

General Information

Mission Information

| | |
|------------------|--------------------------------|
| Project name | 211009_A_5060428_nad2011_FINAL |
| Processing date | 2021-10-15 13:20:24 |
| Mission date | 2021-10-09 19:16:18 |
| Mission duration | 03:29:52.000 |
| Processing mode | IN-Fusion PP-RTX |

Rover Hardware Information

| | |
|---------------|--------------------------|
| Product | POS AV 610 VER6 HW2.5-12 |
| Serial number | S/N10633 |
| IMU type | 57 |
| Receiver type | BD982 |
| Antenna type | AV39 |

Project File List

Rover Data Files

| File name | File type |
|--------------|-----------|
| 20211009.581 | POS Data |
| 20211009.582 | POS Data |
| 20211009.583 | POS Data |
| 20211009.584 | POS Data |
| 20211009.585 | POS Data |
| 20211009.586 | POS Data |
| 20211009.587 | POS Data |
| 20211009.588 | POS Data |
| 20211009.589 | POS Data |
| 20211009.590 | POS Data |
| 20211009.591 | POS Data |
| 20211009.592 | POS Data |
| 20211009.593 | POS Data |
| 20211009.594 | POS Data |
| 20211009.595 | POS Data |
| 20211009.596 | POS Data |
| 20211009.597 | POS Data |
| 20211009.598 | POS Data |
| 20211009.599 | POS Data |
| 20211009.600 | POS Data |
| 20211009.601 | POS Data |
| 20211009.602 | POS Data |
| 20211009.603 | POS Data |
| 20211009.604 | POS Data |
| 20211009.605 | POS Data |
| 20211009.606 | POS Data |
| 20211009.607 | POS Data |
| 20211009.608 | 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_5060428_nad2011_FINAL.out | SBET Trajectory File |
| sbet_211009_A_5060428_nad2011_FINAL.shp | Shapefile Export Output |

Rover Data Summary

| | | | |
|--|----------------------------------|-------|---------|
| First raw data file | 20211009.581 | | |
| Last raw data file | 20211009.608 | | |
| Start GPS week | 2178 | | |
| Start time | 587777.263 (10/09/2021 19:16:17) | | |
| End time | 600370.351 (10/09/2021 22:46:10) | | |
| Start of fine alignment | 587783.354 (10/09/2021 19:16:23) | | |
| Available subsystems | Primary GNSS, IMU | | |
| POS Event Input | None | | |
| Correction data | None | | |
| IMU Installation Lever Arms & Mounting Angles | | | |
| 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) | 0.534 | 0.060 | -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 |

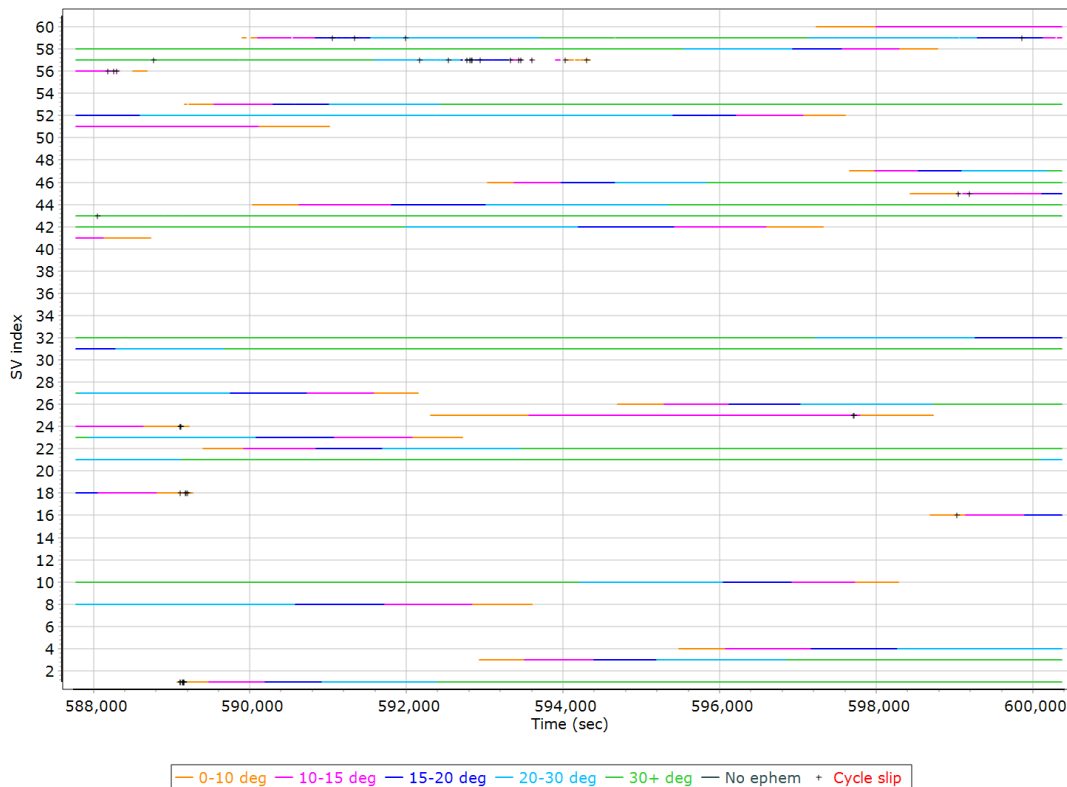
Rover Data QC

Raw IMU Import QC Summary

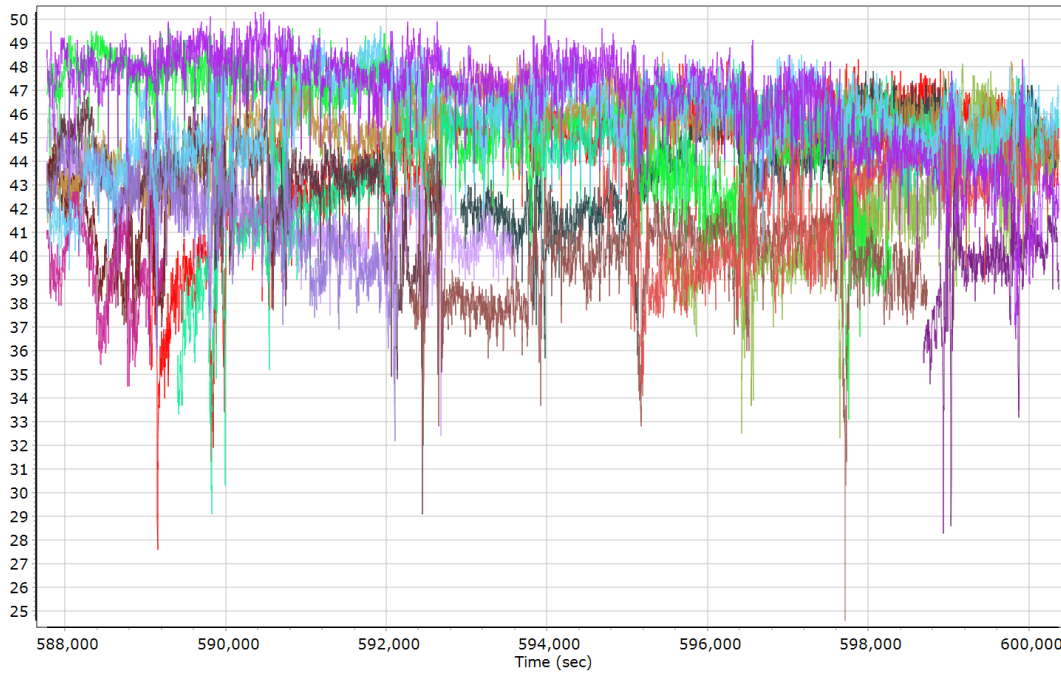
| | |
|-------------------------|--|
| IMU data input file | imu_211009_A_5060428_nad2011_FINAL.dat |
| IMU data check log file | imudt_211009_A_5060428_nad2011_FINAL.log |
| IMU Records Processed | 2518089 |
| Termination Status | Normal |
| IMU Anomalies | 0 |

Primary Observables & Satellite Data

GPS/GLONASS L1 Satellite Lock/Elevation

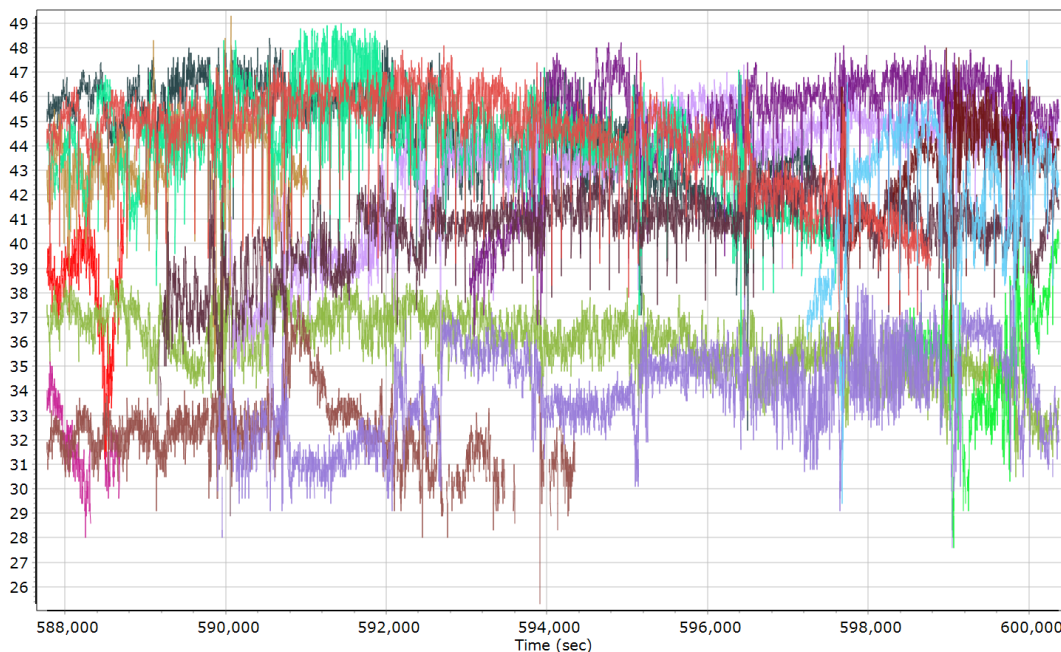


GPS L1 SNR



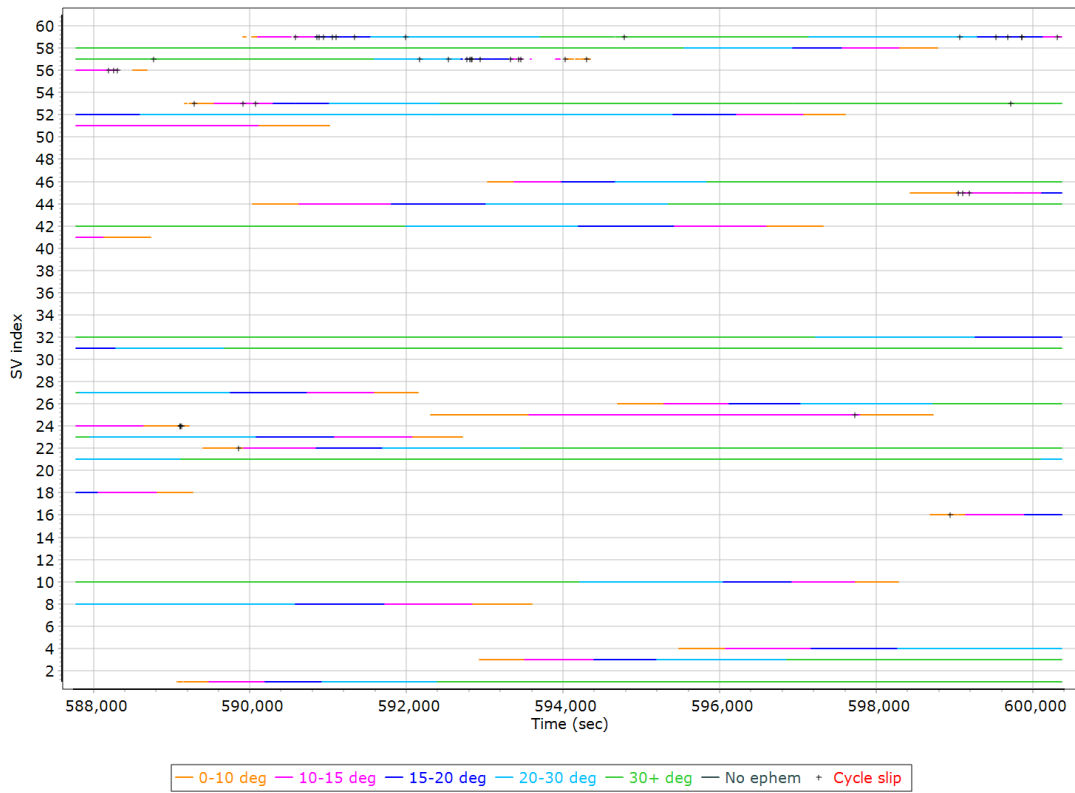
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L1 SNR (dB/Hz) | GPS PRN 03 L1 SNR (dB/Hz) | GPS PRN 04 L1 SNR (dB/Hz) | GPS PRN 08 L1 SNR (dB/Hz) |
| GPS PRN 10 L1 SNR (dB/Hz) | GPS PRN 16 L1 SNR (dB/Hz) | GPS PRN 18 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 24 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

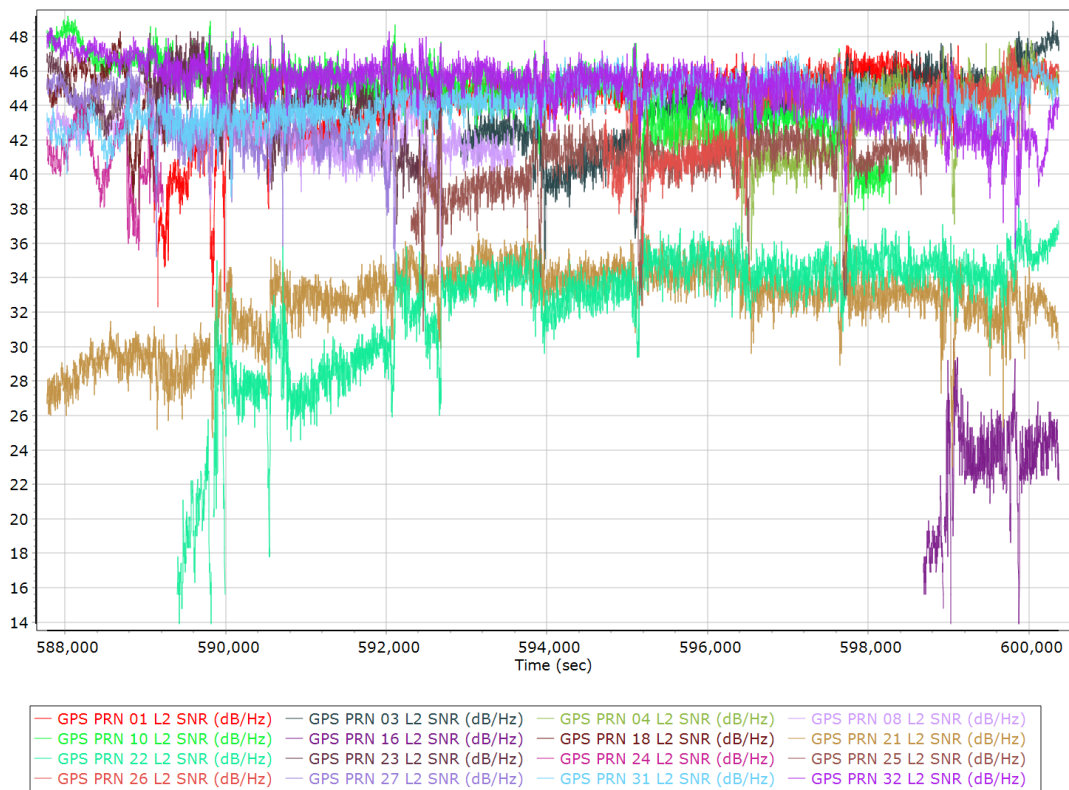


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 04 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 07 L1 SNR (dB/Hz) | GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) |
| GLONASS 10 L1 SNR (dB/Hz) | GLONASS 14 L1 SNR (dB/Hz) | GLONASS 15 L1 SNR (dB/Hz) |
| GLONASS 16 L1 SNR (dB/Hz) | GLONASS 19 L1 SNR (dB/Hz) | GLONASS 20 L1 SNR (dB/Hz) |
| GLONASS 21 L1 SNR (dB/Hz) | GLONASS 22 L1 SNR (dB/Hz) | GLONASS 23 L1 SNR (dB/Hz) |

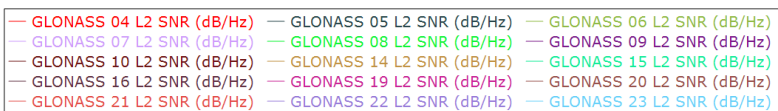
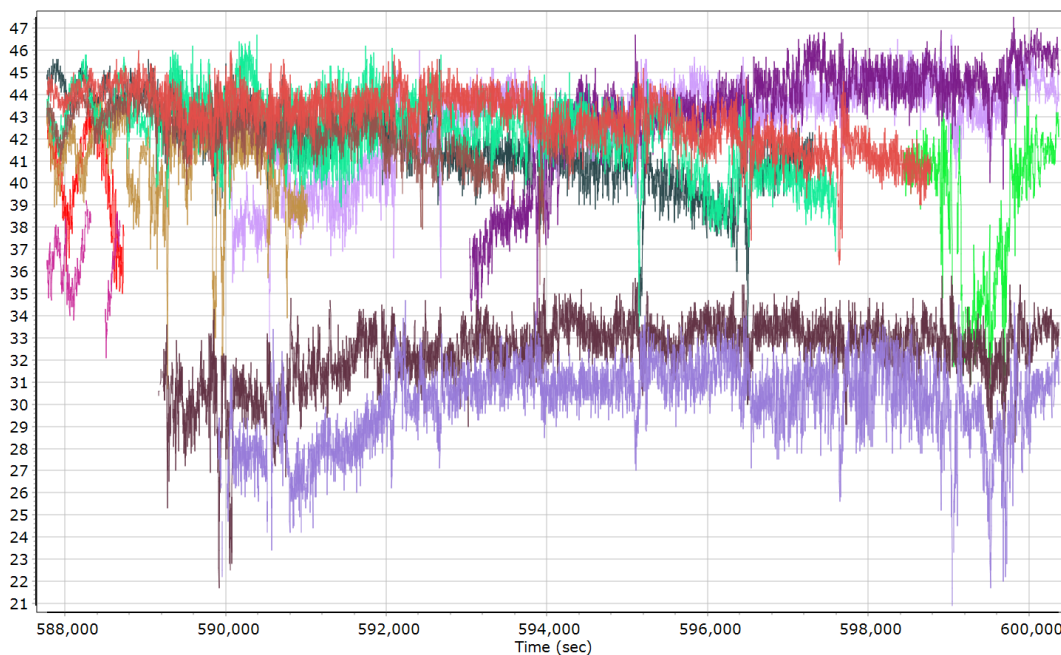
GPS/GLONASS L2 Satellite Lock/Elevation



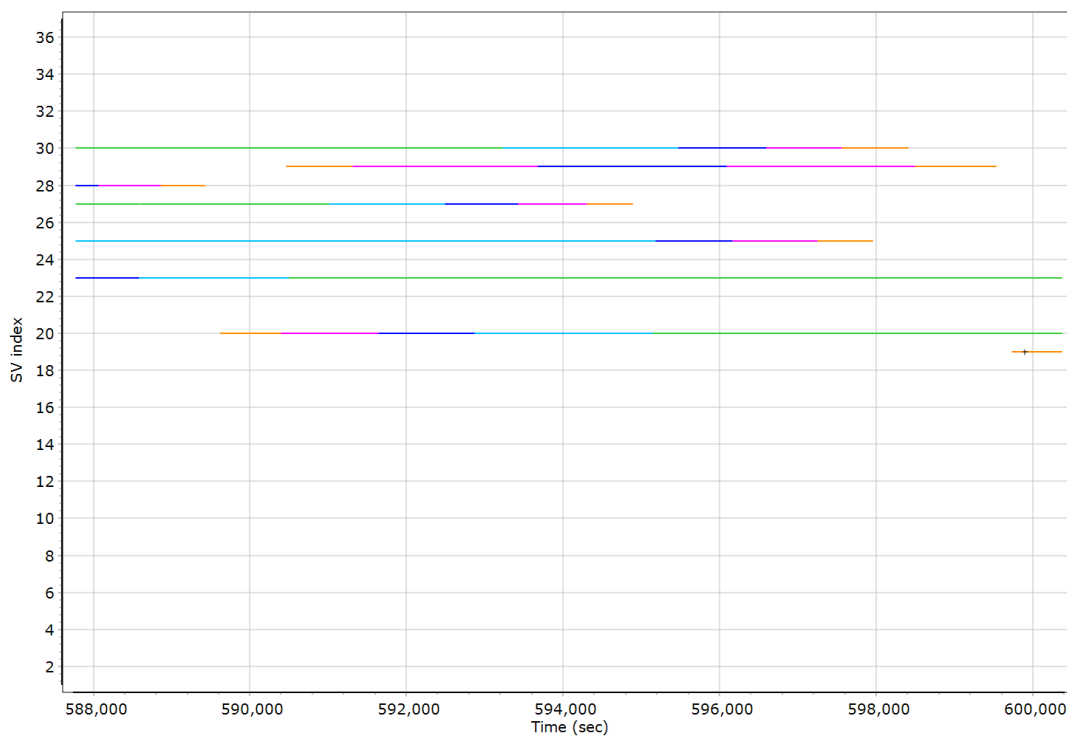
GPS L2 SNR



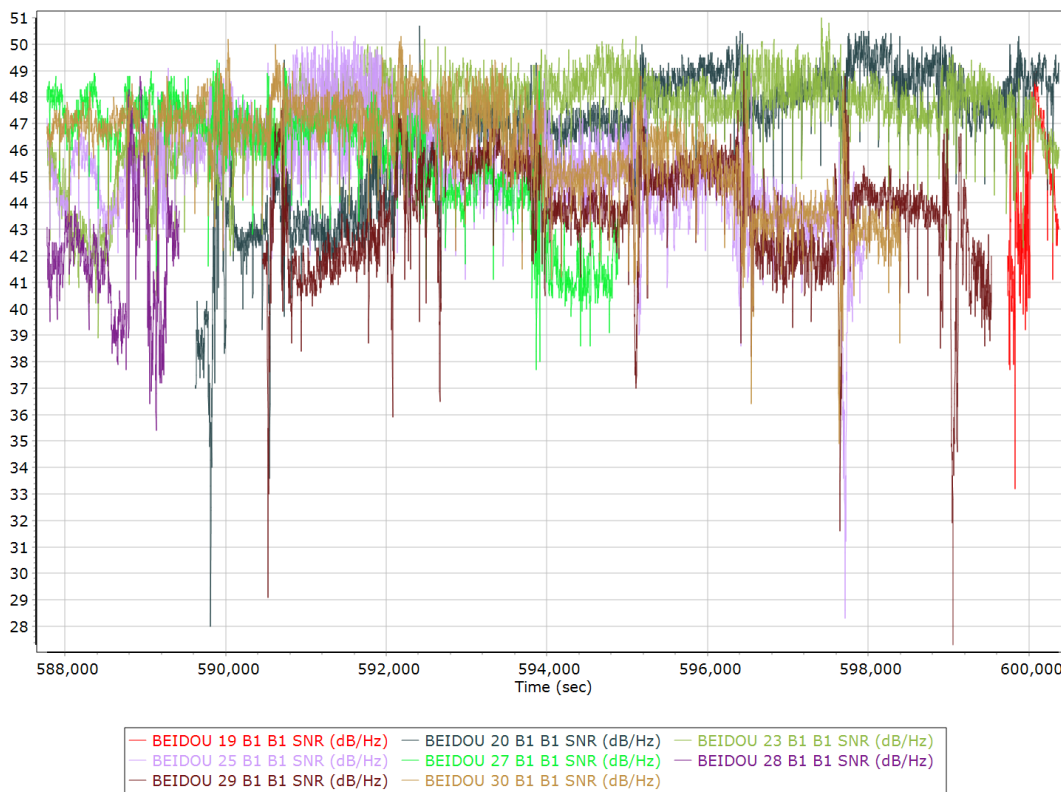
GLONASS L2 SNR



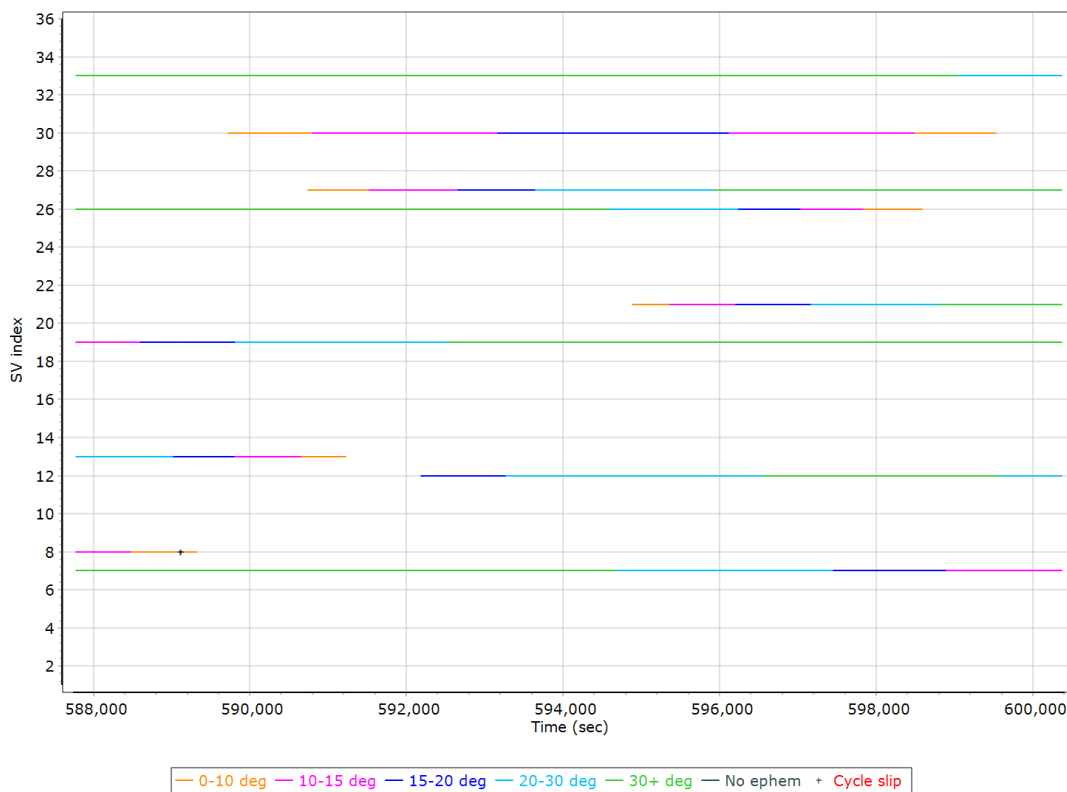
BEIDOU Satellite Lock/Elevation



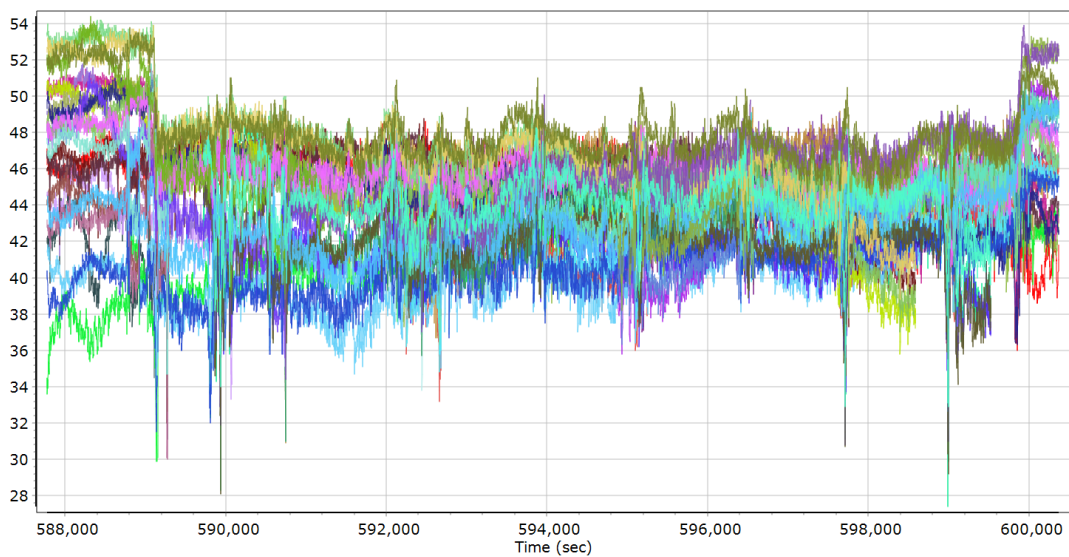
BEIDOU SNR



GALILEO Satellite Lock/Elevation



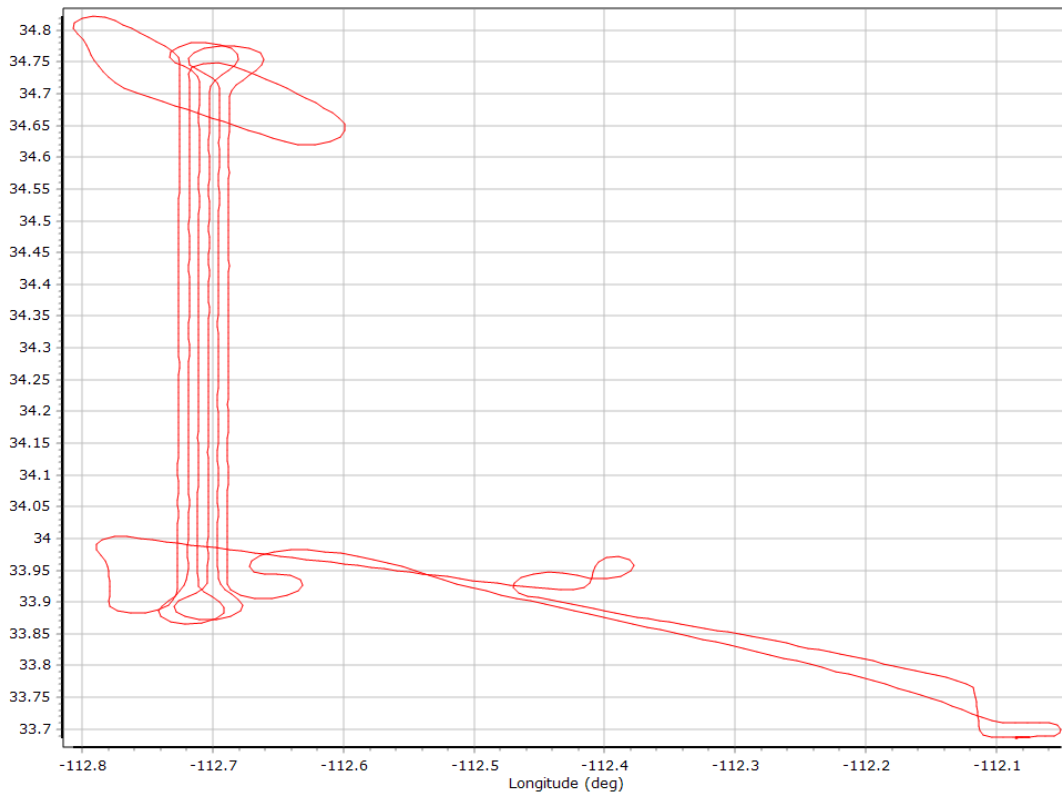
GALILEO SNR



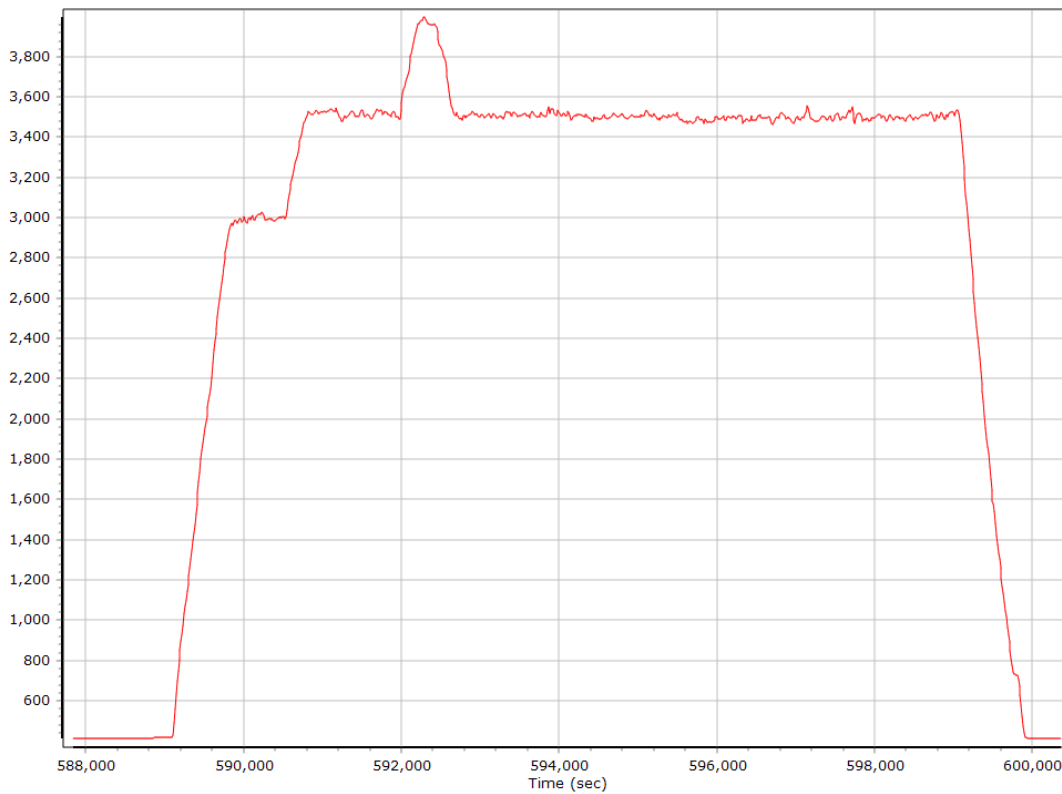
| | |
|---|---|
| — GALILEO 07 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 12 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 19 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 21 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — 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

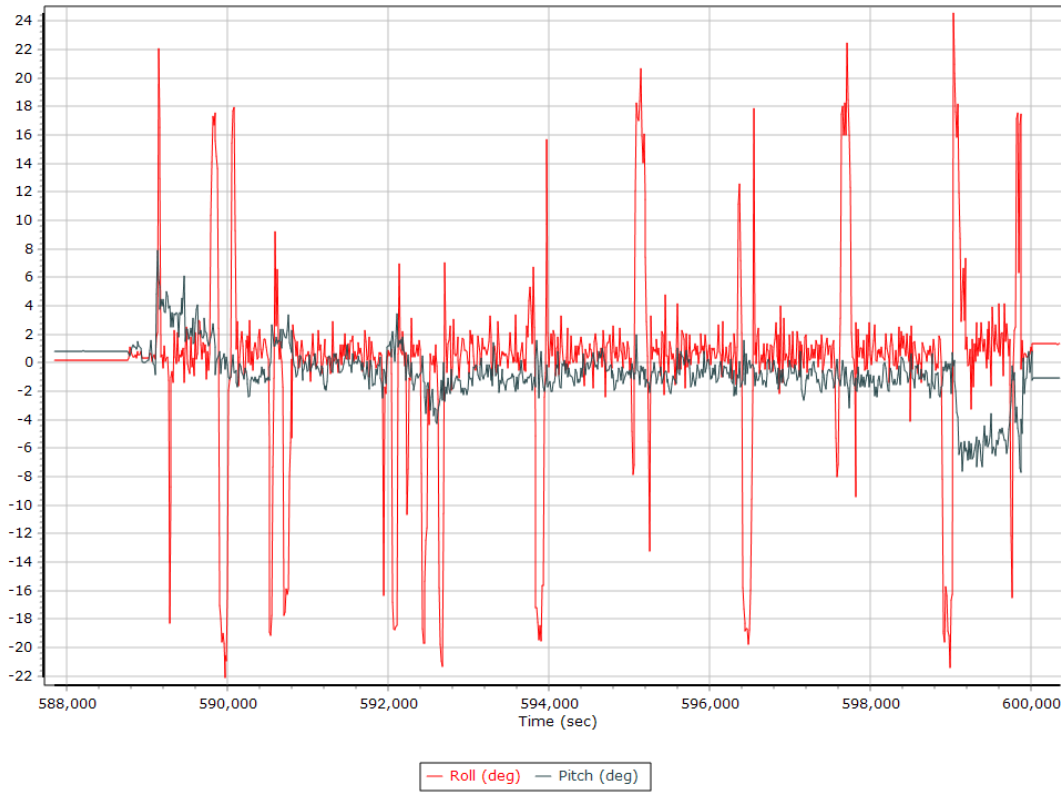
Top View



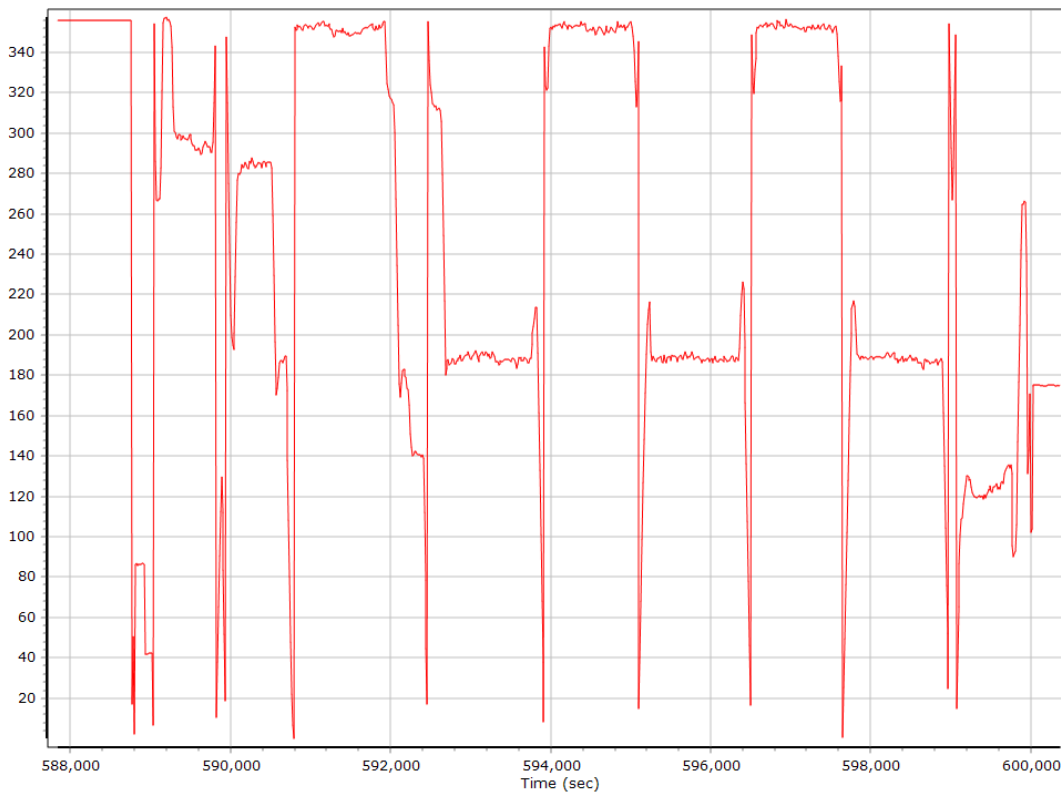
Altitude



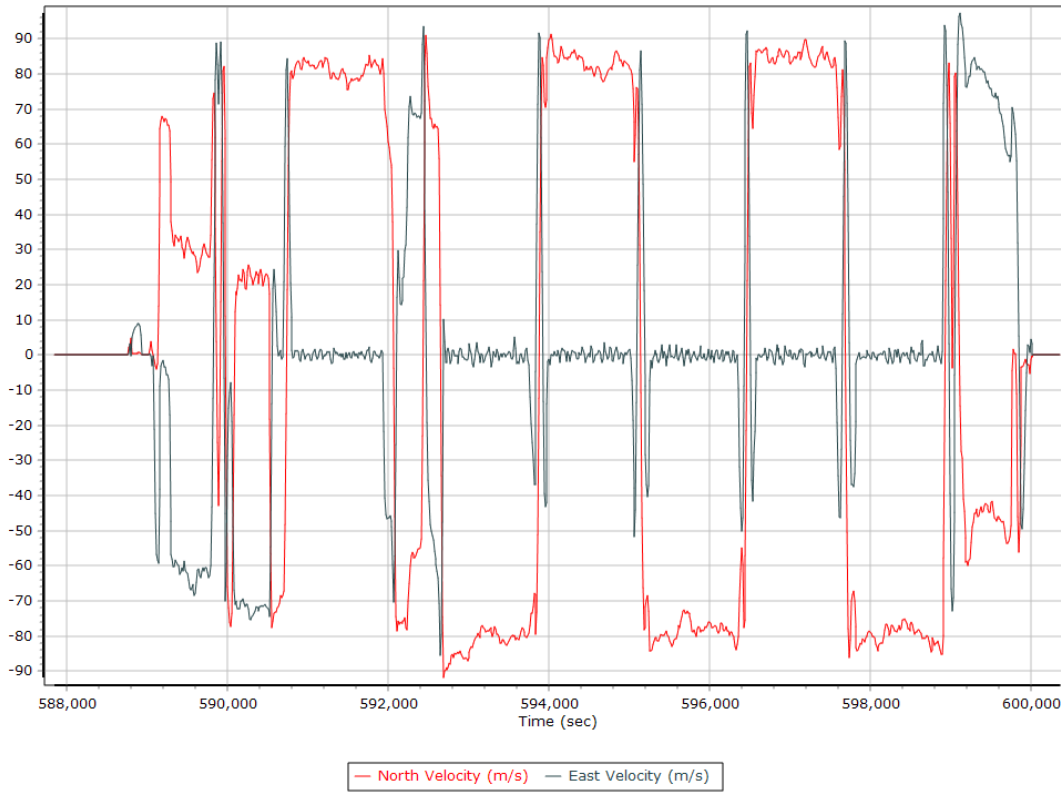
Roll/Pitch



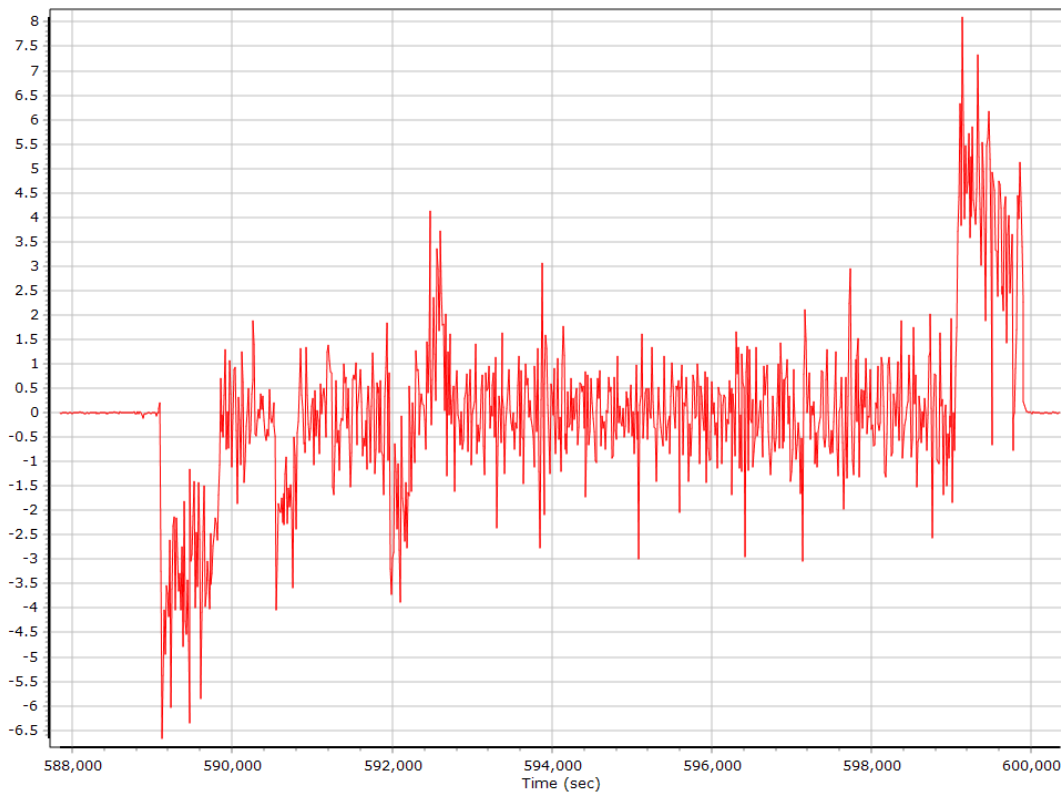
Heading



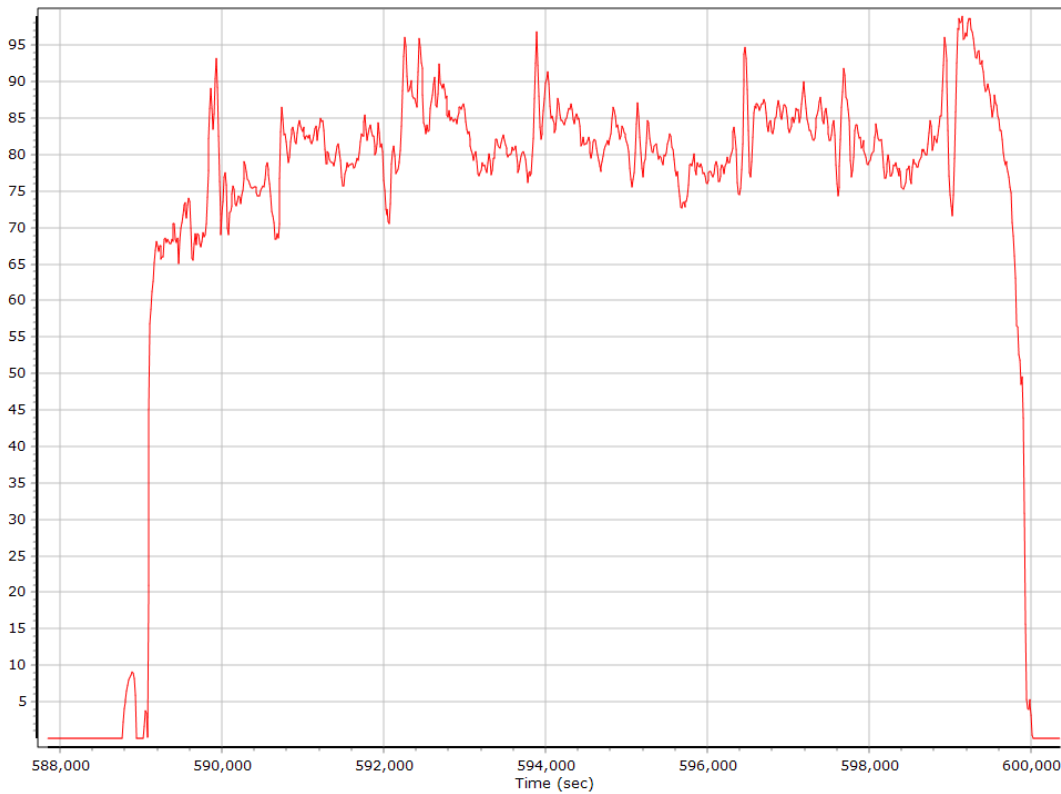
North/East Velocity



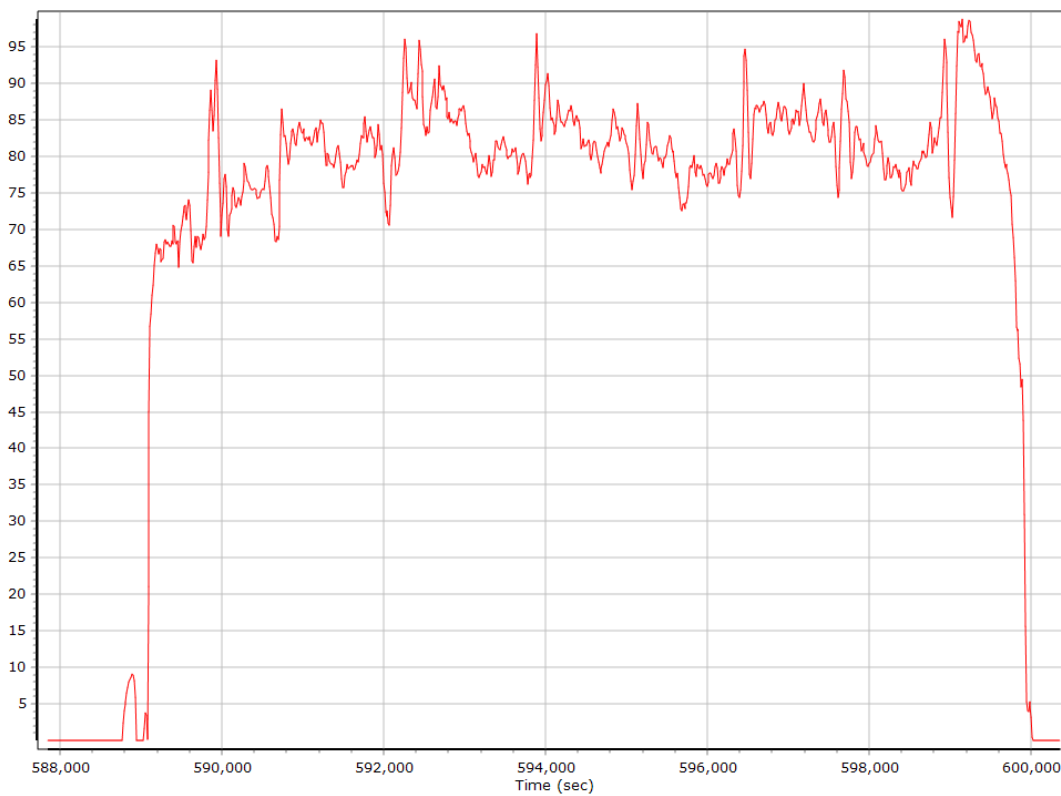
Down Velocity



Total Speed



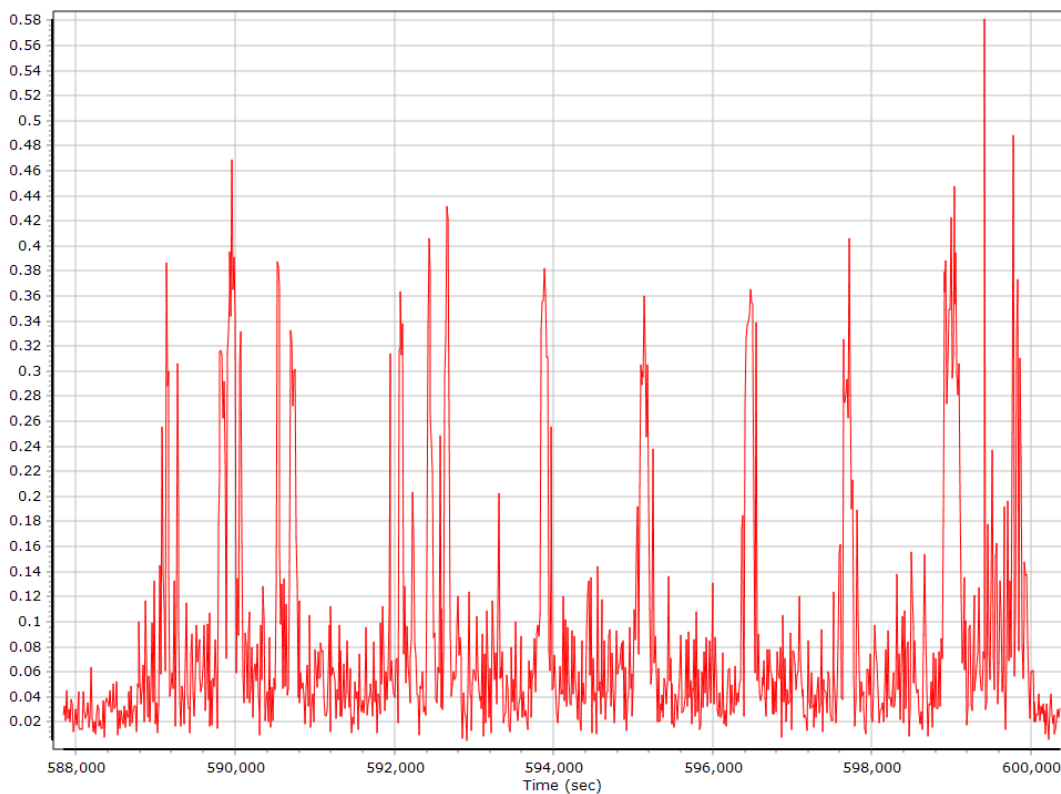
Ground Speed



Body Acceleration



Total Body Acceleration

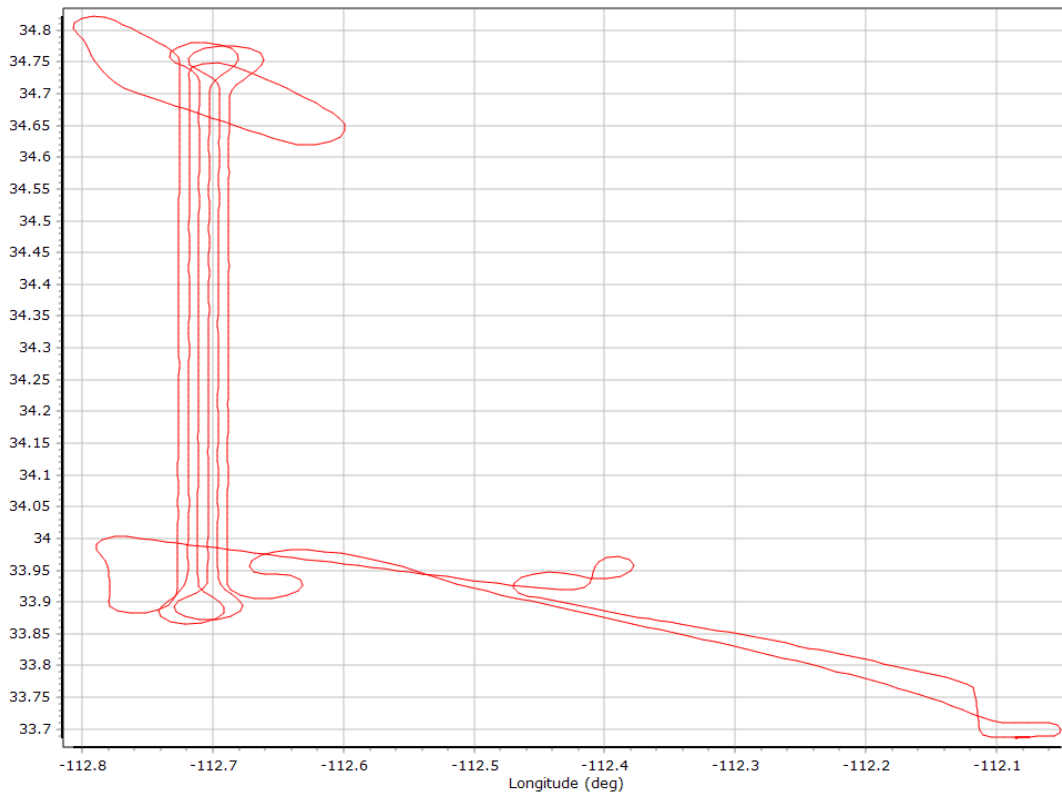


Body Angular Rate

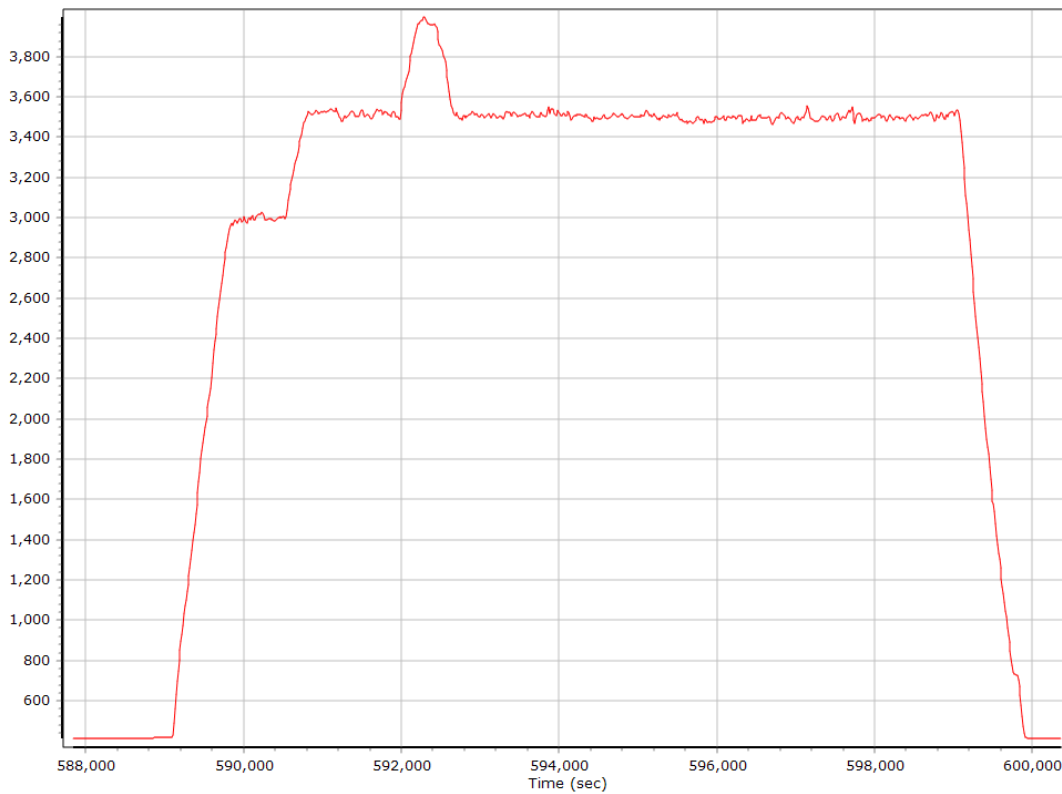


Forward Processed Trajectory Information

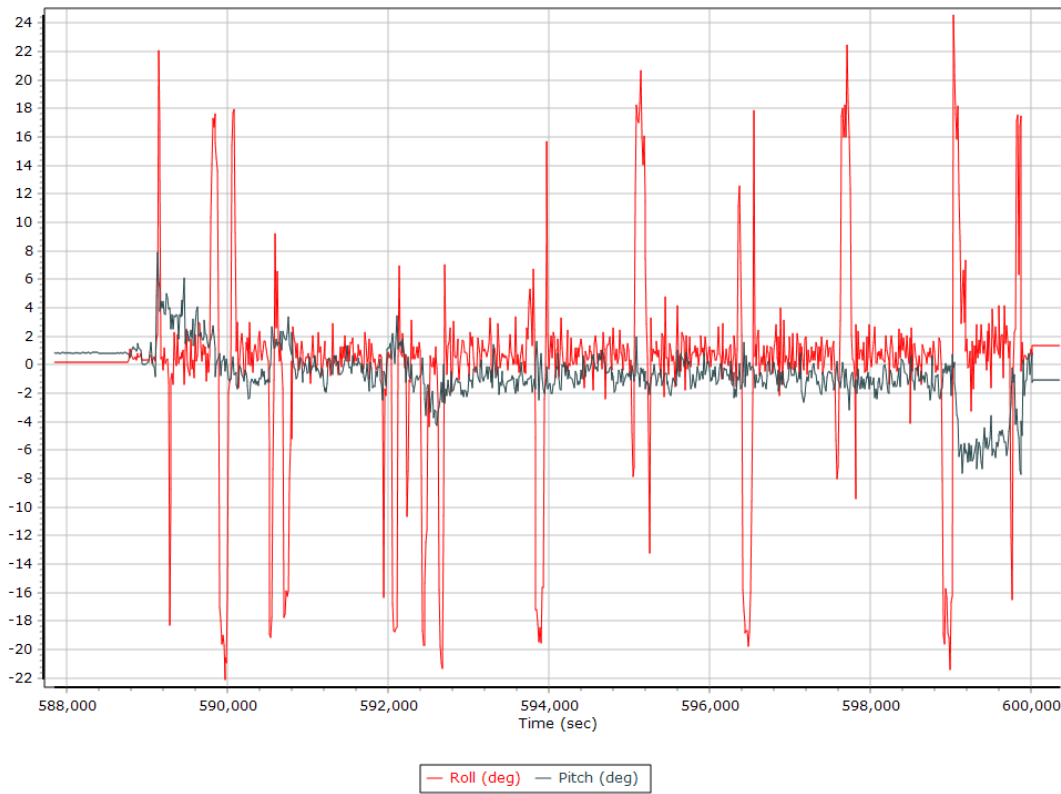
Top View



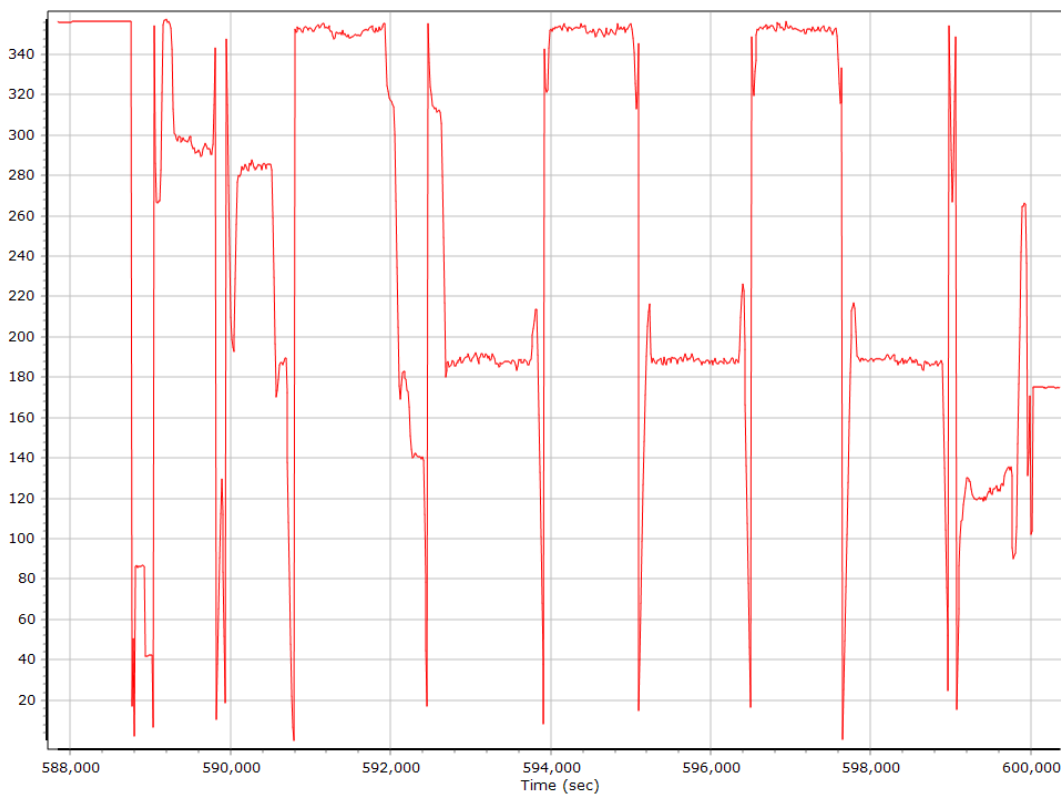
Altitude



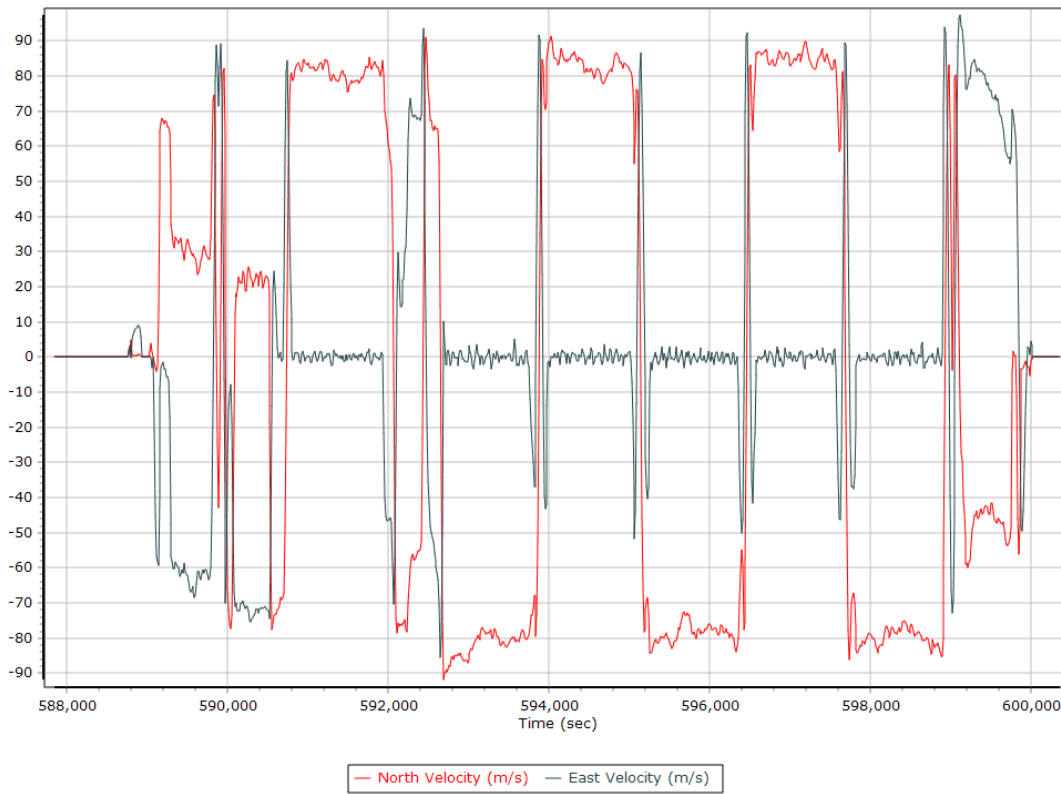
Roll/Pitch



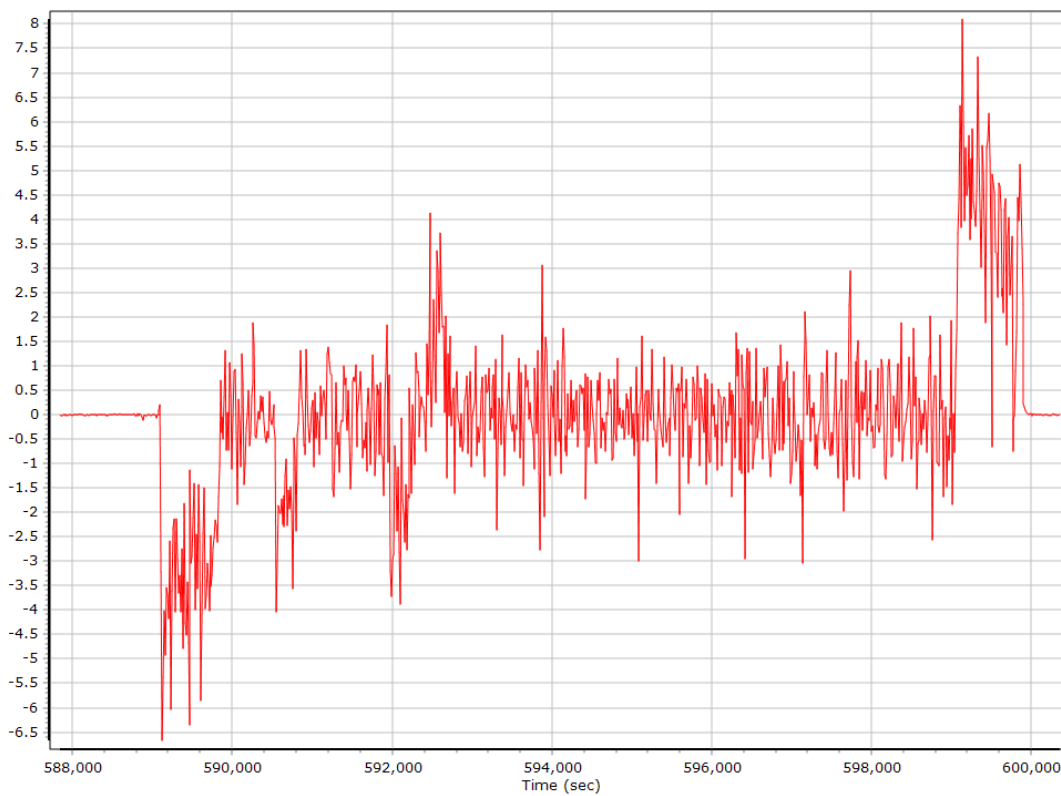
Heading



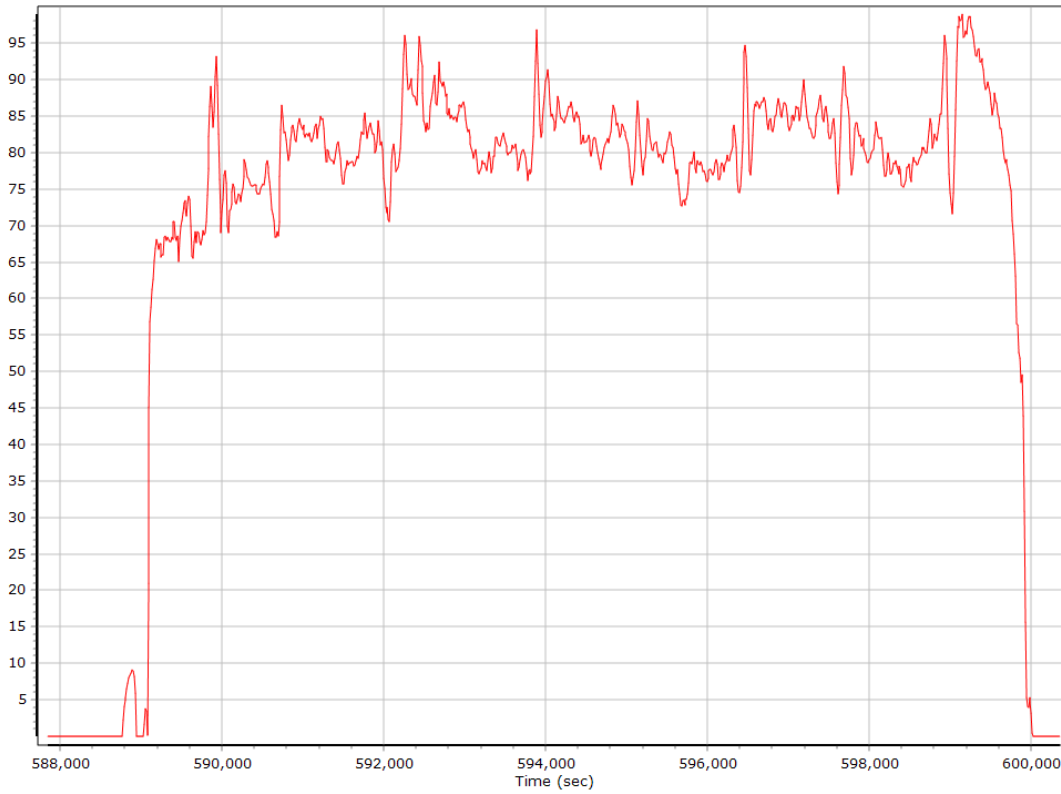
North/East Velocity



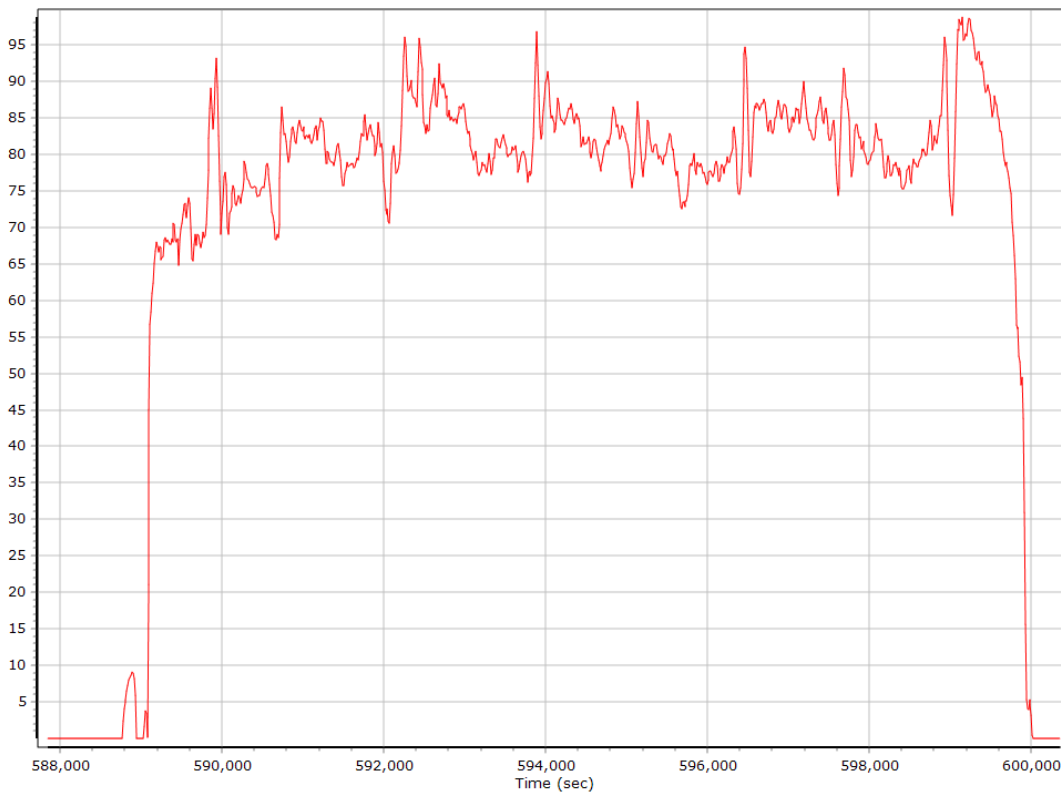
Down Velocity



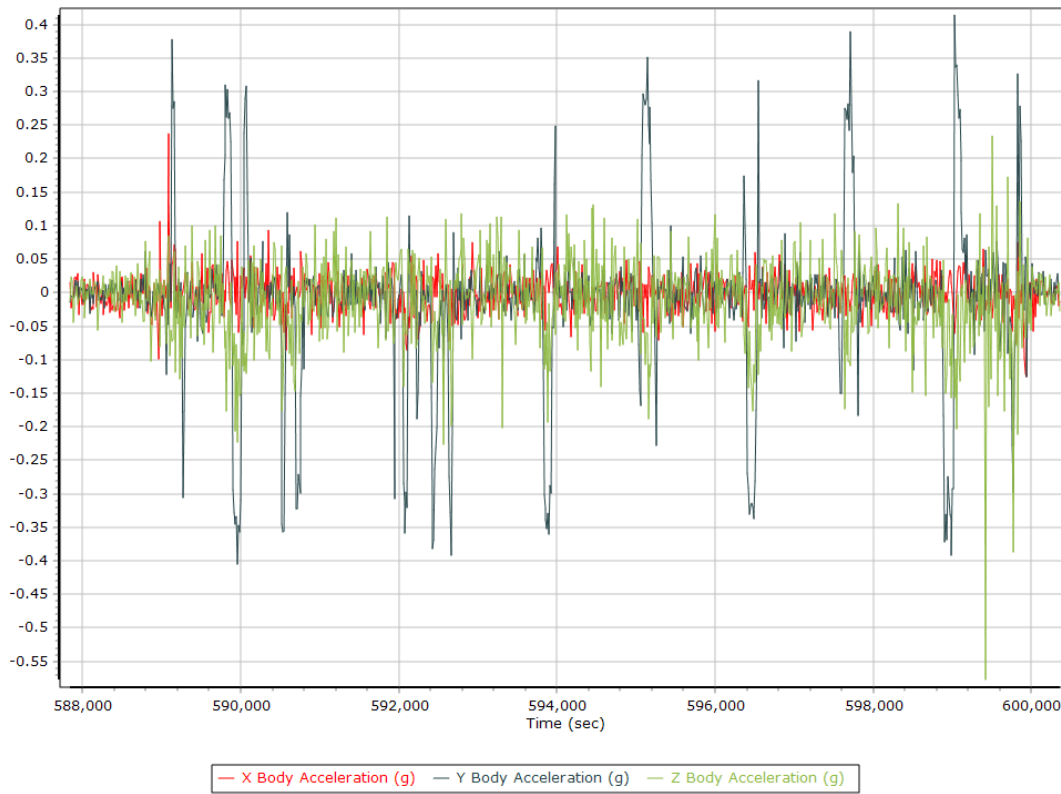
Total Speed



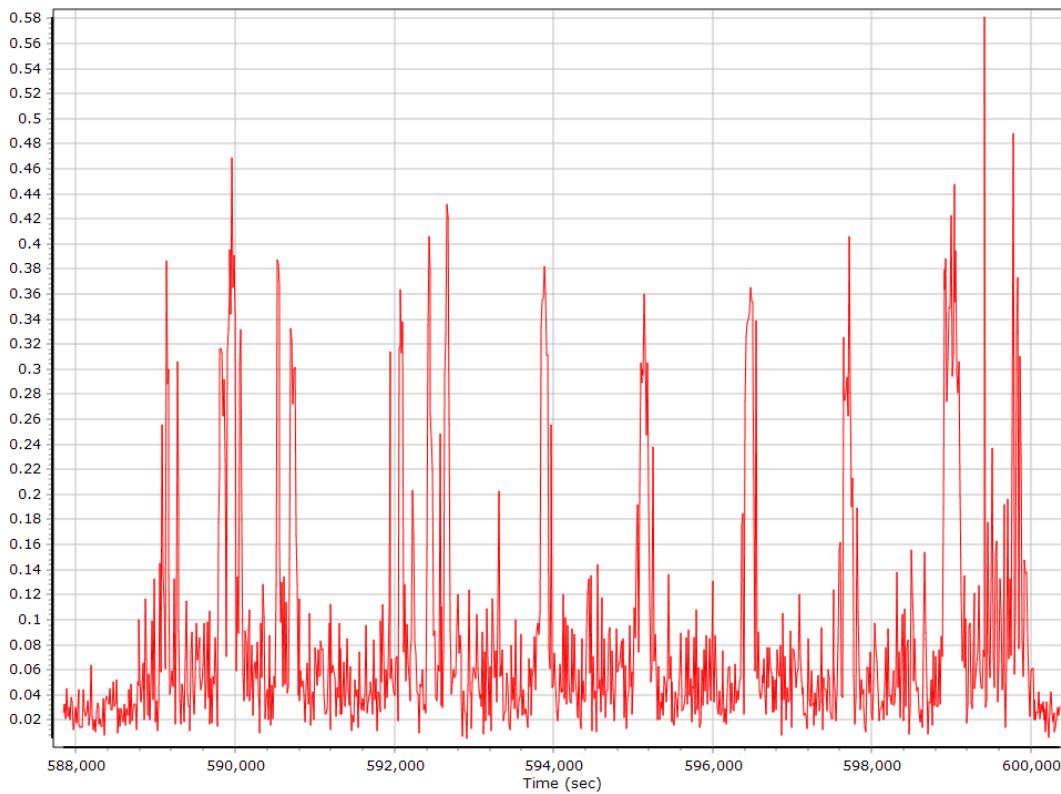
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate

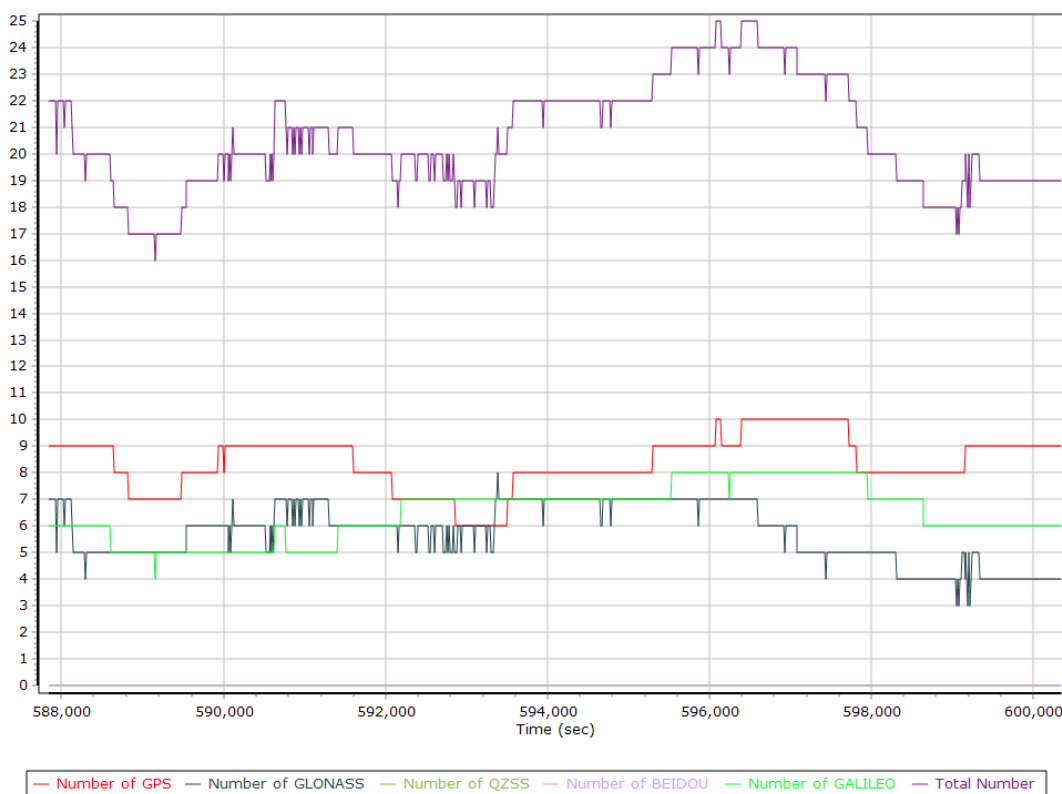


GNSS QC

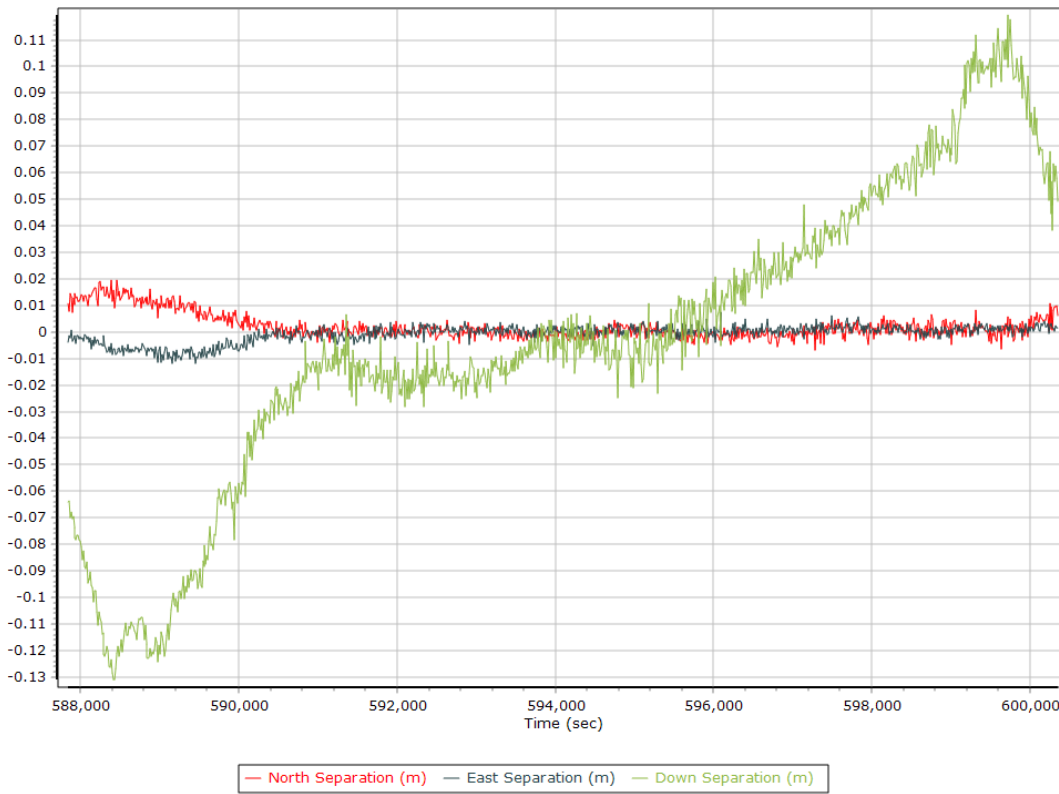
GNSS QC Statistics

| Statistics | Min | Max | Mean |
|----------------------|----------|-------|-------------|
| Baseline length (km) | 0.00 | 0.00 | |
| Number of GPS SV | 6 | 10 | 8 |
| Number of GLONASS SV | 3 | 8 | 6 |
| Number of QZSS SV | 0 | 0 | 0 |
| Number of BEIDOU SV | 0 | 0 | 0 |
| Number of GALILEO SV | 4 | 8 | 6 |
| Total number of SV | 16 | 25 | 21 |
| PDOP | 1.00 | 1.91 | 1.27 |
| QC Solution Gaps | 0.00 | 0.00 | |
| Solution Type | Fixed | Float | No solution |
| Epoch (sec) | 12567.00 | 0.00 | 0.00 |
| Percentage | 100.00 | 0.00 | 0.00 |

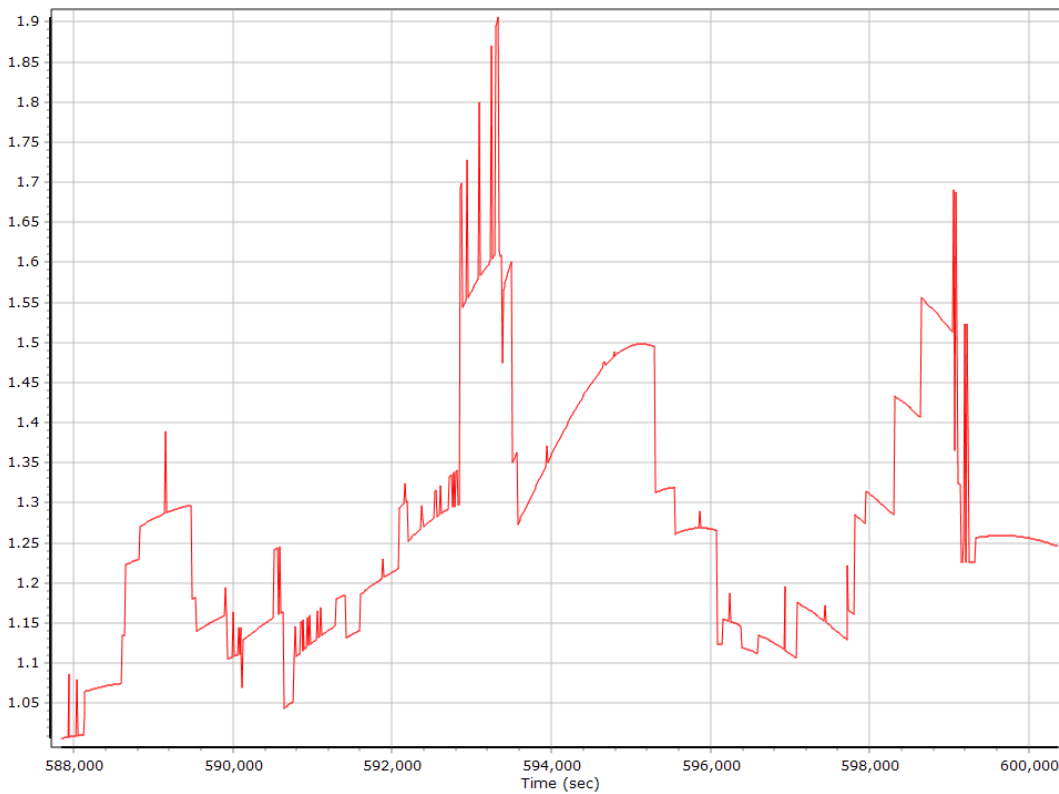
Num SVs in solution



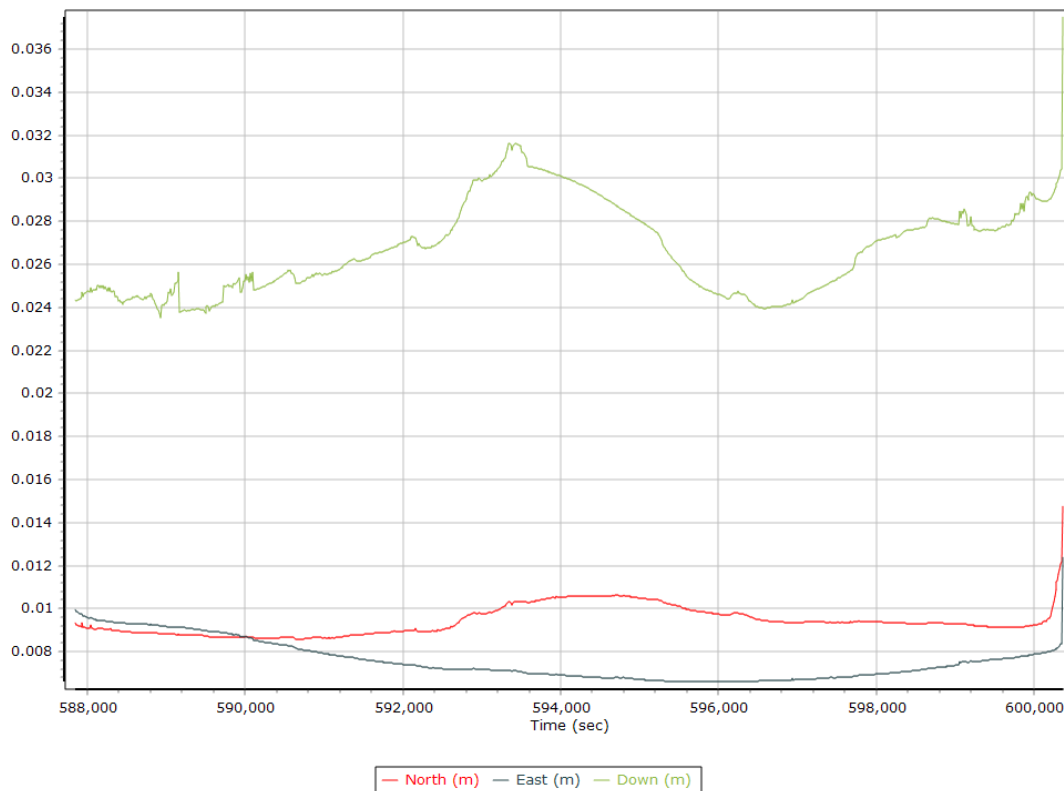
Forward/Reverse Separation



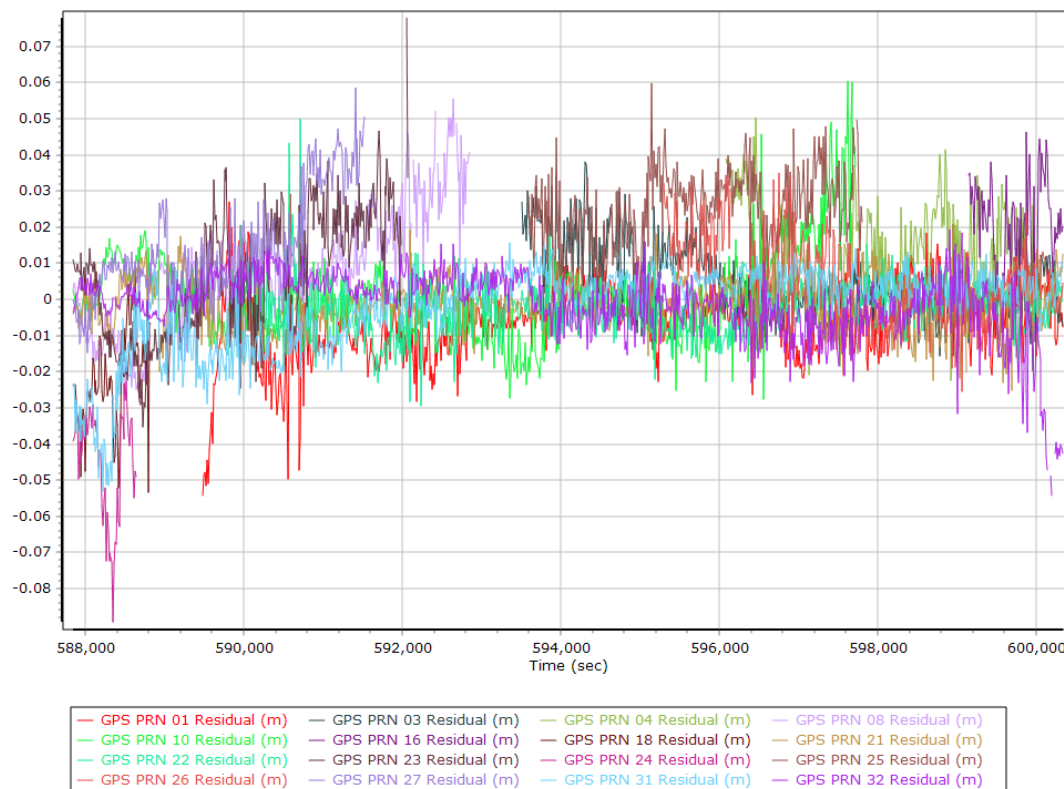
PDOP



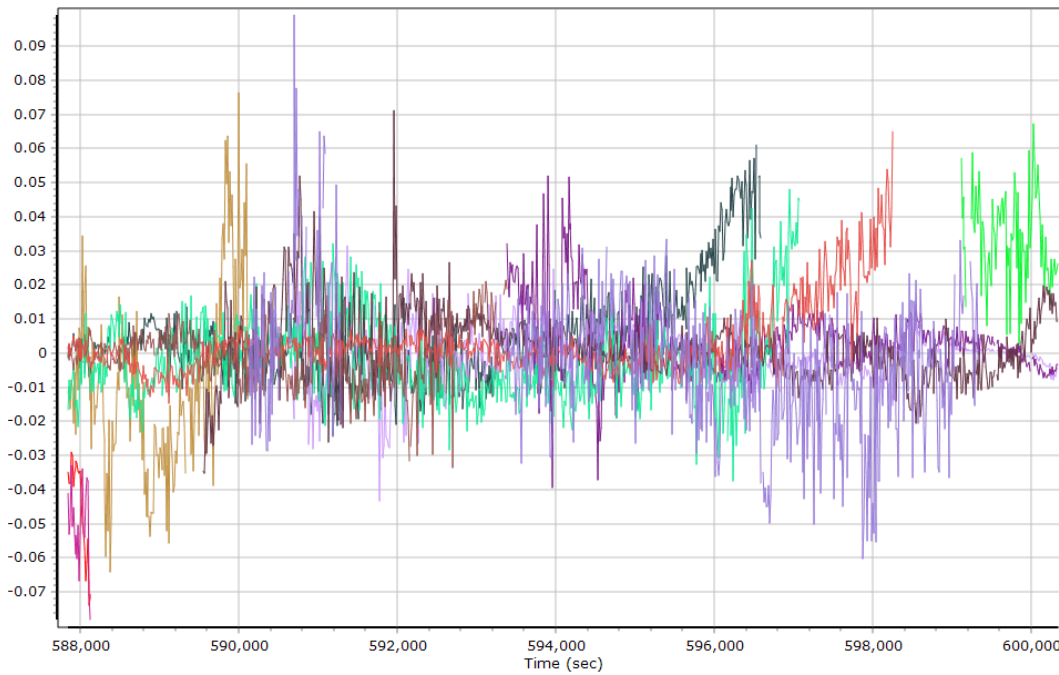
Estimated Position Accuracy



GPS Residuals

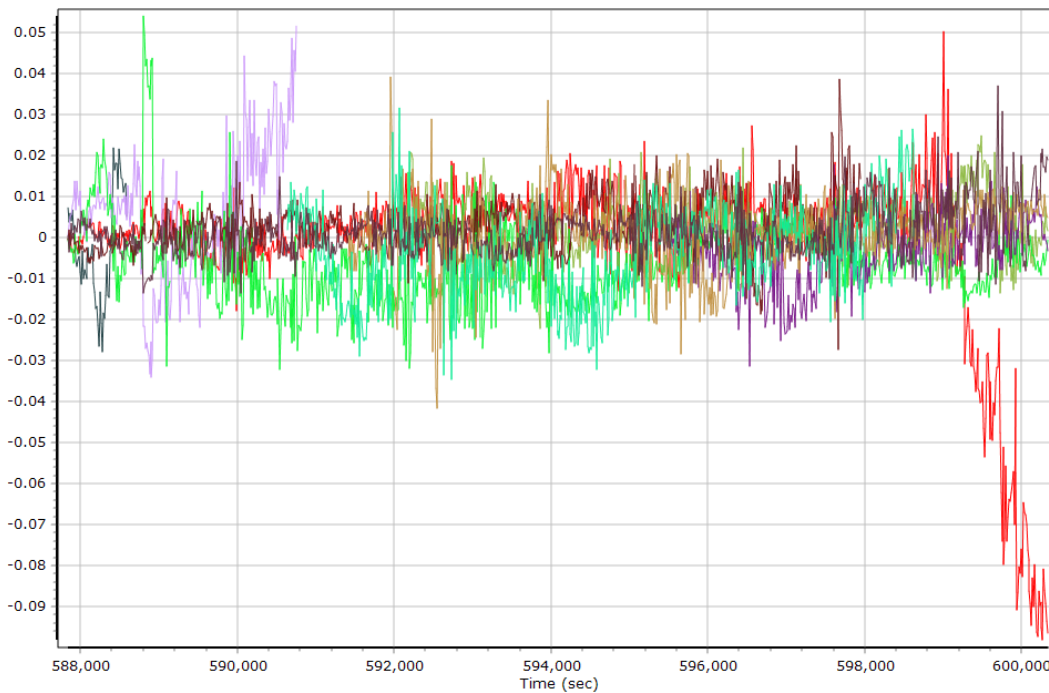


GLONASS Residuals



- | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| 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 | 587778.000 (10/09/2021 19:16:18) | | |
| Processing end time | 600370.000 (10/09/2021 22:46:10) | | |
| 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) | 0.537 | 0.040 | -1.193 |
| 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 |

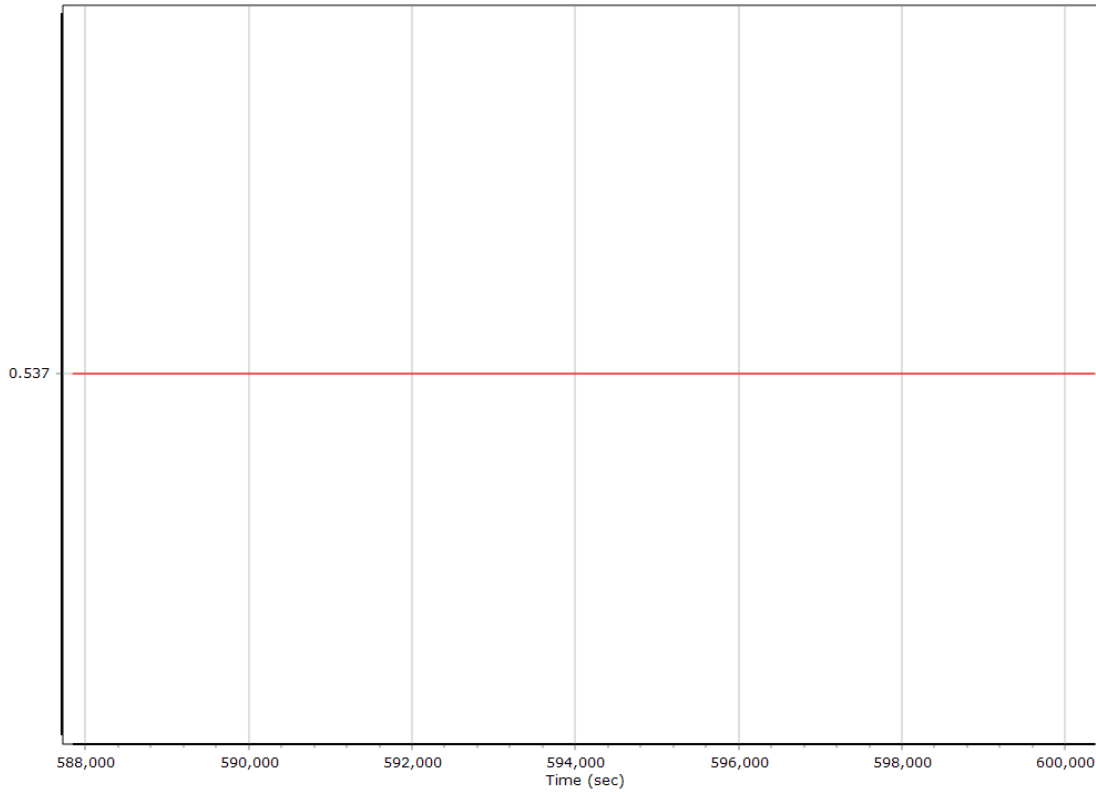
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

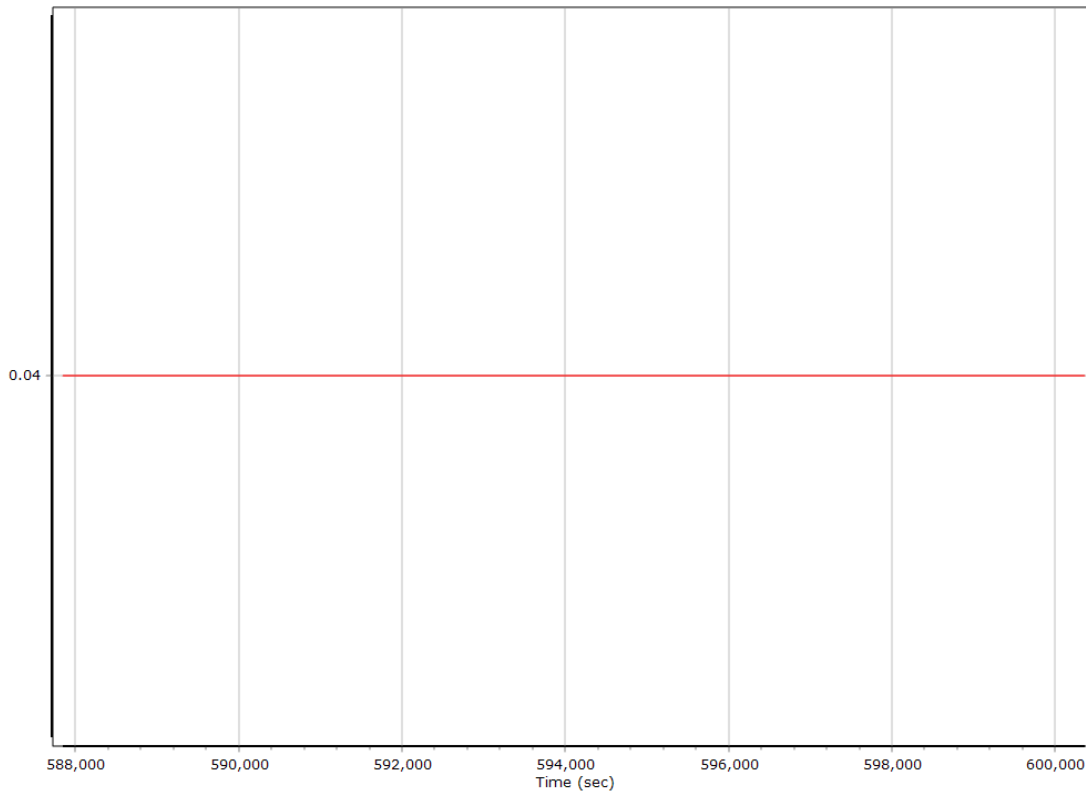
Reference-Primary GNSS Lever Arm Automatic Calibration Results

| | | | |
|---|-------------|-------|--------|
| Original Reference to Primary GNSS lever arm (m) | 0.534 | 0.060 | -1.199 |
| Iteration 1 Reference to Primary GNSS lever arm (m) | 0.537 | 0.040 | -1.193 |
| Iteration 2 Reference to Primary GNSS lever arm (m) | 0.537 | 0.040 | -1.193 |
| Primary GNSS Lever Arm In use | Iteration 2 | | |

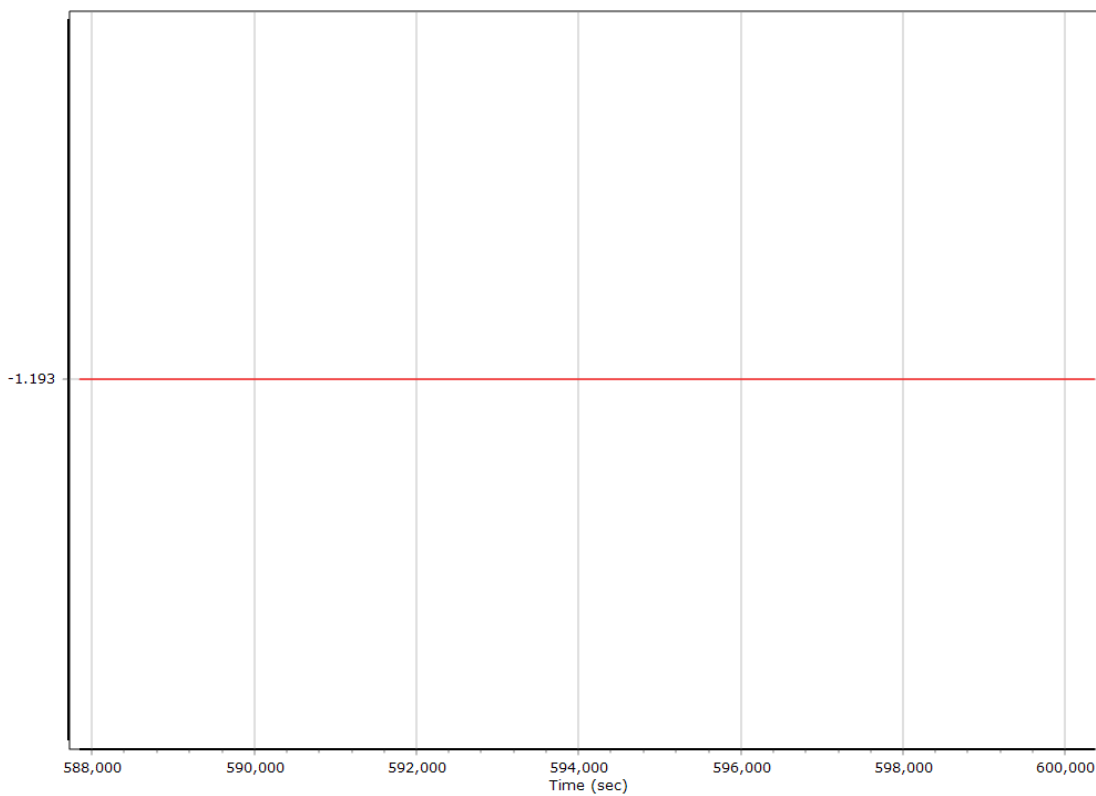
X Reference-Primary GNSS Lever Arm (m)



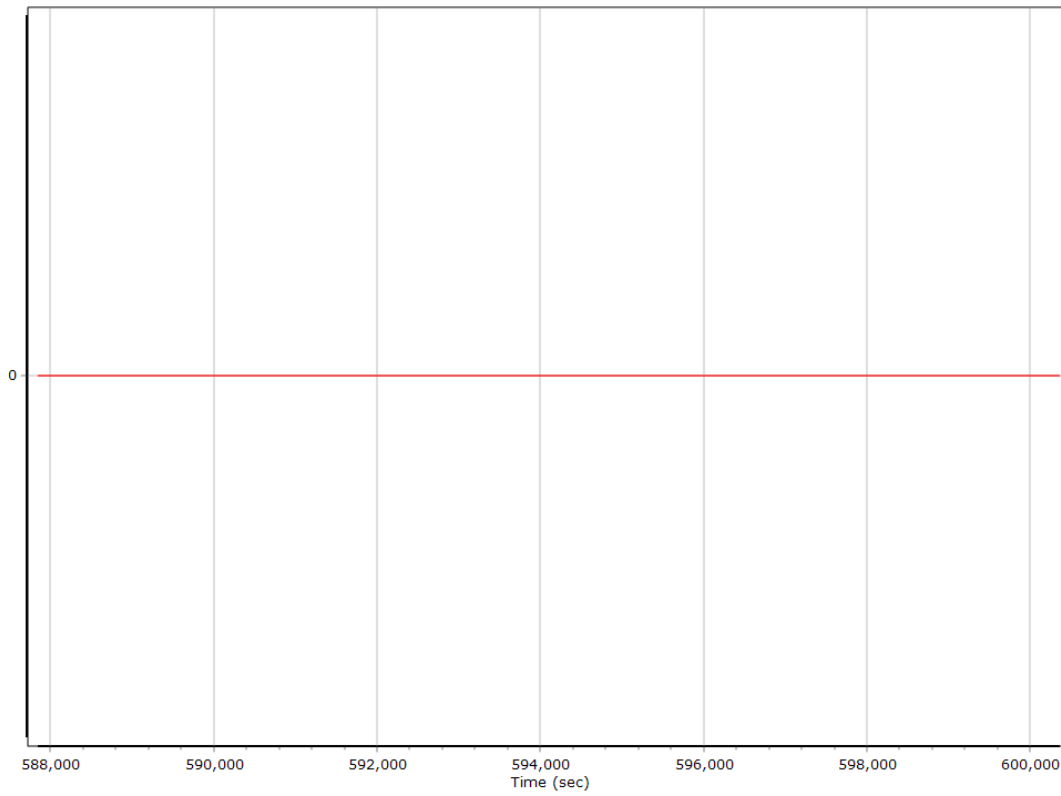
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



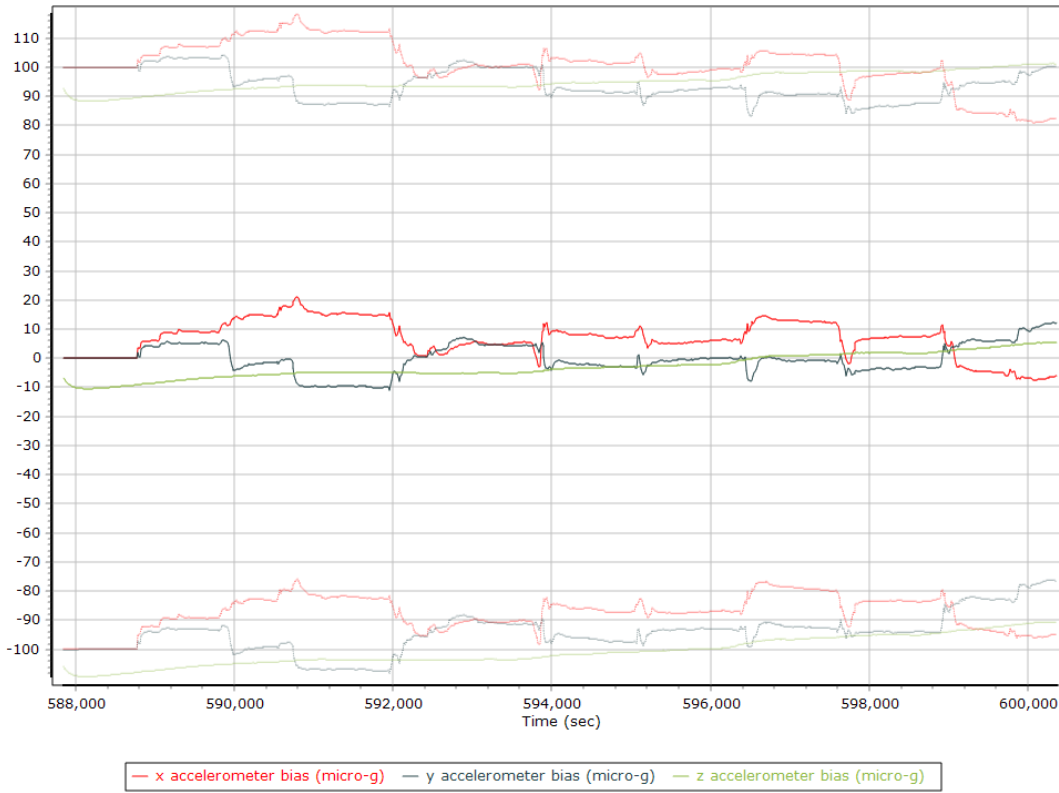
Reference-Primary GNSS Lever Arm Figure of Merit



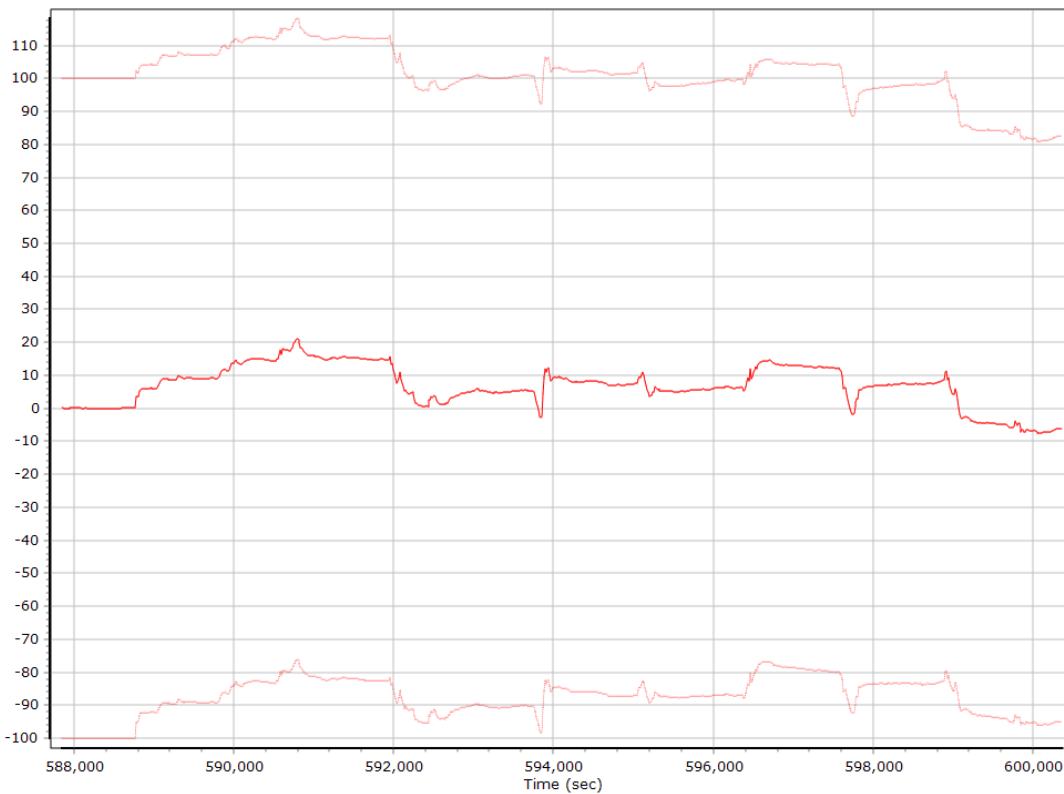
IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

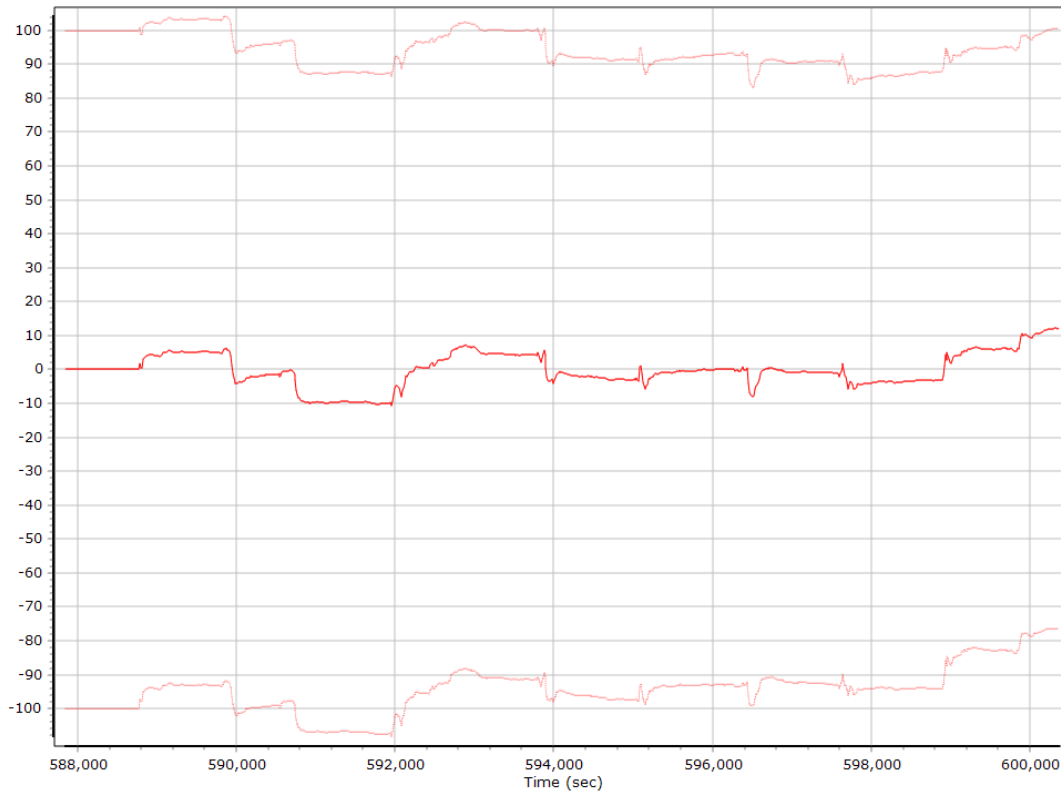
Accelerometer Bias (micro-g)



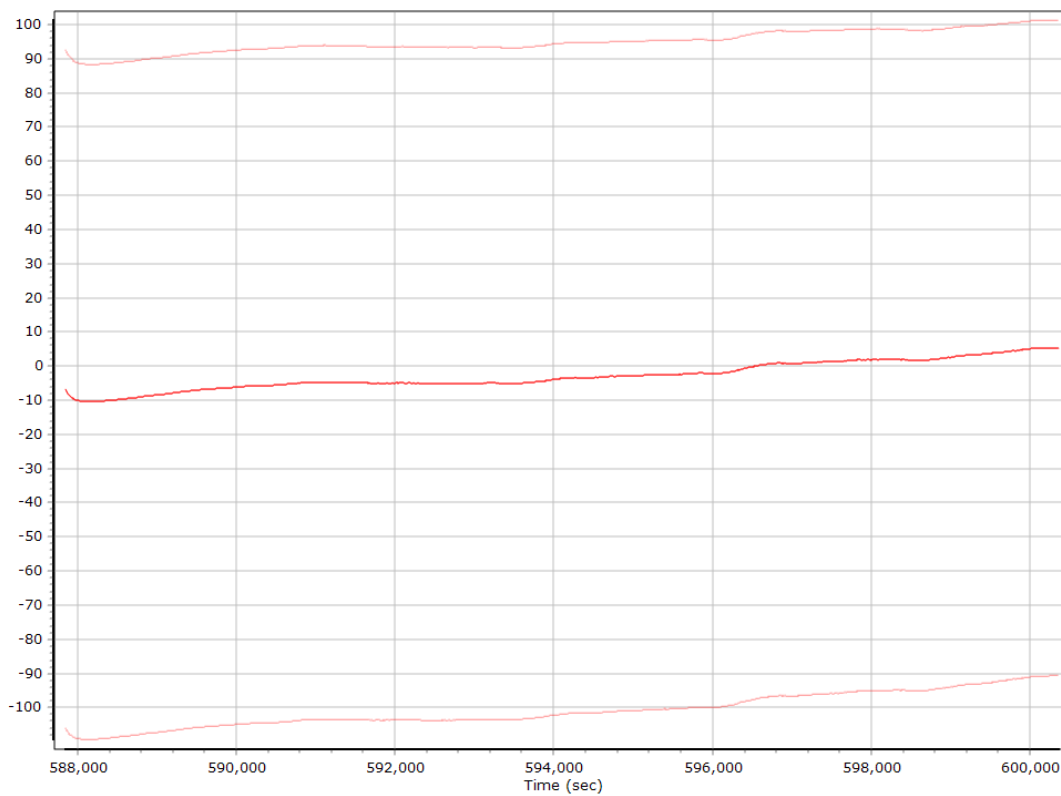
X Accelerometer Bias (micro-g)



Y Accelerometer Bias (micro-g)



Z Accelerometer Bias (micro-g)



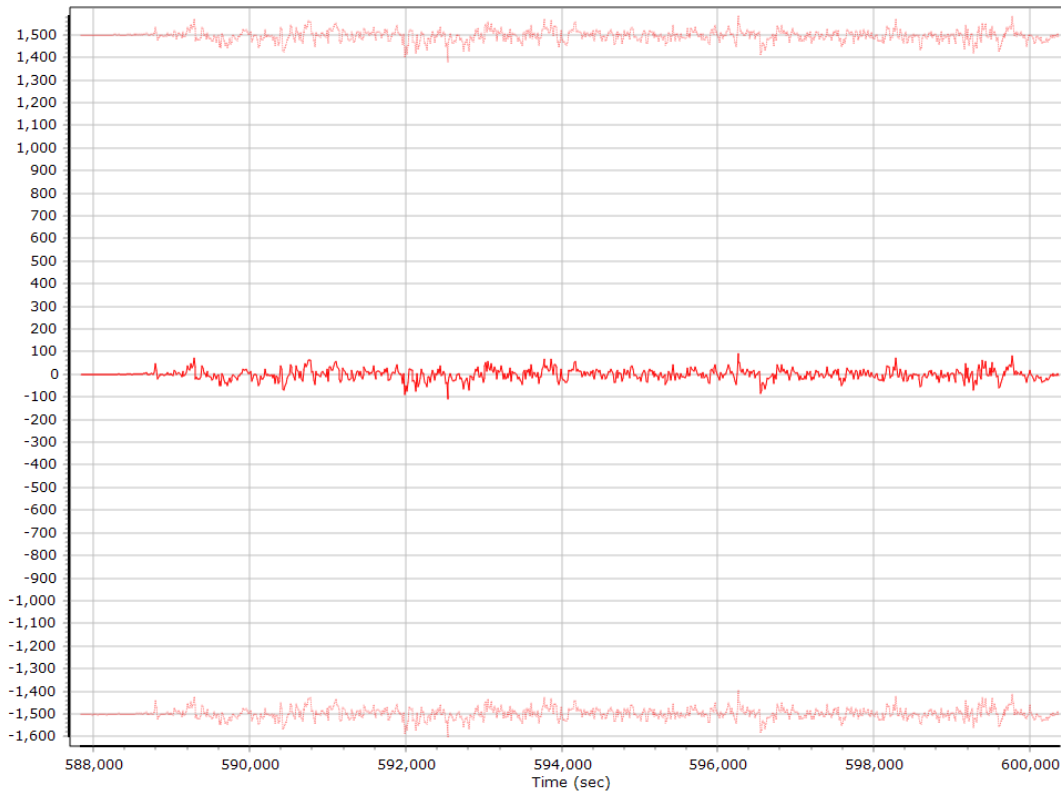
Accelerometer Scale Error (ppm)



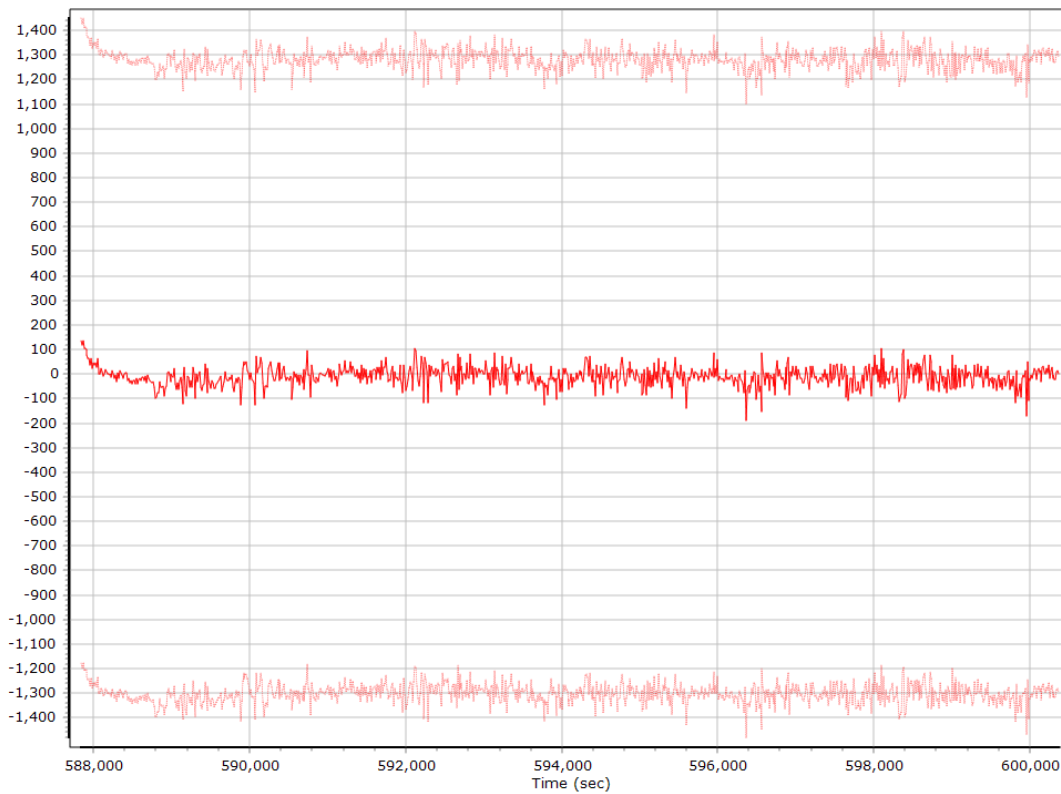
X Accelerometer Scale Error (ppm)



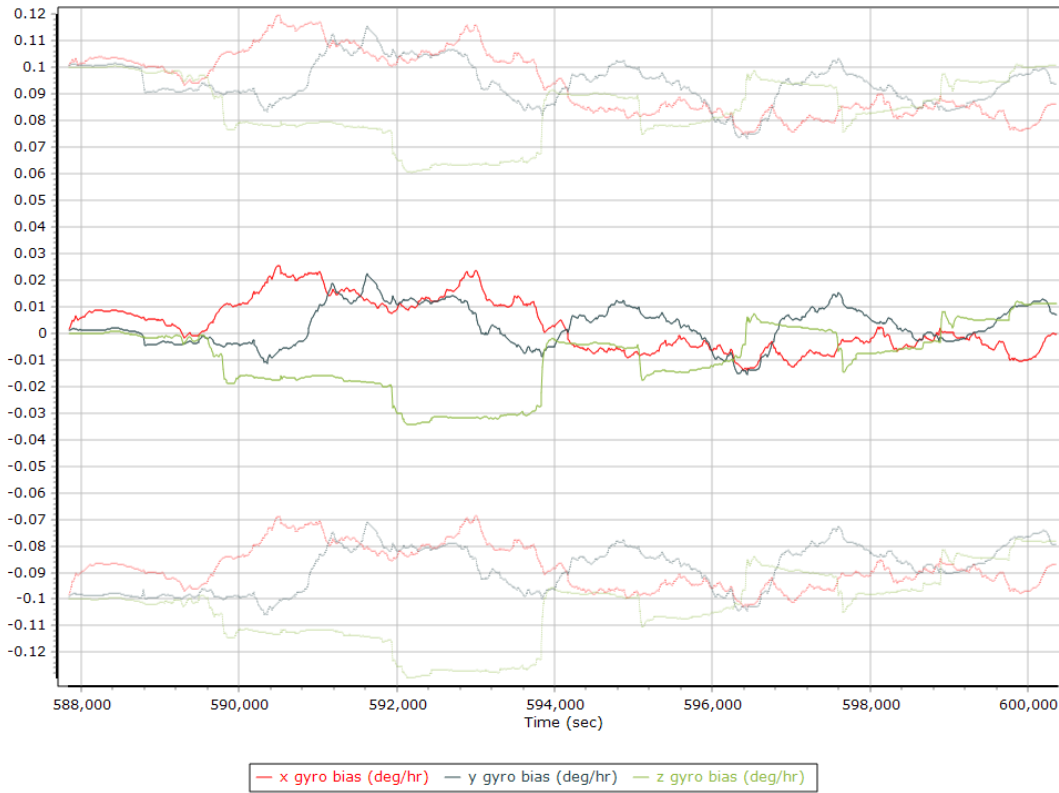
Y Accelerometer Scale Error (ppm)



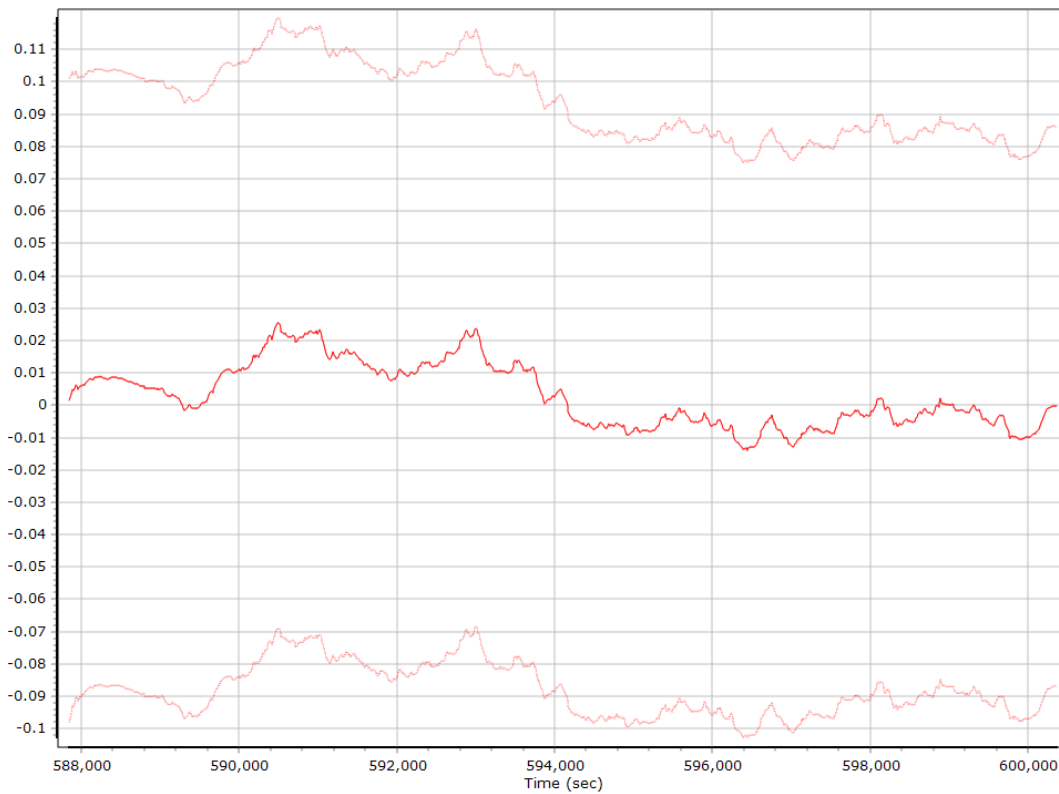
Z Accelerometer Scale Error (ppm)



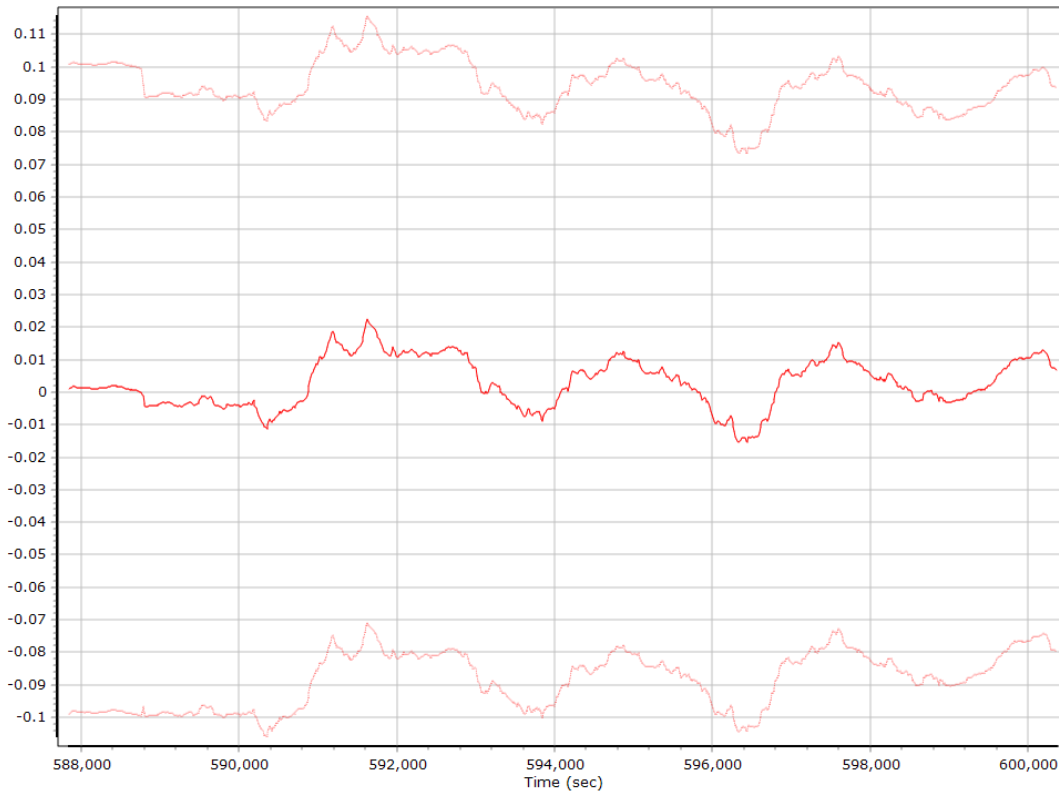
Gyro Bias (deg/h)



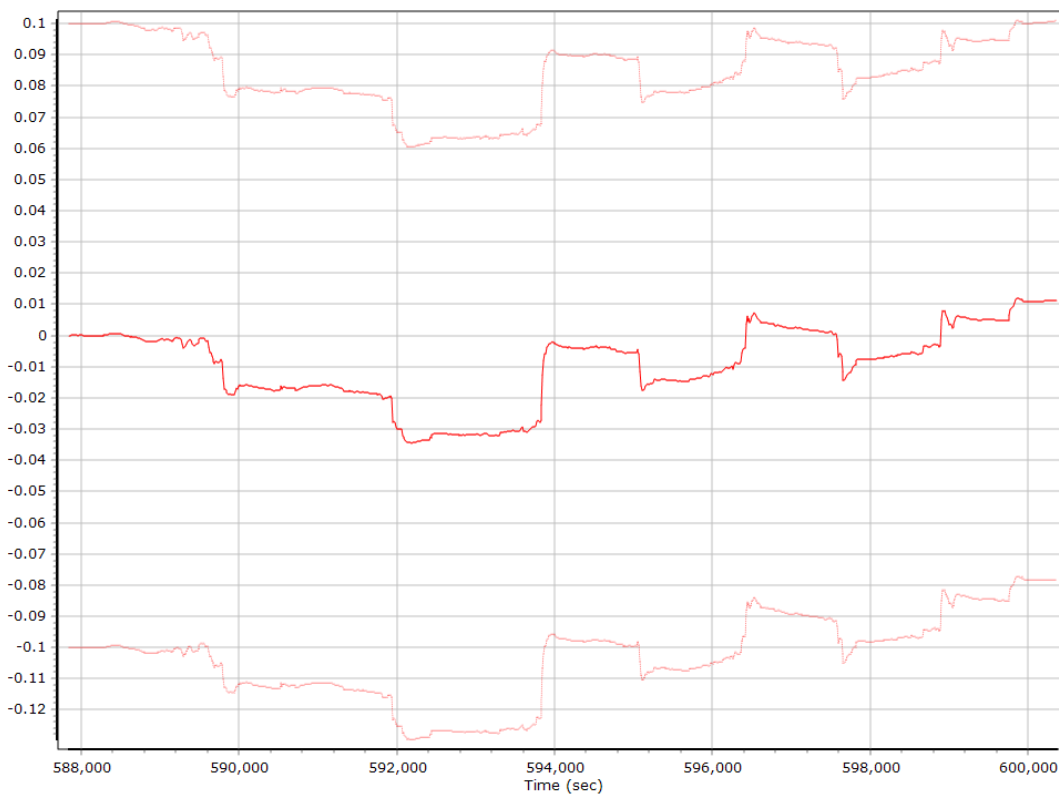
X Gyro Bias (deg/h)



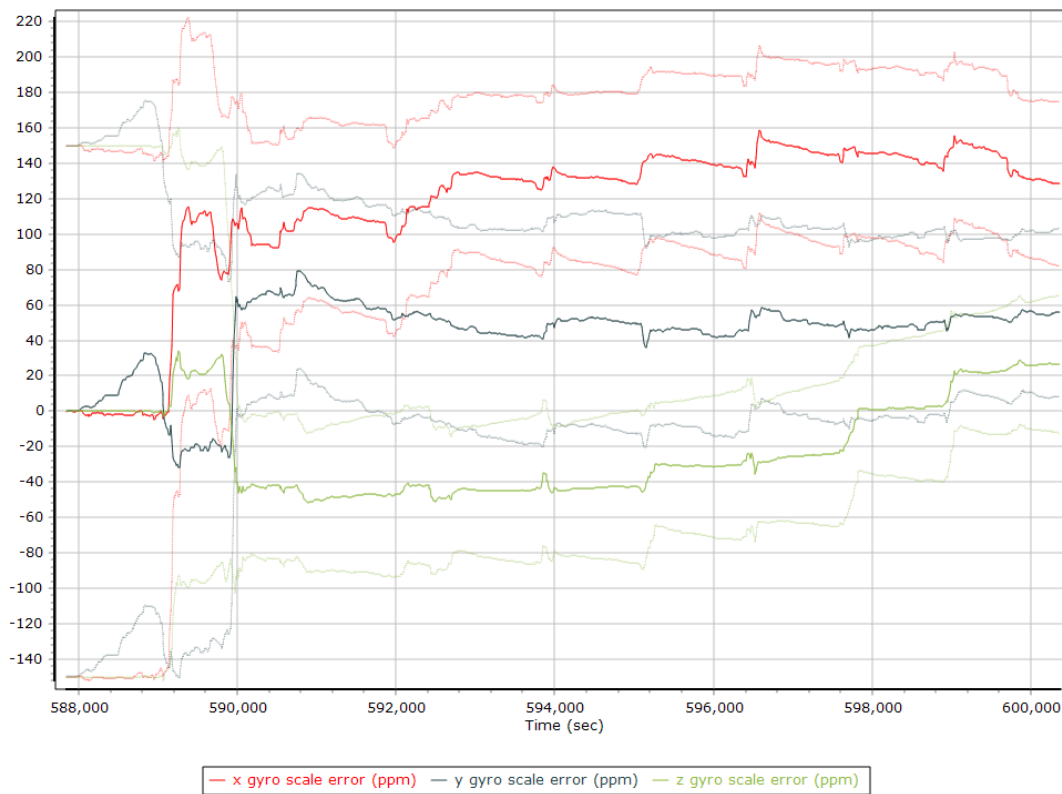
Y Gyro Bias (deg/h)



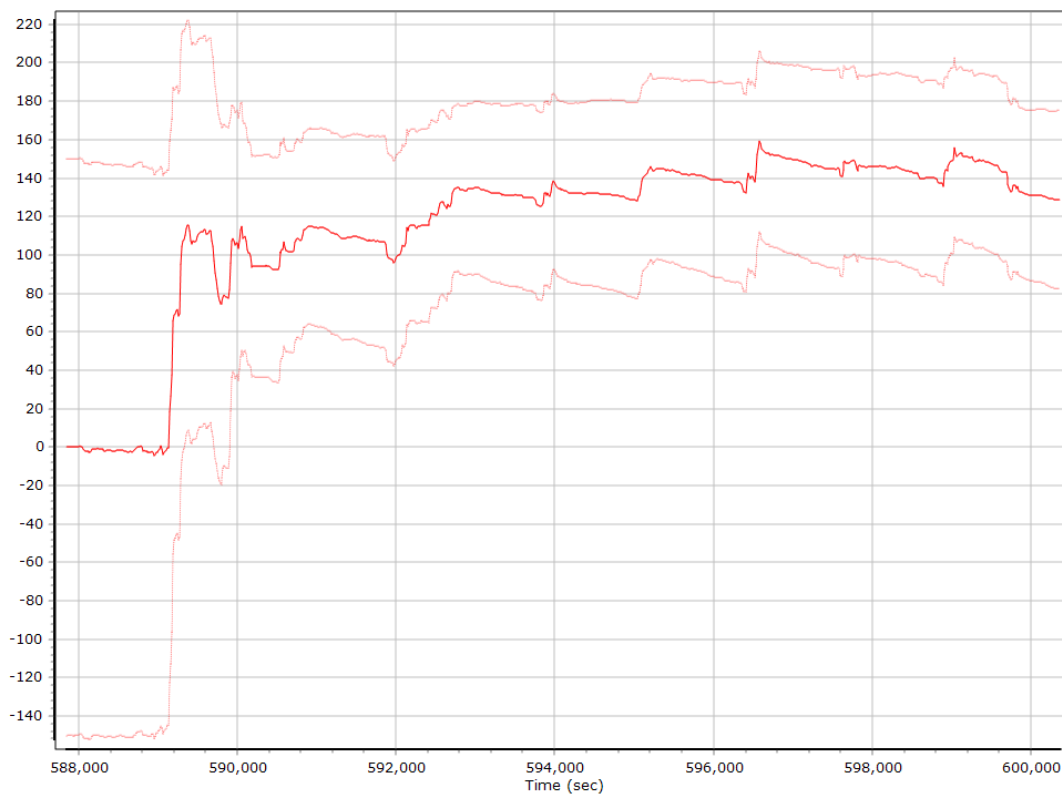
Z Gyro Bias (deg/h)



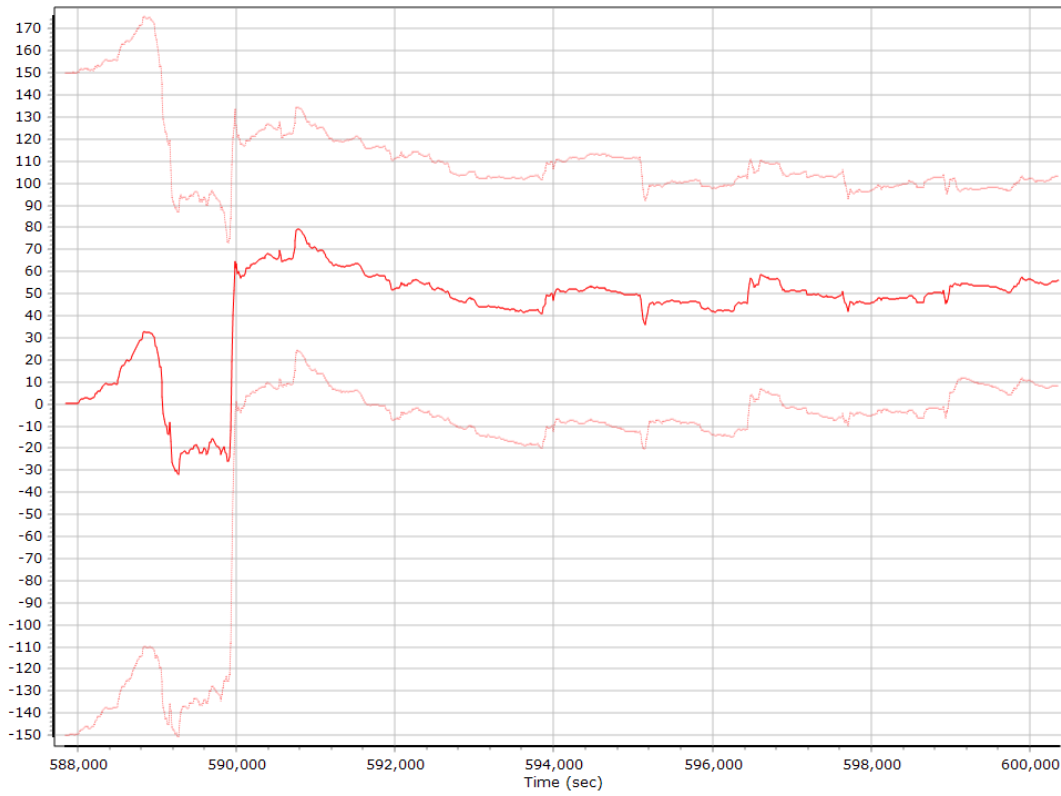
Gyro Scale Error (ppm)



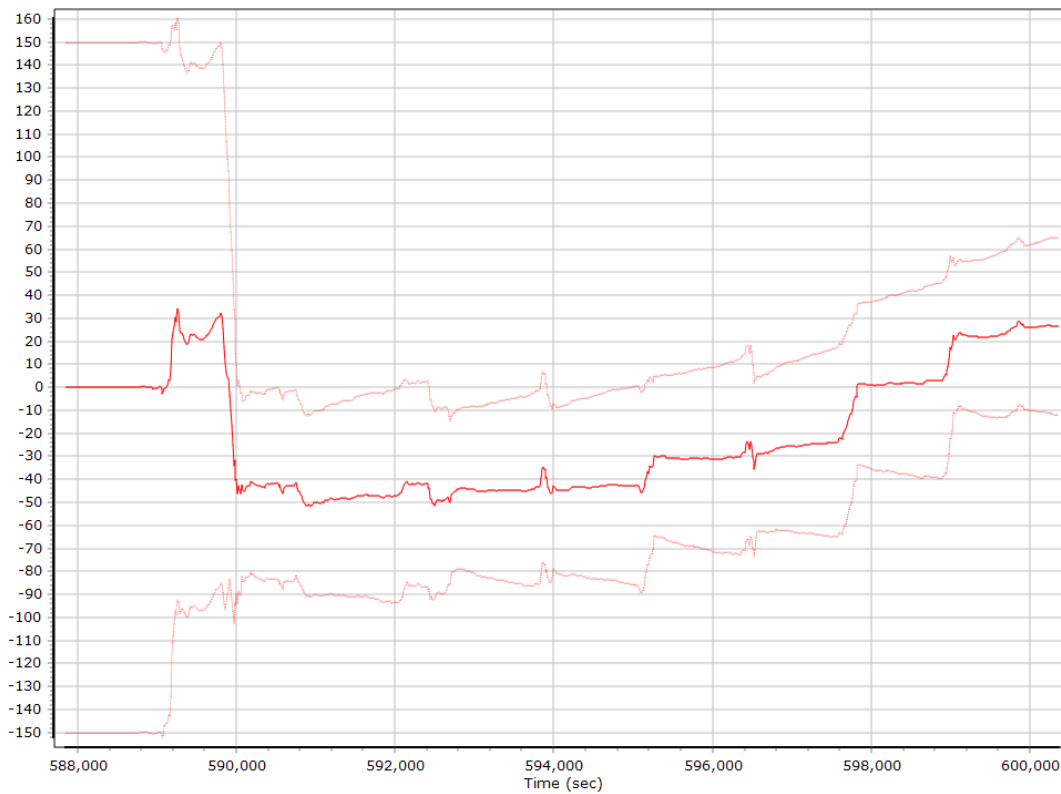
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

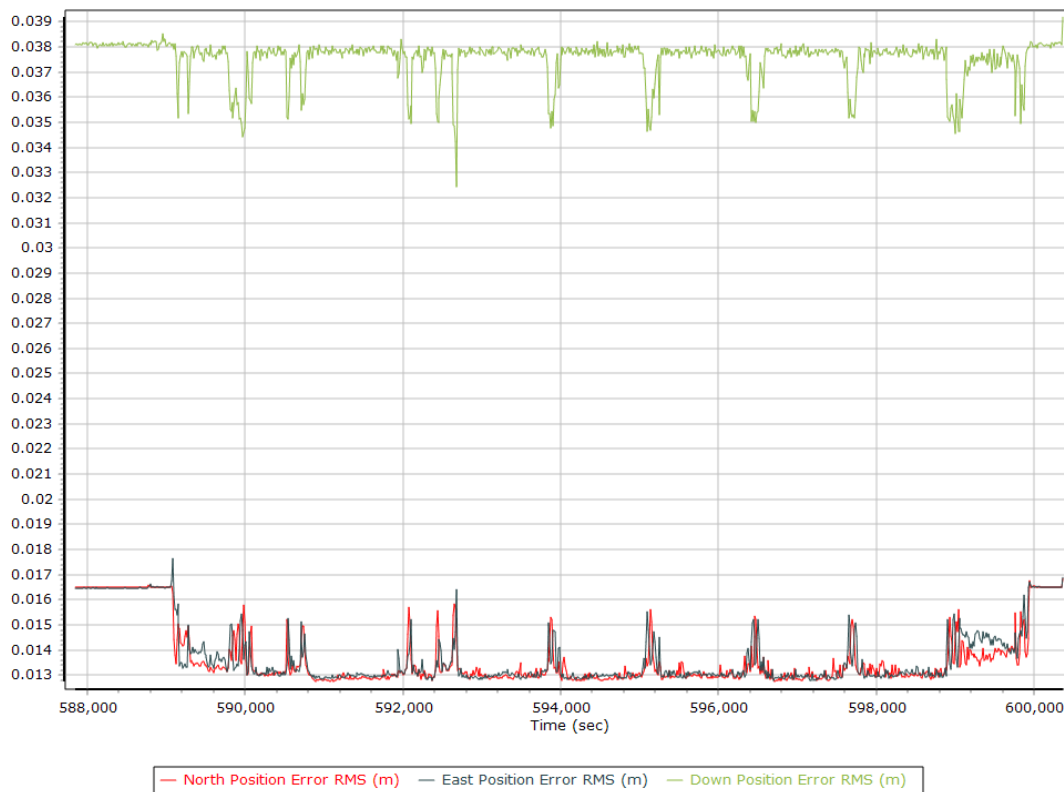


Z Gyro Scale Error (ppm)

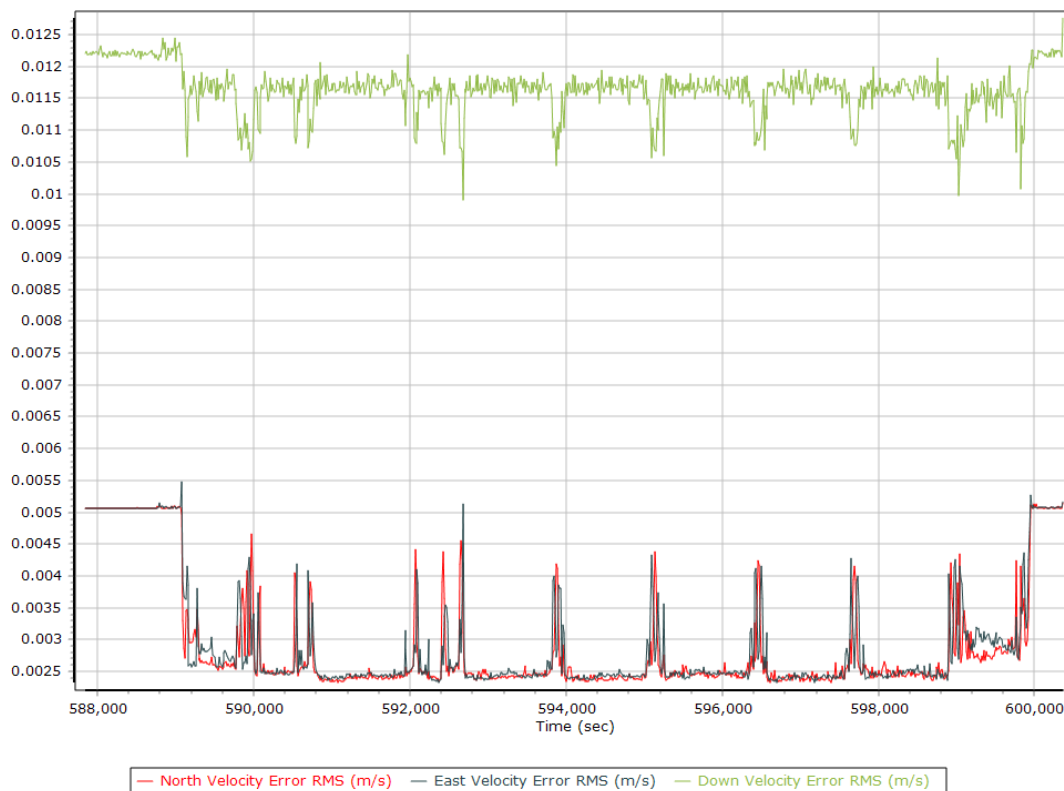


Smoothed Performance Metrics

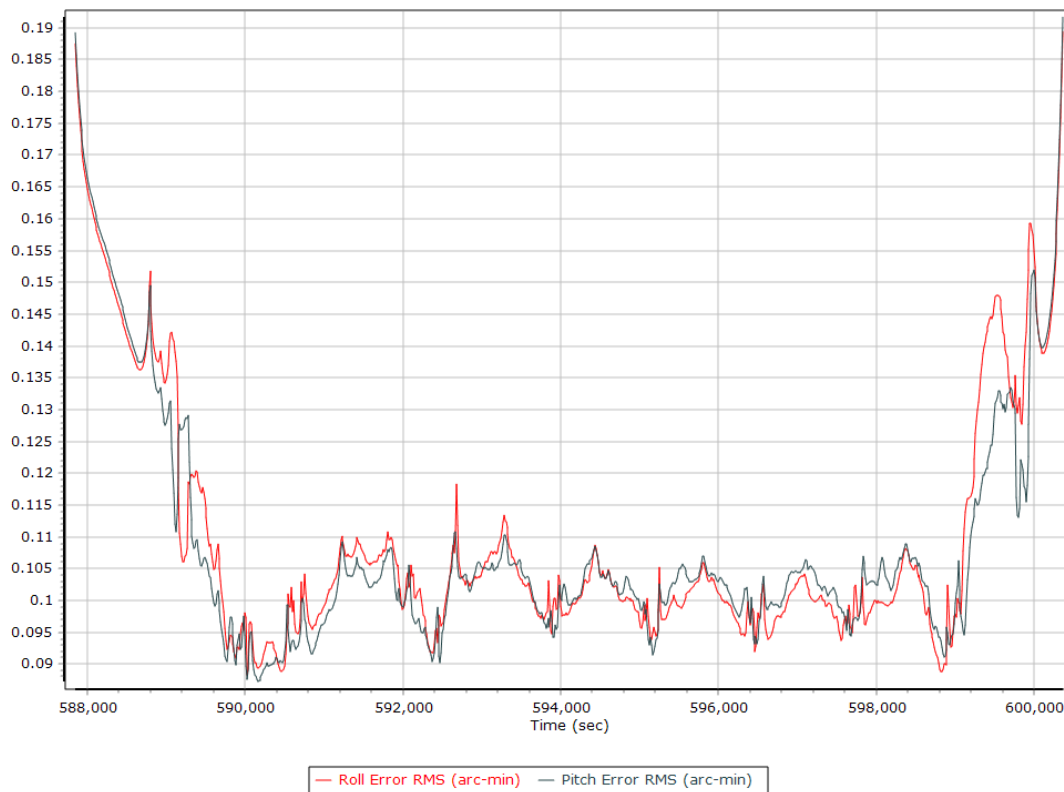
Position Error RMS (m)



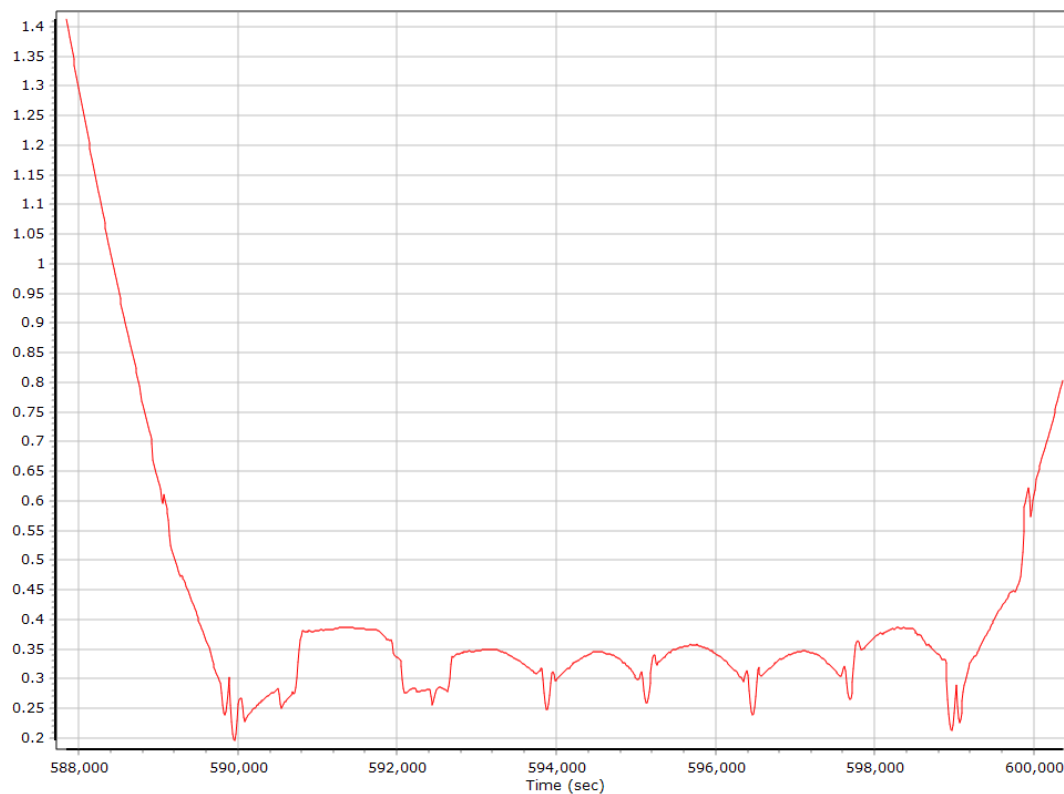
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

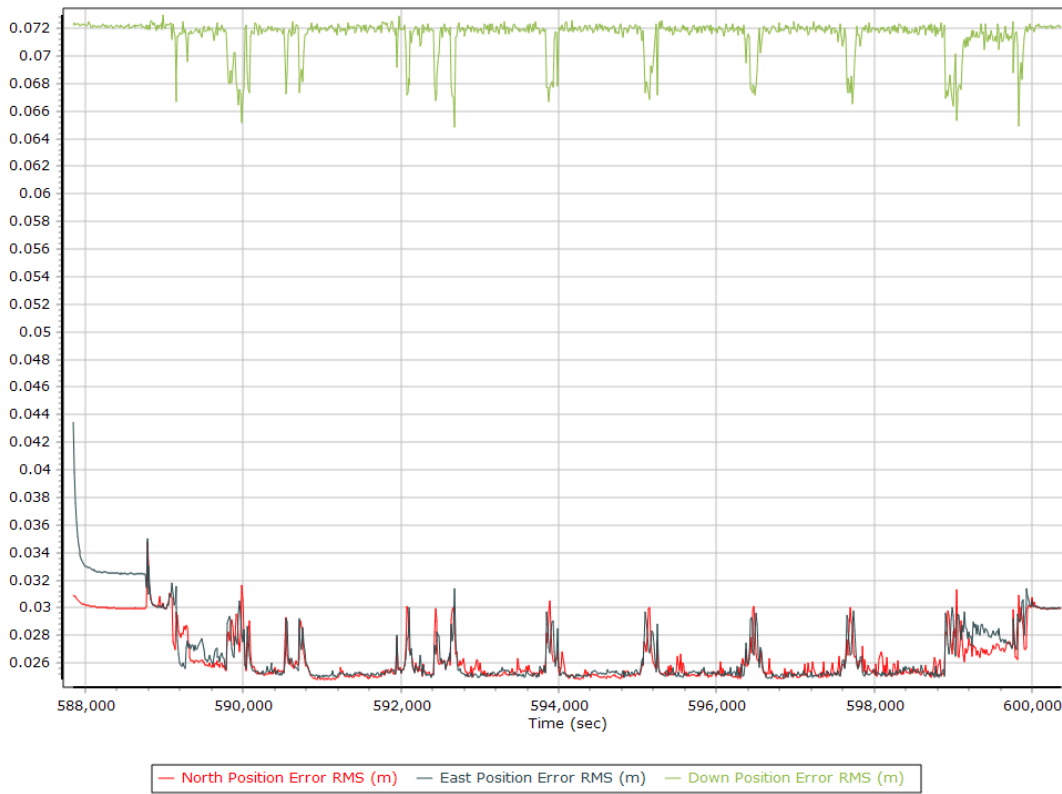


Heading Error RMS (arc-min)

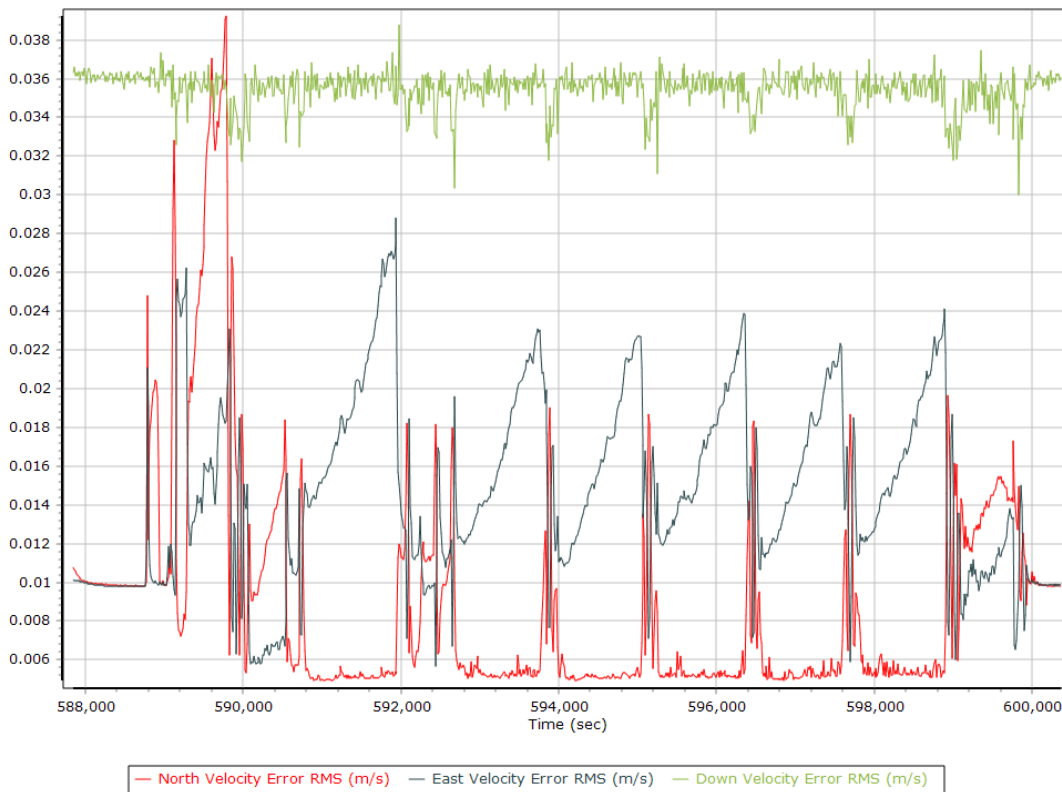


Forward Processed Performance Metrics

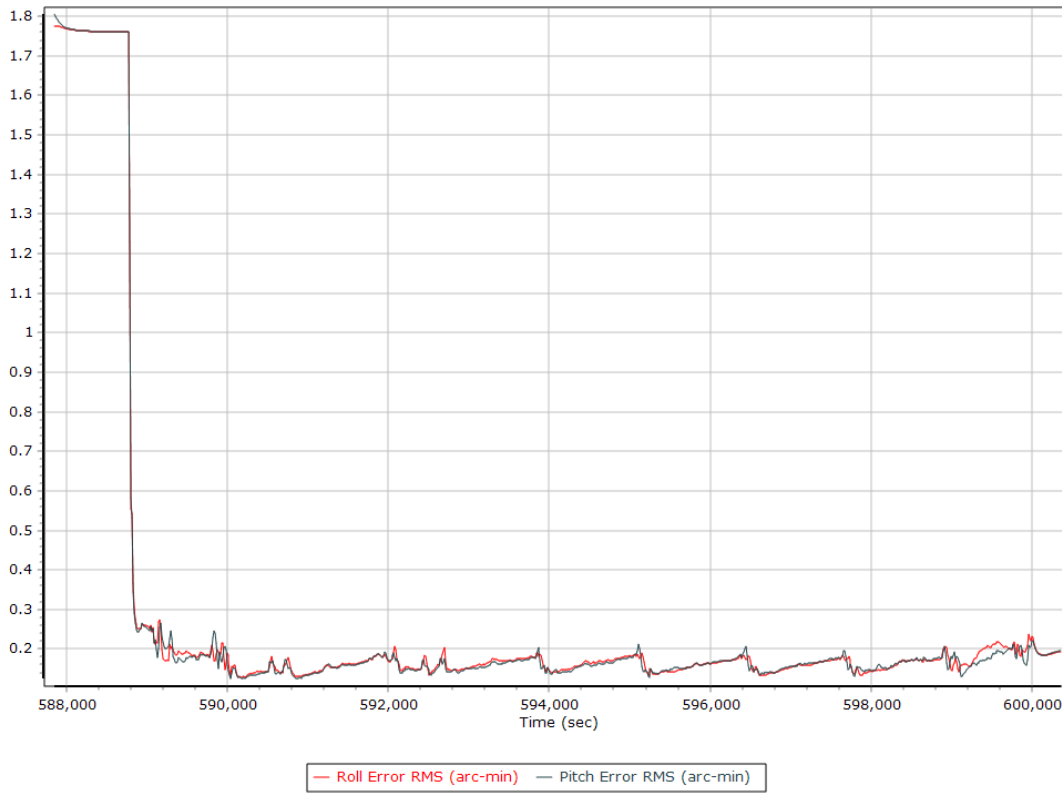
Position Error RMS (m)



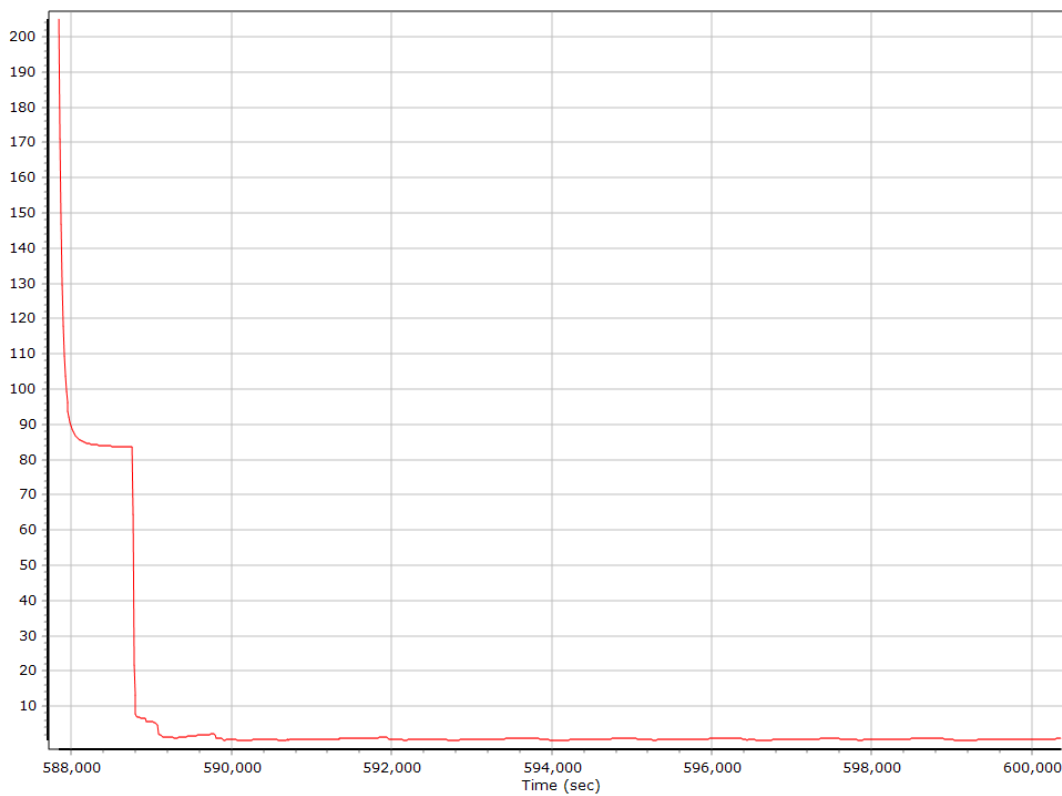
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

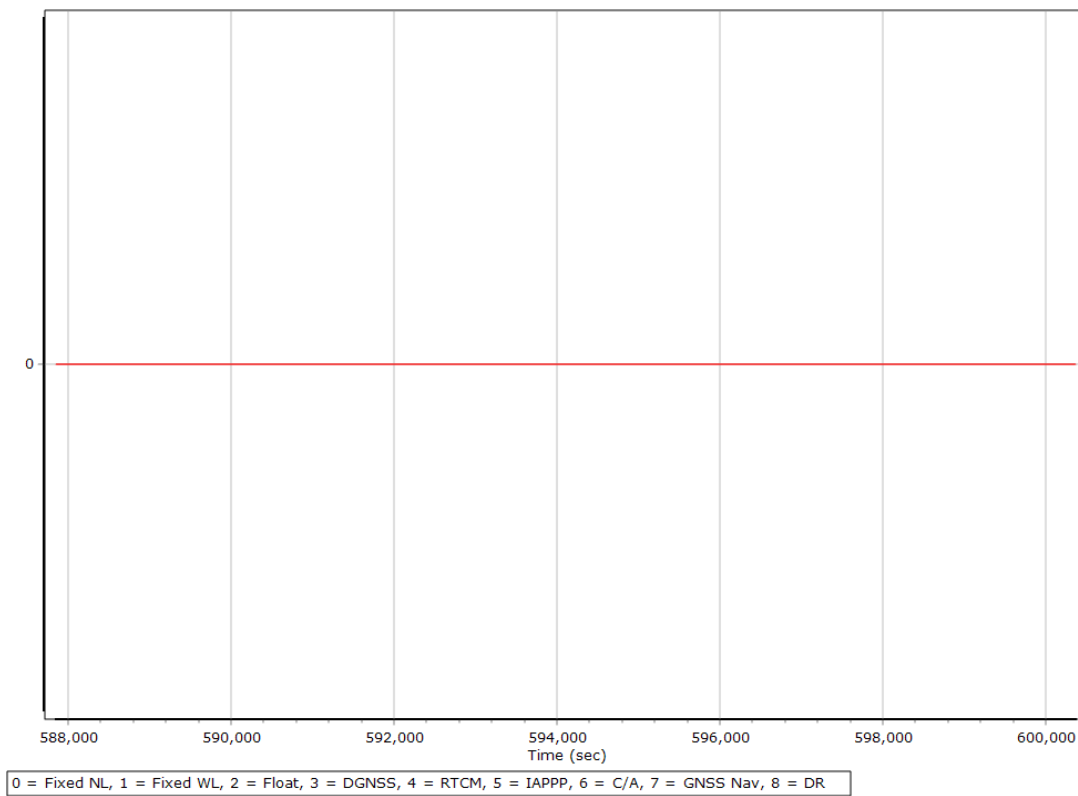


Heading Error RMS (arc-min)

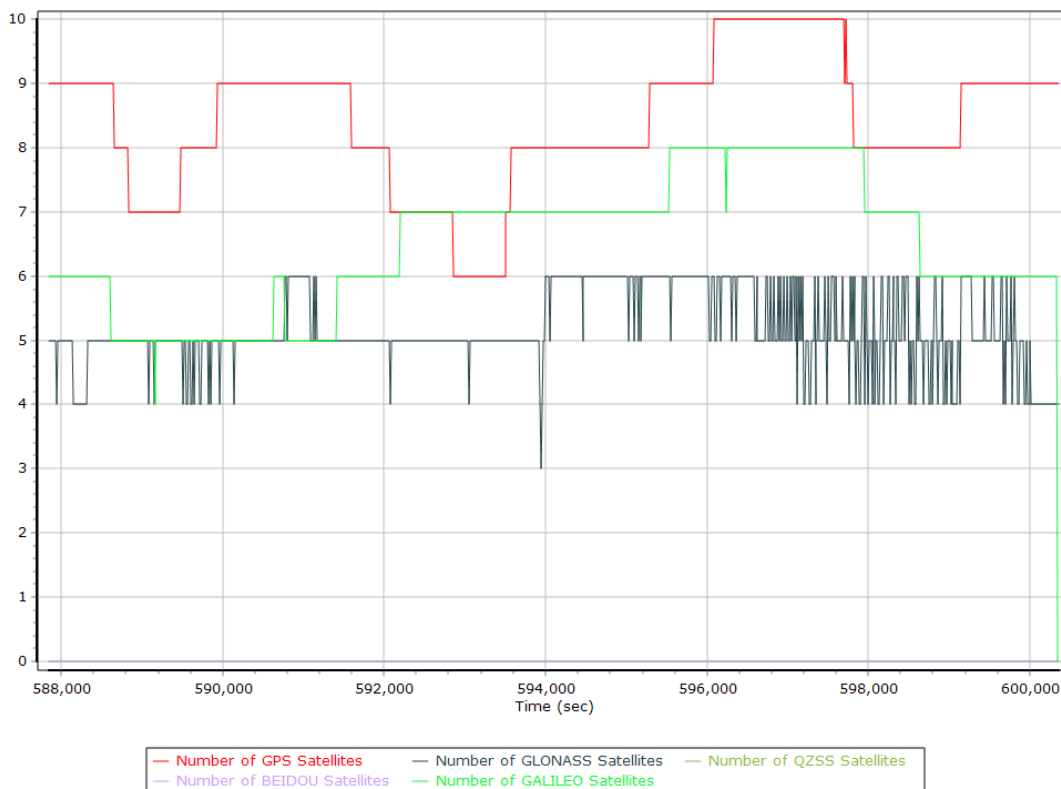


Forward Processed Solution Status

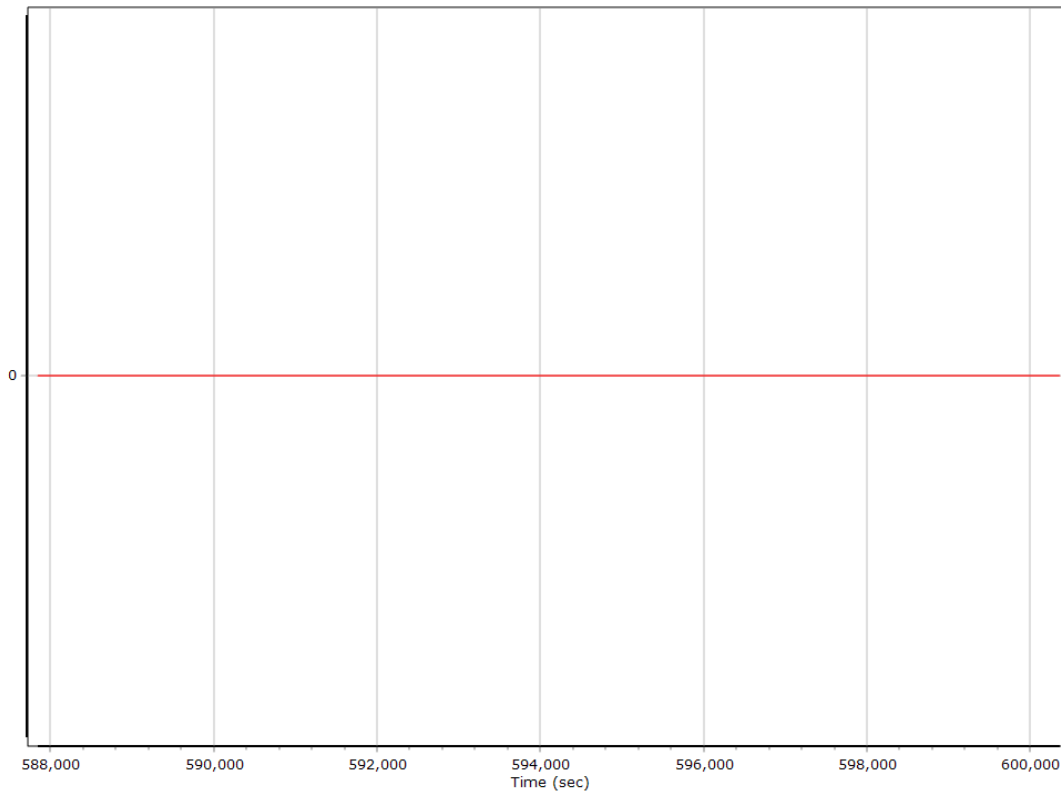
Processing Mode



Number of Satellites



Baseline Length



Export Summary

| | | | |
|---------------------------------------|---|-------------|-------|
| Export file | sbet_211009_A_5060428_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 | 587785.005 (10/09/2021 19:16:25) | | |
| Export end time | 600370.001 (10/09/2021 22:46:10) | | |
| Height option | Ellipsoid Height | | |
| WGS84 height flag | False | | |
| Grid | Universal Transverse Mercator | | |
| Zone | UTM North 12 (114W to 108W) | | |
| Datum | NAD83 (2011) | | |
| Ellipsoid | GRS 1980 | | |
| Local Transformation | NONE | | |
| Target Epoch | 2021.769863 | | |