

DLV3 - Constellation

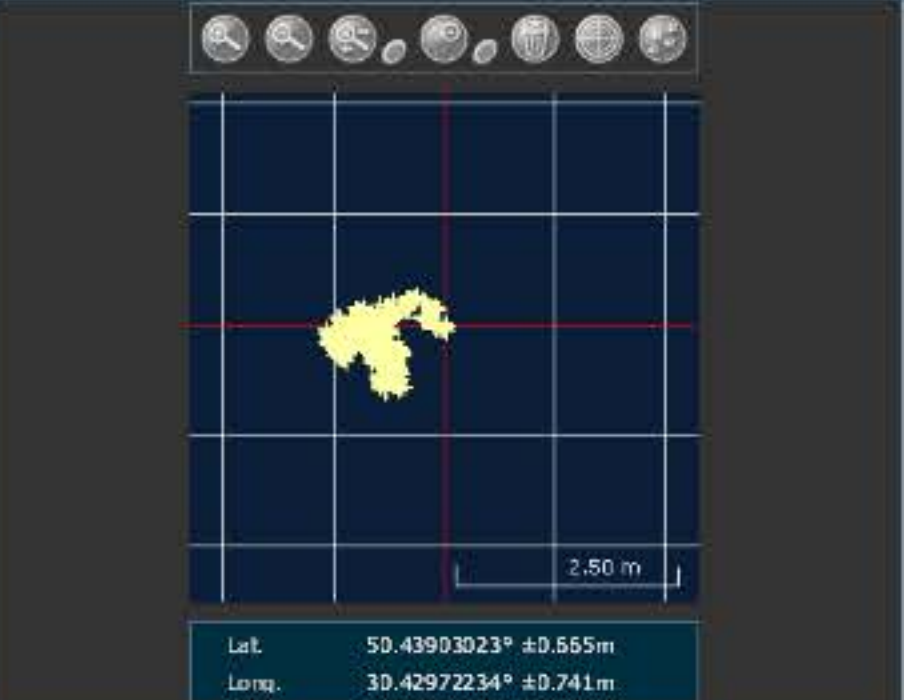


PRN	AZ	ELEV	C/No	STATUS
No SV				

DLV3 - Position

Latitude	50.43903018°	+/-	0.55m
Longitude	30.42972231°	+/-	0.74m
Hgt. (MSL)	189.155m	+/-	1.29m
Solution type	SBAS		
Iono correction	Multi-frequency		
Advanced RTK status	N/A		
Solution age	0 second		
Differential age	5 seconds		
# of satellites used in solution	10		
	GPS	L1 L2 L5	
	GLONASS	L1 L2	
Solution status	Computed		
Wed 25/11/2015 07:38:23 GMT			
Wed 25/11/2015 09:38:23 Local			

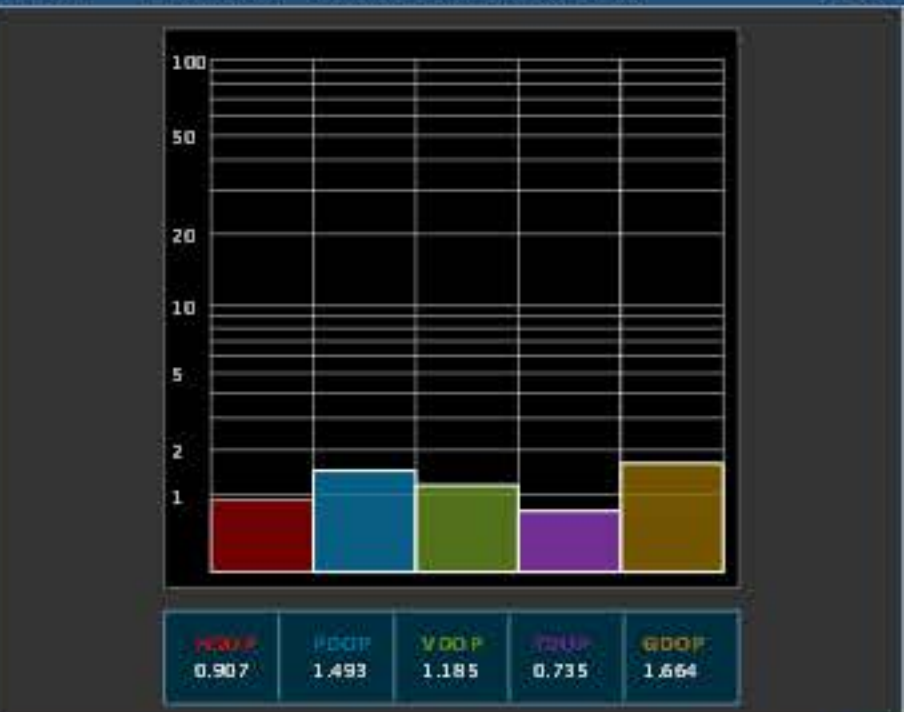
DLV3 - Plan



DLV3 - GPS Tracking Channel Status



DLV3 - Dilution Of Precision (DOP)



DLV3 - Console Window

```
<OK
[COM1]
<OK
[COM1]
<OK
[COM1]
Command
```

DLV3 - Logging Control Window

COM1 (Current Port)			
Log File	Logs	Size	Elapsed:
asus482/data/In_date/2015_11_25EGNOS.gps	24295	18.11MB	01h 15m 02s

86 kb/s



DLV3 - x

DLV3 - Constellation

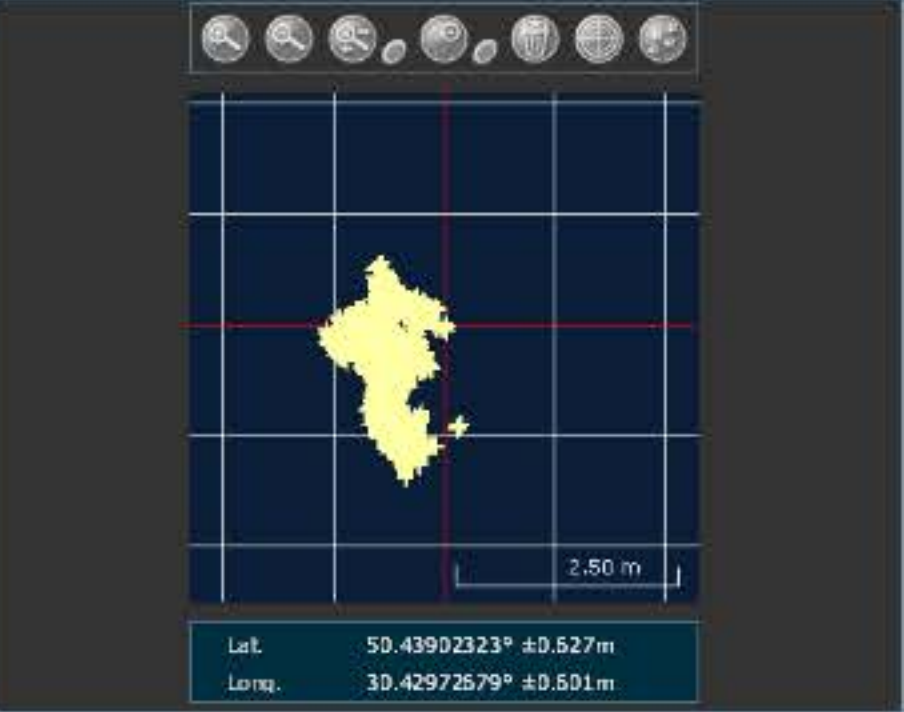


PRN	AZ	ELEV	C/No	STATUS
No SV				

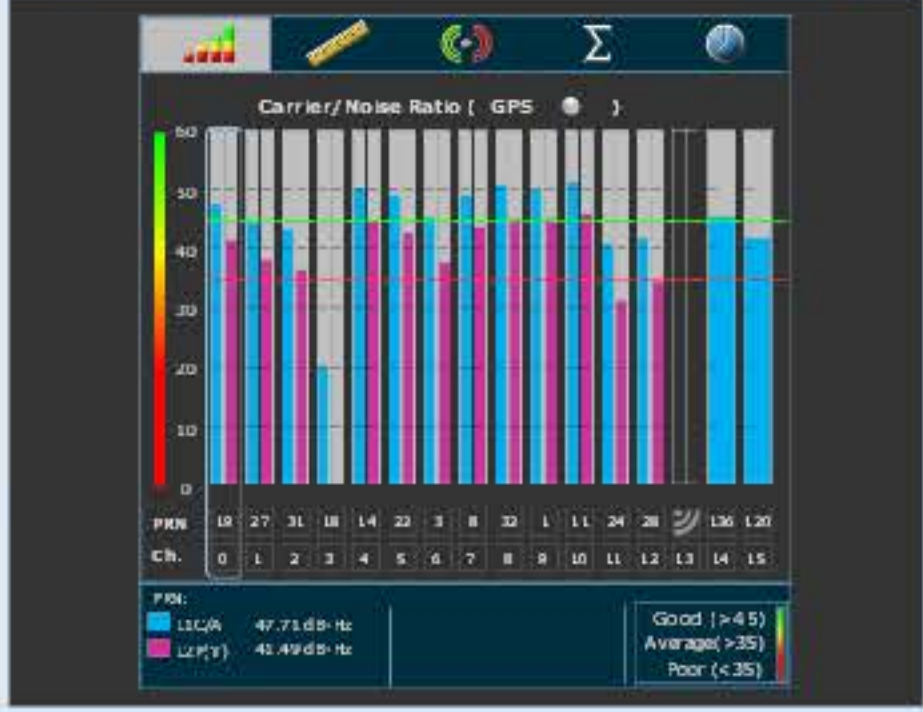
DLV3 - Position

Latitude	50.43902323°	+/- 0.63m
Longitude	30.42972679°	+/- 0.60m
Hgt. (MSL)	188.497m	+/- 1.35m
Solution type	SBAS	
Iono correction	Multi-frequency	
Advanced RTK status	N/A	
Solution age	0 second	
Differential age	6 seconds	
# of satellites used in solution	11	
	GPS	L1 L2 L5
	GLO	L1 L2
Solution status	Computed	
Wed 25/11/2015 10:31:14 GMT		
Wed 25/11/2015 12:31:14 Local		

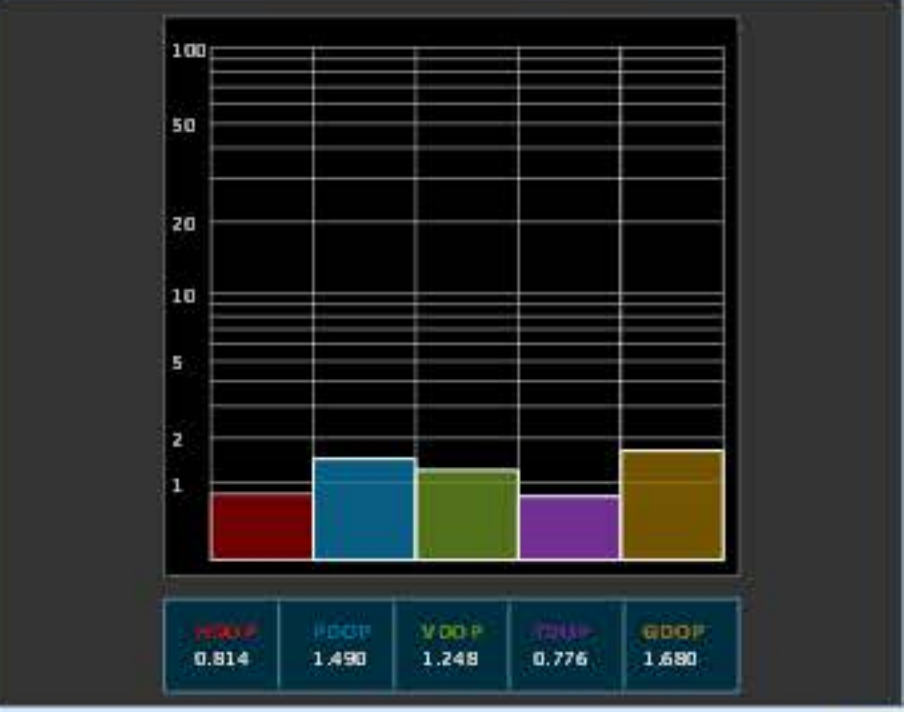
DLV3 - Plan



DLV3 - GPS Tracking Channel Status



DLV3 - Dilution Of Precision (DOP)



DLV3 - Console Window

```
<OK
[COM1]
<OK
[COM1]
<OK
[COM1]
Command
```

DLV3 - Logging Control Window

Log File	Logs	Size	Elapsed:
asus482/data/In_date/2015_11_25EGNOS.gps	79971	58.53MB	04h 07m 52s

87 kb/s

# Global View

abbreviation NAU  
 country Ukraine  
 city Kiev  
 comment Konin V., Shyshkov F. InsideGNSS, Jan-Feb 2015,  
 P.50 - 54  
 site Laboratory satellite systems  
 version 4.8.2  
 program Pegasus  
 date 25/11/2015

## Position Domain

**start:** 06:23:23 25.11.2015 ( week: 1872 sec: 282203 )  
**end:** 13:37:39 25.11.2015 ( week: 1872 sec: 308259 )  
**duration:** 07:14:17 ..

### quality

**valid samples** 25689  
**total samples** 26057

### Event tables

**Position discontinuity events type** no (0)  
**APV-I discontinuity events type** no (0)  
**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>	288217	2.15628	10.7337	0.200889	1.01633	17.2613	0.0588793
<b>max normVer</b>	291625	1.41831	15.5318	0.0913166	2.88986	17.6941	0.163324
<b>max HPE</b>	305503	3.08904	31.4291	0.0982859	-2.92476	32.4643	0.0900915
<b>max VPE</b>	305242	2.29243	30.2763	0.0757171	-3.92606	45.2843	0.086698
<b>min HPL</b>	308040	0.916244	8.31853	0.110145	-1.1022	11.9928	0.0919053
<b>min VPL</b>	298306	1.08762	16.5953	0.0655376	-0.682147	11.6863	0.0583715

#### APV-35m discontinuity events :

#	Epoch	duration	stable period
1	304143	1201	1

#### LPV-200 discontinuity events :

#	Epoch	duration	stable period
1	304143	1201	1

#### CAT-I discontinuity events :

#	Epoch	duration	stable period
1	304143	1201	1

#	Epoch	duration	stable period
1	298307	9727	14
2	308035	2	1
3	308040	1	3
4	308044	1	3
5	308048	1	3
6	308052	1	3
7	308056	1	3
8	308060	1	3
9	308064	1	3
10	308068	1	3
11	308072	1	3
12	308076	1	3
13	308080	1	3

### First Glance analysis

<b>Duration</b>	26057
<b>Number of Samples</b>	26057
<b>Number of invalid sample</b>	368
<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>	1.4123
<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
25689	25689	24395	52	24395

#### Accuracy statistics :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
<b>HPE 95%</b>	2.10611	2.10611	2.04436	1.16194	2.04436
<b>HPEscale 95%</b>	NaN	5.71555	5.77823	4.9761	5.77823
<b>VPE 95%</b>	2.20883	2.20883	2.05294	1.25101	2.05294
<b>VPEscale 95%</b>	NaN	5.22113	3.68291	1.25313	3.68291

#### Availability :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
<b>Signal in Space</b>	1	1	0.949628	0.00202421	0.949628
<b>measurements</b>	0.985877	0.985877	0.936217	0.00199562	0.936217
<b>Operational</b>	0.985877	0.985877	0.936217	0.00199562	0.936217

#### Discontinuity events :

	Valid	APV-1	LPV-200	CAT-1	APV-35m
<b>All</b>	--	--	47	13	47

<b>Long</b>	--	--	1	1	1
<b>Independent</b>	--	--	0	0	0
<b>P(disc.)</b>	--	--	0	0	0
<b>P(slide)</b>	NaN	NaN	0.00479606	0.923077	0.00479606

**Integrity events :**

	MI	HMI APV-1	HMI LPV-200	HMI CAT-1	HMI APV-35m
<b>Total</b>	0	0	0	0	0
<b>Horizontal</b>	0	0	0	0	0
<b>Vertical</b>	0	0	0	0	0

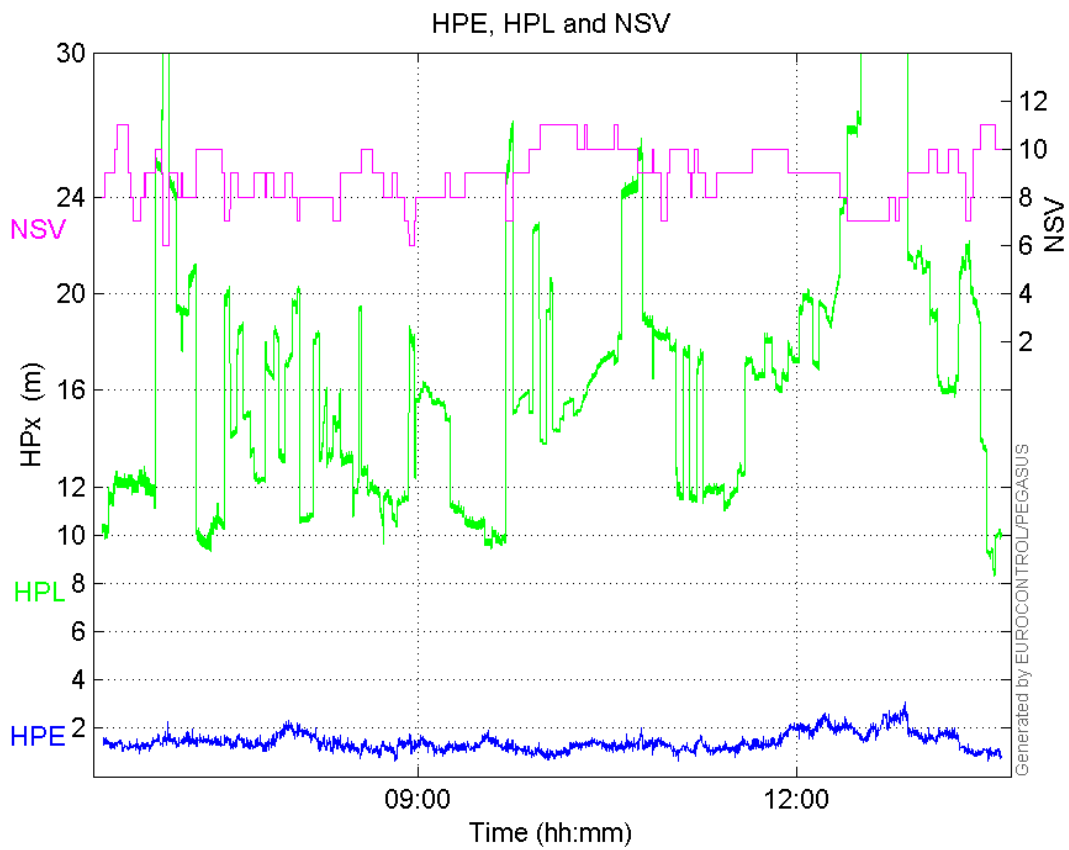
**Performance Summary :**

	Valid	APV-1	LPV-200	CAT-1	APV-35m
<b>Samples</b>	25689	25689	24395	52	24395
<b>SIS Availability</b>	1	1	0.949628	0.00202421	0.949628
<b>Local Availability</b>	0.985877	0.985877	0.936217	0.00199562	0.936217
<b>Operational Availability</b>	0.985877	0.985877	0.936217	0.00199562	0.936217
<b>HPE 95%</b>	2.10611	2.10611	2.04436	1.16194	2.04436
<b>HPEscale 95%</b>	NaN	5.71555	5.77823	4.9761	5.77823
<b>VPE 95%</b>	2.20883	2.20883	2.05294	1.25101	2.05294
<b>VPEscale 95%</b>	NaN	5.22113	3.68291	1.25313	3.68291
<b>All Discontinuity Events</b>	--	--	47	13	47
<b>Long Discontinuity Events</b>	--	--	1	1	1
<b>Independent Discontinuity Events</b>	--	--	0	0	0
<b>P(discontinuity)</b>	--	--	0	0	0
<b>P(sliding window)</b>	NaN	NaN	0.00479606	0.923077	0.00479606
<b>All Integrity Events</b>	0	0	0	0	0
<b>Horizontal Integrity Events</b>	0	0	0	0	0
<b>Vertical Integrity Events</b>	0	0	0	0	0

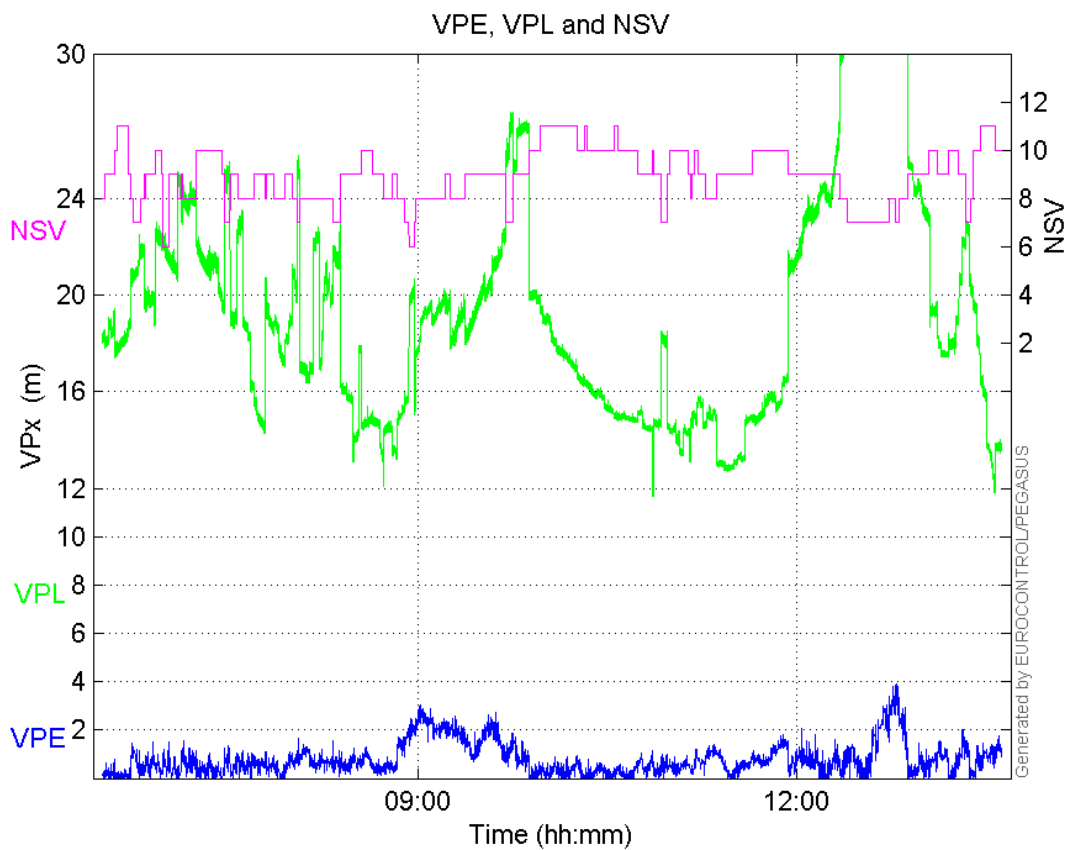
**Time Series**

**HPE, HPL and NSV:**



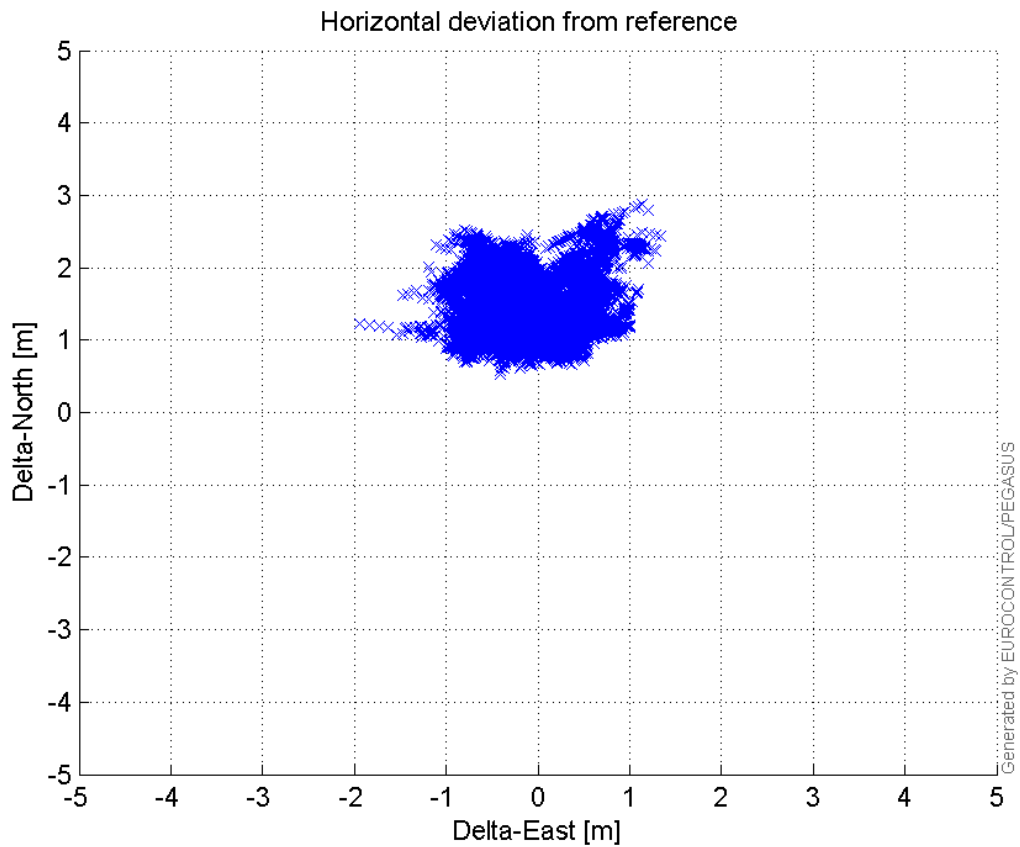


**VPE, VPL and NSV:**



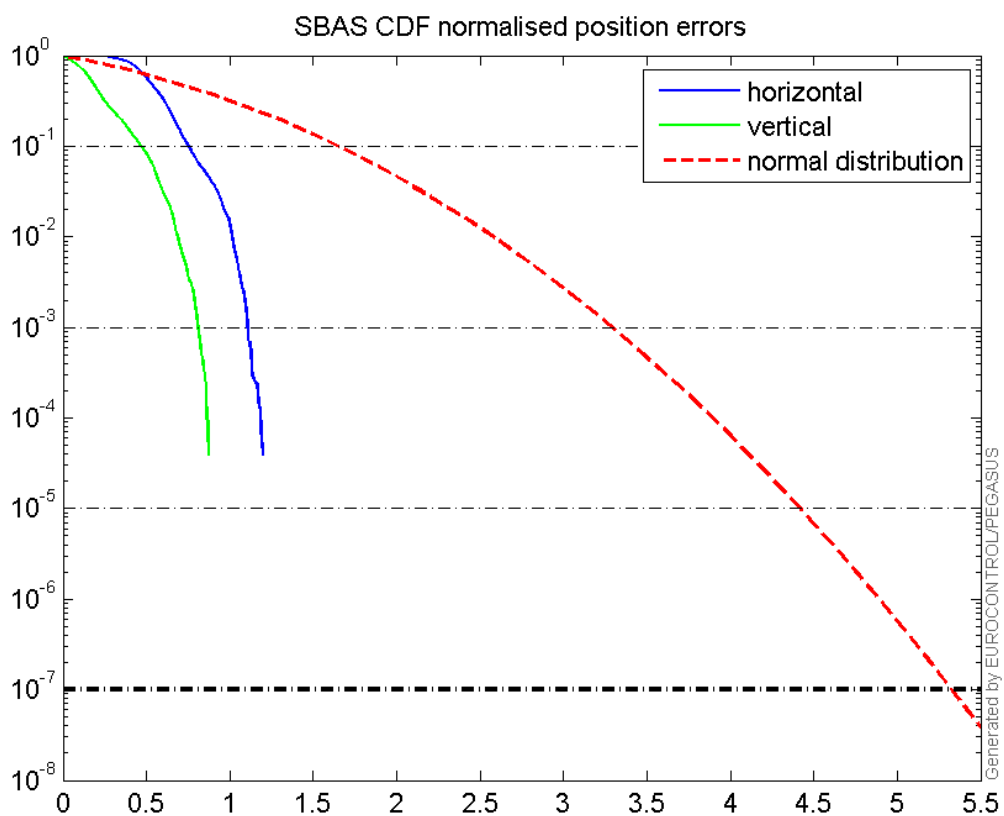
Horizontal deviation

## Horizontal deviation from reference :



## CDF position

## SBAS CDF position domain:



## Statistics

<b>number</b>	25689
<b>sum</b>	36694.701
<b>sum2</b>	55643.589
<b>prctile95</b>	2.1061118
<b>prctile99</b>	2.5232339
<b>number</b>	25689
<b>sum</b>	20501.638
<b>sum2</b>	27201.689
<b>prctile95</b>	2.2088282
<b>prctile99</b>	2.9028888
<b>number</b>	25689
<b>sum</b>	433397.1
<b>sum2</b>	8246456.9
<b>prctile95</b>	30.75431
<b>prctile99</b>	36.690088
<b>number</b>	25689
<b>sum</b>	510972.72
<b>sum2</b>	11133842
<b>prctile95</b>	35.024915
<b>prctile99</b>	42.108255
<b>number</b>	25689
<b>sum</b>	2334.7177
<b>sum2</b>	230.89761
<b>prctile95</b>	0.14288881
<b>prctile99</b>	0.16888396
<b>number</b>	25689
<b>sum</b>	1047.0665
<b>sum2</b>	66.808182
<b>prctile95</b>	0.10442257
<b>prctile99</b>	0.12902253
<b>number</b>	24395
<b>sum</b>	34068.297
<b>sum2</b>	50176.659
<b>prctile95</b>	2.0443592
<b>prctile99</b>	2.4688222
<b>number</b>	24395
<b>sum</b>	18298.556
<b>sum2</b>	21910.206
<b>prctile95</b>	2.0529413
<b>prctile99</b>	2.471661
<b>number</b>	24395
<b>sum</b>	390702.17
<b>sum2</b>	6823917.5
<b>prctile95</b>	24.606675
<b>prctile99</b>	31.30873
<b>number</b>	24395
<b>sum</b>	459576.35
<b>sum2</b>	9081127.9
<b>prctile95</b>	25.91275

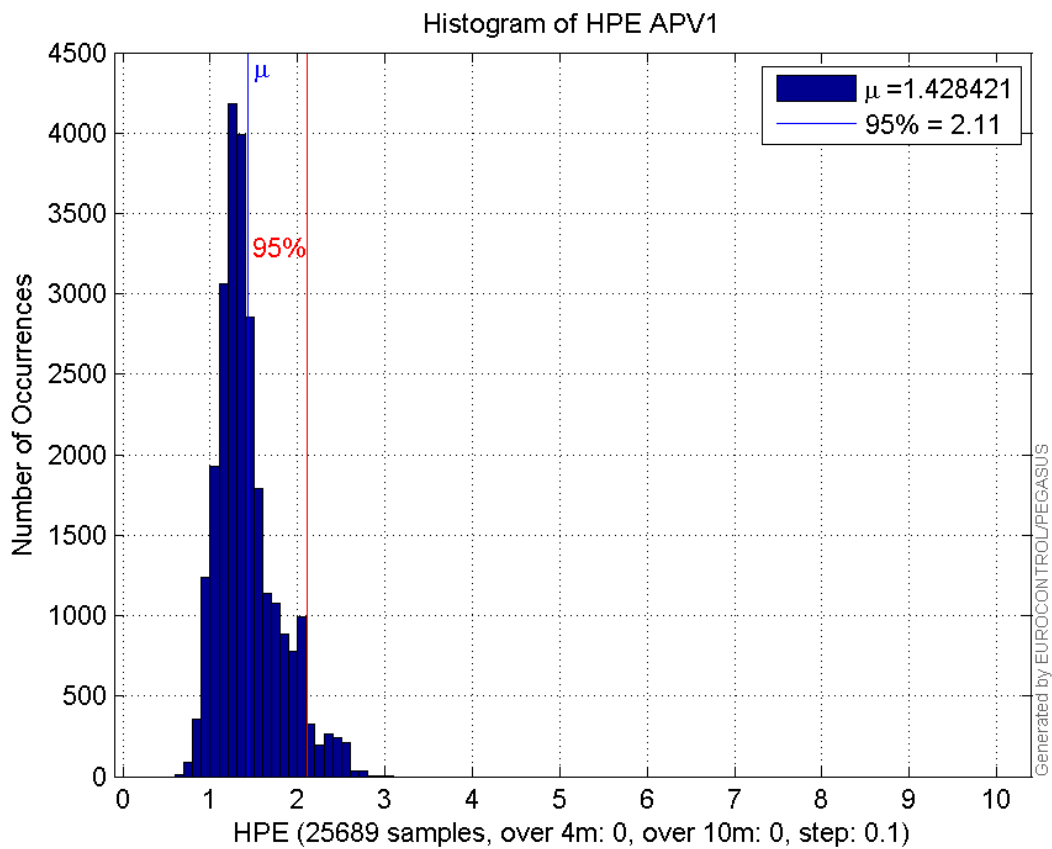


**prctile99** 32.968115  
**number** 24395  
**sum** 2254.0002  
**sum2** 225.65593  
**prctile95** 0.14445569  
**prctile99** 0.1692478  
**number** 24395  
**sum** 991.02038  
**sum2** 63.352905  
**prctile95** 0.10522614  
**prctile99** 0.12958232

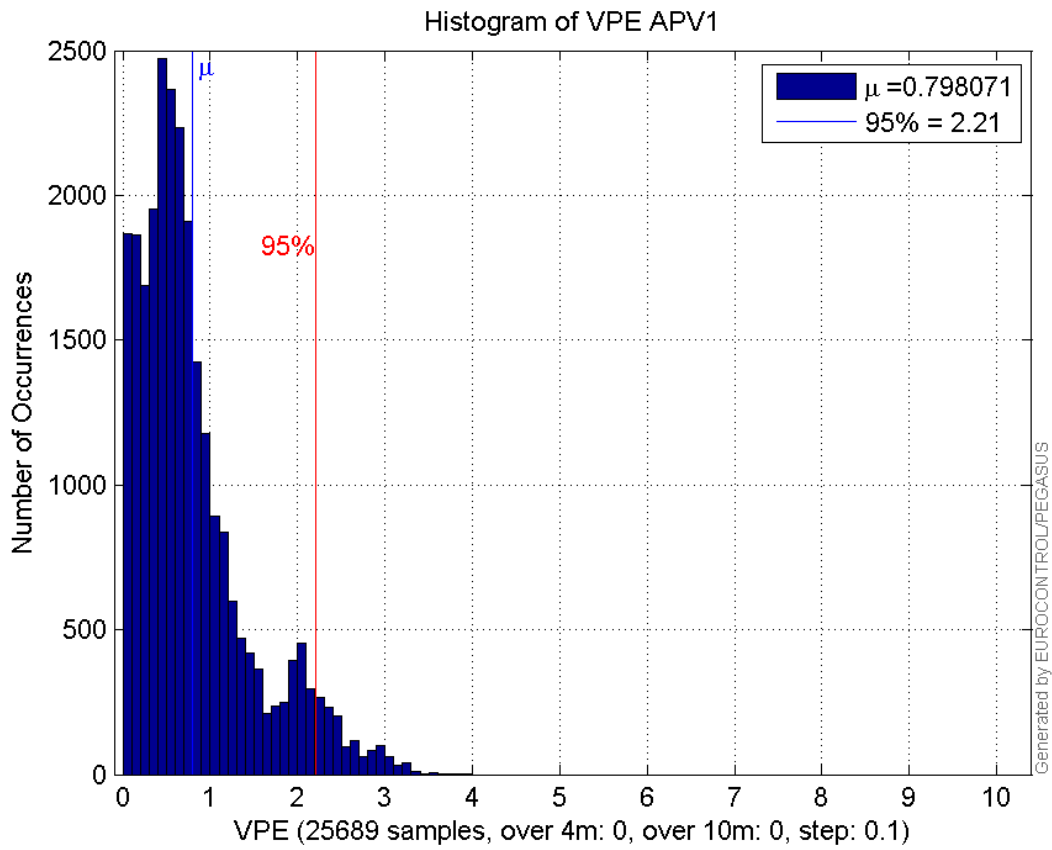
**Error and XPL Statistics :**

	Mean Value	Standard Deviation	50% Value	95% Value	99% Value	RMS Value
<b>HPE</b>	1.42842	0.354494	1.34998	2.10611	2.52323	1.47175
<b>HPL</b>	16.8709	6.03197	16.0373	30.7543	36.6901	17.9168
<b>VPE</b>	0.798071	0.649603	0.626938	2.20883	2.90289	1.02902
<b>VPL</b>	19.8907	6.1457	18.7671	35.0249	42.1083	20.8185

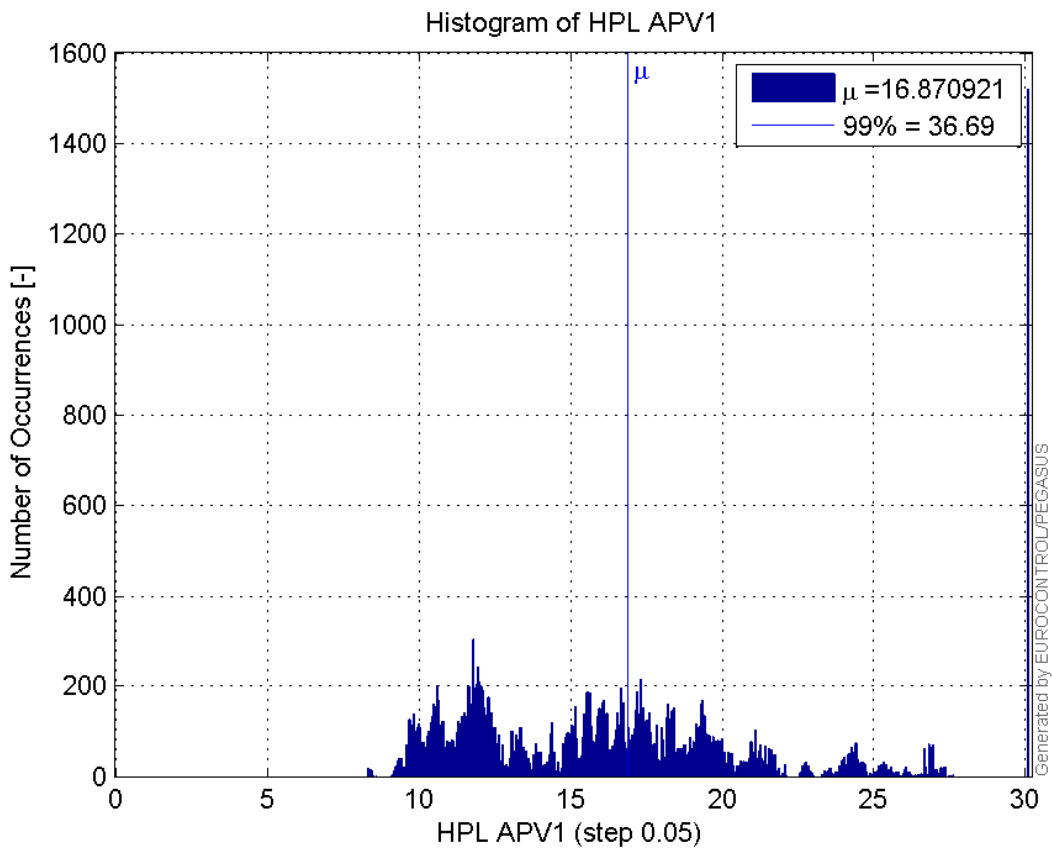
**Histogram of HPE APV1:**



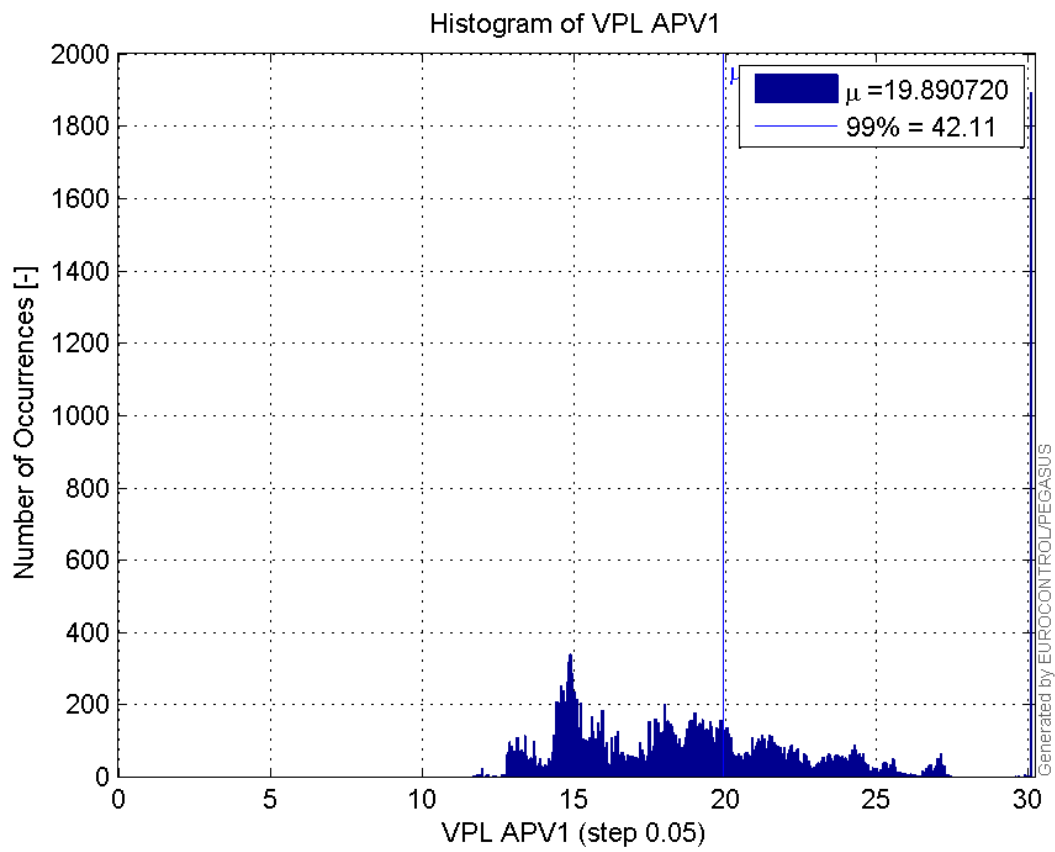
**Histogram of VPE APV1:**



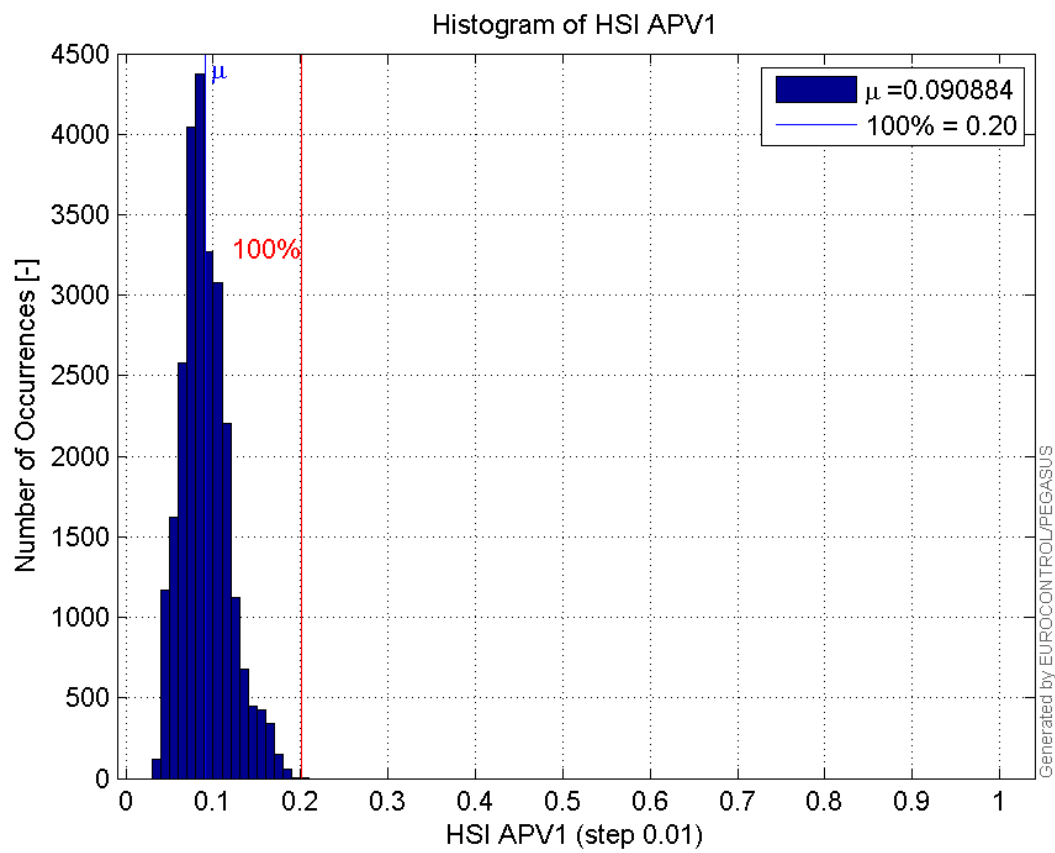
**Histogram of HPL APV1:**



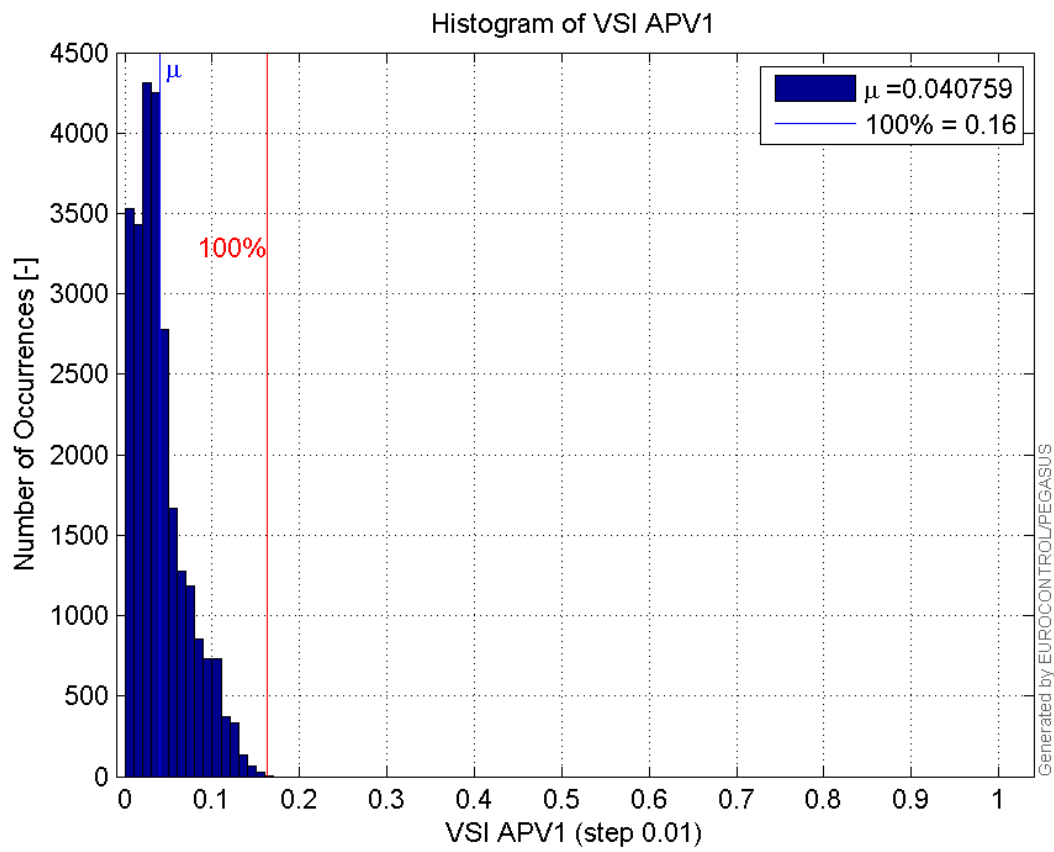
**Histogram of VPL APV1:**



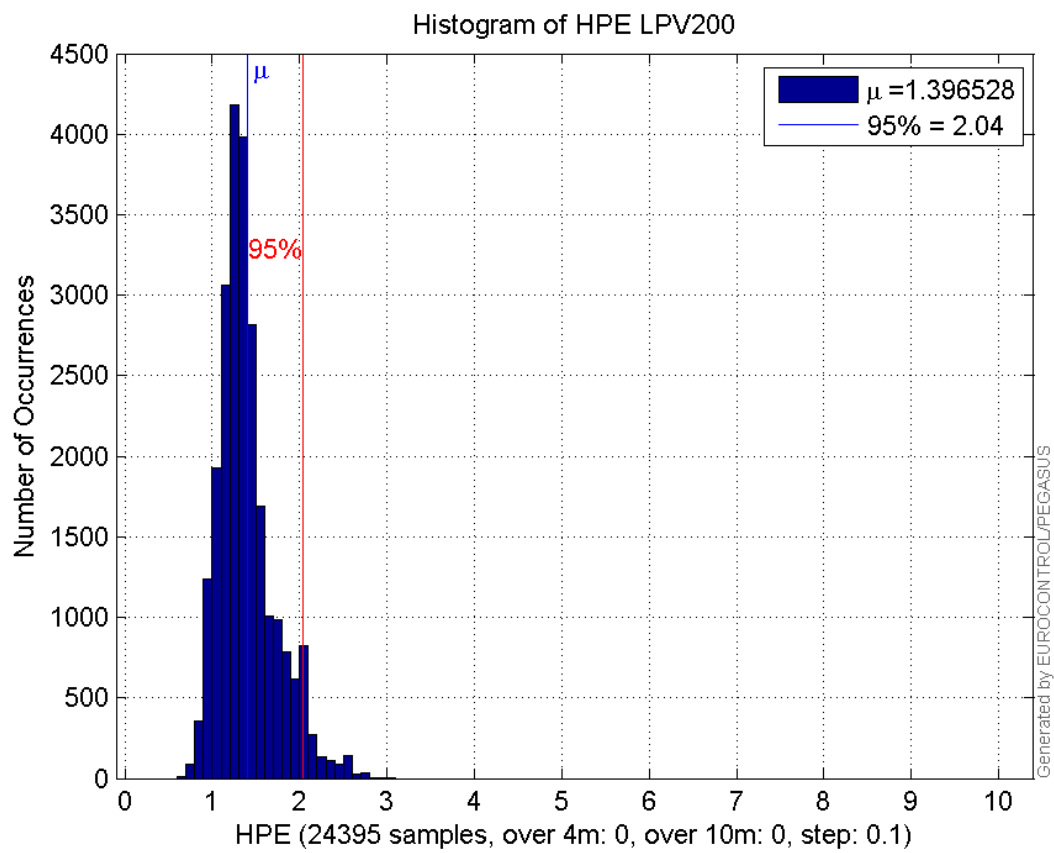
**Histogram of HSI APV1:**



**Histogram of VSI APV1:**

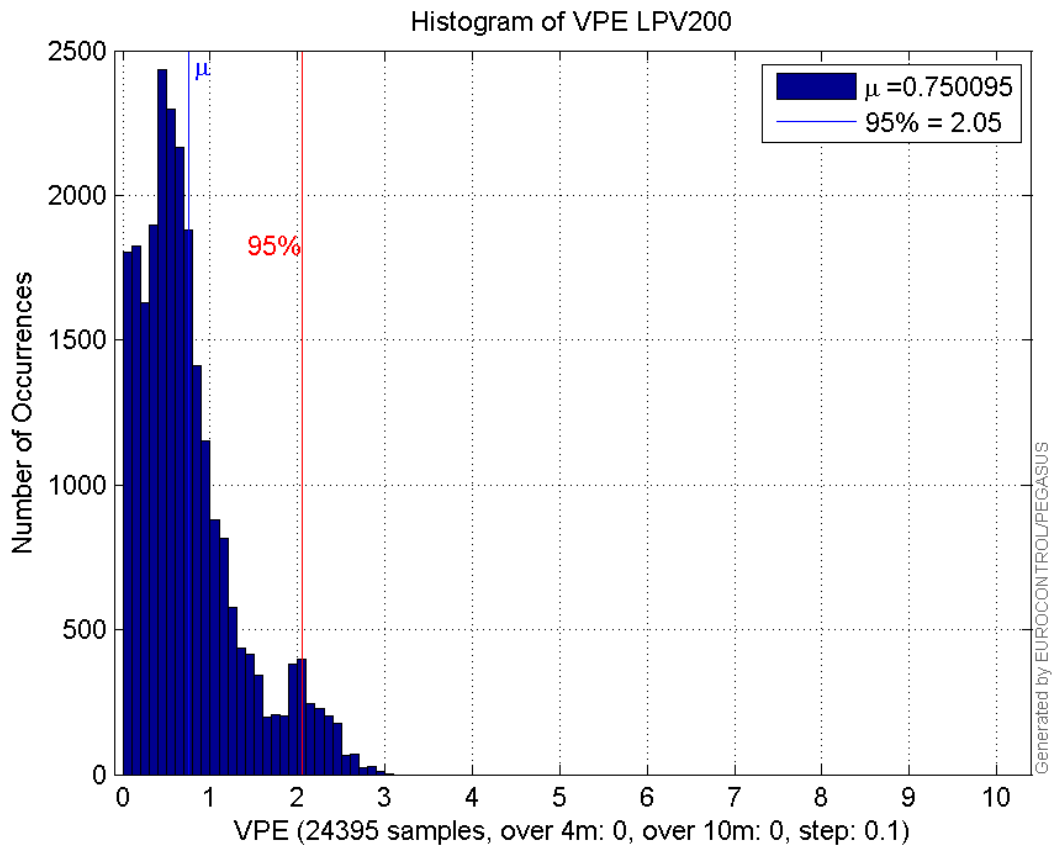


**Histogram of HPE LPV200:**

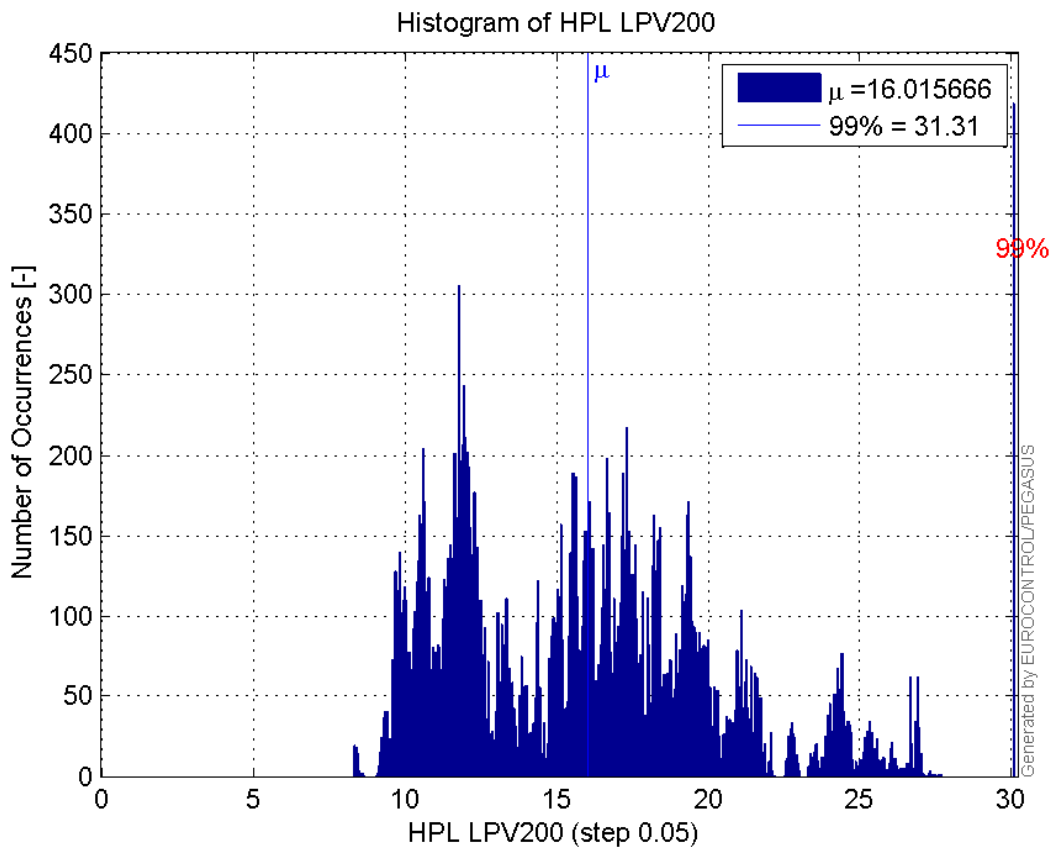


**Histogram of VPE LPV200:**

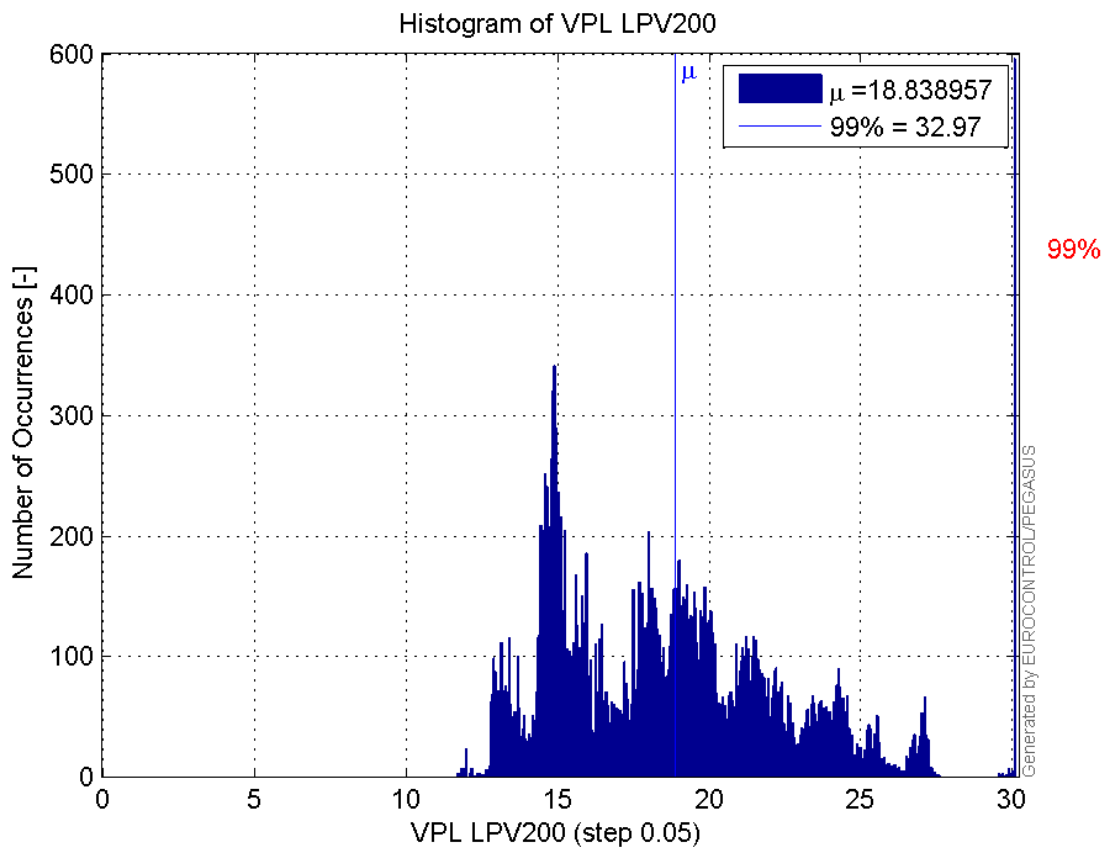




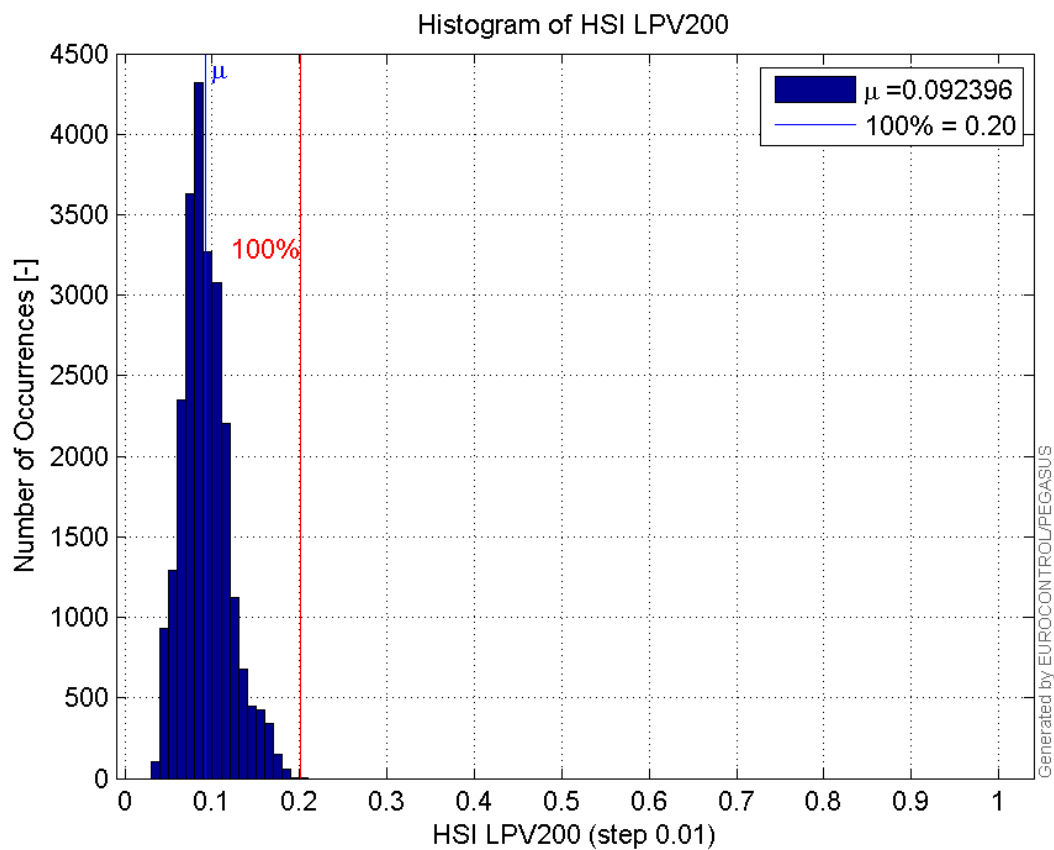
**Histogram of HPL LPV200:**



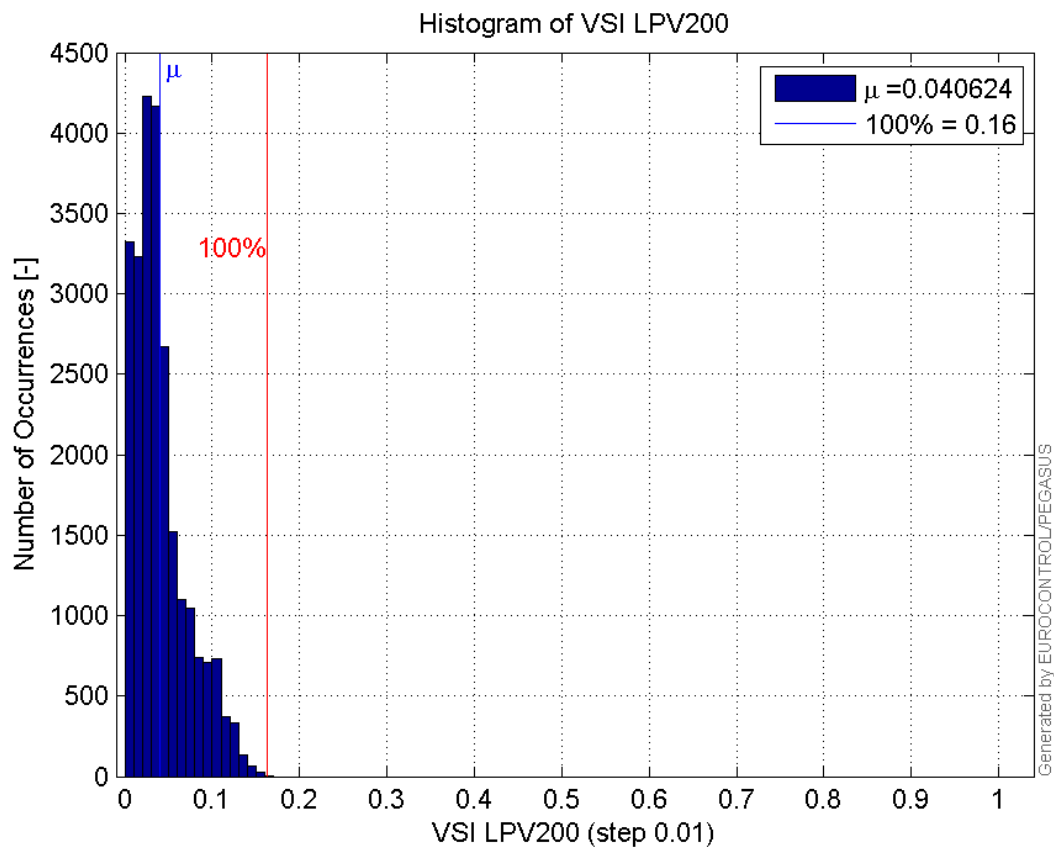
**Histogram of VPL LPV200:**



Histogram of HSI LPV200:

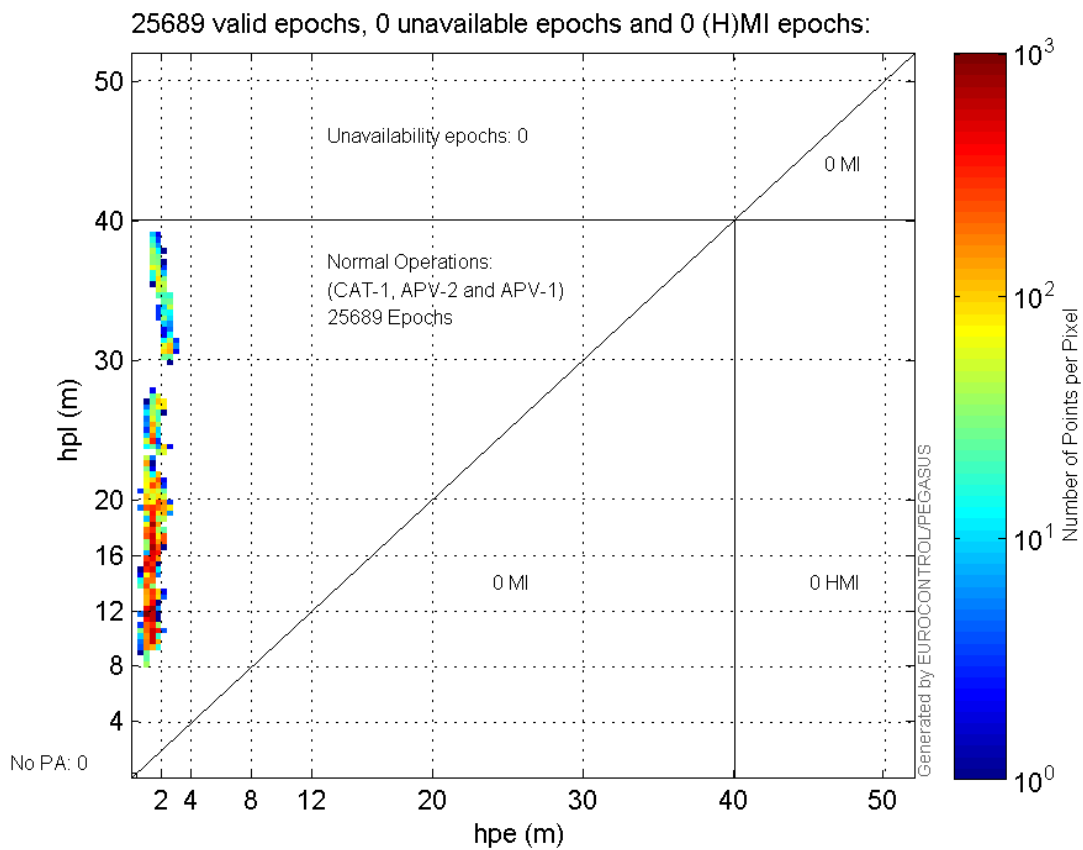


Histogram of VSI LPV200:

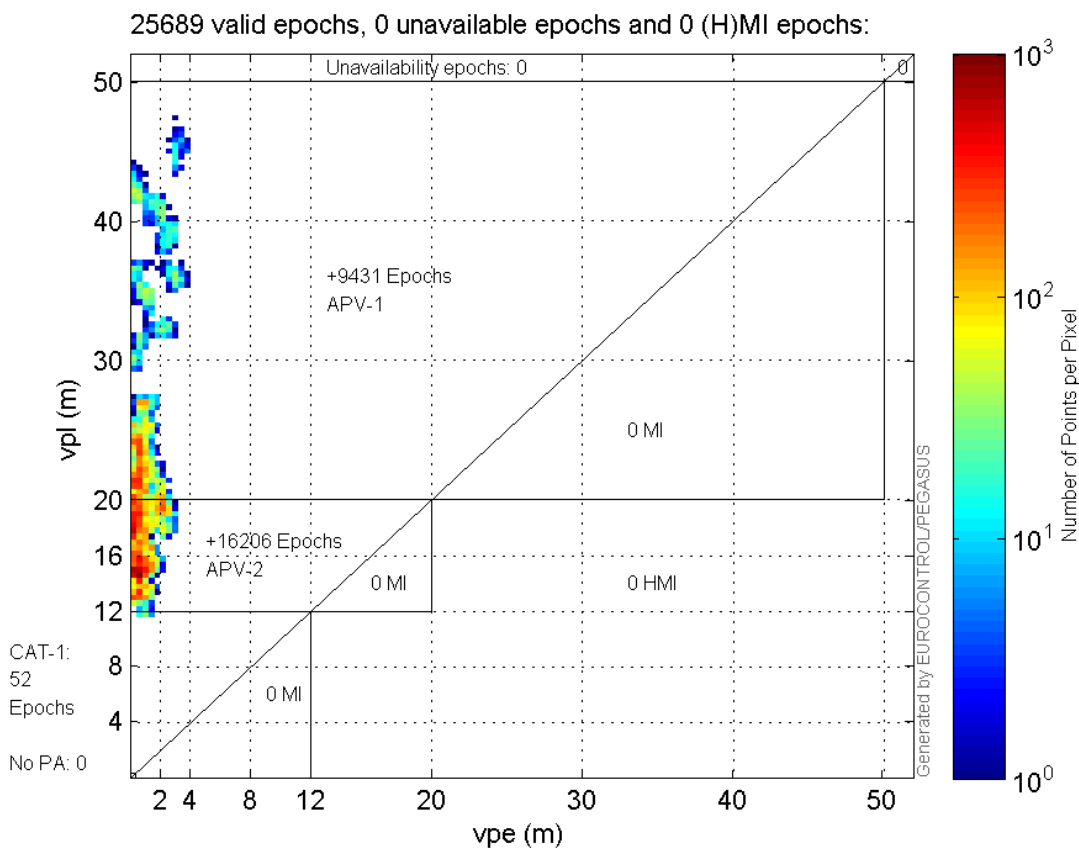


### Stanford Plots

#### 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_11_25EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_11_25EGNOS/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	227.9598
mi_numbers	results	0

## SBAS Messages

**start:** 06:23:23.129 25.11.2015 ( week: 1872 sec: 282203.129 )  
**end:** 13:37:39.129 25.11.2015 ( week: 1872 sec: 308259.129 )  
**duration:** 07:14:16 ..

## quality

**valid samples** 52114  
**total samples** 52114  
**number of SBAS PRNs** 2

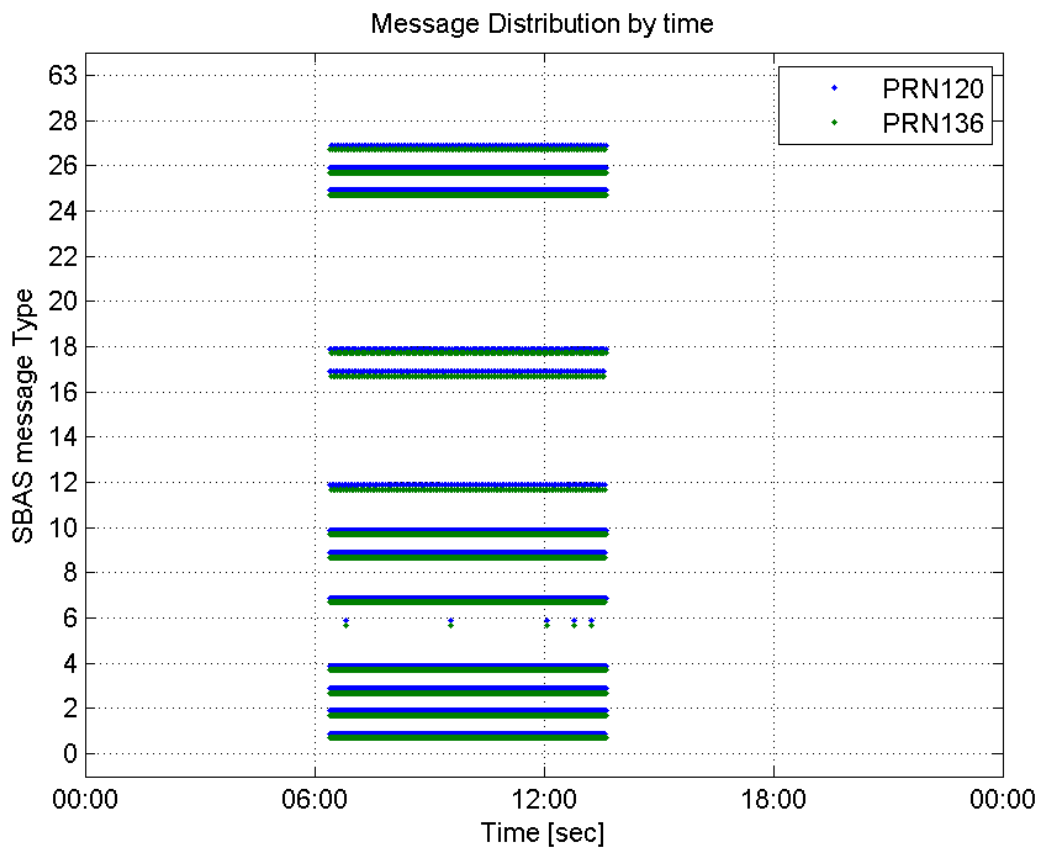
## SBAS SIS Overview

## Message Type 6 repetitions :

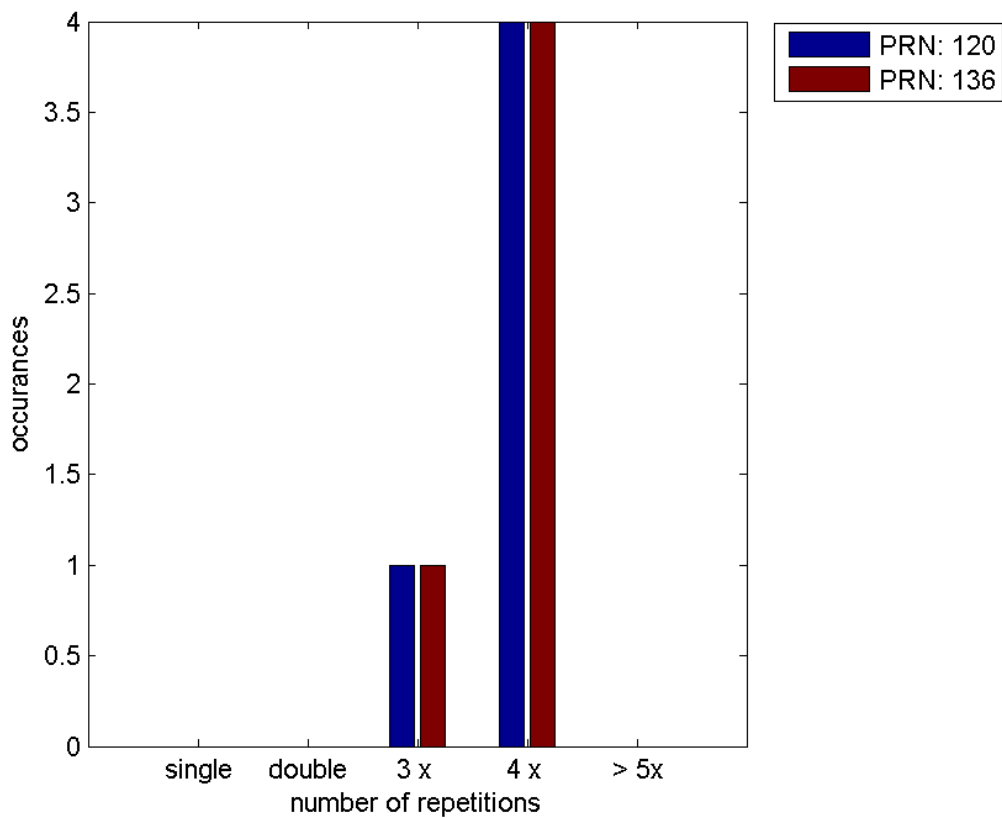
	single	double	3 x	4 x	> 5x
PRN 120	0	0	1	4	0
PRN 136	0	0	1	4	0

---

 Message Distribution by time:



**Message Type 6 repetitions:**



## Broadcast SBAS Messages :

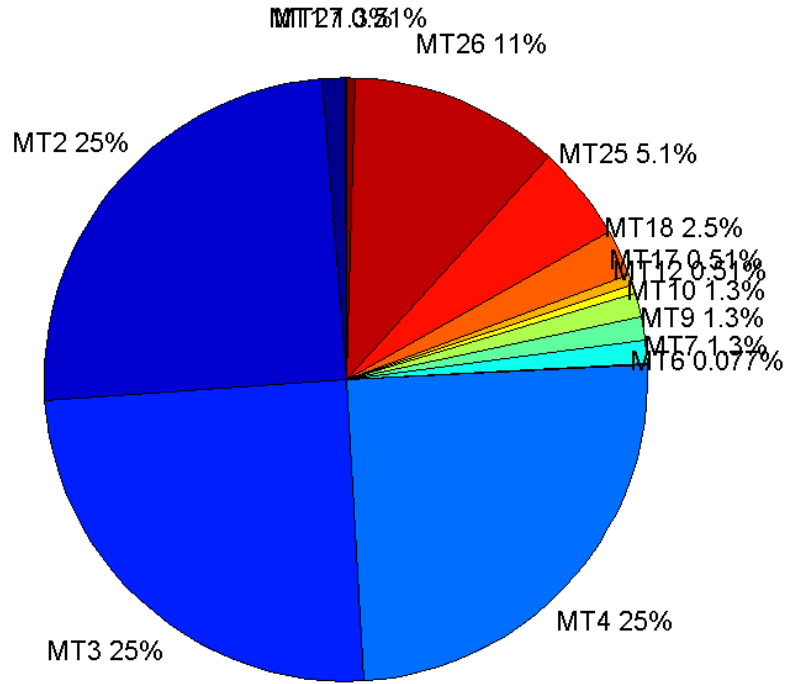
	number of messages	%
MT 0	0	0
MT 1	326	1.2511
MT 2	6472	24.8379
MT 3	6471	24.834
MT 4	6471	24.834
MT 5	0	0
MT 6	20	0.0767548
MT 7	327	1.25494
MT 9	327	1.25494
MT 10	327	1.25494
MT 12	133	0.510419
MT 17	133	0.510419
MT 18	664	2.54826
MT 24	0	0
MT 25	1327	5.09268
MT 26	2926	11.2292
MT 27	133	0.510419
MT 28	0	0
MT 62	0	0
MT 63	0	0
Total	26057	100

## Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	82	79.7323	0	0	0
MT 2	4	8	4.02643	5	0	0
MT 3	4	8	4.02658	5	0	0
MT 4	4	8	4.02643	5	0	0
MT 5	--	--	--	--	--	--
MT 6	1	9911	1218.58	4	4	4
MT 7	76	82	79.6748	0	0	0
MT 9	76	81	79.7209	0	0	0
MT 10	76	83	79.6963	0	0	0
MT 12	188	201	195.977	132	0	0
MT 17	186	201	195.977	0	0	0
MT 18	4	173	39.279	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	52	19.6425	0	0	0
MT						

26	4	40	8.89778	0	0	0
MT 27	188	205	195.985	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	327	1.25494
MT 2	6474	24.8455
MT 3	6473	24.8417
MT 4	6473	24.8417
MT 5	0	0
MT 6	20	0.0767548
MT 7	327	1.25494
MT 9	327	1.25494



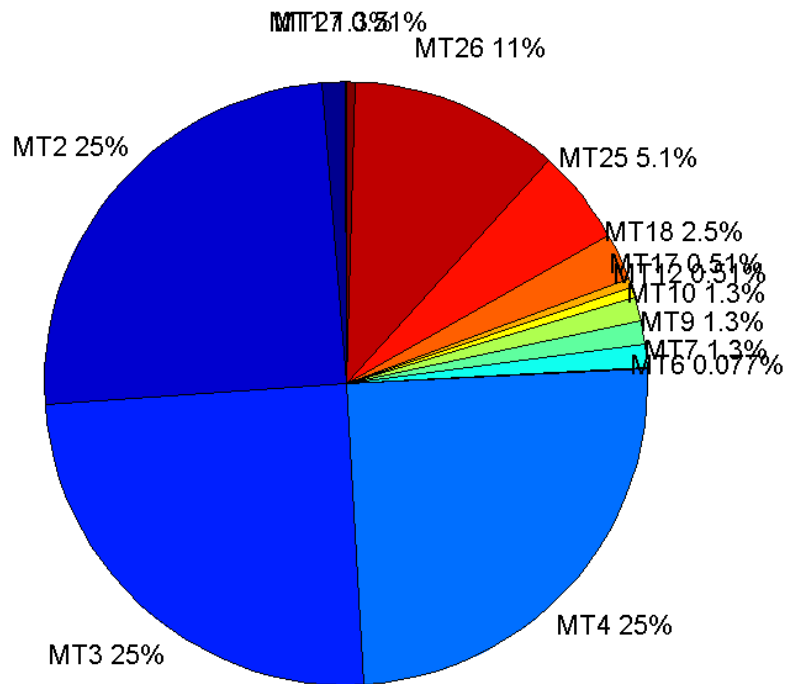
MT 10	327	1.25494
MT 12	132	0.506582
MT 17	132	0.506582
MT 18	663	2.54442
MT 24	0	0
MT 25	1329	5.10036
MT 26	2920	11.2062
MT 27	133	0.510419
MT 28	0	0
MT 62	0	0
MT 63	0	0
<b>Total</b>	<b>26057</b>	<b>100</b>

## Update intervals :

	Minimum [s]	Maximum [s]	Mean value	Exceed Max update	Exceed NPA timeout	Exceed PA timeout
MT 0	--	--	--	--	--	--
MT 1	76	81	79.6564	0	0	0
MT 2	4	8	4.02534	5	0	0
MT 3	4	8	4.02534	5	0	0
MT 4	4	8	4.02534	5	0	0
MT 5	--	--	--	--	--	--
MT 6	1	9904	1218.21	4	4	4
MT 7	76	83	79.681	0	0	0
MT 9	76	82	79.6933	0	0	0
MT 10	76	85	79.6074	0	0	0
MT 12	188	201	196.412	131	0	0
MT 17	188	201	196.412	0	0	0
MT 18	4	171	39.1903	0	0	0
MT 24	--	--	--	--	--	--
MT 25	1	60	19.5934	0	0	0
MT 26	3	52	8.92086	0	0	0
MT 27	188	201	196.394	0	0	0
MT 28	--	--	--	--	--	--
MT 62	--	--	--	--	--	--
MT 63	--	--	--	--	--	--

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Message Distribution PRN 136:



### Parameters

#### System

Name	Section	Value
Name	System	Convertor
Version	System	4.3
Inputfile	System	D:/PegasusDateGob/job/2015_11_25EGNOS/01_User/01_User
Outputfile	System	D:/PegasusDateGob/job/2015_11_25EGNOS/02_Convertor/02_Convertor

#### Configuration

Name	Section	Value
Receiver	Configuration	Novatel OEM4
Leap_Seconds	Configuration	17
Correction_mode	Configuration	SBAS MODE 0
Dual_Frequency	Configuration	no

### Range Domain

**start:** 06:23:23 25.11.2015 ( week: 1872 sec: 282203 )  
**end:** 13:37:39 25.11.2015 ( week: 1872 sec: 308259 )  
**duration:** 07:14:17 ..

#### quality

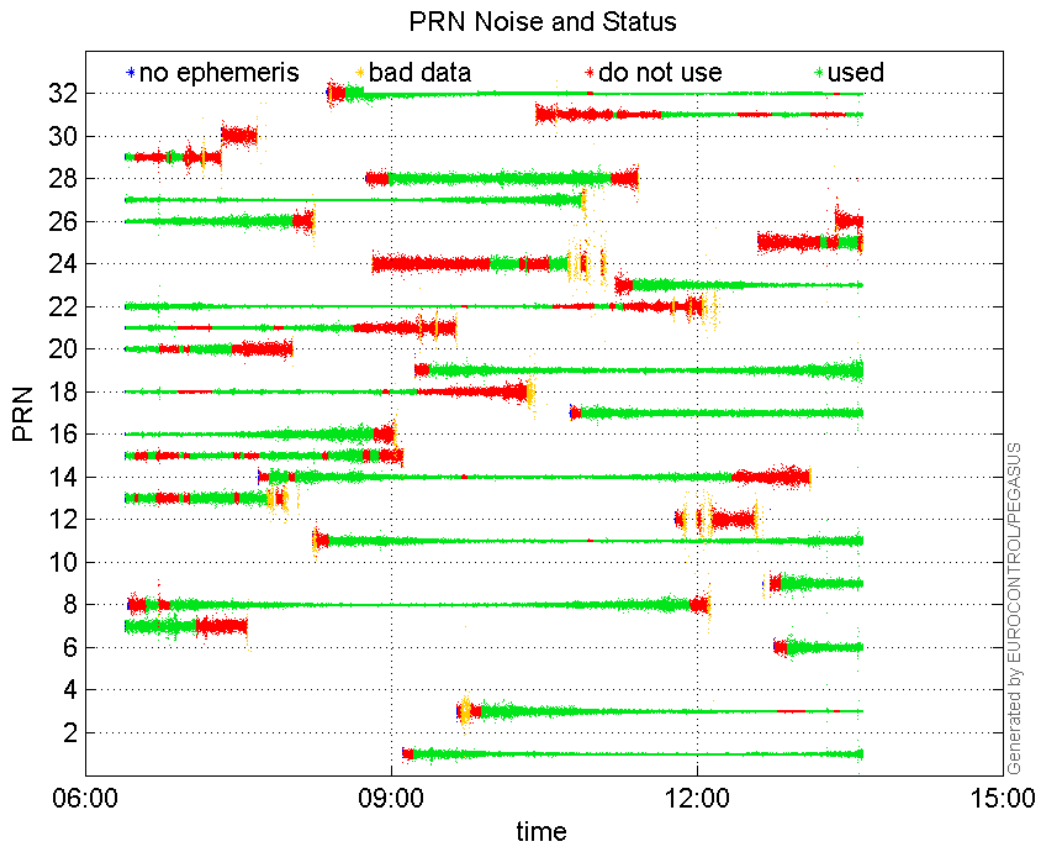
**valid samples** 26057  
**total samples** 26057

## PRN overview

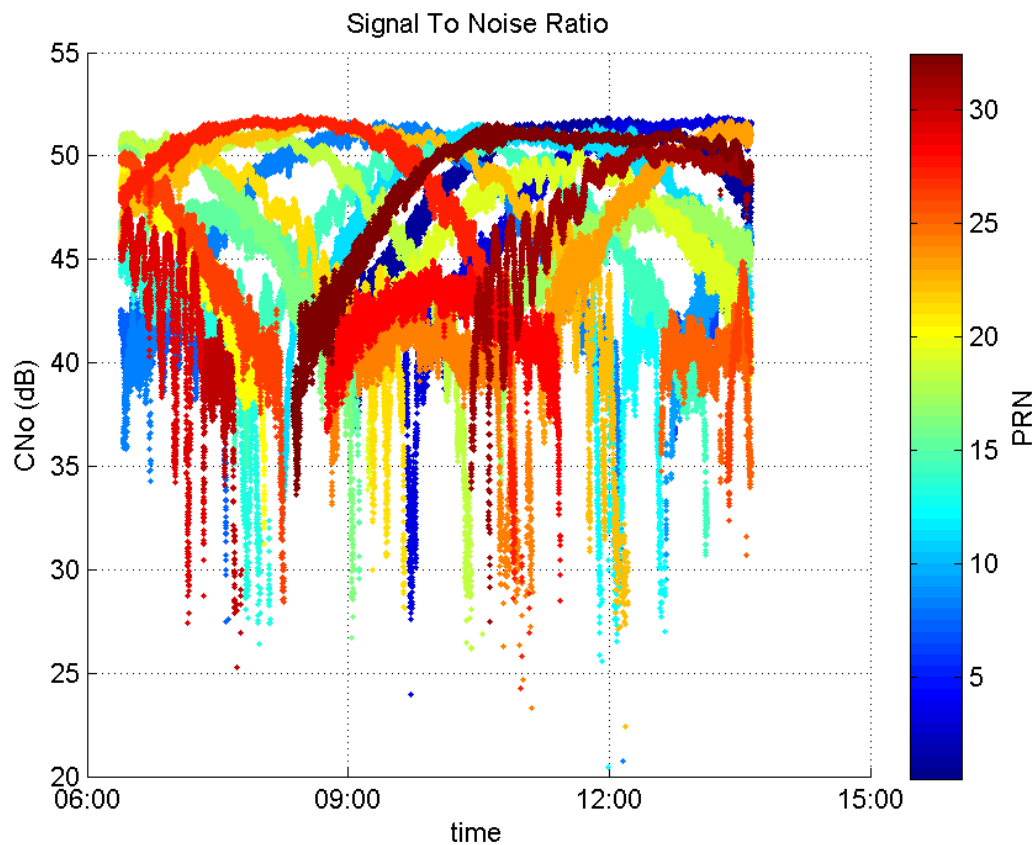
Number of Visible GPS Satellites 28  
Number of Visible SBAS Satellites 2

## signal quality and status

## PRN Noise and Status:



## Signal To Noise Ratio:



## range errors

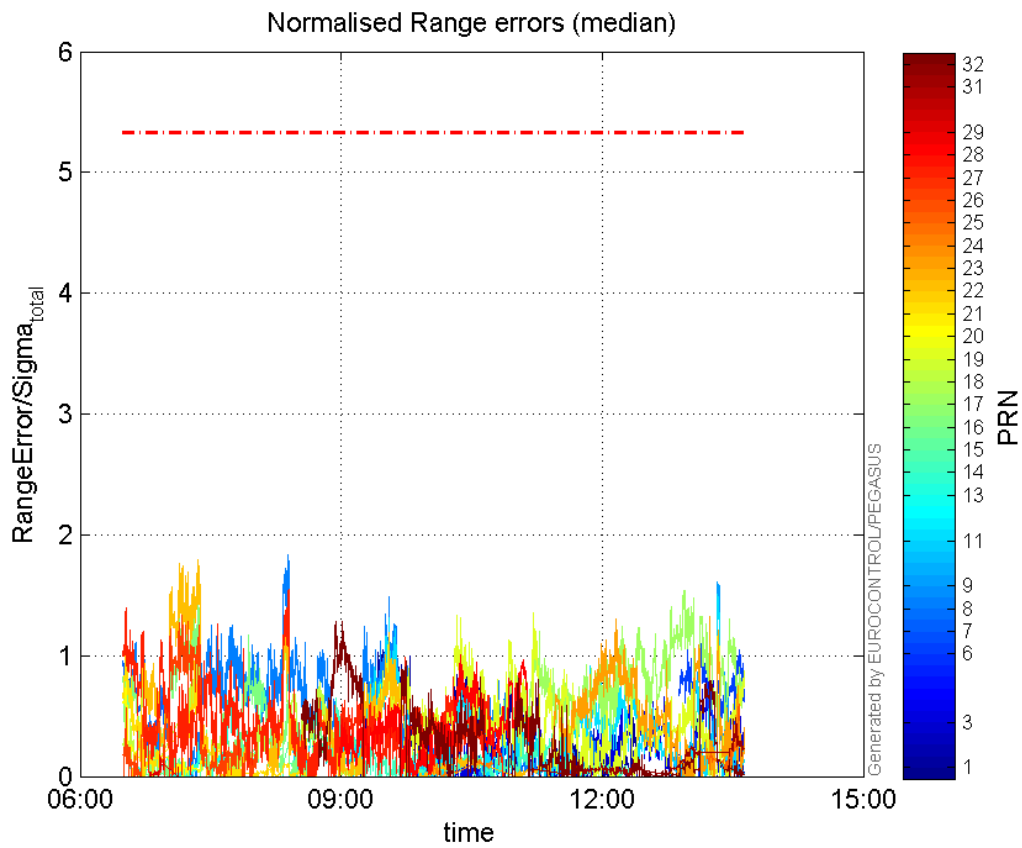
Number of Overbounding Norm Errors 0

Max Norm Errors :

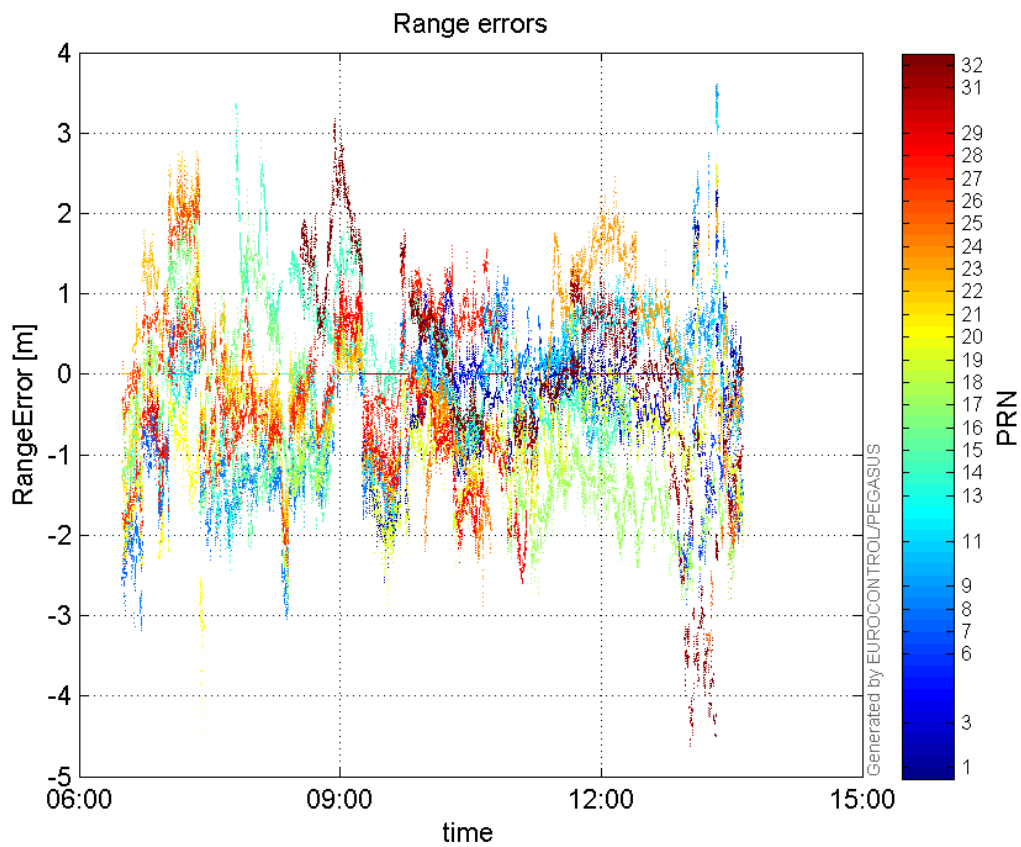
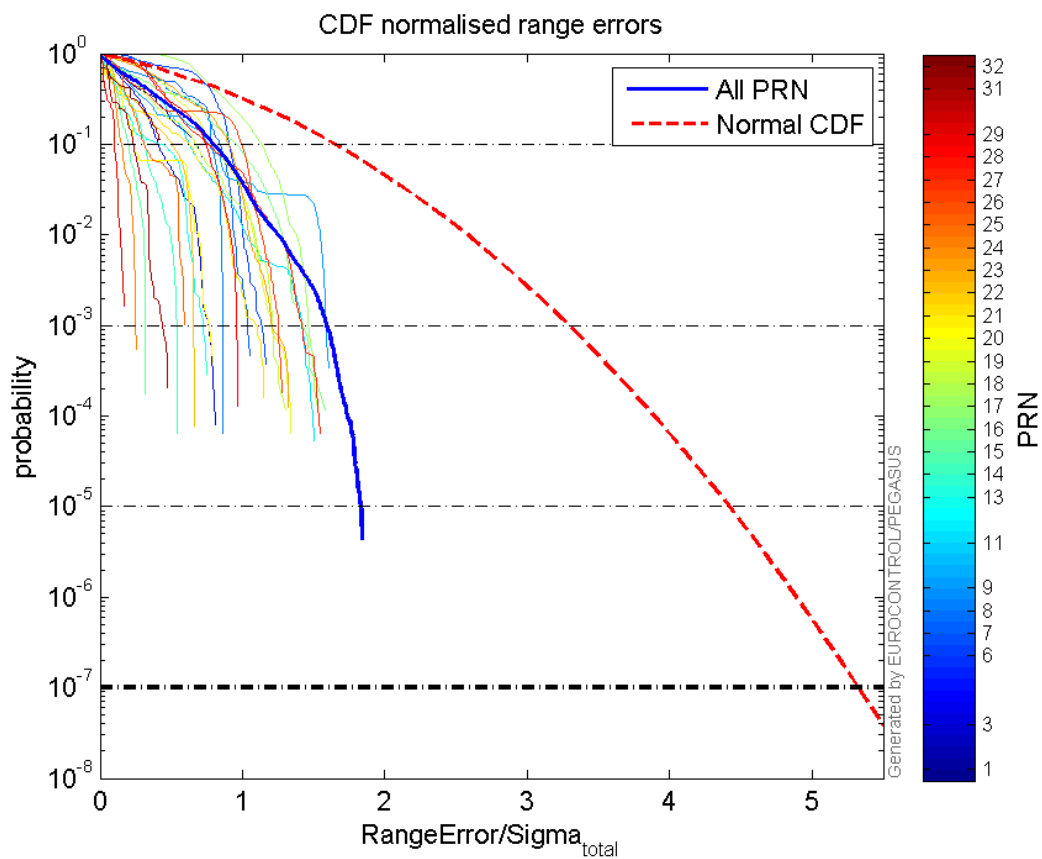
GPS Week	GPS Second	PRN	Norm Error	Range Error	Sigma
1872	293412	1	1.28657	-2.58444	2.00878
1872	306714	3	0.812033	-1.49109	1.83624
1872	306462	6	1.18471	-2.77082	2.33881
1872	282697	7	1.07605	-2.94264	2.73466
1872	289390	8	1.83885	-2.91634	1.58595
1872	307172	9	1.61245	3.58145	2.22113
1872	307172	11	1.50611	3.41075	2.26461
1872	287047	13	0.775833	-2.43041	3.13265
1872	288302	14	0.722055	2.90568	4.02419
1872	289763	15	0.589171	-1.78474	3.02925
1872	285145	16	1.62946	2.58983	1.58938
1872	305802	17	1.53973	-2.80386	1.82101
1872	289437	18	1.30763	-2.83226	2.16595
1872	299572	19	1.34976	-2.15533	1.59682
1872	282697	20	0.810184	-2.55158	3.14939
1872	282685	21	1.16633	-1.94303	1.66593
1872	285693	22	1.79844	2.67909	1.48967
1872	306840	23	1.32064	2.1022	1.5918
1872	295093	24	0.257309	-2.20151	8.55591
1872	308055	25	0.600187	-2.06597	3.44221

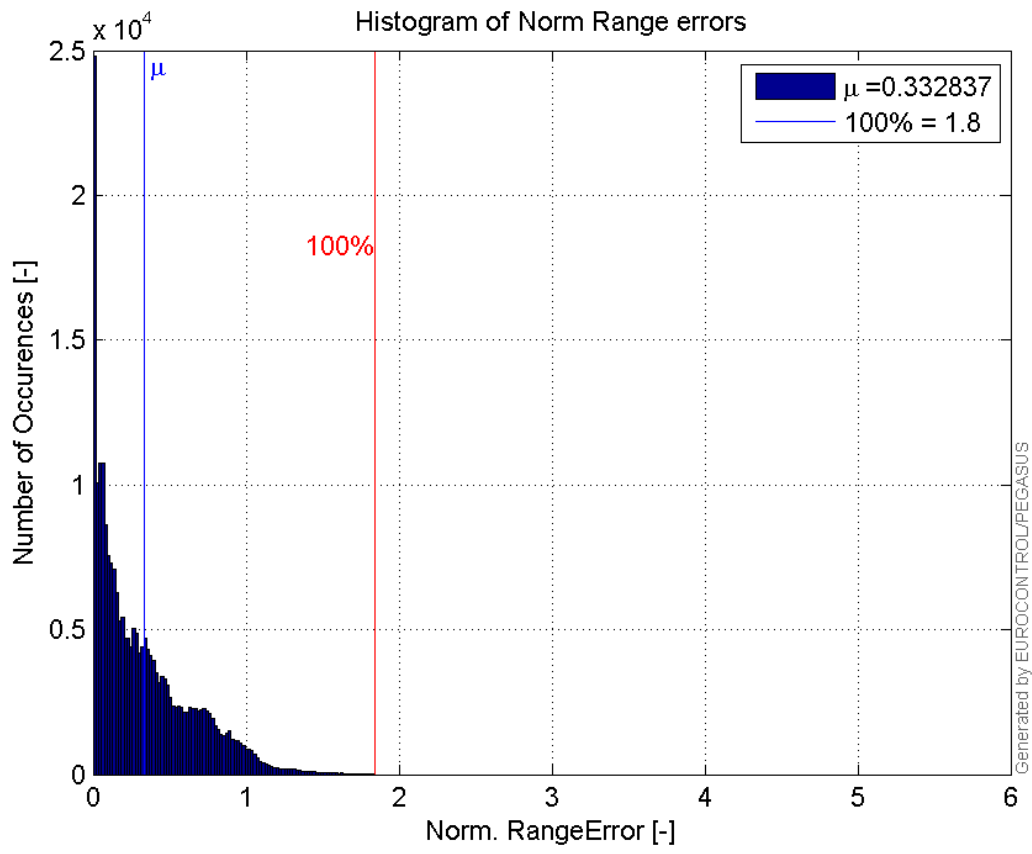
1872	285029	26	1.33345	2.52662	1.8948
1872	289423	27	1.55194	-2.5036	1.61321
1872	296533	28	1.00398	-2.33682	2.32754
1872	284105	29	0.174316	-1.66269	9.53833
1872	307906	31	0.484264	-1.89162	3.90617
1872	291660	32	1.28761	3.03667	2.35838

### Normalised Range errors (median):

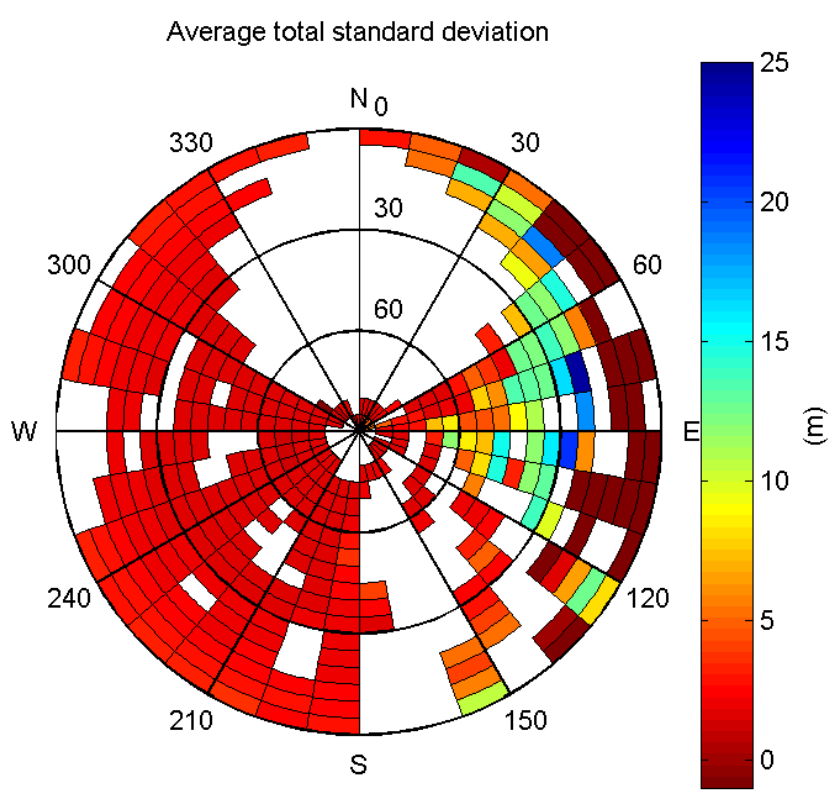


### Range errors:

**CDF normalised range errors:****Histogram of Norm Range errors:**

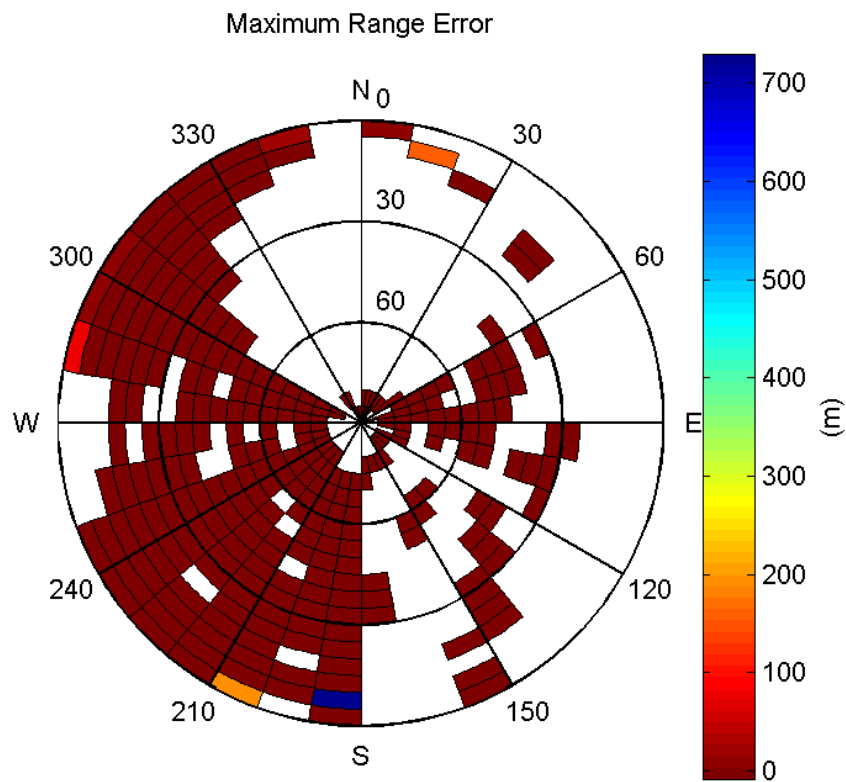


**Sigma Sky Plot:**



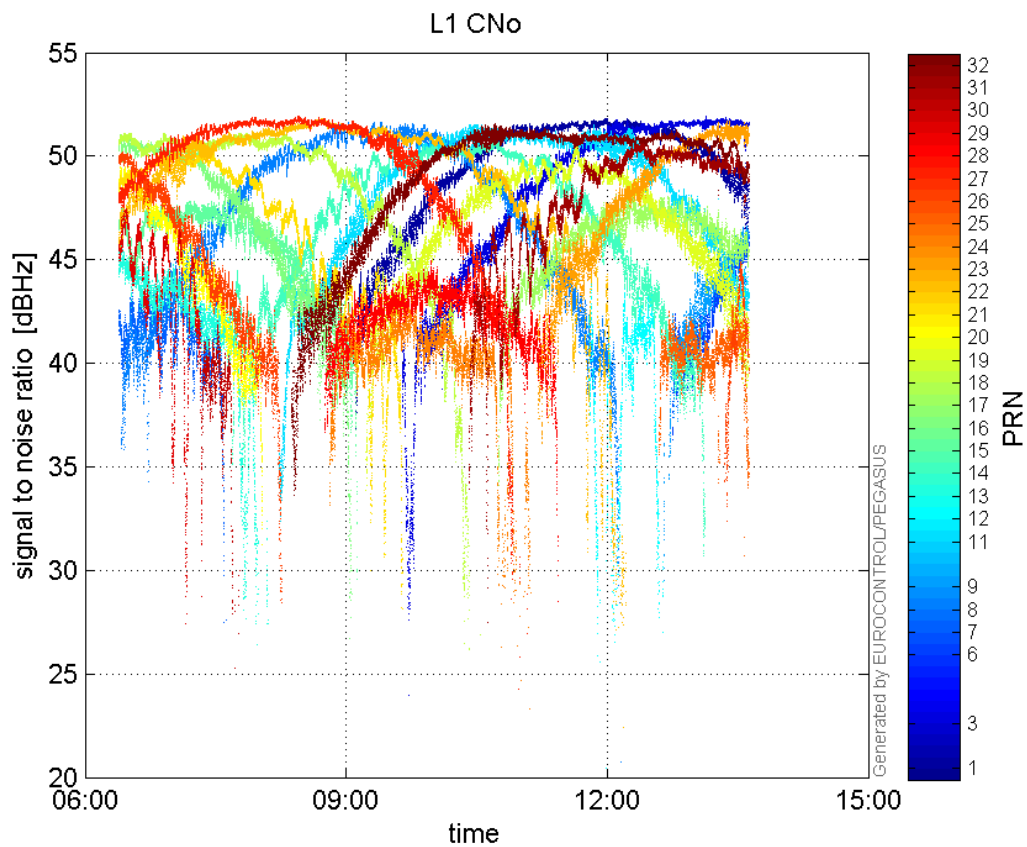
**Norm Error Sky Plot:**



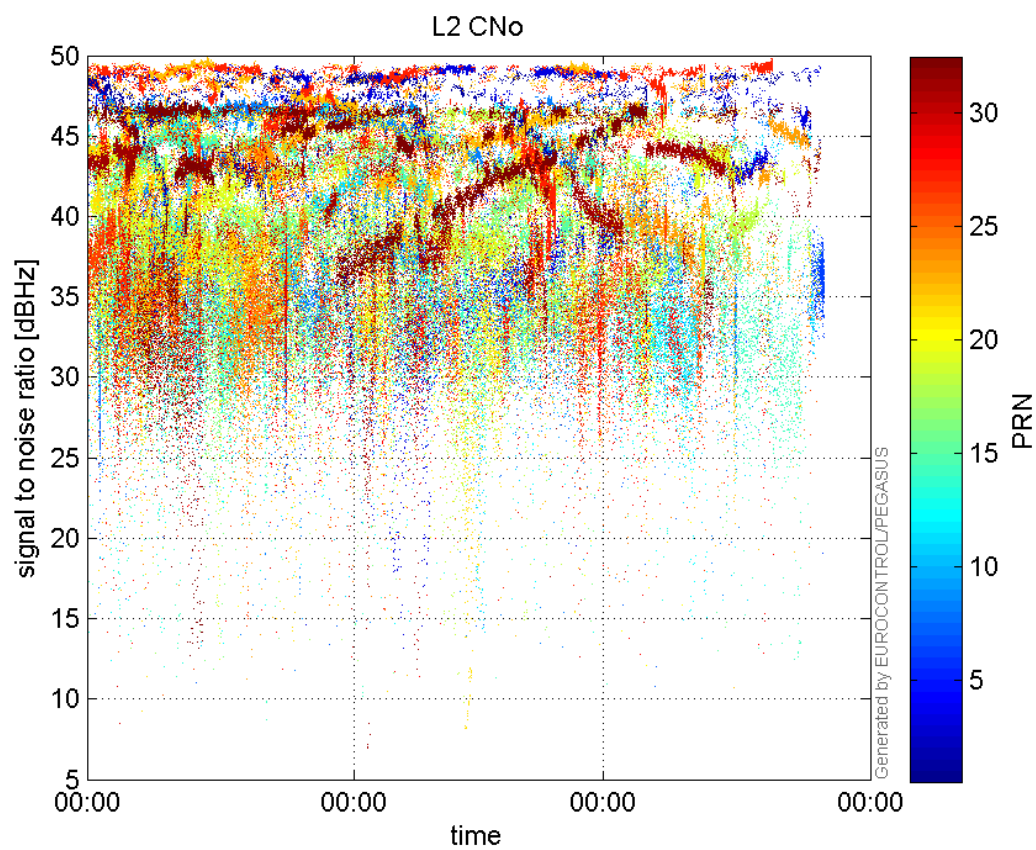


### signal quality

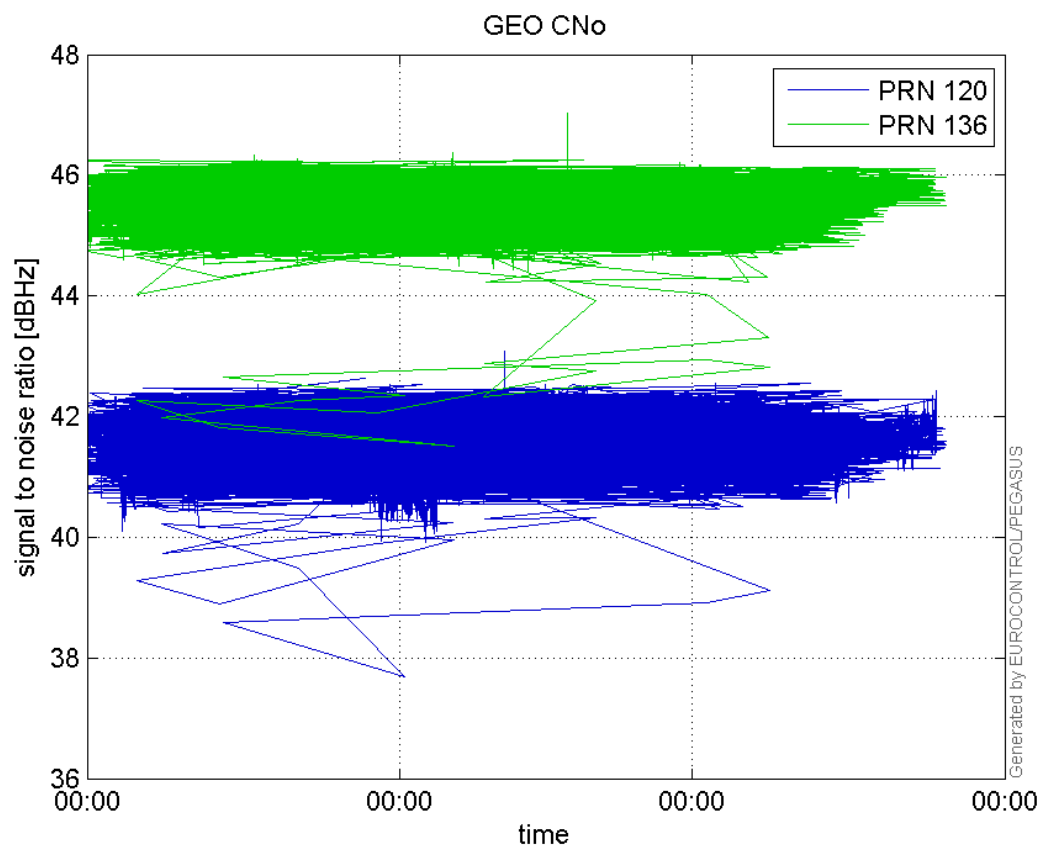
L1 CNo:



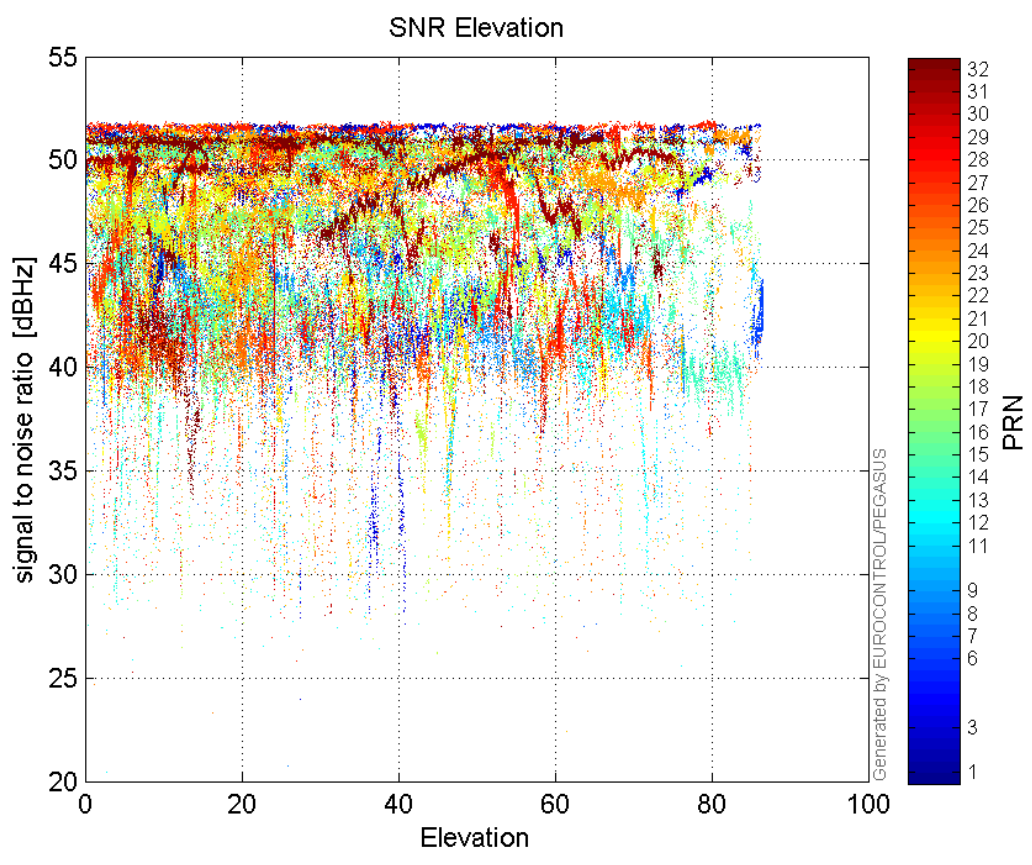
L2 CNo:



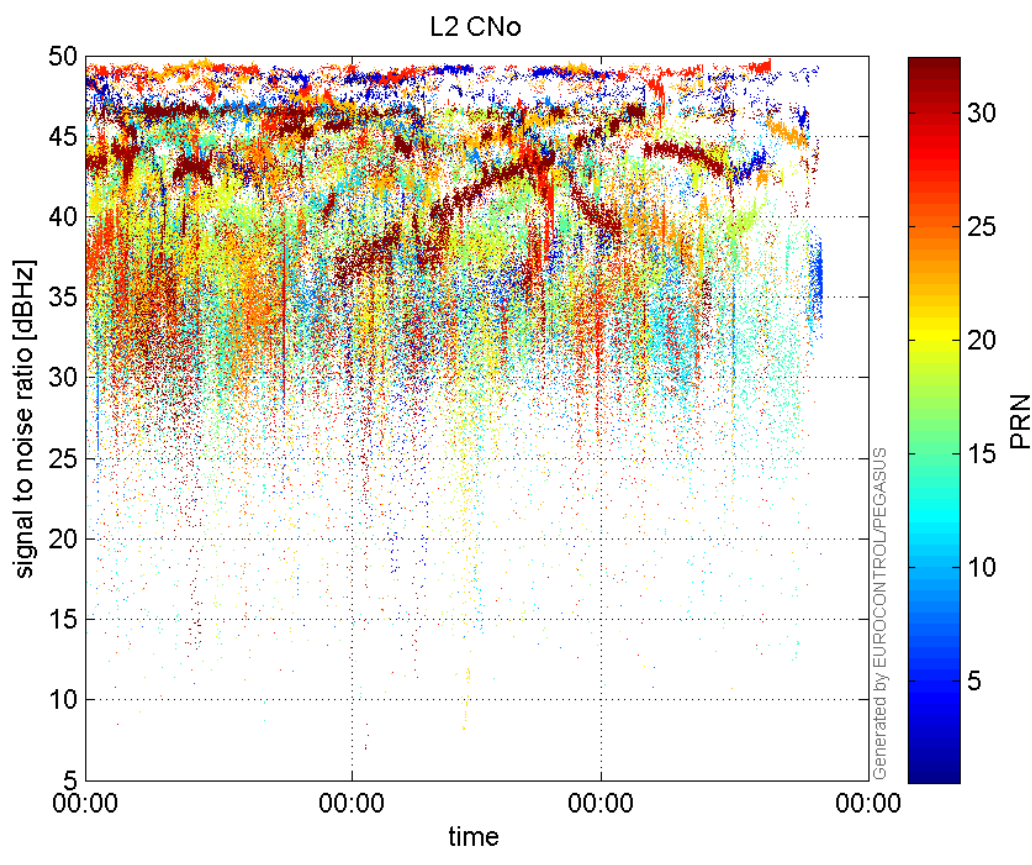
GEO CNo:



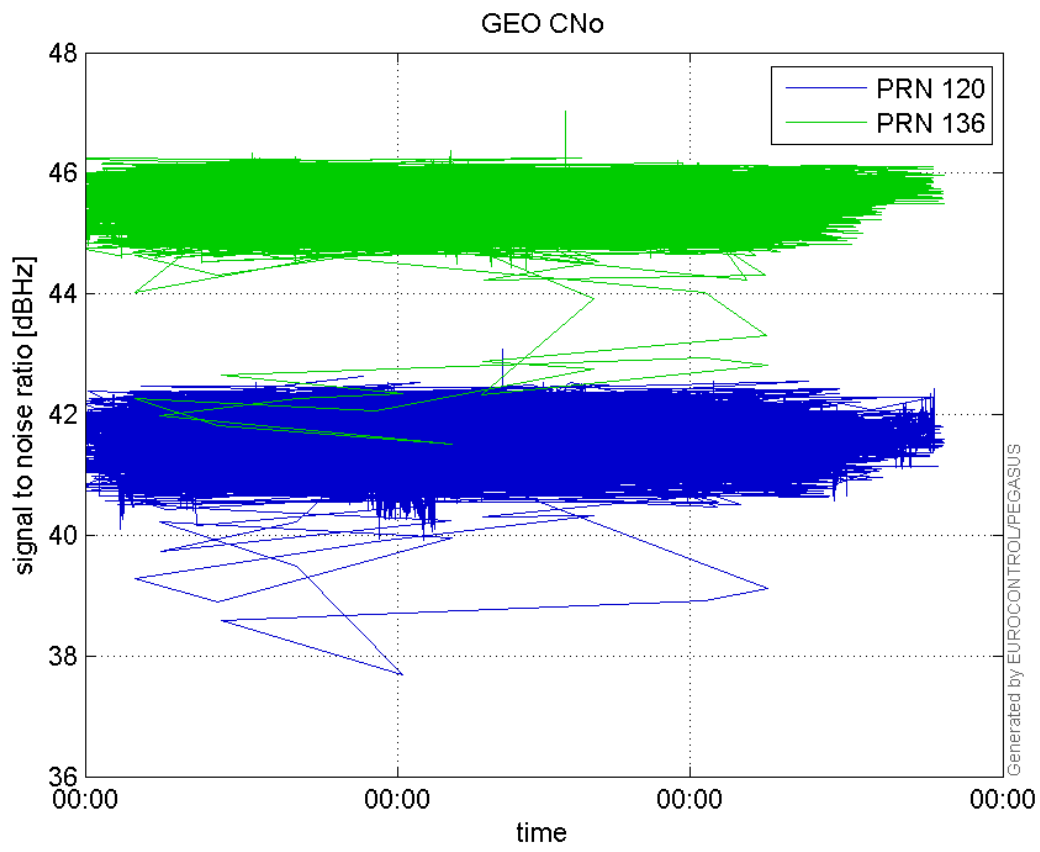
SNR Elevation:



**L2 CNo:**

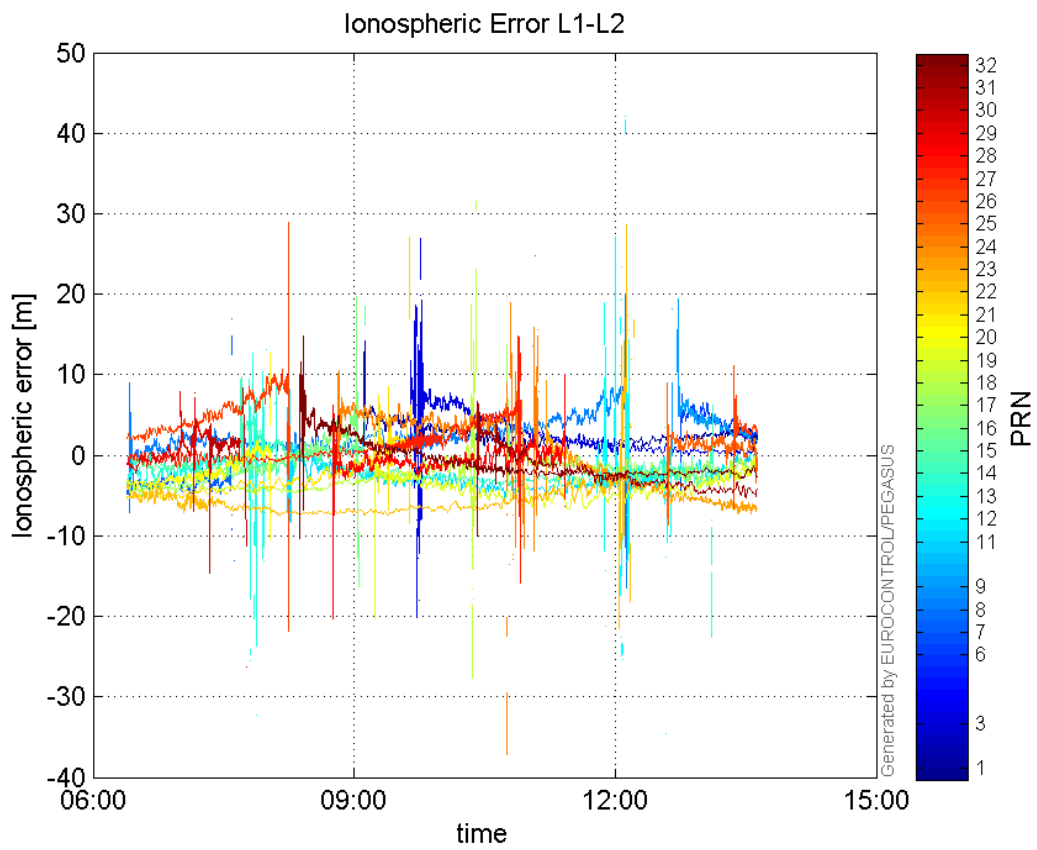


**GEO CNo:**



### 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_25EGNOS/02_Convertor/02_Convertor
output_prefix	system	D:/PegasusDateGob/job/2015_11_25EGNOS/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	227.9598
mi_numbers	results	0