

# Global View

city	Kiev
site	Laboratory satellite systems
abbreviation	NAU
country	Ukraine
comment	PRN 123??
program	Pegasus
version	4.8.2
date	05/11/2015

## Range Domain

**start:** 08:00:06 05.11.2015 ( week: 1869 sec: 374406 )  
**end:** 15:22:26 05.11.2015 ( week: 1869 sec: 400946 )  
**duration:** 07:22:21 ..

### quality

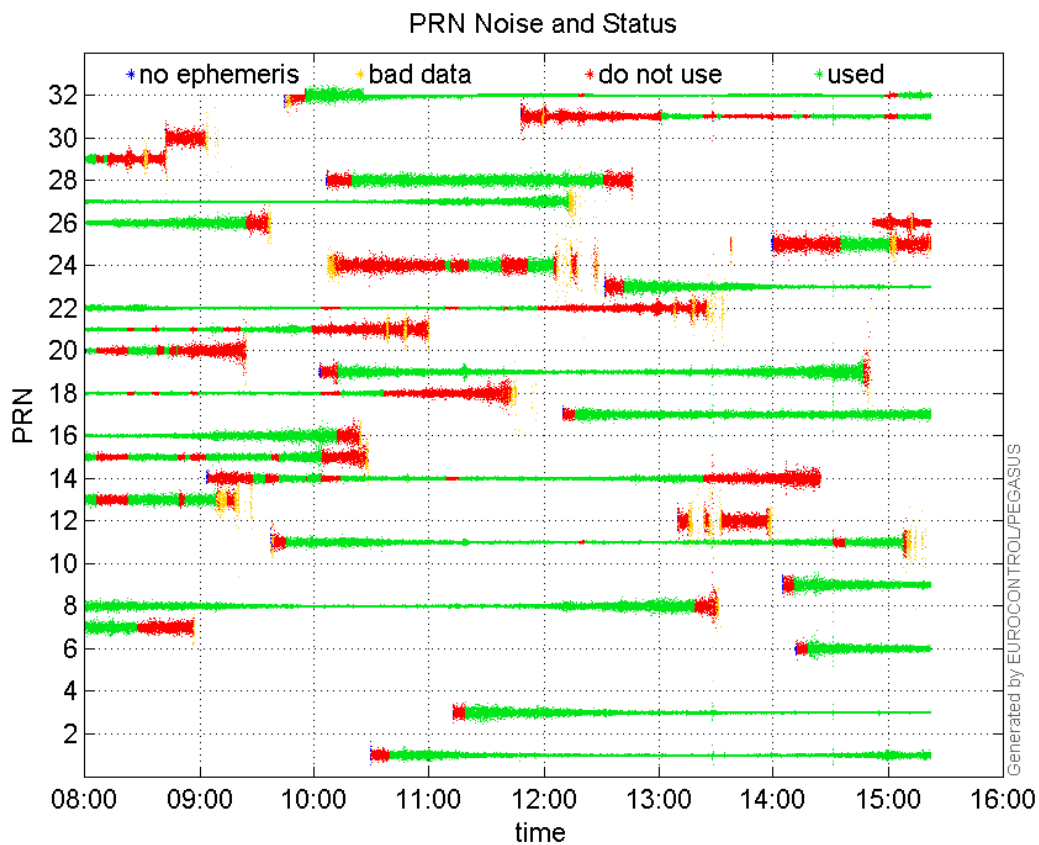
**valid samples** 26541  
**total samples** 26541

### PRN overview

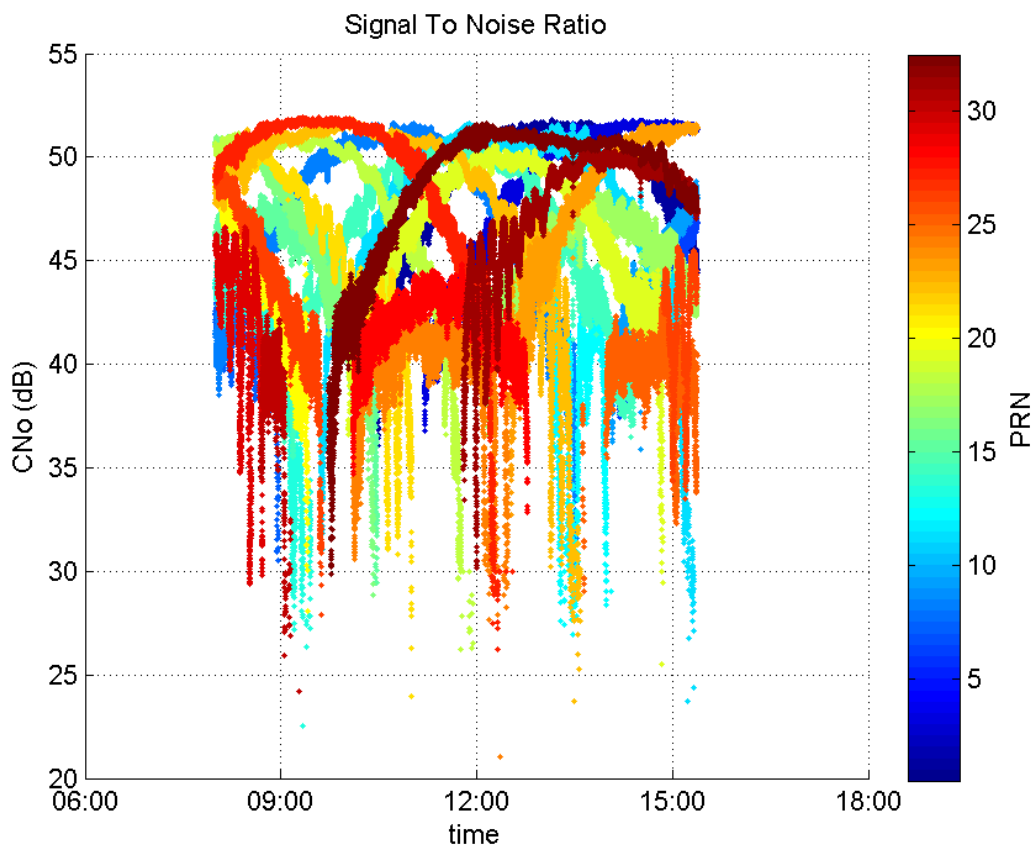
**Number of Visible GPS Satellites** 28  
**Number of Visible SBAS Satellites** 2

### signal quality and status

**PRN Noise and Status:**



**Signal To Noise Ratio:**



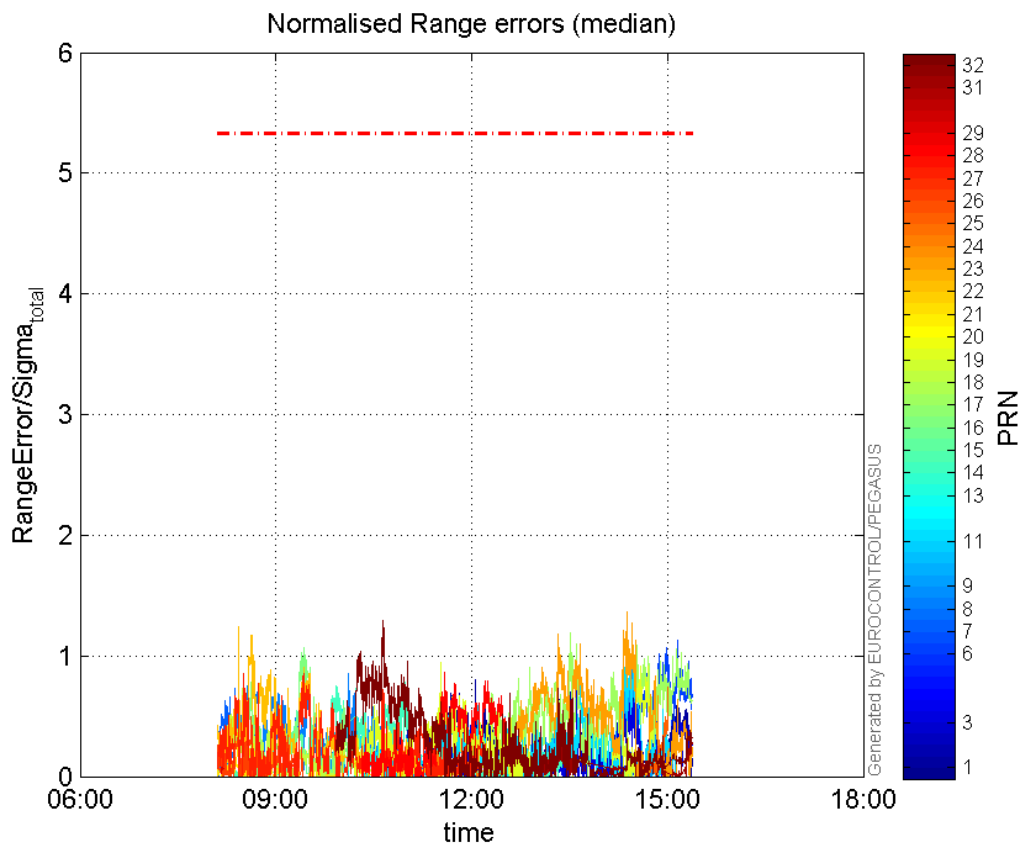
range errors

Number of Overbounding Norm Errors 0

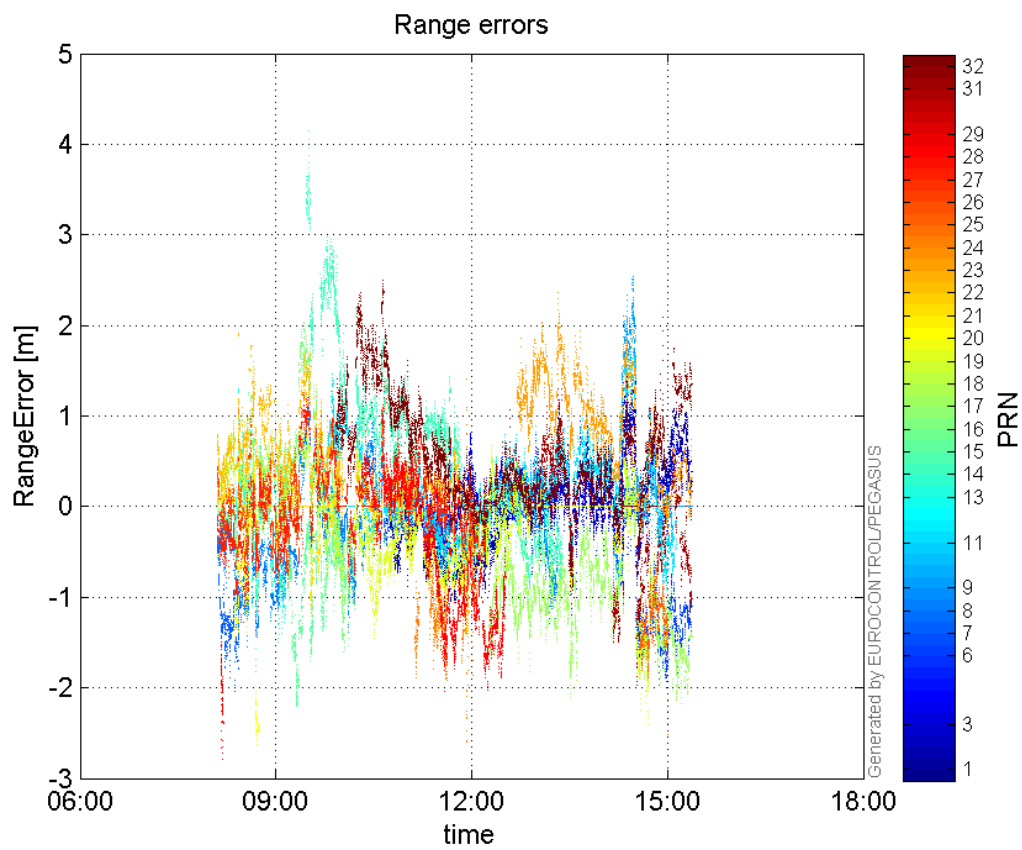
**Max Norm Errors :**

GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1869	394285	1	0.906112	-1.26154	1.39225
1869	397363	3	0.84161	1.33218	1.58289
1869	400170	6	1.12506	-1.96202	1.74393
1869	375736	7	0.732613	-2.03556	2.77849
1869	382002	8	0.852257	-1.36396	1.60041
1869	397683	9	0.979165	2.54536	2.59952
1869	397363	11	0.995986	1.89187	1.8995
1869	378138	13	0.443852	-1.48986	3.35667
1869	385127	14	0.78475	1.45543	1.85464
1869	379150	15	0.548434	-2.20493	4.02041
1869	379528	16	1.06324	2.03051	1.90973
1869	394252	17	1.19504	-2.10555	1.7619
1869	376173	18	0.731874	1.09451	1.49549
1869	387072	19	0.944482	-1.59114	1.68467
1869	376910	20	0.139354	-2.51148	18.0223
1869	376173	21	0.305135	0.468566	1.5356
1869	375917	22	1.23929	1.89898	1.53232
1869	397363	23	1.36249	2.07868	1.52565
1869	386705	24	0.222368	-1.79619	8.07754
1869	399630	25	0.737151	-2.51149	3.40702
1869	375916	26	0.606387	1.07307	1.76961
1869	379573	27	0.85543	1.26482	1.47858
1869	387284	28	0.866458	-2.0422	2.35696
1869	375078	29	0.0808205	-2.78546	34.4648
1869	400811	31	0.338119	-1.23035	3.63881
1869	383901	32	1.28801	2.49275	1.93535

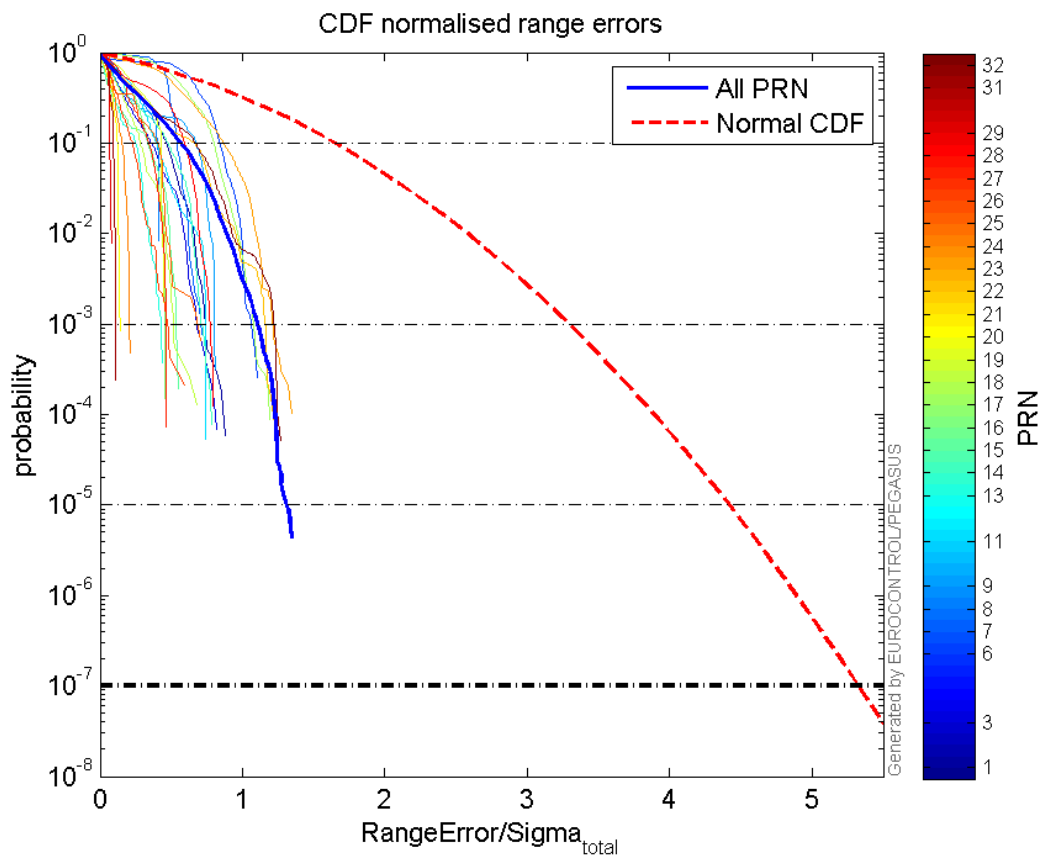
**Normalised Range errors (median):**



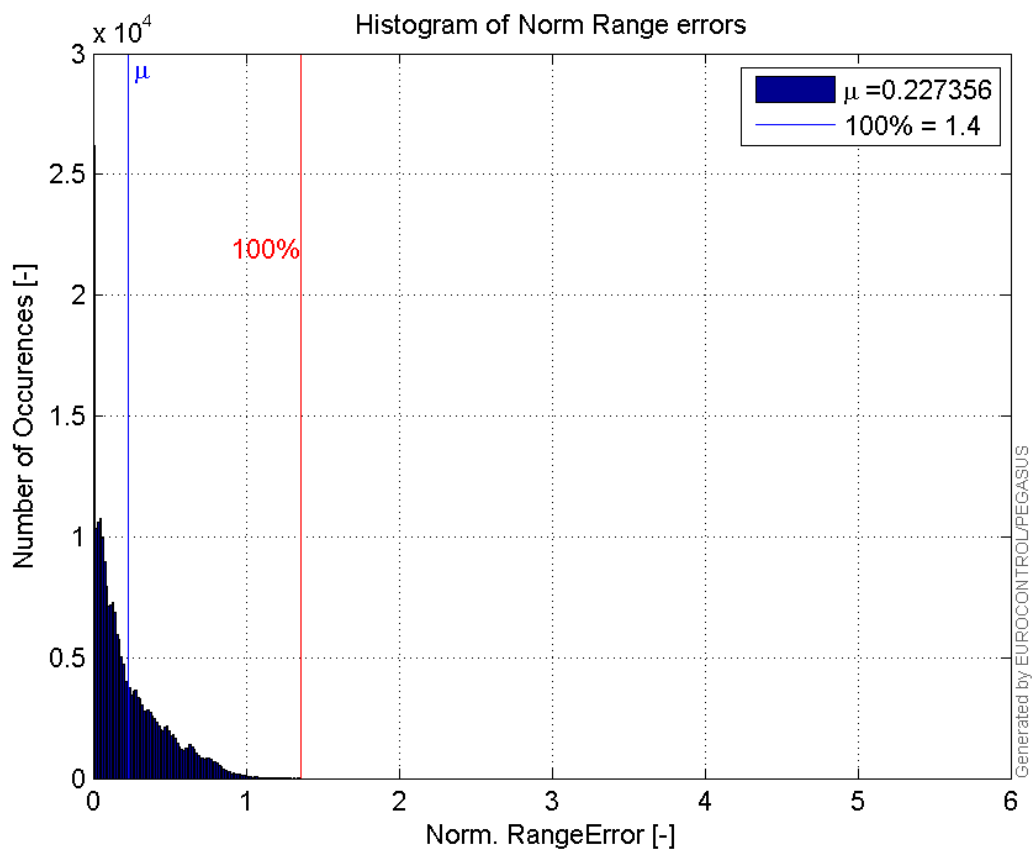
**Range errors:**



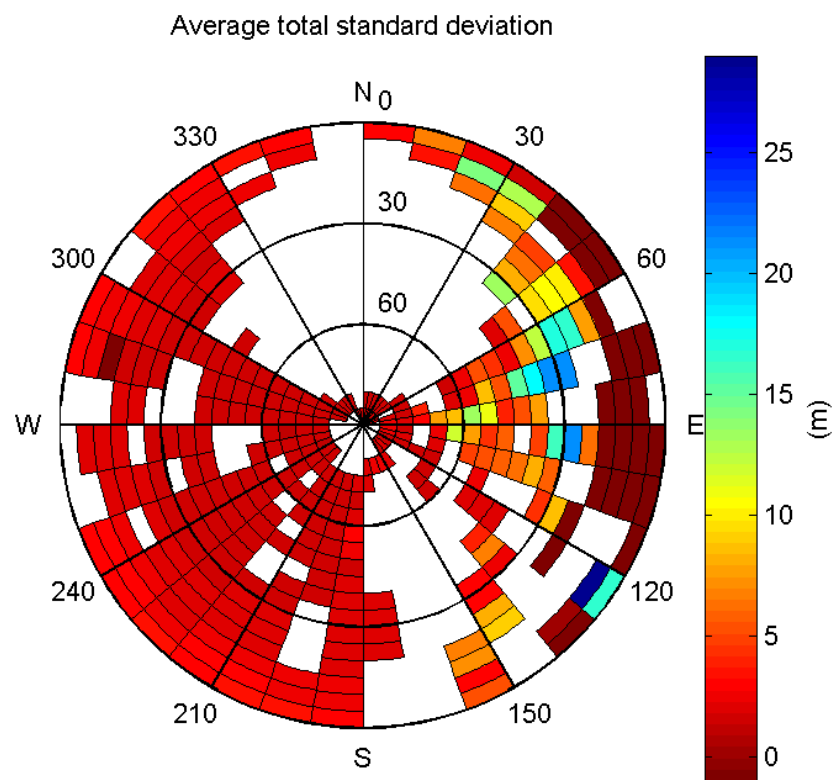
**CDF normalised range errors:**



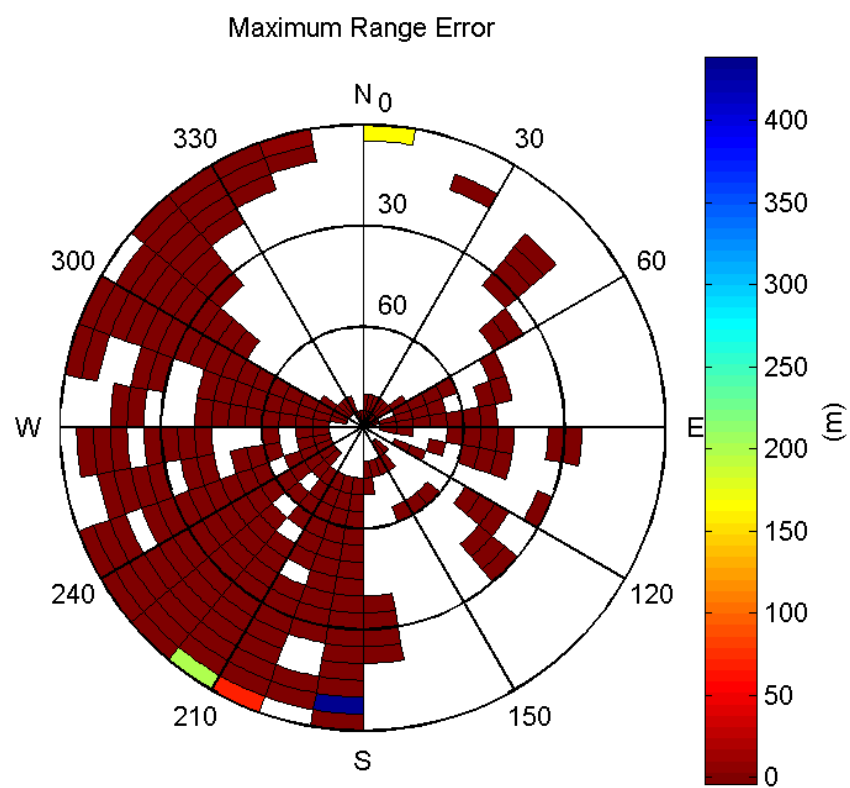
**Histogram of Norm Range errors:**



**Sigma Sky Plot:**

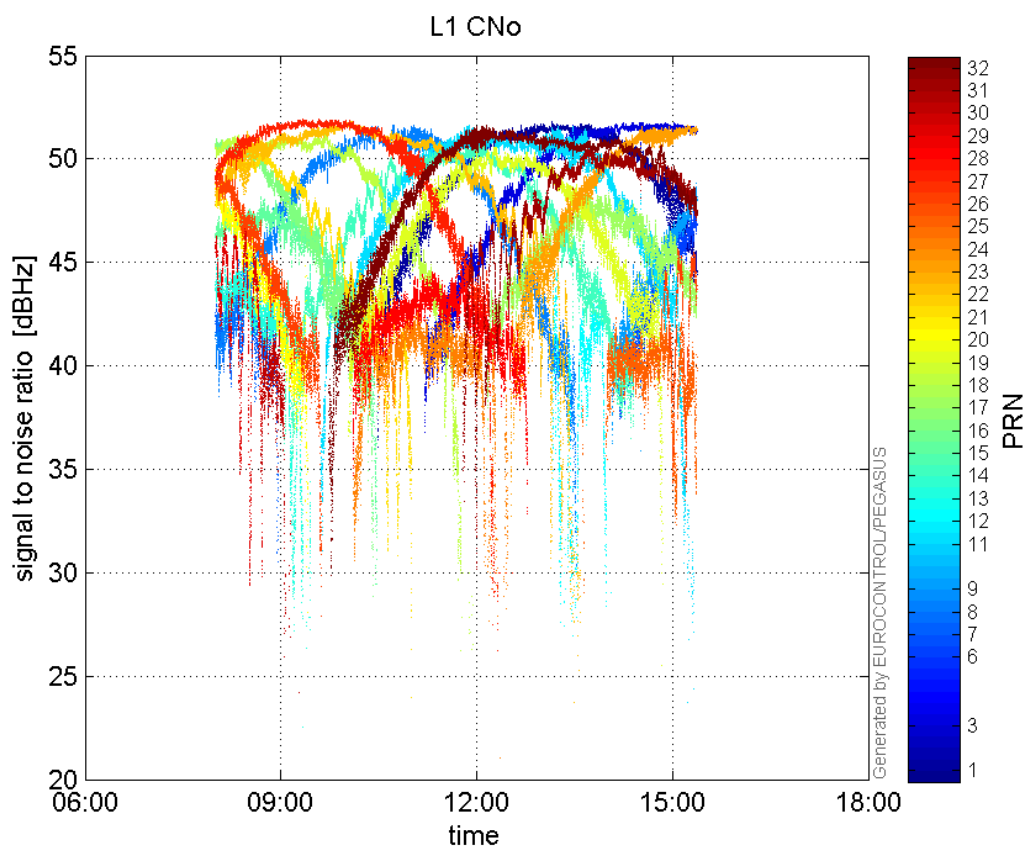


Norm Error Sky Plot:

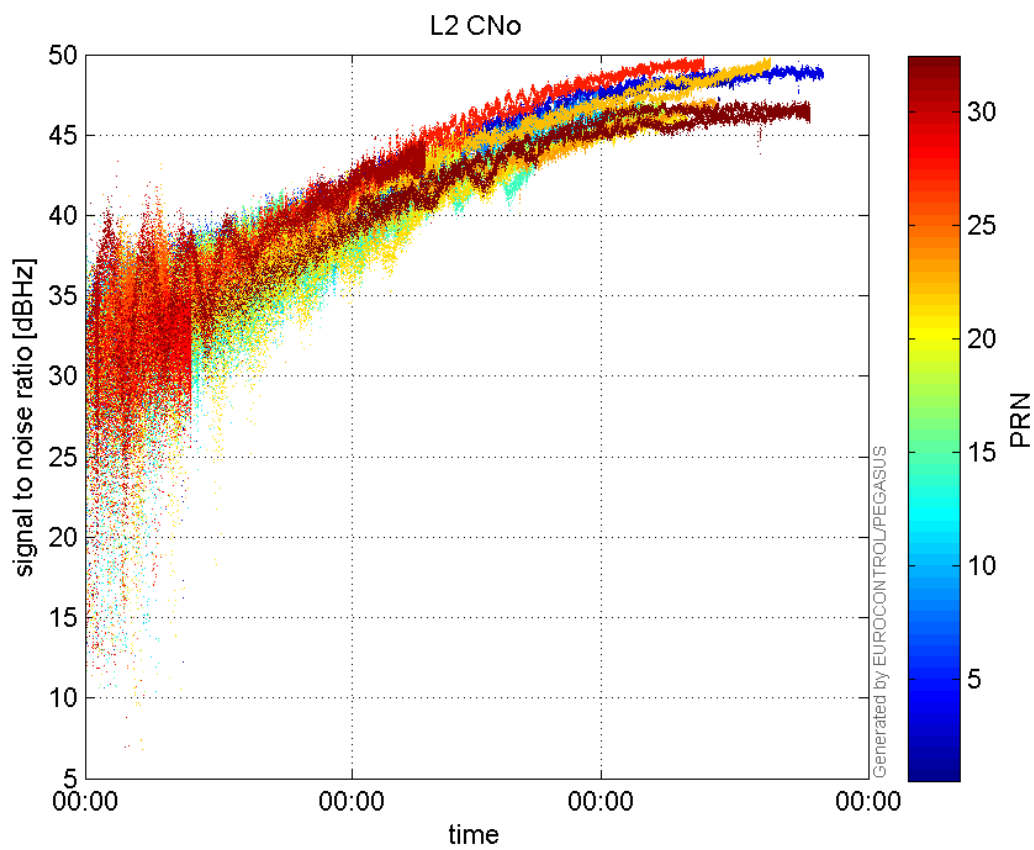


signal quality

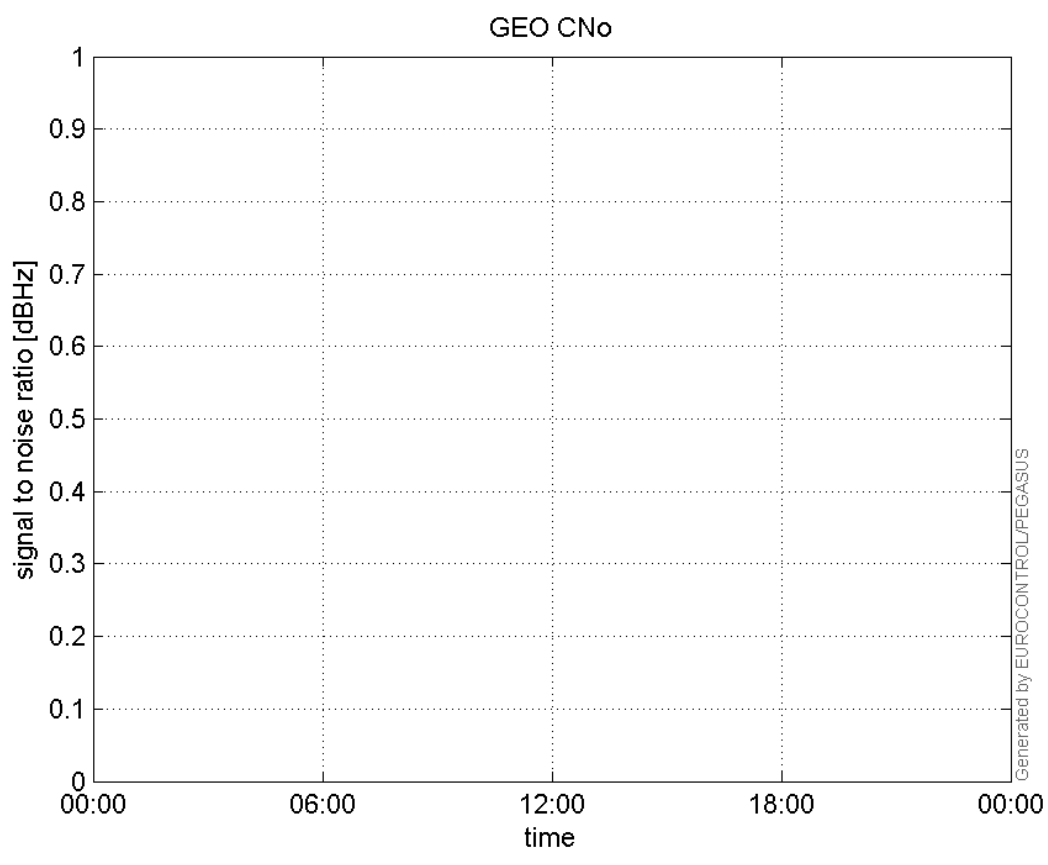
L1 CNo:



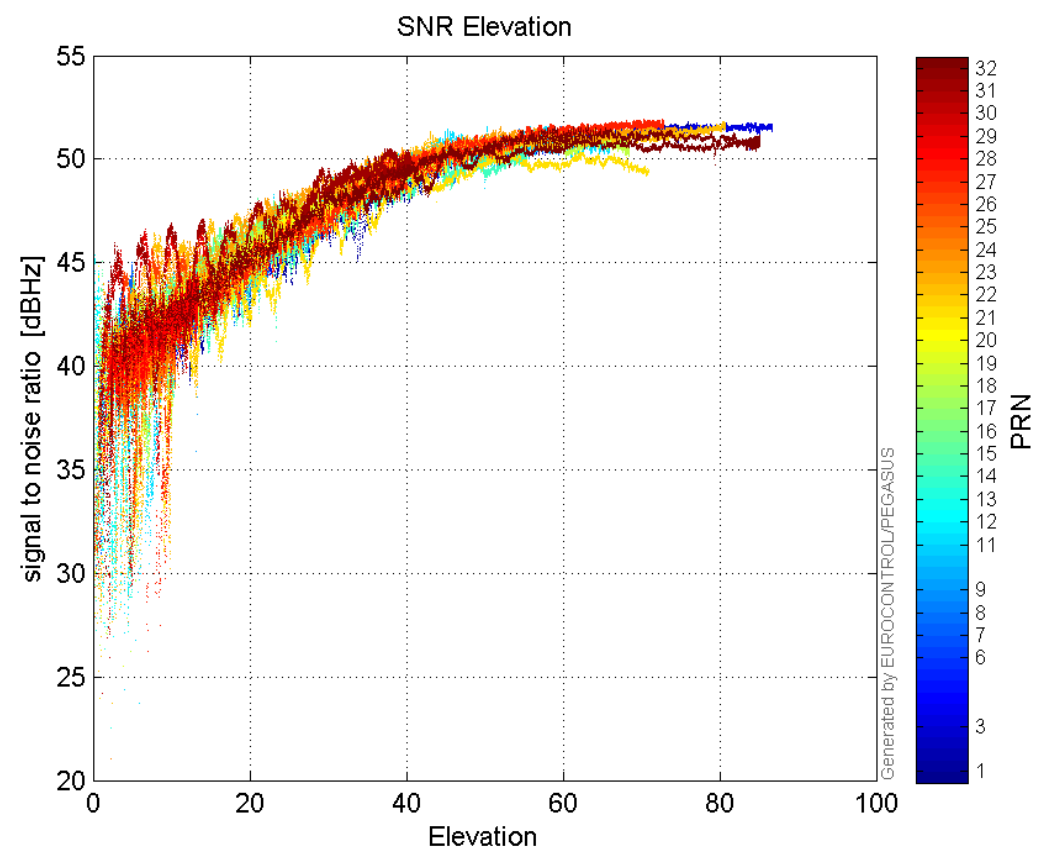
L2 CNo:



GEO CNo:

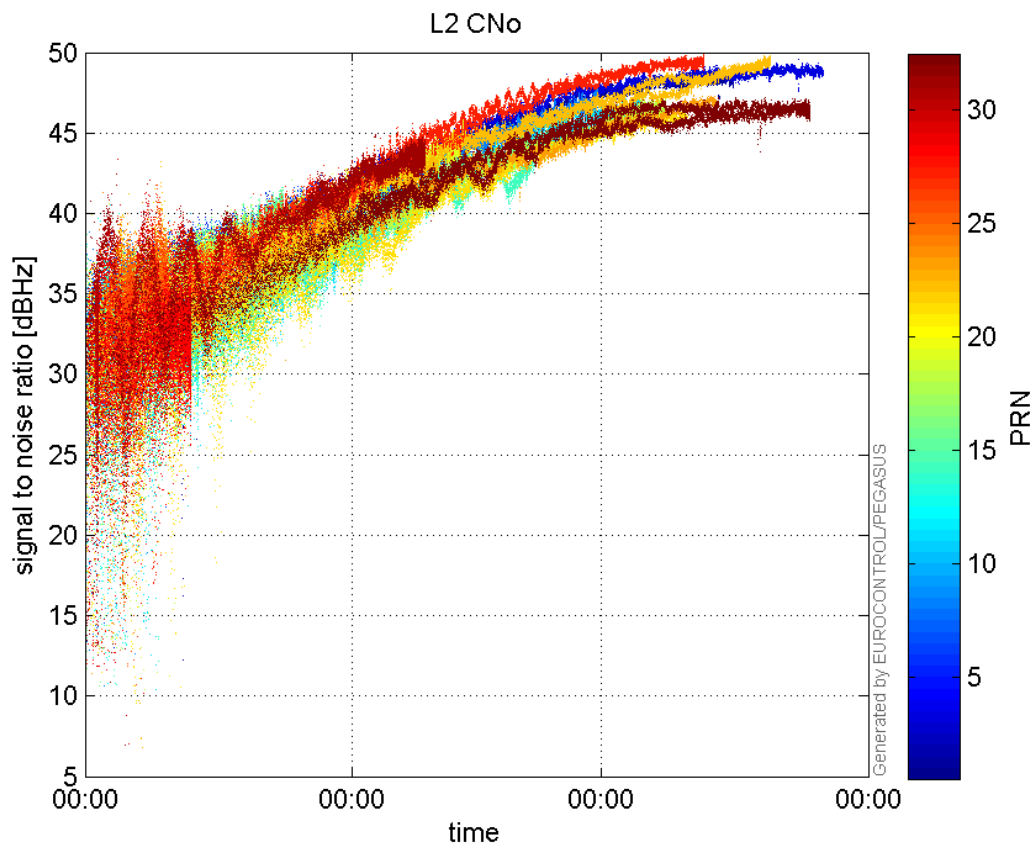


**SNR Elevation:**

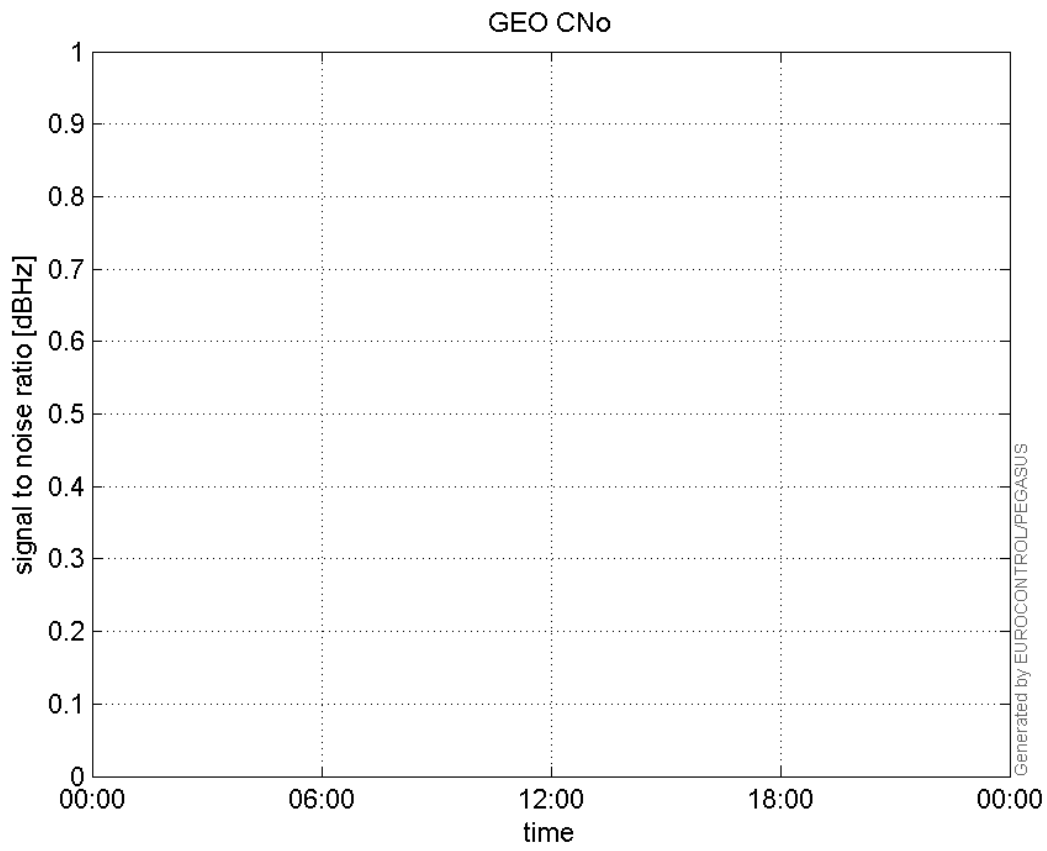


**L2 CNo:**



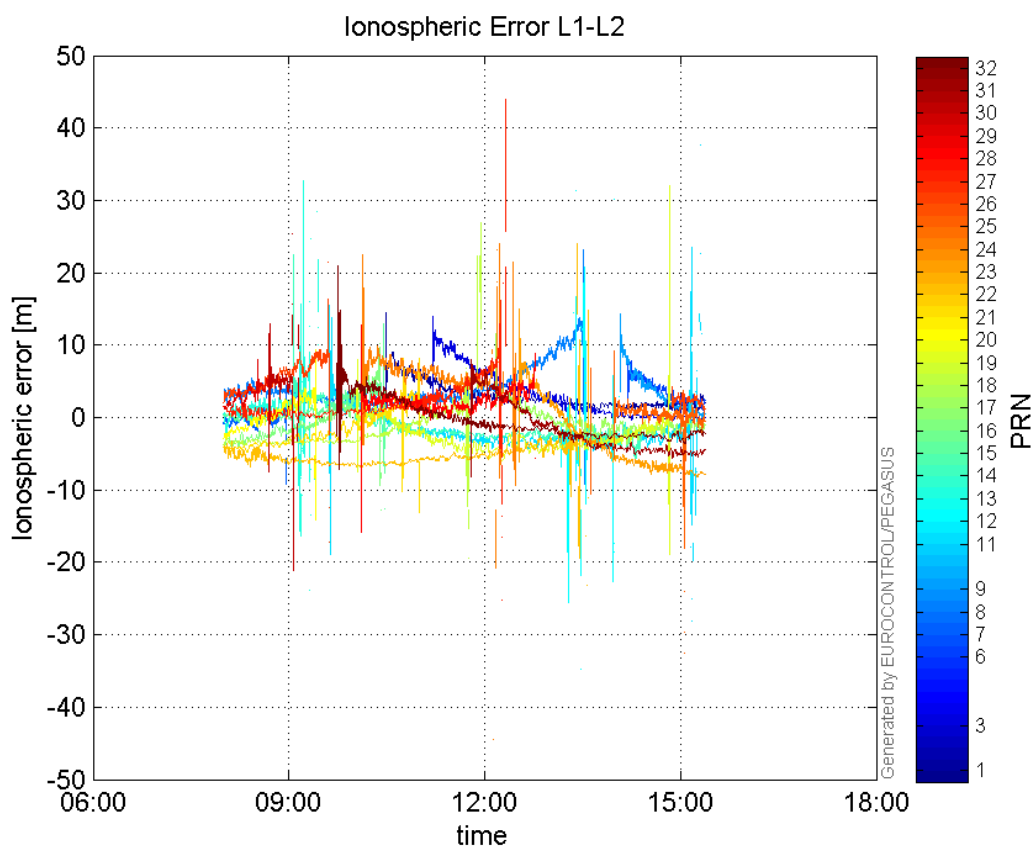


**GEO CNo:**



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:/PegasusDateGob/job/2015_11_05EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_11_05EGNOS/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	228.9074
mi_numbers	results	0

## Position Domain

**start:** 08:00:06 05.11.2015 ( week: 1869 sec: 374406 )  
**end:** 15:22:26 05.11.2015 ( week: 1869 sec: 400946 )  
**duration:** 07:22:21 ..

## quality

**valid samples** 26180  
**total samples** 26541

## 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** all

## extremes :

	Epoch	HPE	HPL	HPE/HPL	VPE	VPL	VPE/VPL
<b>max normHor</b>	393593	1.72726	11.7248	0.147316	-0.115741	16.046	0.00721304
<b>max normVer</b>	400169	1.58292	15.2449	0.103833	-2.96239	19.0751	0.155301
<b>max HPE</b>	381922	4.55638	106.087	0.0429495	-2.07022	61.1992	0.0338276
<b>max VPE</b>	396646	2.88172	30.508	0.0944579	-3.67456	29.8059	0.123283
<b>min HPL</b>	385156	0.906985	8.82356	0.102791	1.76294	21.8783	0.0805792
<b>min VPL</b>	392634	1.11208	10.7258	0.103683	-0.109624	11.9438	0.00917833

## APV-I discontinuity events :

#	Epoch	duration	stable period
1	381830	490	7063

## APV-35m discontinuity events :

#	Epoch	duration	stable period
1	381830	490	7063
2	395397	1020	13077

**LPV-200 discontinuity events :**

#	Epoch	duration	stable period
1	381830	490	7063
2	395397	1020	13077

**CAT-I discontinuity events :**

#	Epoch	duration	stable period
1	392634	3	0
2	392638	3	1
3	392642	3	1
4	392646	3	1
5	392650	3	1
6	392654	3	1
7	392658	3	1
8	392662	3	1
9	392666	3	1
10	392670	3	1
11	392674	3	1
12	392678	3	1
13	392682	3	1
14	392686	3	1
15	392690	3	1
16	392694	3	1
17	392698	3	1

**First Glance analysis**

<b>Duration</b>	26541
<b>Number of Samples</b>	26541
<b>Number of invalid sample</b>	361
<b>Number of no position solution samples</b>	0
<b>Number of missing sample</b>	0
<b>Logging Loss</b>	0
<b>Processing Loss</b>	1.3602
<b>Number of Misleading Information</b>	0
<b>Data gaps</b>	0
<b>Discontinuities</b>	0

**Number of Samples :**

Valid	APV-1	LPV-200	CAT-1	APV-35m
26180	25690	24617	18	24617

**Accuracy statistics :**

	Valid	APV-1	LPV-200	CAT-1	APV-35m
<b>HPE 95%</b>	1.79183	1.69925	1.53099	1.22414	1.53099
<b>HPEscale 95%</b>	NaN	4.09114	4.1192	4.55955	4.1192
<b>VPE 95%</b>	2.05821	2.0656	1.81599	0.141875	1.81599

VPEscale 95%	NaN	5.27903	3.71453	0.142314	3.71453
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## Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
Signal in Space	1	0.981283	0.940298	0.000687548	0.940298
measurements	0.986398	0.967936	0.927508	0.000678196	0.927508
Operational	0.986398	0.967936	0.927508	0.000678196	0.927508

## Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
All	--	1	34	17	34
Long	--	1	2	0	2
Independent	--	1	2	0	2
P(disc.)	NaN	0.000583885	0.00121867	0	0.00121867
P(slide)	NaN	0.000583885	0.00414348	0.888889	0.00414348

## Integrity events :

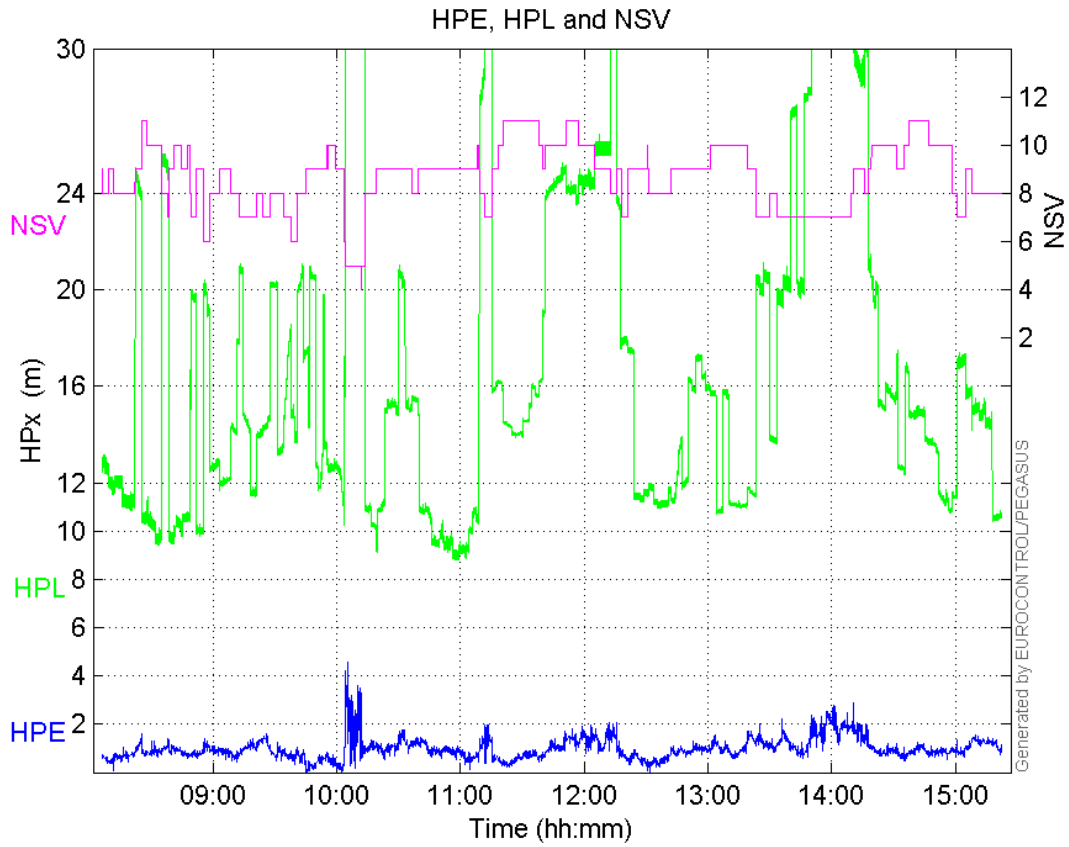
	MI	HMI APV-1	HMI LPV-200	HMI CAT-1	HMI APV-35m
Total	0	0	0	0	0
Horizontal	0	0	0	0	0
Vertical	0	0	0	0	0

## Performance Summary :

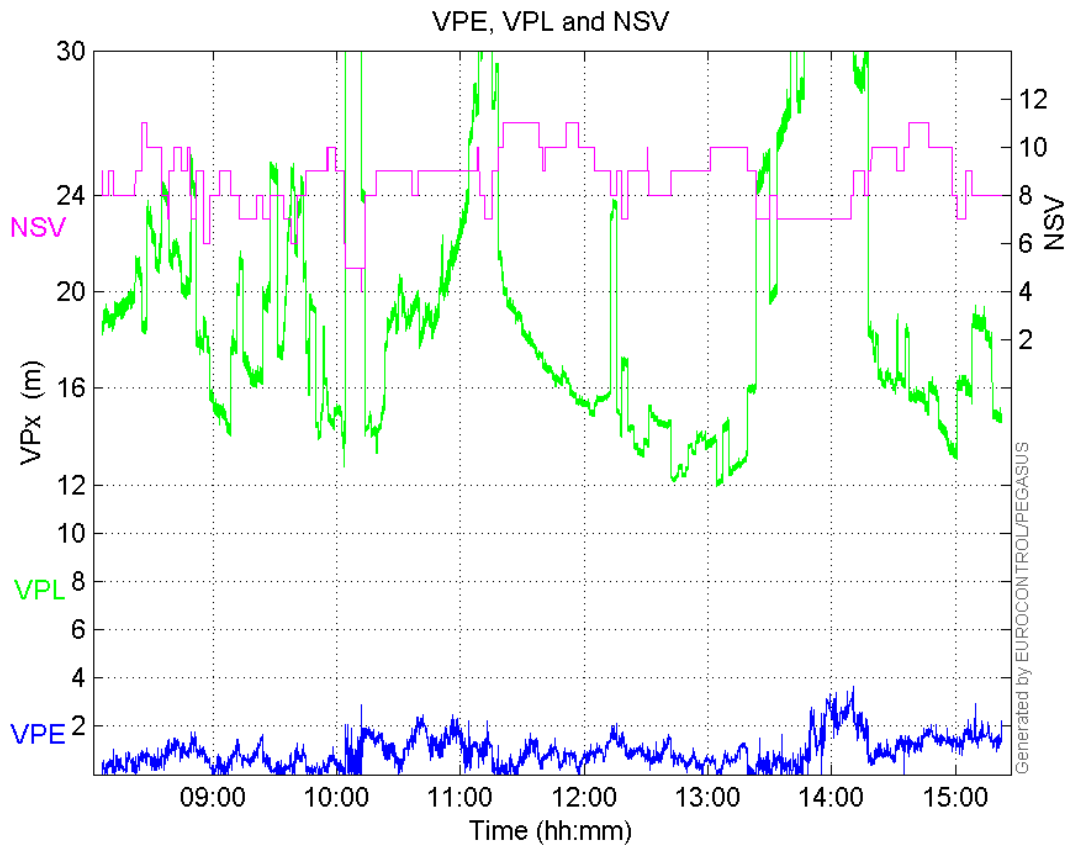
	Valid	APV-1	LPV-200	CAT-1	APV-35m
Samples	26180	25690	24617	18	24617
SIS Availability	1	0.981283	0.940298	0.000687548	0.940298
Local Availability	0.986398	0.967936	0.927508	0.000678196	0.927508
Operational Availability	0.986398	0.967936	0.927508	0.000678196	0.927508
HPE 95%	1.79183	1.69925	1.53099	1.22414	1.53099
HPEScale 95%	NaN	4.09114	4.1192	4.55955	4.1192
VPE 95%	2.05821	2.0656	1.81599	0.141875	1.81599
VPEscale 95%	NaN	5.27903	3.71453	0.142314	3.71453
All Discontinuity Events	--	1	34	17	34
Long Discontinuity Events	--	1	2	0	2
Independent Discontinuity Events	--	1	2	0	2
P(discontinuity)	NaN	0.000583885	0.00121867	0	0.00121867
P(sliding window)	NaN	0.000583885	0.00414348	0.888889	0.00414348
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:

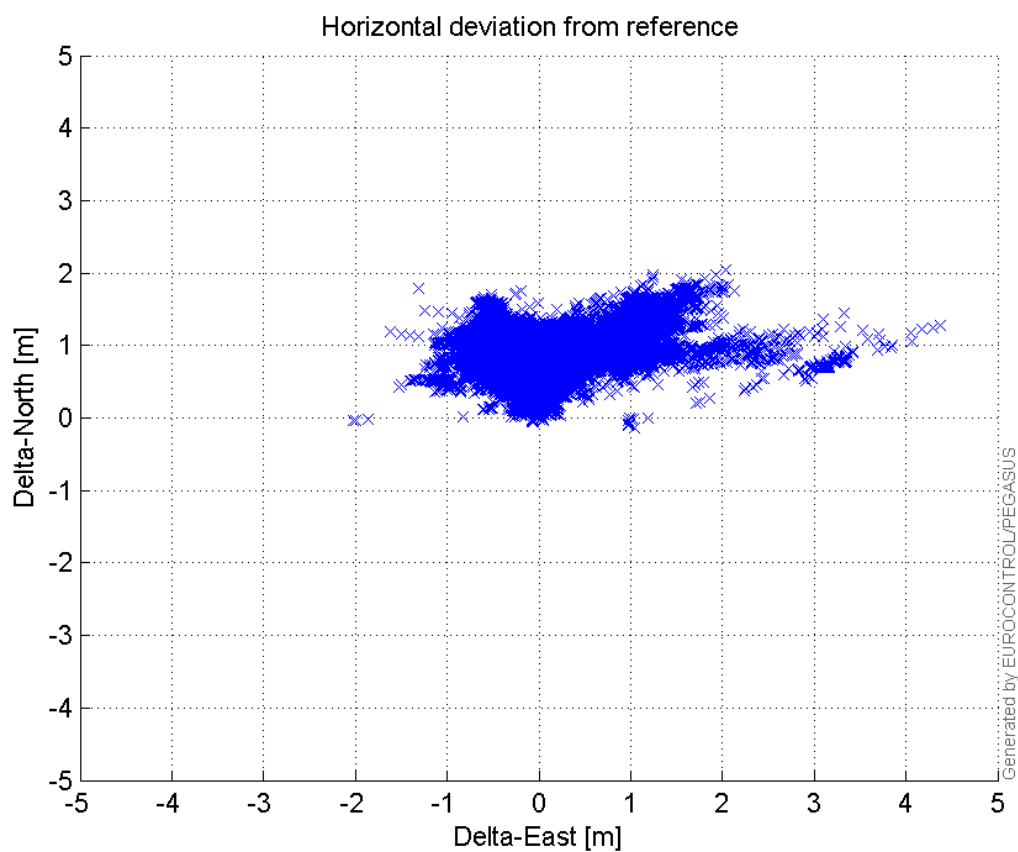


VPE, VPL and NSV:



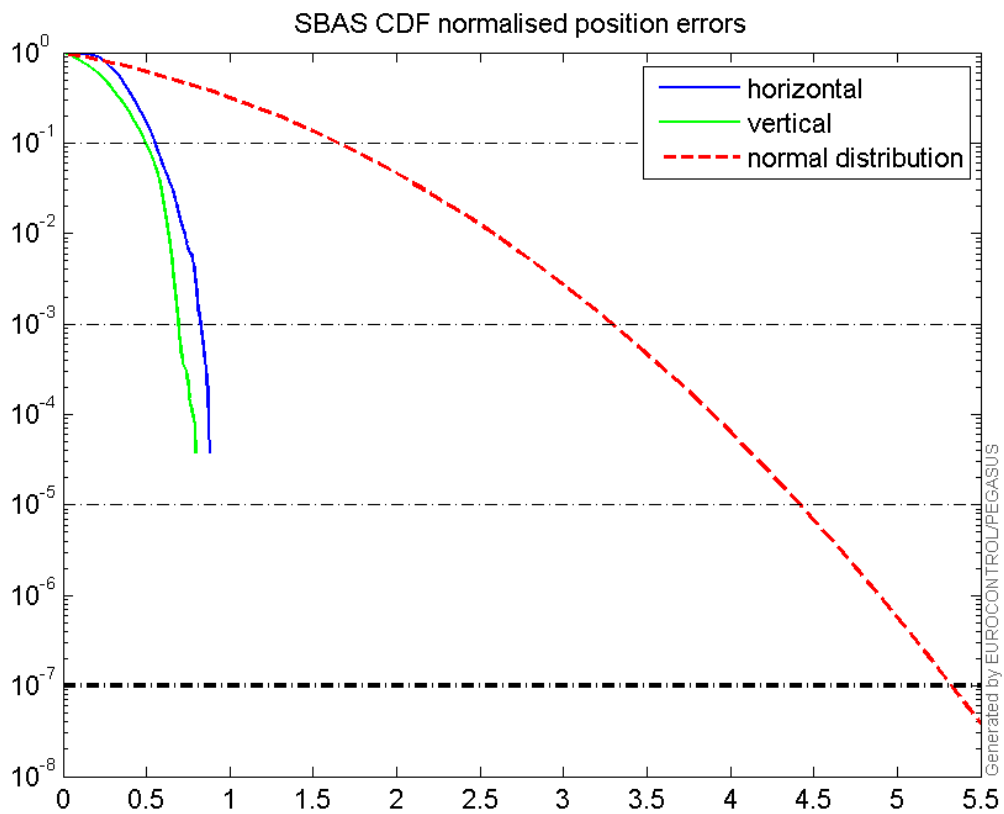
### Horizontal deviation

Horizontal deviation from reference :



### CDF position

SBAS CDF position domain:



### Statistics

<b>number</b>	25690
<b>sum</b>	24976
<b>sum2</b>	28023.797
<b>prctile95</b>	1.6992461
<b>prctile99</b>	2.091024
<b>number</b>	25690
<b>sum</b>	24241.059
<b>sum2</b>	32282.241
<b>prctile95</b>	2.0655969
<b>prctile99</b>	2.8138237
<b>number</b>	25690
<b>sum</b>	435330.4
<b>sum2</b>	8680110.3
<b>prctile95</b>	34.1478
<b>prctile99</b>	38.53368
<b>number</b>	25690
<b>sum</b>	499831.95
<b>sum2</b>	10665843
<b>prctile95</b>	32.6364
<b>prctile99</b>	39.23026
<b>number</b>	25690
<b>sum</b>	1576.8424
<b>sum2</b>	109.97884
<b>prctile95</b>	0.10227853
<b>prctile99</b>	0.12130031
<b>number</b>	25690

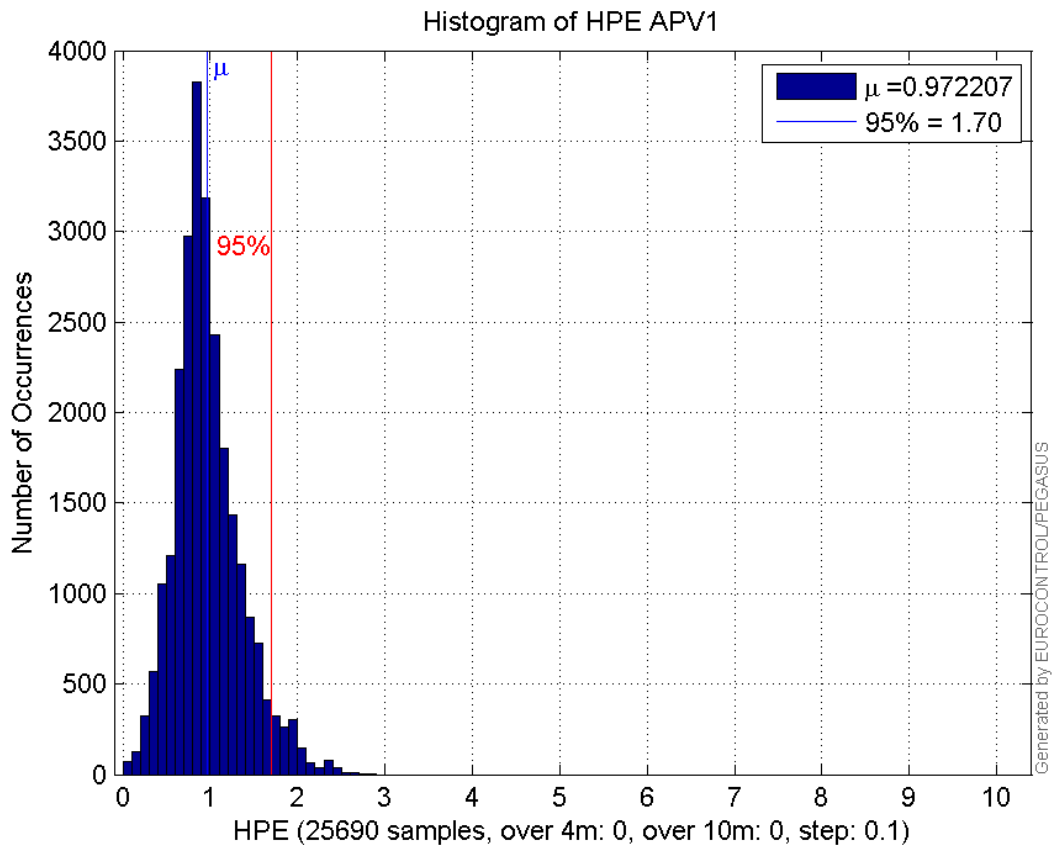


**sum** 1288.9884  
**sum2** 87.847949  
**prctile95** 0.10558061  
**prctile99** 0.11854216  
**number** 24617  
**sum** 22947.422  
**sum2** 24087.1  
**prctile95** 1.5309883  
**prctile99** 1.8344243  
**number** 24617  
**sum** 21881.873  
**sum2** 26739.435  
**prctile95** 1.8159929  
**prctile99** 2.3295188  
**number** 24617  
**sum** 395600.59  
**sum2** 7206753.3  
**prctile95** 28.13467  
**prctile99** 34.107226  
**number** 24617  
**sum** 458995.65  
**sum2** 9109460.6  
**prctile95** 29.10258  
**prctile99** 32.410761  
**number** 24617  
**sum** 1521.9359  
**sum2** 107.08854  
**prctile95** 0.10297993  
**prctile99** 0.12190532  
**number** 24617  
**sum** 1226.5942  
**sum2** 83.939084  
**prctile95** 0.10612939  
**prctile99** 0.11881513

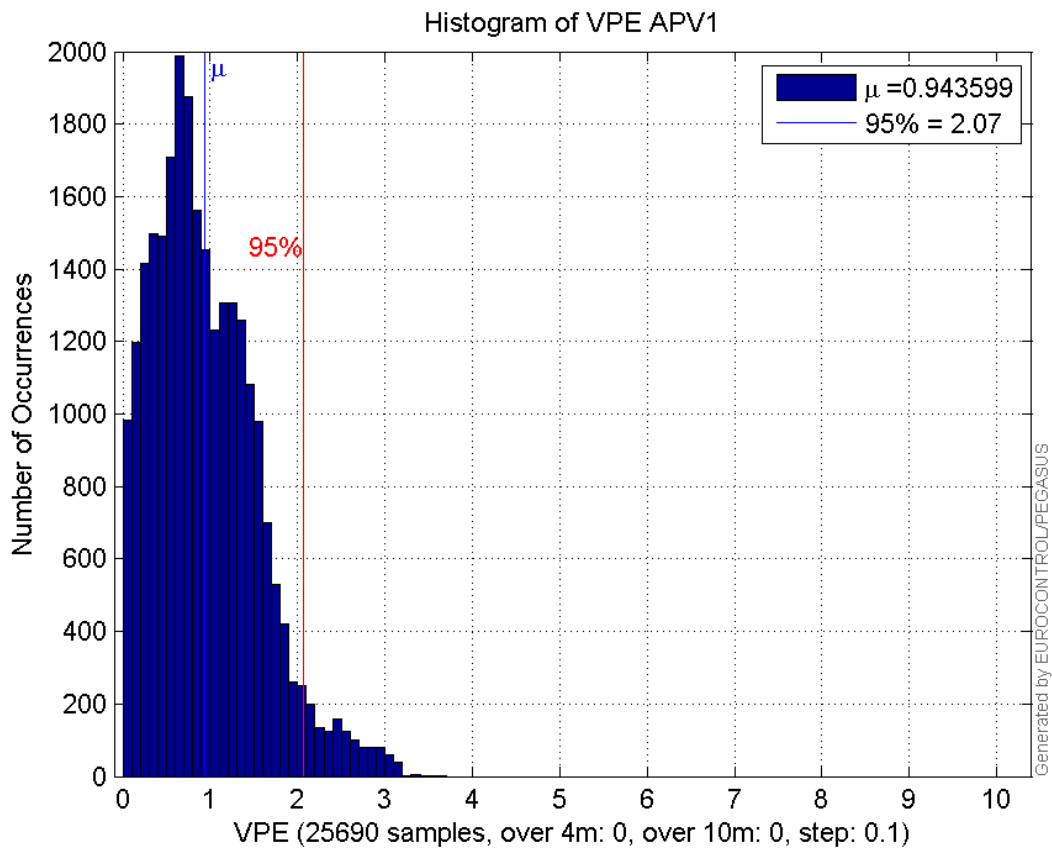
**Error and XPL Statistics :**

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
<b>HPE</b>	0.972207	0.381659	0.913535	1.69925	2.09102	1.04444
<b>HPL</b>	16.9455	7.12252	14.8424	34.1478	38.5337	18.3815
<b>VPE</b>	0.943599	0.60518	0.845523	2.0656	2.81382	1.12098
<b>VPL</b>	19.4563	6.05222	18.0116	32.6364	39.2303	20.3758

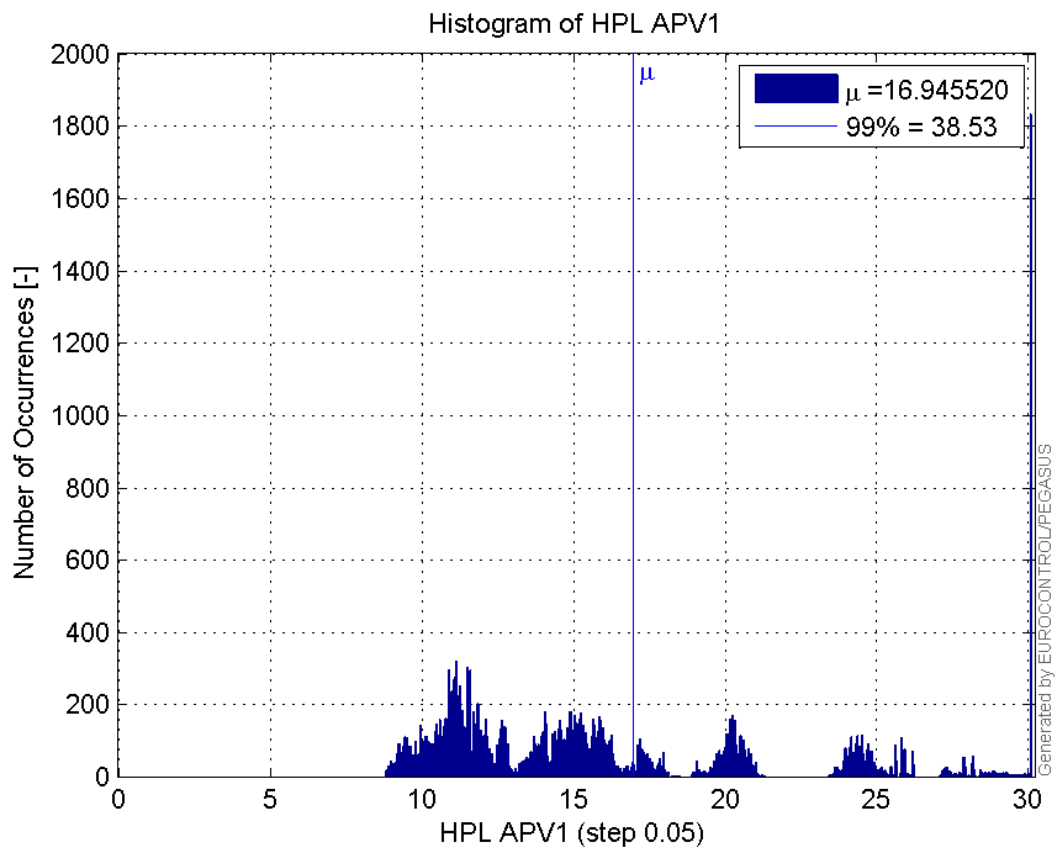
**Histogram of HPE APV1:**



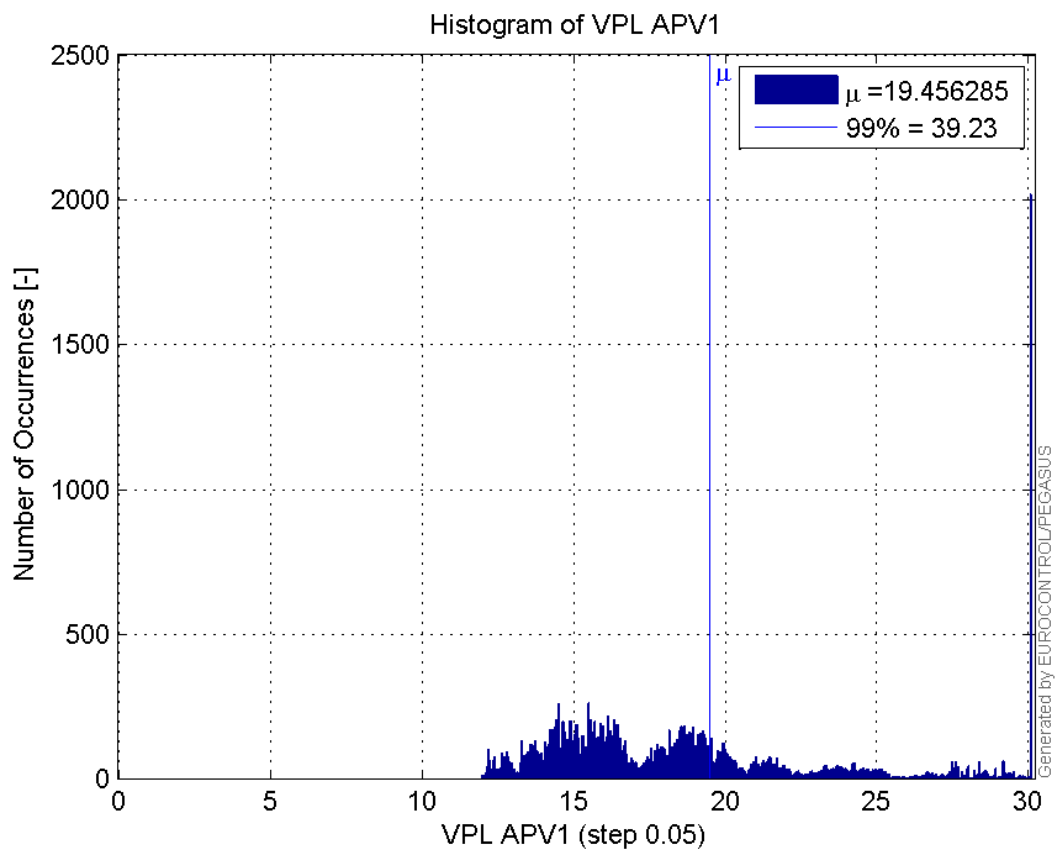
**Histogram of VPE APV1:**



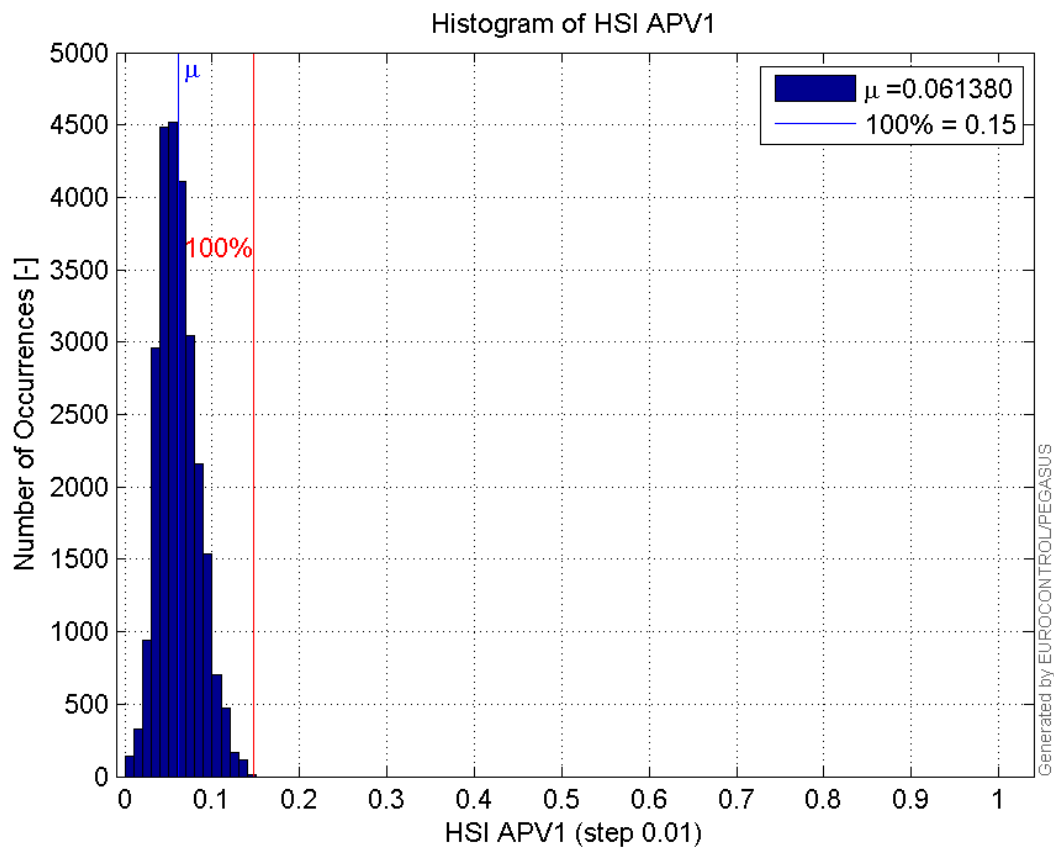
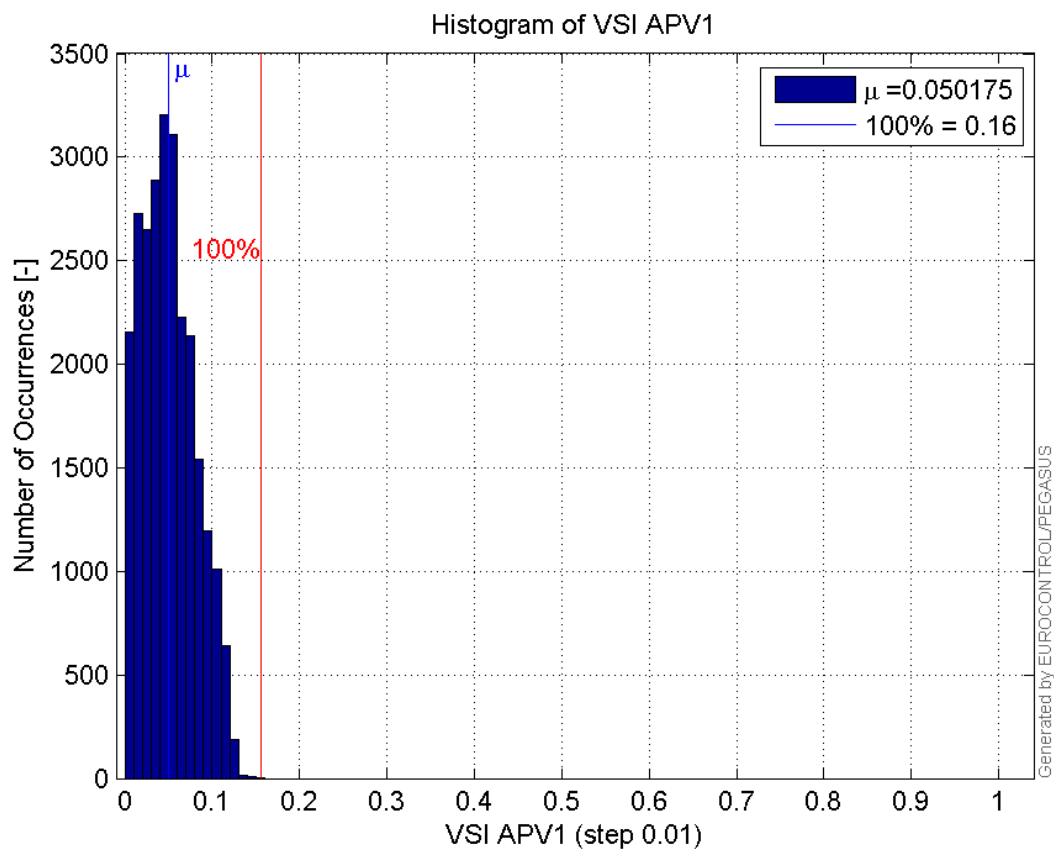
**Histogram of HPL APV1:**

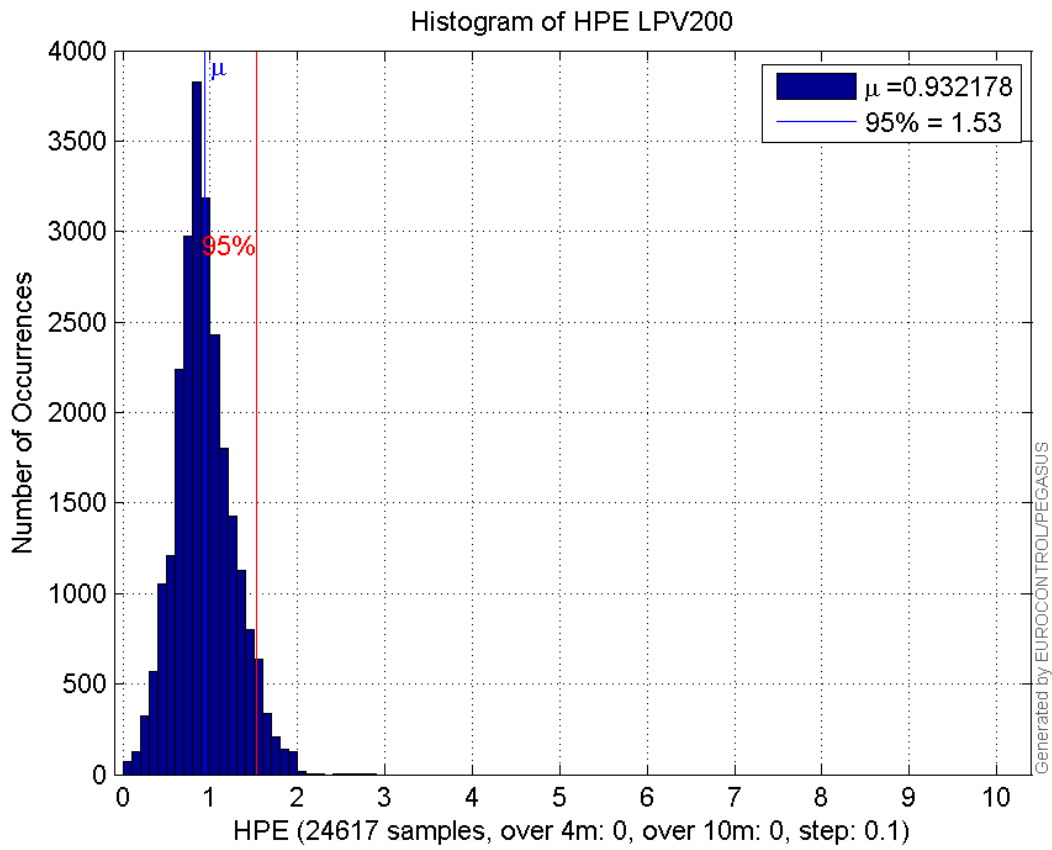


**Histogram of VPL APV1:**

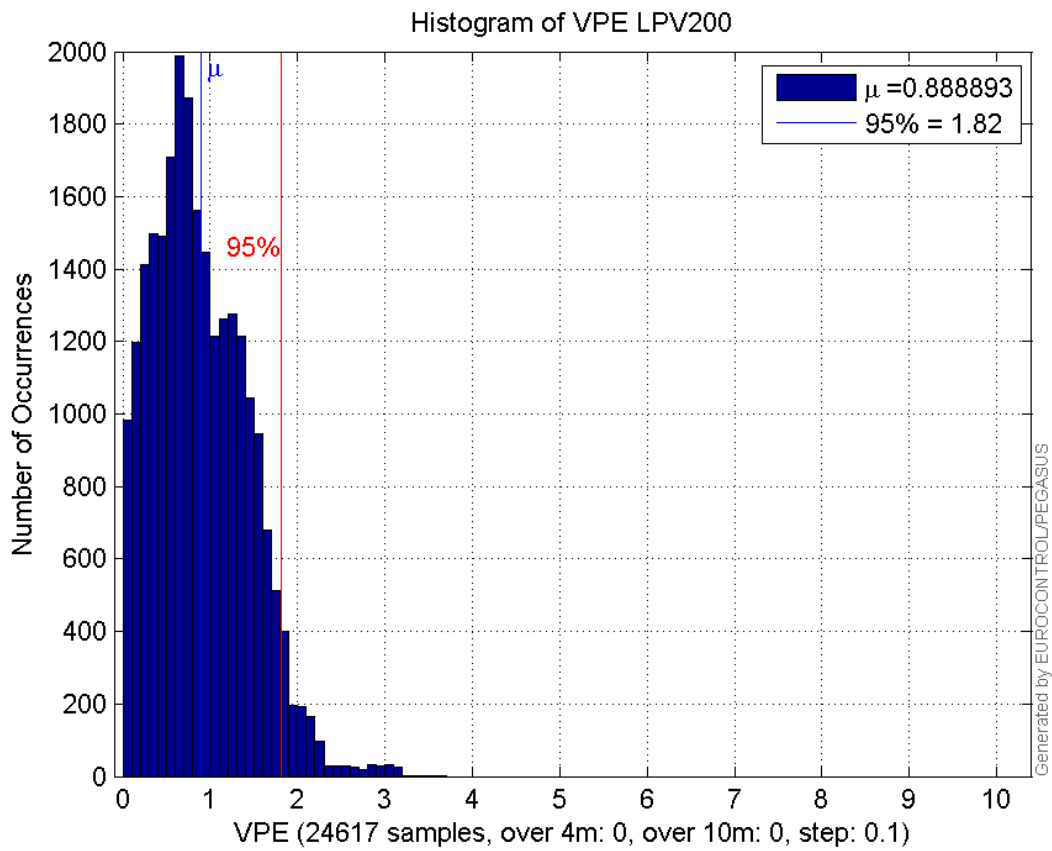


**Histogram of HSI APV1:**

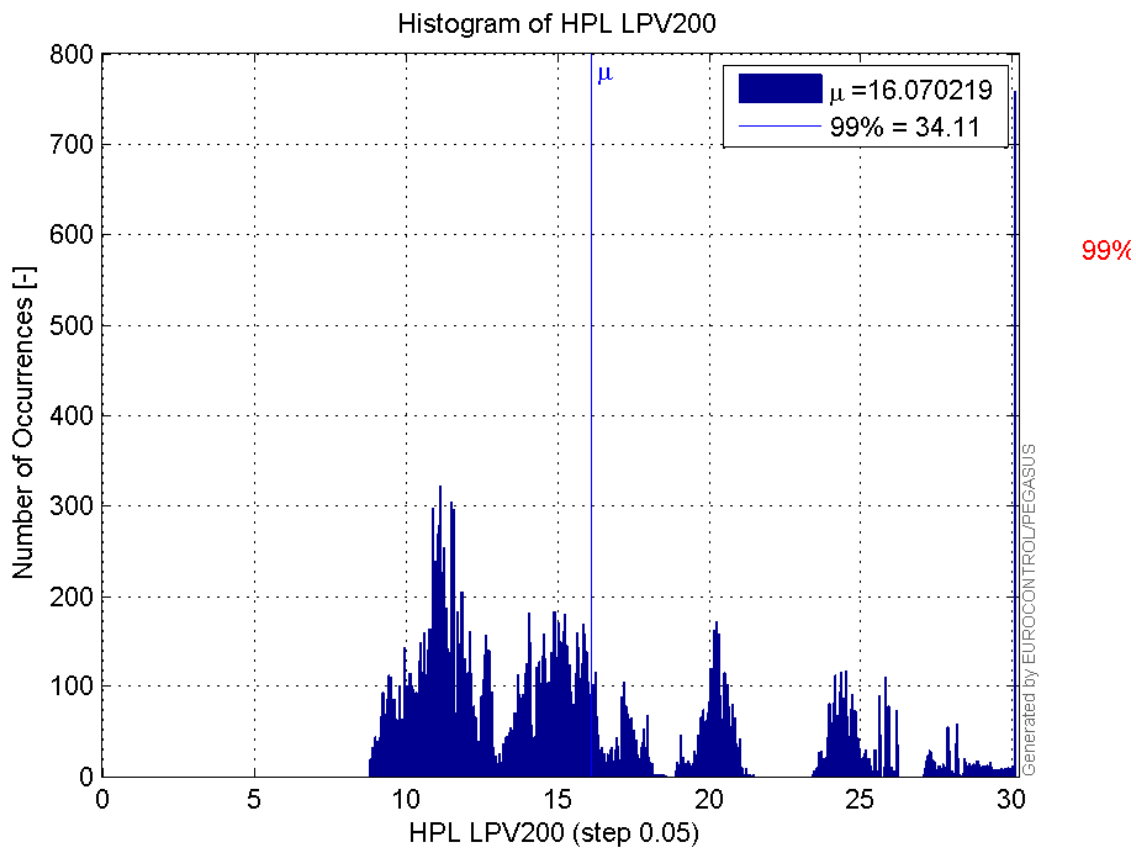
**Histogram of VSI APV1:****Histogram of HPE LPV200:**



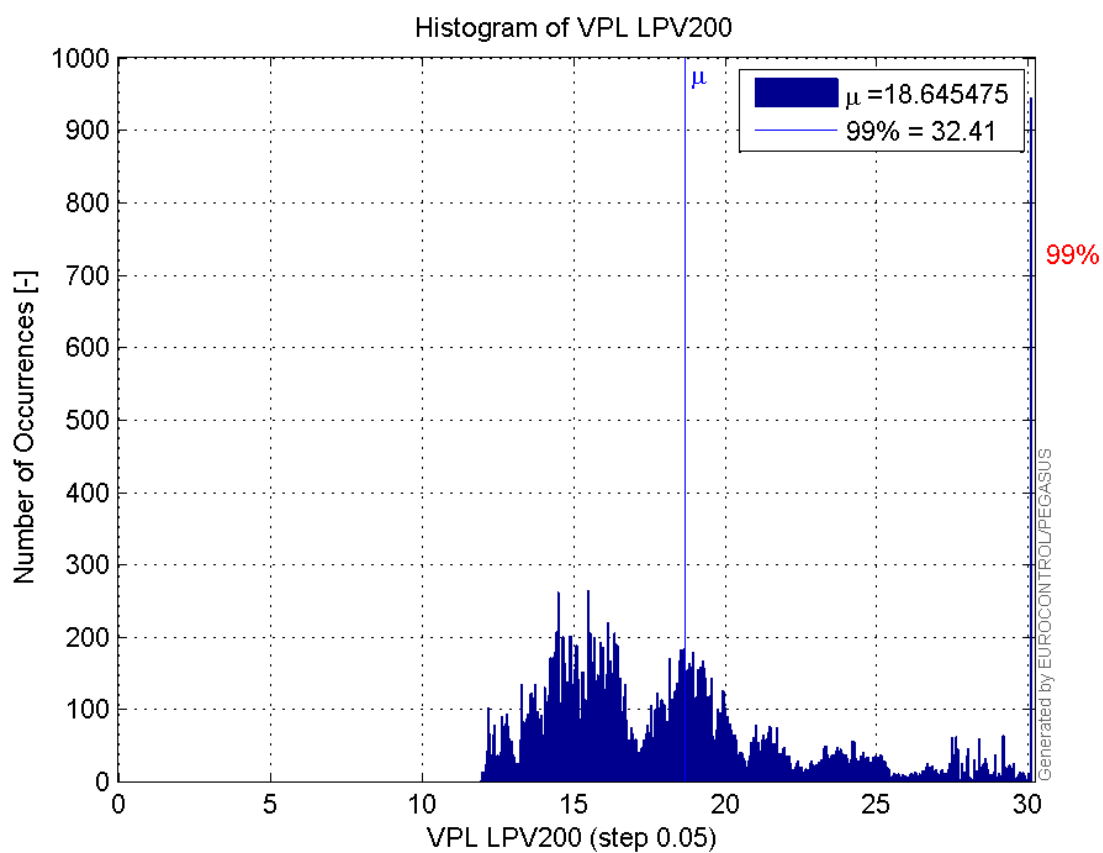
**Histogram of VPE LPV200:**



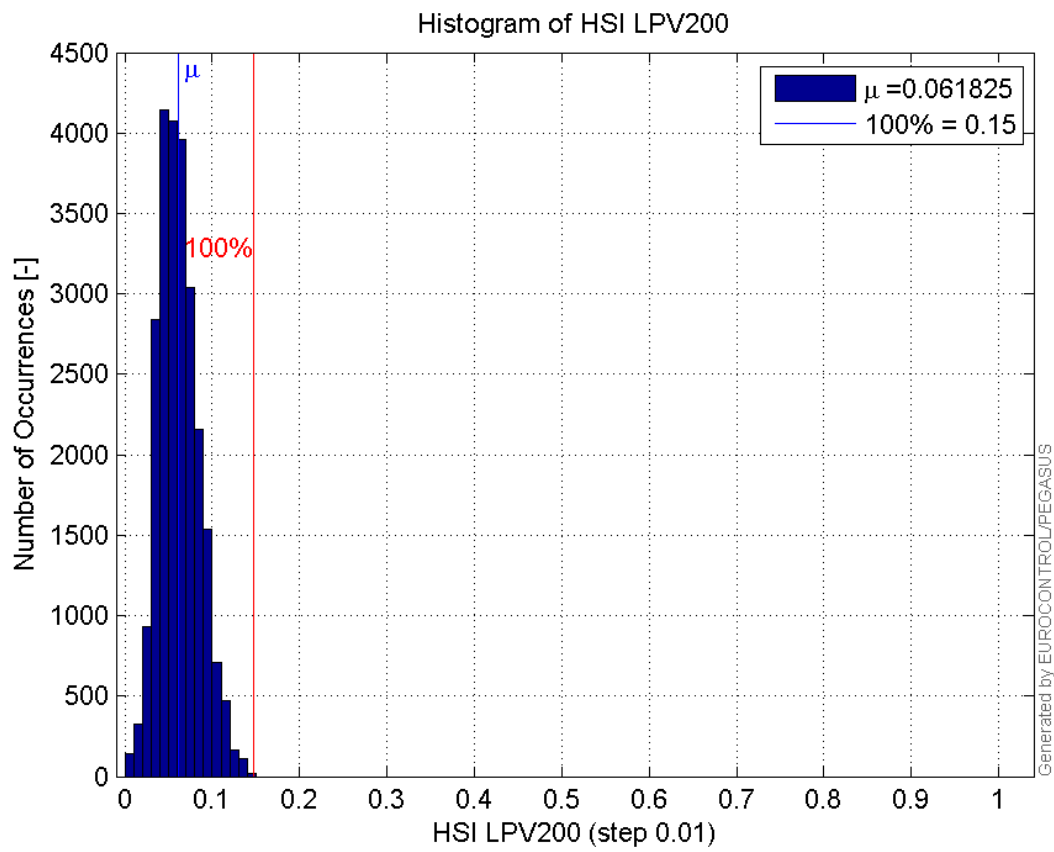
**Histogram of HPL LPV200:**



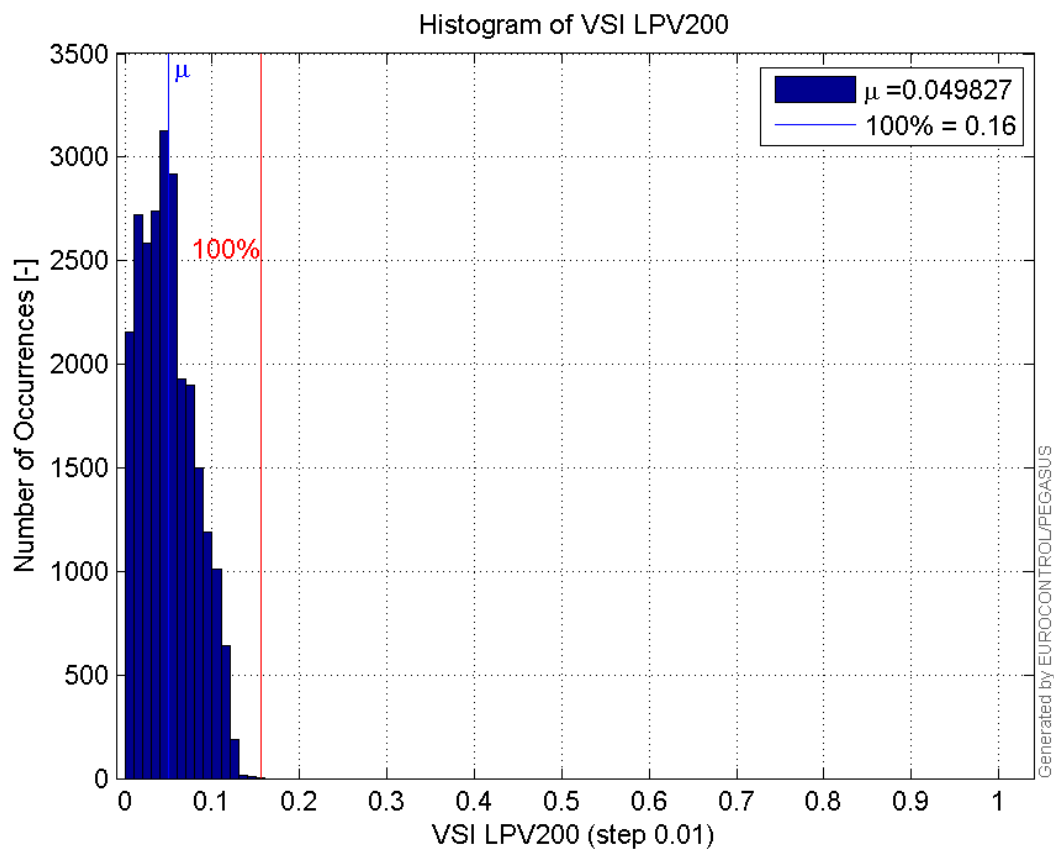
**Histogram of VPL LPV200:**



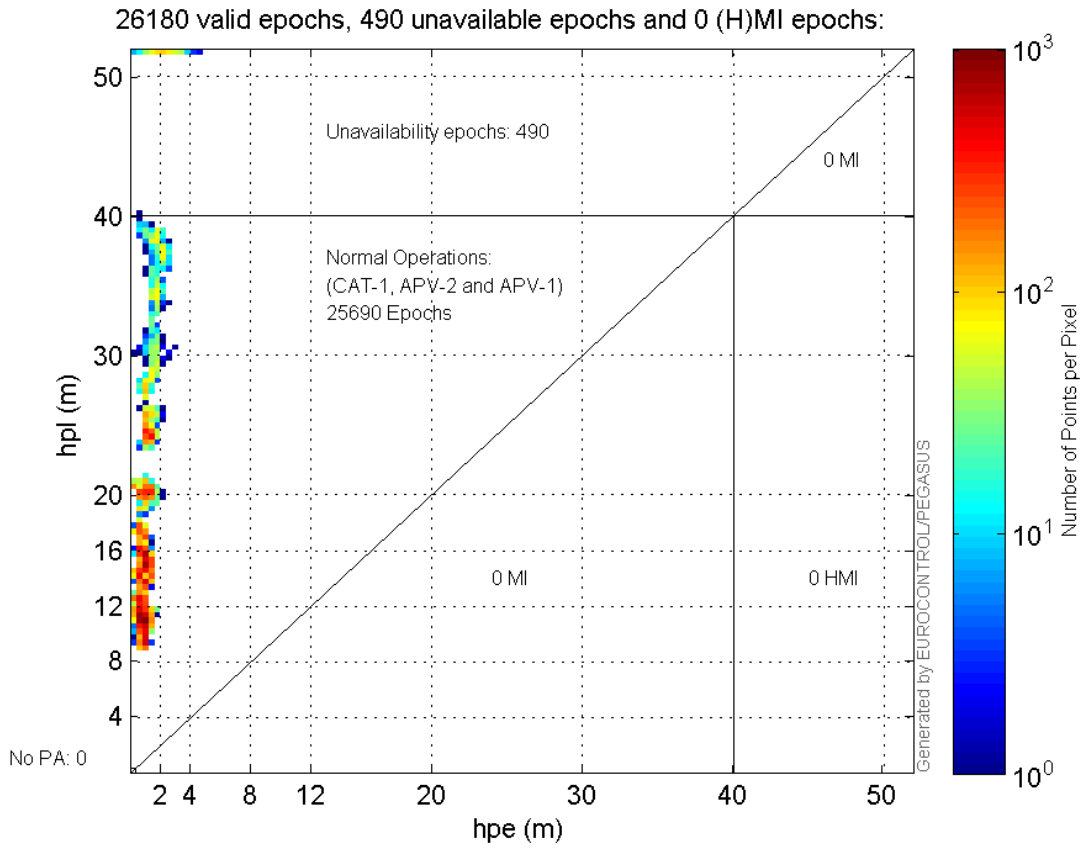
**Histogram of HSI LPV200:**



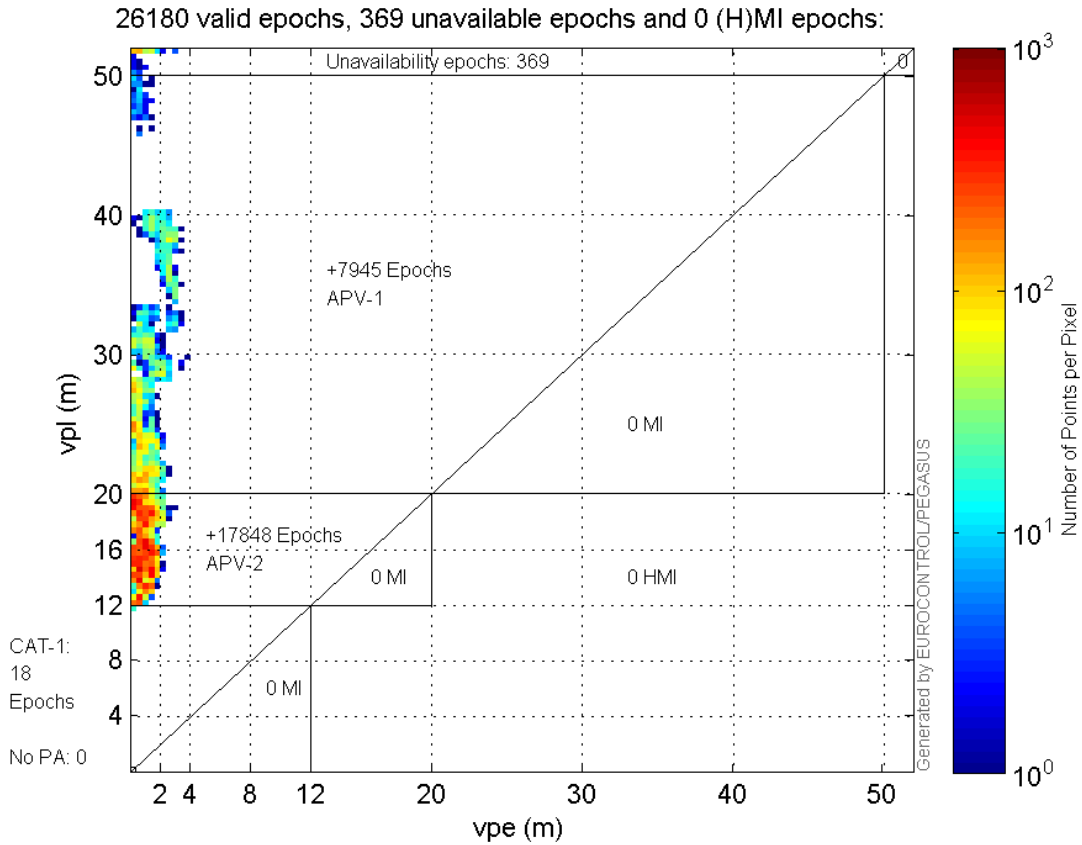
**Histogram of VSI LPV200:**



**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_05EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_11_05EGNOS/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	228.9074
mi_numbers	results	0

## SBAS Messages

**start:** 08:00:6.129 05.11.2015 ( week: 1869 sec: 374406.129 )  
**end:** 15:22:25.129 05.11.2015 ( week: 1869 sec: 400945.129 )  
**duration:** 07:22:19 ..

## quality

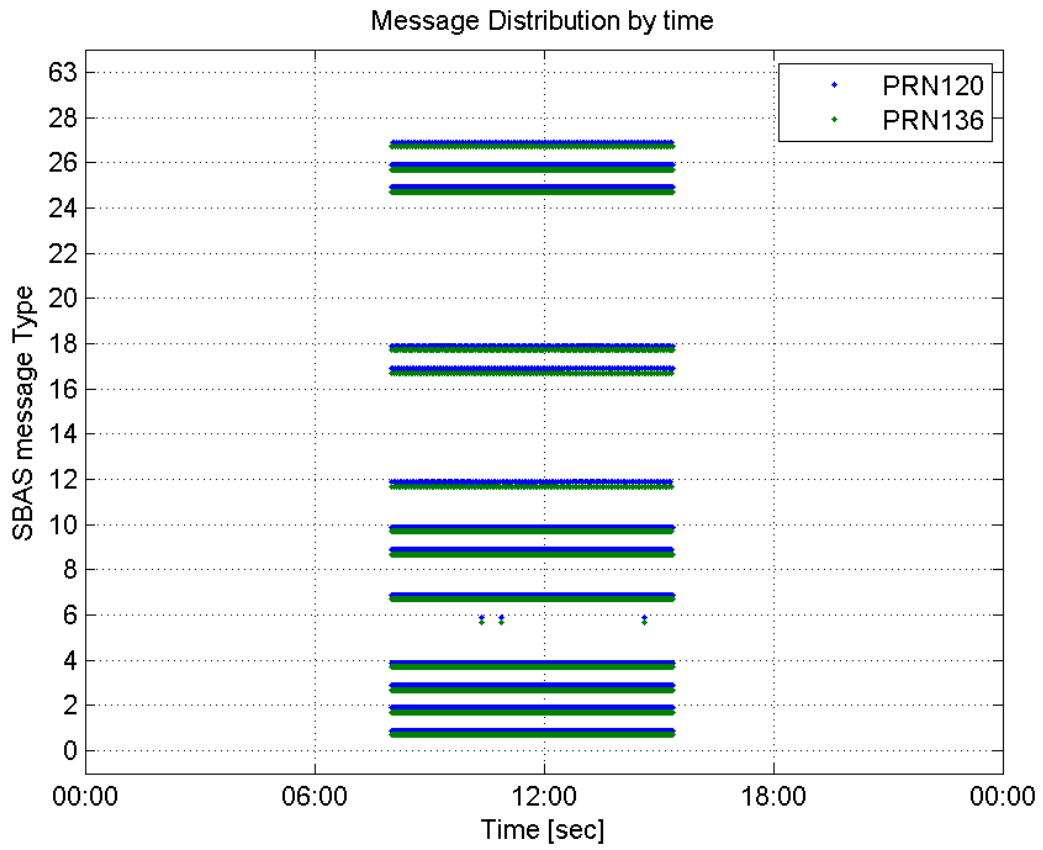
**valid samples** 53080  
**total samples** 53080  
**number of SBAS PRNs** 2

## SBAS SIS Overview

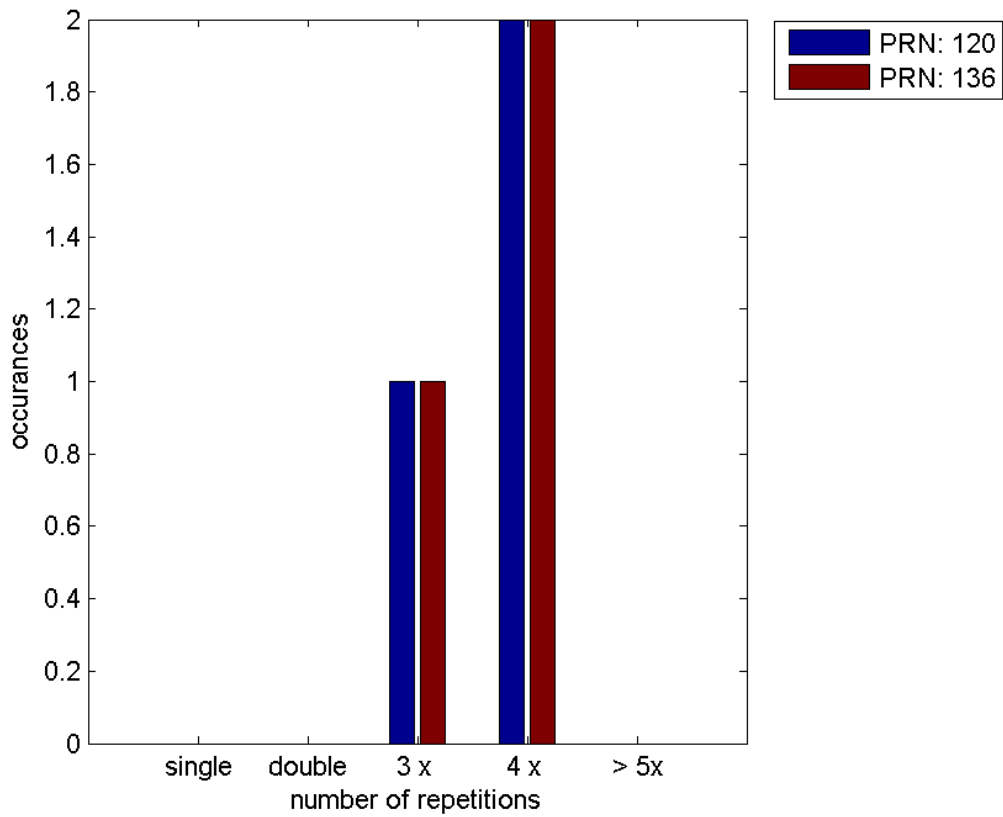
## Message Type 6 repetitions :

	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 :

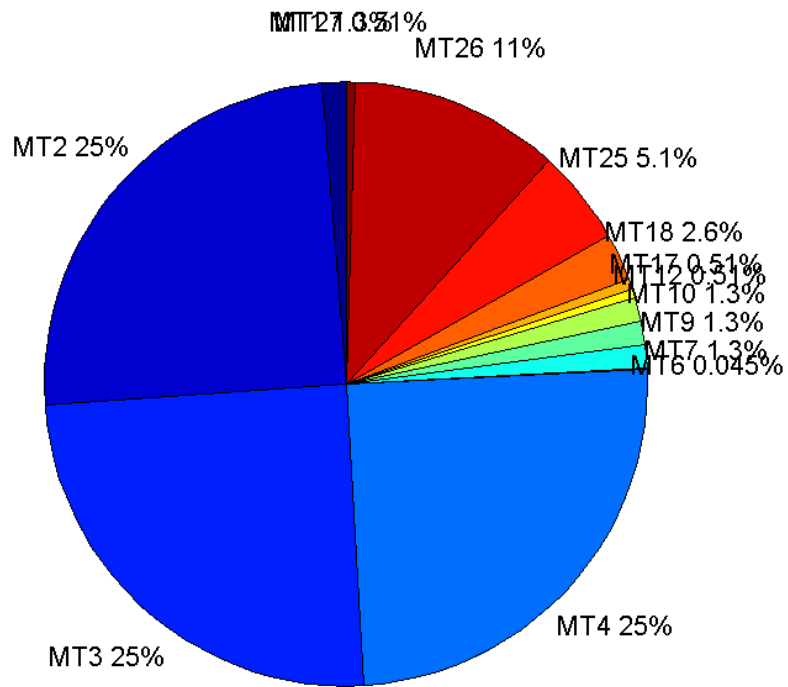
	number of messages	%
MT 0	0	0
MT 1	334	1.25848
MT 2	6595	24.8493
MT 3	6594	24.8455
MT 4	6595	24.8493
MT 5	0	0
MT 6	12	0.0452148
MT 7	333	1.25471
MT 9	333	1.25471
MT 10	333	1.25471
MT 12	135	0.508666
MT 17	136	0.512434
MT 18	678	2.55463
MT 24	0	0
MT 25	1356	5.10927
MT 26	2971	11.1944
MT 27	135	0.508666
MT 28	0	0
MT 62	0	0
MT 63	0	0
<b>Total</b>	26540	100

## Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	81	79.5946	0	0	0
MT 2	4	8	4.02442	3	0	0
MT 3	4	8	4.02442	3	0	0
MT 4	4	8	4.02442	3	0	0
MT 5	--	--	--	--	--	--
MT 6	1	13401	1392.27	2	2	2
MT 7	76	81	79.5813	0	0	0
MT 9	76	81	79.6295	0	0	0
MT 10	76	82	79.5934	0	0	0
MT 12	188	203	196.396	134	0	0
MT 17	186	201	196.363	0	0	0
MT 18	4	164	39.1743	0	0	0
MT 24	--	--	--	--	--	--

MT 25	1	48	19.5727	0	0	0
MT 26	4	40	8.92559	0	0	0
MT 27	188	201	196.366	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

**Message Distribution PRN 120:**



**SBAS SIS Analysis**

PRN 136

**Broadcast SBAS Messages :**

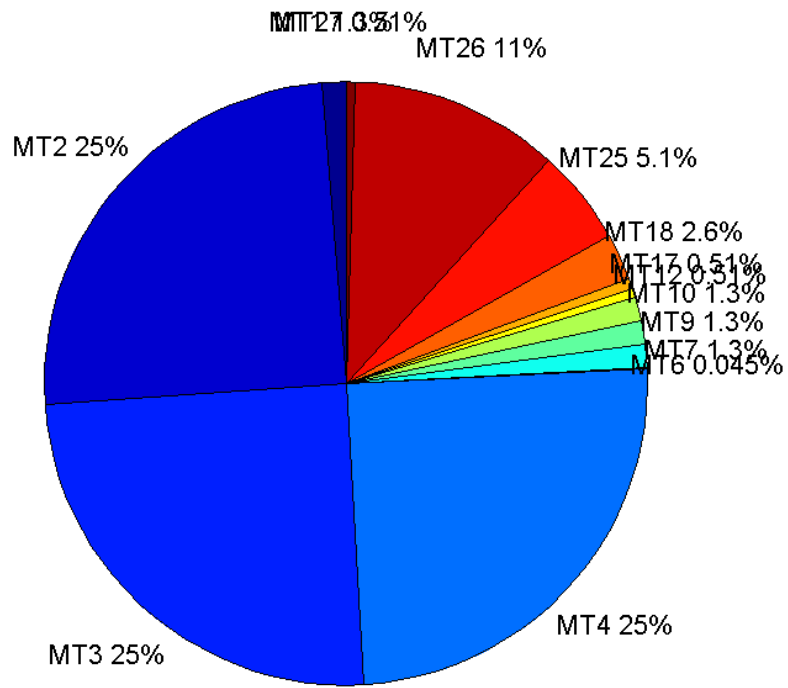
	number of messages	%
MT 0	0	0
MT 1	333	1.25471
MT 2	6594	24.8455
MT 3	6594	24.8455
MT 4	6594	24.8455
MT 5	0	0
MT 6	12	0.0452148

MT 7	333	1.25471
MT 9	333	1.25471
MT 10	333	1.25471
MT 12	135	0.508666
MT 17	135	0.508666
MT 18	677	2.55087
MT 24	0	0
MT 25	1353	5.09797
MT 26	2978	11.2208
MT 27	136	0.512434
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	26540	100

## Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	84	79.6386	0	0	0
MT 2	4	8	4.02487	3	0	0
MT 3	4	8	4.02487	3	0	0
MT 4	4	8	4.02487	3	0	0
MT 5	--	--	--	--	--	--
MT 6	1	13401	1392.27	2	2	2
MT 7	75	81	79.6386	0	0	0
MT 9	75	82	79.6747	0	0	0
MT 10	76	81	79.6988	0	0	0
MT 12	188	202	196.03	134	0	0
MT 17	188	201	196.03	0	0	0
MT 18	4	171	39.1716	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	57	19.6154	0	0	0
MT 26	4	56	8.91098	0	0	0
MT 27	186	201	196.059	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_05EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2015_11_05EGNOS/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