

## General Information

### Mission Information

|                  |                                |
|------------------|--------------------------------|
| Project name     | 211023_B_5060420_nad2011_FINAL |
| Processing date  | 2021-11-04 18:12:36            |
| Mission date     | 2021-10-23 19:18:28            |
| Mission duration | 03:57:47.000                   |
| 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 |
|-------------|-----------|
| survey2.pos | POS Data  |

### Input Files

| File Name    | File Type                   |
|--------------|-----------------------------|
| Ephm2960.21g | GLONASS Broadcast Ephemeris |
| Ephm2960.21n | GPS Broadcast Ephemeris     |

### Output Files

| Filename                                | File type            |
|---|----------------------|
| sbet_211023_B_5060420_nad2011_FINAL.out | SBET Trajectory File |

## Rover Data Summary

|  |                                  |        |        |
|--|----------------------------------|--------|--------|
| First raw data file                                      | survey2.pos                      |        |        |
| Last raw data file                                       | survey2.pos                      |        |        |
| Start GPS week   | 2180                             |        |        |
| Start time   | 587908.012 (10/23/2021 19:18:28) |        |        |
| End time   | 602175.069 (10/23/2021 23:16:15) |        |        |
| Start of fine alignment                                  | 588241.061 (10/23/2021 19:24:01) |        |        |
| 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)                           | 0.000                            | 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  |

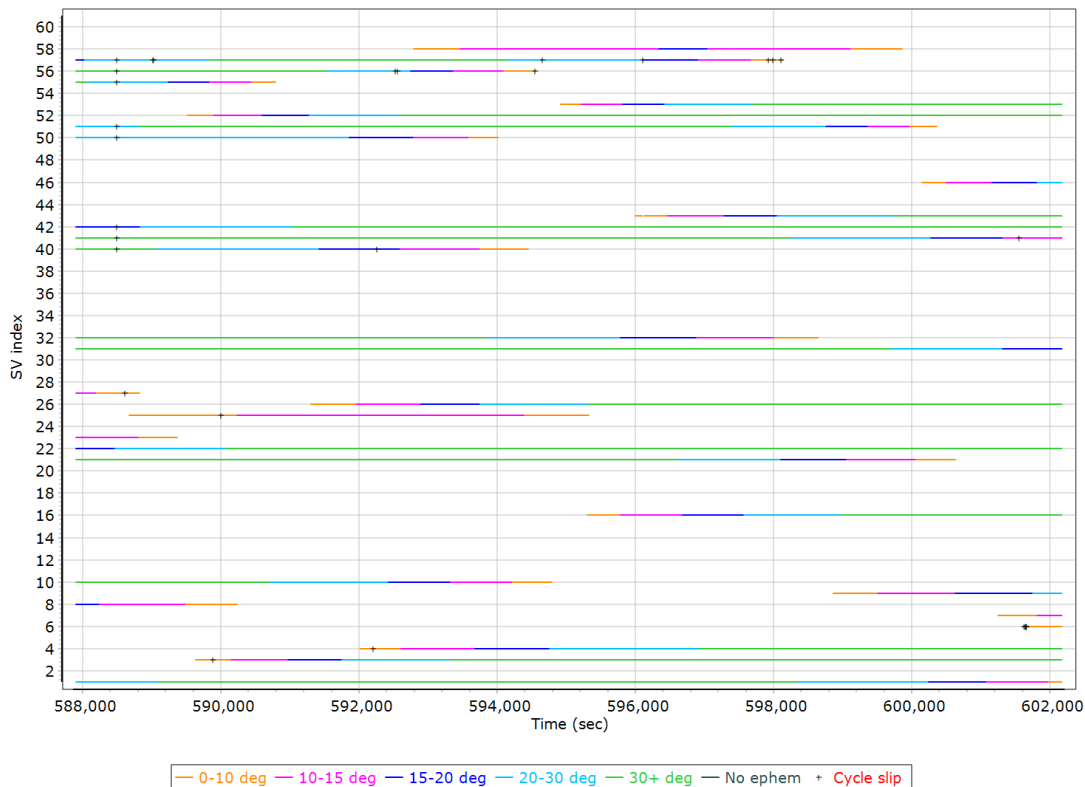
## Rover Data QC

### Raw IMU Import QC Summary

|                         |  |
|-------------------------|--|
| IMU data input file     | imu_211023_B_5060420_nad2011_FINAL.dat   |
| IMU data check log file | imudt_211023_B_5060420_nad2011_FINAL.log |
| IMU Records Processed   | 2852787                                  |
| Termination Status      | Normal                                   |
| IMU Anomalies           | 0  |

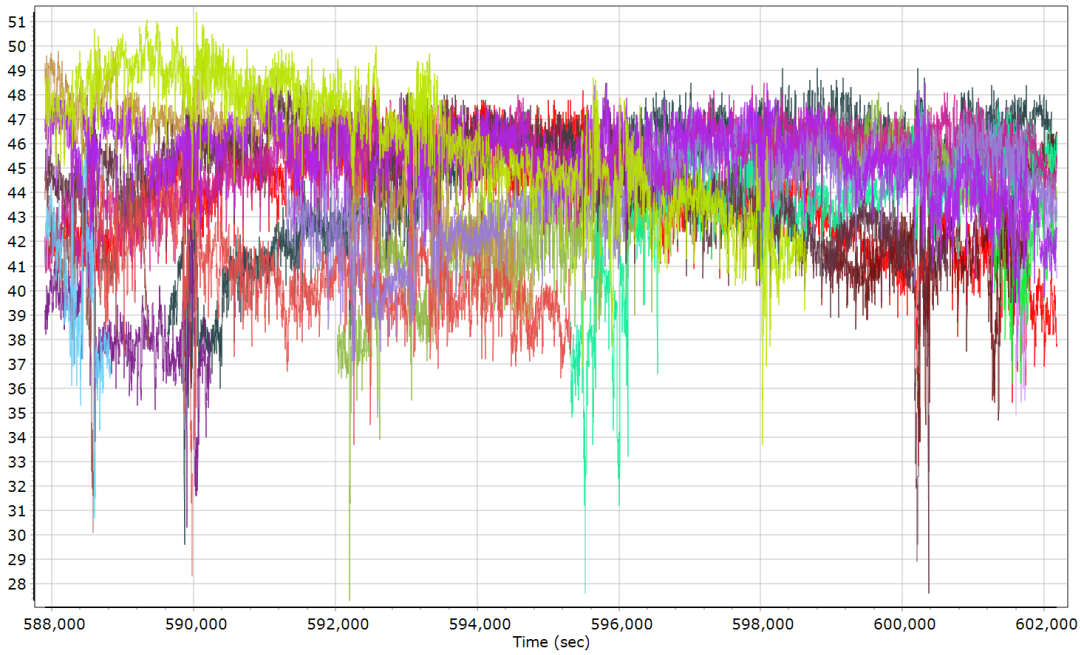
## Primary Observables & Satellite Data

### GPS/GLONASS L1 Satellite Lock/Elevation



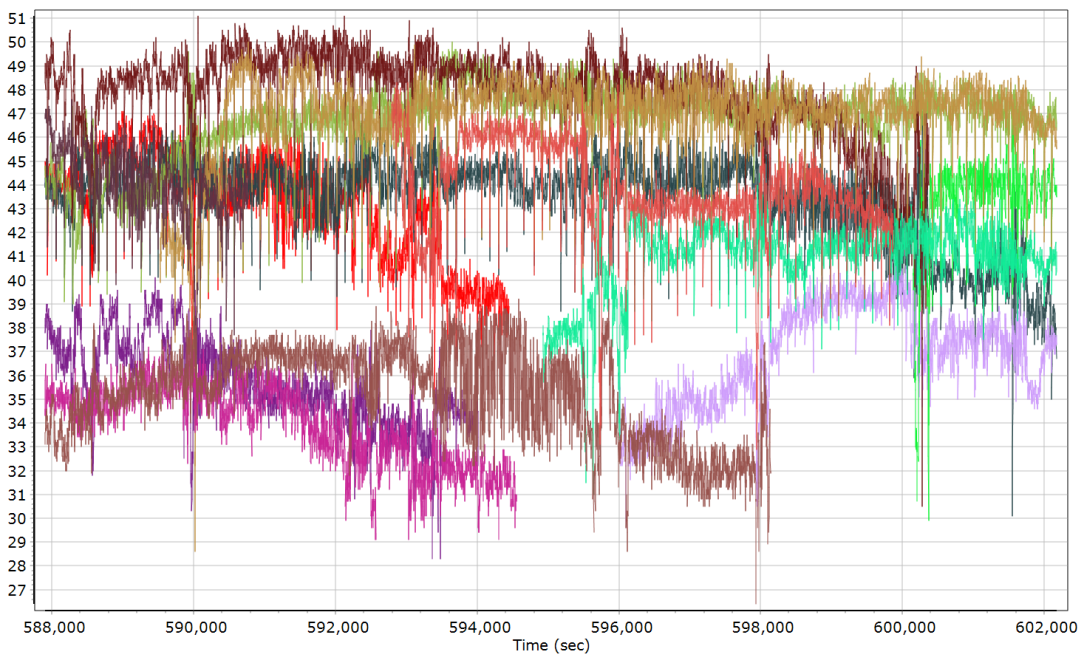


### GPS L1 SNR



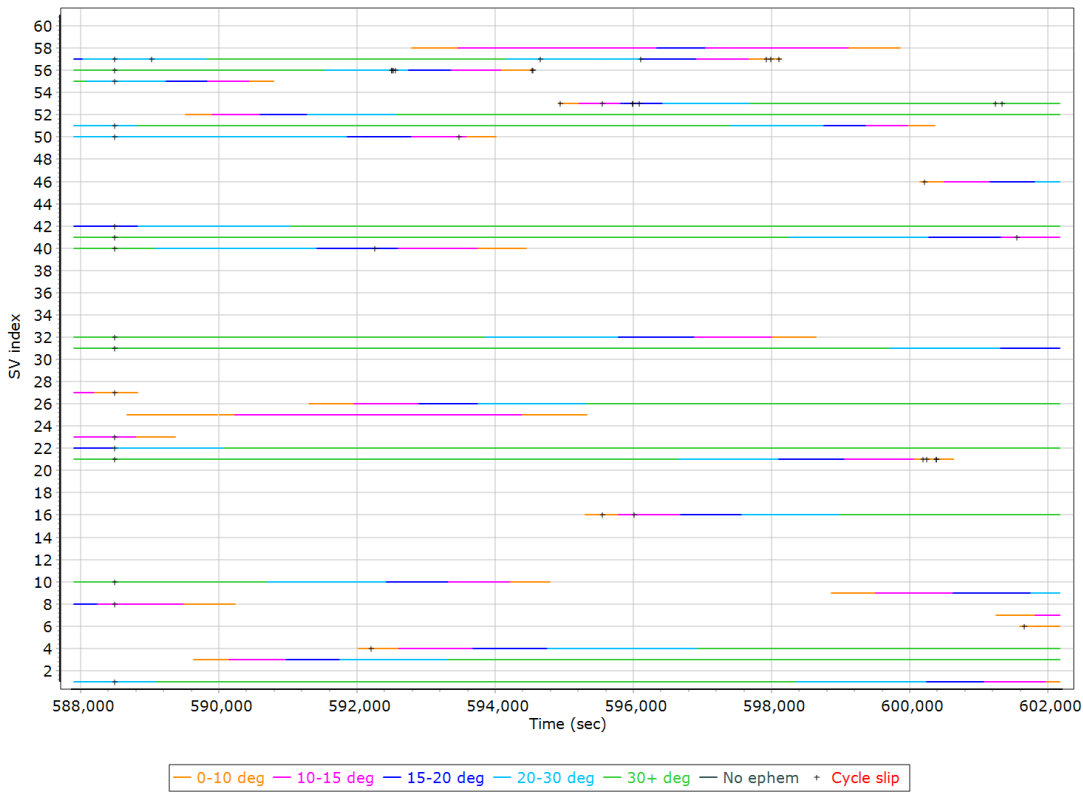
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L1 SNR (dB/Hz) | GPS PRN 03 L1 SNR (dB/Hz) | GPS PRN 04 L1 SNR (dB/Hz) | GPS PRN 06 L1 SNR (dB/Hz) |
| GPS PRN 07 L1 SNR (dB/Hz) | GPS PRN 08 L1 SNR (dB/Hz) | GPS PRN 09 L1 SNR (dB/Hz) | GPS PRN 10 L1 SNR (dB/Hz) |
| GPS PRN 16 L1 SNR (dB/Hz) | GPS PRN 21 L1 SNR (dB/Hz) | GPS PRN 22 L1 SNR (dB/Hz) | GPS PRN 23 L1 SNR (dB/Hz) |
| GPS PRN 25 L1 SNR (dB/Hz) | GPS PRN 26 L1 SNR (dB/Hz) | GPS PRN 27 L1 SNR (dB/Hz) | GPS PRN 31 L1 SNR (dB/Hz) |
| GPS PRN 32 L1 SNR (dB/Hz) |                           |                           |                           |

### GLONASS L1 SNR

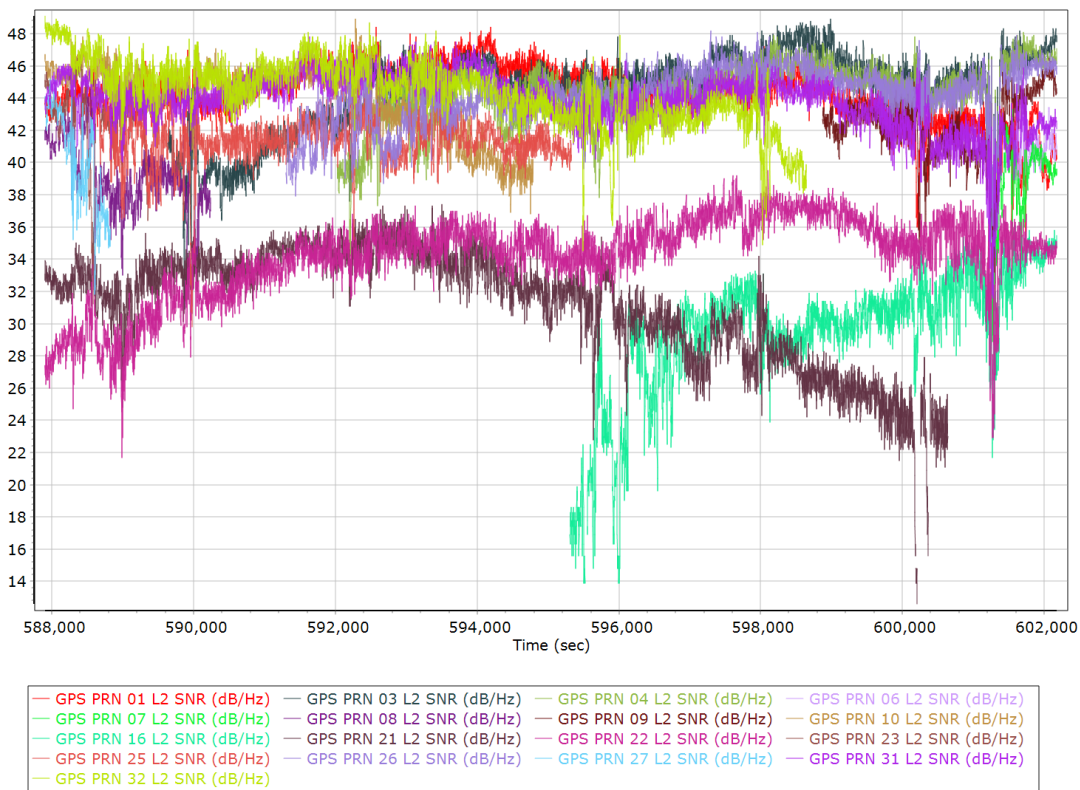


- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 03 L1 SNR (dB/Hz) | GLONASS 04 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) |
| GLONASS 06 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 13 L1 SNR (dB/Hz) |
| GLONASS 14 L1 SNR (dB/Hz) | GLONASS 15 L1 SNR (dB/Hz) | GLONASS 16 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) |                           |                           |

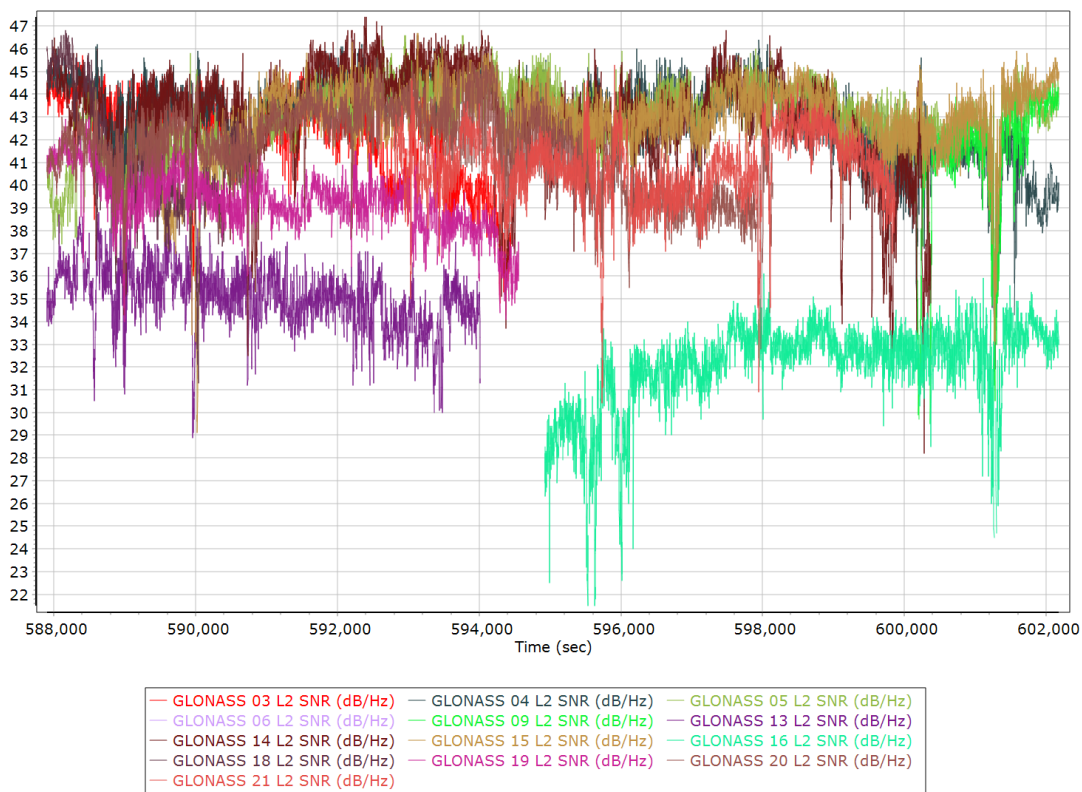
### GPS/GLONASS L2 Satellite Lock/Elevation



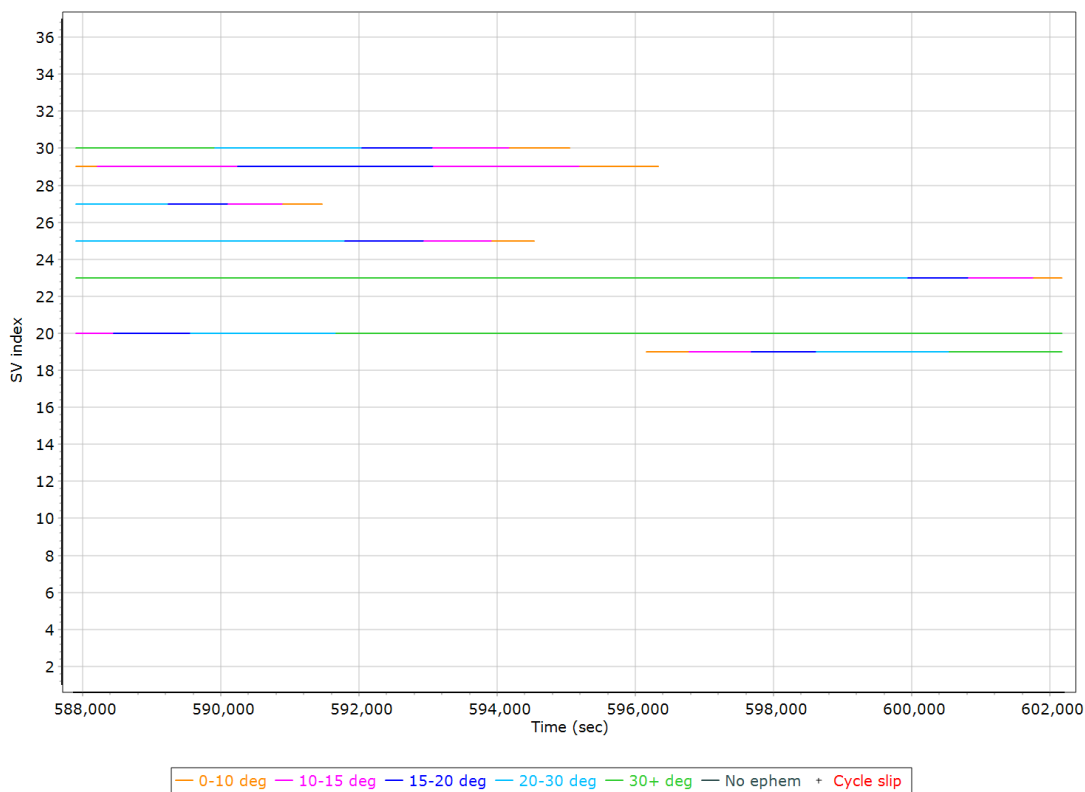
### GPS L2 SNR



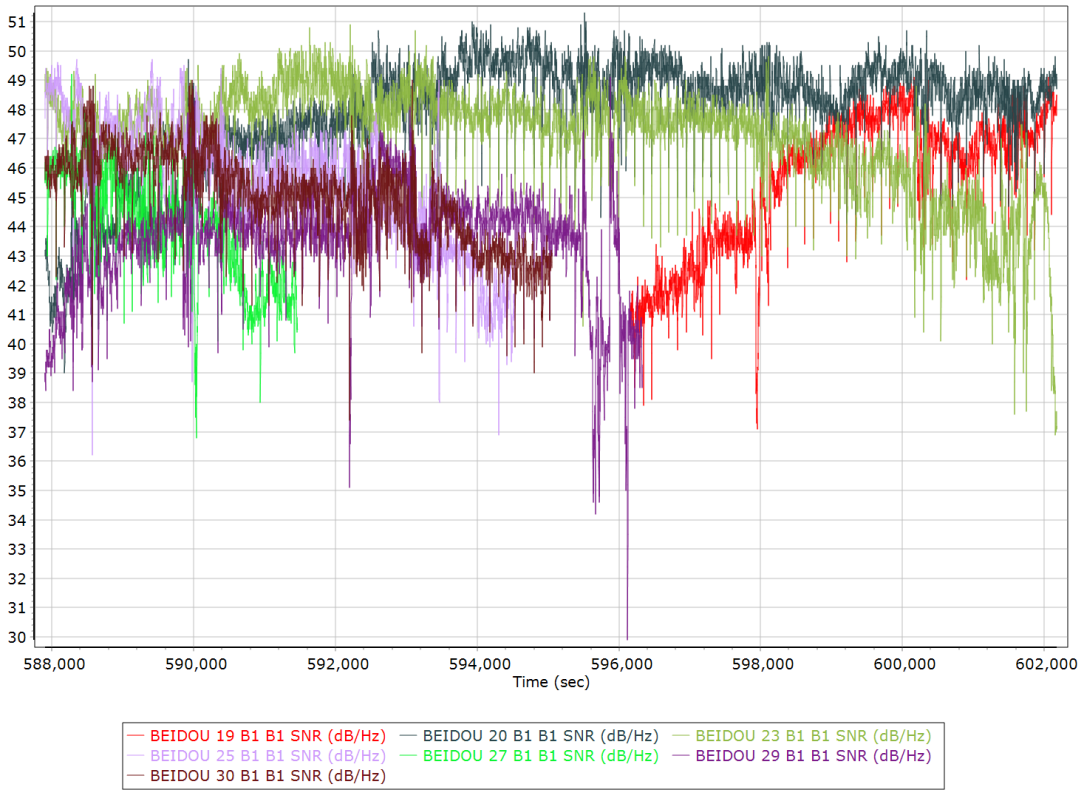
### GLONASS L2 SNR



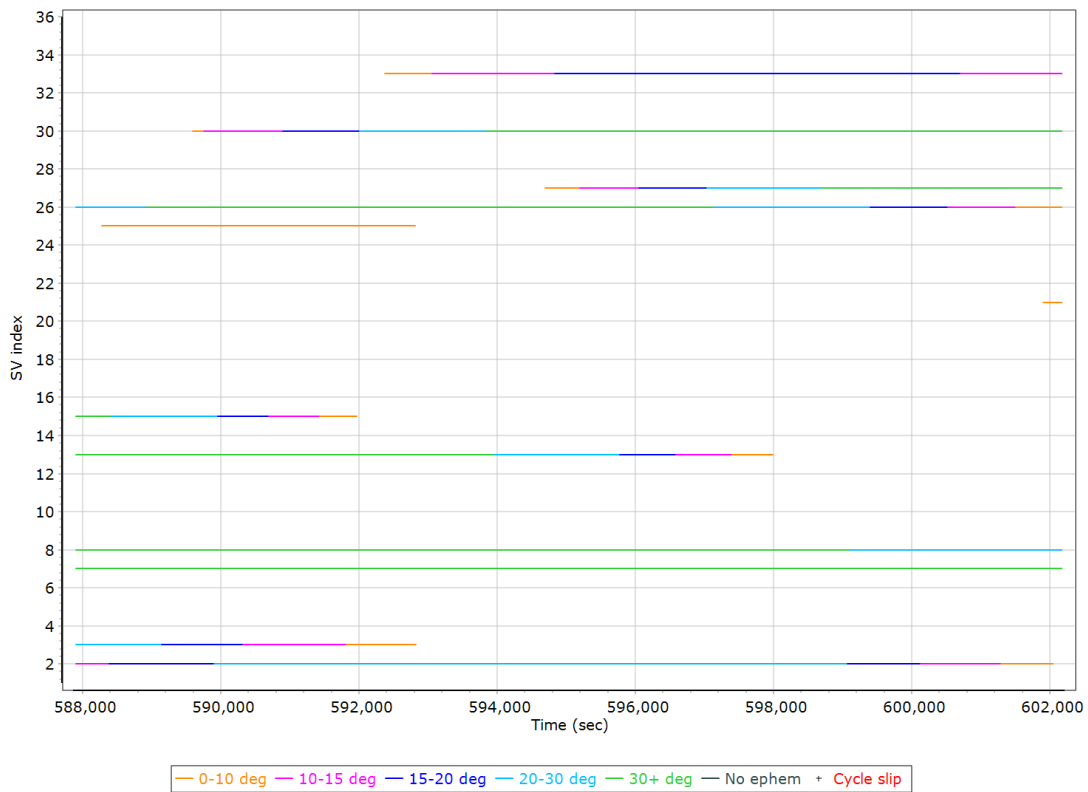
### BEIDOU Satellite Lock/Elevation



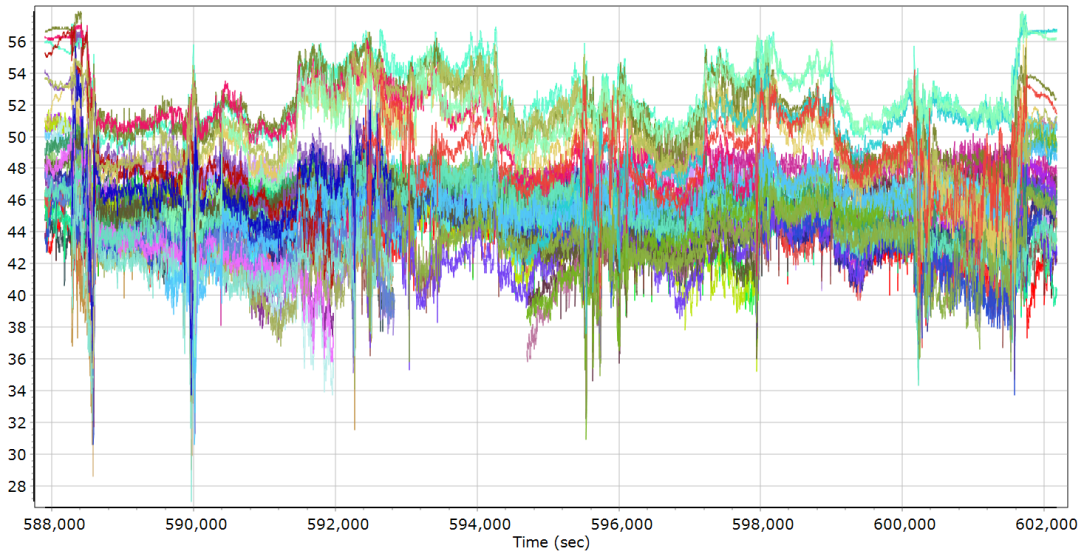
### BEIDOU SNR



### GALILEO Satellite Lock/Elevation



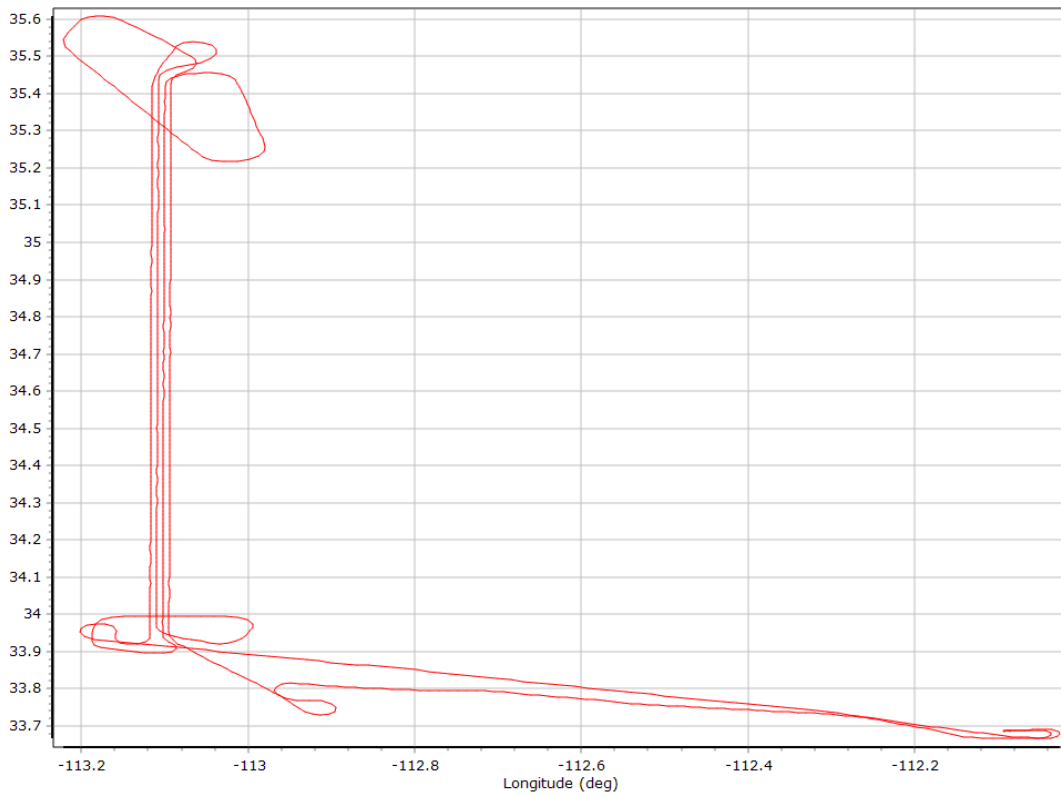
## GALILEO SNR



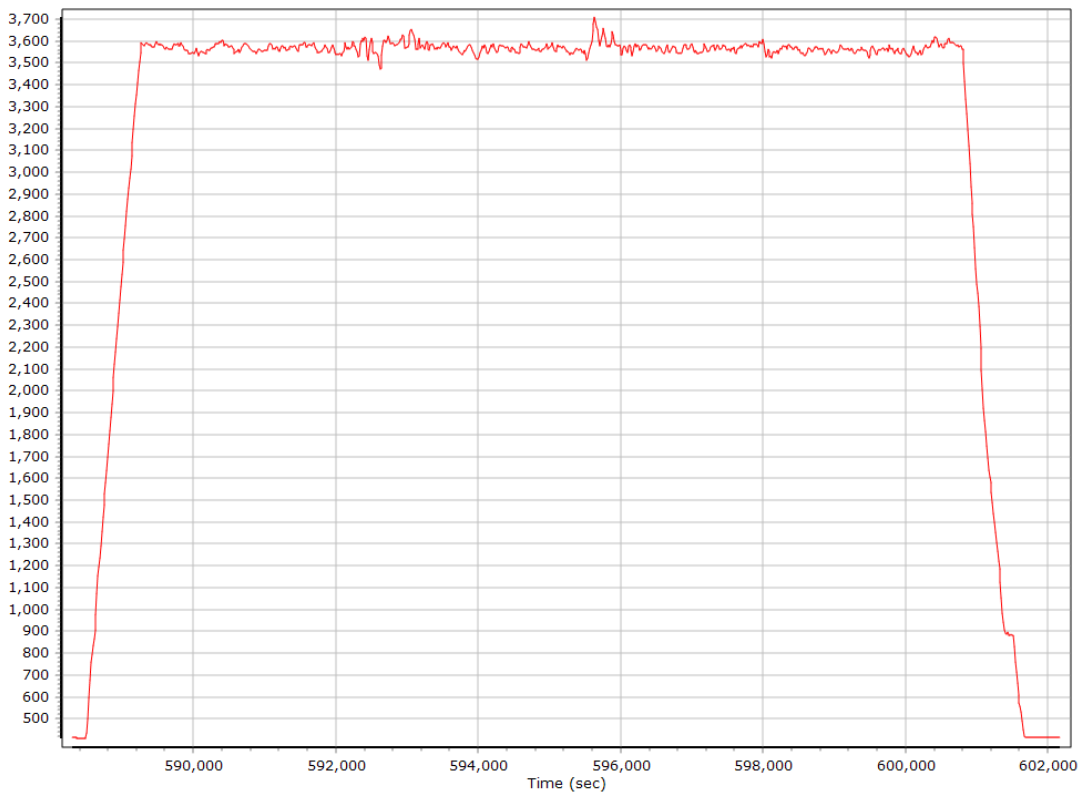
|   |   |
|---|---|
| — GALILEO 02 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 07 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 13 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 15 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 21 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 25 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 02 L5E5A BPSK10_PD SNR (dB/Hz)    | — GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz)    |
| — GALILEO 07 L5E5A BPSK10_PD SNR (dB/Hz)    | — GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz)    |
| — GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz)    | — GALILEO 15 L5E5A BPSK10_PD SNR (dB/Hz)    |
| — GALILEO 21 L5E5A BPSK10_PD SNR (dB/Hz)    | — GALILEO 25 L5E5A BPSK10_PD SNR (dB/Hz)    |

## Smoothed Trajectory Information

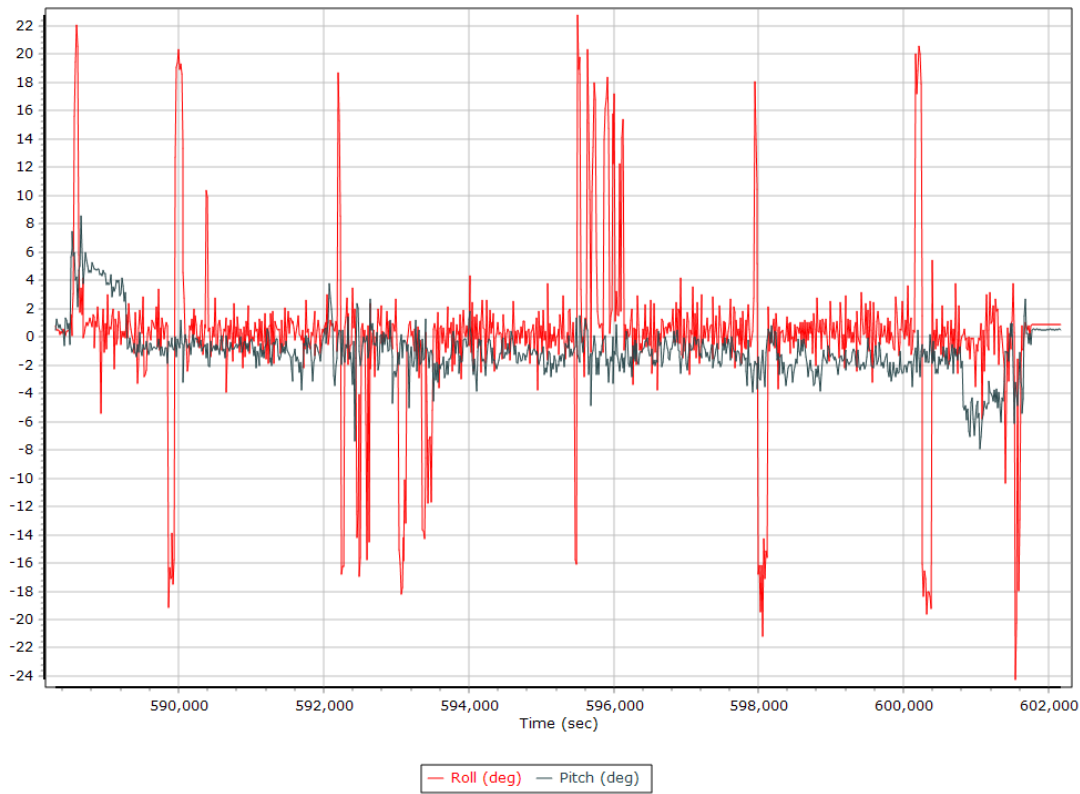
### Top View



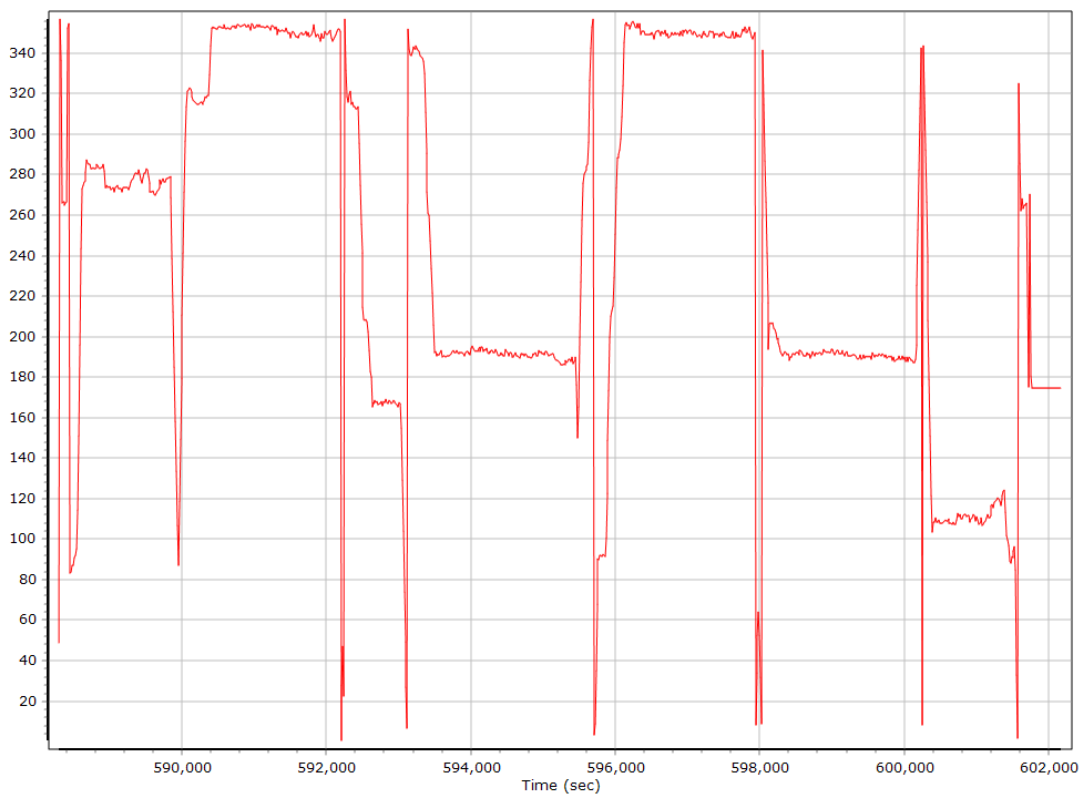
### Altitude



## Roll/Pitch

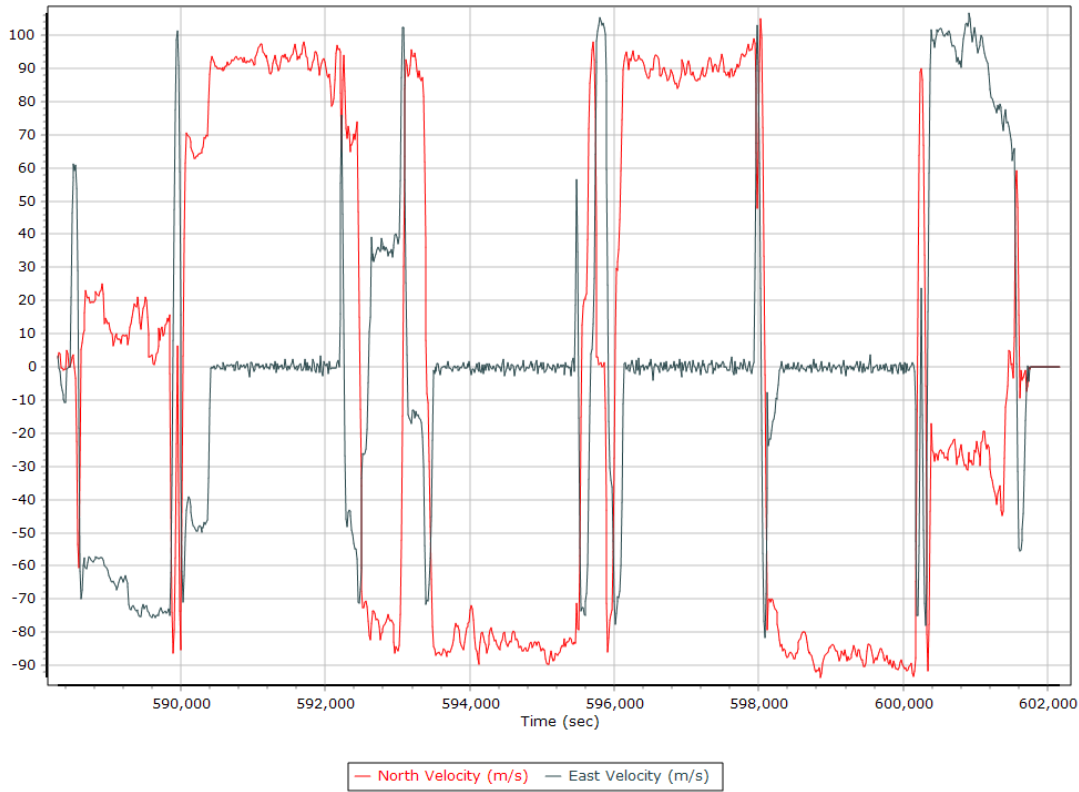


## Heading

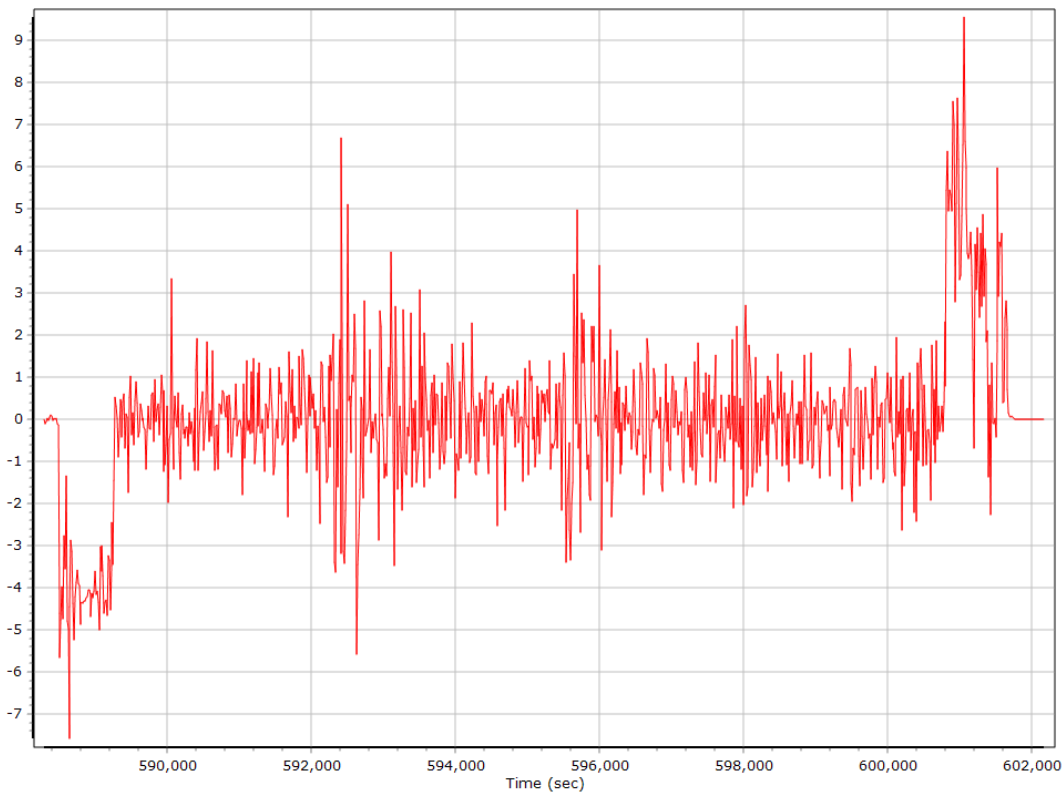




## North/East Velocity

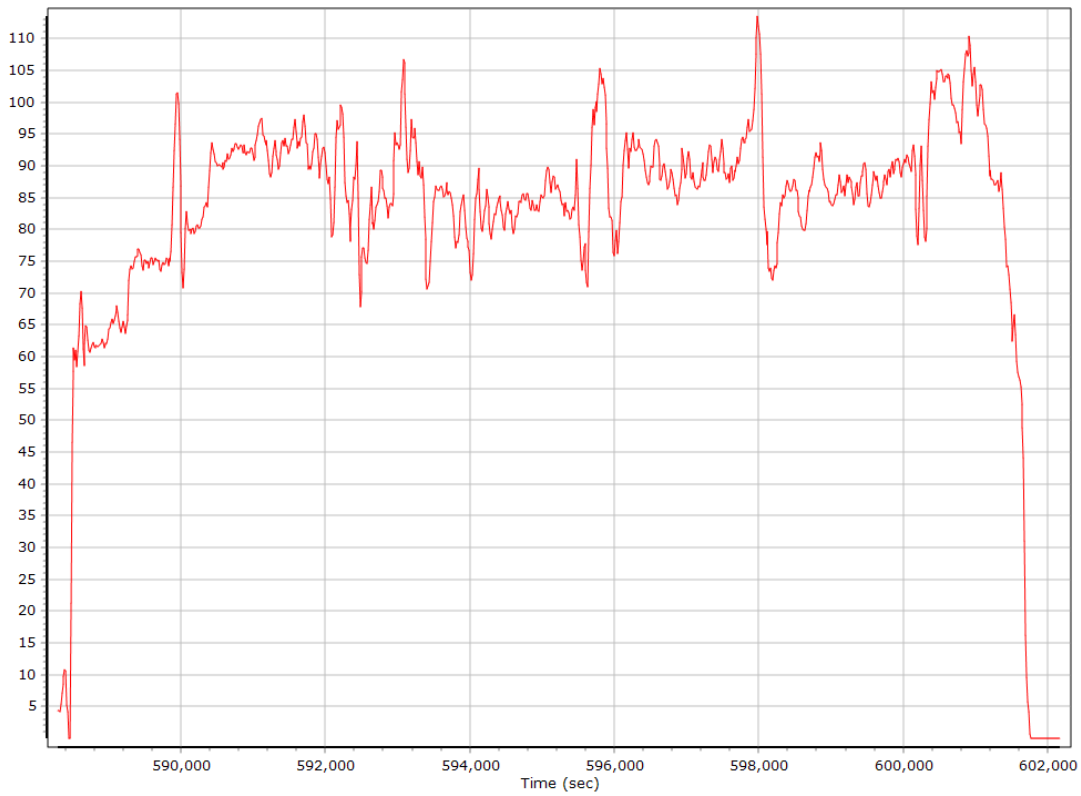


## Down Velocity

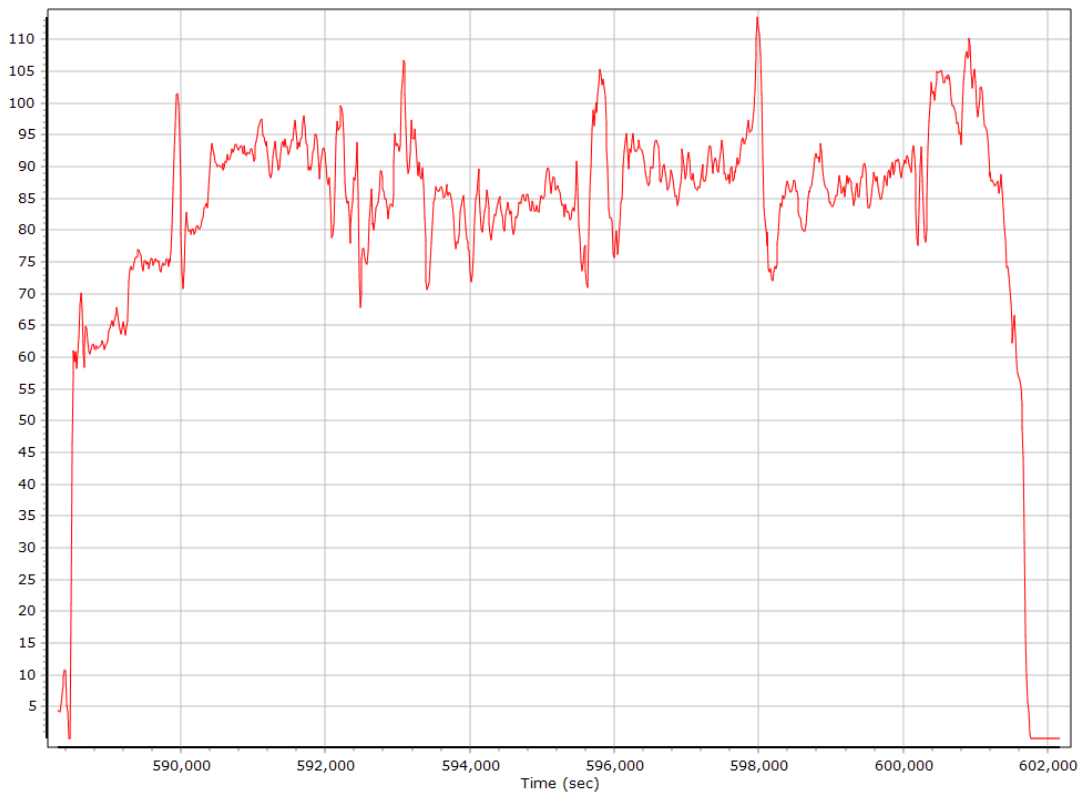




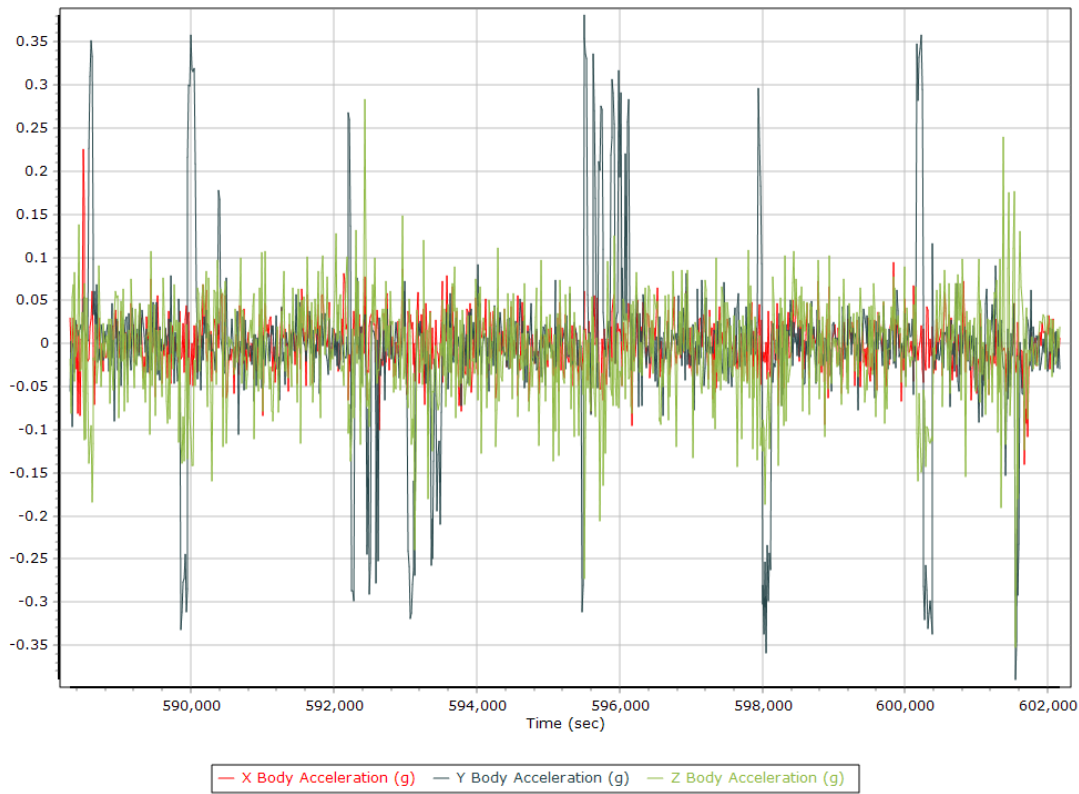
## Total Speed



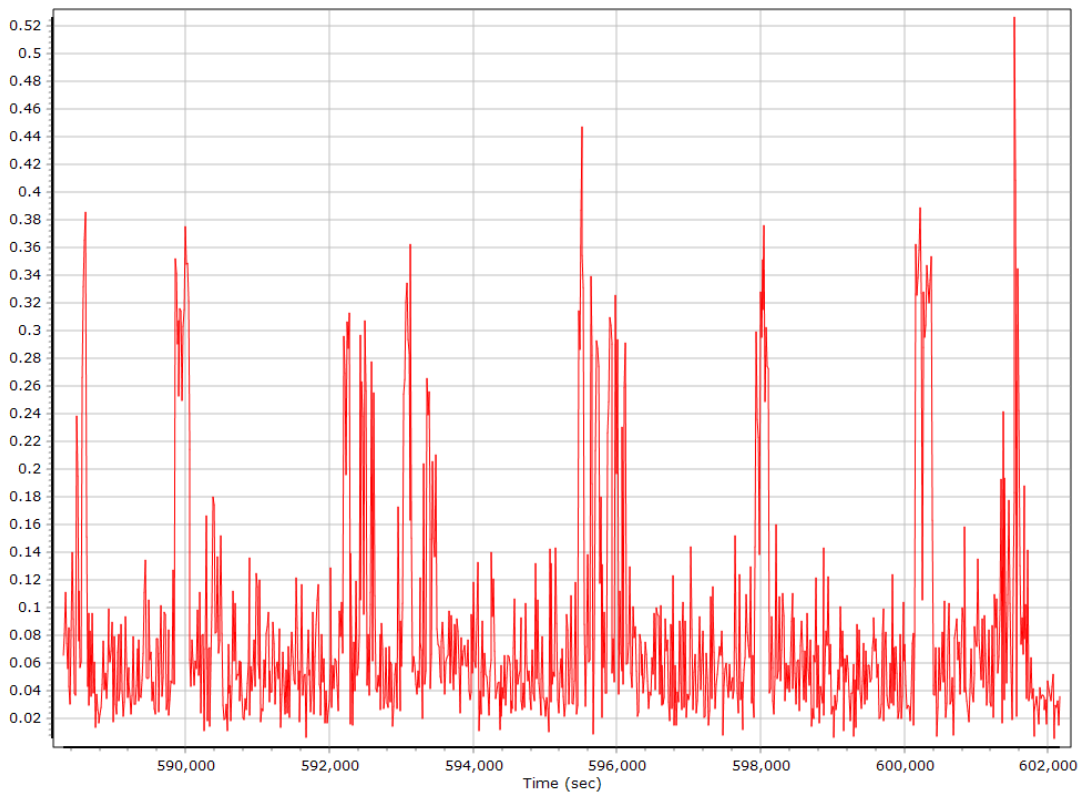
## Ground Speed



## Body Acceleration



## Total Body Acceleration

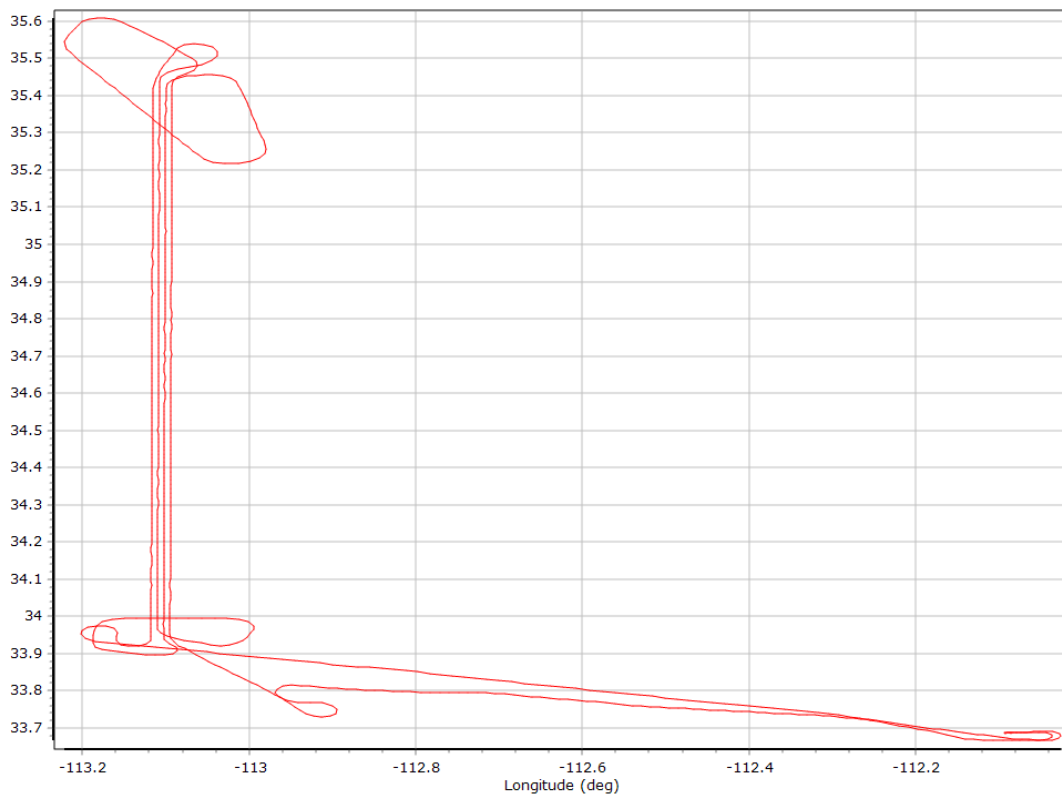


## Body Angular Rate

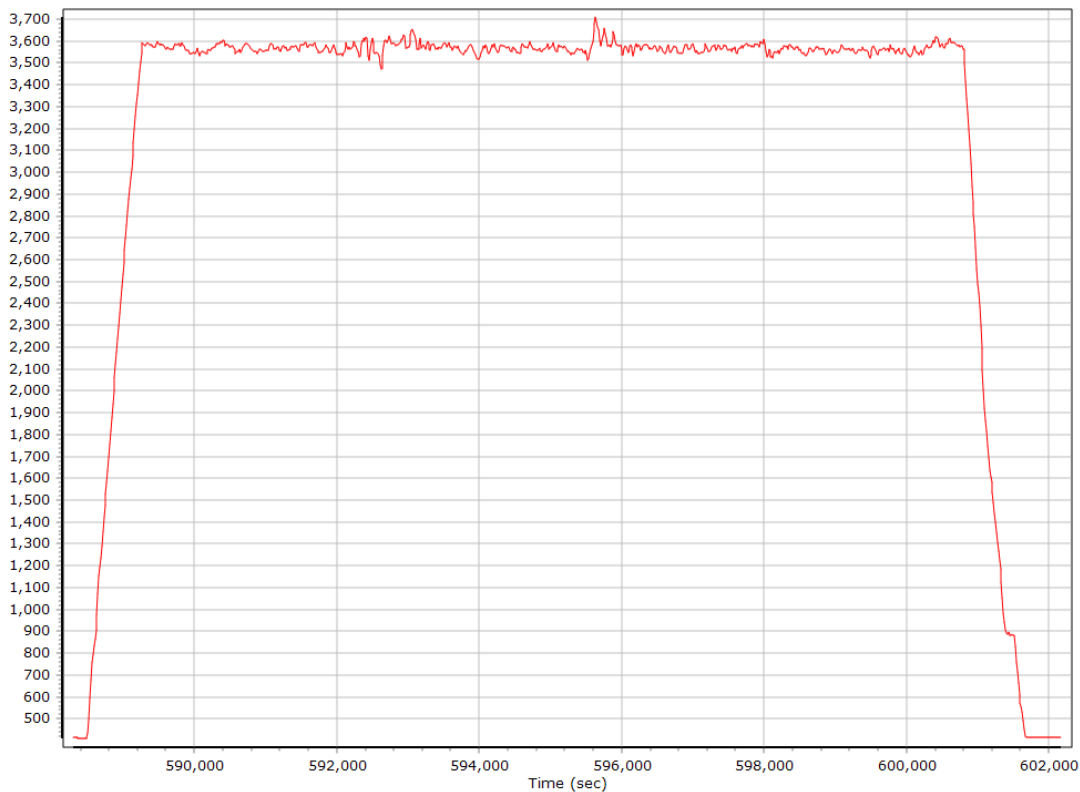


## Forward Processed Trajectory Information

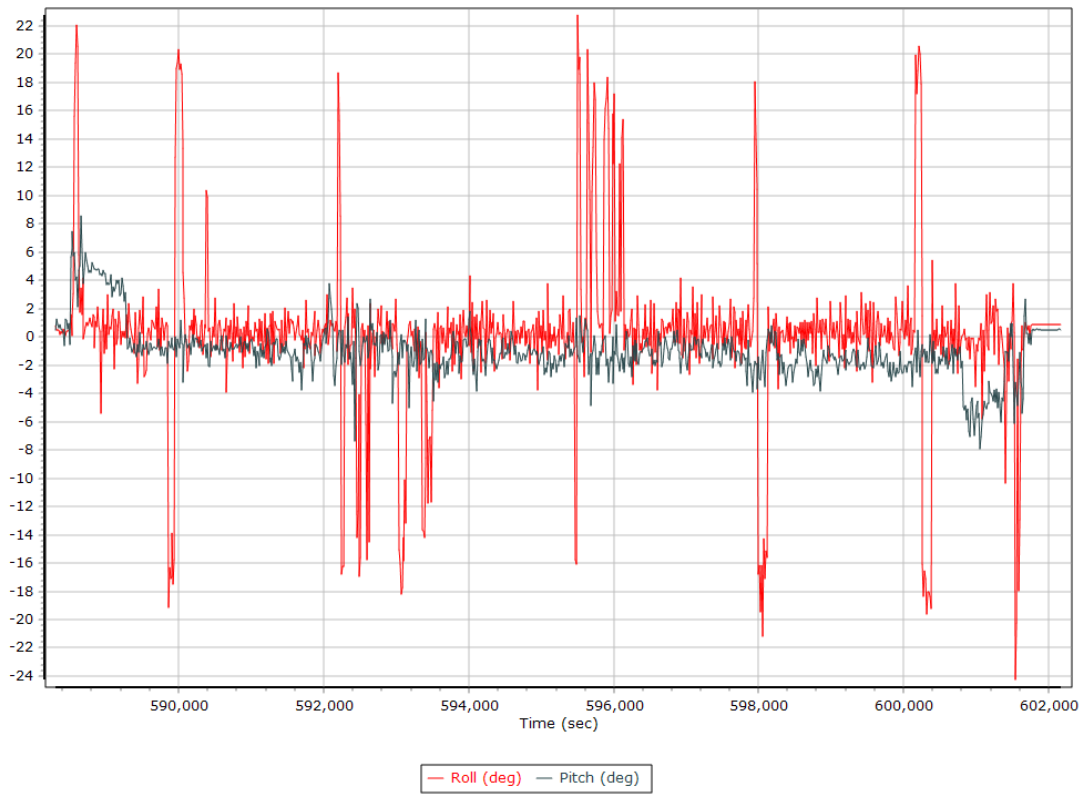
### Top View



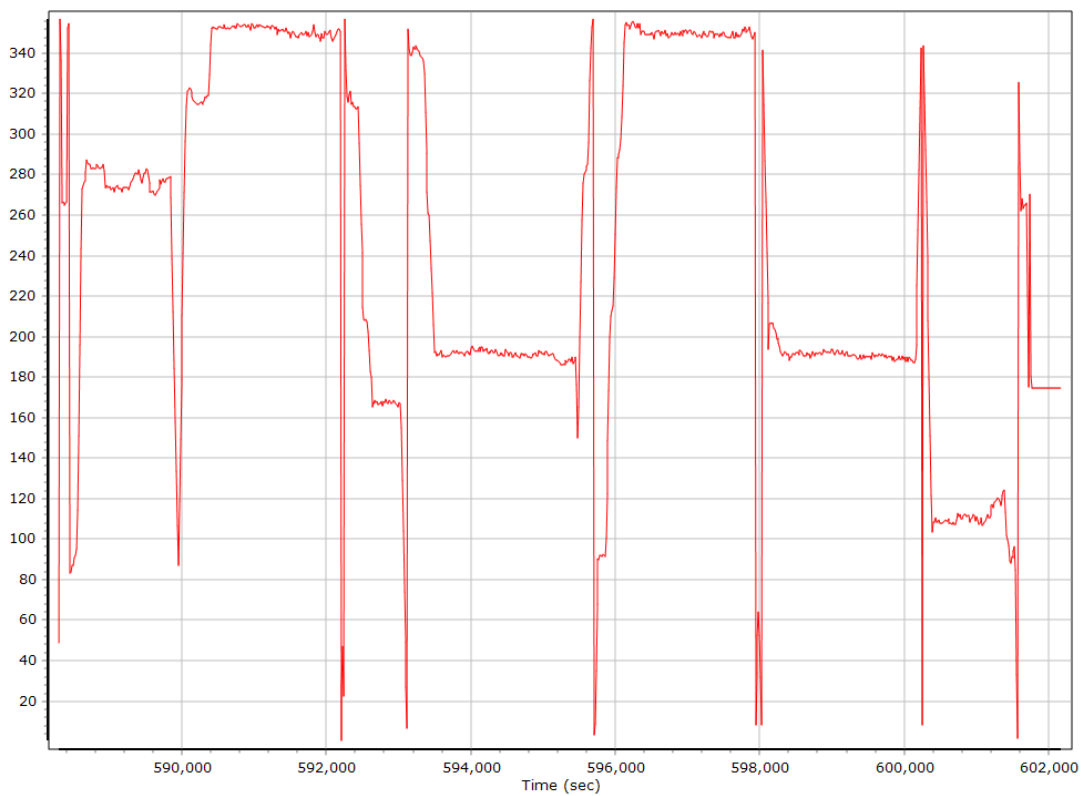
### Altitude



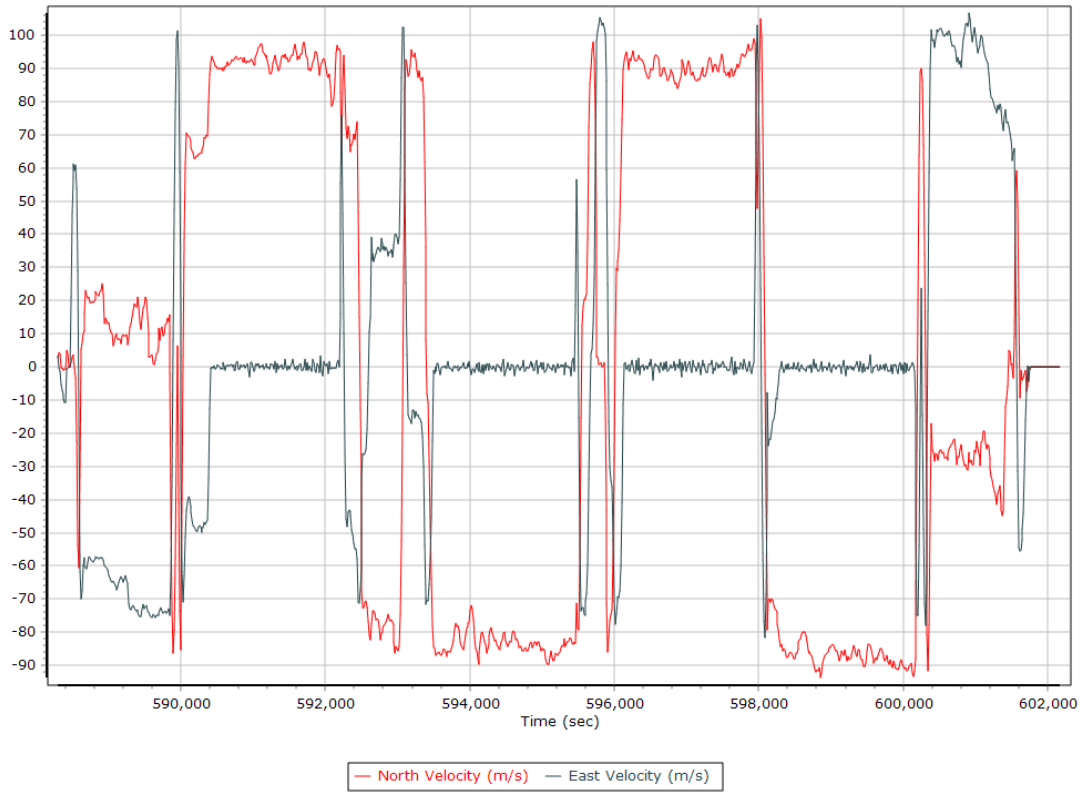
## Roll/Pitch



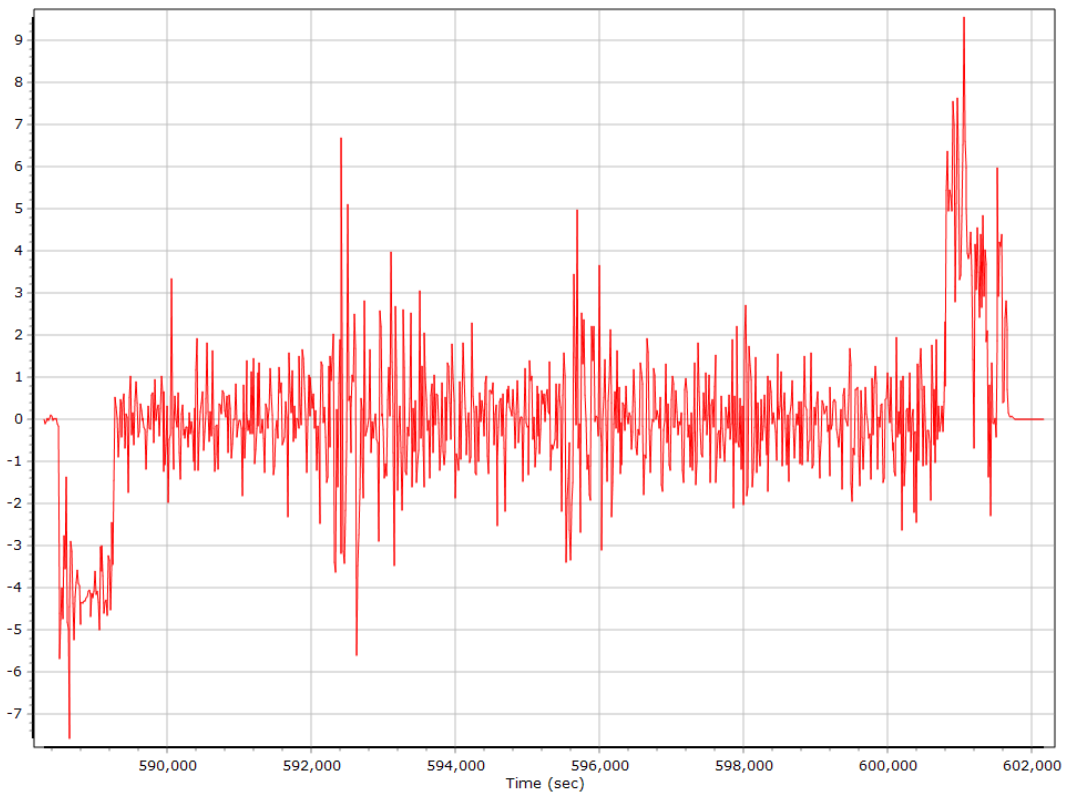
## Heading



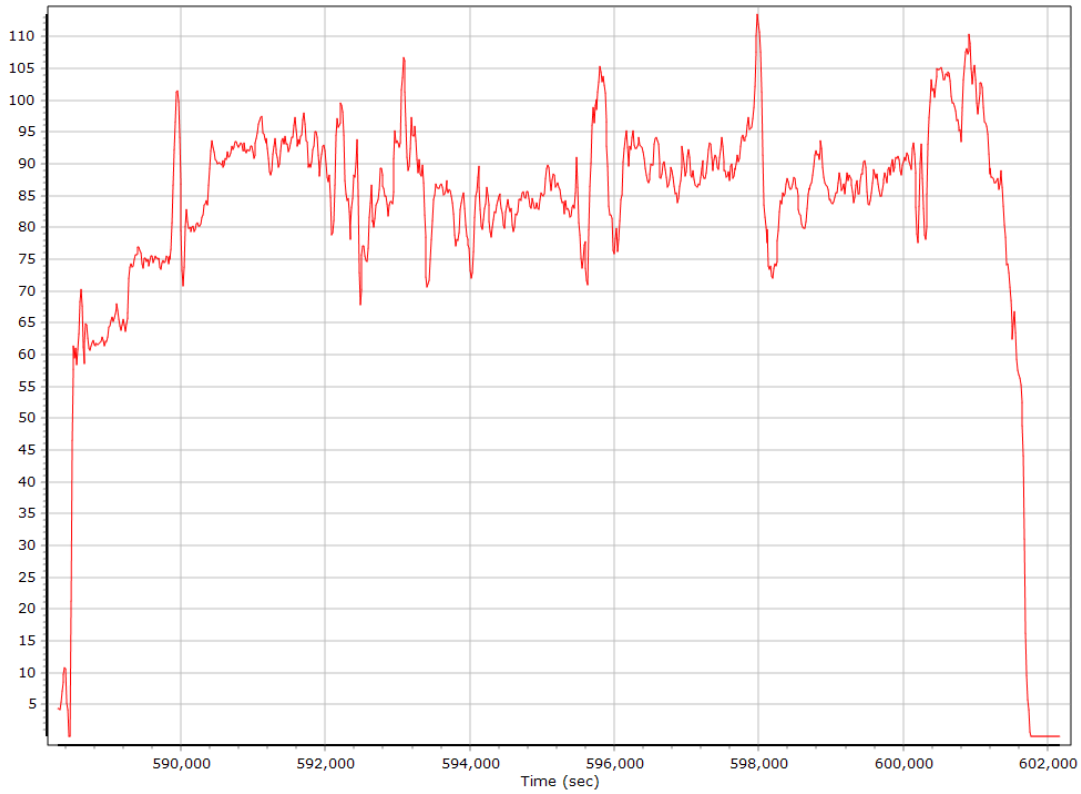
### North/East Velocity



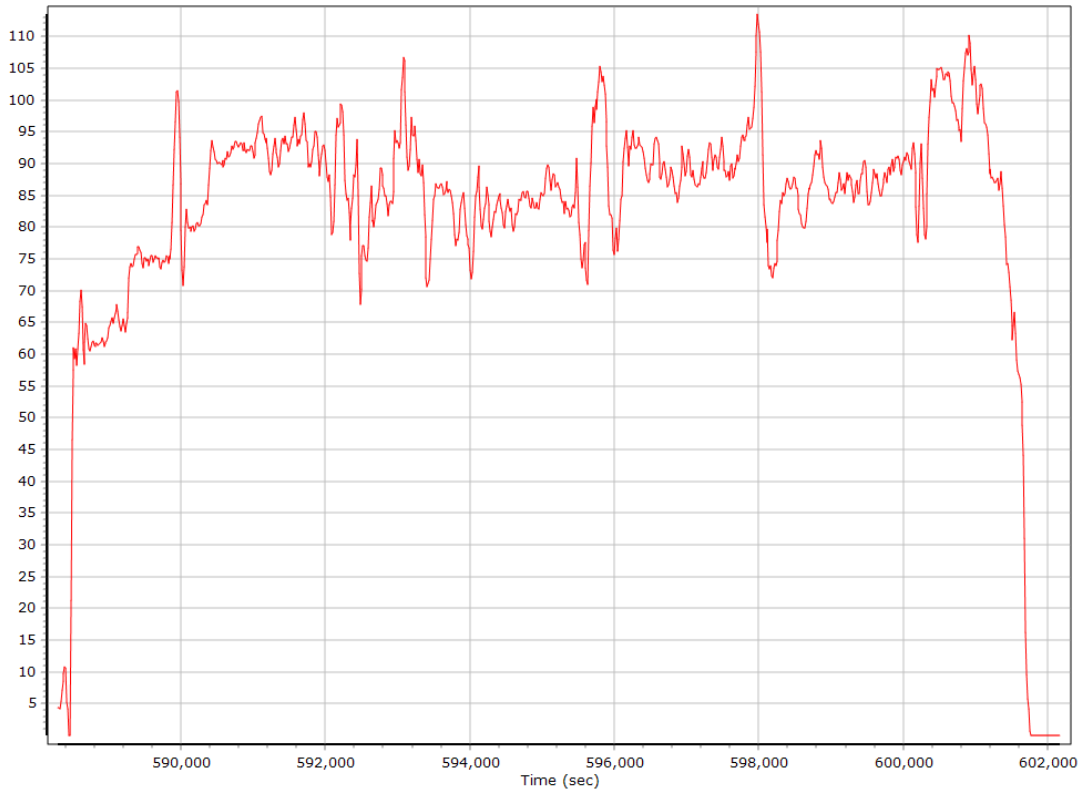
### Down Velocity



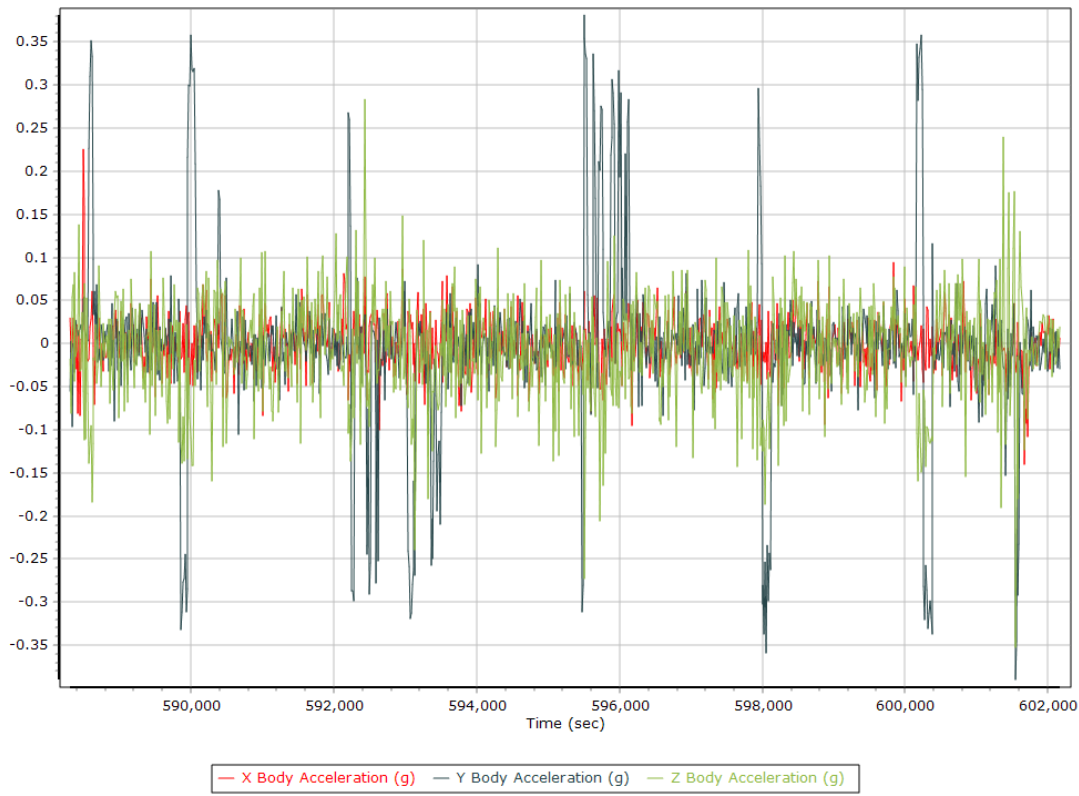
## Total Speed



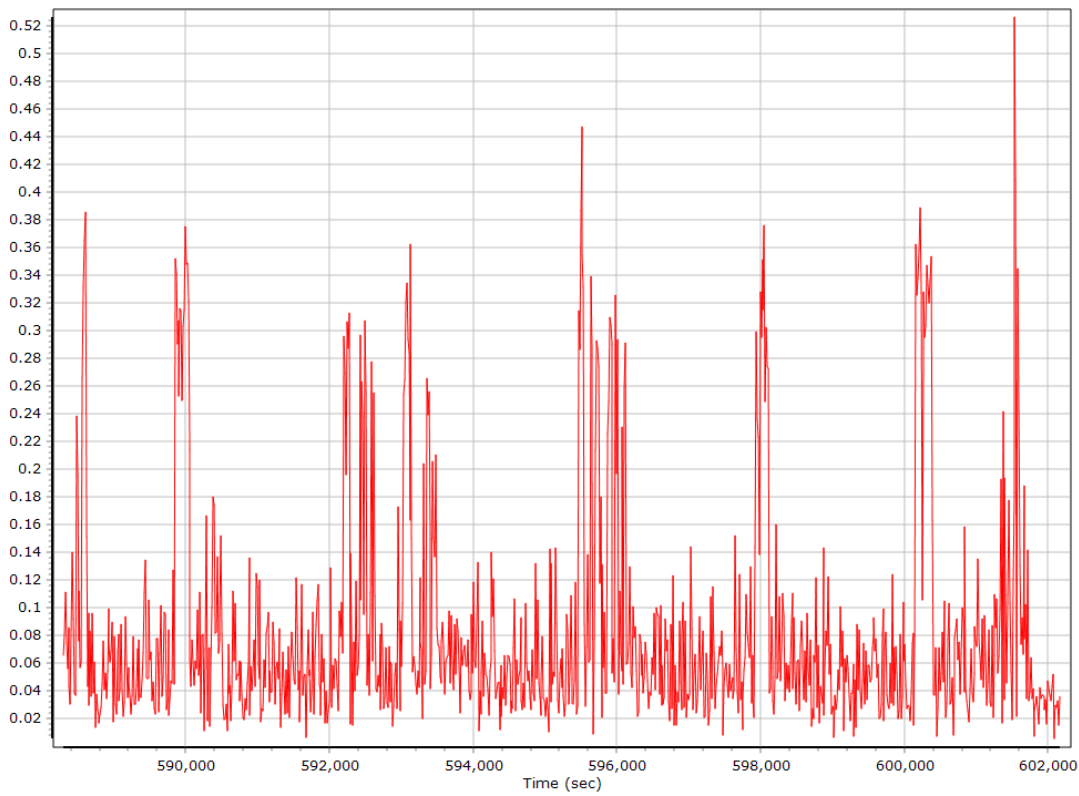
## Ground Speed



## Body Acceleration



## Total Body Acceleration





## Body Angular Rate

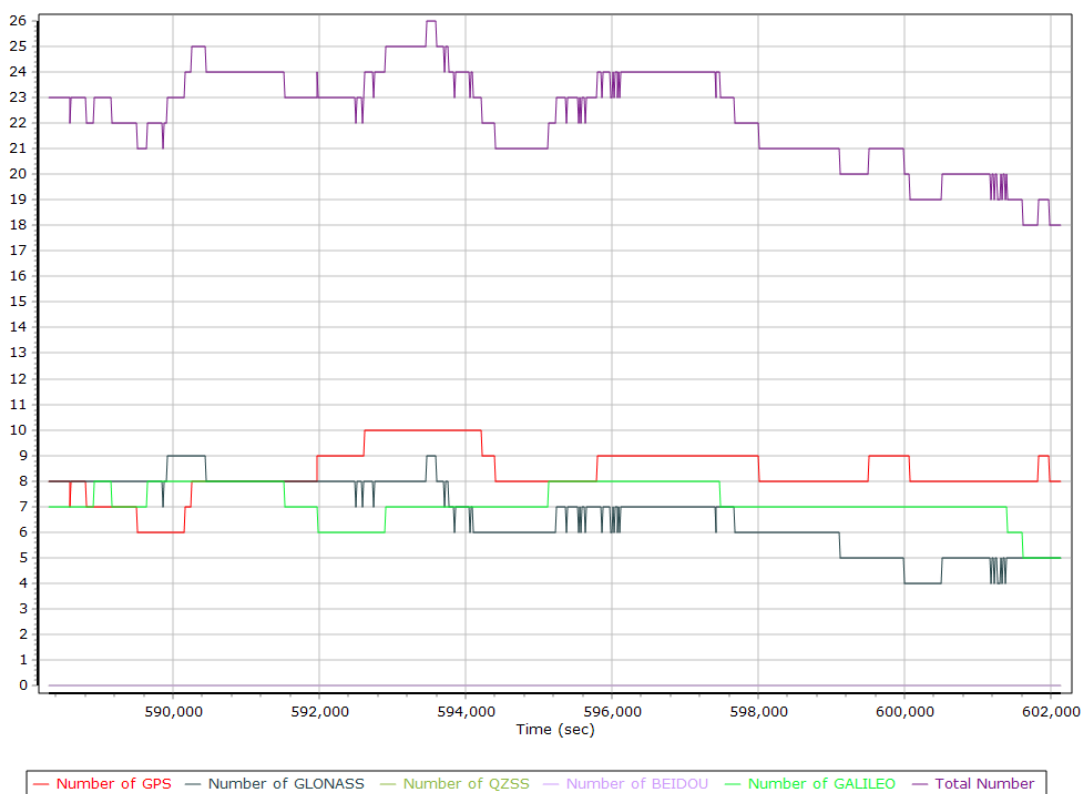


## GNSS QC

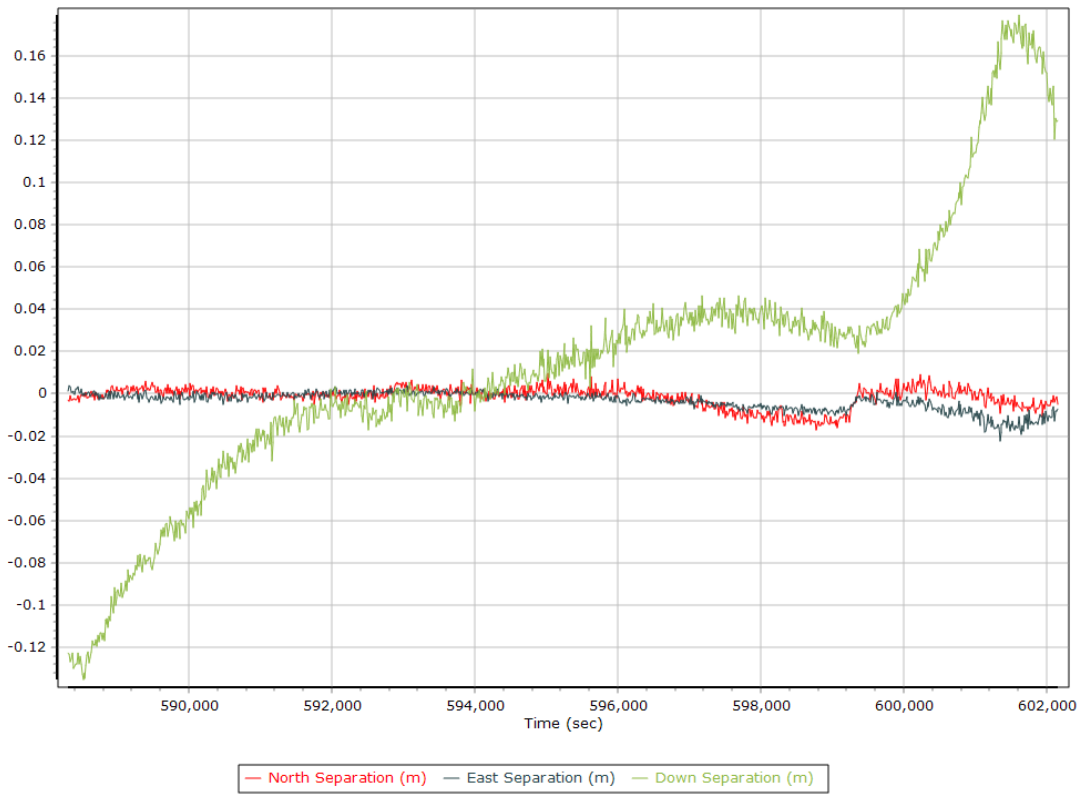
### GNSS QC Statistics

| Statistics           | Min      | Max   | Mean        |
|----------------------|----------|-------|-------------|
| Baseline length (km) | 0.00     | 0.00  |             |
| Number of GPS SV     | 6        | 10    | 8           |
| Number of GLONASS SV | 0        | 9     | 7           |
| 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   | 15       | 26    | 22          |
| PDOP                 | 0.98     | 1.39  | 1.16        |
| QC Solution Gaps     | 1.00     | 1.00  |             |
| Solution Type        | Fixed    | Float | No solution |
| Epoch (sec)          | 14217.00 | 0.00  | 22.00       |
| Percentage           | 99.85    | 0.00  | 0.15        |

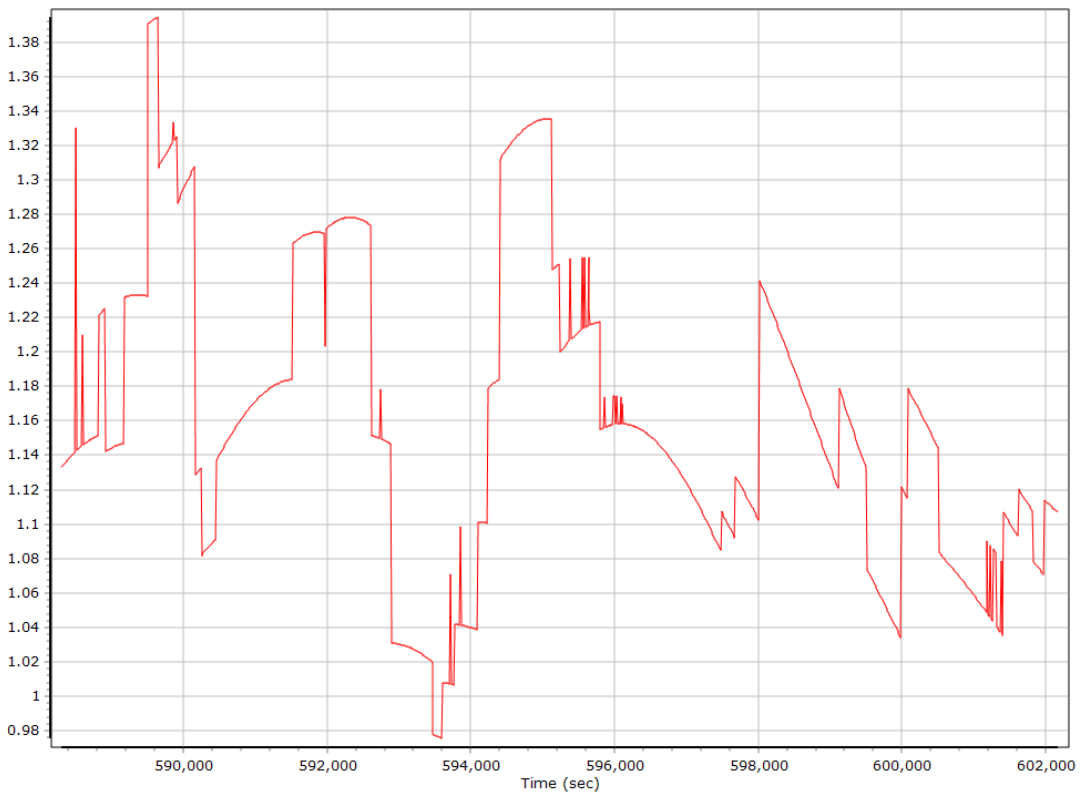
### Num SVs in solution



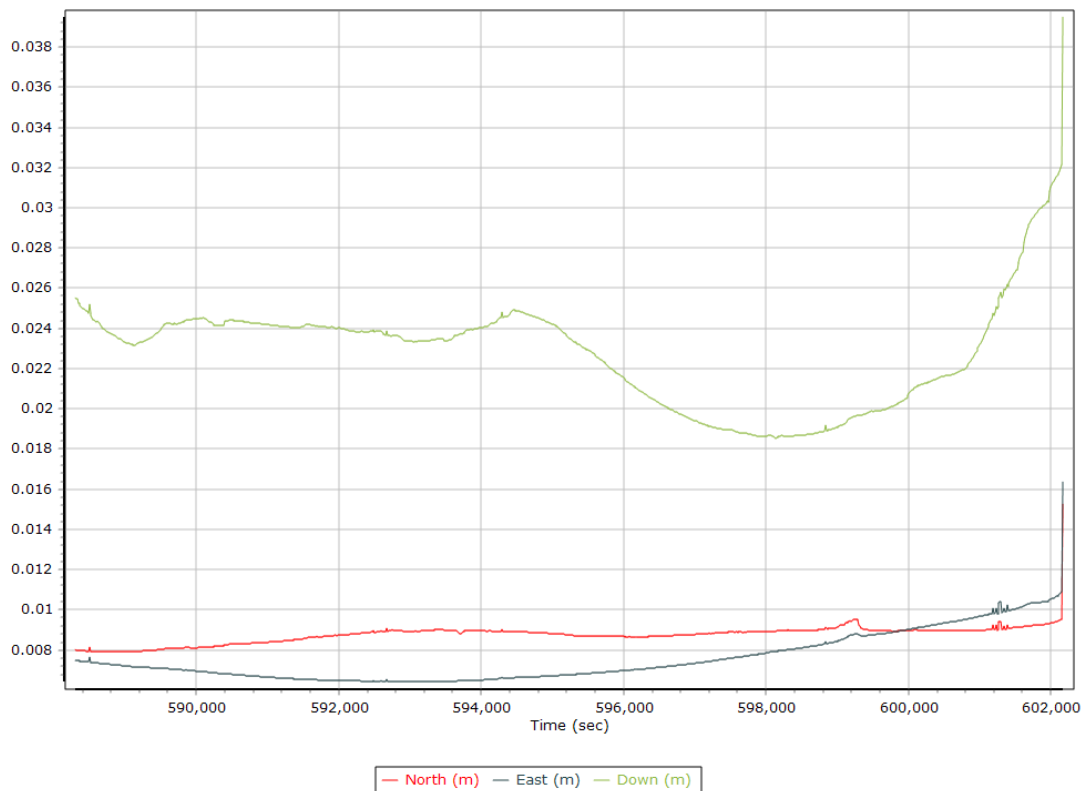
### Forward/Reverse Separation



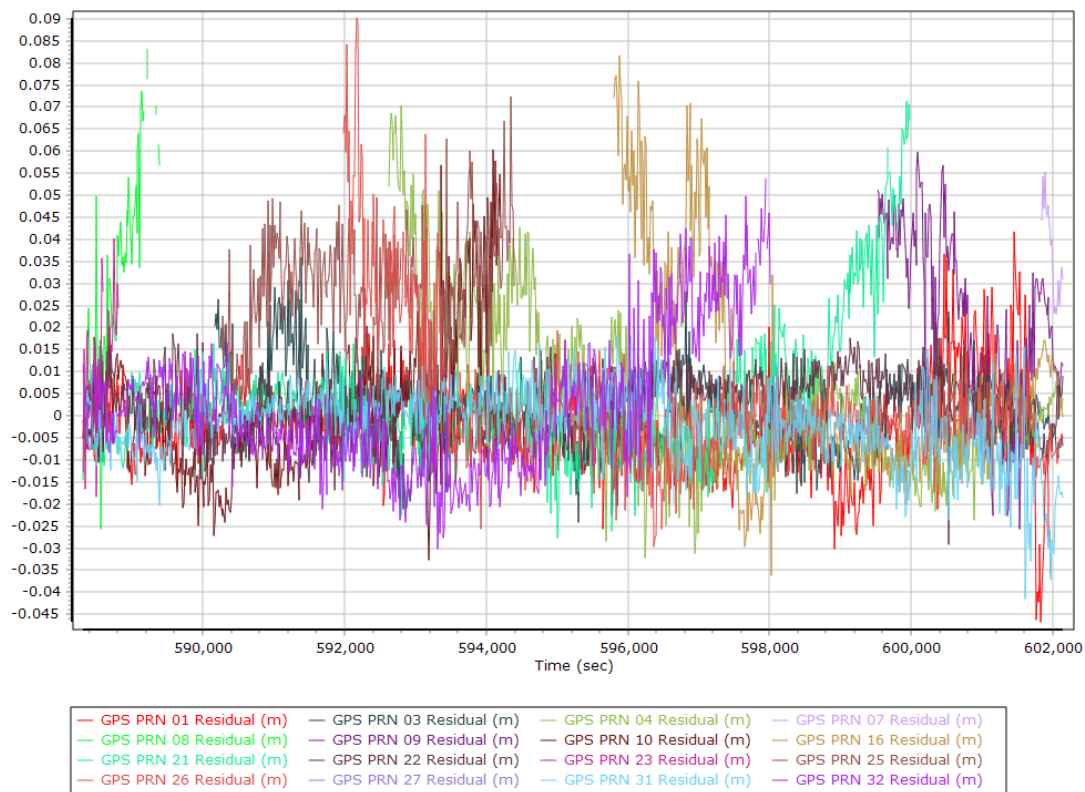
### PDOP



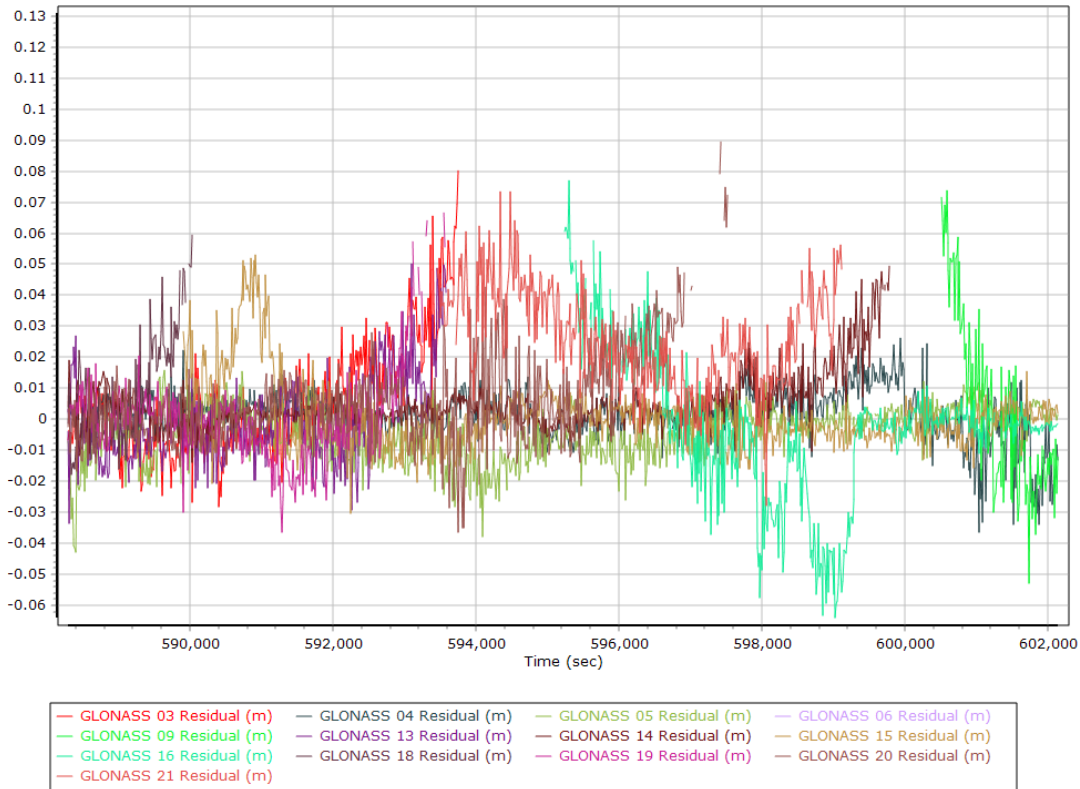
## Estimated Position Accuracy



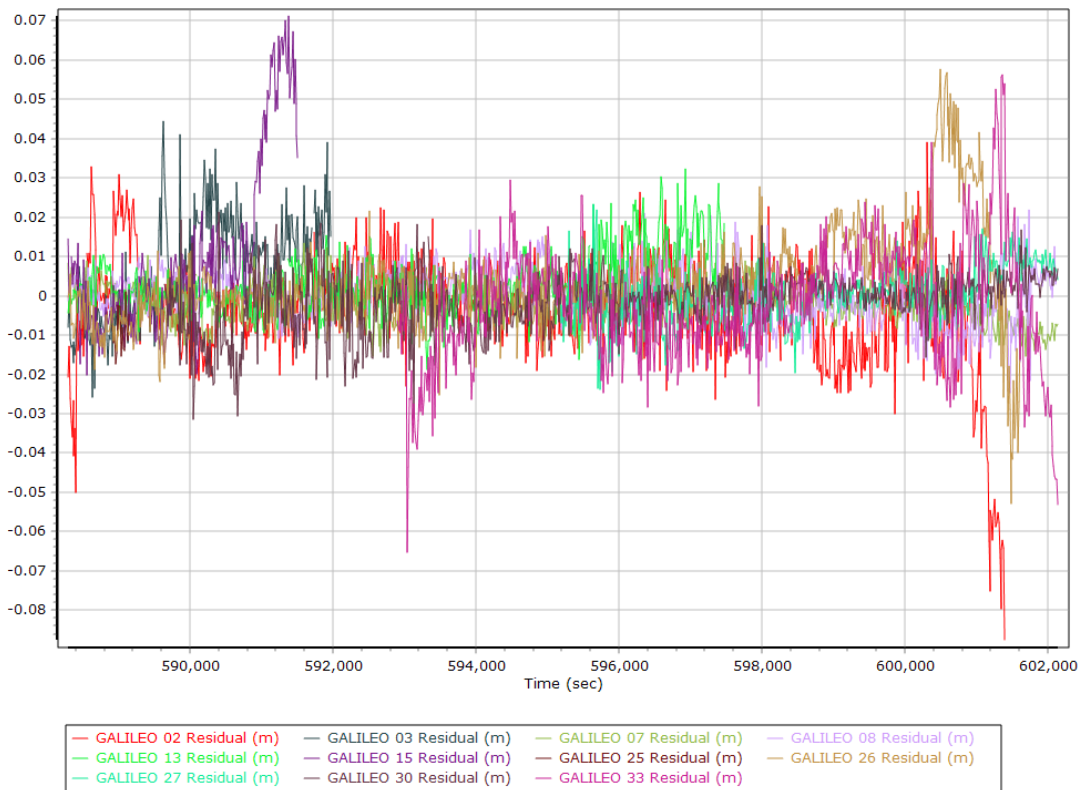
## GPS Residuals



## GLONASS Residuals



## GALILEO Residuals



## GNSS-Inertial Processor Configuration

|   |                                  |        |        |
|---|----------------------------------|--------|--------|
| Processing mode                                 | IN-Fusion PP-RTX                 |        |        |
| Stabilized mount                                | False                            |        |        |
| Processing start time                           | 587908.000 (10/23/2021 19:18:28) |        |        |
| Processing end time                             | 602175.000 (10/23/2021 23:16:15) |        |        |
| 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)         | -0.519                           | -0.055 | -1.202 |
| 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  |

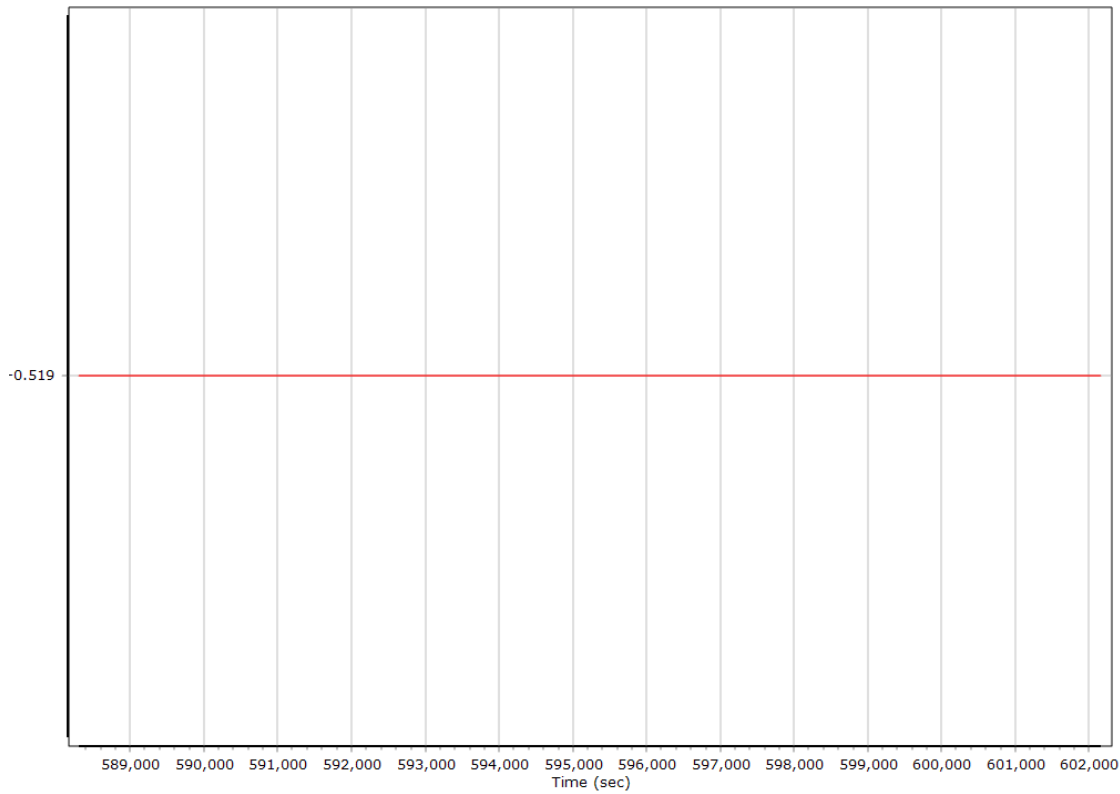
## Calibrated Installation Parameters

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

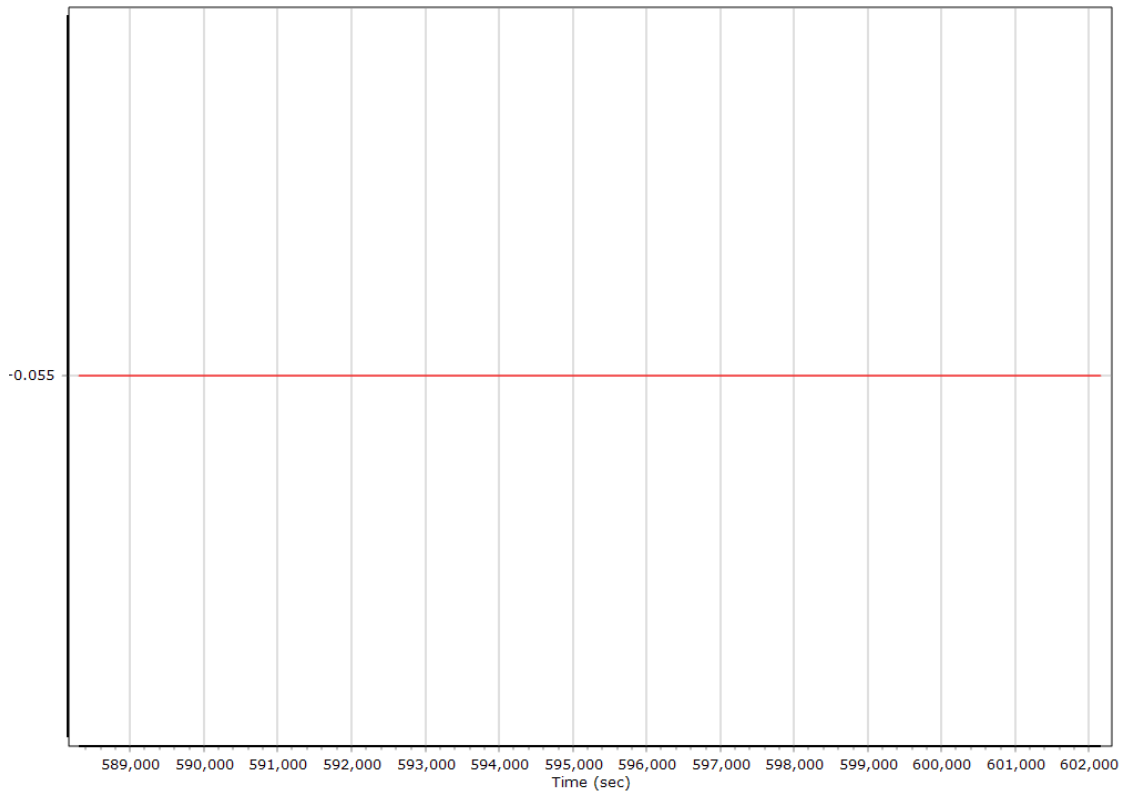
#### Reference-Primary GNSS Lever Arm Automatic Calibration Results

|   |             |        |        |
|---|-------------|--------|--------|
| Original Reference to Primary GNSS lever arm (m)    | -0.497      | -0.045 | -1.199 |
| Iteration 1 Reference to Primary GNSS lever arm (m) | -0.518      | -0.054 | -1.203 |
| Iteration 2 Reference to Primary GNSS lever arm (m) | -0.519      | -0.055 | -1.202 |
| Primary GNSS Lever Arm In use                       | Iteration 2 |        |        |

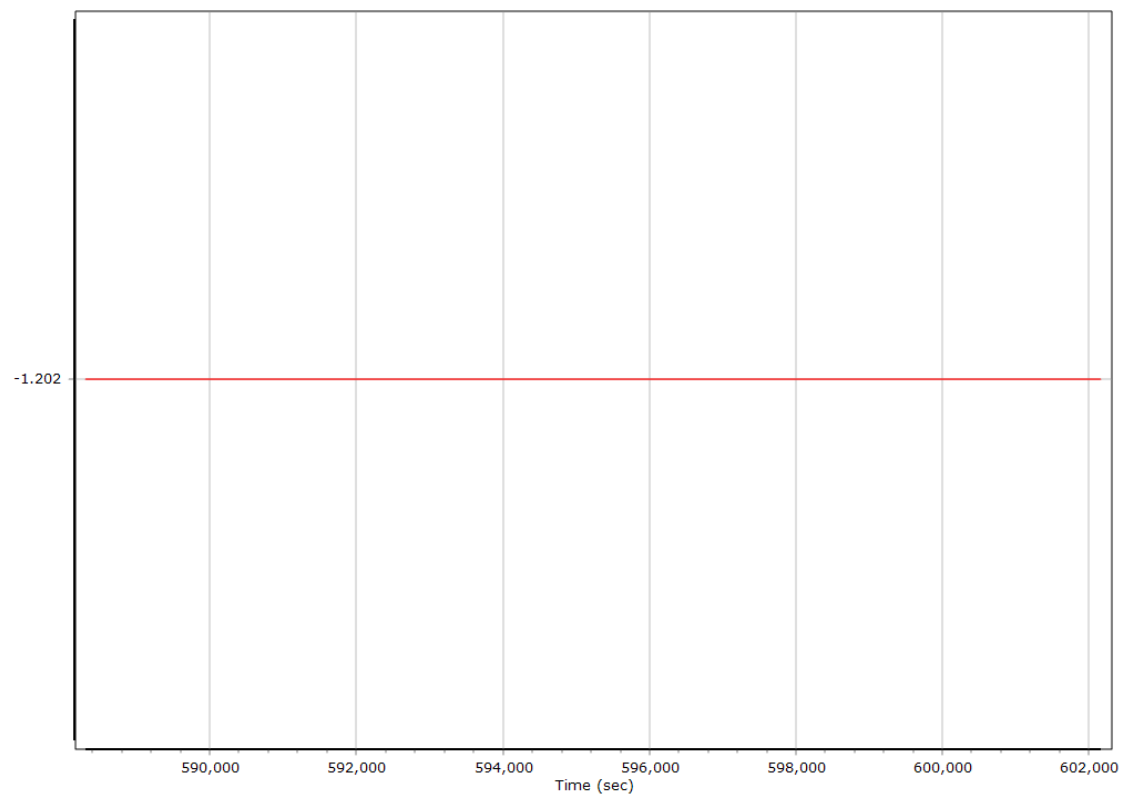
### X Reference-Primary GNSS Lever Arm (m)



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

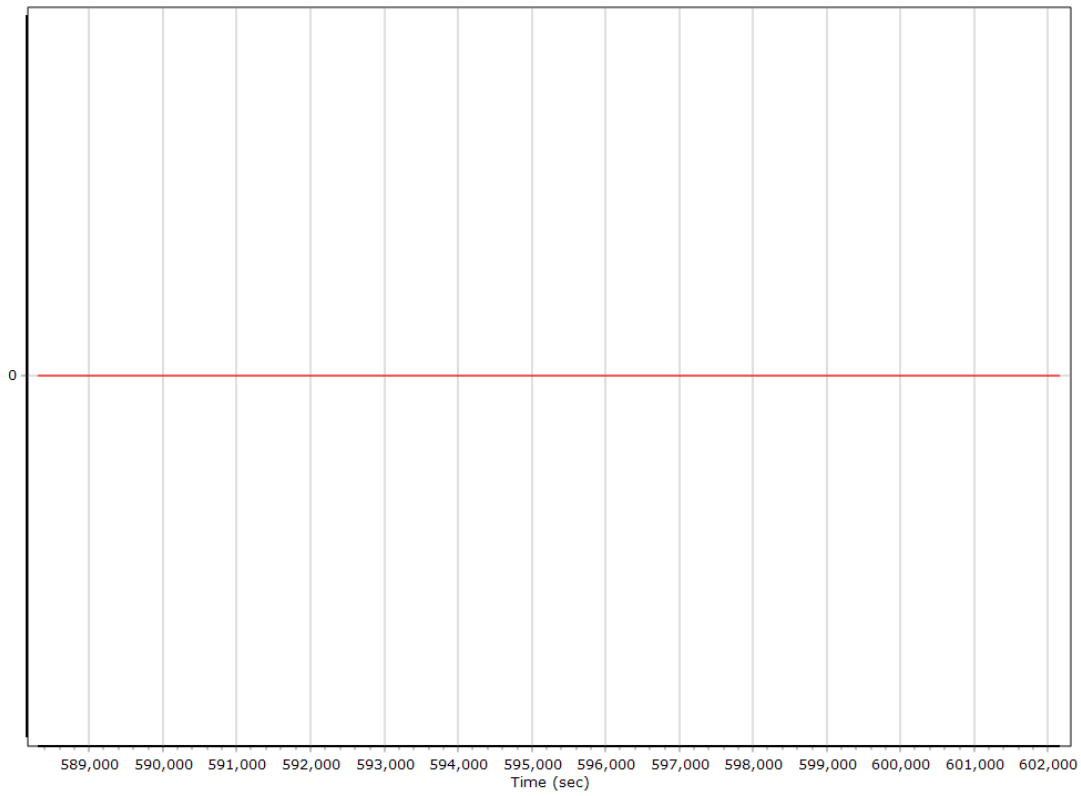


### Z Reference-Primary GNSS Lever Arm (m)





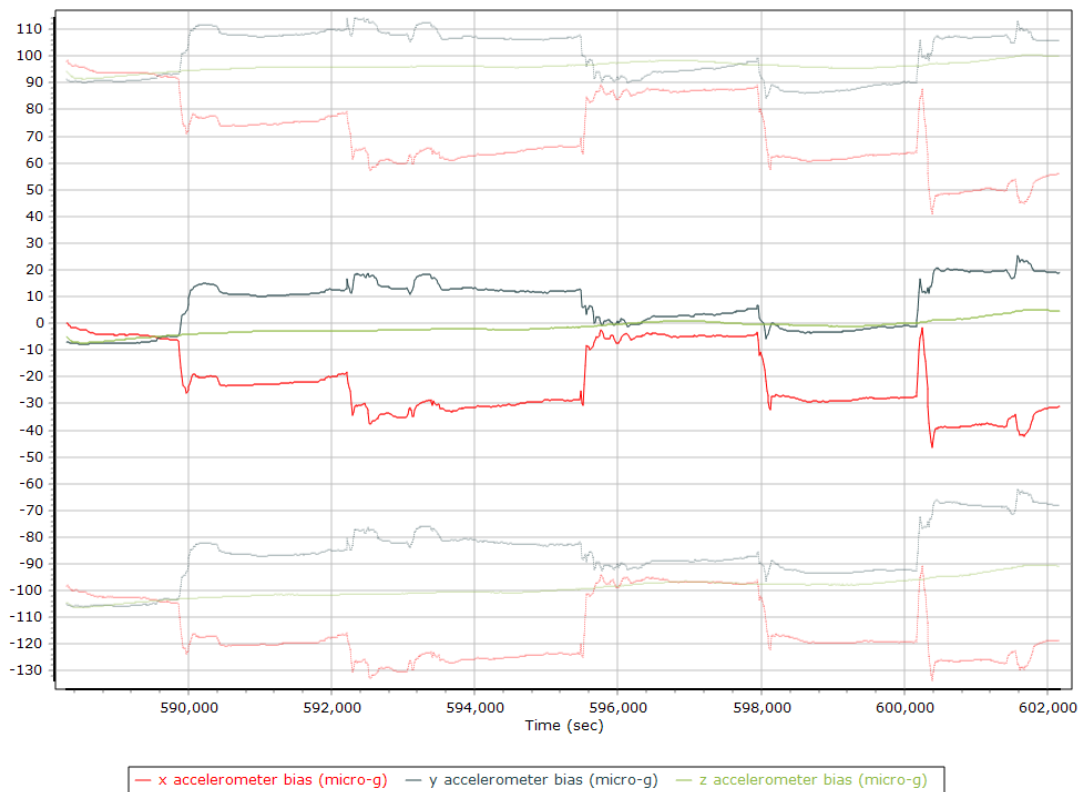
### Reference-Primary GNSS Lever Arm Figure of Merit



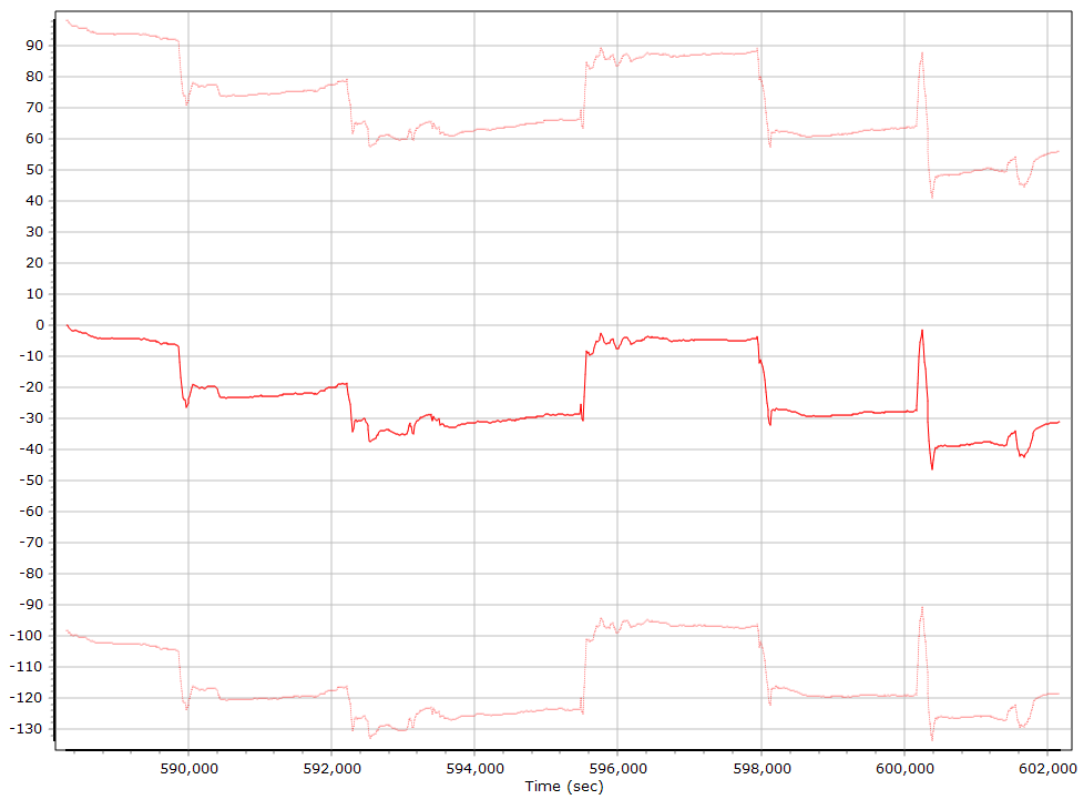
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

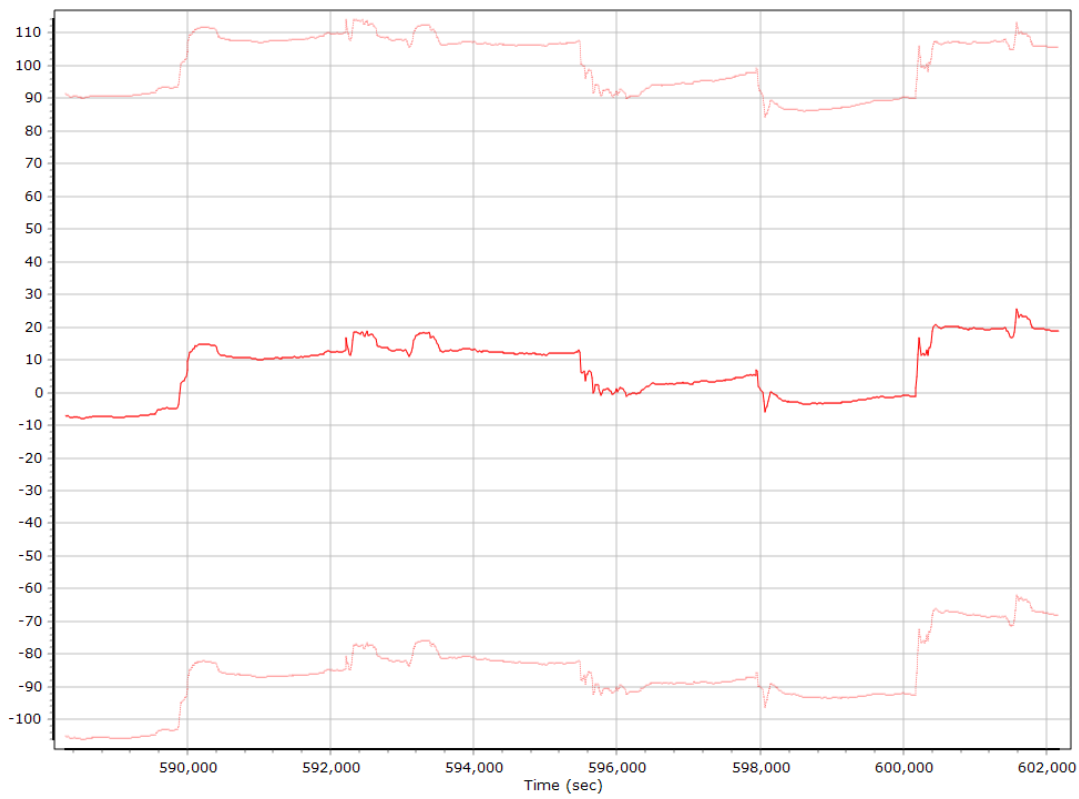
#### Accelerometer Bias (micro-g)



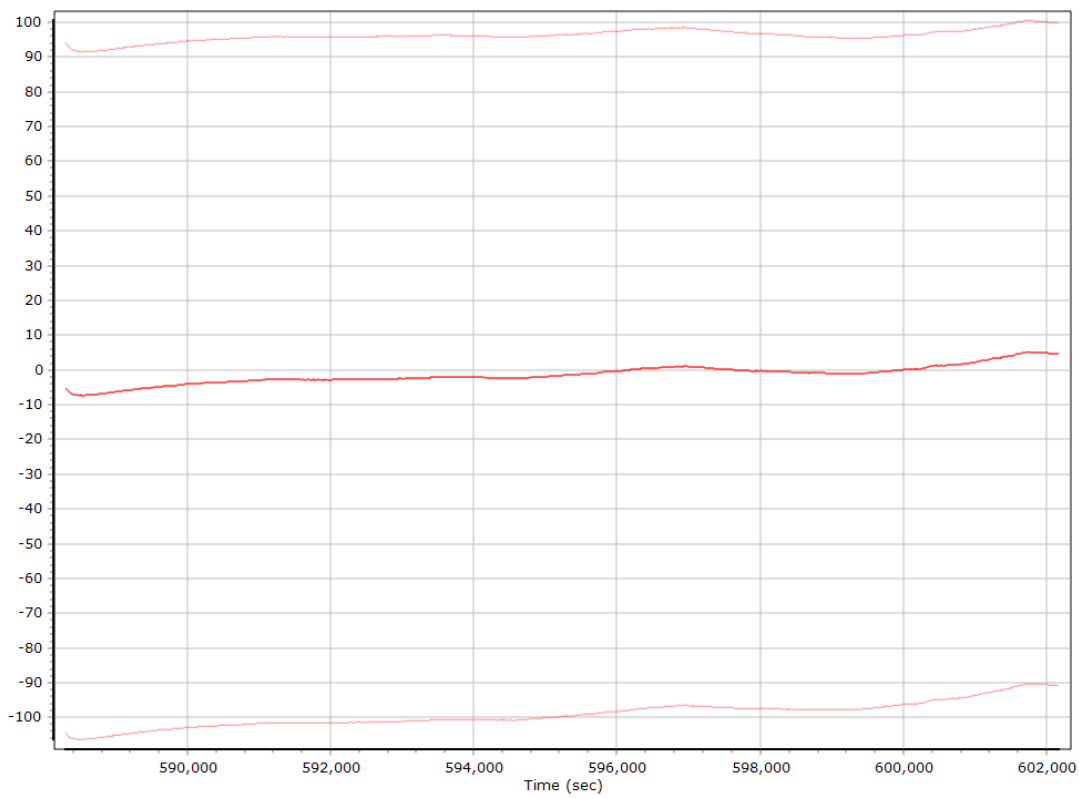
#### X Accelerometer Bias (micro-g)



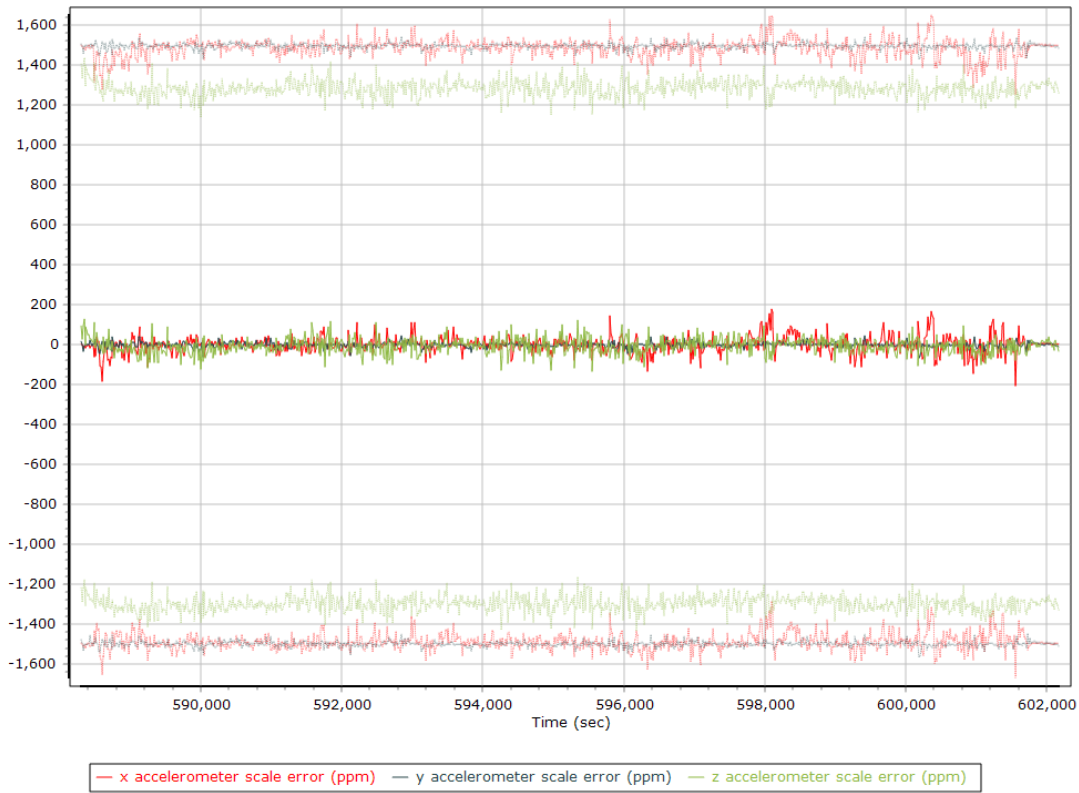
### Y Accelerometer Bias (micro-g)



### Z Accelerometer Bias (micro-g)



### Accelerometer Scale Error (ppm)



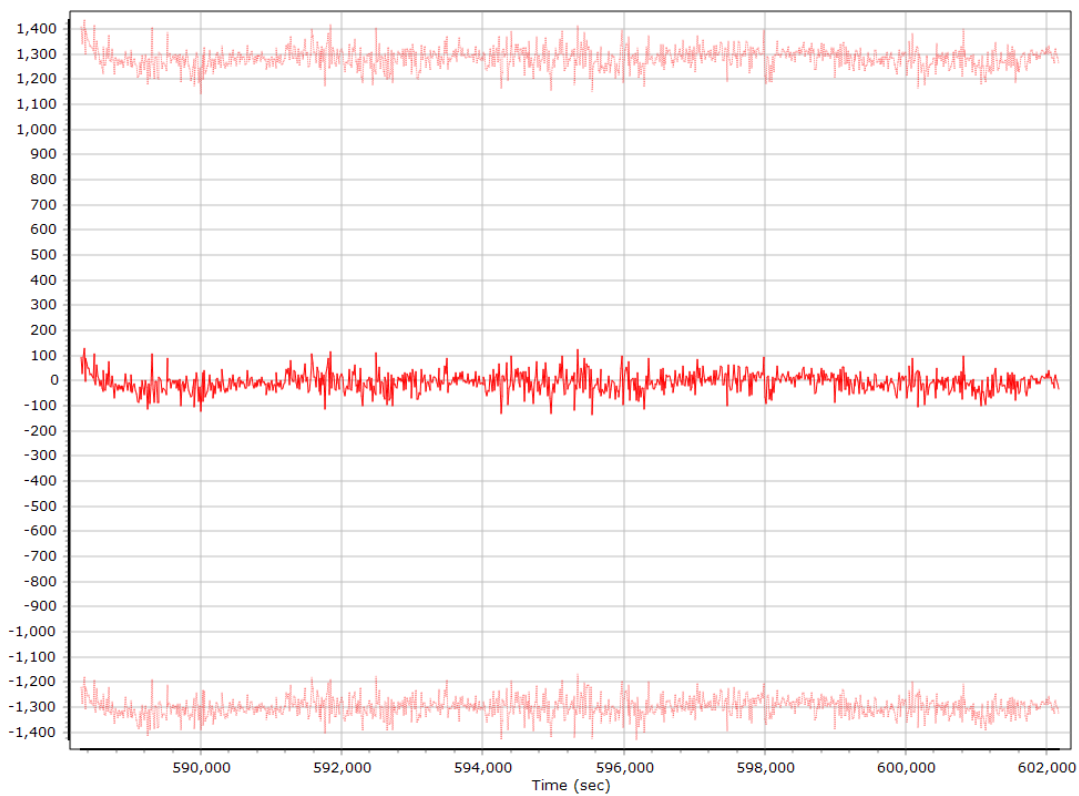
### X Accelerometer Scale Error (ppm)



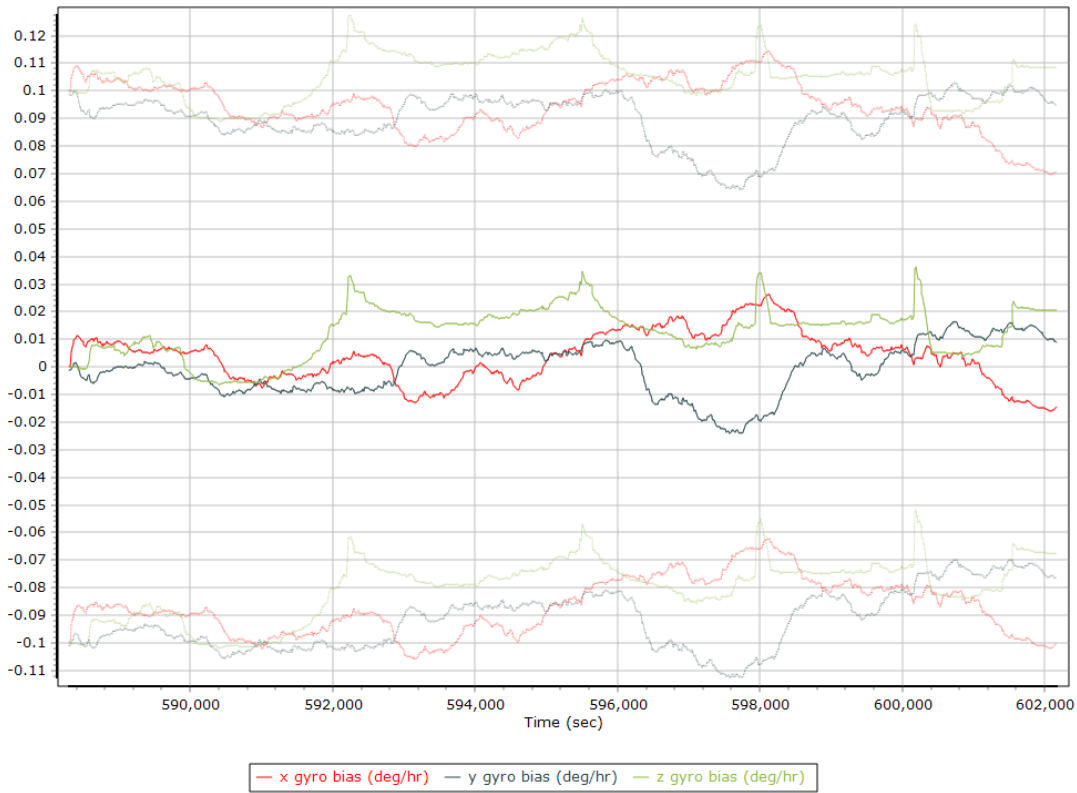
### Y Accelerometer Scale Error (ppm)



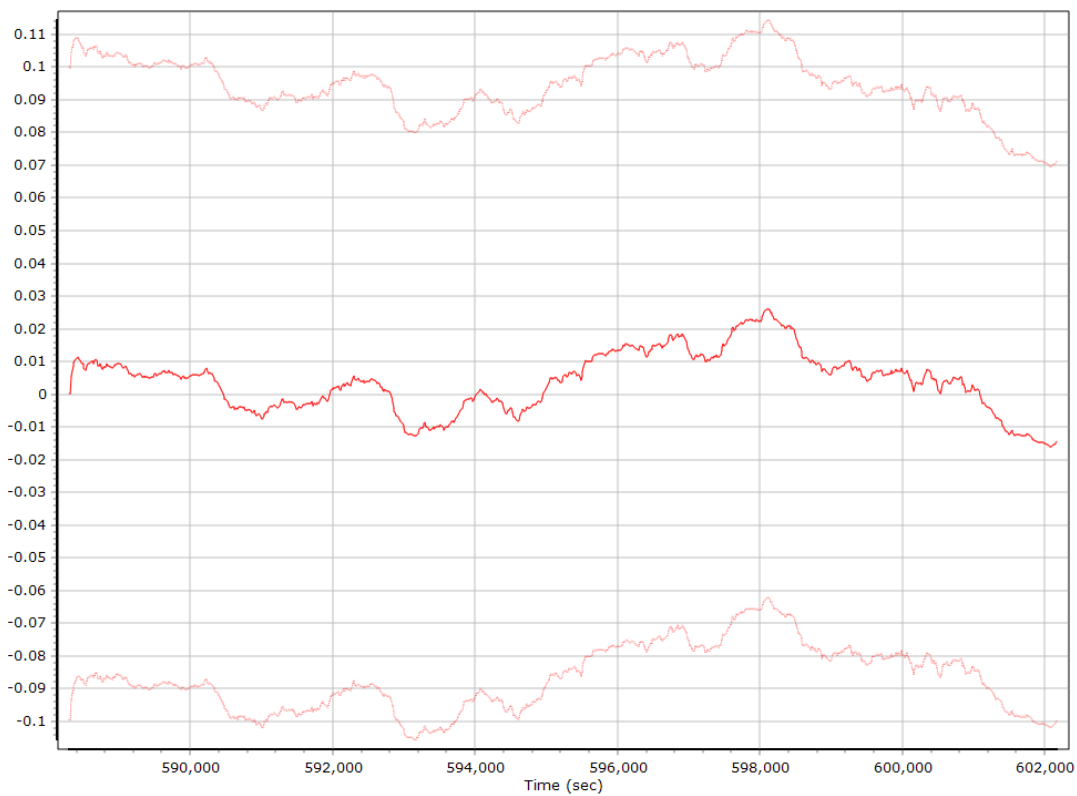
### Z Accelerometer Scale Error (ppm)



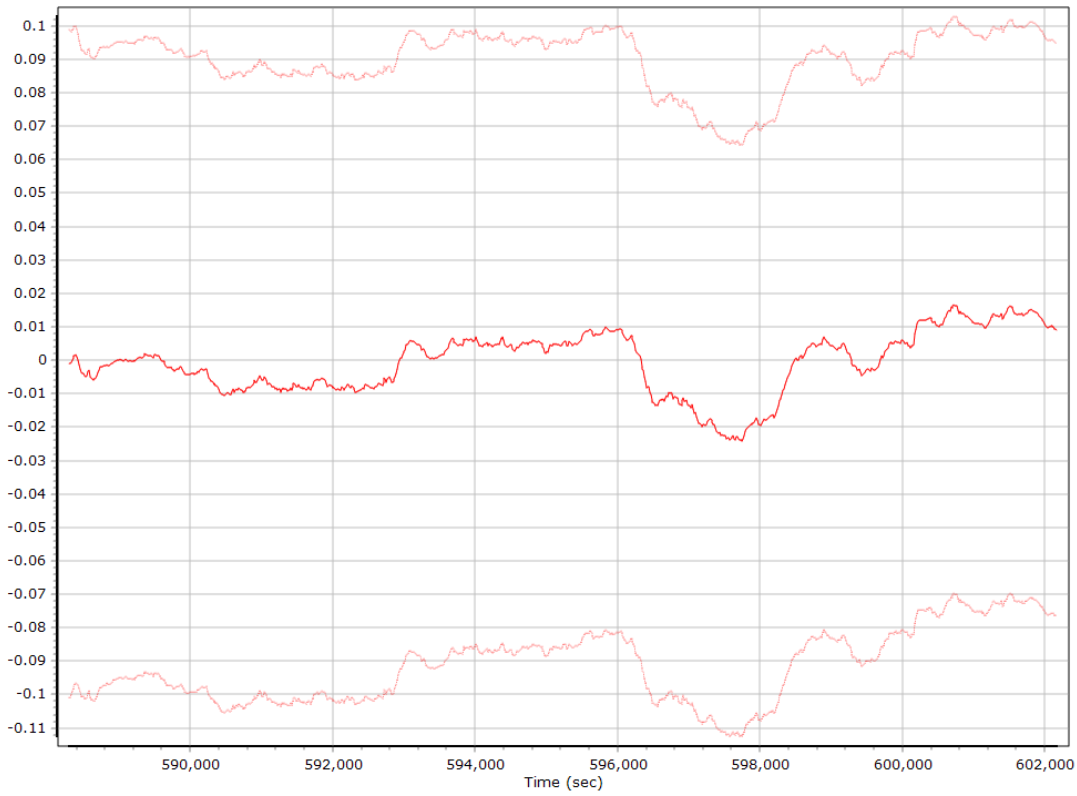
### Gyro Bias (deg/h)



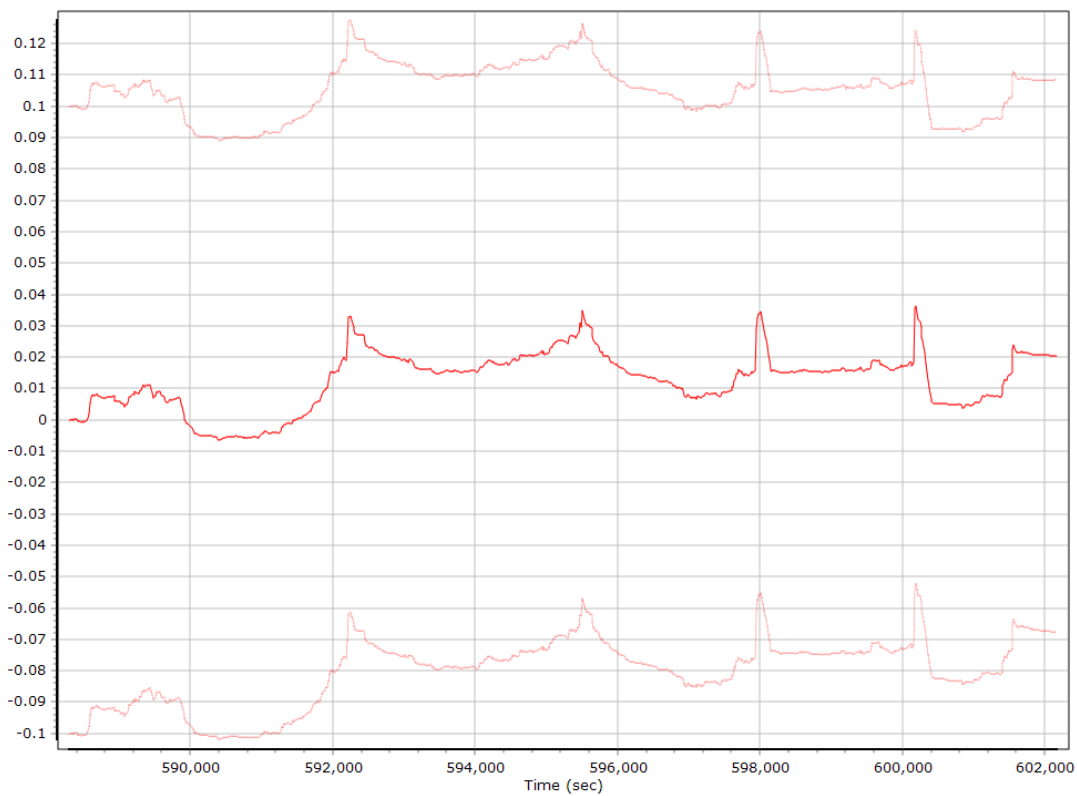
### X Gyro Bias (deg/h)



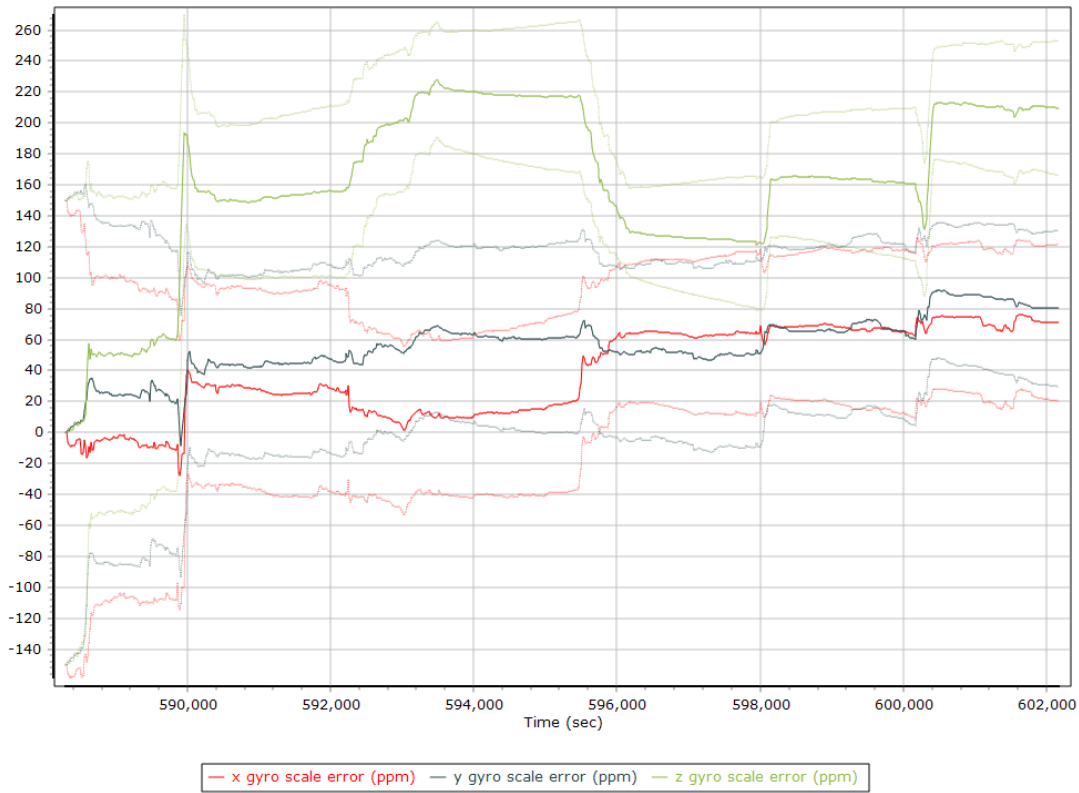
### Y Gyro Bias (deg/h)



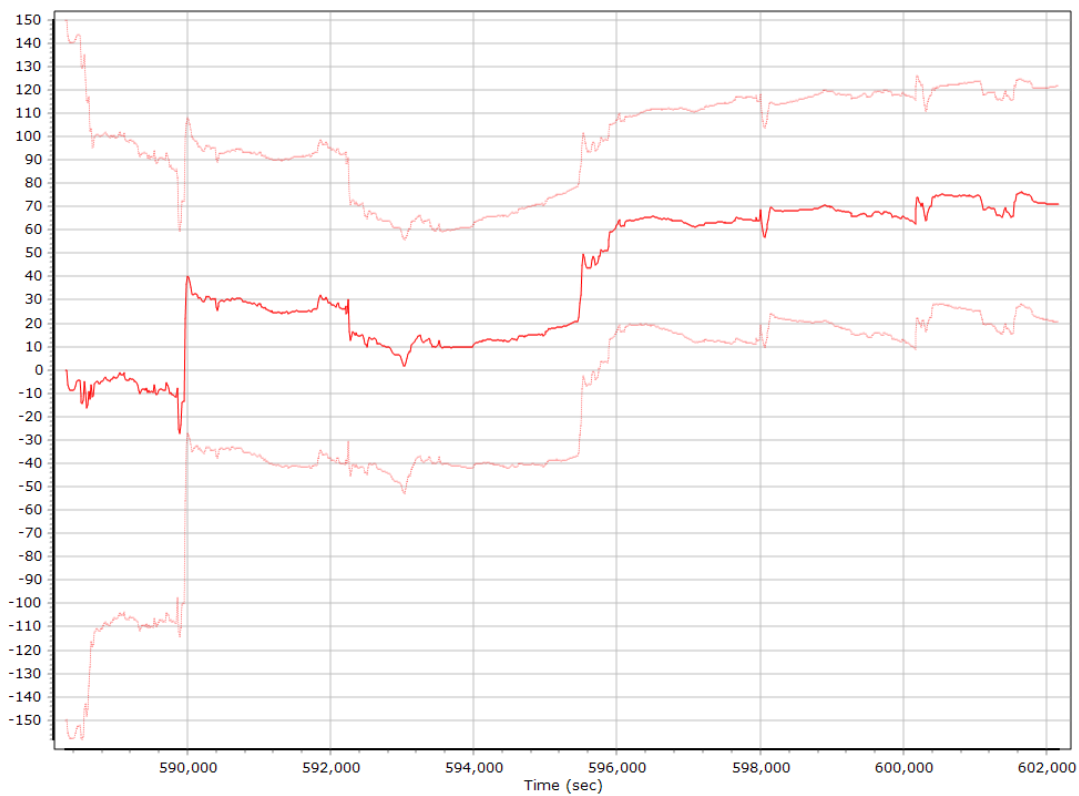
### Z Gyro Bias (deg/h)



### Gyro Scale Error (ppm)

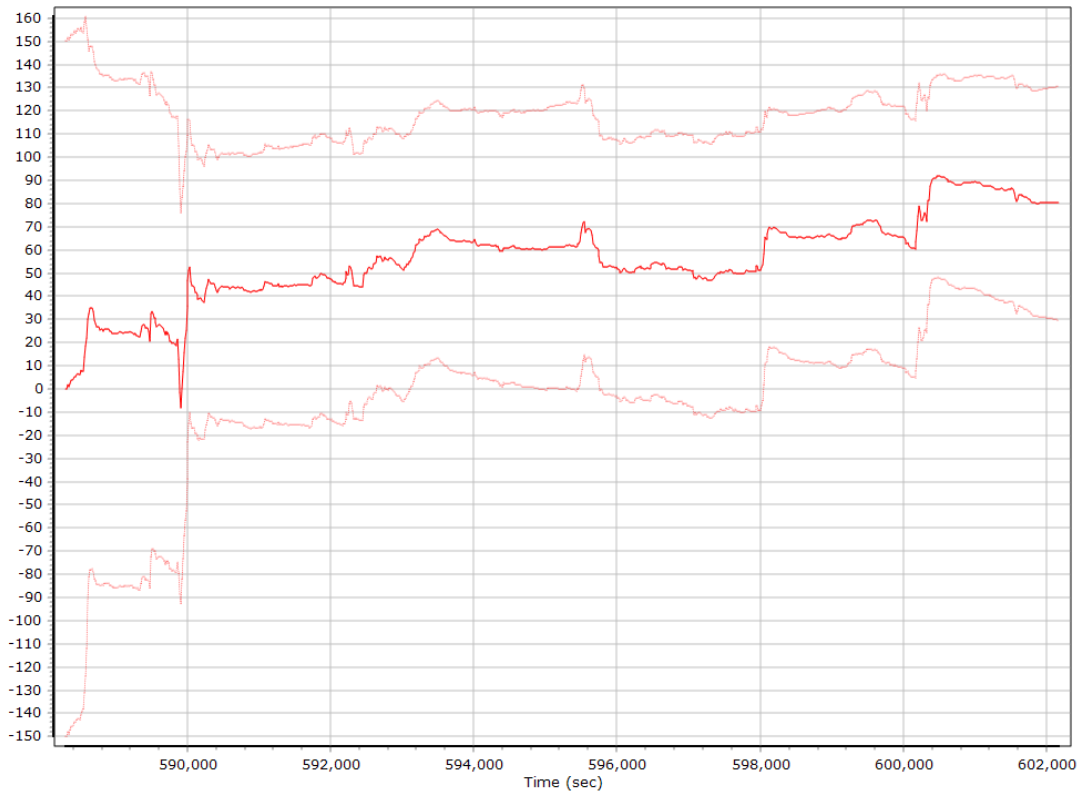


### X Gyro Scale Error (ppm)

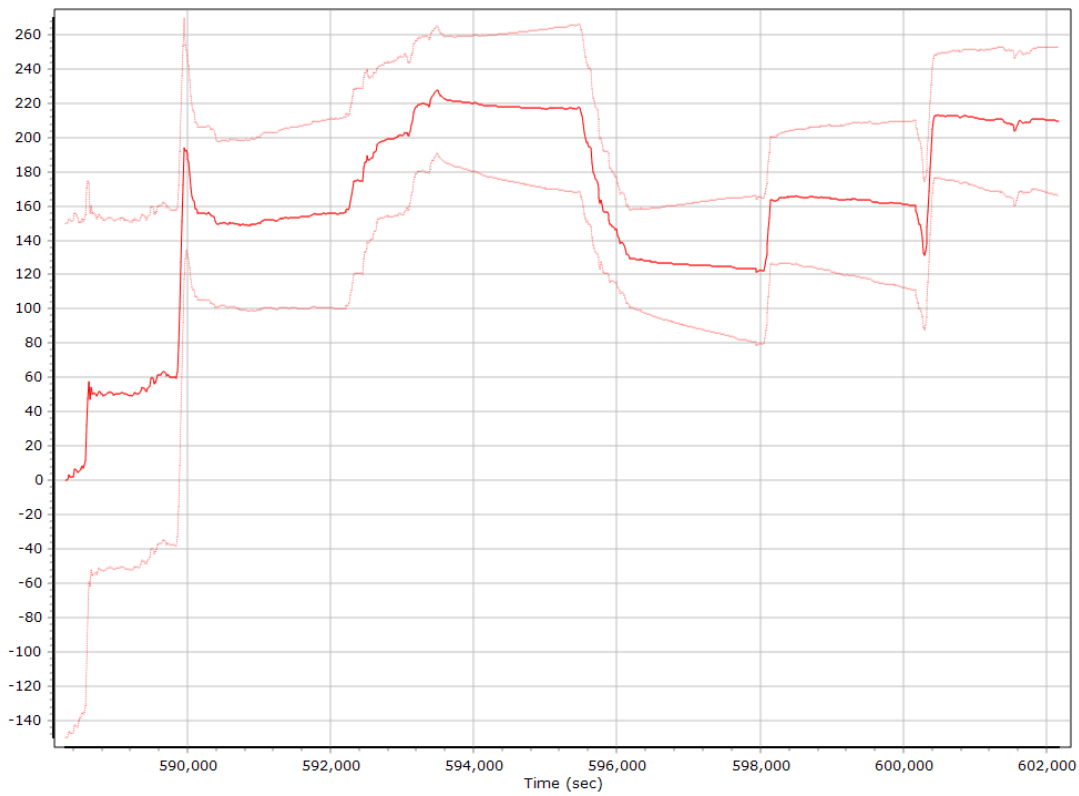




### Y Gyro Scale Error (ppm)

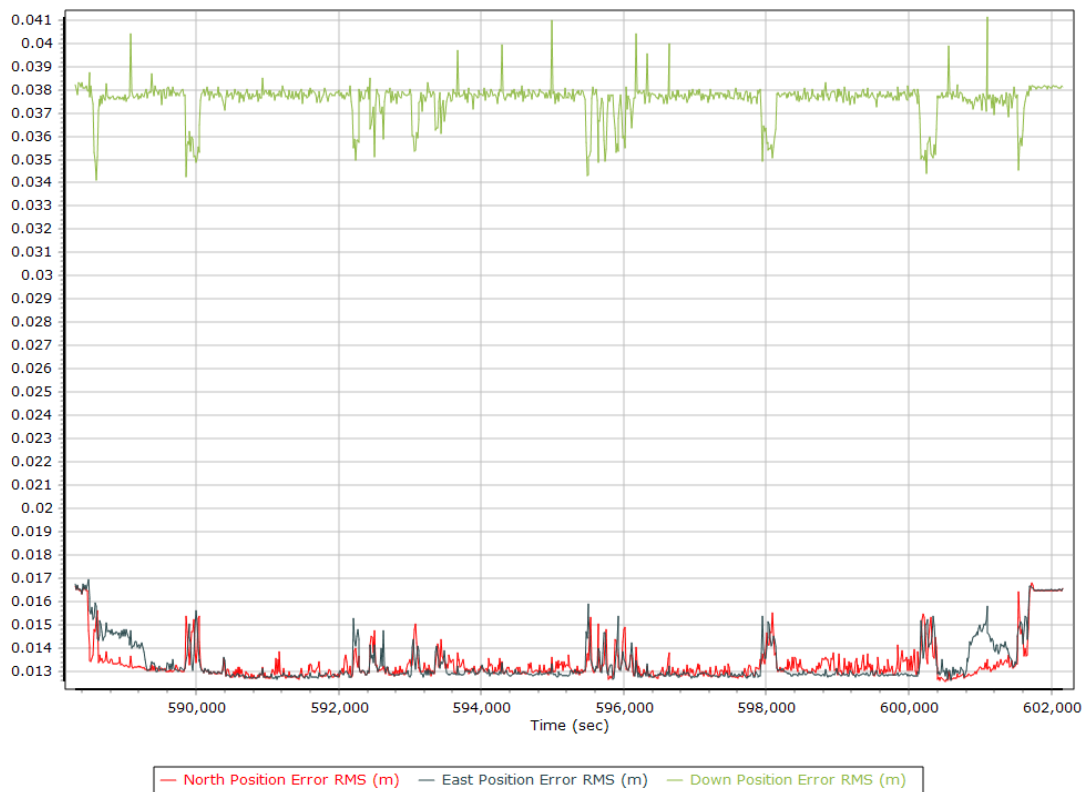


### Z Gyro Scale Error (ppm)

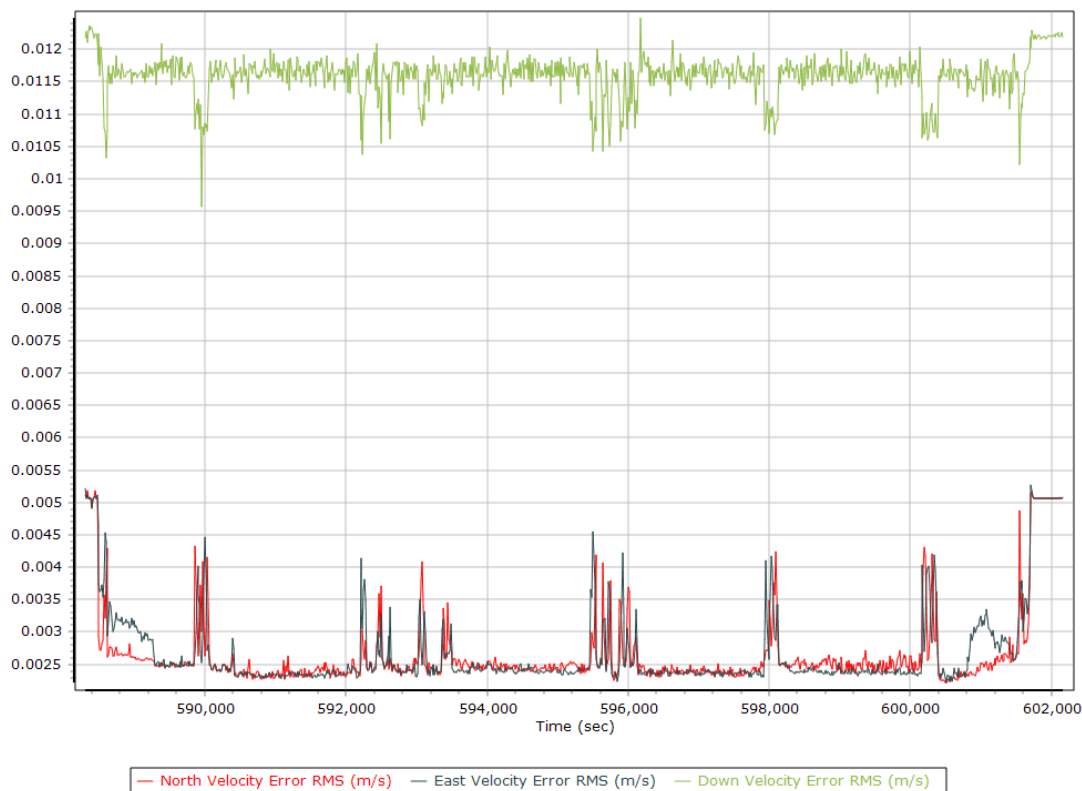


## Smoothed Performance Metrics

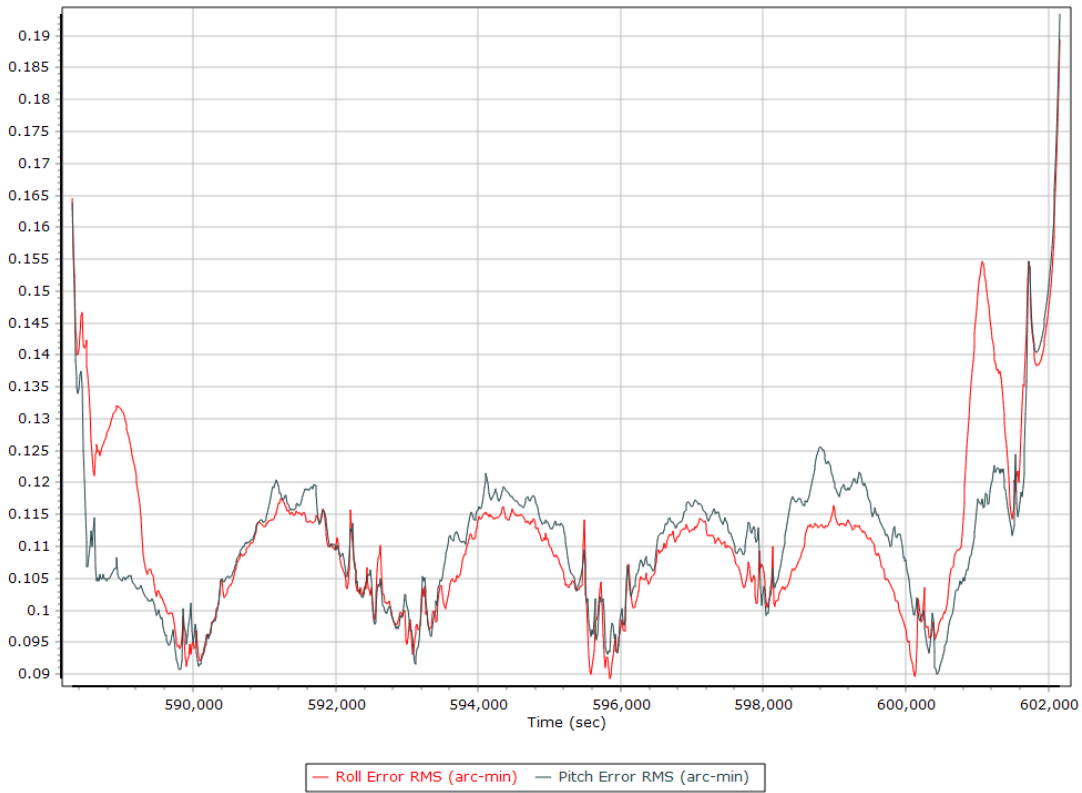
### Position Error RMS (m)



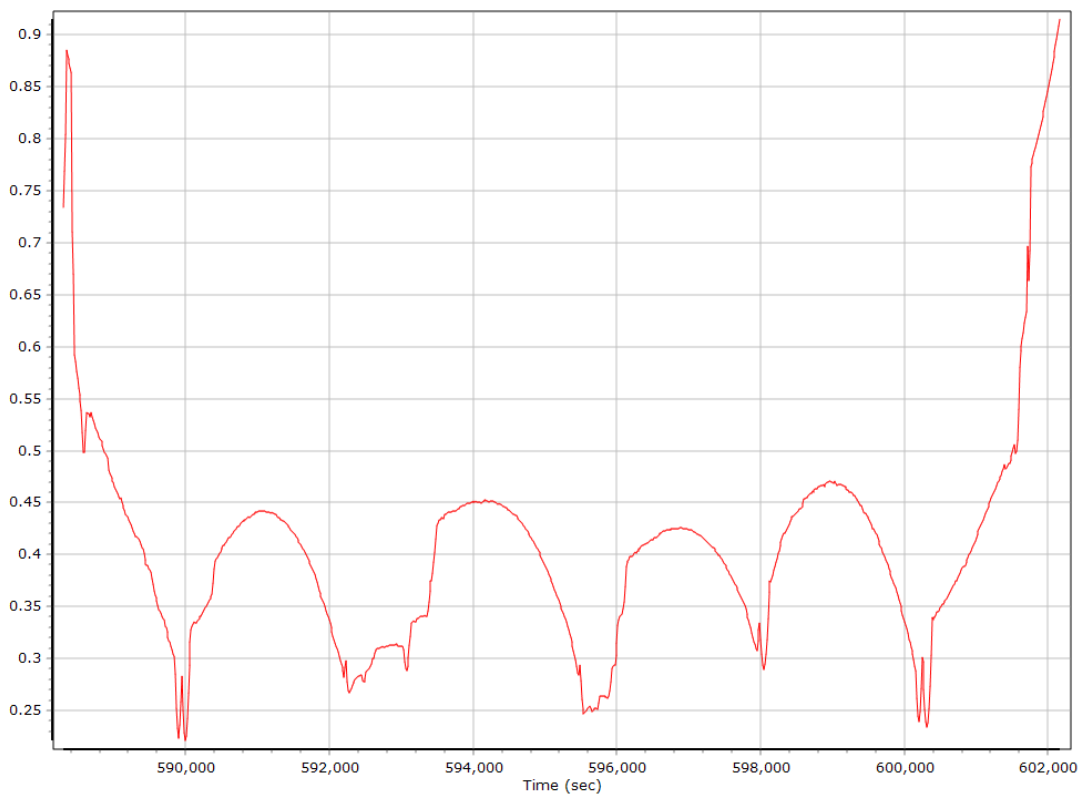
### Velocity Error RMS (m/s)



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

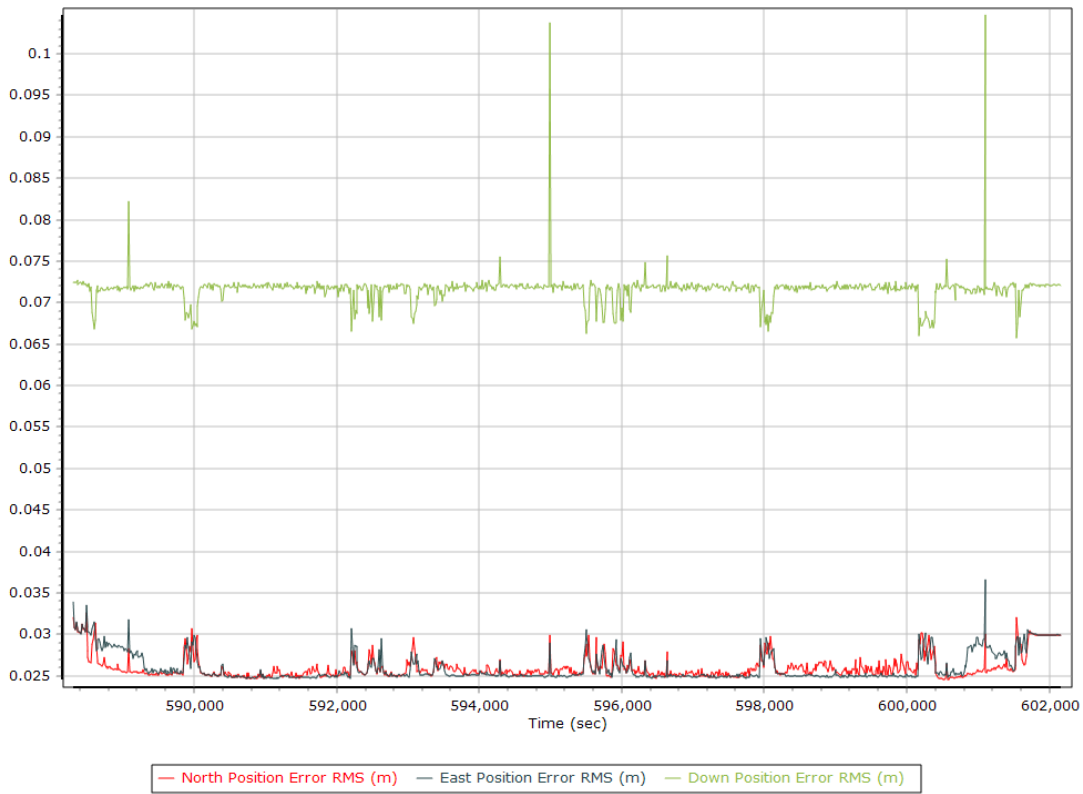


### Heading Error RMS (arc-min)

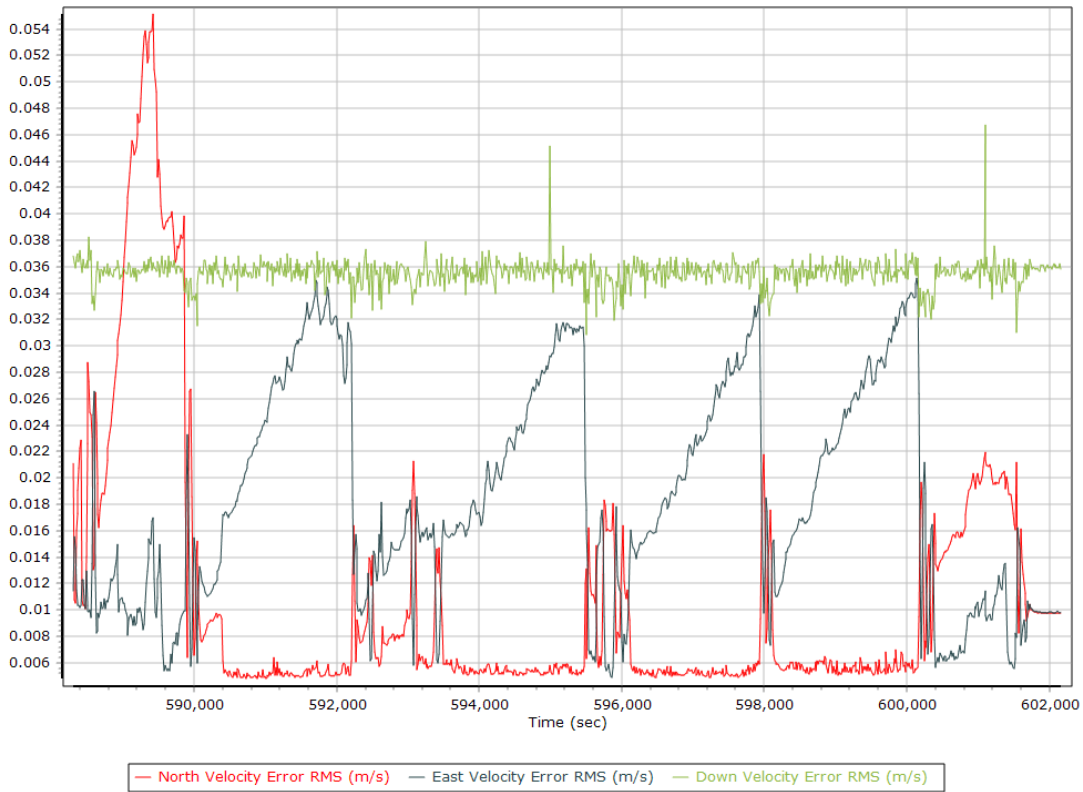


## Forward Processed Performance Metrics

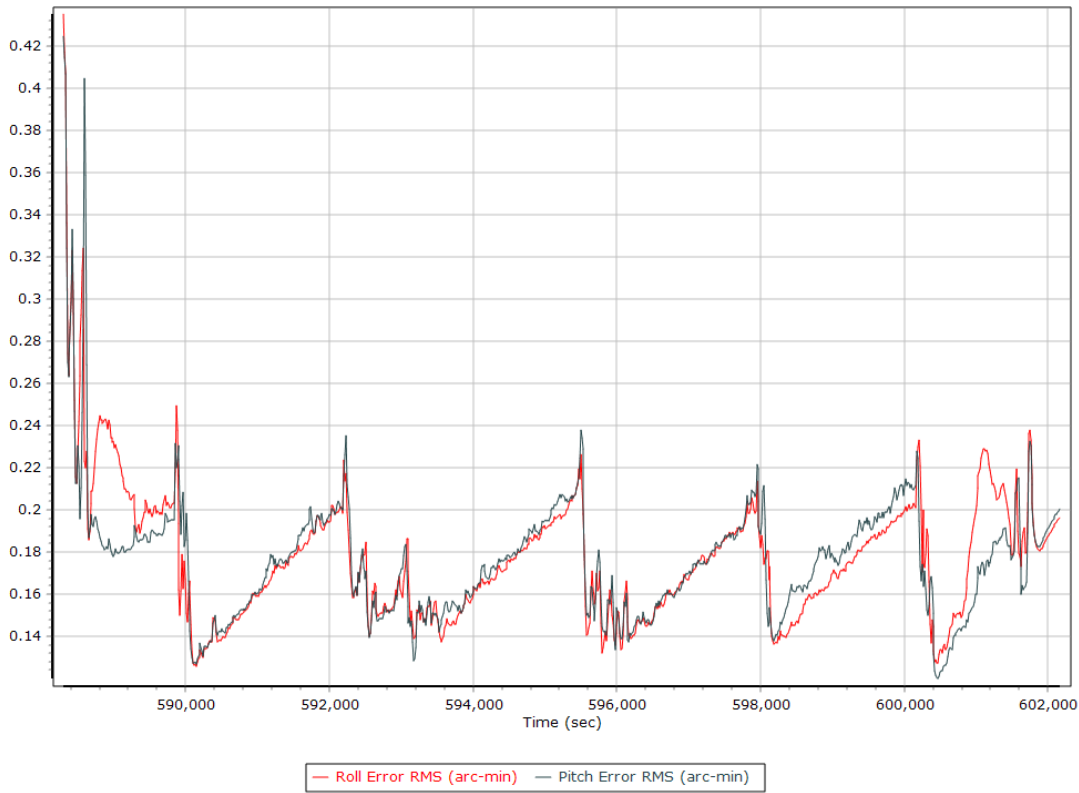
### Position Error RMS (m)



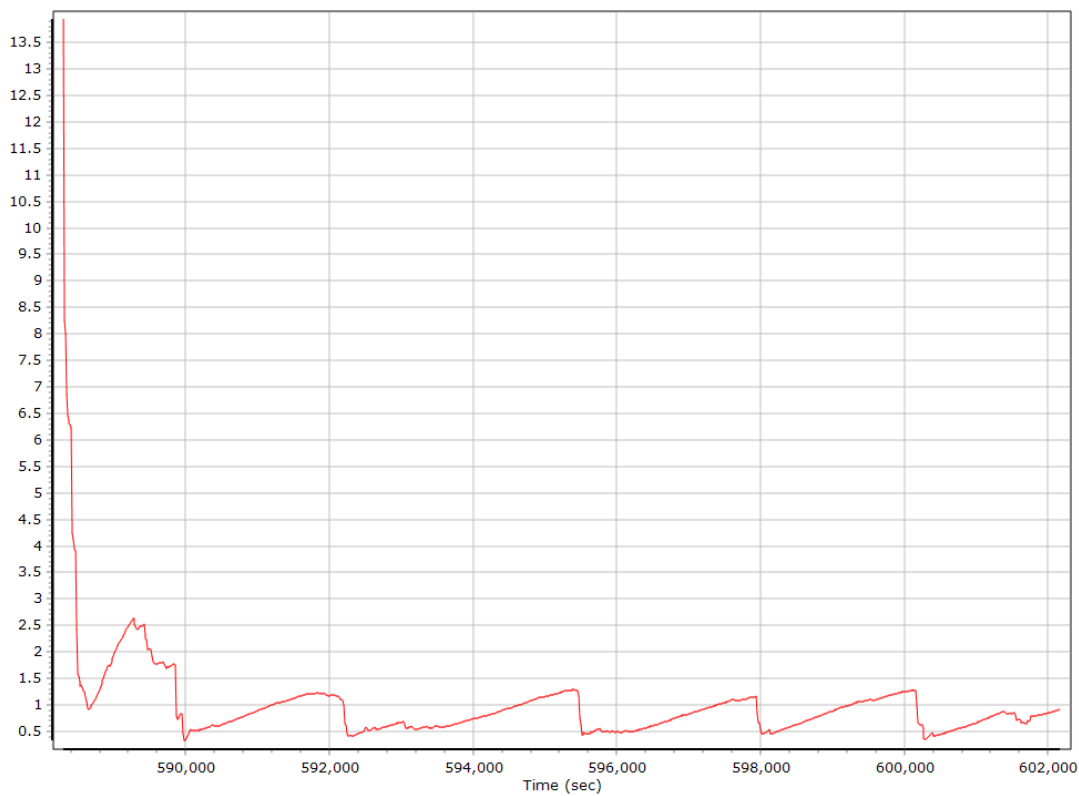
### Velocity Error RMS (m/s)



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

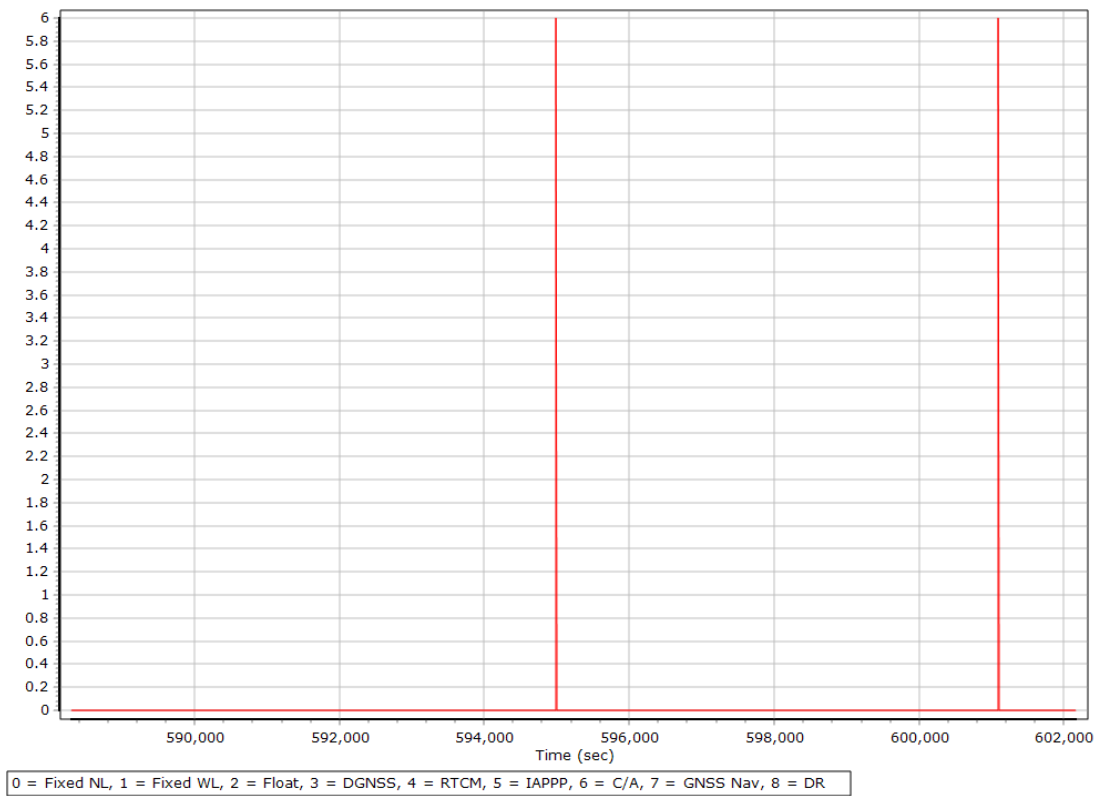


### Heading Error RMS (arc-min)

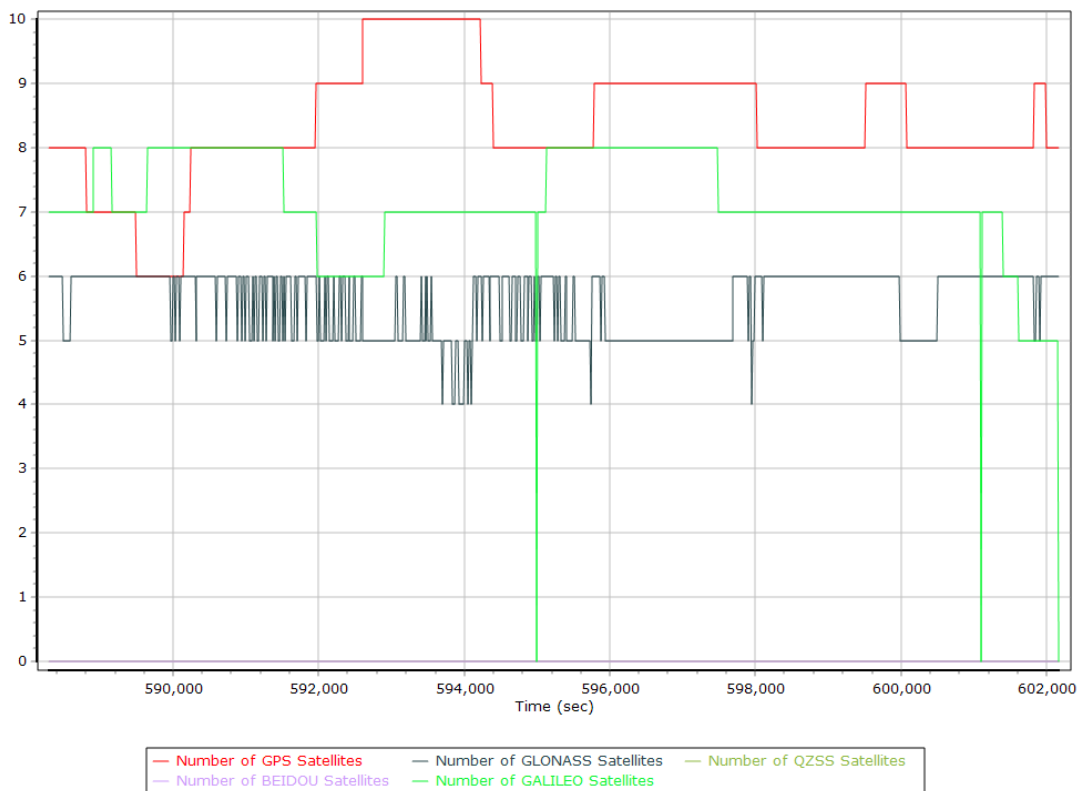


## Forward Processed Solution Status

### Processing Mode



### Number of Satellites



## Baseline Length

