

## General Information

### Mission Information

Project name	20211108_F1_Basestation
Processing date	2021-12-06 18:52:58
Mission date	2021-11-08 15:20:57
Mission duration	04:23:40.000
Processing mode	IN-Fusion Single Base
GPS Station	DHLG Durmid Hill

### Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N12299
IMU type	57
Receiver type	BD982
Antenna type	AV39

## Project File List

### Rover Data Files

File name	File type
VQ1560.593	POS Data
VQ1560.594	POS Data
VQ1560.595	POS Data
VQ1560.596	POS Data
VQ1560.597	POS Data
VQ1560.598	POS Data
VQ1560.599	POS Data
VQ1560.600	POS Data
VQ1560.601	POS Data
VQ1560.602	POS Data
VQ1560.603	POS Data
VQ1560.604	POS Data
VQ1560.605	POS Data
VQ1560.606	POS Data
VQ1560.607	POS Data
VQ1560.608	POS Data
VQ1560.609	POS Data
VQ1560.610	POS Data
VQ1560.611	POS Data
VQ1560.612	POS Data
VQ1560.613	POS Data
VQ1560.614	POS Data
VQ1560.615	POS Data
VQ1560.616	POS Data
VQ1560.617	POS Data
VQ1560.618	POS Data
VQ1560.619	POS Data
VQ1560.620	POS Data
VQ1560.621	POS Data
VQ1560.622	POS Data
VQ1560.623	POS Data
VQ1560.624	POS Data
VQ1560.625	POS Data
VQ1560.626	POS Data
VQ1560.627	POS Data
VQ1560.628	POS Data

### Input Files

File Name	File type
Ephm3120.21g	GLONASS Broadcast Ephemeris
Ephm3120.21n	GPS Broadcast Ephemeris
dhlg3120.21o	GNSS SingleBase

### Output Files

Filename	File type
sbet_20211108_F1_Basestation.out	SBET Trajectory File
export_20211108_F1_Basestation_NAD83_2011.	Custom Smoothed BET Export Output

## Rover Data Summary

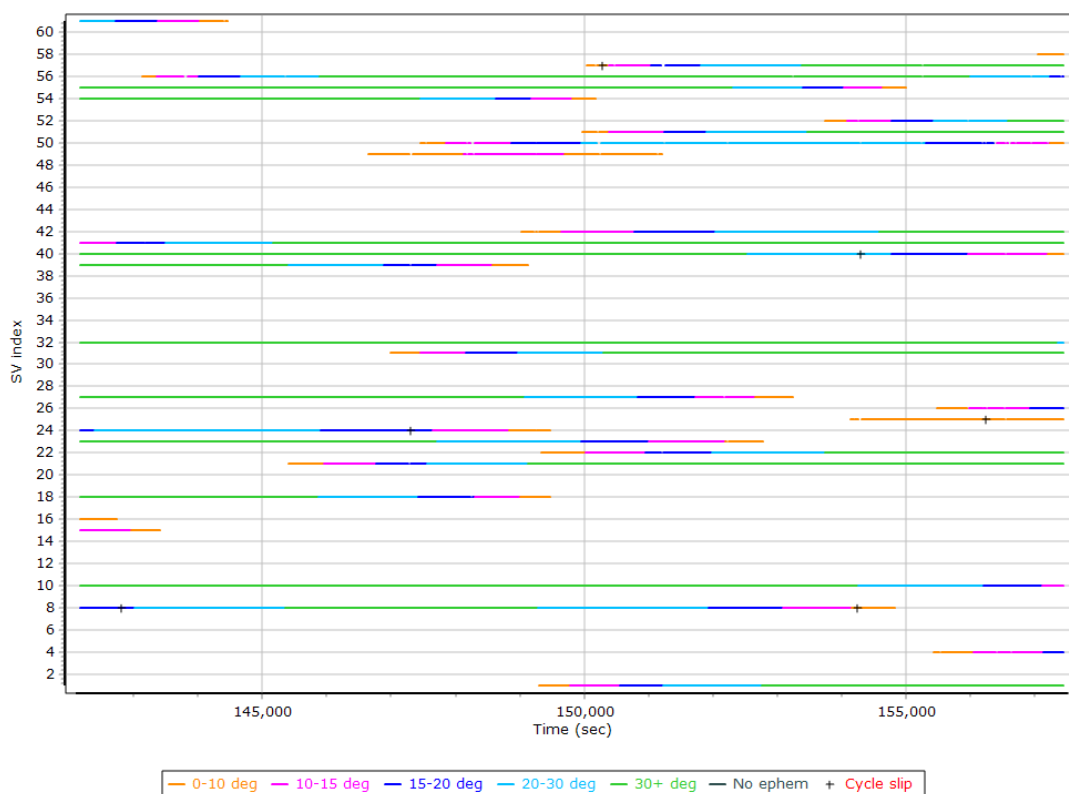
First raw data file	VQ1560.593		
Last raw data file	VQ1560.628		
Start GPS week	2183		
Start time	141652.492 (11/8/2021 3:20:52 PM)		
End time	157459.333 (11/8/2021 7:44:19 PM)		
Start of fine alignment	142107.451 (11/8/2021 3:28:27 PM)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction data	None		
<b>IMU Installation Lever Arms &amp; Mounting Angles</b>			
Reference to IMU lever arm [m]	0.018	-0.010	-0.464
Reference to IMU mounting angles [deg]	0.000	0.000	0.000
Reference to Primary GNSS lever arm [m]	0.000	0.000	-1.000
Reference to Primary GNSS lever arm std dev [m]	-1.000		
Aircraft to Reference mounting angles [deg]	0.000	0.000	0.000

## Raw Data QC

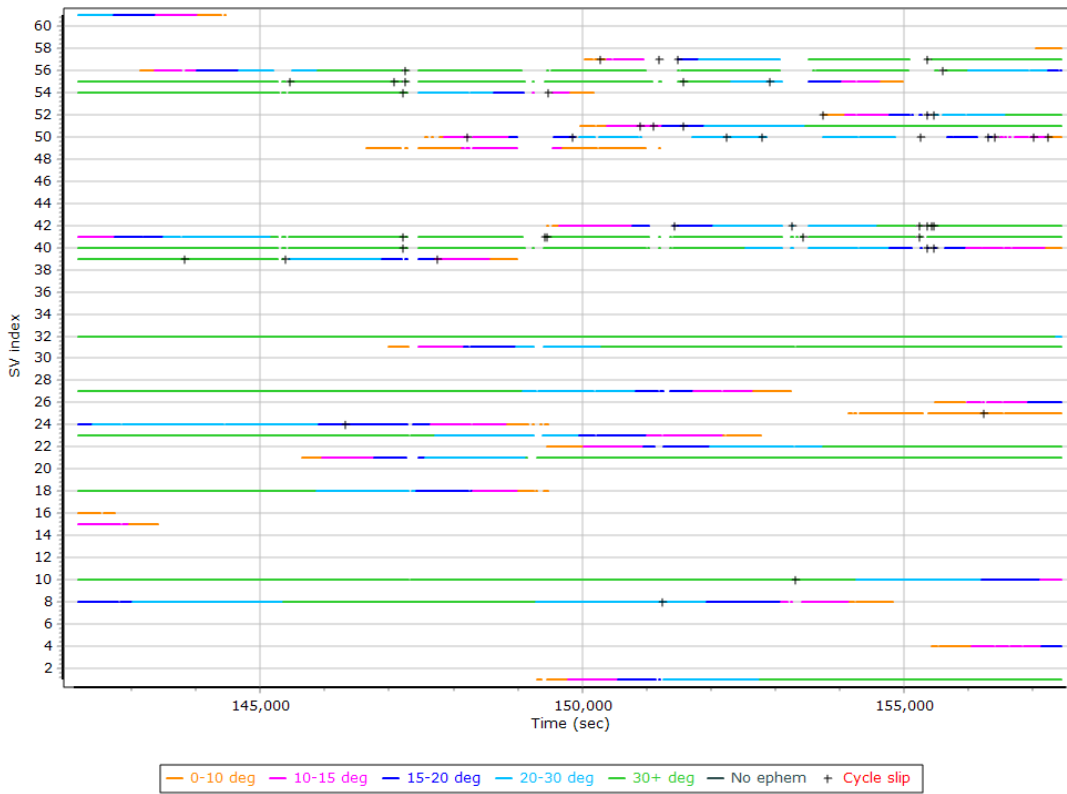
### Raw IMU Import QC Summary

IMU data input file	imu_20211108_F1_Basestation.dat
IMU data check log file	imudt_20211108_F1_Basestation.log
IMU Records Processed	3163450
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
141652.301 : WARNING : Gap of 141638.3445 seconds in CHECKDT input data	

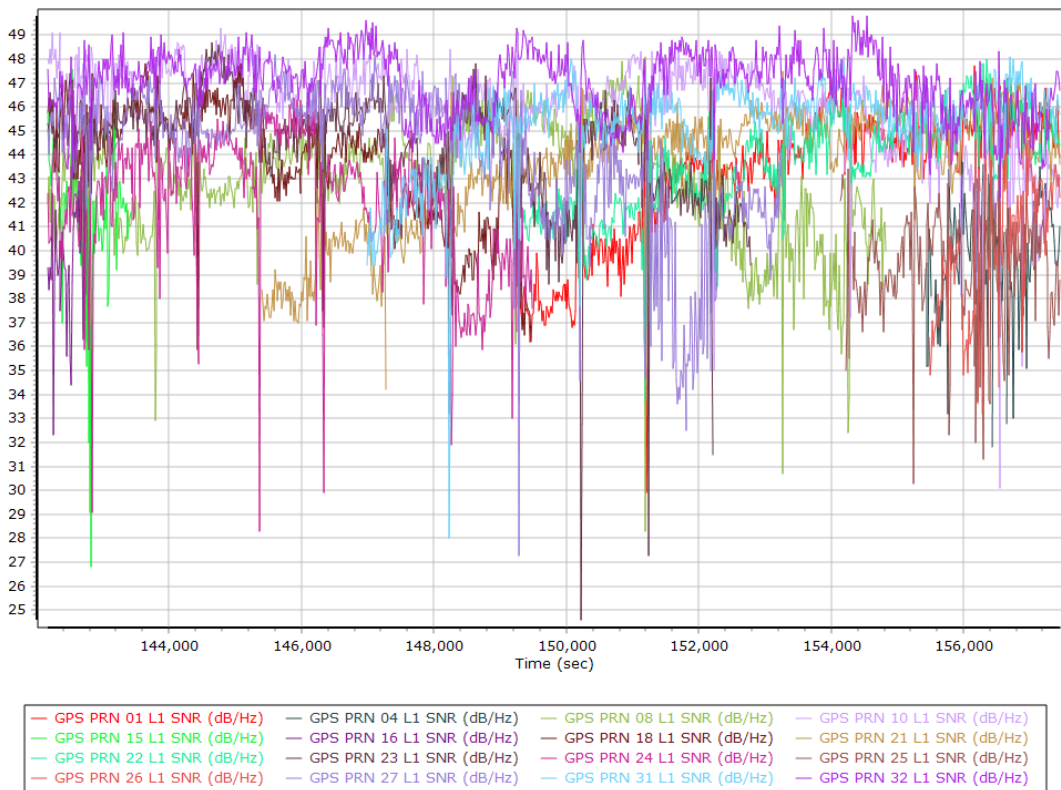
### L1 Satellite Lock/Elevation



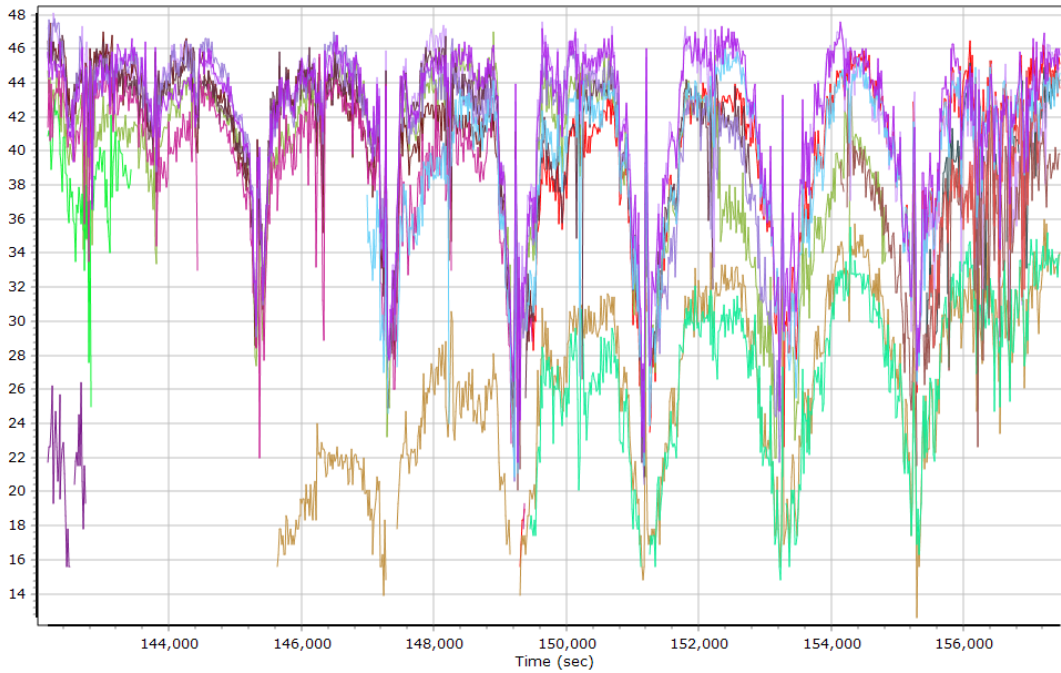
## L2 Satellite Lock/Elevation



## GPS L1 SNR

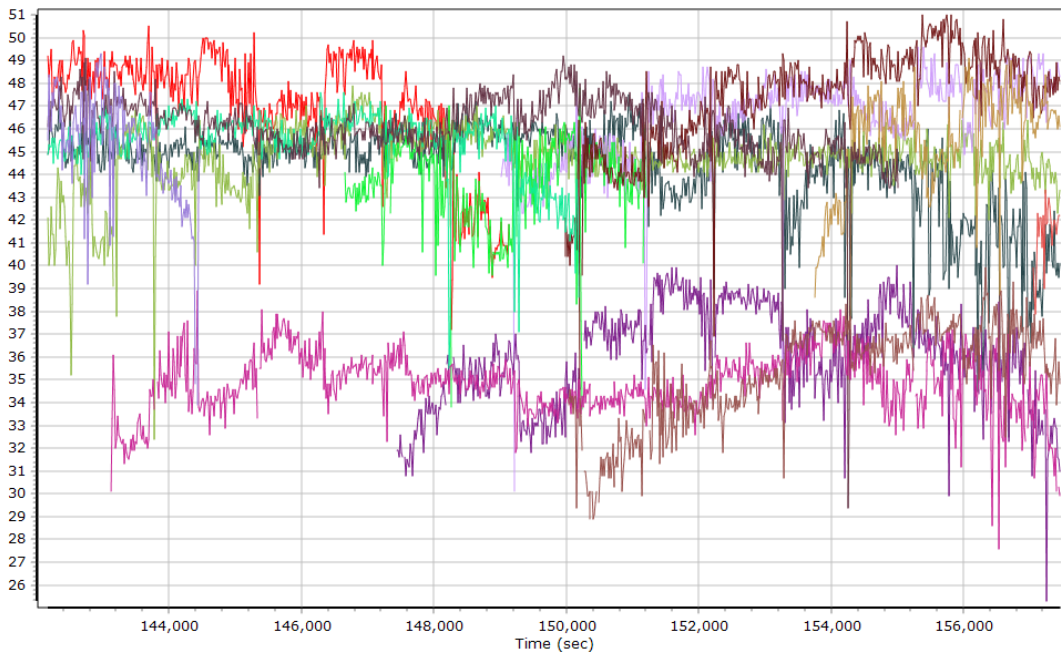


## GPS L2 SNR



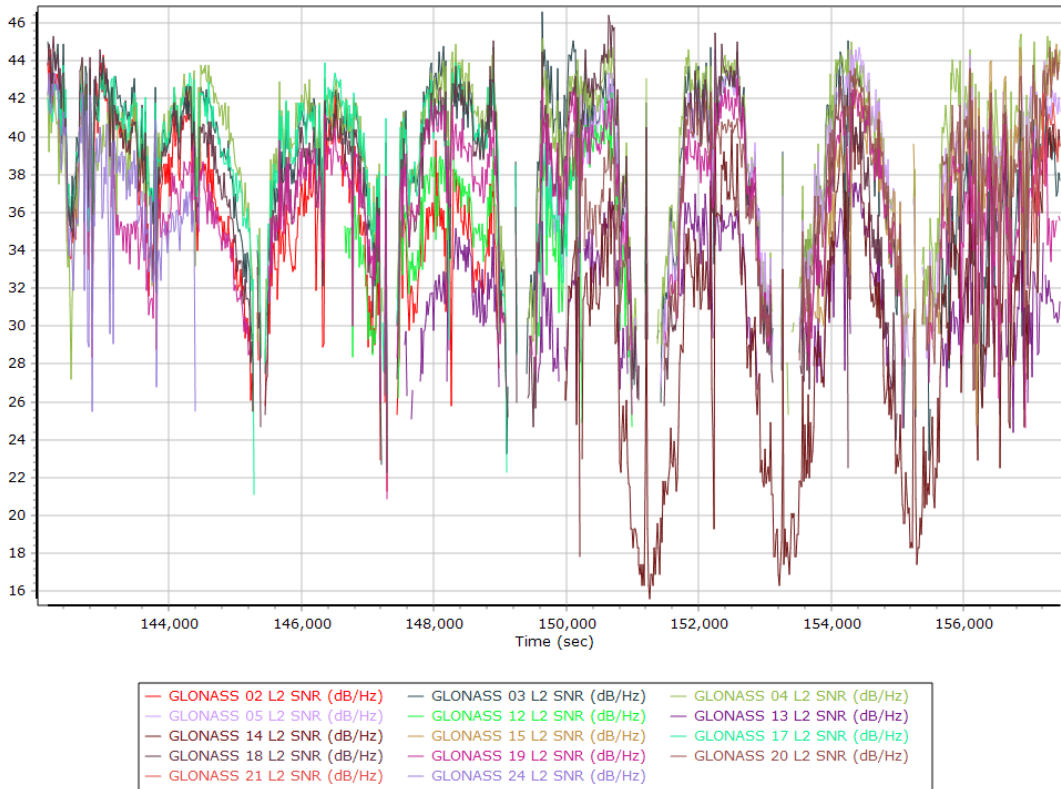
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 04 L2 SNR (dB/Hz) | GPS PRN 08 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) |
| GPS PRN 15 L2 SNR (dB/Hz) | GPS PRN 16 L2 SNR (dB/Hz) | GPS PRN 18 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) |
| GPS PRN 22 L2 SNR (dB/Hz) | GPS PRN 23 L2 SNR (dB/Hz) | GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) |
| GPS PRN 26 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) |

## GLONASS L1 SNR

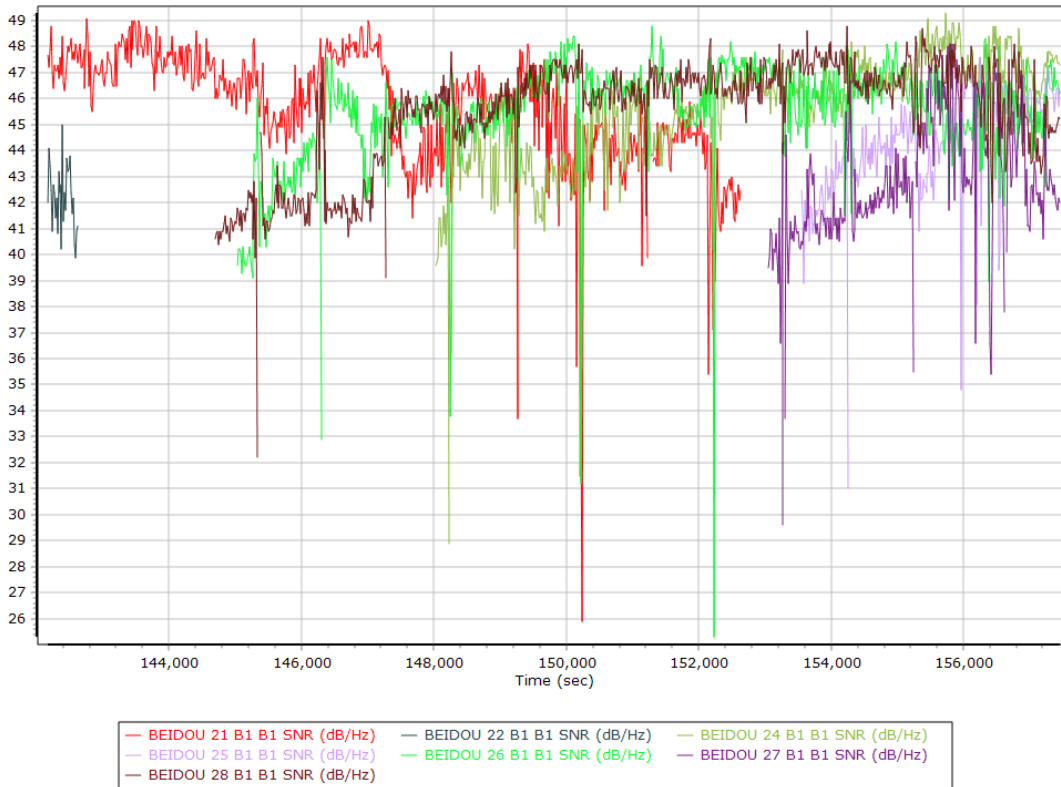


- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 02 L1 SNR (dB/Hz) | GLONASS 03 L1 SNR (dB/Hz) | GLONASS 04 L1 SNR (dB/Hz) |
| GLONASS 05 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) | GLONASS 13 L1 SNR (dB/Hz) |
| GLONASS 14 L1 SNR (dB/Hz) | GLONASS 15 L1 SNR (dB/Hz) | GLONASS 17 L1 SNR (dB/Hz) |
| GLONASS 18 L1 SNR (dB/Hz) | GLONASS 19 L1 SNR (dB/Hz) | GLONASS 20 L1 SNR (dB/Hz) |
| GLONASS 21 L1 SNR (dB/Hz) | GLONASS 24 L1 SNR (dB/Hz) |                           |

## GLONASS L2 SNR

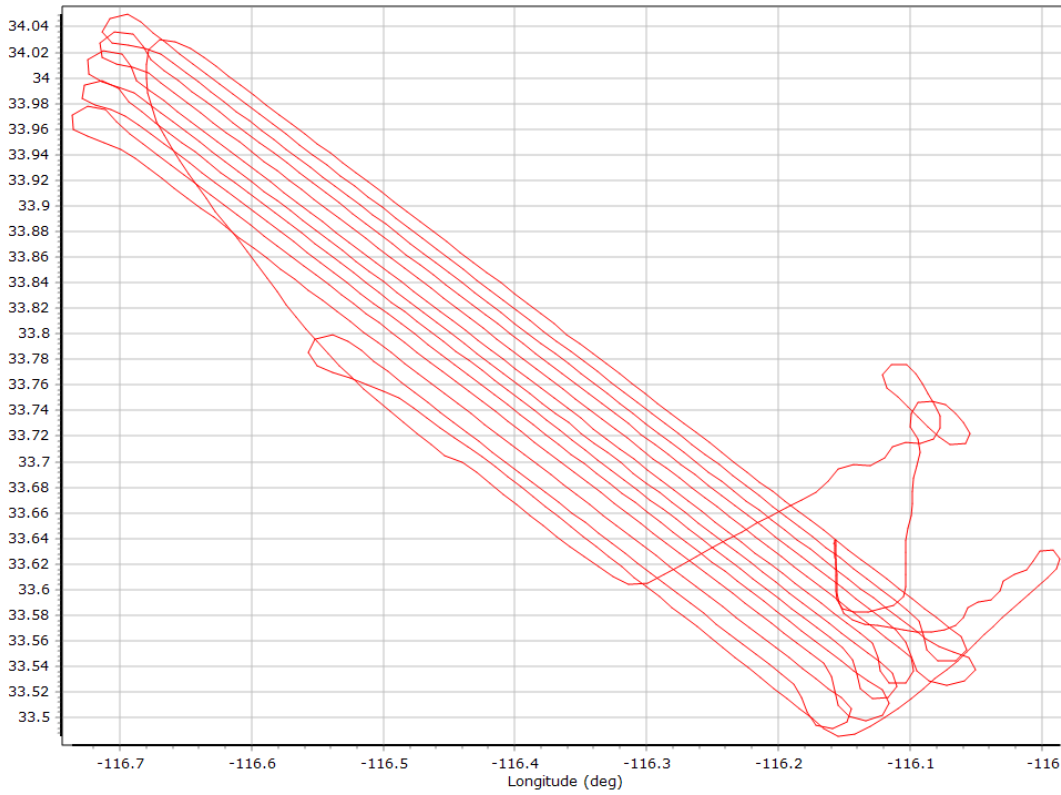


## BEIDOU SNR

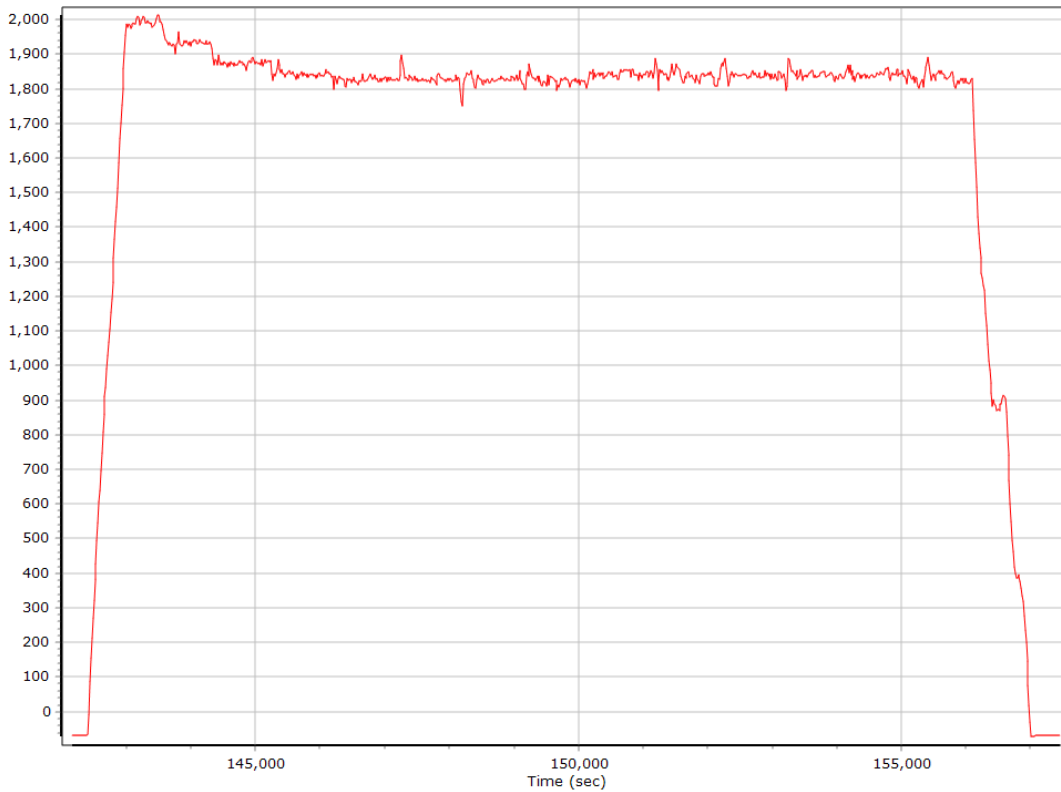


## Trajectory Information

### Top View

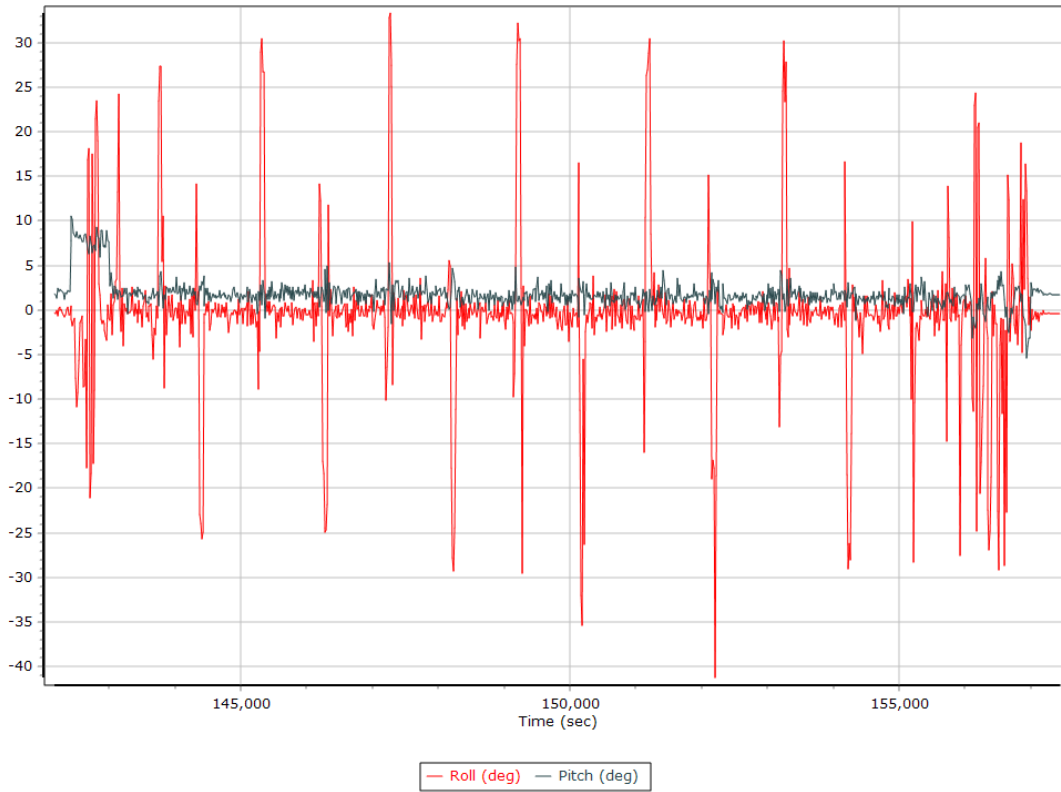


### Altitude

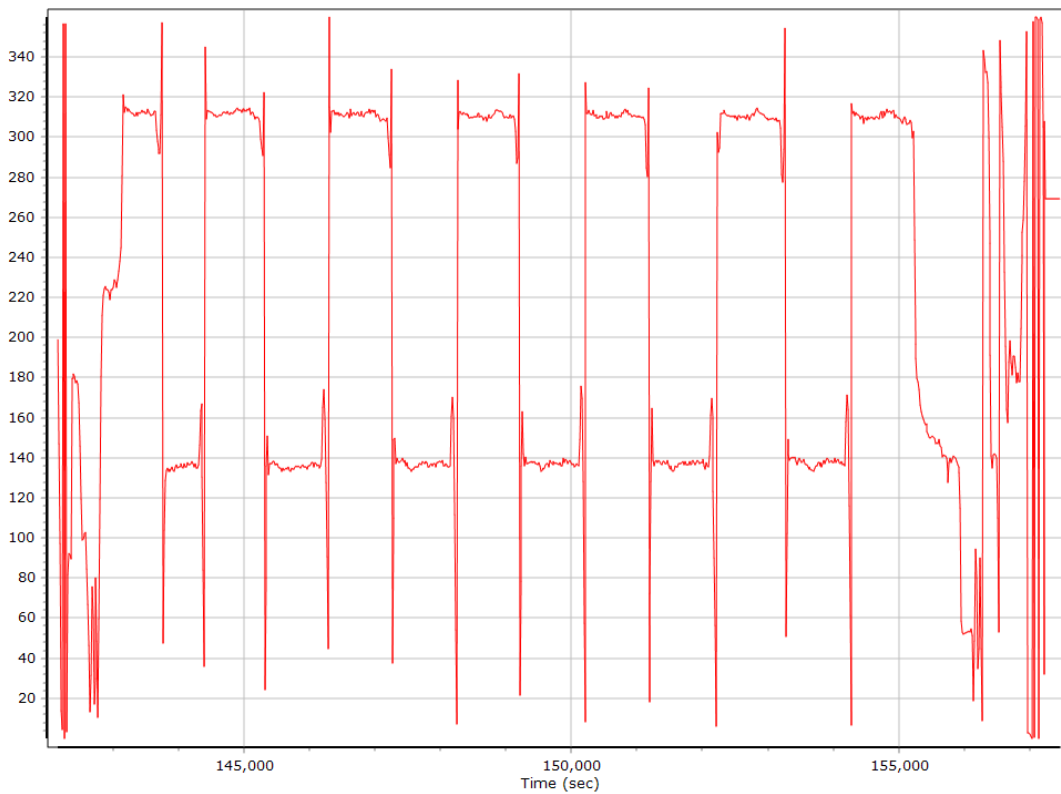




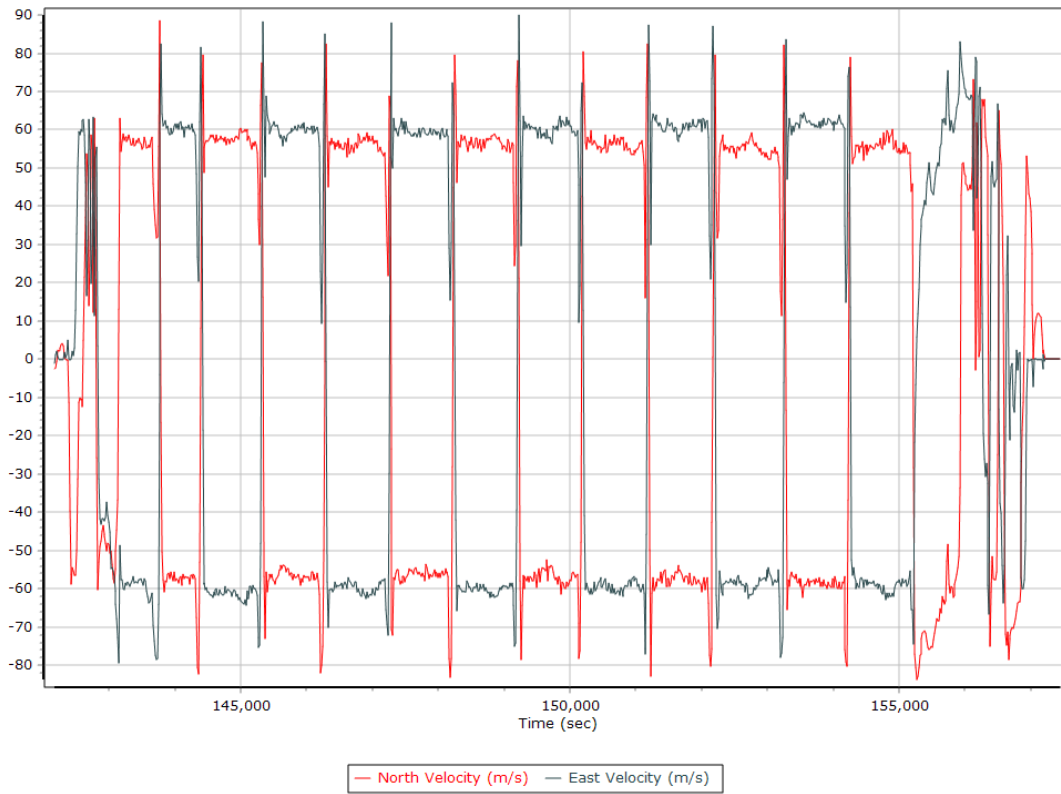
## Roll/Pitch



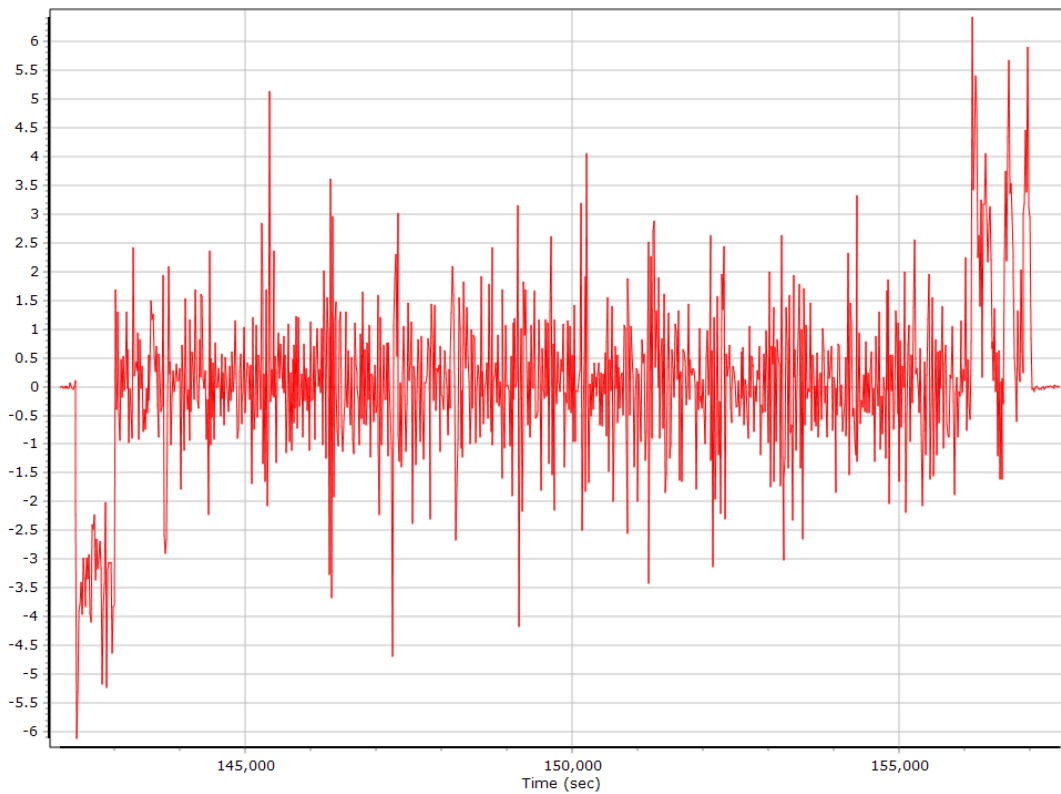
## Heading



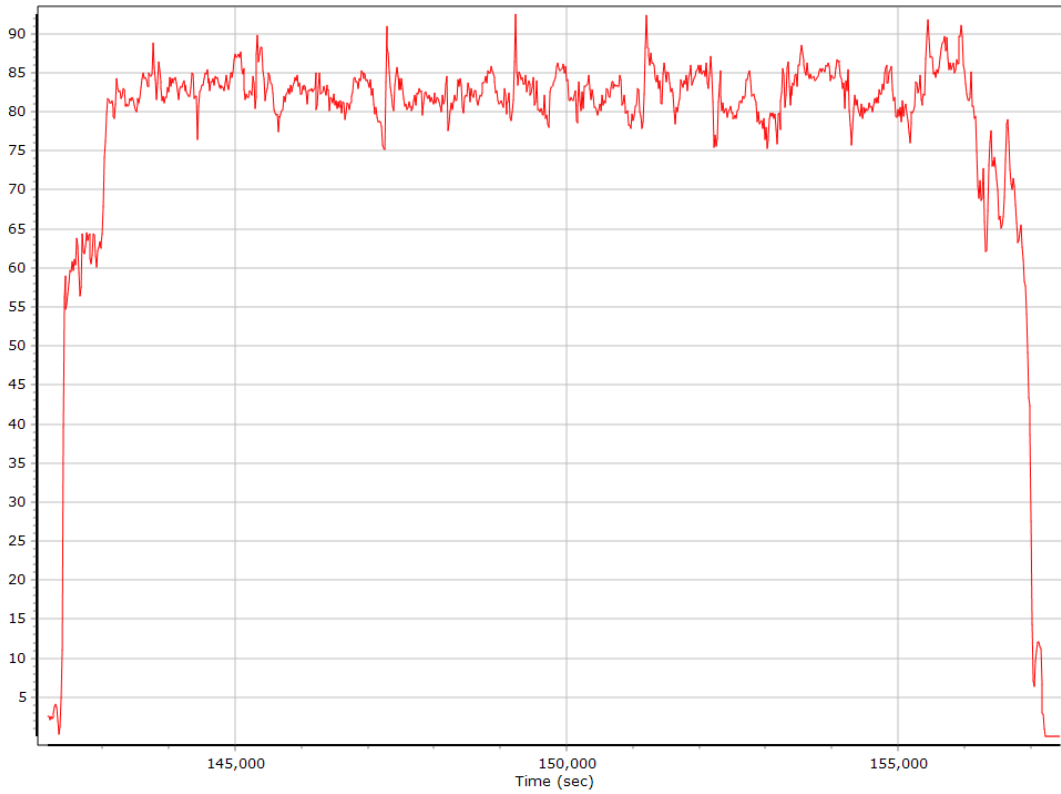
## North/East Velocity



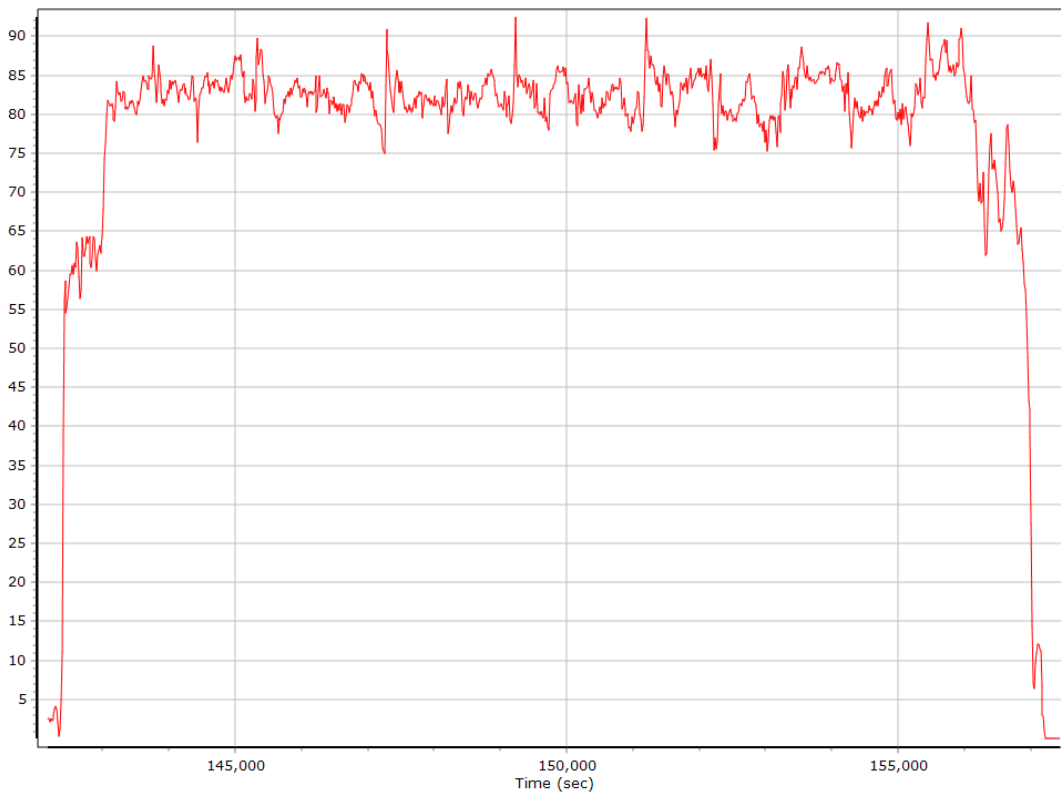
## Down Velocity



## Total Speed



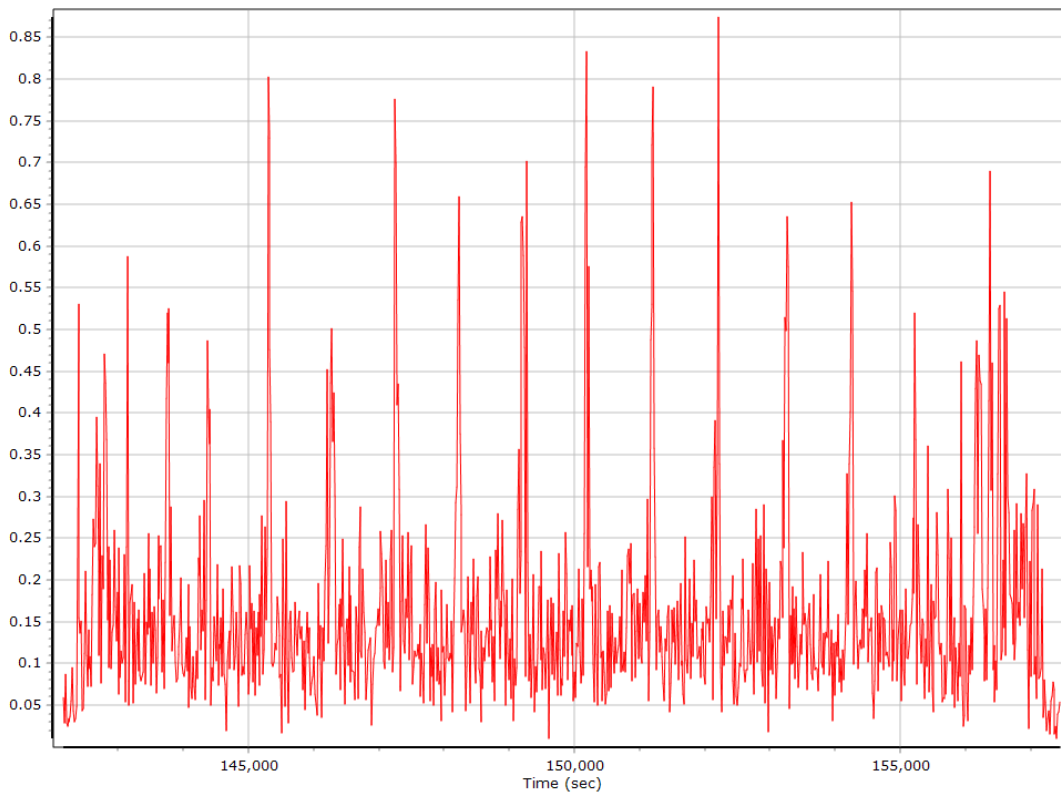
## Ground Speed



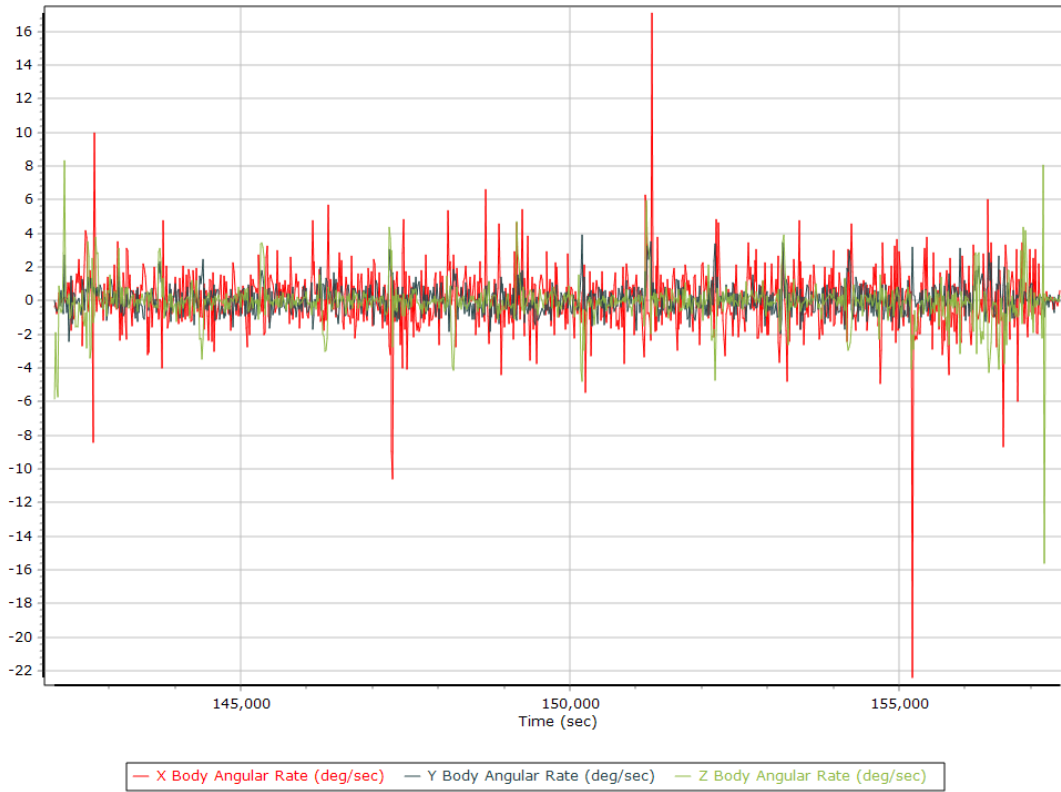
## Body Acceleration



## Total Body Acceleration



## Body Angular Rate



## Base Station Information

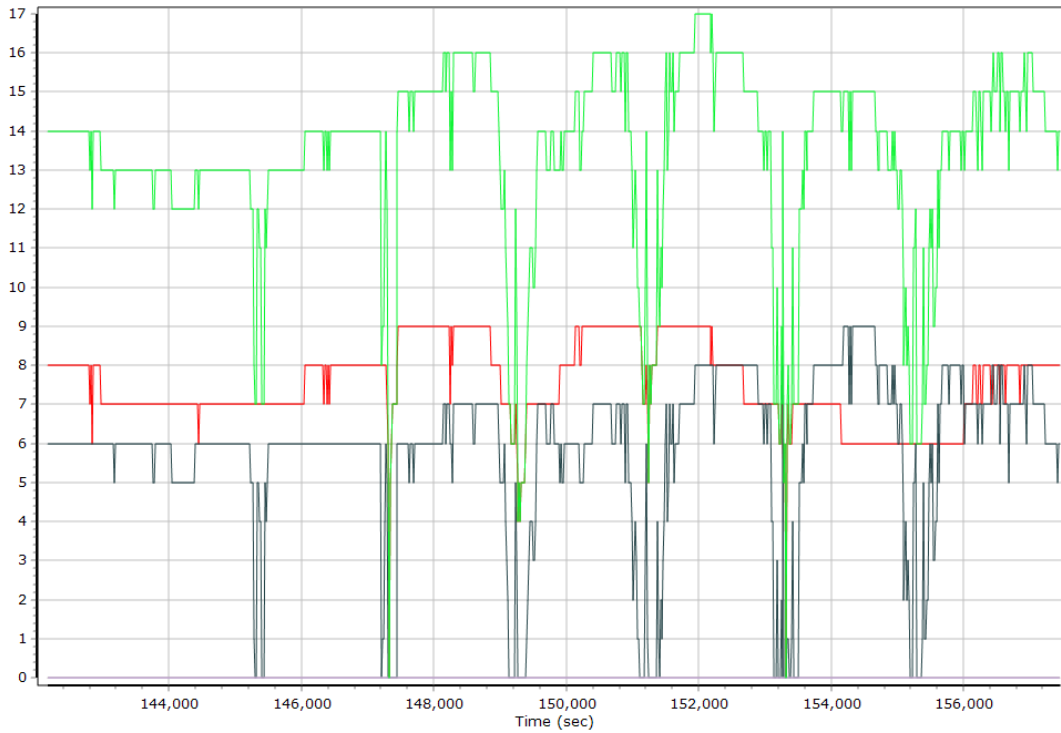
Station ID	DHLG Durmid Hill		
Filename	dhlg3120.21o		
Start date	11/8/2021 12:00:00 AM		
End date	11/8/2021 11:59:59 PM		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Topcon	NET-G3A	618-01037
Antenna manufacturer, model	Topcon	TPS CR.G3 w/SCIS	
Antenna height [m]	0.122		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC [m]	0.08417		
Latitude	N33°23'23.28790"		
Longitude	W115°47'16.85576"		
Ellipsoidal height [m]	-82.15100		
Frame	NAD83_2011		
Epoch	2010		
Ellipsoid	GRS_1980		
Velocity North [mm/y]	36.2		
Velocity East [mm/y]	-29.88		
Velocity Up [mm/y]	-1.08		

## GNSS QC

### GNSS QC Statistics

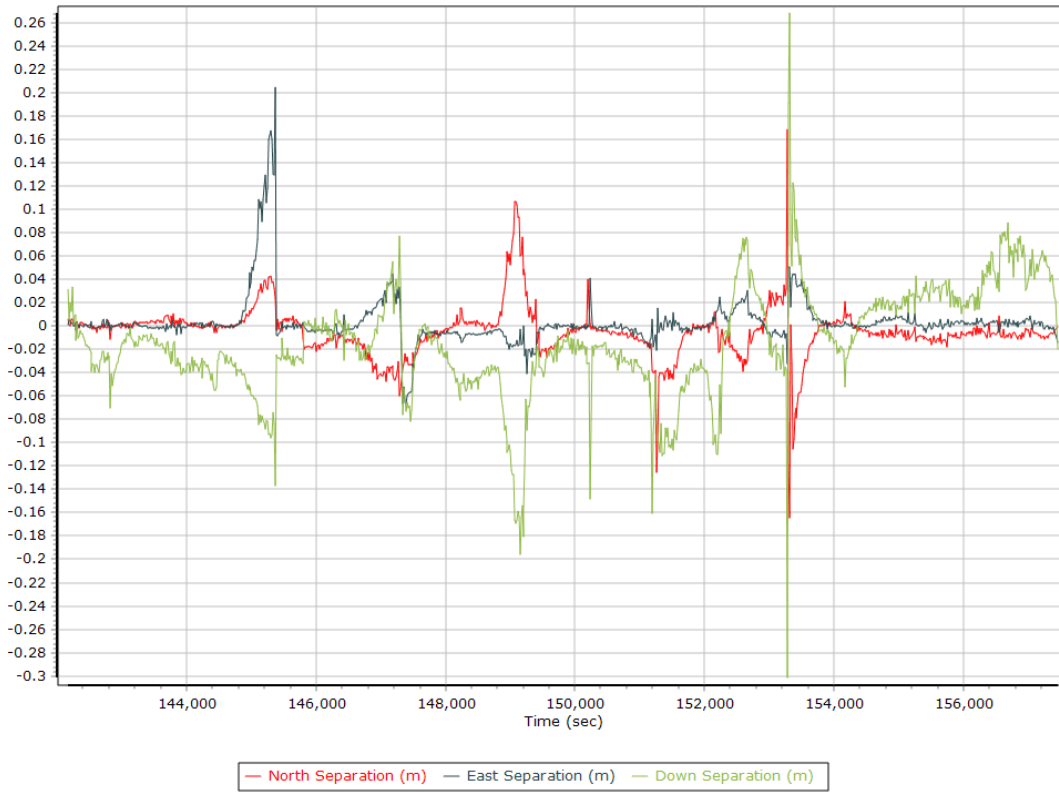
Statistics	Min	Max	Mean
Baseline length [km]	29.41	112.15	
Number of GPS SV	3	9	8
Number of GLONASS SV	0	9	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Total number of SV	4	17	13
PDOP	1.23	6.96	1.70
QC Solution Gaps	4.00	15.00	
Solution Type	Fixed	Float	No solution
Epoch (s)	15781.00	0.00	24.00
Percentage	99.85	0.00	0.15

### Num SVs in solution

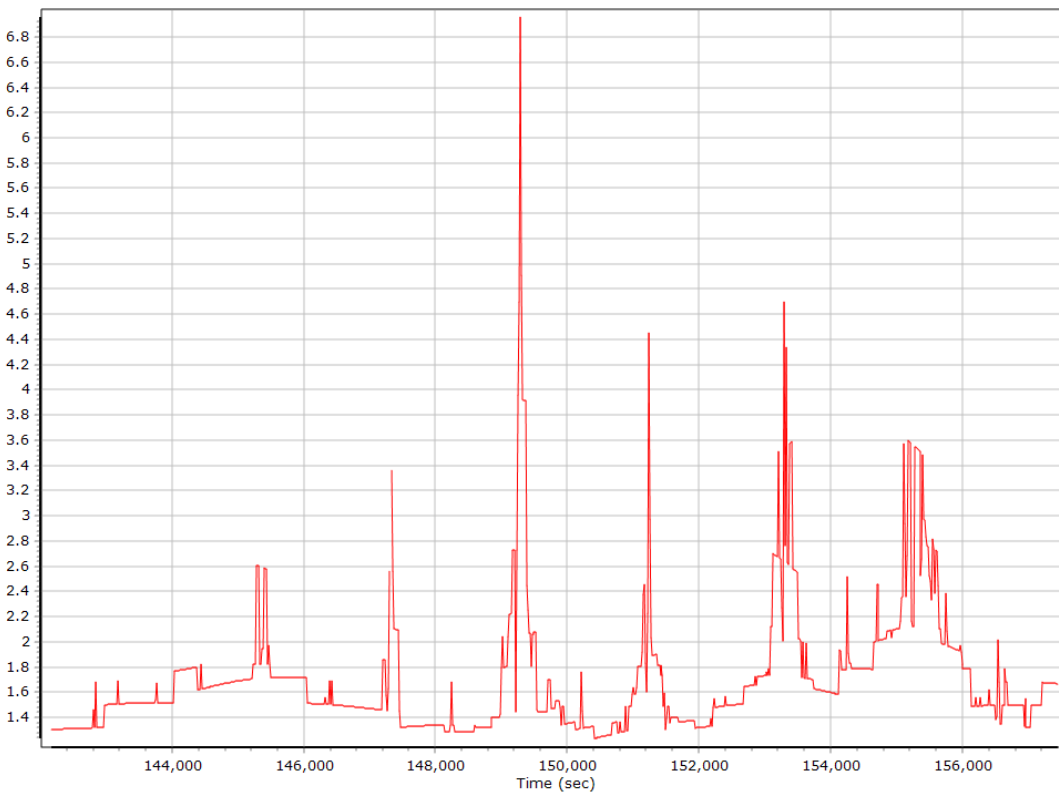


— Number of GPS — Number of GLONASS — Number of QZSS — Number of BEIDOU — Total Number

## Forward/Reverse Separation

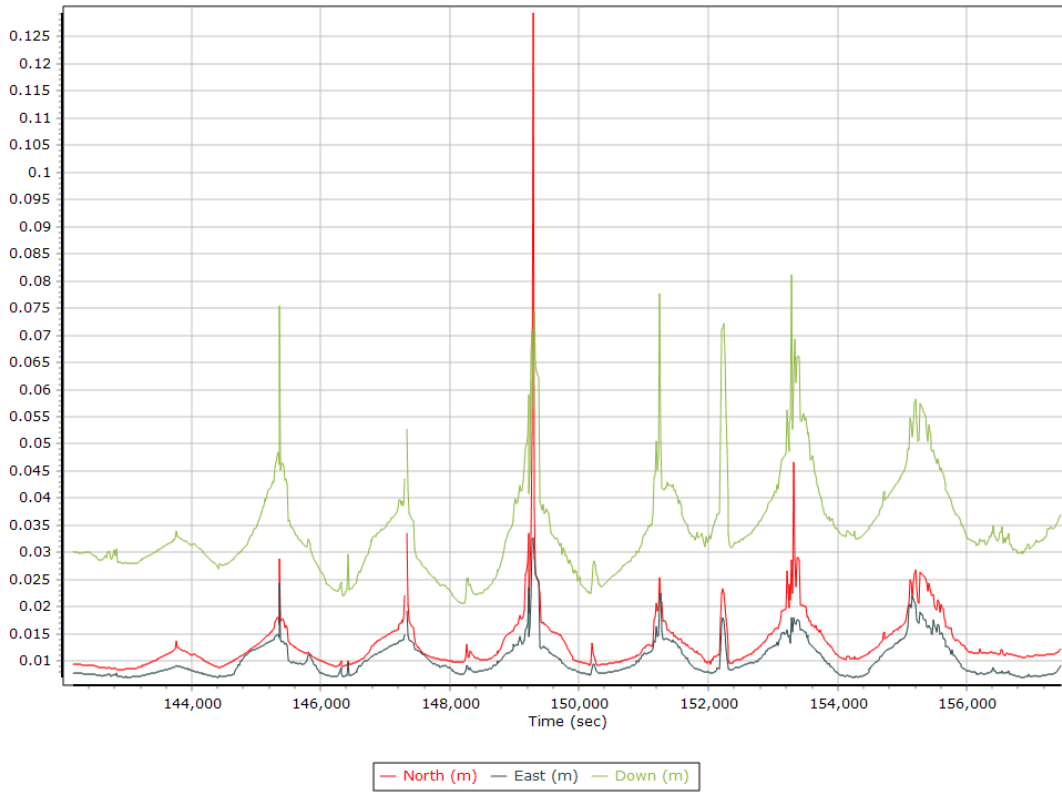


## PDOP





## Estimated Position Accuracy



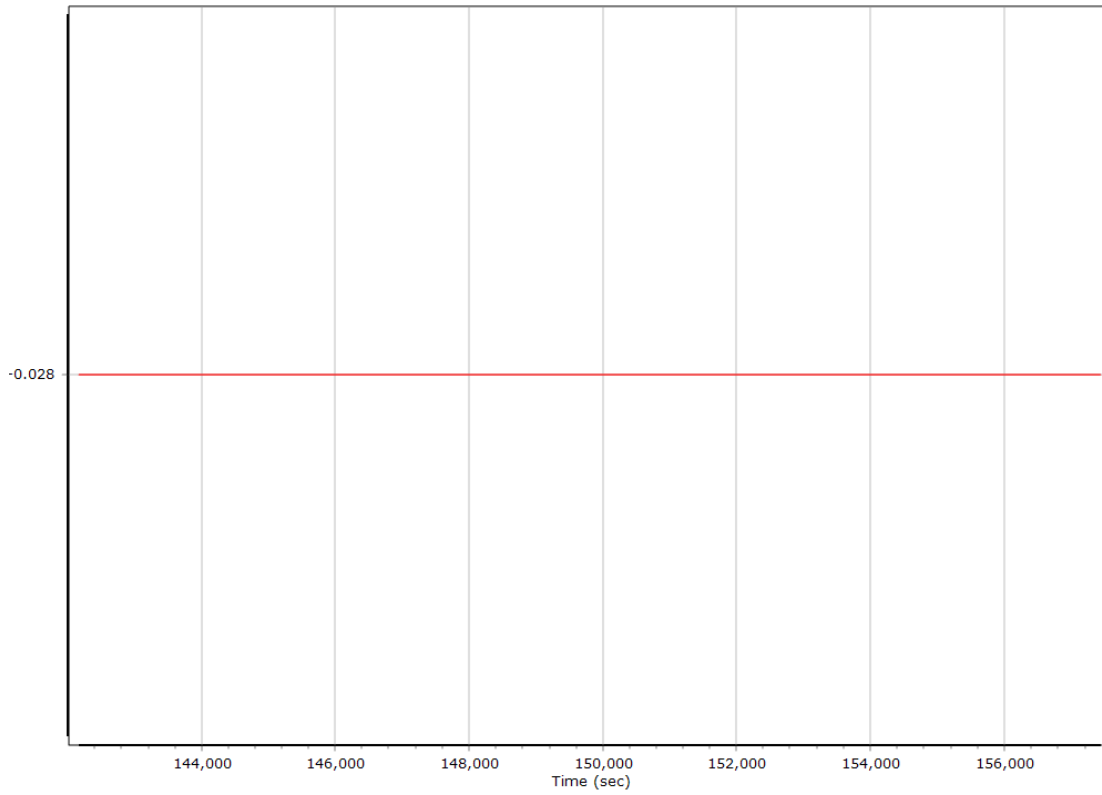
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion Single Base		
Stabilized mount	False		
Base station	DHLG Durmid Hill		
Processing start time	141639.000 (11/8/2021 3:20:39 PM)		
Processing end time	157459.000 (11/8/2021 7:44:19 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Reference to IMU lever arm [m]	0.000	0.000	0.000
Reference to IMU mounting angles [deg]	0.000	0.000	0.000
Reference to Primary GNSS lever arm [m]	-0.028	-0.054	-0.948
Reference to Primary GNSS lever arm std dev [m]	0.030	0.030	0.030
Aircraft to Reference mounting angles [deg]	0.000	0.000	0.000

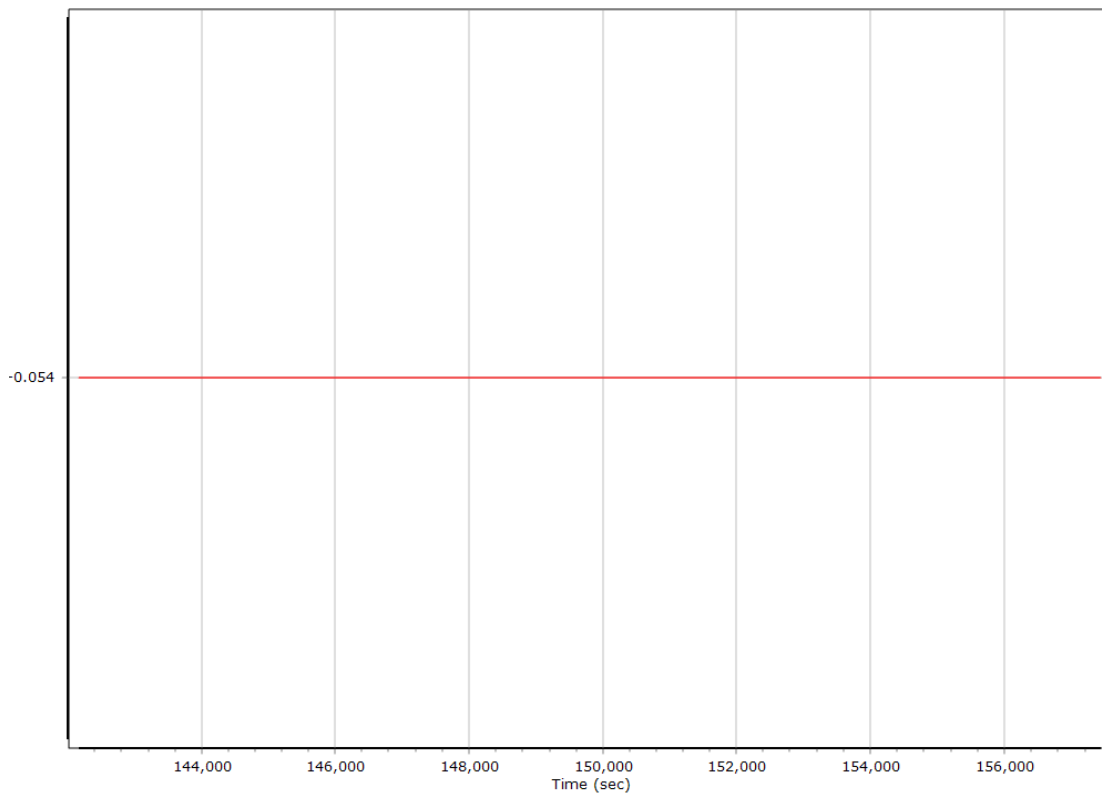
## Calibrated Installation Parameters

### Reference-Primary GNSS Lever Arm

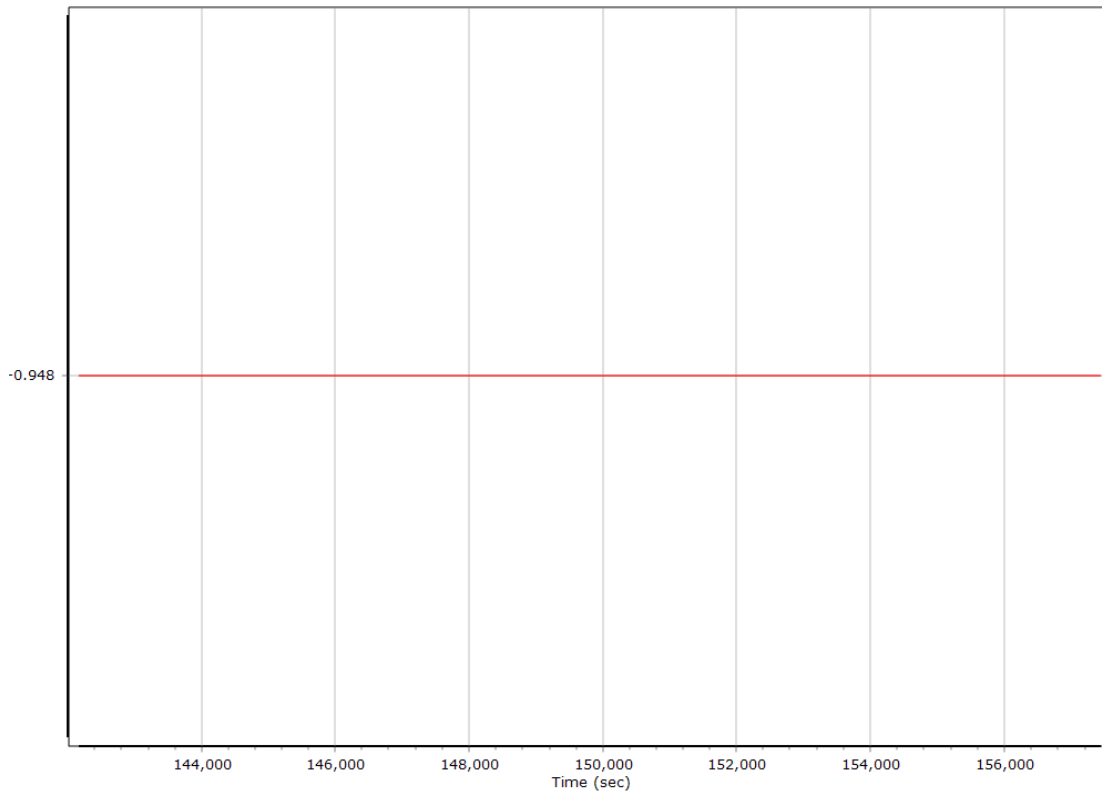
#### X Reference-Primary GNSS Lever Arm (m)



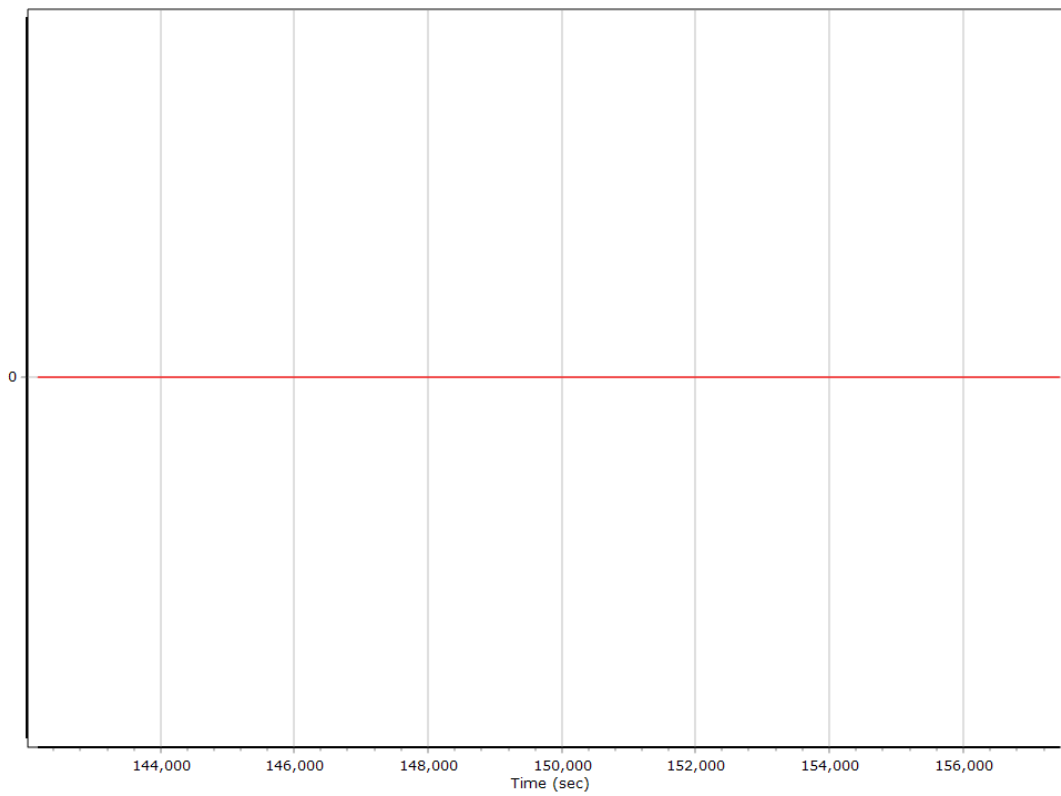
#### Y Reference-Primary GNSS Lever Arm (m)



### Z Reference-Primary GNSS Lever Arm (m)



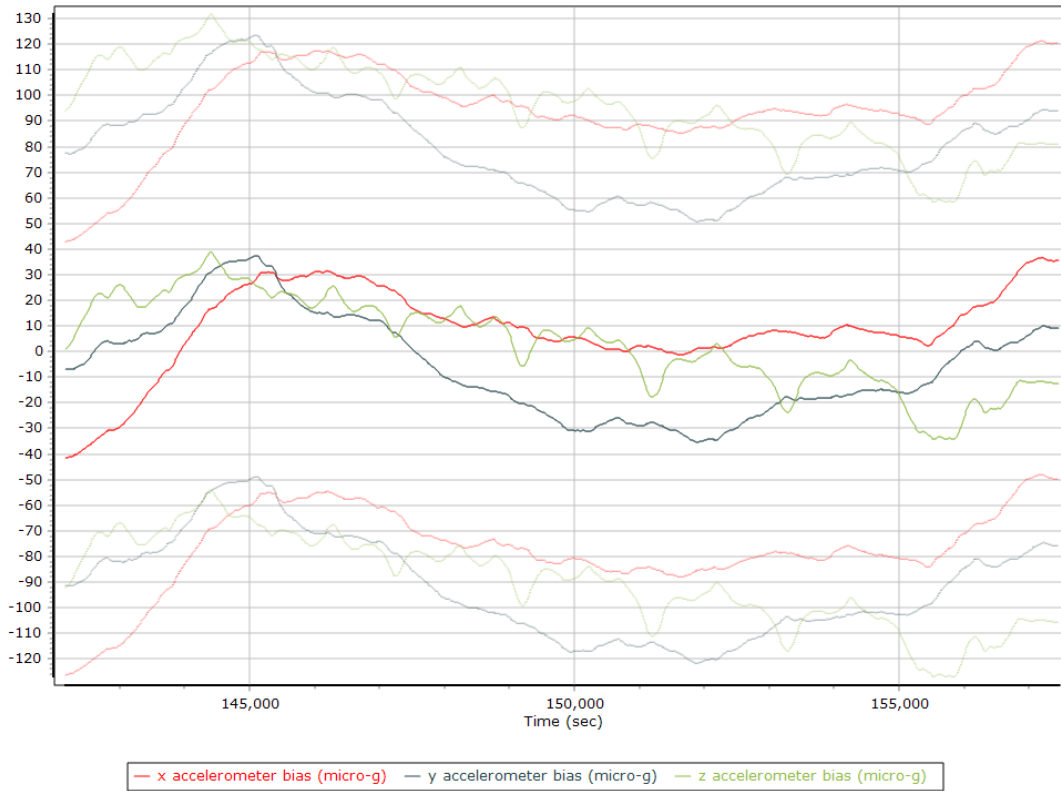
### Reference-Primary GNSS Lever Arm Figure of Merit



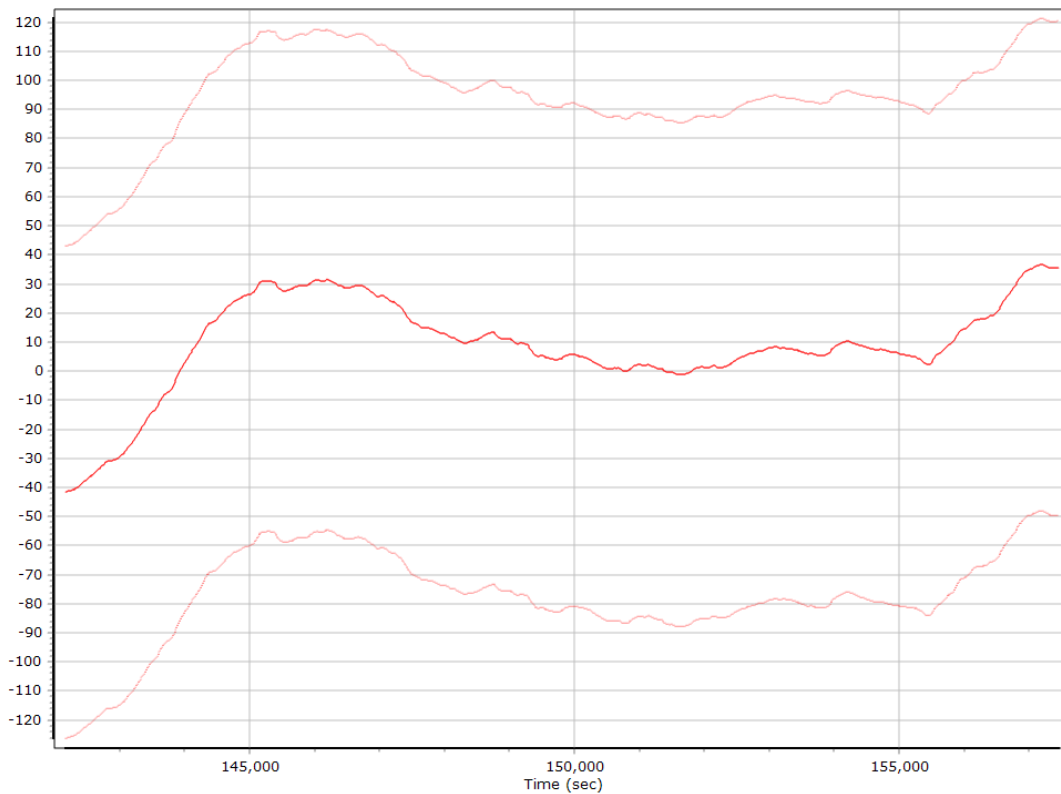
## Smoothed IN-Fusion QC

### Smoothed Estimated Errors, Reference Frame

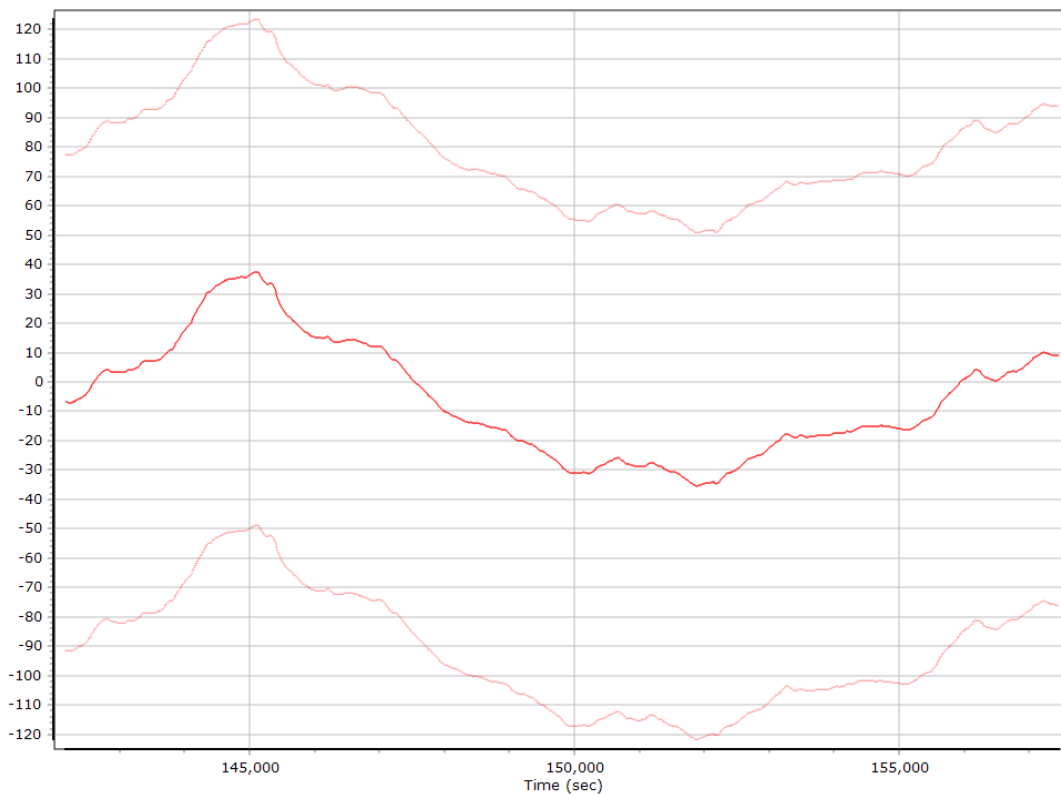
#### Accelerometer Bias (micro-g)



#### X Accelerometer Bias (micro-g)



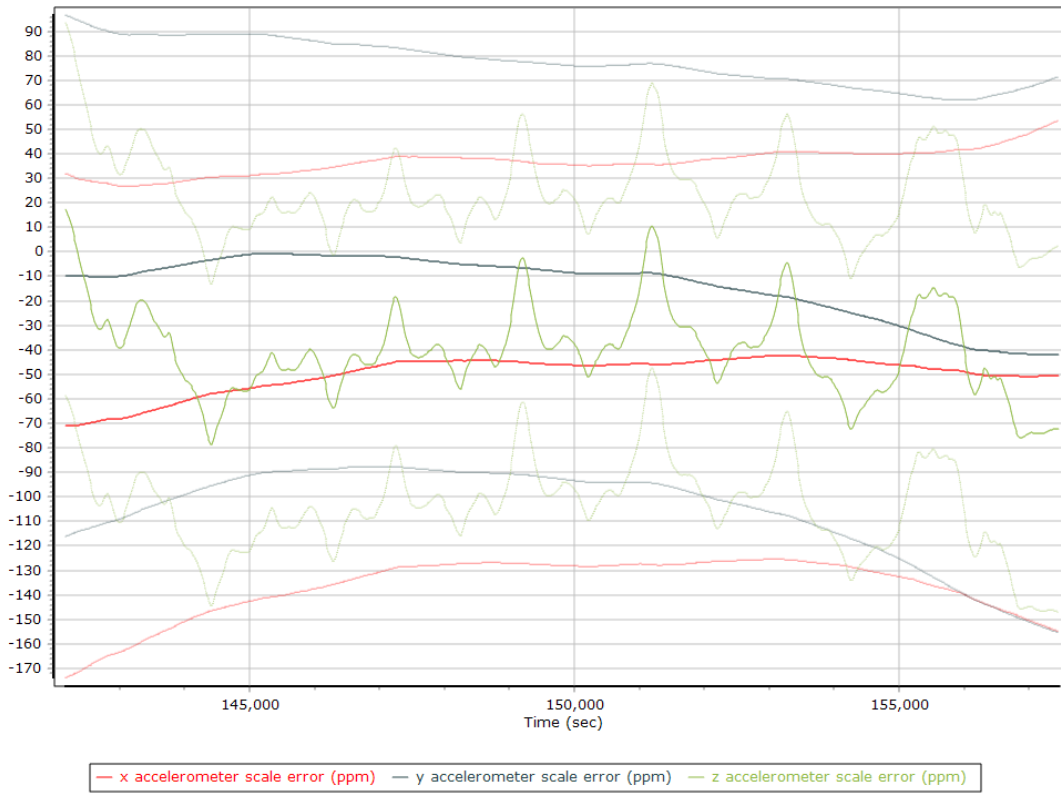
### Y Accelerometer Bias (micro-g)



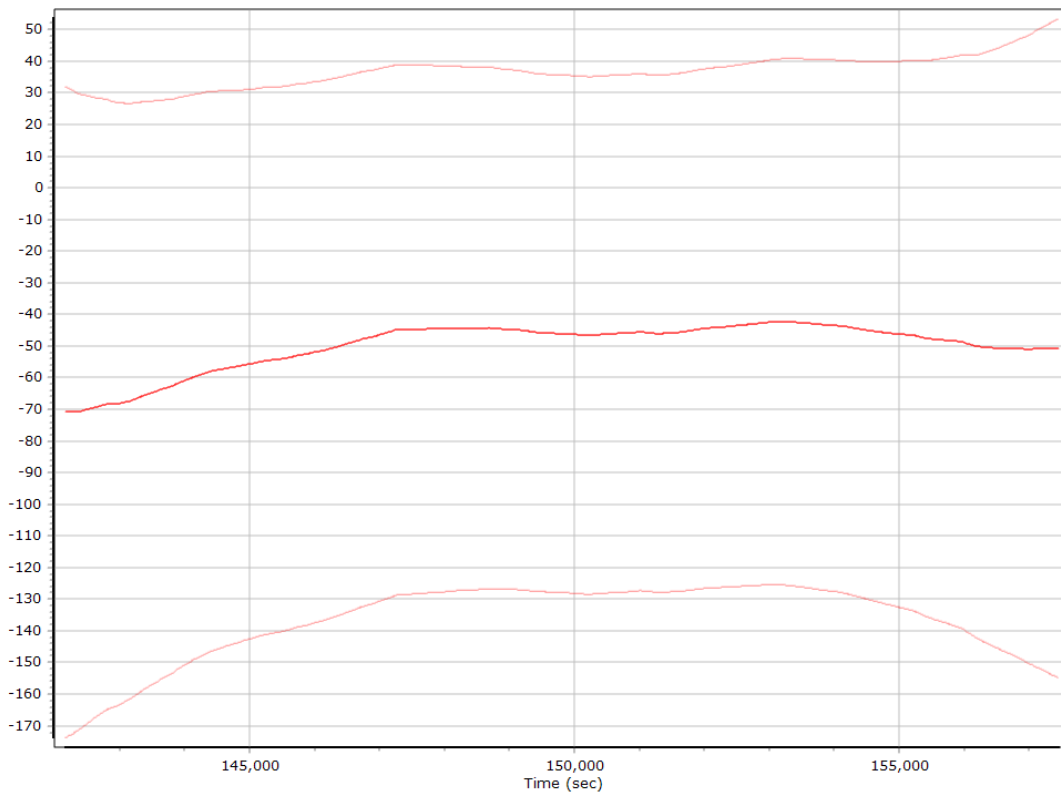
### Z Accelerometer Bias (micro-g)



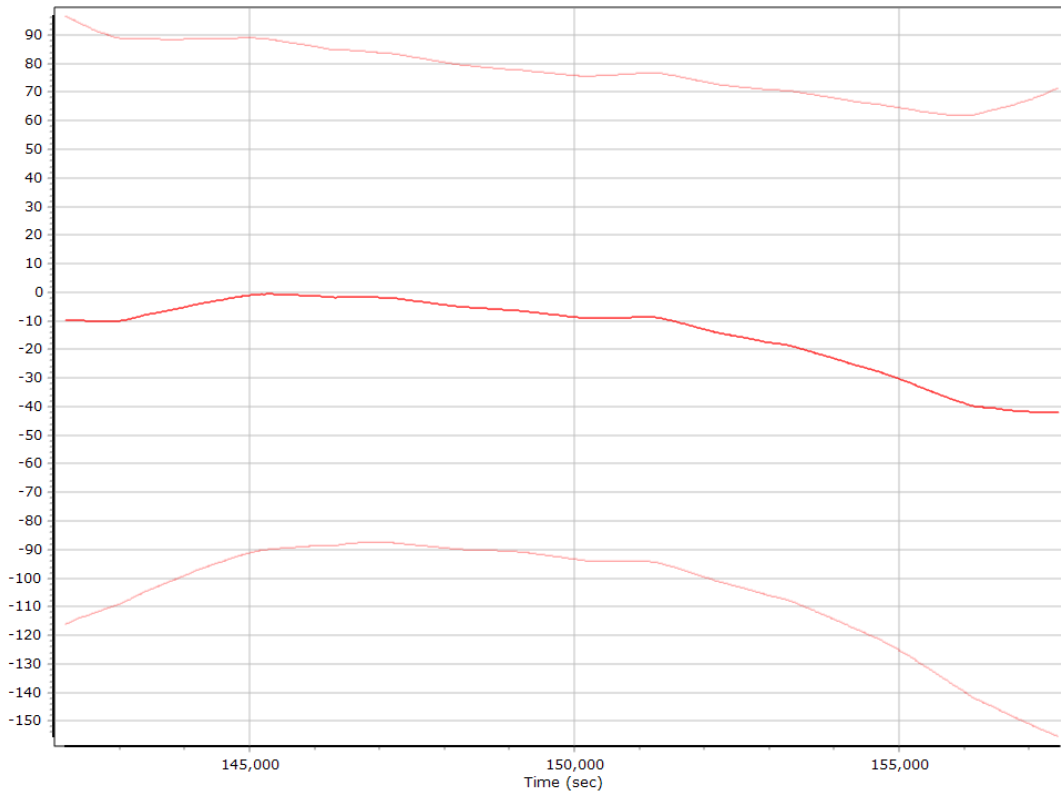
### Accelerometer Scale Error (ppm)



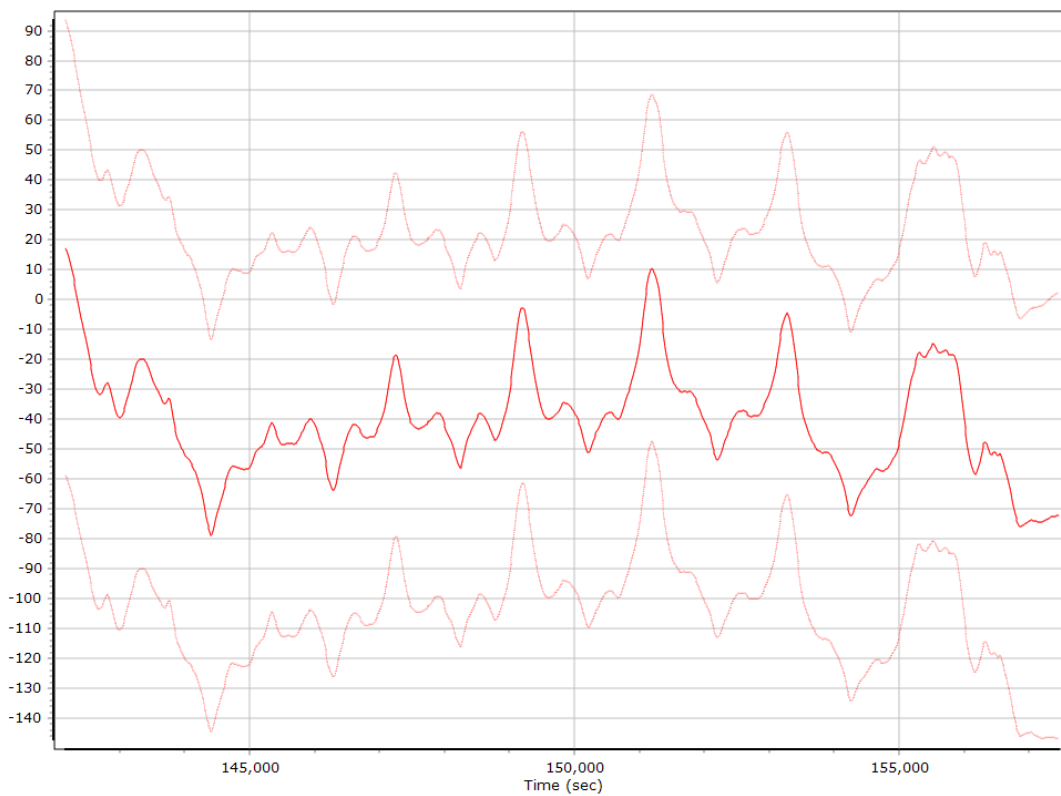
### X Accelerometer Scale Error (ppm)



### Y Accelerometer Scale Error (ppm)

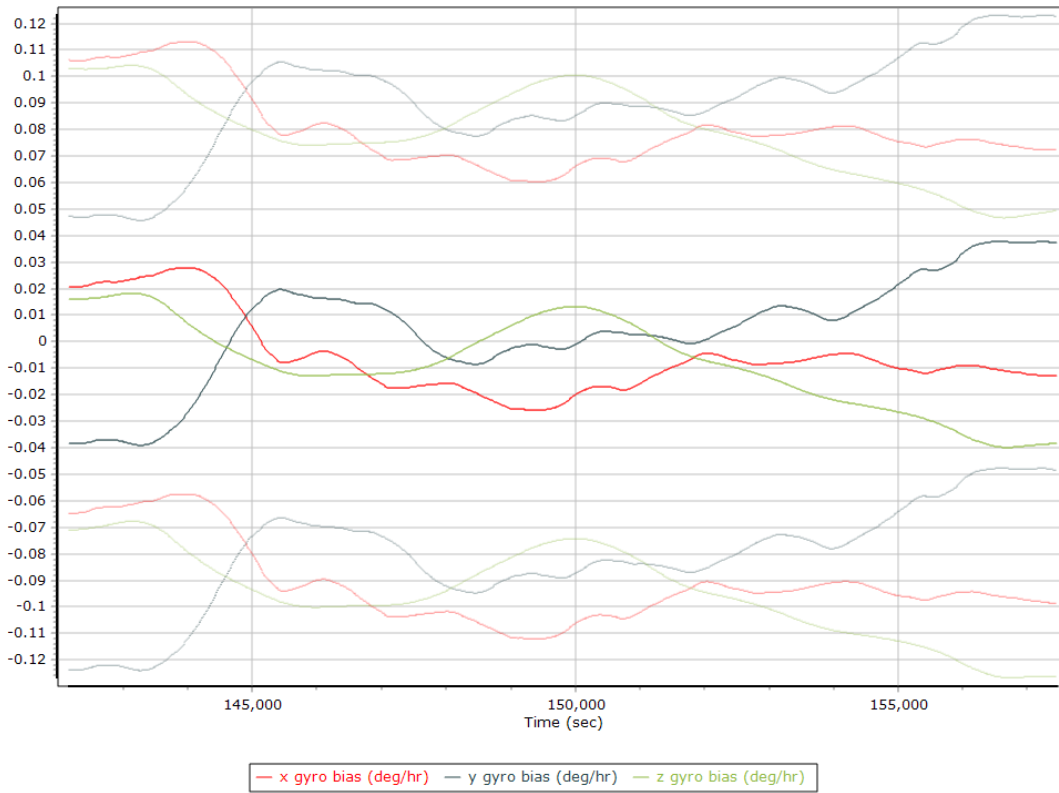


### Z Accelerometer Scale Error (ppm)

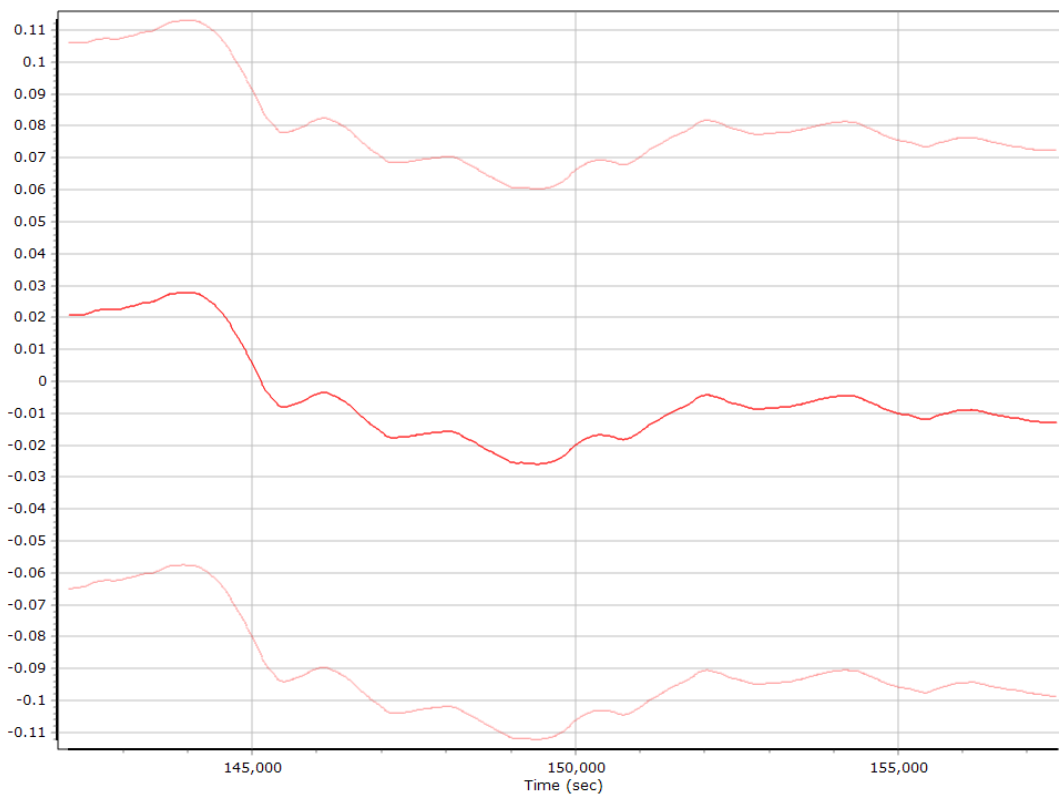




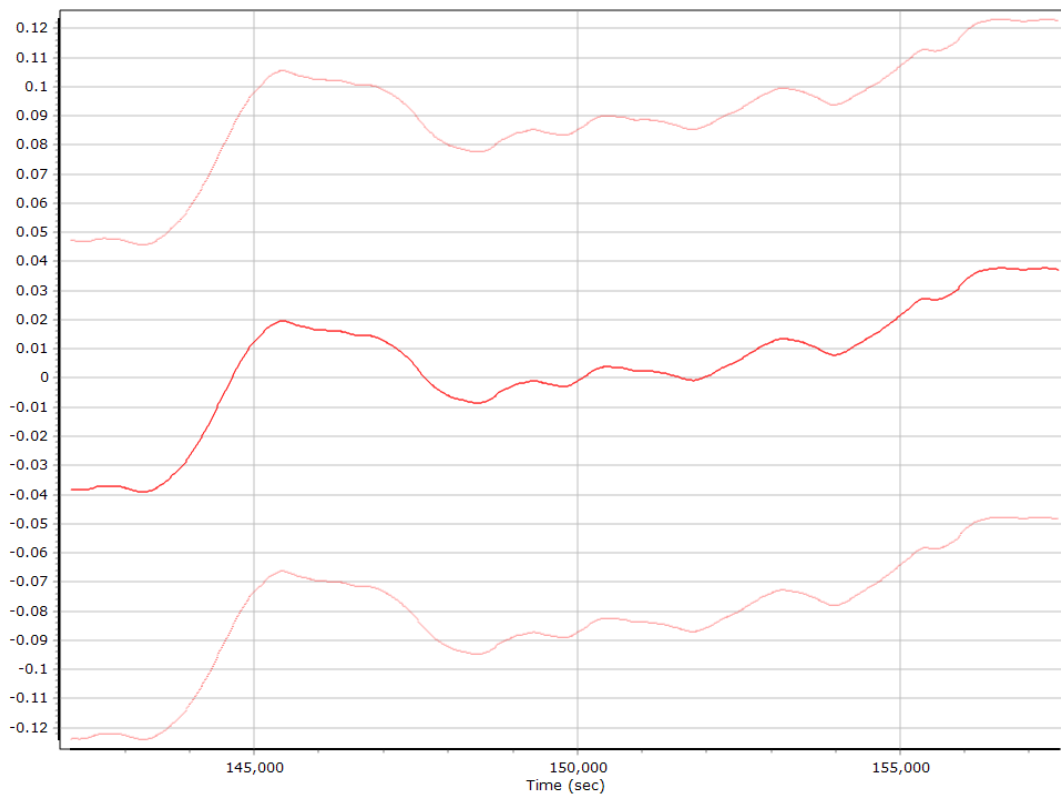
### Gyro Bias (deg/h)



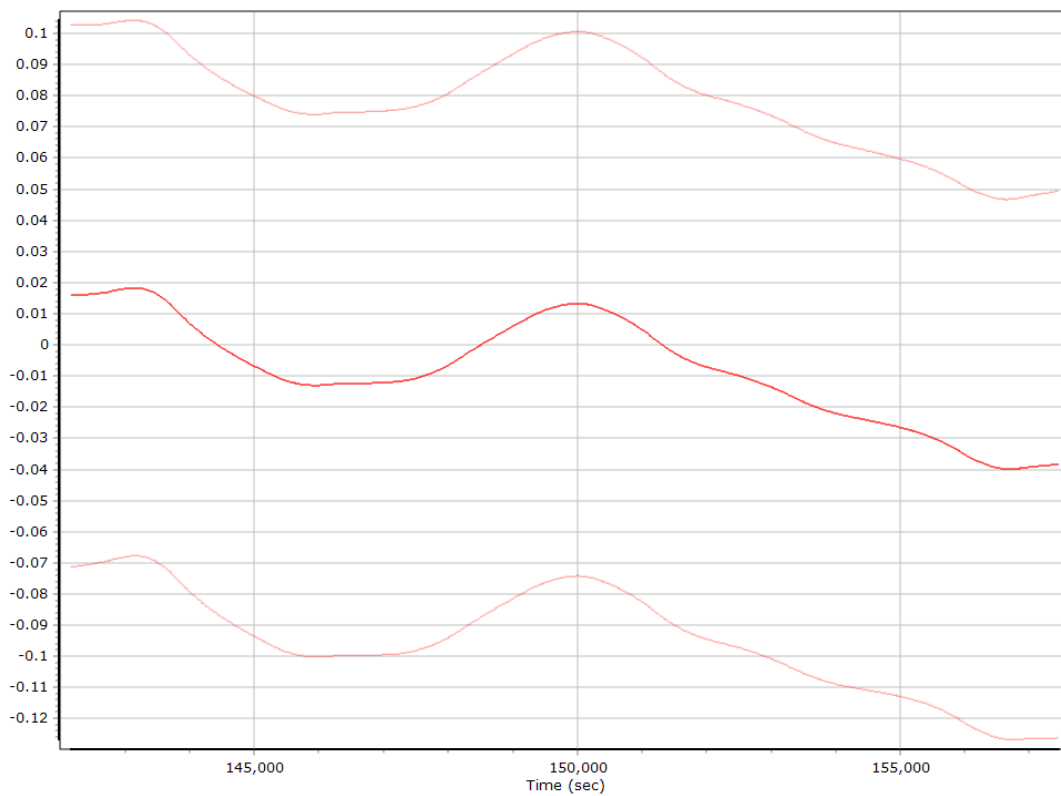
### X Gyro Bias (deg/h)



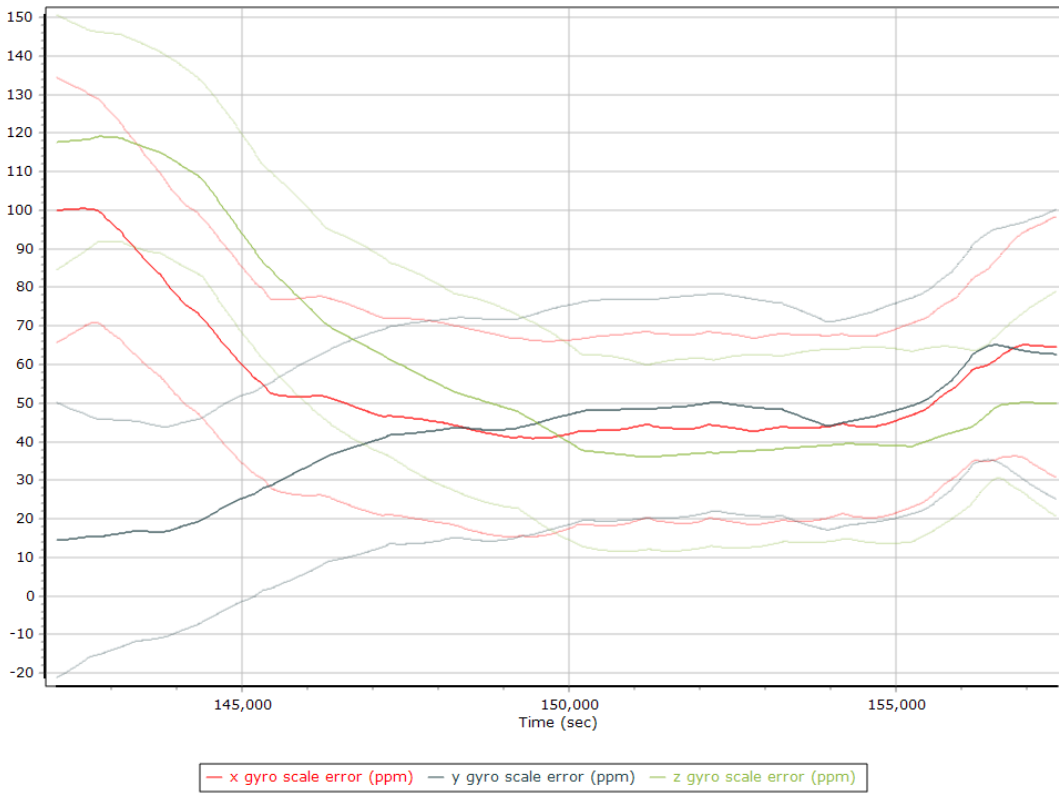
### Y Gyro Bias (deg/h)



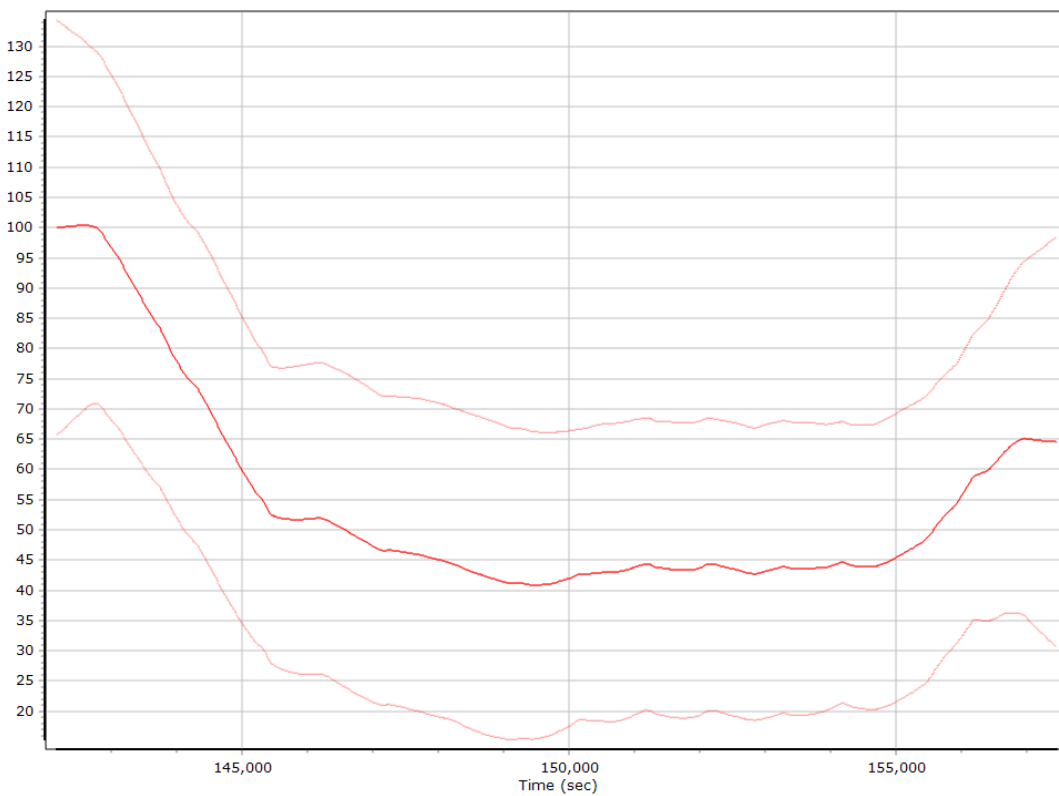
### Z Gyro Bias (deg/h)



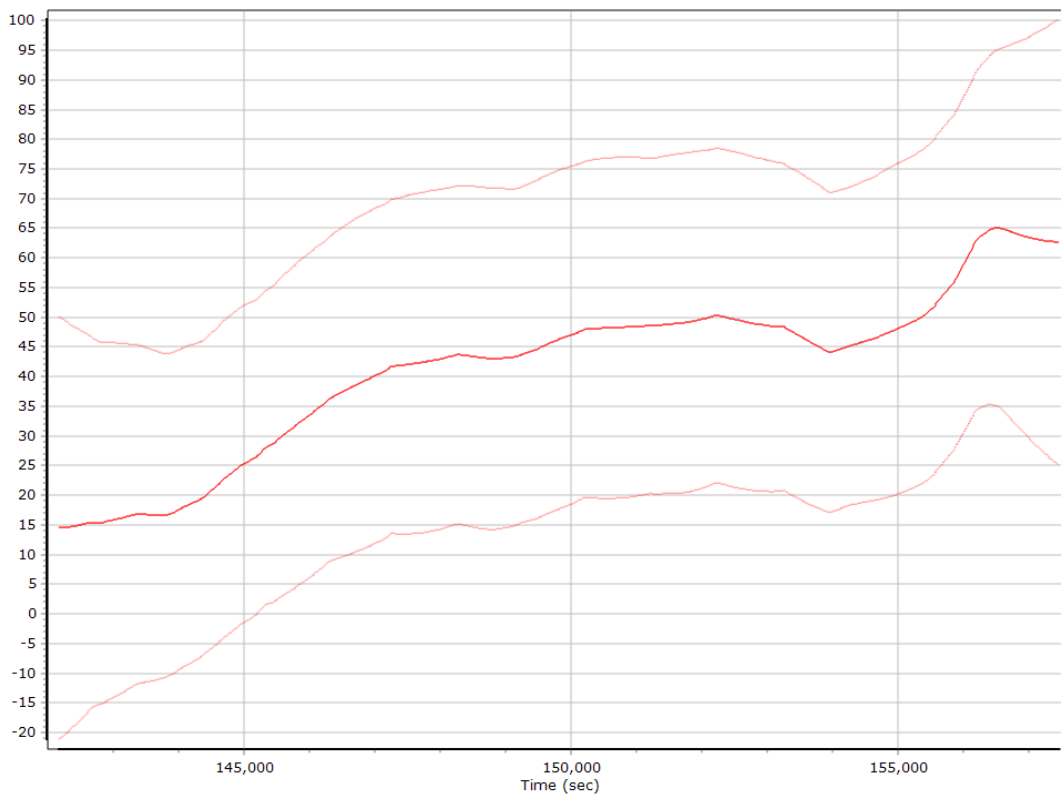
### Gyro Scale Error (ppm)



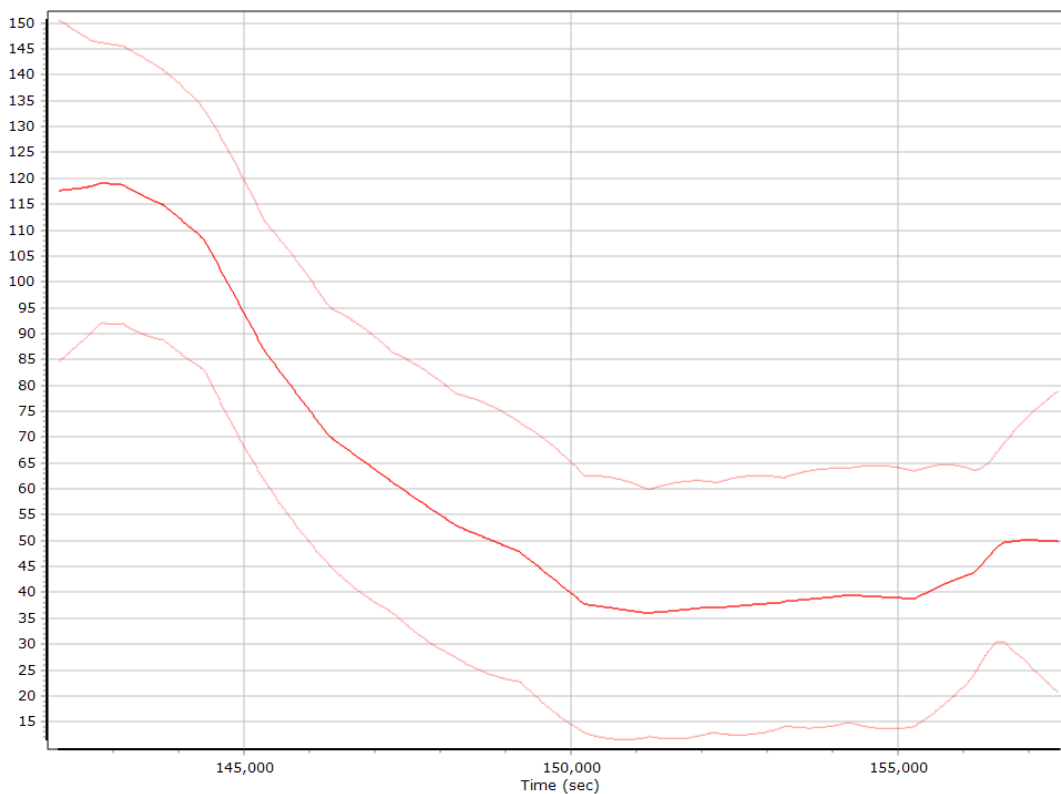
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

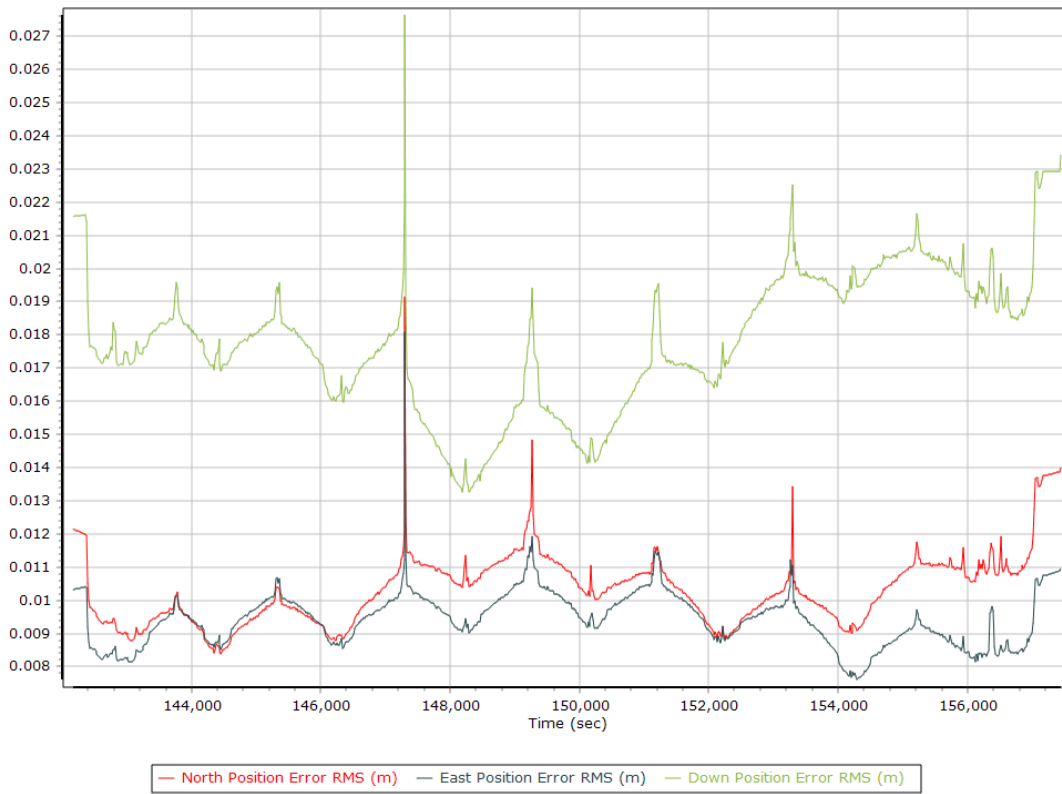


### Z Gyro Scale Error (ppm)

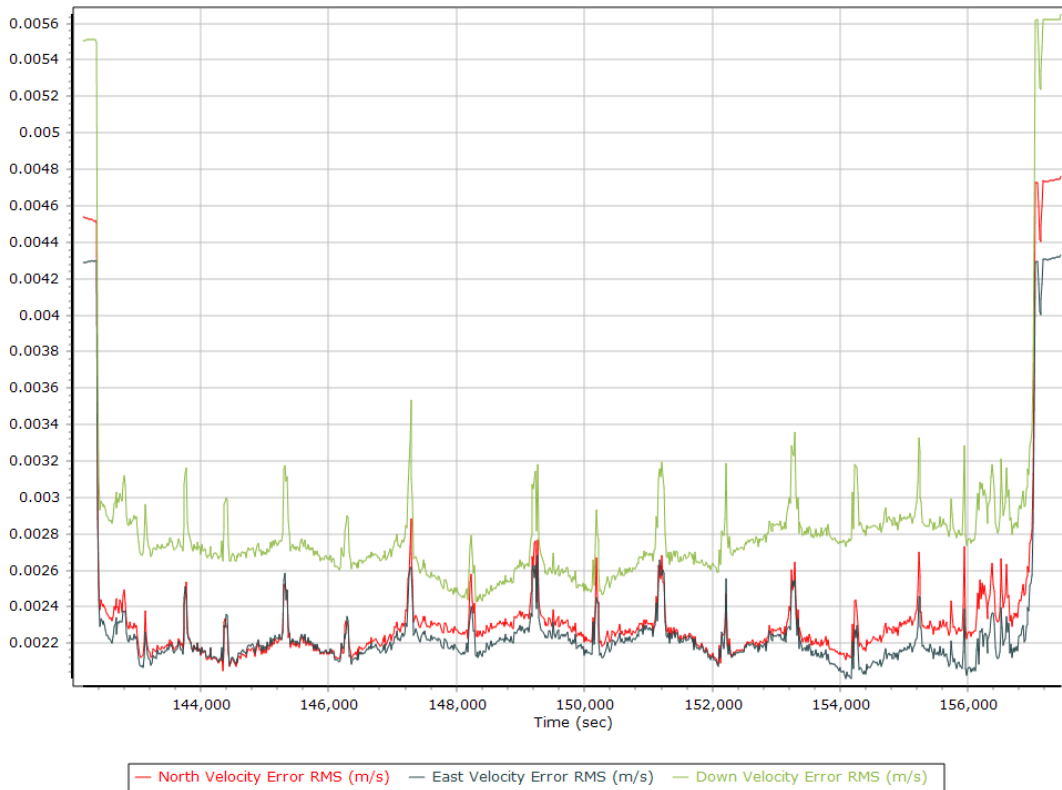


## Smoothed Performance Metrics

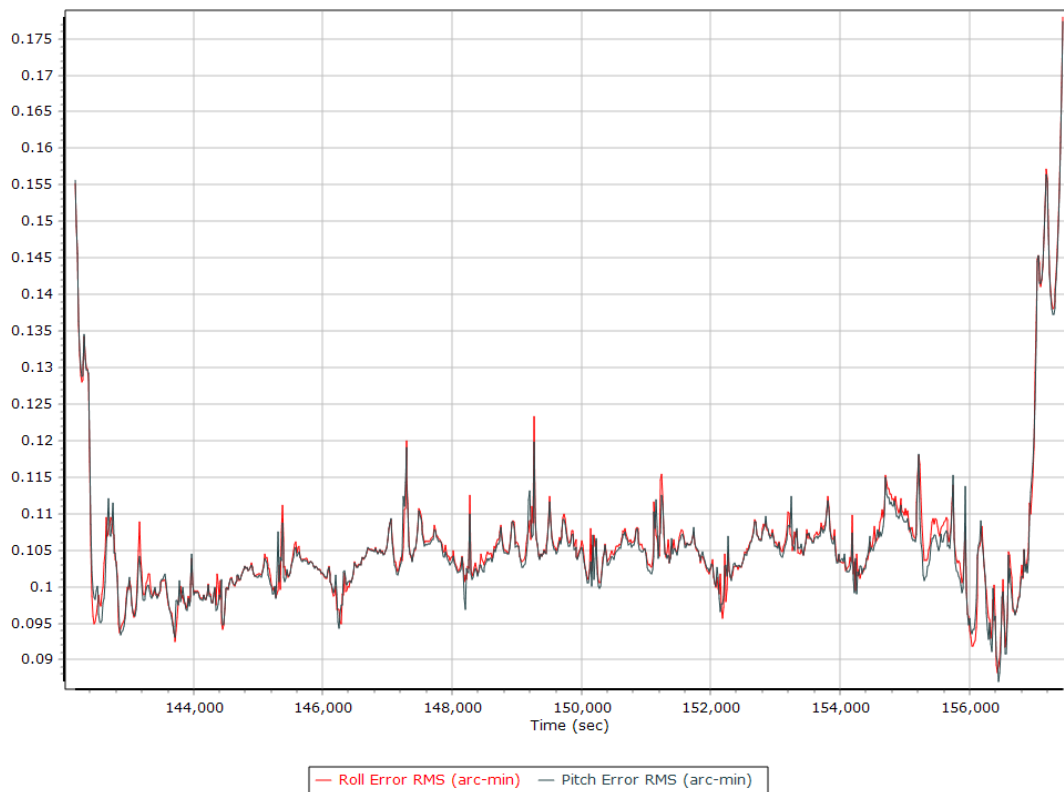
### Position Error RMS (m)



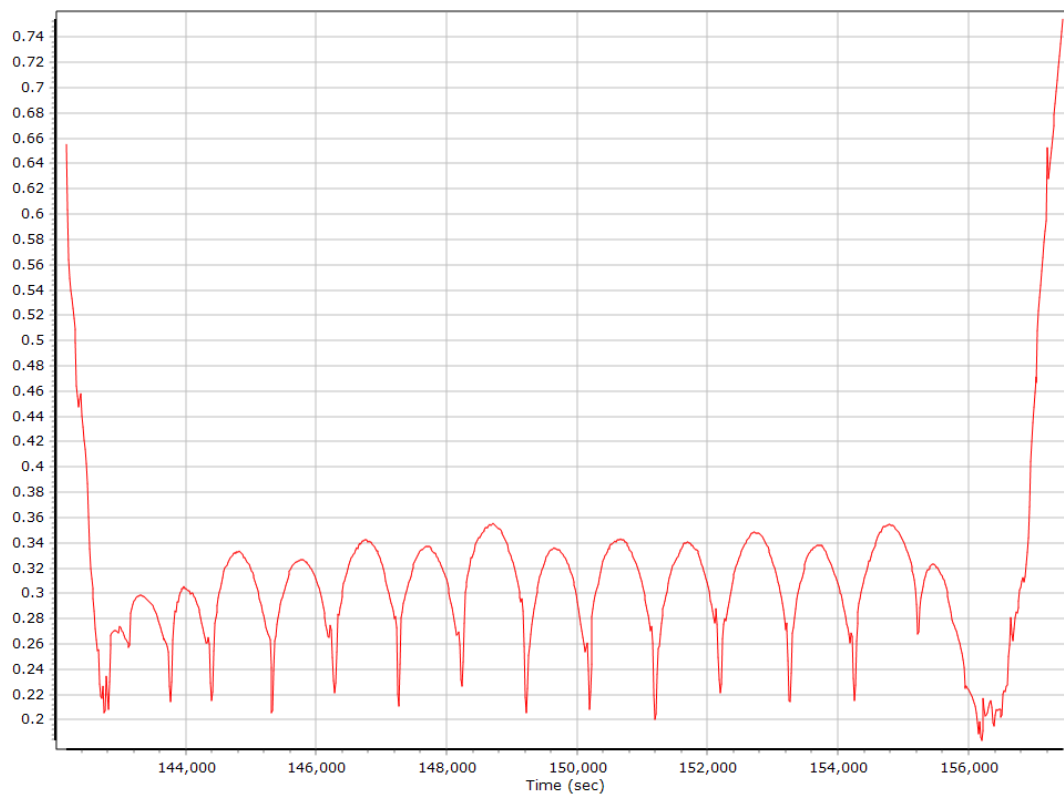
### Velocity Error RMS (m/s)



### Roll/Pitch Error RMS (arc-min)

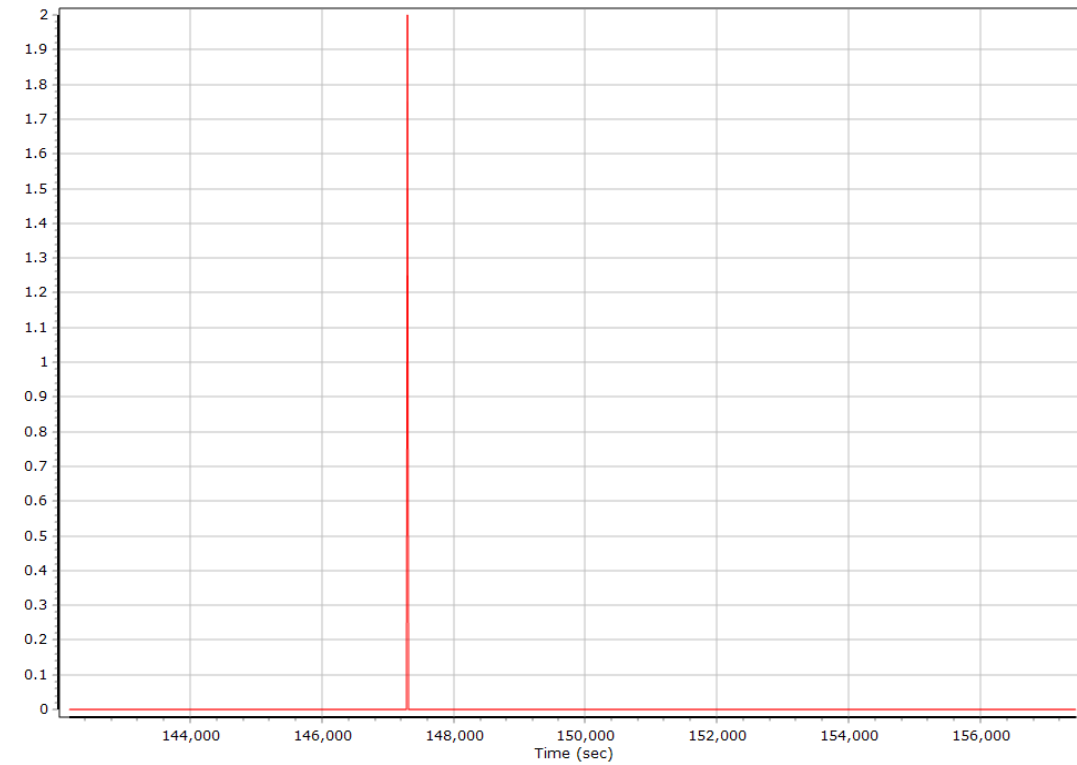


### Heading Error RMS (arc-min)



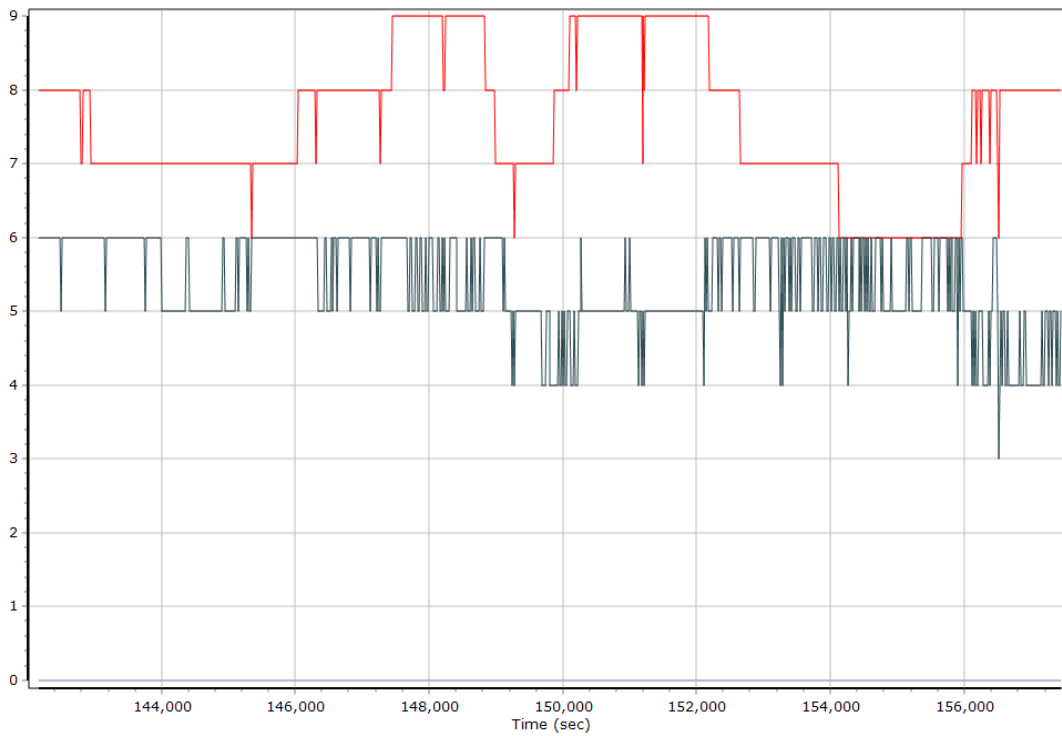
## Smoothed Solution Status

### Processing Mode



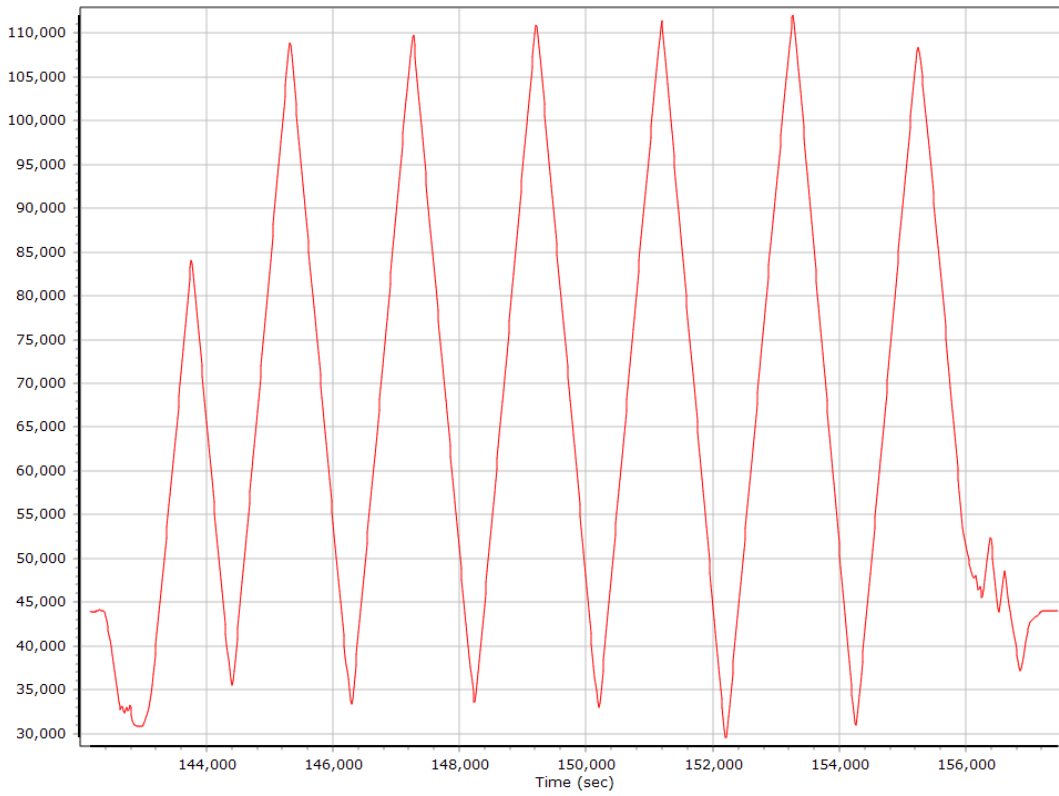
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

### Number of Satellites



— Number of GPS Satellites — Number of GLONASS Satellites — Number of QZSS Satellites — Number of BEIDOU Satellites

### Baseline Length



### SBET IAKAR Separation





## Export Summary

Export file	export_20211108_F1_Basestation_NAD83_2011.out		
Export format	Custom Smoothed BET		
Solution in use	Post-processed		
Output rate	All Records		
Reference to Output lever arm [m]	0.000	0.000	0.000
Reference mounting angles [deg]	0.000	0.000	0.000
Output units (Coordinate / Lat & Lon)	Meter	Deg Decimal	
Export start time	142109.002 (11/8/2021 3:28:29 PM)		
Export end time	157459.003 (11/8/2021 7:44:19 PM)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2021.852055		

## EO Summary

EO file			
EO format			
Lever arm [m]	0.000	0.000	0.000
Boresight angles [arcmin]	0.000	0.000	0.000
Output rate	All Records		
Rotation sequence	x omega	y phi	z kappa
Local shift [m]	0.000	0.000	0.000
Output units (coordinate / angle / lat & lon)	Meter	Degree	Deg Decimal
Height option	Ellipsoid Height		
WGS84 height flag	False		
Scale height option	False		
Kappa cardinal rotation [deg]	0		
Solution in use	Post-processed		
EO start time	142109.002 (11/8/2021 3:28:29 PM)		
EO end time	157459.003 (11/8/2021 7:44:19 PM)		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2021.852055		