

## General Information

### Mission Information

Project name	20211127_F1_Basestation
Processing date	2021-12-07 18:39:38
Mission date	2021-11-27 14:41:19
Mission duration	05:01:08.000
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
VQ1560.227	POS Data
VQ1560.228	POS Data
VQ1560.229	POS Data
VQ1560.230	POS Data
VQ1560.231	POS Data
VQ1560.232	POS Data
VQ1560.233	POS Data
VQ1560.234	POS Data
VQ1560.235	POS Data
VQ1560.236	POS Data
VQ1560.237	POS Data
VQ1560.238	POS Data
VQ1560.239	POS Data
VQ1560.240	POS Data
VQ1560.241	POS Data
VQ1560.242	POS Data
VQ1560.243	POS Data
VQ1560.244	POS Data
VQ1560.245	POS Data
VQ1560.246	POS Data
VQ1560.247	POS Data
VQ1560.248	POS Data
VQ1560.249	POS Data
VQ1560.250	POS Data
VQ1560.251	POS Data
VQ1560.252	POS Data
VQ1560.253	POS Data
VQ1560.254	POS Data
VQ1560.255	POS Data
VQ1560.256	POS Data
VQ1560.257	POS Data
VQ1560.258	POS Data
VQ1560.259	POS Data
VQ1560.260	POS Data
VQ1560.261	POS Data
VQ1560.262	POS Data
VQ1560.263	POS Data
VQ1560.264	POS Data
VQ1560.265	POS Data
VQ1560.266	POS Data
VQ1560.267	POS Data
VQ1560.268	POS Data

### Input Files

File Name	File type
Ephm3310.21g	GLONASS Broadcast Ephemeris
Ephm3310.21n	GPS Broadcast Ephemeris
dhl3310.21o	GNSS SingleBase

### Output Files

Filename	File type
sbet_20211127_F1_Basestation.out	SBET Trajectory File
export_20211127_F1_Basestation_NAD83_2011.	Custom Smoothed BET Export Output

## Rover Data Summary

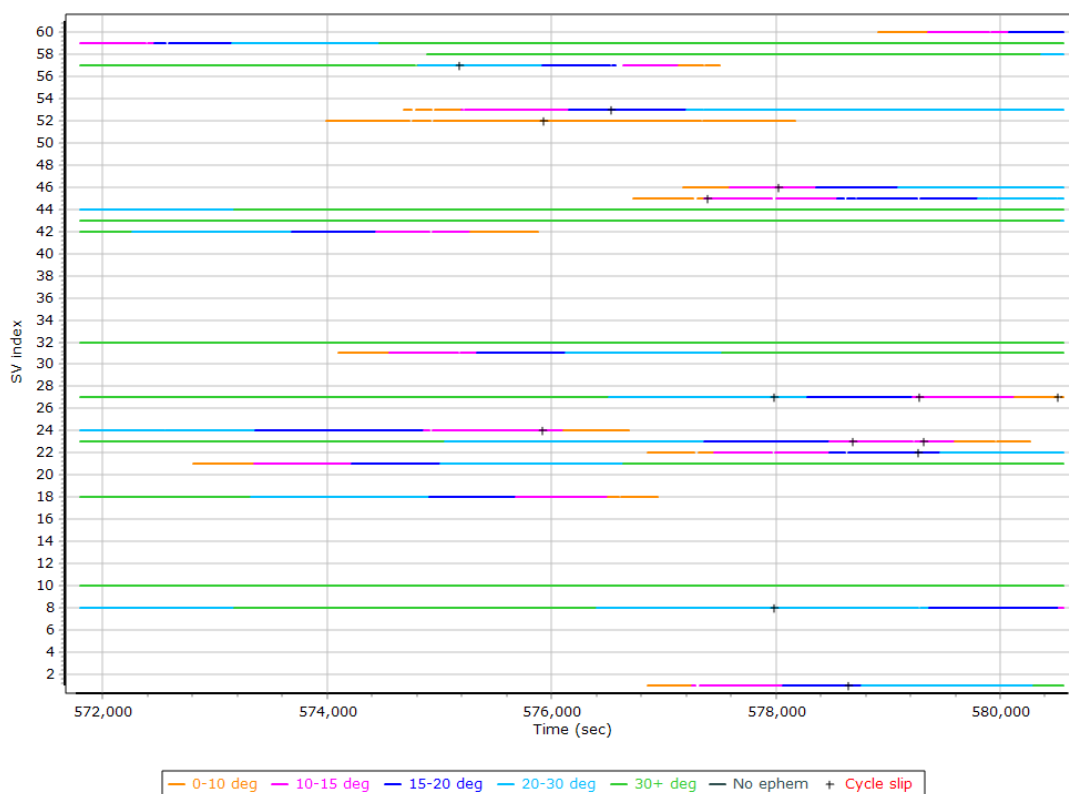
First raw data file	VQ1560.227		
Last raw data file	VQ1560.268		
Start GPS week	2185		
Start time	31.161 (11/21/2021 00:00:31)		
End time	589329.432 (11/27/2021 19:42:09)		
Start of fine alignment	571741.940 (11/27/2021 14:49:01)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction 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

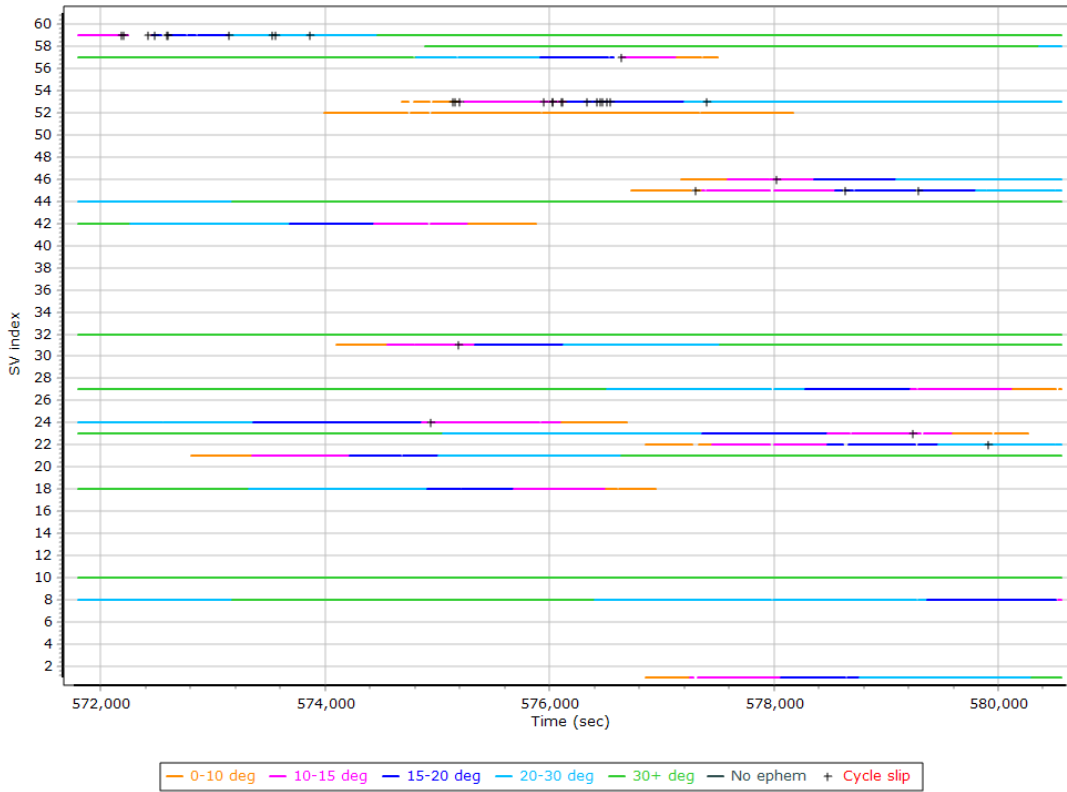
### Raw IMU Import QC Summary

IMU data input file	imu_20211127_F1_Basestation.dat
IMU data check log file	imudt_20211127_F1_Basestation.log
IMU Records Processed	3612820
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
571292.793 : WARNING : Gap of 571260.8322 seconds in CHECKDT input data	

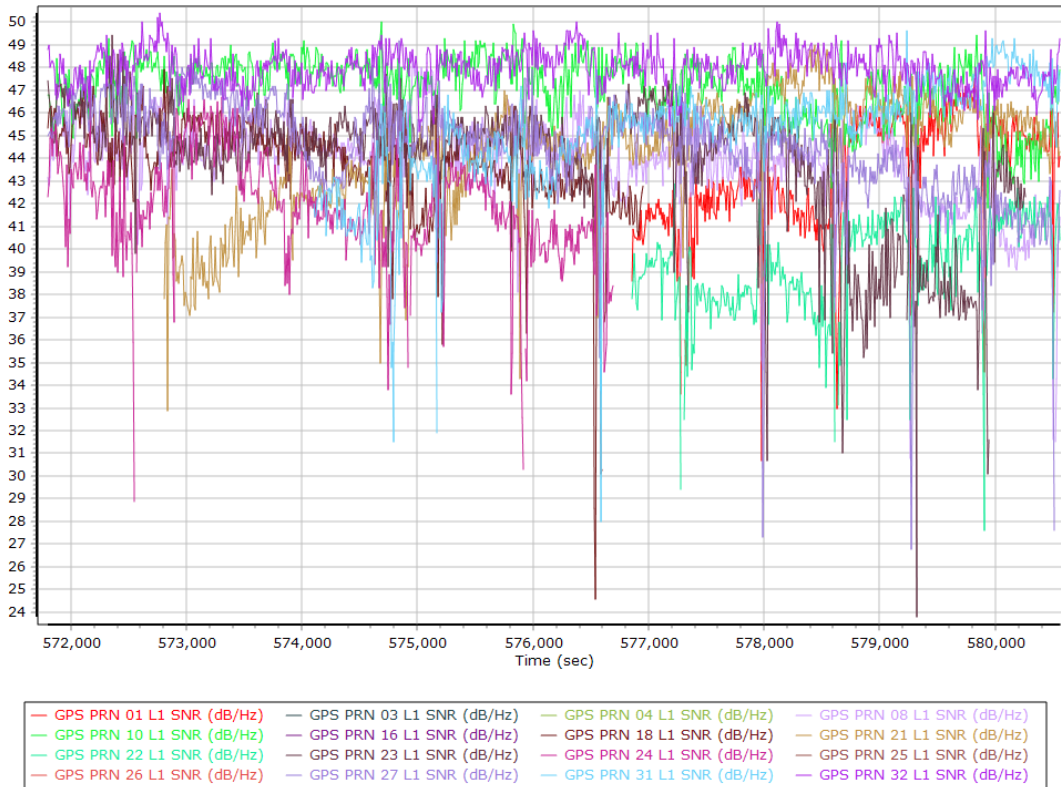
### L1 Satellite Lock/Elevation



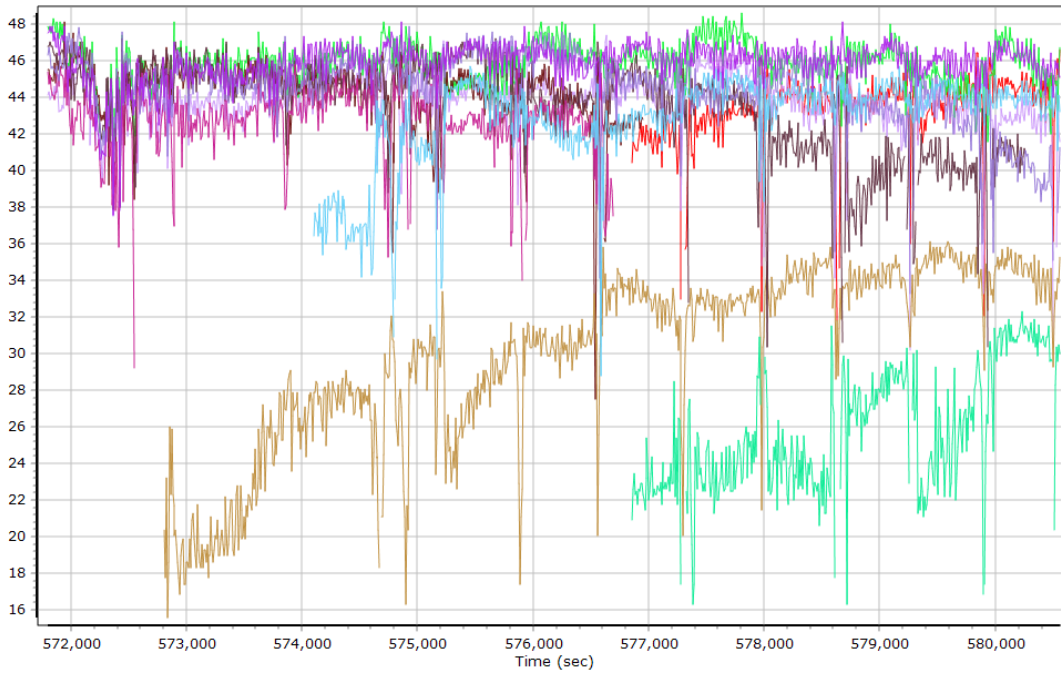
## L2 Satellite Lock/Elevation



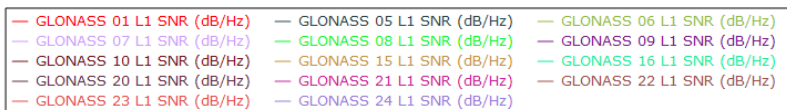
## GPS L1 SNR



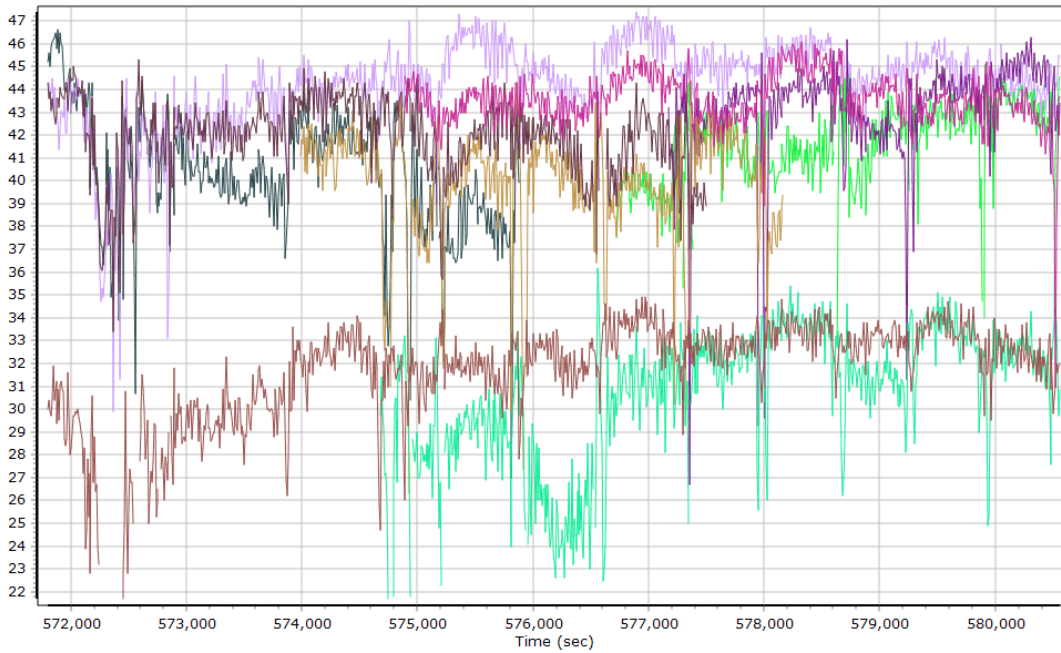
## GPS L2 SNR



## GLONASS L1 SNR

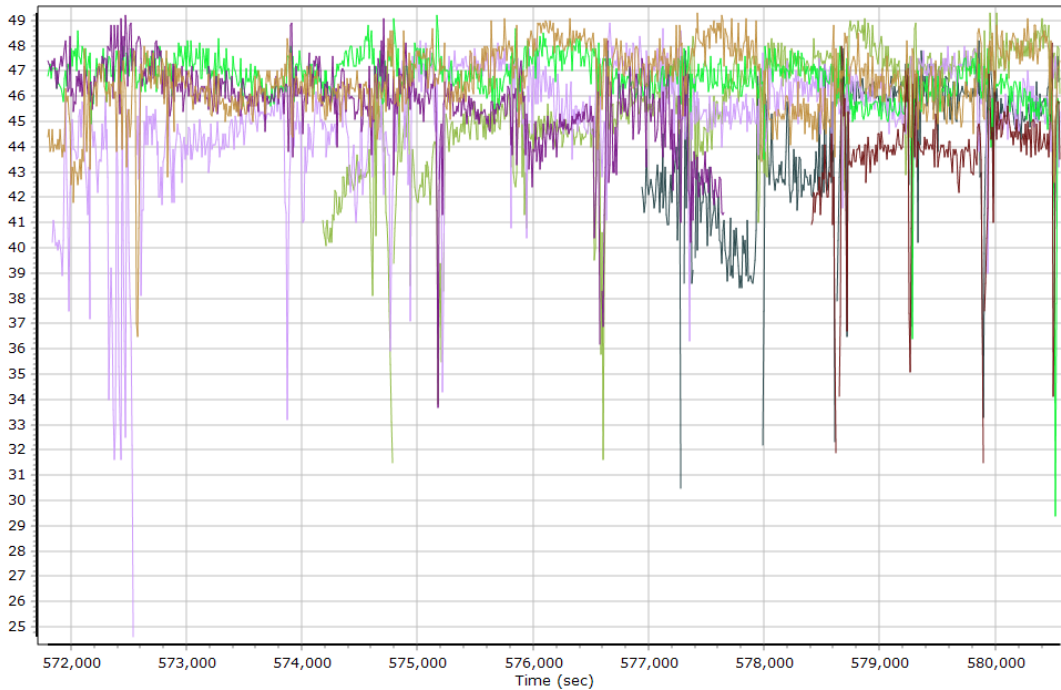


## GLONASS L2 SNR



- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L2 SNR (dB/Hz) | GLONASS 05 L2 SNR (dB/Hz) | GLONASS 06 L2 SNR (dB/Hz) |
| GLONASS 07 L2 SNR (dB/Hz) | GLONASS 08 L2 SNR (dB/Hz) | GLONASS 09 L2 SNR (dB/Hz) |
| GLONASS 10 L2 SNR (dB/Hz) | GLONASS 15 L2 SNR (dB/Hz) | GLONASS 16 L2 SNR (dB/Hz) |
| GLONASS 20 L2 SNR (dB/Hz) | GLONASS 21 L2 SNR (dB/Hz) | GLONASS 22 L2 SNR (dB/Hz) |
| GLONASS 23 L2 SNR (dB/Hz) | GLONASS 24 L2 SNR (dB/Hz) |                           |

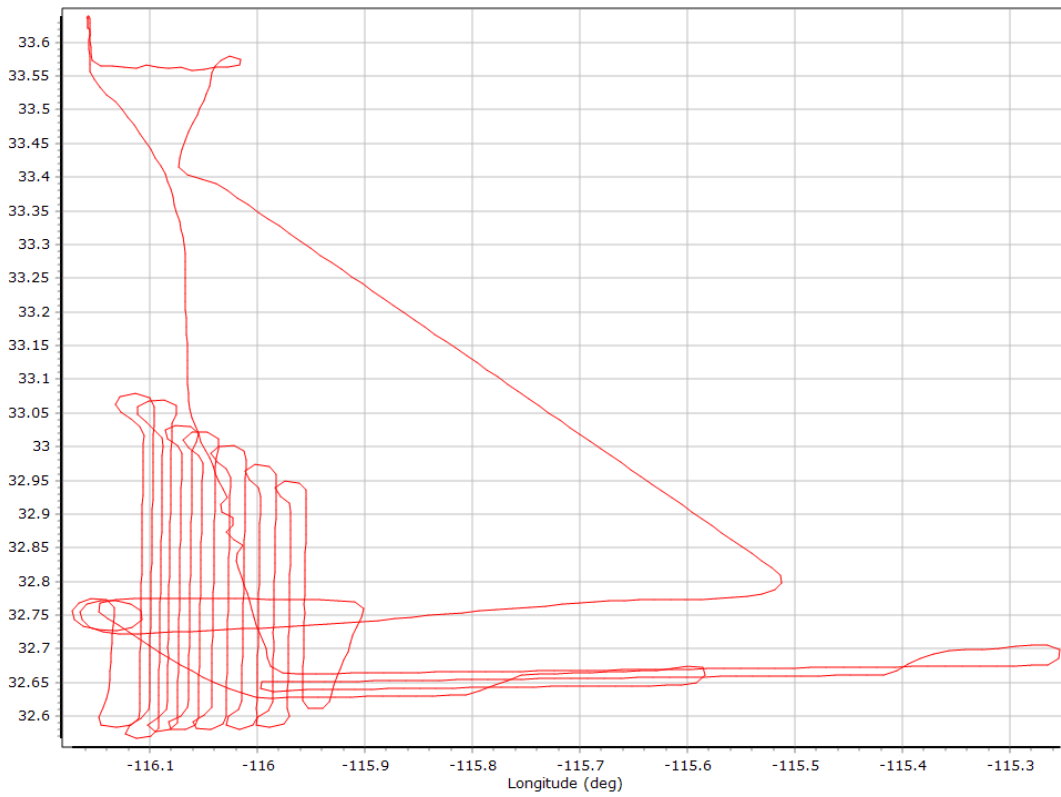
## BEIDOU SNR



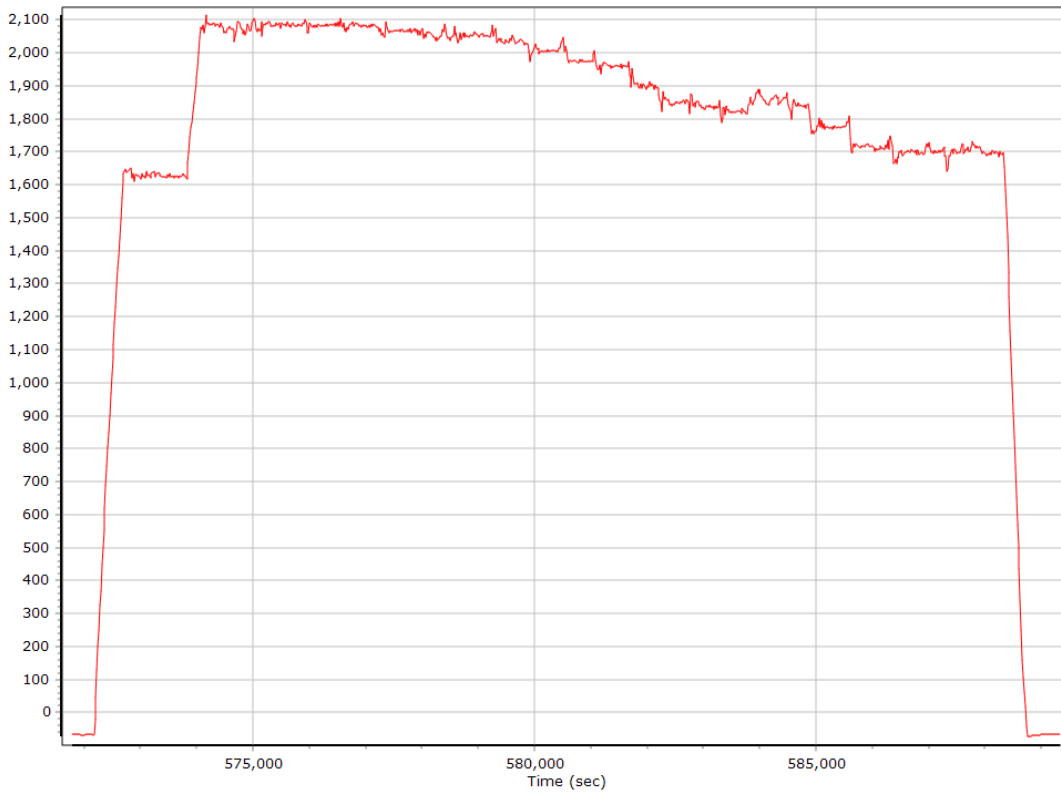
- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| BEIDOU 19 B1 B1 SNR (dB/Hz) | BEIDOU 20 B1 B1 SNR (dB/Hz) | BEIDOU 23 B1 B1 SNR (dB/Hz) |
| BEIDOU 25 B1 B1 SNR (dB/Hz) | BEIDOU 27 B1 B1 SNR (dB/Hz) | BEIDOU 28 B1 B1 SNR (dB/Hz) |
| BEIDOU 29 B1 B1 SNR (dB/Hz) | BEIDOU 30 B1 B1 SNR (dB/Hz) |                             |

## Trajectory Information

### Top View

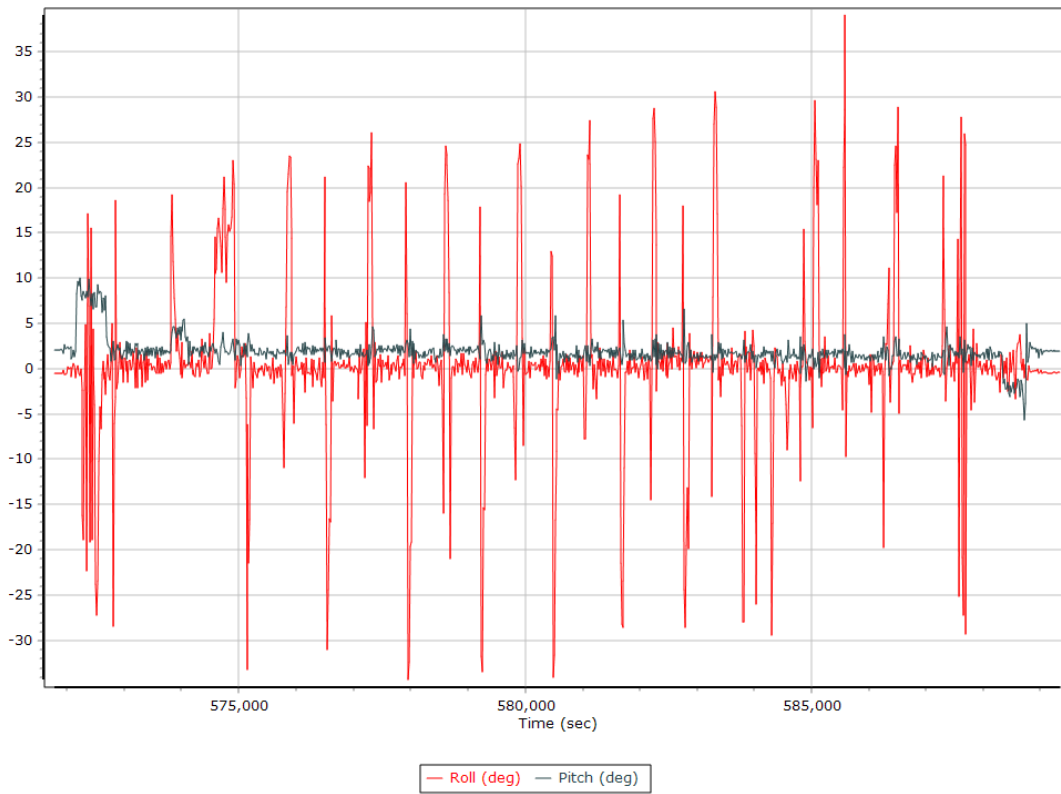


### Altitude

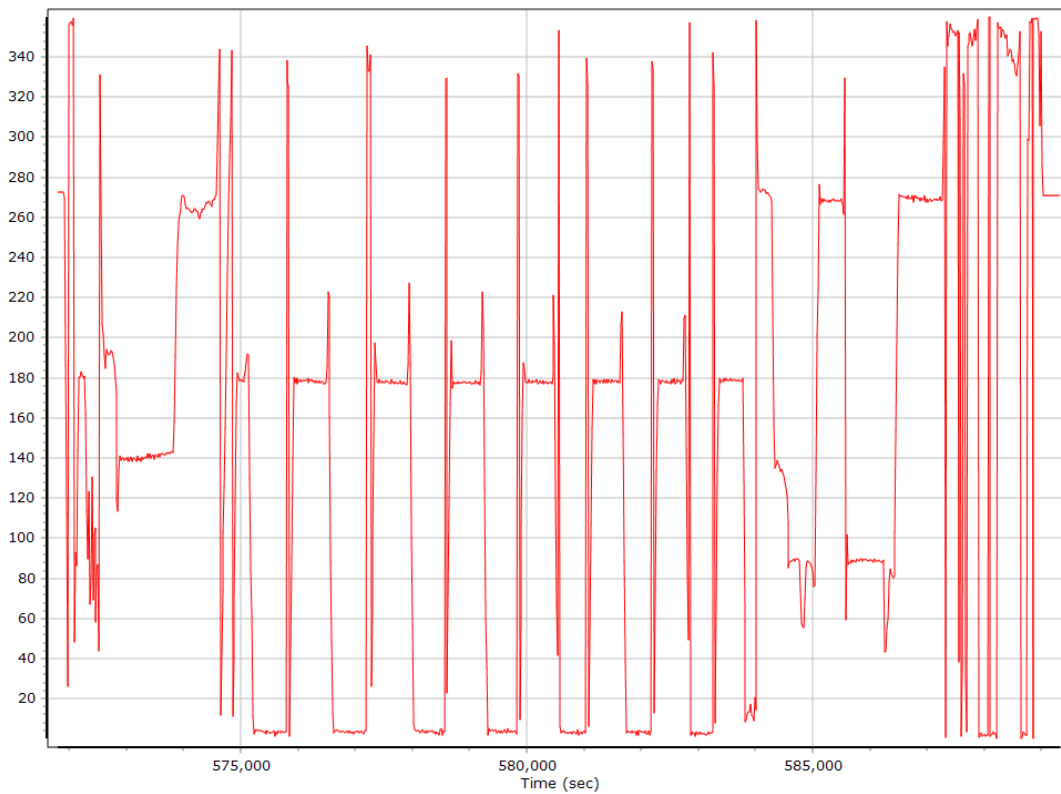




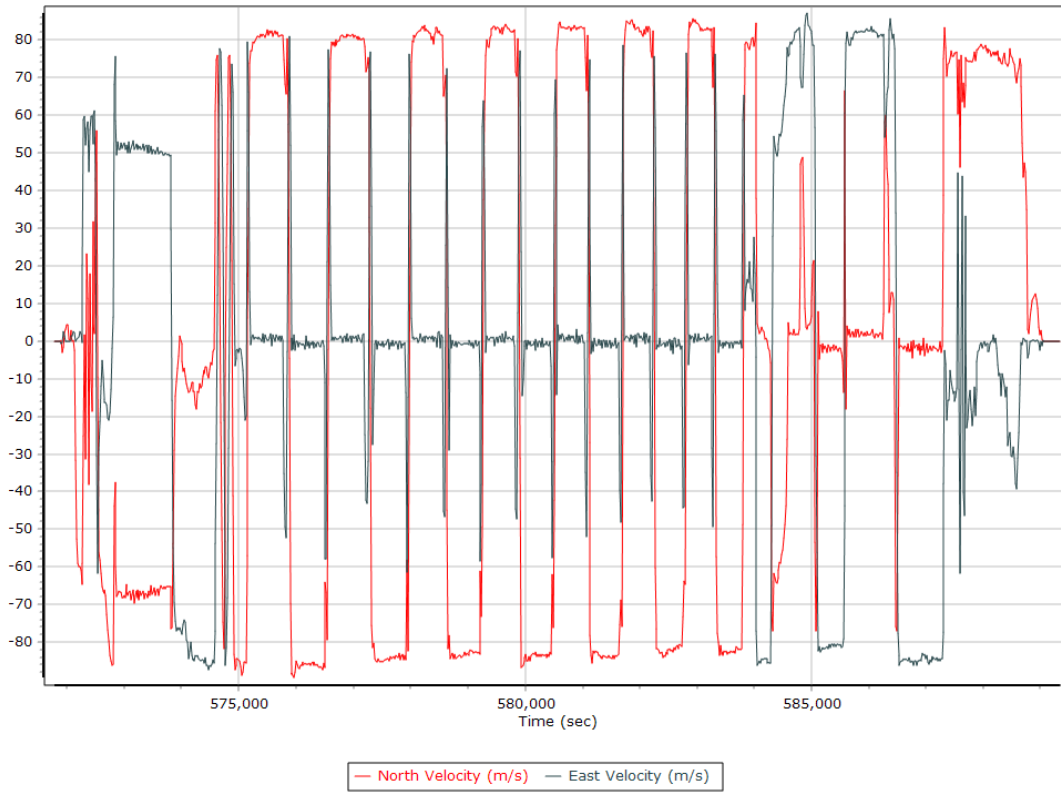
## Roll/Pitch



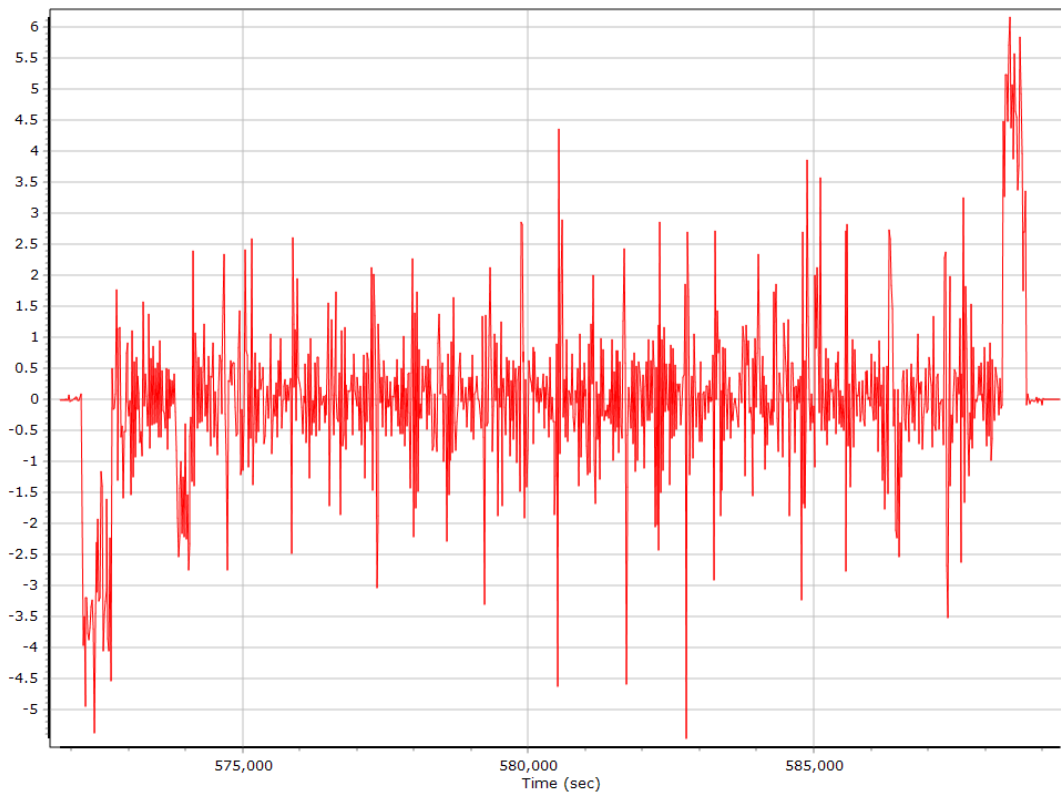
## Heading



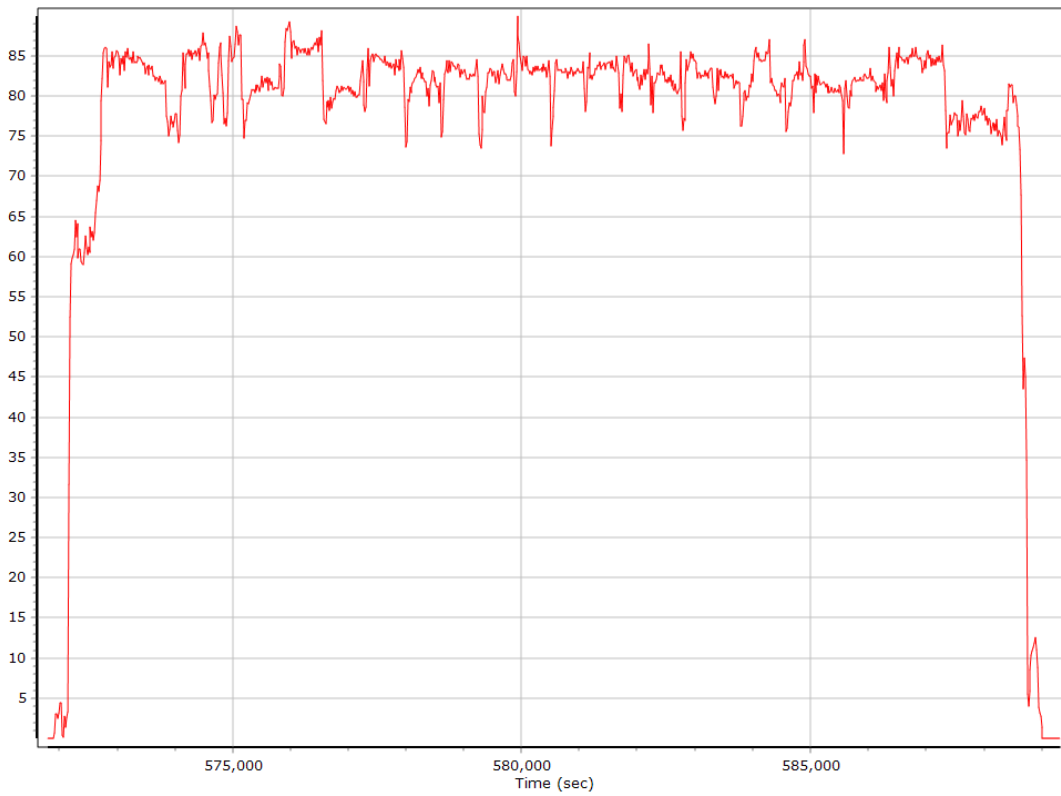
## North/East Velocity



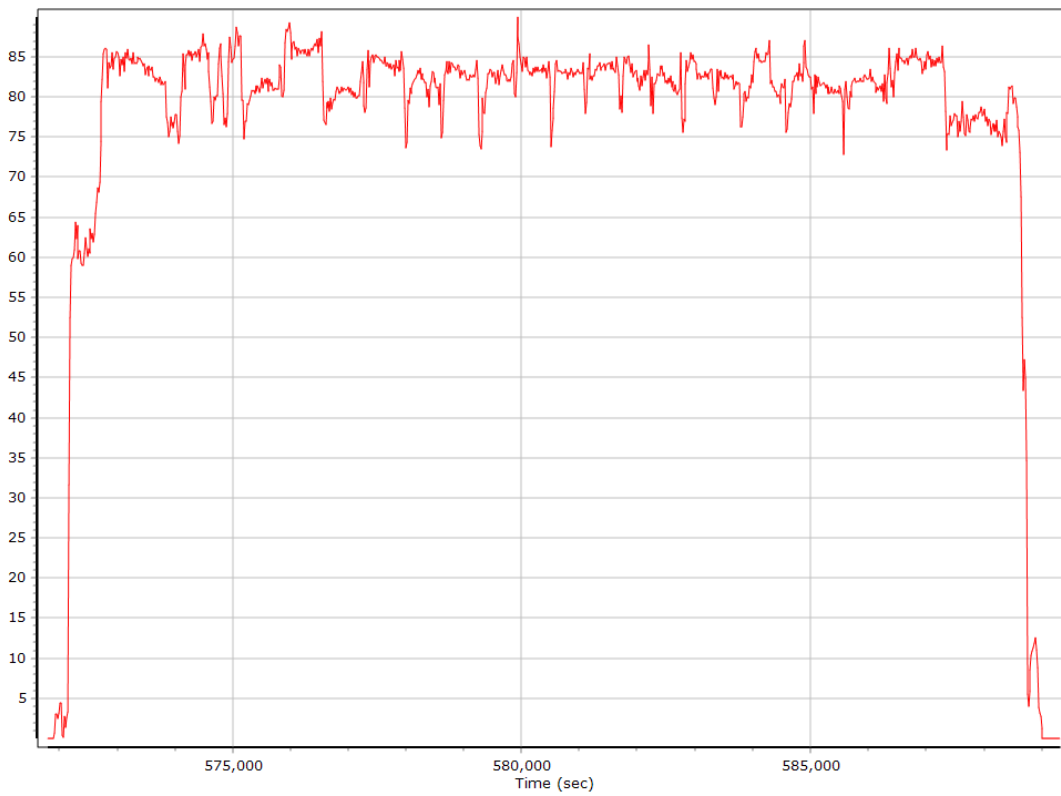
## Down Velocity



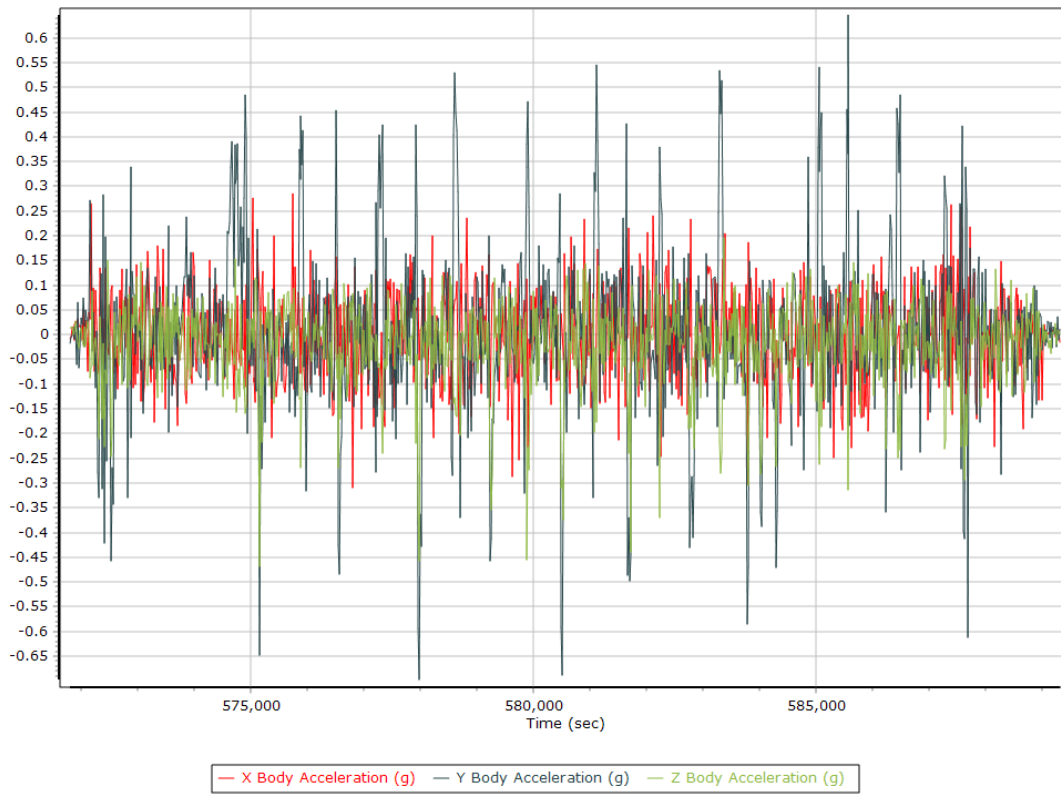
## Total Speed



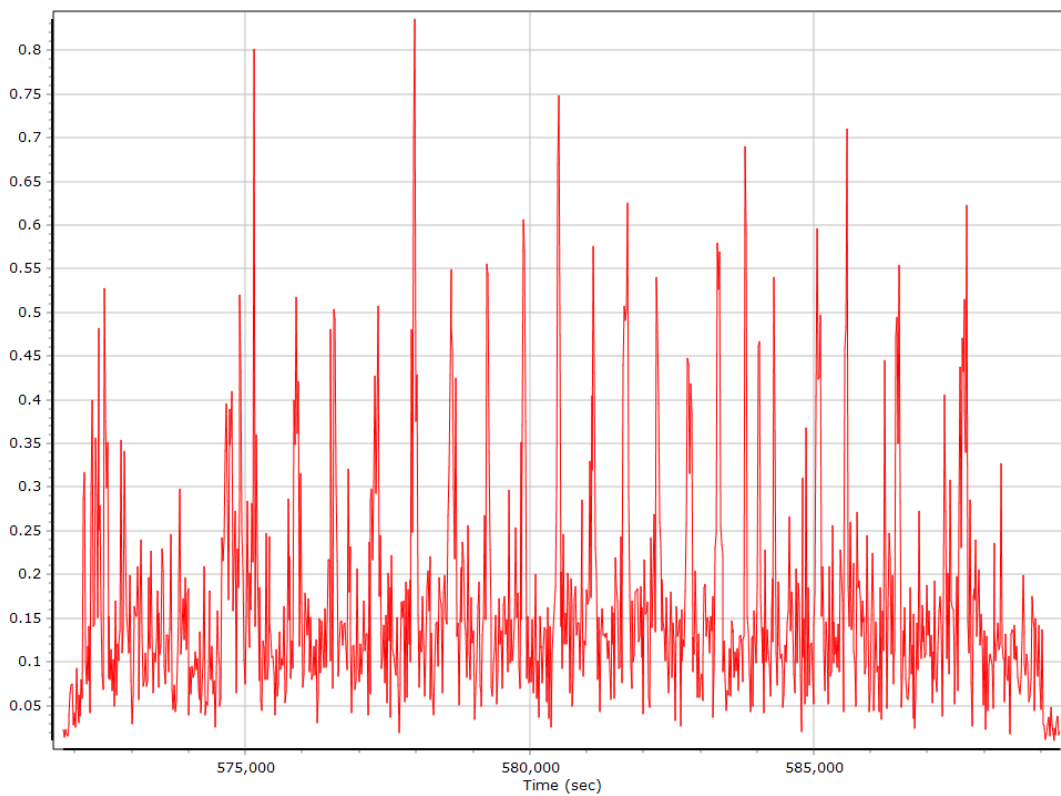
## Ground Speed



## Body Acceleration



## Total Body Acceleration



## Body Angular Rate



## Base Station Information

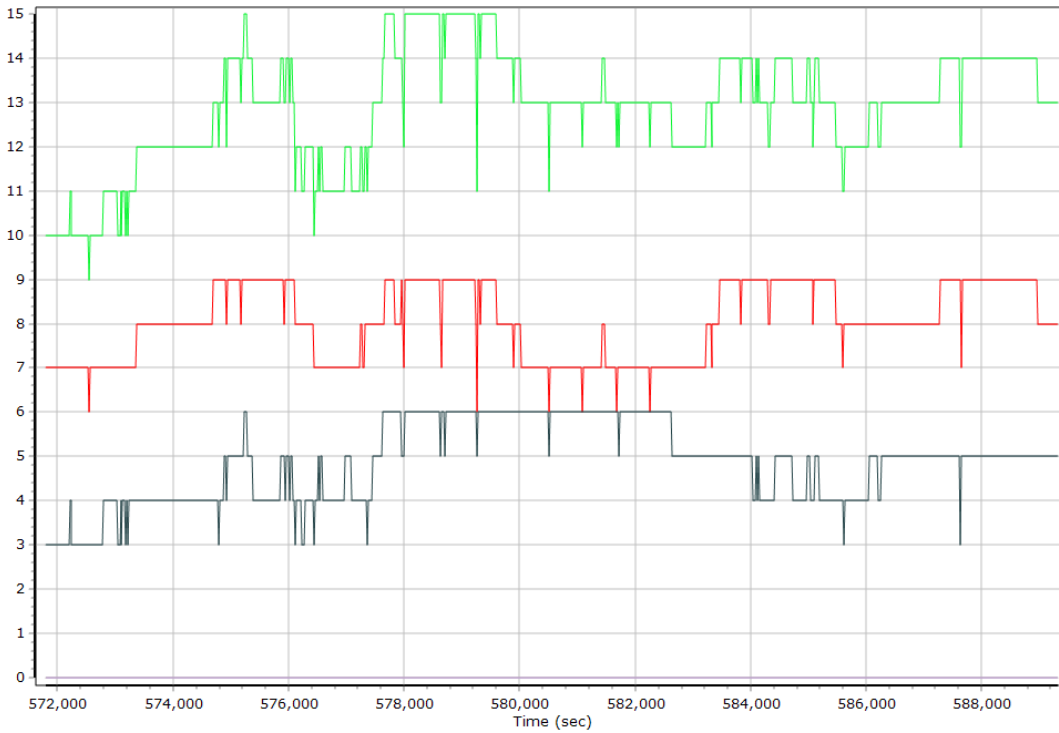
Station ID	DHLG Durmid Hill		
Filename	dhlg3310.21o		
Start date	11/27/2021 00:00:00		
End date	11/27/2021 23:59:59		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Topcon	NET-G3A	618-01037
Antenna manufacturer, model	Topcon	TPS CR.G3 w/SCIS	
Antenna height [m]	0.122		
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]	18.53	96.23	
Number of GPS SV	5	9	8
Number of GLONASS SV	3	6	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Total number of SV	8	15	13
PDOP	1.26	2.68	1.69
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (s)	18023.00	0.00	0.00
Percentage	100.00	0.00	0.00

### Num SVs in solution

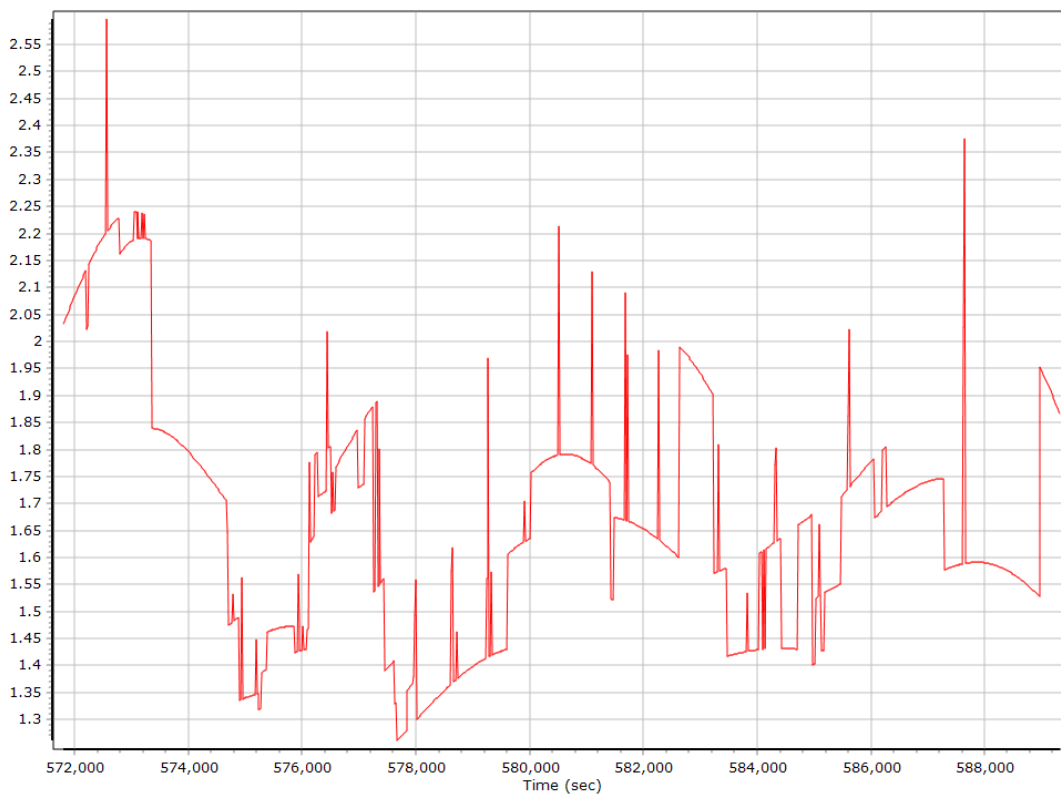


— Number of GPS — Number of GLONASS — Number of QZSS — Number of BEIDOU — Total Number

### Forward/Reverse Separation

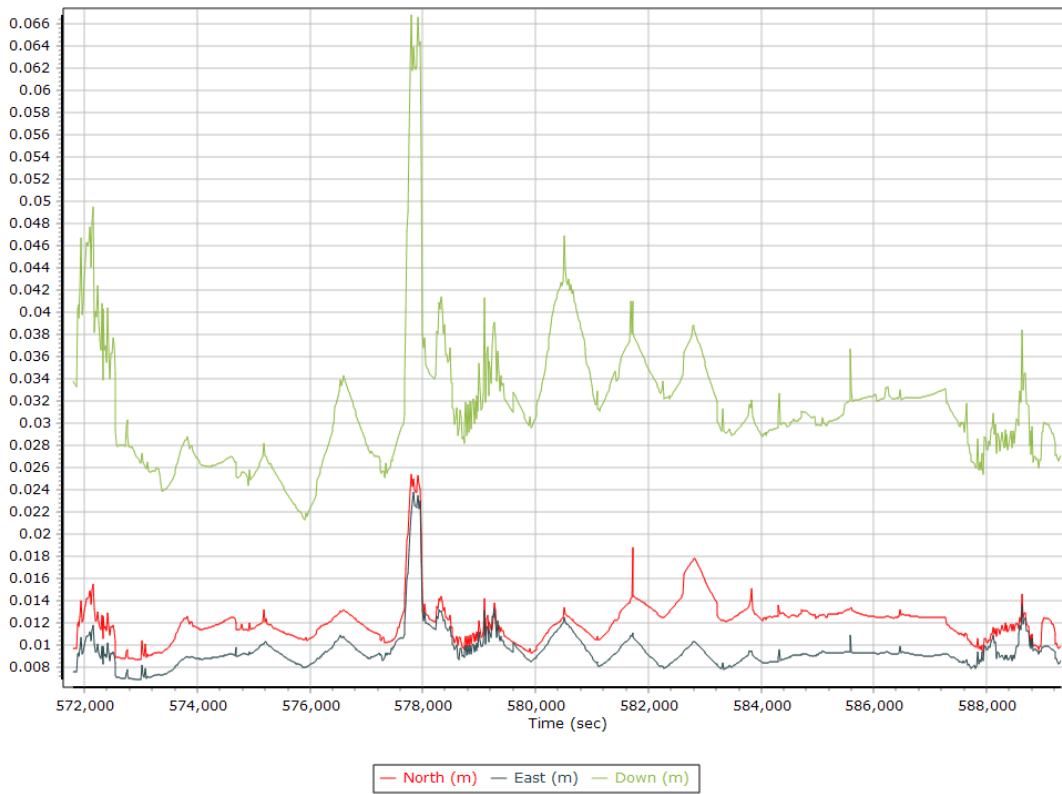


### PDOP





## Estimated Position Accuracy



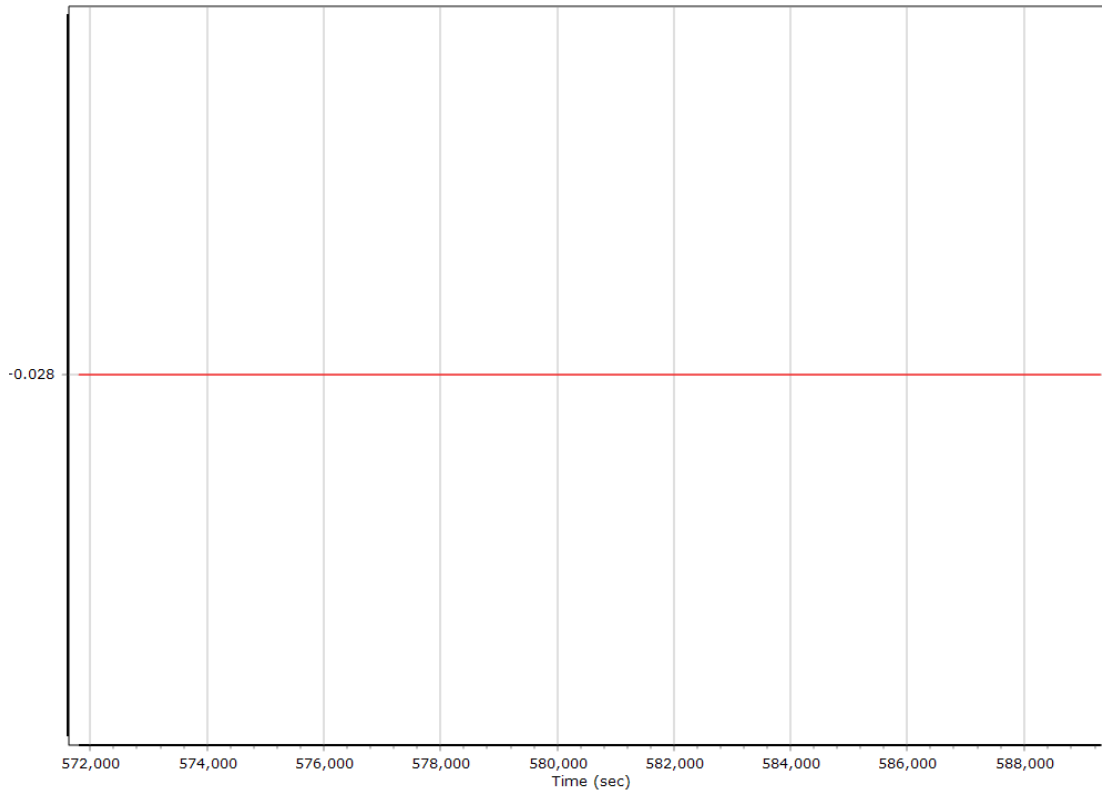
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion Single Base		
Stabilized mount	False		
Base station	DHLG Durmid Hill		
Processing start time	571261.000 (11/27/2021 14:41:01)		
Processing end time	589329.000 (11/27/2021 19:42:09)		
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

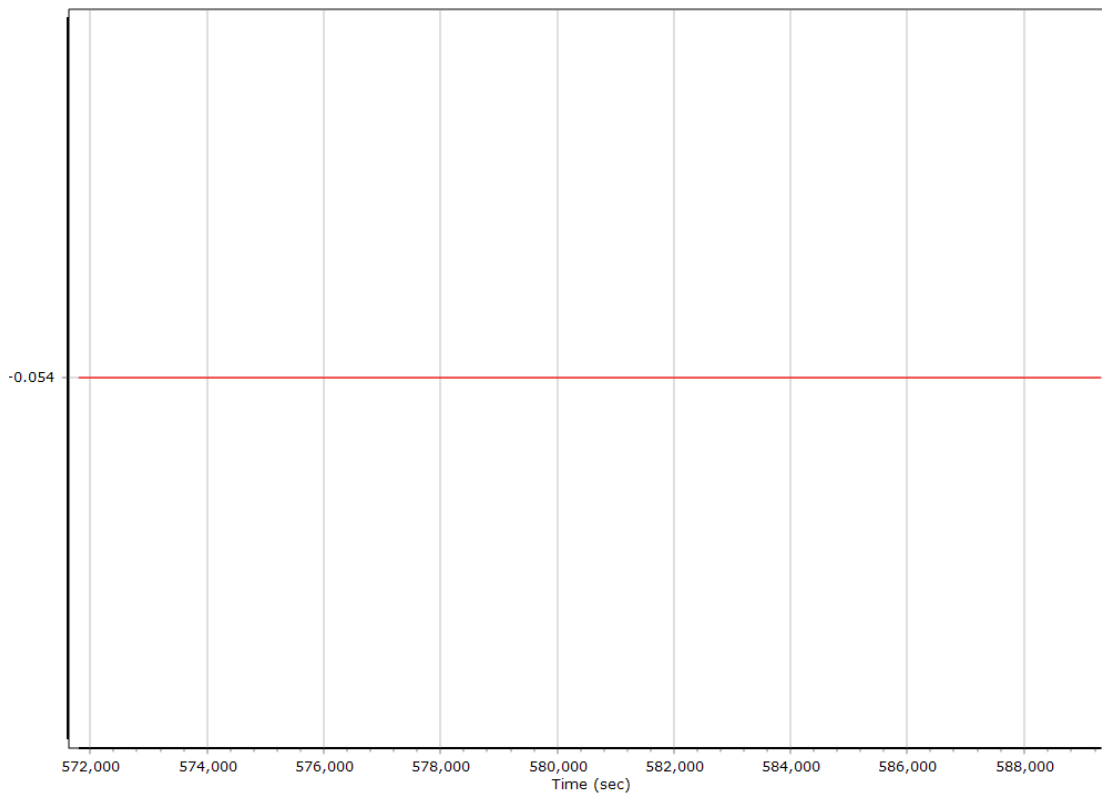
## Calibrated Installation Parameters

### Reference-Primary GNSS Lever Arm

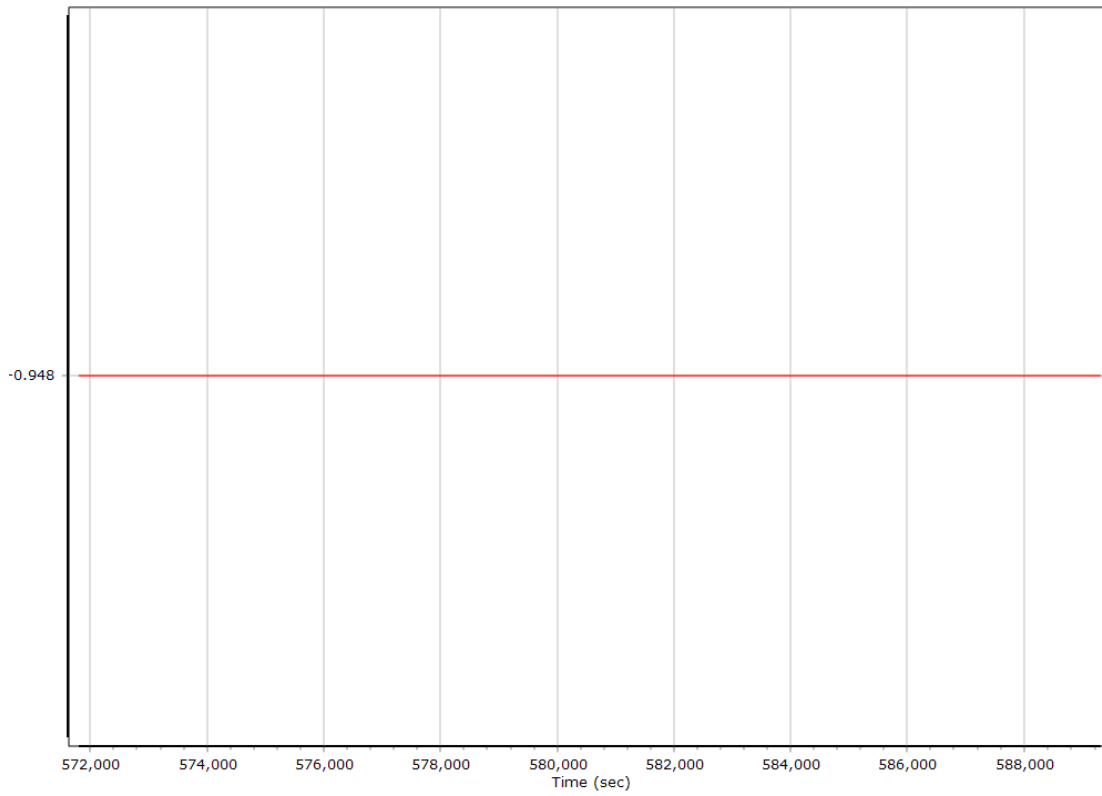
#### X Reference-Primary GNSS Lever Arm (m)



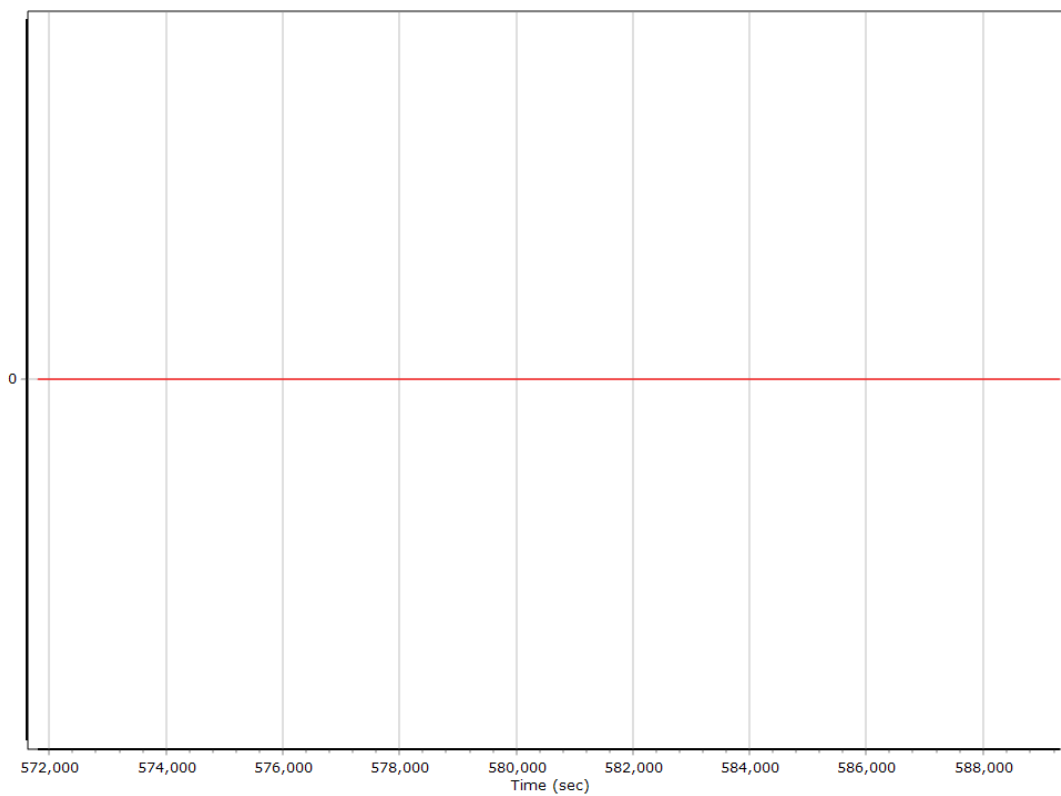
#### Y Reference-Primary GNSS Lever Arm (m)



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



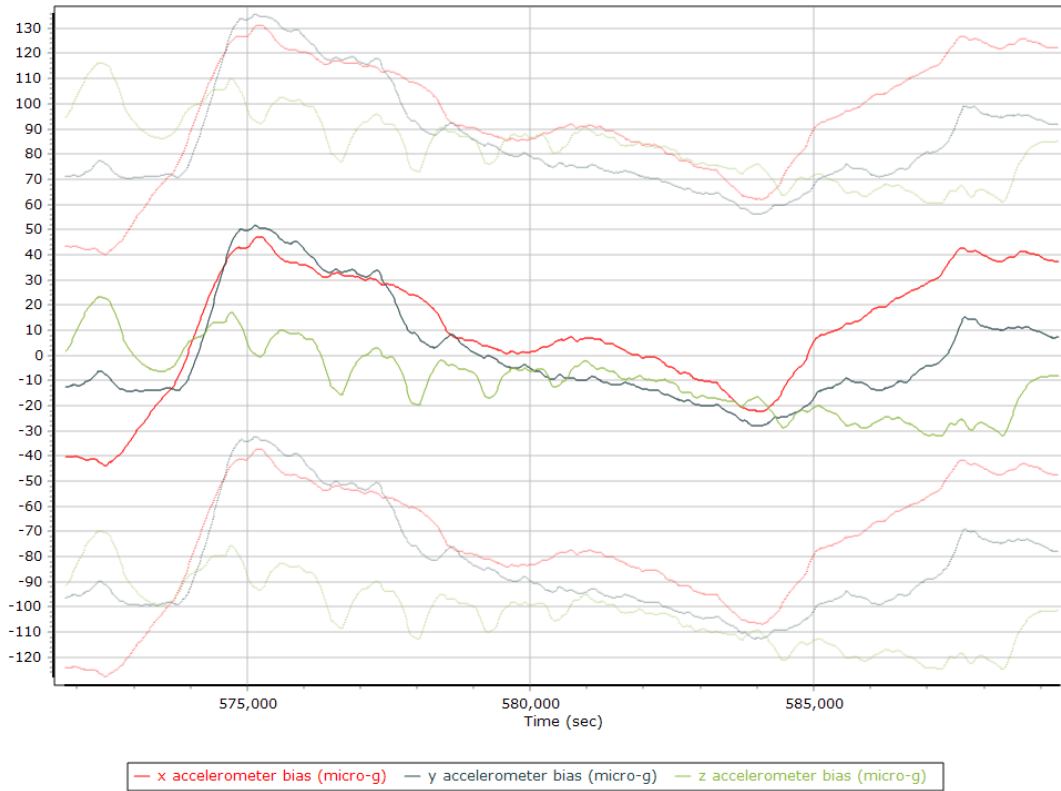
### Reference-Primary GNSS Lever Arm Figure of Merit



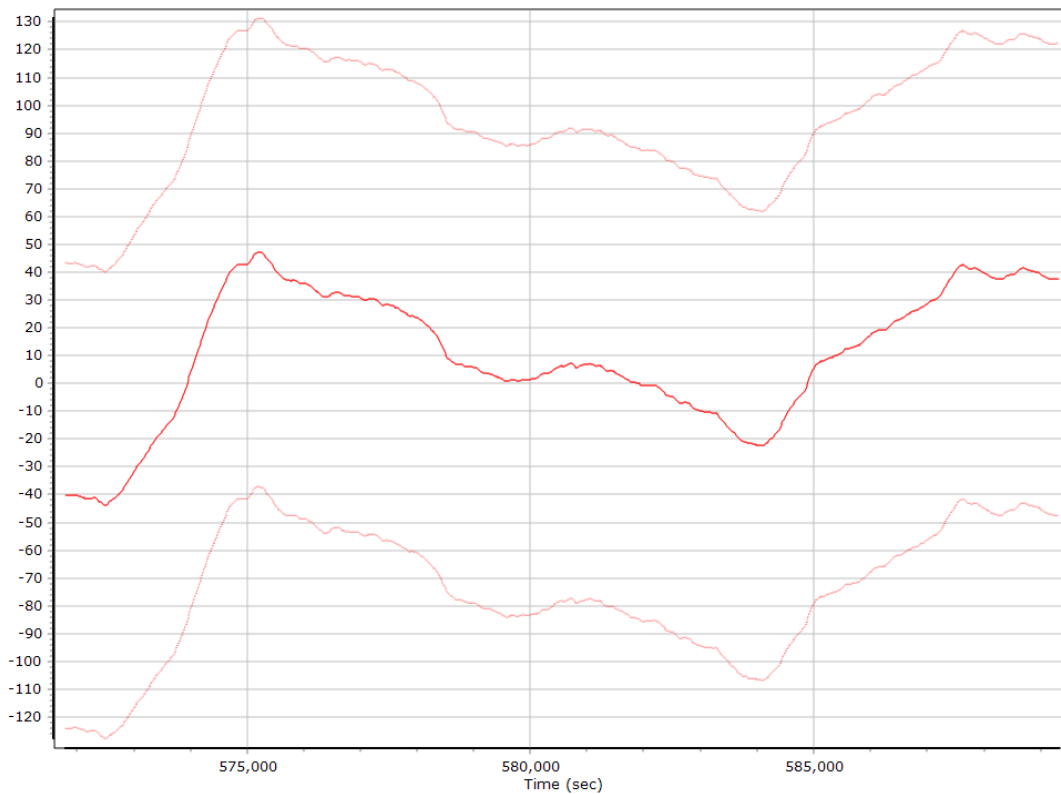
## Smoothed IN-Fusion QC

### Smoothed Estimated Errors, Reference Frame

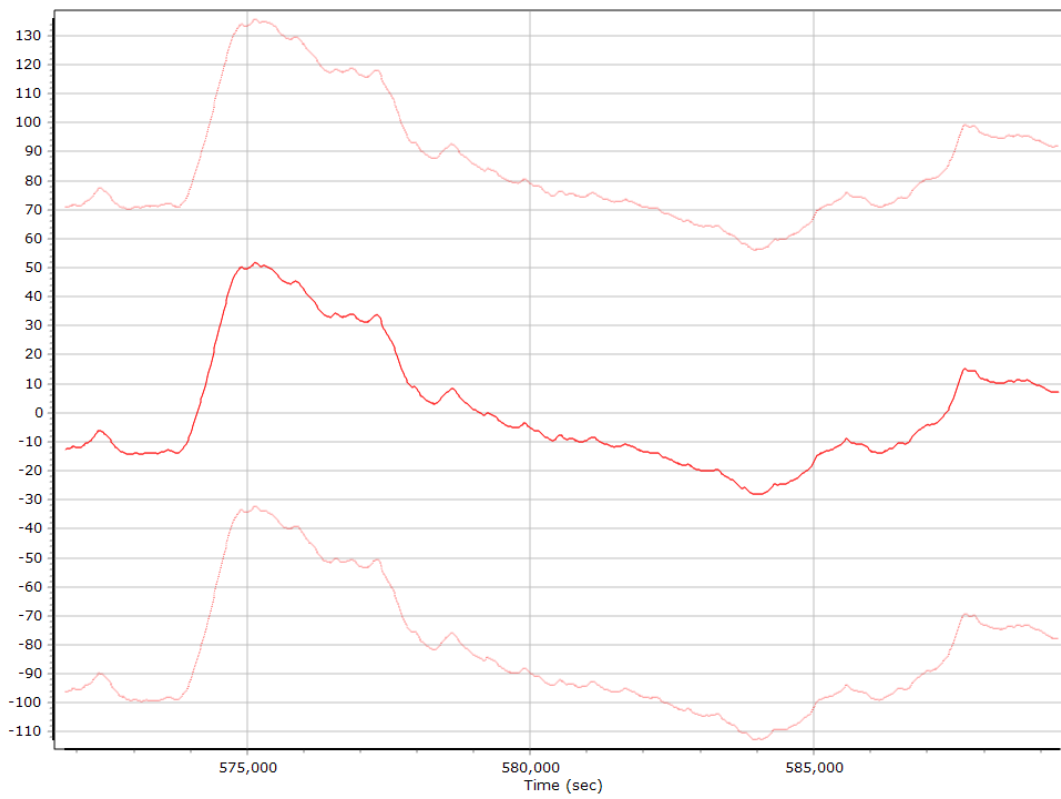
#### Accelerometer Bias (micro-g)



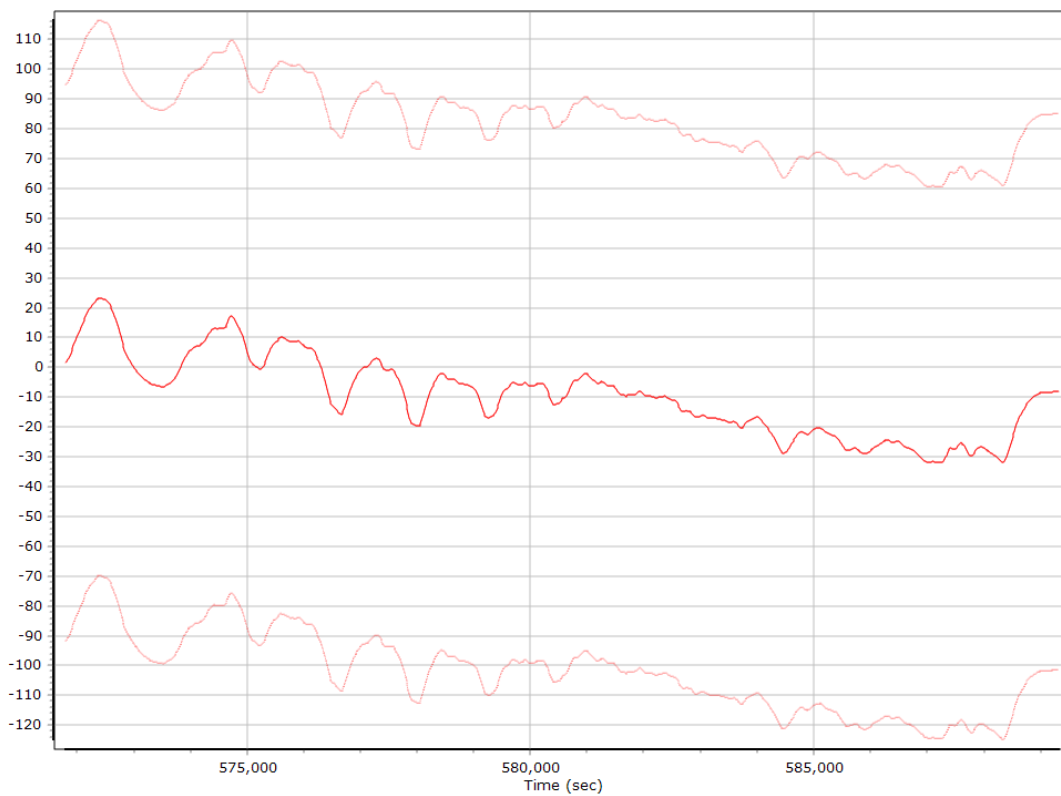
#### X Accelerometer Bias (micro-g)



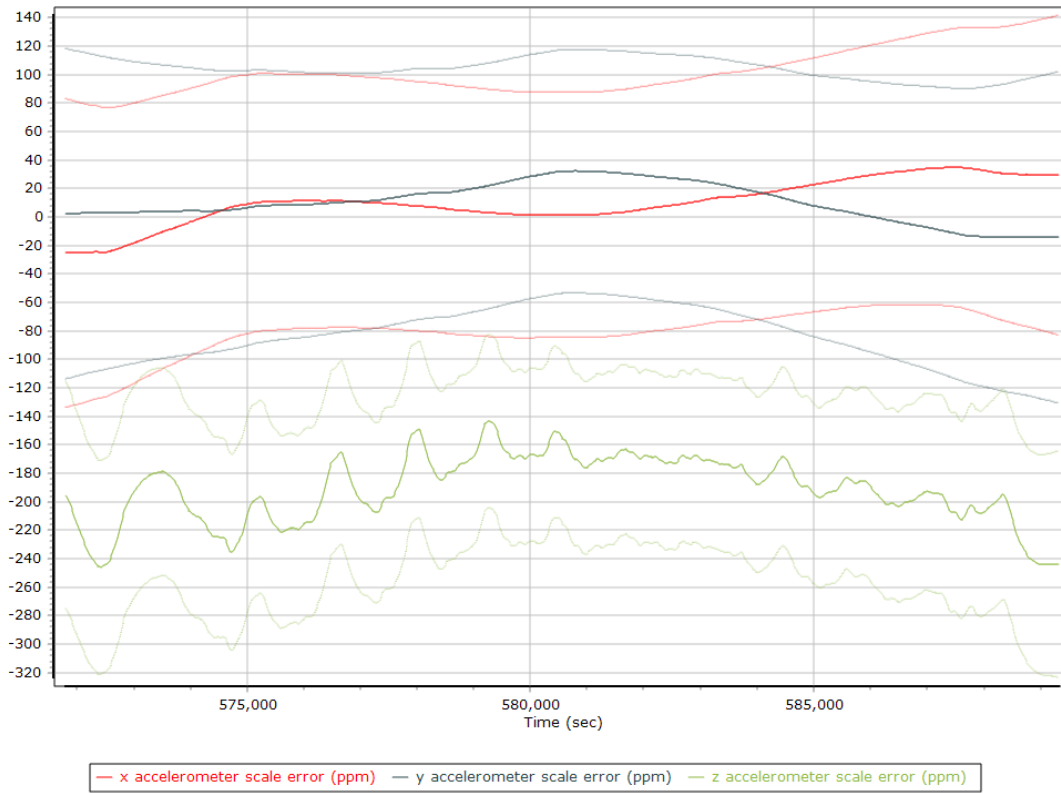
### Y Accelerometer Bias (micro-g)



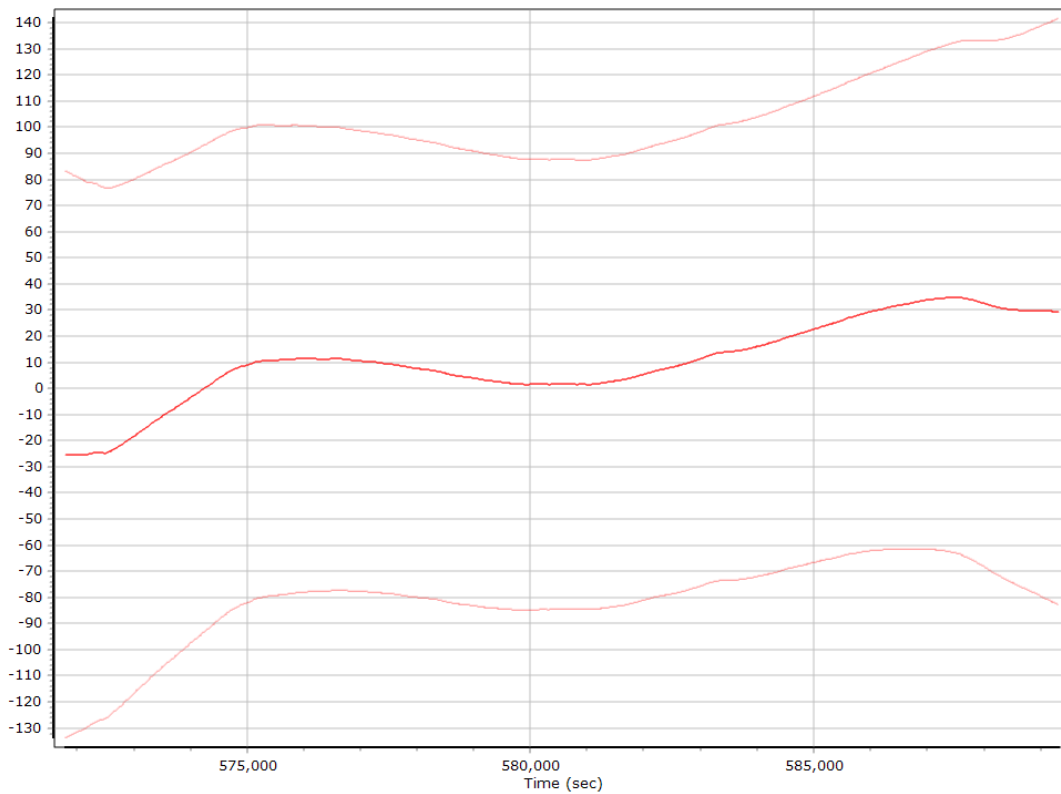
### Z Accelerometer Bias (micro-g)



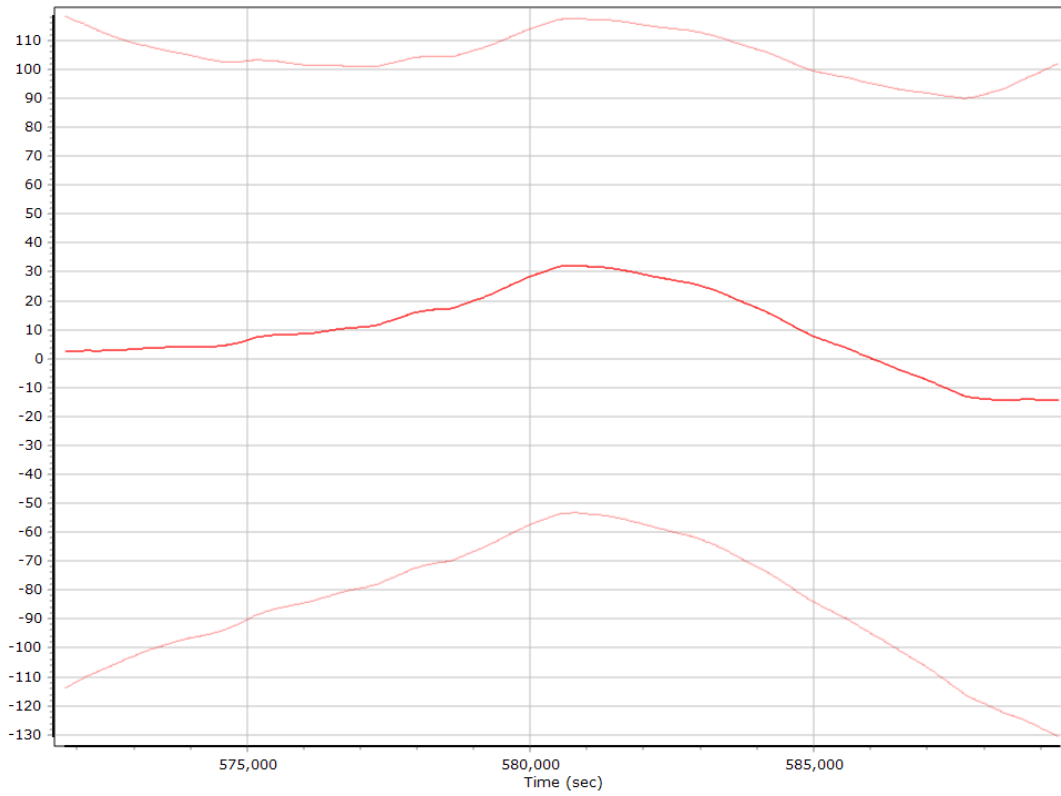
### Accelerometer Scale Error (ppm)



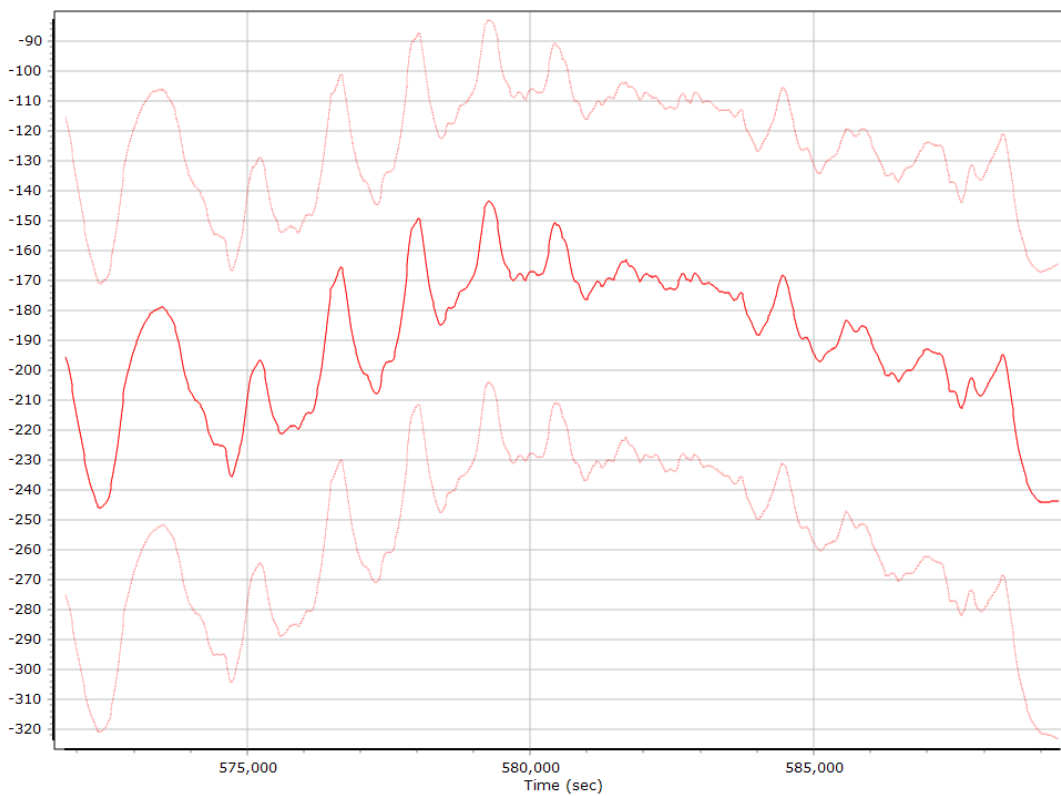
### X Accelerometer Scale Error (ppm)



### Y Accelerometer Scale Error (ppm)



### Z Accelerometer Scale Error (ppm)

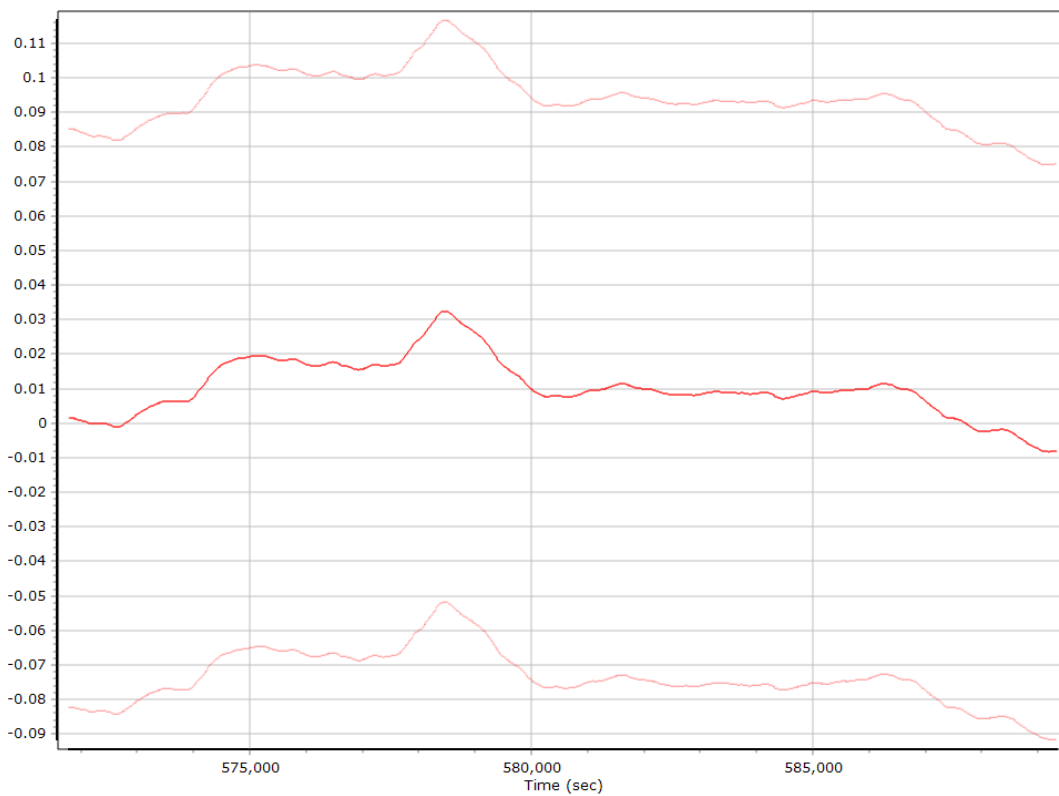




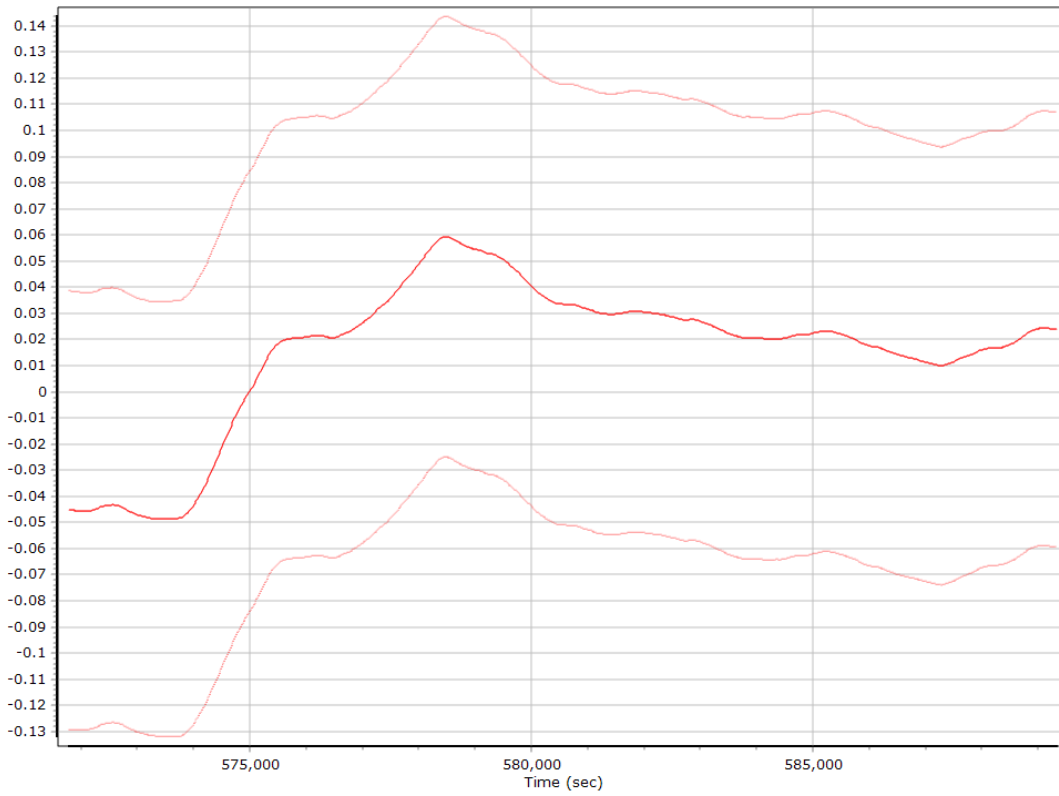
### Gyro Bias (deg/h)



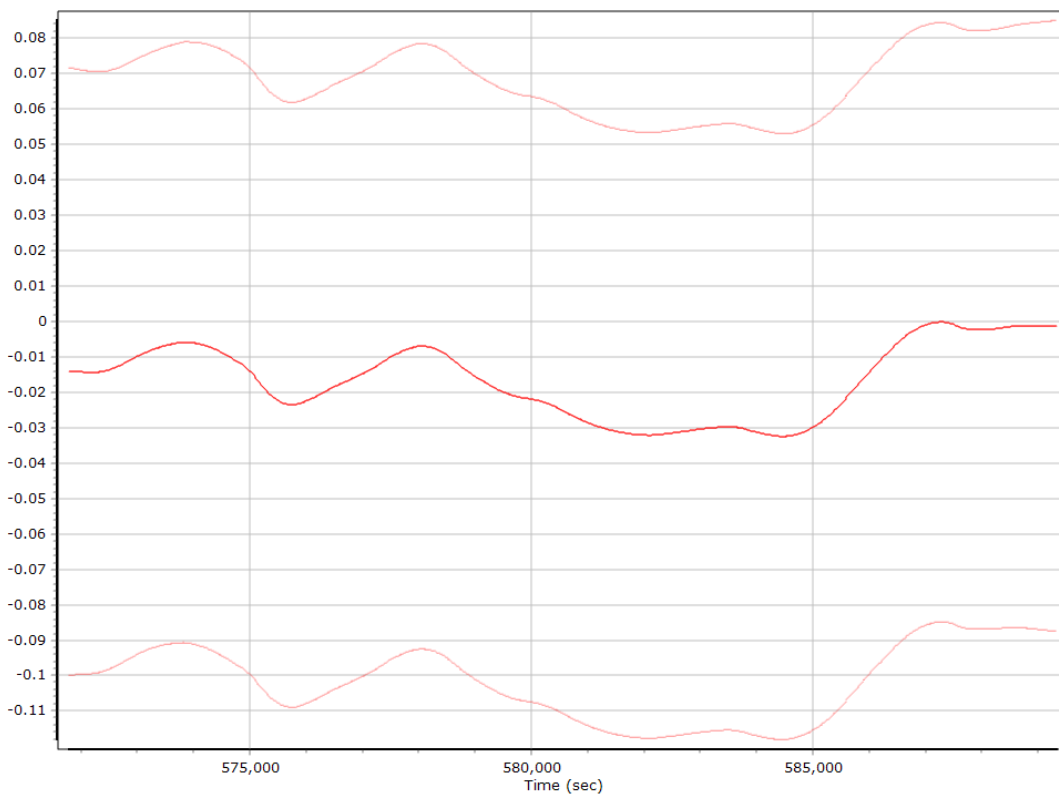
### X Gyro Bias (deg/h)



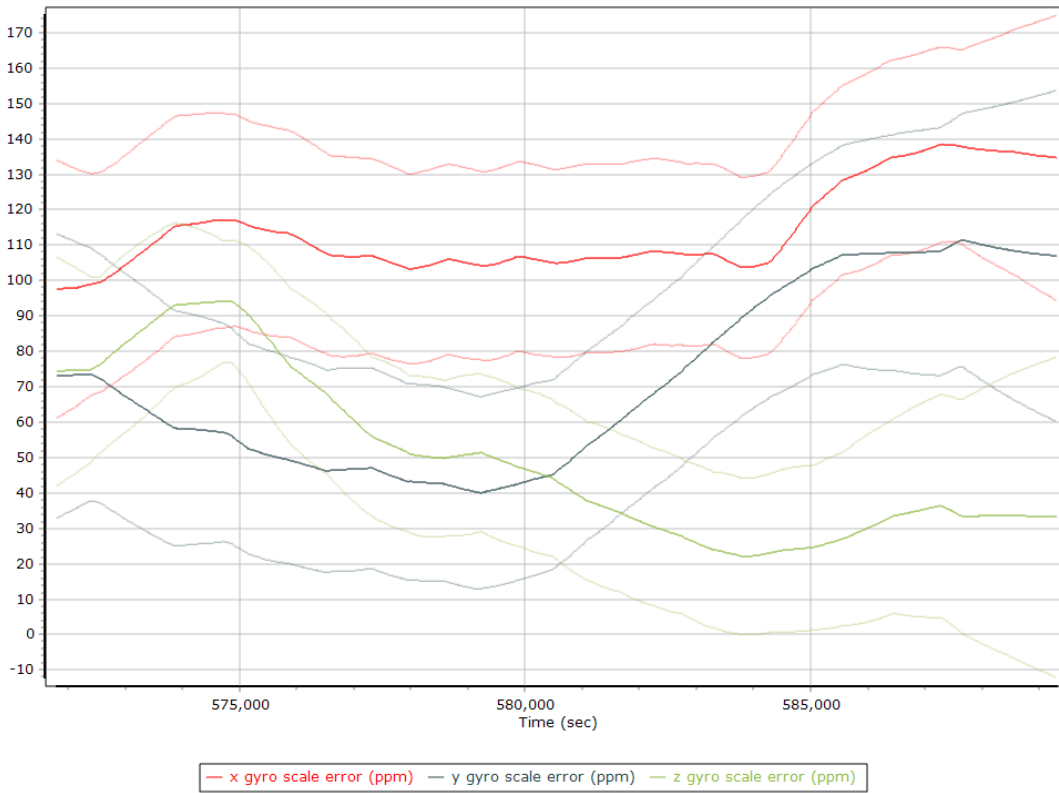
### Y Gyro Bias (deg/h)



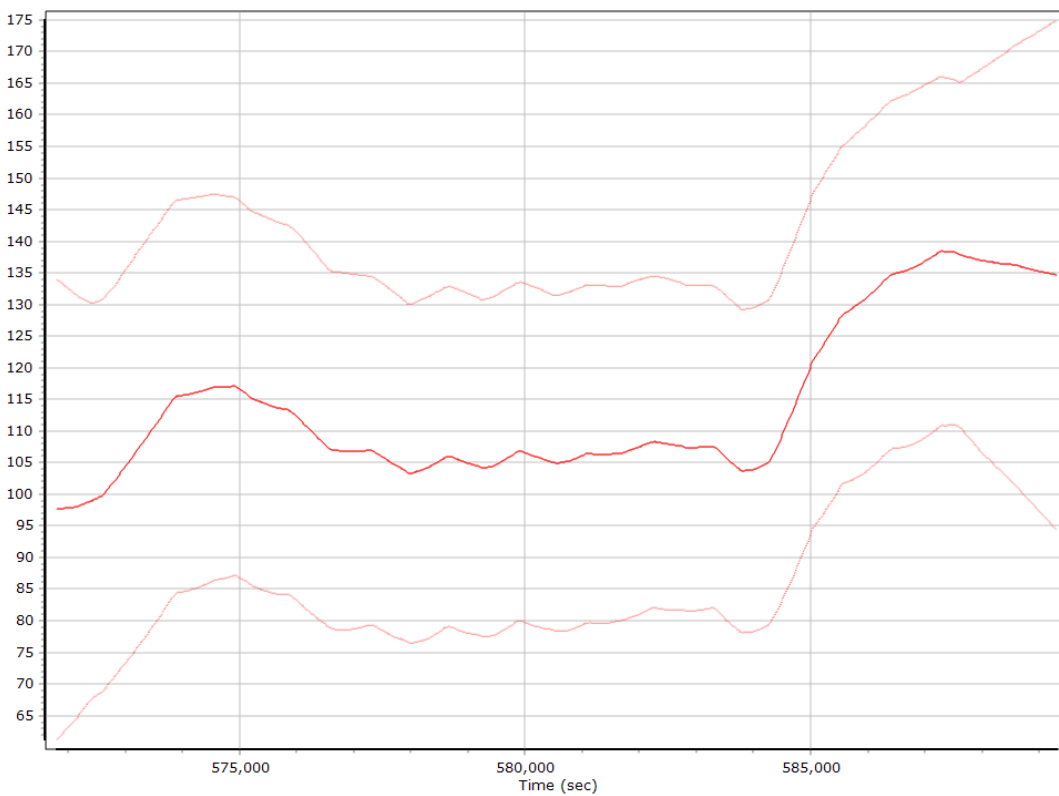
### Z Gyro Bias (deg/h)



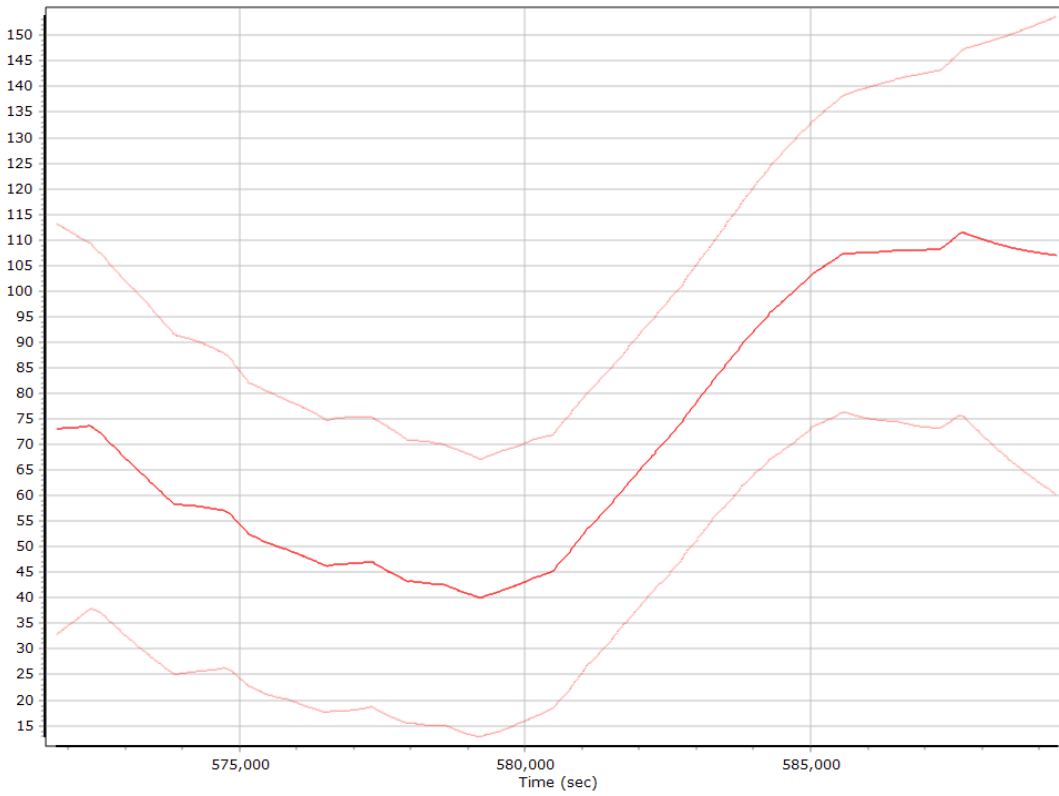
### Gyro Scale Error (ppm)



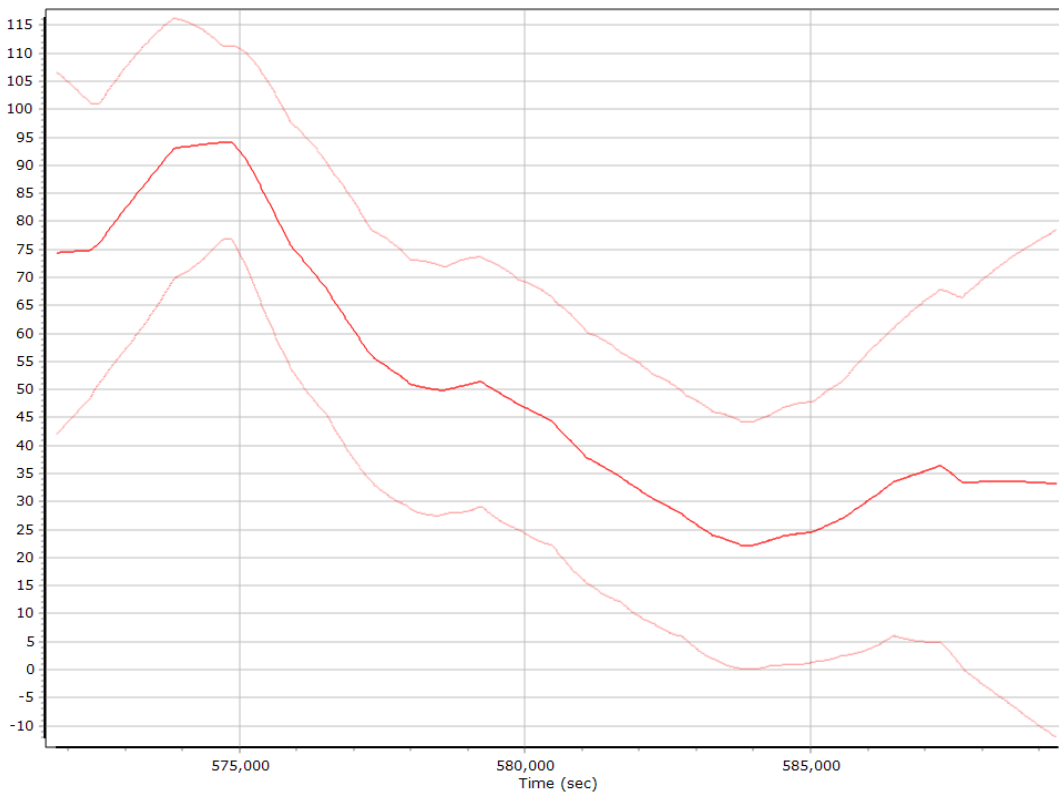
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

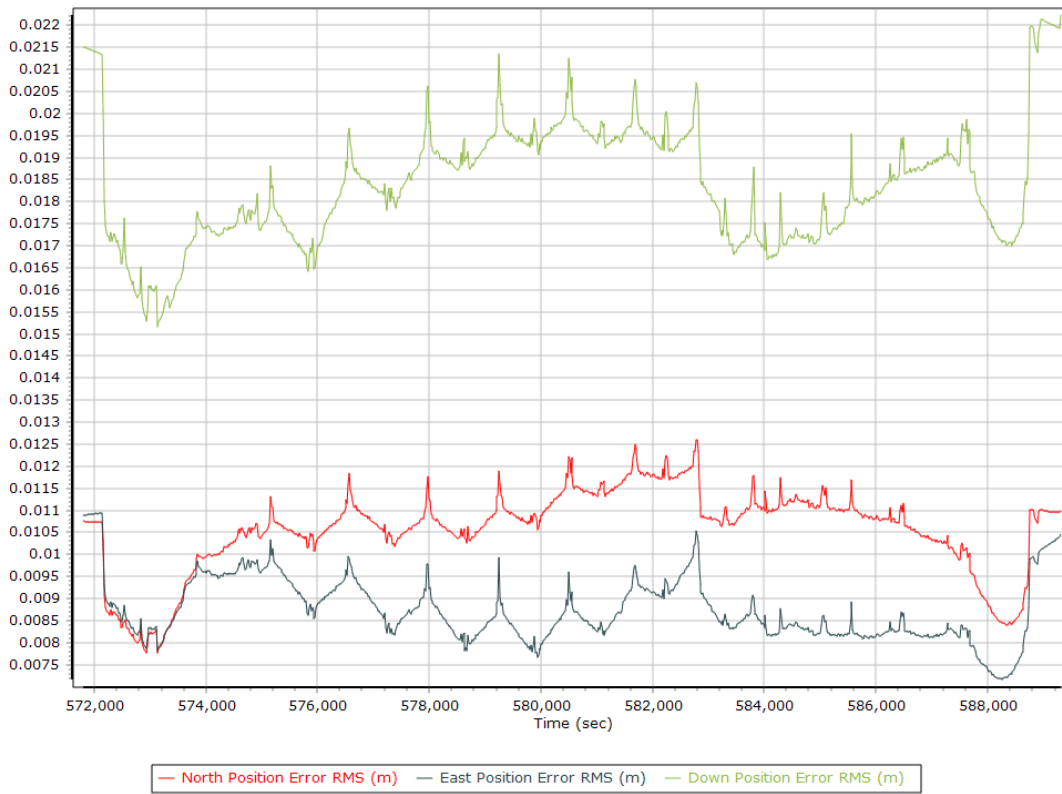


### Z Gyro Scale Error (ppm)

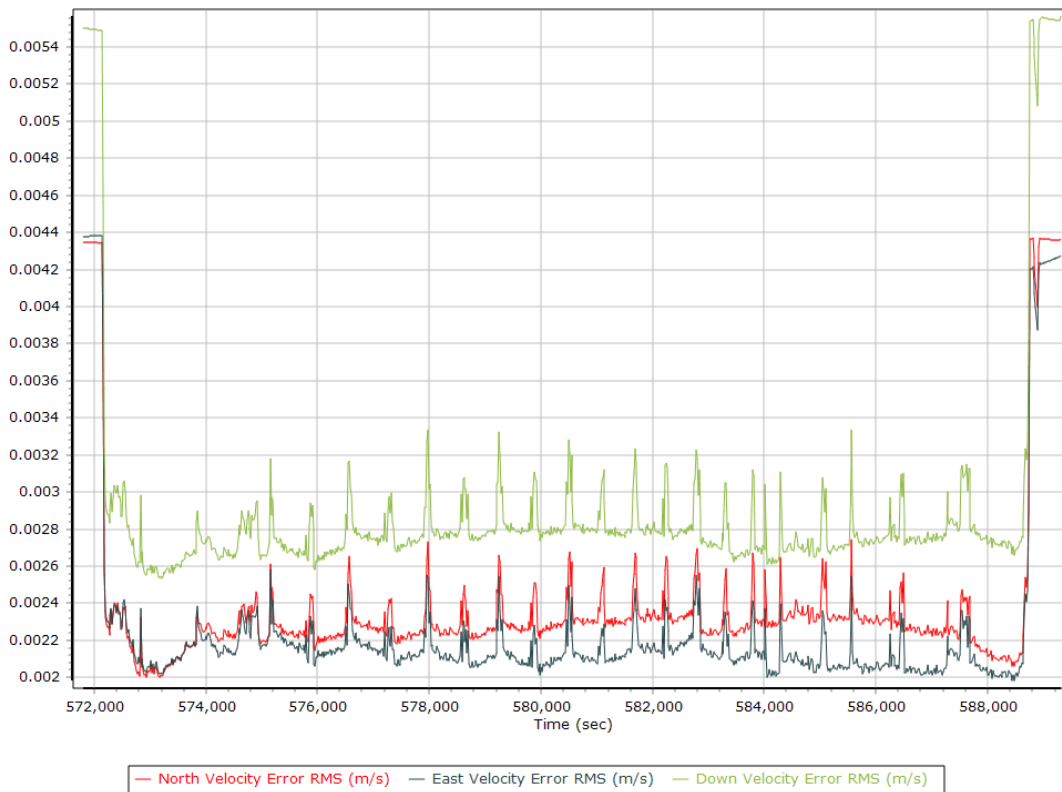


## Smoothed Performance Metrics

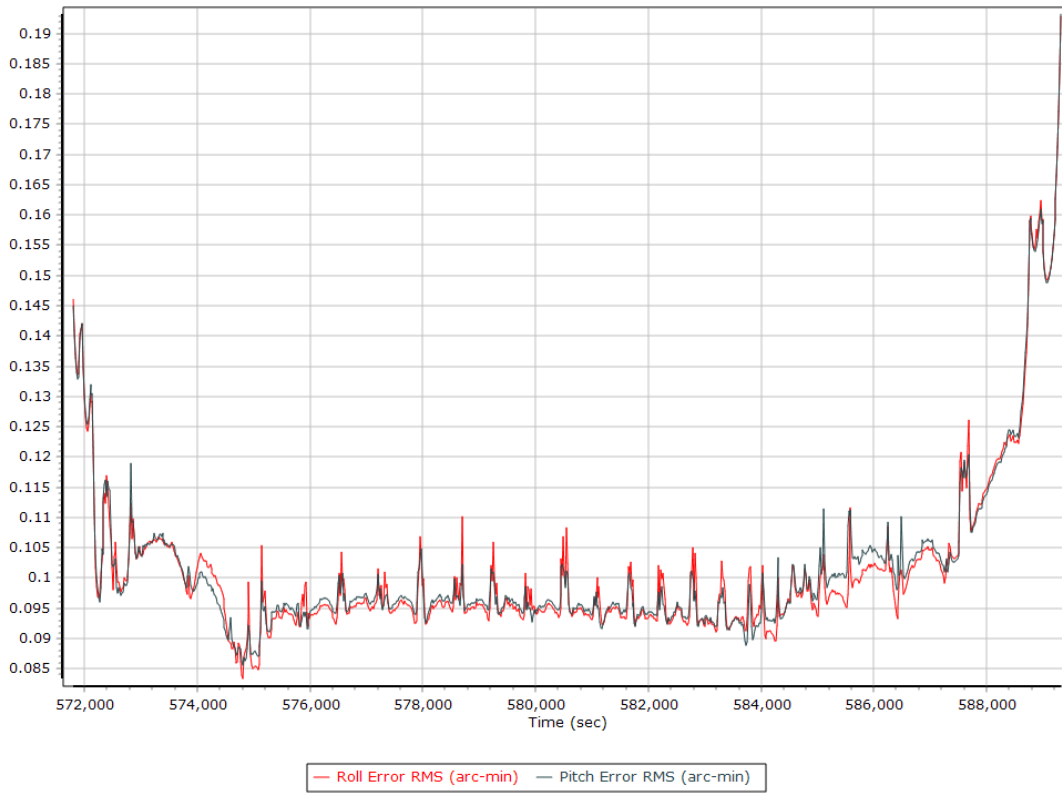
### Position Error RMS (m)



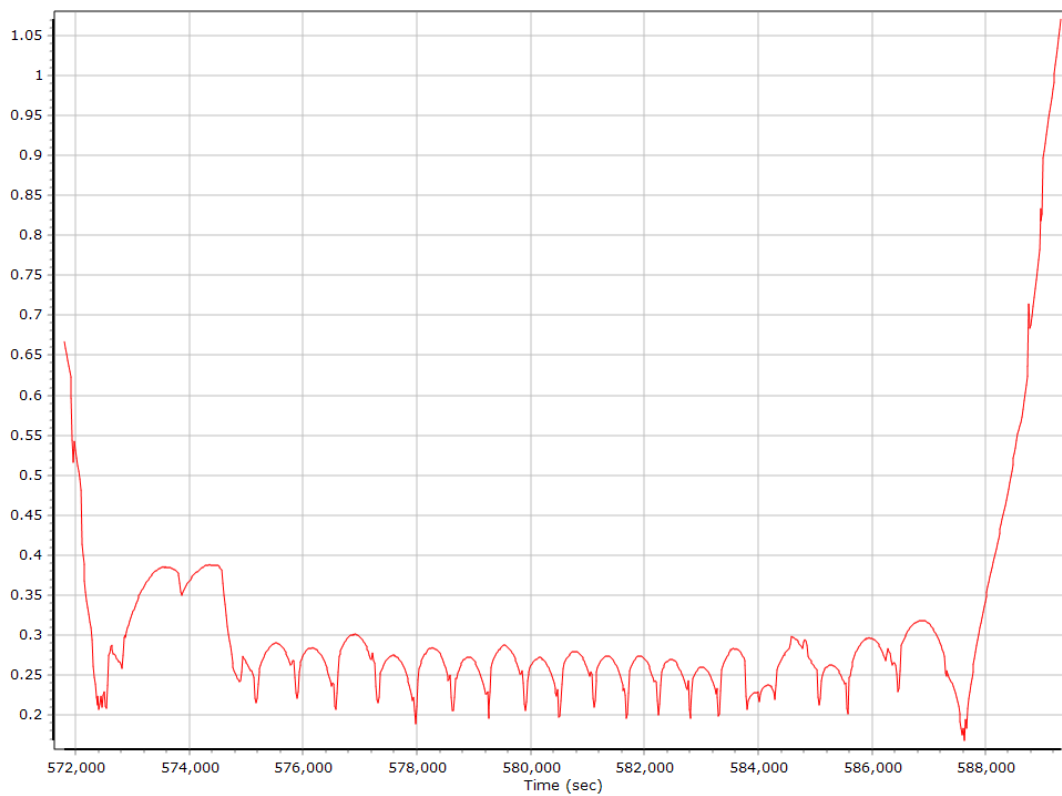
### Velocity Error RMS (m/s)



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

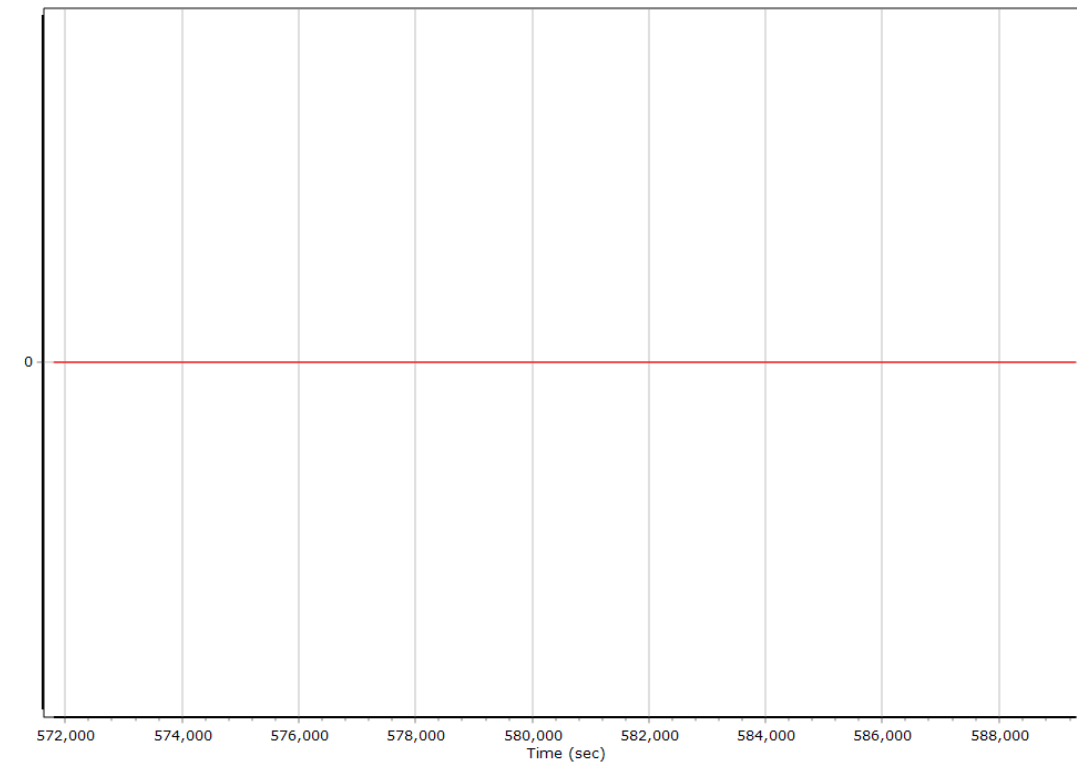


### Heading Error RMS (arc-min)



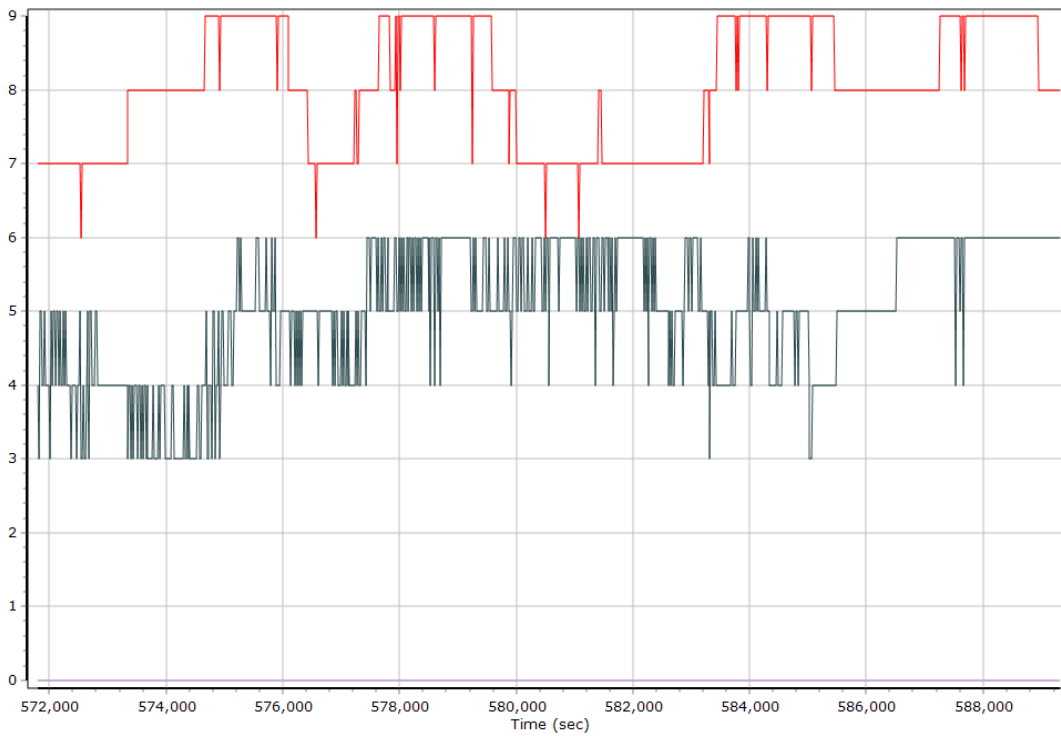
## Smoothed Solution Status

### Processing Mode



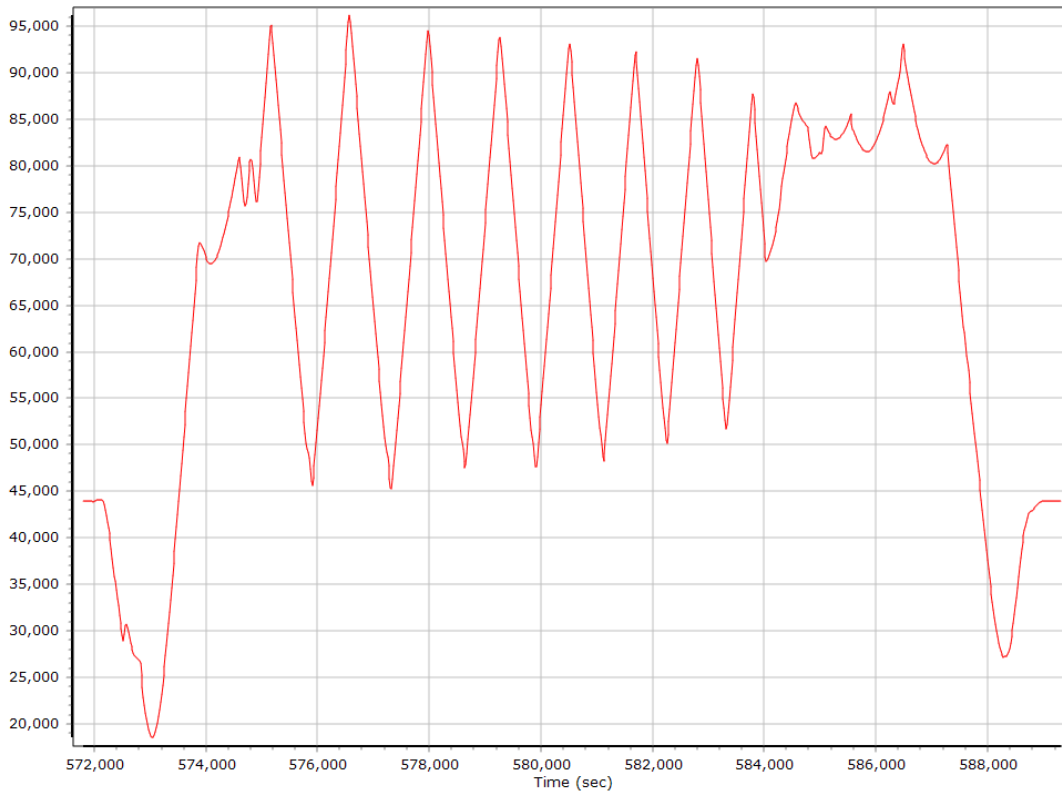
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

### Number of Satellites

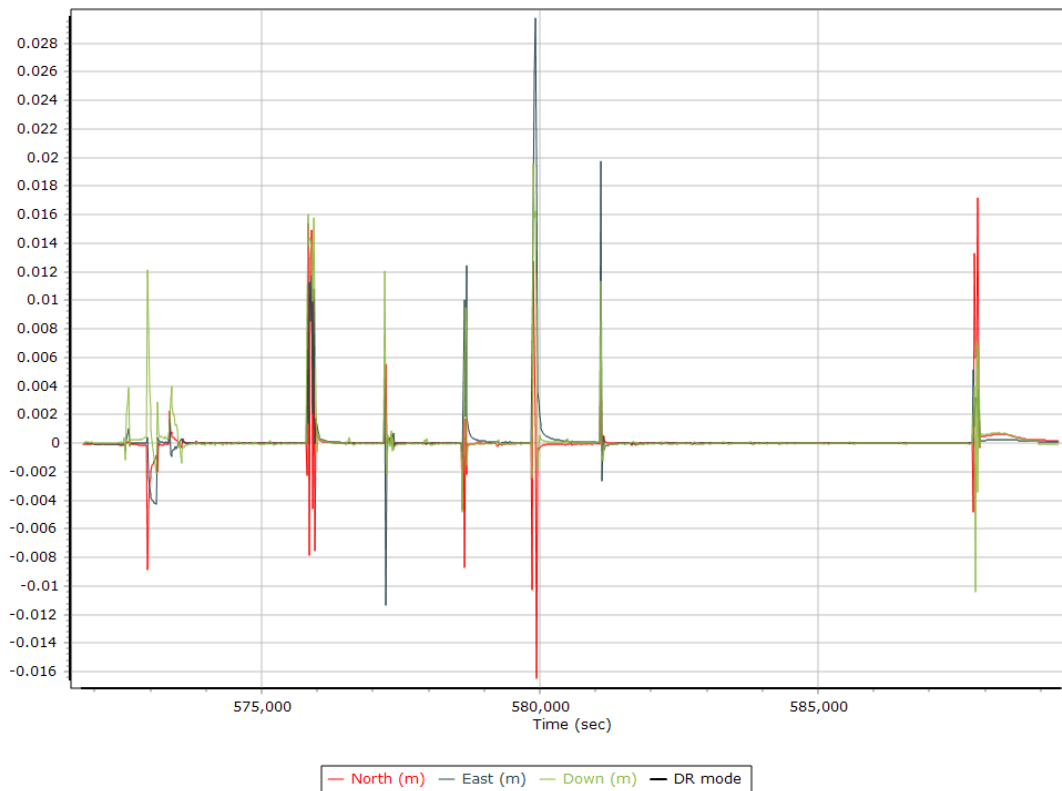


— Number of GPS Satellites — Number of GLONASS Satellites — Number of QZSS Satellites — Number of BEIDOU Satellites

### Baseline Length



### SBET IAKAR Separation





## Export Summary

Export file	export_20211127_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	571743.005 (11/27/2021 14:49:03)		
Export end time	589329.002 (11/27/2021 19:42:09)		
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	571743.005 (11/27/2021 14:49:03)		
EO end time	589329.002 (11/27/2021 19:42:09)		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2021.90411		