

## General Information

### Mission Information

Project name	2021_11_2_F1_Basestation
Processing date	2021-11-30 13:38:18
Mission date	2021-11-02 00:42:43
Mission duration	01:57:46.000
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
VQ1560.297	POS Data
VQ1560.298	POS Data
VQ1560.299	POS Data
VQ1560.300	POS Data
VQ1560.301	POS Data
VQ1560.302	POS Data
VQ1560.303	POS Data
VQ1560.304	POS Data
VQ1560.305	POS Data
VQ1560.306	POS Data
VQ1560.307	POS Data
VQ1560.308	POS Data
VQ1560.309	POS Data
VQ1560.310	POS Data
VQ1560.311	POS Data
VQ1560.312	POS Data

### Input Files

File Name	File type
Ephm3060.21g	GLONASS Broadcast Ephemeris
Ephm3060.21n	GPS Broadcast Ephemeris
dhl3060.21o	GNSS SingleBase

### Output Files

Filename	File type
sbt_2021_11_2_F1_Basestation.out	SBET Trajectory File
export_2021_11_2_F1_Basestation_NAD832011.	Custom Smoothed BET Export Output

## Rover Data Summary

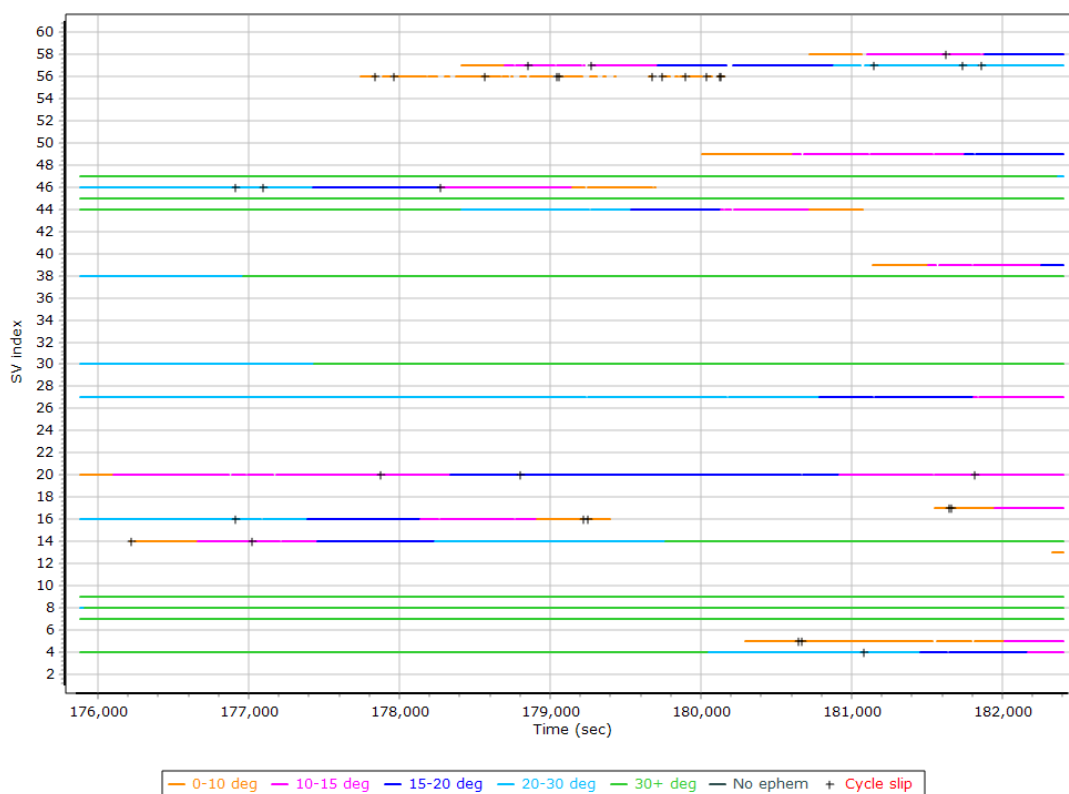
First raw data file	VQ1560.297		
Last raw data file	VQ1560.312		
Start GPS week	2182		
Start time	23.154 (10/31/2021 12:00:23 AM)		
End time	182411.453 (11/2/2021 2:40:11 AM)		
Start of fine alignment	175820.478 (11/2/2021 12:50:20 AM)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
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

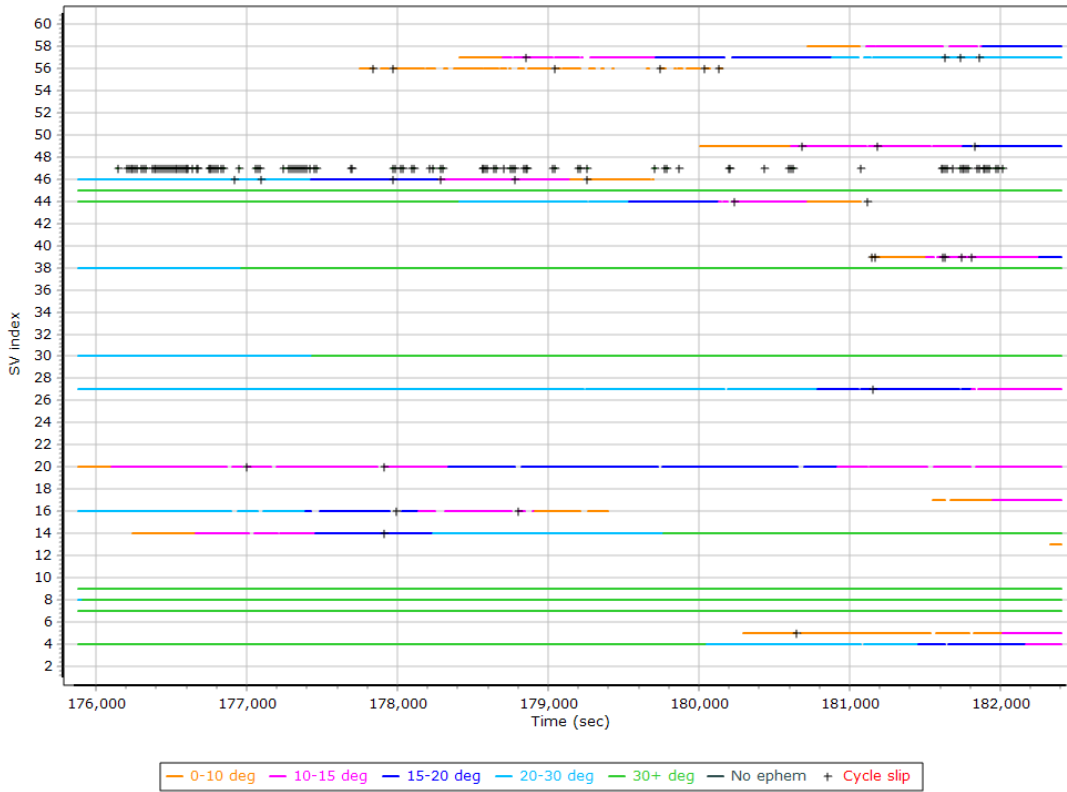
### Raw IMU Import QC Summary

IMU data input file	imu_2021_11_2_Basestation.dat
IMU data check log file	imudt_2021_11_2_F1_Basestation.log
IMU Records Processed	1413664
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
175365.322 : WARNING : Gap of 175341.3628 seconds in CHECKDT input data	

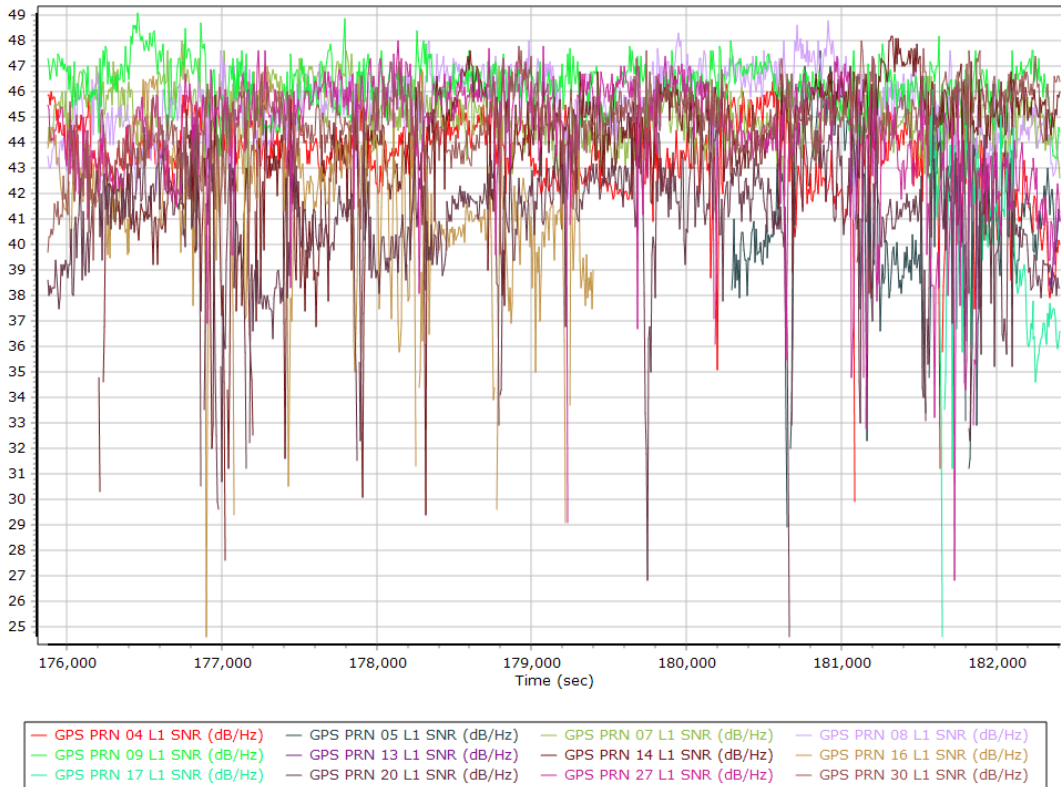
### L1 Satellite Lock/Elevation



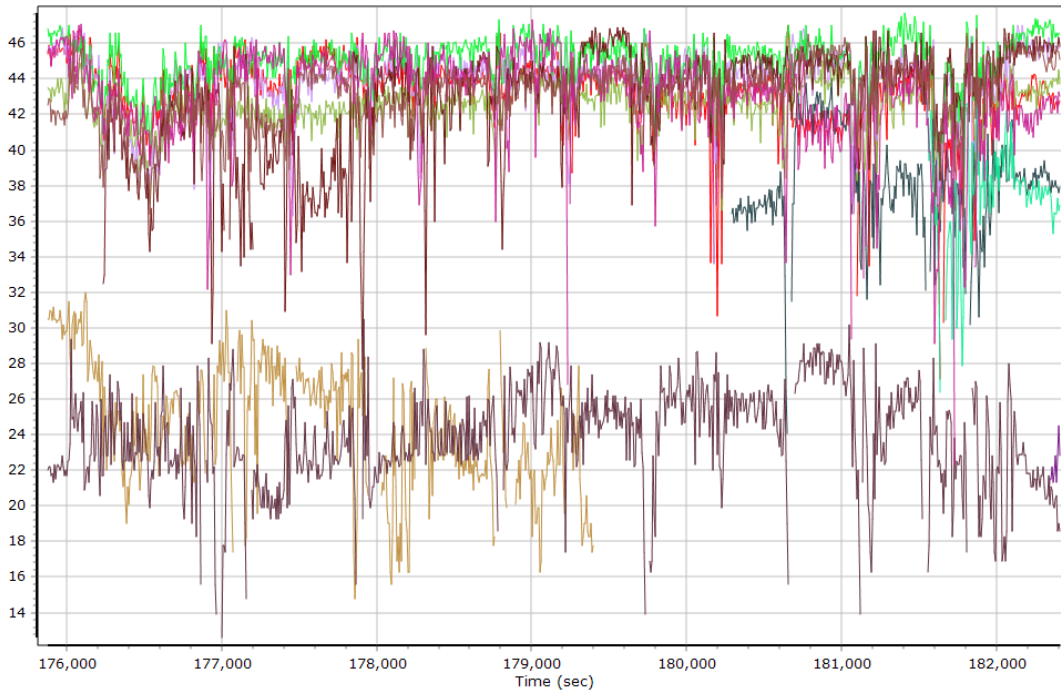
## L2 Satellite Lock/Elevation



## GPS L1 SNR

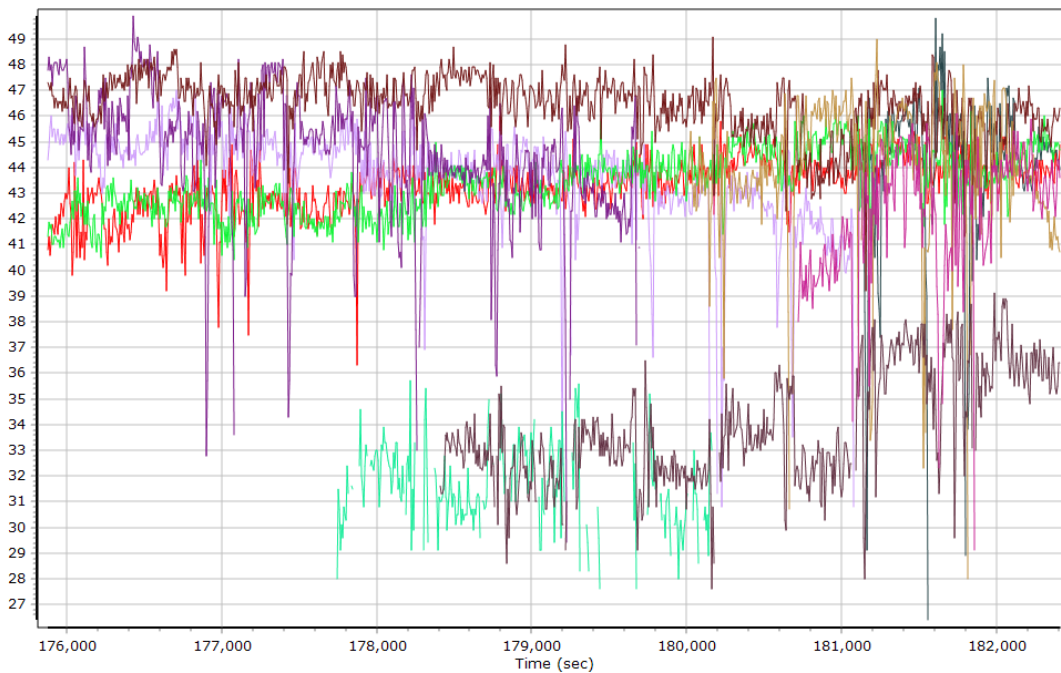


## GPS L2 SNR



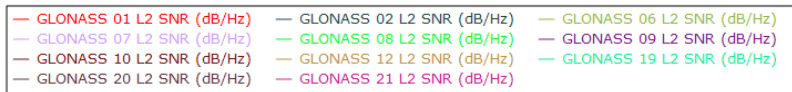
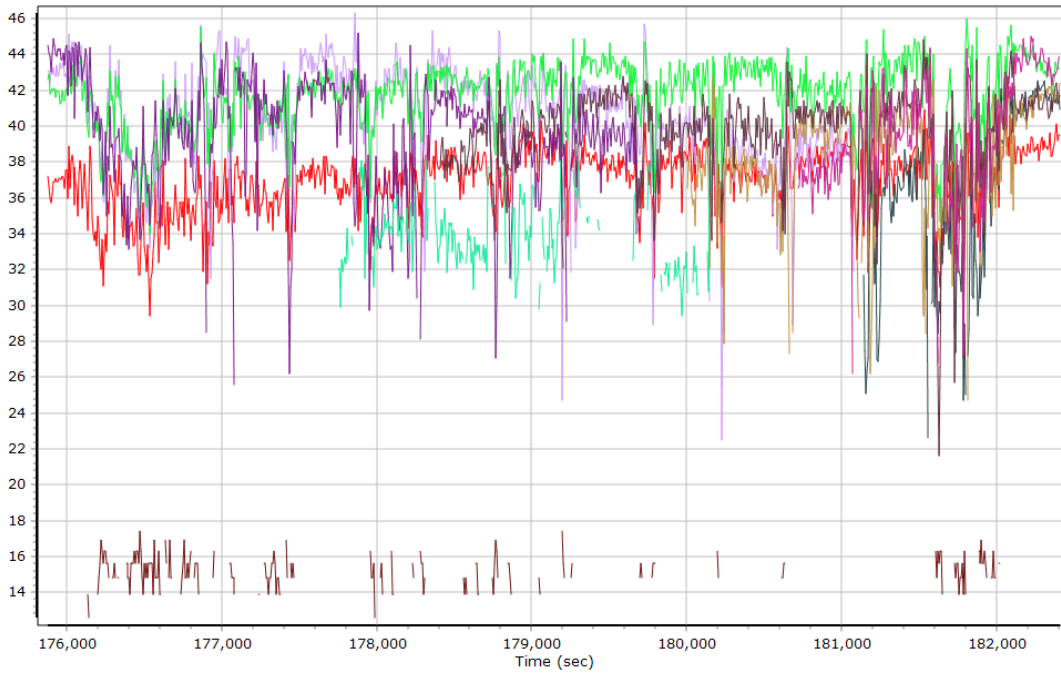
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 04 L2 SNR (dB/Hz) | GPS PRN 05 L2 SNR (dB/Hz) | GPS PRN 07 L2 SNR (dB/Hz) | GPS PRN 08 L2 SNR (dB/Hz) |
| GPS PRN 09 L2 SNR (dB/Hz) | GPS PRN 13 L2 SNR (dB/Hz) | GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 16 L2 SNR (dB/Hz) |
| GPS PRN 17 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 30 L2 SNR (dB/Hz) |

## GLONASS L1 SNR

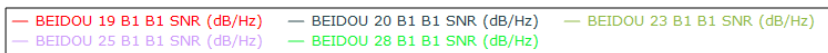
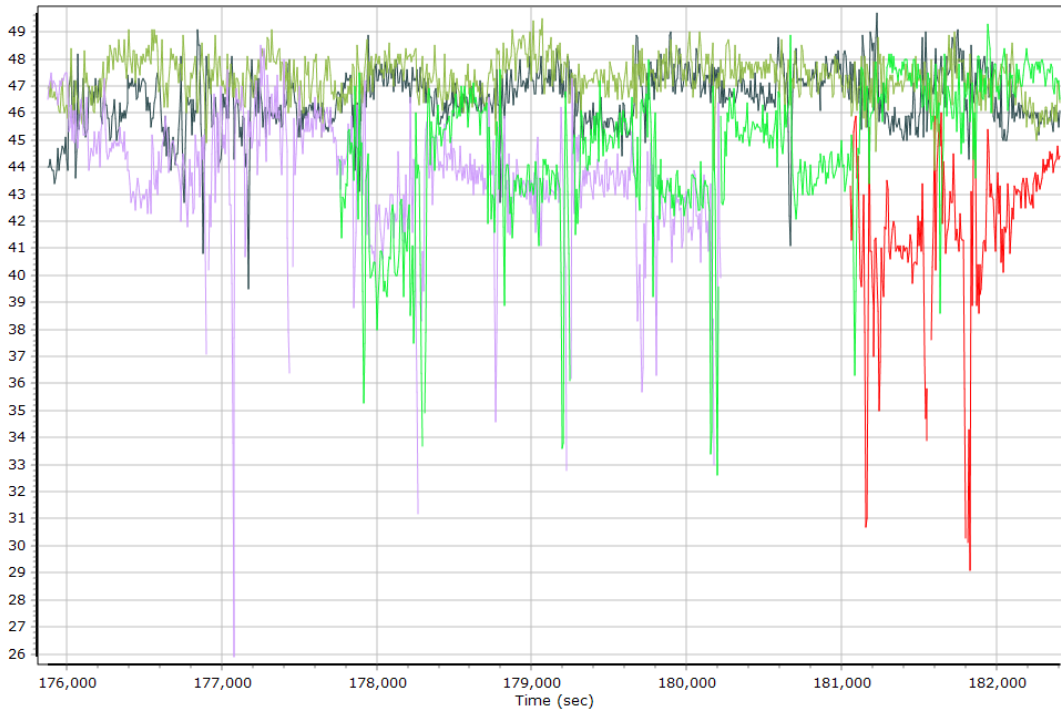


- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 07 L1 SNR (dB/Hz) | GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) |
| GLONASS 10 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) | GLONASS 19 L1 SNR (dB/Hz) |
| GLONASS 20 L1 SNR (dB/Hz) | GLONASS 21 L1 SNR (dB/Hz) |                           |

## GLONASS L2 SNR

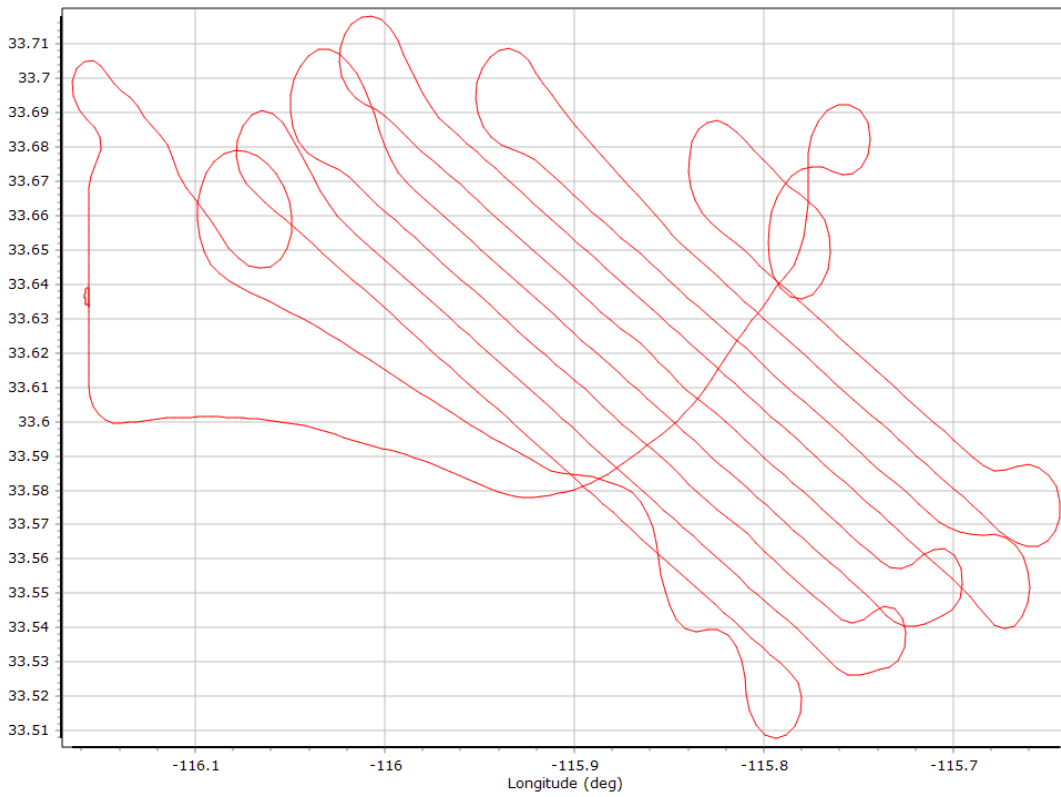


## BEIDOU SNR

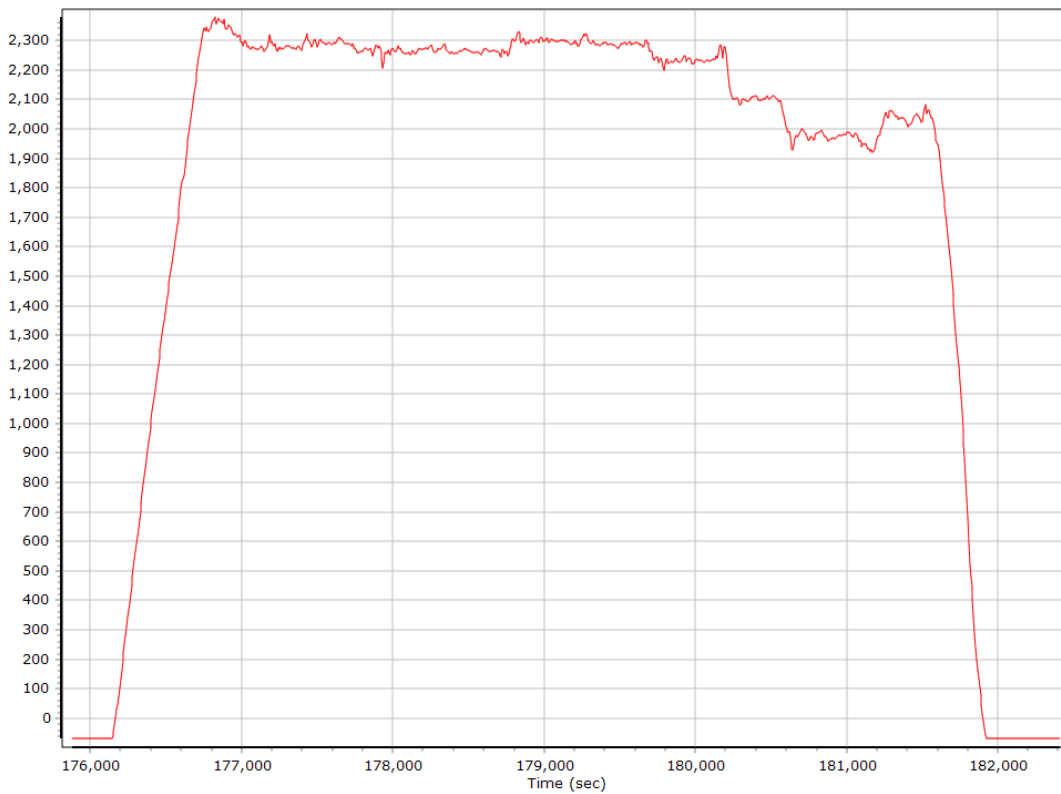


## Trajectory Information

### Top View

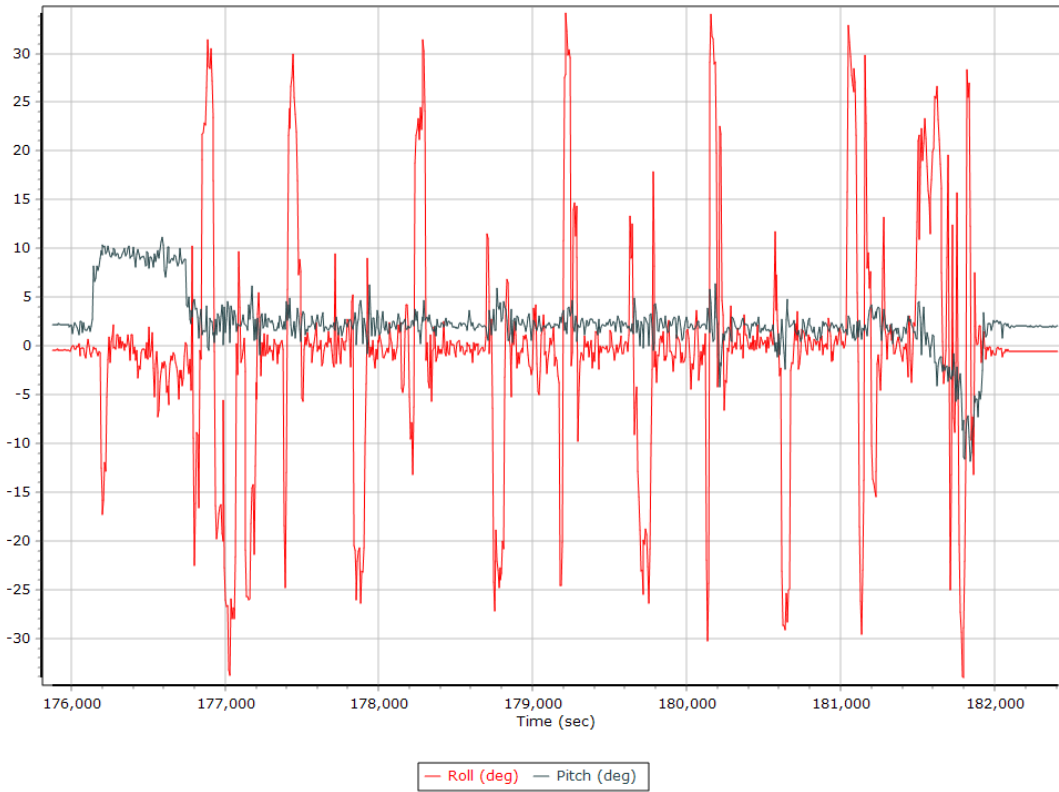


### Altitude

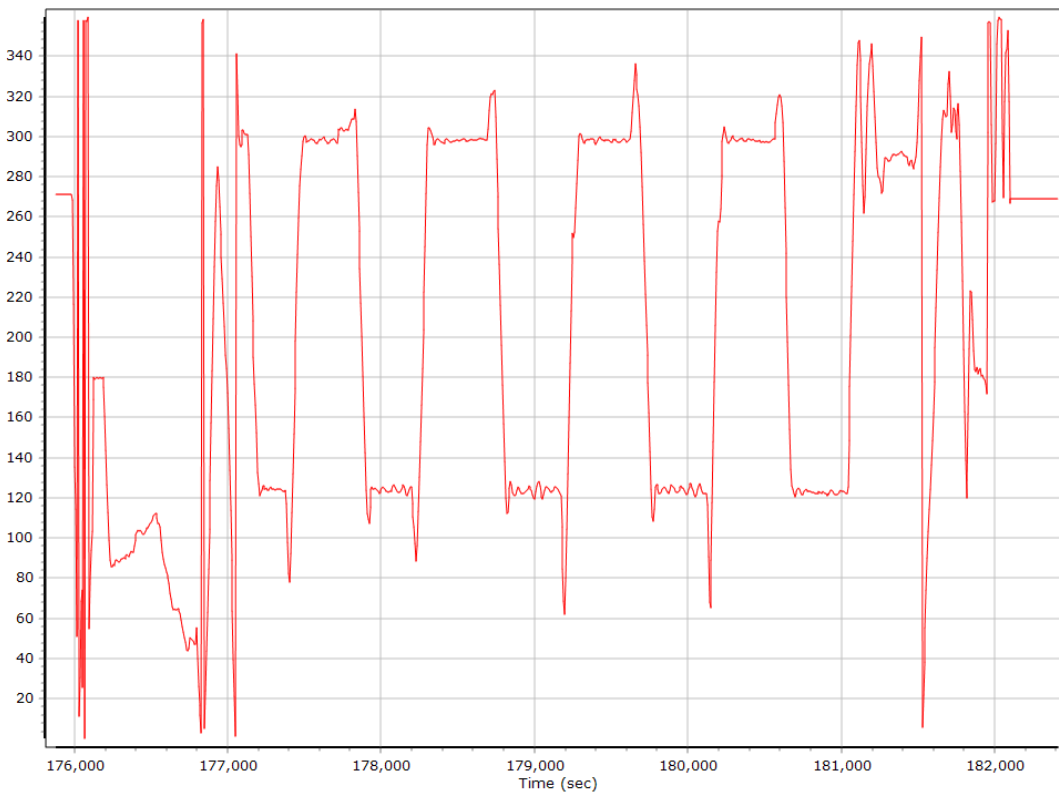




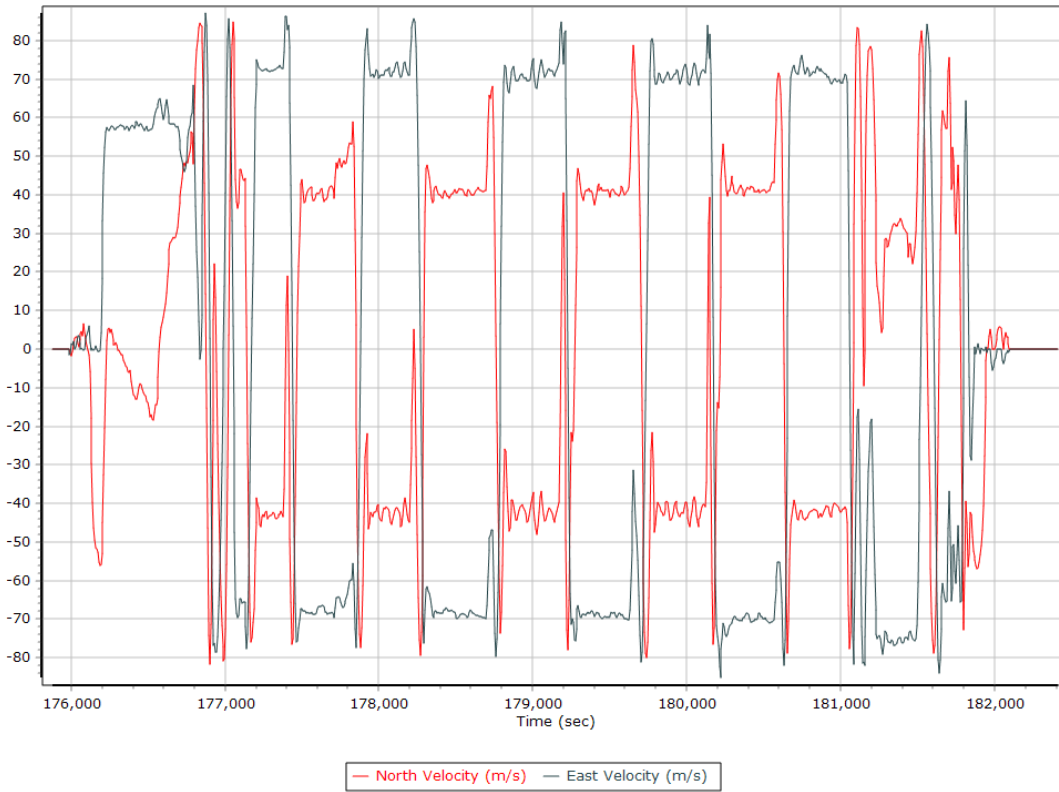
## Roll/Pitch



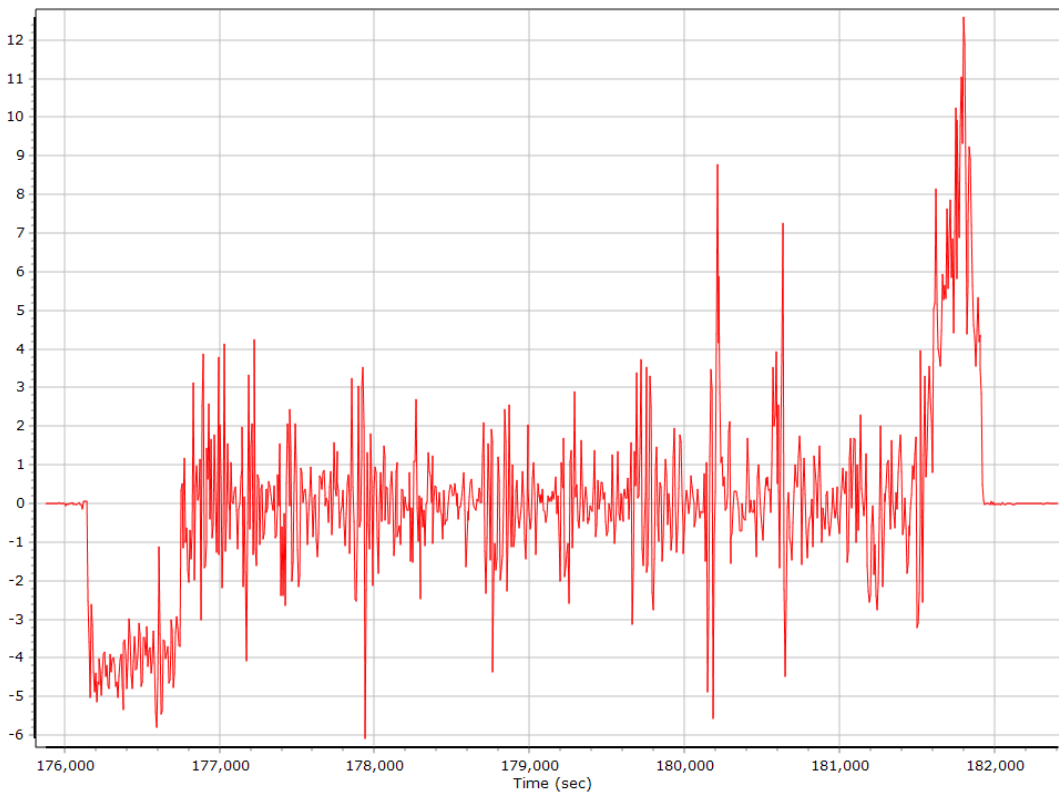
## Heading



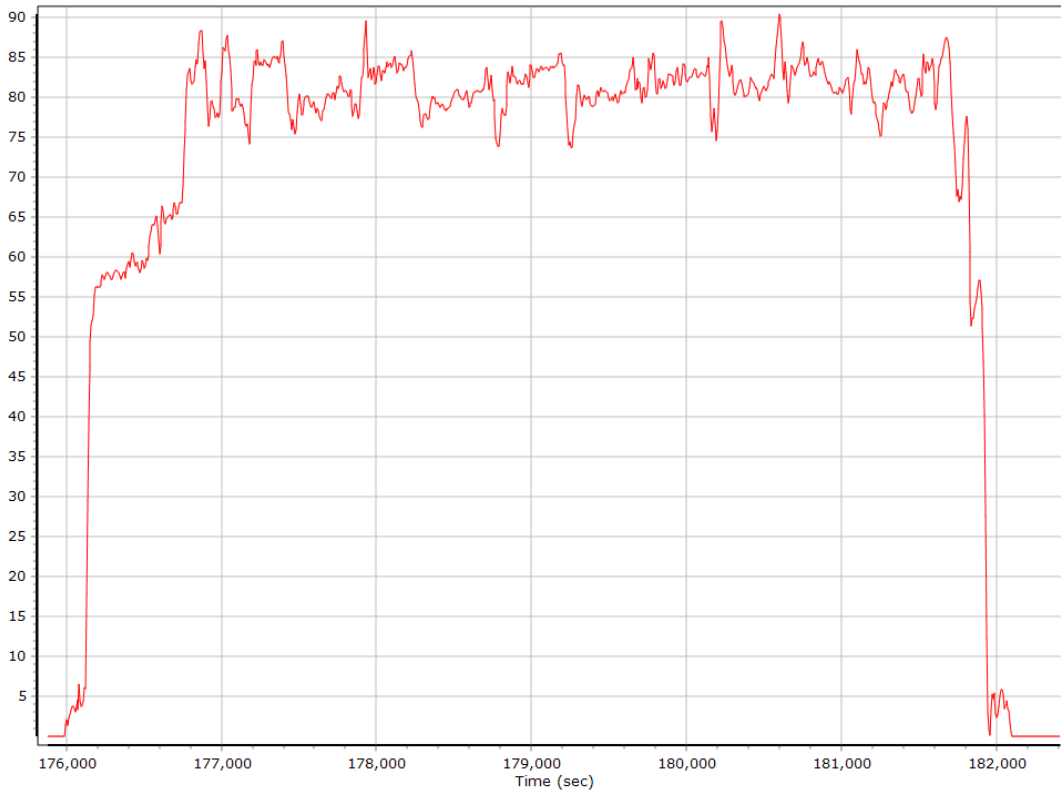
## North/East Velocity



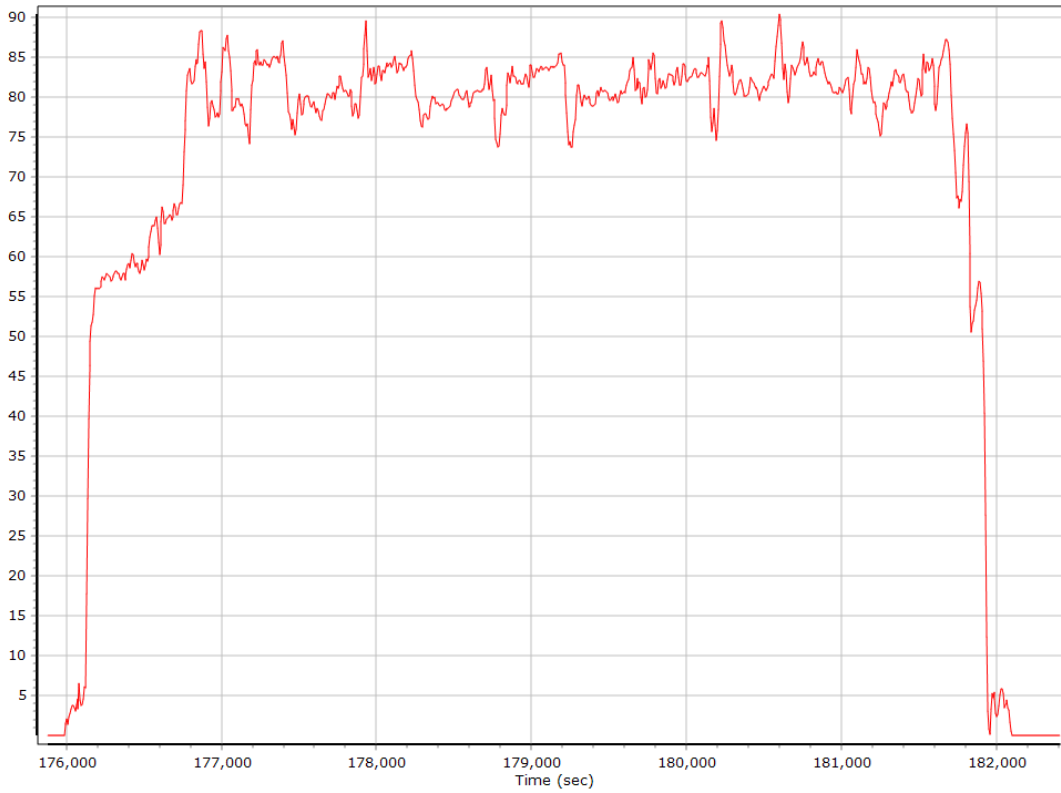
## Down Velocity



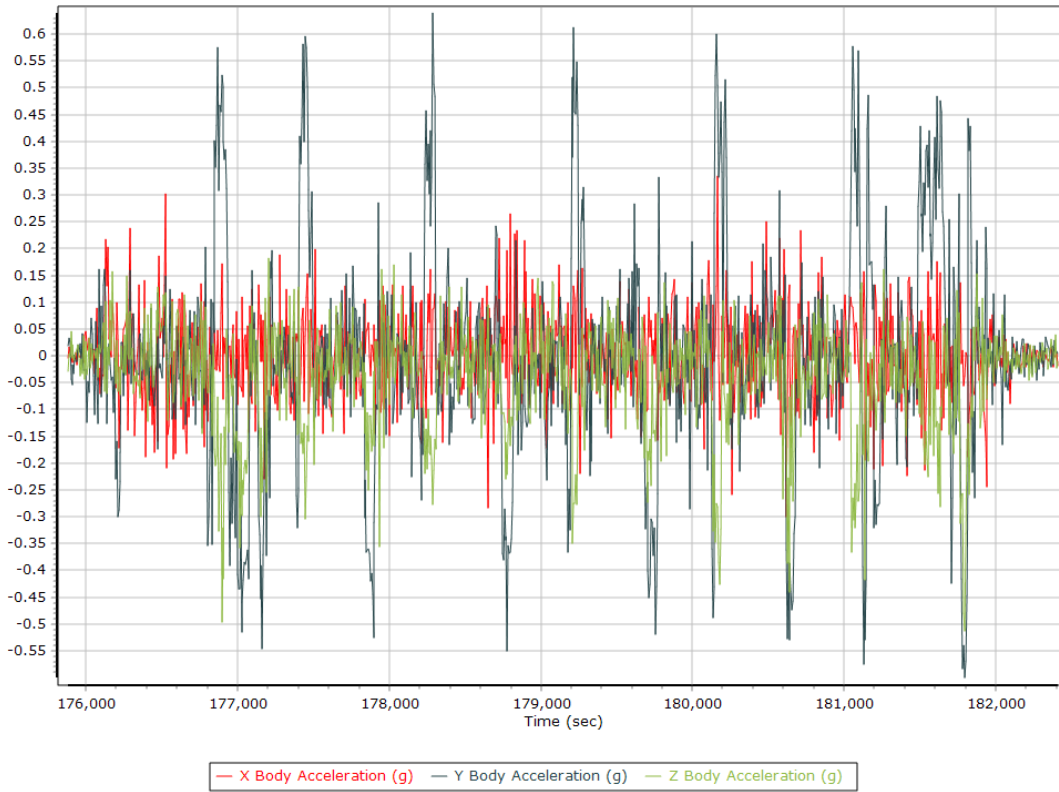
## Total Speed



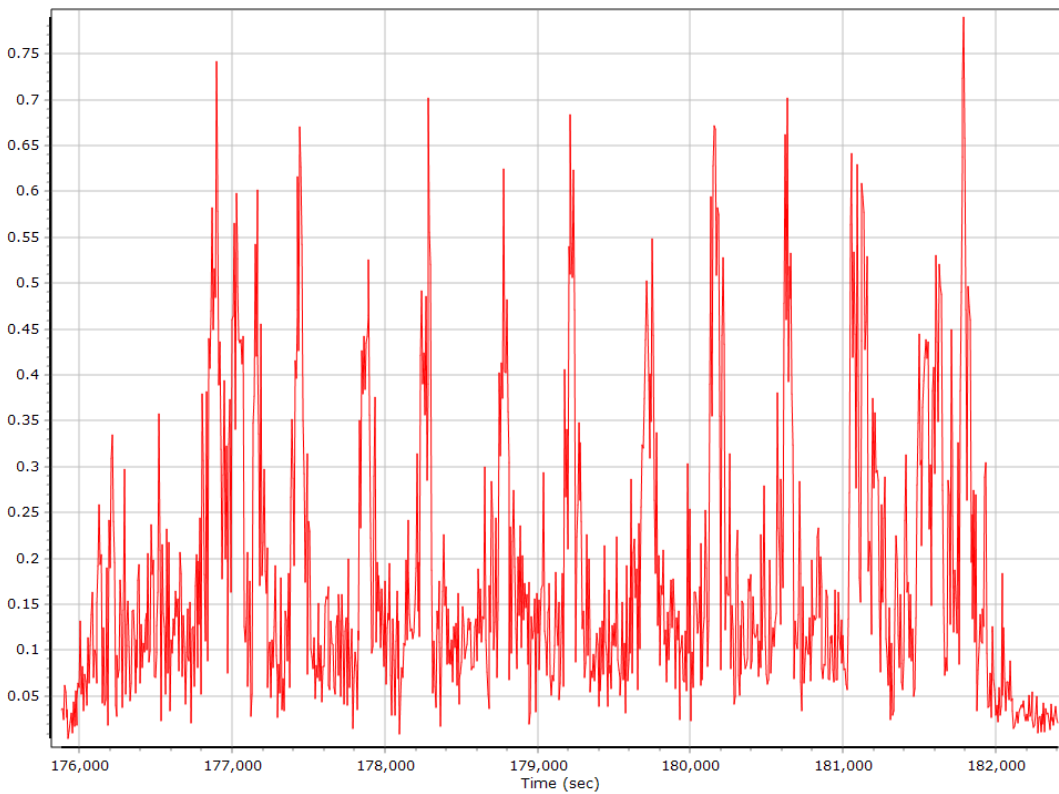
## Ground Speed



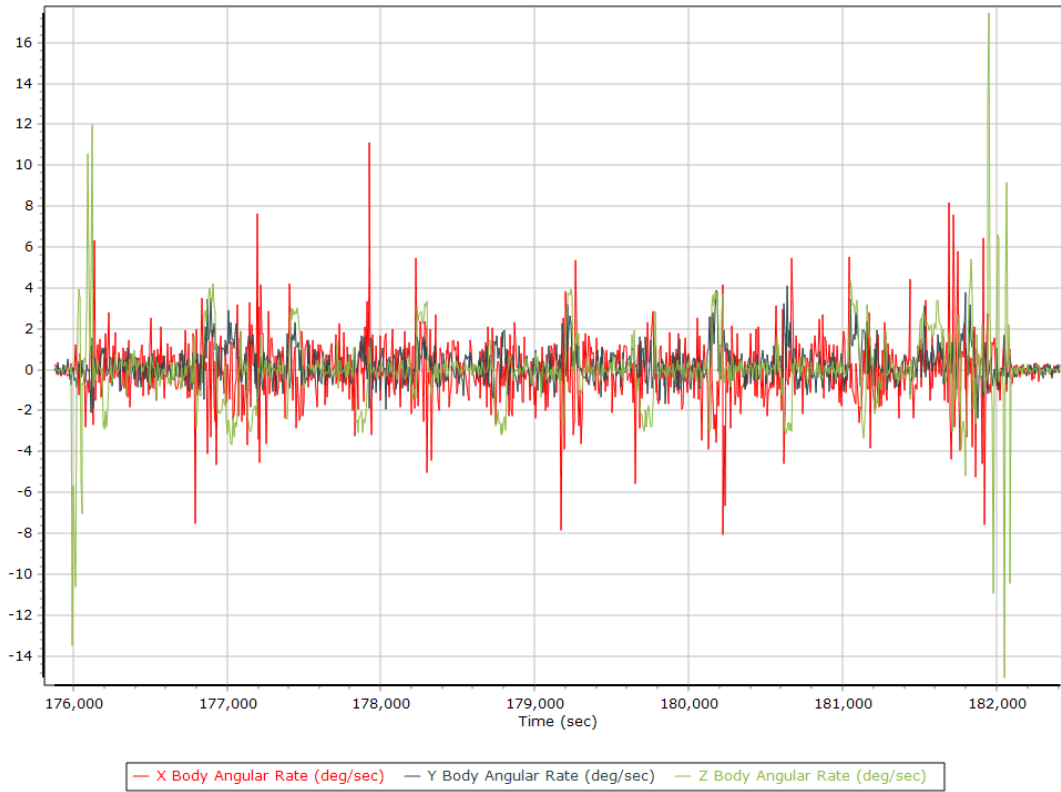
## Body Acceleration



## Total Body Acceleration



## Body Angular Rate



## Base Station Information

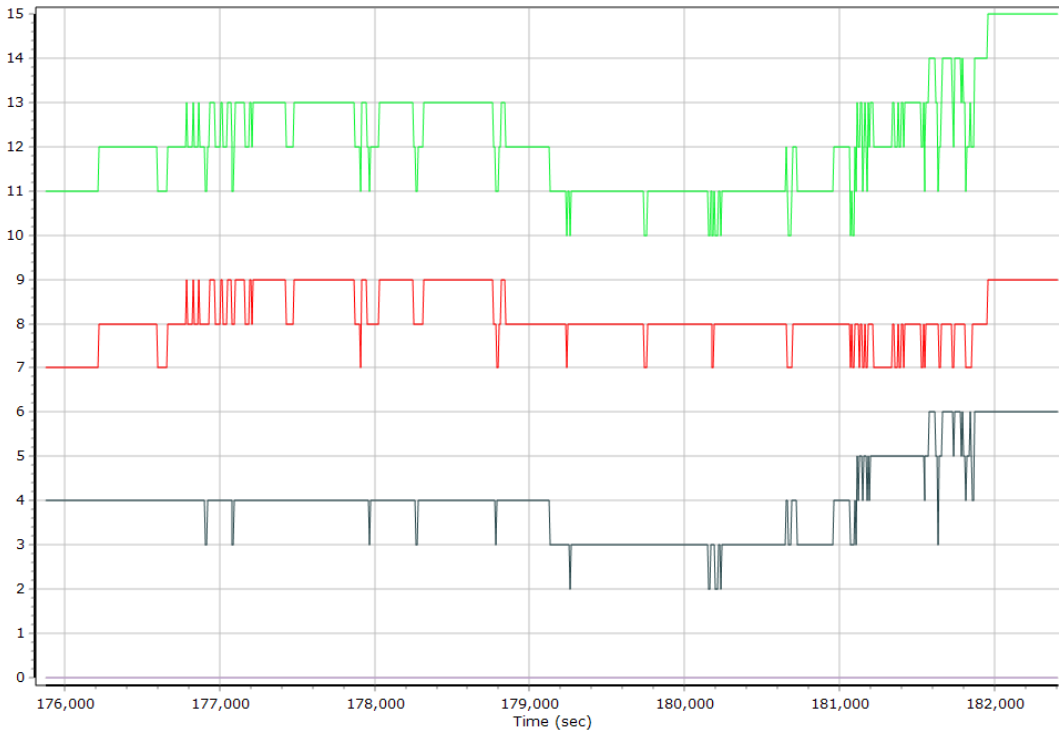
Station ID	DHLG Durmid Hill		
Filename	dhl3060.21o		
Start date	11/2/2021 12:00:00 AM		
End date	11/2/2021 11:59:59 PM		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Topcon	NET-G3A	618-01037
Antenna manufacturer, model	Topcon	TPS CR.G3 w/SCIS	
Antenna height [m]	0.122		
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]	36.2045548796944		
Velocity East [mm/y]	-29.8799272009713		
Velocity Up [mm/y]	-1.07684379260183		

## GNSS QC

### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length [km]	13.25	49.18	
Number of GPS SV	4	9	8
Number of GLONASS SV	0	6	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Total number of SV	5	15	12
PDOP	1.21	6.49	1.54
QC Solution Gaps	7.00	7.00	
Solution Type	Fixed	Float	No solution
Epoch (s)	7044.00	1.00	7.00
Percentage	99.89	0.01	0.10

### Num SVs in solution

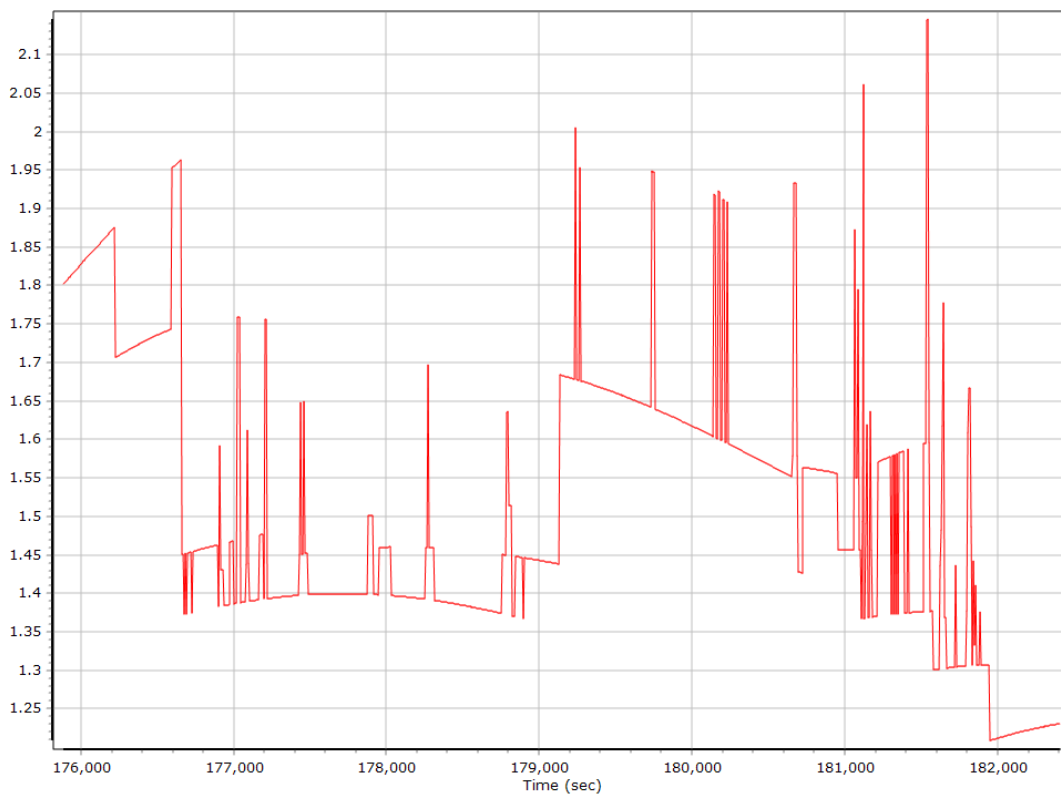


— Number of GPS — Number of GLONASS — Number of QZSS — Number of BEIDOU — Total Number

### Forward/Reverse Separation

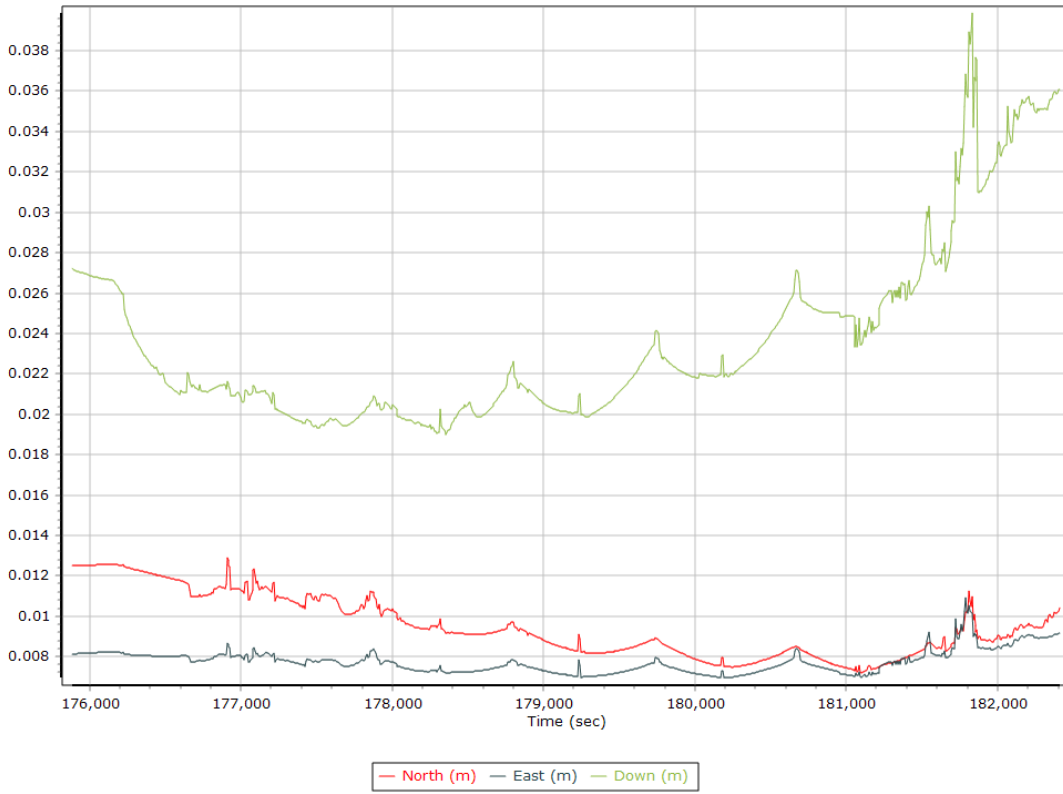


### PDOP





## Estimated Position Accuracy



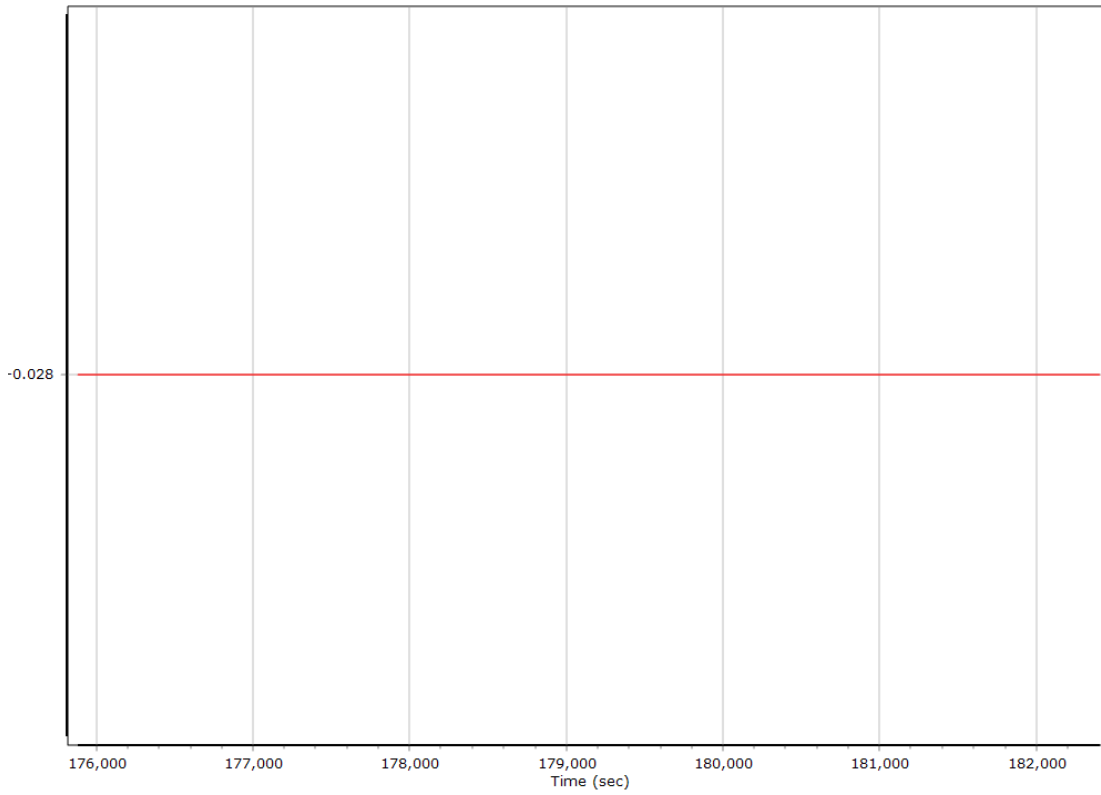
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion Single Base		
Stabilized mount	False		
Base station	DHLG Durmid Hill		
Processing start time	175345.000 (11/2/2021 12:42:25 AM)		
Processing end time	182411.000 (11/2/2021 2:40:11 AM)		
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

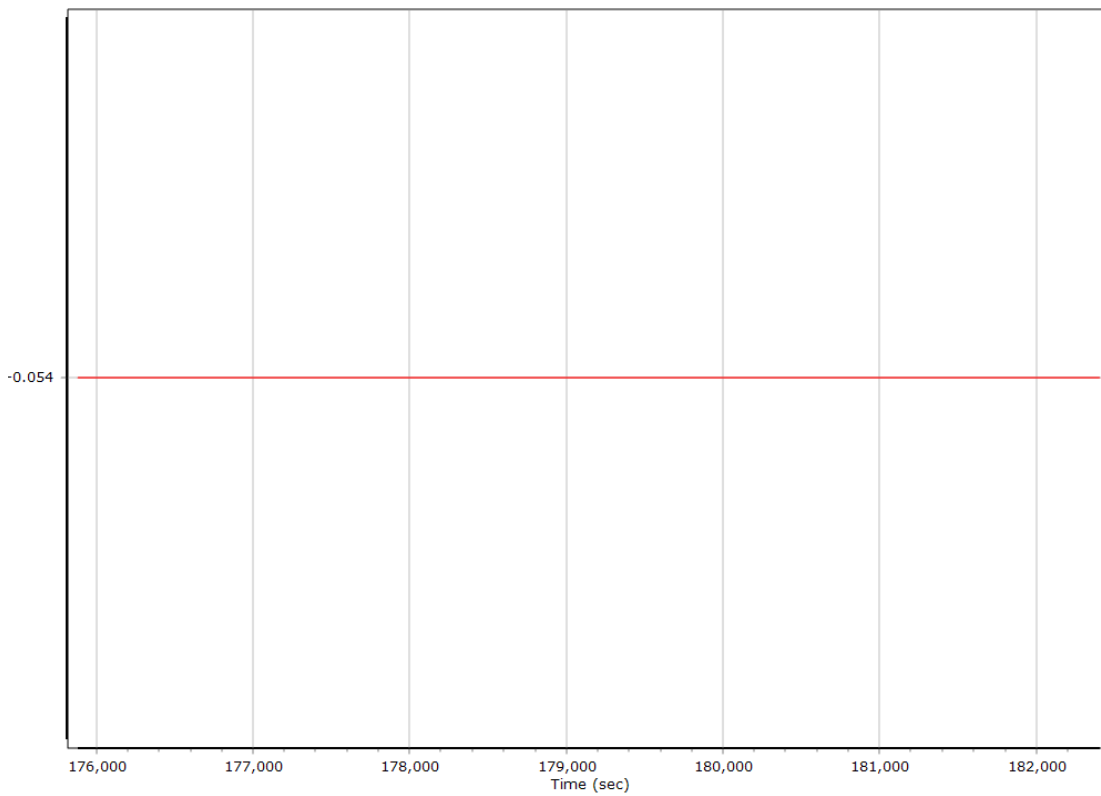
## Calibrated Installation Parameters

### Reference-Primary GNSS Lever Arm

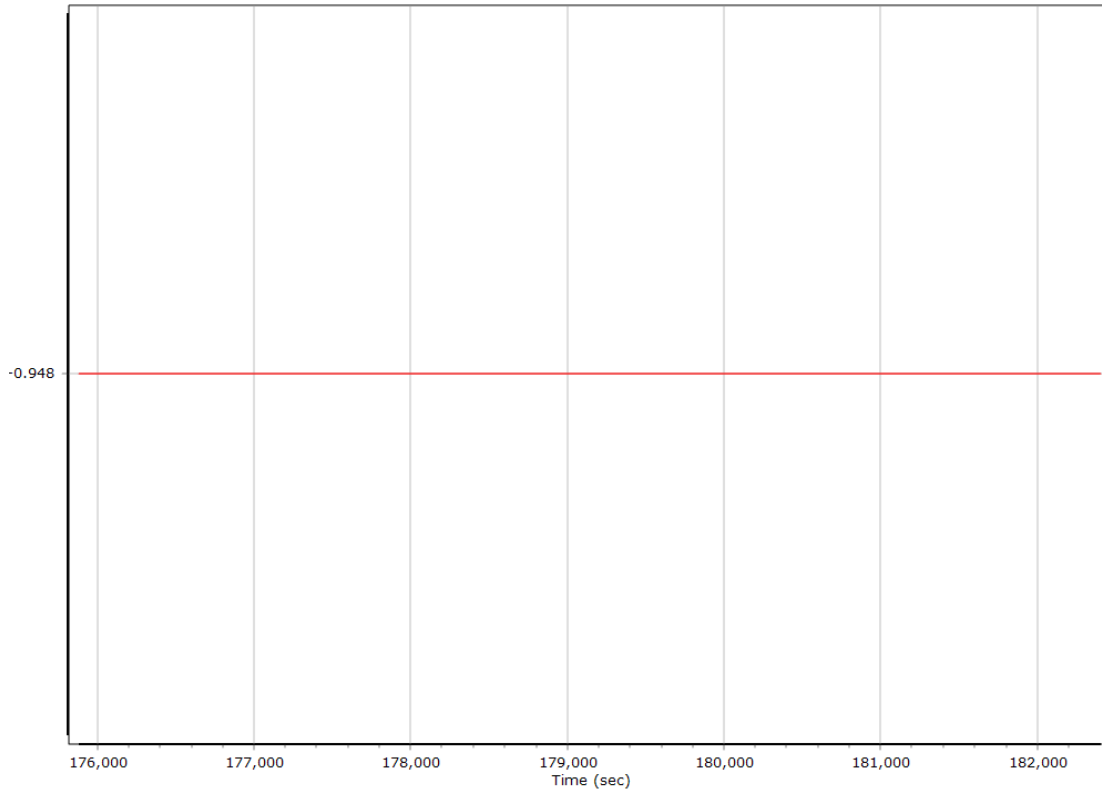
#### X Reference-Primary GNSS Lever Arm (m)



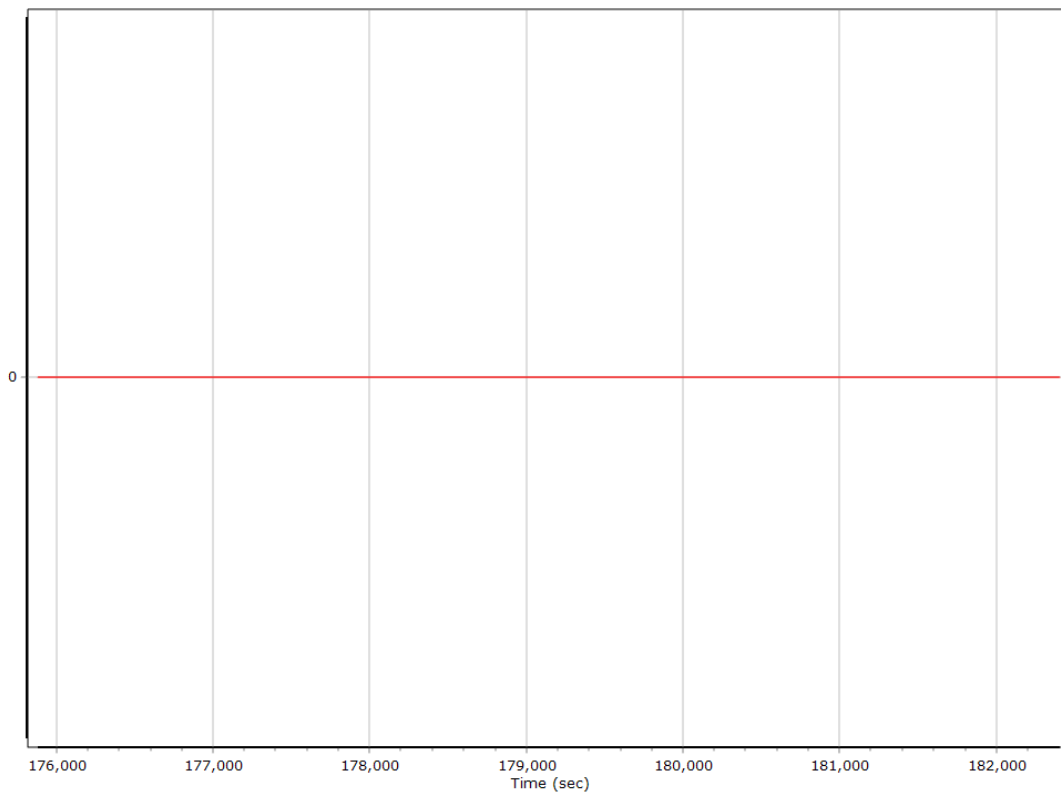
#### Y Reference-Primary GNSS Lever Arm (m)



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



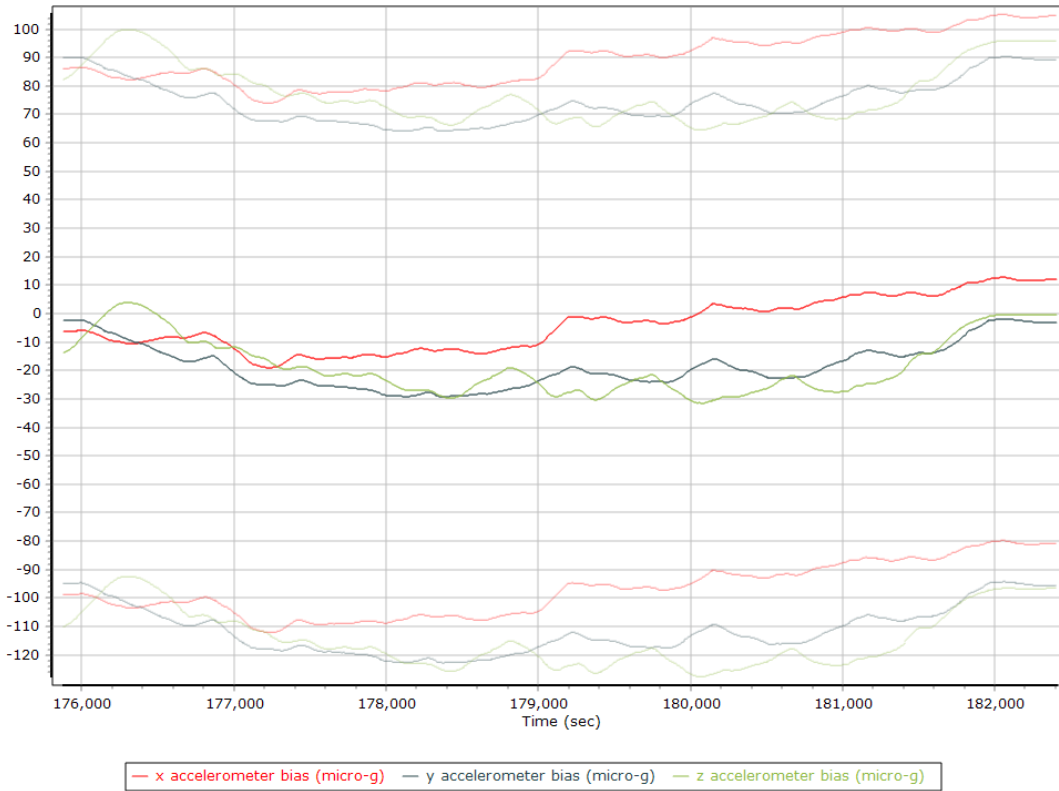
### Reference-Primary GNSS Lever Arm Figure of Merit



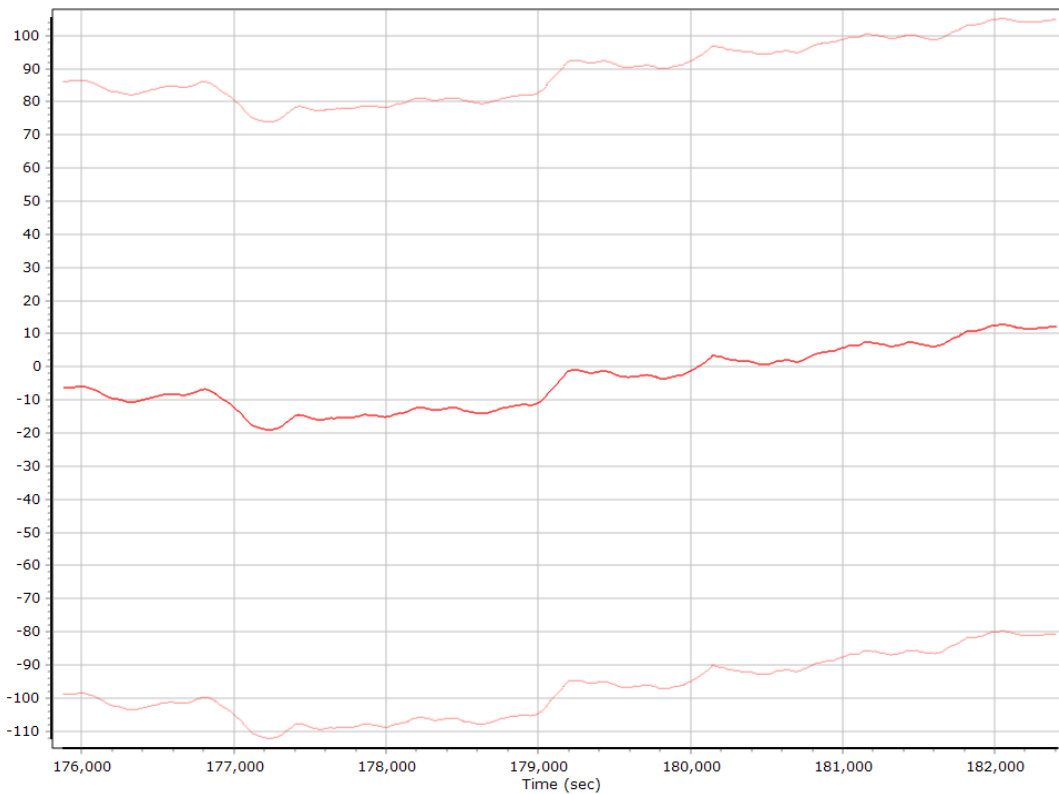
## Smoothed IN-Fusion QC

### Smoothed Estimated Errors, Reference Frame

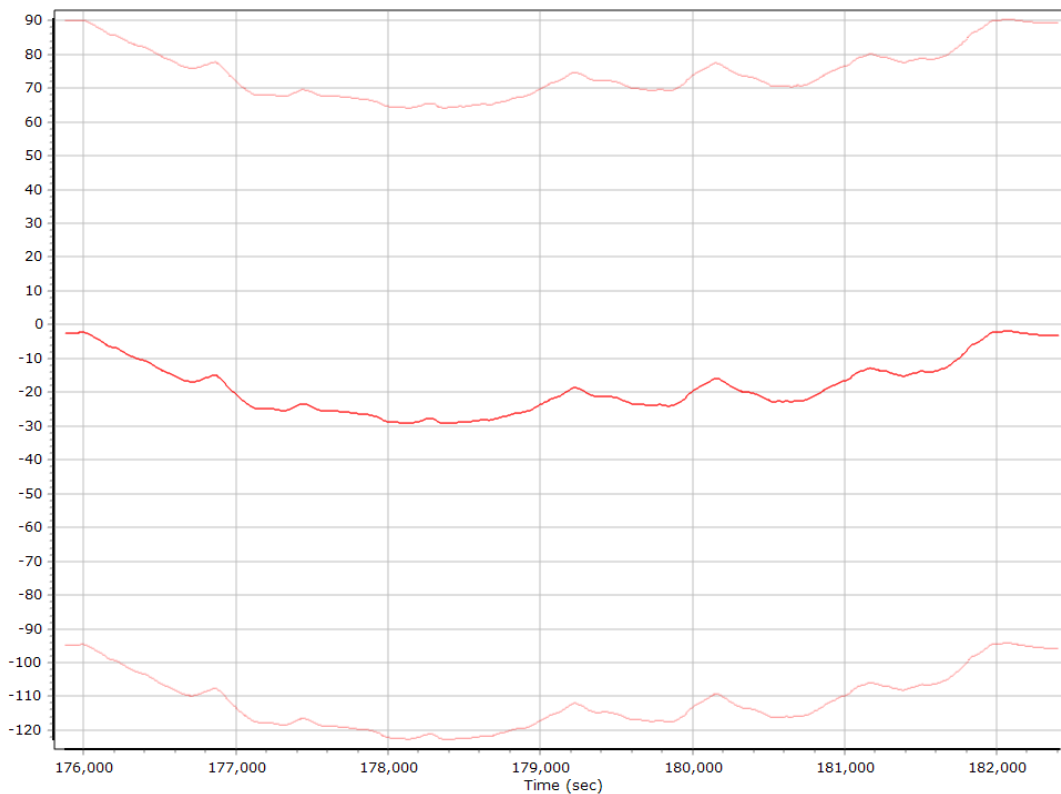
#### Accelerometer Bias (micro-g)



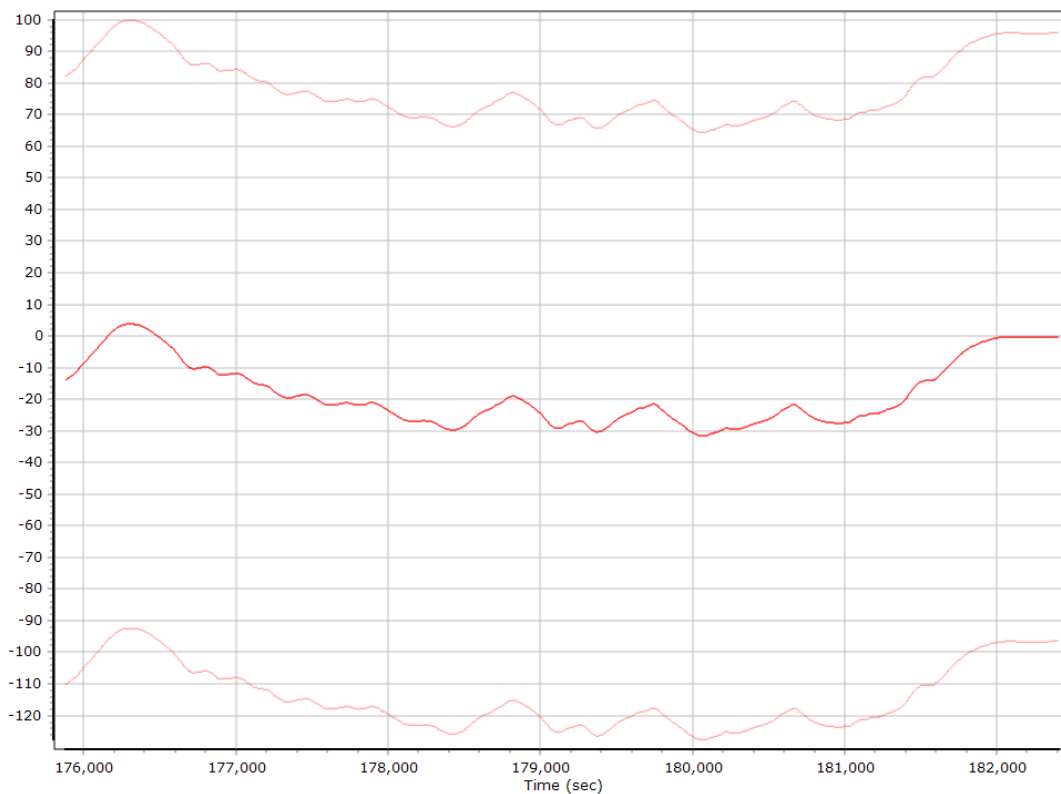
#### X Accelerometer Bias (micro-g)



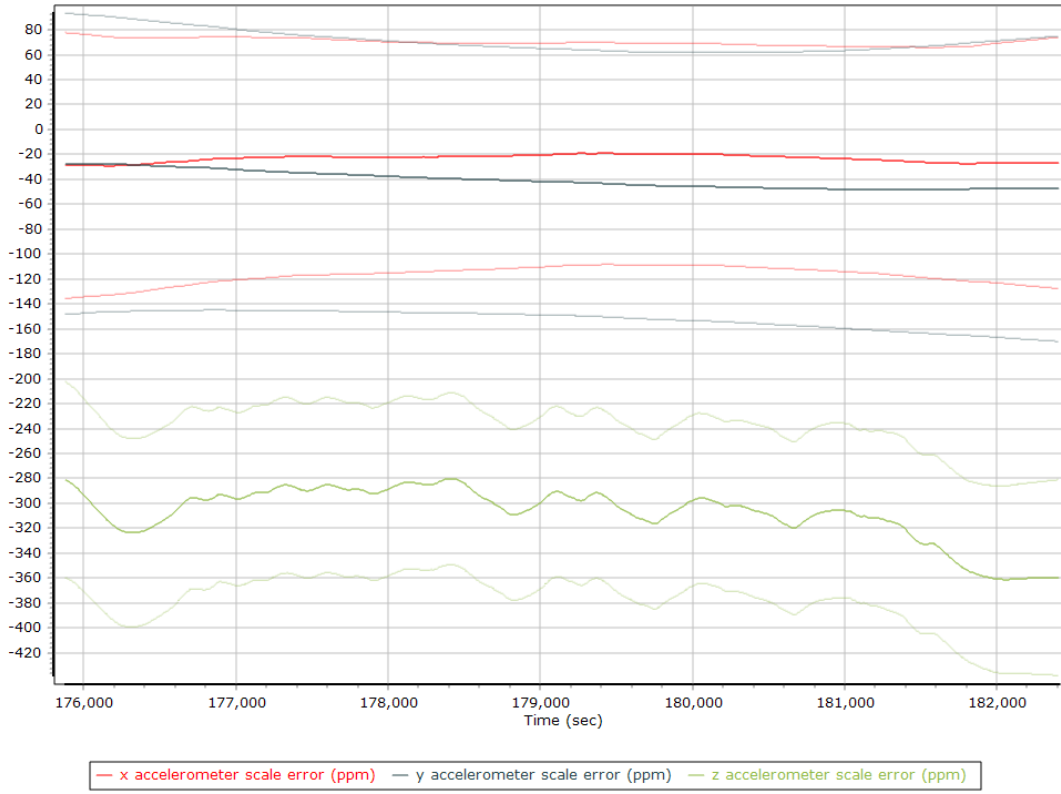
### Y Accelerometer Bias (micro-g)



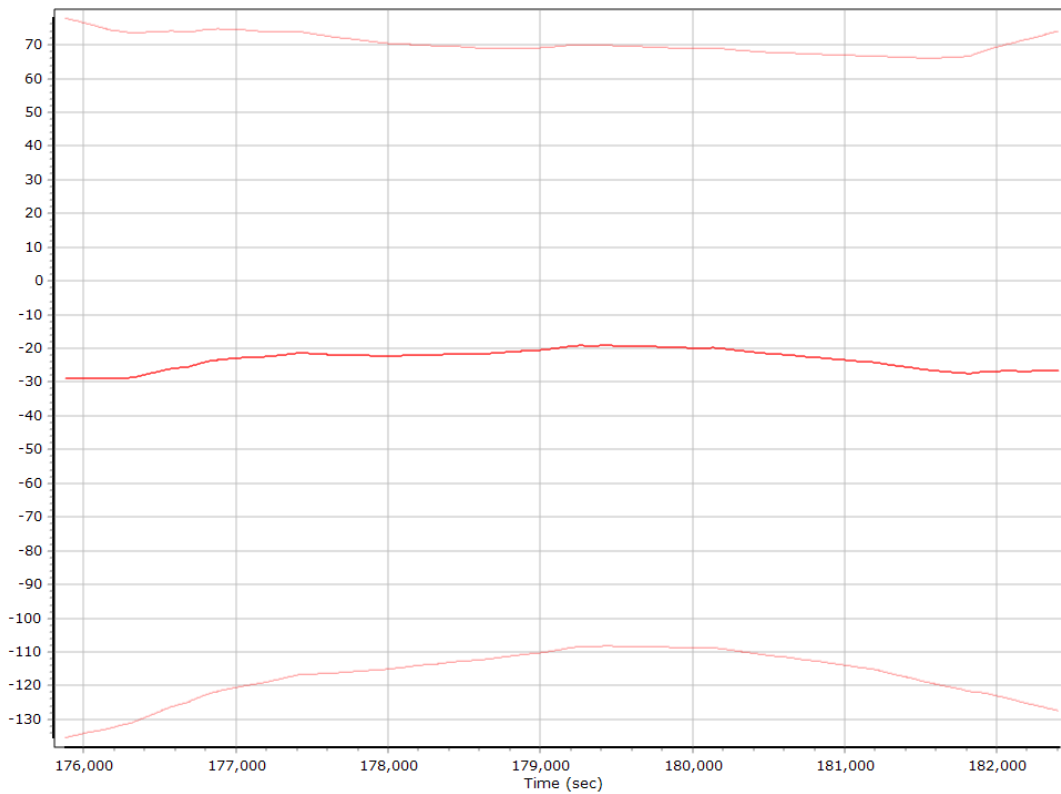
### Z Accelerometer Bias (micro-g)



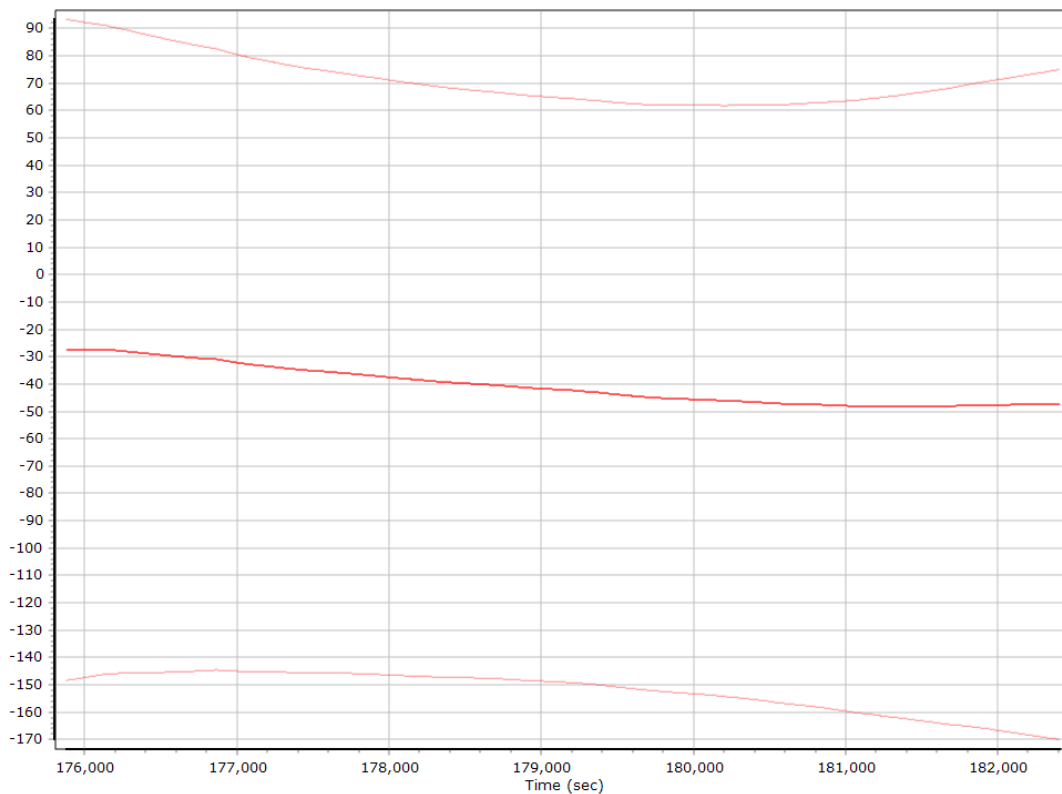
### Accelerometer Scale Error (ppm)



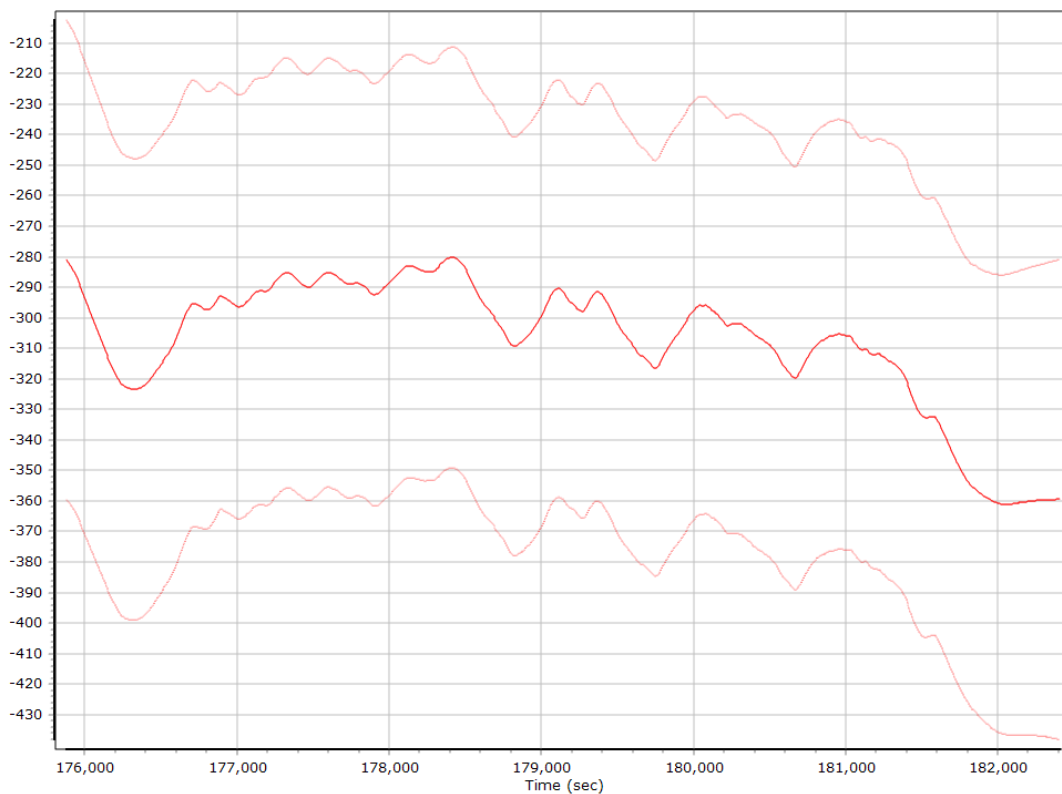
### X Accelerometer Scale Error (ppm)



### Y Accelerometer Scale Error (ppm)

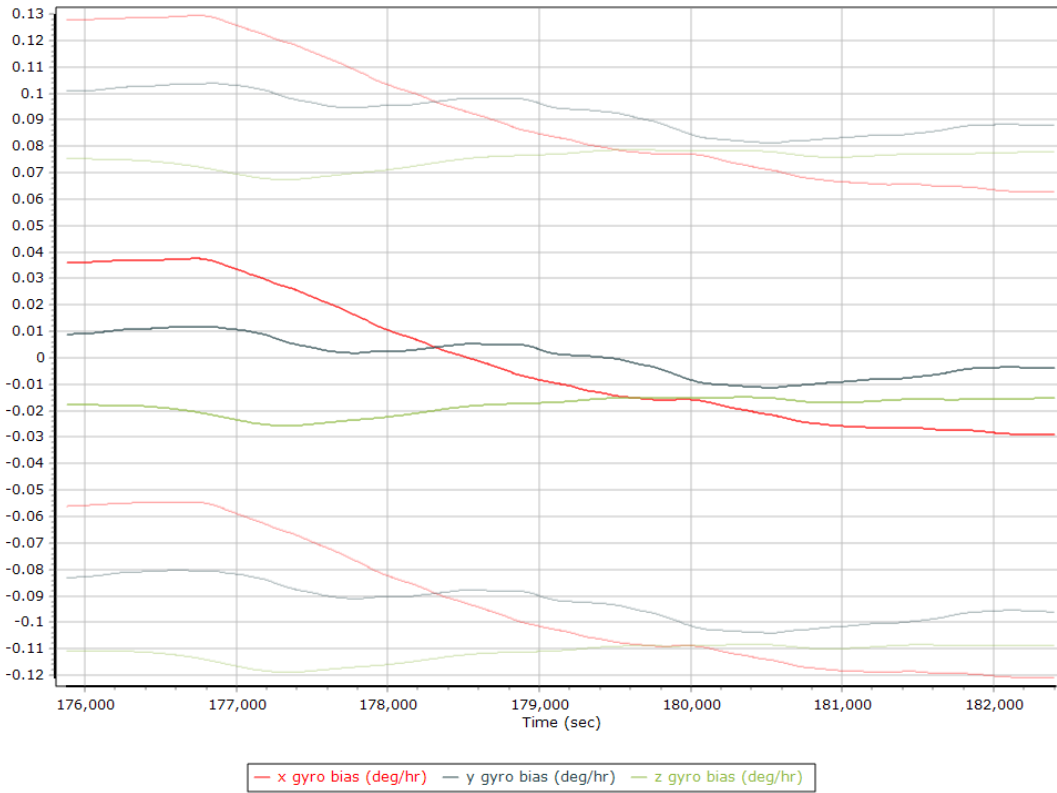


### Z Accelerometer Scale Error (ppm)

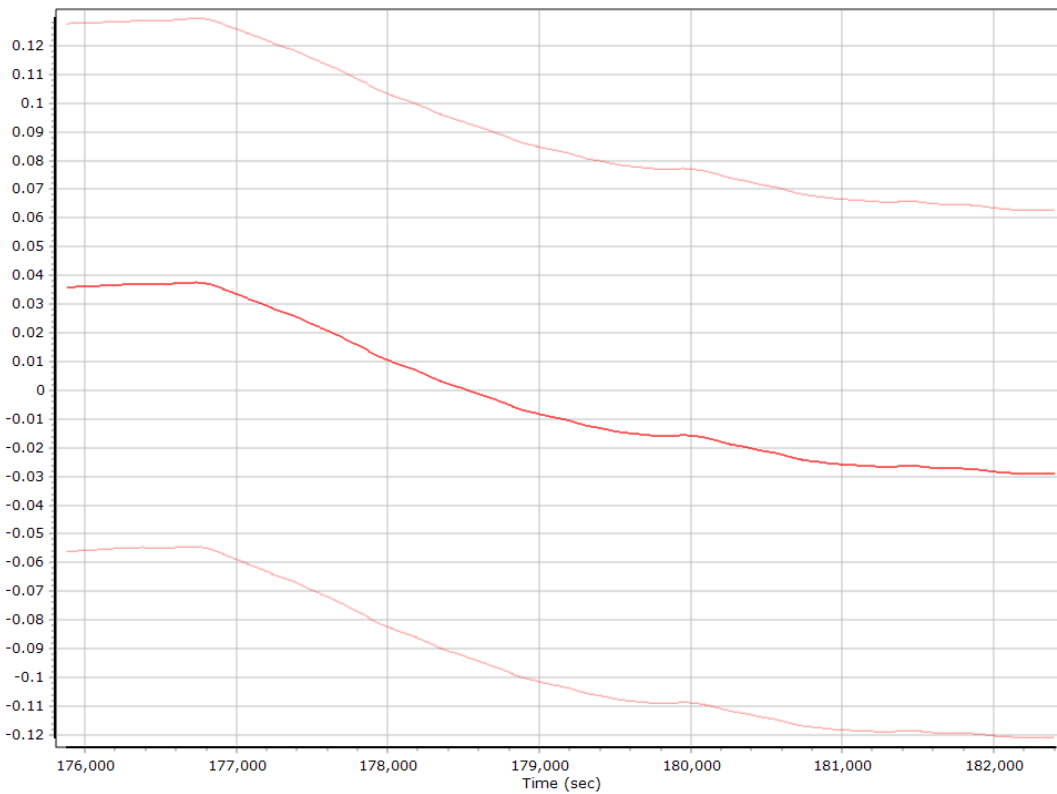




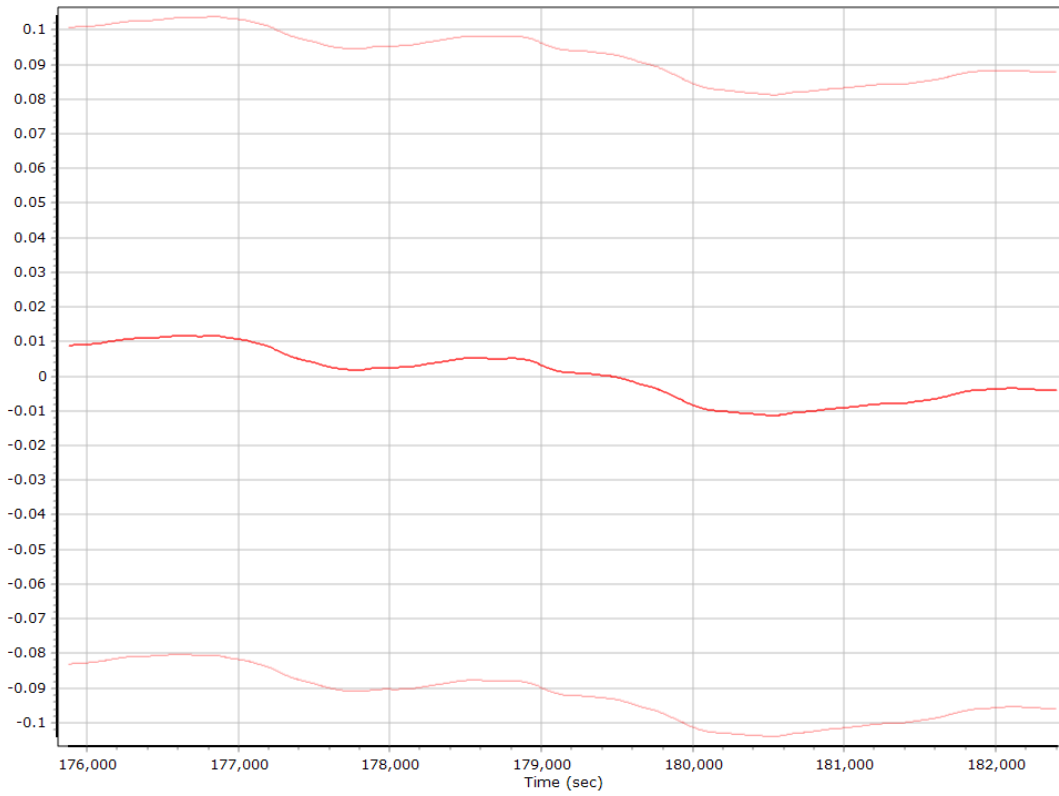
### Gyro Bias (deg/h)



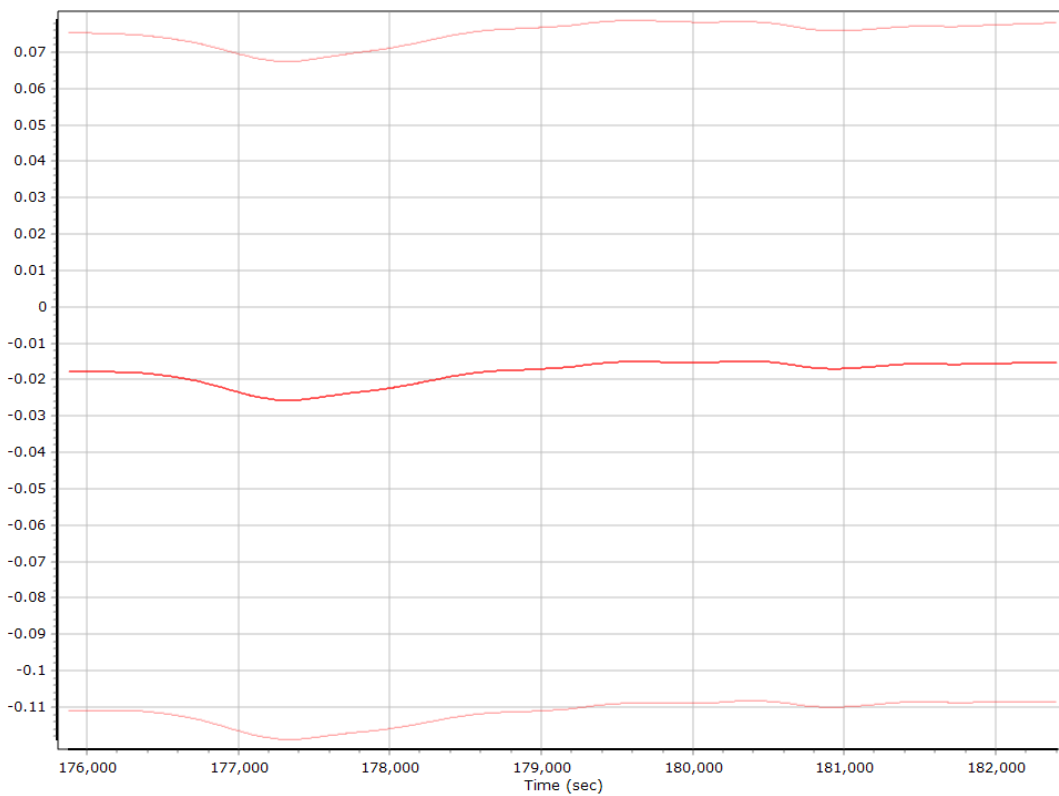
### X Gyro Bias (deg/h)



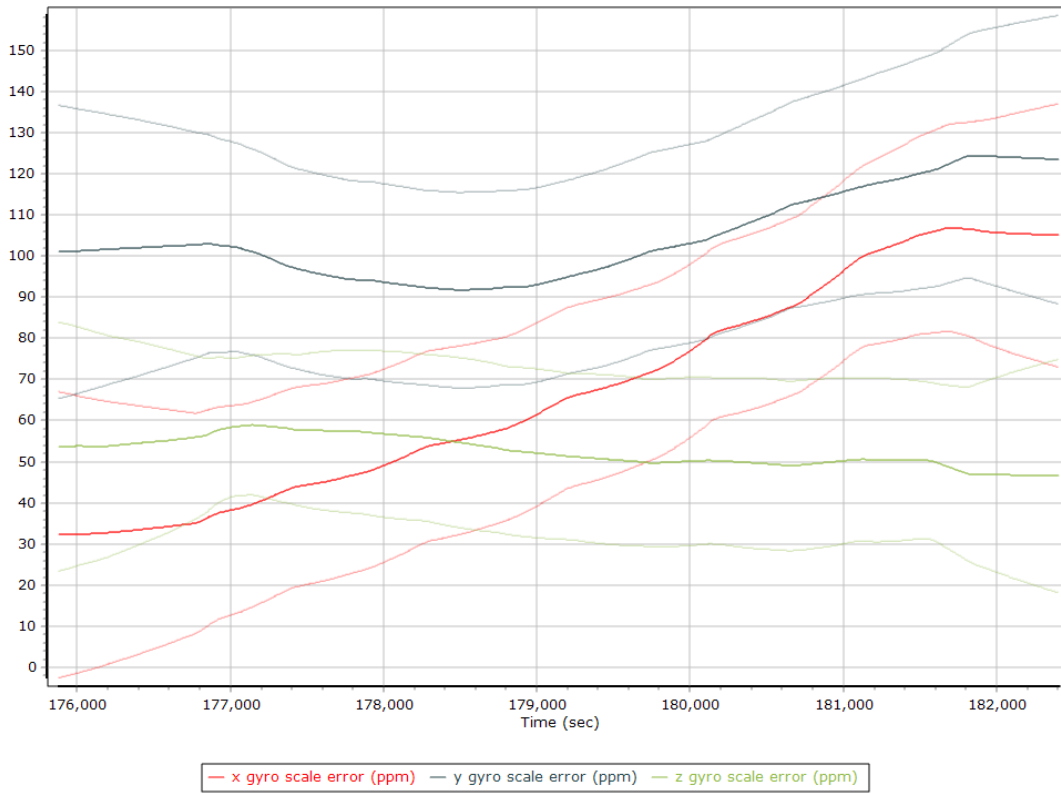
### Y Gyro Bias (deg/h)



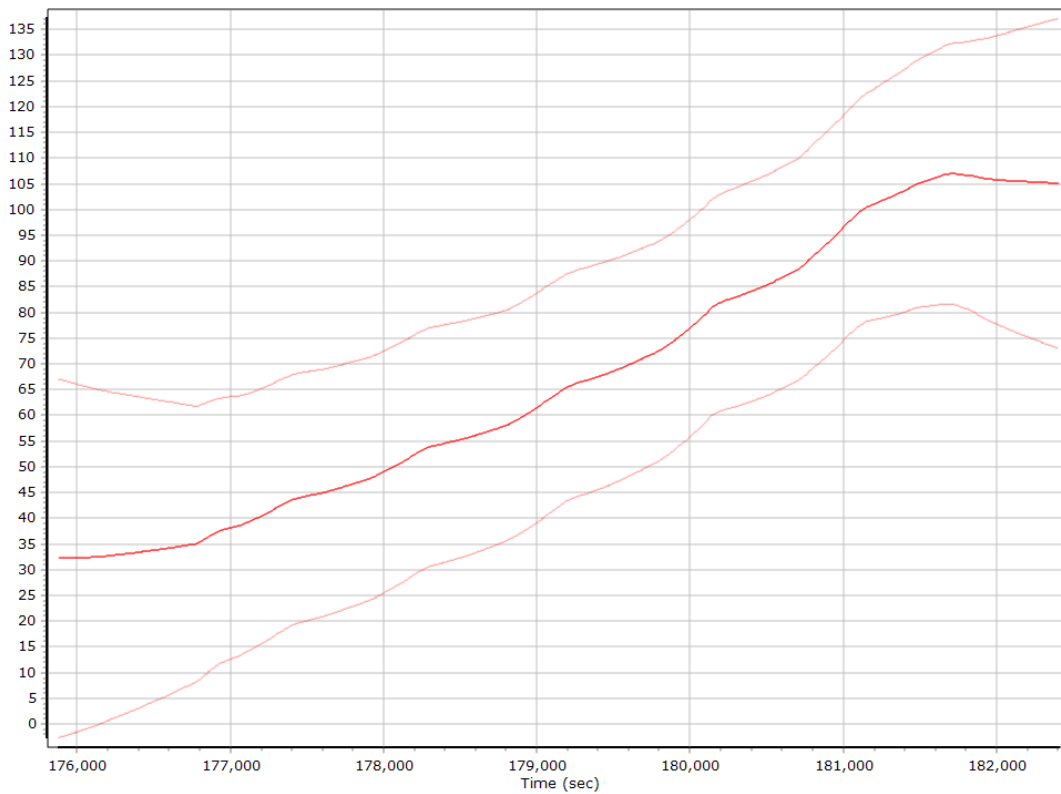
### Z Gyro Bias (deg/h)



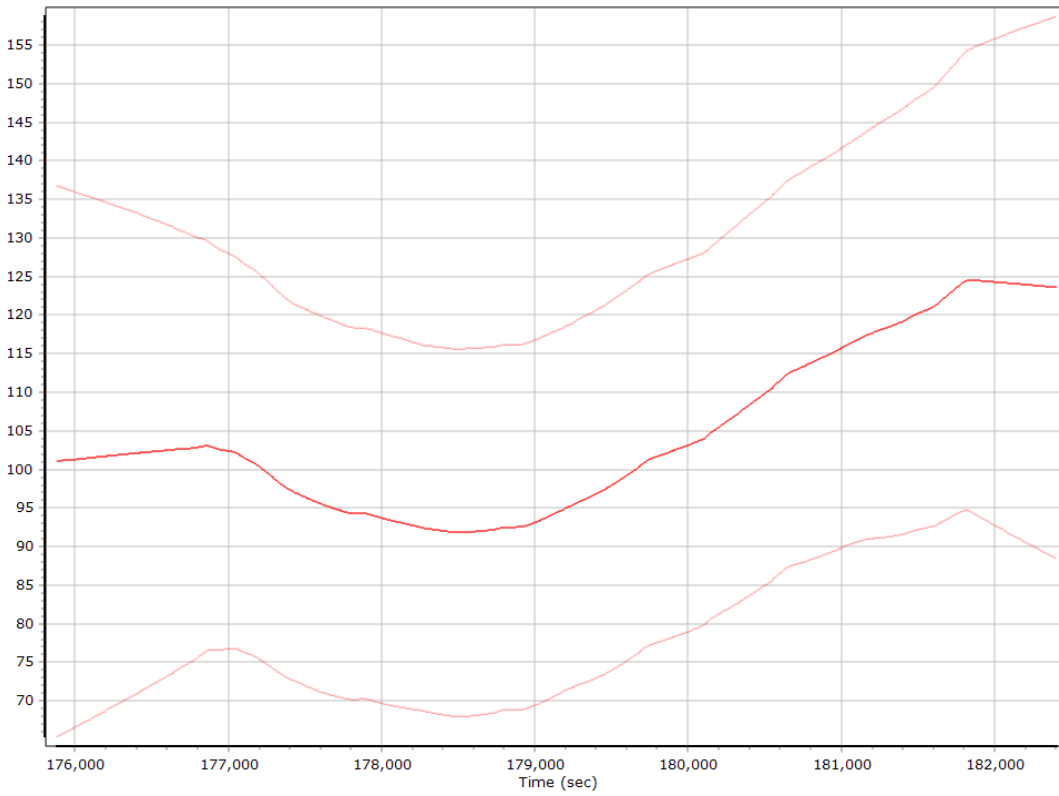
### Gyro Scale Error (ppm)



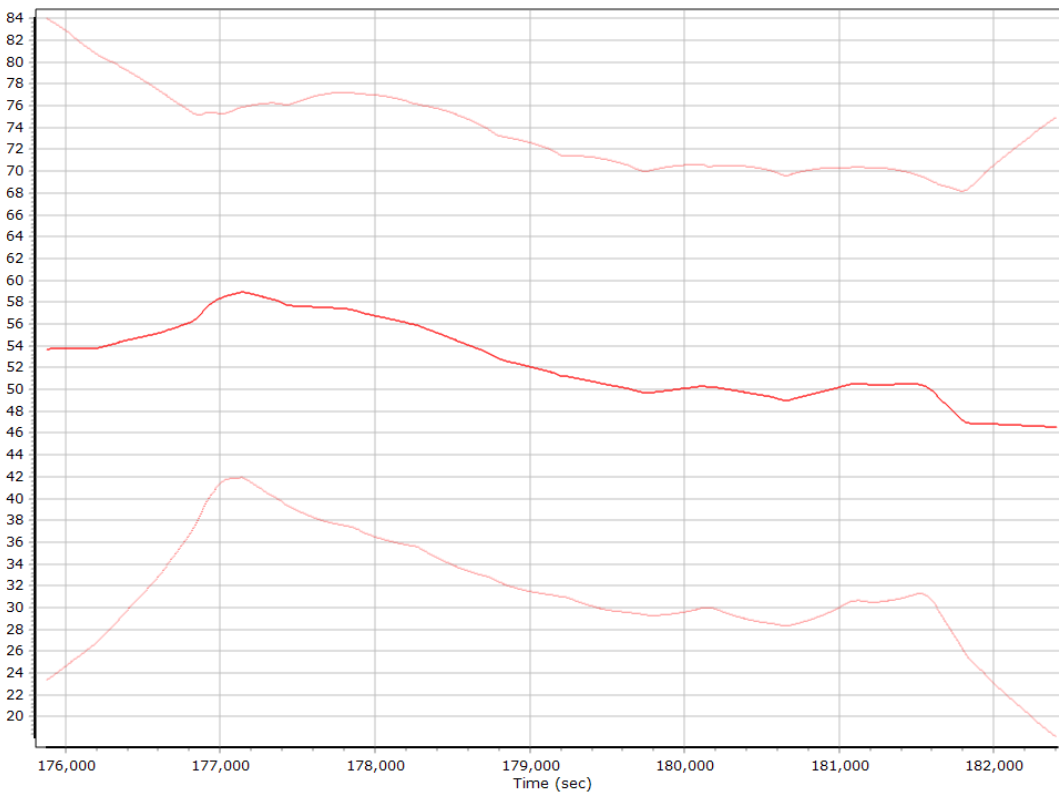
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

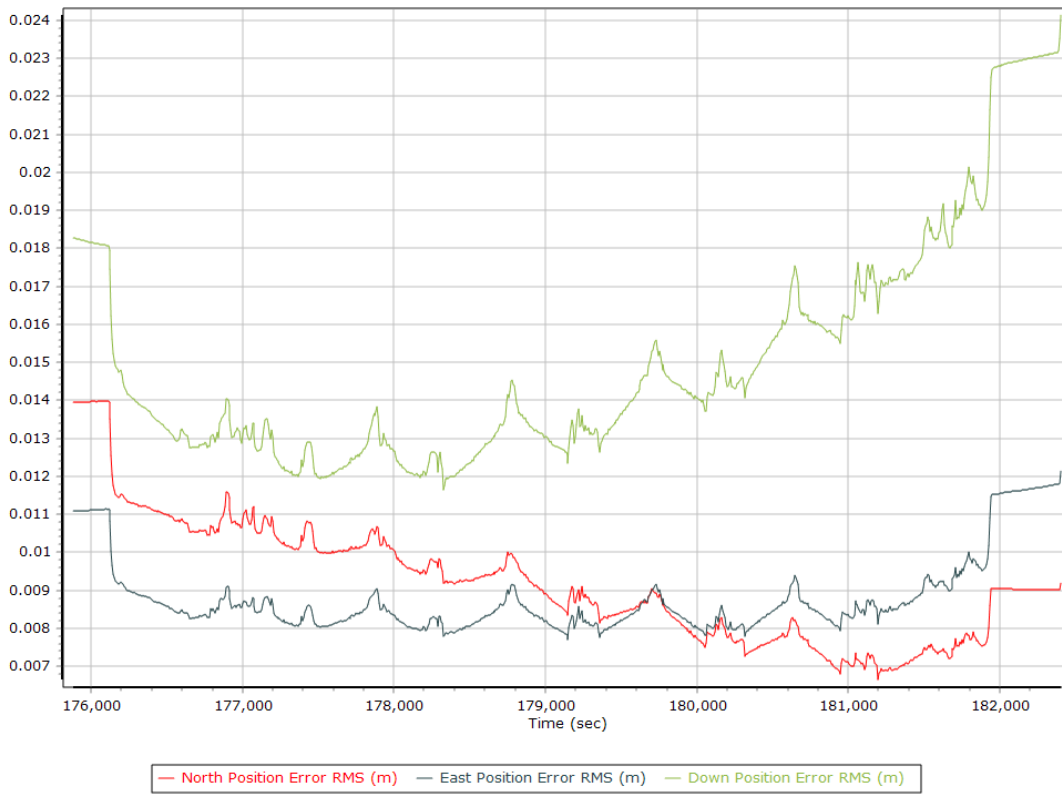


### Z Gyro Scale Error (ppm)

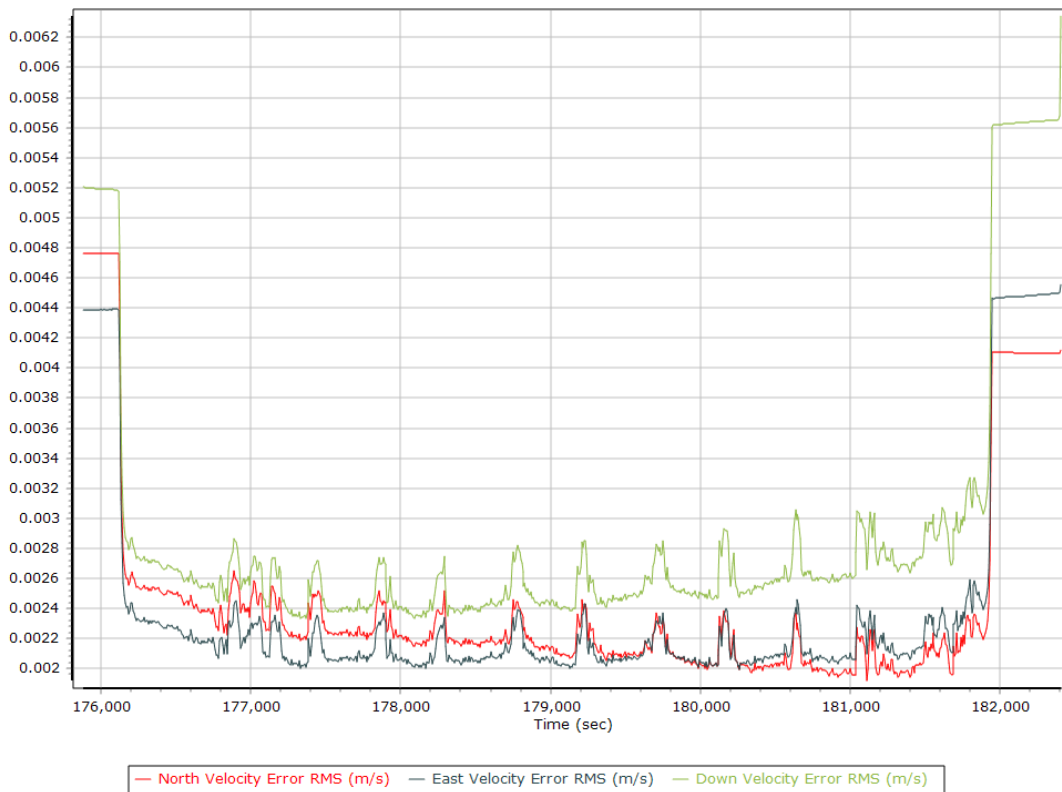


## Smoothed Performance Metrics

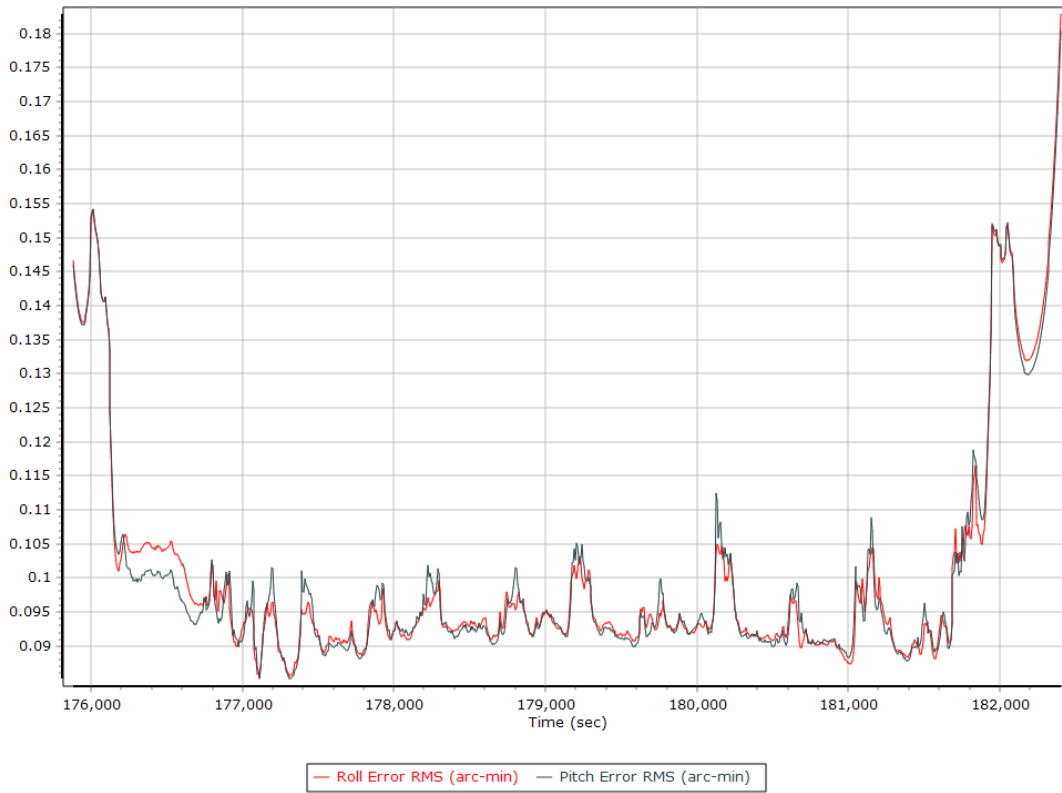
### Position Error RMS (m)



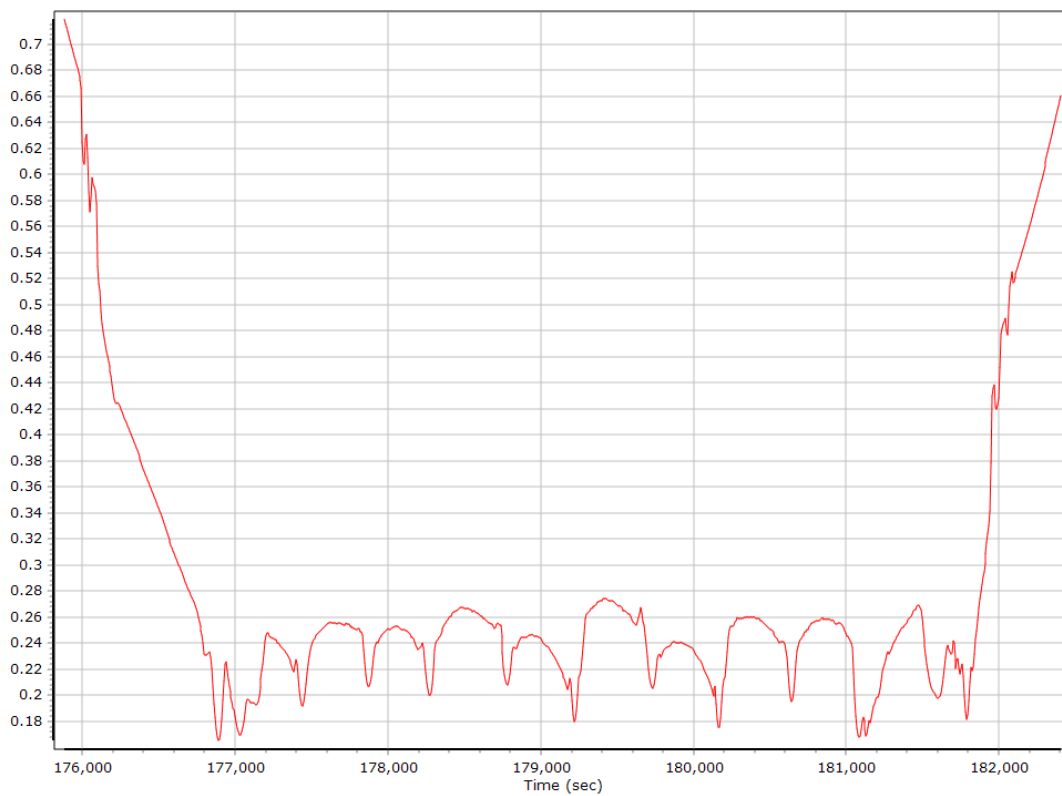
### Velocity Error RMS (m/s)



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

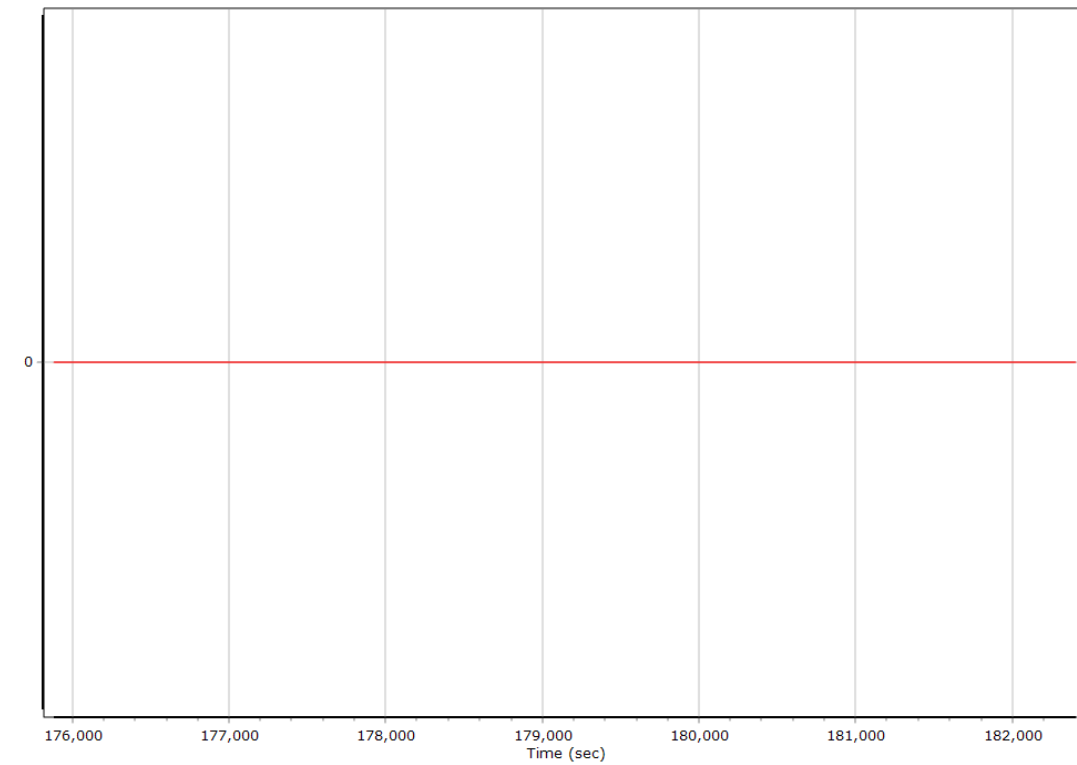


### Heading Error RMS (arc-min)



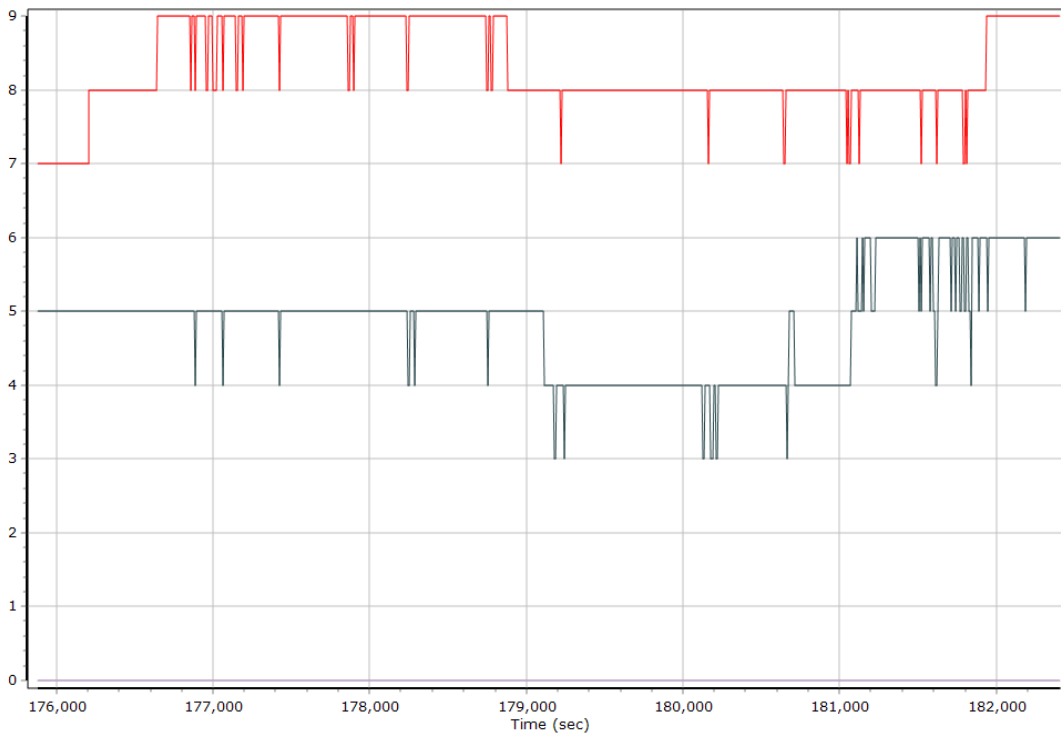
## Smoothed Solution Status

### Processing Mode



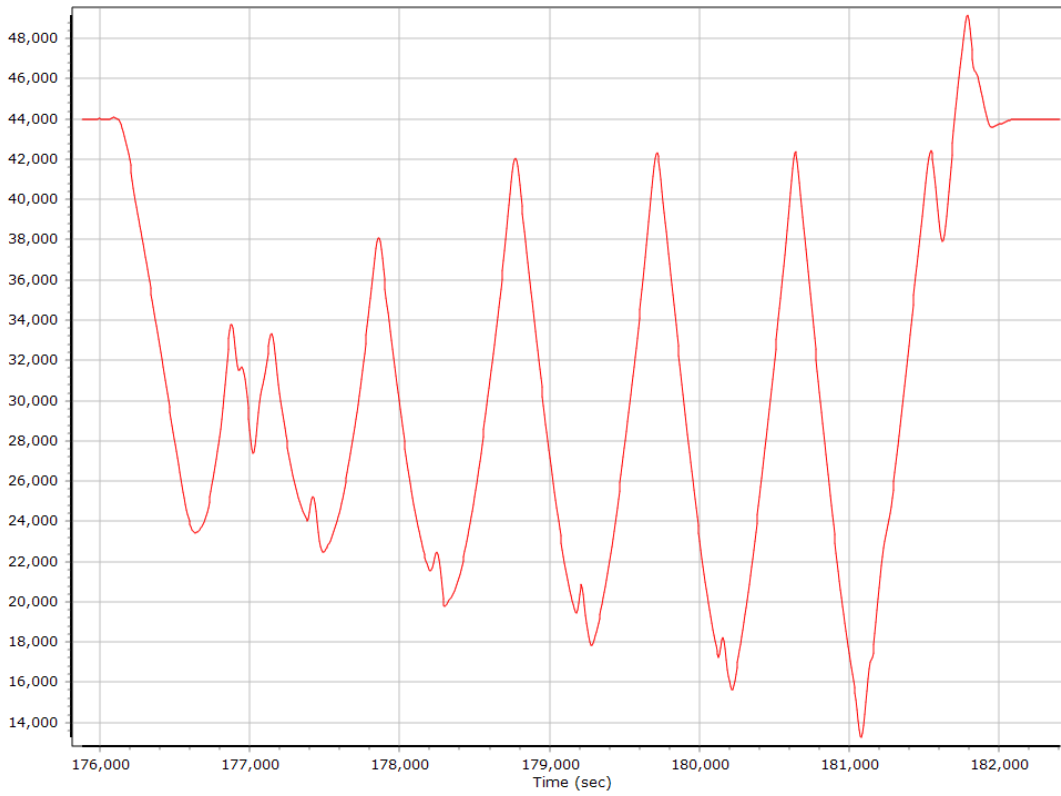
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

### 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_2021_11_2_F1_Basestation_NAD832011.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	175822.004 (11/2/2021 12:50:22 AM)		
Export end time	182411.003 (11/2/2021 2:40:11 AM)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		

## 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	175822.004 (11/2/2021 12:50:22 AM)		
EO end time	182411.003 (11/2/2021 2:40:11 AM)		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2021.835616		