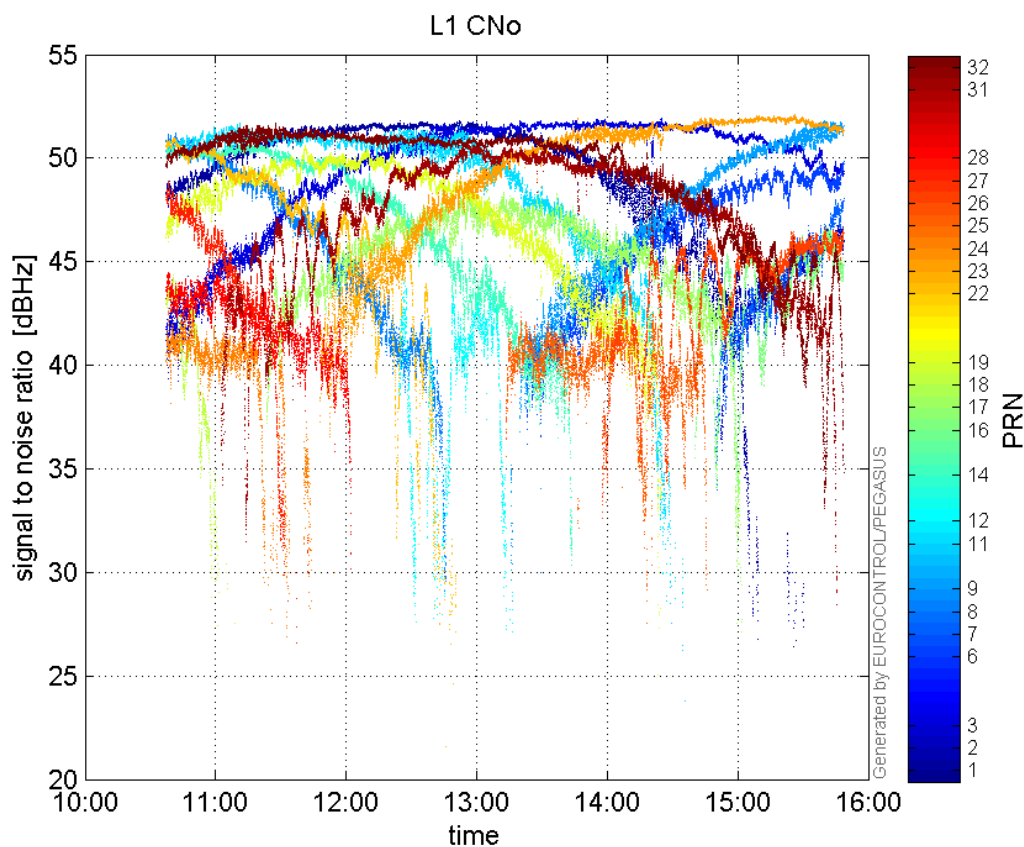
Norm Error Sky Plot:

Maximum Range Error

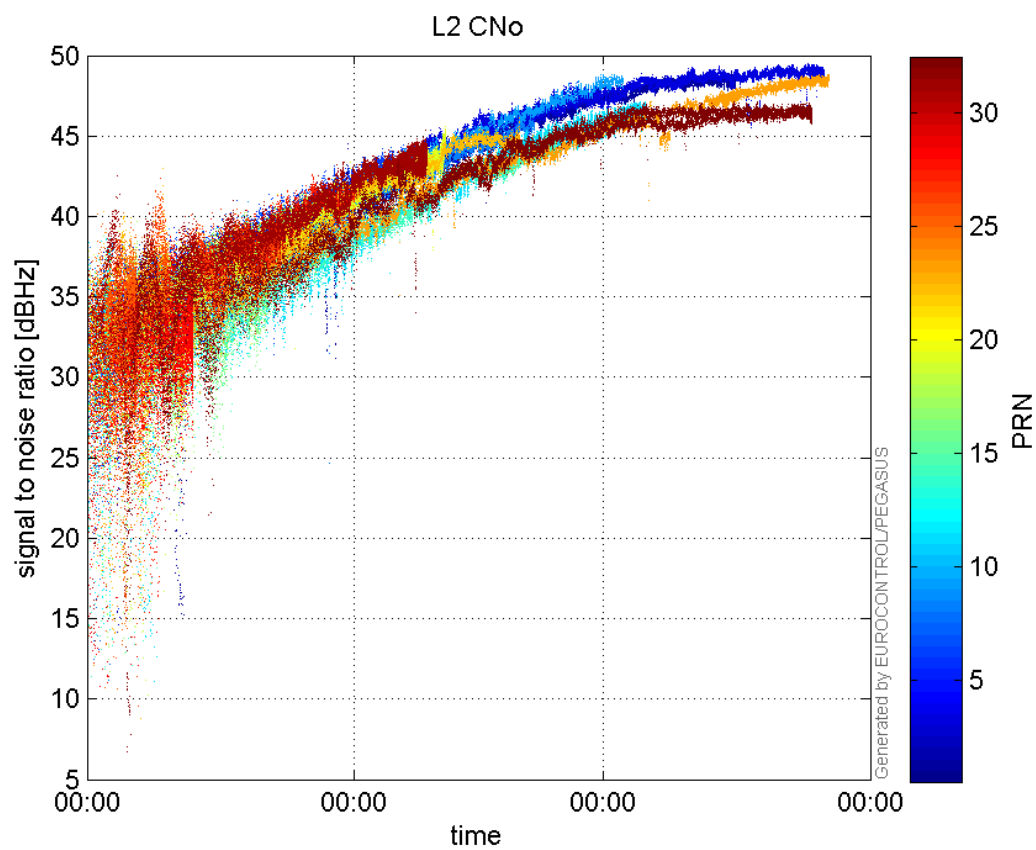


signal quality

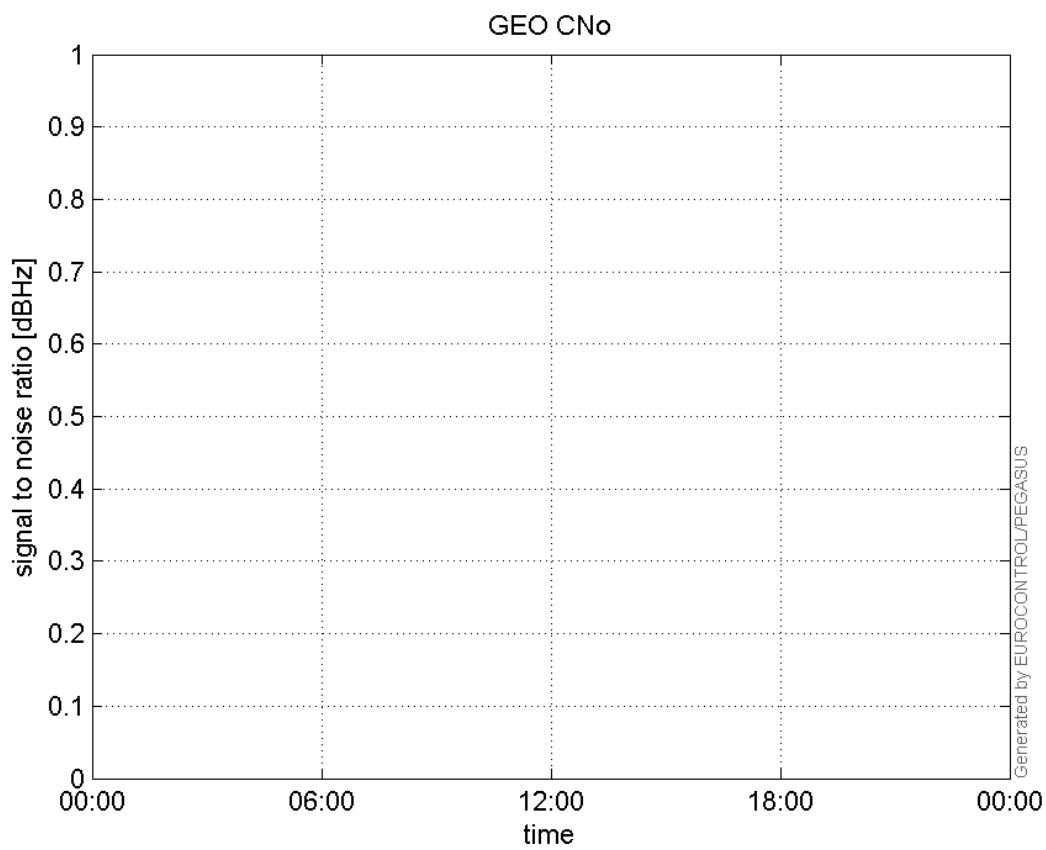
L1 CNo:



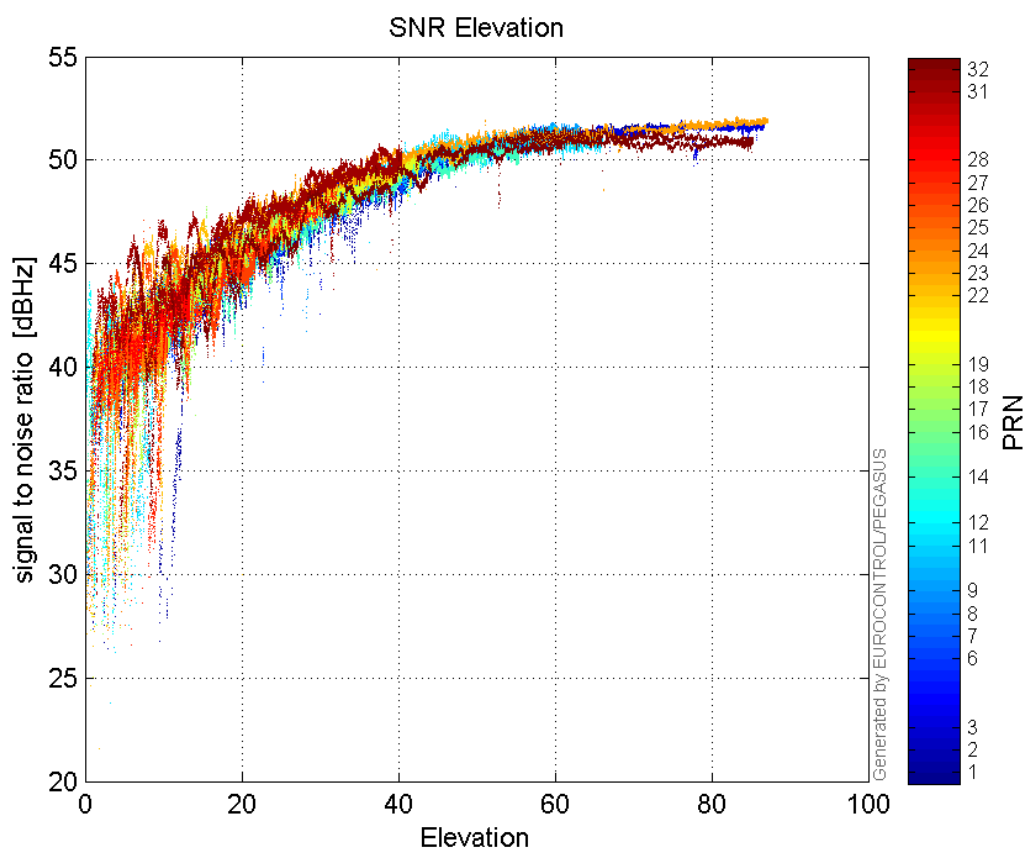
L2 CNo:



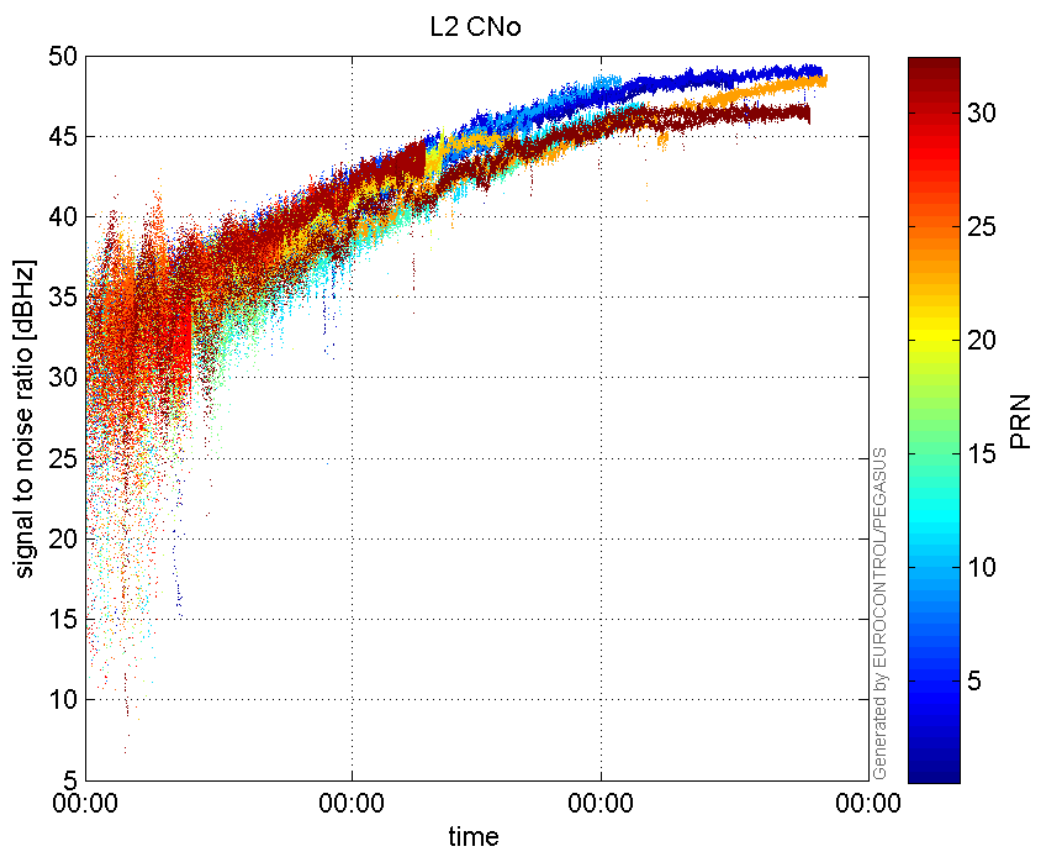
GEO CNo:



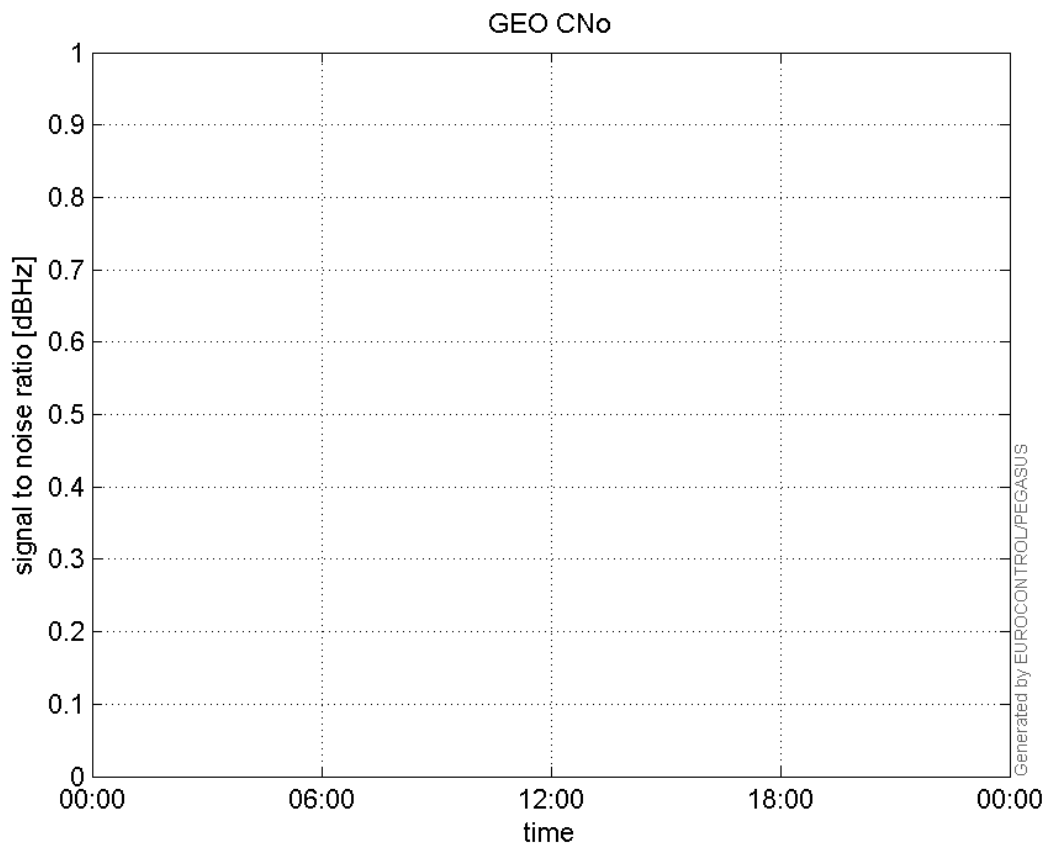
SNR Elevation:



L2 CNo:

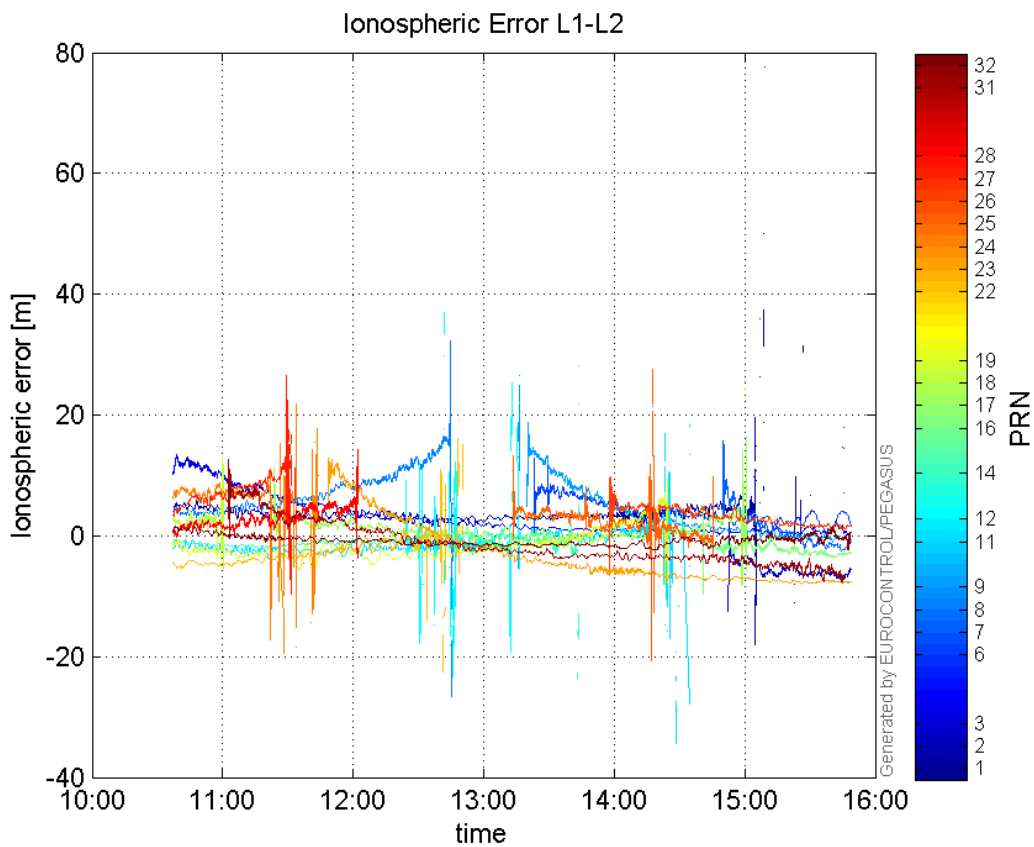


GEO CNo:



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:/PegasusDateGob/job/2015_11_16EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_11_16EGNOS/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	226.9607
mi_numbers	results	0

Position Domain

start: 10:37:22 16.11.2015 (week: 1871 sec: 124642)
end: 15:48:41 16.11.2015 (week: 1871 sec: 143321)
duration: 05:11:20 ..

quality

valid samples 18311
total samples 18680

Event tables

Position discontinuity events type no (0)
APV-I discontinuity events type all
APV-35m discontinuity events type long
LPV-200 discontinuity events type long
CAT-I discontinuity events type nothing

extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
max normHor	143259	1.58864	12.3048	0.129108	-0.0665797	17.9041	0.00371868
max normVer	136822	0.744631	13.8538	0.0537492	-3.08903	15.9282	0.193935
max HPE	141872	8.88324	118.861	0.0747364	-2.11575	35.9259	0.0588921
max VPE	134610	2.68698	33.5538	0.0800798	-4.62091	37.5061	0.123204
min HPL	125076	1.03523	8.99	0.115154	-0.118267	18.1339	0.00652186
min VPL	130556	0.859379	10.4149	0.0825143	-0.170999	12.204	0.0140117

APV-I discontinuity events :

#	Epoch	duration	stable period
1	141686	279	16675

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	133612	4	1
2	133679	977	3
3	141686	279	6543

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	133612	4	1
2	133679	977	3
3	141686	279	6543

First Glance analysis

Duration	18680
Number of Samples	18680
Number of invalid sample	369
Number of no position solution samples	0
Number of missing sample	0
Logging Loss	0
Processing Loss	1.9754
Number of Misleading Information	0
Data gaps	0
Discontinuities	0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
18311	18032	16990	0	16990

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	2.19889	2.14155	1.81561	NaN	1.81561
HPEscale 95%	NaN	4.05113	4.07519	NaN	4.07519
VPE 95%	2.73679	2.74501	2.50224	NaN	2.50224
VPEscale 95%	NaN	6.5149	4.62161	NaN	4.62161

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.984763	0.927858	0	0.927858
measurements	0.980246	0.96531	0.909529	0	0.909529
Operational	0.980246	0.96531	0.909529	0	0.909529

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	1	55	--	55
Long	--	1	3	--	3
Independent	--	1	1	--	1
P(disc.)	NaN	0.000831854	0.000882872	NaN	0.000882872
P(slide)	NaN	0.000831854	0.0113596	NaN	0.0113596

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

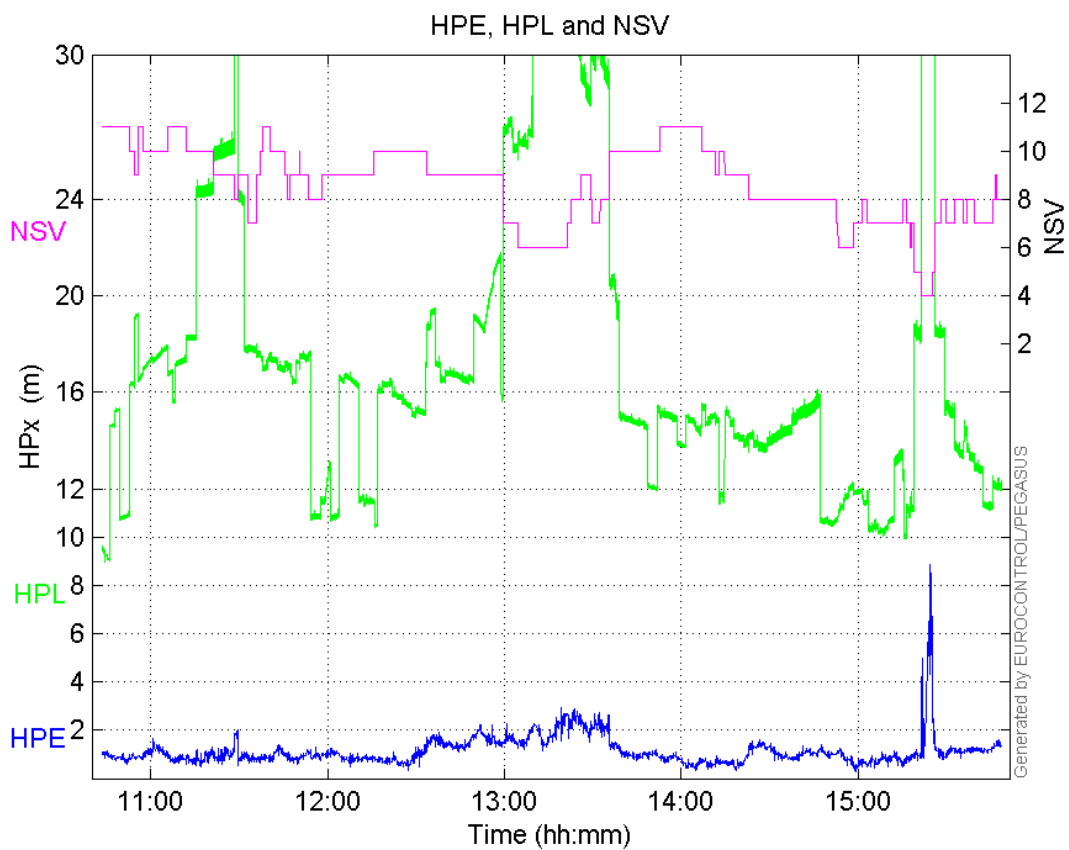
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	18311	18032	16990	0	16990
SIS Availability	1	0.984763	0.927858	0	0.927858
Local Availability	0.980246	0.96531	0.909529	0	0.909529
Operational Availability	0.980246	0.96531	0.909529	0	0.909529
HPE 95%	2.19889	2.14155	1.81561	NaN	1.81561
HPEscale 95%	NaN	4.05113	4.07519	NaN	4.07519
VPE 95%	2.73679	2.74501	2.50224	NaN	2.50224
VPEscale 95%	NaN	6.5149	4.62161	NaN	4.62161
All Discontinuity Events	--	1	55	--	55
Long Discontinuity Events	--	1	3	--	3
Independent Discontinuity Events	--	1	1	--	1
P(discontinuity)	NaN	0.000831854	0.000882872	NaN	0.000882872

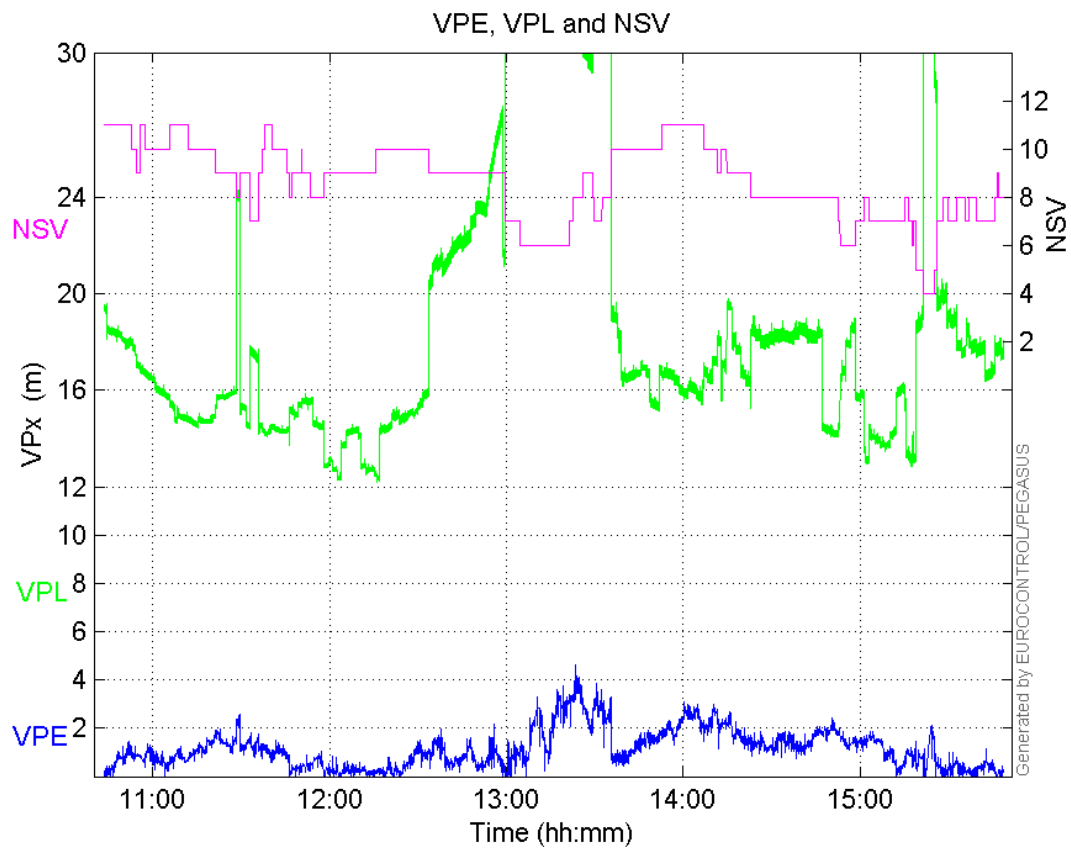
P(sliding window)	NaN	0.000831854	0.0113596	NaN	0.0113596
All Integrity Events	0	0	0	0	0
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

Time Series

HPE, HPL and NSV:

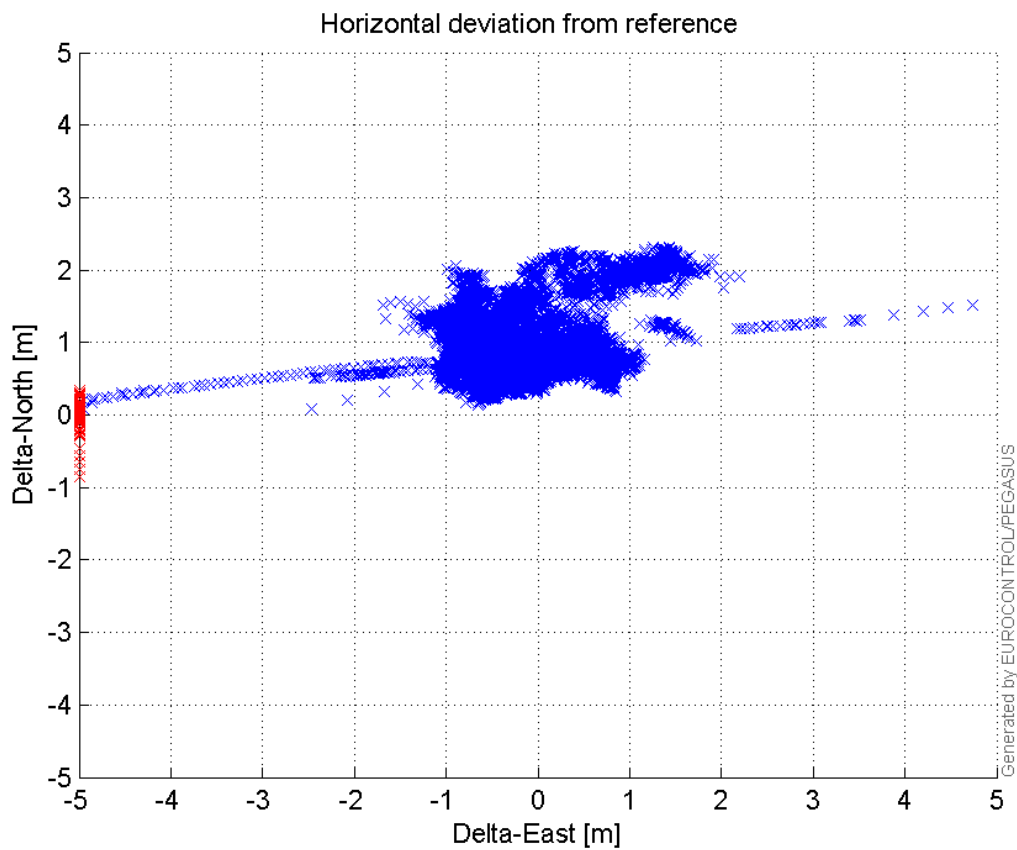


VPE, VPL and NSV:



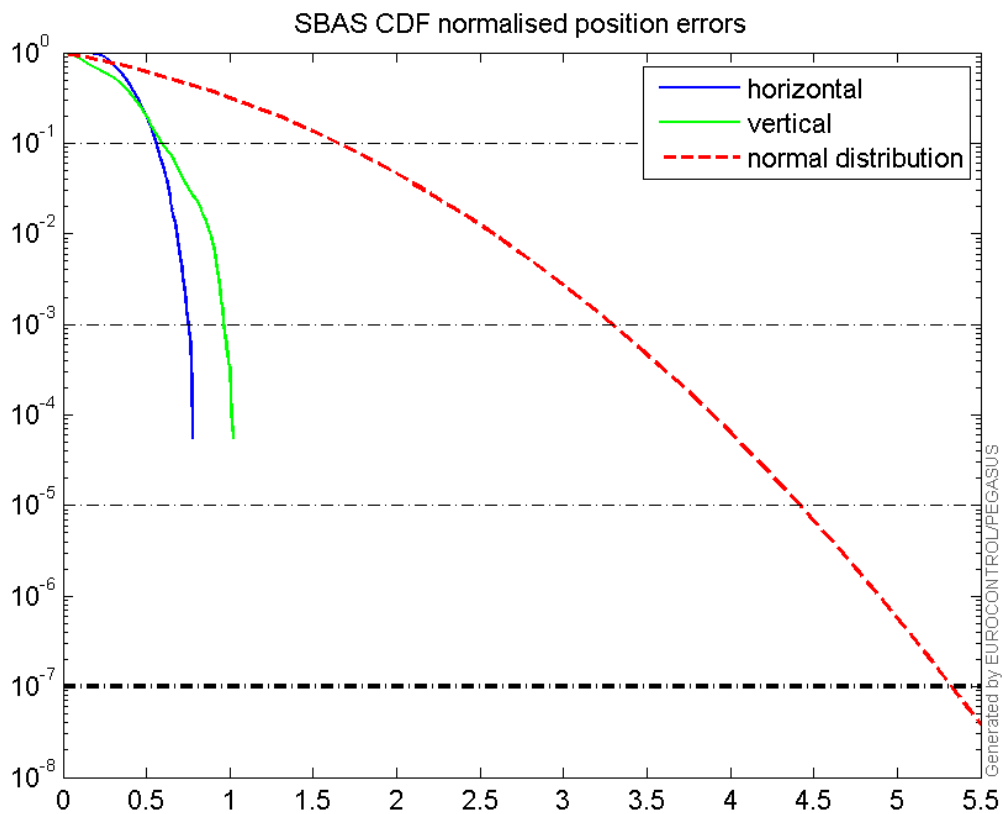
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

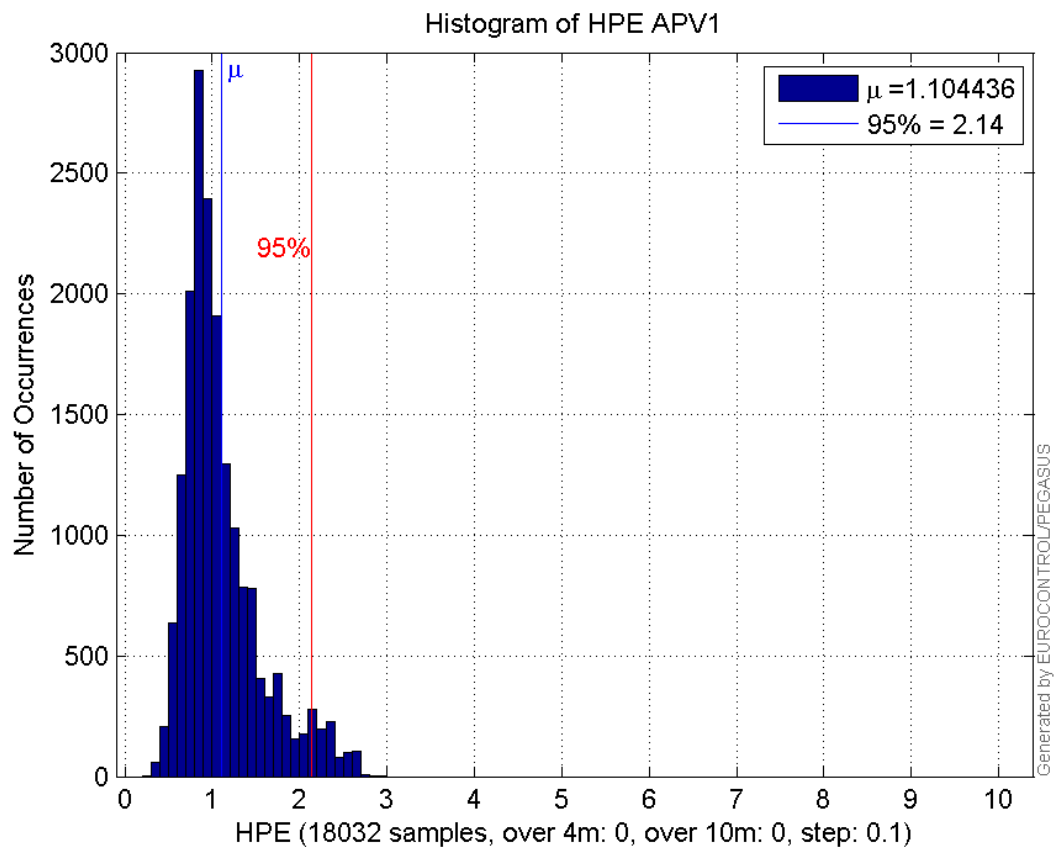
number	18032
sum	19915.186
sum2	25545.513
prctile95	2.1415516
prctile99	2.5455647
number	18032
sum	20932.821
sum2	35501.517
prctile95	2.7450138
prctile99	3.3741323
number	18032
sum	313859.97
sum2	6188859.4
prctile95	33.531
prctile99	36.612592
number	18032
sum	343312.13
sum2	7337521.9
prctile95	36.16401
prctile99	39.869054
number	18032
sum	1182.0388

sum2 84.569163
prctile95 0.10127826
prctile99 0.11351922
number 18032
sum 1114.5644
sum2 95.461196
prctile95 0.13029793
prctile99 0.16587138
number 16990
sum 17812.039
sum2 21139.688
prctile95 1.8156098
prctile99 2.356276
number 16990
sum 18441.511
sum2 28756.191
prctile95 2.5022382
prctile99 3.1590987
number 16990
sum 278217.78
sum2 4957704.6
prctile95 26.9972
prctile99 30.33116
number 16990
sum 303254.86
sum2 5794829.6
prctile95 31.9397
prctile99 34.19788
number 16990
sum 1120.1663
sum2 80.75301
prctile95 0.10187986
prctile99 0.11384133
number 16990
sum 1049.8932
sum2 90.92472
prctile95 0.13204591
prctile99 0.16678713

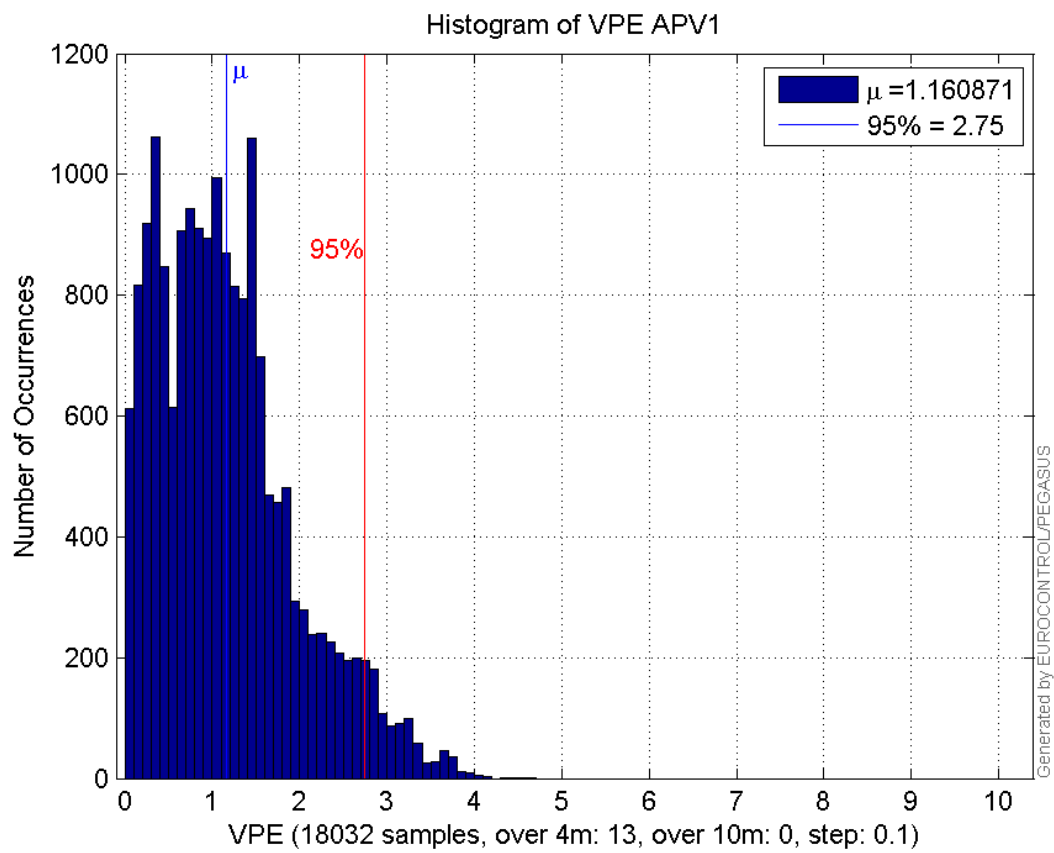
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.10444	0.443744	0.981833	2.14155	2.54556	1.19024
HPL	17.4057	6.34495	15.5759	33.531	36.6126	18.5261
VPE	1.16087	0.788175	1.04855	2.74501	3.37413	1.40314
VPL	19.039	6.66587	16.7554	36.164	39.8691	20.1722

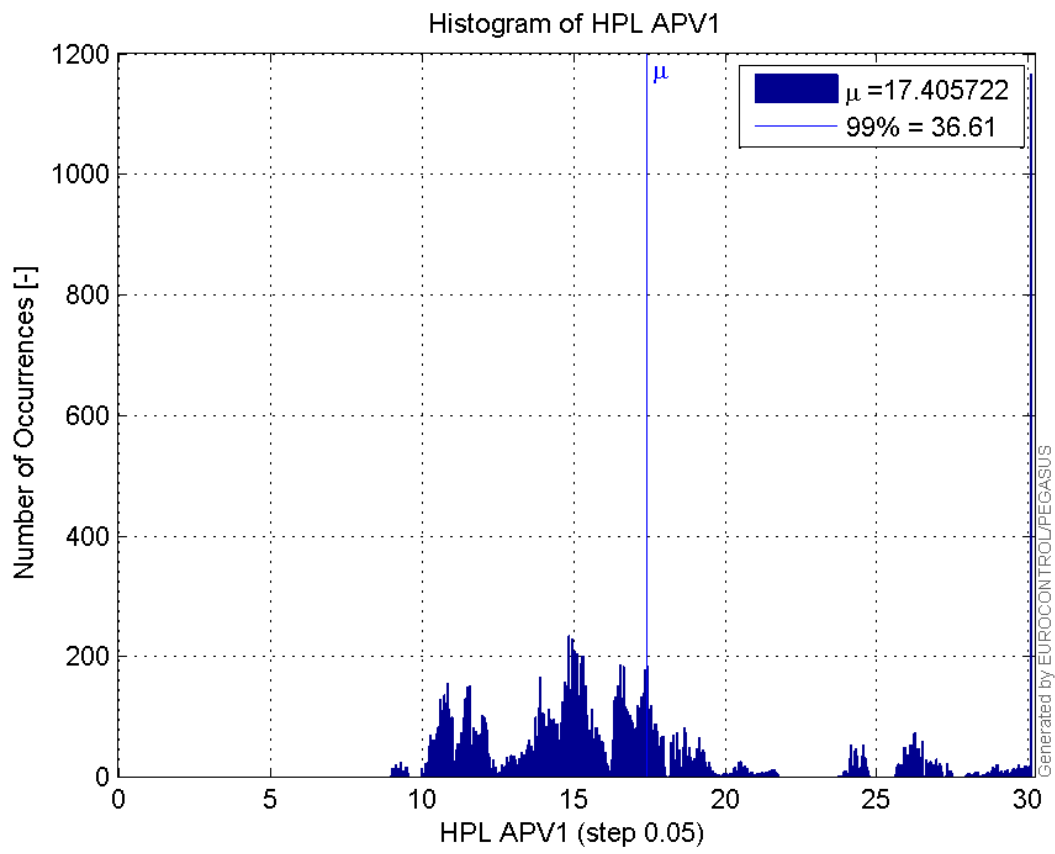
Histogram of HPE APV1:



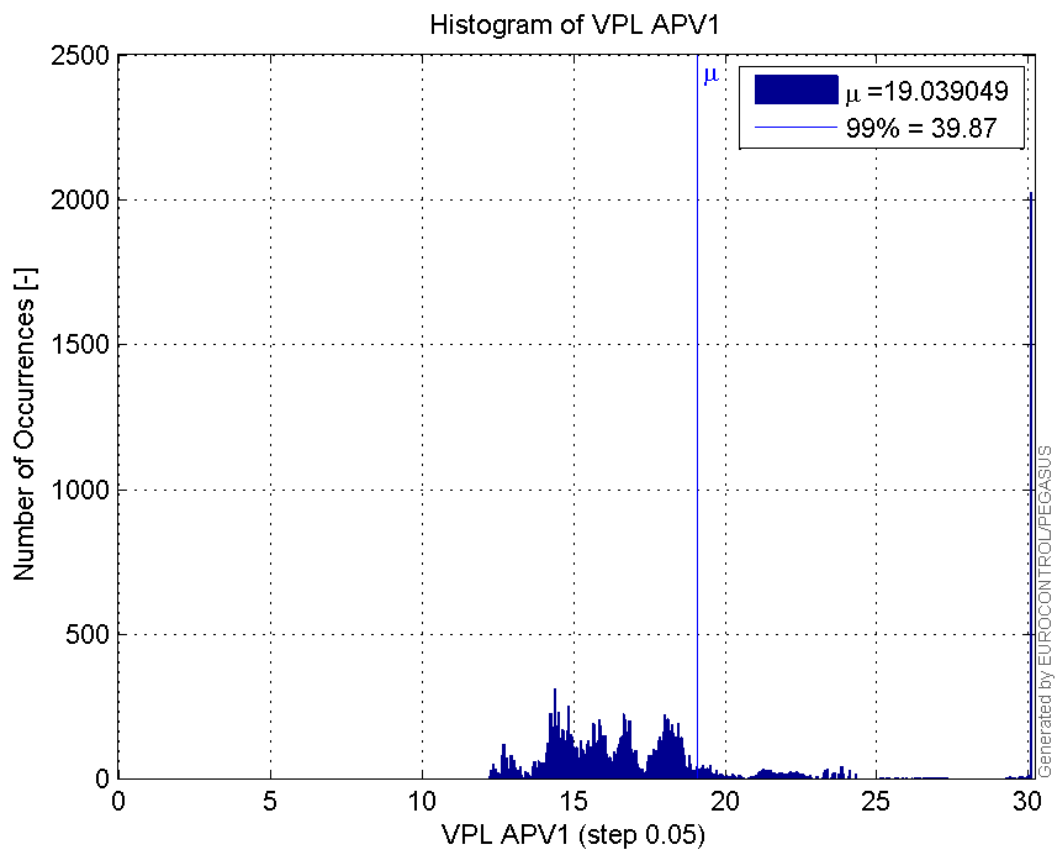
Histogram of VPE APV1:



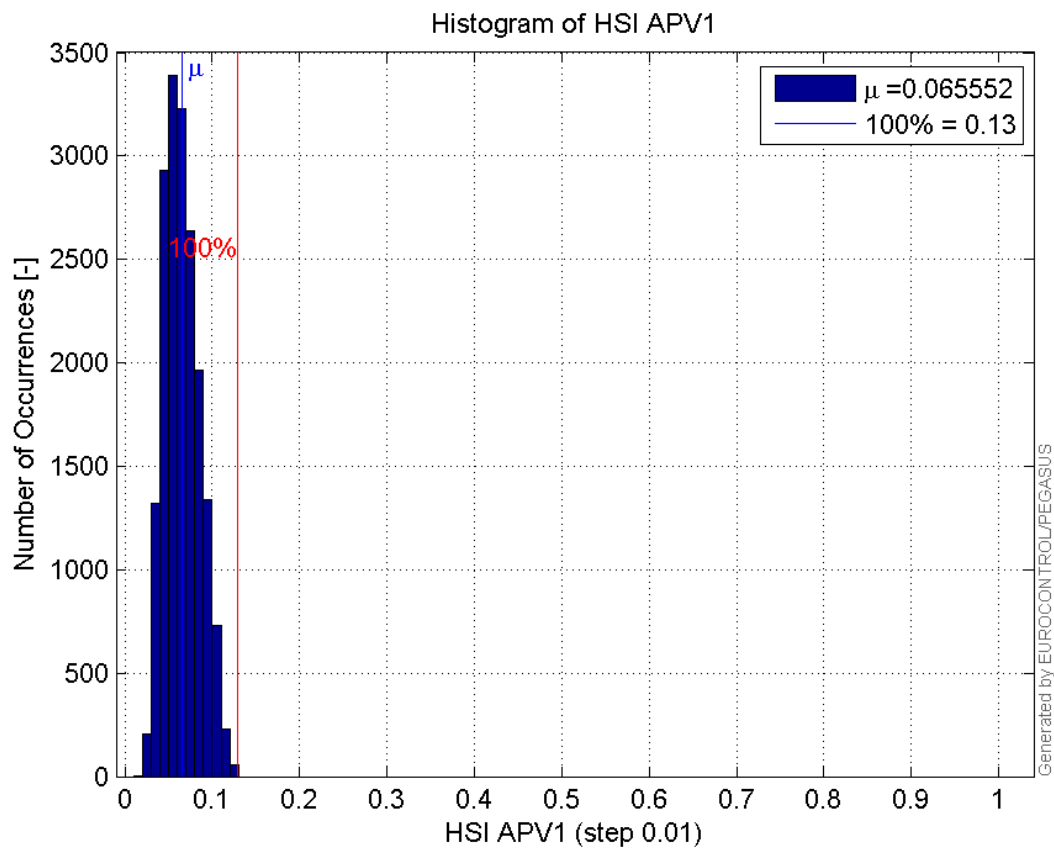
Histogram of HPL APV1:



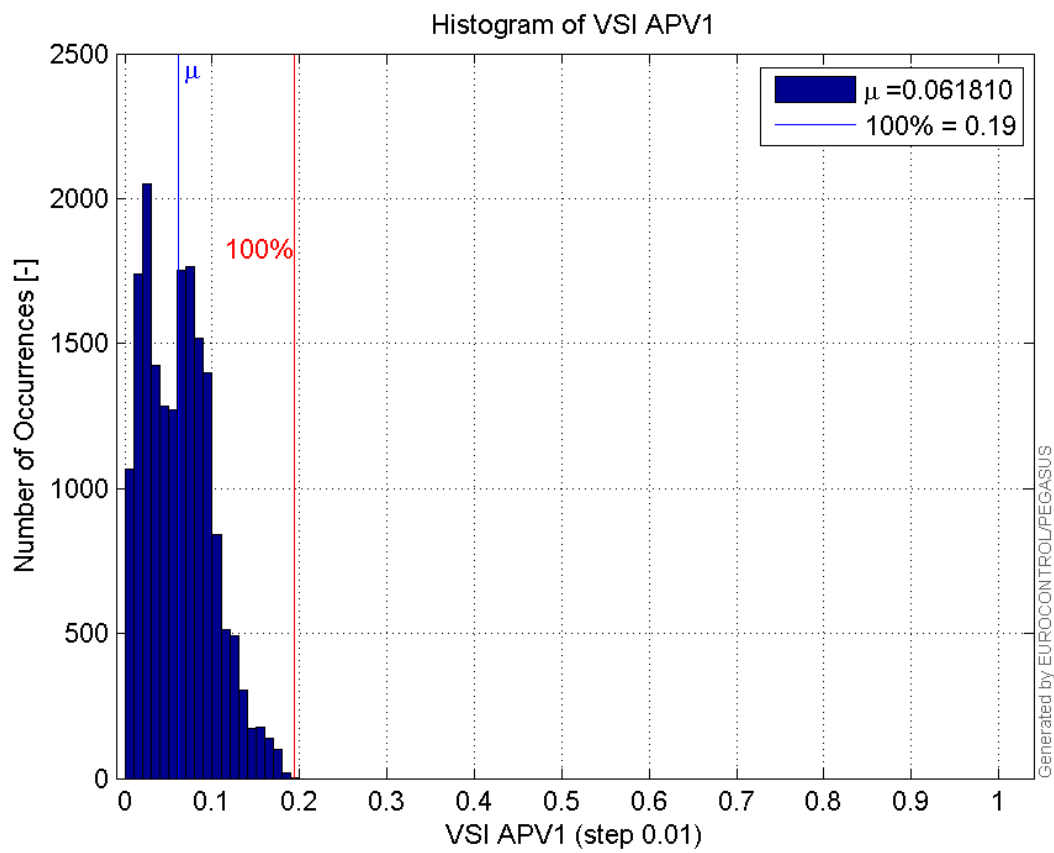
Histogram of VPL APV1:



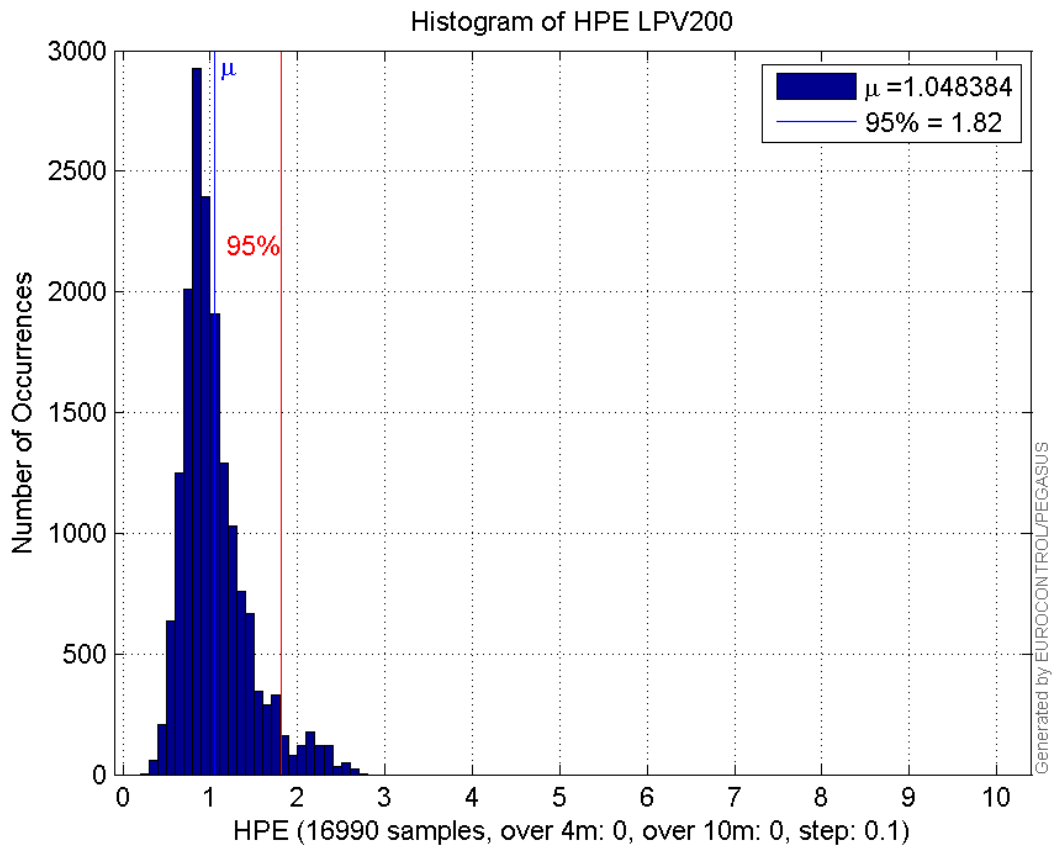
Histogram of HSI APV1:



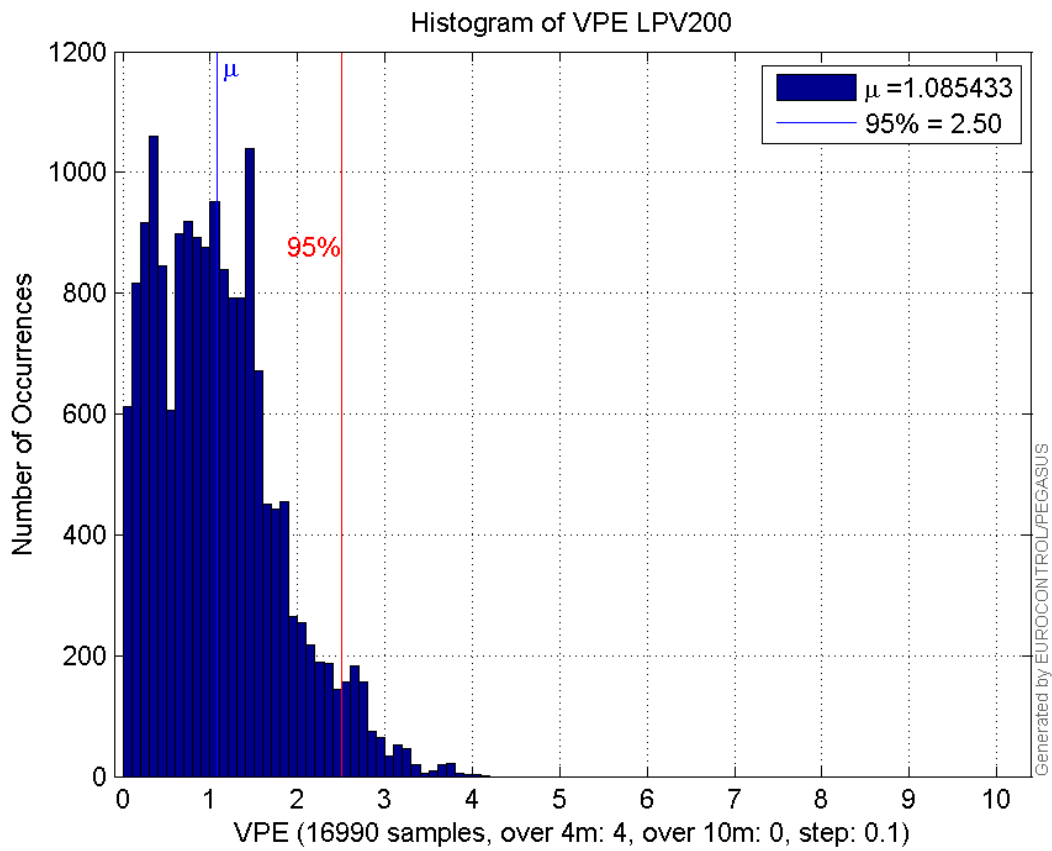
Histogram of VSI APV1:



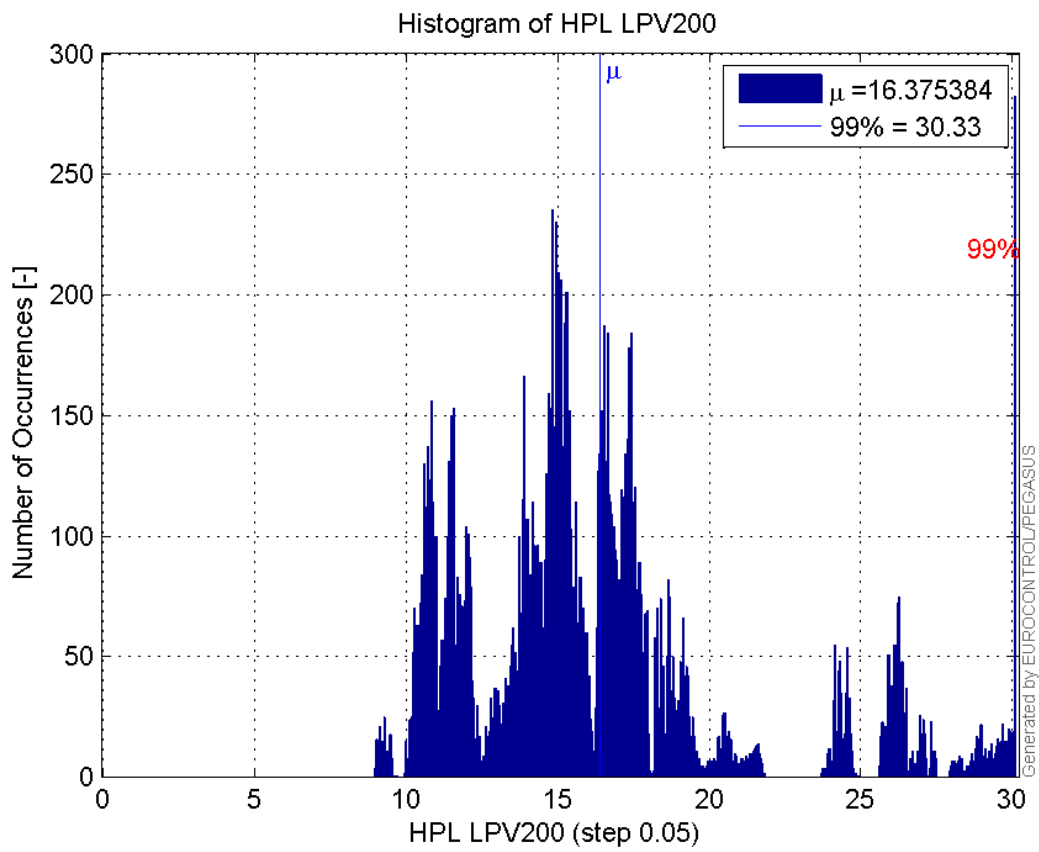
Histogram of HPE LPV200:



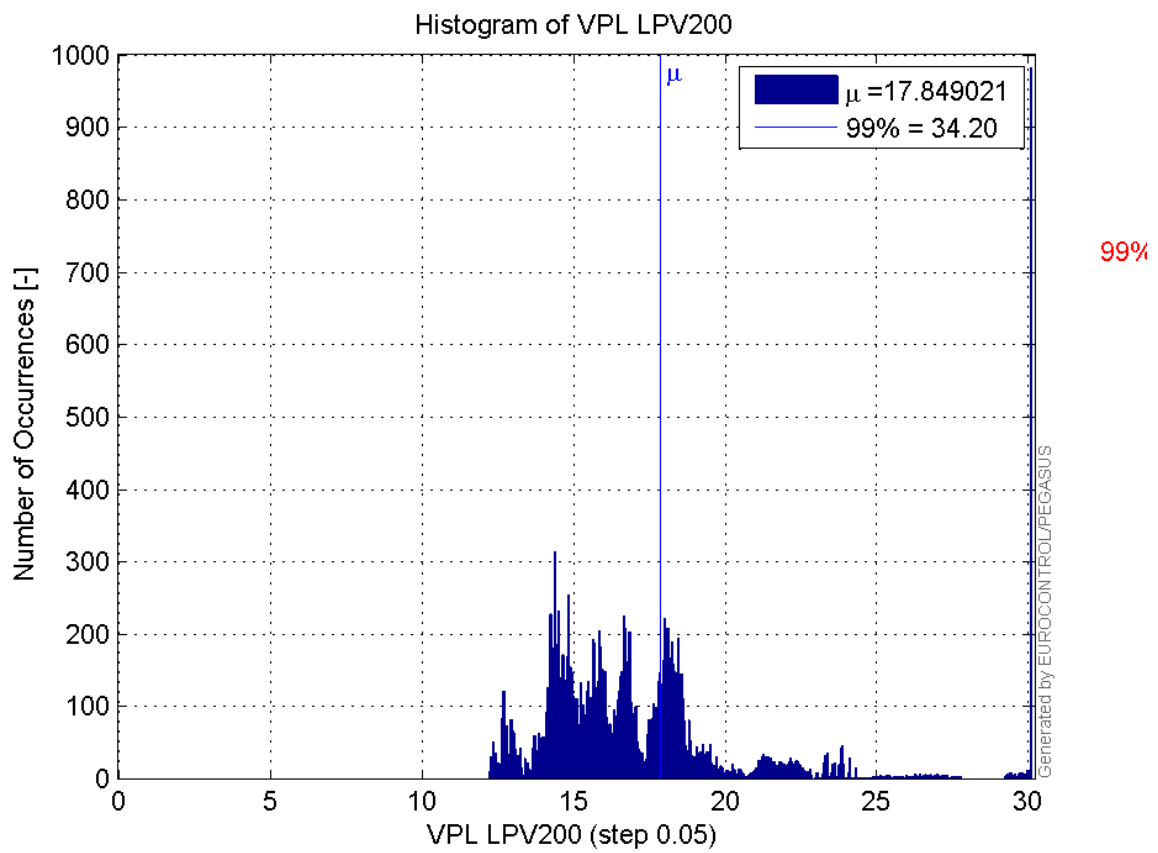
Histogram of VPE LPV200:



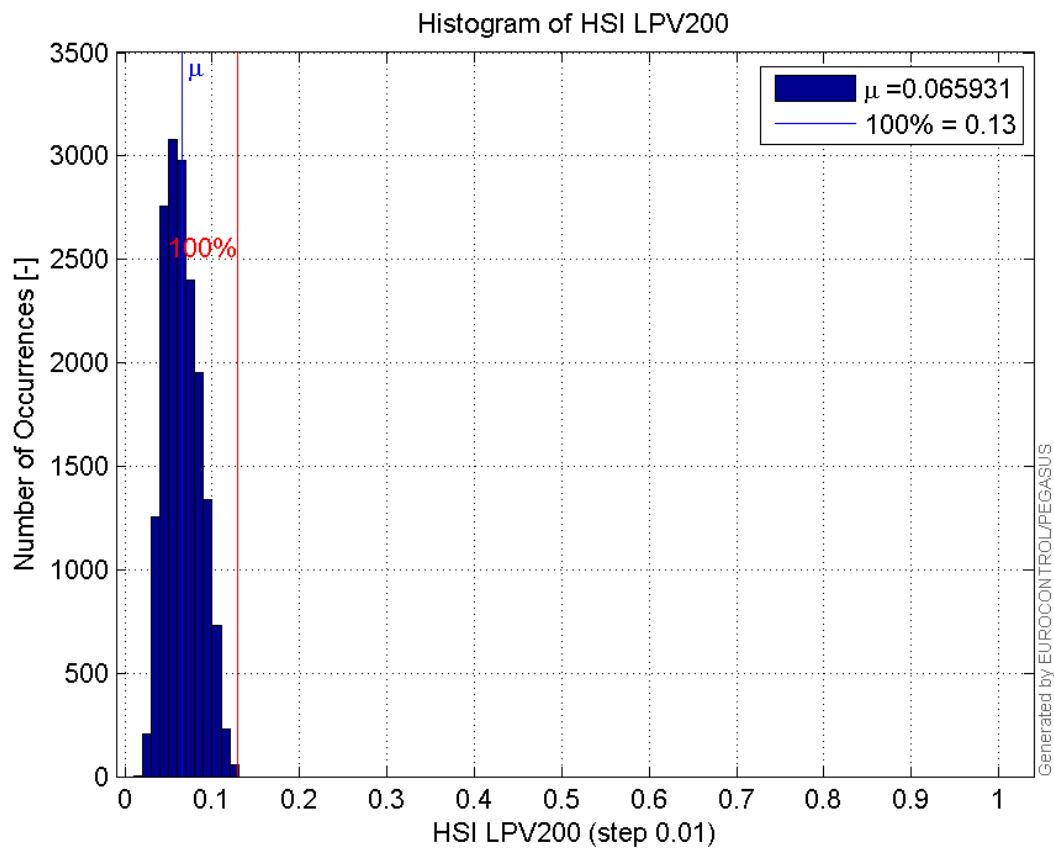
Histogram of HPL LPV200:



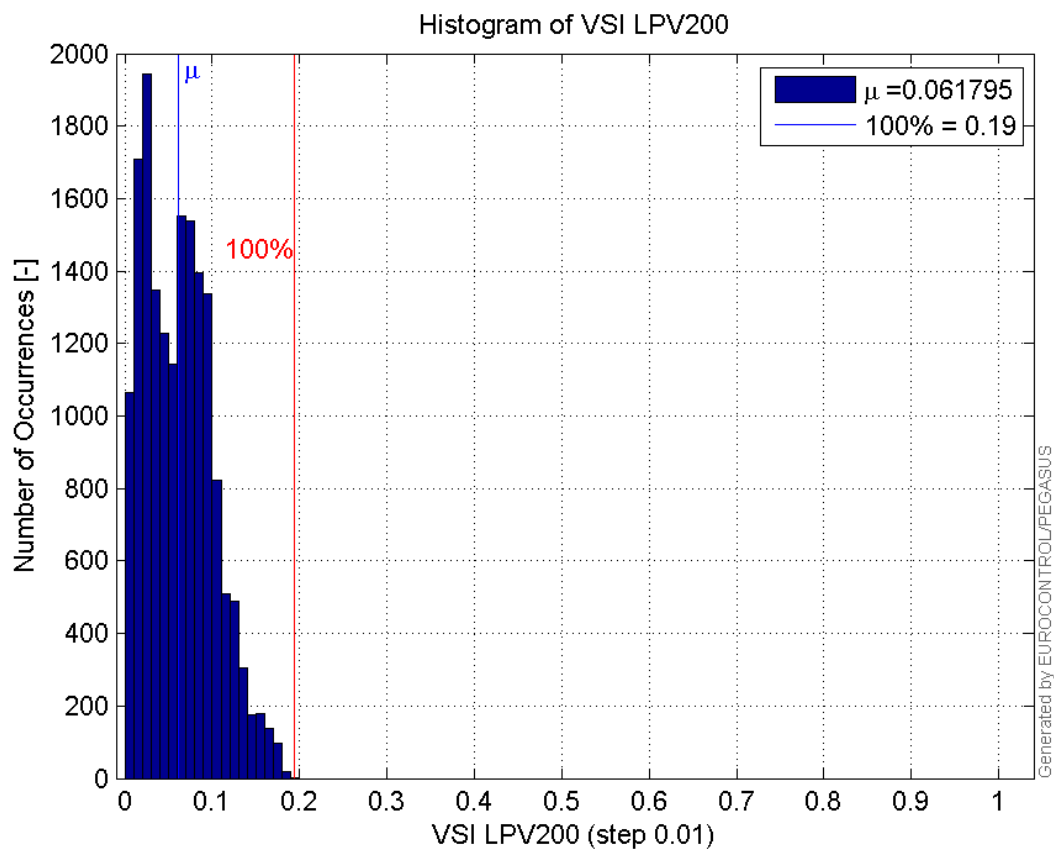
Histogram of VPL LPV200:



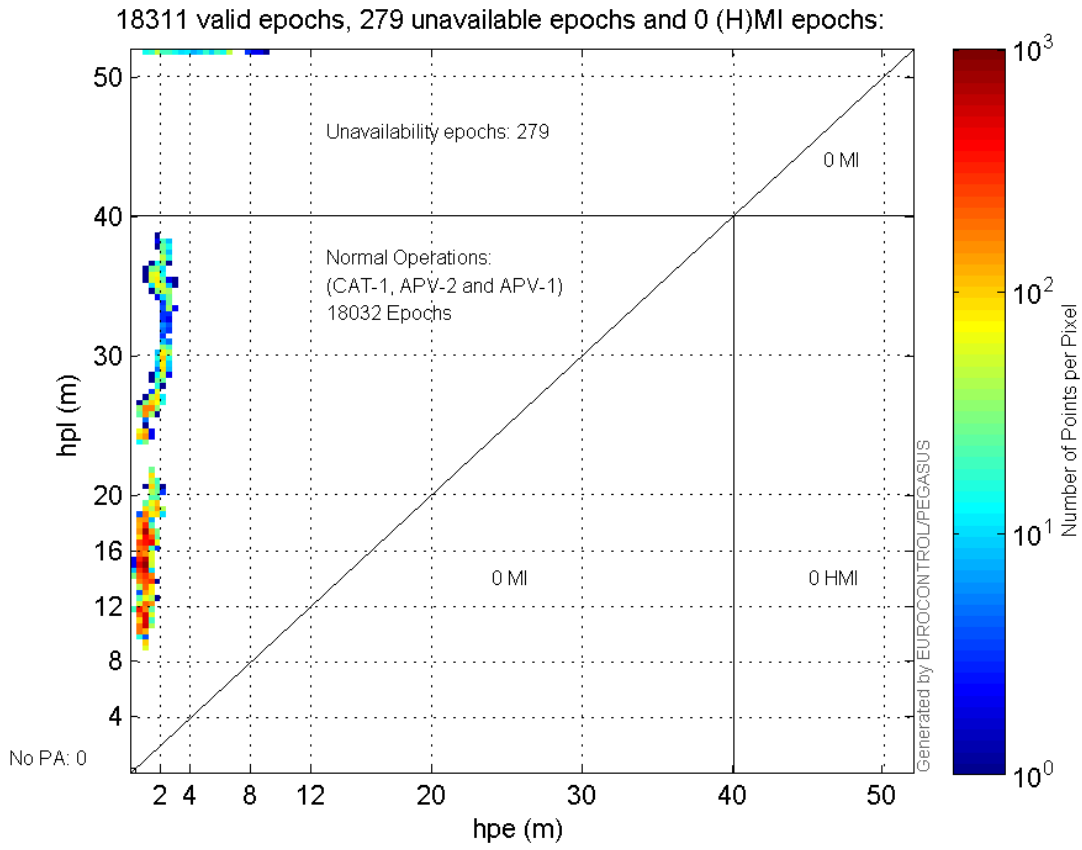
Histogram of HSI LPV200:



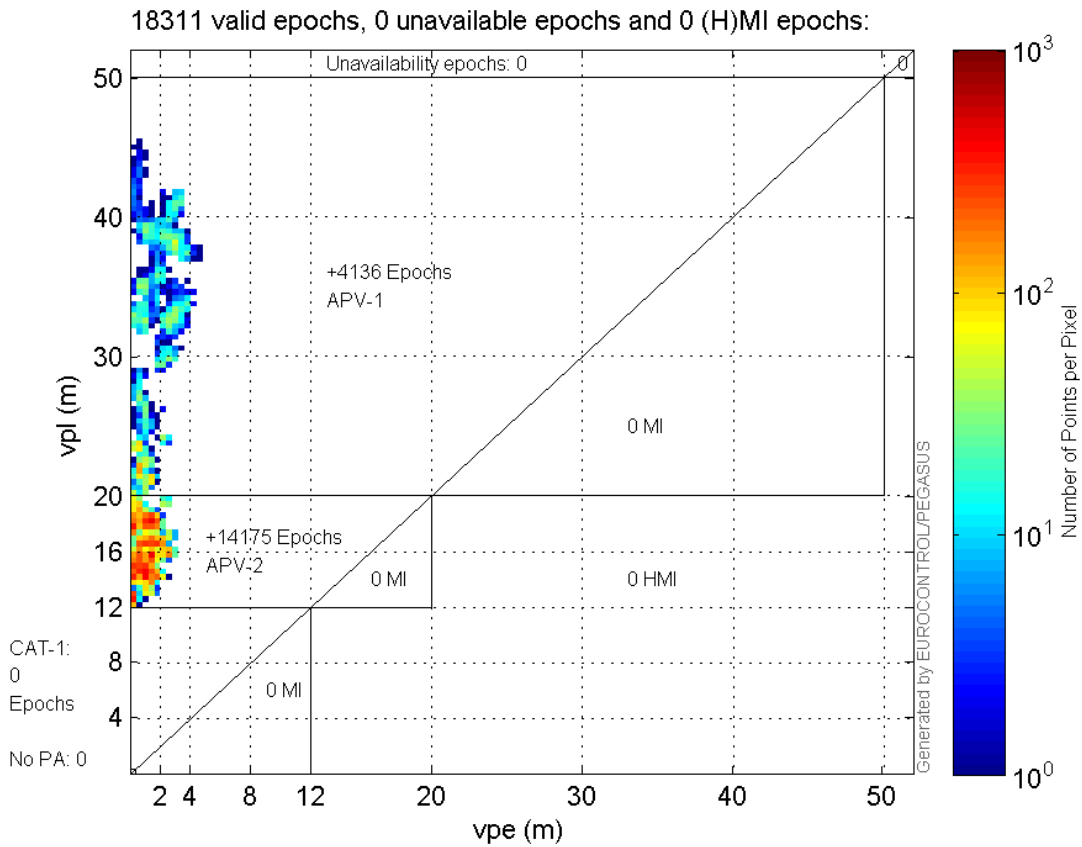
Histogram of VSI LPV200:



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_11_16EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_11_16EGNOS/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	226.9607
mi_numbers	results	0

SBAS Messages

start: 10:37:21.129 16.11.2015 (week: 1871 sec: 124641.129)
end: 15:48:41.129 16.11.2015 (week: 1871 sec: 143321.129)
duration: 05:11:20 ..

quality

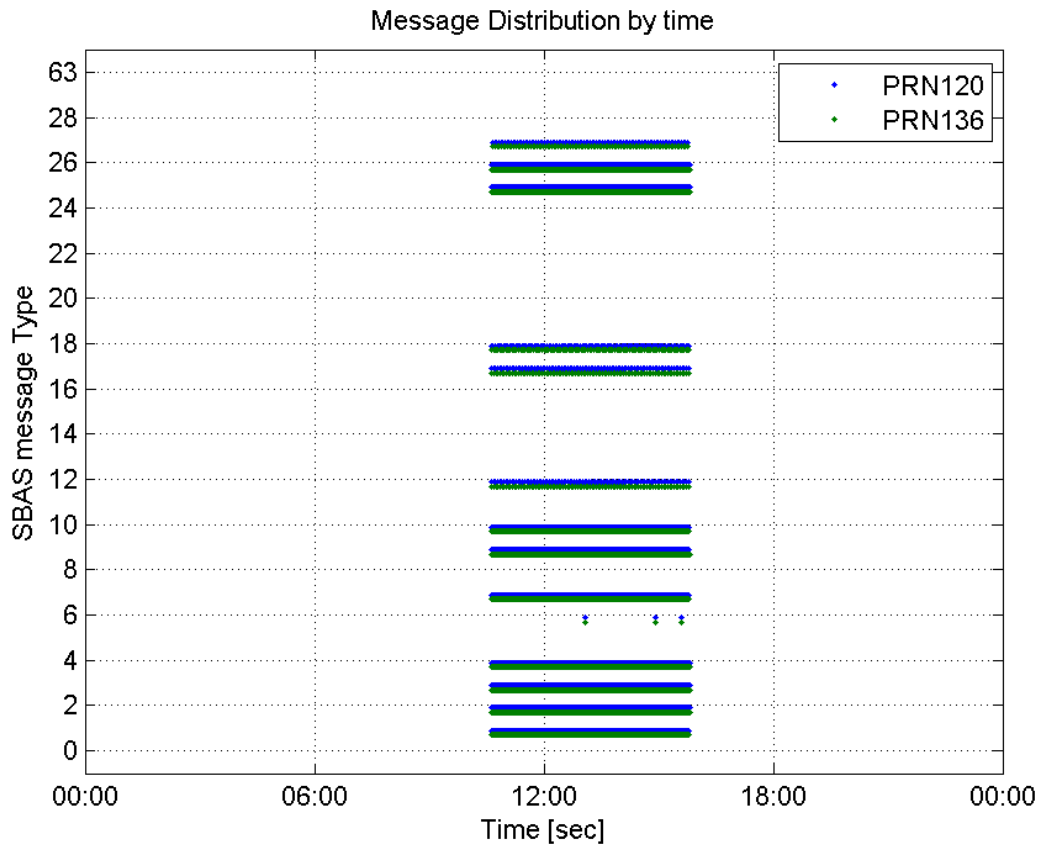
valid samples 37362
total samples 37362
number of SBAS PRNs 2

SBAS SIS Overview

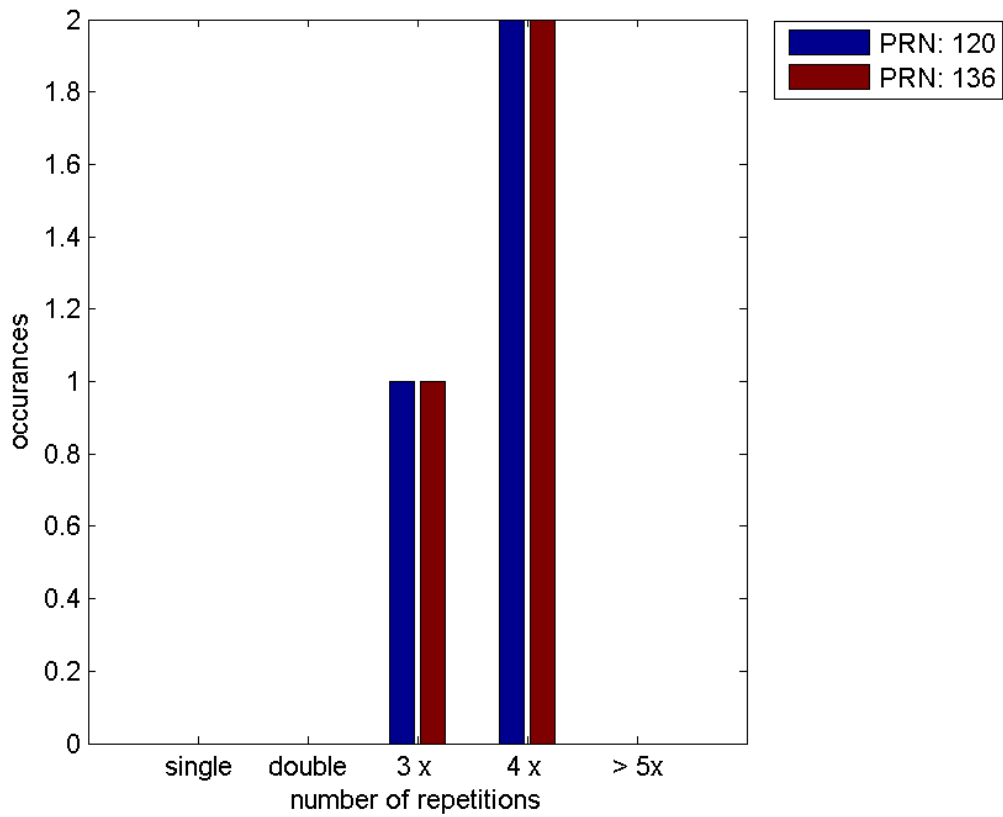
Message Type 6 repetitions :

	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 :

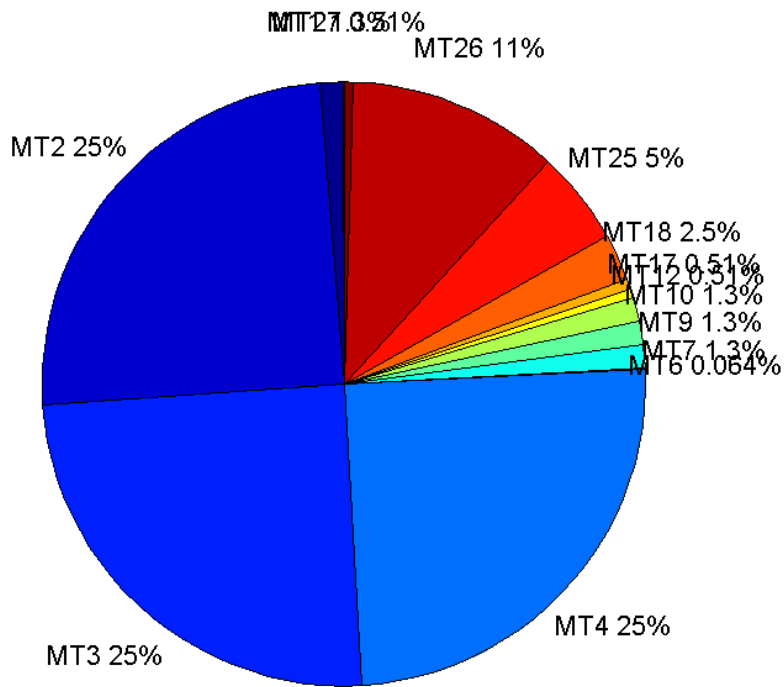
	number of messages	%
MT 0	0	0
MT 1	234	1.25261
MT 2	4641	24.8434
MT 3	4640	24.8381
MT 4	4640	24.8381
MT 5	0	0
MT 6	12	0.0642364
MT 7	234	1.25261
MT 9	234	1.25261
MT 10	234	1.25261
MT 12	96	0.513891
MT 17	96	0.513891
MT 18	476	2.54804
MT 24	0	0
MT 25	938	5.02114
MT 26	2111	11.3003
MT 27	95	0.508538
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	18681	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	75	84	79.7725	0	0	0
MT 2	4	8	4.02586	4	0	0
MT 3	4	8	4.02587	4	0	0
MT 4	4	8	4.02587	4	0	0
MT 5	--	--	--	--	--	--
MT 6	1	6625	825.091	2	2	2
MT 7	76	81	79.7897	0	0	0
MT 9	76	87	79.8069	0	0	0
MT 10	75	84	79.7897	0	0	0
MT 12	189	201	195.316	95	0	0
MT 17	187	201	195.274	0	0	0
MT 18	4	170	39.0632	0	0	0
MT 24	--	--	--	--	--	--

MT 25	3	48	19.9189	0	0	0
MT 26	1	40	8.8455	0	0	0
MT 27	189	206	195.351	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

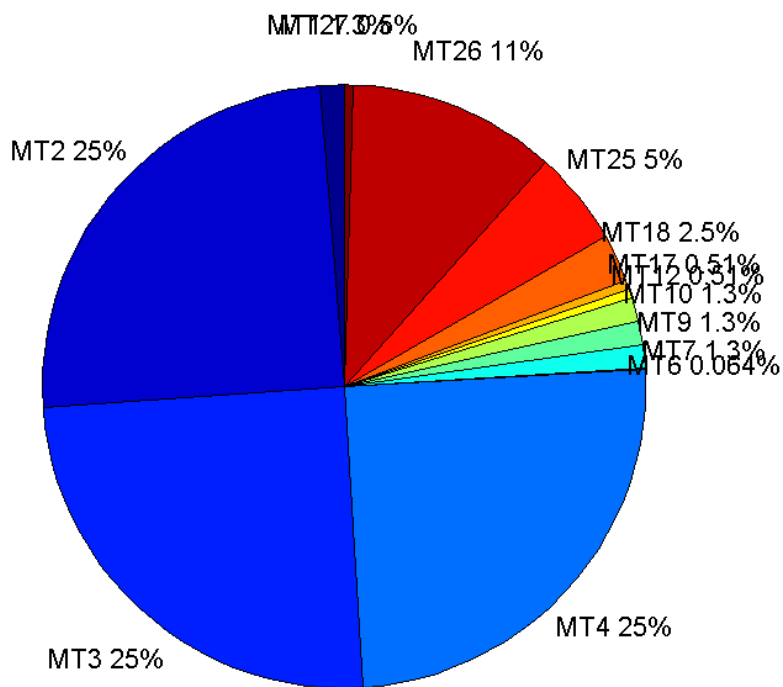
	number of messages	%
MT 0	0	0
MT 1	234	1.25261
MT 2	4649	24.8862
MT 3	4648	24.8809
MT 4	4649	24.8862
MT 5	0	0
MT 6	12	0.0642364

MT 7	234	1.25261
MT 9	235	1.25796
MT 10	234	1.25261
MT 12	95	0.508538
MT 17	95	0.508538
MT 18	475	2.54269
MT 24	0	0
MT 25	939	5.0265
MT 26	2088	11.1771
MT 27	94	0.503185
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	18681	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	80	79.7425	0	0	0
MT 2	4	8	4.01872	4	0	0
MT 3	4	8	4.01894	4	0	0
MT 4	4	8	4.01872	4	0	0
MT 5	--	--	--	--	--	--
MT 6	1	6625	825.091	2	2	2
MT 7	76	81	79.7425	0	0	0
MT 9	76	81	79.7265	0	0	0
MT 10	76	86	79.7597	0	0	0
MT 12	190	201	197.106	94	0	0
MT 17	187	201	197.064	0	0	0
MT 18	4	169	39.1477	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	48	19.8891	0	0	0
MT 26	1	56	8.94777	0	0	0
MT 27	181	204	197.14	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_11_16EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2015_11_16EGNOS/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