

Global View

version 4.8.2
 program Pegasus
 comment Debugging
 city Kiev
 country Ukraine
 abbreviation NAU
 site Laboratory satellite systems
 date 20/10/2015

Position Domain

start: 08:57:57 21.09.2015 (week: 1863 sec: 118677)
end: 14:06:06 21.09.2015 (week: 1863 sec: 137166)
duration: 05:08:10 ..

quality

valid samples 18126
total samples 18490

Event tables

Position discontinuity events type no (0)
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	137081	1.61209	15.489	0.10408	4.63336	47.5253	0.0974925
max normVer	131509	0.831734	16.0077	0.0519584	1.6202	15.8694	0.102096
max HPE	134642	4.24086	71.1648	0.0595921	4.41398	62.1639	0.0710055
max VPE	134578	4.19175	70.8938	0.0591271	4.67839	61.339	0.076271
min HPL	125812	0.321832	8.02221	0.0401176	0.440536	15.0072	0.029355
min VPL	130306	0.851769	12.0676	0.0705832	-0.465521	12.2434	0.0380222

APV-I discontinuity events :

#	Epoch	duration	stable period
1	134181	480	15140

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	128242	160	9201
2	134181	480	5779
3	134973	239	312
4	136768	360	1556

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	128242	160	9201
2	134181	480	5779
3	134973	239	312
4	136768	360	1556

First Glance analysis

Duration	18490
Number of Samples	18490
Number of invalid sample	364
Number of no position solution samples	0
Number of missing sample	0
Logging Loss	0
Processing Loss	1.9686
Number of Misleading Information	0
Data gaps	0
Discontinuities	0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
18126	17646	16887	0	16887

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.08995	0.966604	0.946148	NaN	0.946148
HPEscale 95%	NaN	2.85164	2.82031	NaN	2.82031
VPE 95%	1.88984	1.58026	1.34336	NaN	1.34336
VPEscale 95%	NaN	3.19922	2.20949	NaN	2.20949

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.973519	0.931645	0	0.931645
measurements	0.980314	0.954354	0.913304	0	0.913304
Operational	0.980314	0.954354	0.913304	0	0.913304

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	1	4	--	4
Long	--	1	4	--	4
Independent	--	1	4	--	4
P(disc.)	NaN	0.000850051	0.00355303	NaN	0.00355303
P(slide)	NaN	0.000850051	0.00355303	NaN	0.00355303

Integrity events :

--	--	--	--	--	--

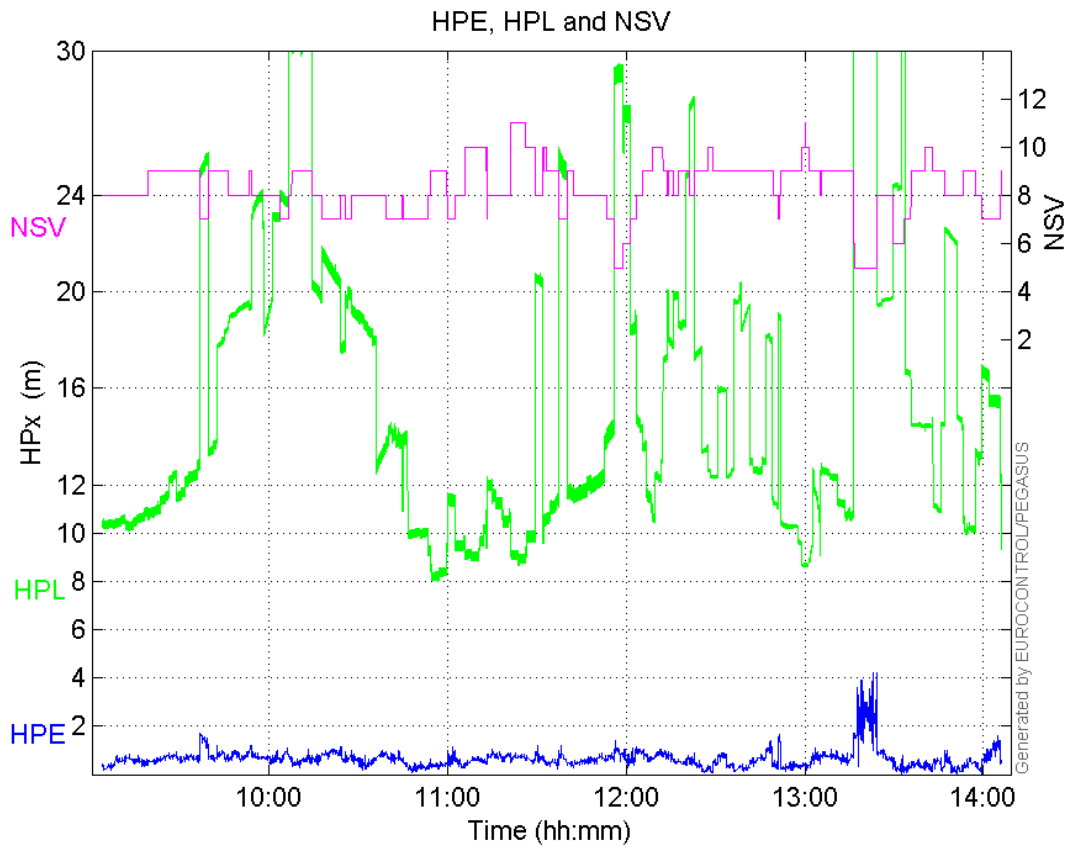
	MI	HMI APV-1	HMI LPV-200	HMI CAT-1	HMI APV-35m
Total	0	0	0	0	0
Horizontal	0	0	0	0	0
Vertical	0	0	0	0	0

Performance Summary :

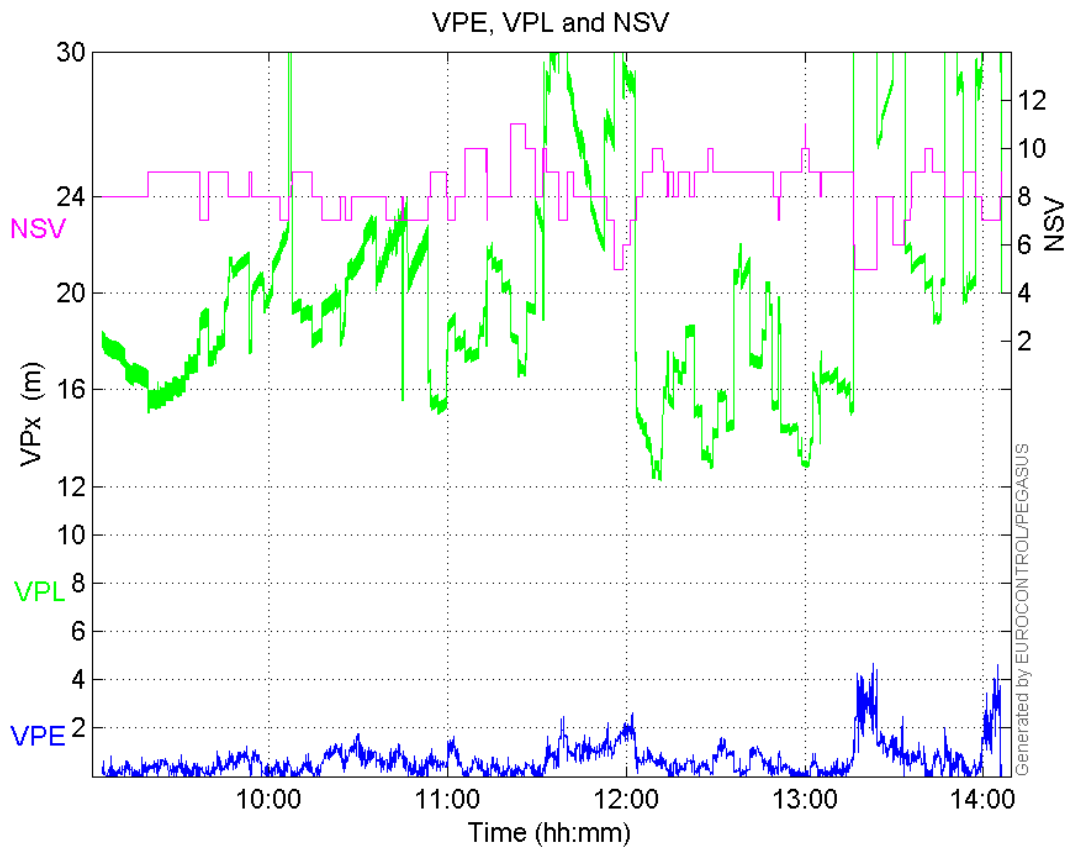
	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	18126	17646	16887	0	16887
SIS Availability	1	0.973519	0.931645	0	0.931645
Local Availability	0.980314	0.954354	0.913304	0	0.913304
Operational Availability	0.980314	0.954354	0.913304	0	0.913304
HPE 95%	1.08995	0.966604	0.946148	NaN	0.946148
HPEscale 95%	NaN	2.85164	2.82031	NaN	2.82031
VPE 95%	1.88984	1.58026	1.34336	NaN	1.34336
VPEscale 95%	NaN	3.19922	2.20949	NaN	2.20949
All Discontinuity Events	--	1	4	--	4
Long Discontinuity Events	--	1	4	--	4
Independent Discontinuity Events	--	1	4	--	4
P(discontinuity)	NaN	0.000850051	0.00355303	NaN	0.00355303
P(sliding window)	NaN	0.000850051	0.00355303	NaN	0.00355303
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:

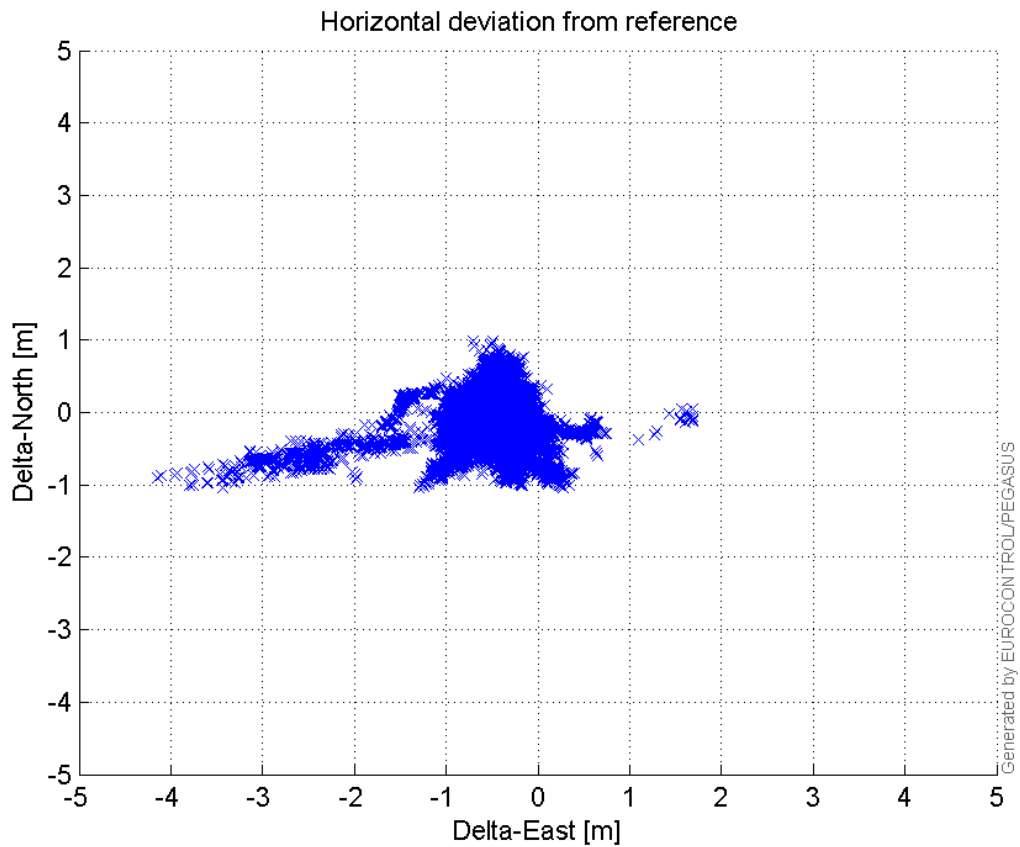


VPE, VPL and NSV:



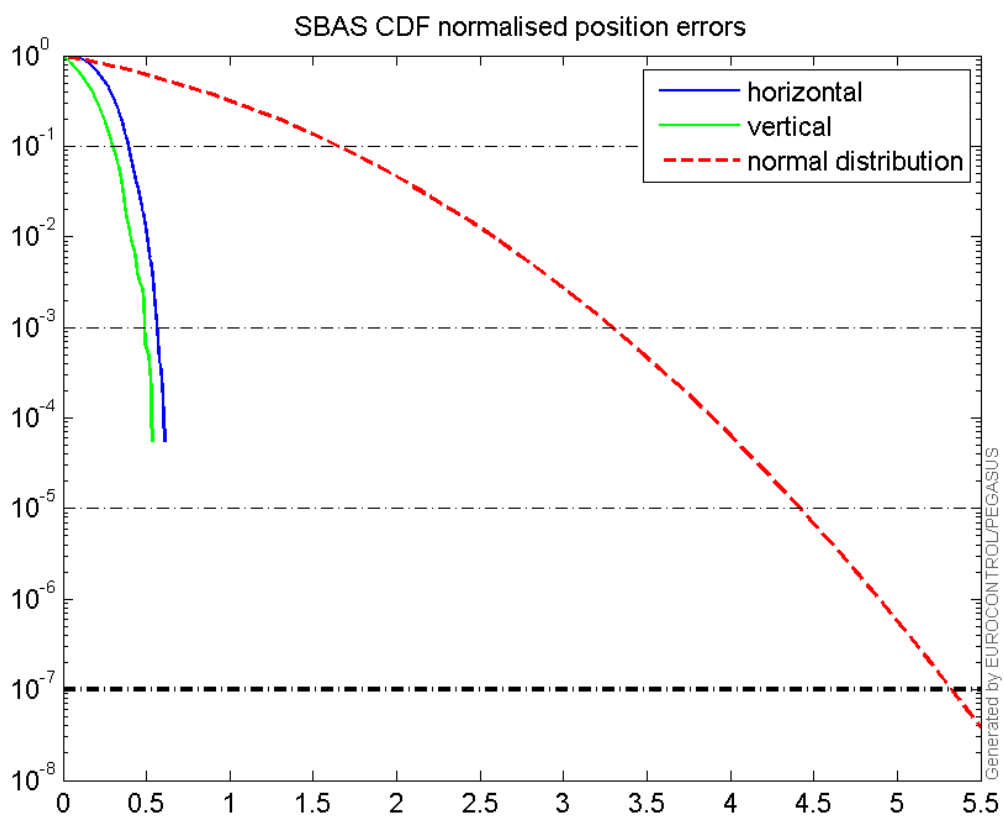
Horizontal deviation

Horizontal deviation from reference :



CDF position

SBAS CDF position domain:



Statistics

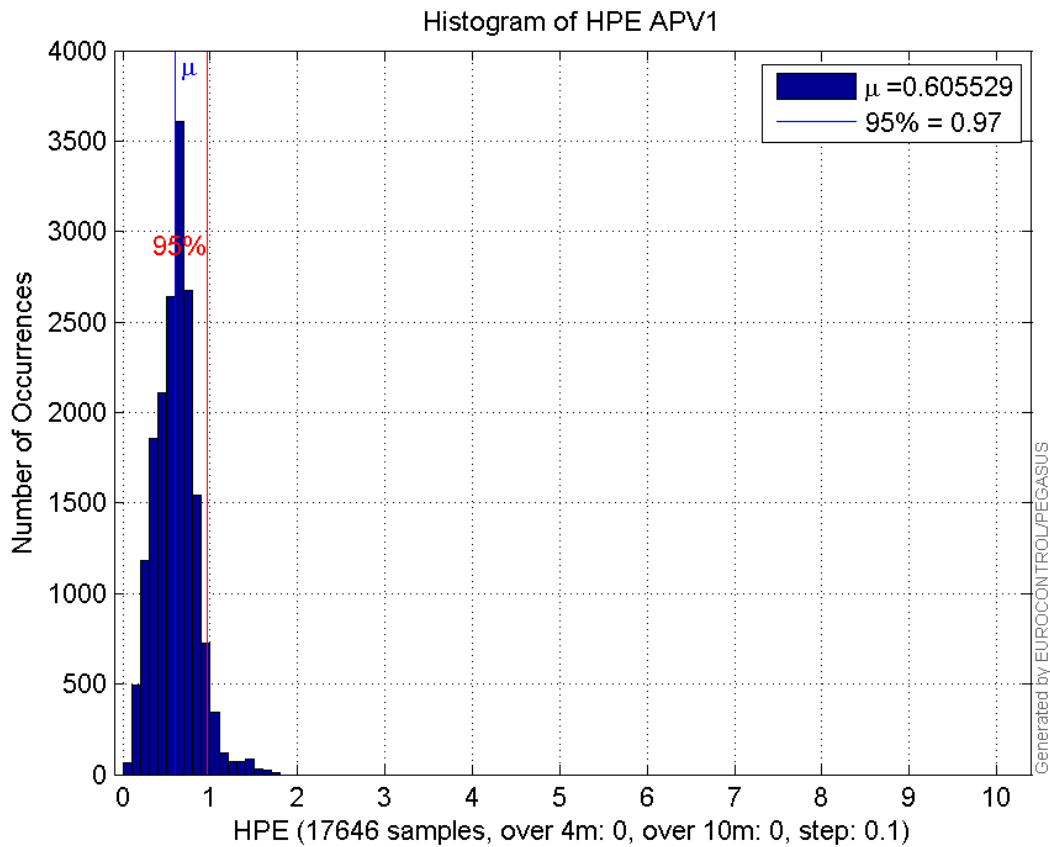
number	17646
sum	10685.159
sum2	7446.595
prctile95	0.96660387
prctile99	1.3814281
number	17646
sum	10794.508
sum2	11419.055
prctile95	1.5802613
prctile99	2.4948331
number	17646
sum	269572.56
sum2	4664815.9
prctile95	27.23176
prctile99	30.574292
number	17646
sum	365662.22
sum2	8311695.2
prctile95	32.18576
prctile99	46.272828
number	17646
sum	756.22961
sum2	37.827227
prctile95	0.071291044
prctile99	0.083990475
number	17646
sum	498.85634
sum2	20.574092
prctile95	0.063984472
prctile99	0.076146199
number	16887
sum	10160.516
sum2	6989.6903
prctile95	0.94614781
prctile99	1.3401433
number	16887
sum	9354.3061
sum2	8150.8939
prctile95	1.3433596
prctile99	1.8650046
number	16887
sum	253524.73
sum2	4304234.2
prctile95	27.02791
prctile99	30.433138
number	16887
sum	333014.2
sum2	6896516
prctile95	29.05325

prctile99 32.050938
number 16887
sum 727.46994
sum2 36.250077
prctile95 0.070507773
prctile99 0.083076837
number 16887
sum 465.87496
sum2 18.925108
prctile95 0.063128364
prctile99 0.074933939

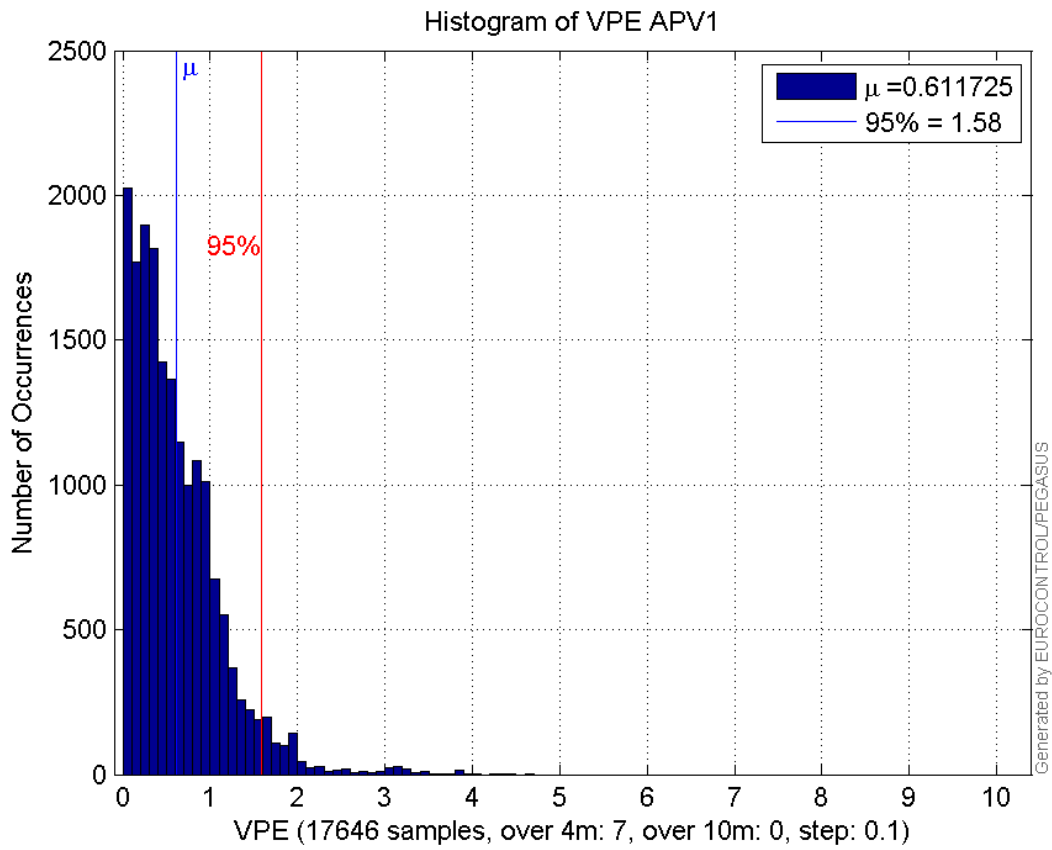
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	0.605529	0.235239	0.616156	0.966604	1.38143	0.649615
HPL	15.2767	5.56595	13.1376	27.2318	30.5743	16.259
VPE	0.611725	0.522423	0.493866	1.58026	2.49483	0.804437
VPL	20.7221	6.45145	19.3384	32.1858	46.2728	21.7031

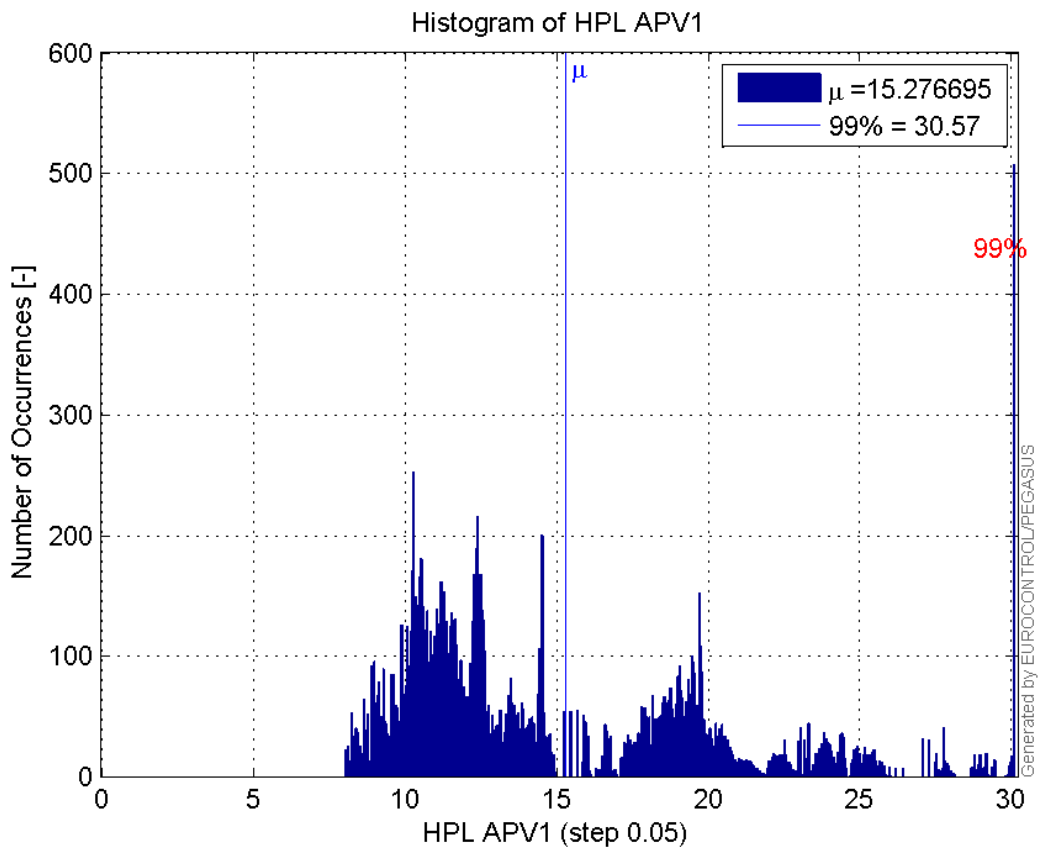
Histogram of HPE APV1:



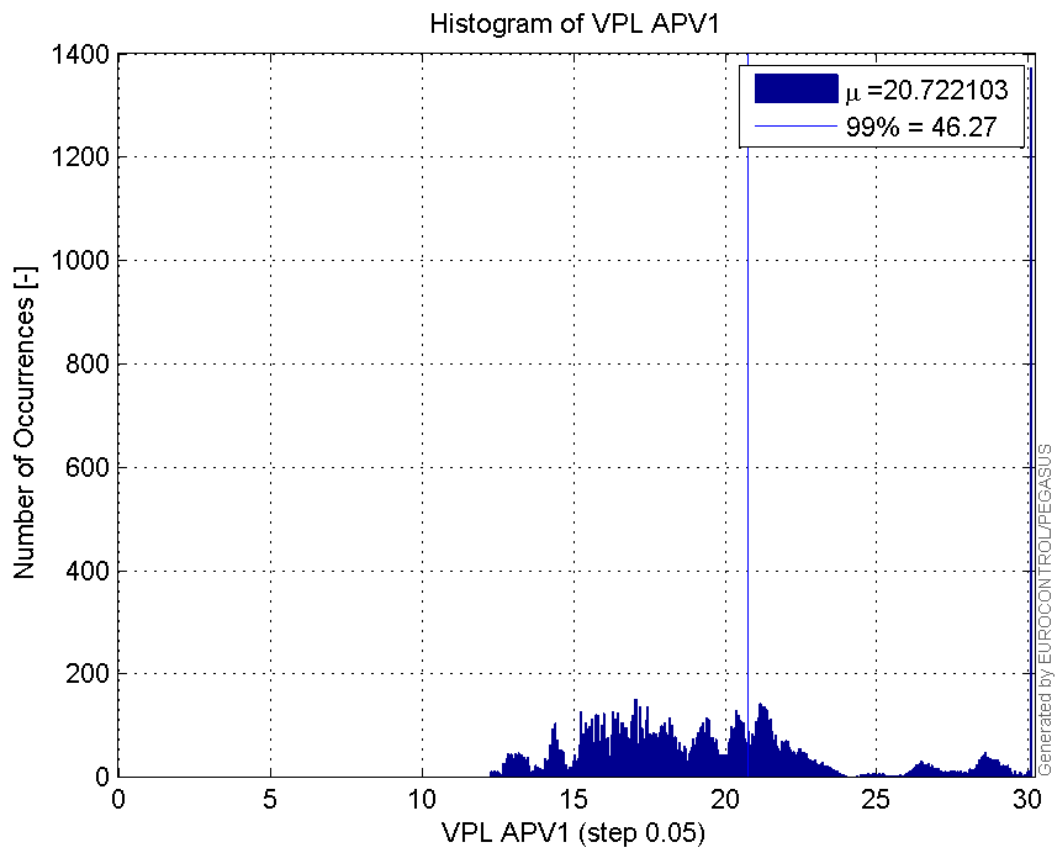
Histogram of VPE APV1:



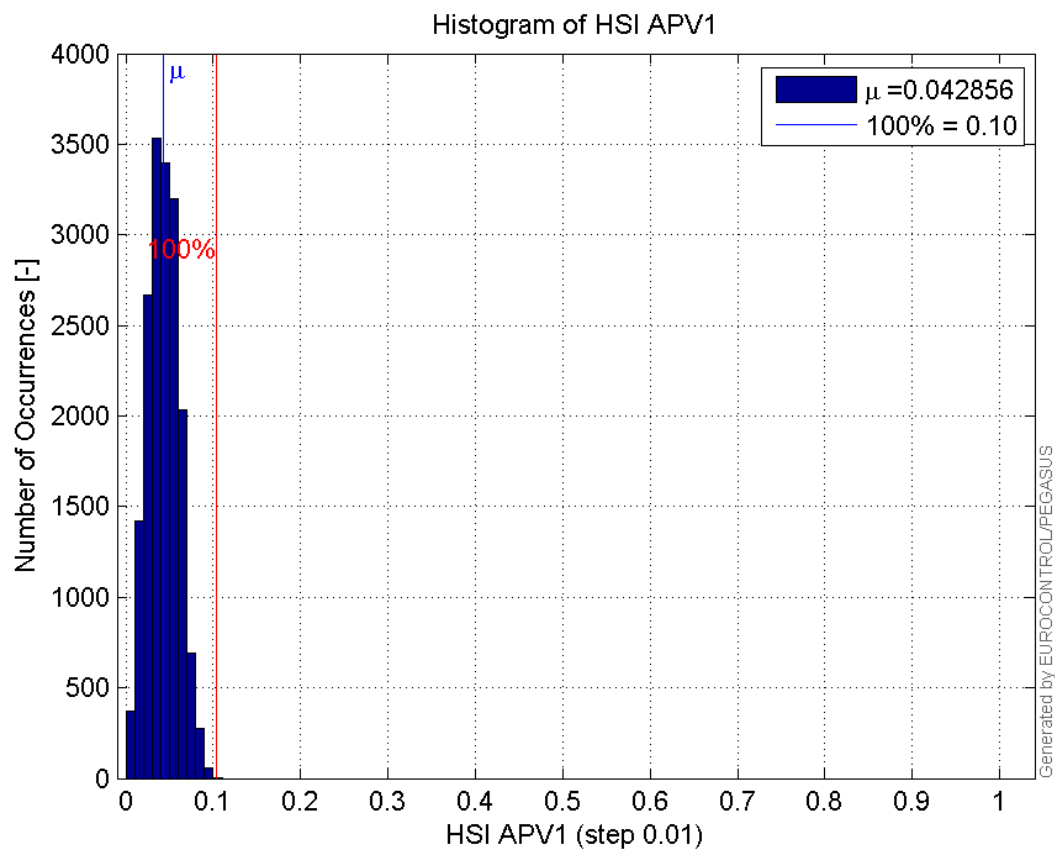
Histogram of HPL APV1:



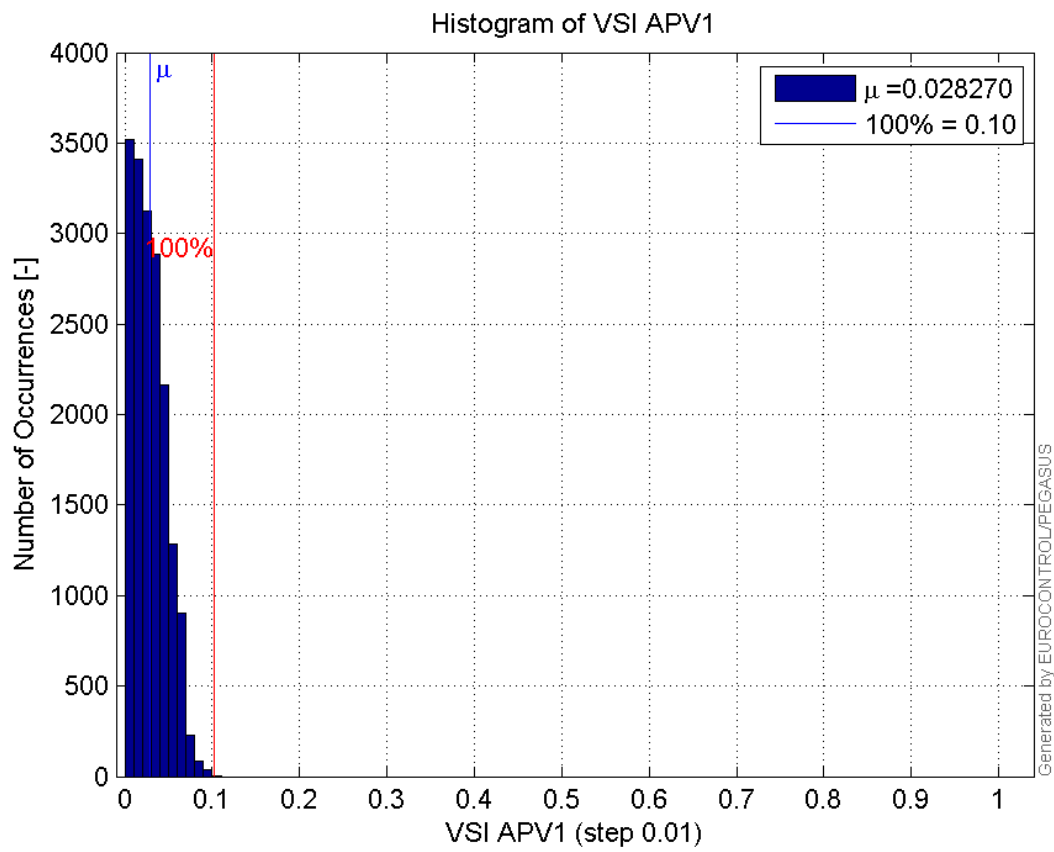
Histogram of VPL APV1:



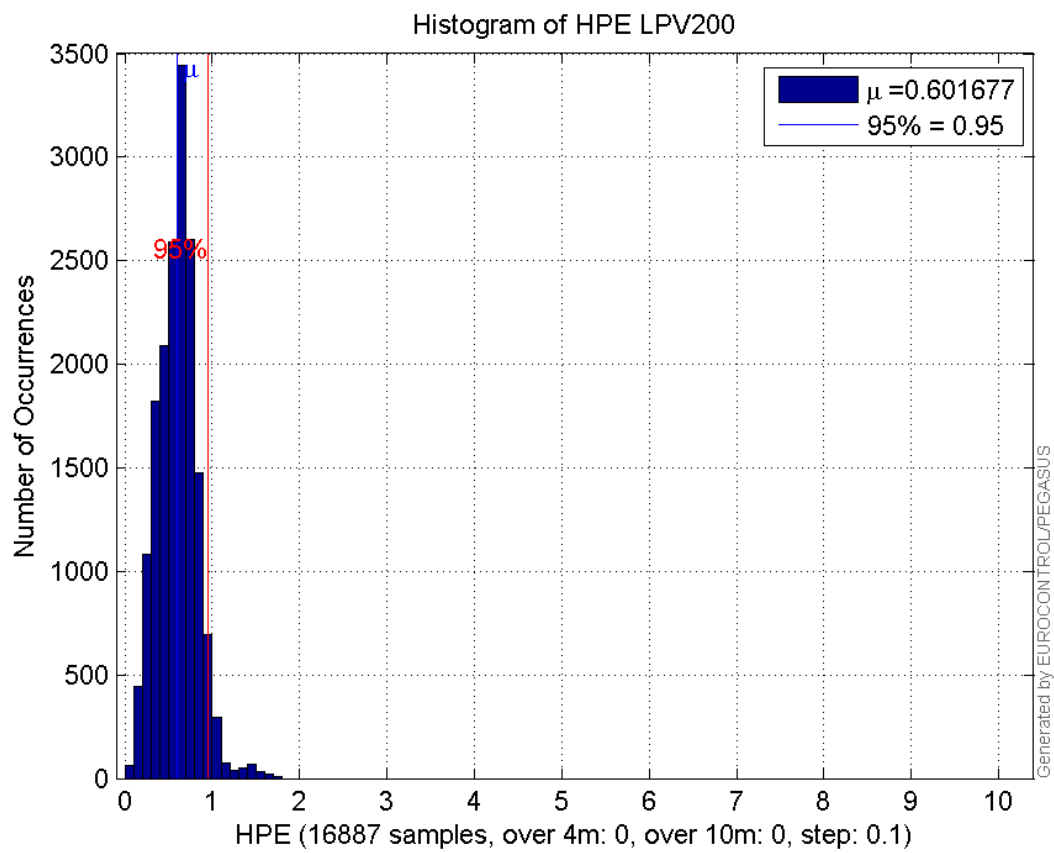
Histogram of HSI APV1:



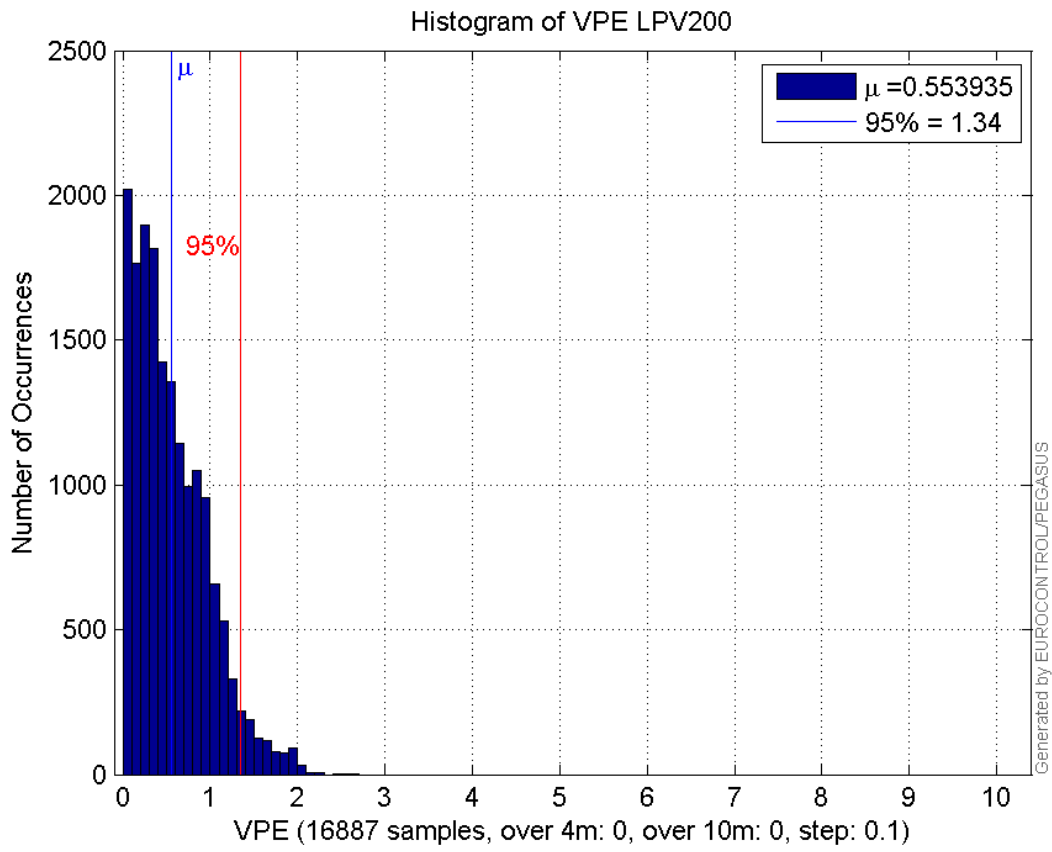
Histogram of VSI APV1:



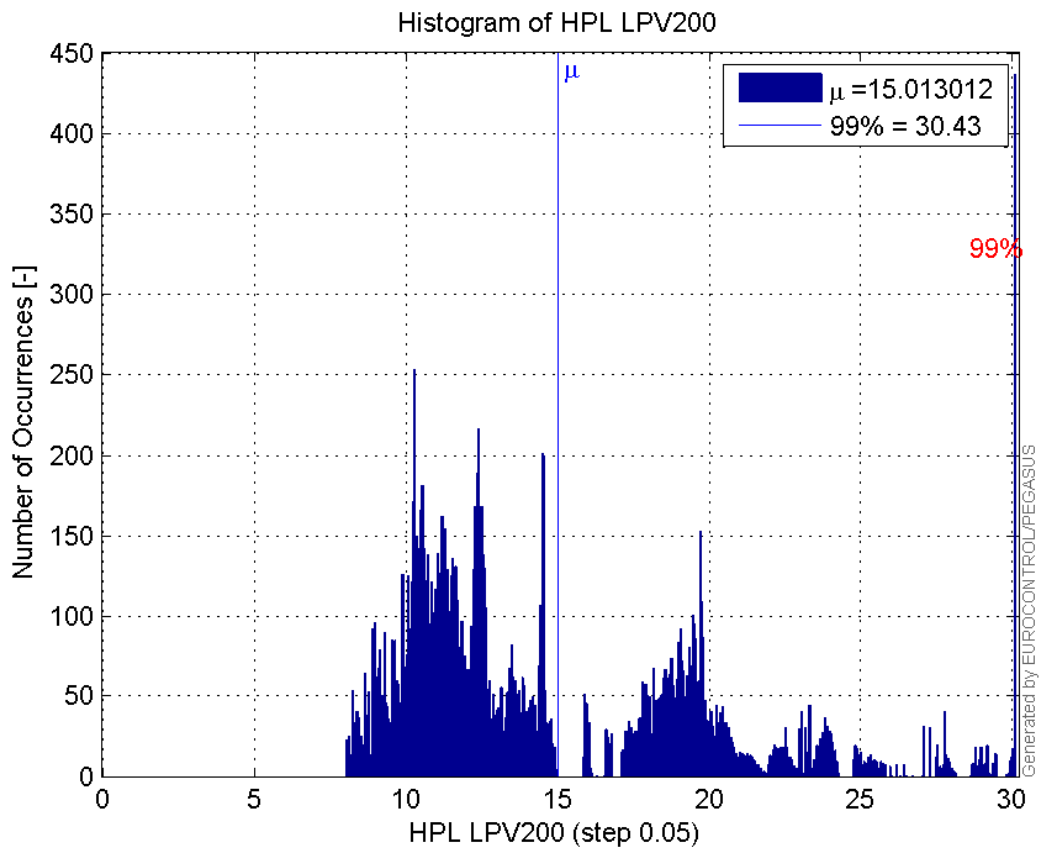
Histogram of HPE LPV200:



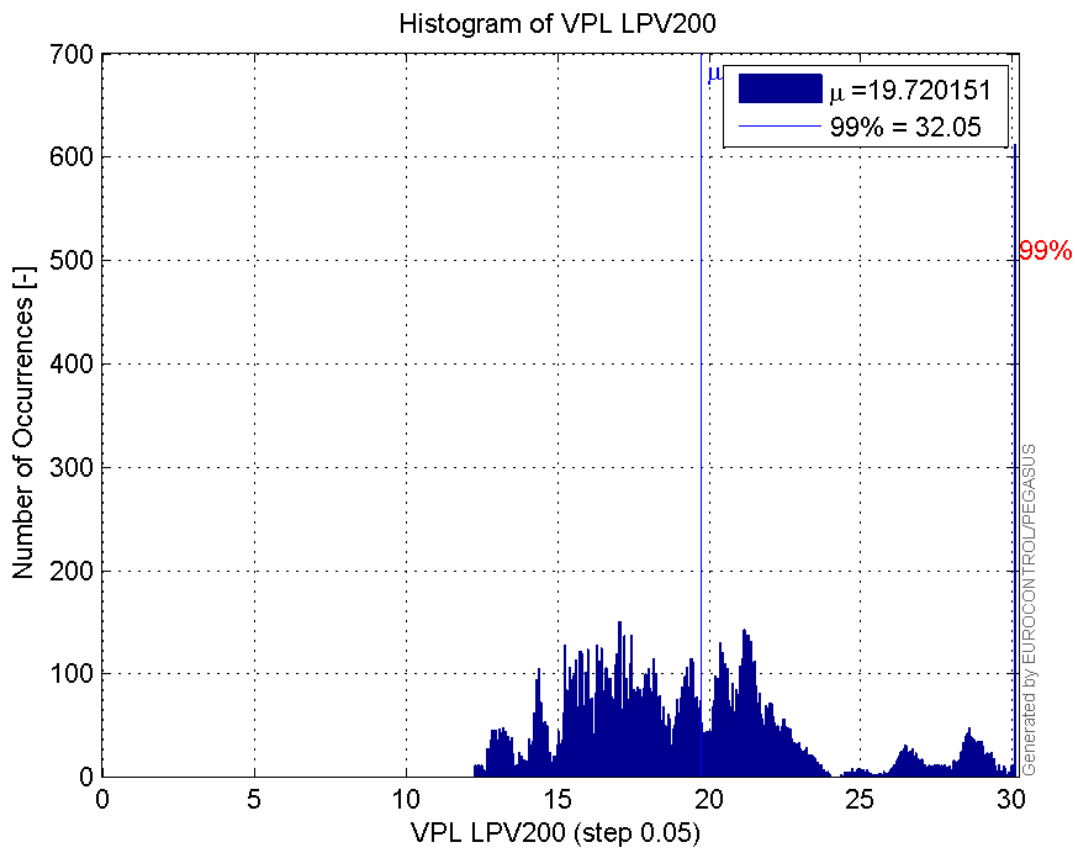
Histogram of VPE LPV200:



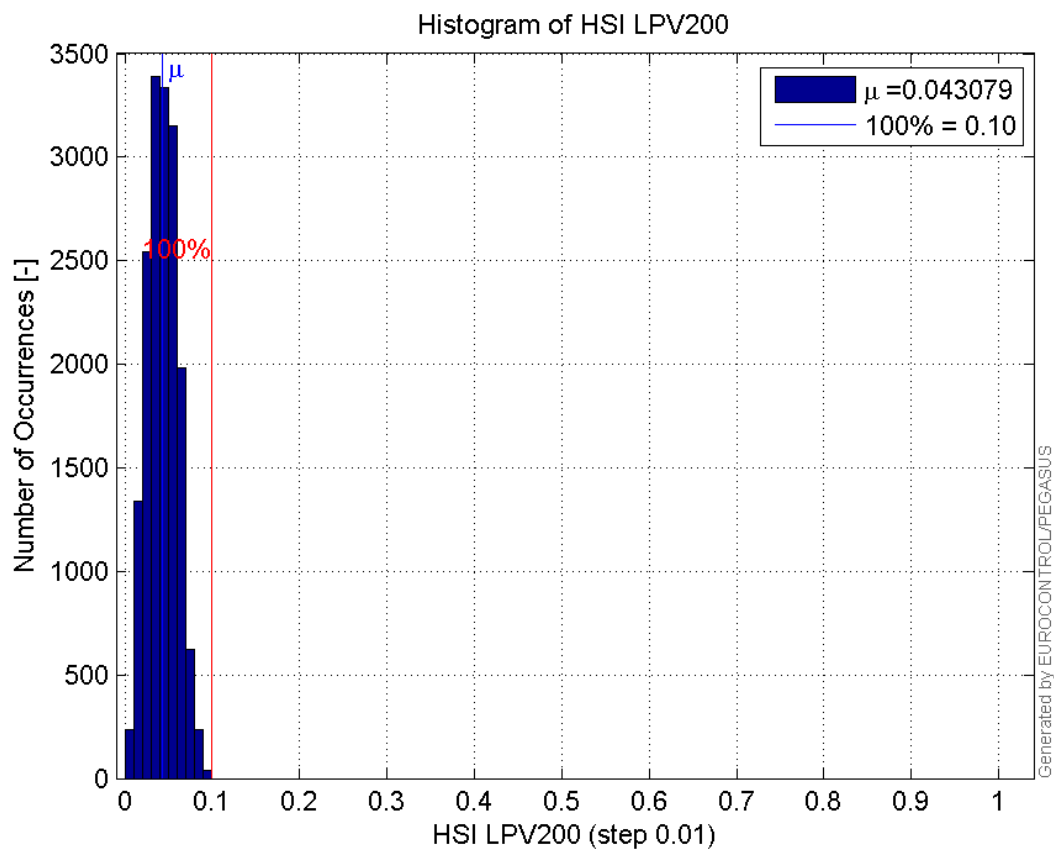
Histogram of HPL LPV200:



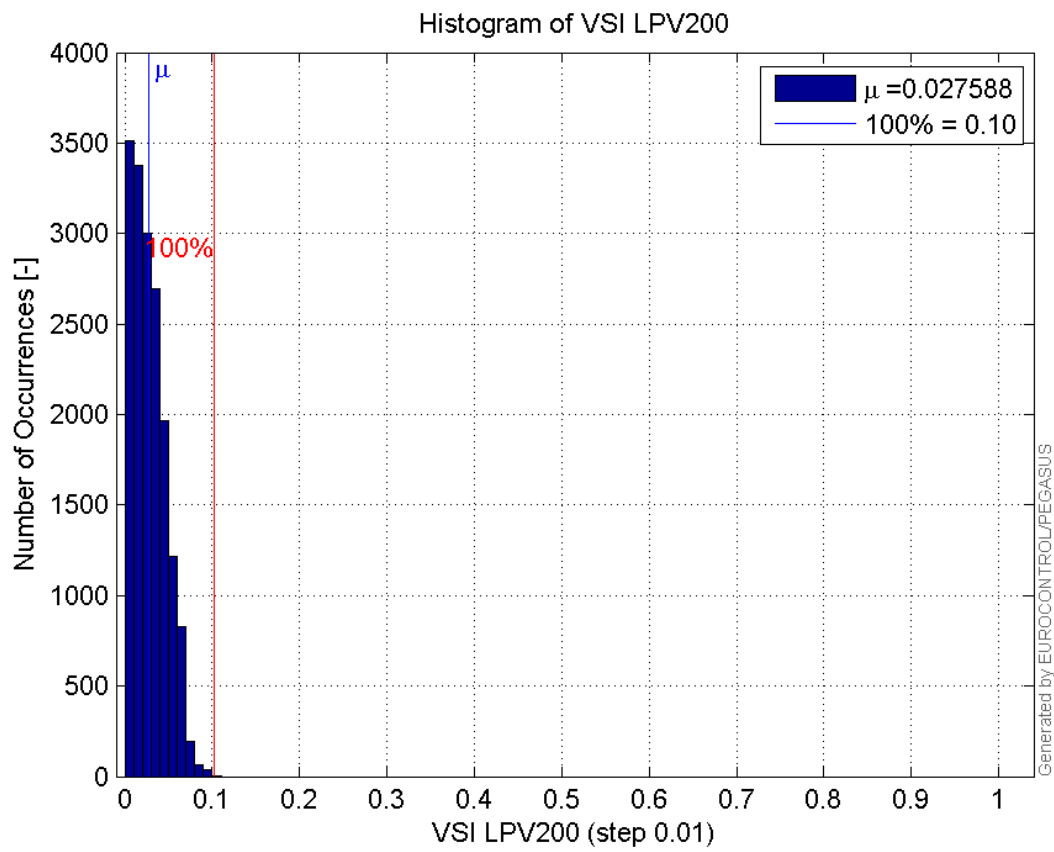
Histogram of VPL LPV200:



Histogram of HSI LPV200:

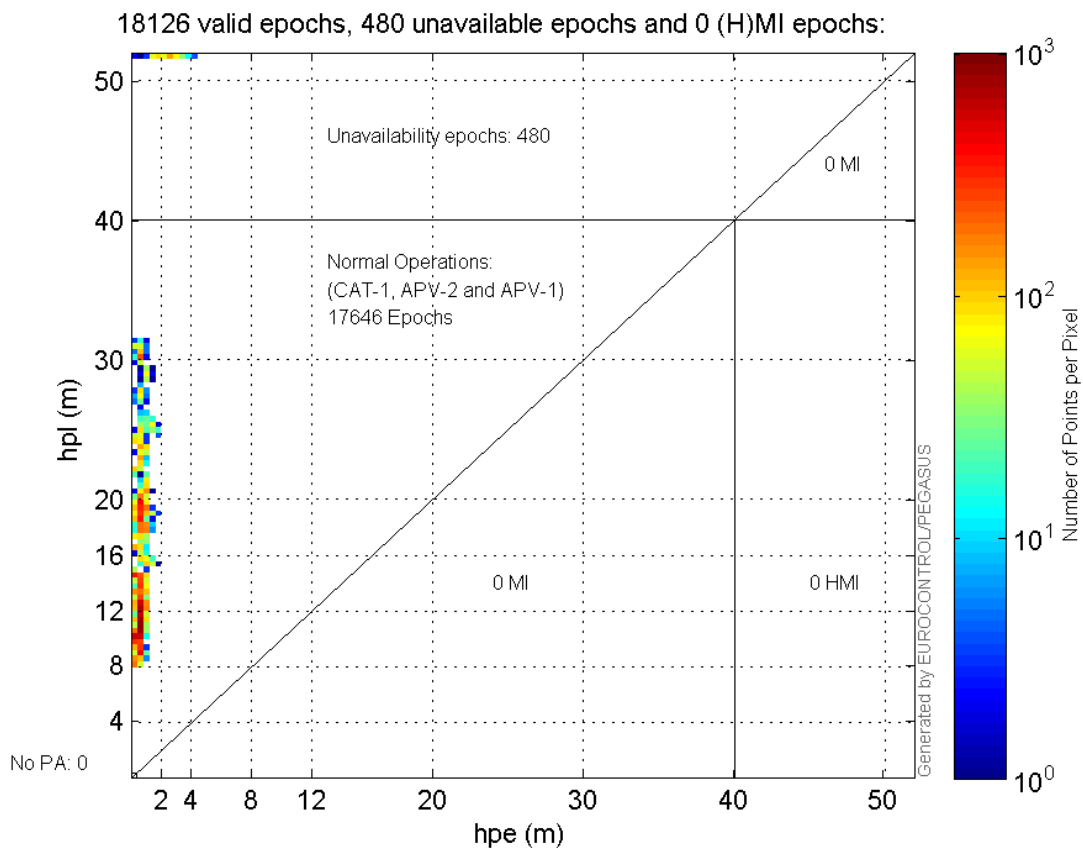


Histogram of VSI LPV200:

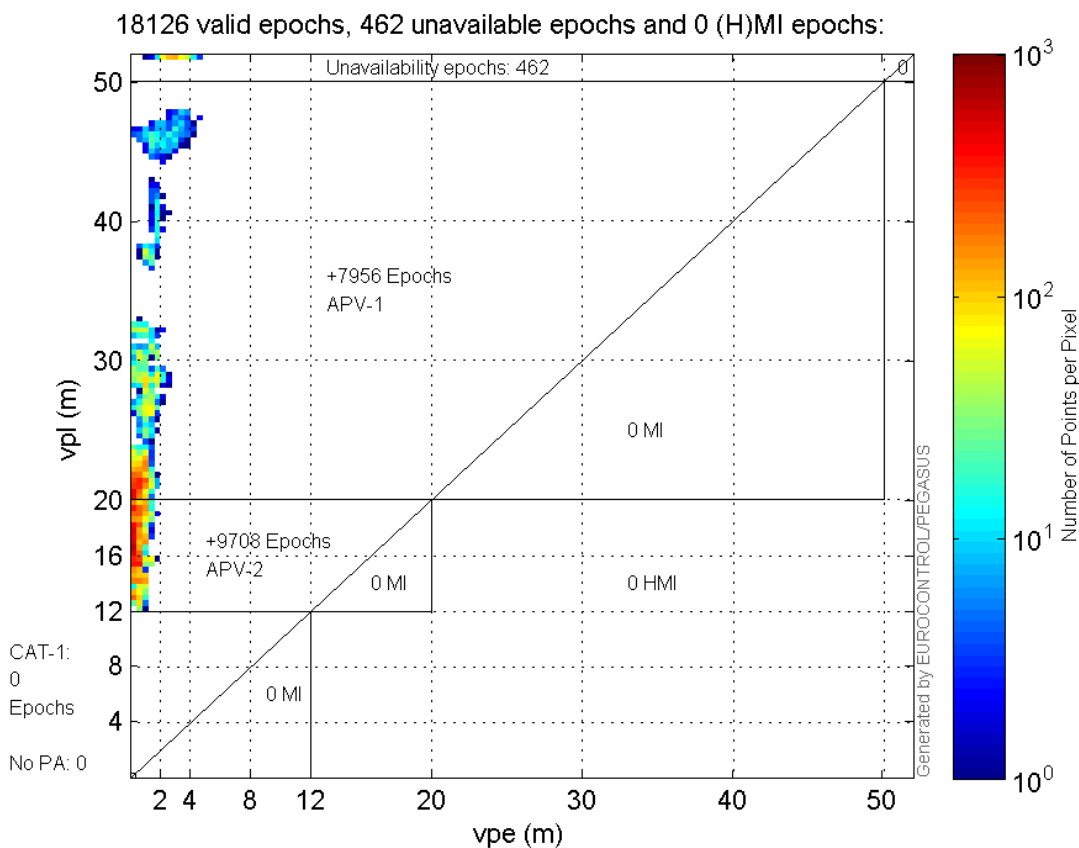


Stanford Plots

Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.2.1
input_prefix	system	D:/PegasusDateGob/job/2015_09_21EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_09_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	50.439
init_lon	results	30.4296
init_alt	results	239.5425
mi_numbers	results	0

SBAS Messages

start: 08:57:56.129 21.09.2015 (week: 1863 sec: 118676.129)
end: 14:06:5.129 21.09.2015 (week: 1863 sec: 137165.129)
duration: 05:08:9.00001 ..

quality

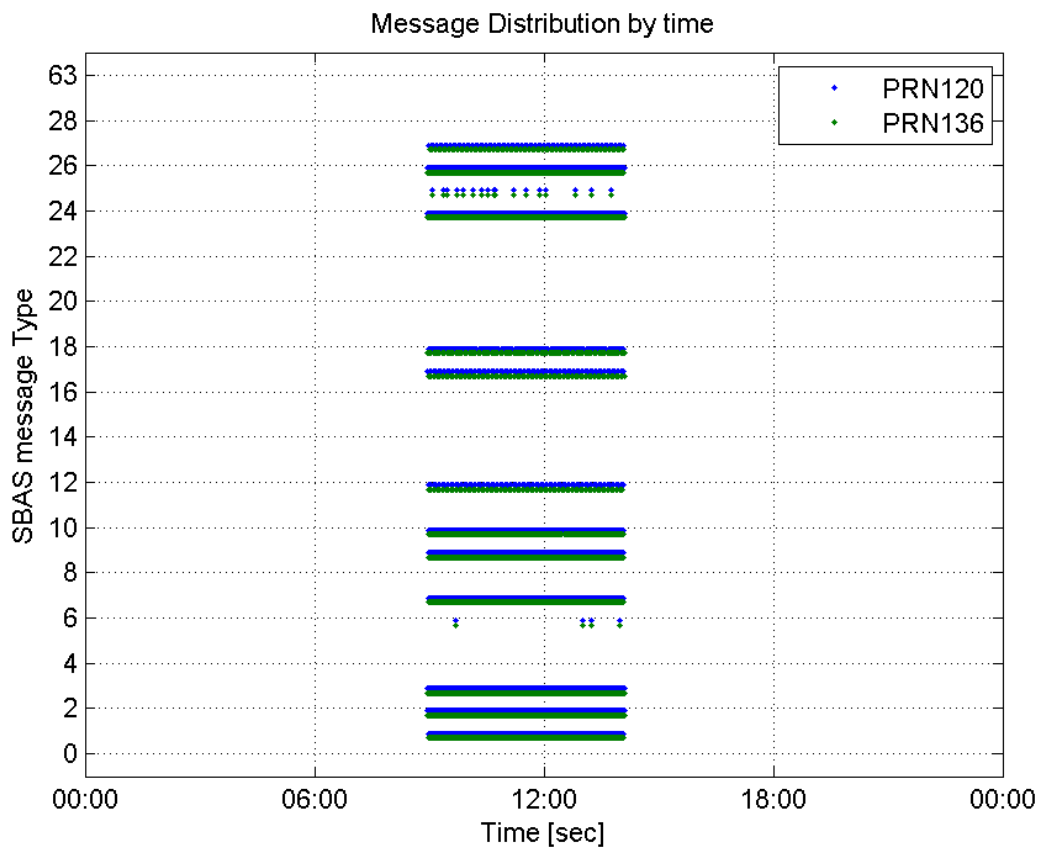
valid samples 36955
total samples 36955
number of SBAS PRNs 2

SBAS SIS Overview

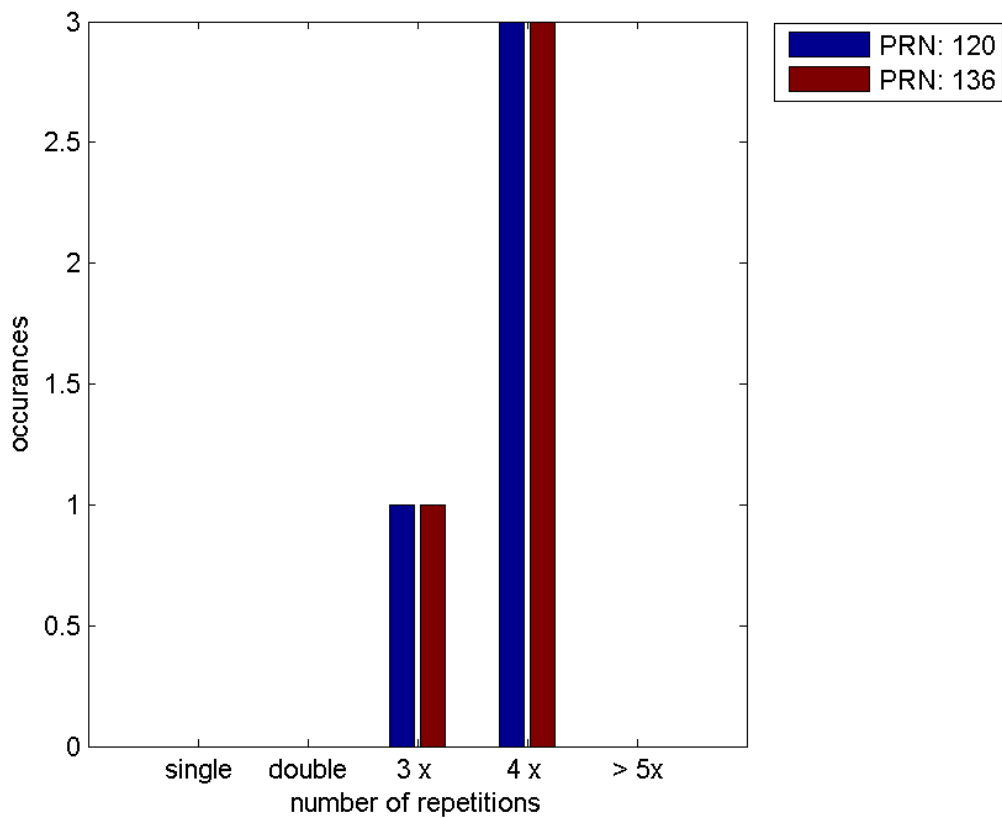
Message Type 6 repetitions :

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

 Message Distribution by time:



Message Type 6 repetitions:



Broadcast SBAS Messages :

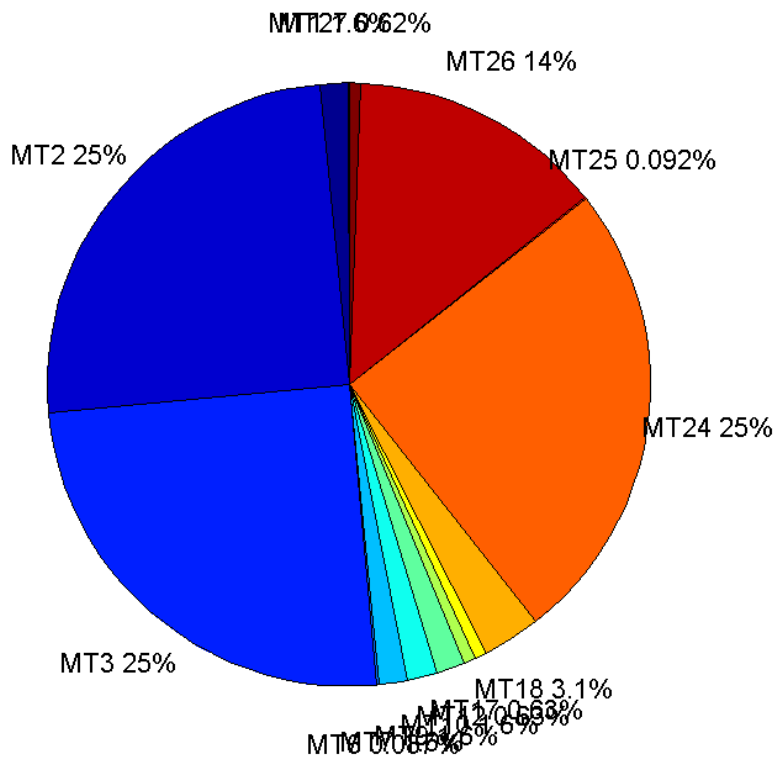
	number of messages	%
MT 0	0	0
MT 1	288	1.5576
MT 2	4617	24.9703
MT 3	4617	24.9703
MT 4	0	0
MT 5	0	0
MT 6	16	0.0865333
MT 7	288	1.5576
MT 9	287	1.55219
MT 10	287	1.55219
MT 12	116	0.627366
MT 17	116	0.627366
MT 18	575	3.10979
MT 24	4616	24.9648
MT 25	17	0.0919416
MT 26	2535	13.7101
MT 27	115	0.621958
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	18490	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	70	64.2613	0	0	0
MT 2	4	8	4.00498	4	0	0
MT 3	4	8	4.00498	4	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	11932	1024.33	3	3	3
MT 7	64	74	64.2753	0	0	0
MT 9	64	70	64.2762	0	0	0
MT 10	64	70	64.2902	0	0	0
MT 12	156	167	160.513	115	0	0
MT 17	156	167	160.513	0	0	0
MT 18	4	131	31.9425	0	0	0
MT 24	4	7	4.00498	0	0	0
MT 25	73	2769	1054.62	0	0	0
MT						

26	4	35	7.294	0	0	0
MT 27	156	170	160.482	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

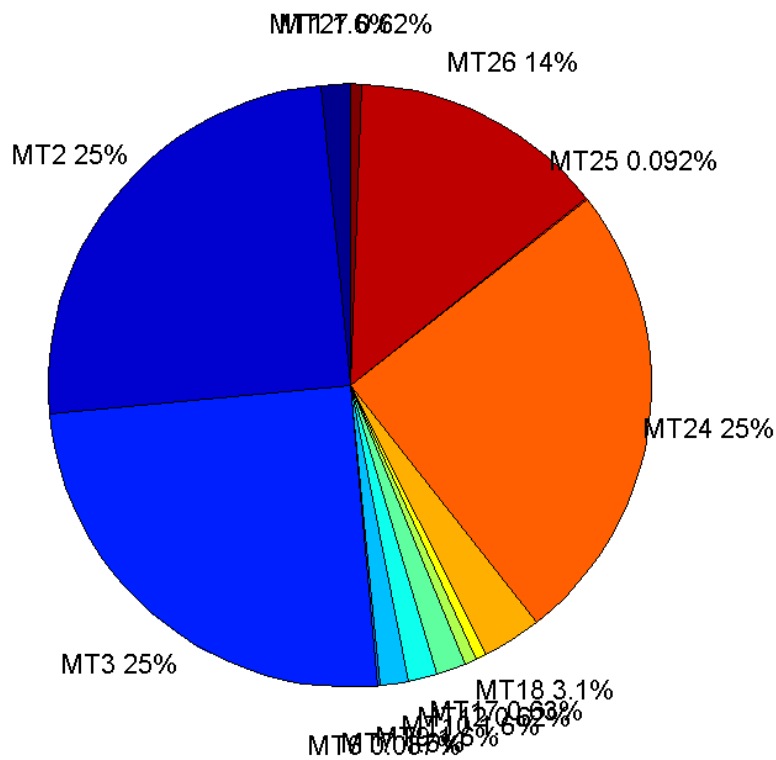
	number of messages	%
MT 0	0	0
MT 1	287	1.55429
MT 2	4611	24.9716
MT 3	4610	24.9662
MT 4	0	0
MT 5	0	0
MT 6	16	0.0866504
MT 7	287	1.55429
MT 9	287	1.55429

MT 10	287	1.55429
MT 12	115	0.6228
MT 17	116	0.628216
MT 18	580	3.14108
MT 24	4610	24.9662
MT 25	17	0.0920661
MT 26	2527	13.6854
MT 27	115	0.6228
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	18465	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	70	64.2762	0	0	0
MT 2	4	28	4.0102	5	1	1
MT 3	4	32	4.01107	5	1	1
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	11932	1024.33	3	3	3
MT 7	64	70	64.2902	0	0	0
MT 9	64	128	64.486	0	0	0
MT 10	64	128	64.5	1	0	0
MT 12	156	169	160.518	114	0	0
MT 17	156	169	160.478	0	0	0
MT 18	4	147	31.9154	0	0	0
MT 24	4	28	4.0102	0	0	0
MT 25	73	2769	1054.62	0	0	0
MT 26	4	64	7.3076	0	0	0
MT 27	156	167	160.482	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_09_21EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2015_09_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

Range Domain

start: 08:57:57 21.09.2015 (week: 1863 sec: 118677)
end: 14:06:06 21.09.2015 (week: 1863 sec: 137166)
duration: 05:08:10 ..

quality

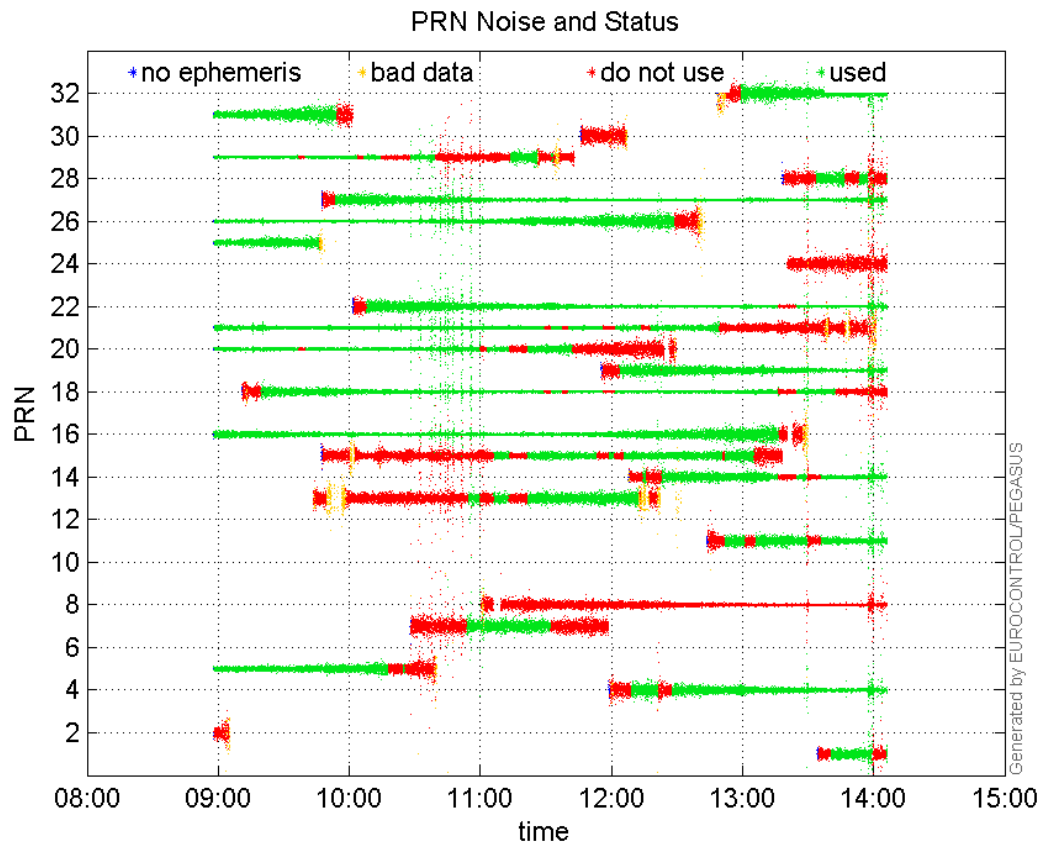
valid samples 18490
total samples 18490

PRN overview

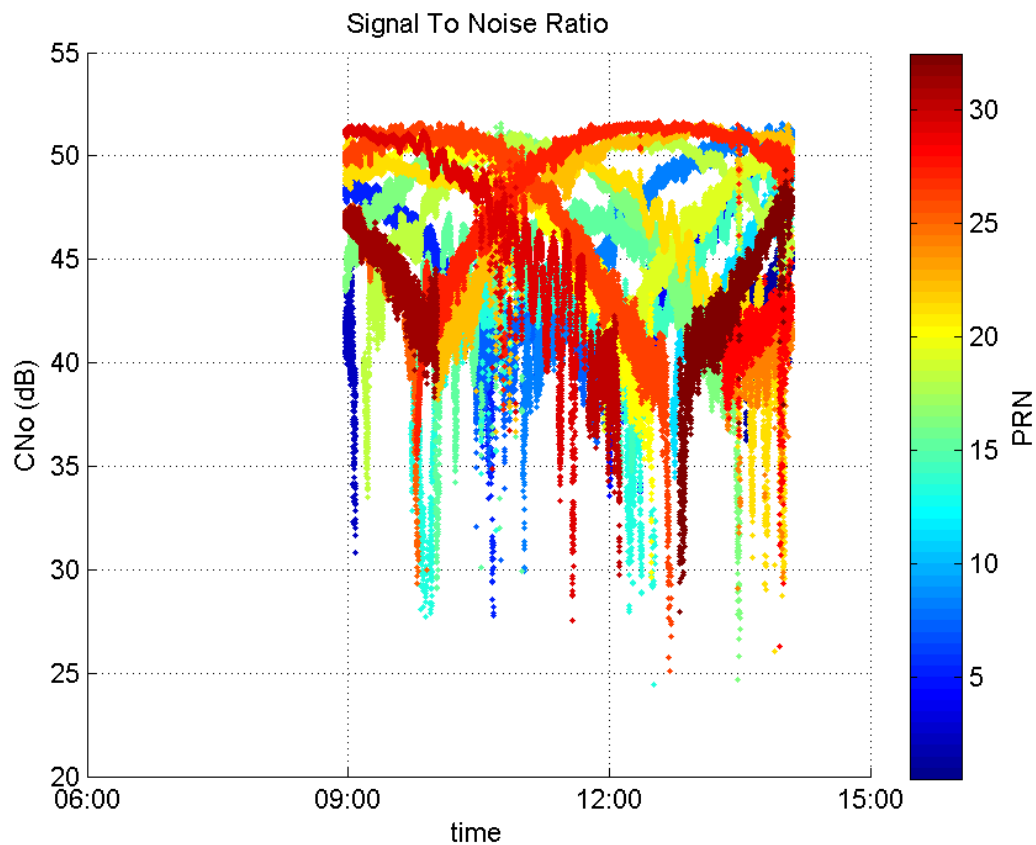
Number of Visible GPS Satellites 25
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



range errors

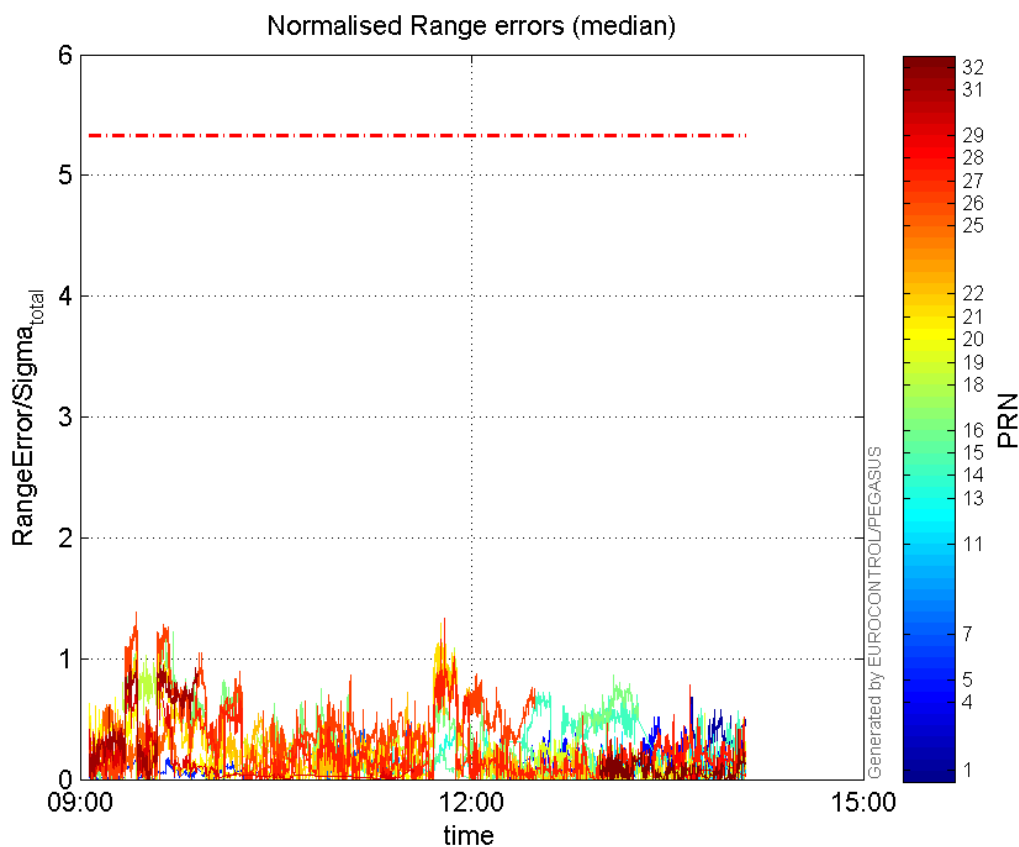
Number of Overbounding Norm Errors 0

Max Norm Errors :

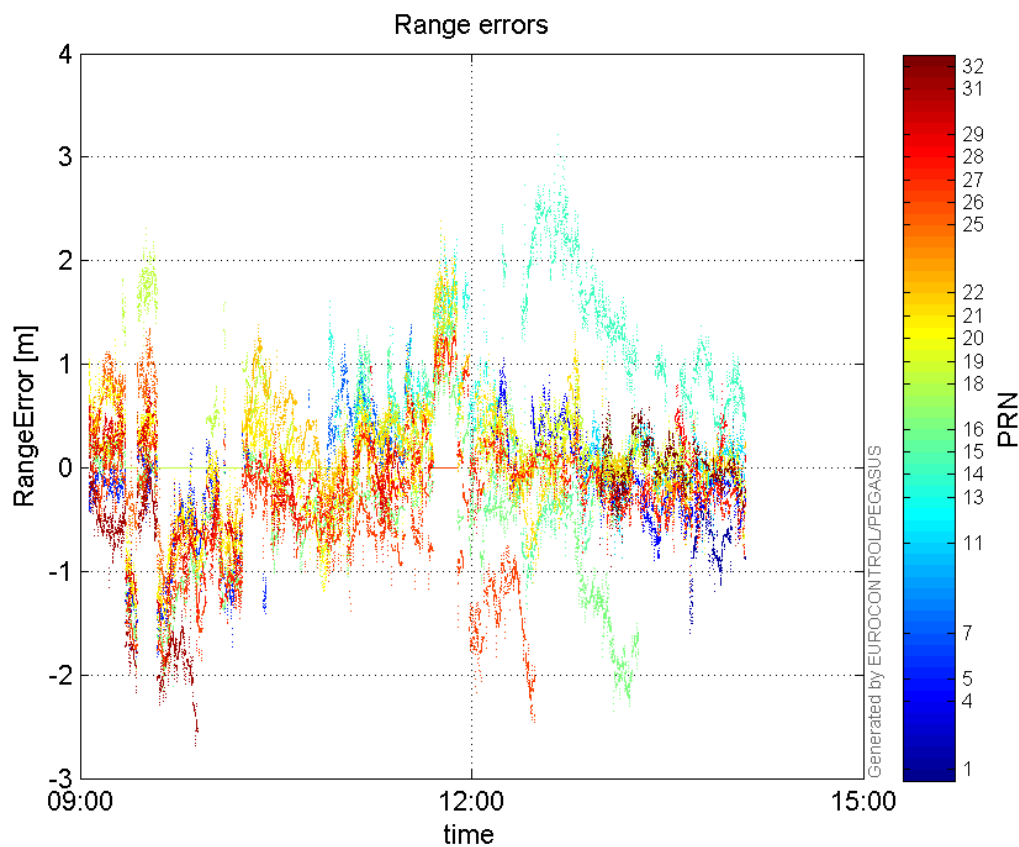
GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1863	135636	1	0.730805	-1.60313	2.19365
1863	135646	4	0.615721	-1.01072	1.64153
1863	121238	5	0.175397	-1.51058	8.61238
1863	127920	7	0.478372	1.38544	2.89615
1863	135946	11	0.455613	-0.815056	1.78892
1863	129954	13	0.581924	1.71174	2.94153
1863	131590	14	0.72405	2.72446	3.7628
1863	131129	15	0.330943	-1.35768	4.10247
1863	121105	16	1.26937	-2.11068	1.66278
1863	128752	18	1.18595	1.79369	1.51246
1863	136028	19	0.543328	-0.838406	1.54309
1863	120978	20	0.731746	-1.44197	1.97059
1863	128851	21	1.32369	2.2303	1.68491
1863	128752	22	1.15316	1.76228	1.52822
1863	119602	25	0.618193	1.09153	1.76568
1863	120348	26	1.38693	-1.96344	1.41567
1863	128851	27	1.3367	1.92581	1.44072
1863	135268	28	0.309971	0.802336	2.58843
1863	120178	29	0.931651	-1.44304	1.54891
1863	120349	31	0.984427	-2.17323	2.20761

1863	136954	32	0.412742	-0.72869	1.76549
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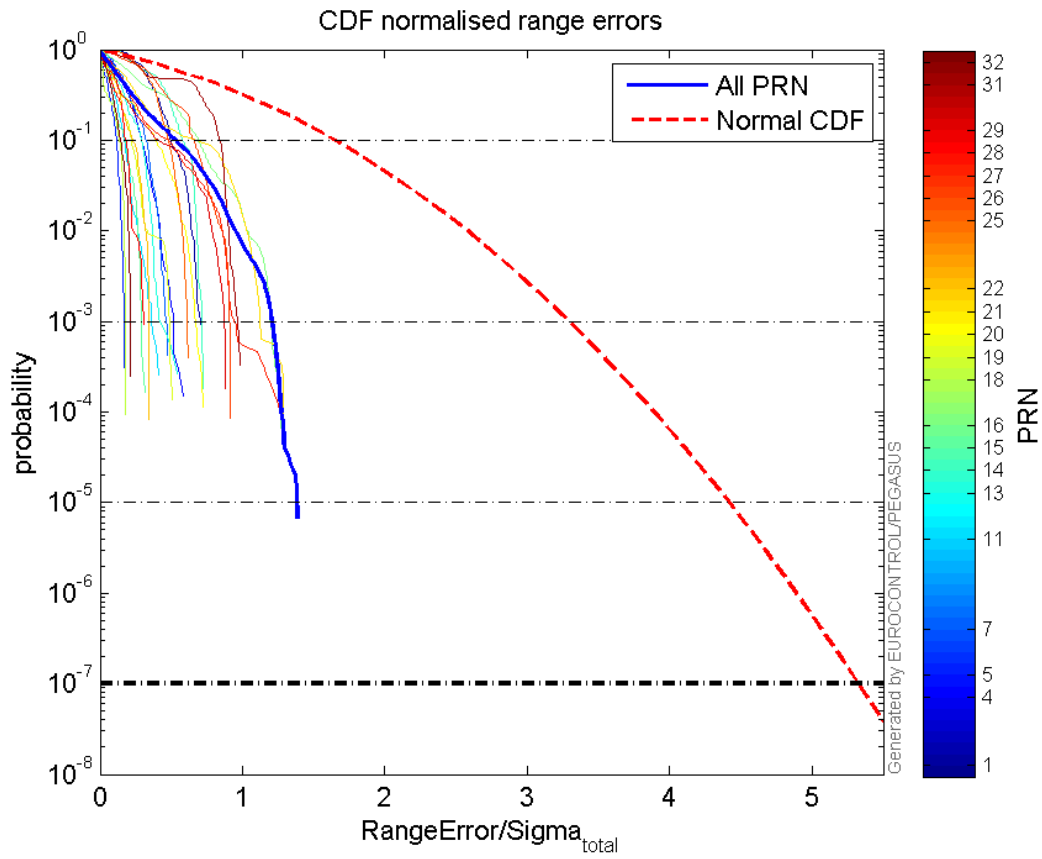
Normalised Range errors (median):



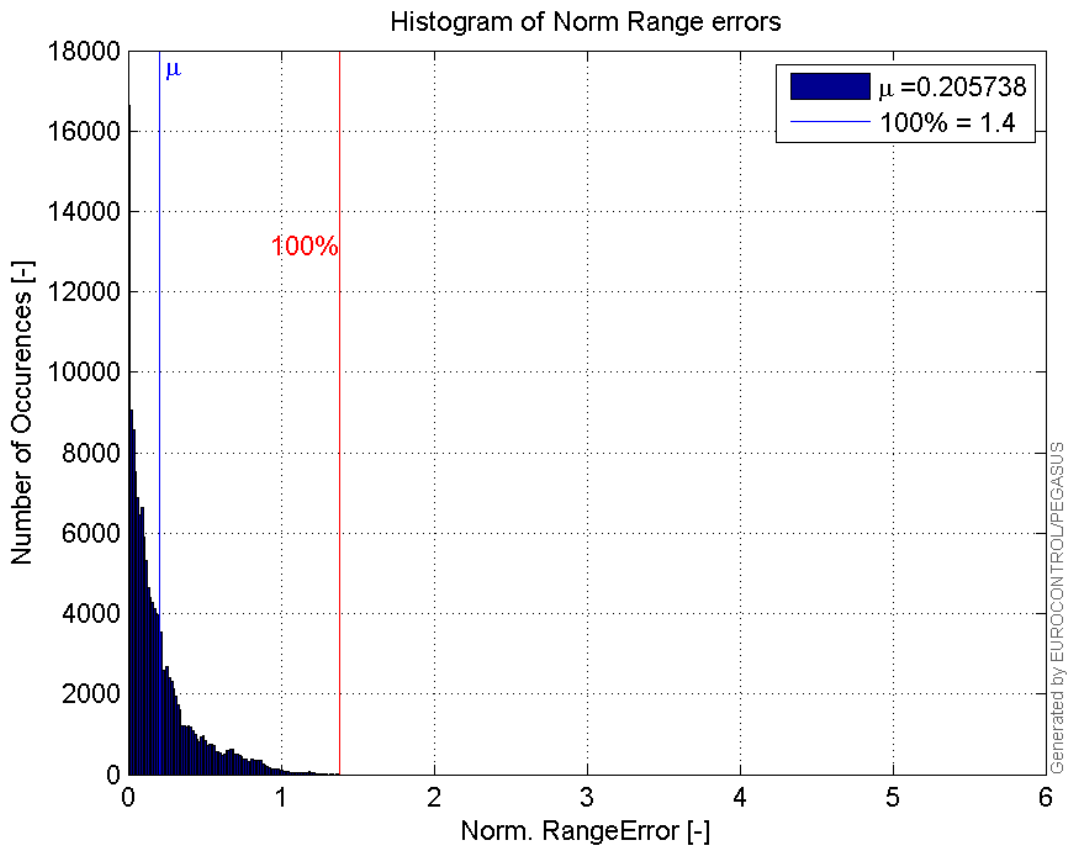
Range errors:



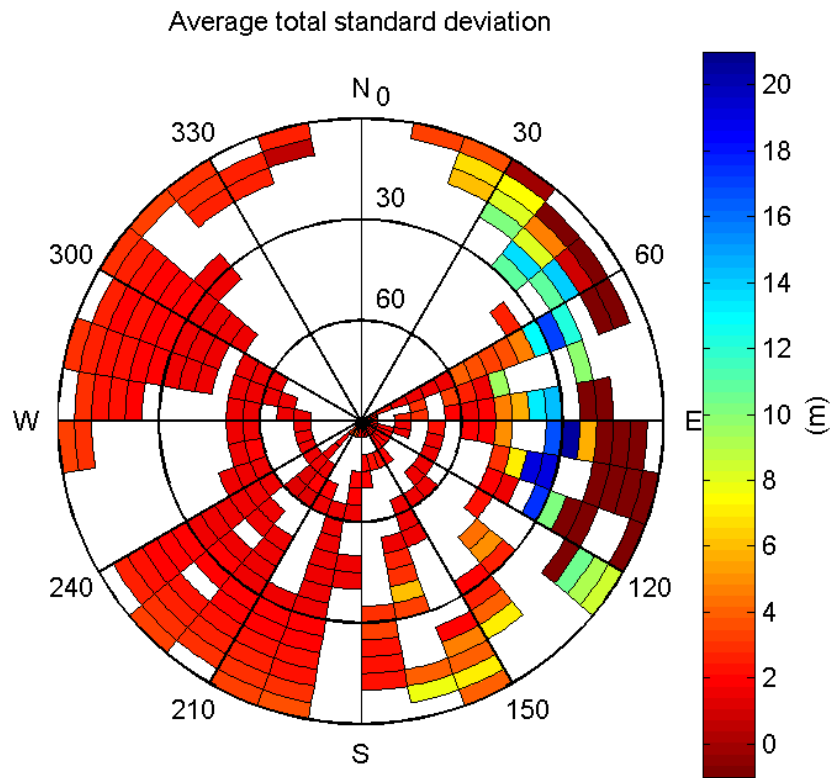
CDF normalised range errors:



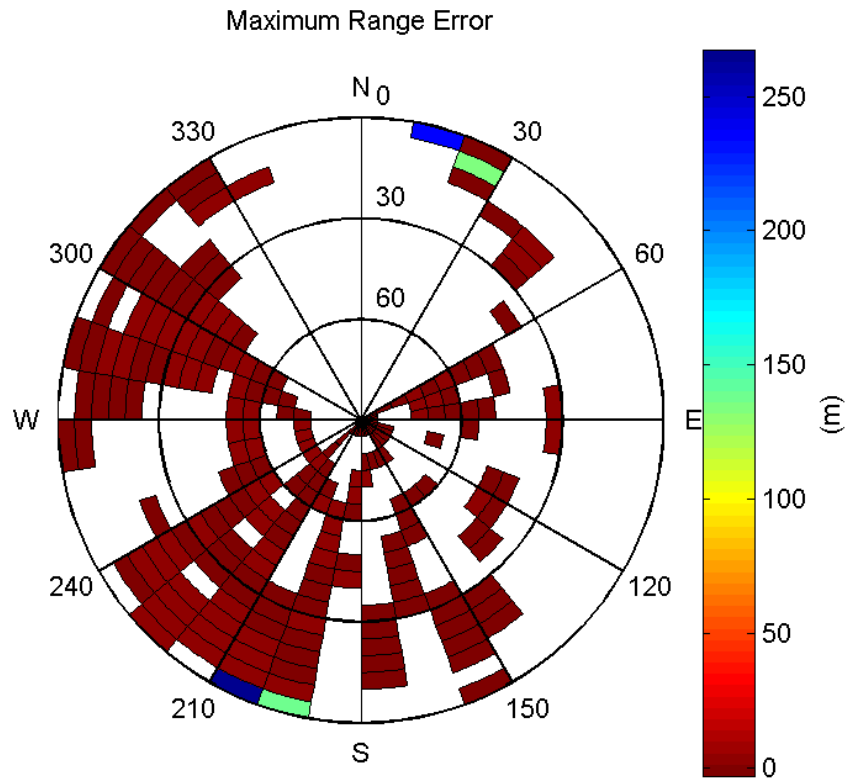
Histogram of Norm Range errors:



Sigma Sky Plot:

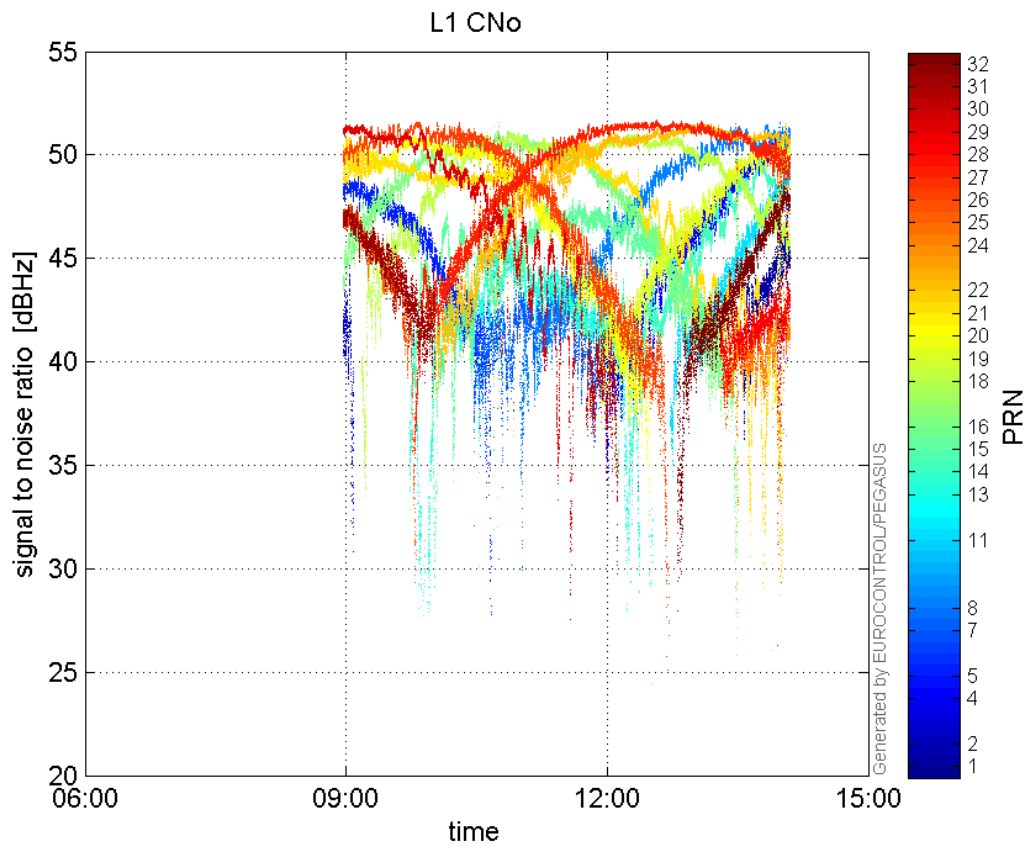


Norm Error Sky Plot:

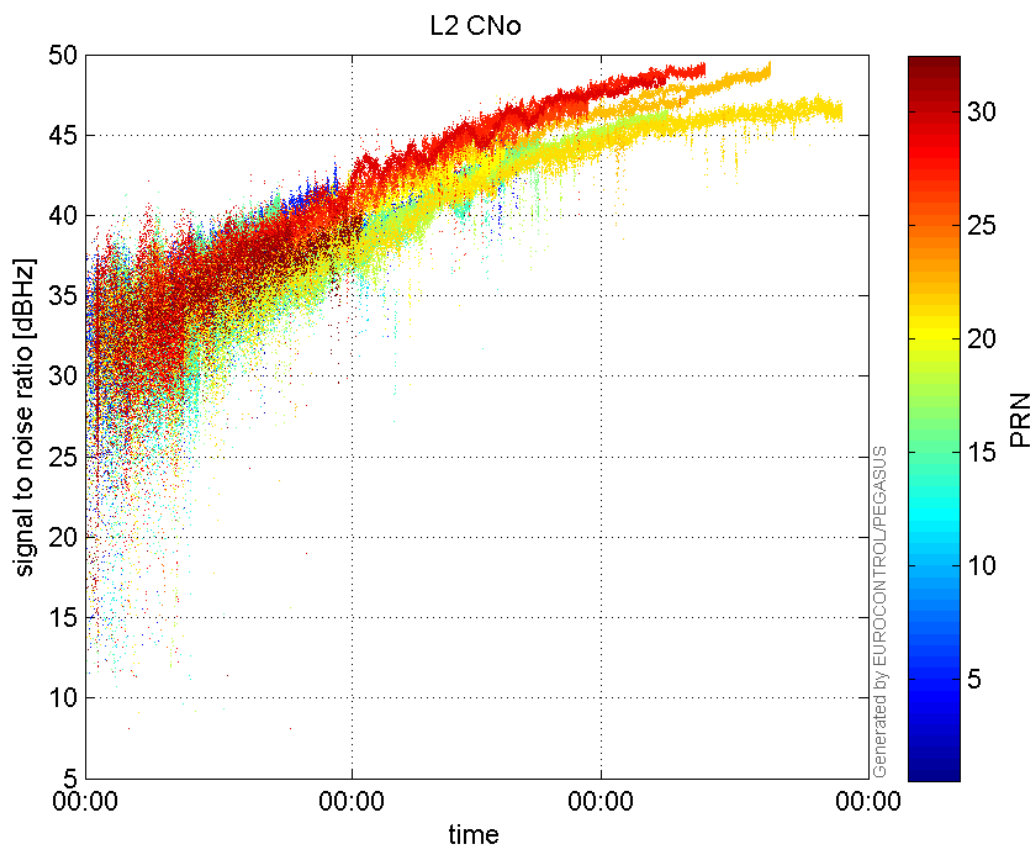


signal quality

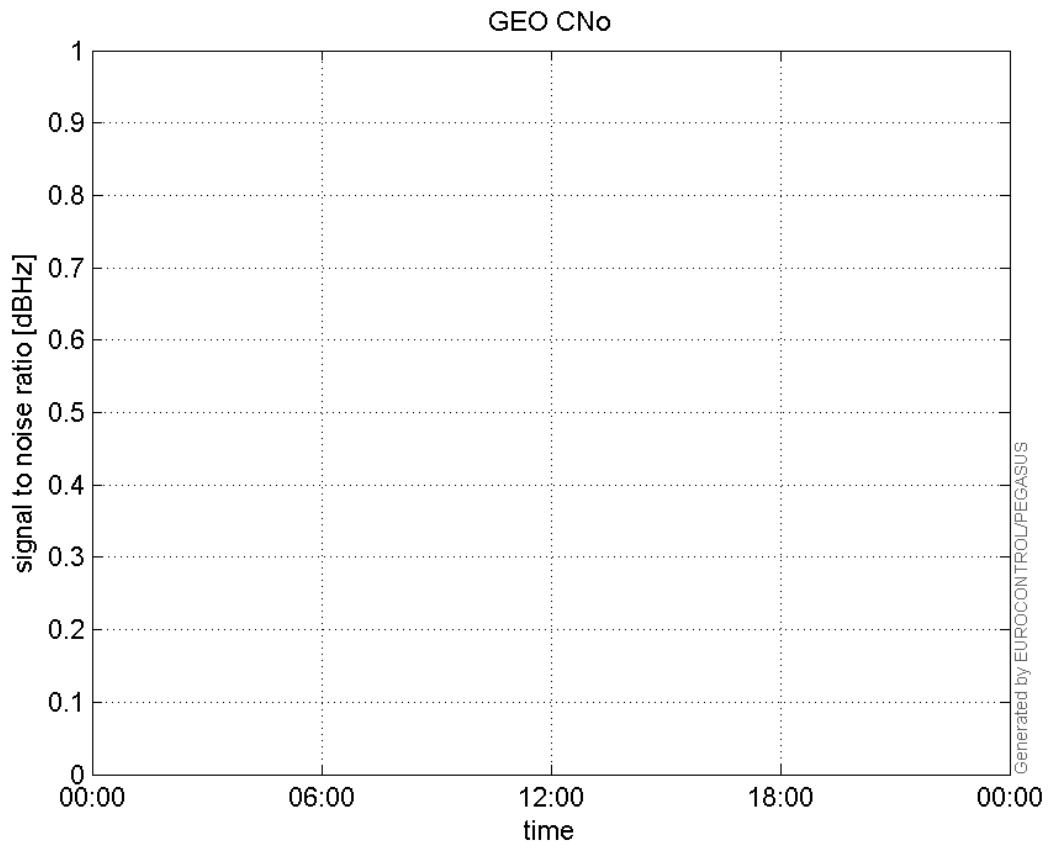
L1 CNo:



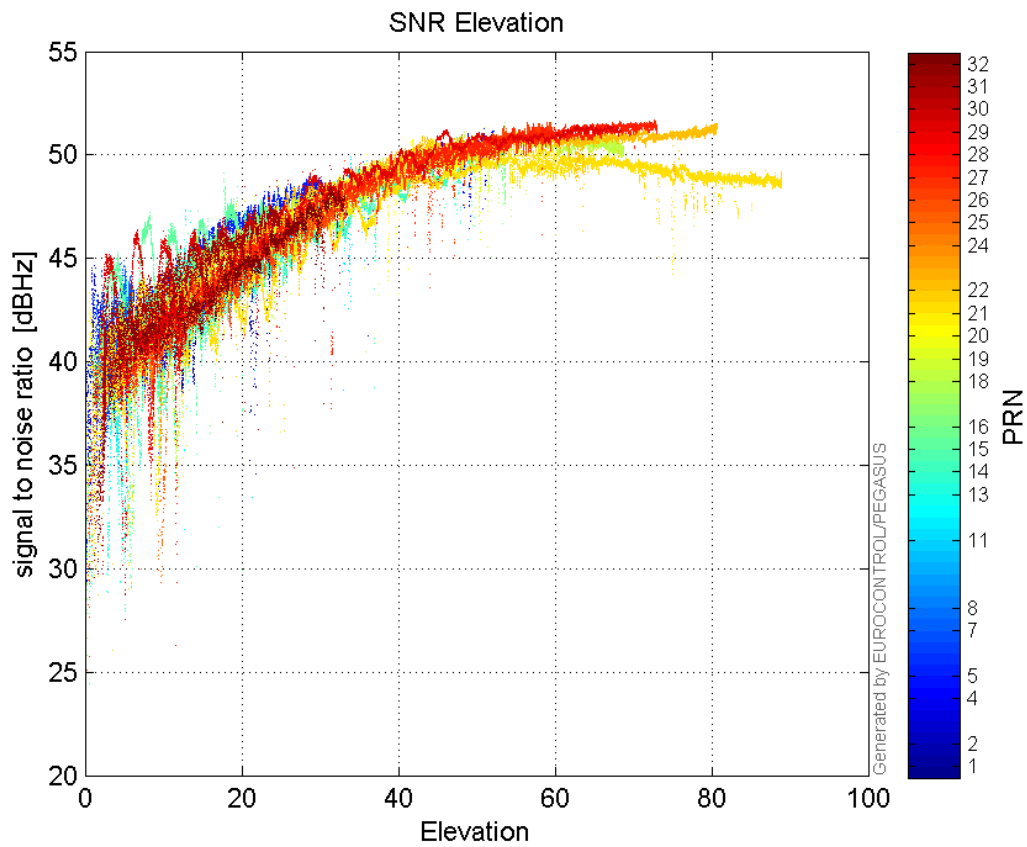
L2 CNo:



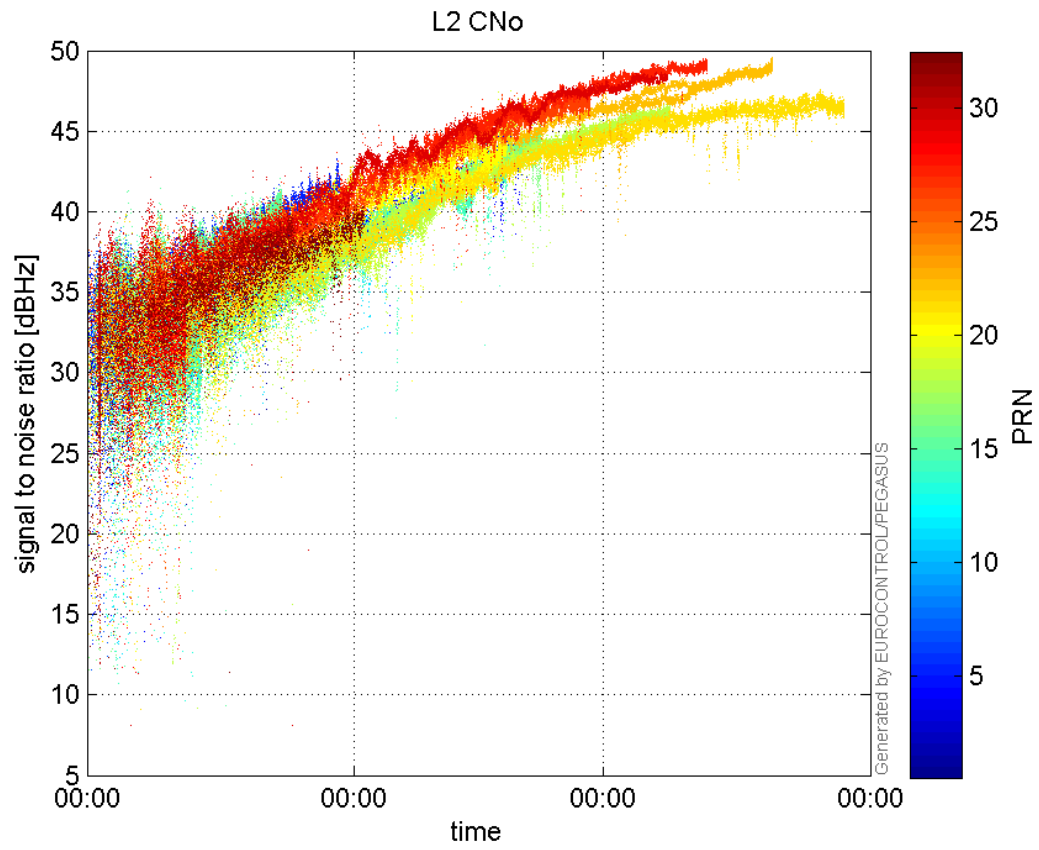
GEO CNo:



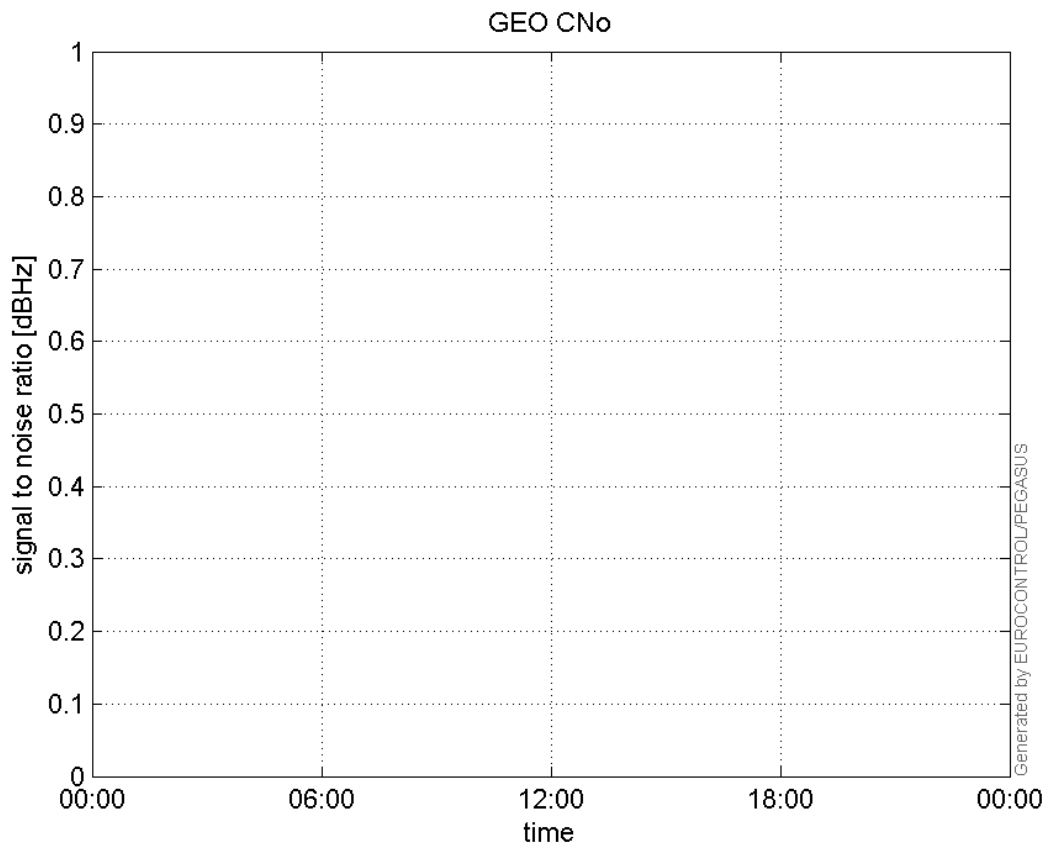
SNR Elevation:



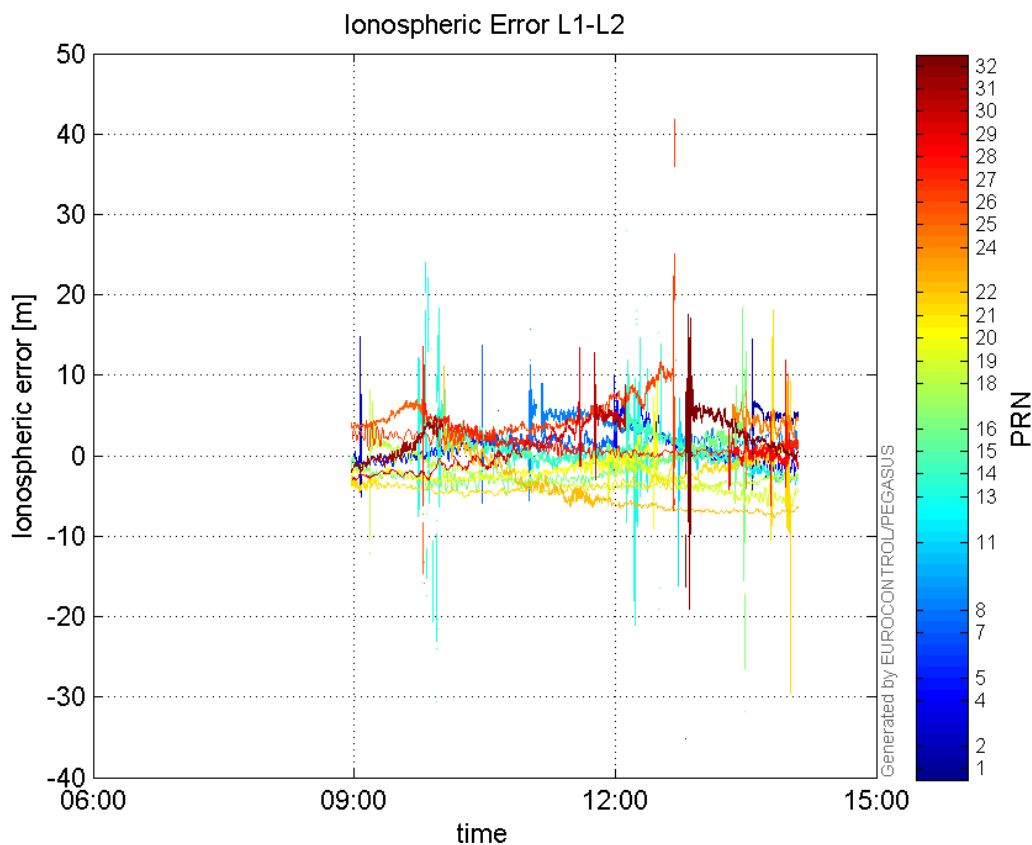
L2 CNo:



GEO CNo:



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_09_21EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_09_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	50.439
init_lon	results	30.4296
init_alt	results	239.5425
mi_numbers	results	0