

Global View

version 4.8.2
 city Kiev
 comment Konin V., Shyshkov F. InsideGNSS, Jan-Feb 2015,
 P.50 - 54
 program Pegasus
 site Eurocontrol
 abbreviation NAU
 country France
 date 28/03/2016

Position Domain

start: 07:03:10 28.03.2016 (week: 1890 sec: 111790)
end: 14:19:04 28.03.2016 (week: 1890 sec: 137944)
duration: 07:15:55 ..

quality

valid samples 21668
total samples 26155

Event tables

Position discontinuity events type all
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	114257	1.52599	9.25071	0.16496	0.139357	14.6295	0.00952578
max normVer	128230	1.05097	10.7196	0.0980414	1.95454	14.9267	0.130942
max HPE	120438	8.37762	798.279	0.0104946	-0.723887	221.775	0.00326406
max VPE	120394	6.41988	564.487	0.0113729	3.44987	155.106	0.022242
min HPL	112916	0.664536	8.67272	0.0766237	-	14.1735	0.00137986
min VPL	129152	0.634936	8.92465	0.0711441	0.191358	12.2591	0.0156095

Position discontinuity events :

#	Epoch	duration	stable period
1	119973	253	104
2	120460	55	234

APV-I discontinuity events :

#	Epoch	duration	stable period
1	119329	124	2042
2	119583	51	130
3	119745	770	111

APV-35m discontinuity events :

#	Epoch	duration	stable period
1	116114	1	169
2	116118	1	3
3	116122	1	3
4	116126	1	3
5	116130	1	3
6	116134	1	3
7	116138	1	3
8	116142	1	3
9	116146	1	3
10	116150	1	3
11	116154	1	3
12	119329	124	2042
13	119583	51	130
14	119745	770	111

LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	116114	1	169
2	116118	1	3
3	116122	1	3
4	116126	1	3
5	116130	1	3
6	116134	1	3
7	116138	1	3
8	116142	1	3
9	116146	1	3
10	116150	1	3
11	116154	1	3
12	119329	124	2042
13	119583	51	130
14	119745	770	111

First Glance analysis

Duration	26155
Number of Samples	26155
Number of invalid sample	4487
Number of no position solution samples	1033
Number of missing sample	0
Logging Loss	0

Processing Loss	17.1554
Number of Misleading Information	0
Data gaps	19
Discontinuities	18

Number of Samples :

Valid	APV-1	LPV-200	CAT-1	APV-35m
20635	19473	19462	0	19462

Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
HPE 95%	1.58178	1.55554	1.5545	NaN	1.5545
HPEscale 95%	NaN	5.19649	5.19707	NaN	5.19707
VPE 95%	1.43649	1.40195	1.40205	NaN	1.40205
VPEscale 95%	NaN	4.15839	2.9114	NaN	2.9114

Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	0.952326	0.898699	0.898191	0	0.898191
measurements	0.78895	0.744523	0.744102	0	0.744102
Operational	0.78895	0.744523	0.744102	0	0.744102

Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	2	3	14	--	14
Long	2	3	3	--	3
Independent	2	3	3	--	3
P(disc.)	0.00145384	0.00231089	0.0023122	NaN	0.0023122
P(slide)	0.00145384	0.00231089	0.0046244	NaN	0.0046244

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

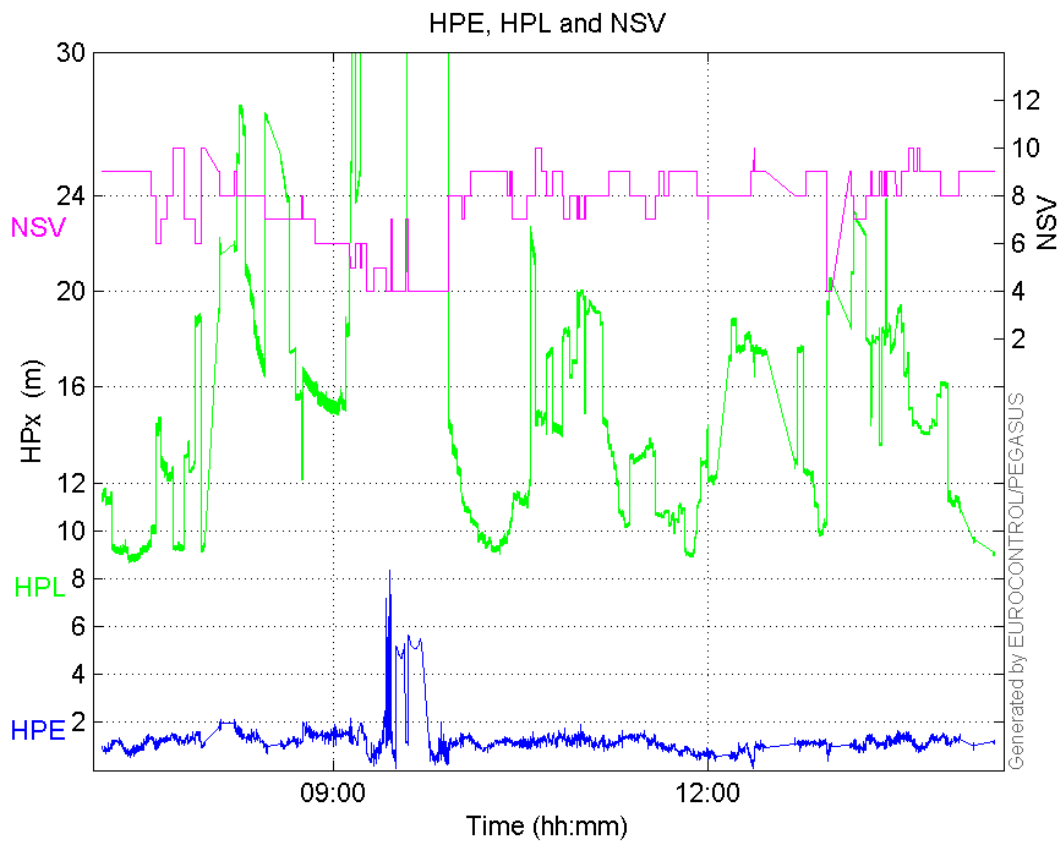
Performance Summary :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	20635	19473	19462	0	19462
SIS Availability	0.952326	0.898699	0.898191	0	0.898191
Local Availability	0.78895	0.744523	0.744102	0	0.744102
Operational Availability	0.78895	0.744523	0.744102	0	0.744102
HPE 95%	1.58178	1.55554	1.5545	NaN	1.5545
HPEscale 95%	NaN	5.19649	5.19707	NaN	5.19707
VPE 95%	1.43649	1.40195	1.40205	NaN	1.40205
VPEscale 95%	NaN	4.15839	2.9114	NaN	2.9114
All Discontinuity Events	2	3	14	--	14

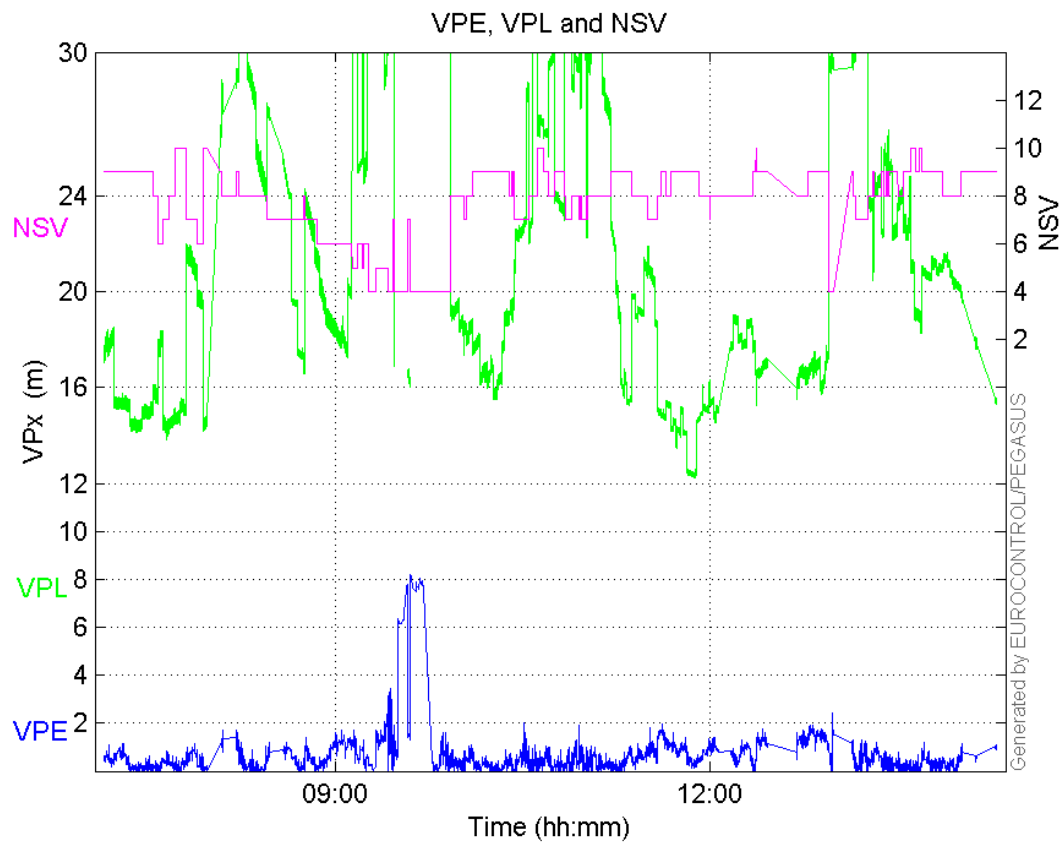
Long Discontinuity Events	2	3	3	--	3
Independent Discontinuity Events	2	3	3	--	3
P(discontinuity)	0.00145384	0.00231089	0.0023122	NaN	0.0023122
P(sliding window)	0.00145384	0.00231089	0.0046244	NaN	0.0046244
All Integrity Events	0	0	0	0	0
Horizontal Integrity Events	0	0	0	0	0
Vertical Integrity Events	0	0	0	0	0

Time Series

HPE, HPL and NSV:



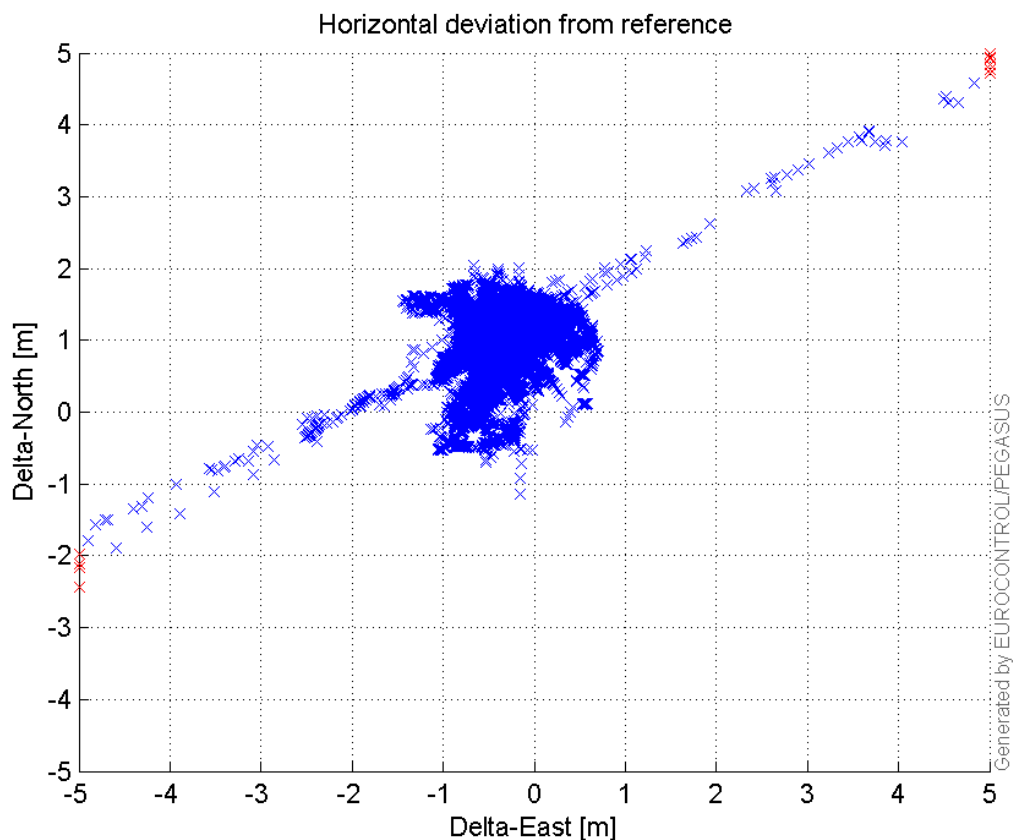
VPE, VPL and NSV:



Generated by EUROCONTROL/PEGASUS

Horizontal deviation

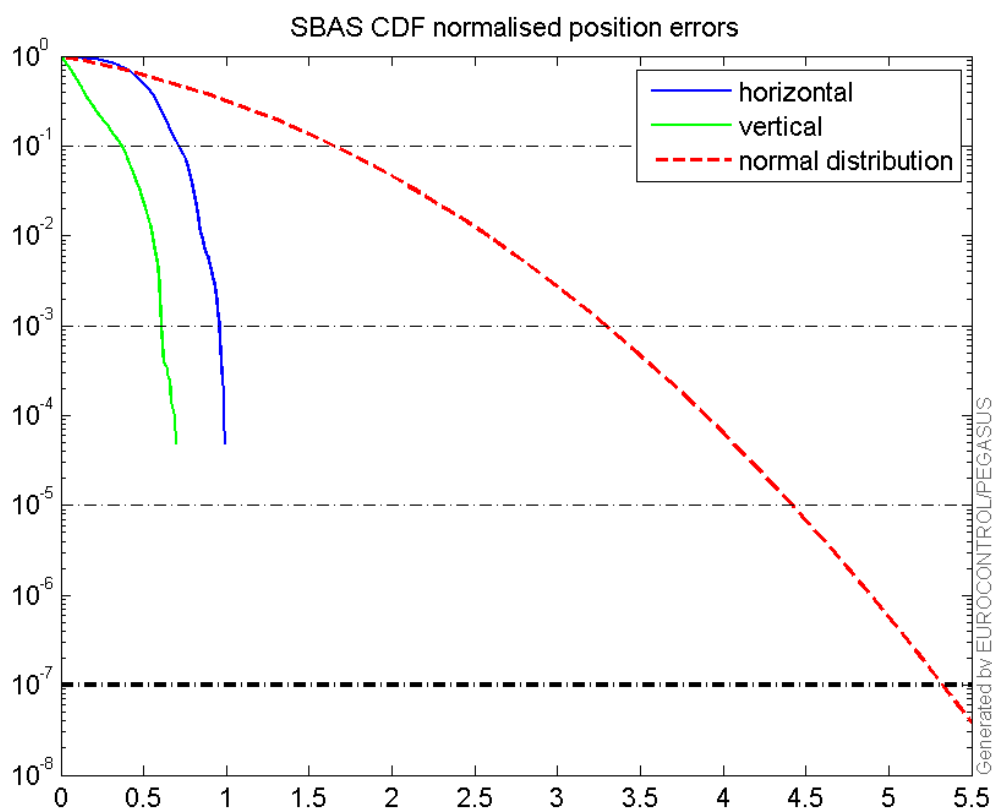
Horizontal deviation from reference :



Generated by EUROCONTROL/PEGASUS

CDF position

SBAS CDF position domain:



Statistics

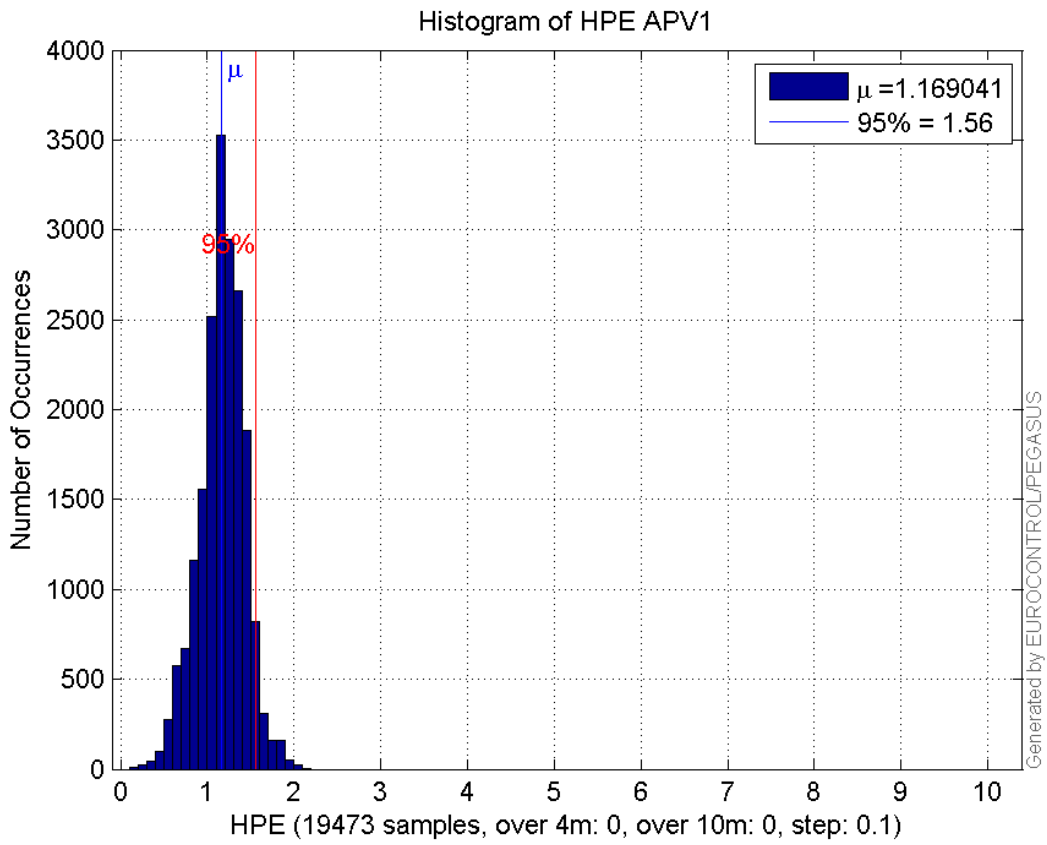
number	19473
sum	22764.743
sum2	27934.842
prctile95	1.5555439
prctile99	1.8138986
number	19473
sum	10661.869
sum2	9315.3936
prctile95	1.4019466
prctile99	1.6650478
number	19473
sum	288498.26
sum2	4709503.4
prctile95	23.753185
prctile99	27.637585
number	19473
sum	402376.09
sum2	8852432.5
prctile95	30.94957
prctile99	32.732752
number	19473
sum	1651.4881
sum2	153.42404

prctile95 0.12991223
prctile99 0.14245194
number 19473
sum 565.10904
sum2 28.918401
prctile95 0.083167745
prctile99 0.10399609
number 19462
sum 22747.485
sum2 27907.637
prctile95 1.5544953
prctile99 1.8139013
number 19462
sum 10656.232
sum2 9311.7858
prctile95 1.4020514
prctile99 1.6650527
number 19462
sum 288192.6
sum2 4701010.3
prctile95 23.7358
prctile99 27.61422
number 19462
sum 401990.43
sum2 8838911.1
prctile95 30.93708
prctile99 32.698228
number 19462
sum 1650.867
sum2 153.38881
prctile95 0.12992684
prctile99 0.14245925
number 19462
sum 564.9483
sum2 28.915468
prctile95 0.083182777
prctile99 0.10400237

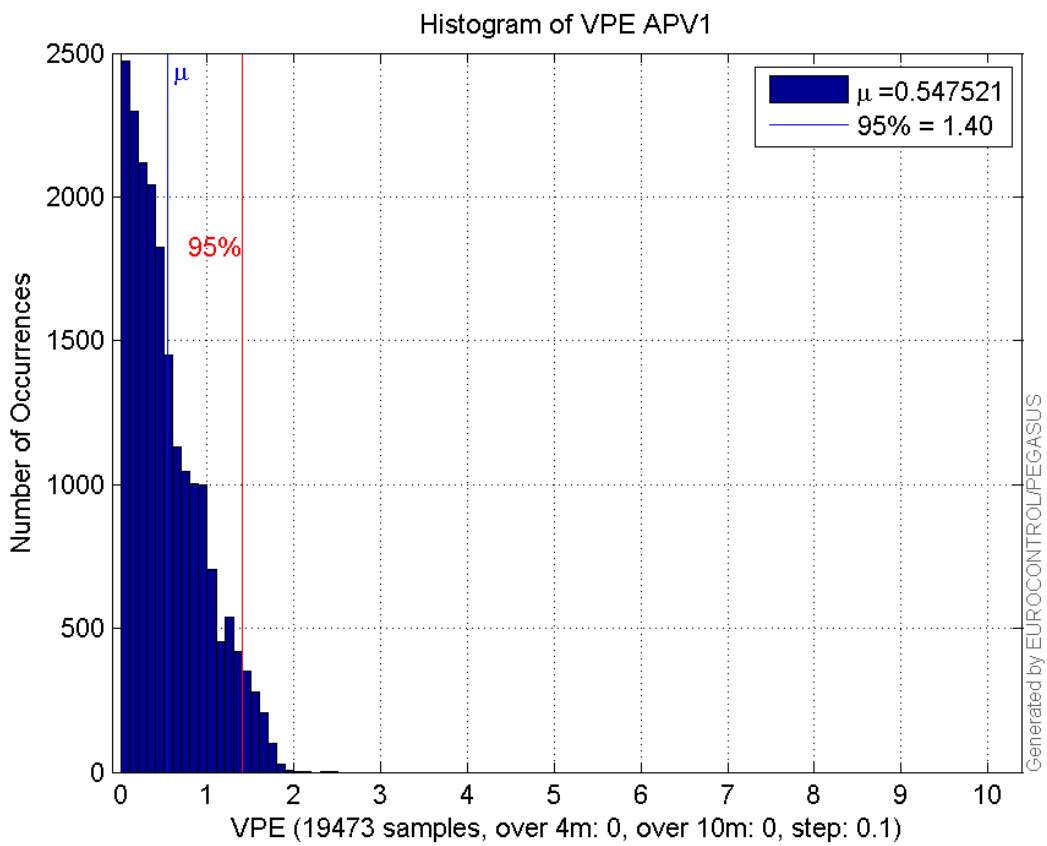
Error and XPL Statistics :

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
HPE	1.16904	0.260553	1.18001	1.55554	1.8139	1.19772
HPL	14.8153	4.72821	14.2048	23.7532	27.6376	15.5515
VPE	0.547521	0.422617	0.442147	1.40195	1.66505	0.691646
VPL	20.6633	5.25648	19.2602	30.9496	32.7328	21.3214

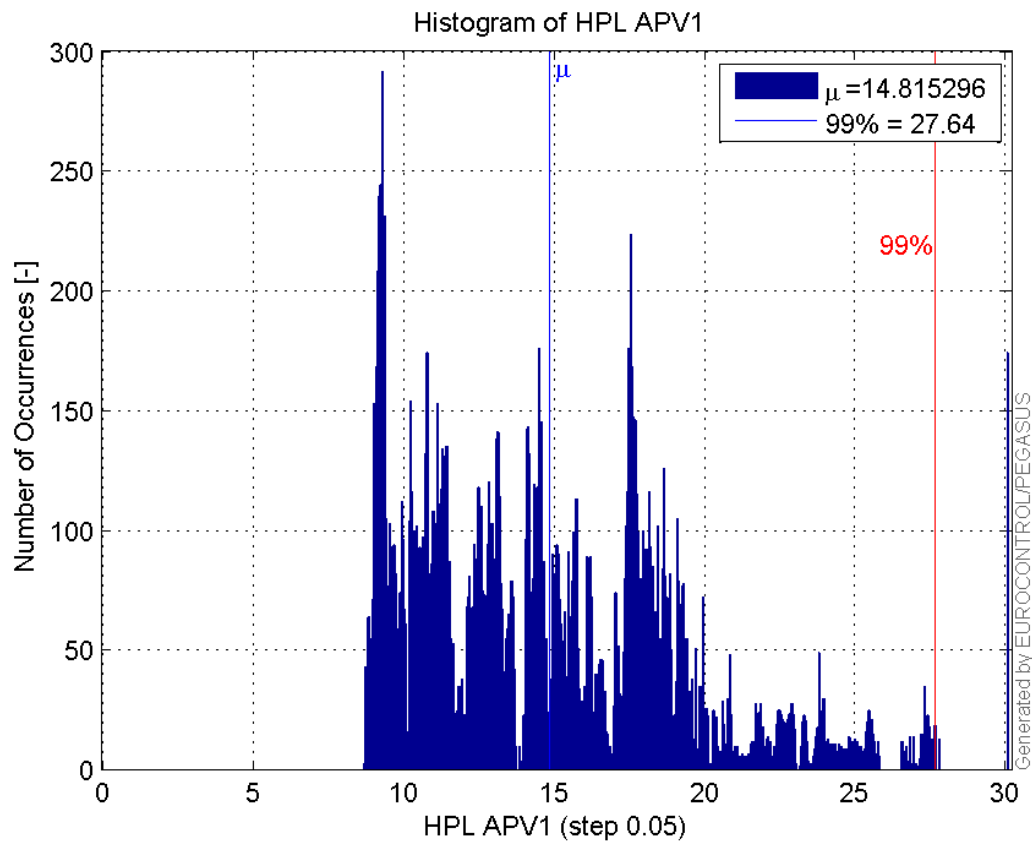
Histogram of HPE APV1:



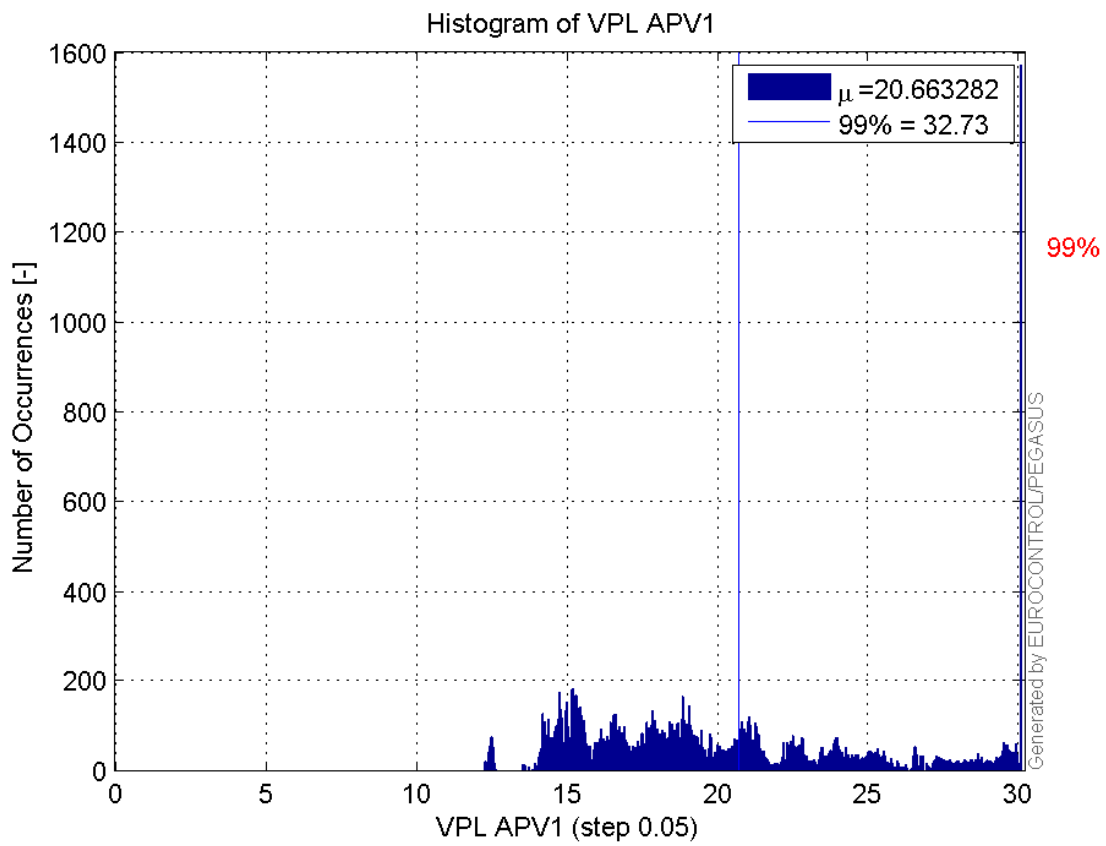
Histogram of VPE APV1:



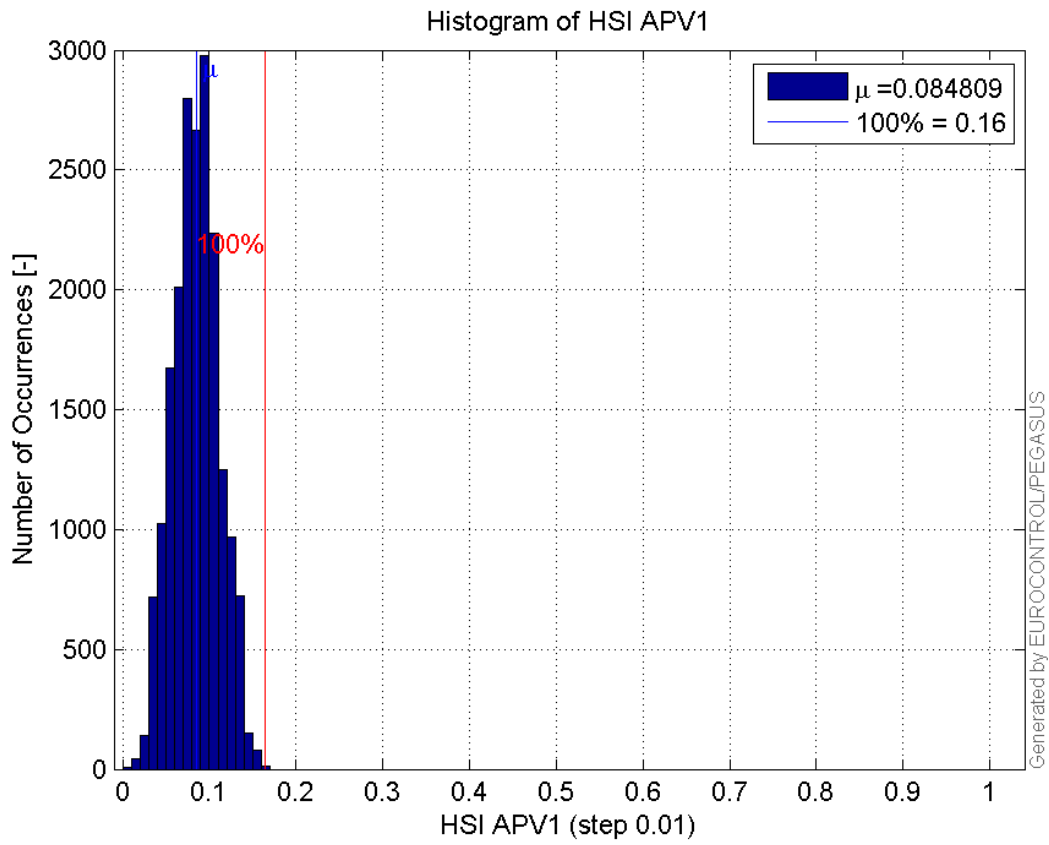
Histogram of HPL APV1:



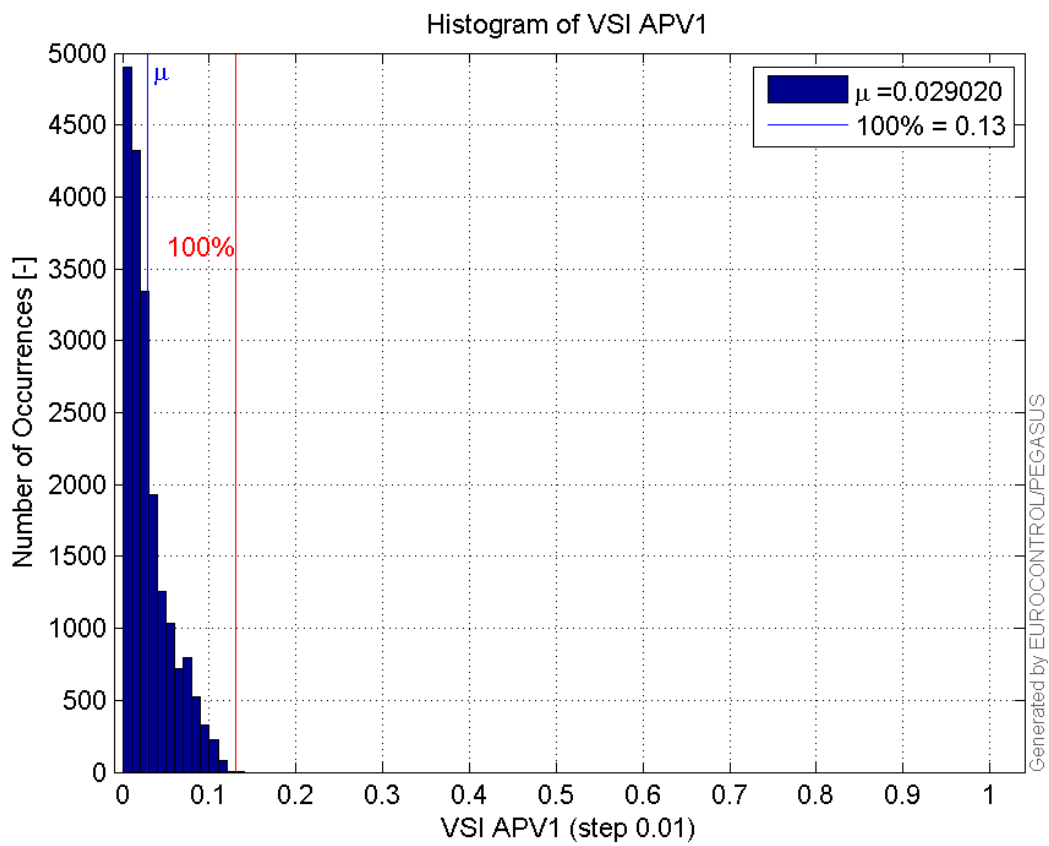
Histogram of VPL APV1:



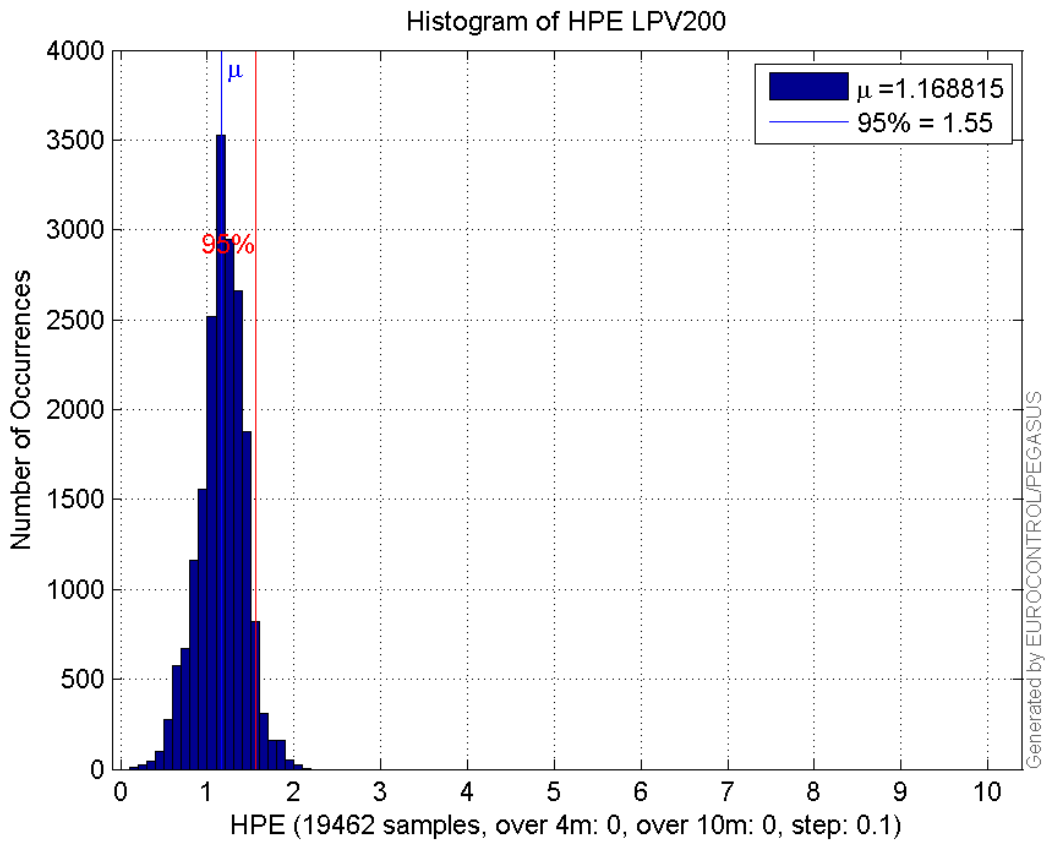
Histogram of HSI APV1:



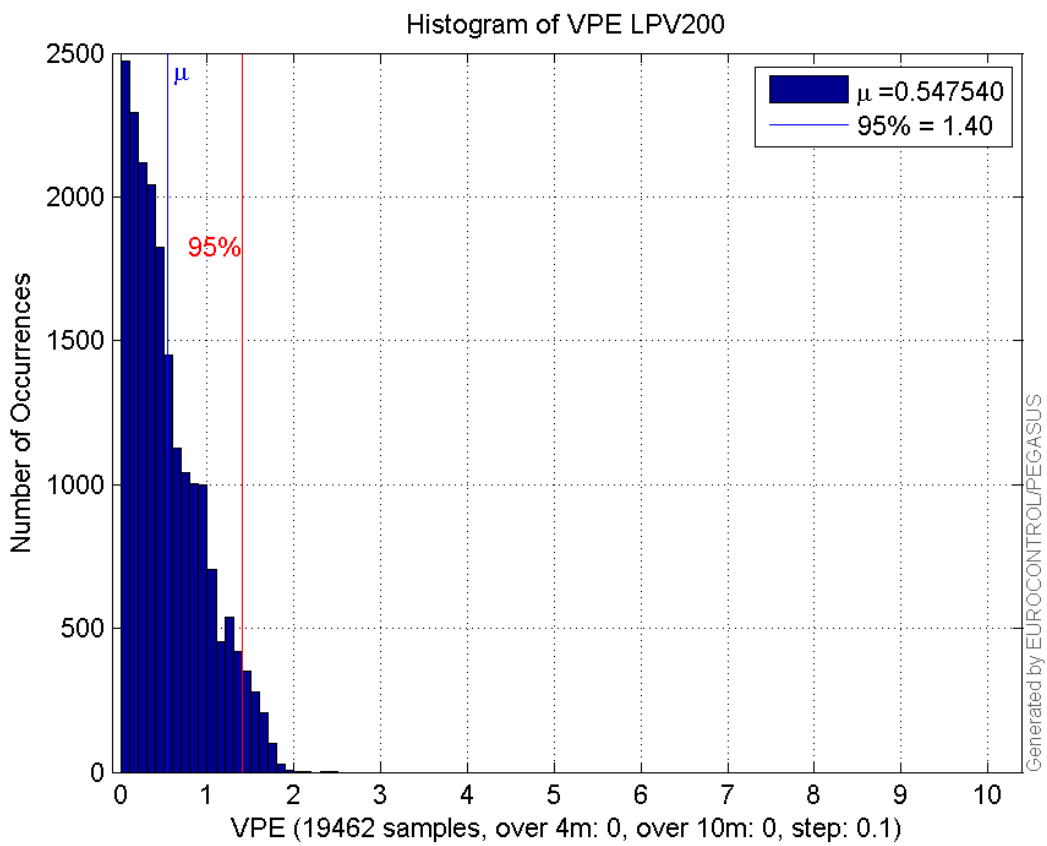
Histogram of VSI APV1:



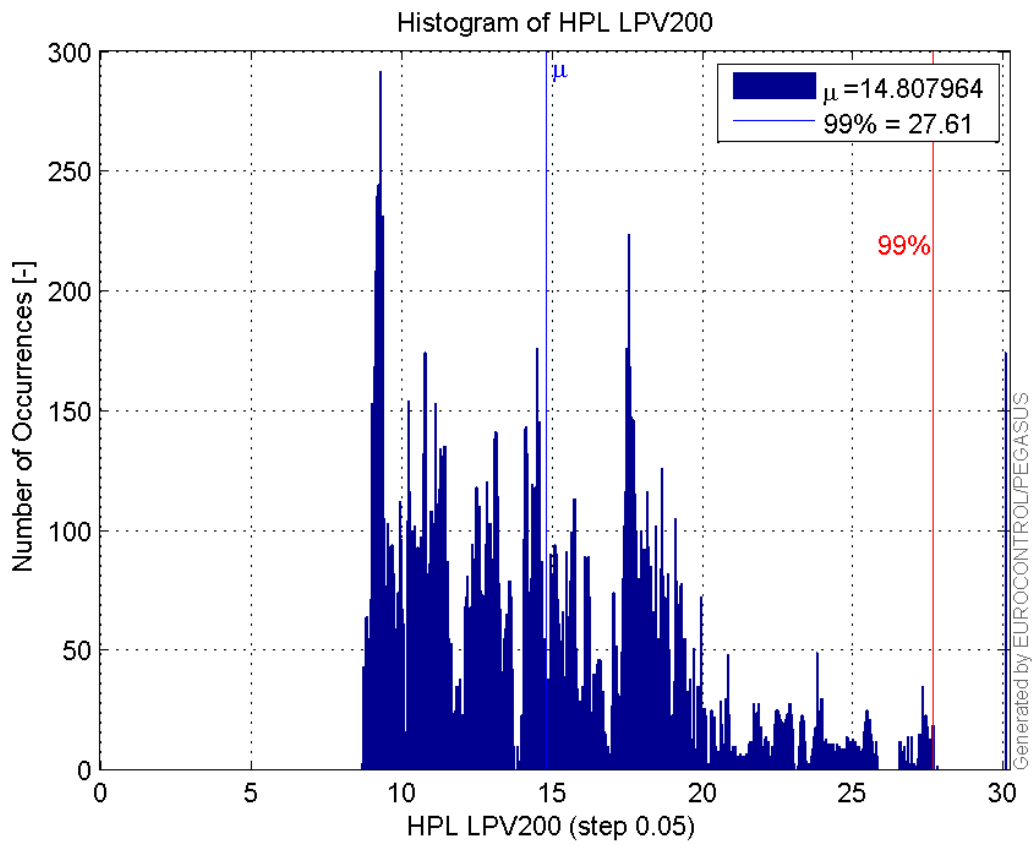
Histogram of HPE LPV200:



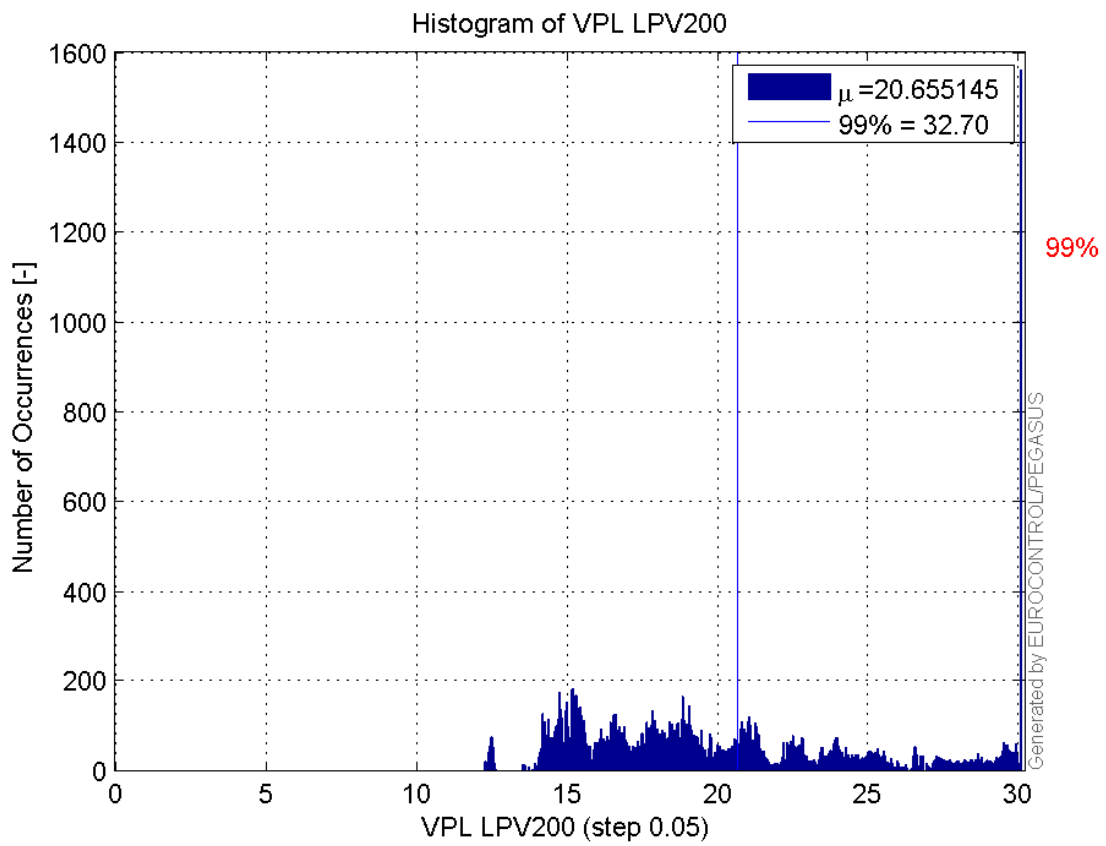
Histogram of VPE LPV200:



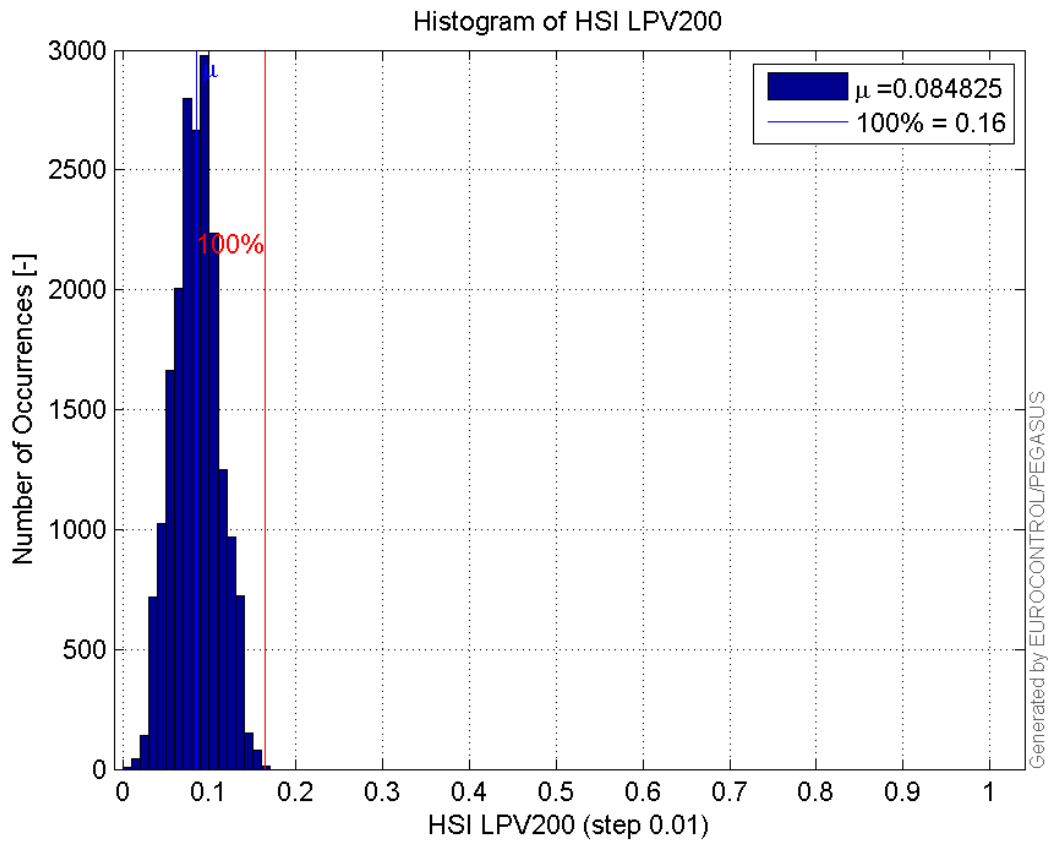
Histogram of HPL LPV200:



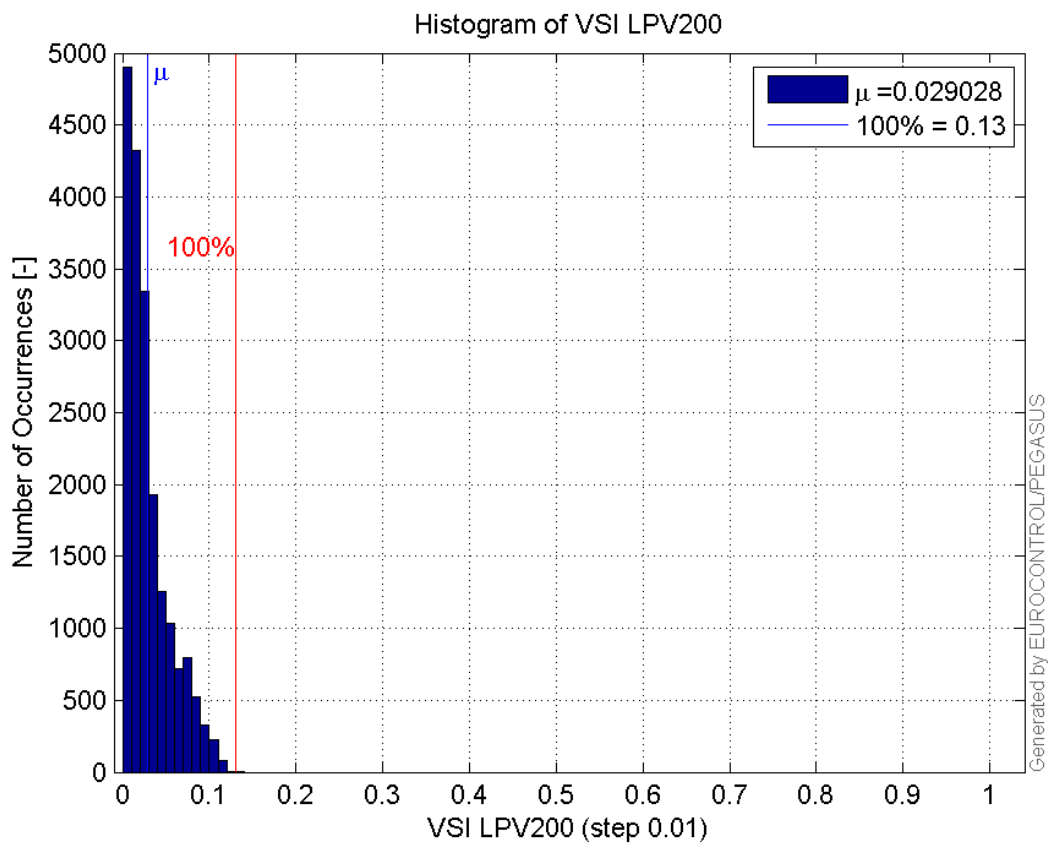
Histogram of VPL LPV200:

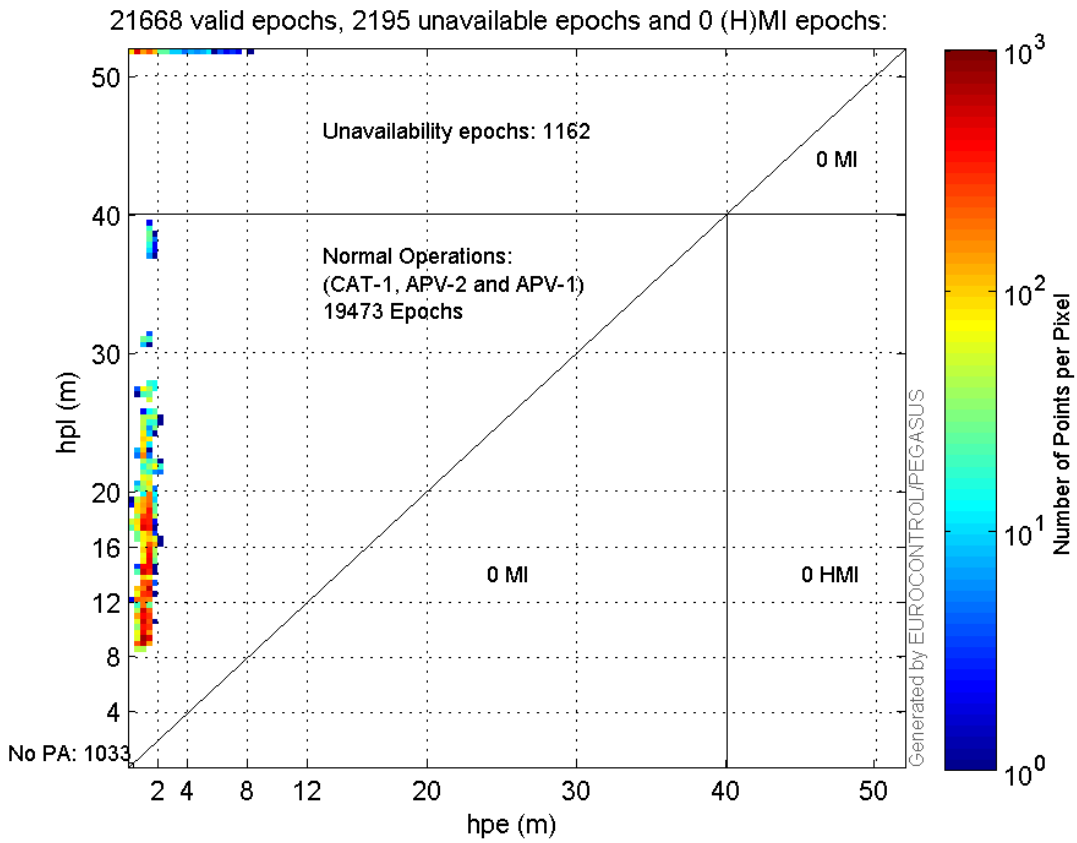


Histogram of HSI LPV200:

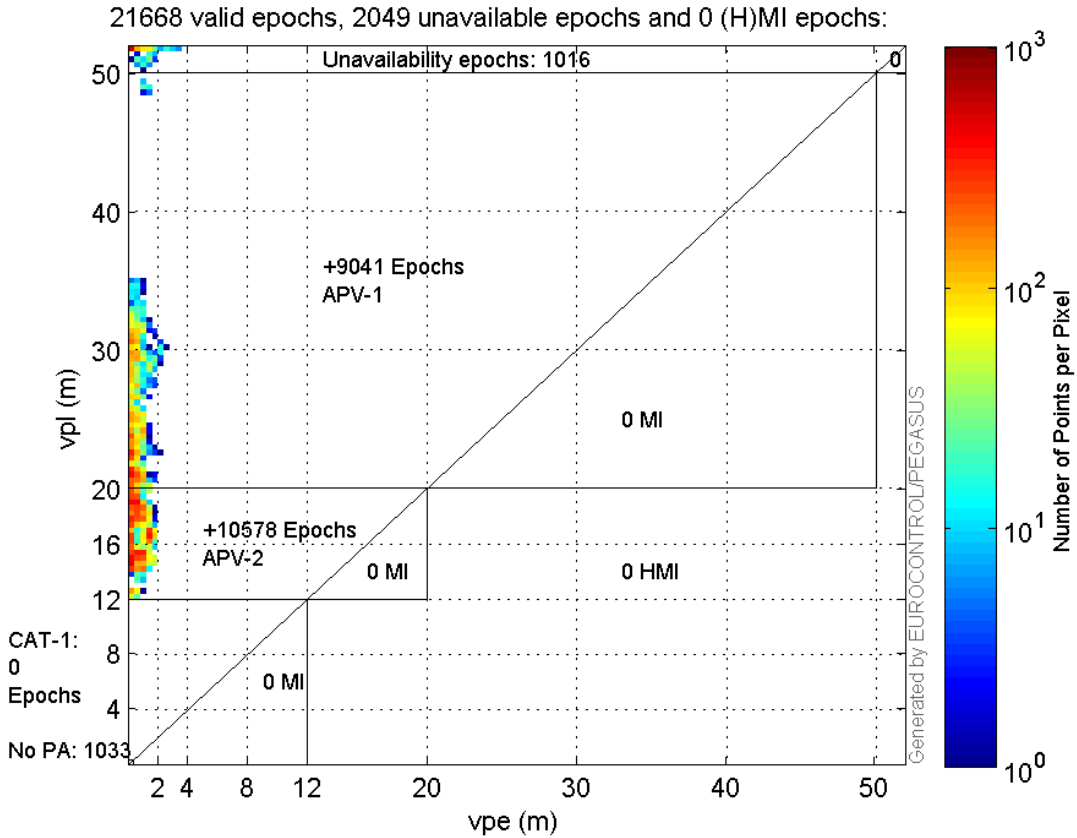


Histogram of VSI LPV200:





Vertical_Stanford_Plot_SBAS:



system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.2.1
input_prefix	system	D:/PegasusDateJob/job/2016_03_28MultiCMP/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateJob/job/2016_03_28MultiCMP/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	50.4391
init_lon	results	30.4297
init_alt	results	233.9115
mi_numbers	results	0

Range Domain

start: 07:03:10 28.03.2016 (week: 1890 sec: 111790)
end: 14:19:04 28.03.2016 (week: 1890 sec: 137944)
duration: 07:15:55 ..

quality

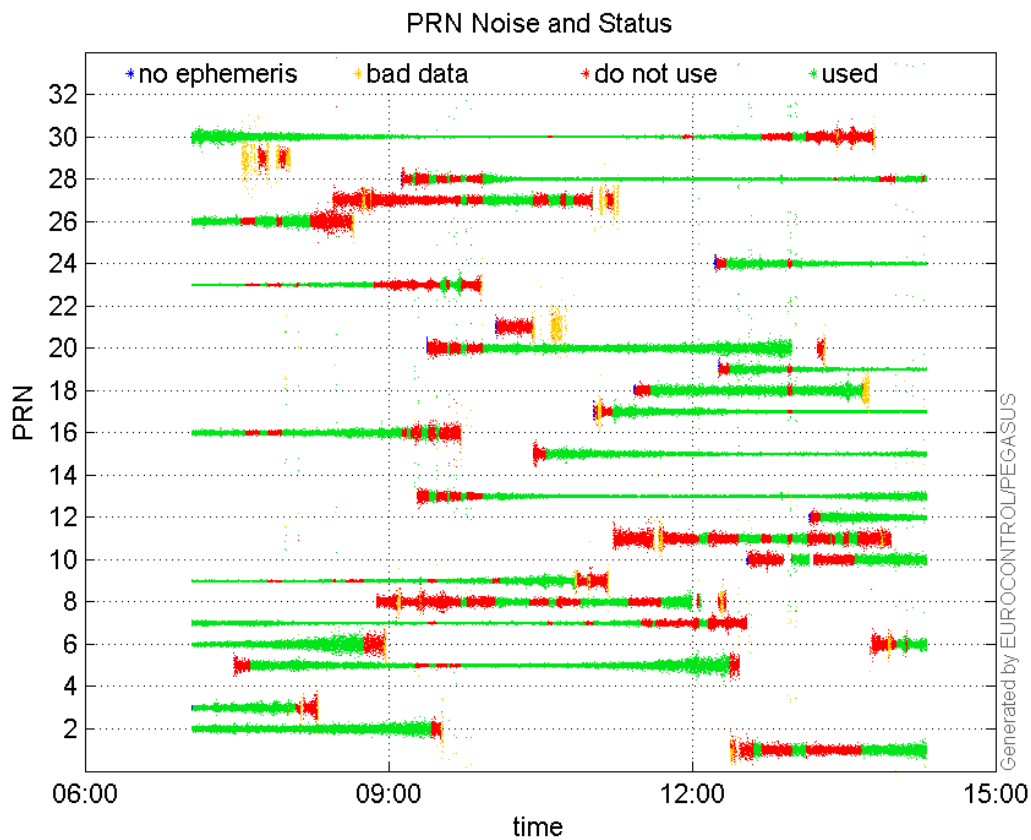
valid samples 26155
total samples 26155

PRN overview

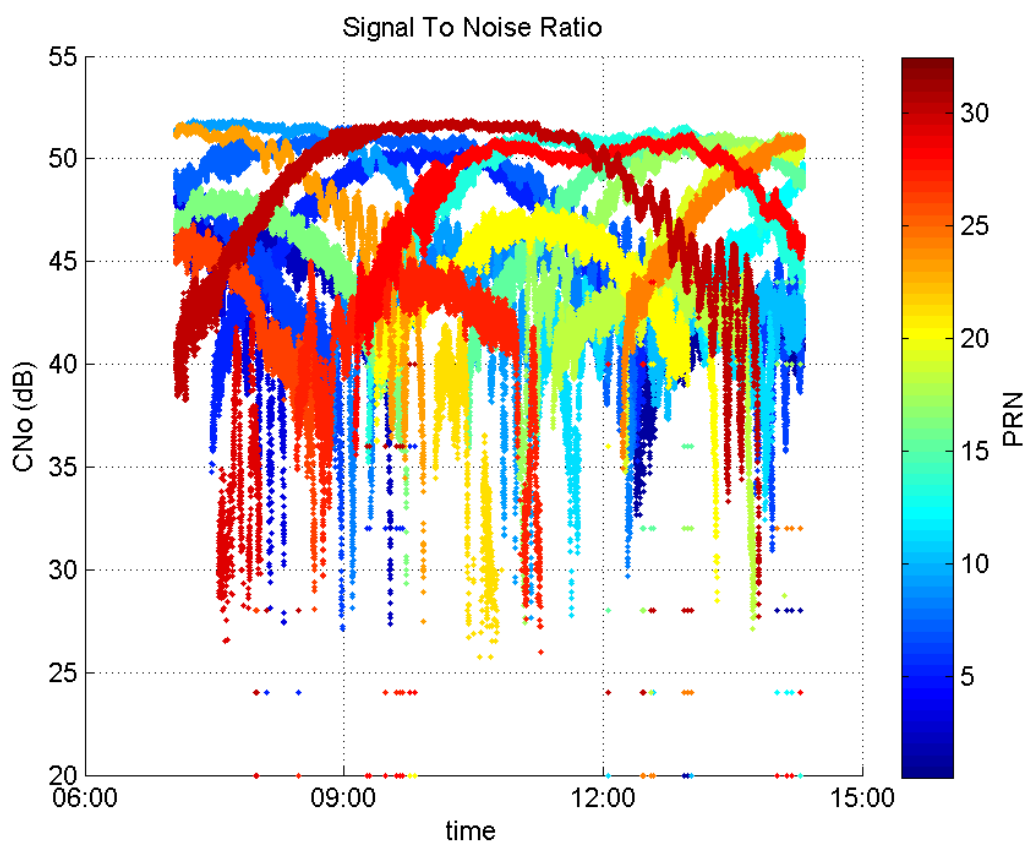
Number of Visible GPS Satellites 26
Number of Visible SBAS Satellites 2

signal quality and status

PRN Noise and Status:



Signal To Noise Ratio:



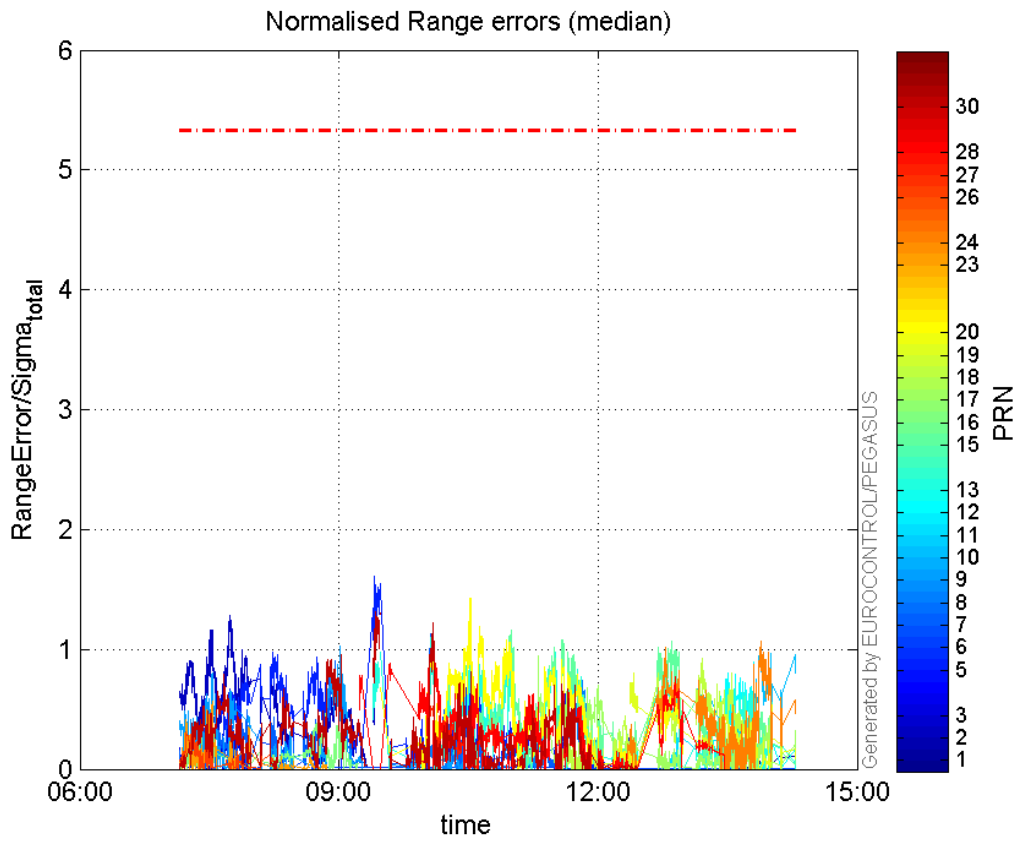
range errors

Number of Overbounding Norm Errors 0

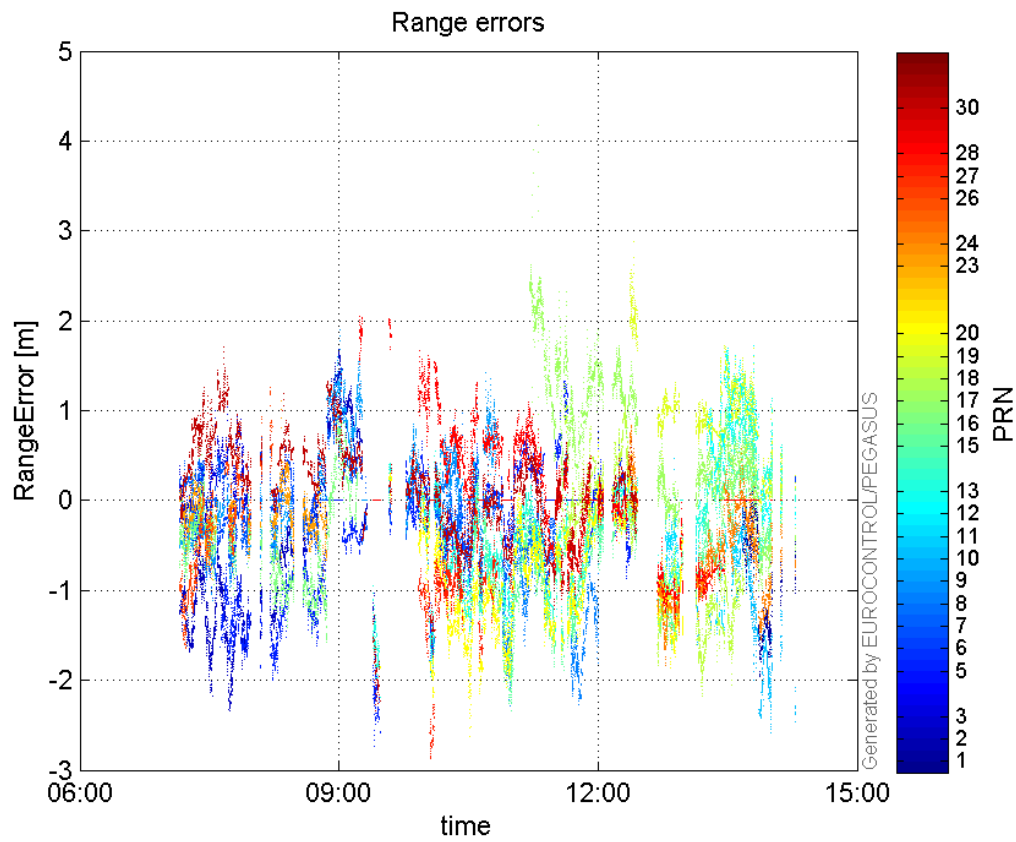
Max Norm Errors :

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1890	137825	1	0.184818	-1.02422	5.54177
1890	114228	2	1.28115	-2.33495	1.82254
1890	113619	3	0.410294	0.994259	2.42328
1890	120274	5	1.60992	-2.72751	1.69419
1890	113511	6	0.60874	-1.08652	1.78487
1890	122723	7	1.19062	-1.834	1.54037
1890	128940	8	0.743661	-1.93503	2.60203
1890	118849	9	1.02294	1.89836	1.85578
1890	136821	10	0.961818	-2.58182	2.68432
1890	132980	11	0.308134	-1.03855	3.37045
1890	136086	12	0.896668	1.71586	1.9136
1890	122637	13	1.10055	-1.95342	1.77494
1890	125968	15	1.16234	-2.33885	2.01218
1890	118263	16	0.52113	-1.57898	3.02991
1890	127116	17	0.941288	4.17567	4.43612
1890	133943	18	0.925017	-2.18012	2.35684
1890	131102	19	0.807136	2.8794	3.56743
1890	124275	20	1.42988	-2.62114	1.83312
1890	113511	23	0.563572	-0.8828	1.56644
1890	136380	24	1.06887	-1.53669	1.43768
1890	112698	26	0.323359	-1.25345	3.87633
1890	122723	27	0.527128	-2.71728	5.15487
1890	122788	28	0.88916	1.55122	1.74459
1890	120339	30	1.31537	-2.33555	1.77558

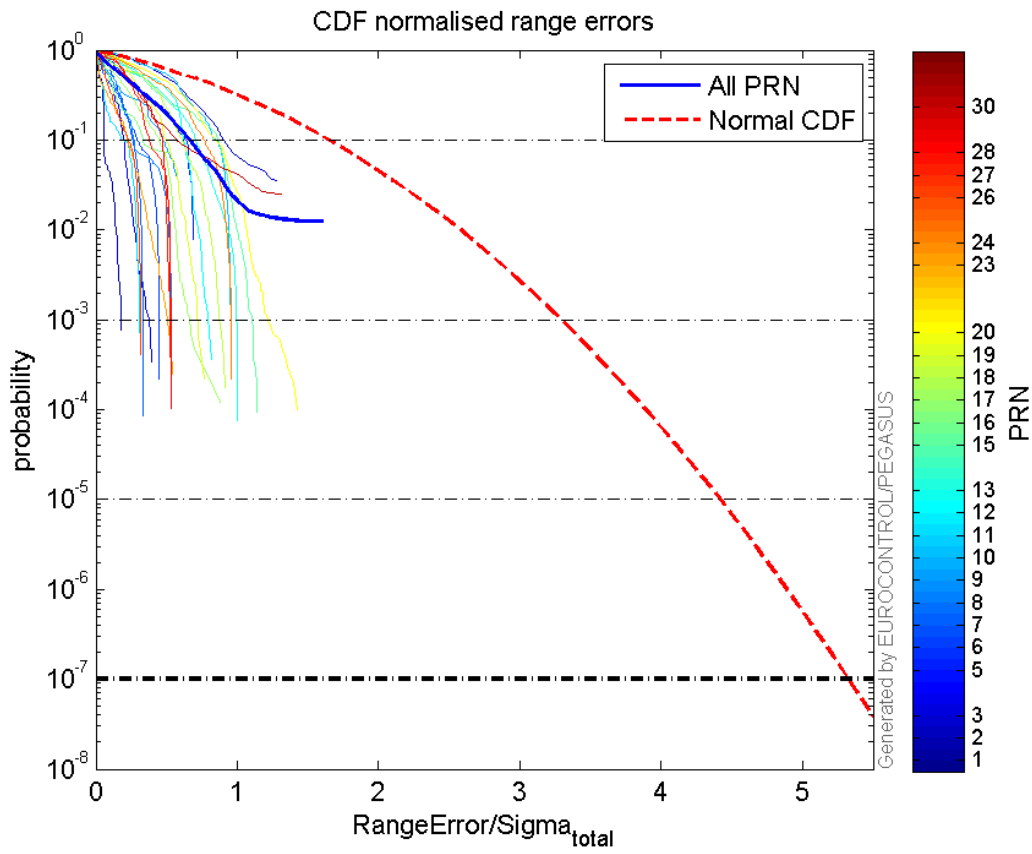
Normalised Range errors (median):



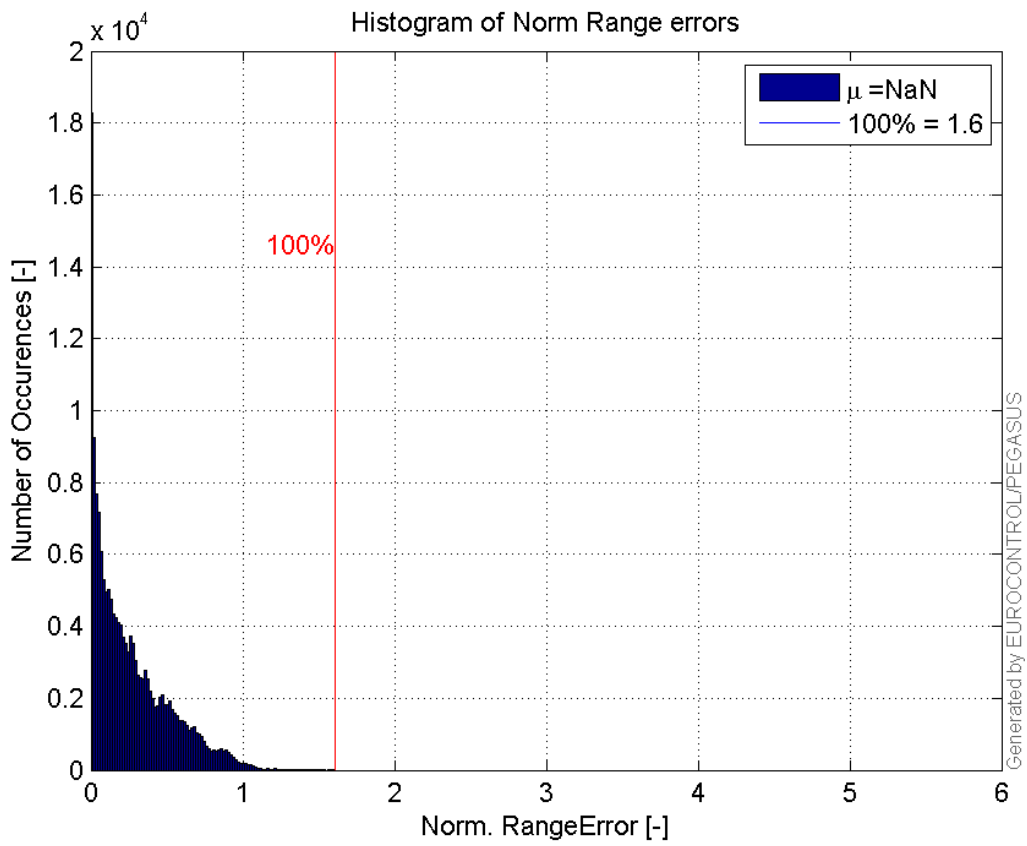
Range errors:



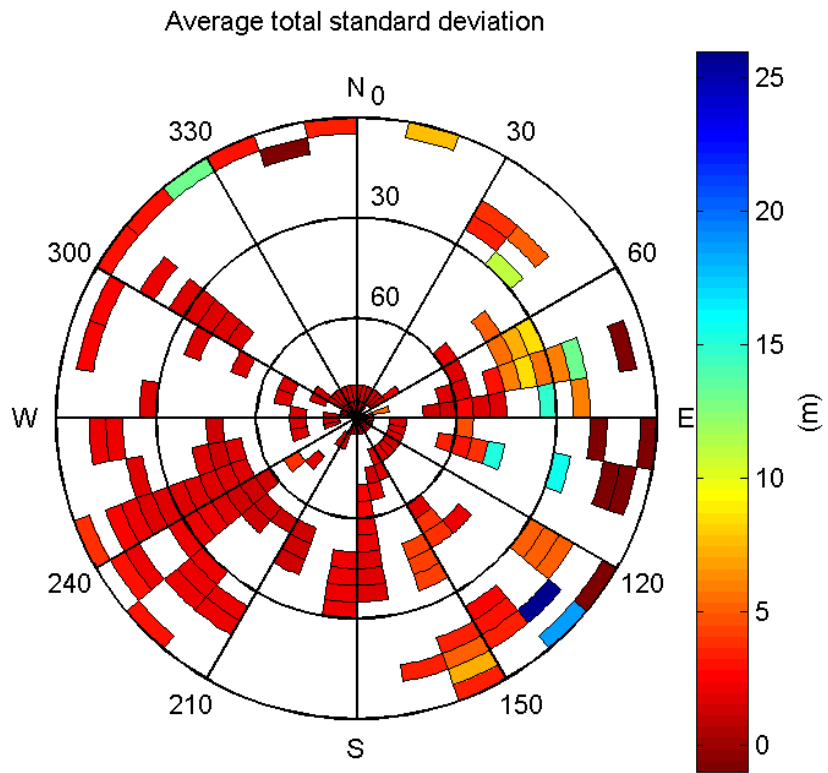
CDF normalised range errors:



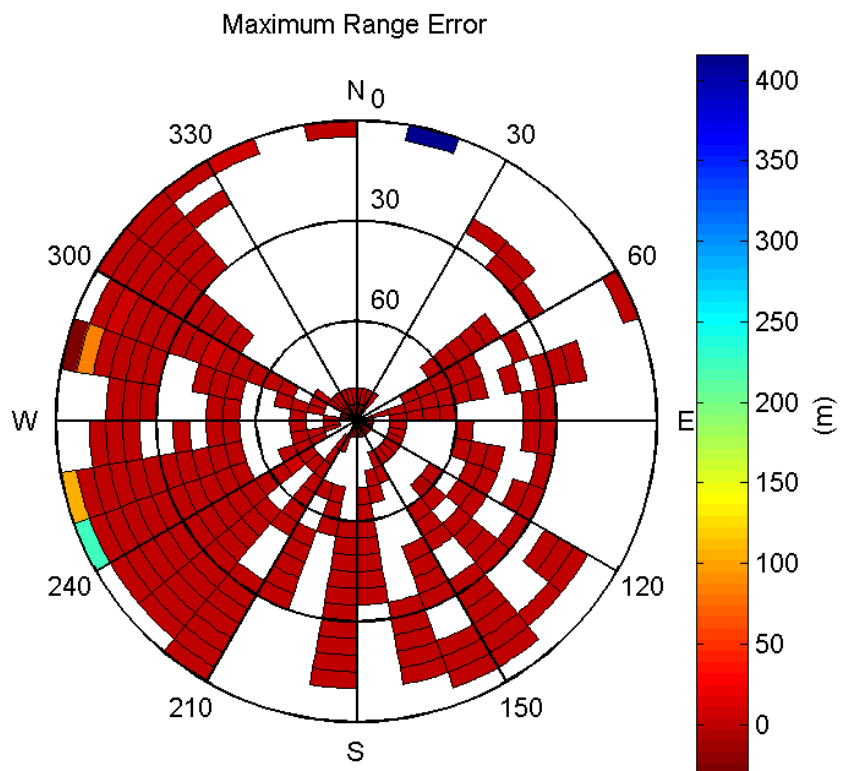
Histogram of Norm Range errors:



Sigma Sky Plot:

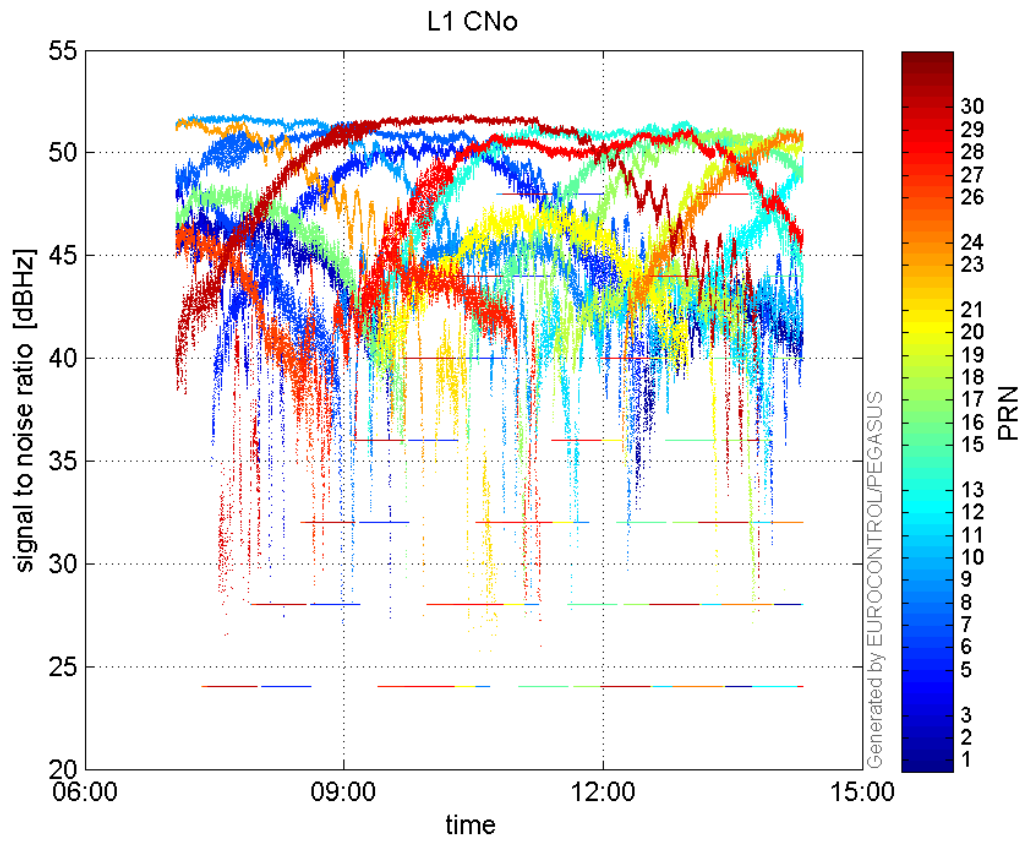


Norm Error Sky Plot:

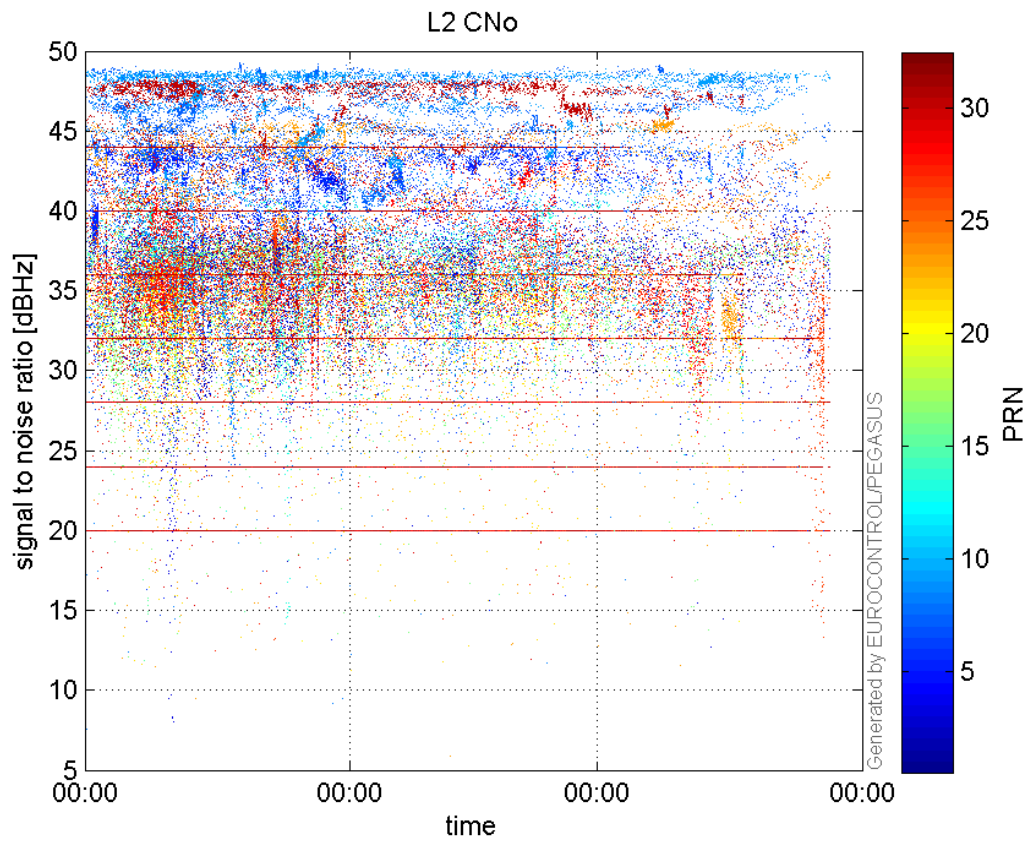


signal quality

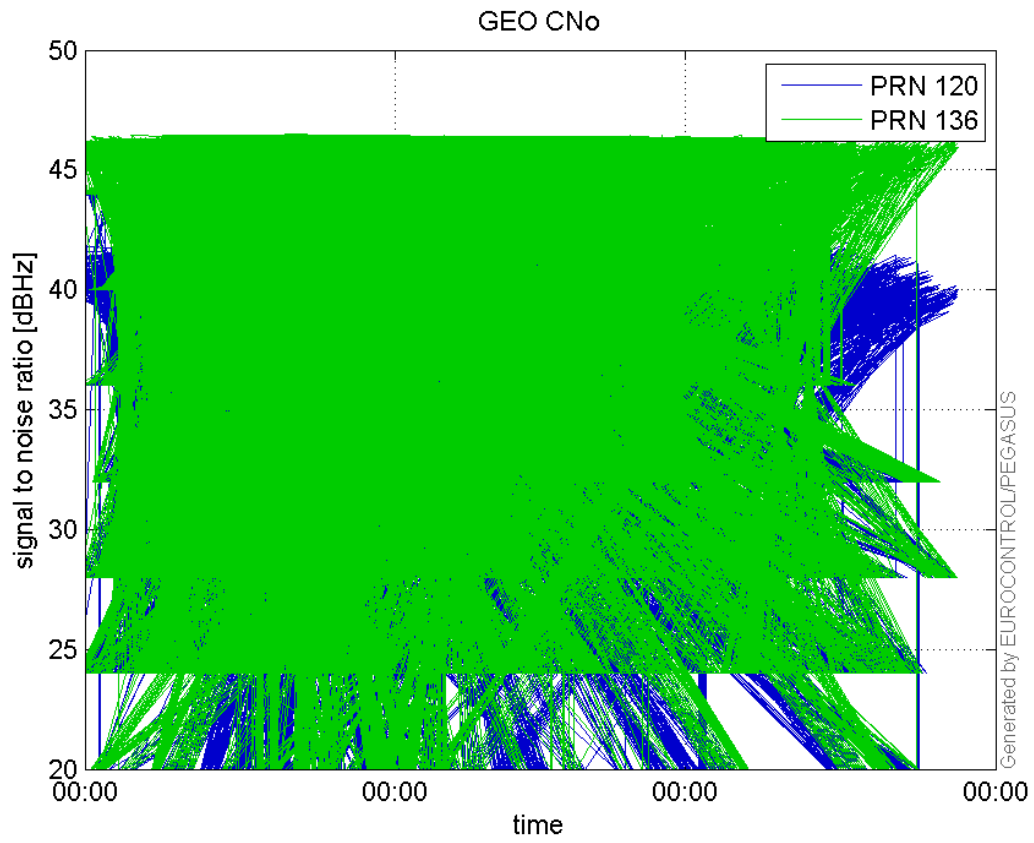
L1 CNo:



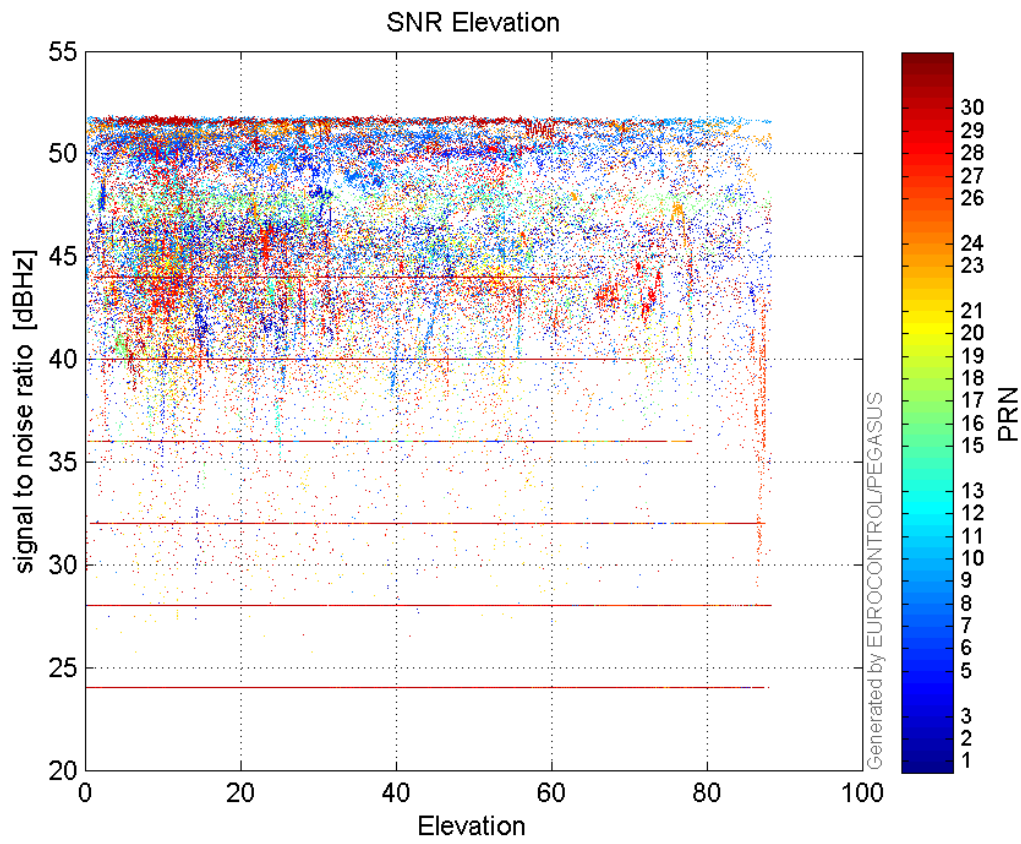
L2 CNo:



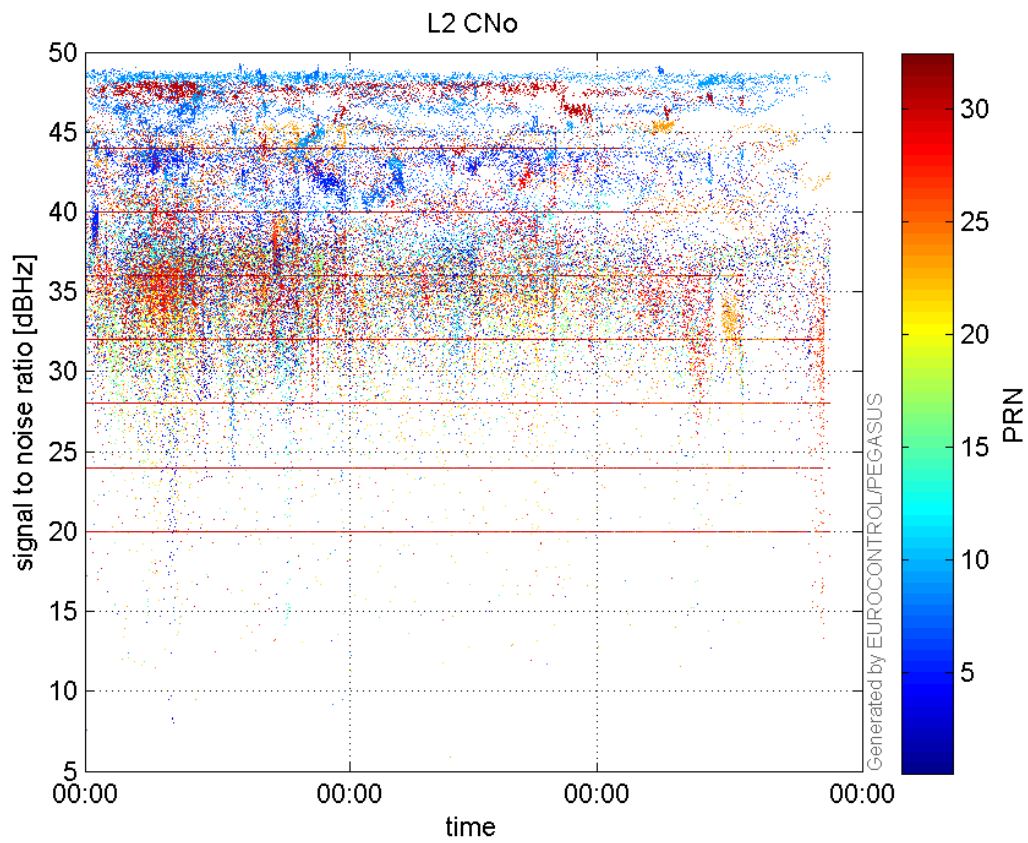
GEO CNo:



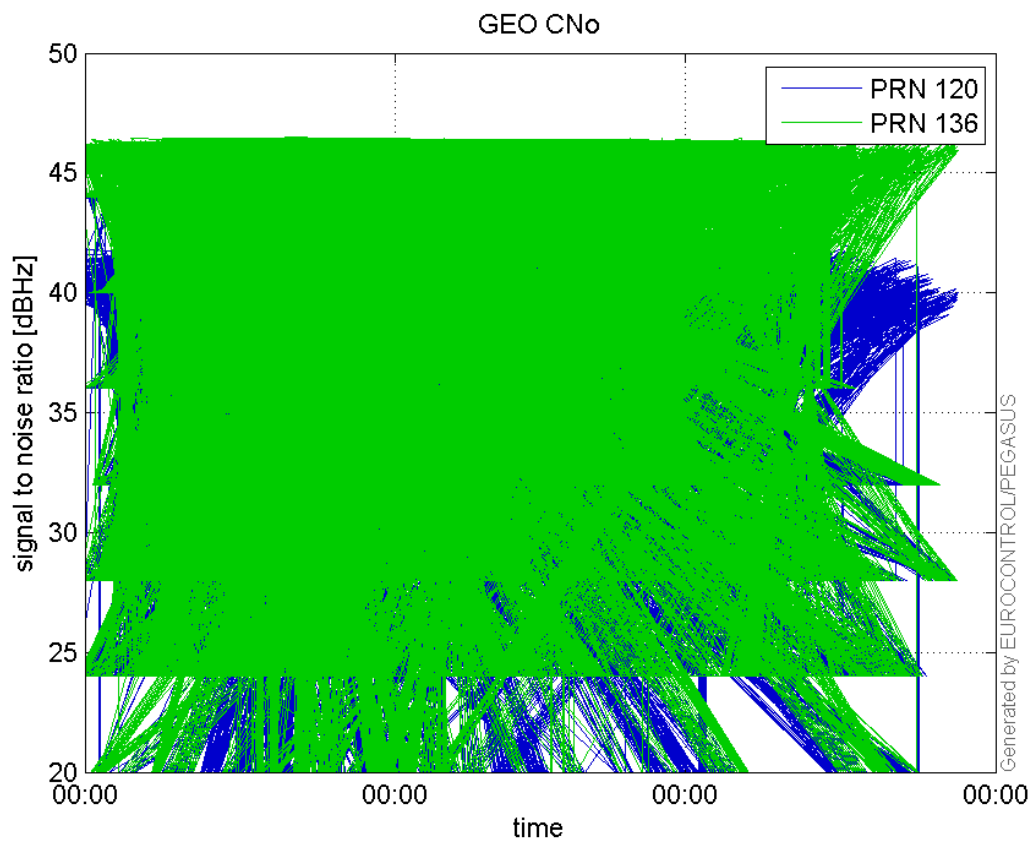
SNR Elevation:



L2 CNo:

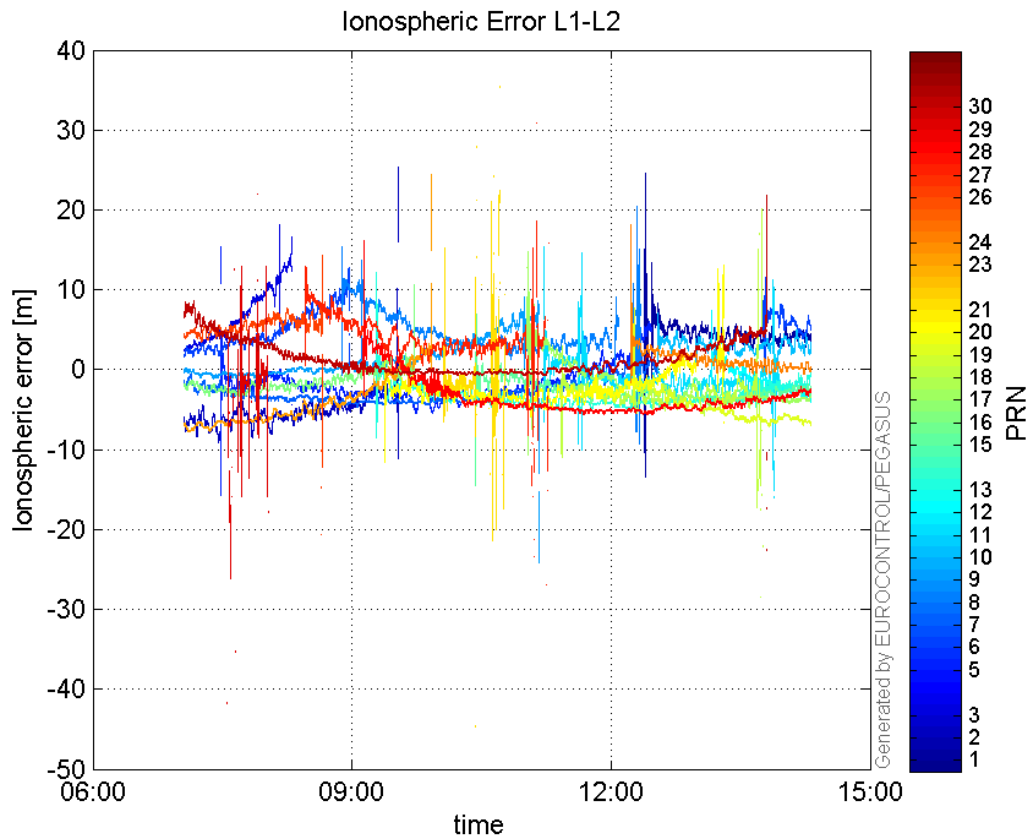


GEO CNo:



dual frequency

Ionospheric Error L1-L2:



Parameters

system

Name	Section	Value
name	system	GNSS_Solution
version	system	4.8.2.1
input_prefix	system	D:/PegasusDateJob/job/2016_03_28MultiCMP/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateJob/job/2016_03_28MultiCMP/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

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Name	Section	Value
init_lat	results	50.4391
init_lon	results	30.4297
init_alt	results	233.9115
mi_numbers	results	0

SBAS Messages

start: 07:03:9.129 28.03.2016 (week: 1890 sec: 111789.129)
end: 14:19:4.129 28.03.2016 (week: 1890 sec: 137944.129)
duration: 07:15:55 ..

quality

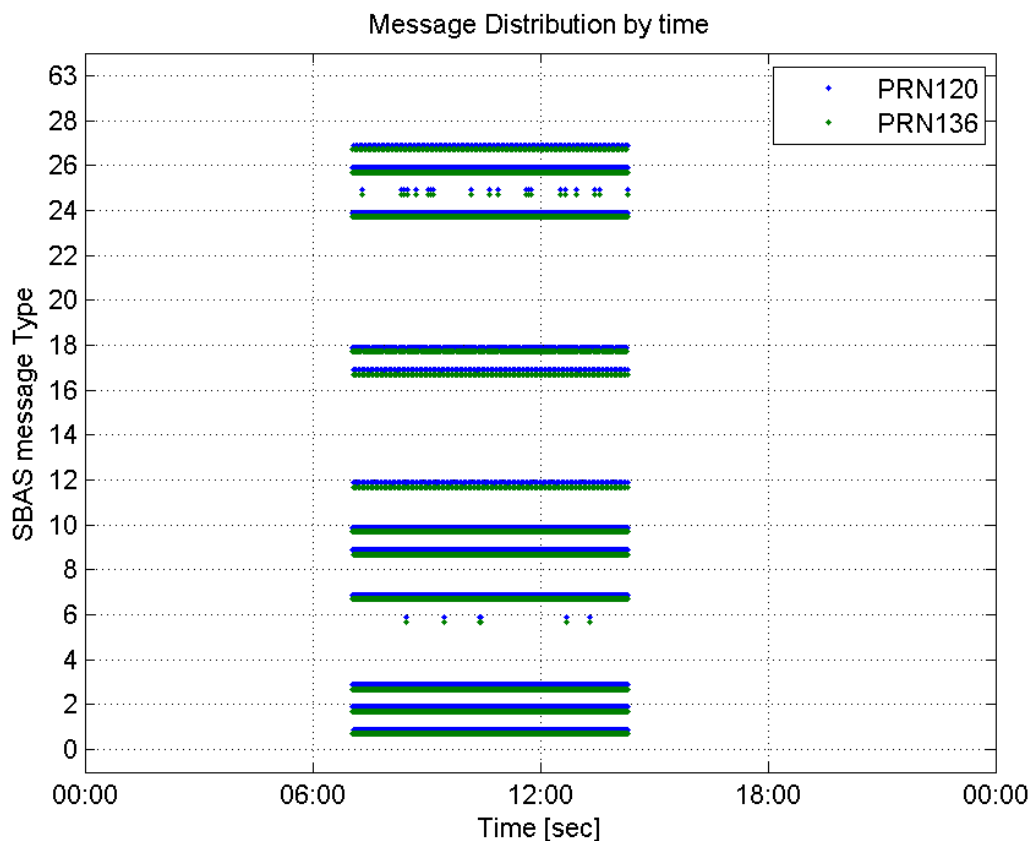
valid samples 52312
total samples 52312
number of SBAS PRNs 2

SBAS SIS Overview

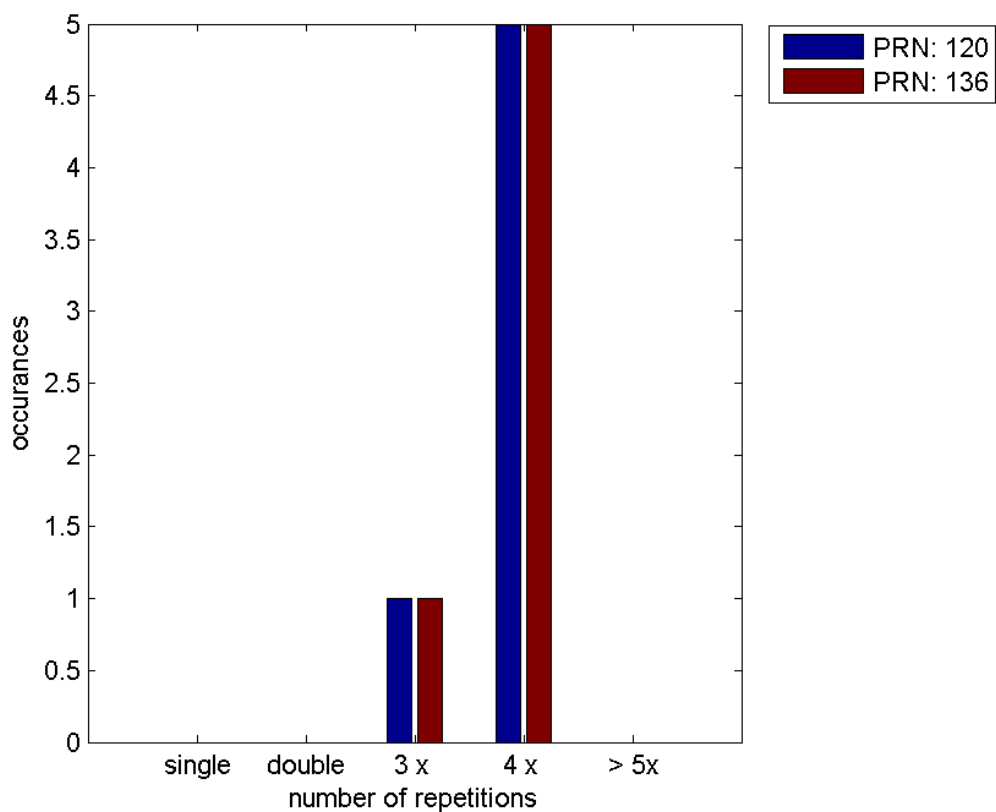
Message Type 6 repetitions :

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

Message Distribution by time:



Message Type 6 repetitions:



SBAS SIS Analysis

PRN 120

Broadcast SBAS Messages :

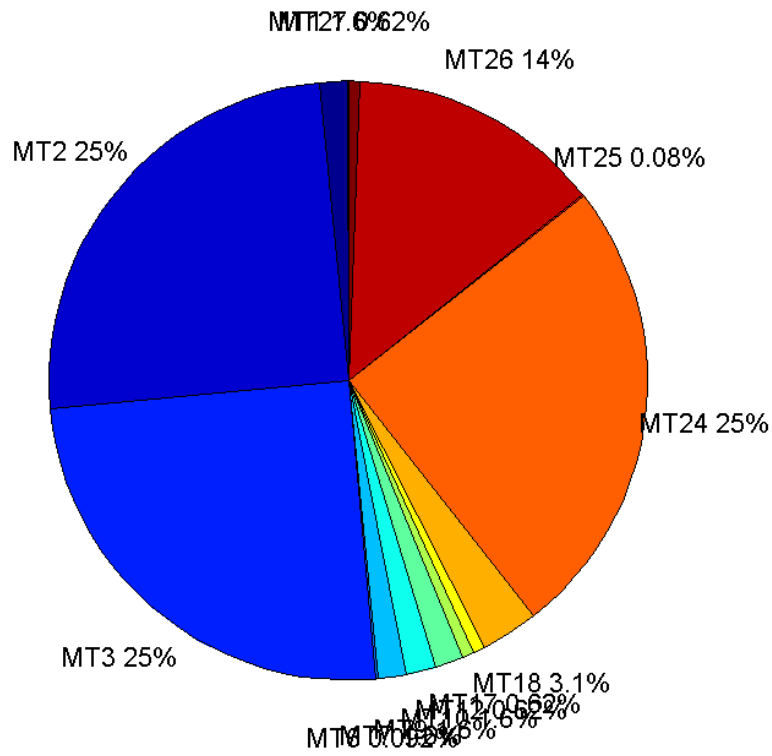
	number of messages	%
MT 0	0	0
MT 1	406	1.55223
MT 2	6531	24.9694
MT 3	6532	24.9732
MT 4	0	0
MT 5	0	0
MT 6	24	0.0917571
MT 7	407	1.55605
MT 9	407	1.55605
MT 10	407	1.55605
MT 12	163	0.623184
MT 17	163	0.623184
MT 18	815	3.11592
MT 24	6531	24.9694
MT 25	21	0.0802875
MT 26	3586	13.71
MT 27	163	0.623184
MT 28	0	0
MT 62	0	0

MT 63	0	0
Total	26156	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	71	64.279	0	0	0
MT 2	4	8	4.00475	6	0	0
MT 3	4	8	4.00475	6	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	8124	759.739	5	5	5
MT 7	64	71	64.2783	0	0	0
MT 9	64	71	64.3079	0	0	0
MT 10	64	71	64.3079	0	0	0
MT 12	156	172	160.451	162	0	0
MT 17	156	168	160.451	0	0	0
MT 18	4	135	31.9767	0	0	0
MT 24	4	8	4.00459	0	0	0
MT 25	24	3775	1262.05	0	0	0
MT 26	4	28	7.29177	0	0	0
MT 27	156	173	160.475	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

Message Distribution PRN 120:



SBAS SIS Analysis

PRN 136

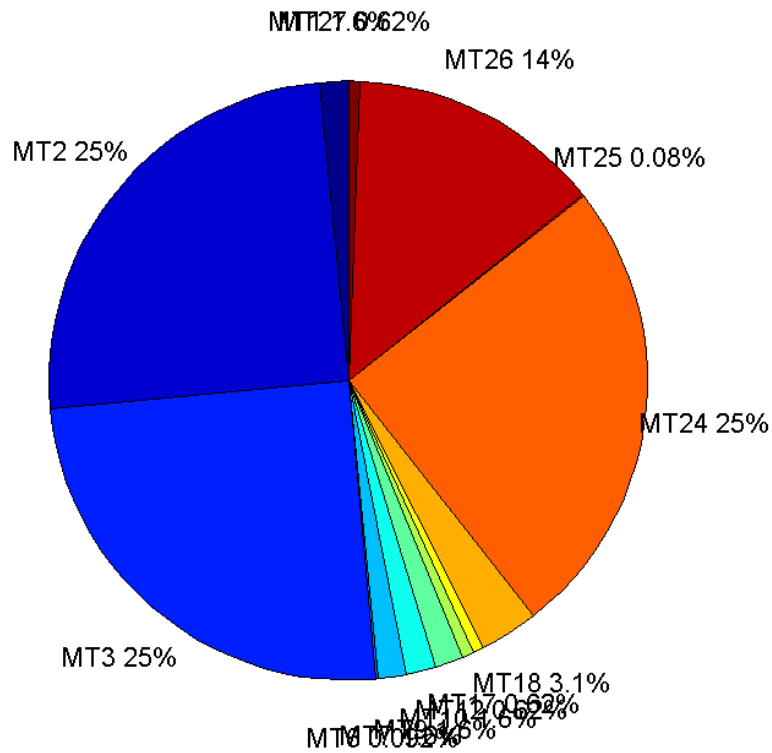
Broadcast SBAS Messages :

	number of messages	%
MT 0	0	0
MT 1	407	1.55605
MT 2	6530	24.9656
MT 3	6531	24.9694
MT 4	0	0
MT 5	0	0
MT 6	24	0.0917571
MT 7	407	1.55605
MT 9	406	1.55223
MT 10	407	1.55605
MT 12	163	0.623184
MT 17	163	0.623184
MT 18	815	3.11592
MT 24	6530	24.9656
MT 25	21	0.0802875
MT 26	3589	13.7215
MT 27	163	0.623184
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	26156	100

Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	64	71	64.3177	0	0	0
MT 2	4	8	4.00536	7	0	0
MT 3	4	8	4.00536	7	0	0
MT 4	--	--	--	--	--	--
MT 5	--	--	--	--	--	--
MT 6	1	8124	759.739	5	5	5
MT 7	64	71	64.2882	0	0	0
MT 9	64	71	64.2889	0	0	0
MT 10	64	71	64.3177	0	0	0
MT 12	156	168	160.475	162	0	0
MT 17	156	168	160.5	0	0	0
MT 18	4	135	31.9767	0	0	0
MT 24	4	8	4.00521	0	0	0
MT 25	24	3775	1262.05	0	0	0
MT 26	1	30	7.28456	0	0	0
MT 27	156	169	160.475	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:/PegasusDateJob/job/2016_03_28MultiCMP/01_User/01_User
Outputfile	System	D:/PegasusDateJob/job/2016_03_28MultiCMP/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