

## General Information

### Mission Information

Project name	211009_A_5060420_nad2011_FINAL
Processing date	2021-10-15 13:03:03
Mission date	2021-10-09 19:16:16
Mission duration	03:29:55.000
Processing mode	IN-Fusion PP-RTX

### Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9825
IMU type	57
Receiver type	BD982
Antenna type	AV39

## Project File List

### Rover Data Files

File name	File type
20211009.301	POS Data
20211009.302	POS Data
20211009.303	POS Data
20211009.304	POS Data
20211009.305	POS Data
20211009.306	POS Data
20211009.307	POS Data
20211009.308	POS Data
20211009.309	POS Data
20211009.310	POS Data
20211009.311	POS Data
20211009.312	POS Data
20211009.313	POS Data
20211009.314	POS Data
20211009.315	POS Data
20211009.316	POS Data
20211009.317	POS Data
20211009.318	POS Data
20211009.319	POS Data
20211009.320	POS Data
20211009.321	POS Data
20211009.322	POS Data
20211009.323	POS Data
20211009.324	POS Data
20211009.325	POS Data
20211009.326	POS Data
20211009.327	POS Data
20211009.328	POS Data

### Input Files

File Name	File Type
Ephm2820.21g	GLONASS Broadcast Ephemeris
Ephm2820.21n	GPS Broadcast Ephemeris

### Output Files

Filename	File type
sbet_211009_A_5060420_nad2011_FINAL.out	SBET Trajectory File

## Rover Data Summary

First raw data file	20211009.301		
Last raw data file	20211009.328		
Start GPS week	2178		
Start time	587775.459 (10/9/2021 7:16:15 PM)		
End time	600371.395 (10/9/2021 10:46:11 PM)		
Start of fine alignment	588724.880 (10/9/2021 7:32:04 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)	0.000	0.000	0.000
Reference to IMU mounting angles (deg)	0.000	0.000	90.000
Reference to Primary GNSS lever arm (m)	-0.497	-0.045	-1.199
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

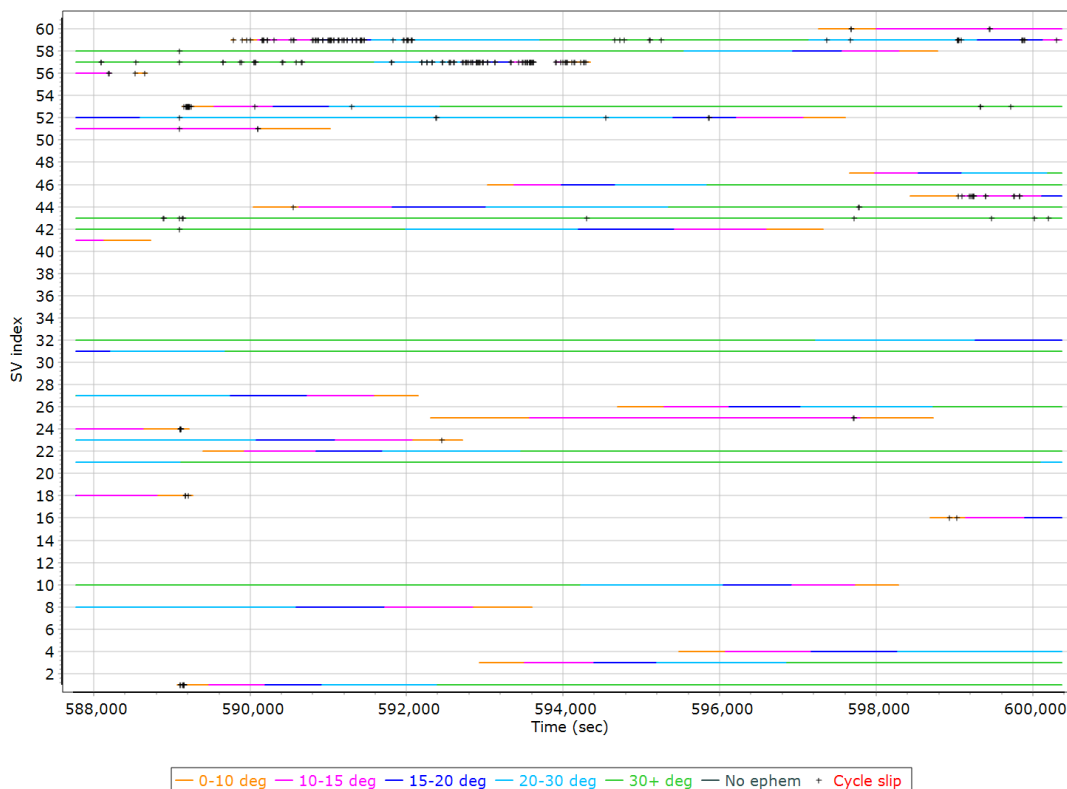
## Rover Data QC

### Raw IMU Import QC Summary

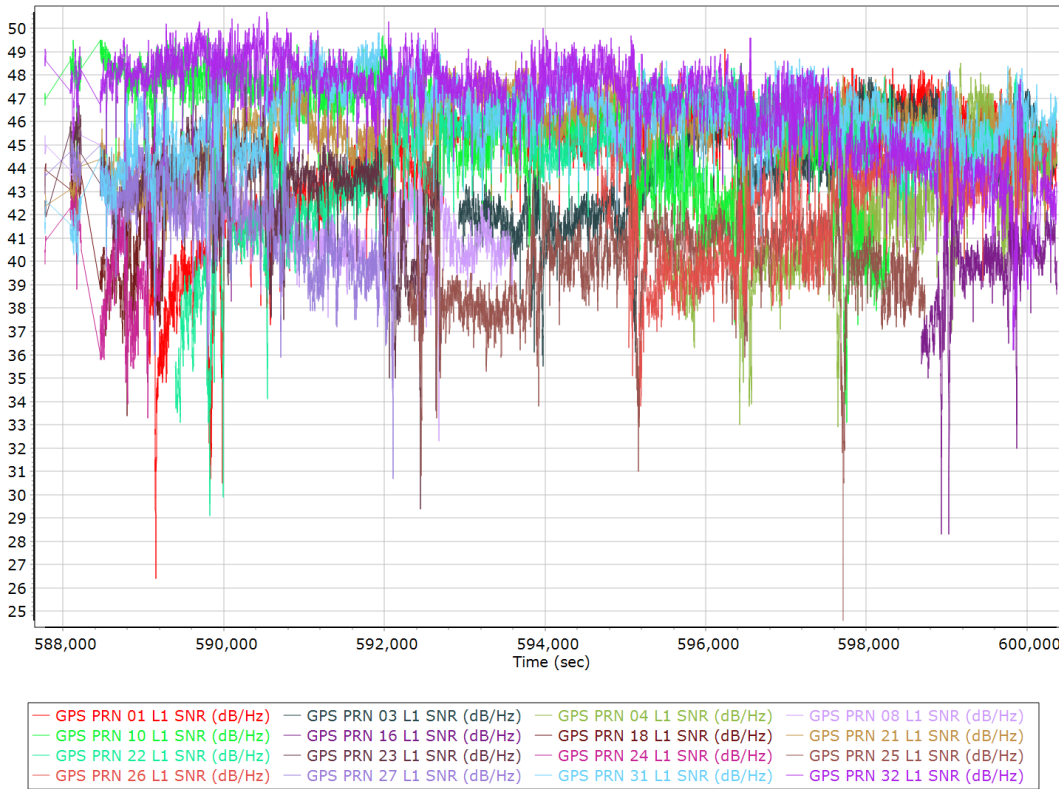
IMU data input file	imu_211009_A_5060420_nad2011_FINAL.dat
IMU data check log file	imudt_211009_A_5060420_nad2011_FINAL.log
IMU Records Processed	2409766
Termination Status	Warnings
IMU Anomalies	2
<b>IMU Failure Messages</b>	
588461.371 : WARNING : Gap of 236.7529 seconds in CHECKDT input data	
588090.356 : WARNING : Gap of 307.9350 seconds in CHECKDT input data	

## Primary Observables & Satellite Data

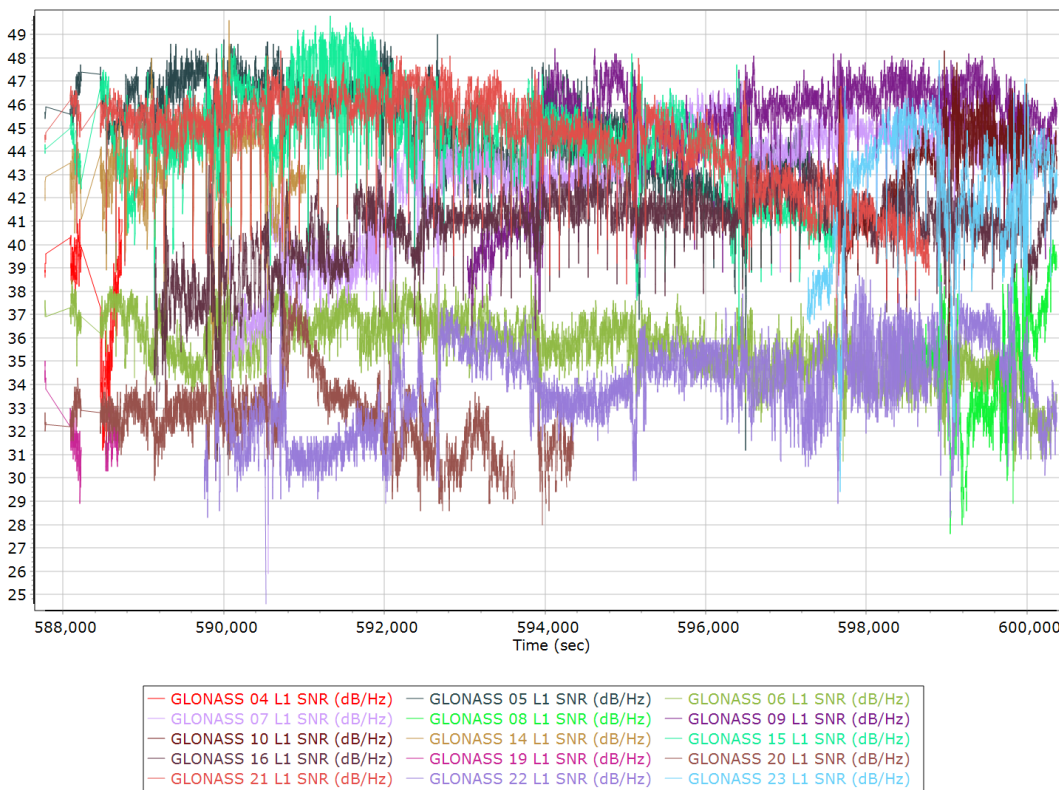
### GPS/GLONASS L1 Satellite Lock/Elevation



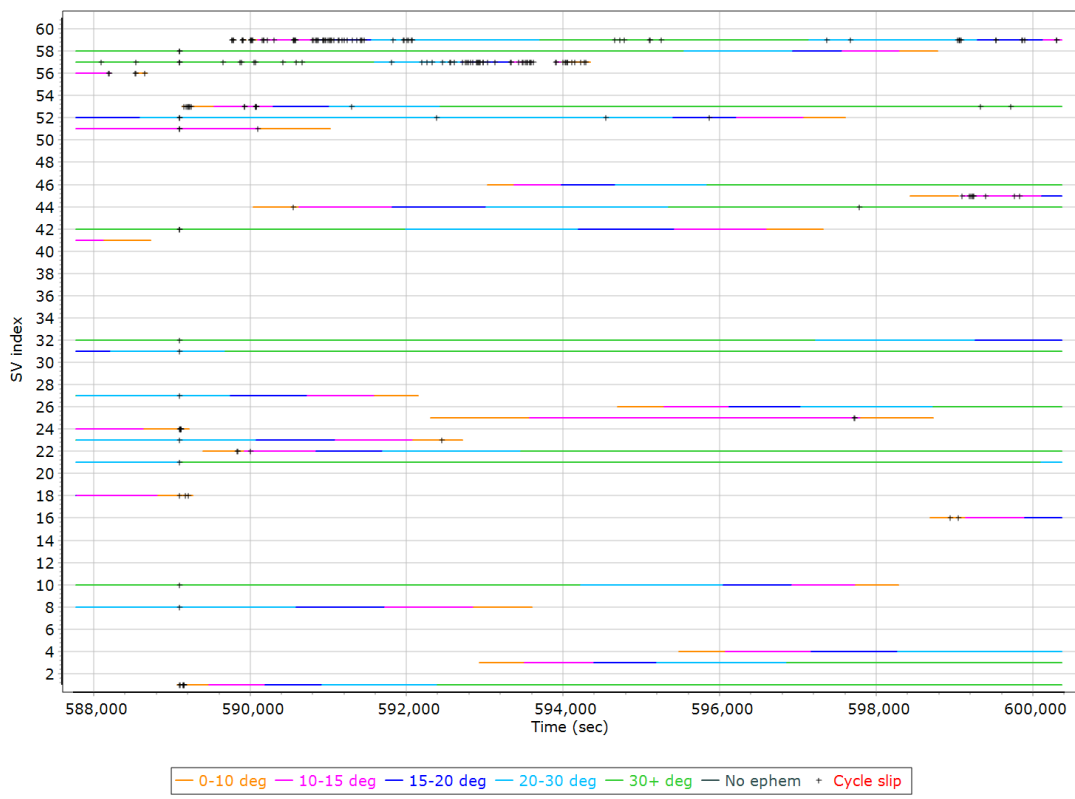
### GPS L1 SNR



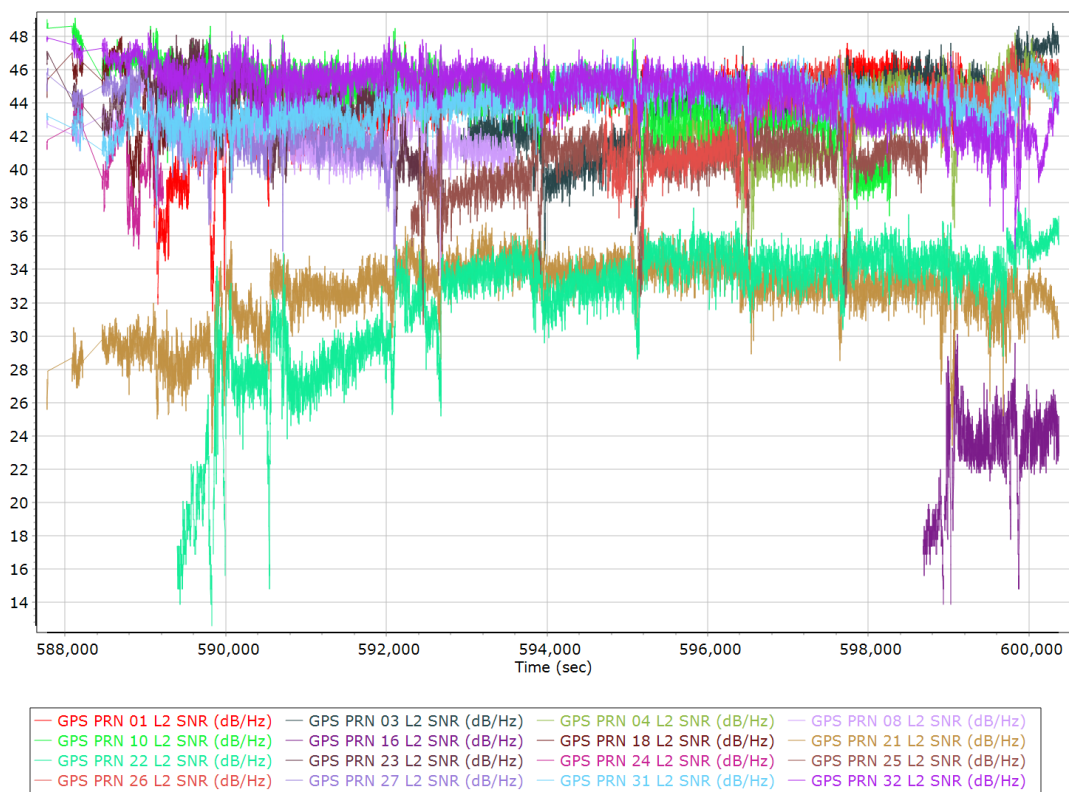
### GLONASS L1 SNR



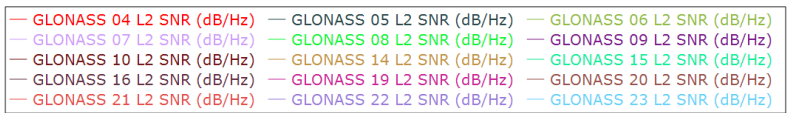
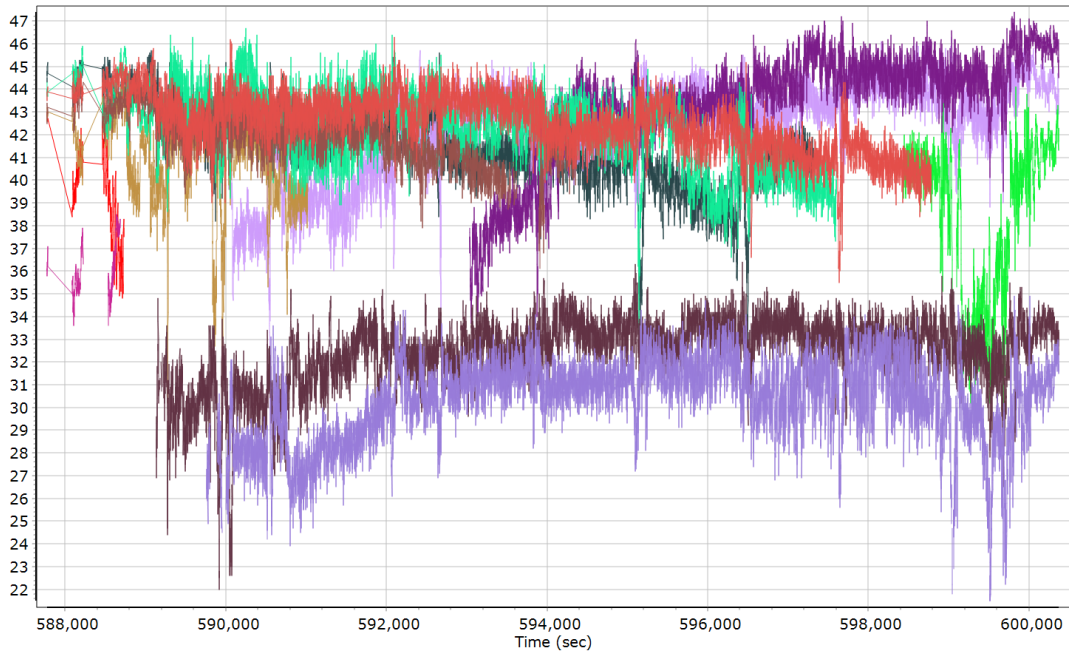
### GPS/GLONASS L2 Satellite Lock/Elevation



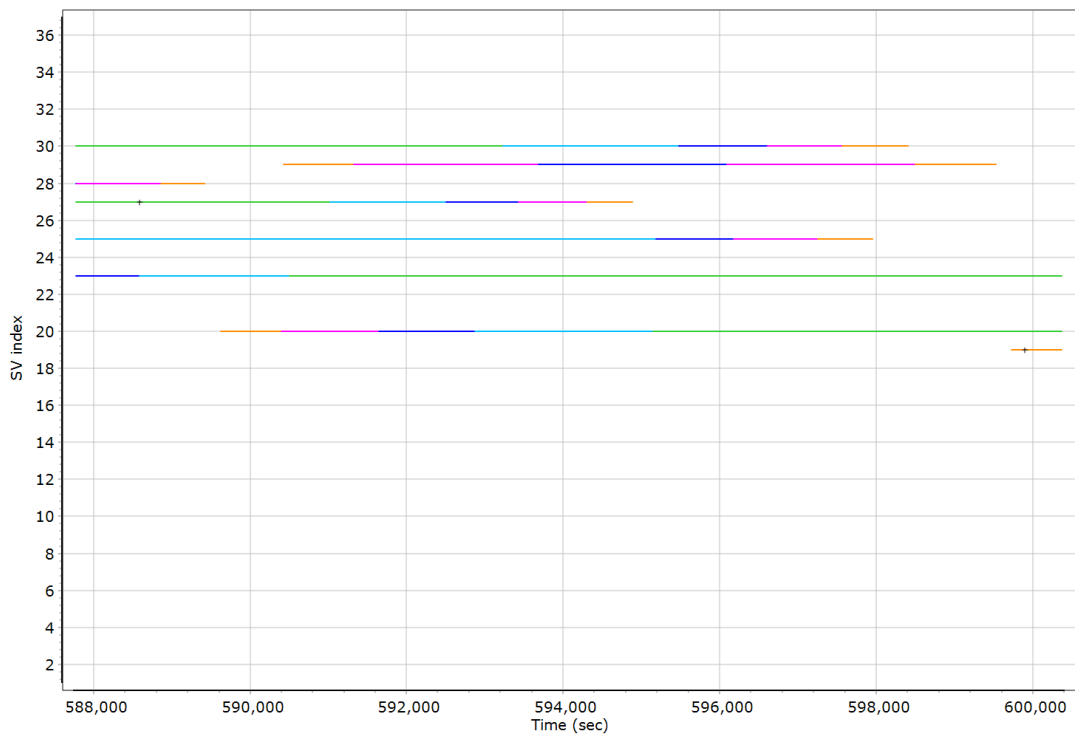
### GPS L2 SNR



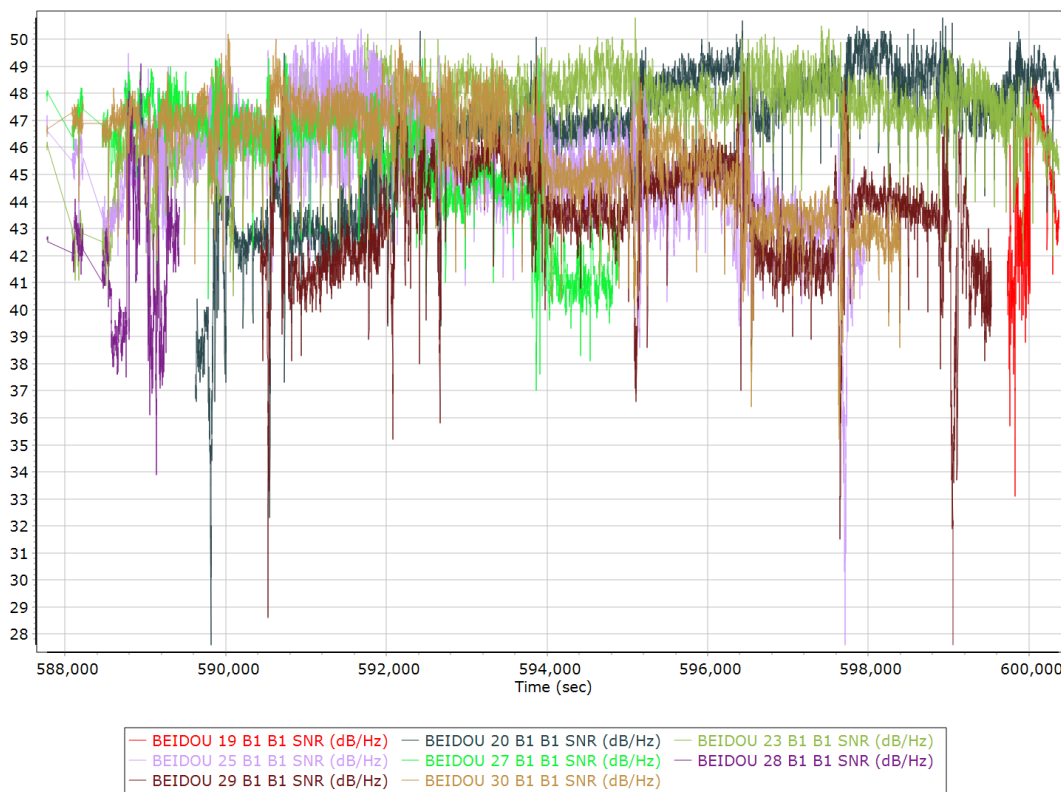
### GLONASS L2 SNR



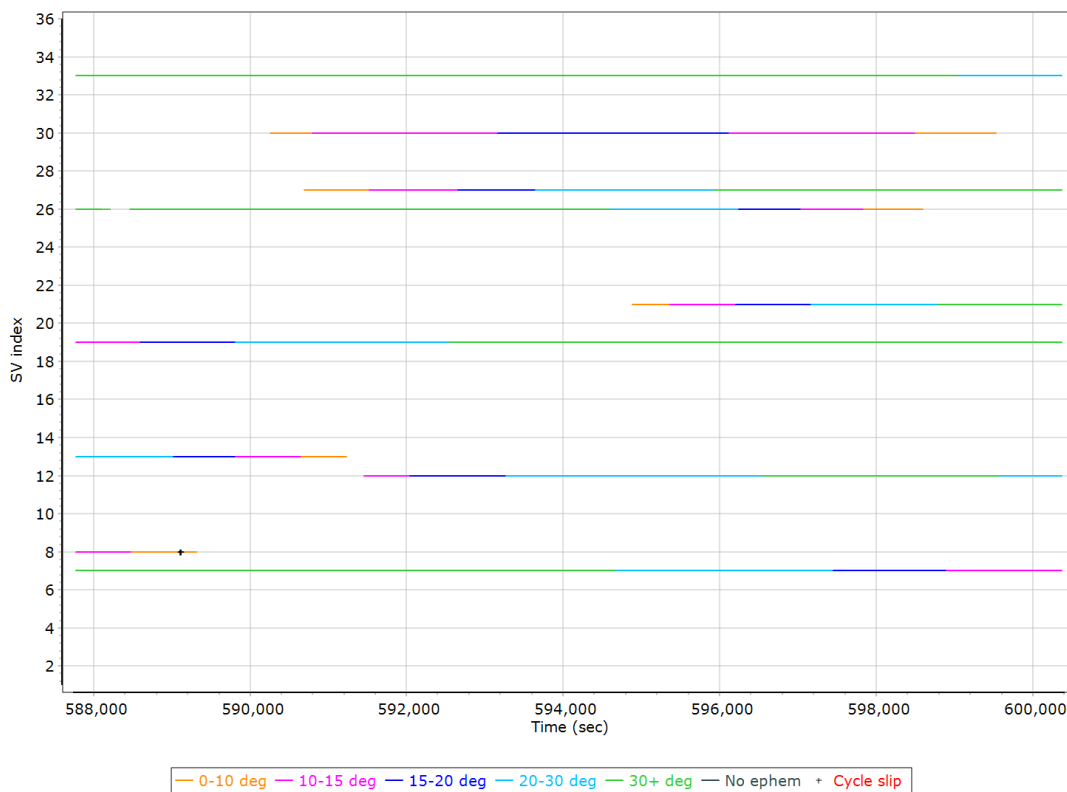
### BEIDOU Satellite Lock/Elevation



### BEIDOU SNR

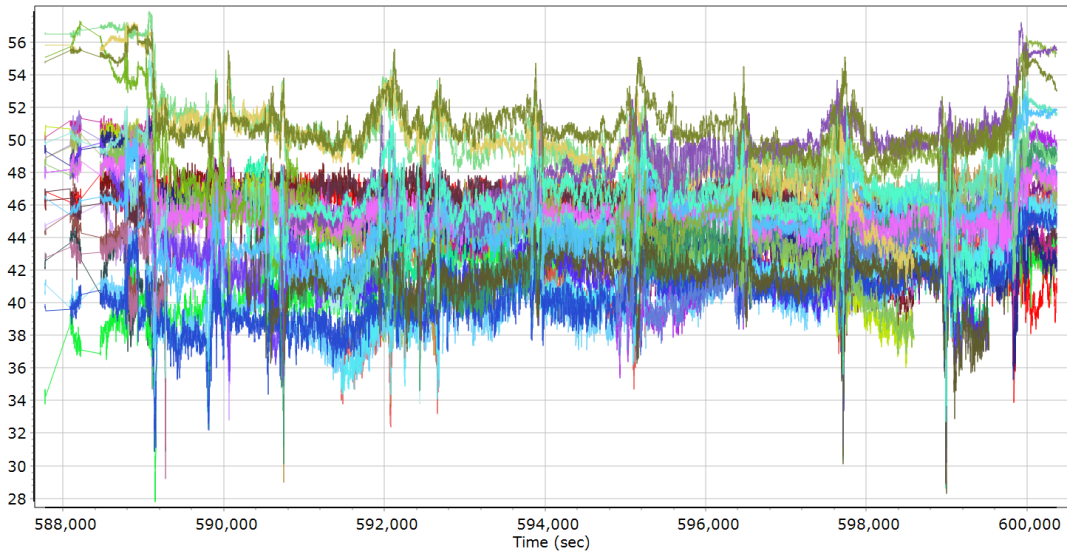


### GALILEO Satellite Lock/Elevation





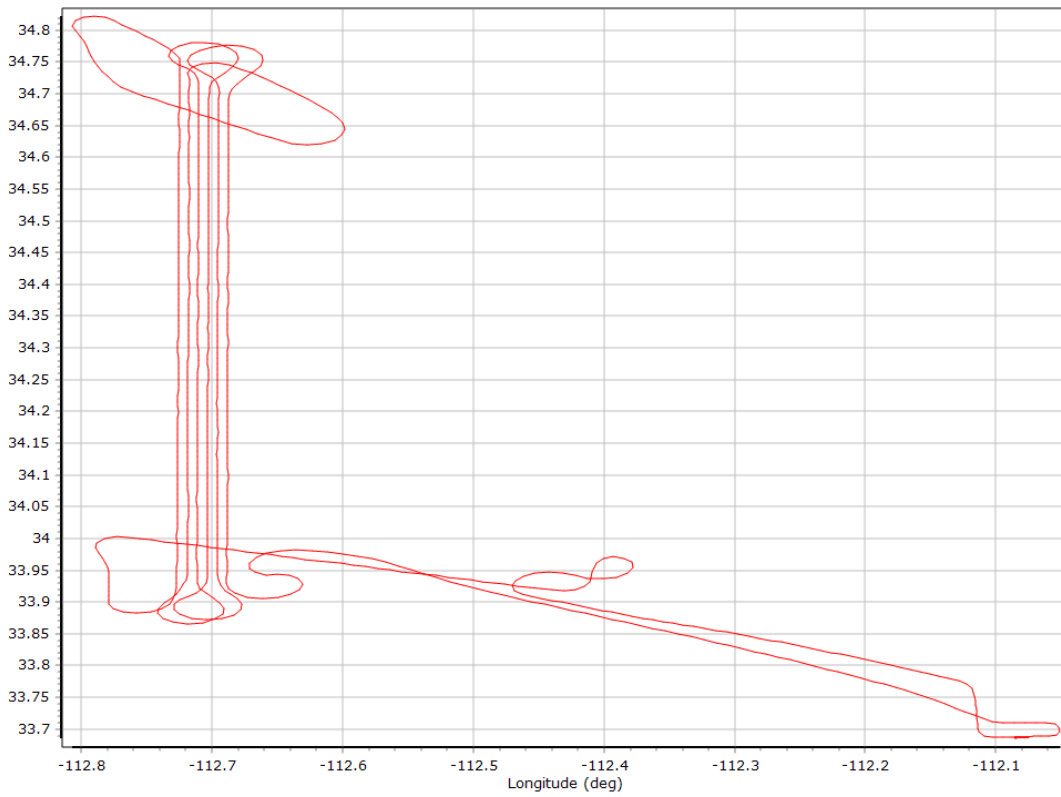
## GALILEO SNR



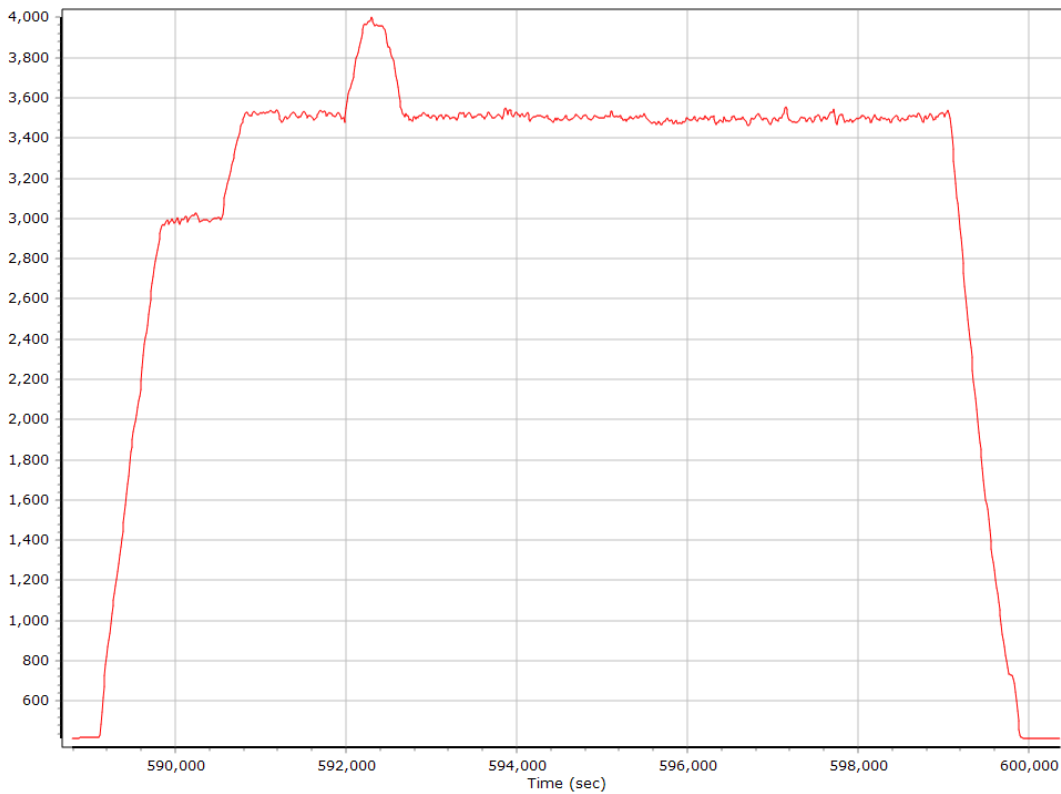
— GALILEO 07 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 08 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 12 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 13 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 19 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 21 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 26 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 27 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 30 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 33 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 07 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 12 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 19 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 21 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 26 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 27 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 30 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 33 L5E5A BPSK10_PD SNR (dB/Hz)

## Smoothed Trajectory Information

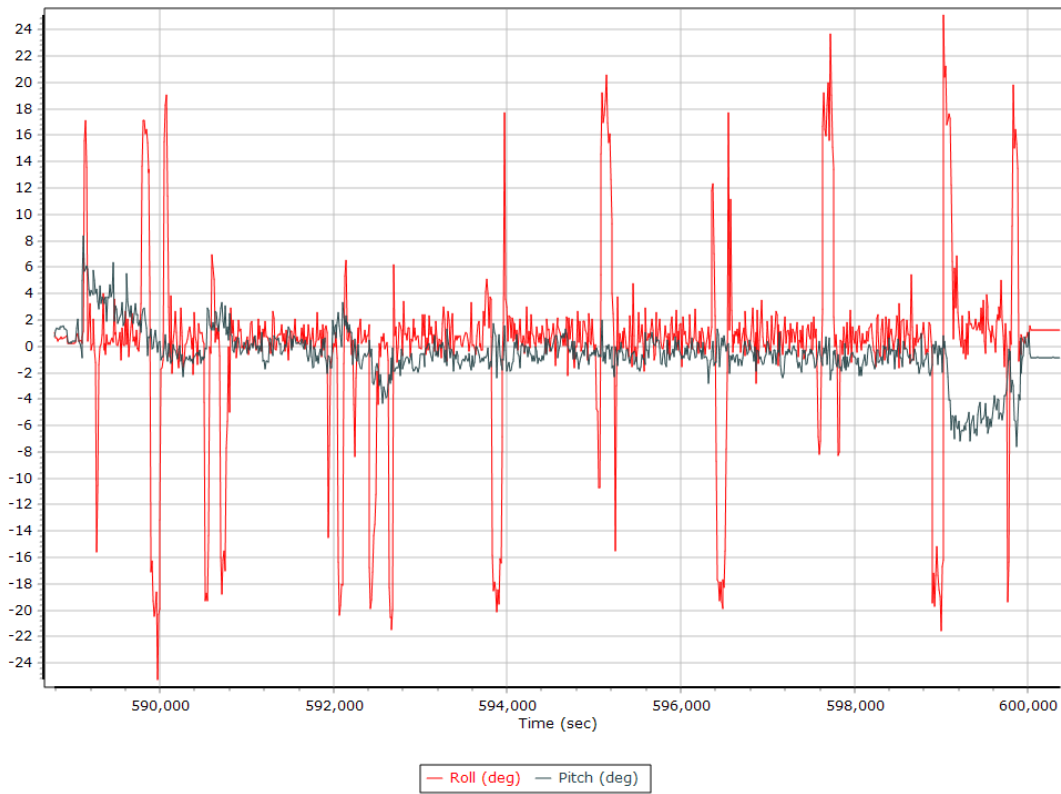
### Top View



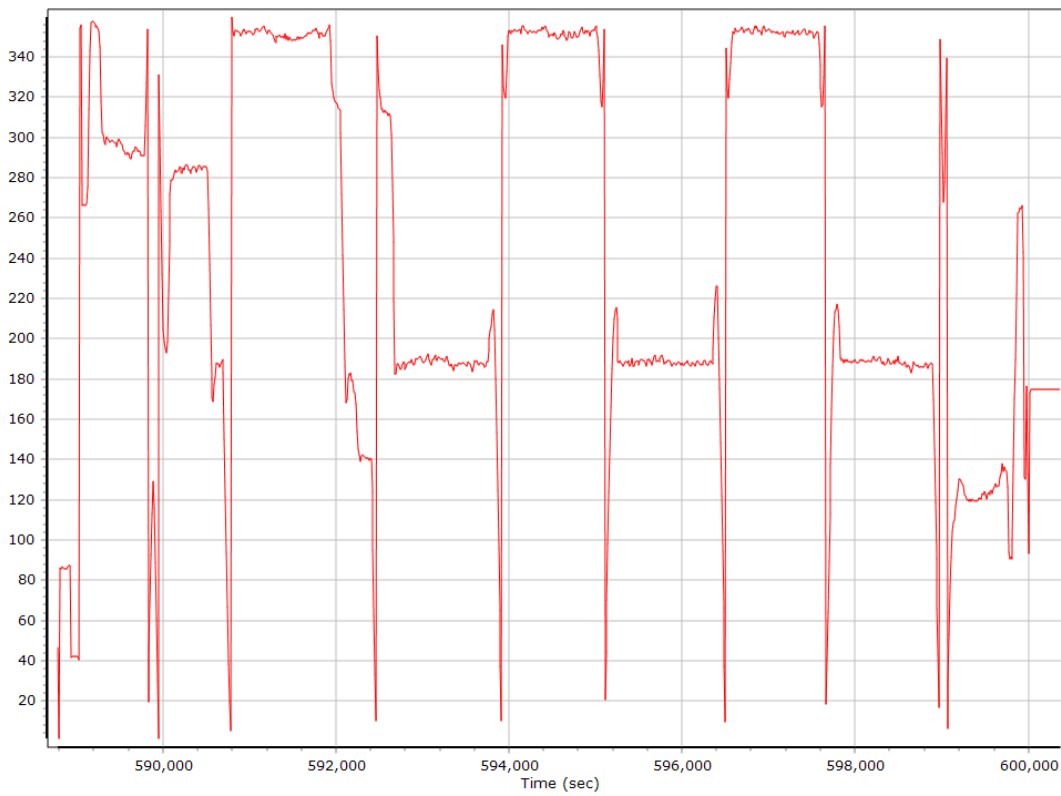
### Altitude



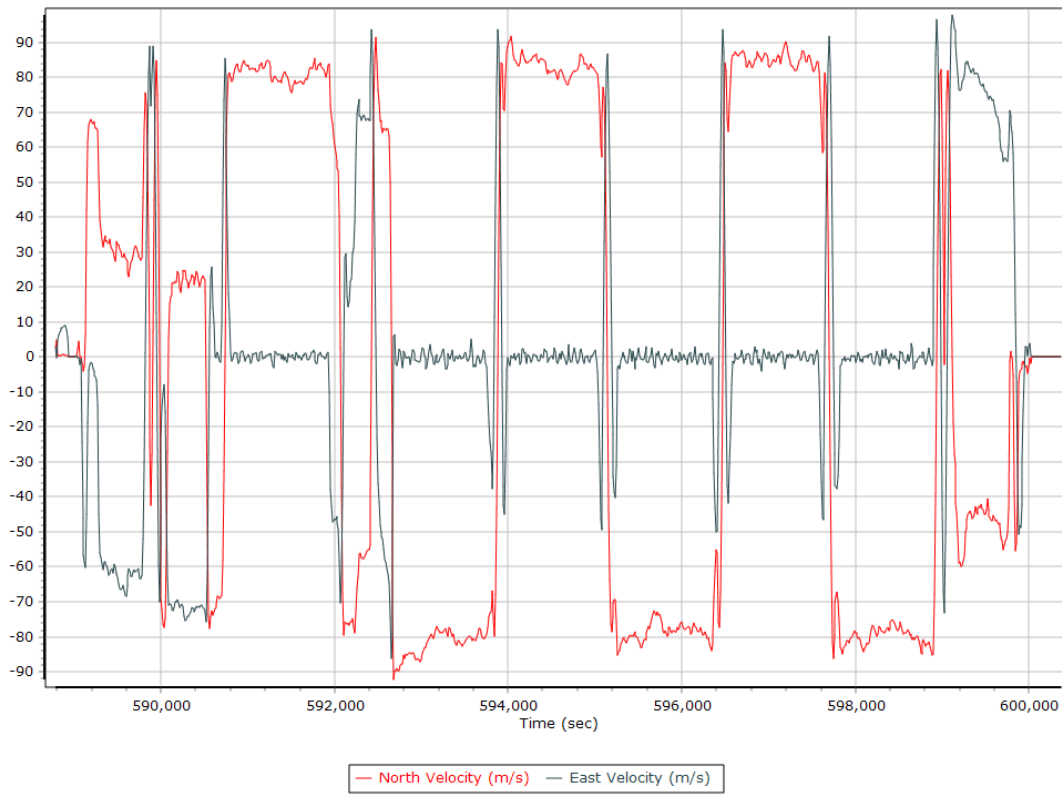
## Roll/Pitch



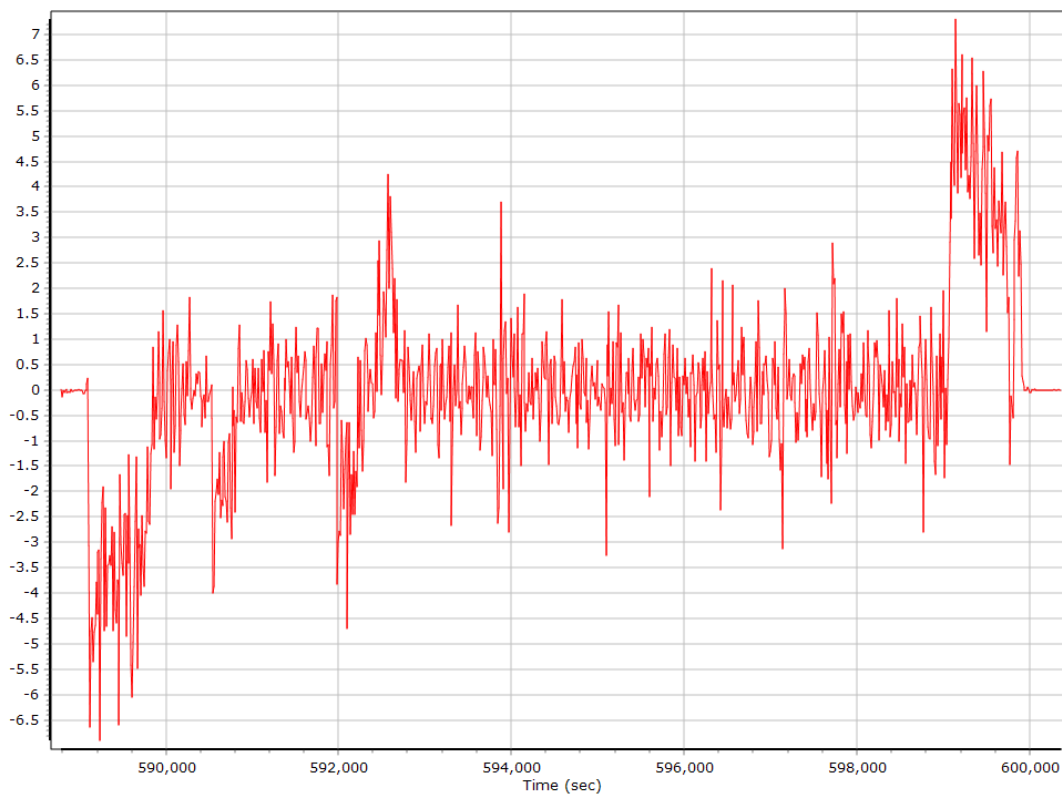
## Heading



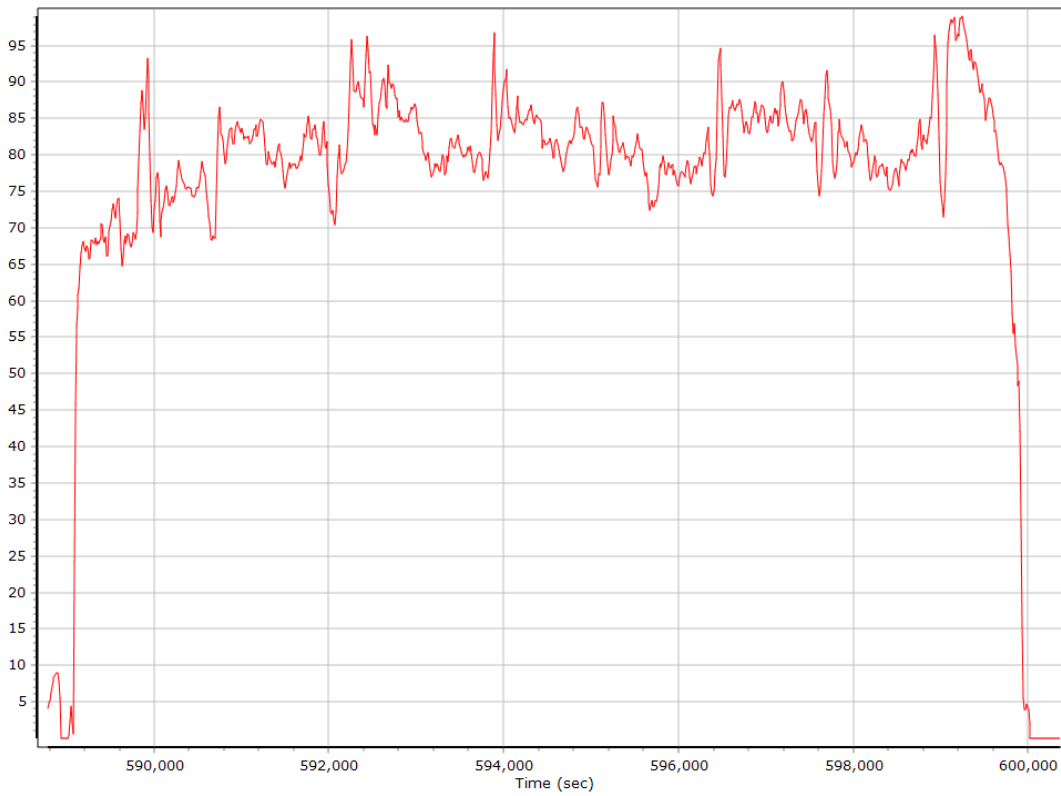
## North/East Velocity



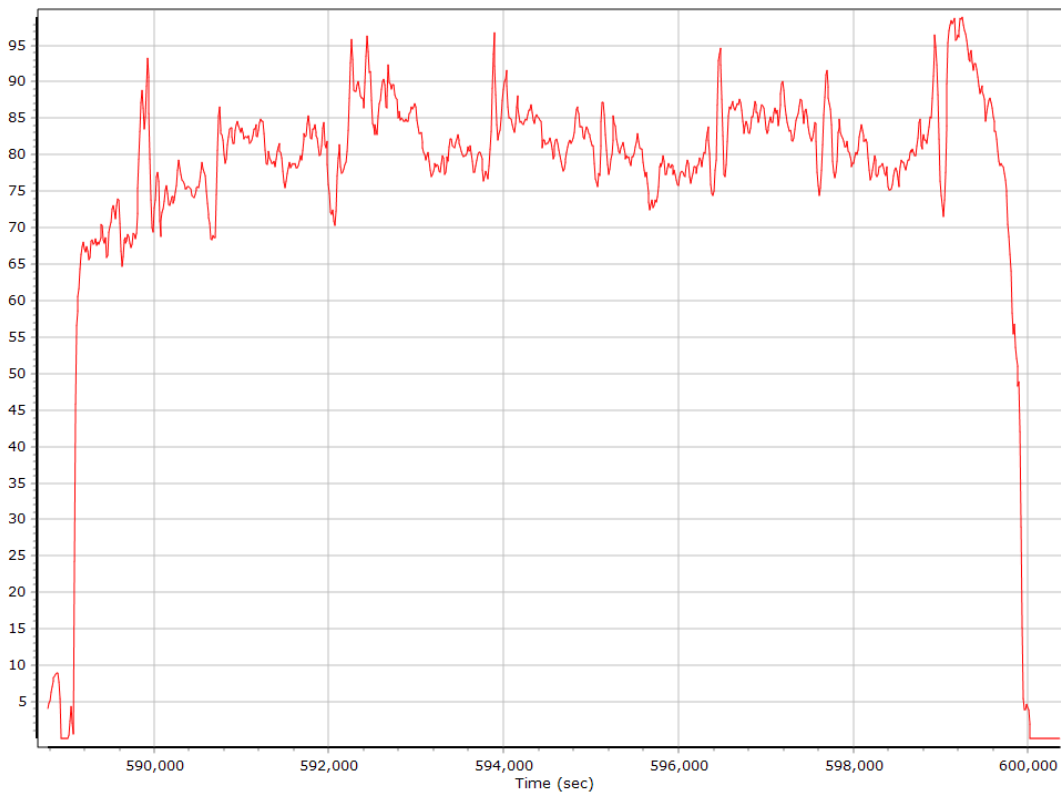
## Down Velocity



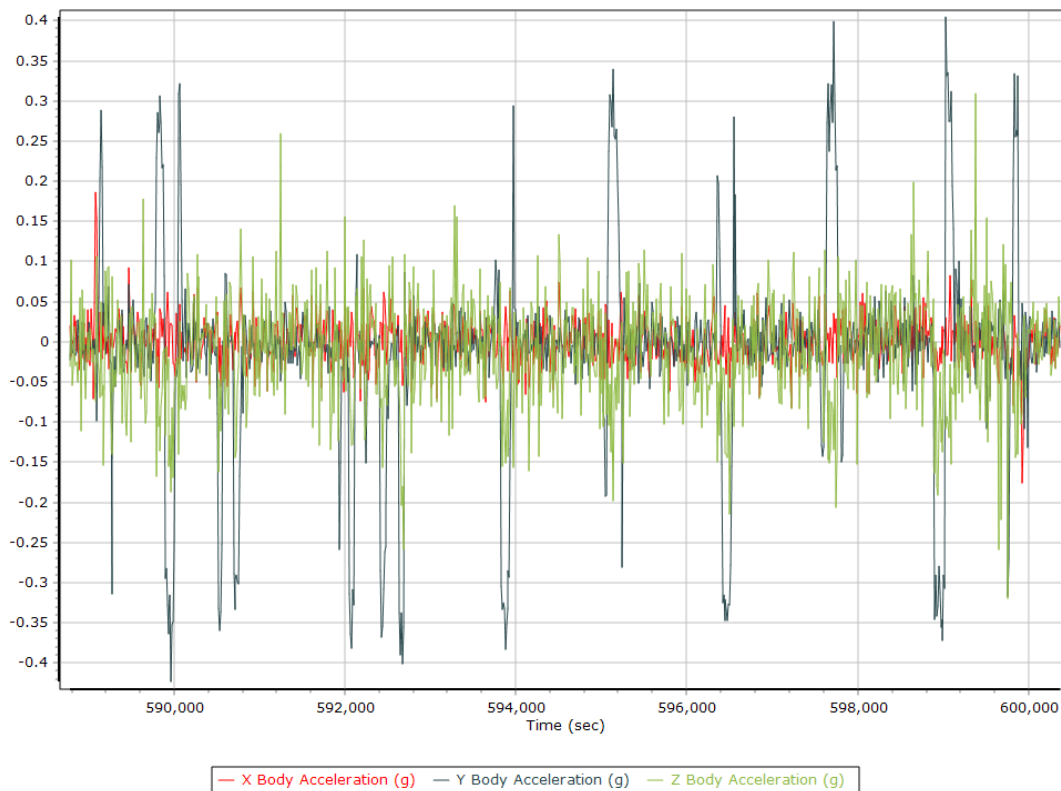
## Total Speed



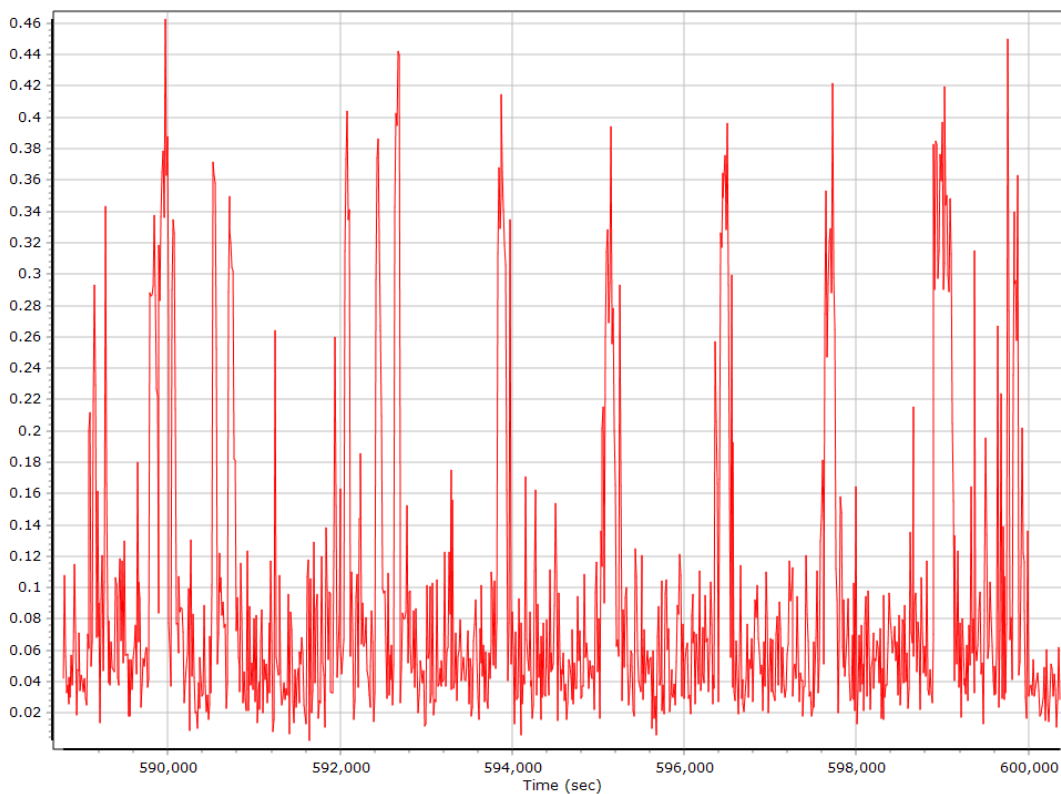
## Ground Speed



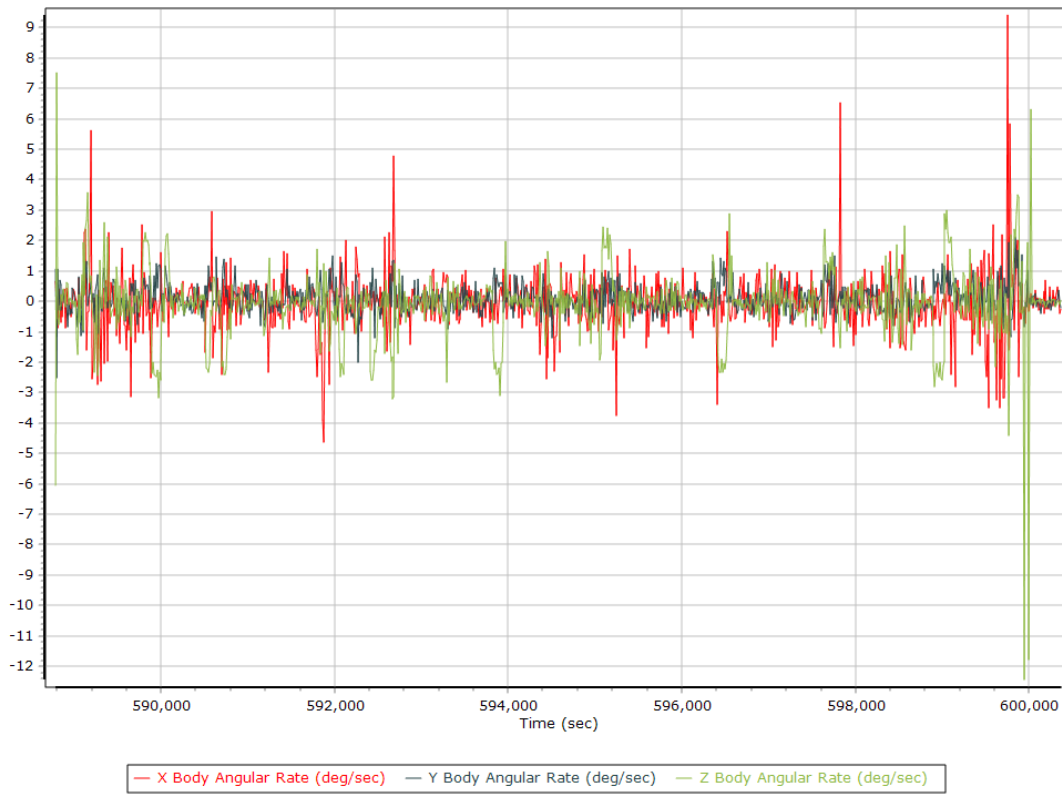
## Body Acceleration



## Total Body Acceleration

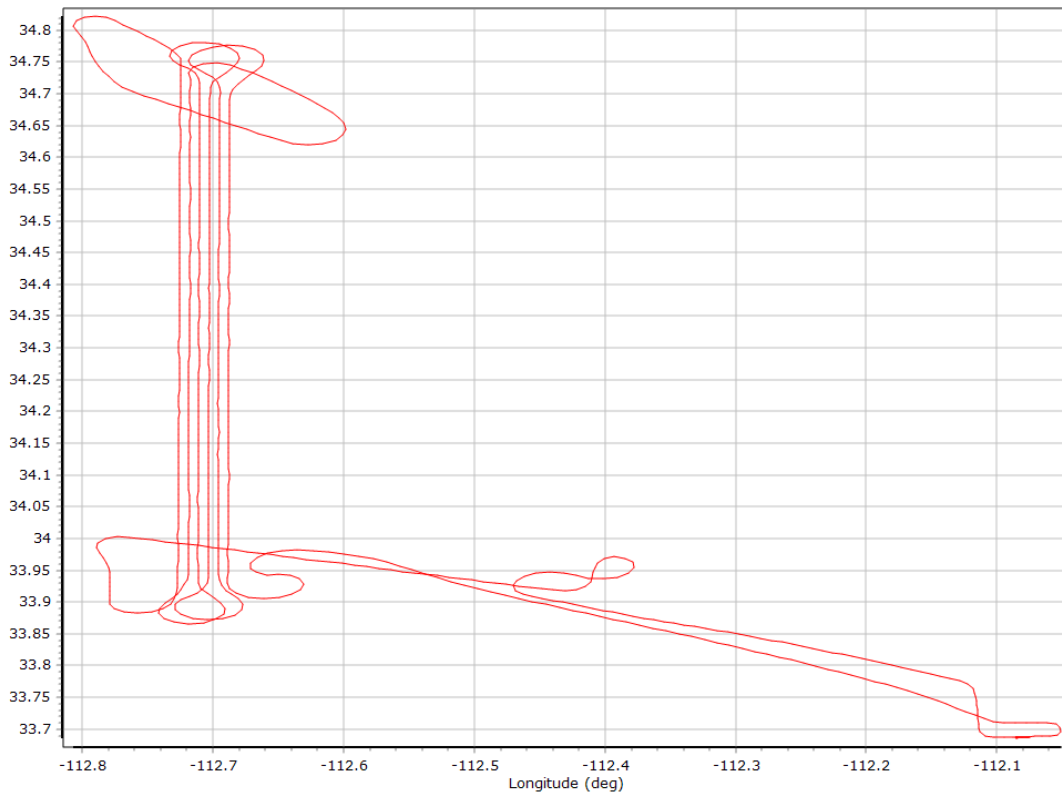


## Body Angular Rate

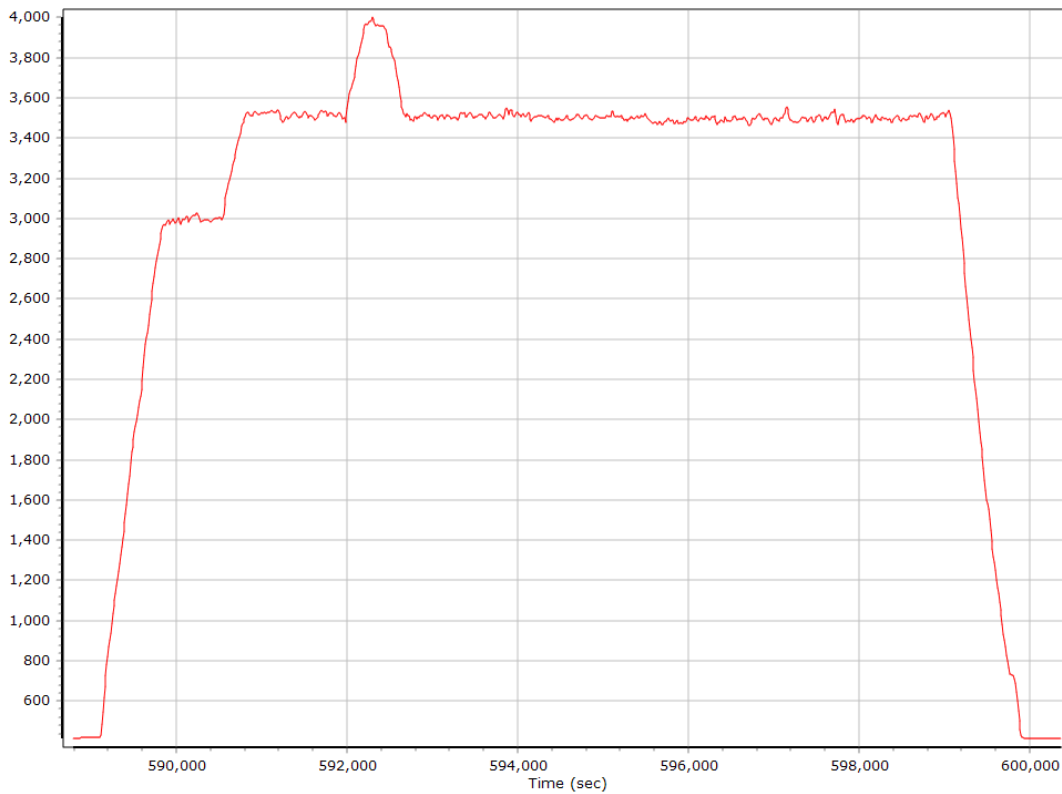


## Forward Processed Trajectory Information

### Top View

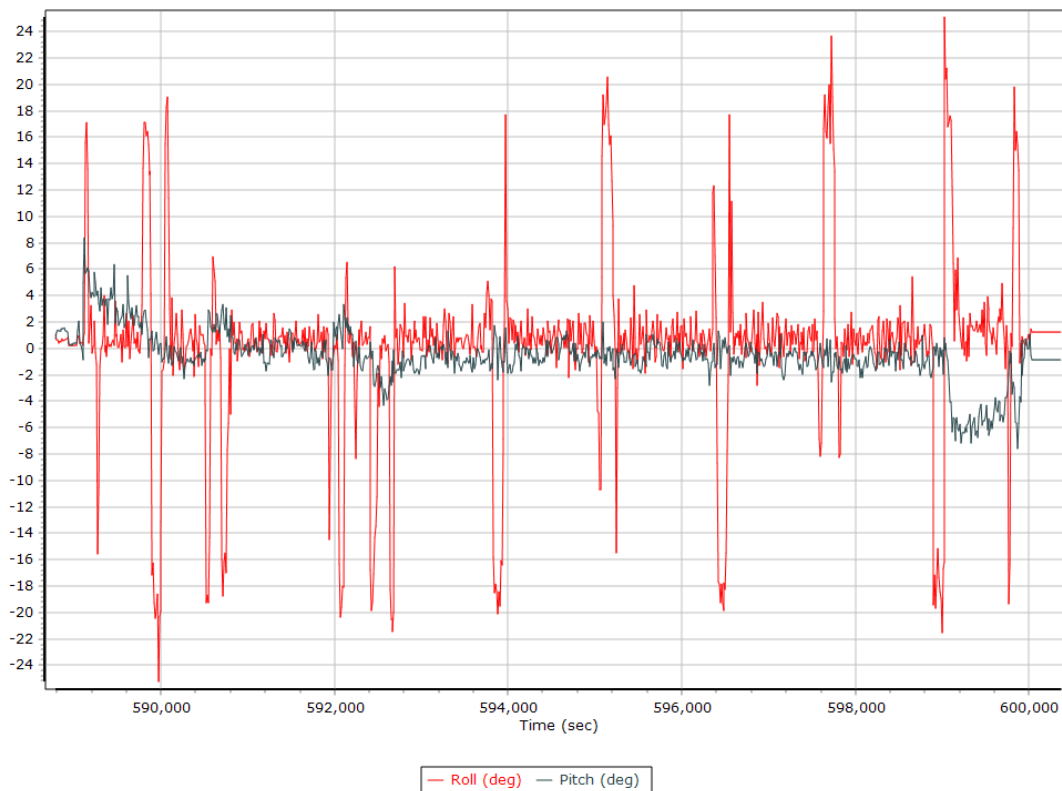


### Altitude

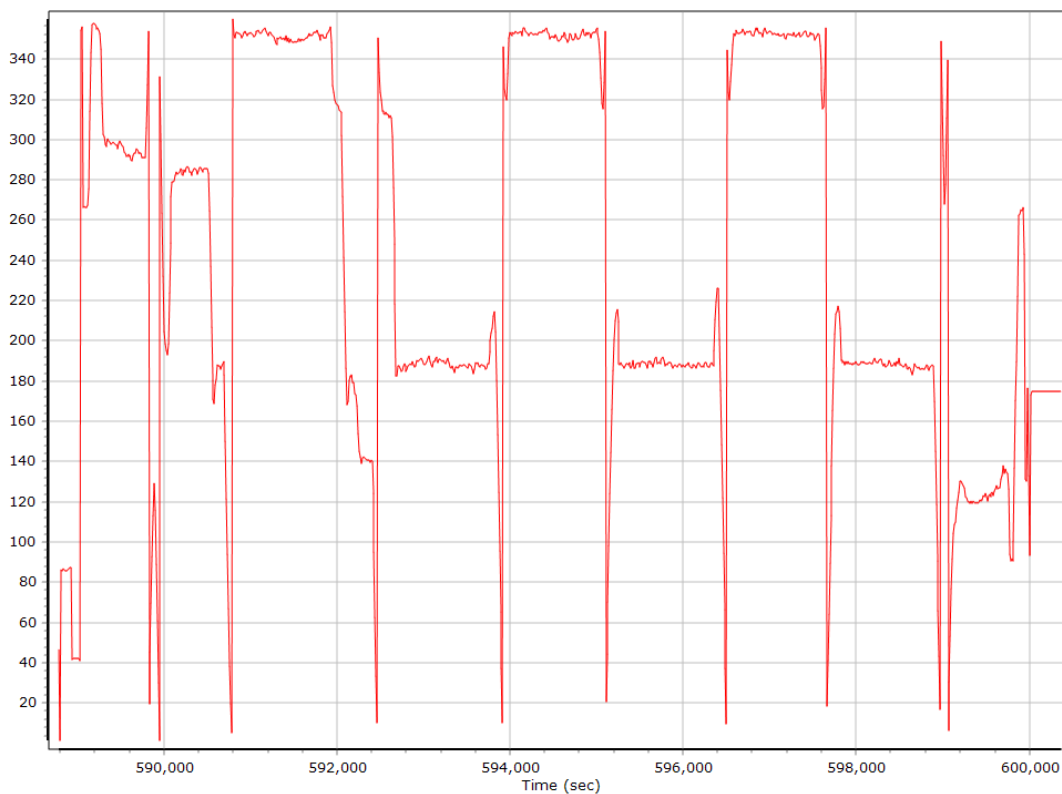




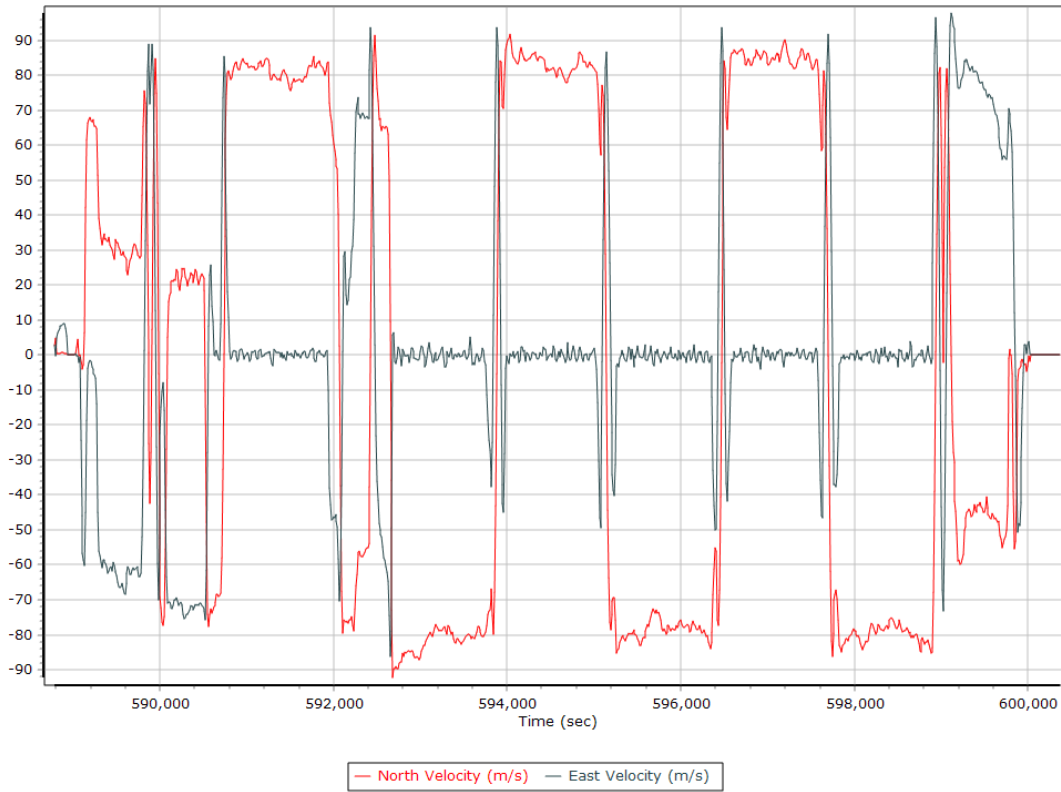
## Roll/Pitch



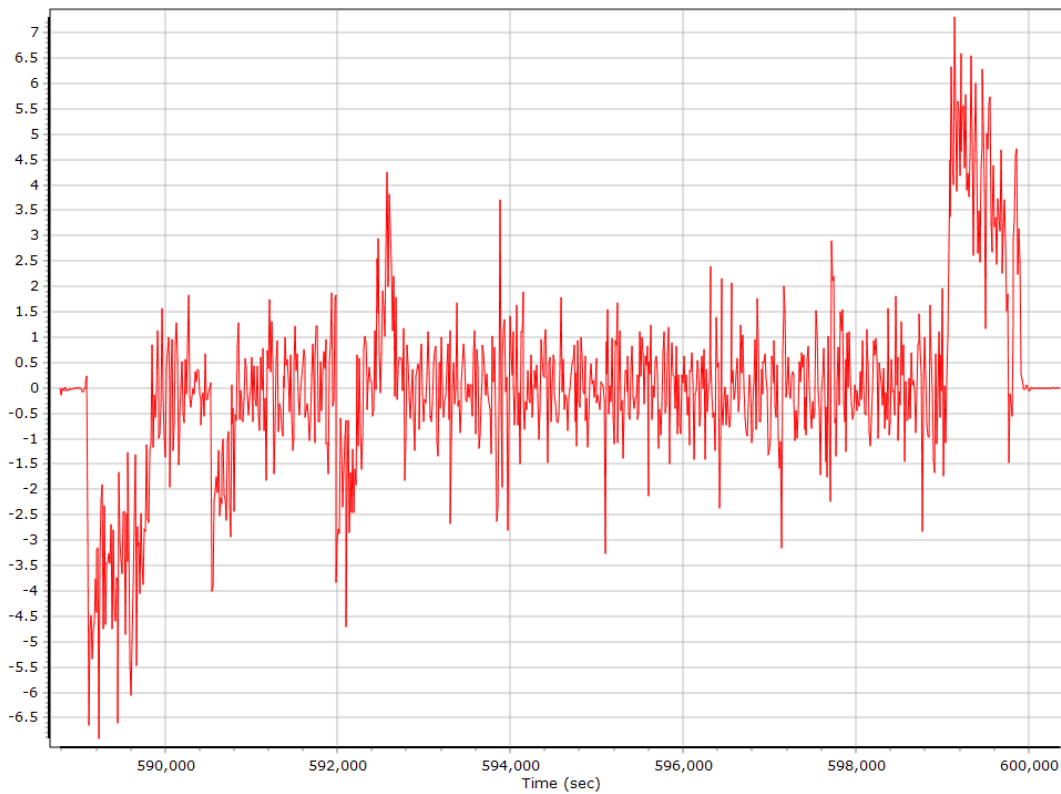
## Heading



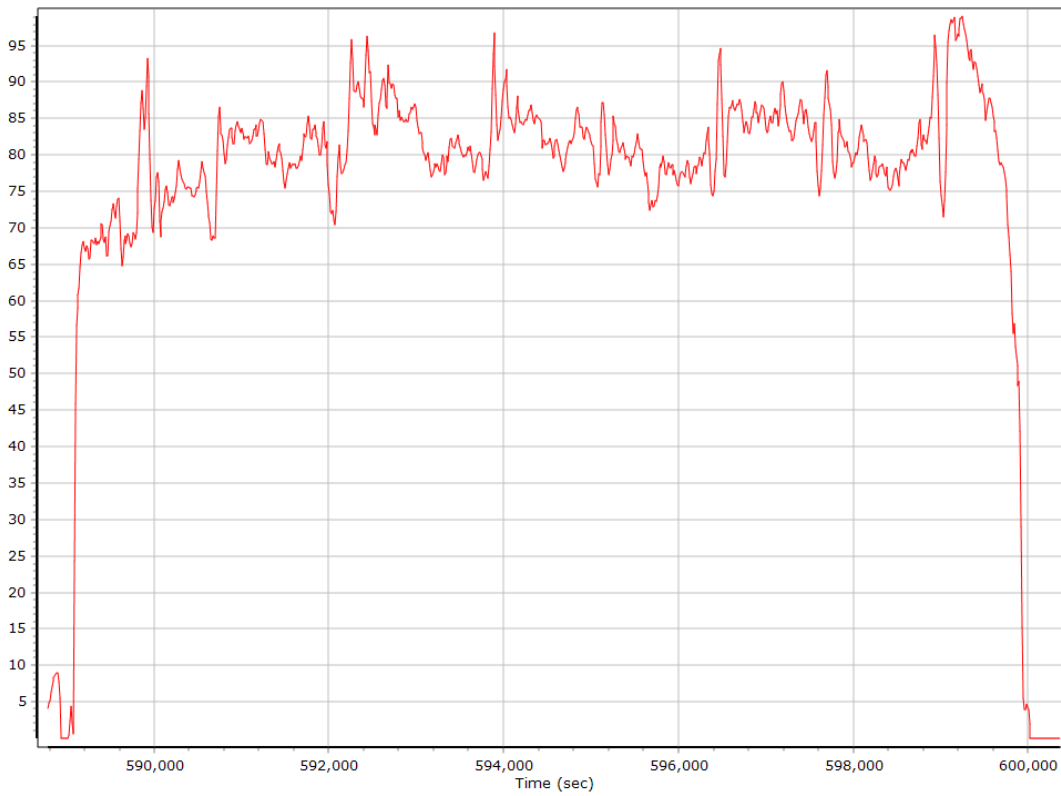
## North/East Velocity



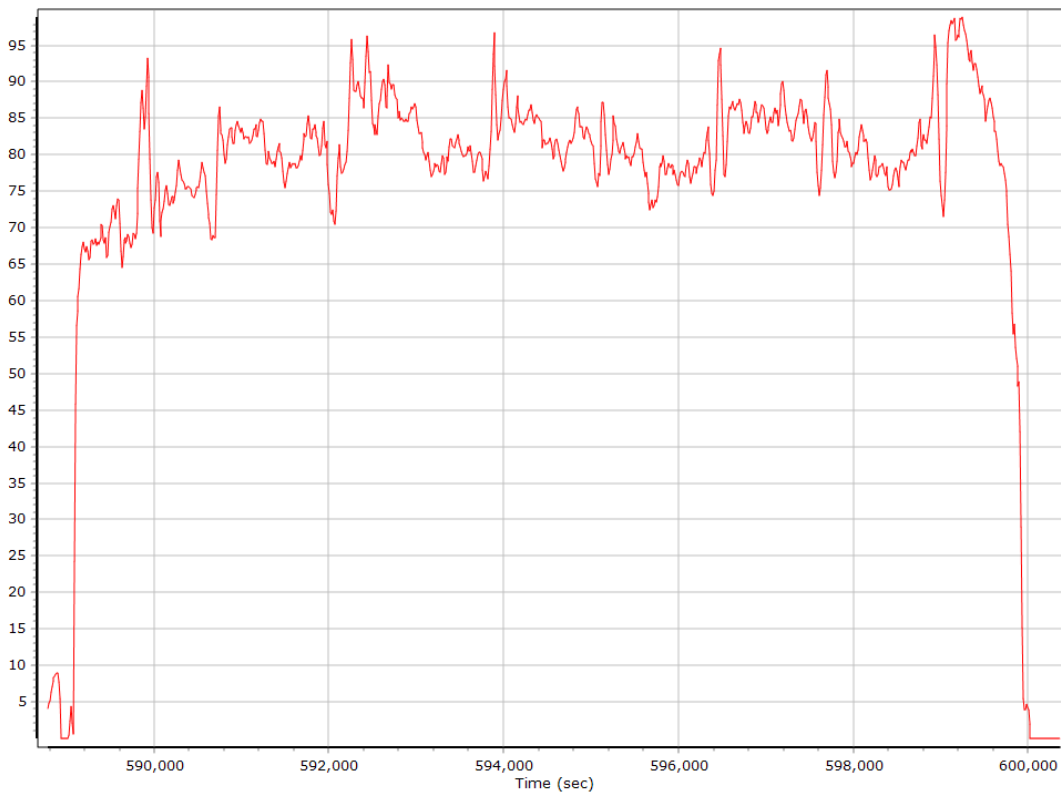
## Down Velocity



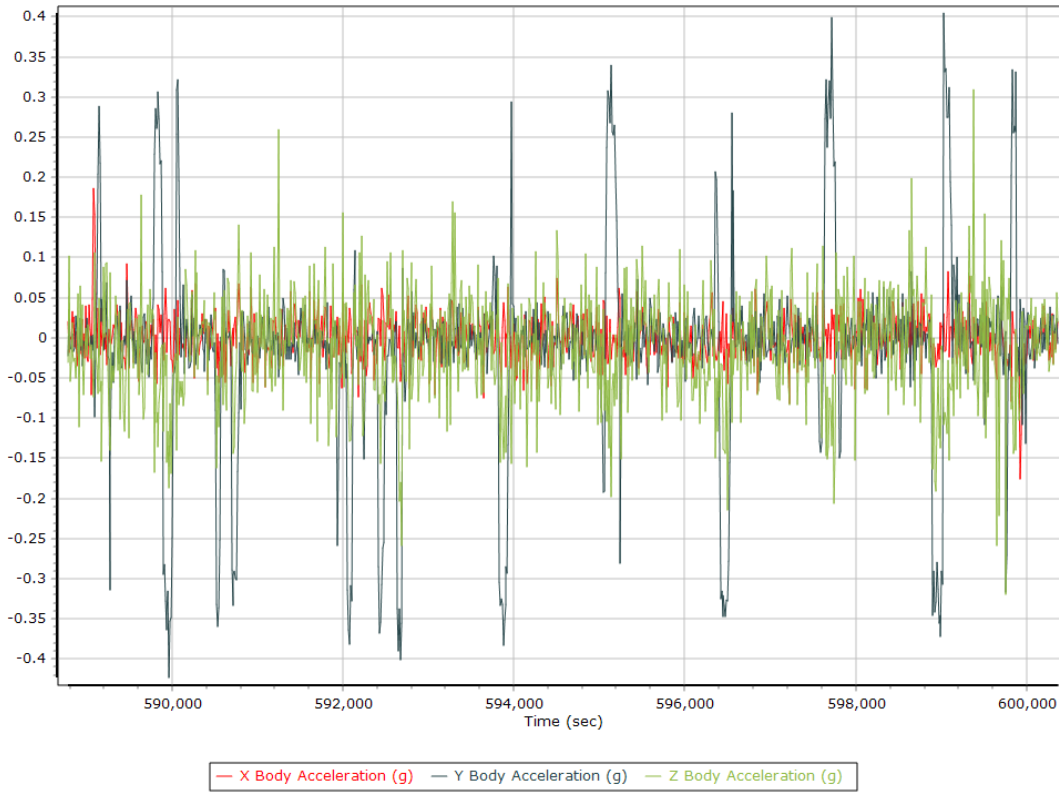
## Total Speed



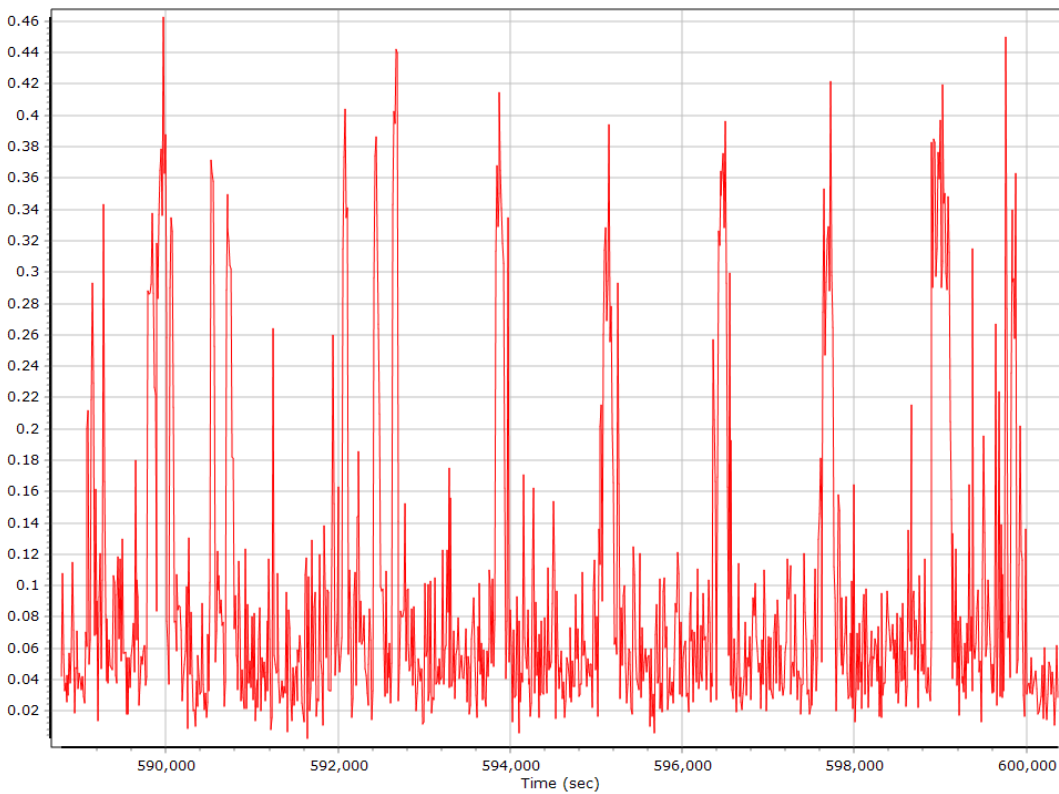
## Ground Speed



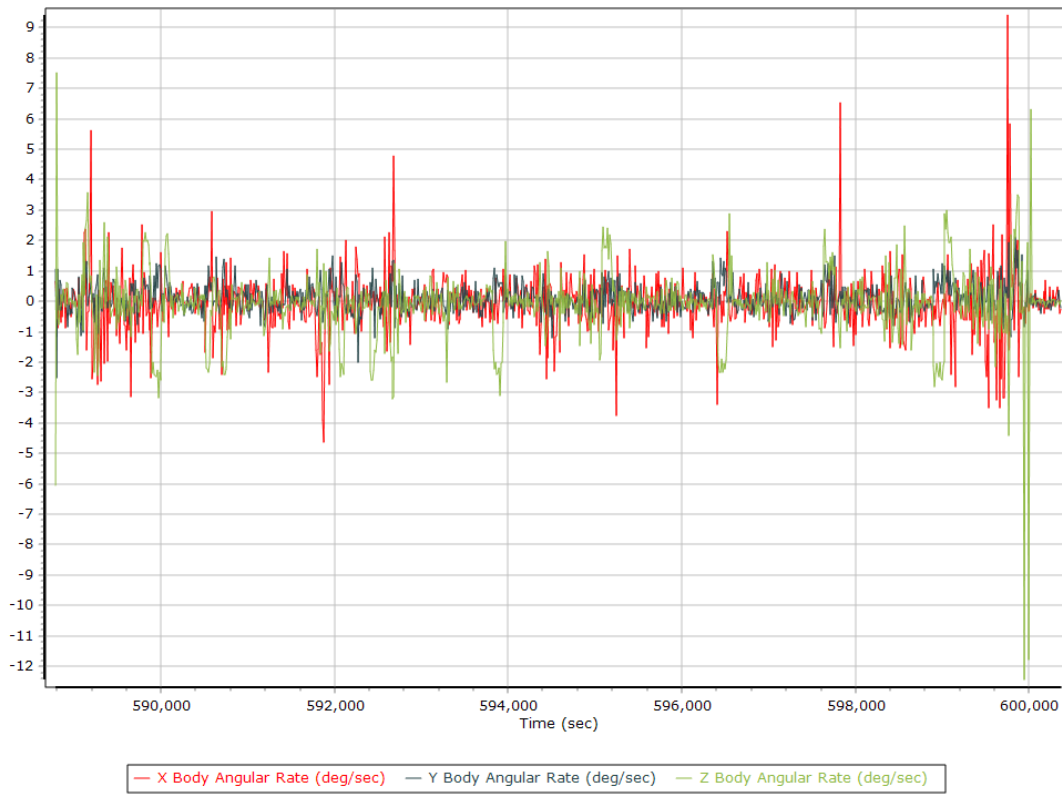
## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

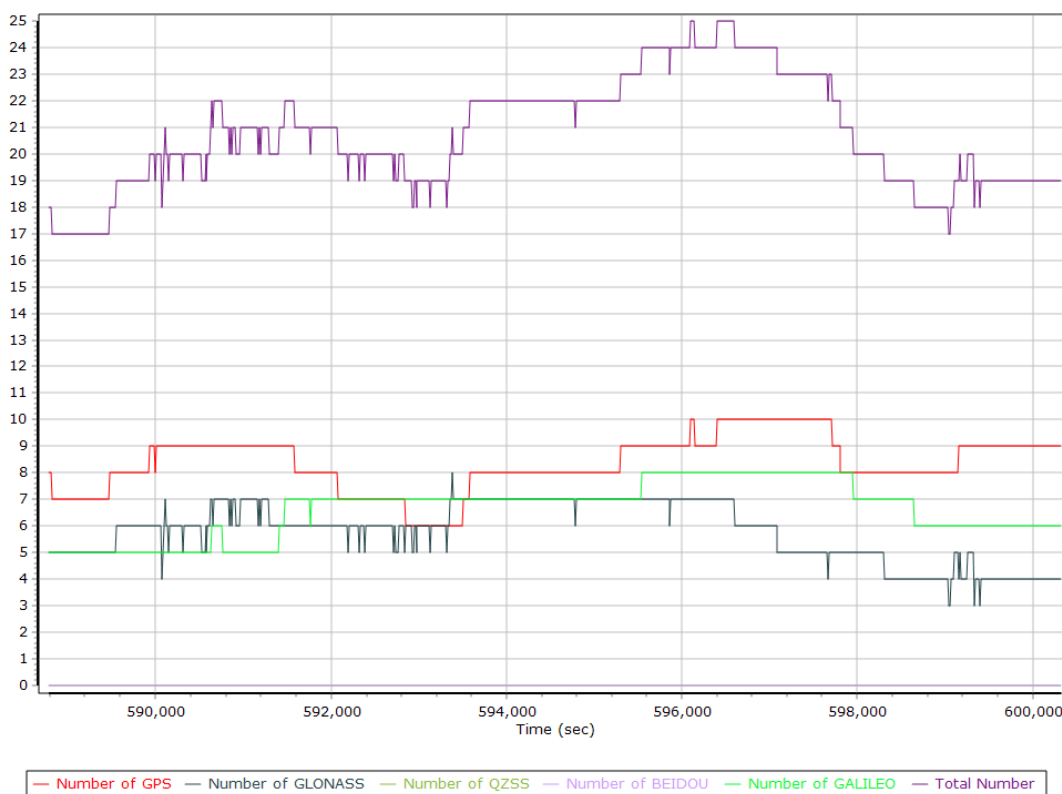


## GNSS QC

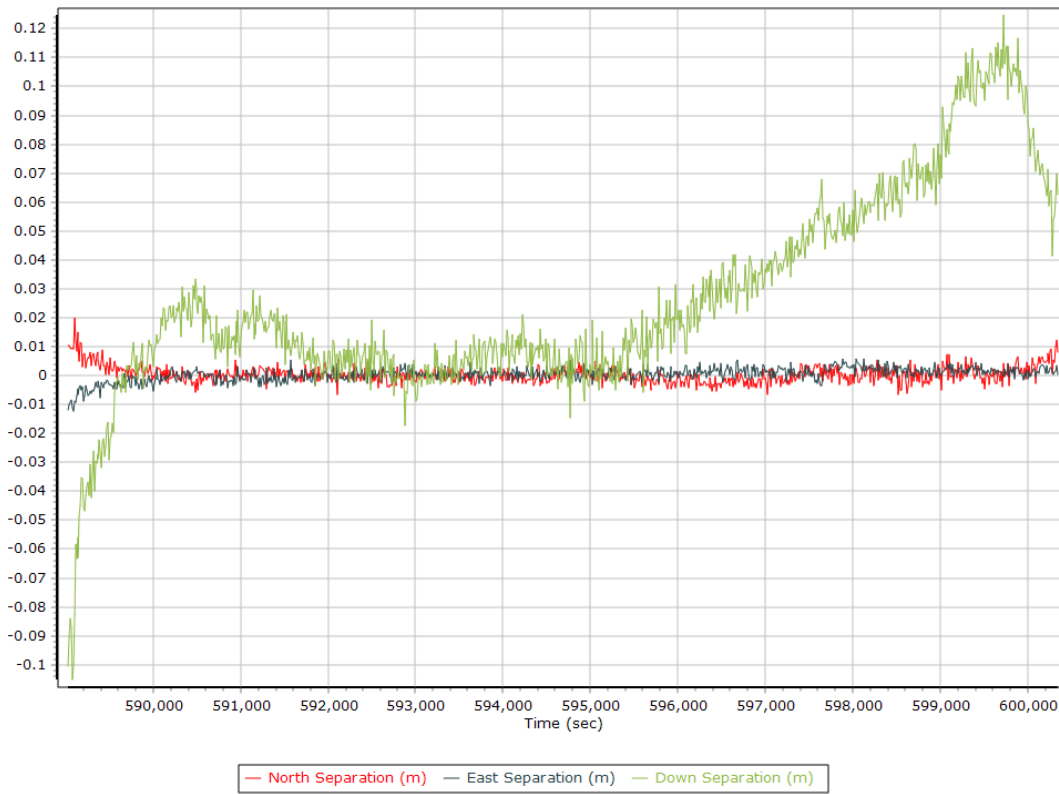
### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	6	10	8
Number of GLONASS SV	0	8	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	5	8	7
Total number of SV	12	25	21
PDOP	1.00	1.91	1.28
QC Solution Gaps	1.00	313.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	11987.00	0.00	557.00
Percentage	95.56	0.00	4.44

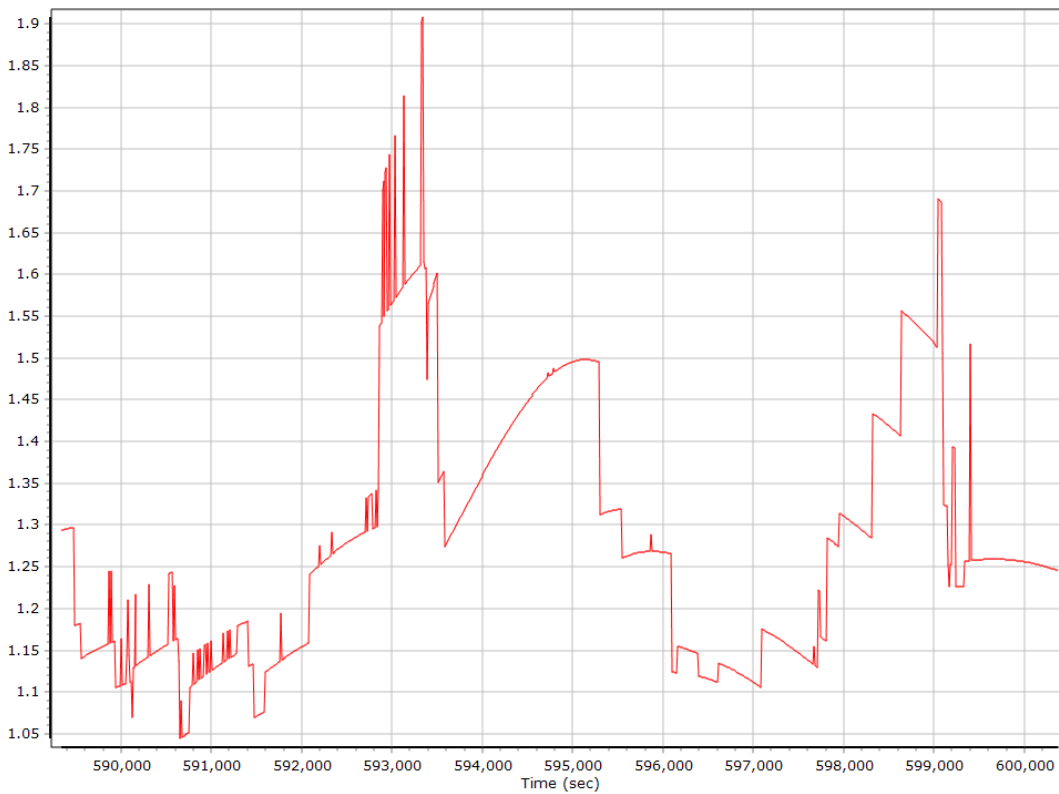
### Num SVs in solution



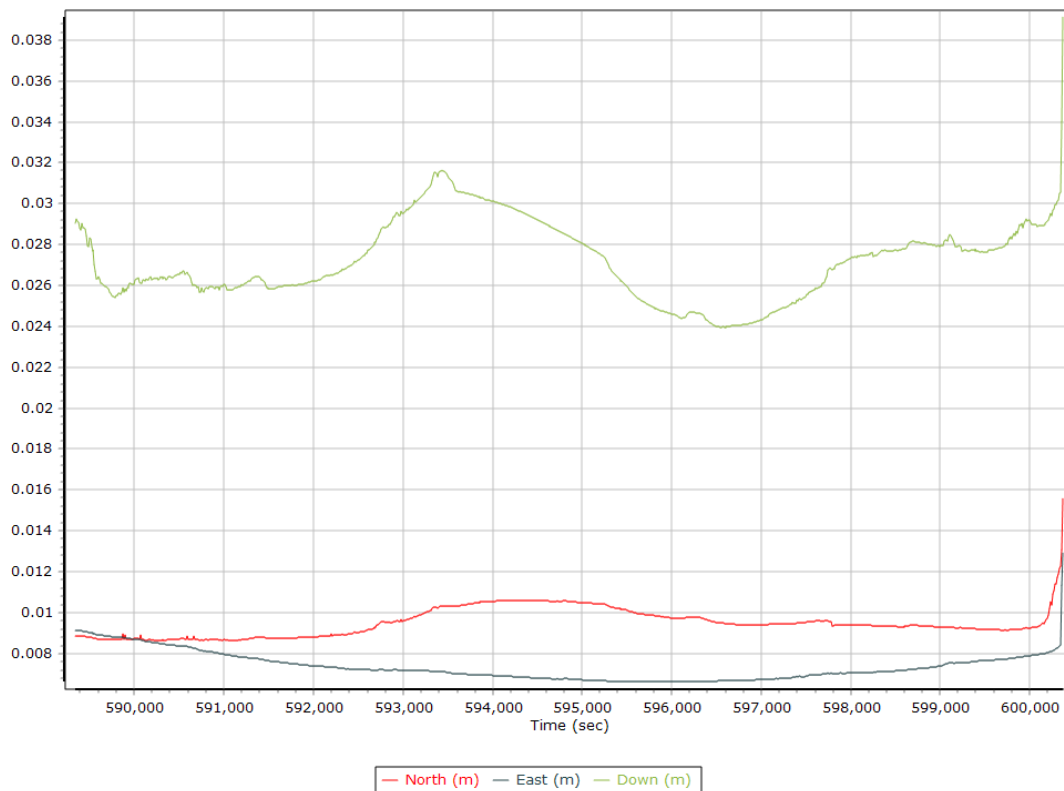
## Forward/Reverse Separation



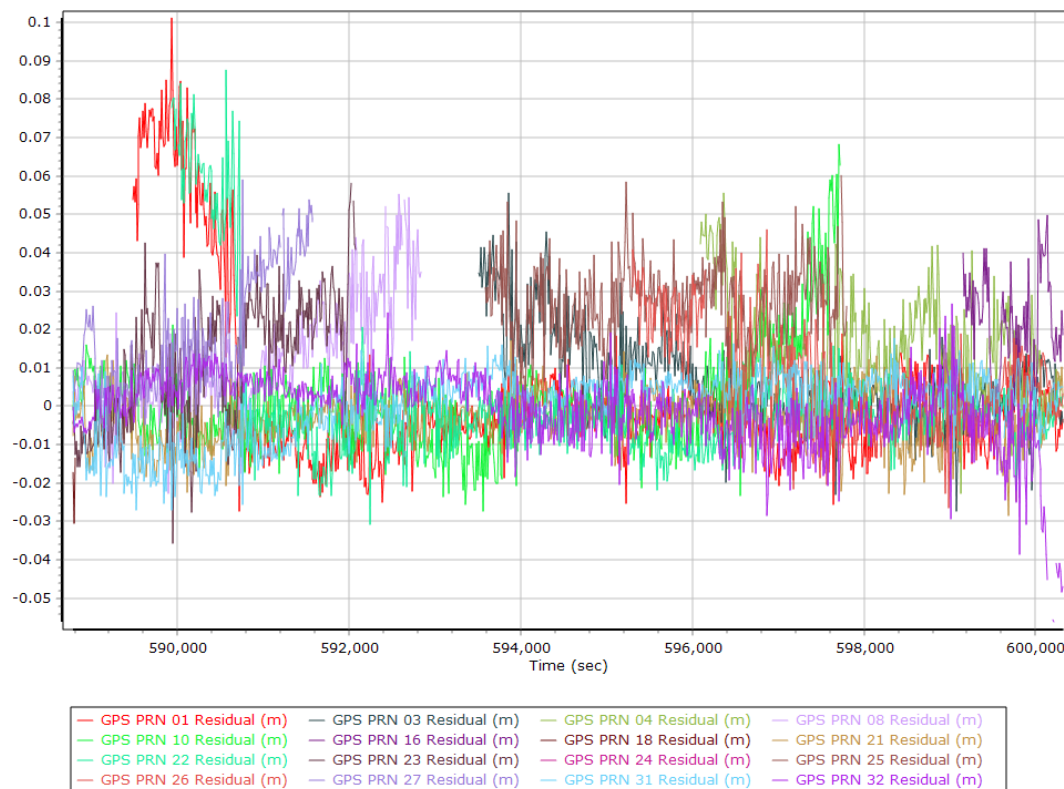
## PDOP



## Estimated Position Accuracy

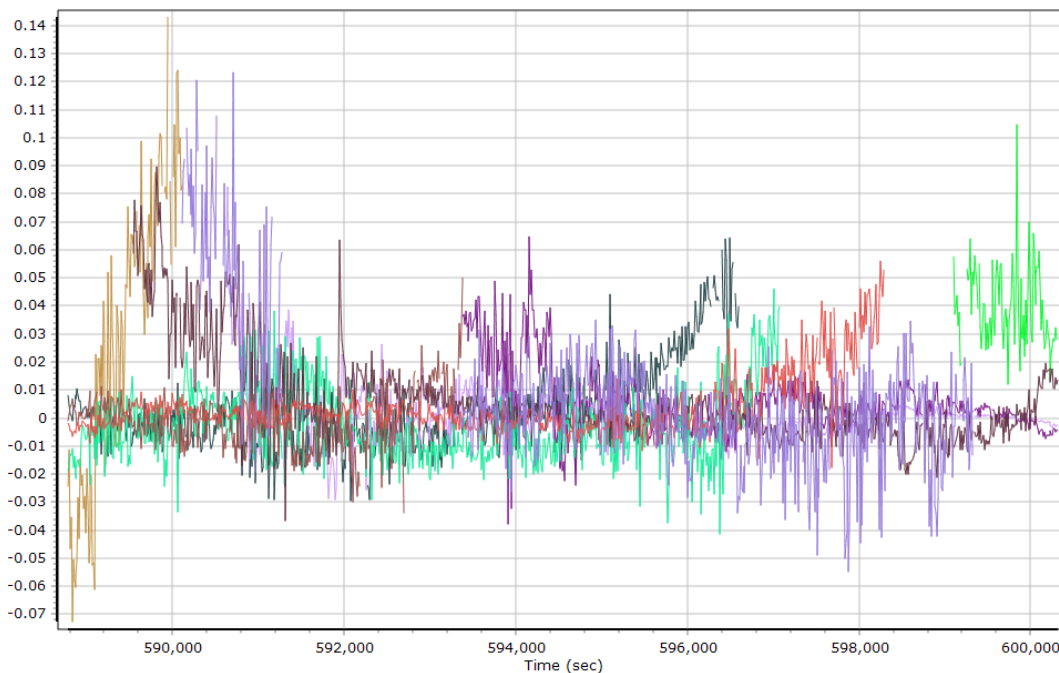


## GPS Residuals



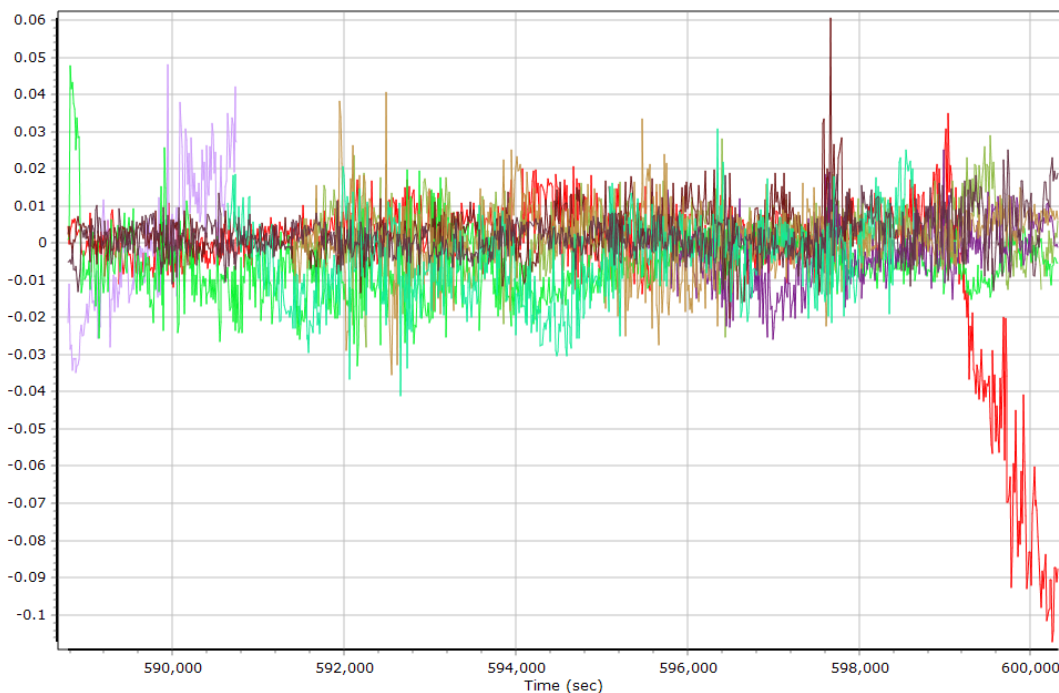


## GLONASS Residuals



- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GLONASS 04 Residual (m) | GLONASS 05 Residual (m) | GLONASS 06 Residual (m) | GLONASS 07 Residual (m) |
| GLONASS 08 Residual (m) | GLONASS 09 Residual (m) | GLONASS 10 Residual (m) | GLONASS 14 Residual (m) |
| GLONASS 15 Residual (m) | GLONASS 16 Residual (m) | GLONASS 19 Residual (m) | GLONASS 20 Residual (m) |
| GLONASS 21 Residual (m) | GLONASS 22 Residual (m) | GLONASS 23 Residual (m) |                         |

## GALILEO Residuals



- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GALILEO 07 Residual (m) | GALILEO 08 Residual (m) | GALILEO 12 Residual (m) | GALILEO 13 Residual (m) |
| GALILEO 19 Residual (m) | GALILEO 21 Residual (m) | GALILEO 26 Residual (m) | GALILEO 27 Residual (m) |
| GALILEO 30 Residual (m) | GALILEO 33 Residual (m) |                         |                         |

## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	587776.000 (10/9/2021 7:16:16 PM)		
Processing end time	600371.000 (10/9/2021 10:46:11 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	90.000
Reference to Primary GNSS lever arm (m)	-0.513	-0.043	-1.195
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

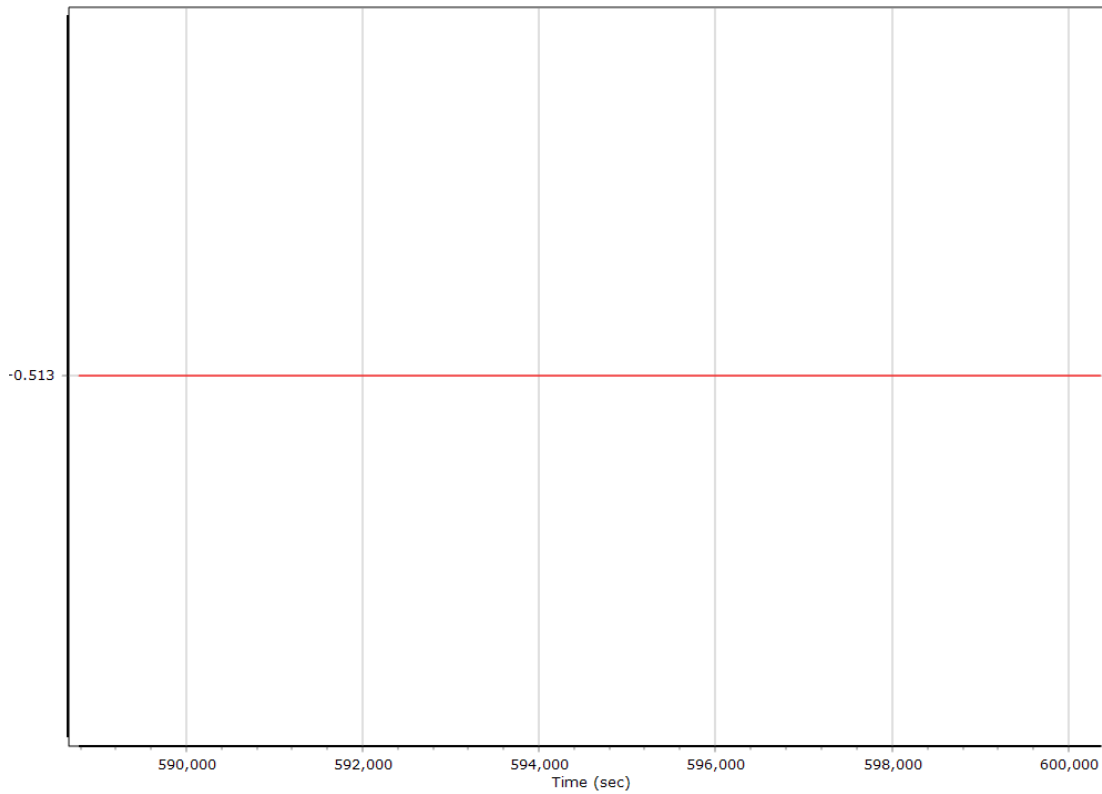
## Calibrated Installation Parameters

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

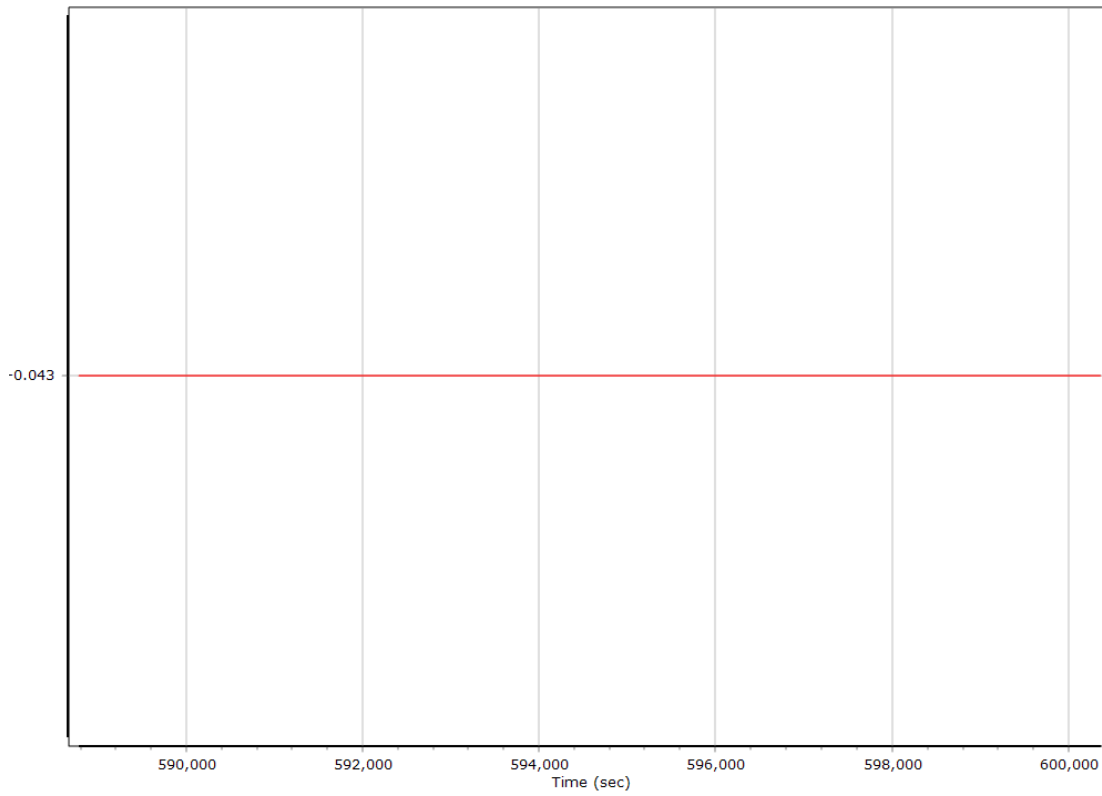
#### Reference-Primary GNSS Lever Arm Automatic Calibration Results

Original Reference to Primary GNSS lever arm (m)	-0.497	-0.045	-1.199
Iteration 1 Reference to Primary GNSS lever arm (m)	-0.512	-0.043	-1.195
Iteration 2 Reference to Primary GNSS lever arm (m)	-0.513	-0.043	-1.195
Primary GNSS Lever Arm In use	Iteration 2		

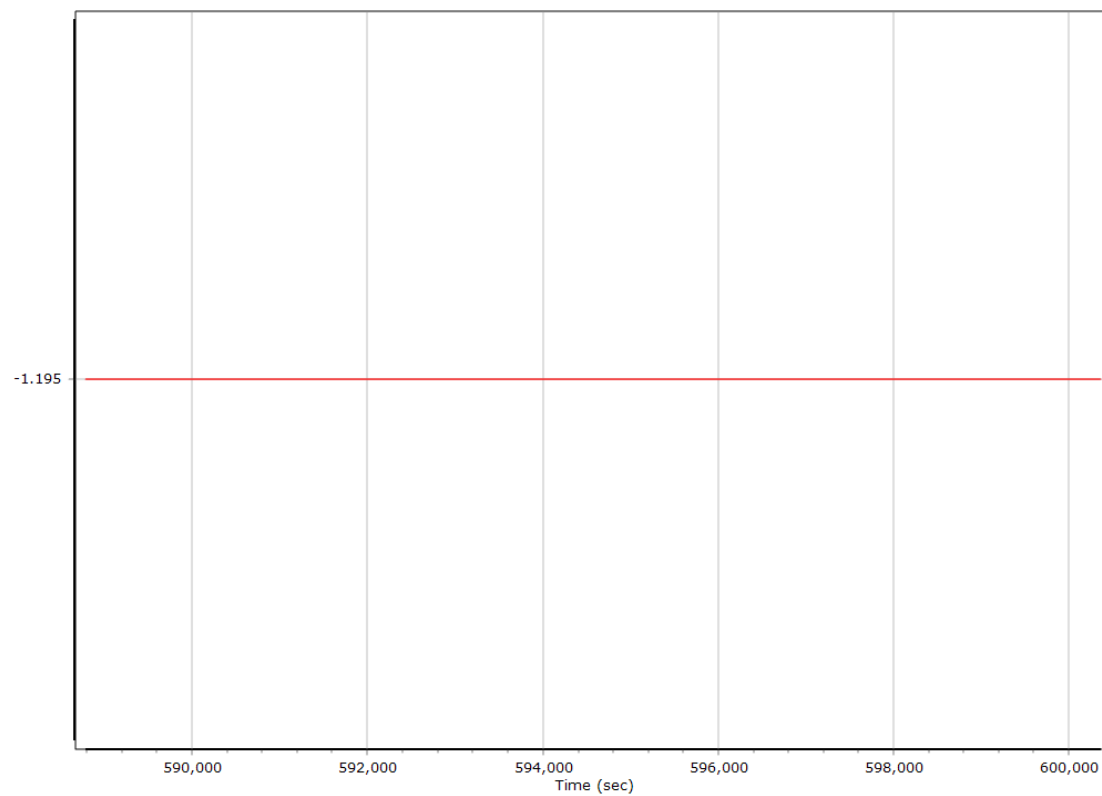
### X Reference-Primary GNSS Lever Arm (m)



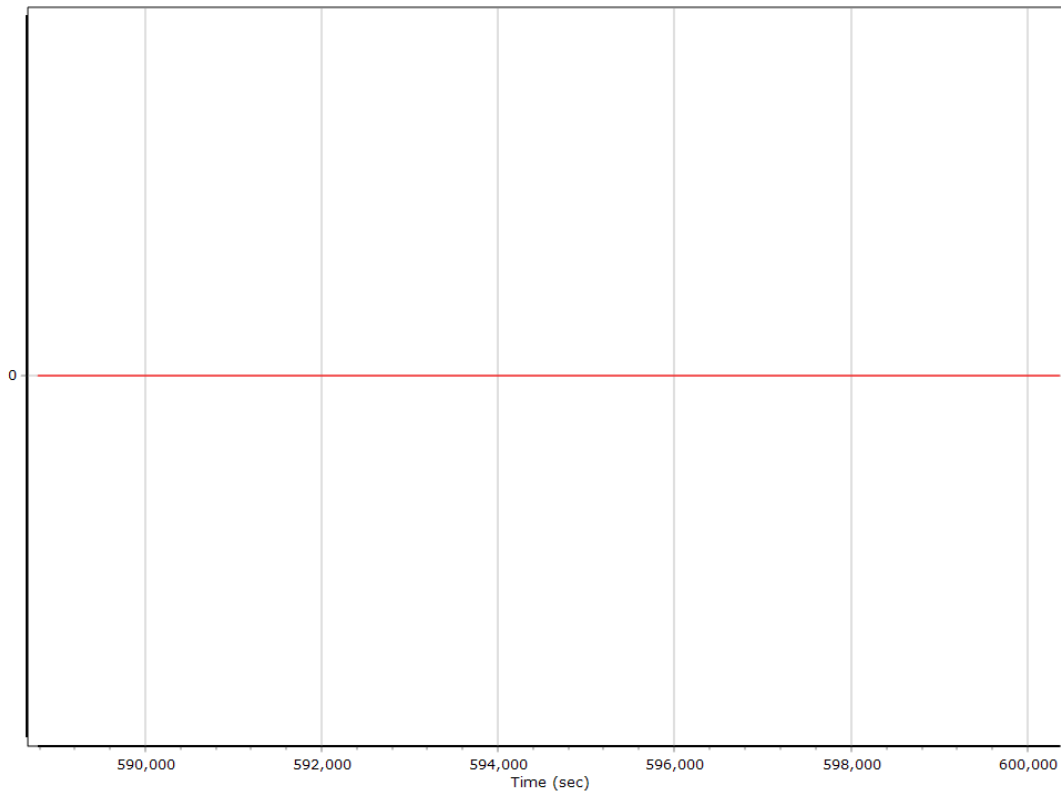
### Y Reference-Primary GNSS Lever Arm (m)



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



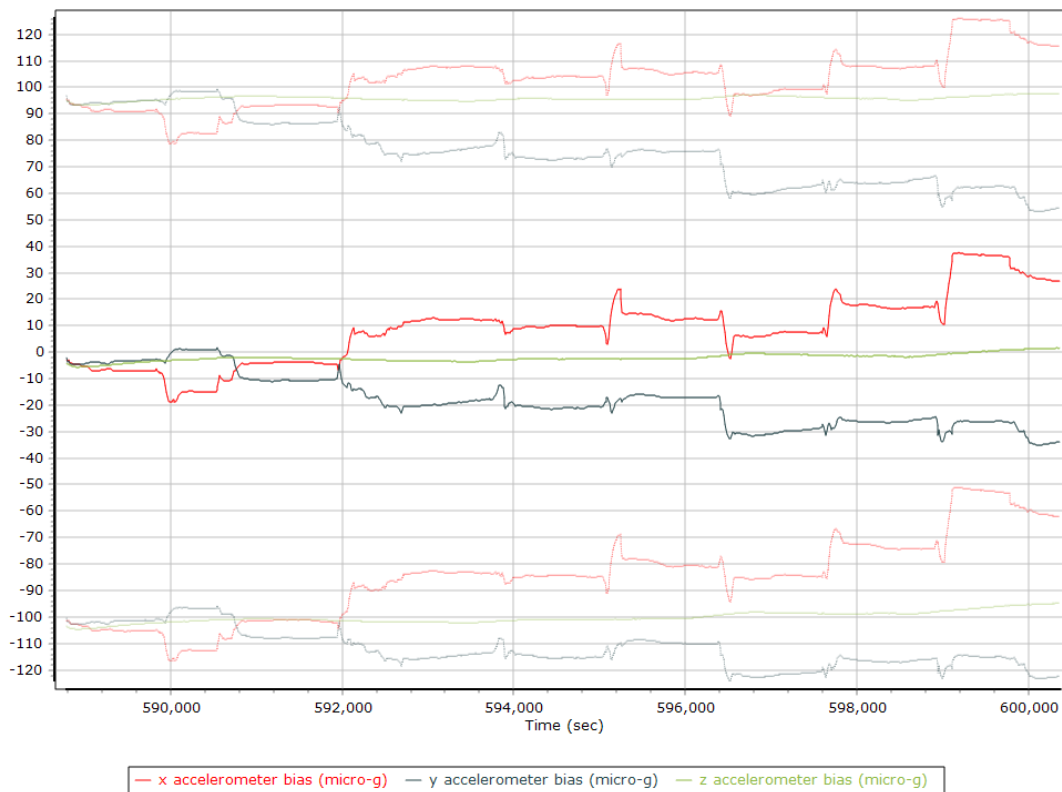
### Reference-Primary GNSS Lever Arm Figure of Merit



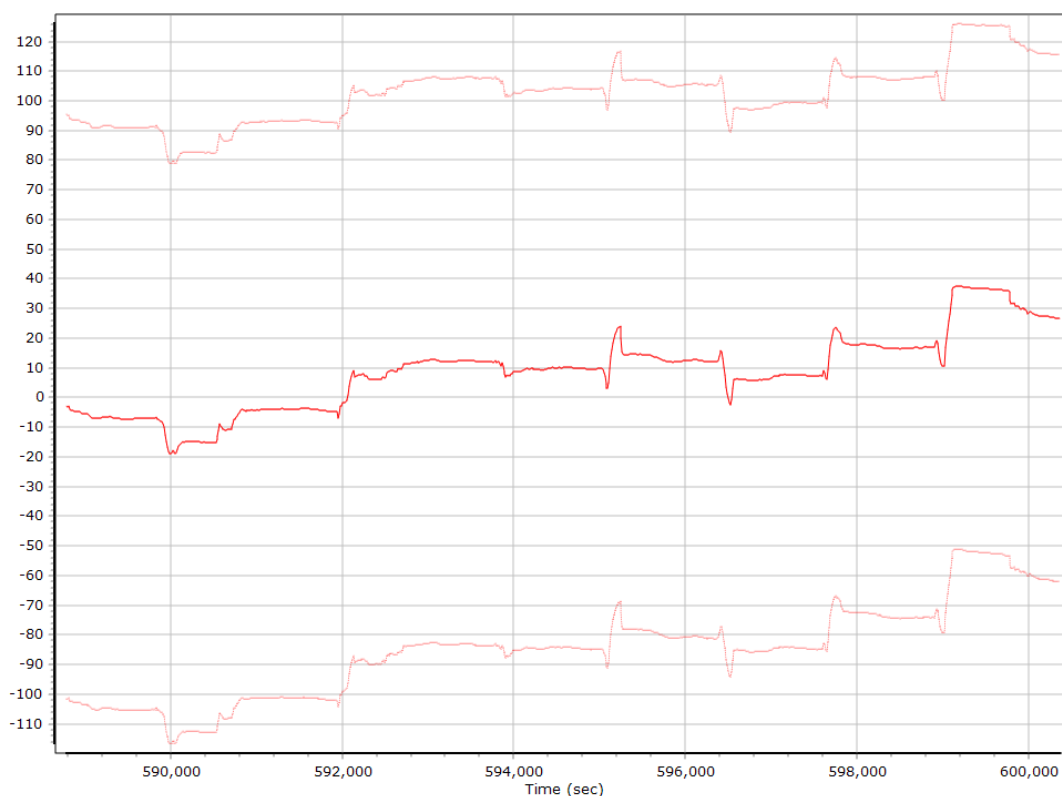
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

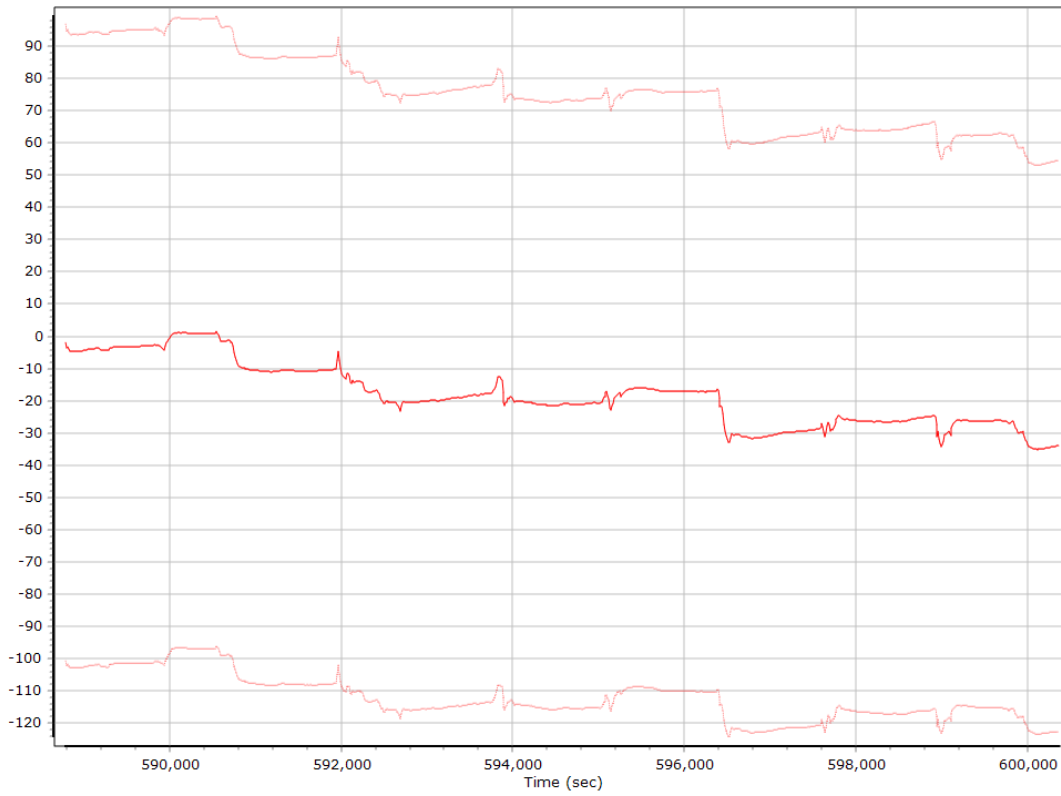
#### Accelerometer Bias (micro-g)



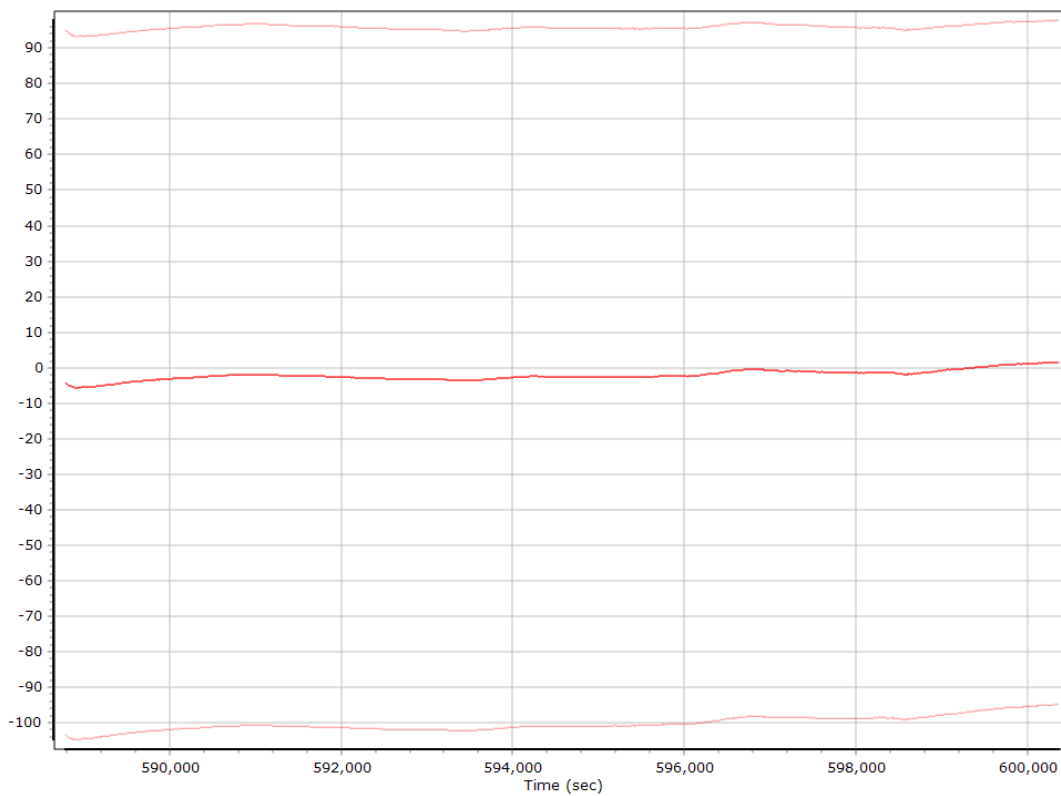
#### X Accelerometer Bias (micro-g)



### Y Accelerometer Bias (micro-g)



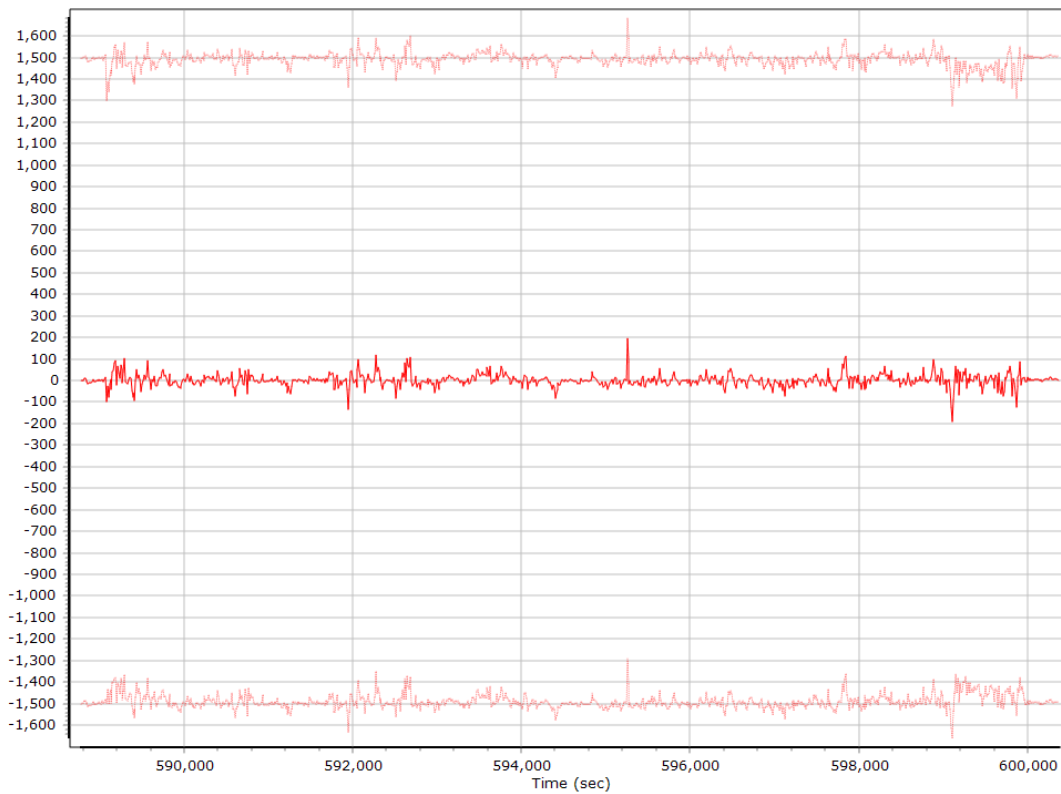
### Z Accelerometer Bias (micro-g)



### Accelerometer Scale Error (ppm)



### X Accelerometer Scale Error (ppm)

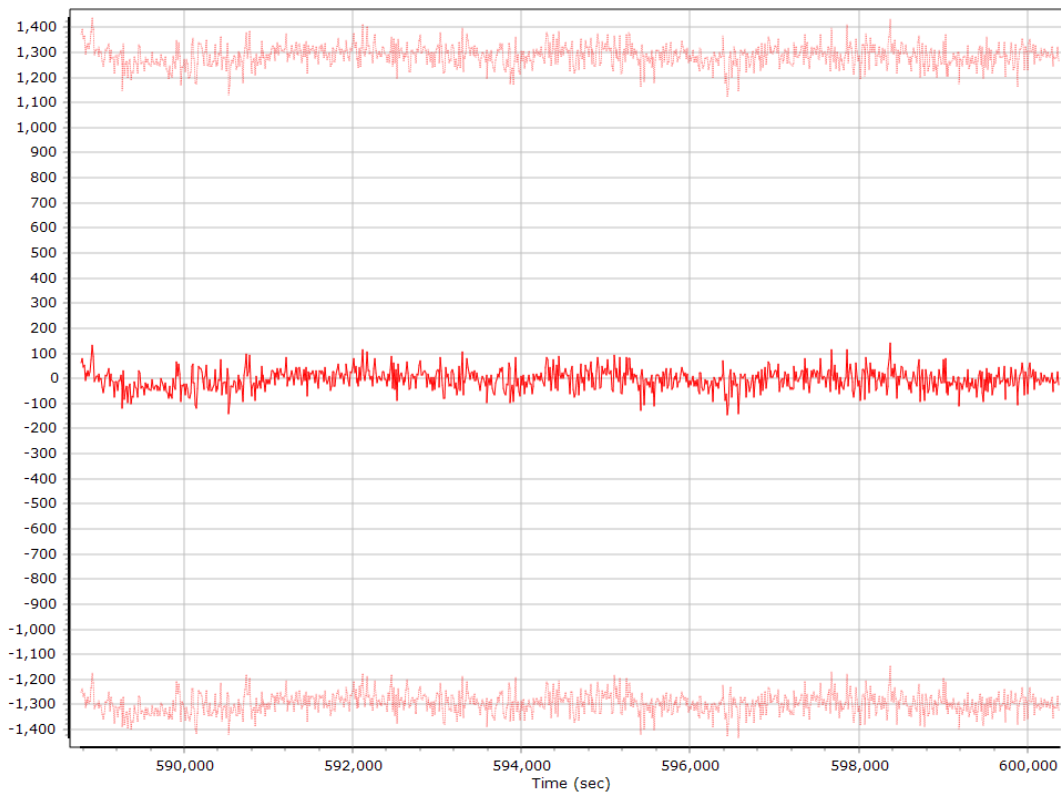




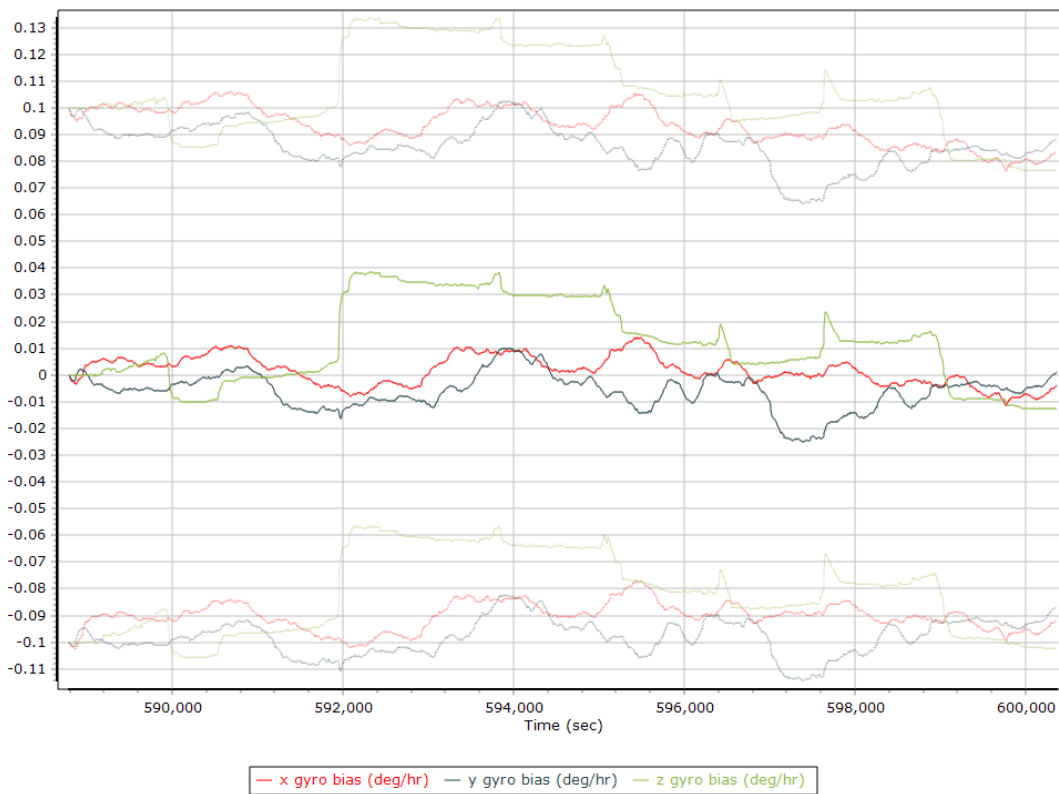
### Y Accelerometer Scale Error (ppm)



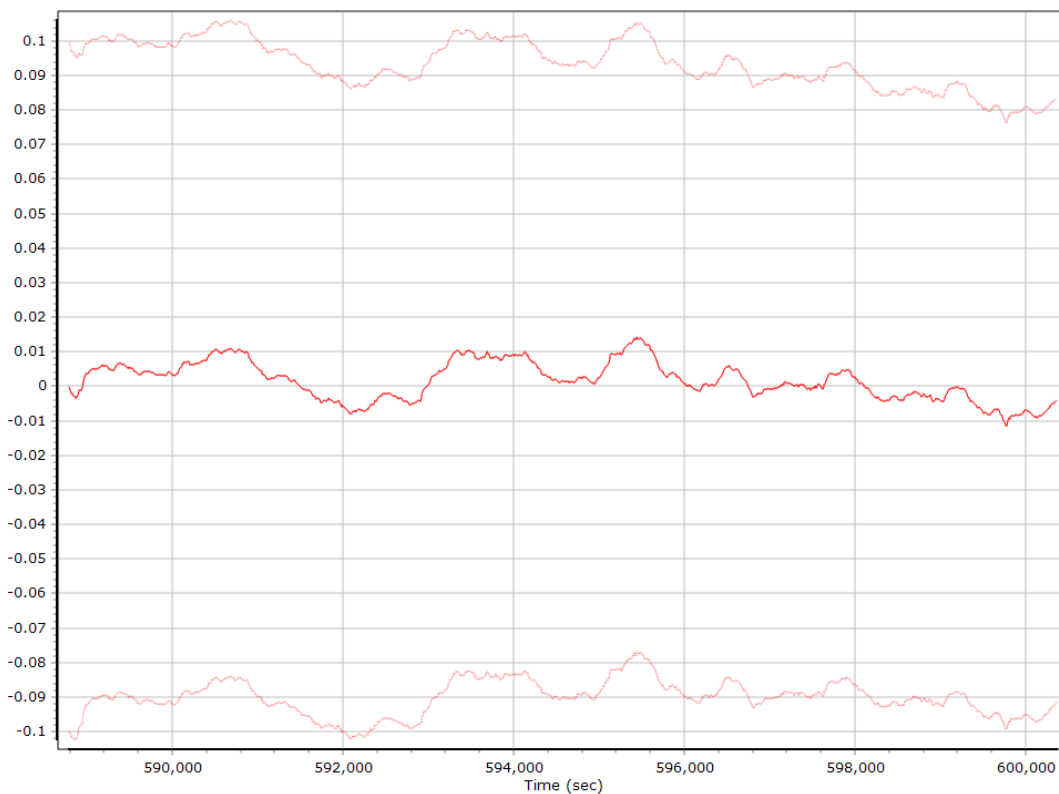
### Z Accelerometer Scale Error (ppm)



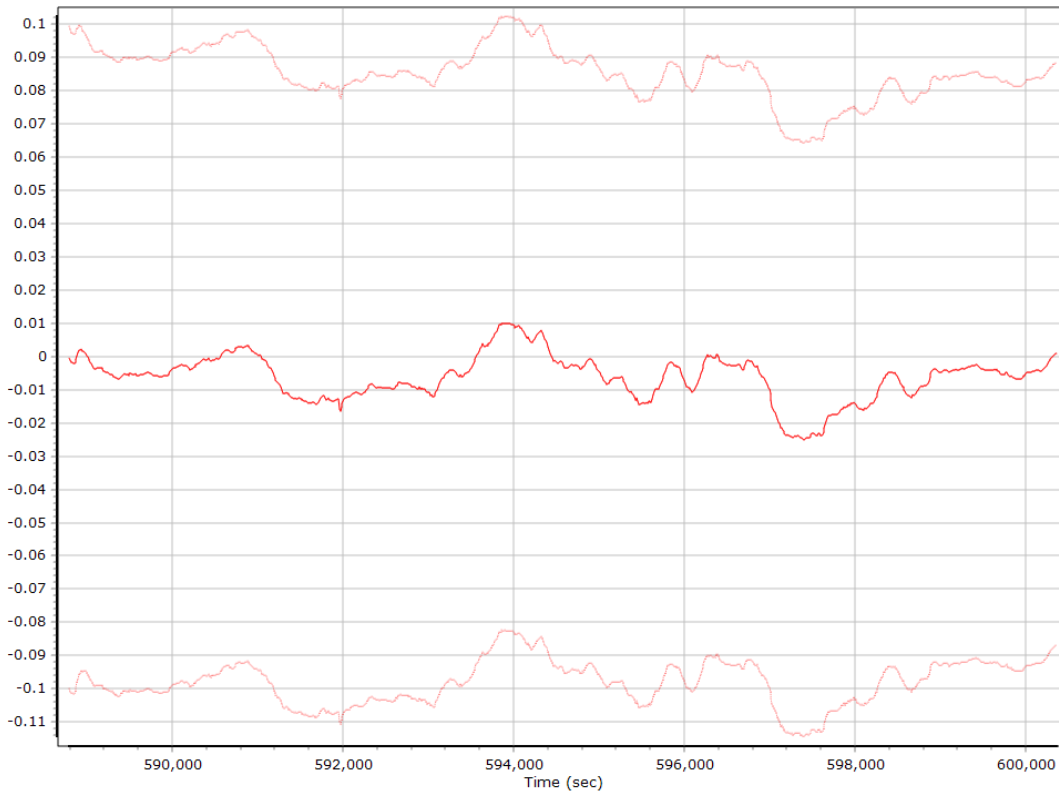
### Gyro Bias (deg/h)



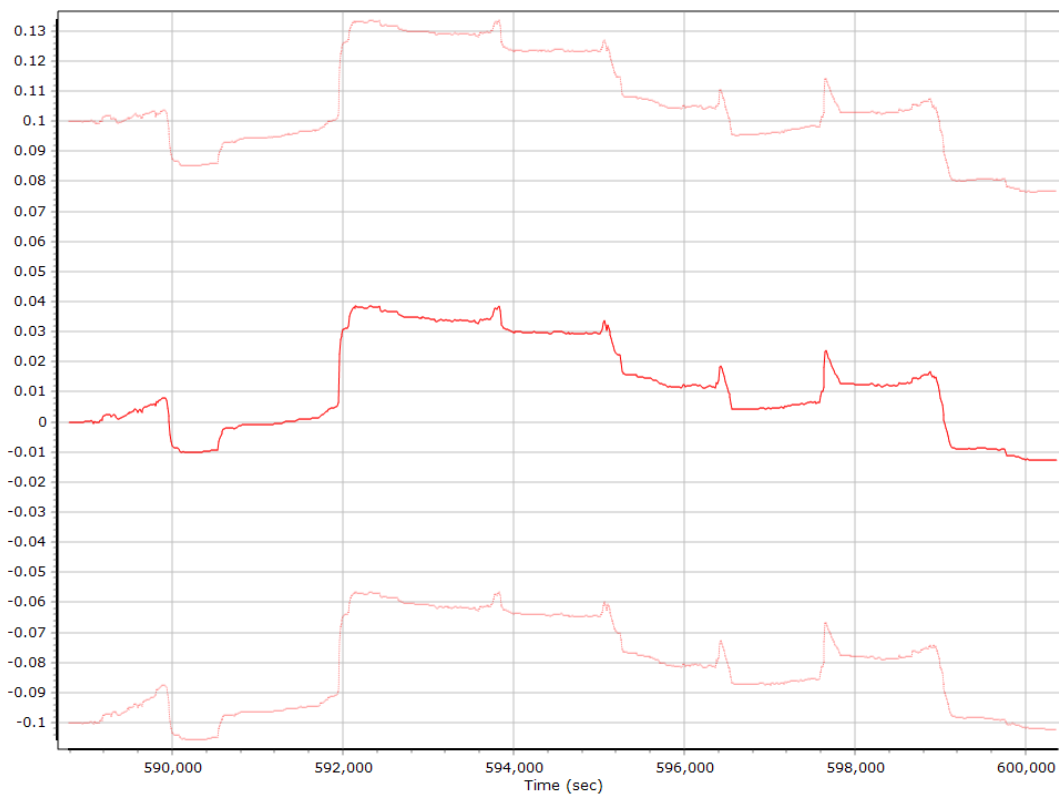
### X Gyro Bias (deg/h)



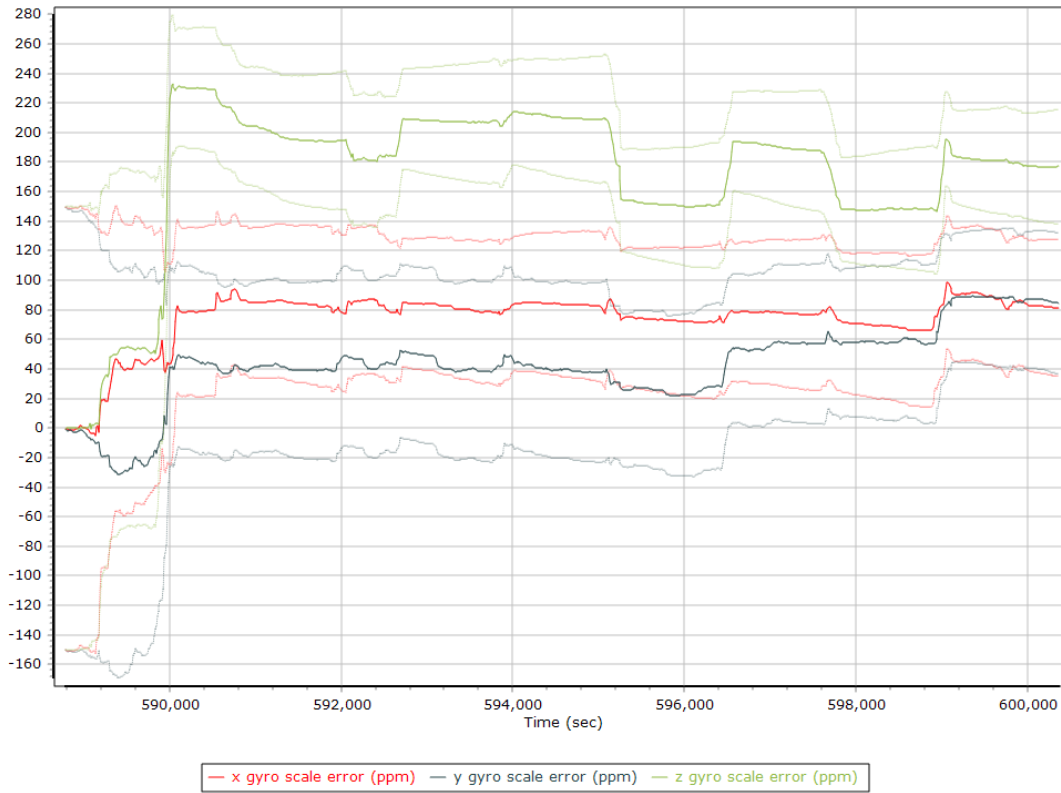
### Y Gyro Bias (deg/h)



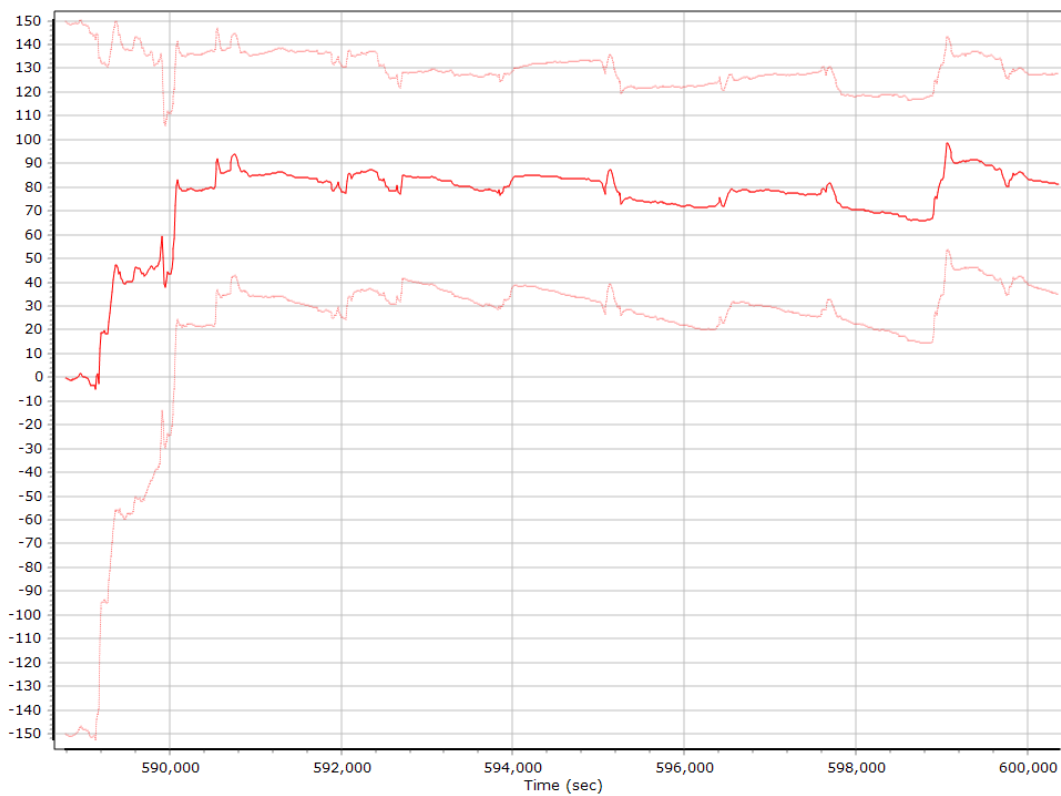
### Z Gyro Bias (deg/h)



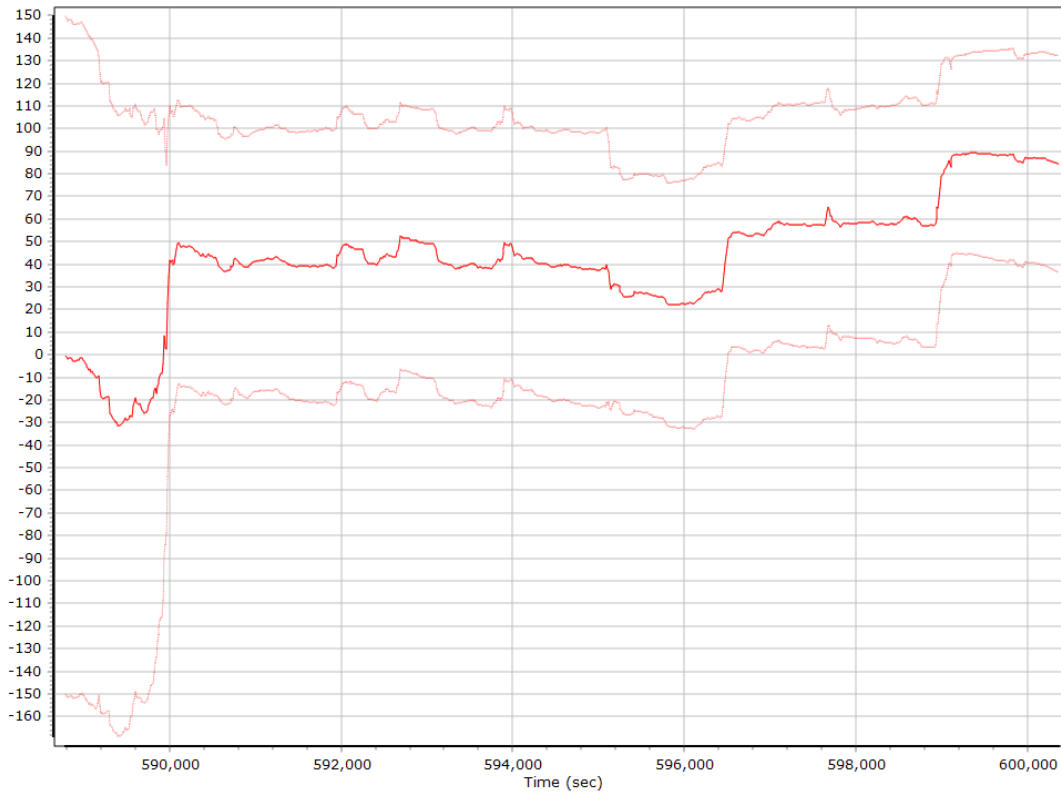
### Gyro Scale Error (ppm)



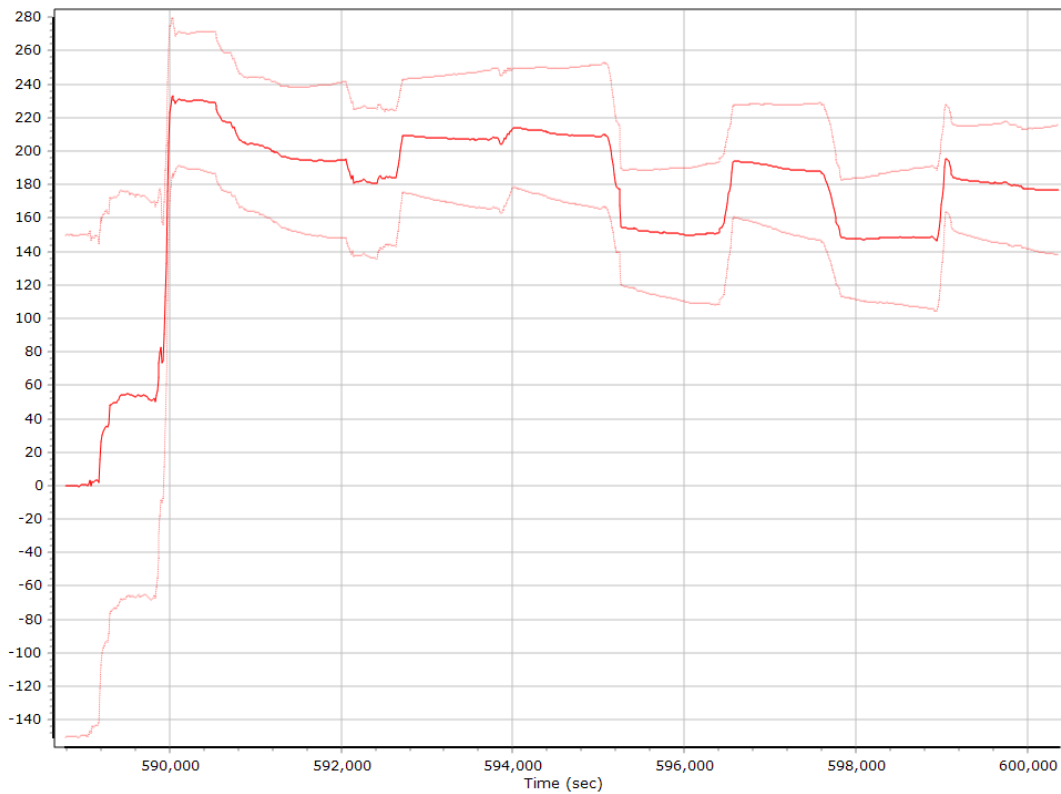
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

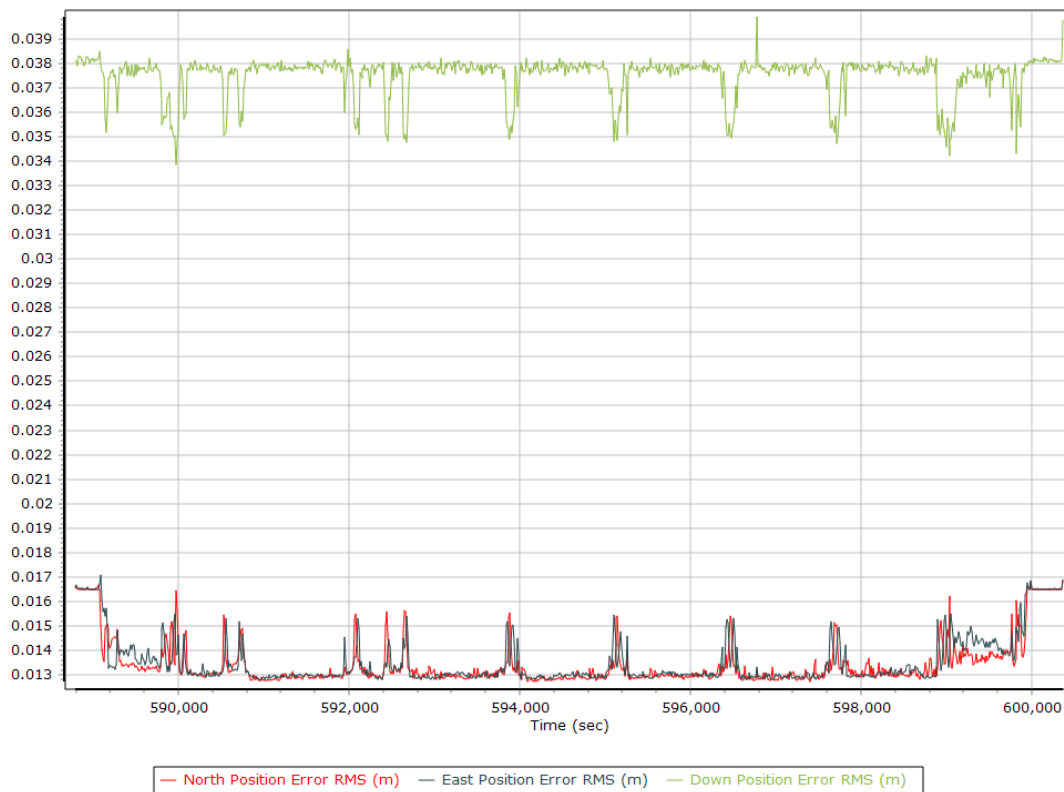


### Z Gyro Scale Error (ppm)

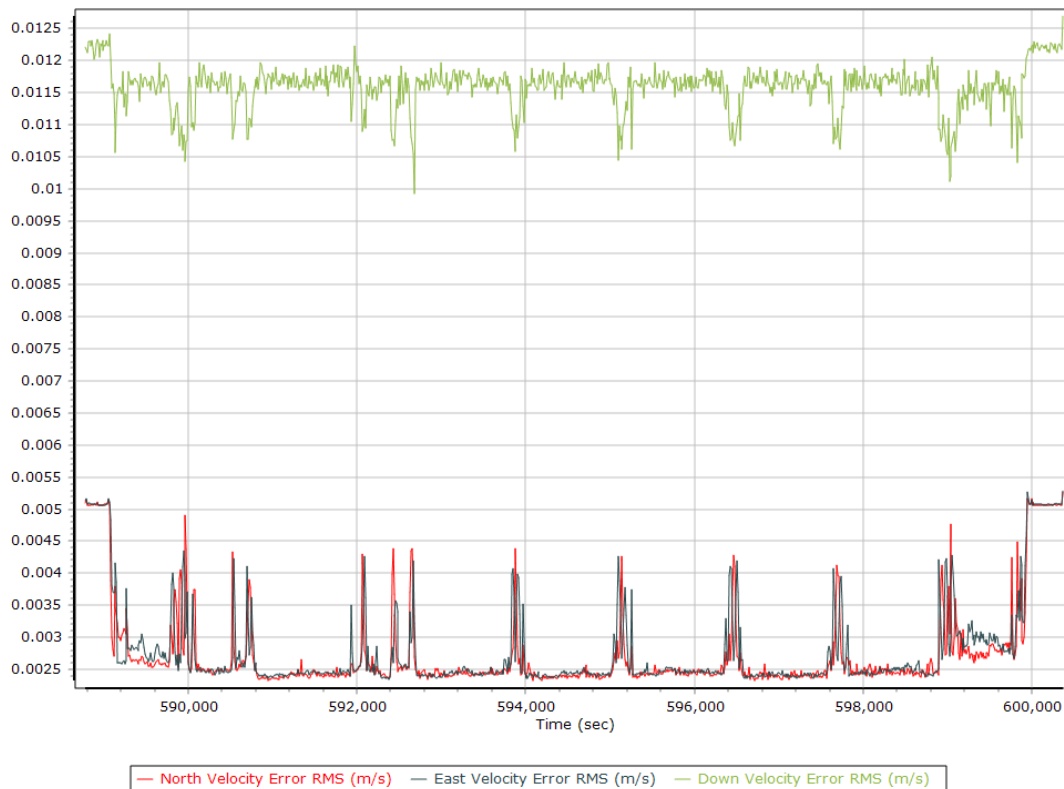


## Smoothed Performance Metrics

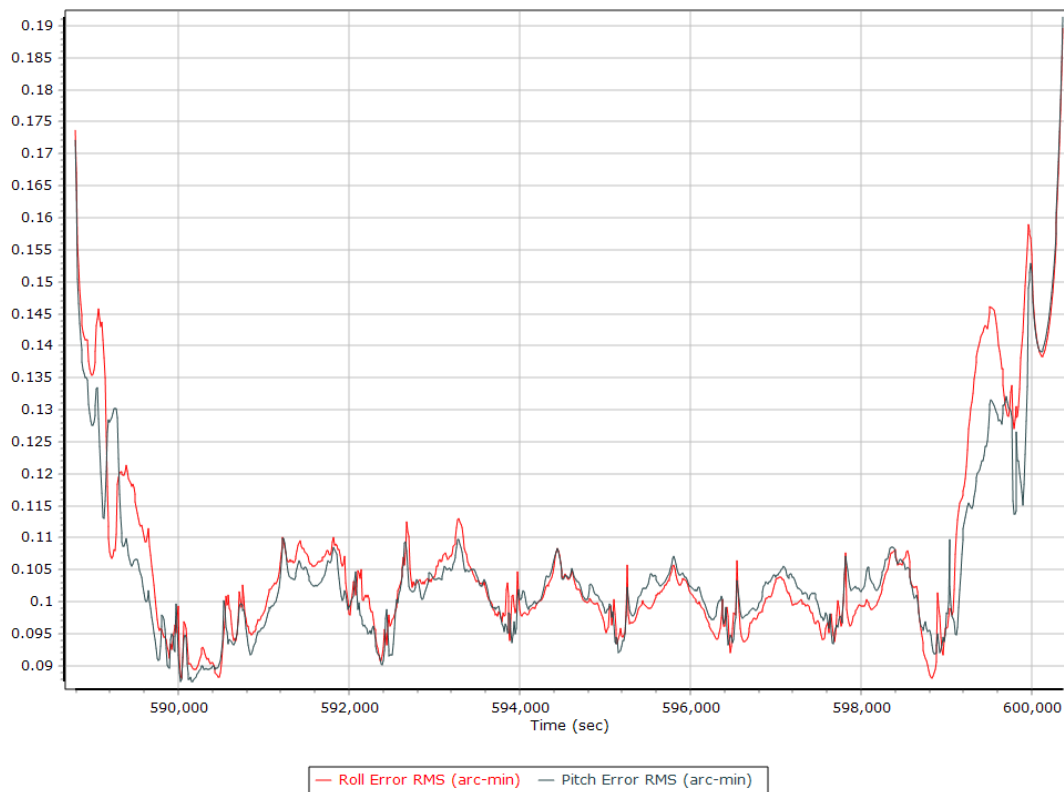
### Position Error RMS (m)



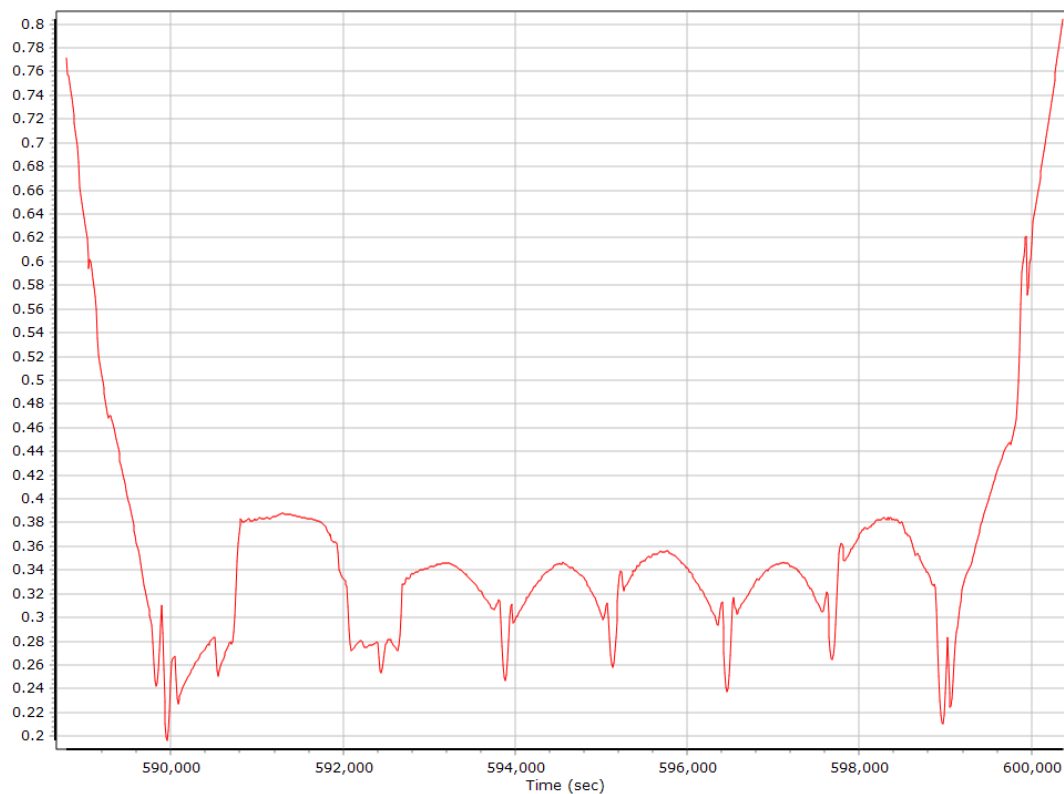
### Velocity Error RMS (m/s)



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

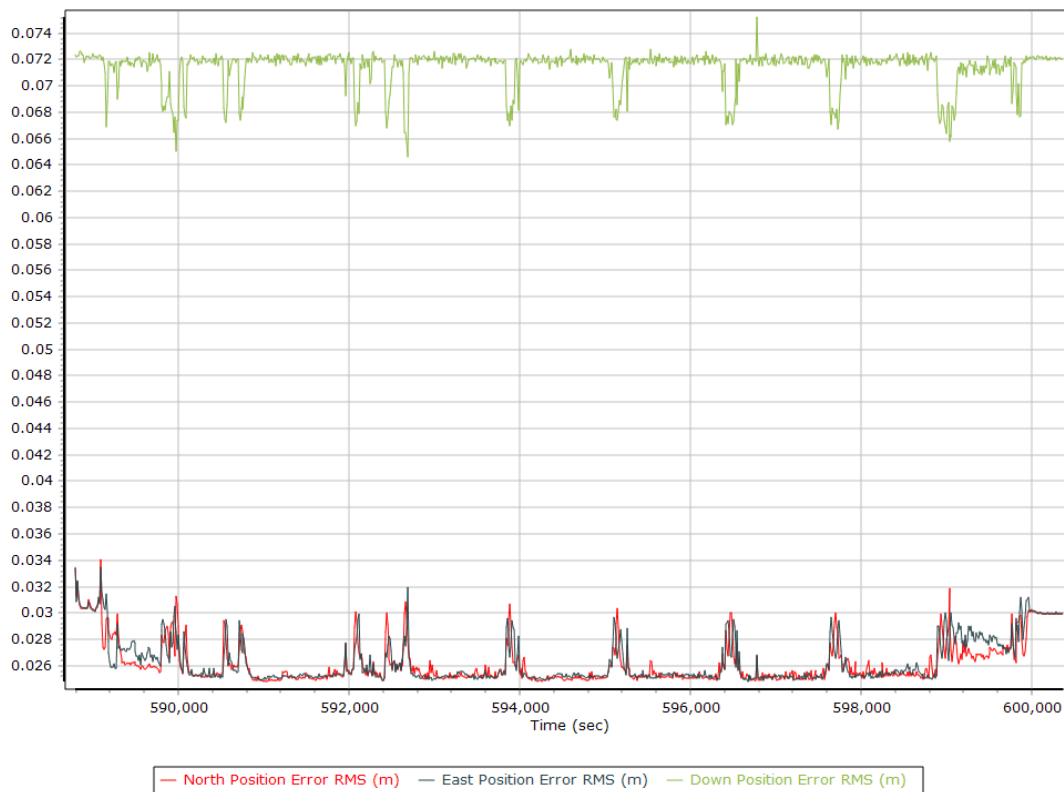


### Heading Error RMS (arc-min)

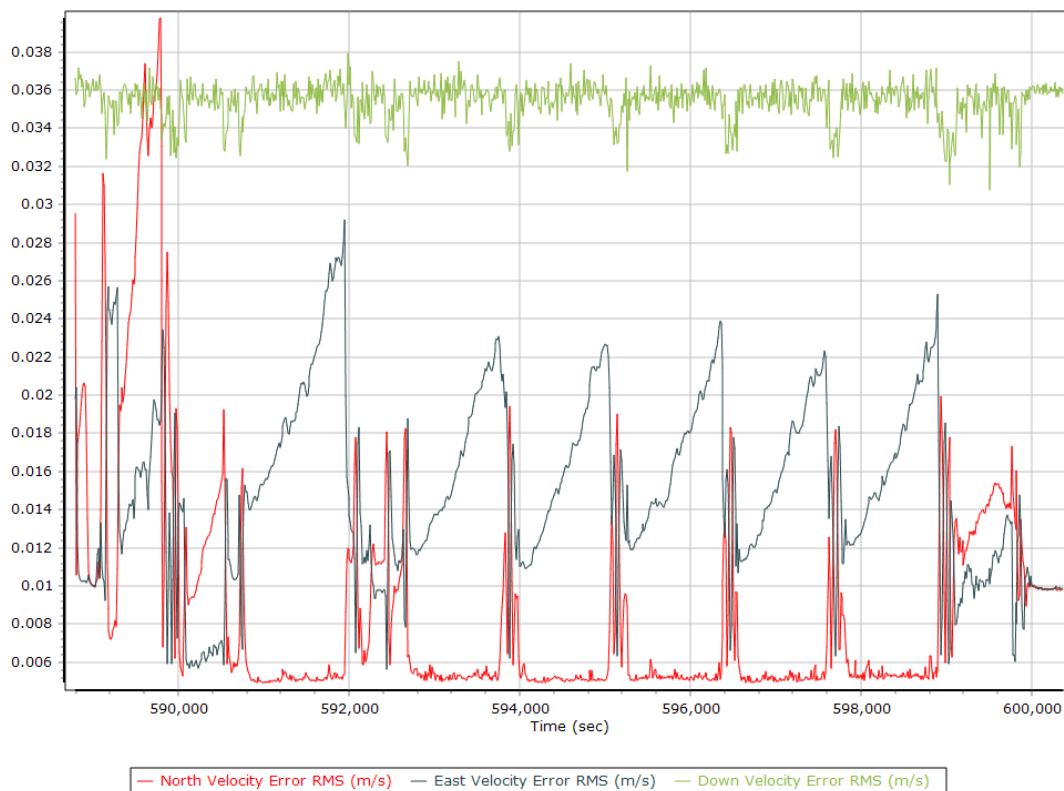


## Forward Processed Performance Metrics

### Position Error RMS (m)

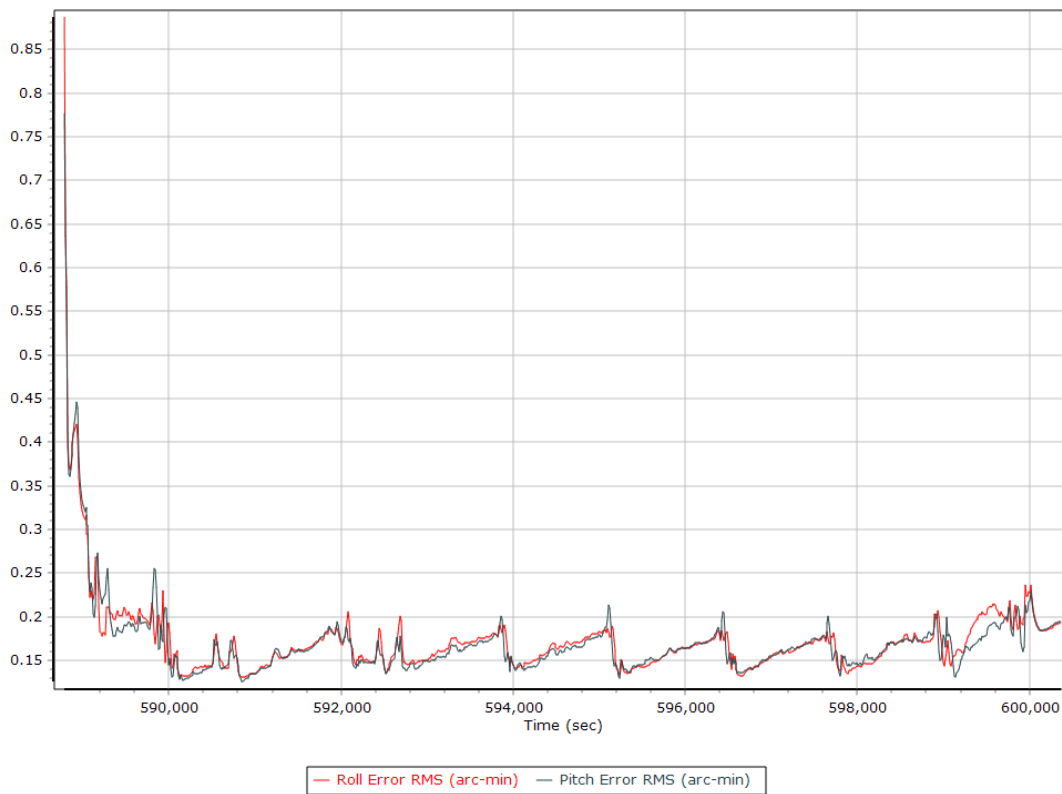


### Velocity Error RMS (m/s)

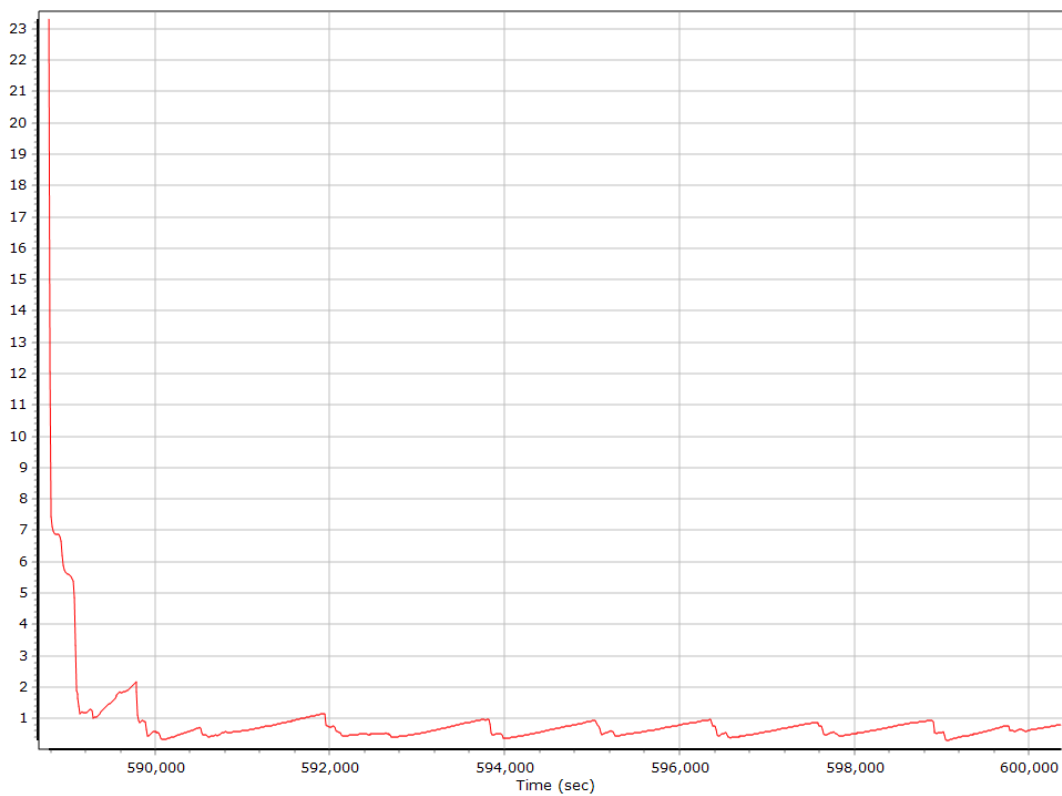




### Roll/Pitch Error RMS (arc-min)

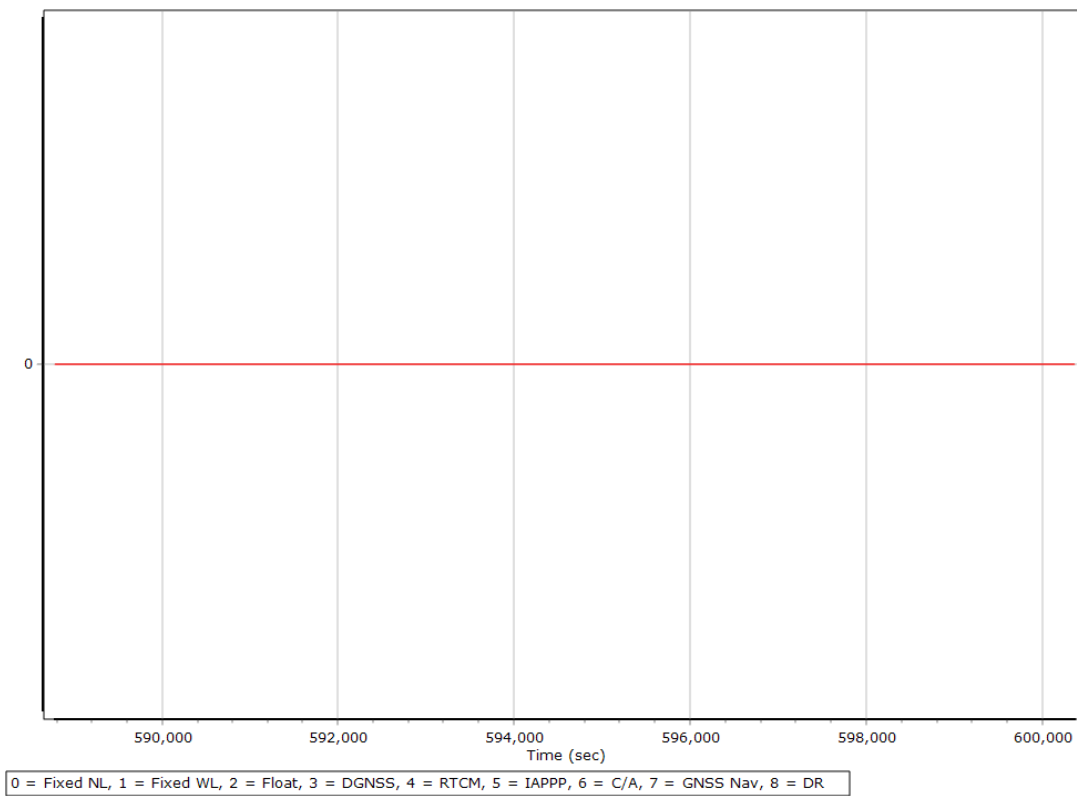


### Heading Error RMS (arc-min)

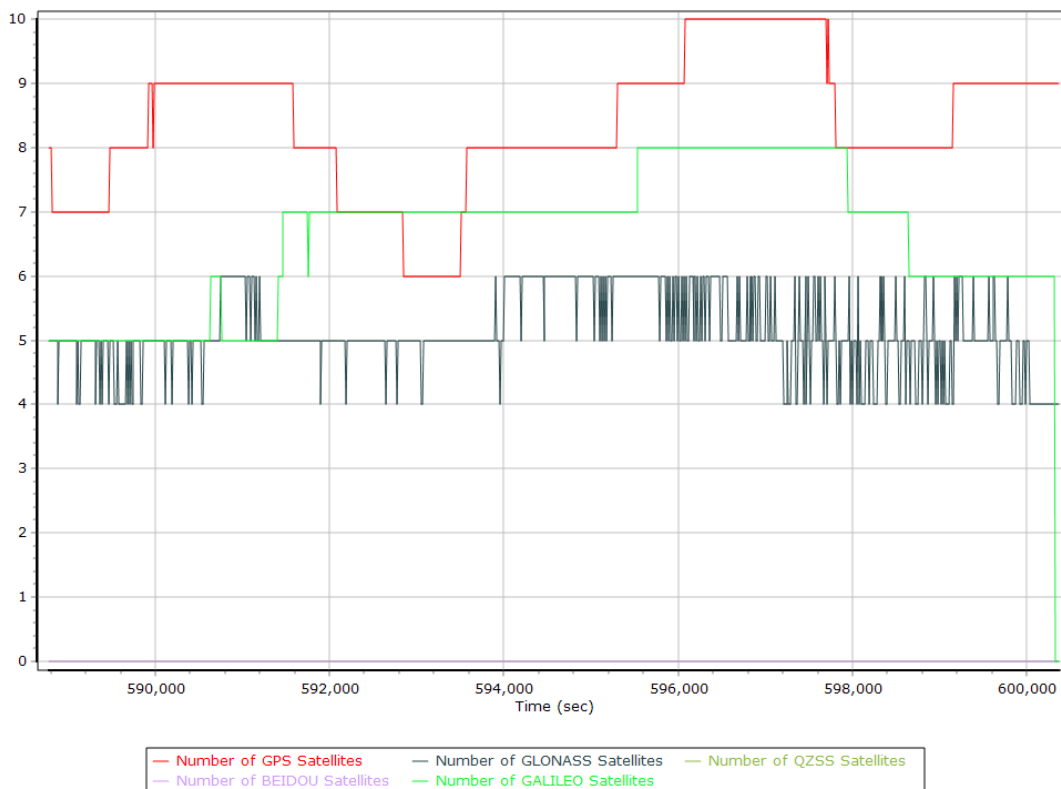


## Forward Processed Solution Status

### Processing Mode



### Number of Satellites



### Baseline Length

