

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 23/02/2016

Range Domain

start: 08:55:34 18.02.2016 (week: 1884 sec: 377734)
end: 10:20:55 18.02.2016 (week: 1884 sec: 382855)
duration: 01:25:22 ..

quality

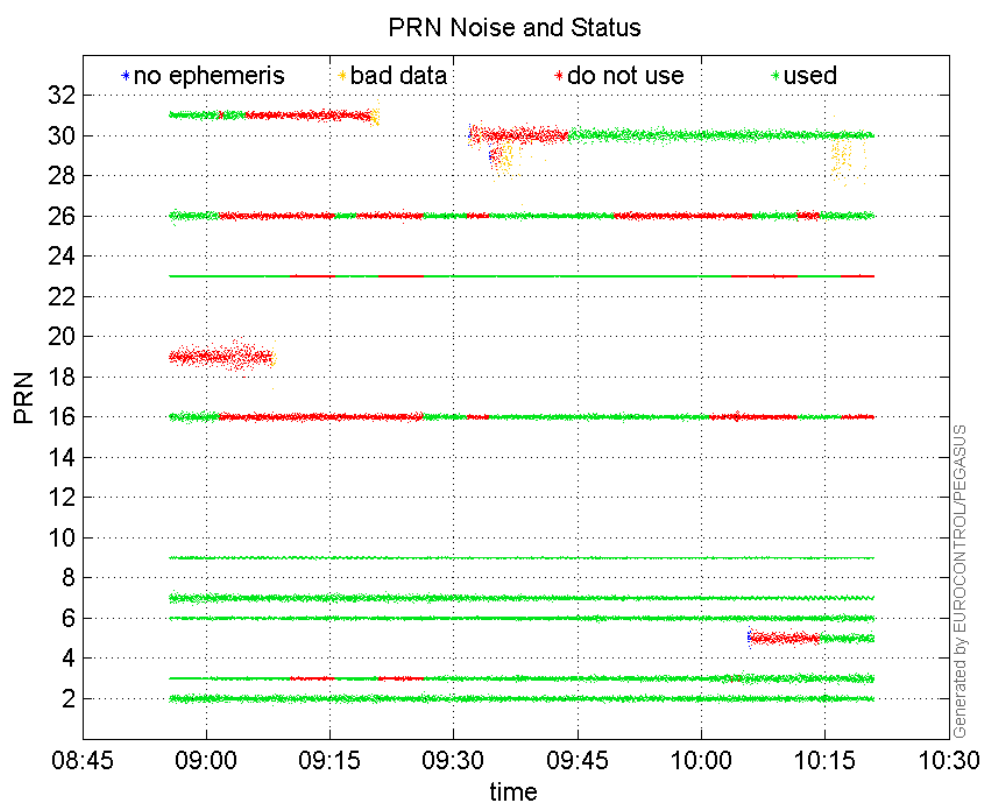
valid samples 5122
total samples 5122

PRN overview

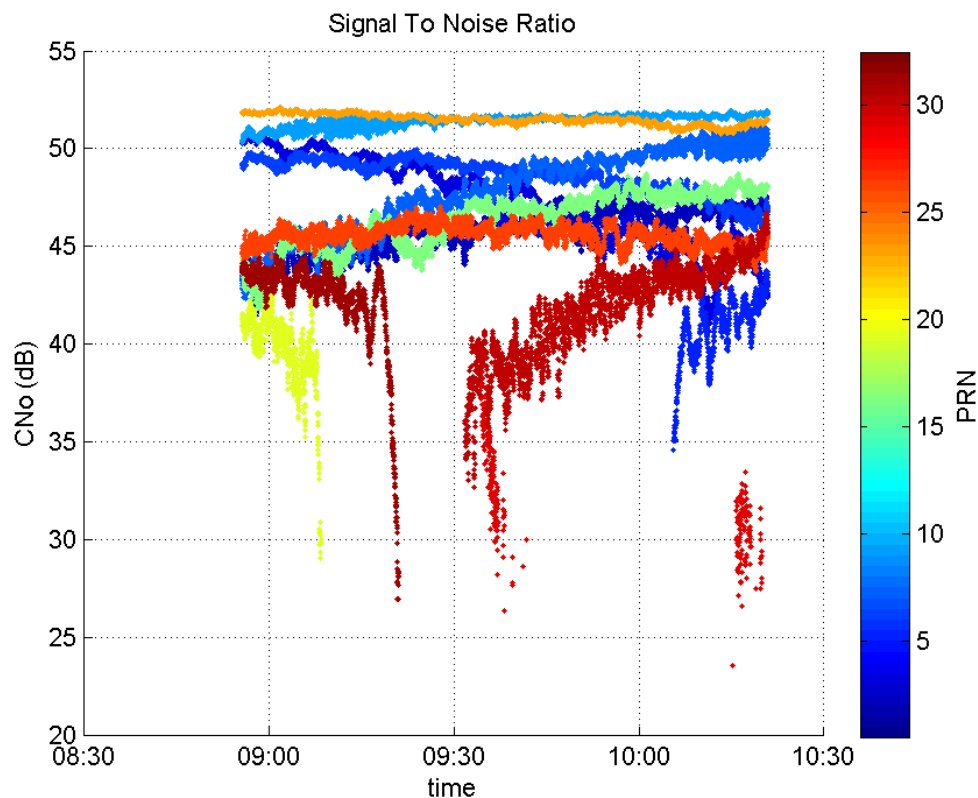
Number of Visible GPS Satellites 13
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



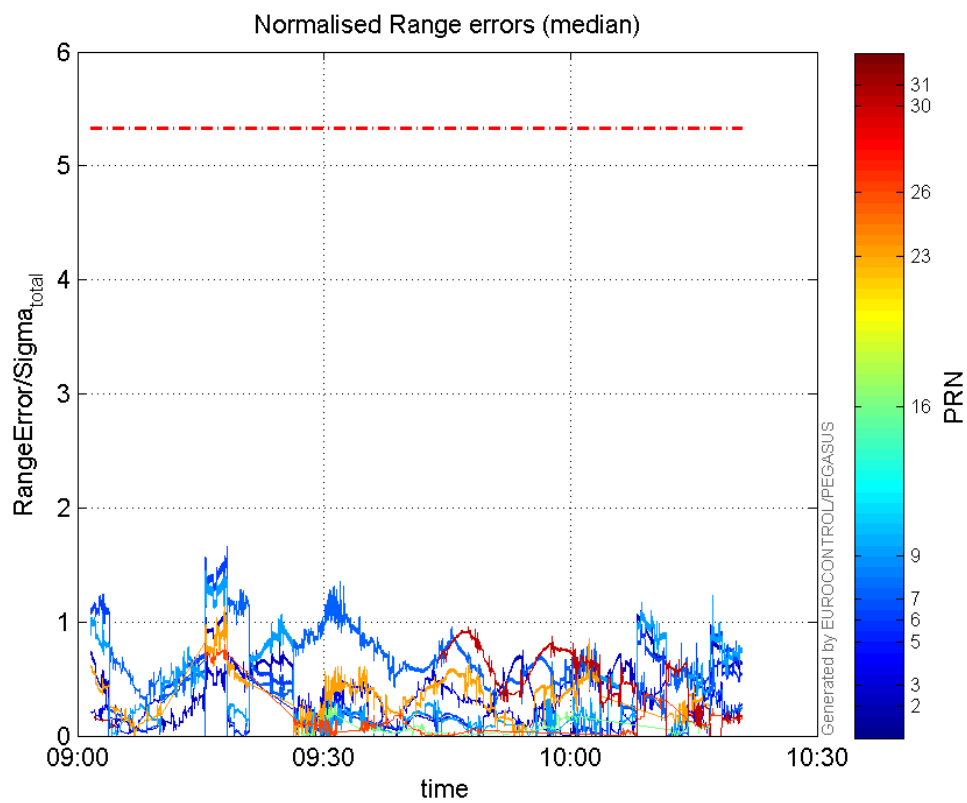
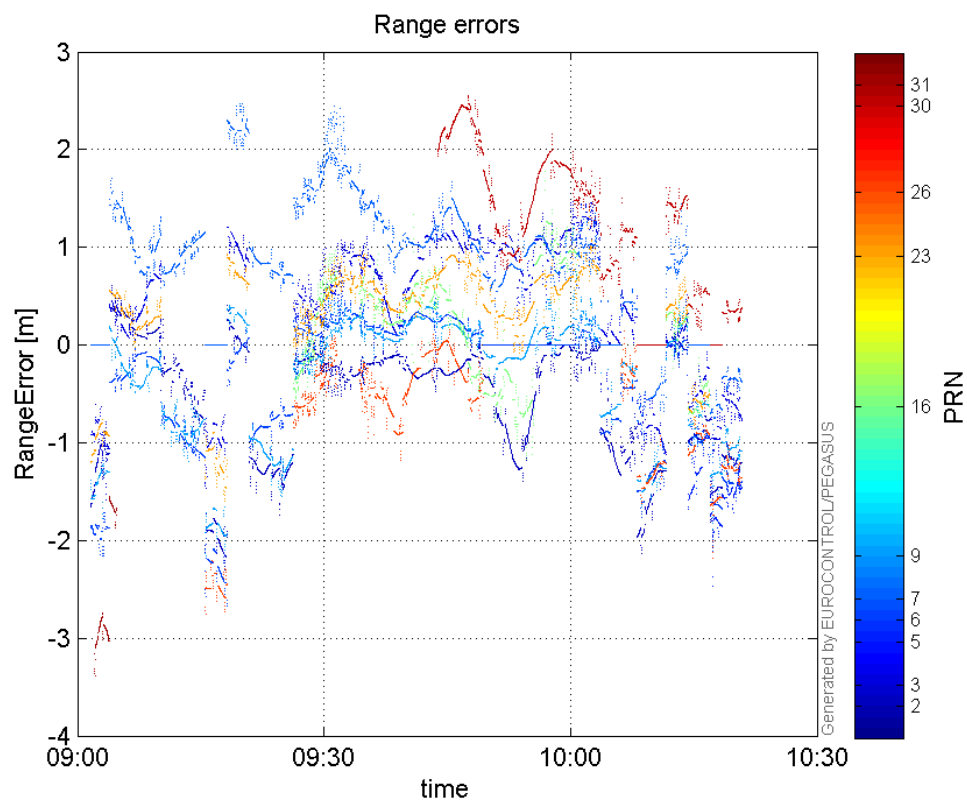
range errors

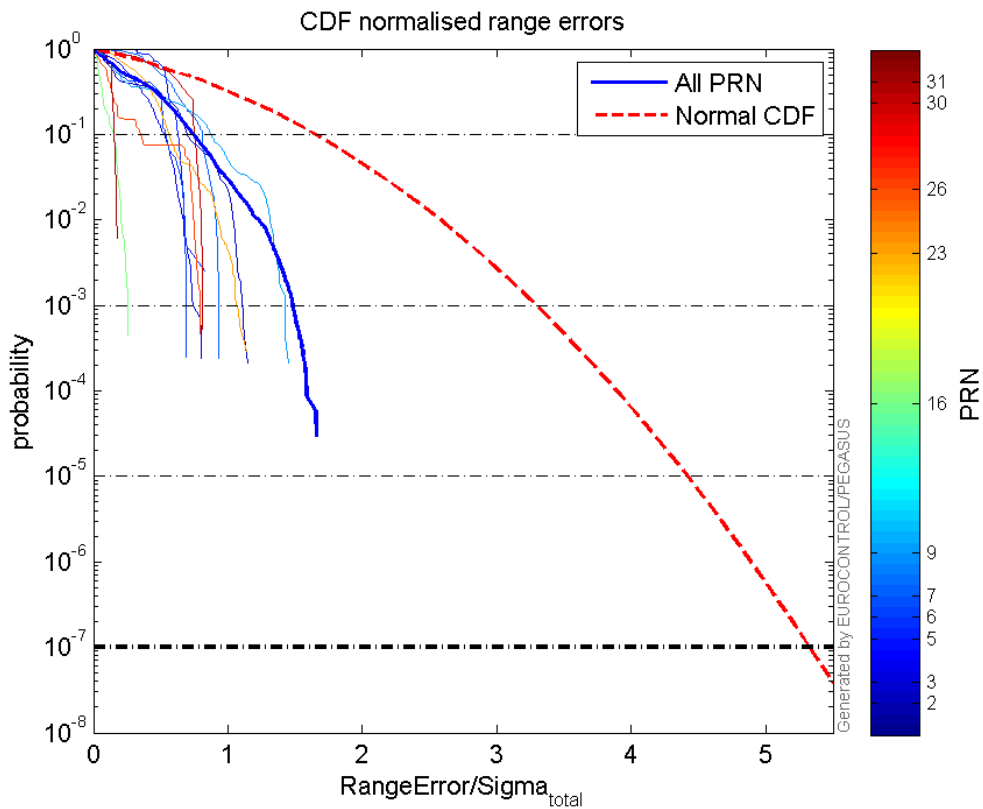
Number of Overbounding Norm Errors 0

Max Norm Errors :

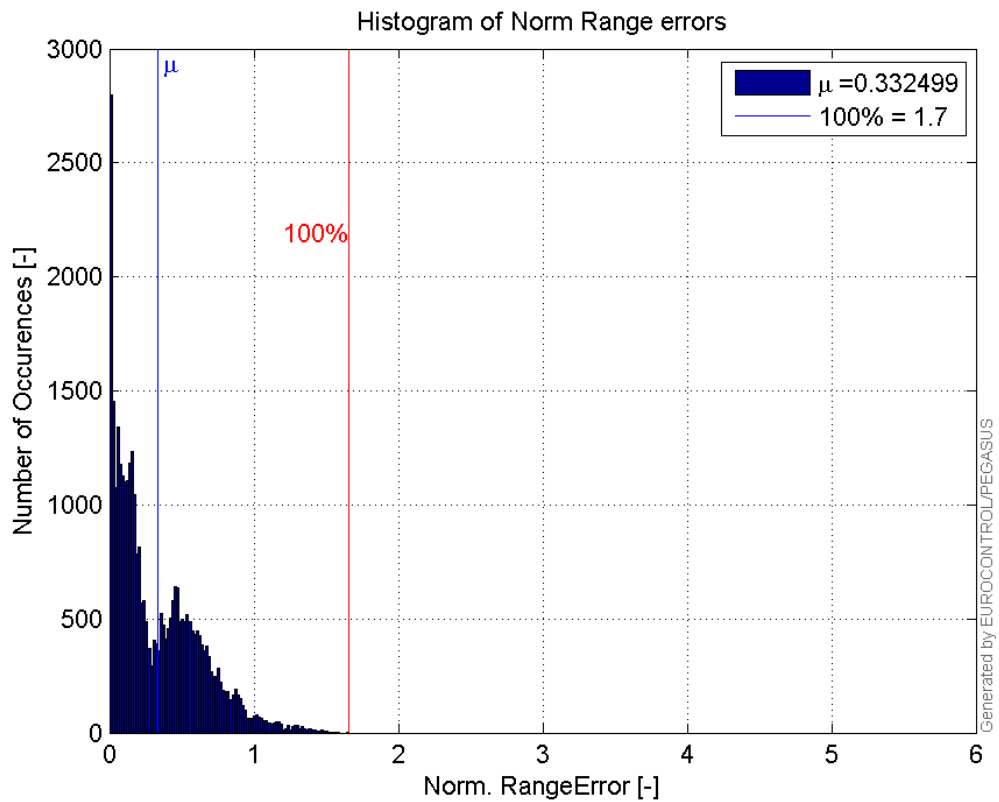
GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1884	382118	2	1.15356	-2.13235	1.8485
1884	378936	3	0.81222	-1.47003	1.8099
1884	382638	5	0.85683	-2.46817	2.88058
1884	379089	6	1.66106	-2.61467	1.57409
1884	379920	7	1.3529	2.42034	1.789
1884	378933	9	1.45007	-2.09987	1.44811
1884	379880	16	0.264732	0.967745	3.65557
1884	379076	23	1.14133	-1.60206	1.40368
1884	379076	26	0.800582	-2.73433	3.41543
1884	380851	30	0.95815	2.53938	2.65029
1884	378128	31	0.174062	-3.38113	19.4248

Normalised Range errors (median):

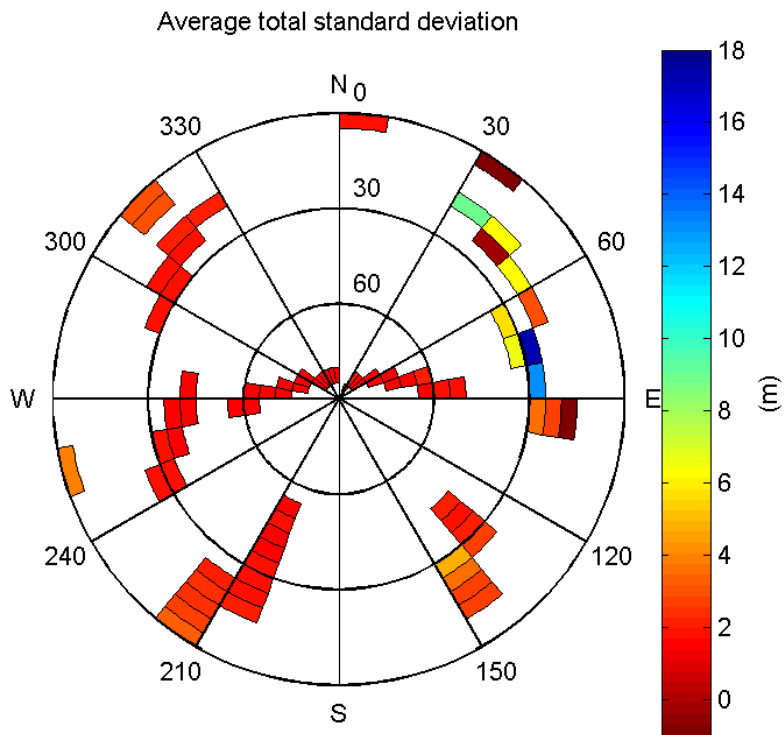
**Range errors:****CDF normalised range errors:**



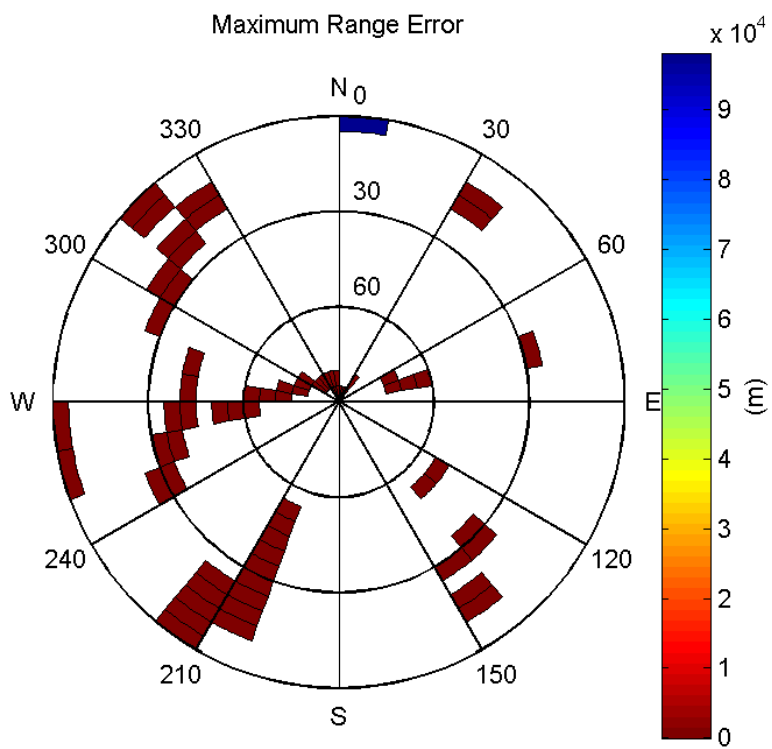
Histogram of Norm Range errors:



Sigma Sky Plot:

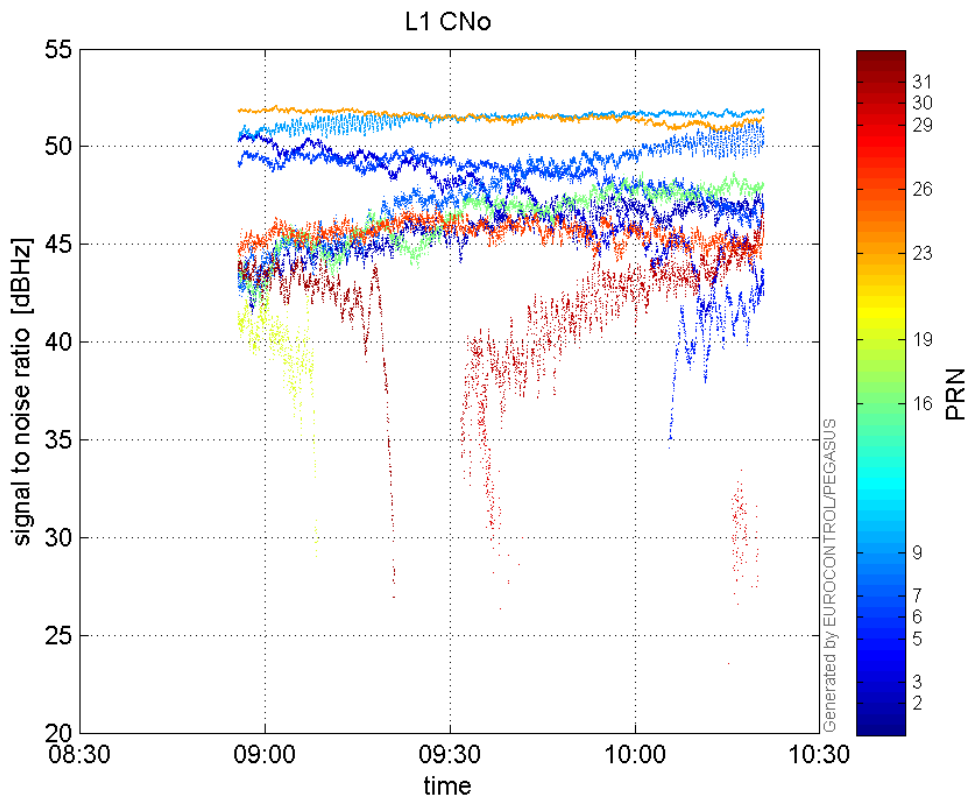


Norm Error Sky Plot:

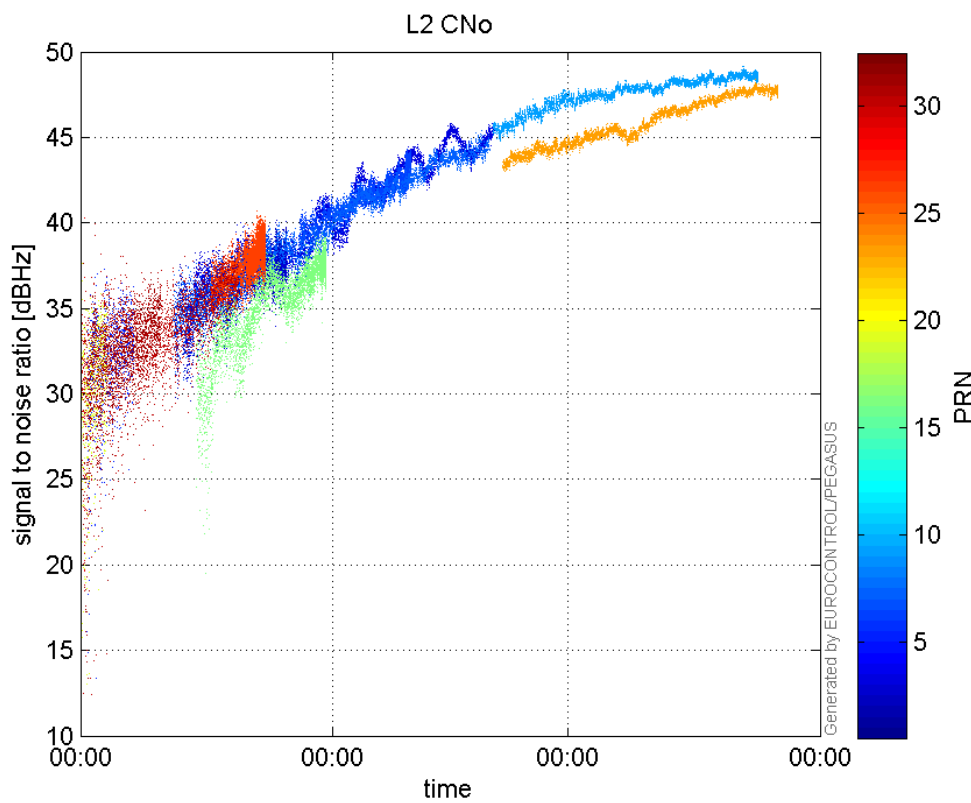


signal quality

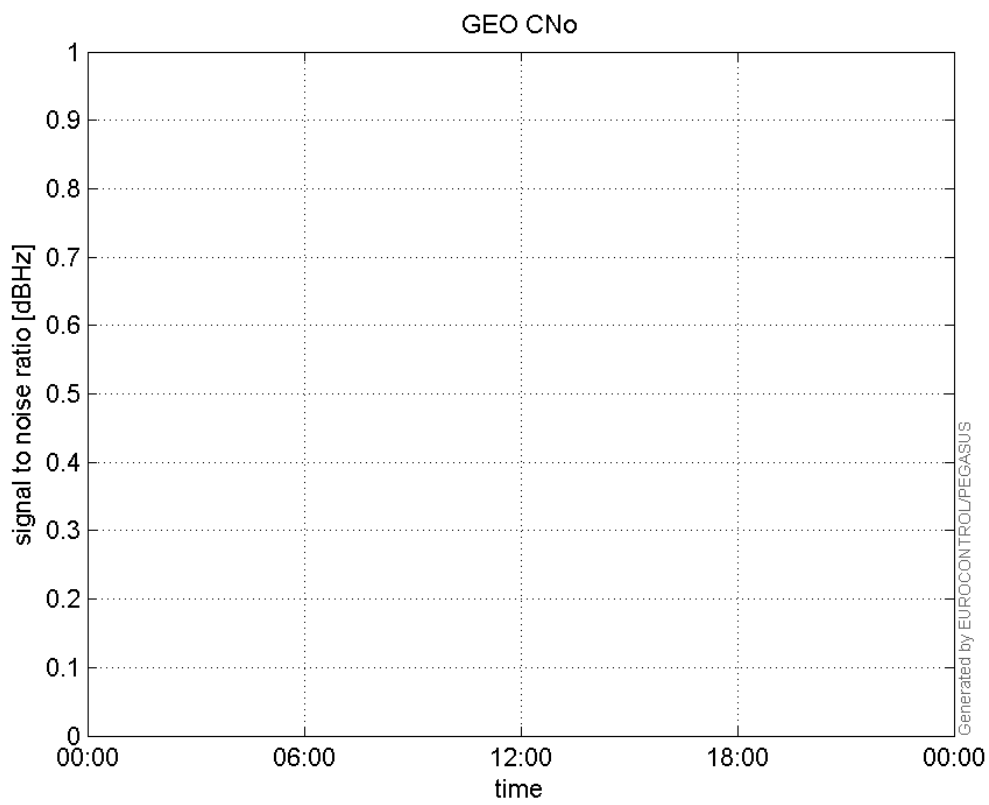
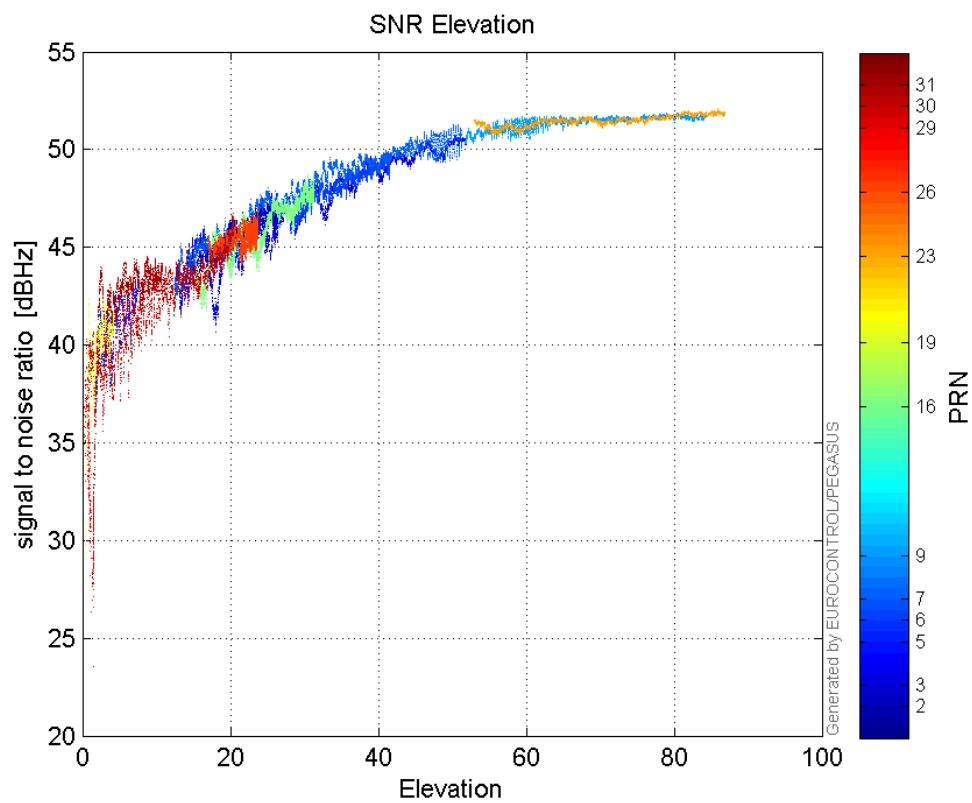
L1 CNo:

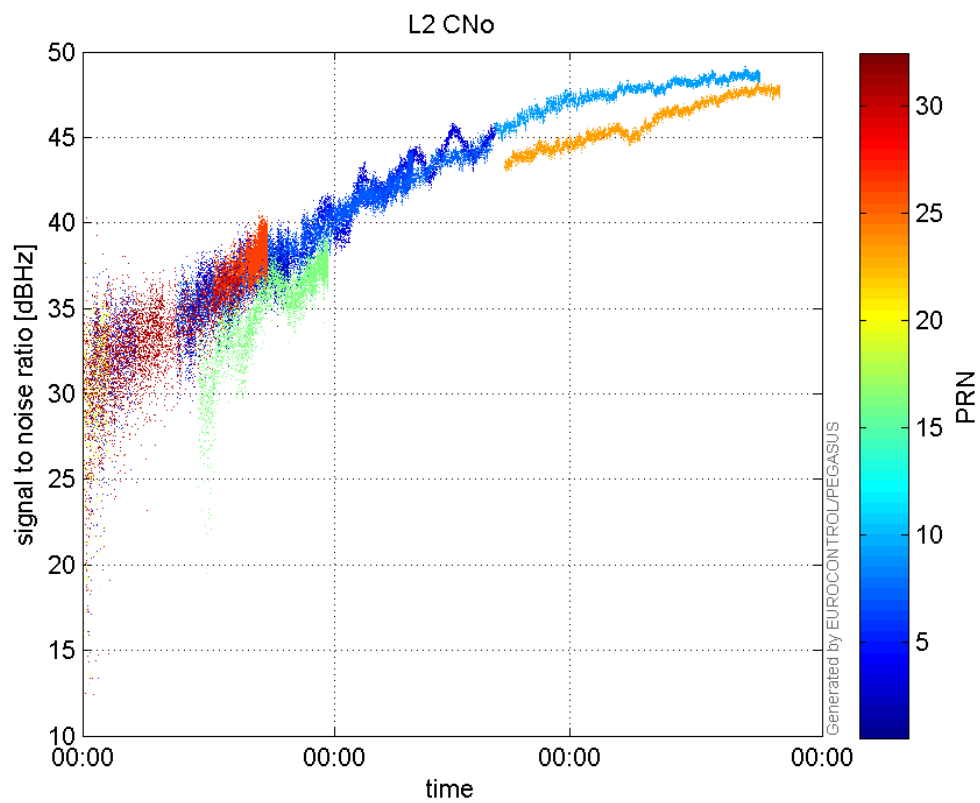


L2 CNo:

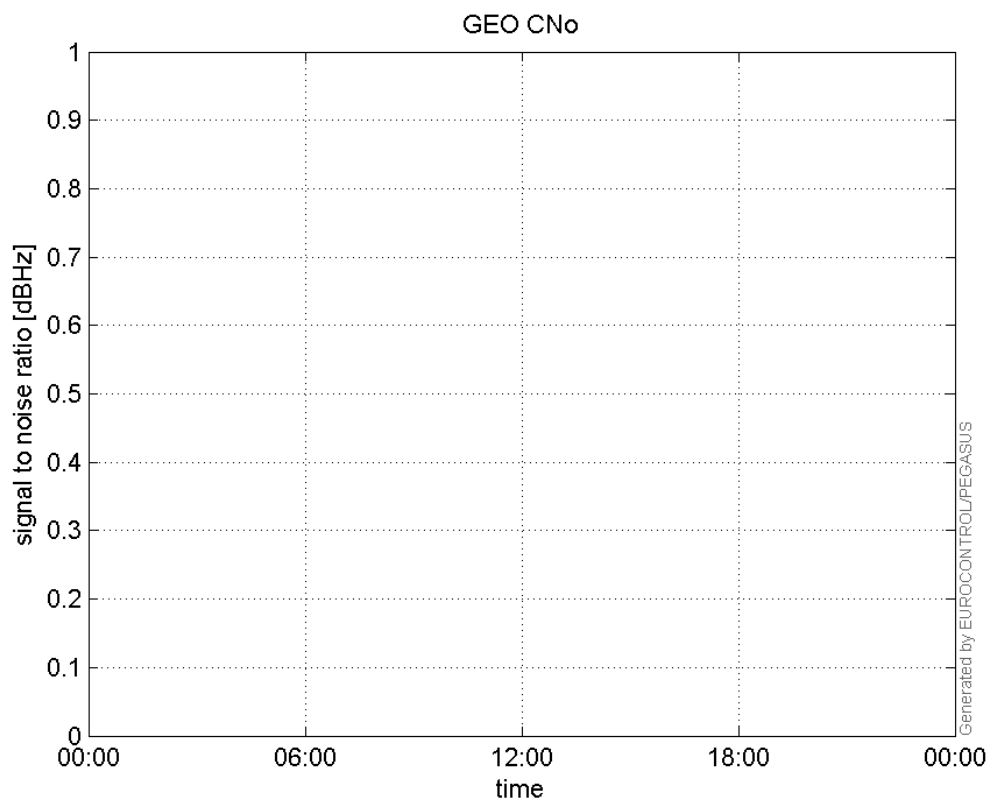


GEO CNo:

**SNR Elevation:****L2 CNo:**

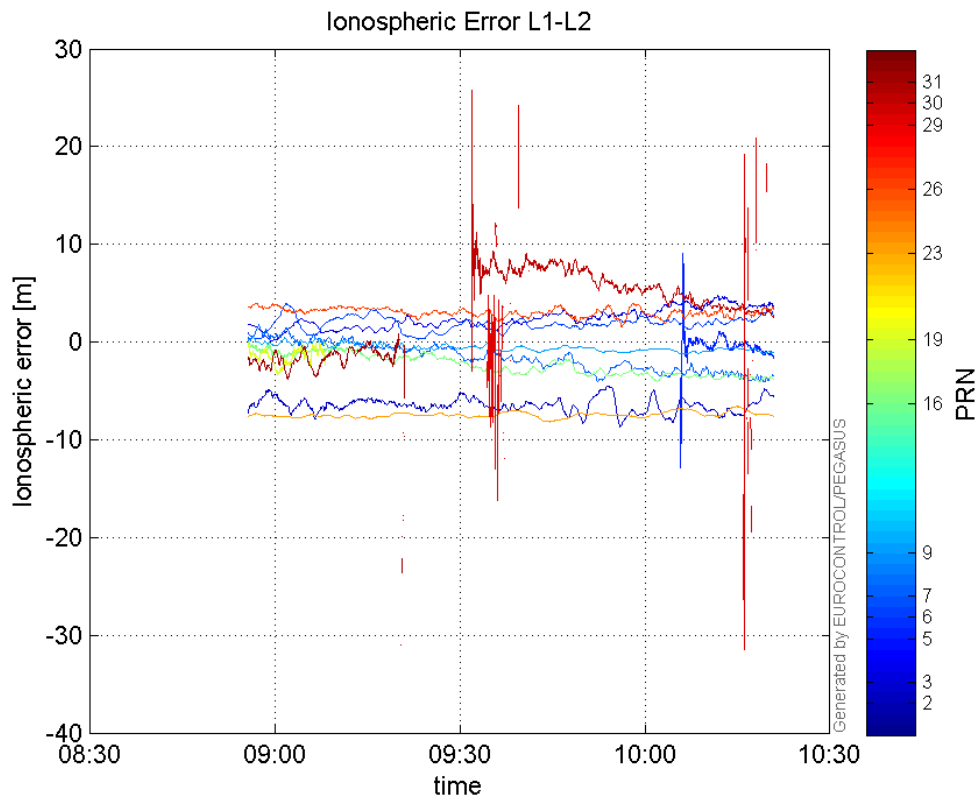


GEO CNo:



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_02_18_CBOI_EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2016_02_18_CBOI_EGNOS/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	30.4298
init_alt	results	233.4927

mi_numbers

results

0

SBAS Messages

start: 08:55:33.129 18.02.2016 (week: 1884 sec: 377733.129)
end: 10:20:54.129 18.02.2016 (week: 1884 sec: 382854.129)
duration: 01:25:21 ..

quality

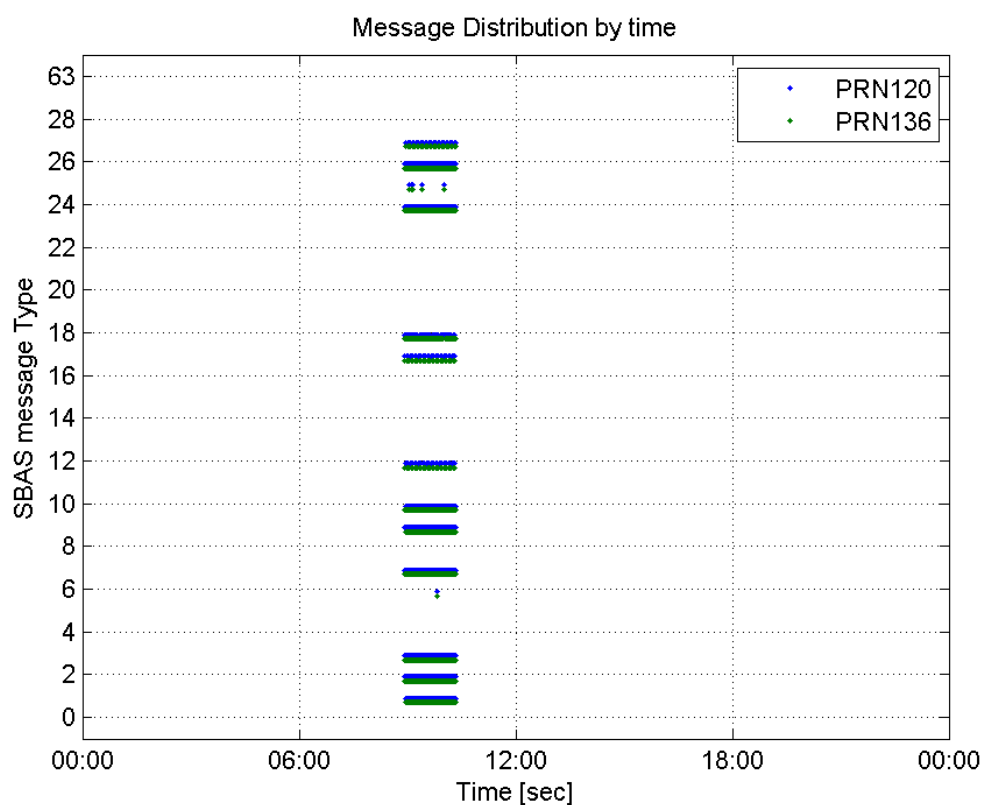
valid samples 10244
total samples 10244
number of SBAS PRNs 2

SBAS SIS Overview

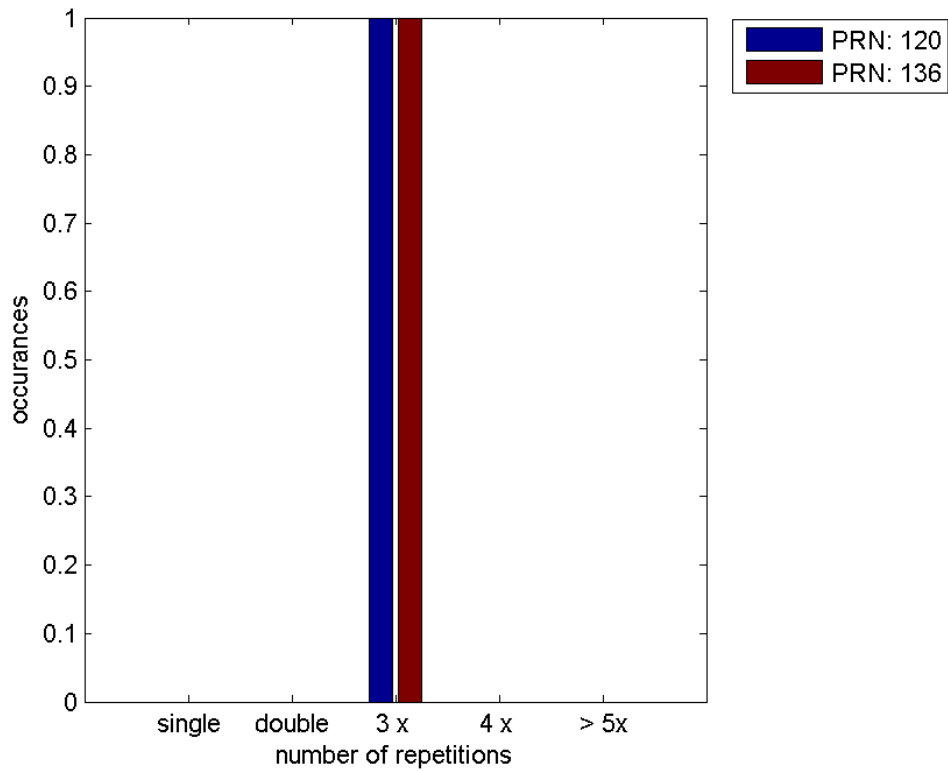
Message Type 6 repetitions :

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

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

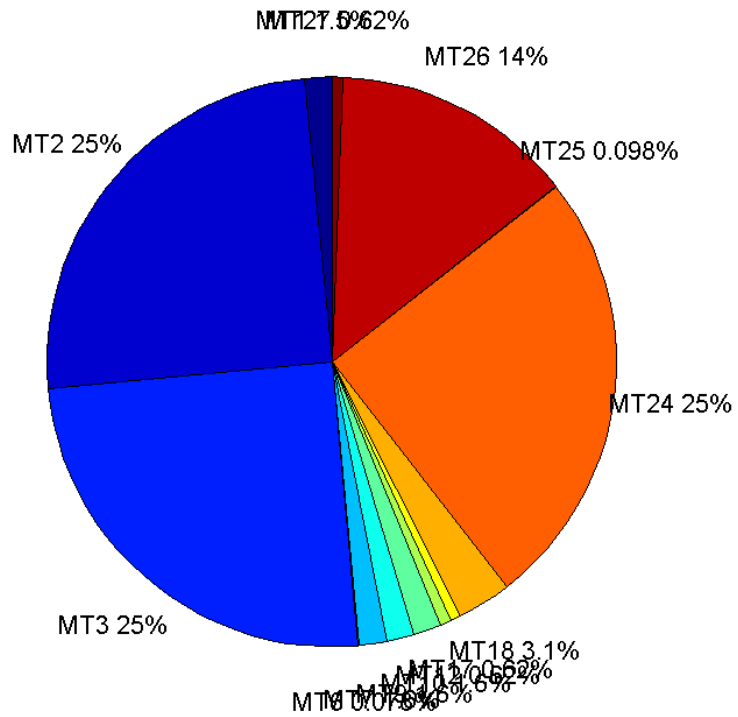
	number of messages	%
MT 0	0	0
MT 1	79	1.54237
MT 2	1279	24.9707
MT 3	1279	24.9707
MT 4	0	0
MT 5	0	0
MT 6	4	0.0780945
MT 7	80	1.56189
MT 9	80	1.56189
MT 10	80	1.56189
MT 12	32	0.624756
MT 17	32	0.624756
MT 18	157	3.06521
MT 24	1279	24.9707
MT 25	5	0.0976181
MT 26	704	13.7446
MT 27	32	0.624756
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	5122	100

Update intervals :

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

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	69	64.3718	0	0	0
MT 2	4	8	4.00469	1	0	0
MT 3	4	7	4.00469	1	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	1	1	0	0	0
MT 7	64	69	64.3671	0	0	0
MT 9	64	69	64.3671	0	0	0
MT 10	64	69	64.3671	0	0	0
MT 12	156	165	160.29	31	0	0
MT 17	156	165	160.419	0	0	0
MT 18	4	133	31.9295	0	0	0
MT 24	4	8	4.00548	0	0	0
MT 25	51	2255	891.75	0	0	0
MT 26	4	25	7.26743	0	0	0
MT 27	156	165	160.419	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

Broadcast SBAS Messages :

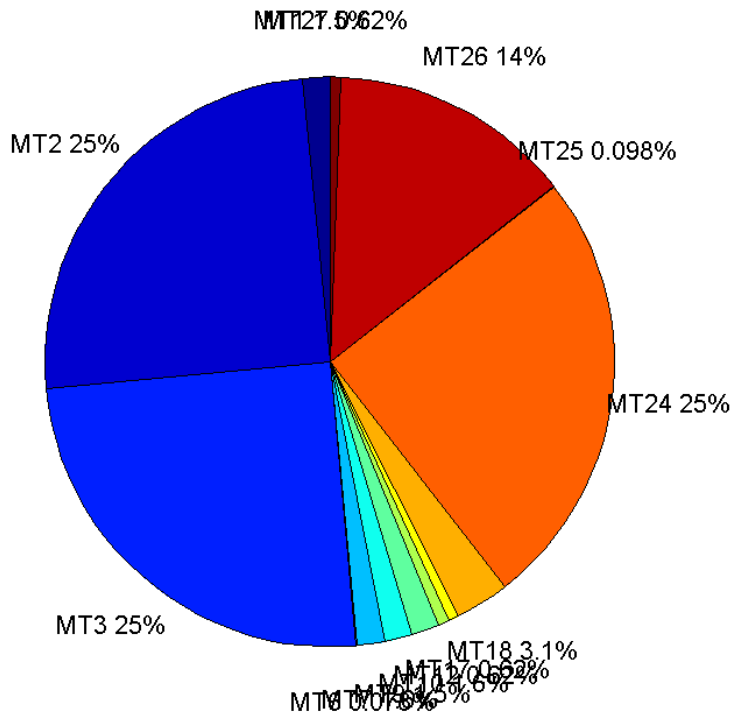
	number of messages	%
MT 0	0	0
MT 1	79	1.54237
MT 2	1279	24.9707
MT 3	1279	24.9707
MT 4	0	0
MT 5	0	0
MT 6	4	0.0780945
MT 7	80	1.56189
MT 9	79	1.54237
MT 10	80	1.56189
MT 12	32	0.624756
MT 17	32	0.624756
MT 18	158	3.08473
MT 24	1279	24.9707
MT 25	5	0.0976181
MT 26	704	13.7446
MT 27	32	0.624756
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	5122	100

Update intervals :

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

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	69	64.3718	0	0	0
MT 2	4	8	4.00469	1	0	0
MT 3	4	7	4.00469	1	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	1	1	0	0	0
MT 7	64	69	64.3671	0	0	0
MT 9	64	69	64.3718	0	0	0
MT 10	64	69	64.3671	0	0	0
MT 12	160	165	160.548	31	0	0
MT 17	156	165	160.419	0	0	0
MT 18	4	129	32.5669	0	0	0
MT 24	4	8	4.00548	0	0	0
MT 25	51	2255	891.75	0	0	0
MT 26	4	24	7.26743	0	0	0
MT 27	156	165	160.419	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_02_18_CBOI_EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2016_02_18_CBOI_EGNOS/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: 08:55:34 18.02.2016 (week: 1884 sec: 377734)
end: 10:20:55 18.02.2016 (week: 1884 sec: 382855)
duration: 01:25:22 ..

quality

valid samples 4761
total samples 5122

Event tables

Position discontinuity events type no (0)
APV-I discontinuity events type long
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	379855	1.57416	9.83819	0.160005	0.0255751	15.9366	0.0016048
max normVer	378808	1.28091	57.2367	0.0223792	2.60726	21.4446	0.121581
max HPE	378928	3.02271	53.8471	0.0561351	1.96049	21.1831	0.0925495
max VPE	381824	2.30214	37.0844	0.0620783	2.6175	35.8296	0.0730541
min HPL	382617	0.818011	9.44264	0.0866295	0.00144662	15.15	9.54865e-05
min VPL	382785	0.903861	12.5533	0.0720018	-0.0768181	14.543	0.00528214

APV-I discontinuity events :

#	Epoch	duration	stable period
1	378611	320	516
2	379251	173	320

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	378611	320	516
2	379251	173	320
3	381820	4	2248
4	381872	8	44

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	378611	320	516
2	379251	173	320
3	381820	4	2248
4	381872	8	44

First Glance analysis

Duration 5122
Number of Samples 5122
Number of invalid sample 361
Number of no position solution samples 0
Number of missing sample 0
Logging Loss 0
Processing Loss 7.048
Number of Misleading Information 0
Data gaps 0
Discontinuities 0

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
4761	4198	4183	0	4183

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.68393	1.48814	1.47668	NaN	1.47668
HPEscale 95%	NaN	4.62499	4.62806	NaN	4.62806
VPE 95%	1.73176	1.37633	1.35901	NaN	1.35901
VPEscale 95%	NaN	3.49151	2.4236	NaN	2.4236

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.881748	0.878597	0	0.878597
measurements	0.92952	0.819602	0.816673	0	0.816673
Operational	0.92952	0.819602	0.816673	0	0.816673

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	39	42	--	42
Long	--	2	4	--	4
Independent	--	2	4	--	4
P(disc.)	NaN	0.00714626	0.0143438	NaN	0.0143438
P(slide)	NaN	0.0257265	0.0332297	NaN	0.0332297

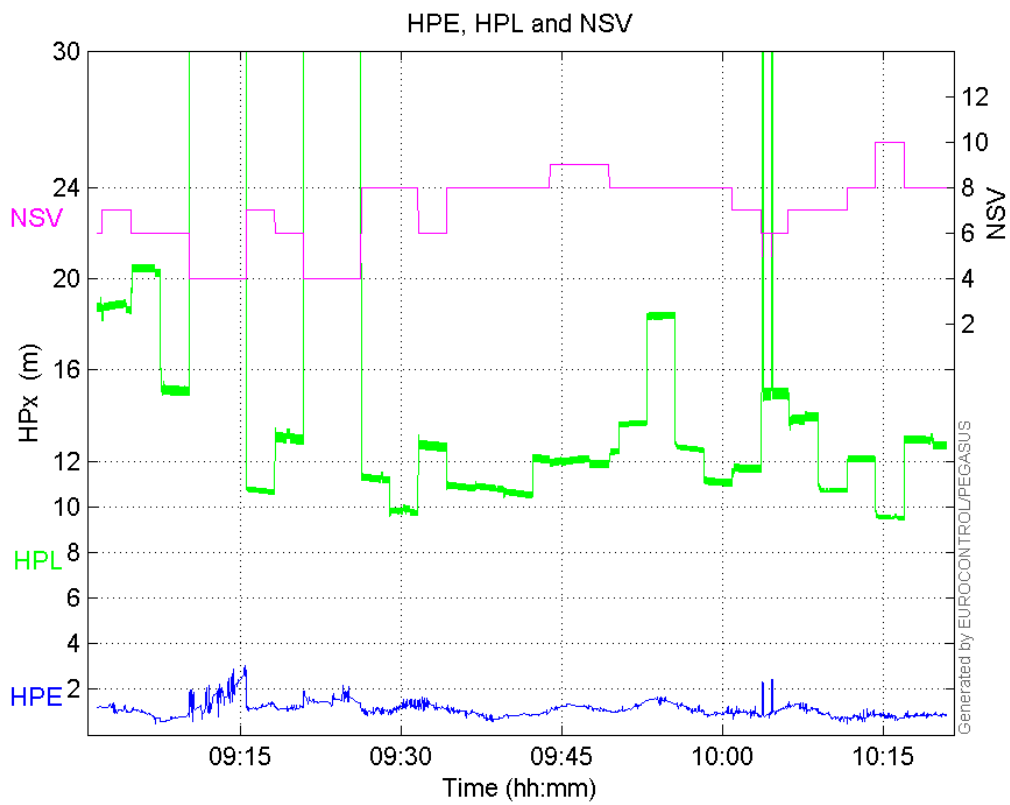
Integrity events :

	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

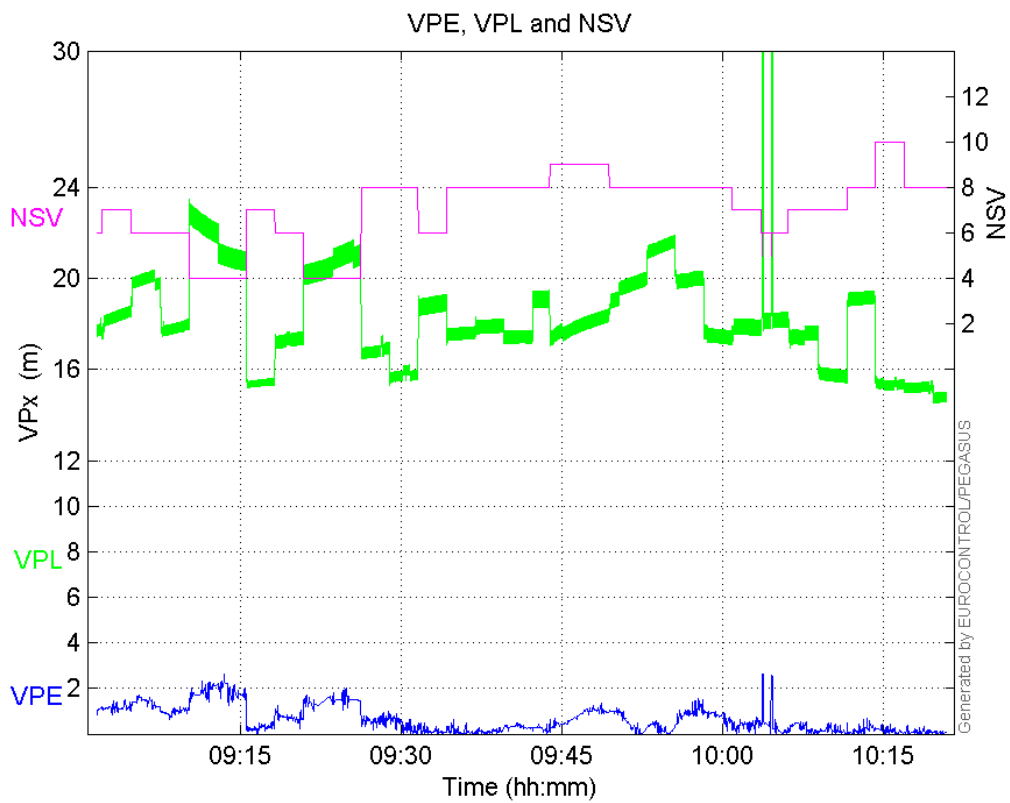
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	4761	4198	4183	0	4183
SIS Availability	1	0.881748	0.878597	0	0.878597
Local Availability	0.92952	0.819602	0.816673	0	0.816673
Operational Availability	0.92952	0.819602	0.816673	0	0.816673
HPE 95%	1.68393	1.48814	1.47668	NaN	1.47668
HPEscale 95%	NaN	4.62499	4.62806	NaN	4.62806
VPE 95%	1.73176	1.37633	1.35901	NaN	1.35901
VPEscale 95%	NaN	3.49151	2.4236	NaN	2.4236
All Discontinuity Events	--	39	42	--	42
Long Discontinuity Events	--	2	4	--	4
Independent Discontinuity Events	--	2	4	--	4
P(discontinuity)	NaN	0.00714626	0.0143438	NaN	0.0143438
P(sliding window)	NaN	0.0257265	0.0332297	NaN	0.0332297
All Integrity Events	0	0	0	0	0
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

HPE, HPL and NSV:

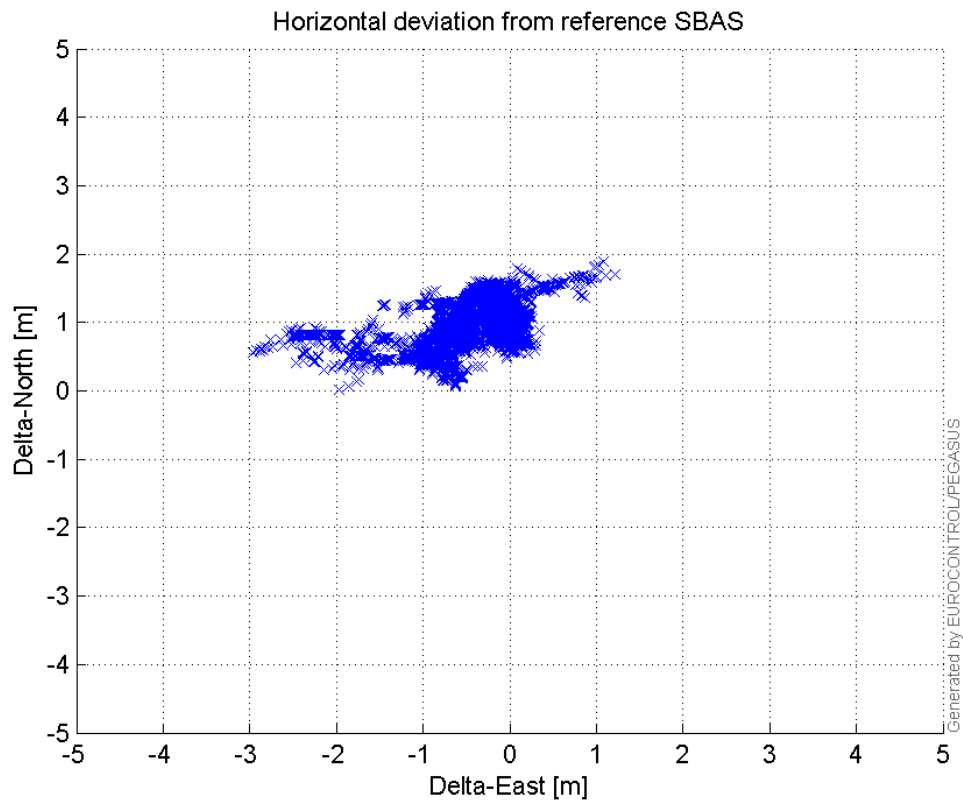


VPE, VPL and NSV:



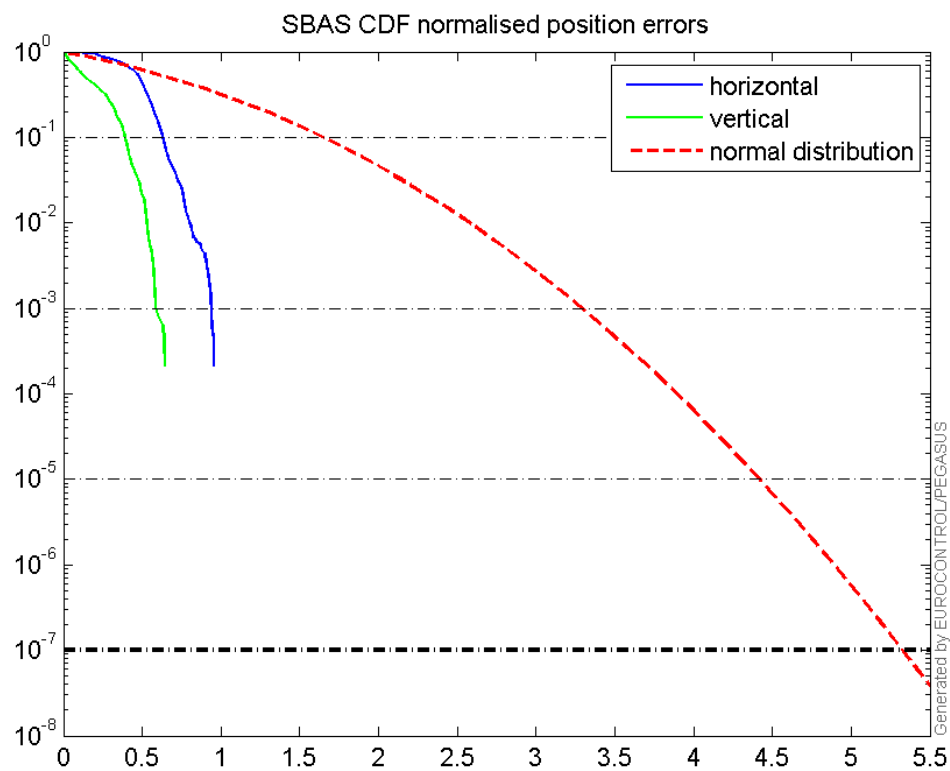
Horizontal deviation

Horizontal deviation from reference SBAS:



CDF position

SBAS CDF position domain:



Statistics

number 4198

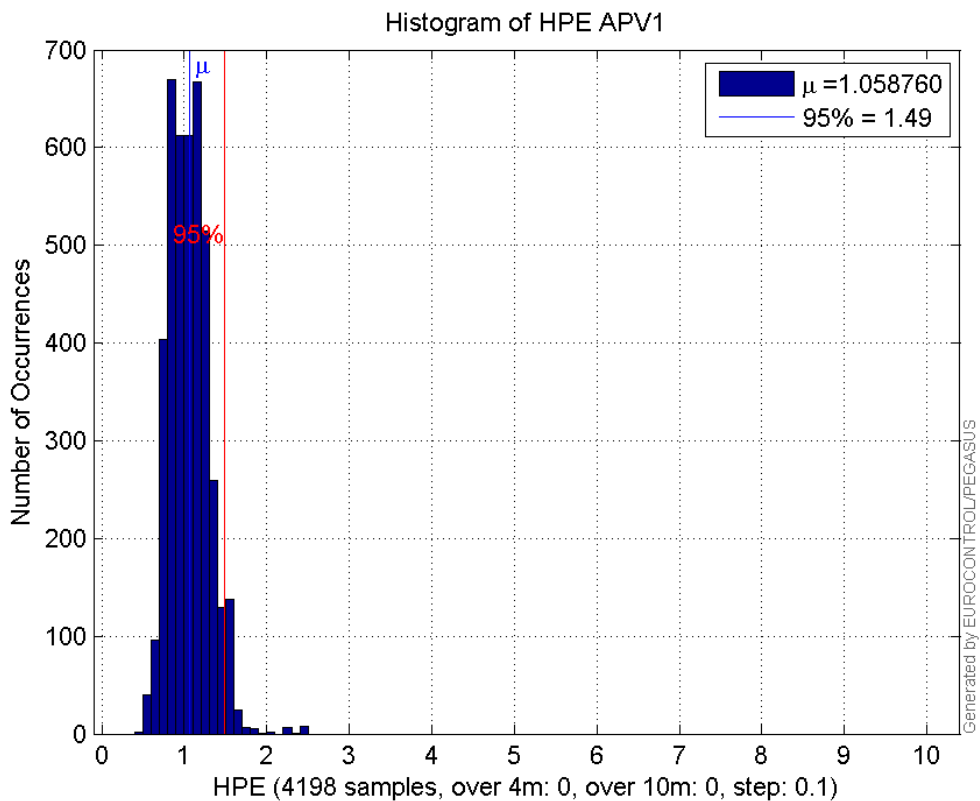
sum	4444.6725
sum2	4949.7804
prctile95	1.4881374
prctile99	1.6363805
number	4198
sum	2150.5036
sum2	1931.8112
prctile95	1.3763303
prctile99	1.5933217
number	4198
sum	56717.469
sum2	860083.61
prctile95	20.30342
prctile99	39.303736
number	4198
sum	75048.711
sum2	1357809.9
prctile95	20.80792
prctile99	21.62004
number	4198
sum	345.1473
sum2	30.149955
prctile95	0.11562486
prctile99	0.13490311
number	4198
sum	116.93298
sum2	5.3757585
prctile95	0.069830256
prctile99	0.07700634
number	4183
sum	4409.2057
sum2	4865.8504
prctile95	1.4766791
prctile99	1.5964533
number	4183
sum	2111.8262
sum2	1832.0608
prctile95	1.3590063
prctile99	1.5249084
number	4183
sum	56166.508
sum2	839843.54
prctile95	20.30047
prctile99	39.304006
number	4183
sum	74509.642
sum2	1338433
prctile95	20.70122
prctile99	21.530554
number	4183
sum	344.18177
sum2	30.08777
prctile95	0.11570144
prctile99	0.13493936
number	4183
sum	115.8565

sum2 5.2984685
 prctile95 0.069245667
 prctile99 0.07703122

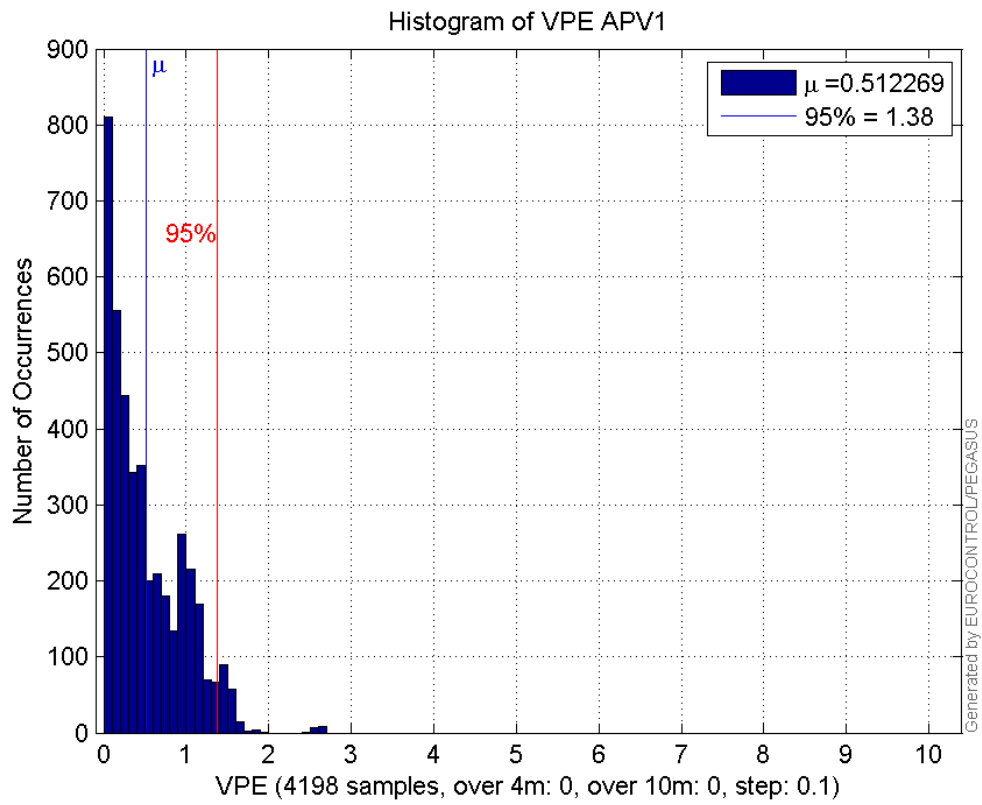
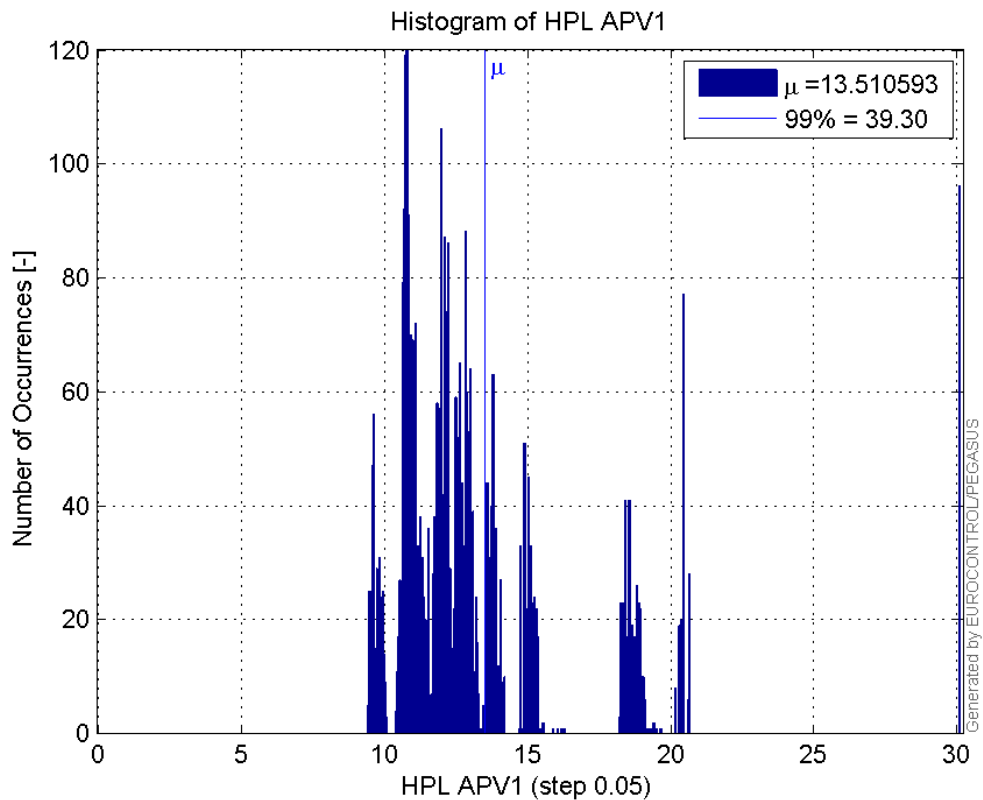
Error and XPL Statistics :

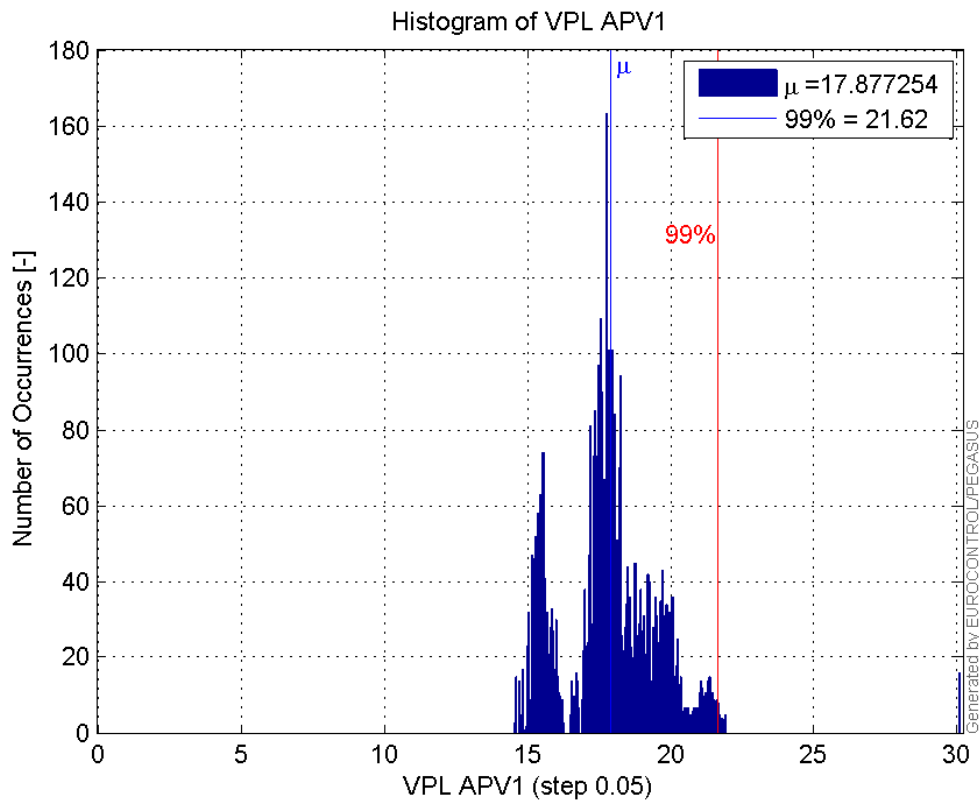
	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.05876	0.241087	1.04369	1.48814	1.63638	1.08585
HPL	13.5106	4.72743	12.2178	20.3034	39.3037	14.3136
VPE	0.512269	0.44475	0.387047	1.37633	1.59332	0.678361
VPL	17.8773	1.96133	17.7696	20.8079	21.62	17.9845

Histogram of HPE APV1:

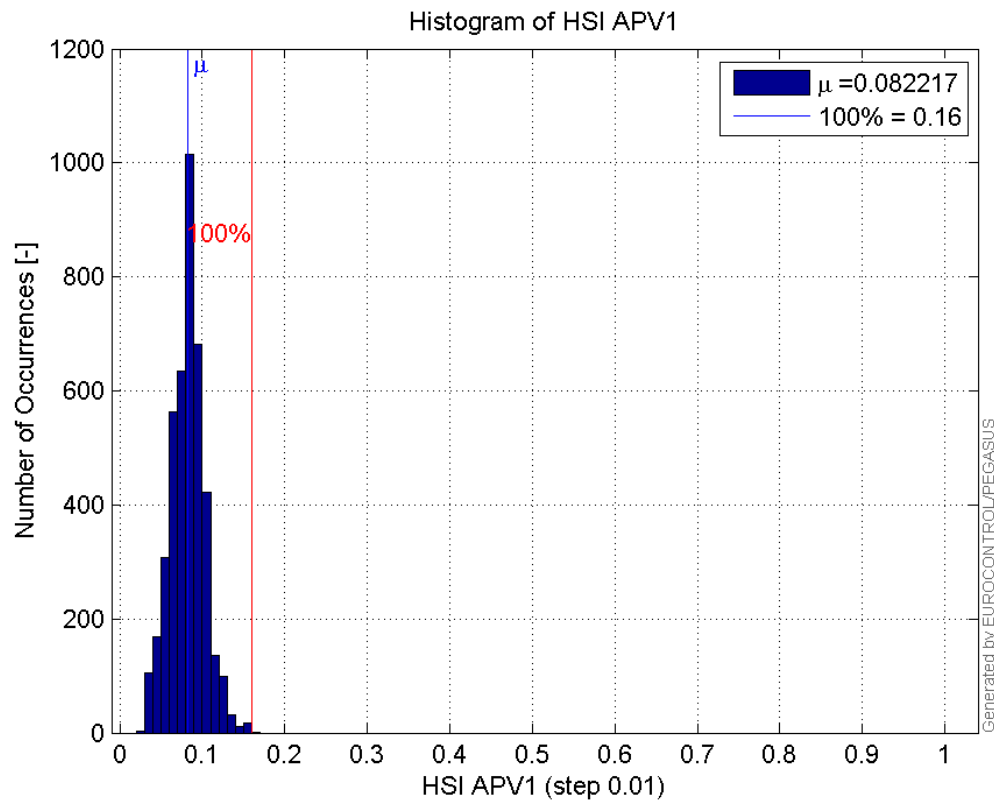


Histogram of VPE APV1:

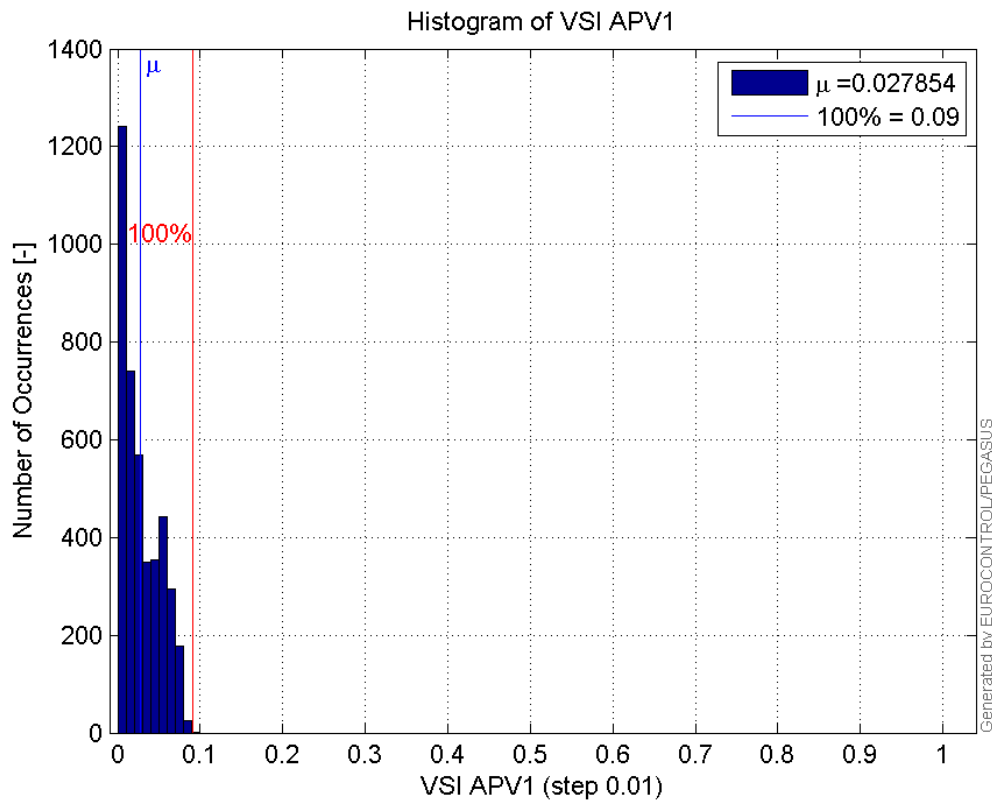
**Histogram of HPL APV1:****Histogram of VPL APV1:**



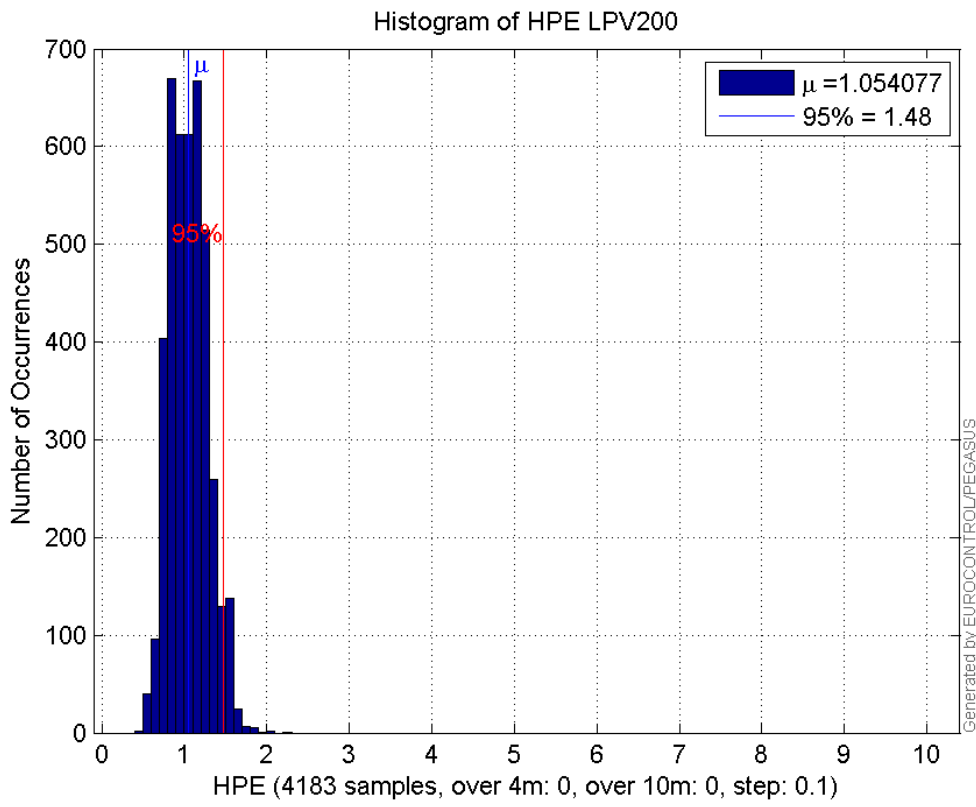
Histogram of HSI APV1:



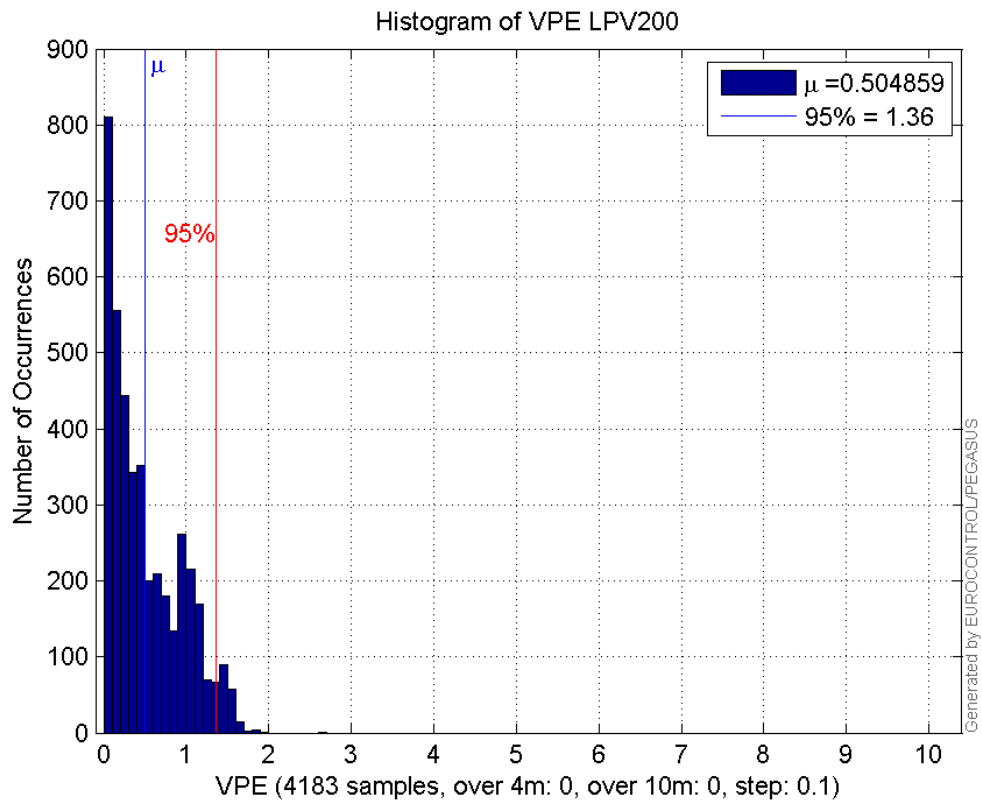
Histogram of VSI APV1:



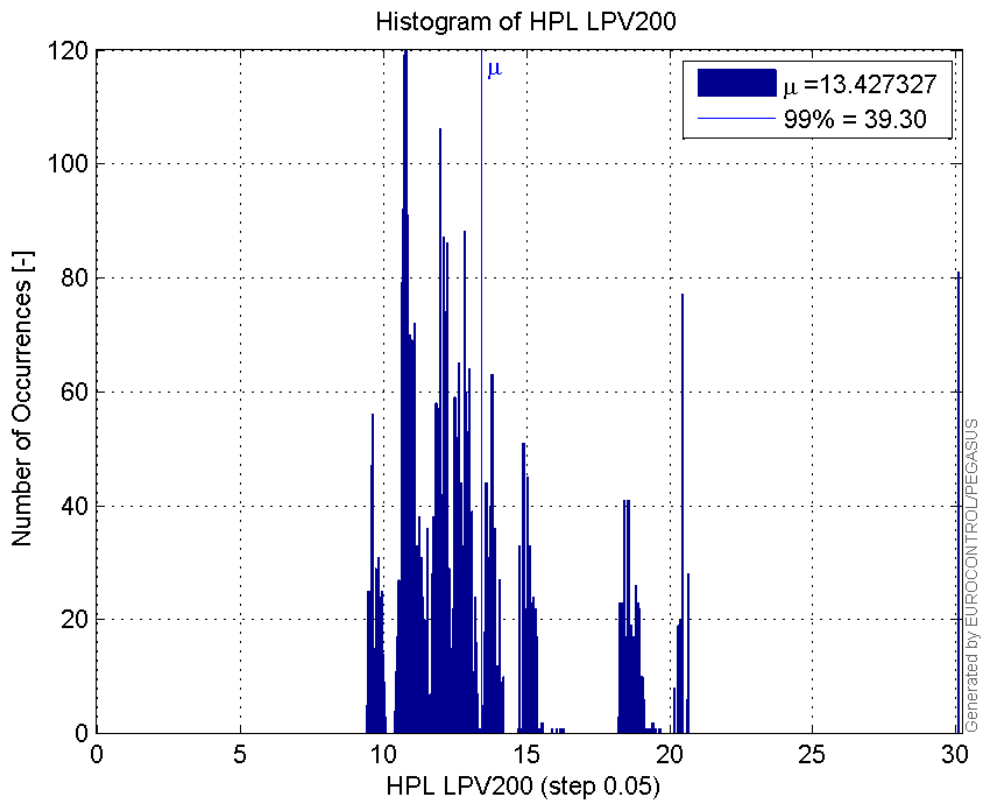
Histogram of HPE LPV200:



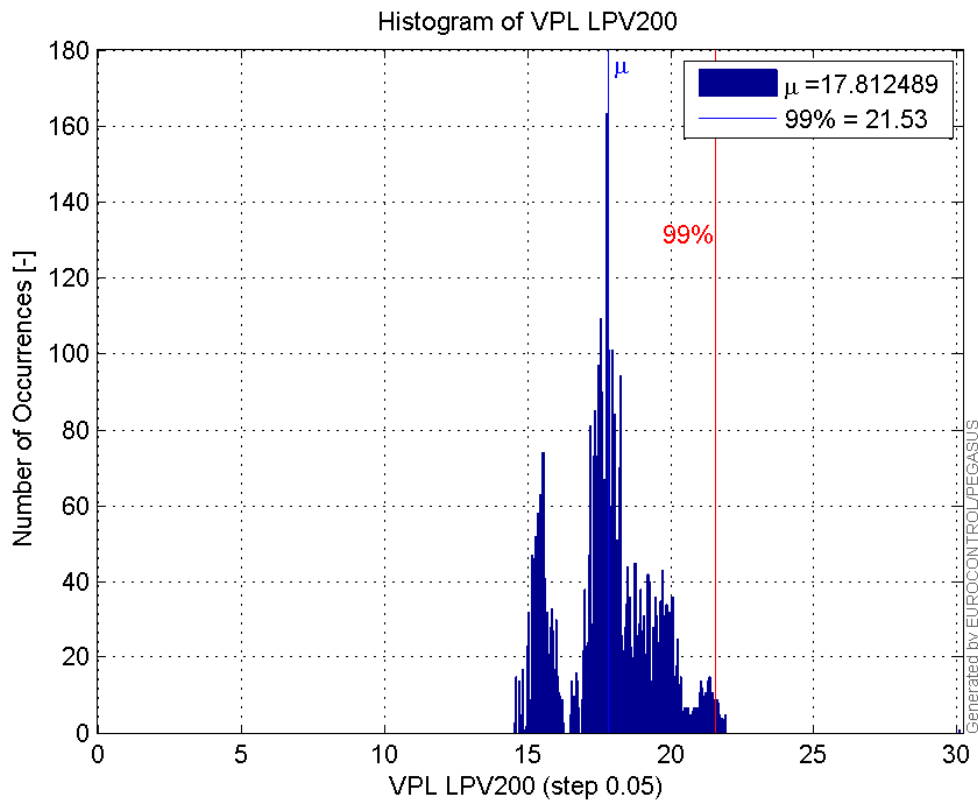
Histogram of VPE LPV200:



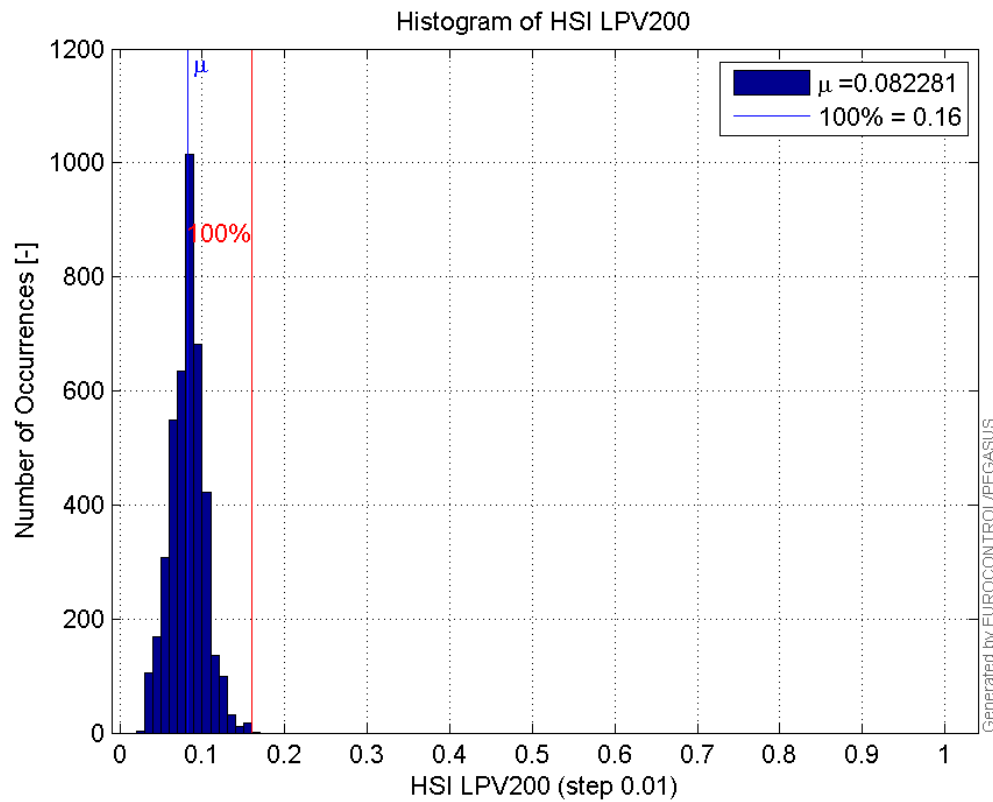
Histogram of HPL LPV200:



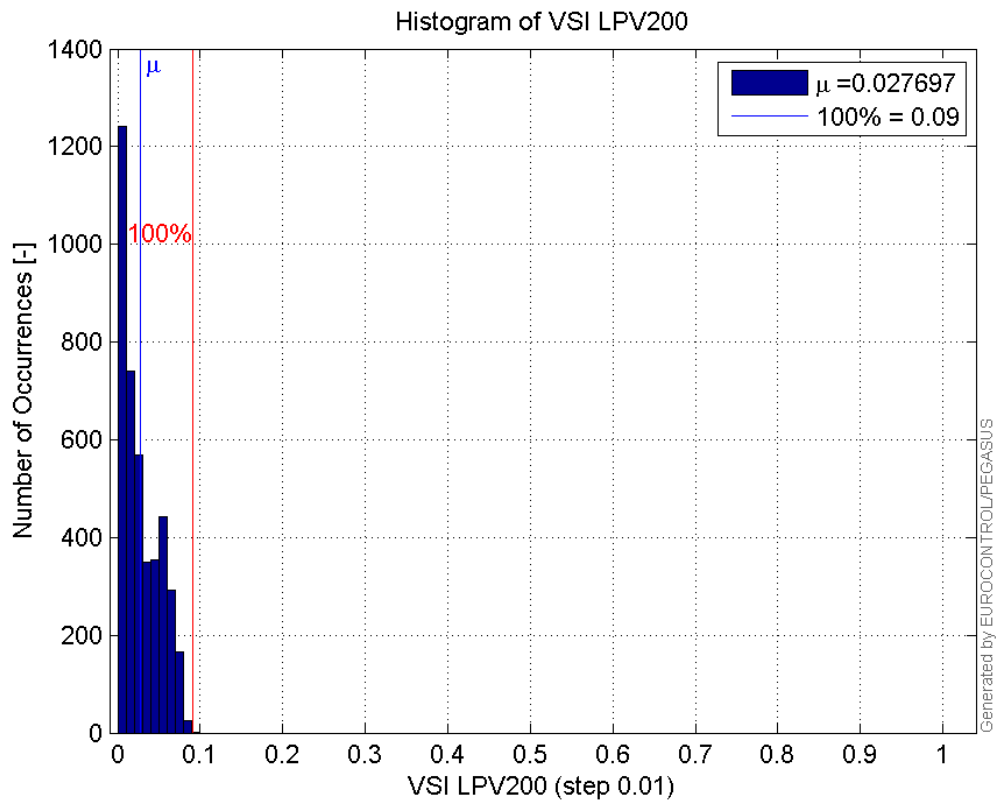
Histogram of VPL LPV200:



Histogram of HSI LPV200:

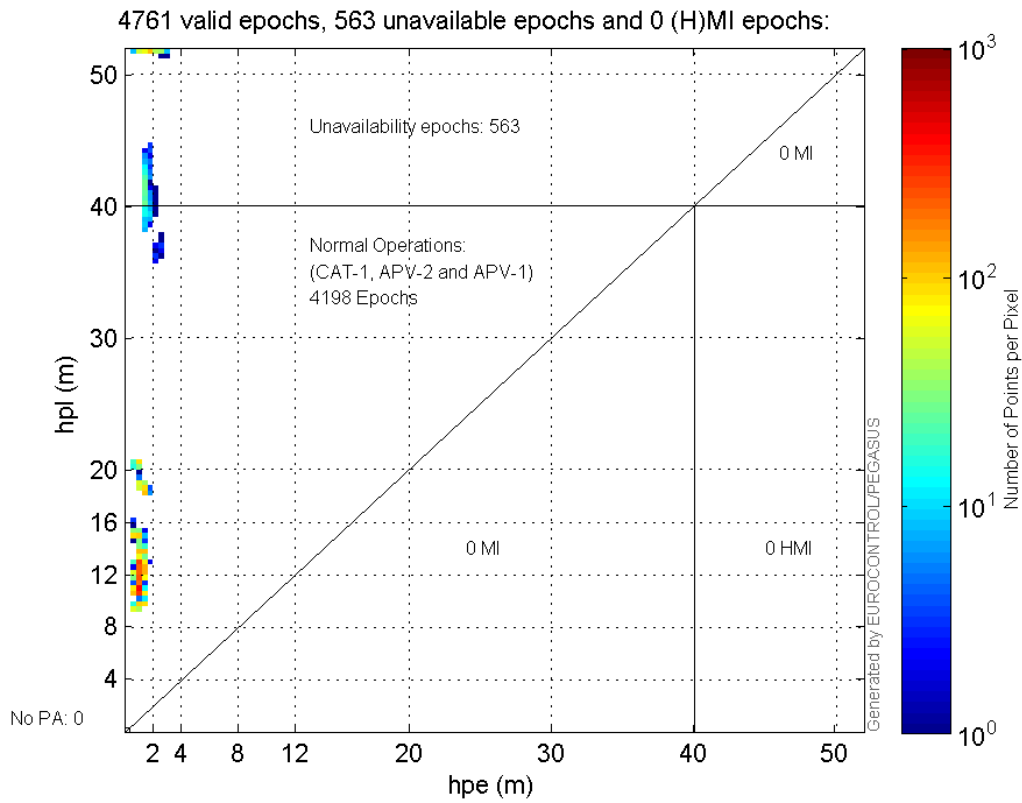


Histogram of VSI LPV200:

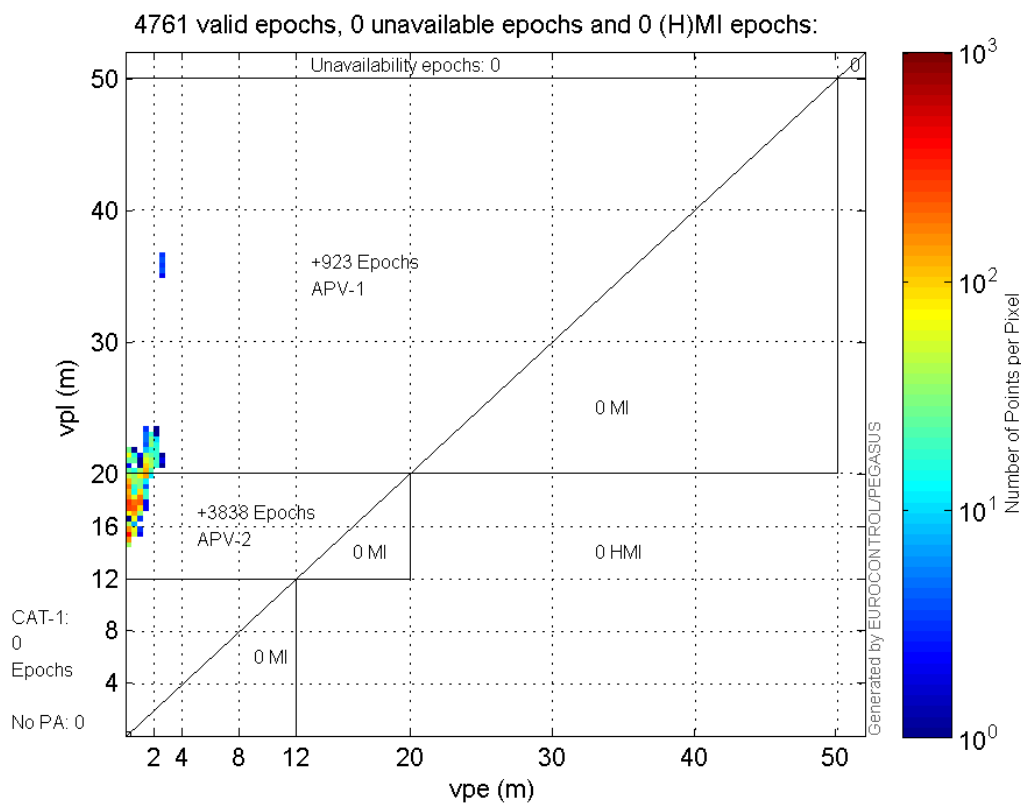


Stanford Plots

Horizontal_Stanford_Plot_SBAS:



Vertical_Stanford_Plot_SBAS:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.4.0
input_prefix	system	D:/PegasusDateGob/job/2016_02_18_CBOI_EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2016_02_18_CBOI_EGNOS/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	30.4298
init_alt	results	233.4927

mi_numbers	results	0
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