

## General Information

### Mission Information

Project name	220709_A_5060492_nad2011_FINAL
Processing date	2022-07-11 15:13:15
Mission date	2022-07-09 13:09:02
Mission duration	03:47:15.000
Processing mode	IN-Fusion PP-RTX

### Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N12686
IMU type	57
Receiver type	BD982
Antenna type	AV39

## Project File List

### Rover Data Files

File name	File type
220709a.051	POS Data
220709a.052	POS Data
220709a.053	POS Data
220709a.054	POS Data
220709a.055	POS Data
220709a.056	POS Data
220709a.057	POS Data
220709a.058	POS Data
220709a.059	POS Data
220709a.060	POS Data
220709a.061	POS Data
220709a.062	POS Data
220709a.063	POS Data
220709a.064	POS Data
220709a.065	POS Data
220709a.066	POS Data
220709a.067	POS Data
220709a.068	POS Data
220709a.069	POS Data
220709a.070	POS Data
220709a.071	POS Data
220709a.072	POS Data
220709a.073	POS Data
220709a.074	POS Data
220709a.075	POS Data
220709a.076	POS Data
220709a.077	POS Data
220709a.078	POS Data
220709a.079	POS Data
220709a.080	POS Data

### Input Files

File Name	File Type
Ephm1900.22g	GLONASS Broadcast Ephemeris
Ephm1900.22n	GPS Broadcast Ephemeris

### Output Files

Filename	File type
sbet_220709_A_5060492_nad2011_FINAL.out	SBET Trajectory File
sbet_220709_A_5060492_nad2011_FINAL.shp	Shapefile Export Output

## Rover Data Summary

First raw data file	220709a.051		
Last raw data file	220709a.080		
Start GPS week	2217		
Start time	565741.851 (07/09/2022 13:09:01)		
End time	579377.335 (07/09/2022 16:56:17)		
Start of fine alignment	566081.092 (07/09/2022 13:14:41)		
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)	0.000	0.000	0.000
Reference to IMU mounting angles (deg)	0.000	0.000	180.000
Reference to Primary GNSS lever arm (m)	0.361	-0.429	-0.945
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

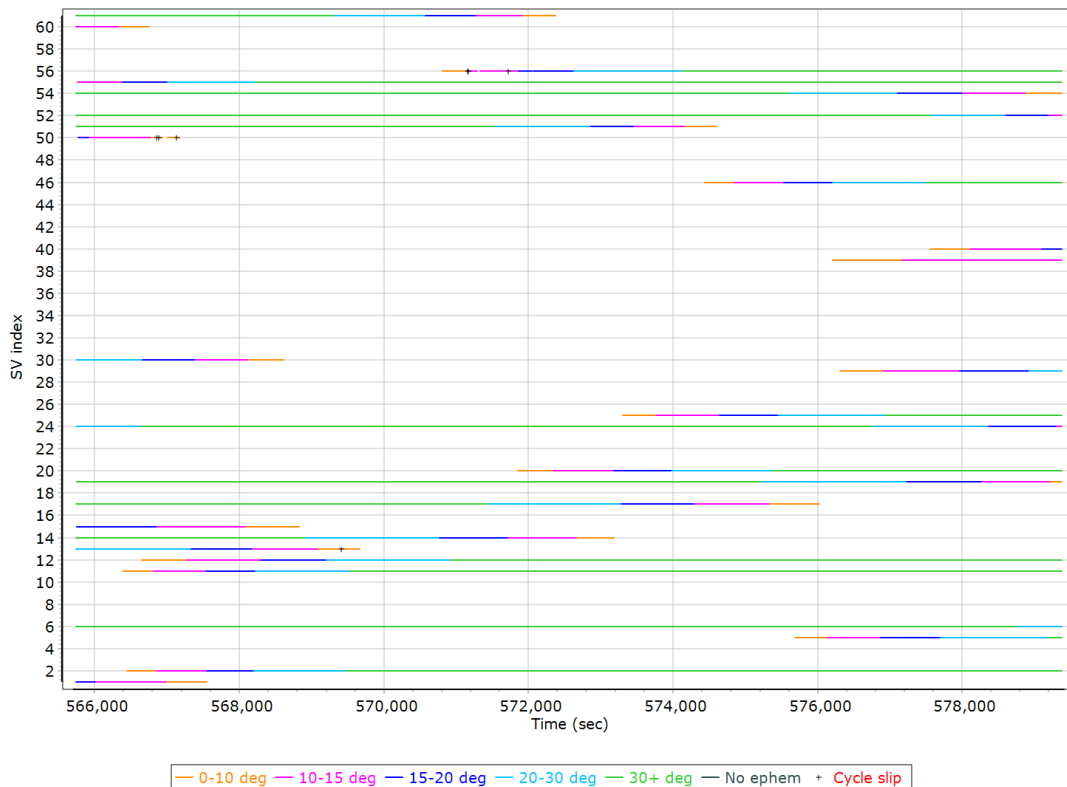
## Rover Data QC

### Raw IMU Import QC Summary

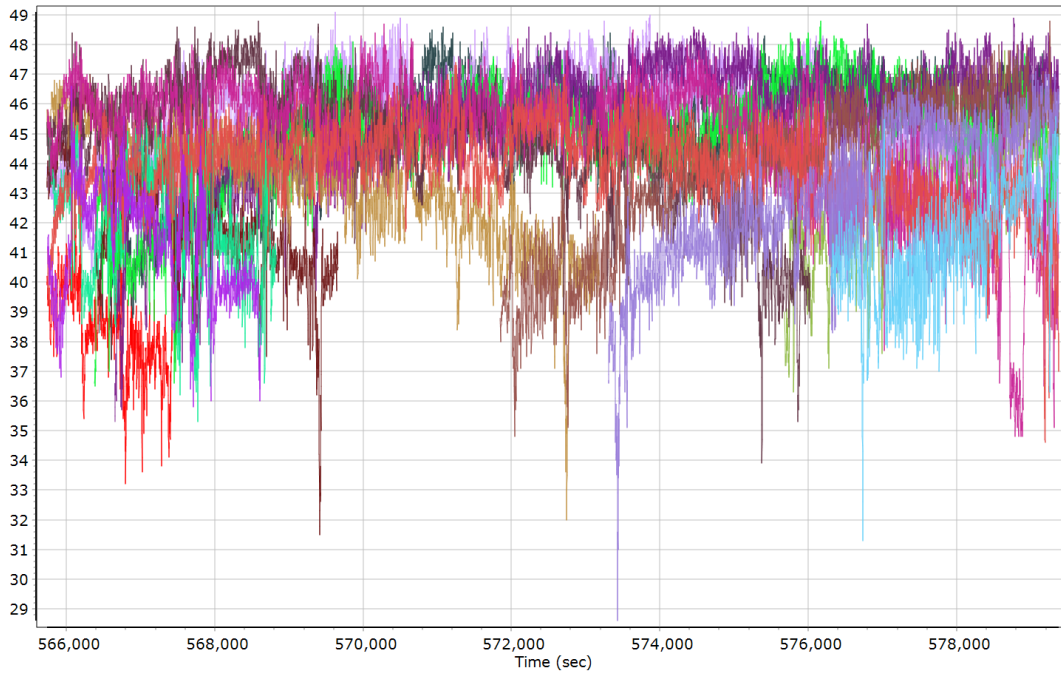
IMU data input file	imu_220709_A_5060492_nad2011_FINAL.dat
IMU data check log file	imudt_220709_A_5060492_nad2011_FINAL.log
IMU Records Processed	2726759
Termination Status	Normal
IMU Anomalies	0

## Primary Observables & Satellite Data

### GPS/GLONASS L1 Satellite Lock/Elevation

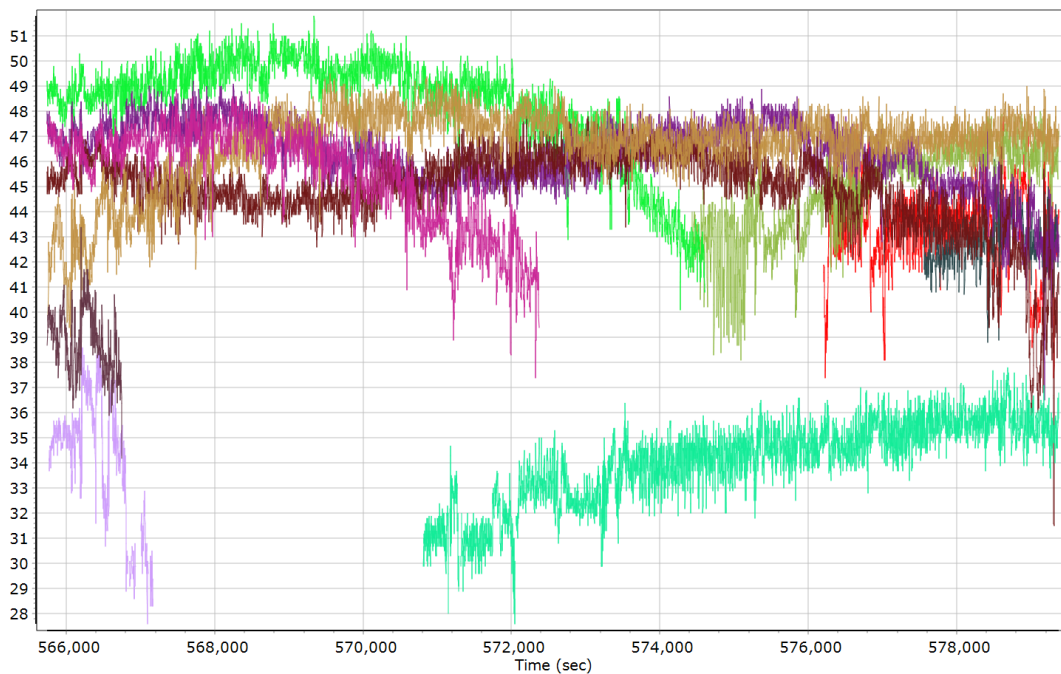


### GPS L1 SNR



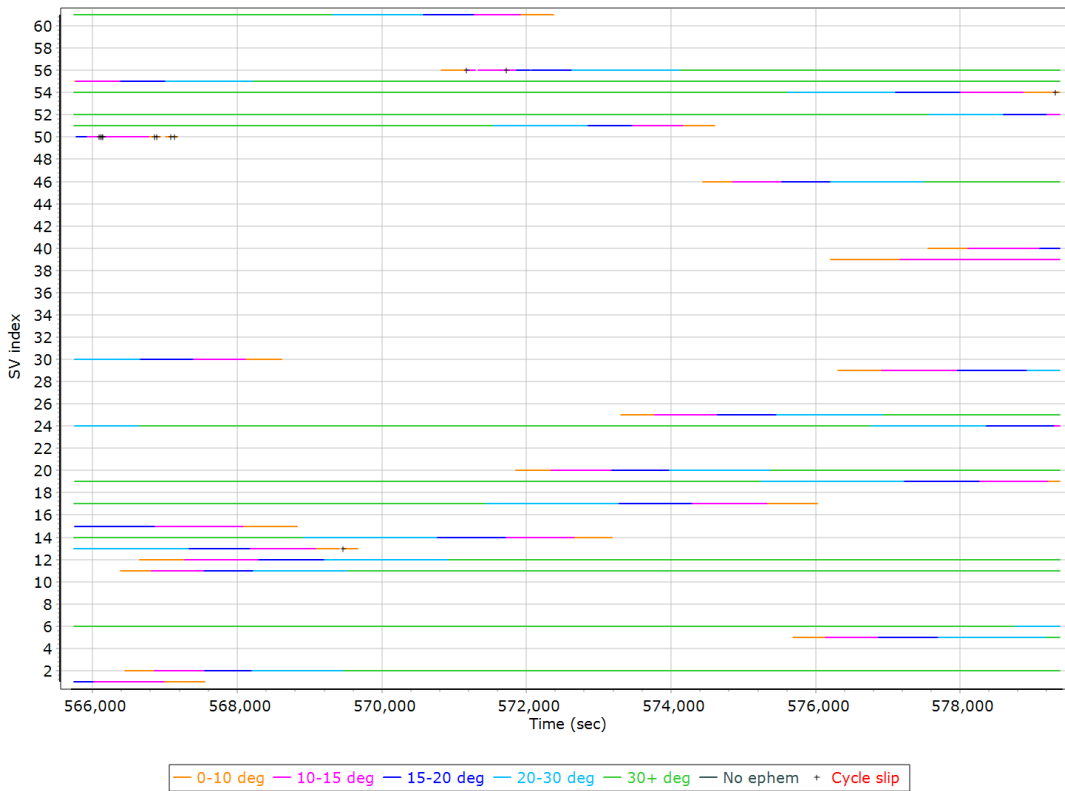
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L1 SNR (dB/Hz) | GPS PRN 02 L1 SNR (dB/Hz) | GPS PRN 05 L1 SNR (dB/Hz) | GPS PRN 06 L1 SNR (dB/Hz) |
| GPS PRN 11 L1 SNR (dB/Hz) | GPS PRN 12 L1 SNR (dB/Hz) | GPS PRN 13 L1 SNR (dB/Hz) | GPS PRN 14 L1 SNR (dB/Hz) |
| GPS PRN 15 L1 SNR (dB/Hz) | GPS PRN 17 L1 SNR (dB/Hz) | GPS PRN 19 L1 SNR (dB/Hz) | GPS PRN 20 L1 SNR (dB/Hz) |
| GPS PRN 24 L1 SNR (dB/Hz) | GPS PRN 25 L1 SNR (dB/Hz) | GPS PRN 29 L1 SNR (dB/Hz) | GPS PRN 30 L1 SNR (dB/Hz) |

### GLONASS L1 SNR

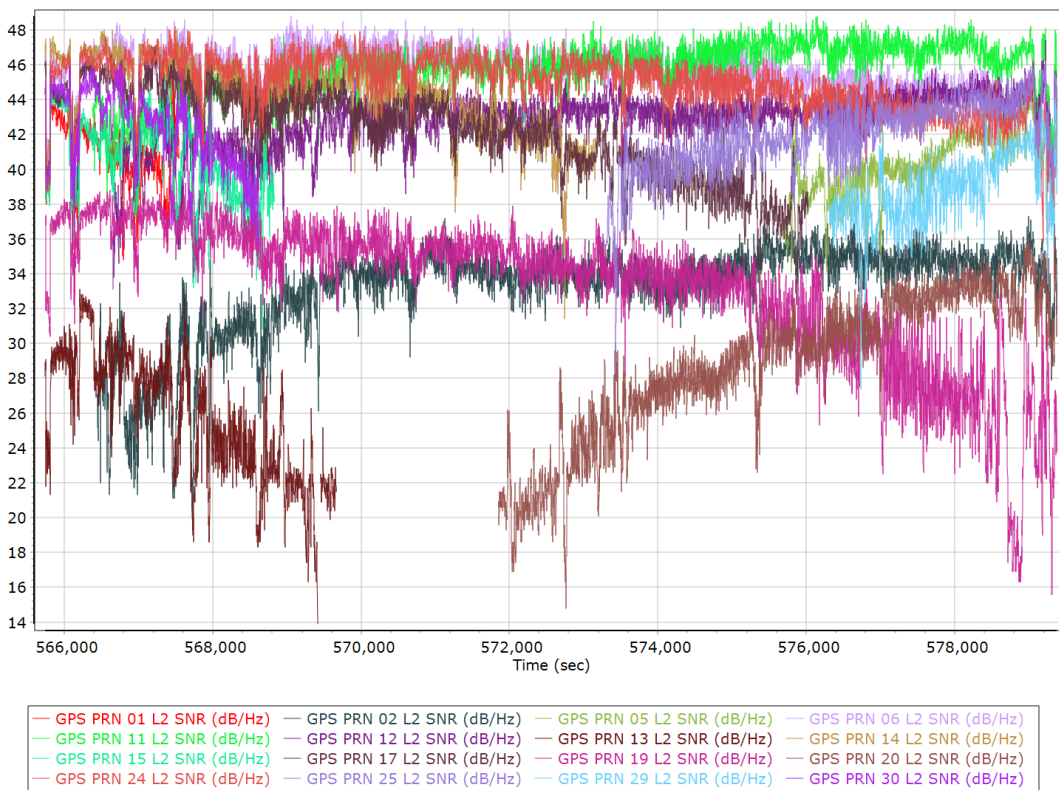


- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 02 L1 SNR (dB/Hz) | GLONASS 03 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) |
| GLONASS 13 L1 SNR (dB/Hz) | GLONASS 14 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 23 L1 SNR (dB/Hz) | GLONASS 24 L1 SNR (dB/Hz) |                           |

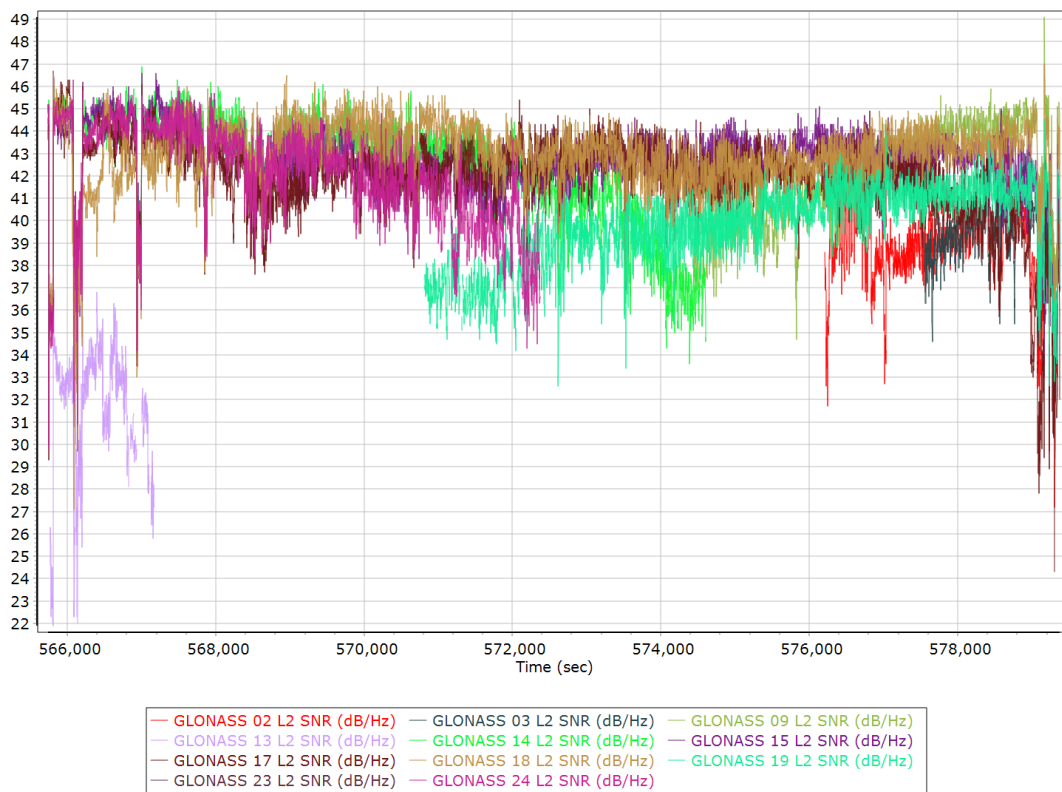
### GPS/GLONASS L2 Satellite Lock/Elevation



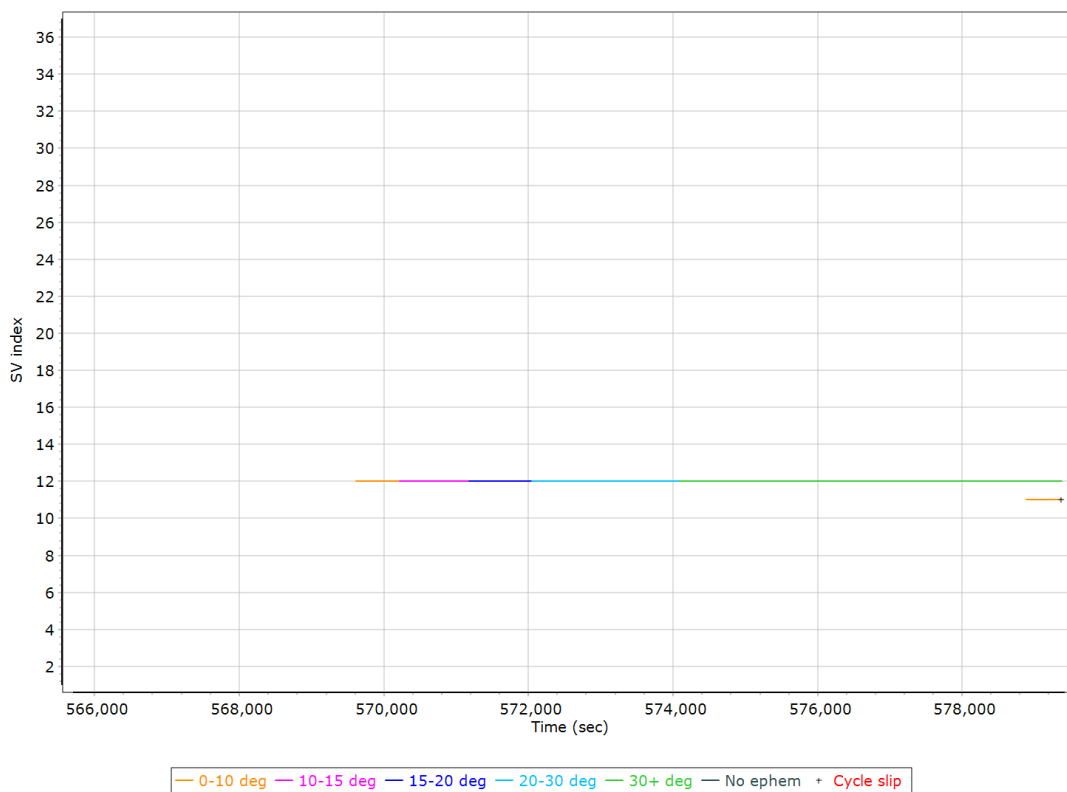
### GPS L2 SNR



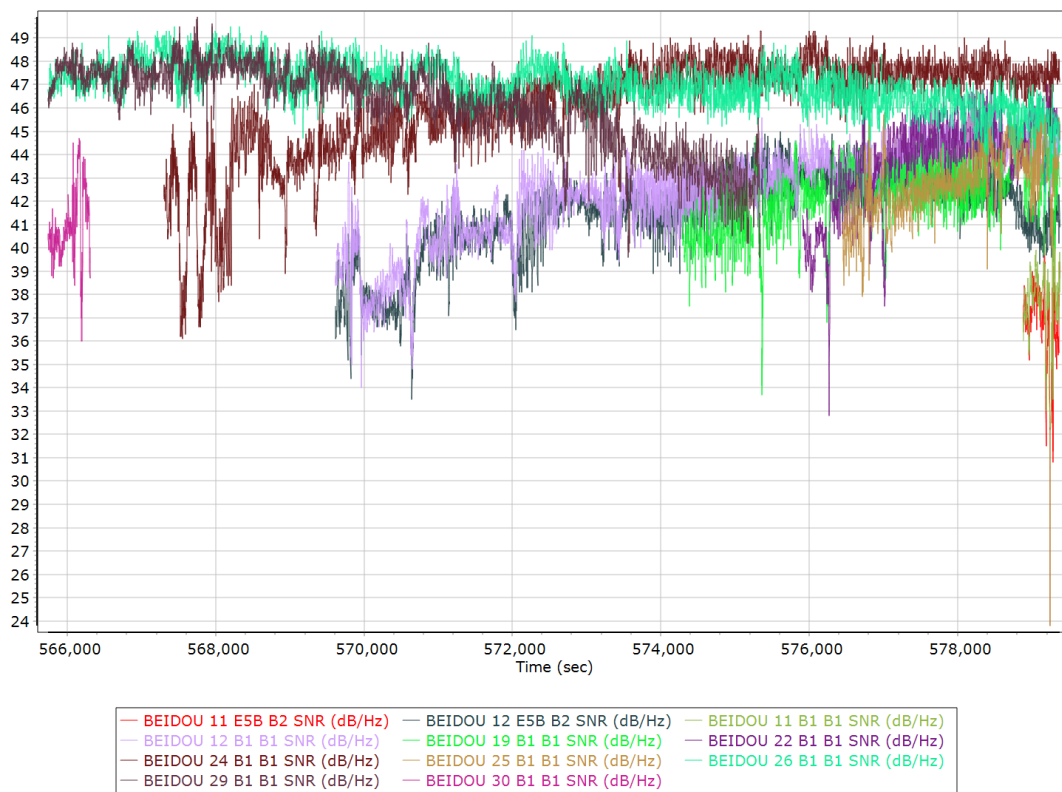
### GLONASS L2 SNR



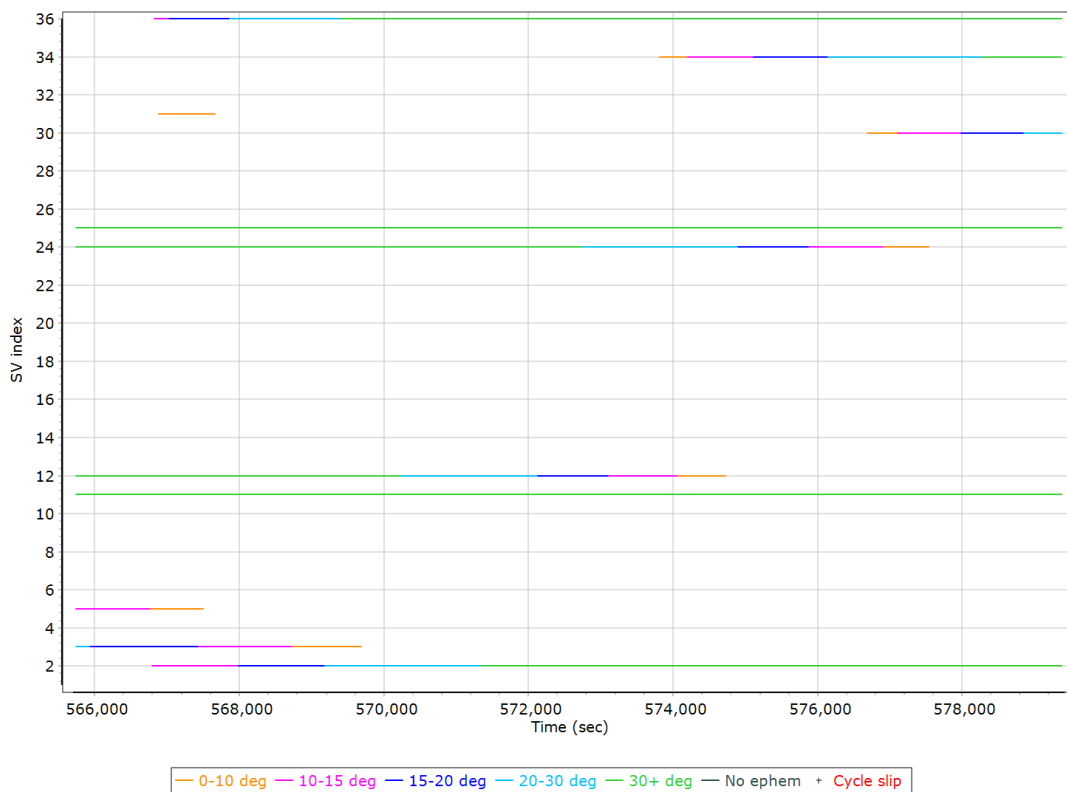
### BEIDOU Satellite Lock/Elevation



### BEIDOU SNR

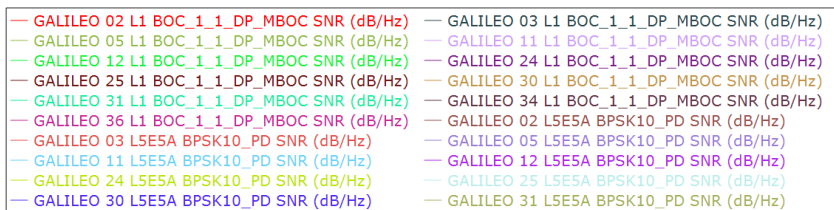
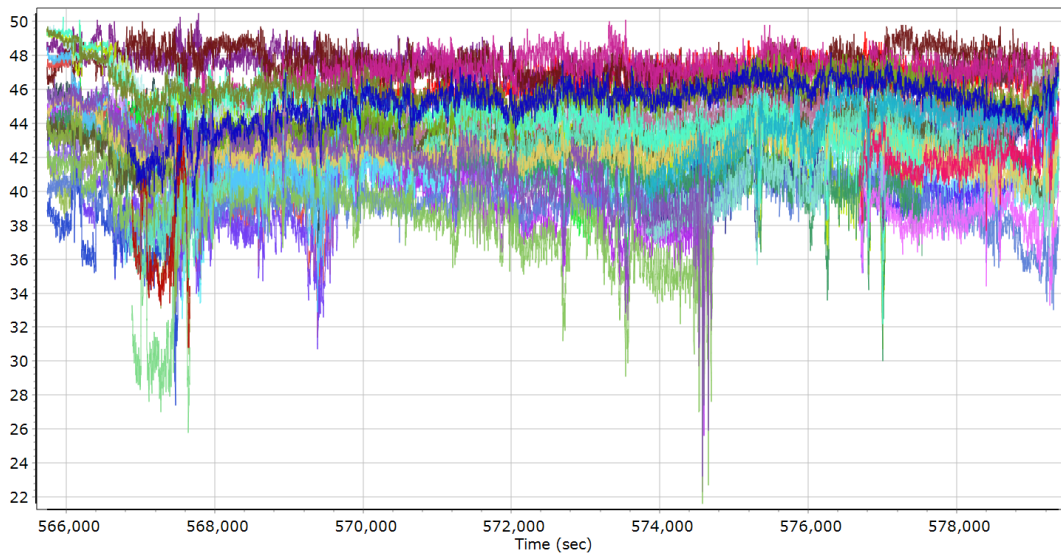


### GALILEO Satellite Lock/Elevation



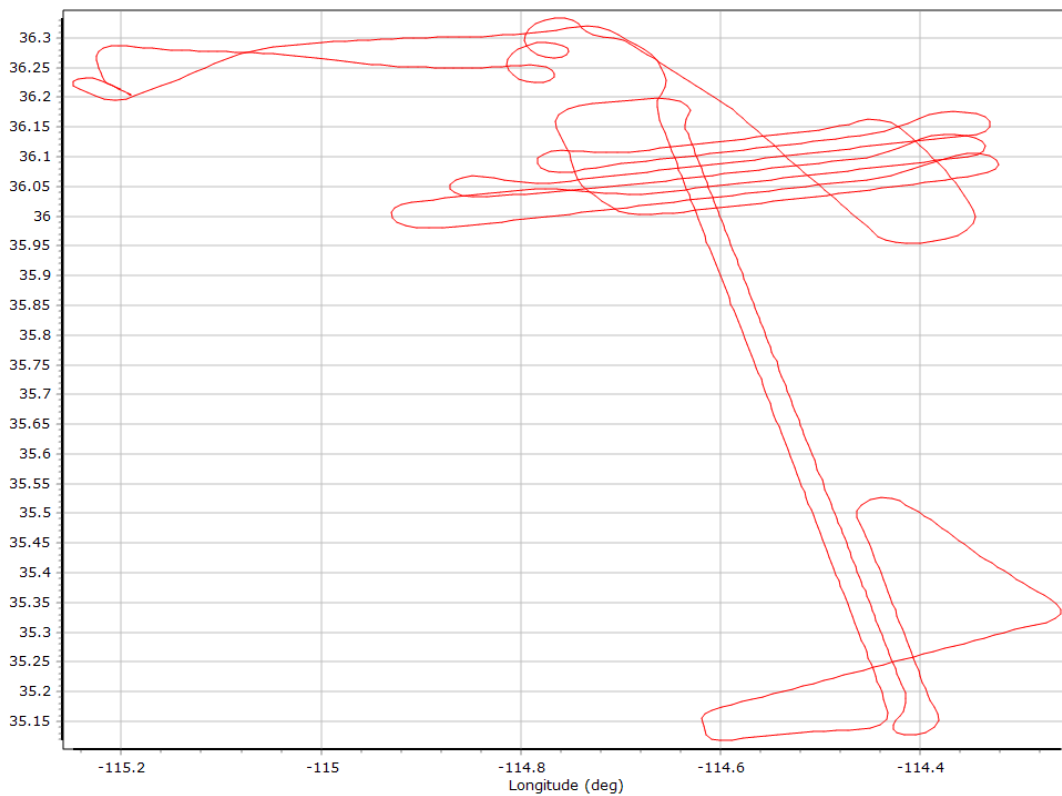


## GALILEO SNR

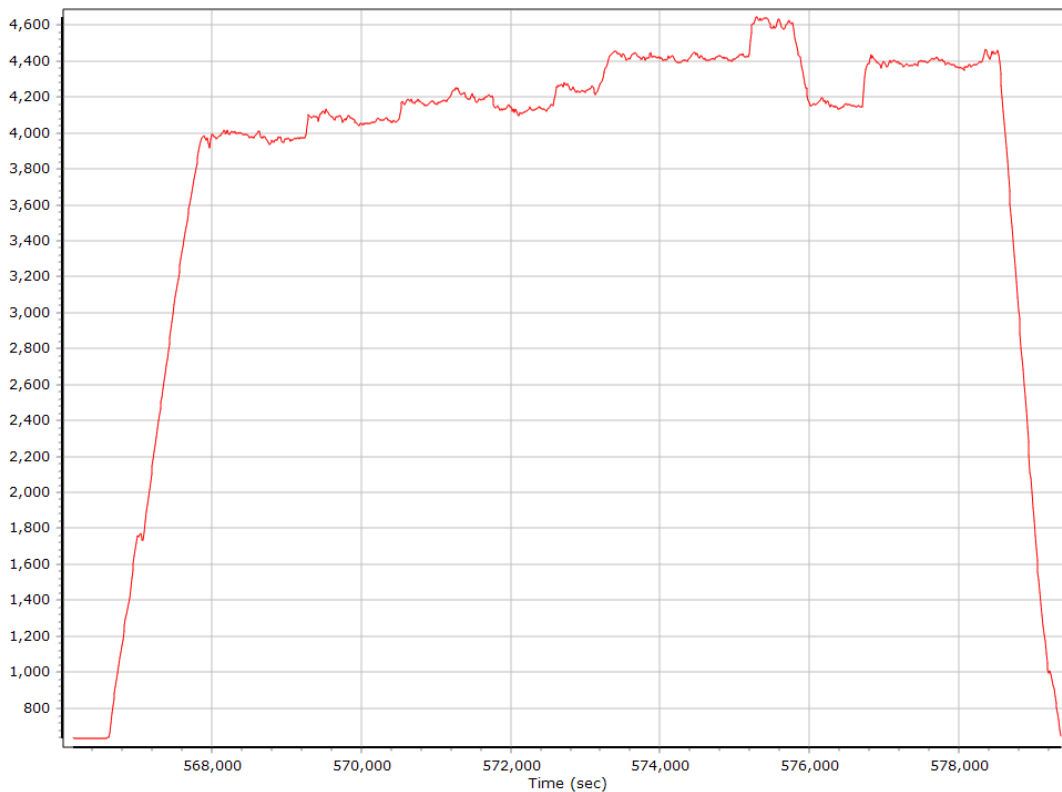


## Smoothed Trajectory Information

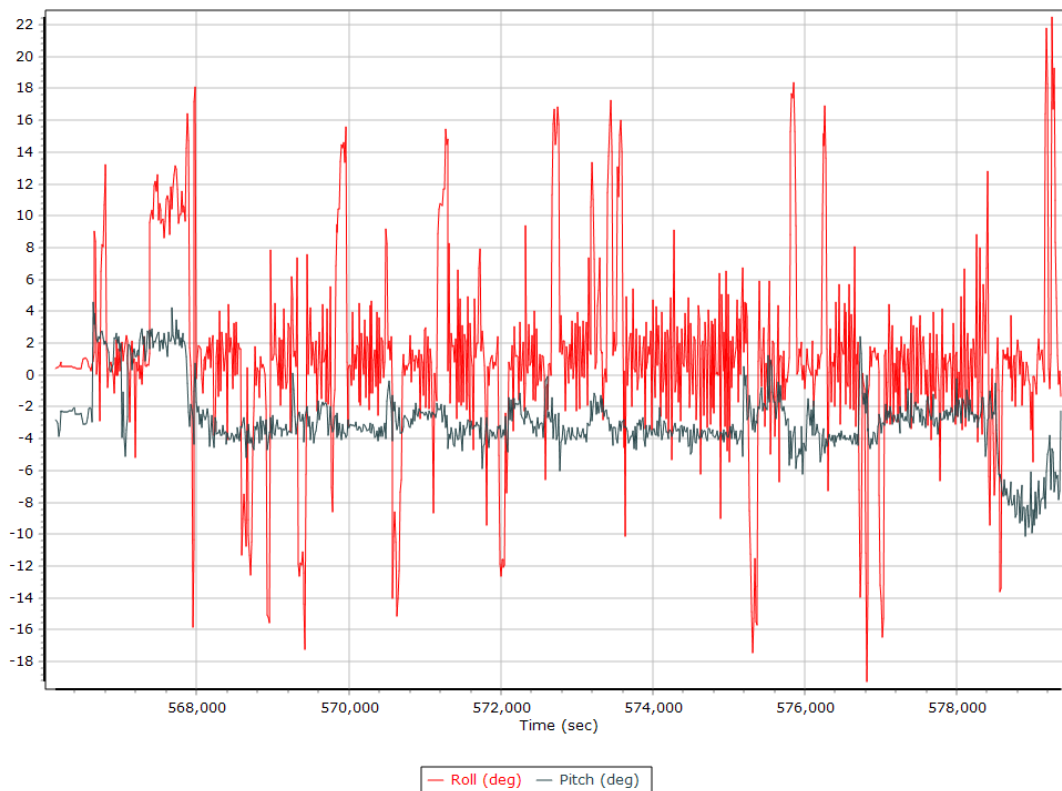
### Top View



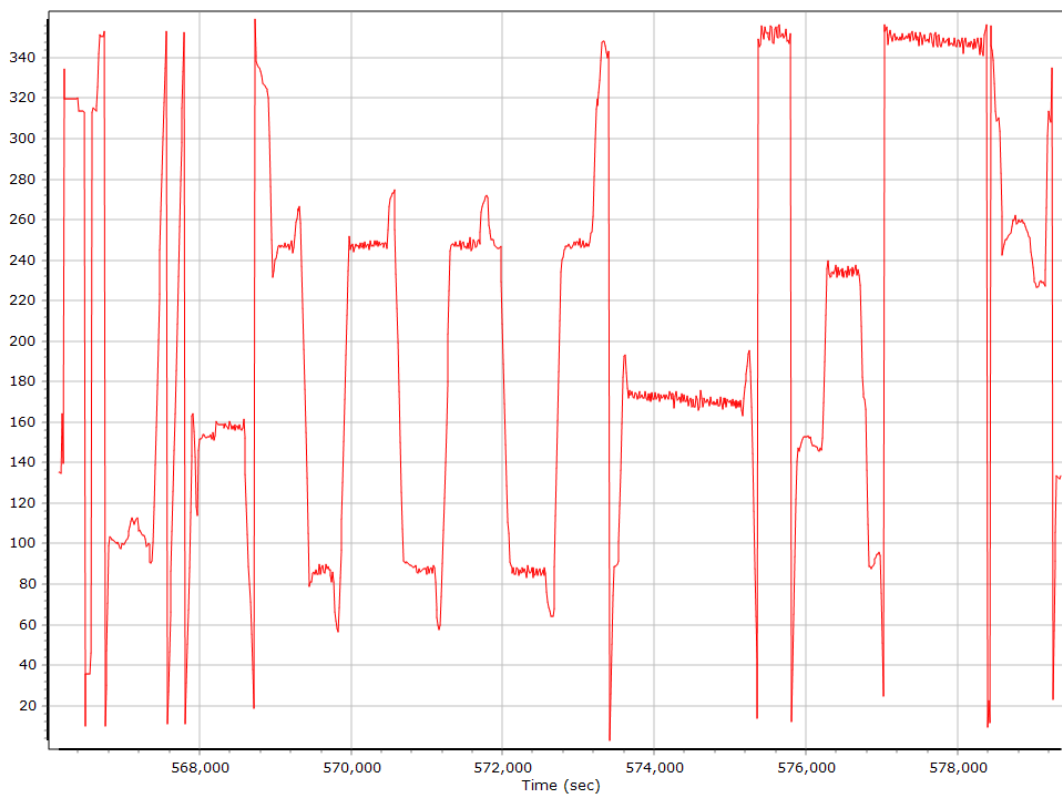
### Altitude



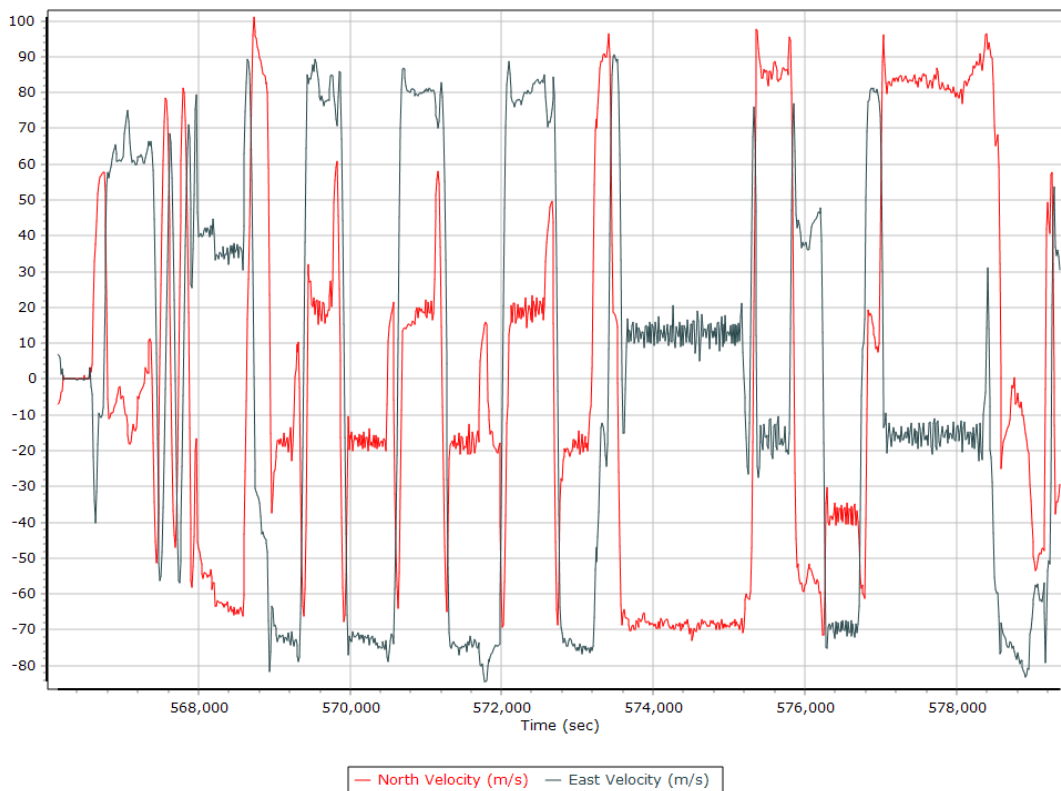
## Roll/Pitch



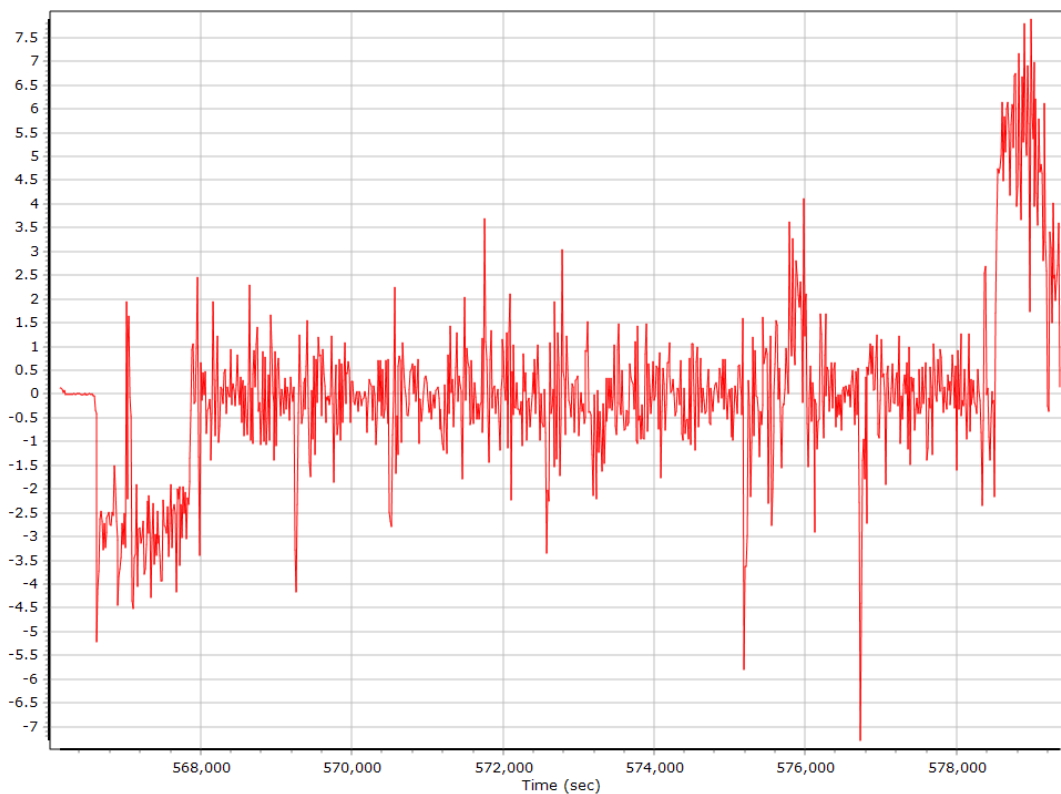
## Heading



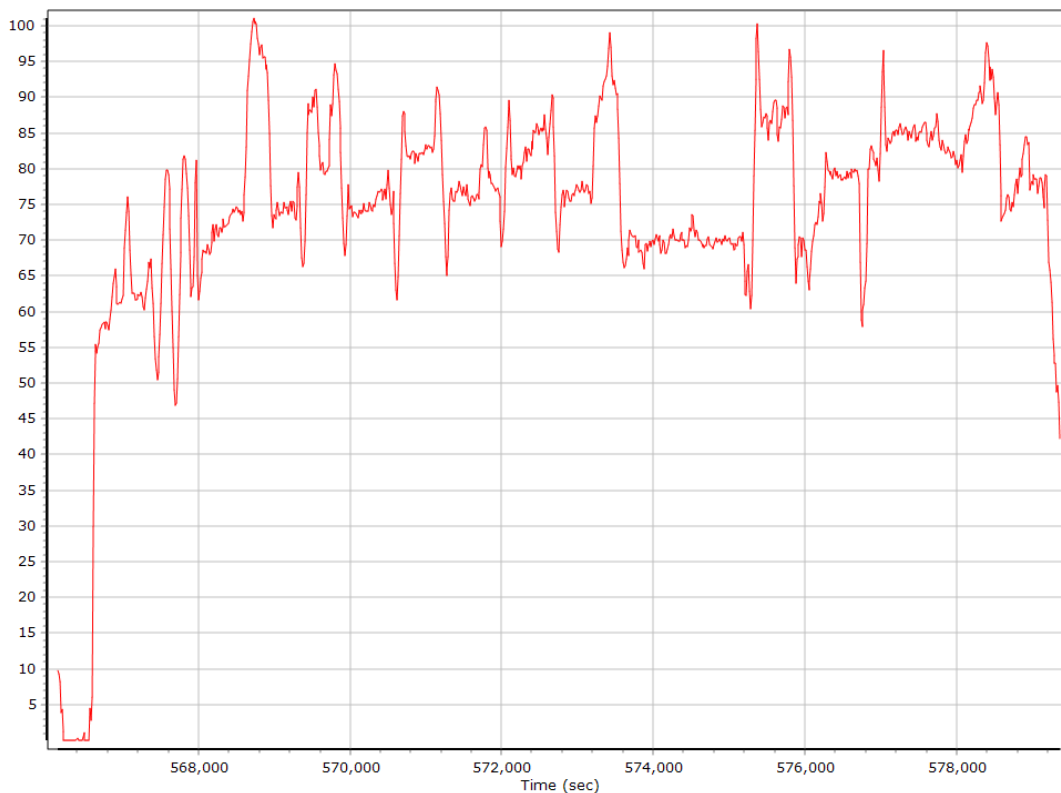
### North/East Velocity



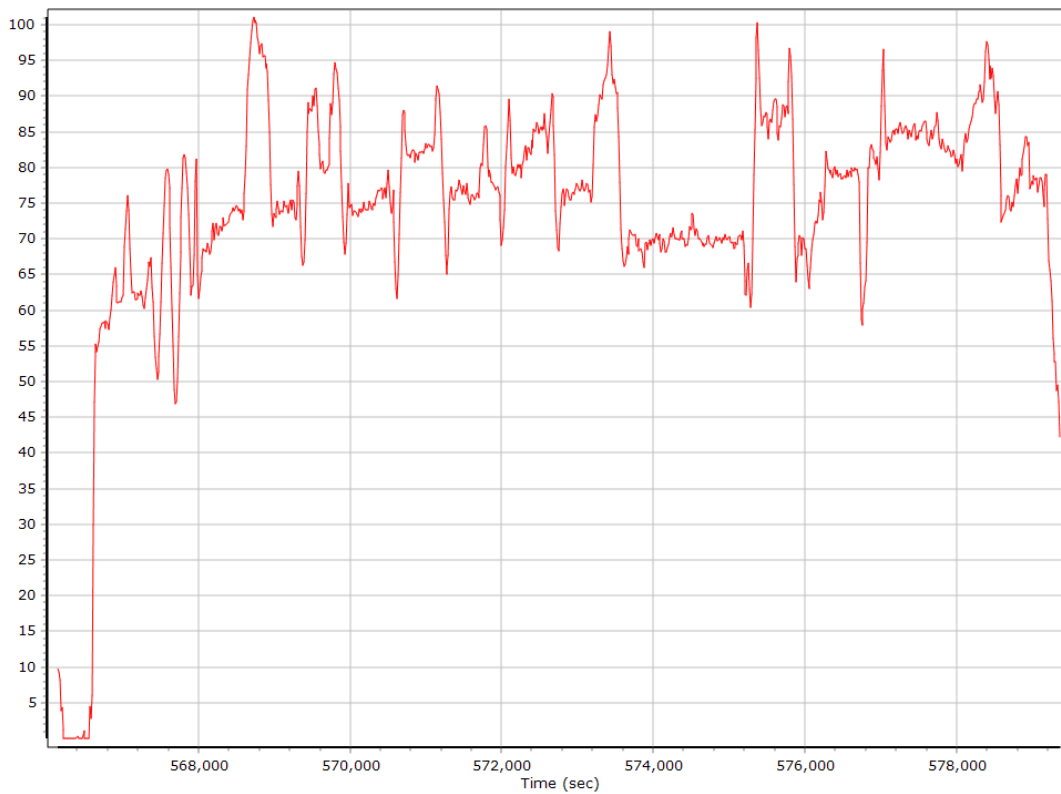
### Down Velocity



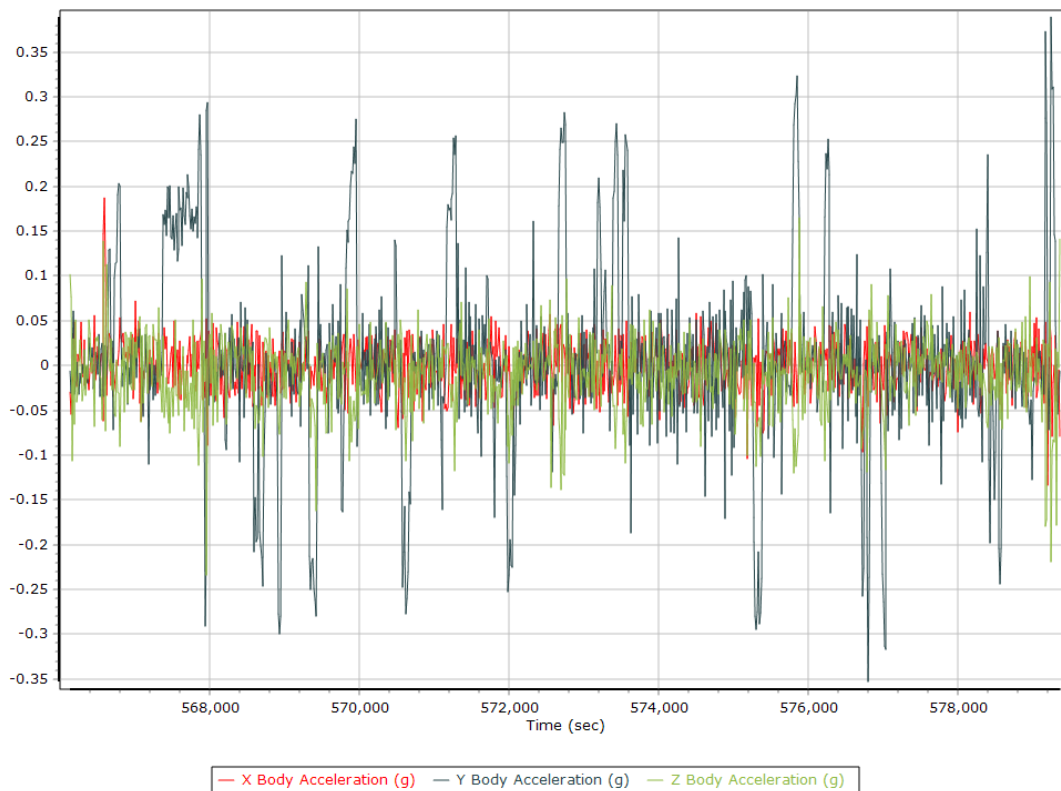
### Total Speed



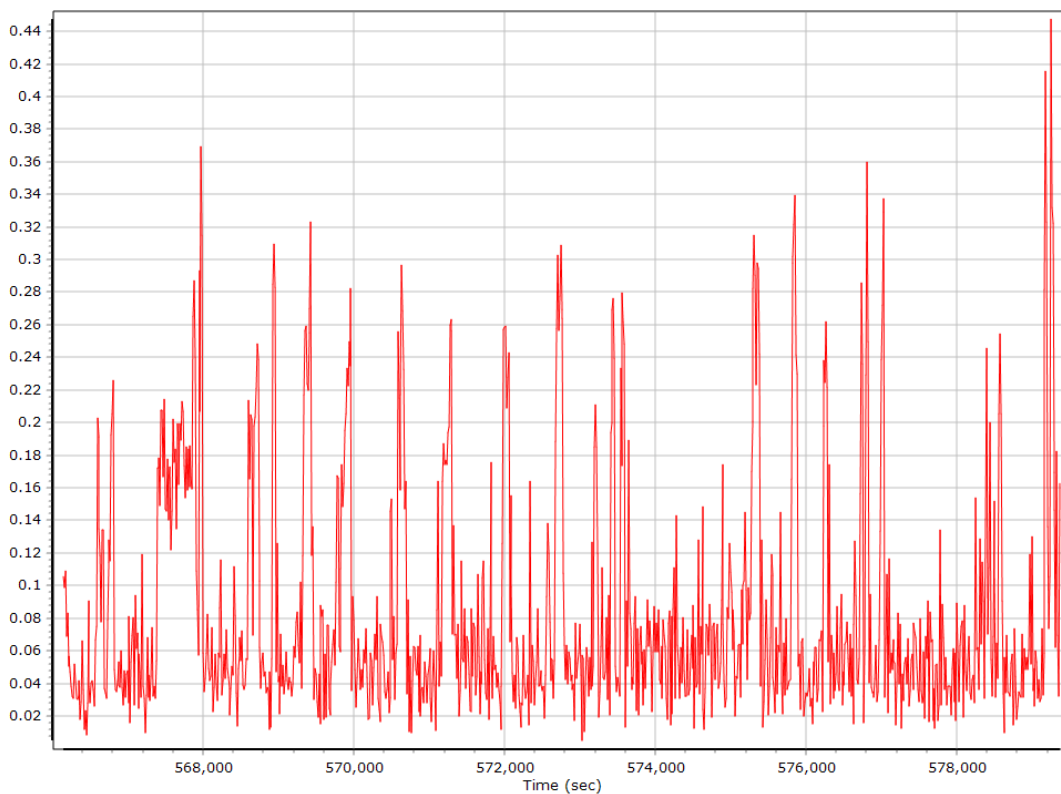
### Ground Speed



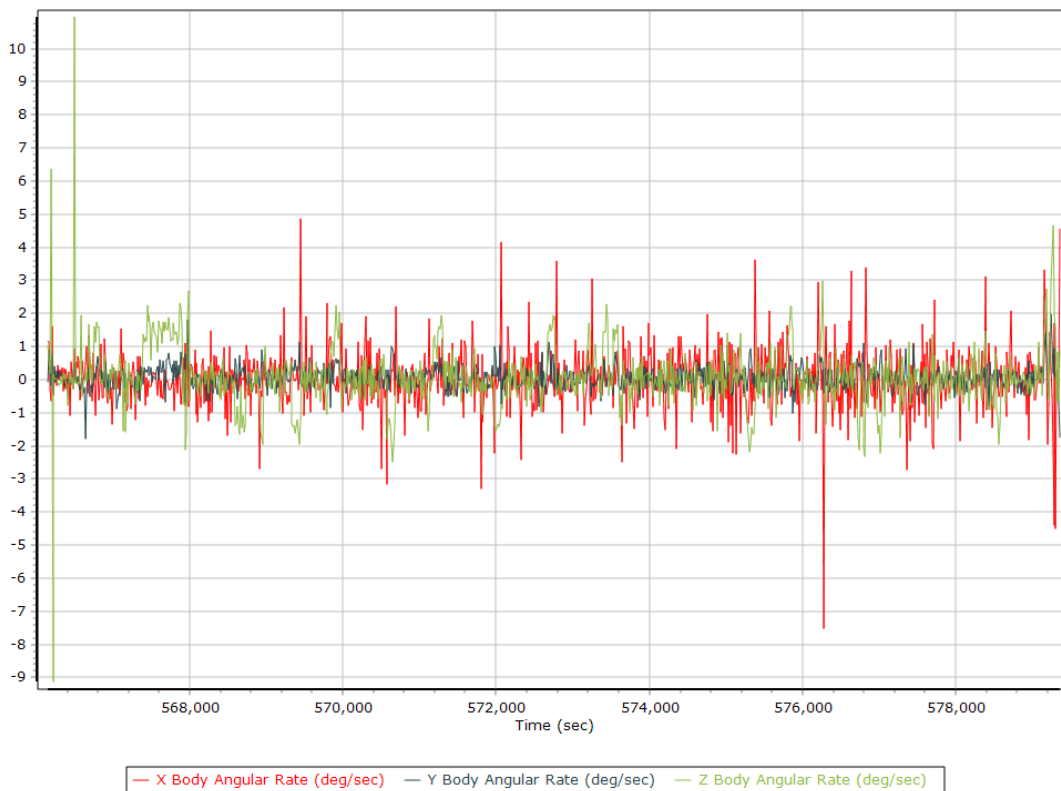
## Body Acceleration



## Total Body Acceleration

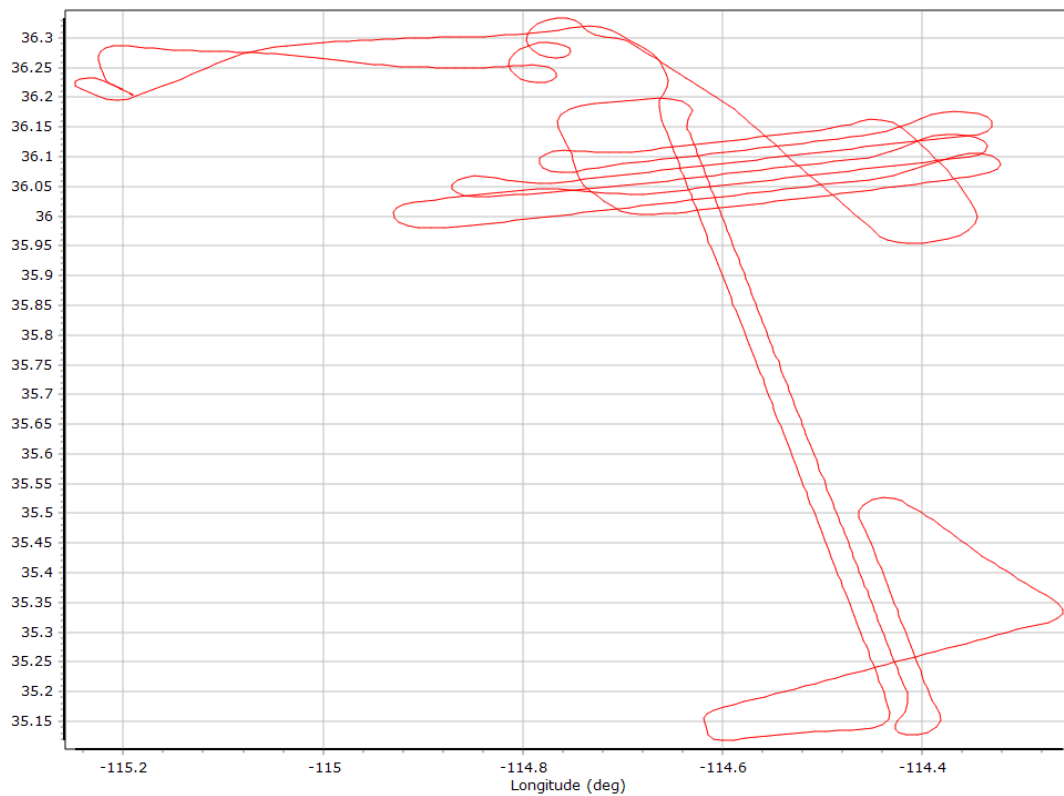


## Body Angular Rate

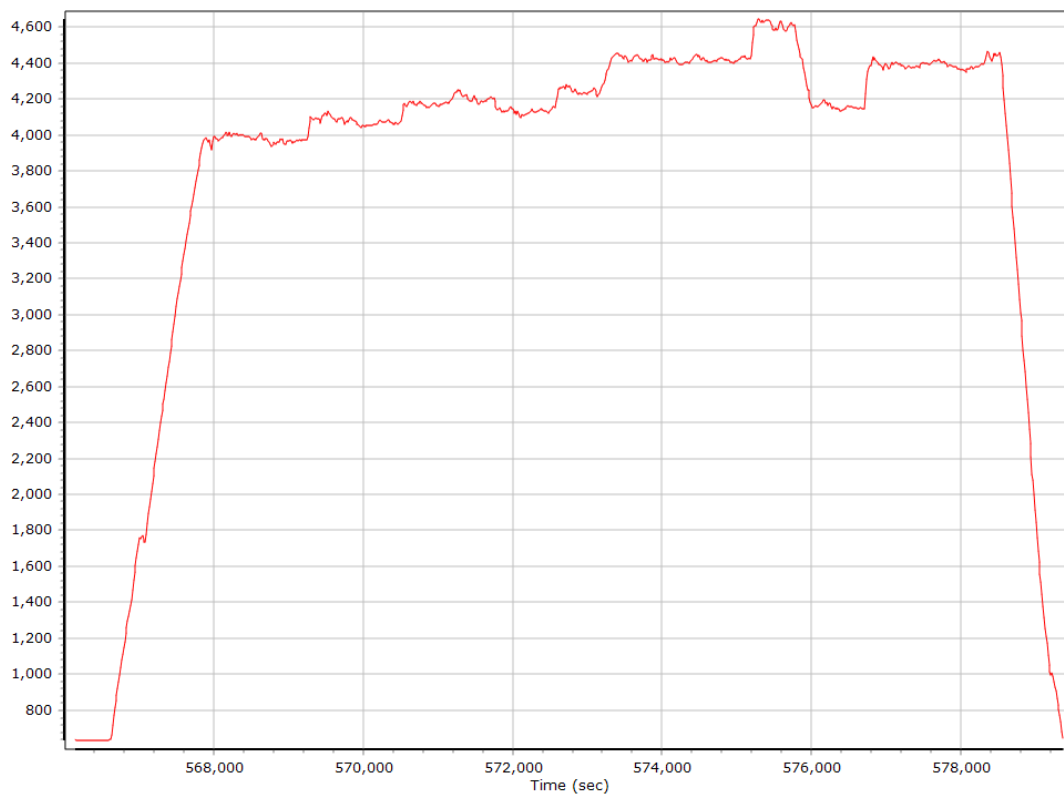


## Forward Processed Trajectory Information

### Top View

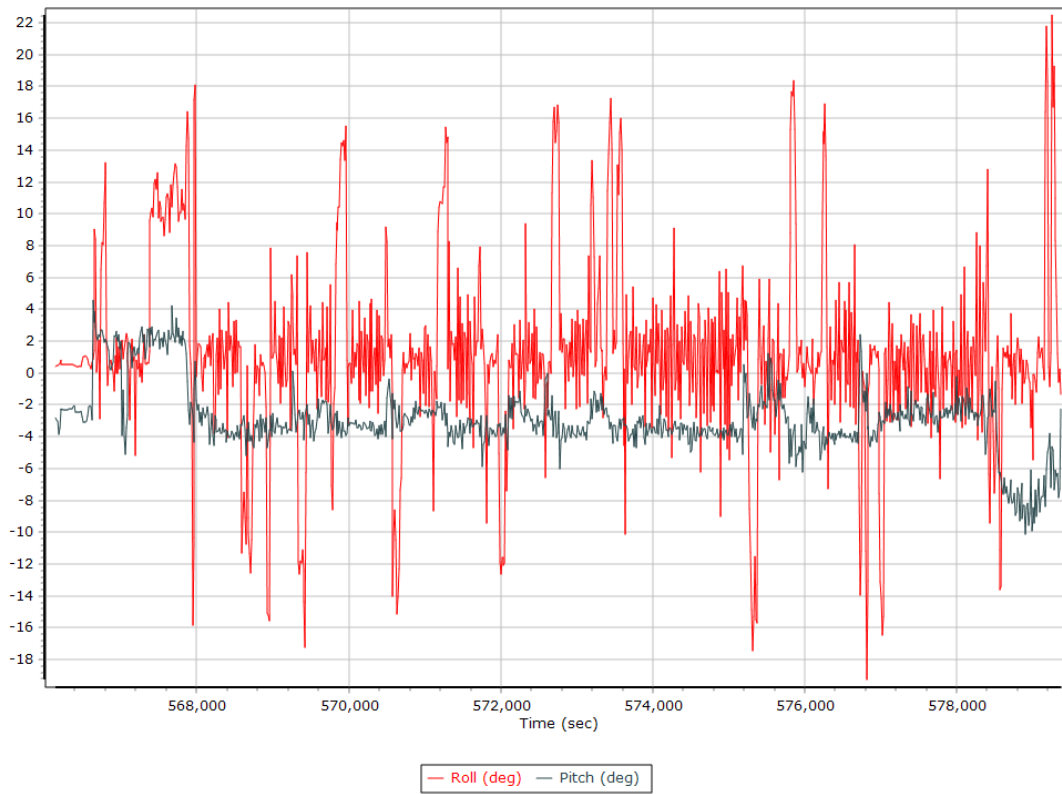


### Altitude

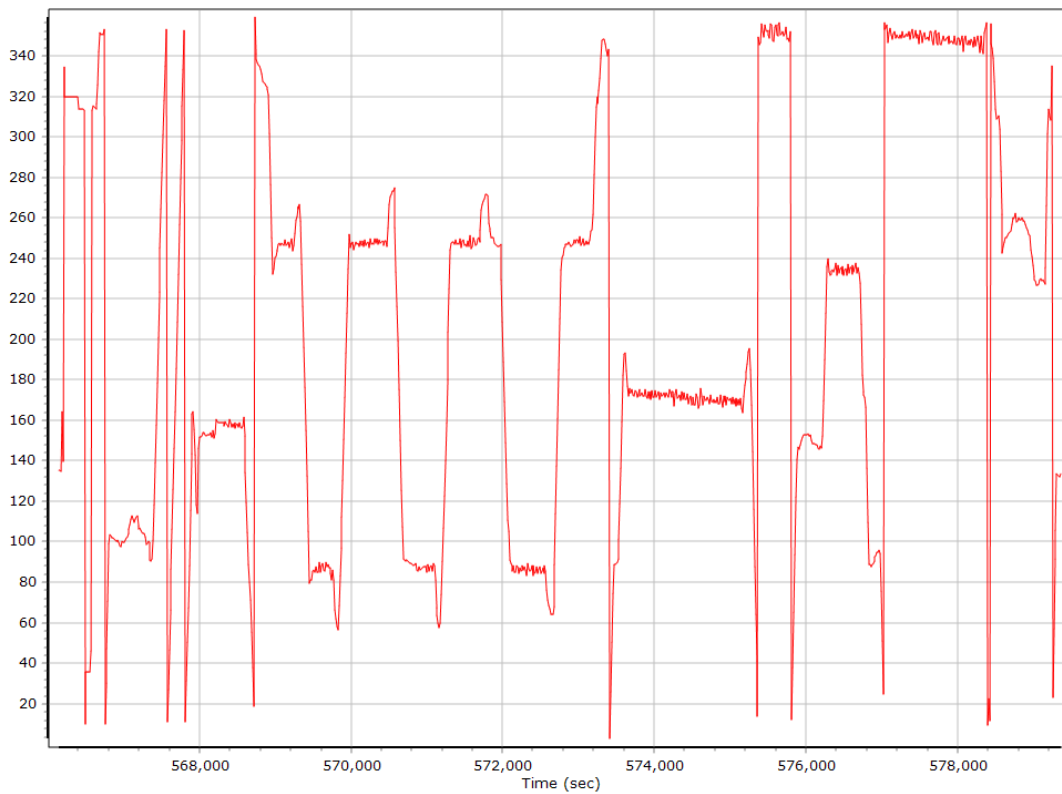




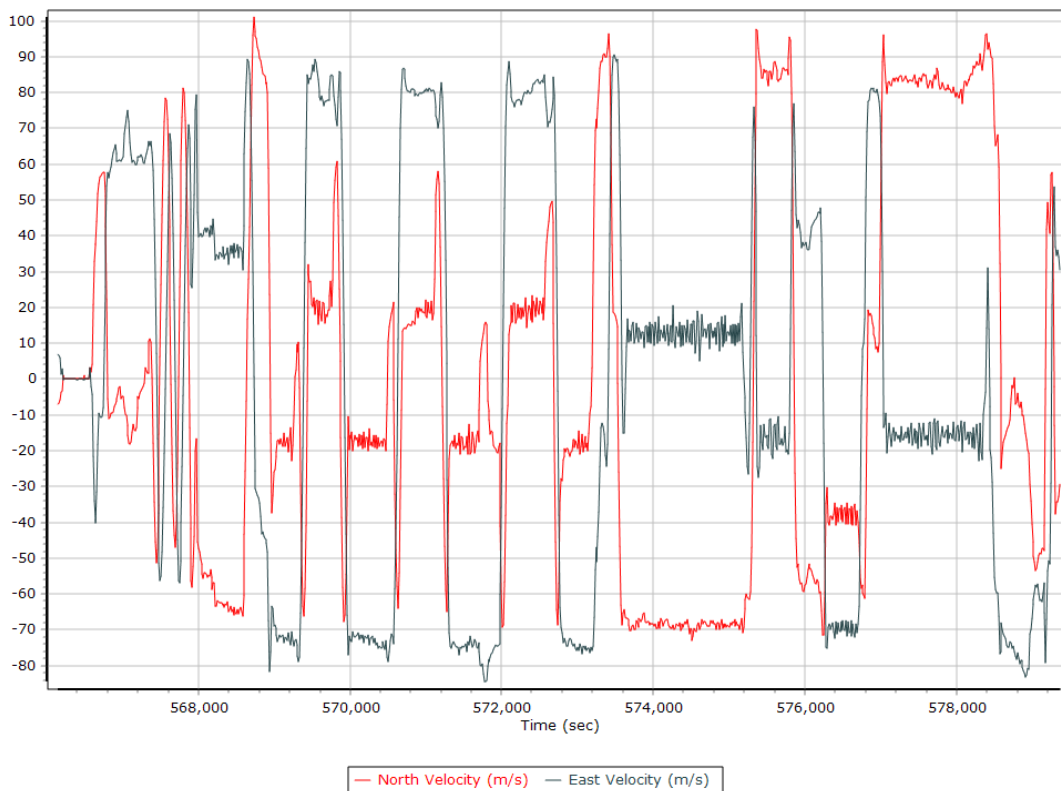
## Roll/Pitch



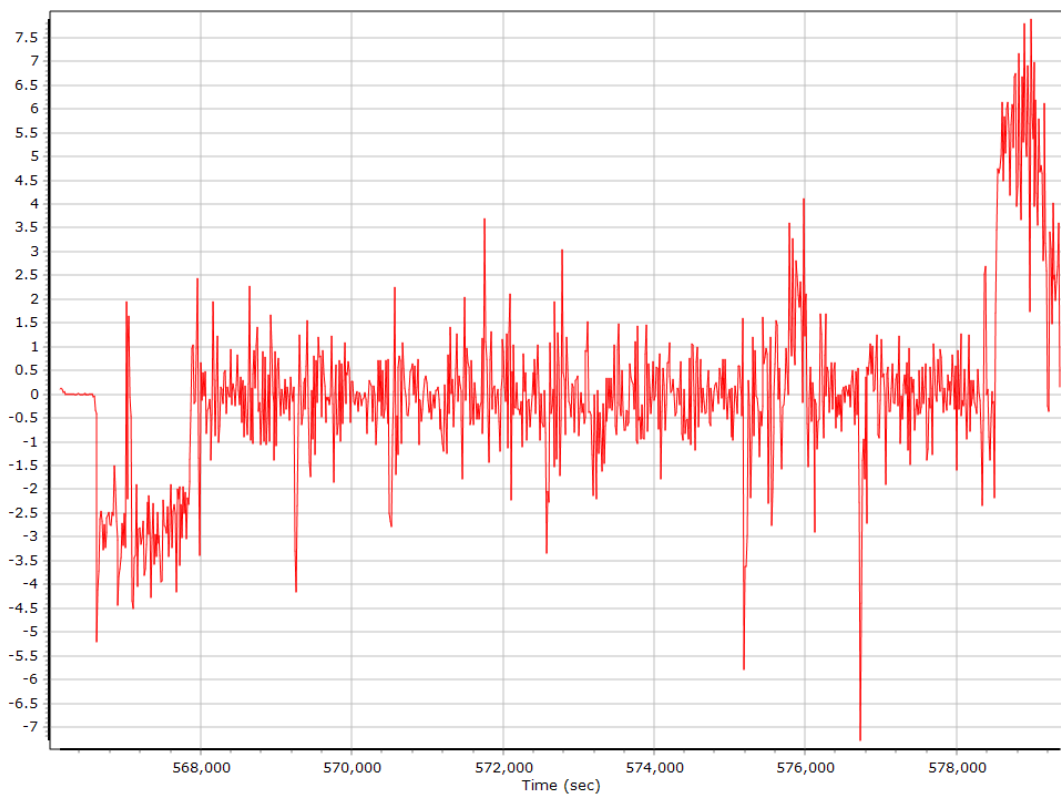
## Heading



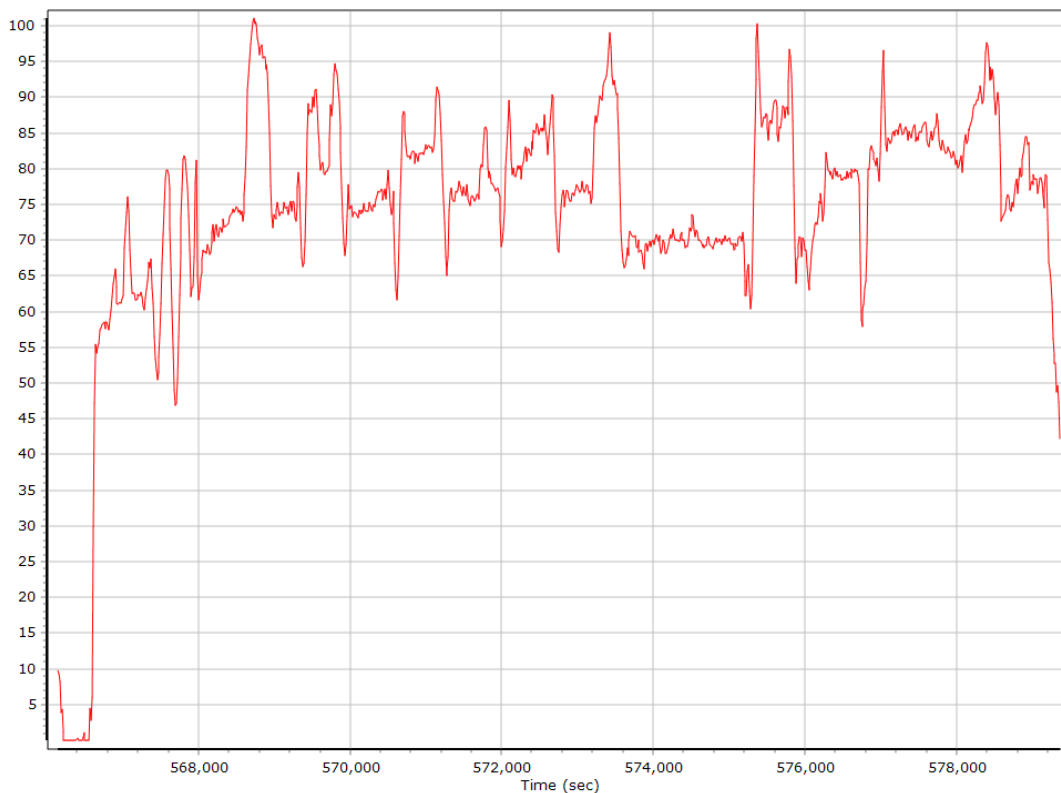
### North/East Velocity



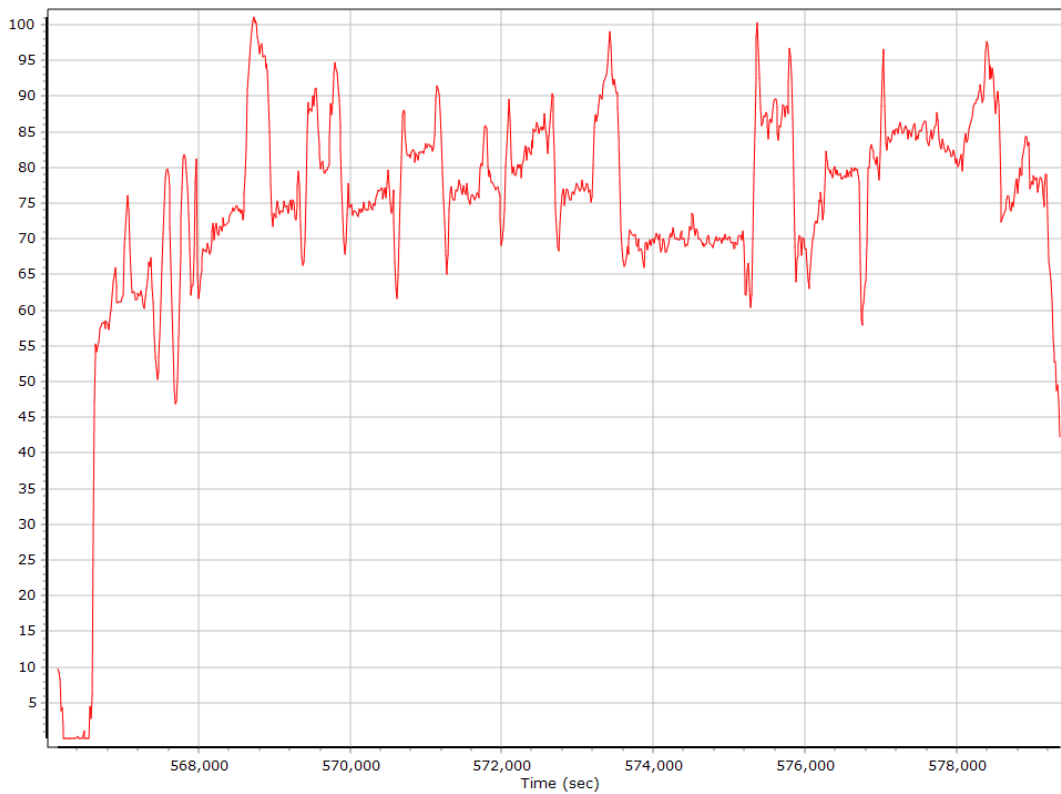
### Down Velocity



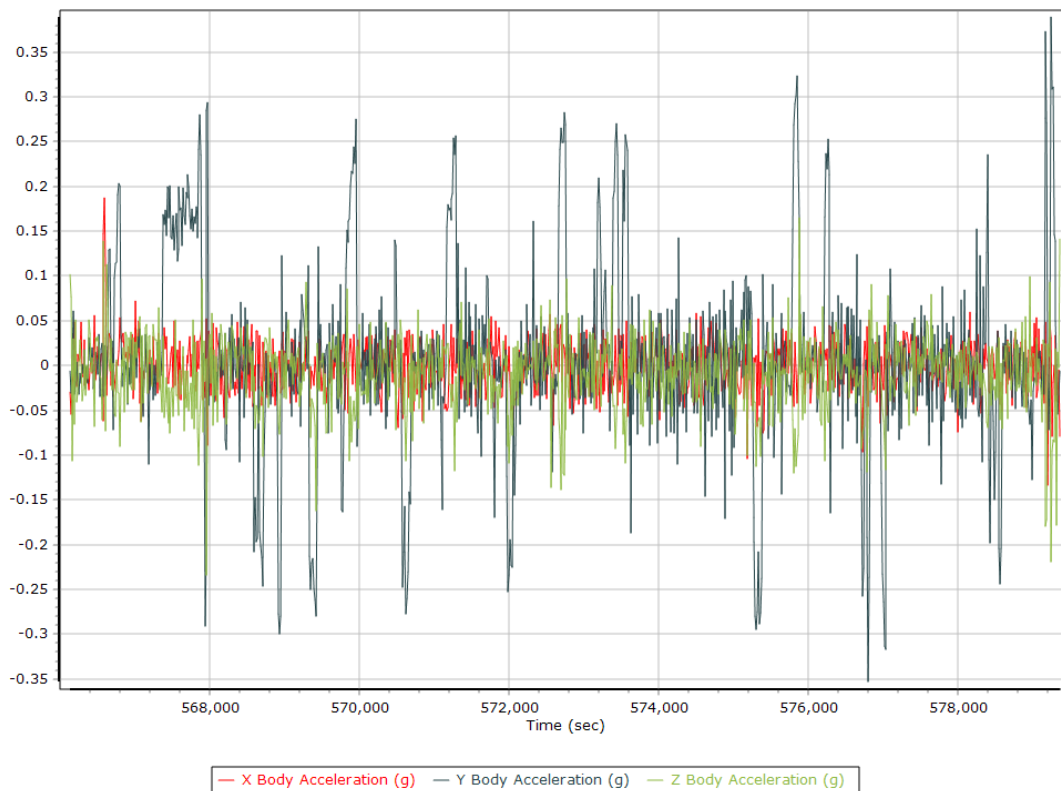
### Total Speed



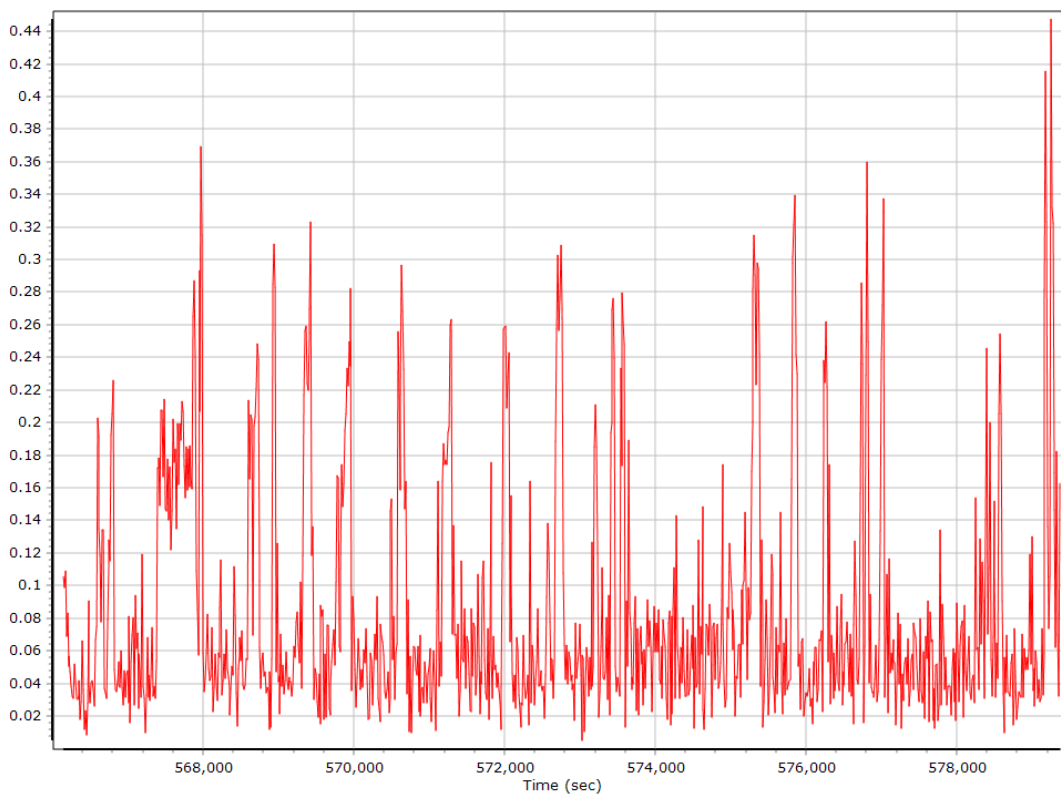
### Ground Speed



## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

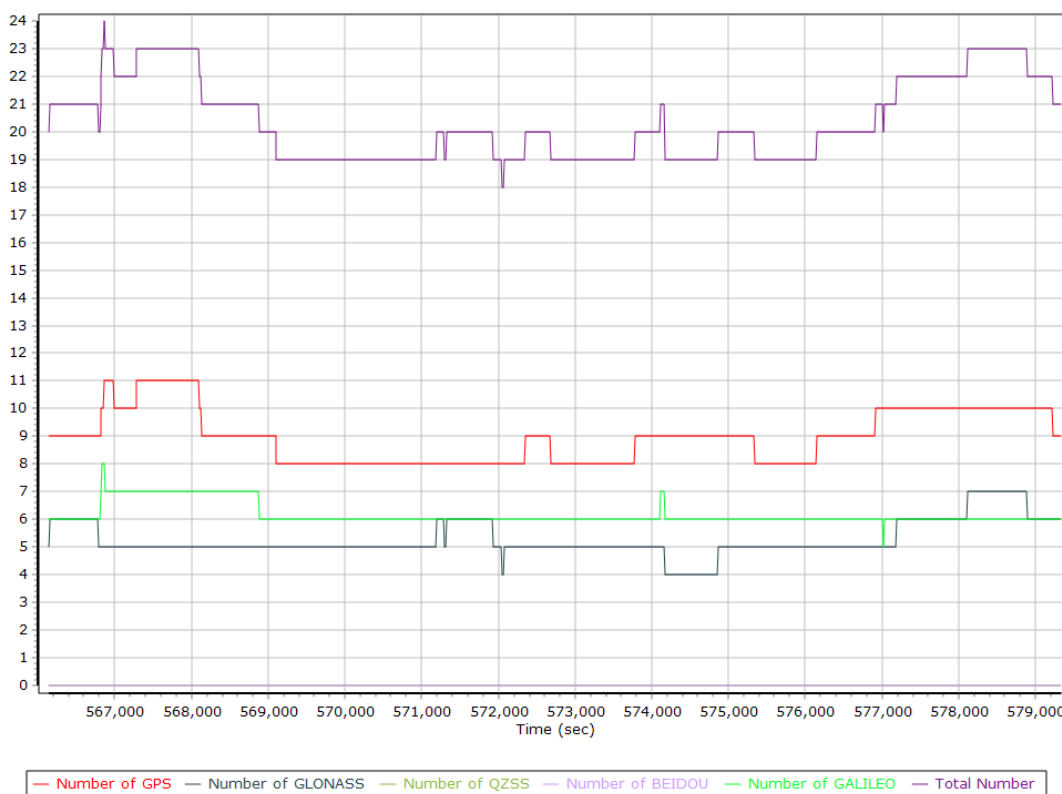


## GNSS QC

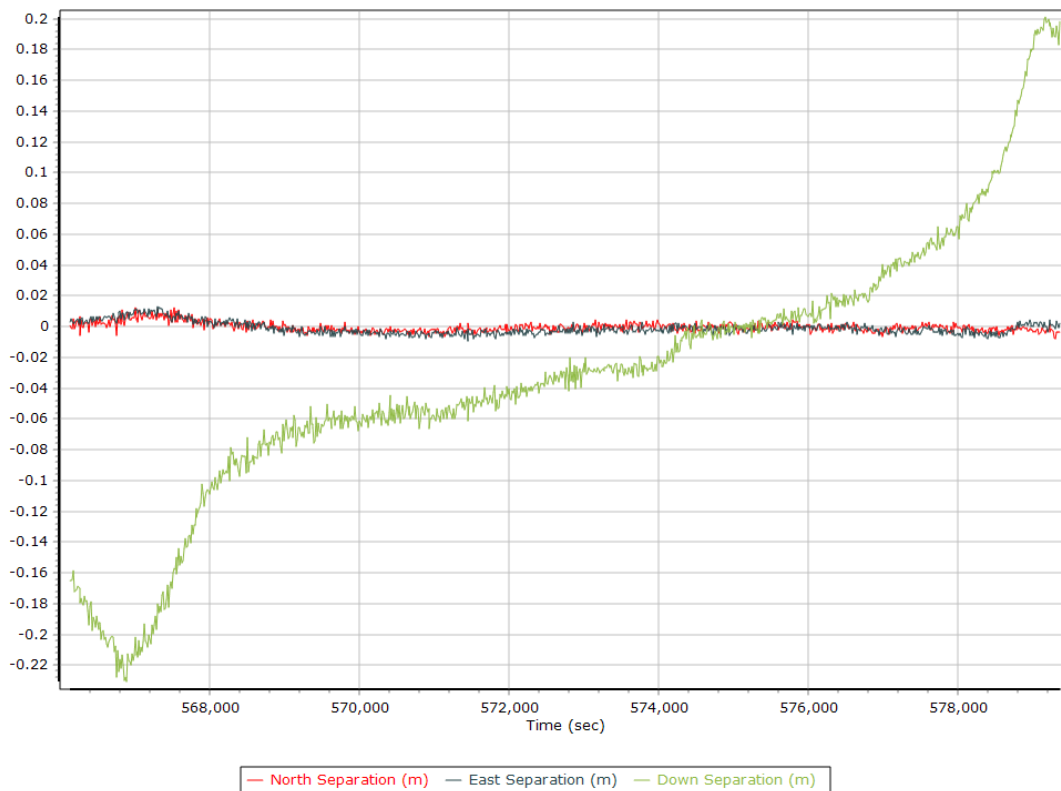
### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	5	11	9
Number of GLONASS SV	4	7	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	2	8	6
Total number of SV	11	24	20
PDOP	0.98	2.24	1.19
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	13591.00	0.00	0.00
Percentage	100.00	0.00	0.00

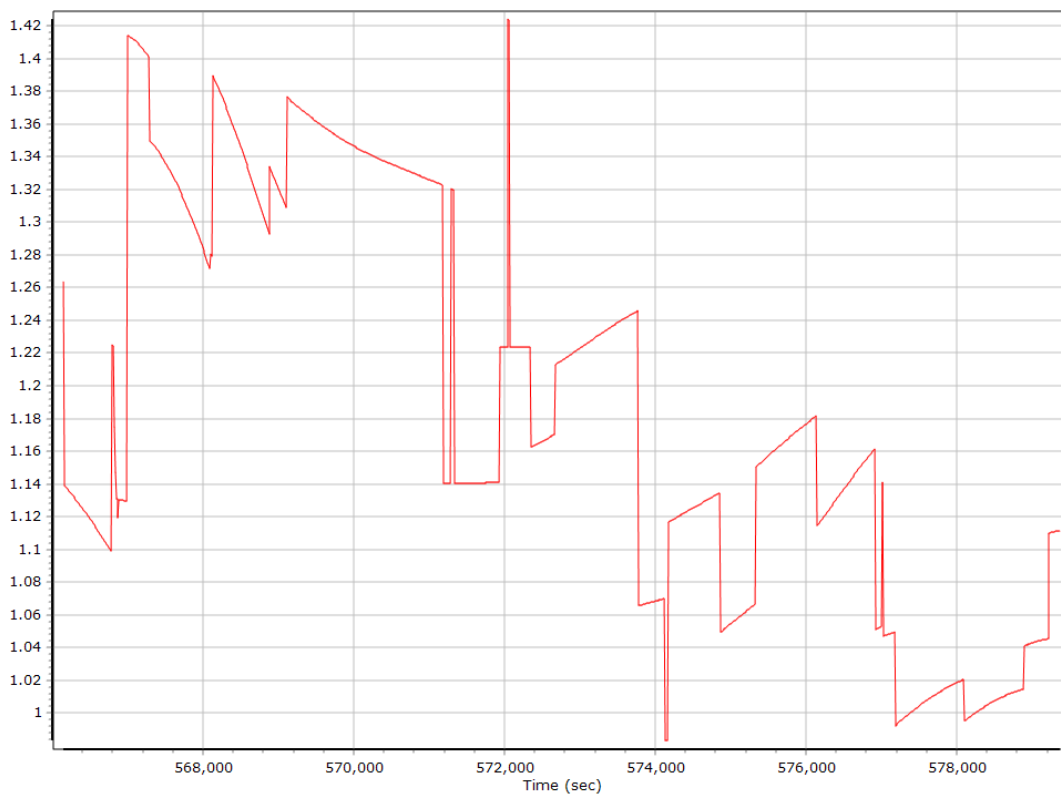
### Num SVs in solution



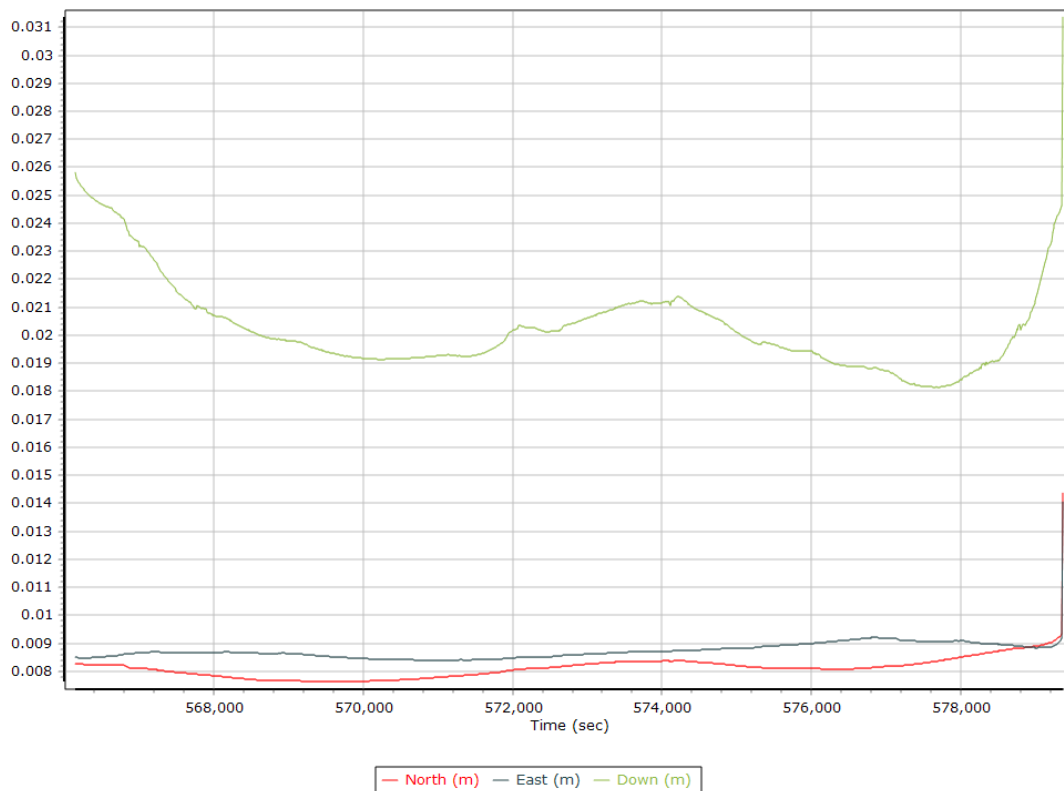
### Forward/Reverse Separation



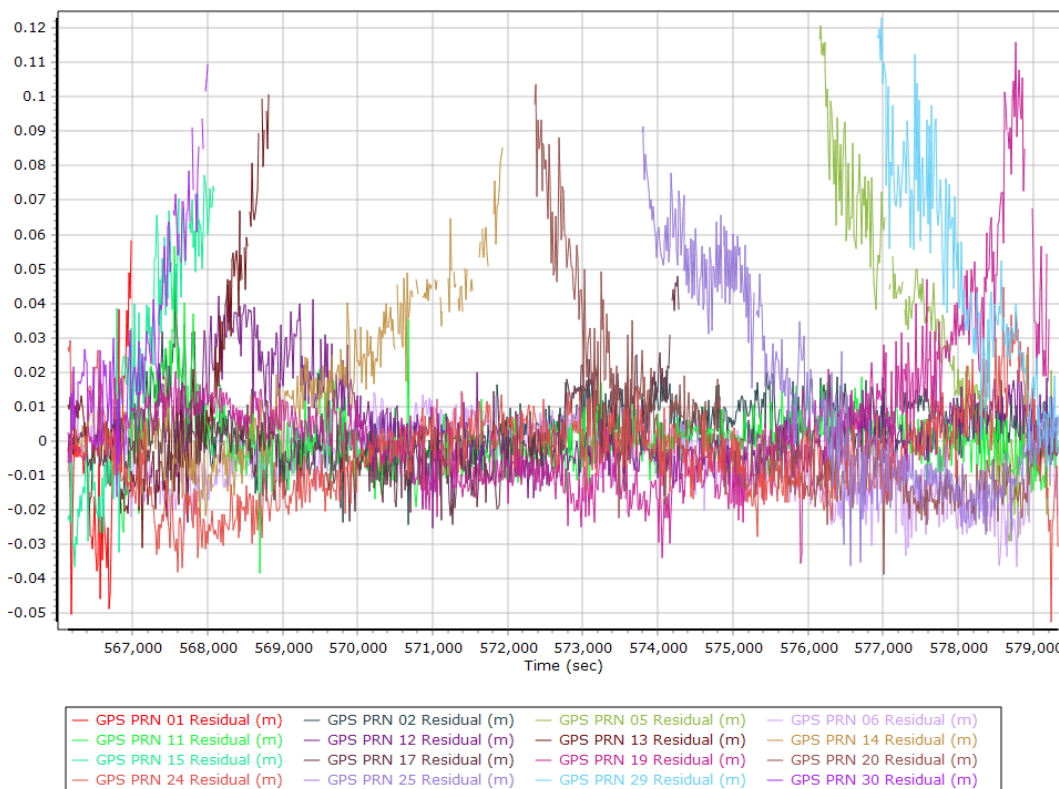
### PDOP



## Estimated Position Accuracy

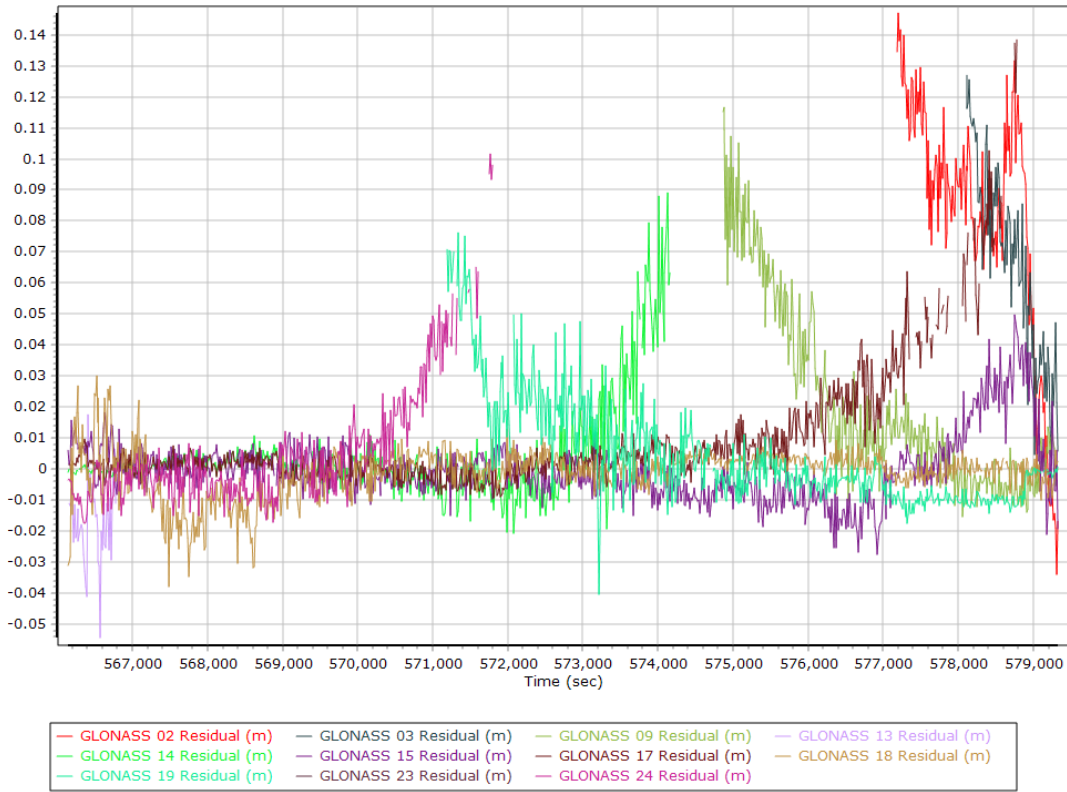


## GPS Residuals

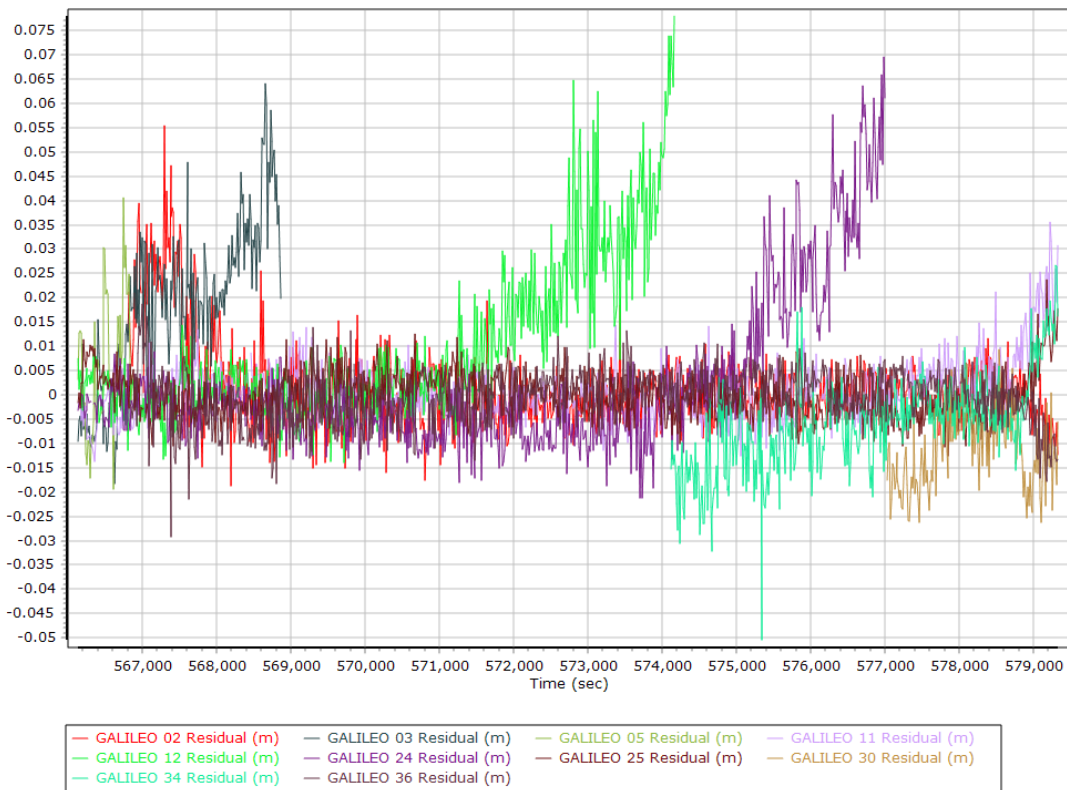




## GLONASS Residuals



## GALILEO Residuals



## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	565742.000 (07/09/2022 13:09:02)		
Processing end time	579377.000 (07/09/2022 16:56:17)		
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	180.000
Reference to Primary GNSS lever arm (m)	0.384	-0.425	-1.091
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

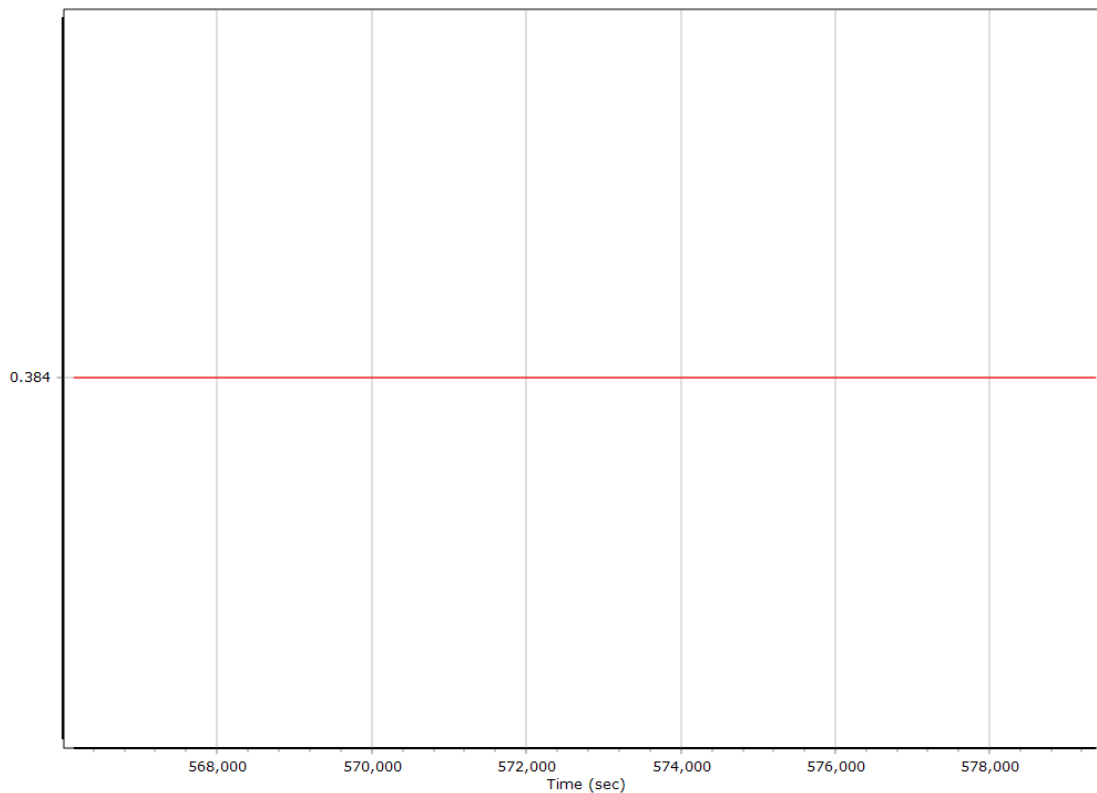
## Calibrated Installation Parameters

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

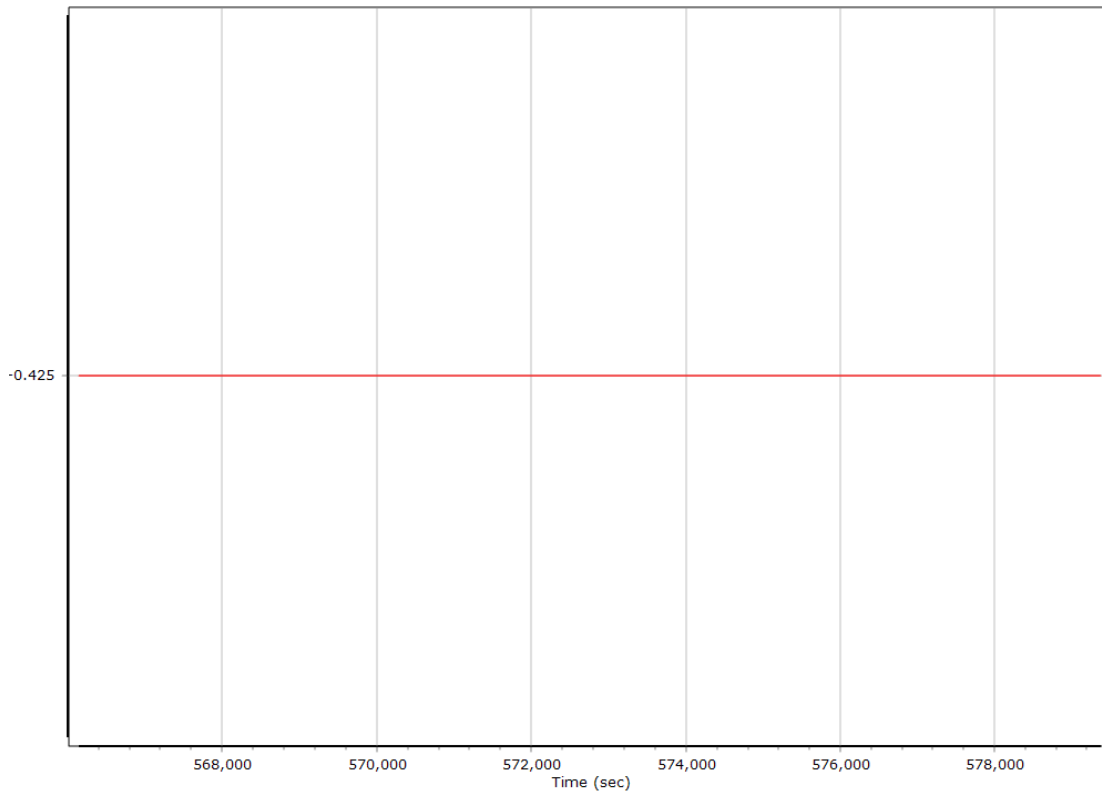
#### Reference-Primary GNSS Lever Arm Automatic Calibration Results

Original Reference to Primary GNSS lever arm (m)	0.361	-0.429	-0.945
Iteration 1 Reference to Primary GNSS lever arm (m)	0.384	-0.424	-1.090
Iteration 2 Reference to Primary GNSS lever arm (m)	0.384	-0.425	-1.091
Primary GNSS Lever Arm In use	Iteration 2		

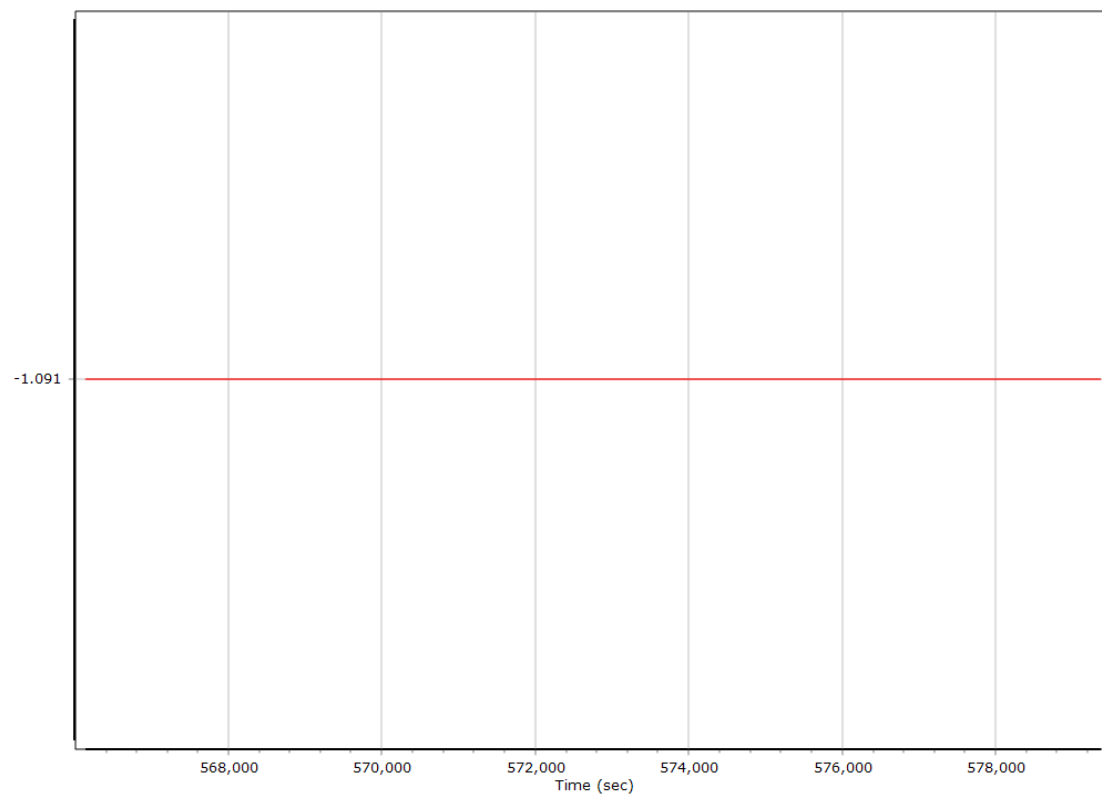
### X Reference-Primary GNSS Lever Arm (m)



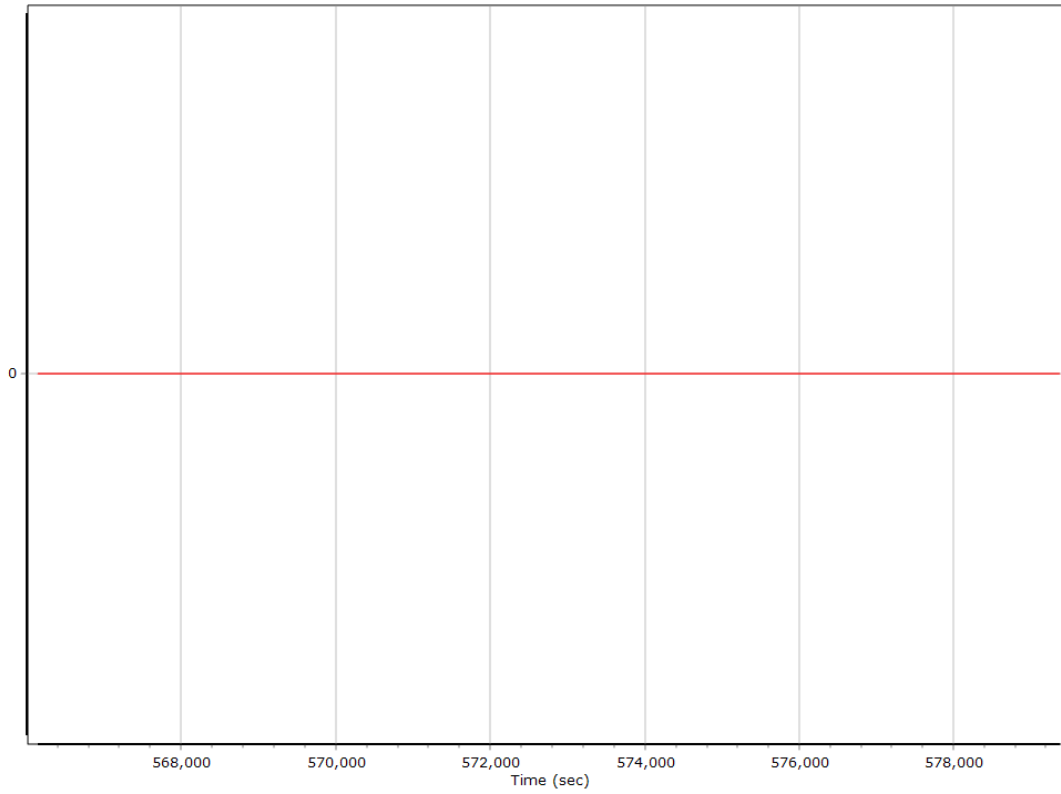
**Y Reference-Primary GNSS Lever Arm (m)**



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



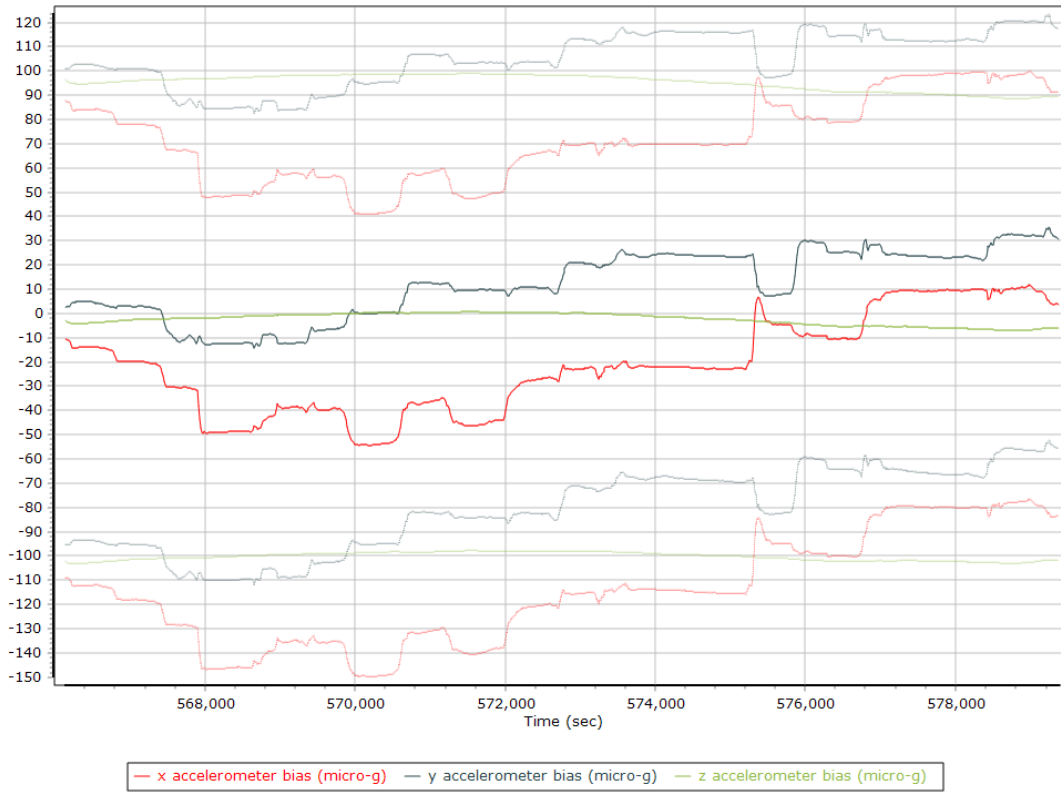
### Reference-Primary GNSS Lever Arm Figure of Merit



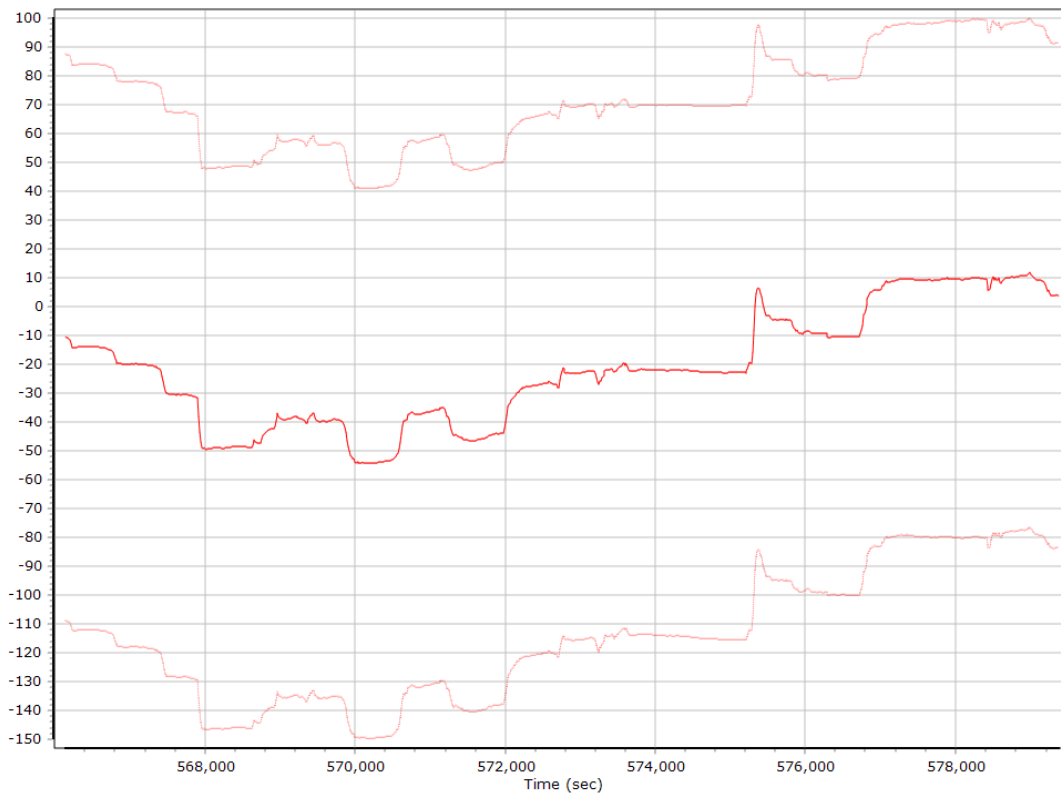
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

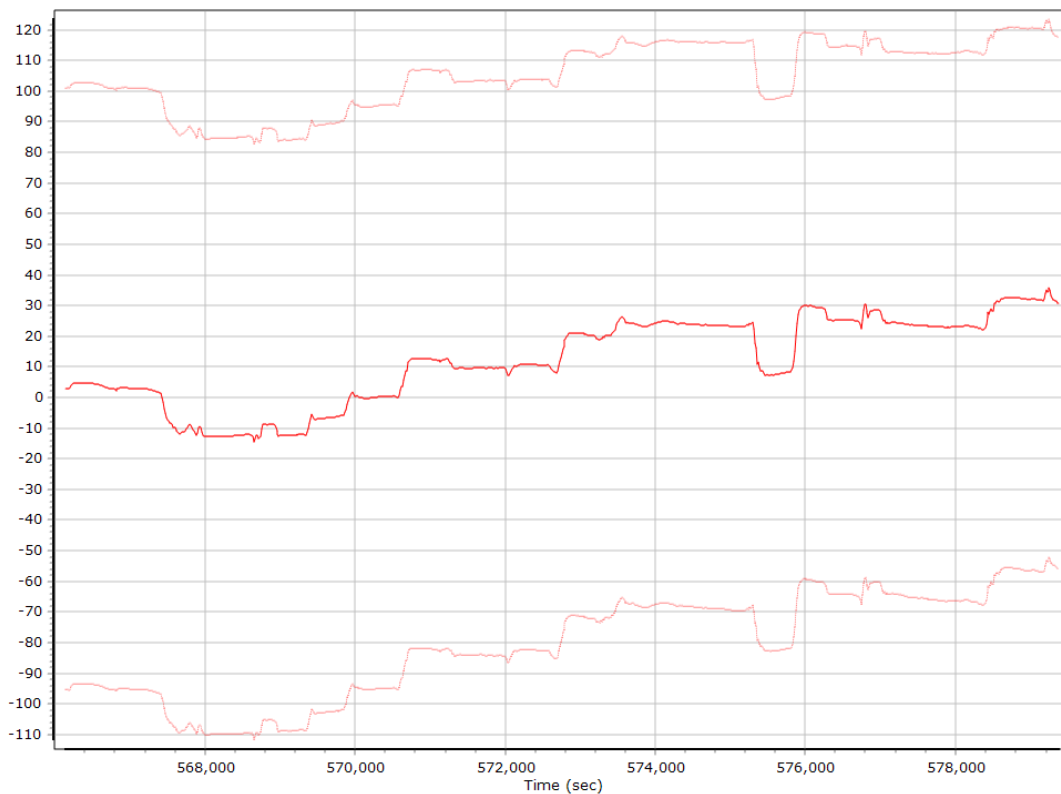
#### Accelerometer Bias (micro-g)



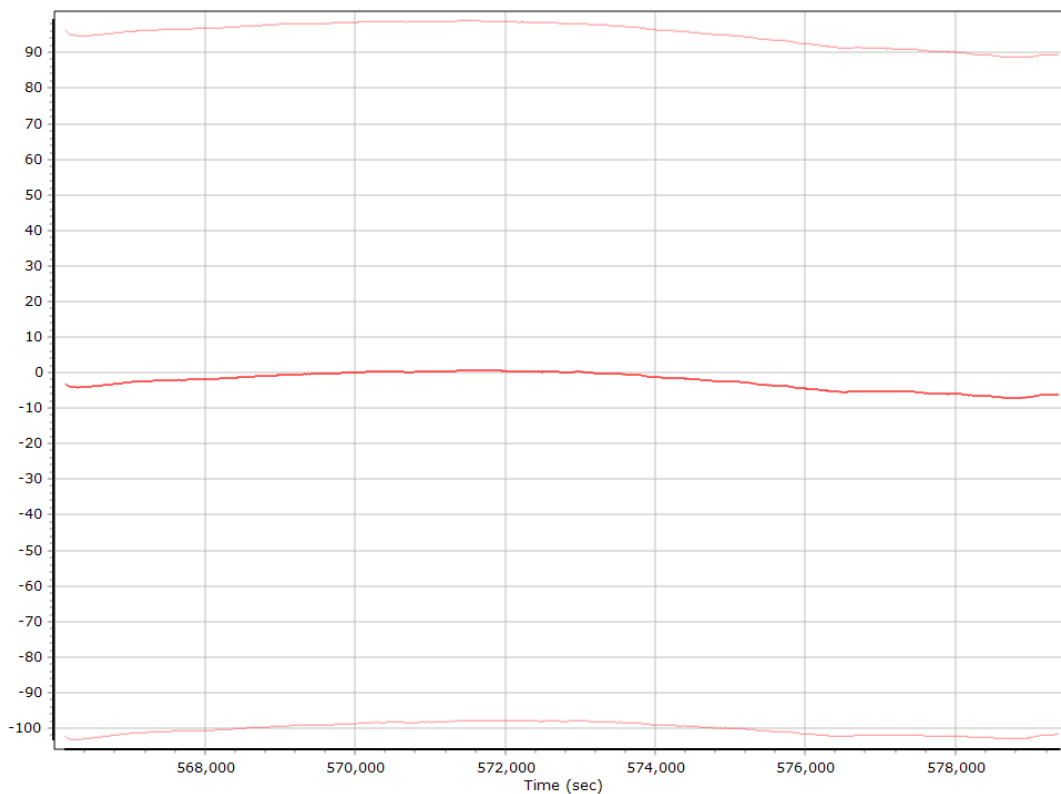
#### X Accelerometer Bias (micro-g)



### Y Accelerometer Bias (micro-g)



### Z Accelerometer Bias (micro-g)



### Accelerometer Scale Error (ppm)



### X Accelerometer Scale Error (ppm)

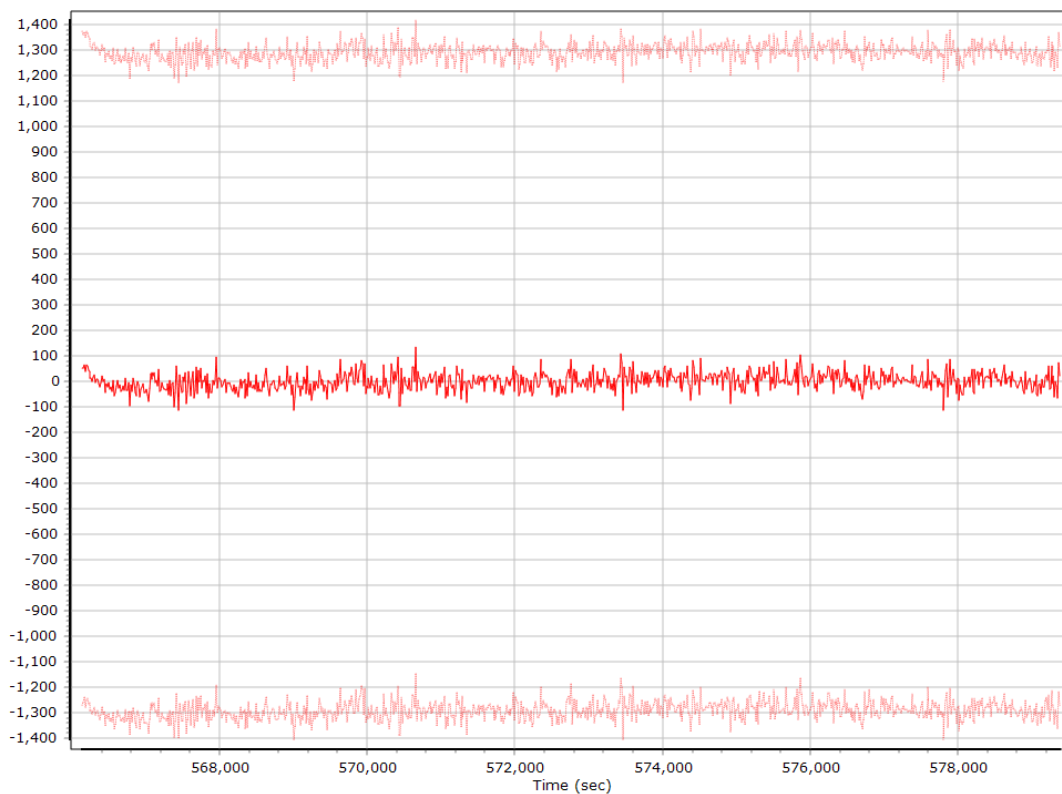




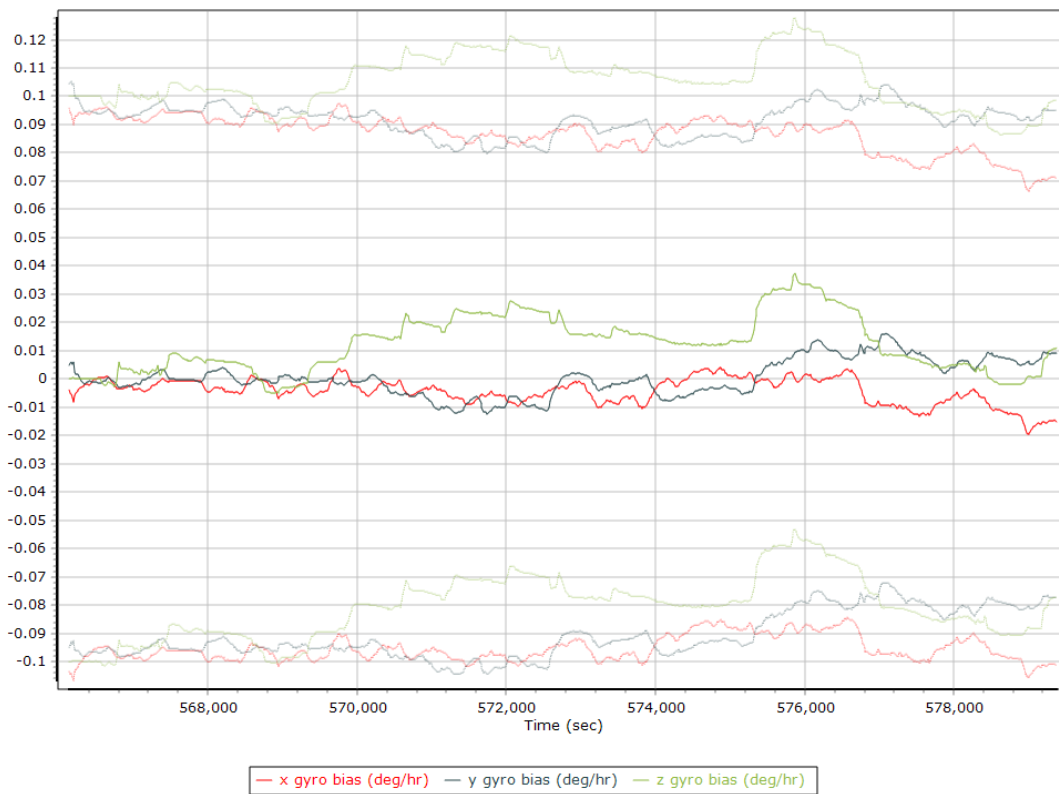
### Y Accelerometer Scale Error (ppm)



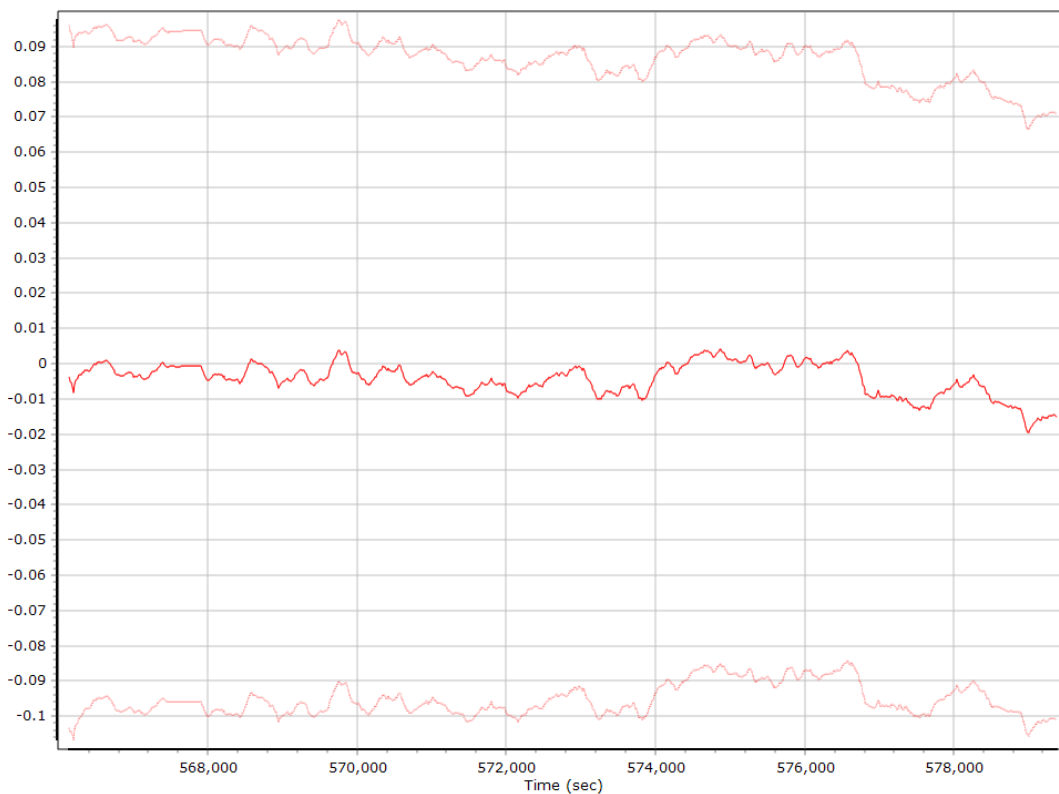
### Z Accelerometer Scale Error (ppm)



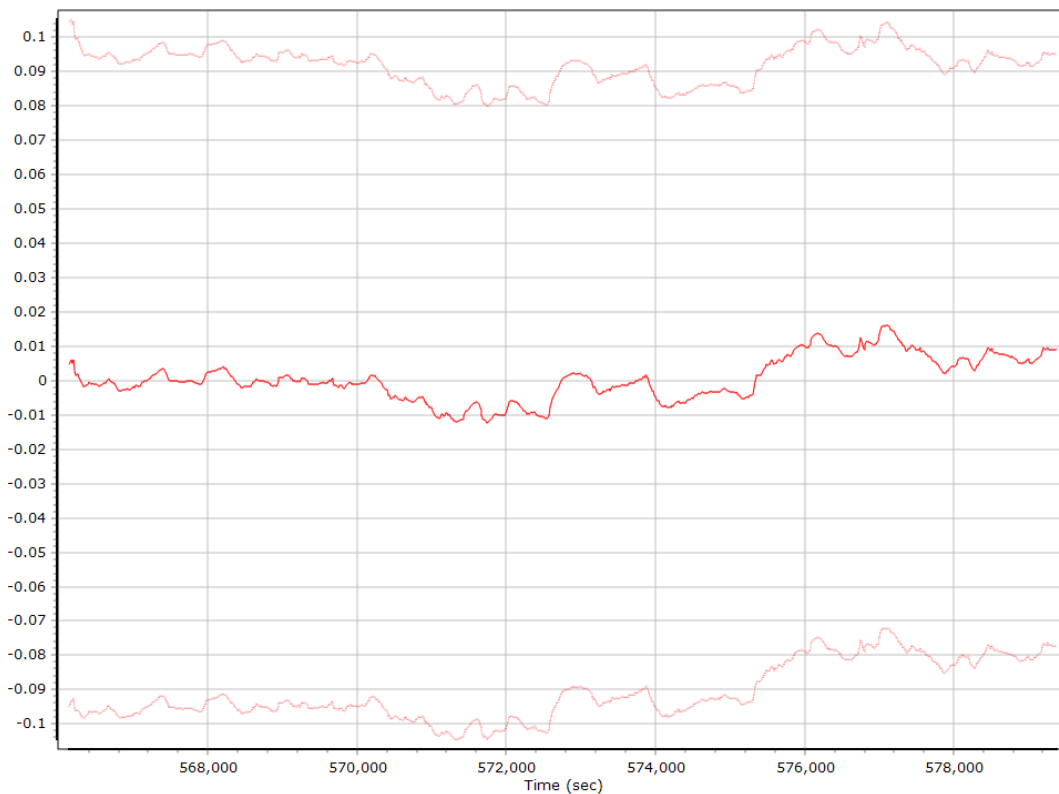
### Gyro Bias (deg/h)



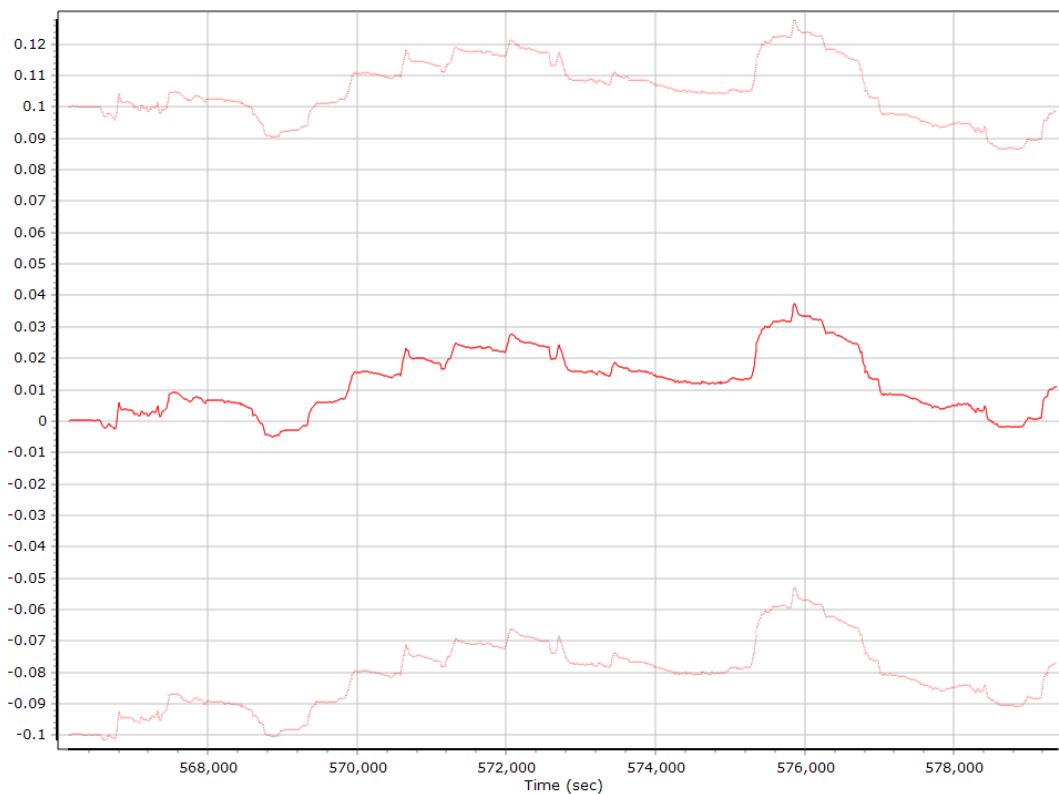
### X Gyro Bias (deg/h)



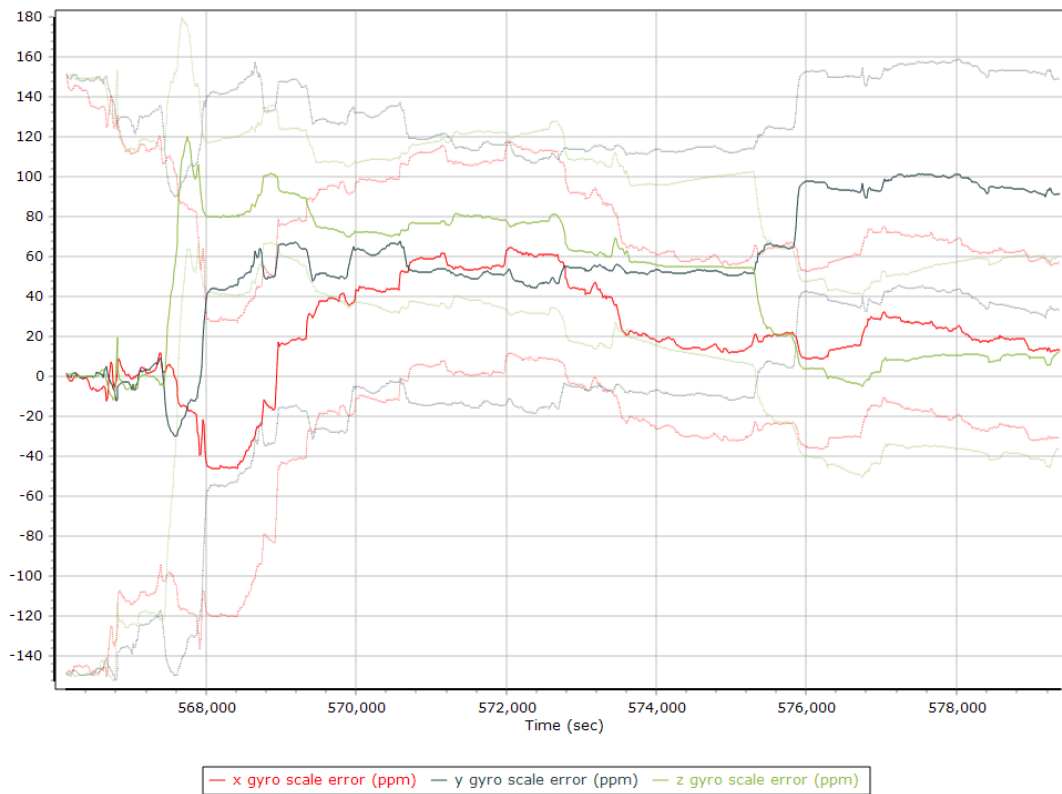
### Y Gyro Bias (deg/h)



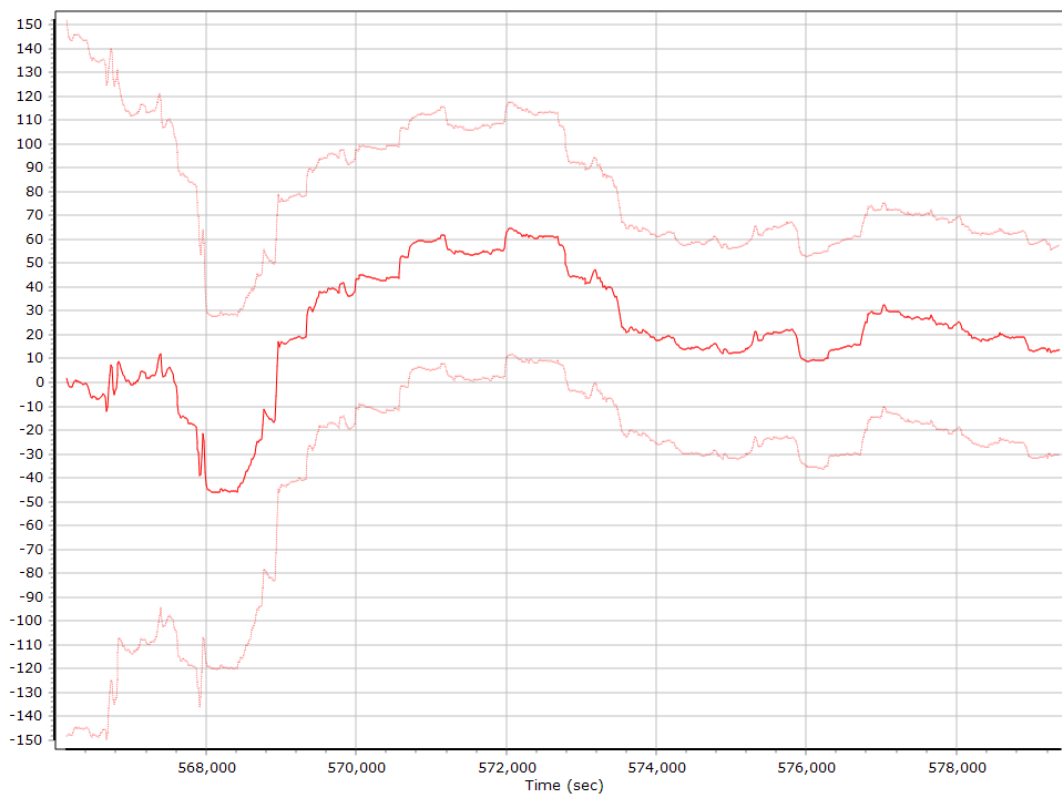
### Z Gyro Bias (deg/h)



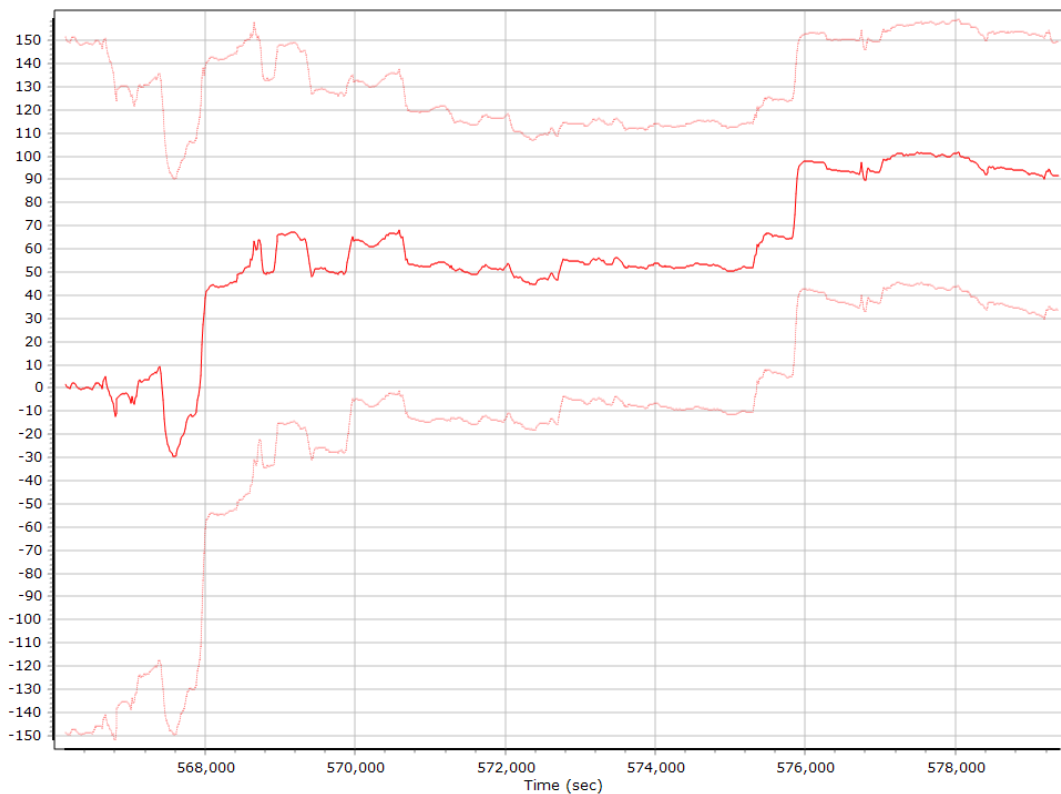
### Gyro Scale Error (ppm)



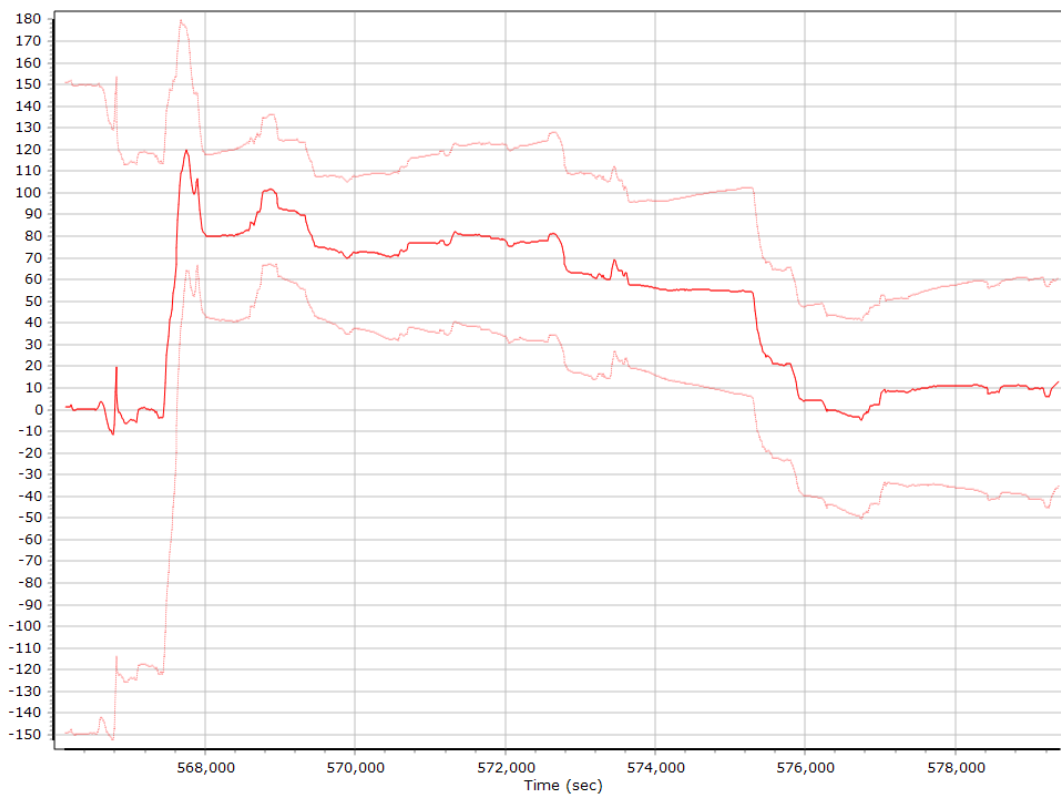
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

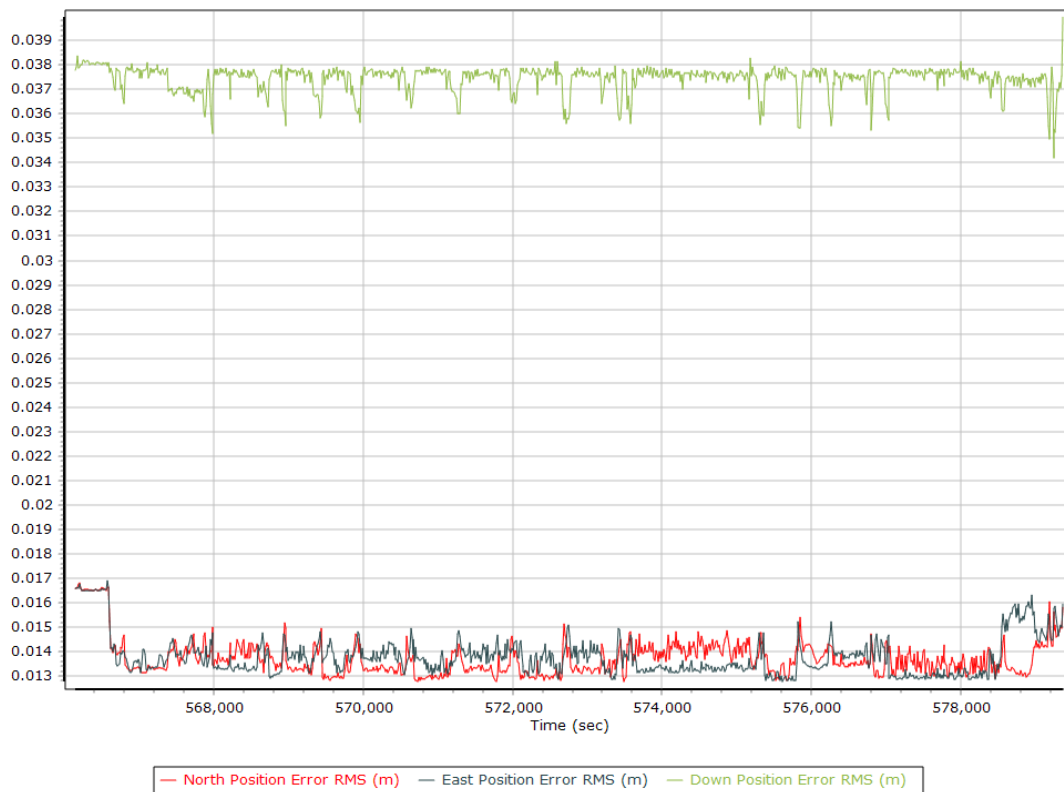


### Z Gyro Scale Error (ppm)

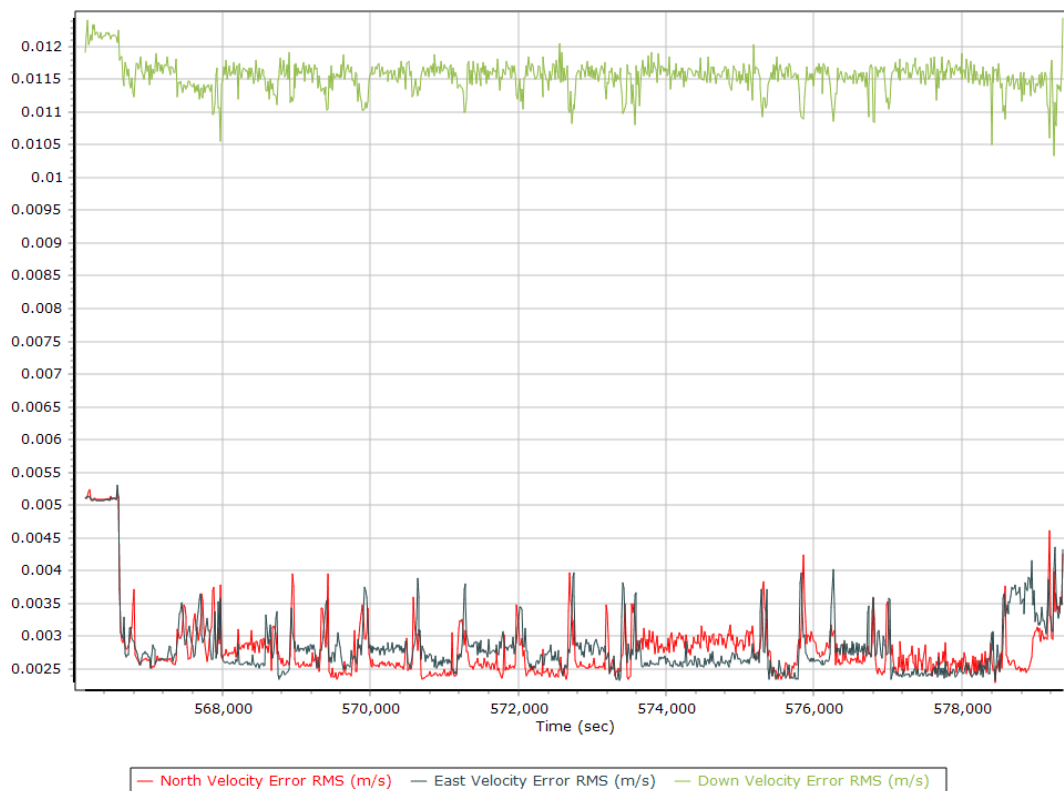


## Smoothed Performance Metrics

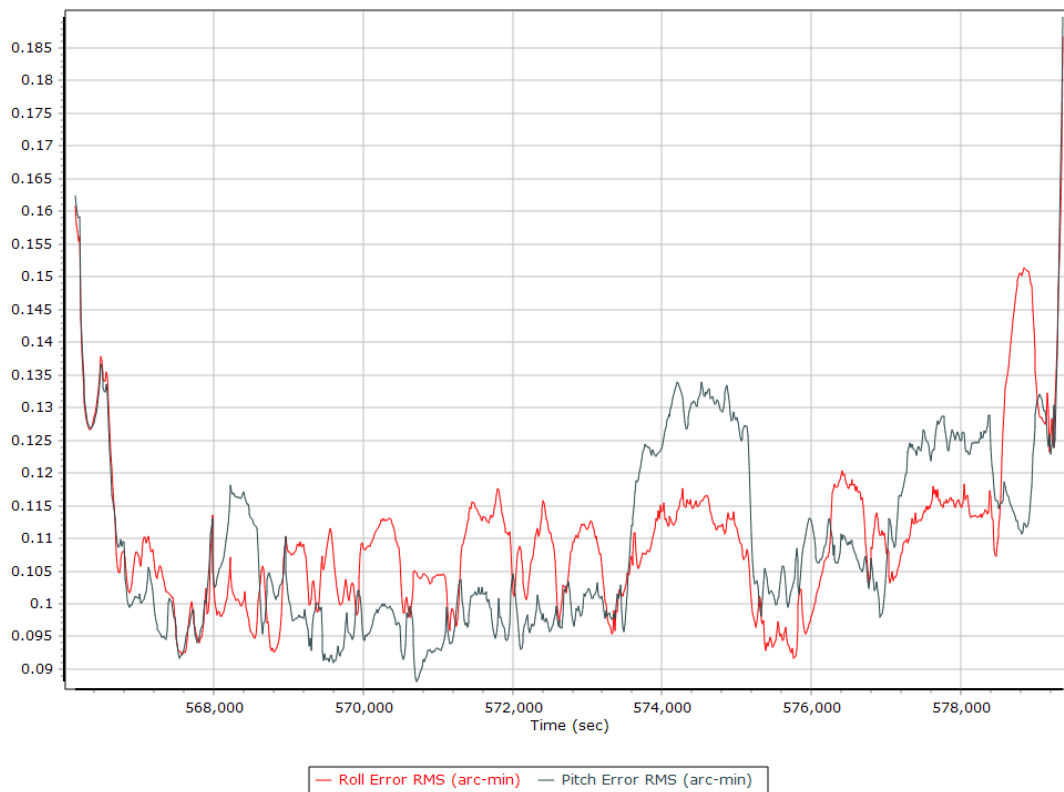
### Position Error RMS (m)



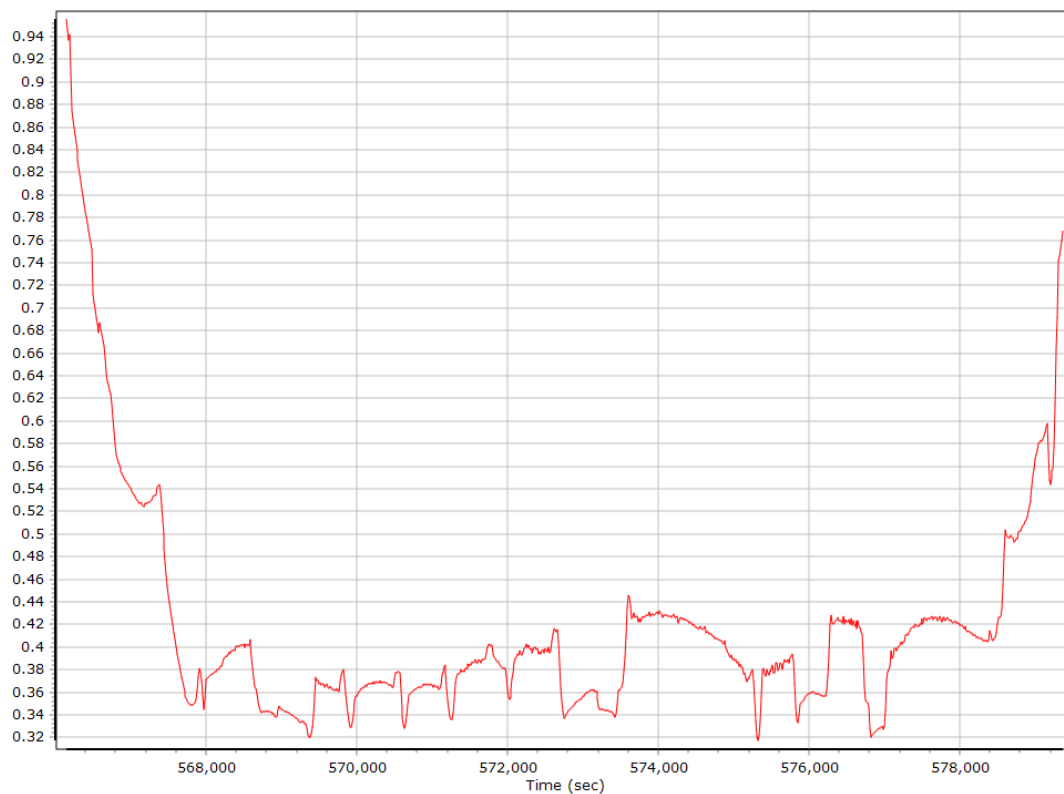
### Velocity Error RMS (m/s)



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

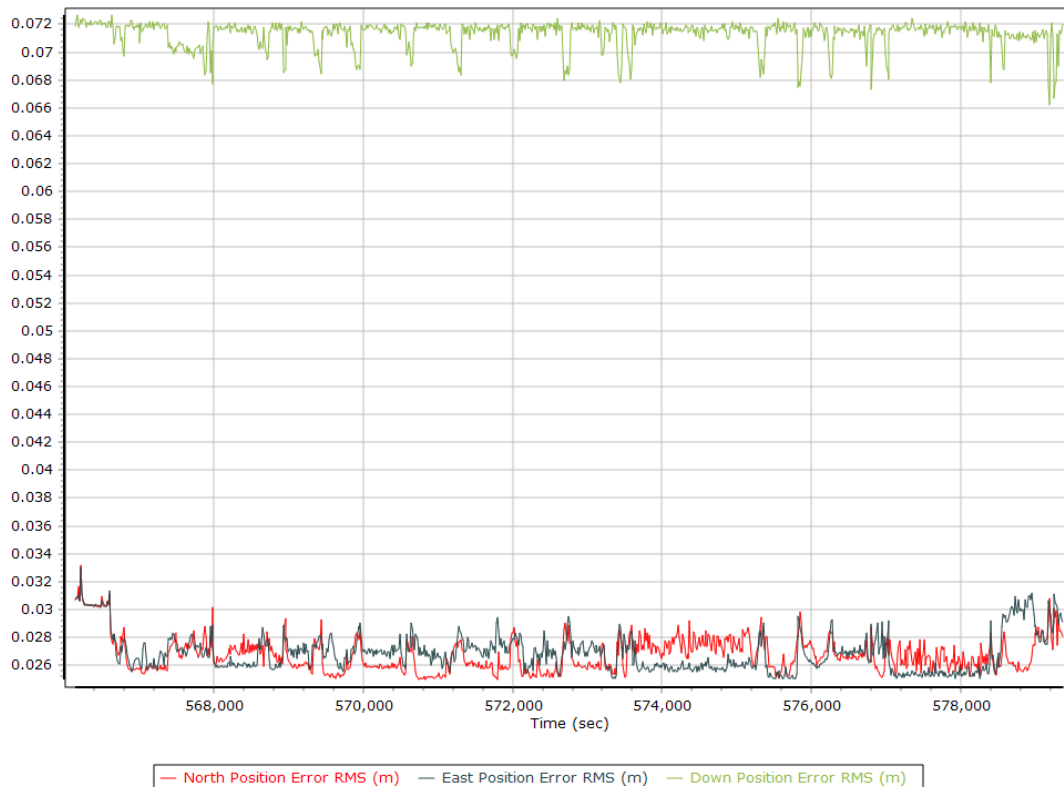


### Heading Error RMS (arc-min)

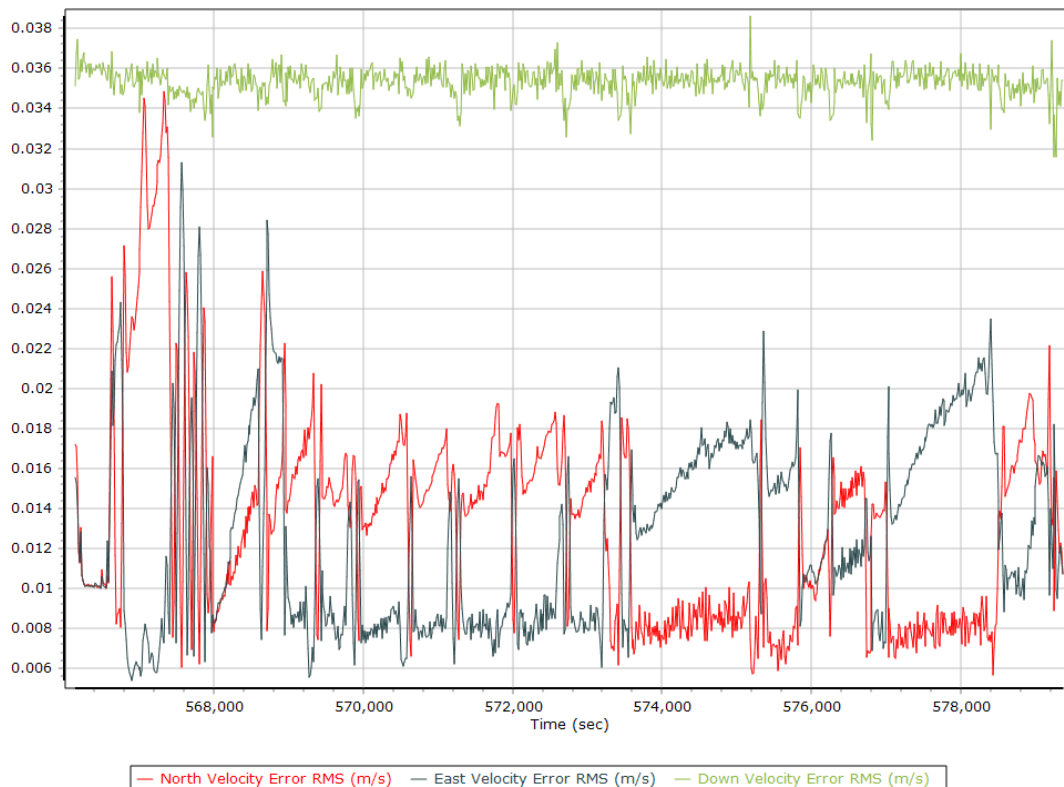


## Forward Processed Performance Metrics

### Position Error RMS (m)

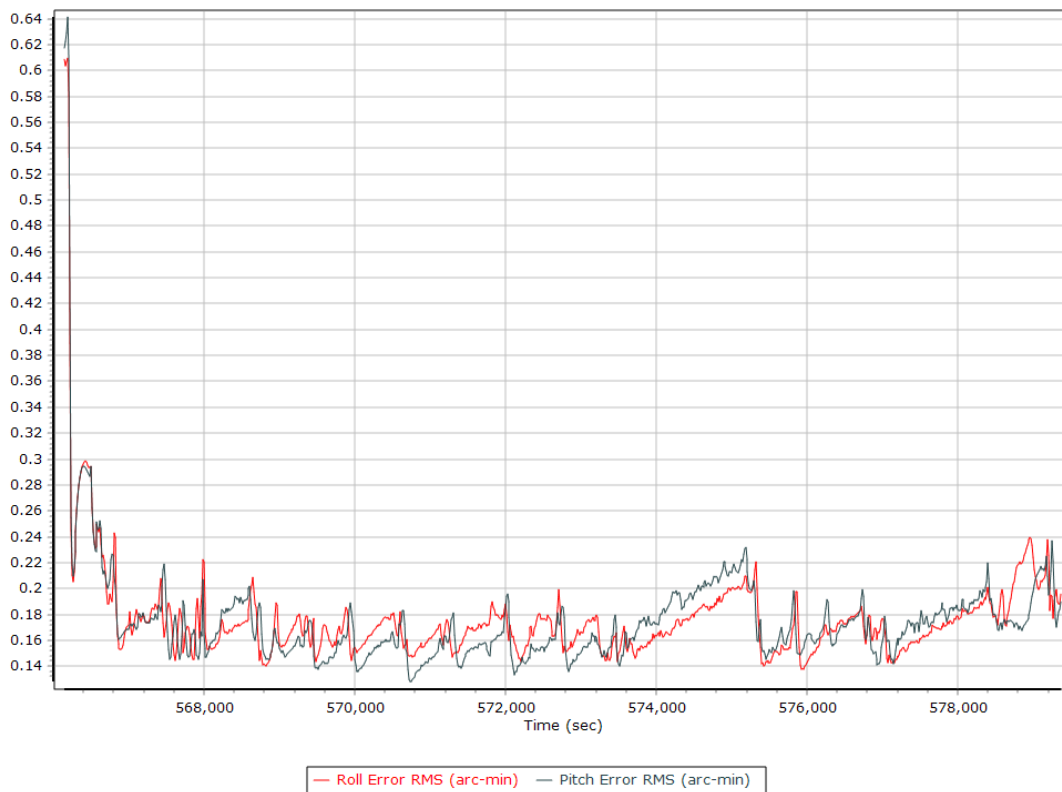


### Velocity Error RMS (m/s)

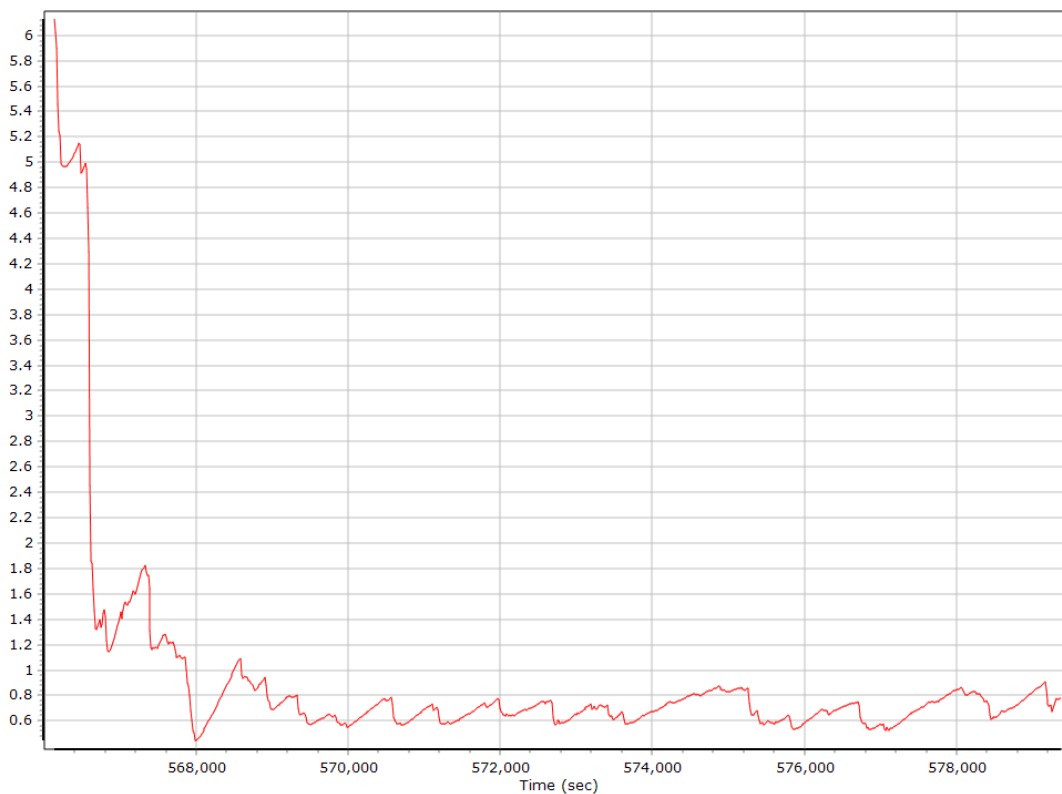




### Roll/Pitch Error RMS (arc-min)

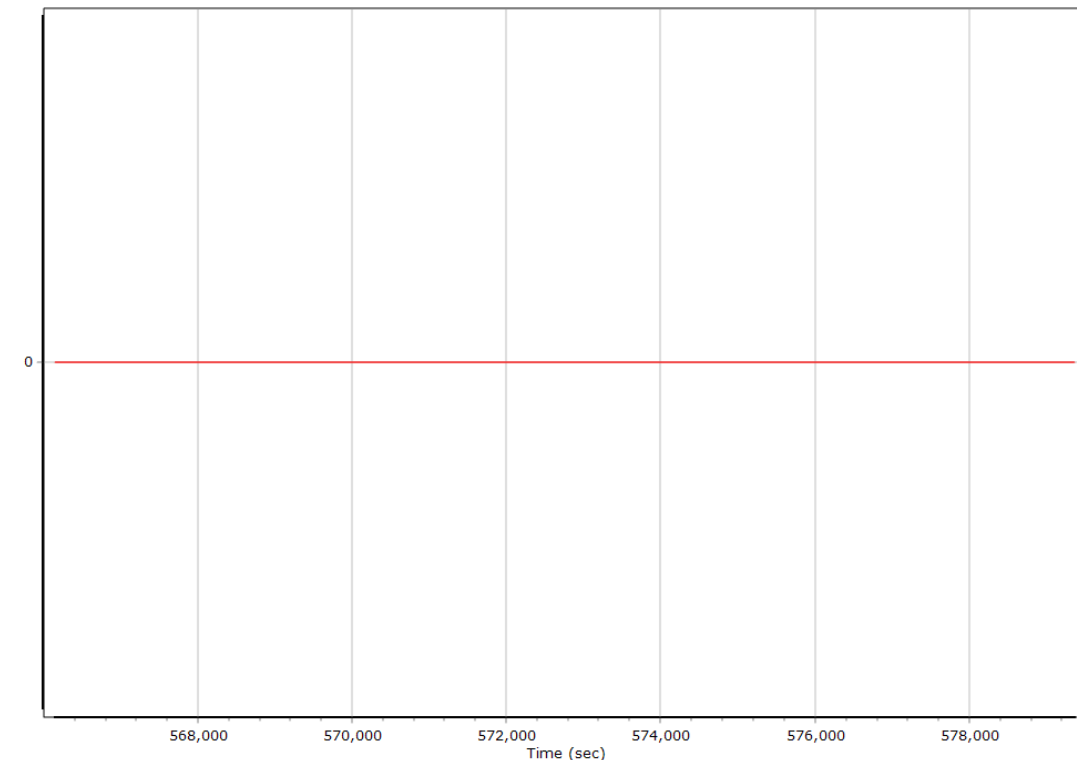


### Heading Error RMS (arc-min)



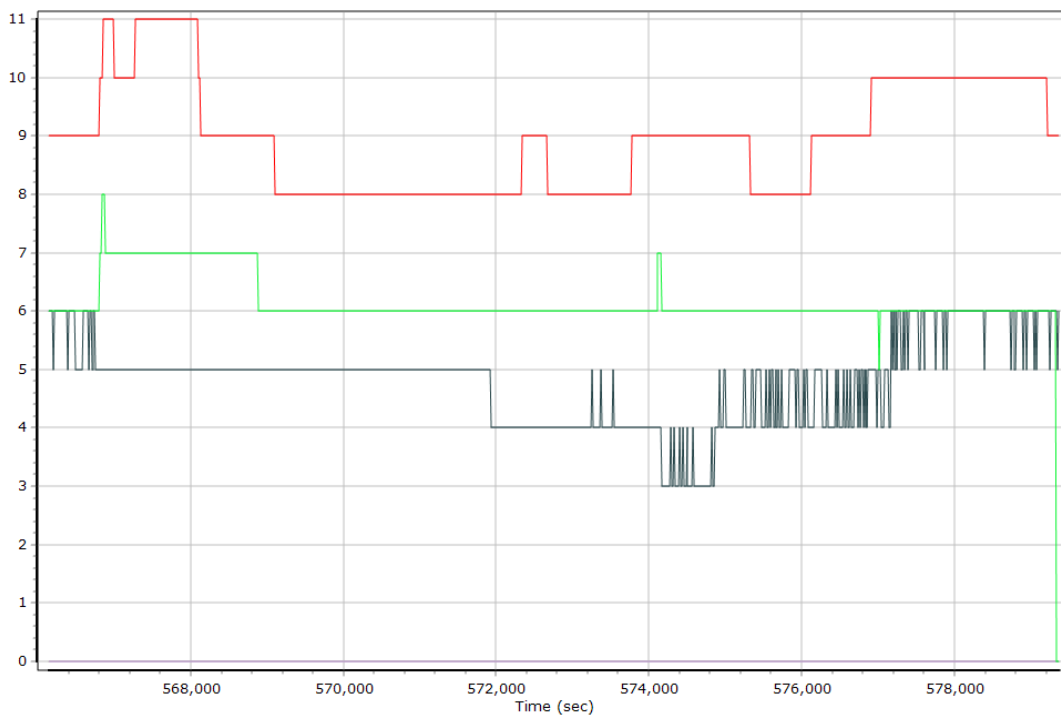
## Forward Processed Solution Status

### Processing Mode



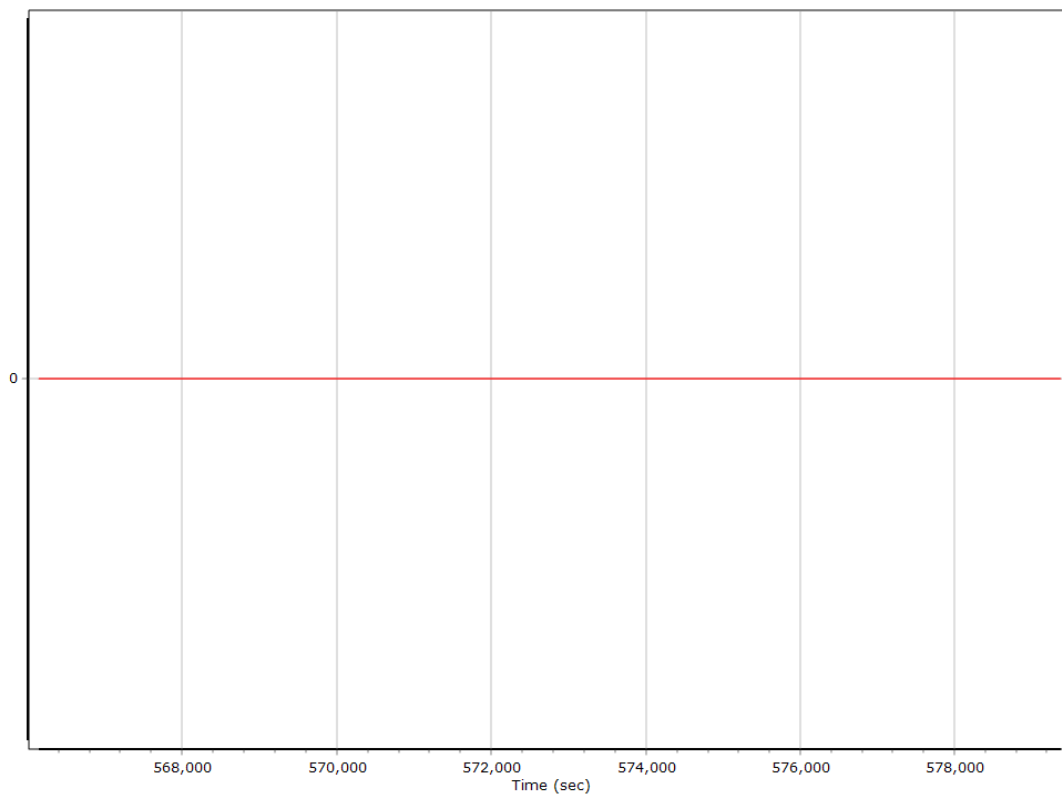
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

### Number of Satellites



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

## Baseline Length



## Export Summary

Export file	sbet_220709_A_5060492_nad2011_FINAL.shp		
Export format	Shapefile		
Solution in use	Post-processed		
Output rate	Specified Distance Interval		
Distance Interval (m)	10.000		
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	566083.003 (07/09/2022 13:14:43)		
Export end time	579377.005 (07/09/2022 16:56:17)		
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	2022.517808		