

General Information

Mission Information

| | |
|------------------|---------------------|
| Project name | 14154 |
| Processing date | 2022-06-23 20:34:43 |
| Mission date | 2022-06-01 13:22:02 |
| Mission duration | 05:02:53.000 |
| Processing mode | IN-Fusion PP-RTX |

Rover Hardware Information

| | |
|---------------|--------------------------|
| Product | POS AV 610 VER6 HW2.5-12 |
| Serial number | S/N7881 |
| IMU type | 57 |
| Receiver type | BD982 |
| Antenna type | AV39 |

Project File List

Rover Data Files

| File name | File type |
|--------------|-----------|
| 20220601.000 | POS Data |
| 20220601.001 | POS Data |
| 20220601.002 | POS Data |
| 20220601.003 | POS Data |
| 20220601.004 | POS Data |
| 20220601.005 | POS Data |
| 20220601.006 | POS Data |
| 20220601.007 | POS Data |
| 20220601.008 | POS Data |
| 20220601.009 | POS Data |
| 20220601.010 | POS Data |
| 20220601.011 | POS Data |
| 20220601.012 | POS Data |
| 20220601.013 | POS Data |
| 20220601.014 | POS Data |
| 20220601.015 | POS Data |
| 20220601.016 | POS Data |
| 20220601.017 | POS Data |
| 20220601.018 | POS Data |
| 20220601.019 | POS Data |
| 20220601.020 | POS Data |
| 20220601.021 | POS Data |
| 20220601.022 | POS Data |
| 20220601.023 | POS Data |
| 20220601.024 | POS Data |
| 20220601.025 | POS Data |
| 20220601.026 | POS Data |
| 20220601.027 | POS Data |
| 20220601.028 | POS Data |
| 20220601.029 | POS Data |
| 20220601.030 | POS Data |
| 20220601.031 | POS Data |
| 20220601.032 | POS Data |
| 20220601.033 | POS Data |
| 20220601.034 | POS Data |
| 20220601.035 | POS Data |
| 20220601.036 | POS Data |
| 20220601.037 | POS Data |
| 20220601.038 | POS Data |
| 20220601.039 | POS Data |
| 20220601.040 | POS Data |

Input Files

| File Name | File Type |
|--------------|-----------------------------|
| Ephm1520.22g | GLONASS Broadcast Ephemeris |
| Ephm1520.22n | GPS Broadcast Ephemeris |

Output Files

| Filename | File type |
|----------------------------|-----------------------------------|
| sbet_14154.out | SBET Trajectory File |
| event1_eo_14154.txt | ZI Imaging POSEO Output |
| sbet_14154_NAD83(2011).out | Custom Smoothed BET Export Output |

Rover Data Summary

| | | | |
|--|----------------------------------|--------|---------|
| First raw data file | 20220601.000 | | |
| Last raw data file | 20220601.040 | | |
| Start GPS week | 2212 | | |
| Start time | 307321.609 (6/1/2022 1:22:01 PM) | | |
| End time | 325286.856 (6/1/2022 6:21:26 PM) | | |
| Start of fine alignment | 307615.441 (6/1/2022 1:26:55 PM) | | |
| Available subsystems | Primary GNSS, IMU | | |
| POS Event Input | Event 1 Input | | |
| Correction data | None | | |
| IMU Installation Lever Arms & Mounting Angles | | | |
| Reference to IMU lever arm (m) | -0.230 | -0.010 | -0.133 |
| Reference to IMU mounting angles (deg) | 0.000 | 0.000 | 180.000 |
| Reference to Primary GNSS lever arm (m) | 0.126 | -0.066 | -1.071 |
| Reference to Primary GNSS lever arm std dev (m) | -1.000 | | |
| Aircraft to Reference mounting angles (deg) | 0.000 | 0.000 | 0.000 |

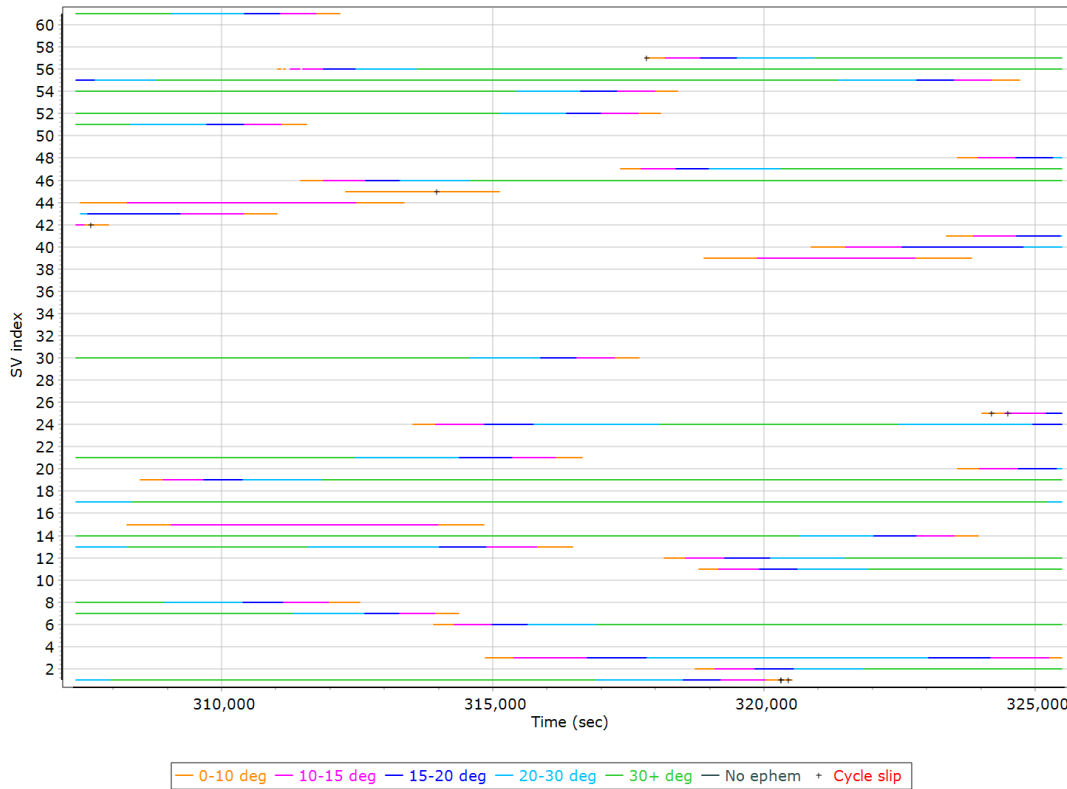
Rover Data QC

Raw IMU Import QC Summary

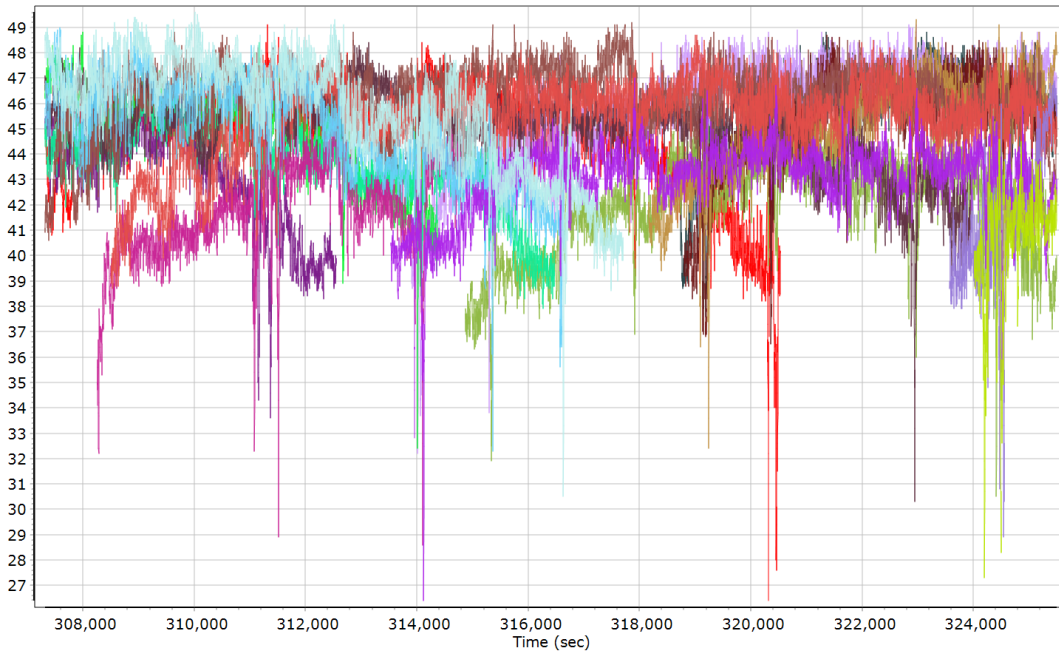
| | |
|-------------------------|-----------------|
| IMU data input file | imu_14154.dat |
| IMU data check log file | imudt_14154.log |
| IMU Records Processed | 3633977 |
| Termination Status | Normal |
| IMU Anomalies | 0 |

Primary Observables & Satellite Data

GPS/GLONASS L1 Satellite Lock/Elevation

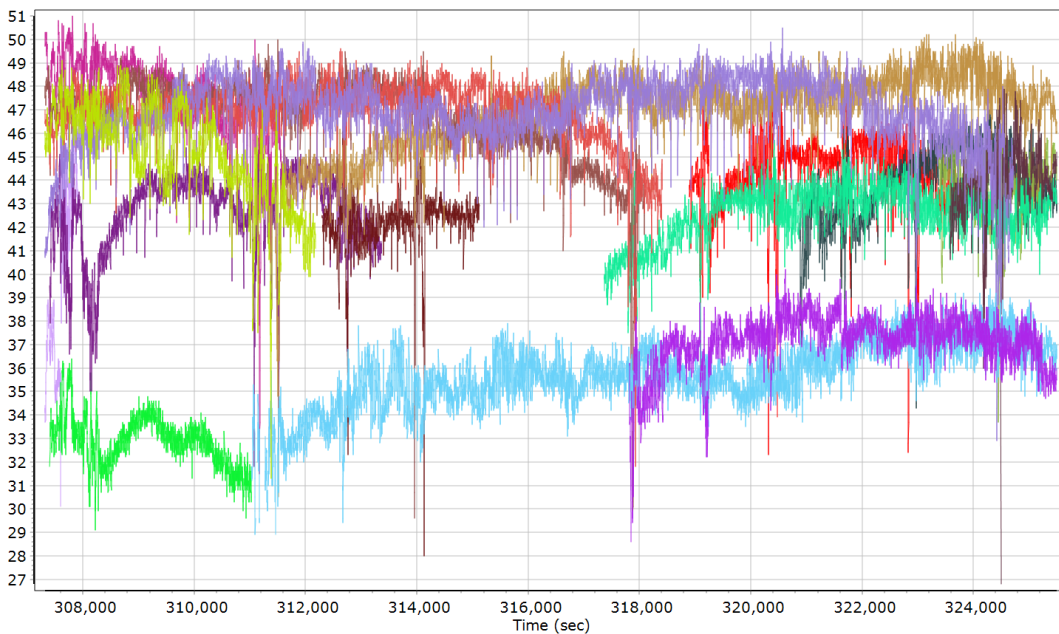


GPS L1 SNR



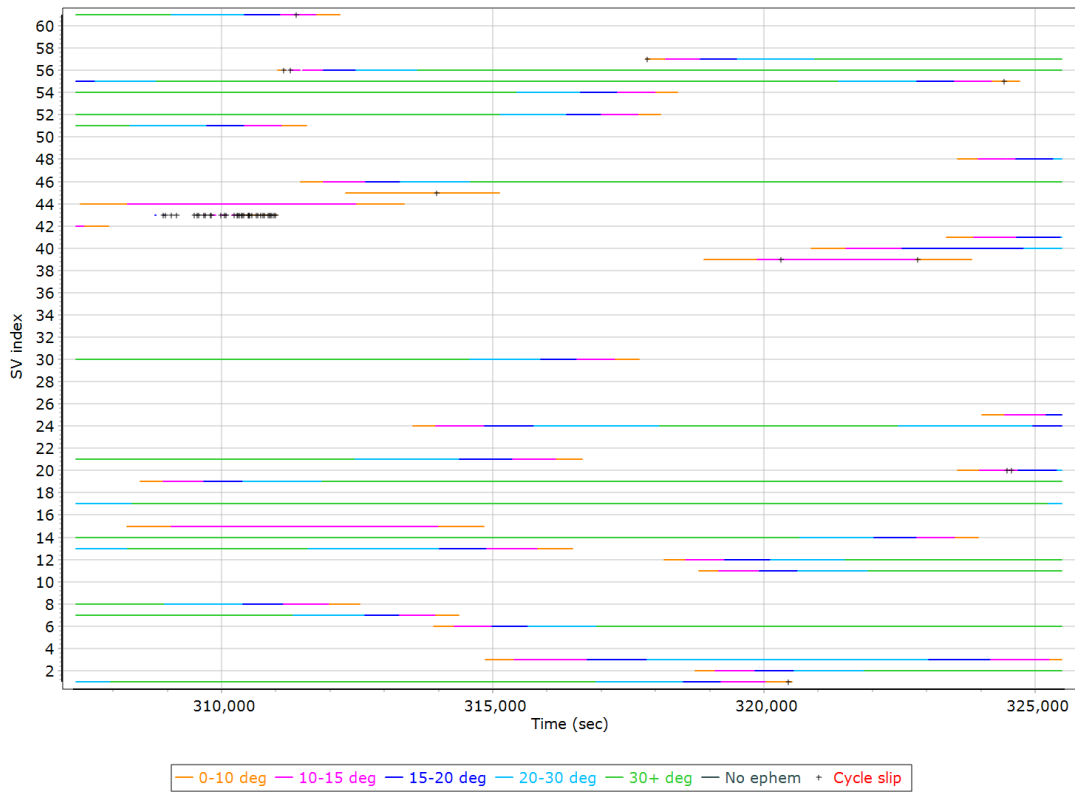
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L1 SNR (dB/Hz) | GPS PRN 02 L1 SNR (dB/Hz) | GPS PRN 03 L1 SNR (dB/Hz) | GPS PRN 06 L1 SNR (dB/Hz) |
| GPS PRN 07 L1 SNR (dB/Hz) | GPS PRN 08 L1 SNR (dB/Hz) | GPS PRN 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 21 L1 SNR (dB/Hz) | GPS PRN 24 L1 SNR (dB/Hz) |
| GPS PRN 25 L1 SNR (dB/Hz) | GPS PRN 30 L1 SNR (dB/Hz) | | |

GLONASS L1 SNR

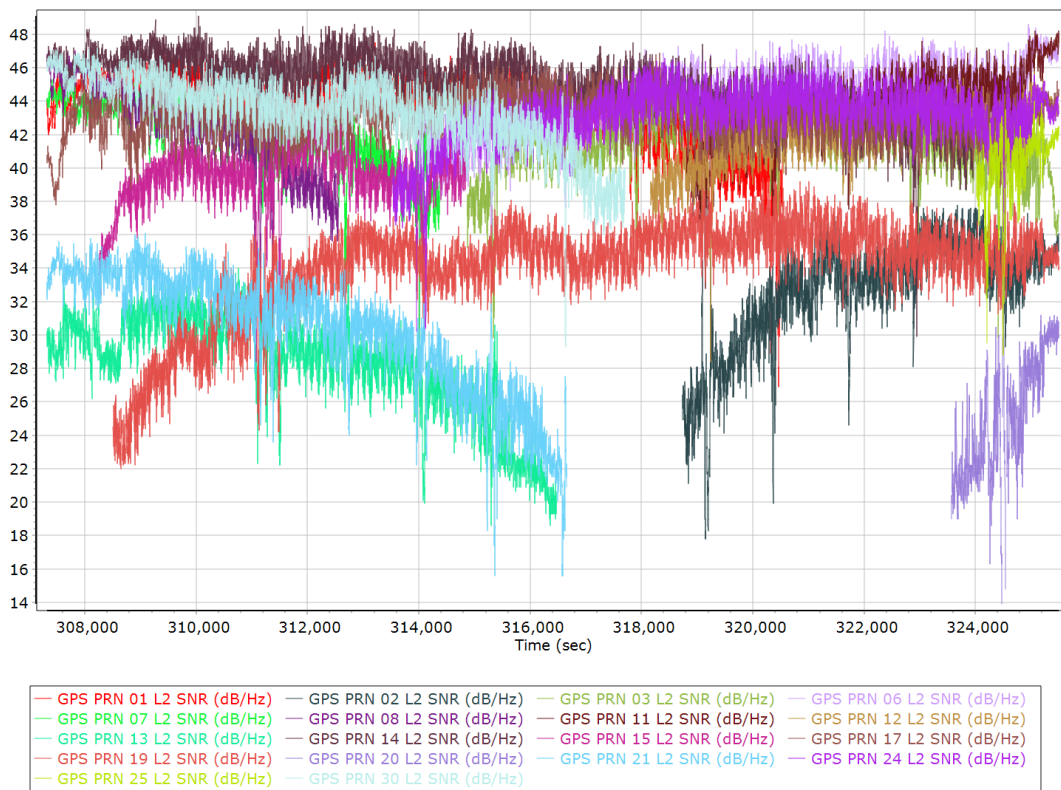


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 02 L1 SNR (dB/Hz) | GLONASS 03 L1 SNR (dB/Hz) | GLONASS 04 L1 SNR (dB/Hz) |
| GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) |
| GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) |
| GLONASS 11 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 20 L1 SNR (dB/Hz) | GLONASS 24 L1 SNR (dB/Hz) | |

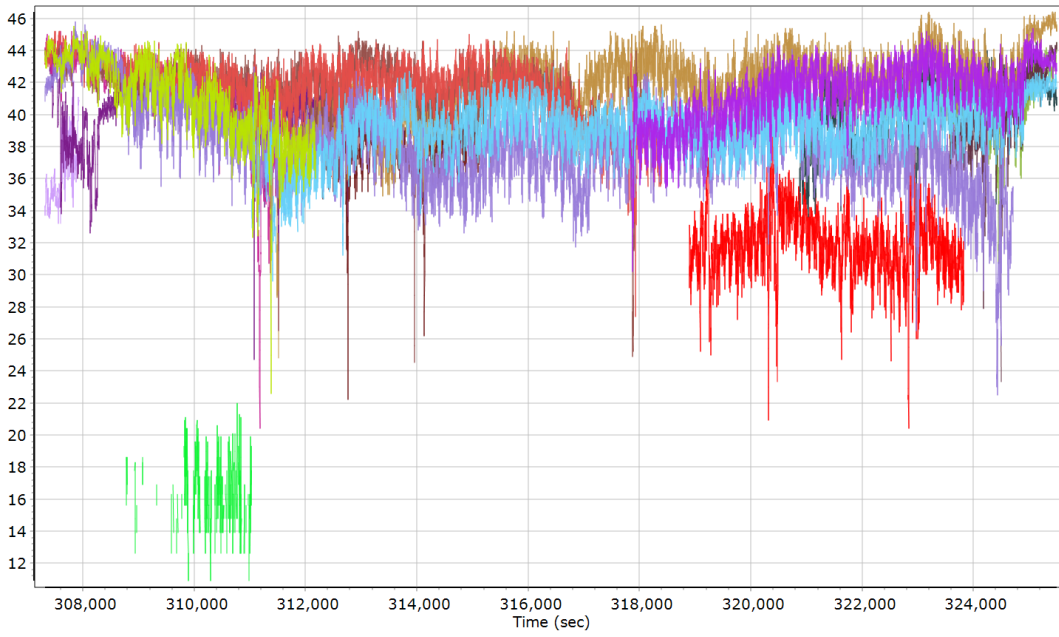
GPS/GLONASS L2 Satellite Lock/Elevation



GPS L2 SNR

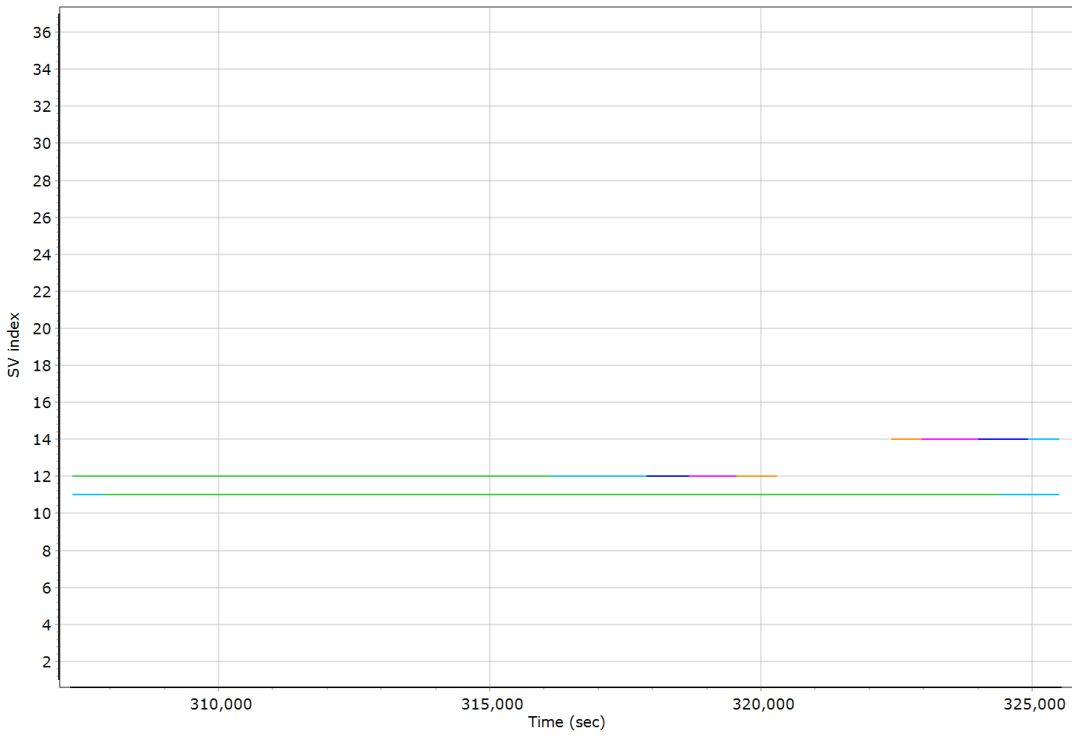


GLONASS L2 SNR



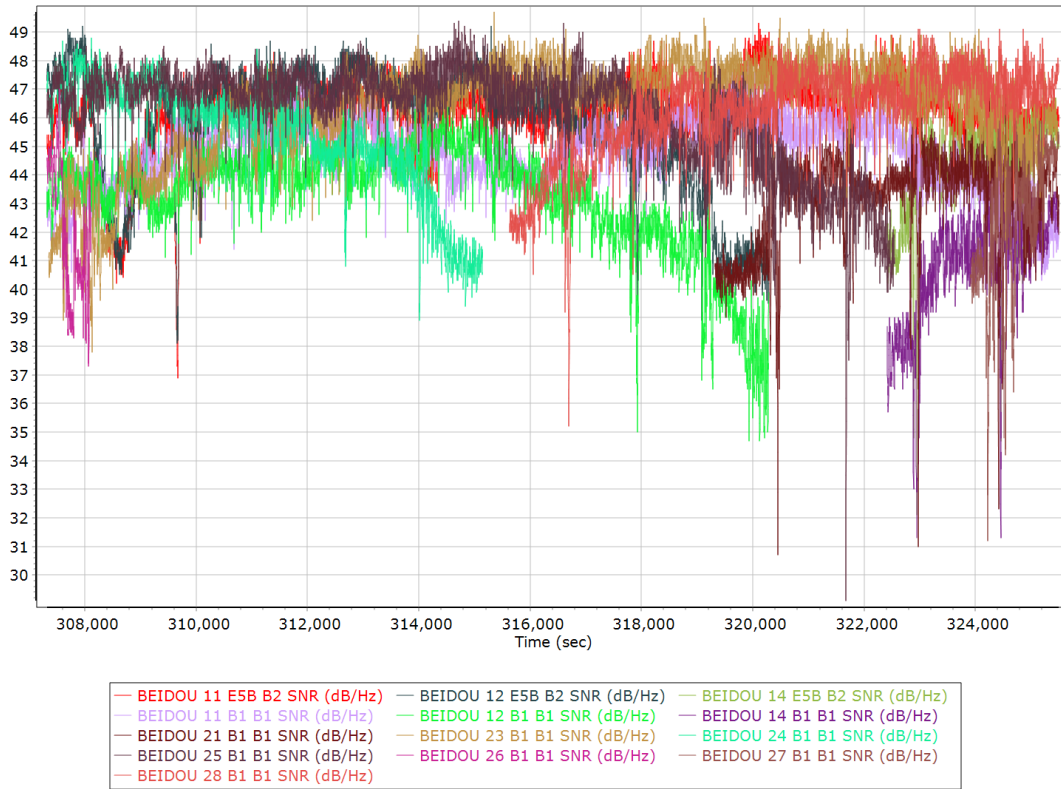
- GLONASS 02 L2 SNR (dB/Hz)
- GLONASS 03 L2 SNR (dB/Hz)
- GLONASS 04 L2 SNR (dB/Hz)
- GLONASS 05 L2 SNR (dB/Hz)
- GLONASS 06 L2 SNR (dB/Hz)
- GLONASS 07 L2 SNR (dB/Hz)
- GLONASS 08 L2 SNR (dB/Hz)
- GLONASS 09 L2 SNR (dB/Hz)
- GLONASS 10 L2 SNR (dB/Hz)
- GLONASS 11 L2 SNR (dB/Hz)
- GLONASS 14 L2 SNR (dB/Hz)
- GLONASS 15 L2 SNR (dB/Hz)
- GLONASS 17 L2 SNR (dB/Hz)
- GLONASS 18 L2 SNR (dB/Hz)
- GLONASS 19 L2 SNR (dB/Hz)
- GLONASS 20 L2 SNR (dB/Hz)
- GLONASS 24 L2 SNR (dB/Hz)

BEIDOU Satellite Lock/Elevation

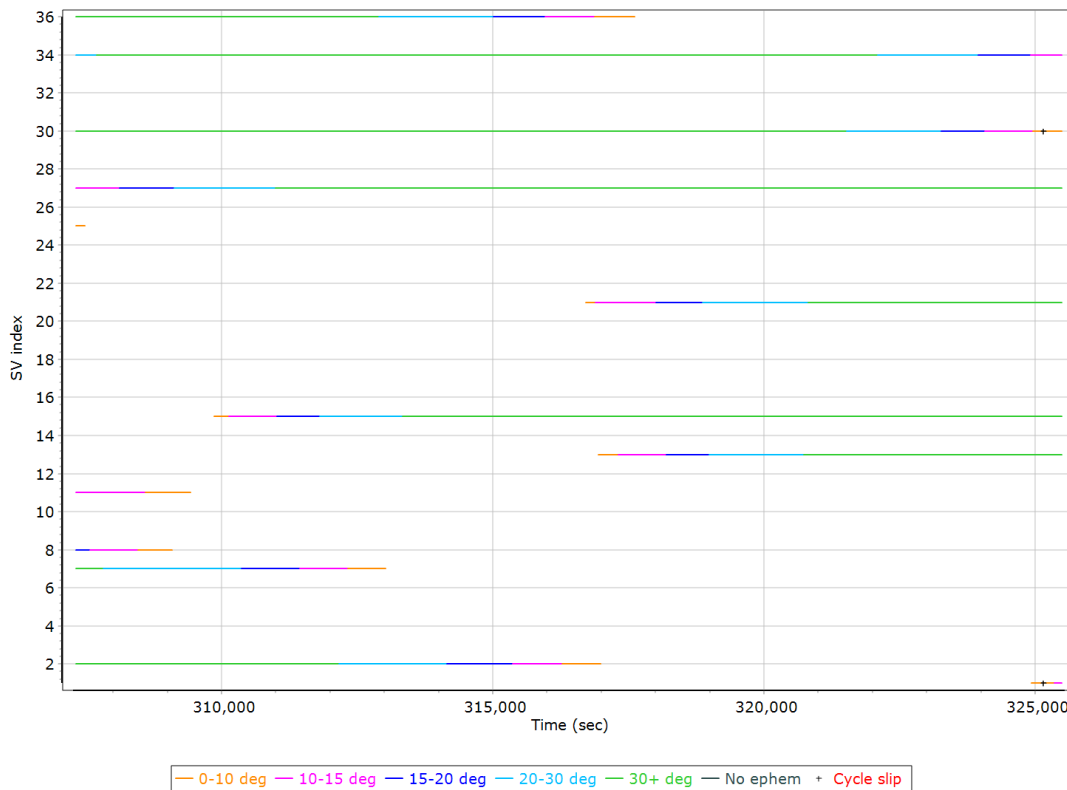


- 0-10 deg
- 10-15 deg
- 15-20 deg
- 20-30 deg
- 30+ deg
- No ephem
- + Cycle slip

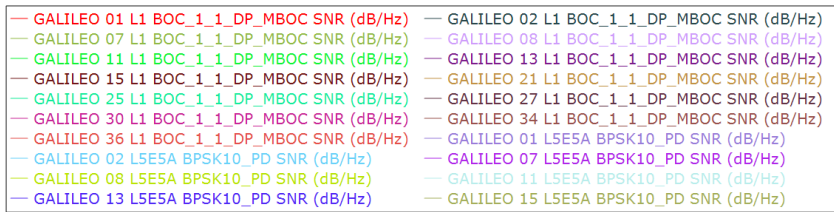
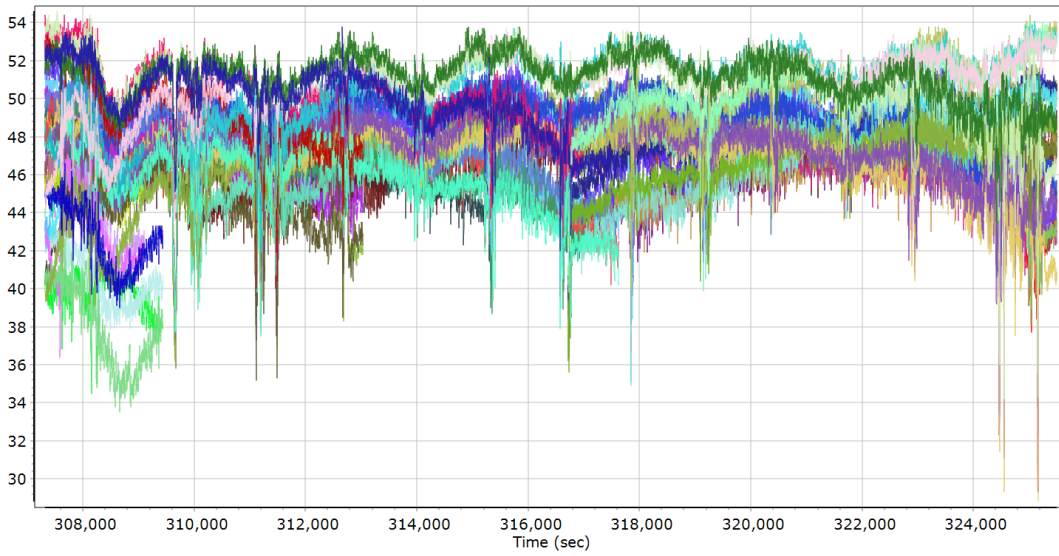
BEIDOU SNR



GALILEO Satellite Lock/Elevation

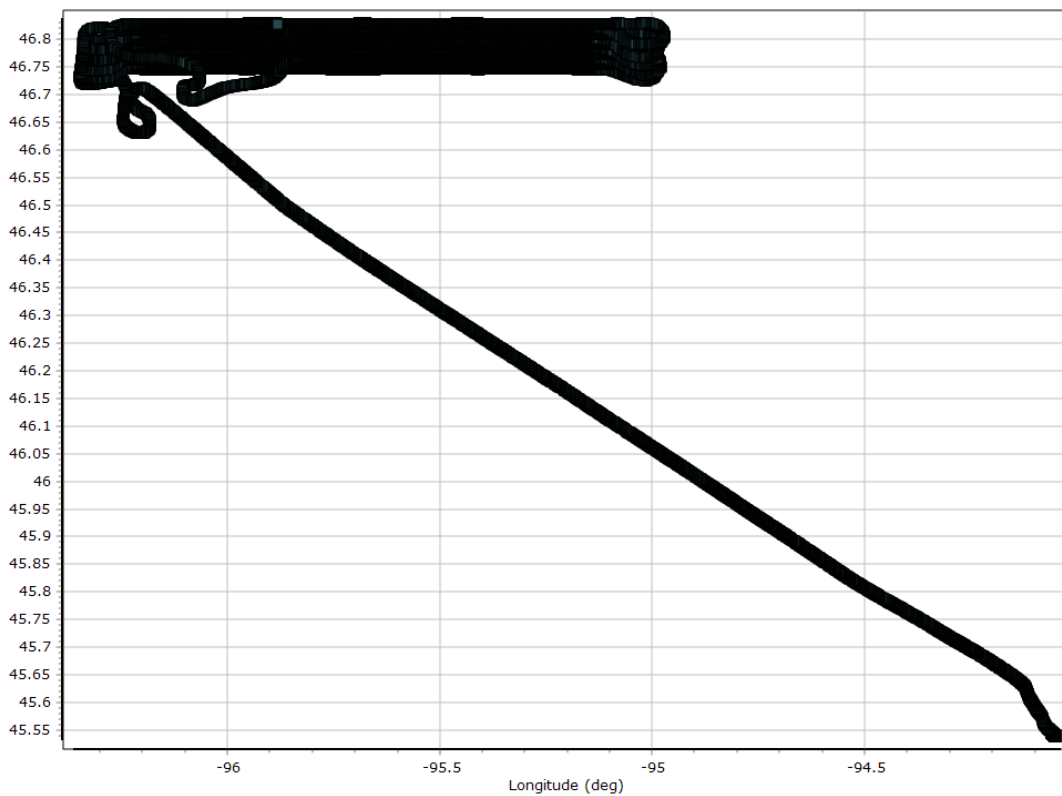


GALILEO SNR

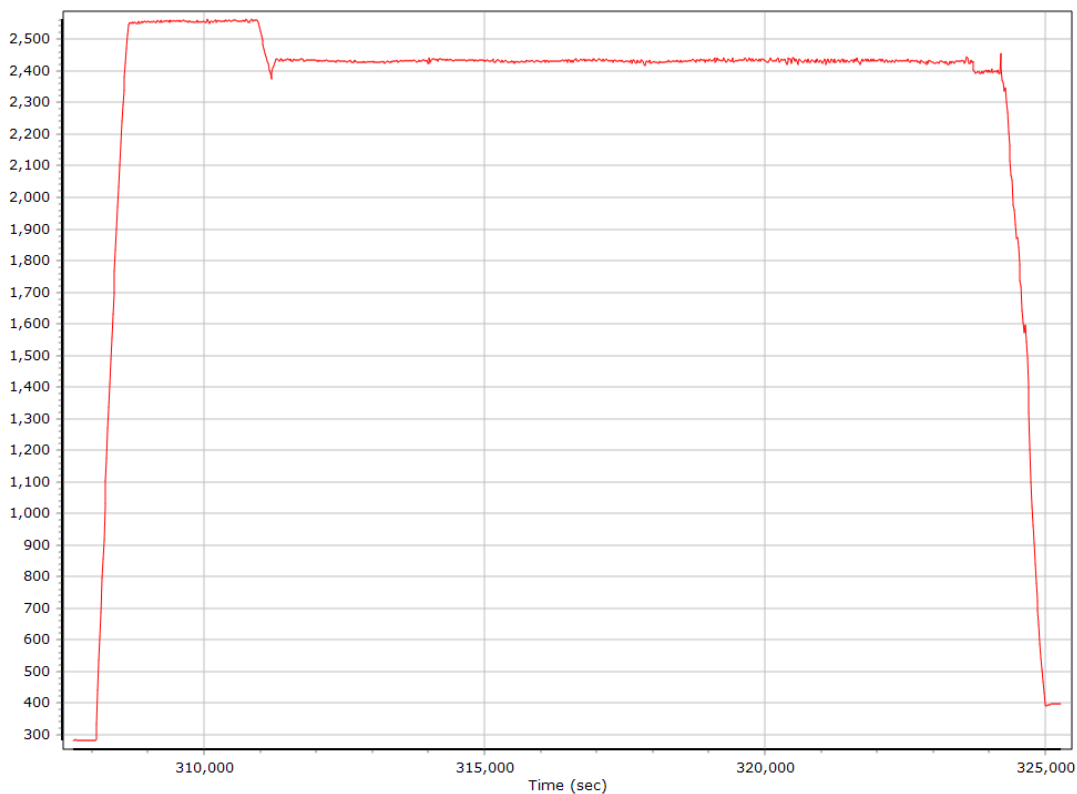


Smoothed Trajectory Information

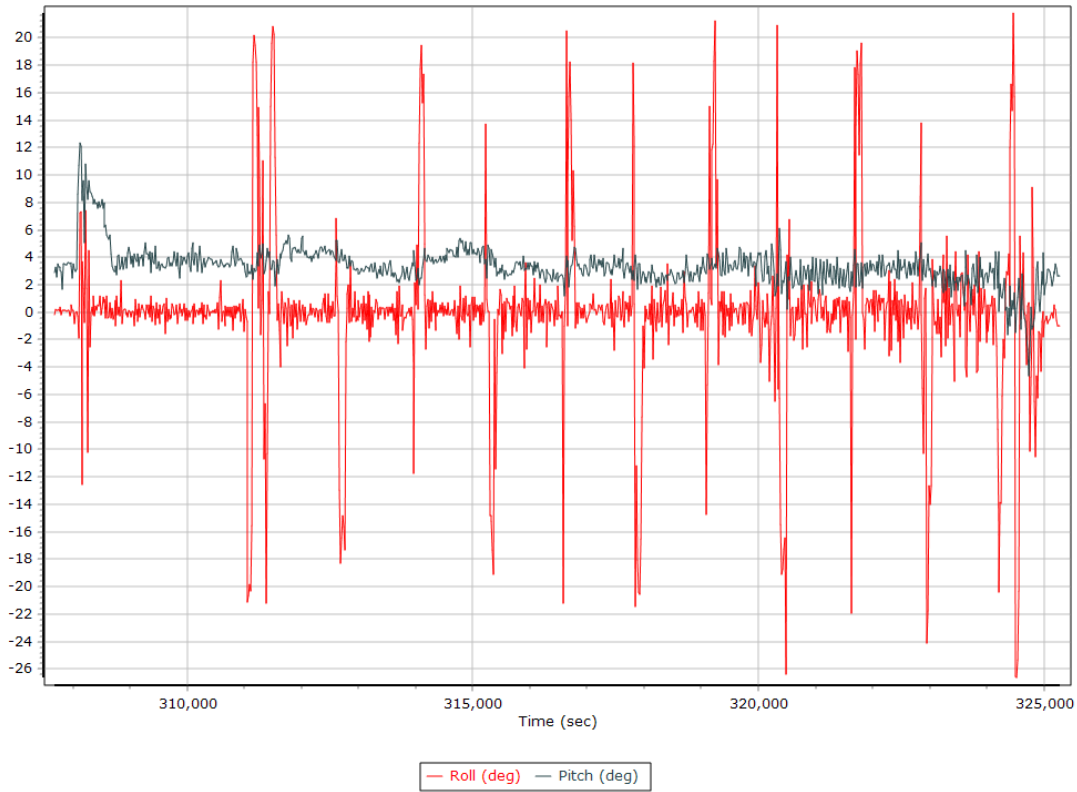
Top View



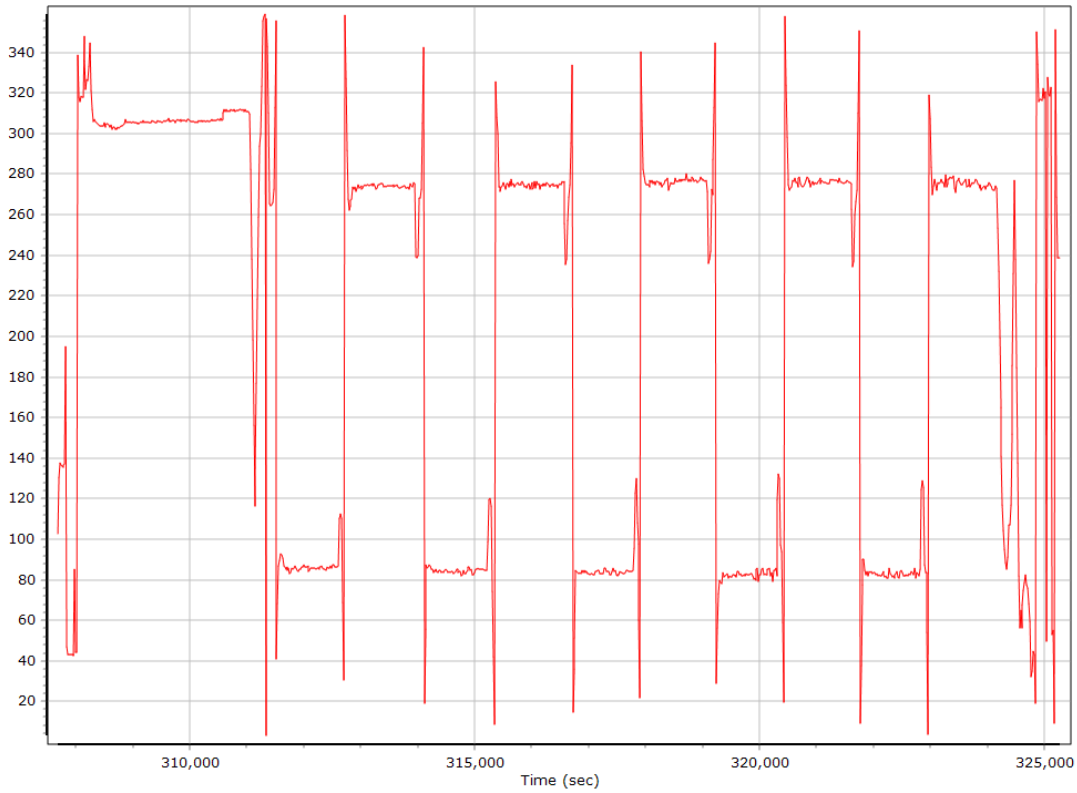
Altitude



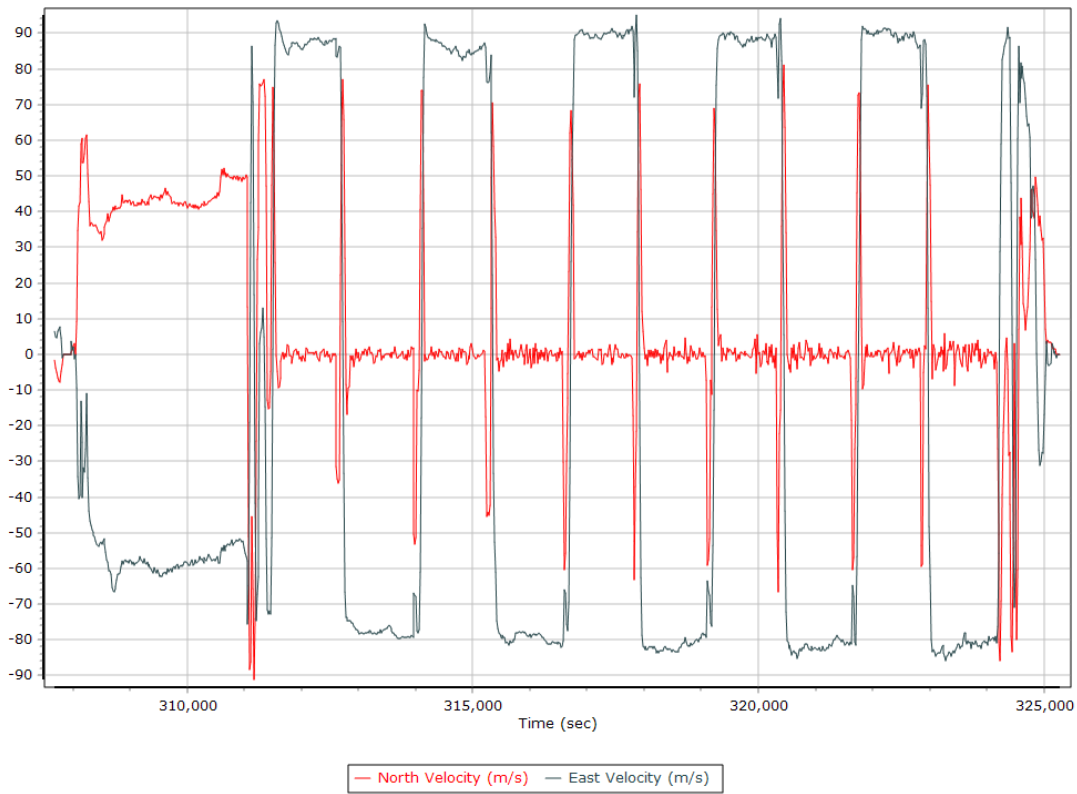
Roll/Pitch



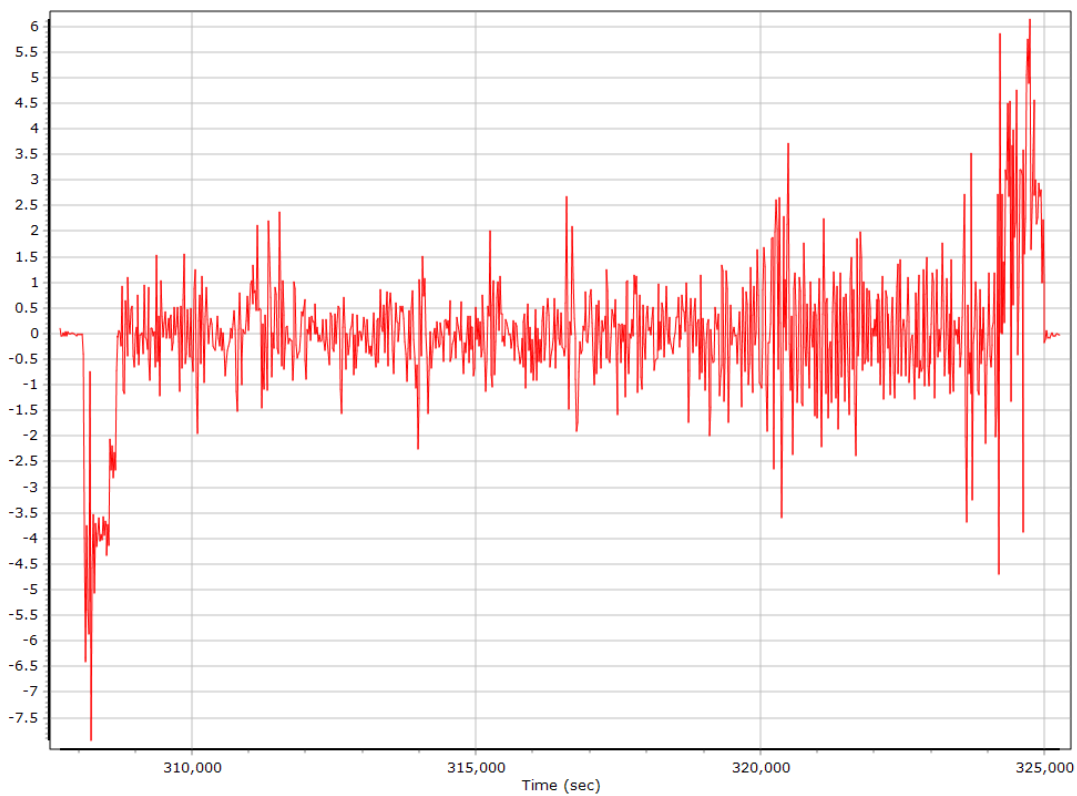
Heading



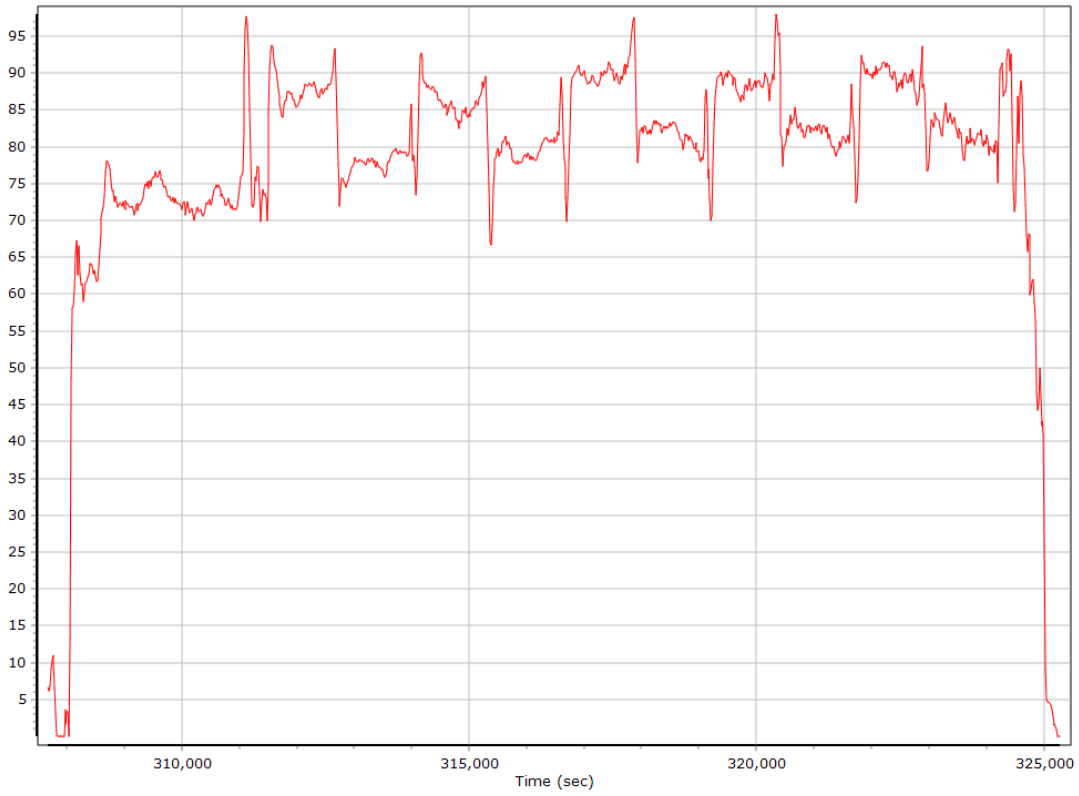
North/East Velocity



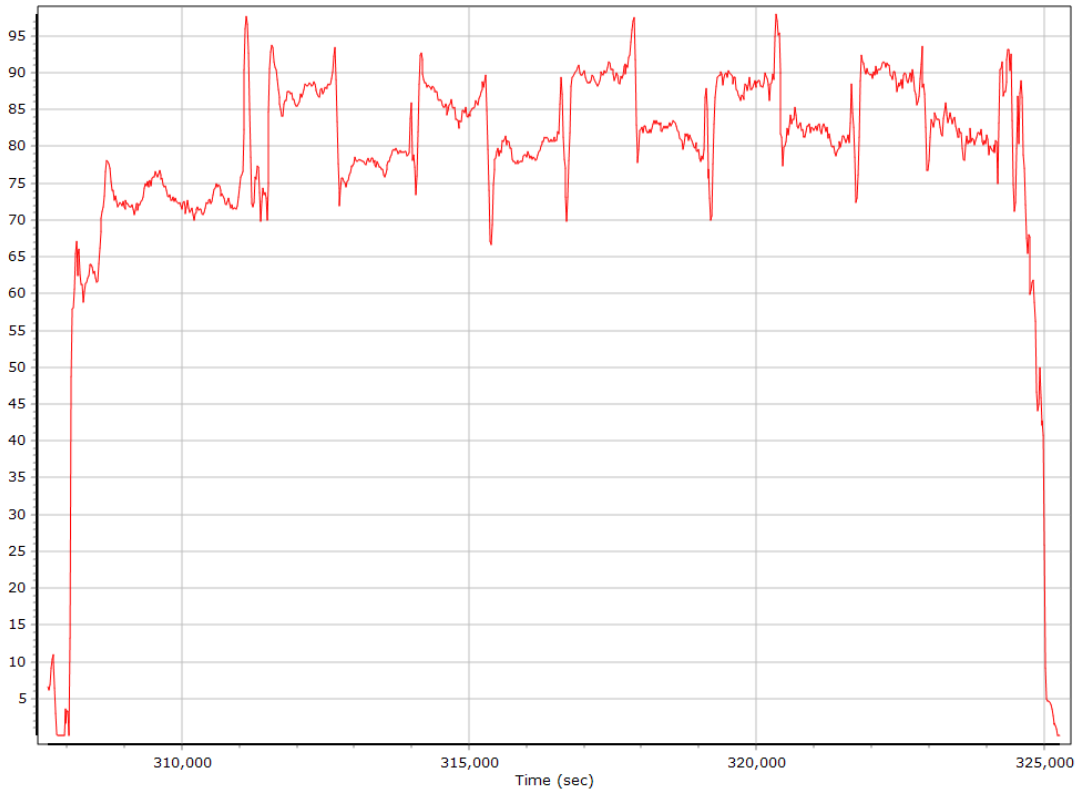
Down Velocity



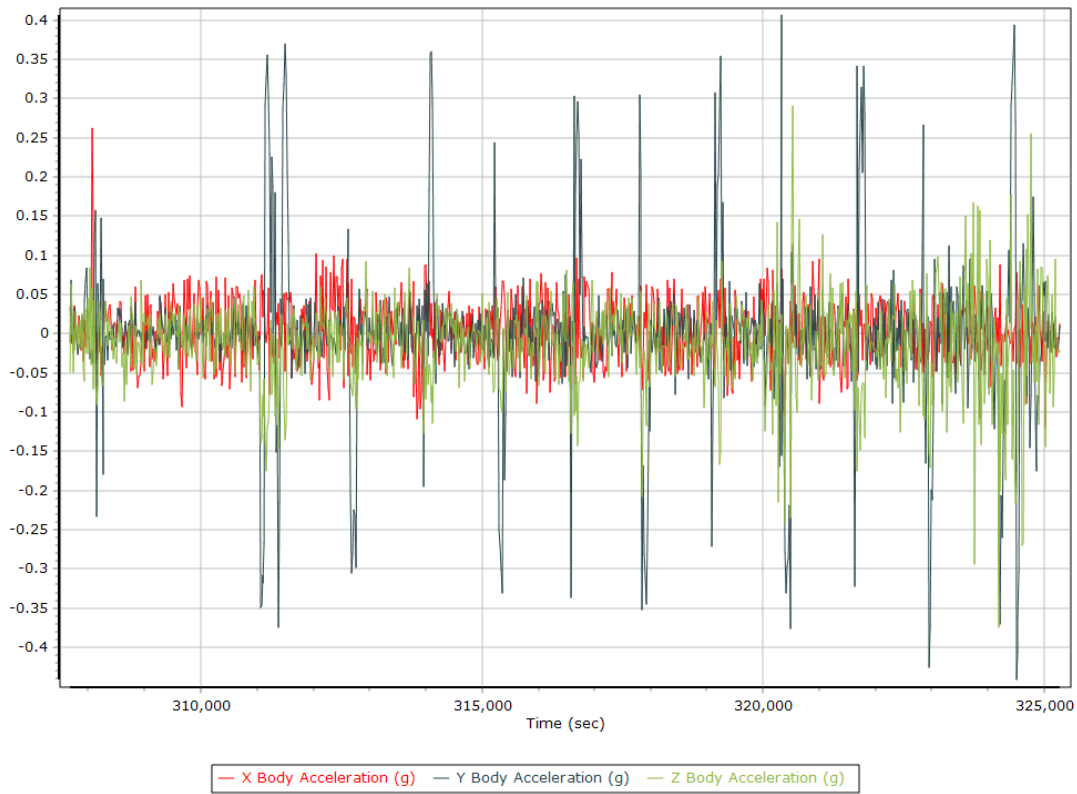
Total Speed



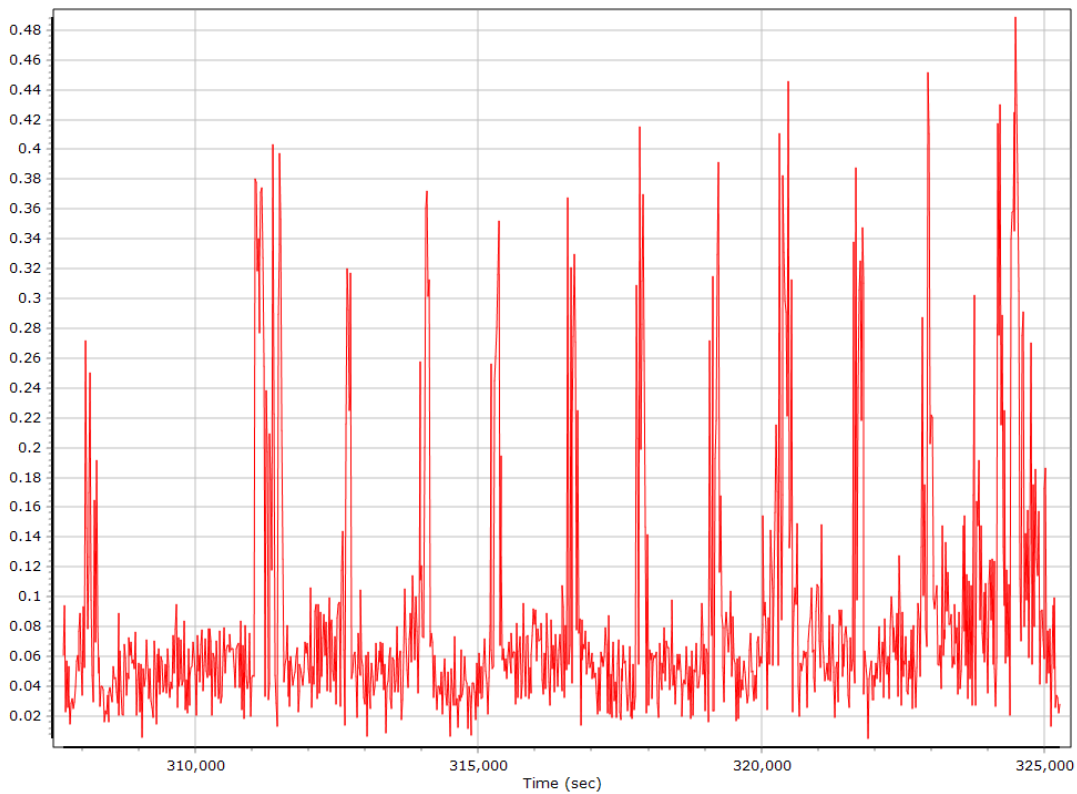
Ground Speed



Body Acceleration



Total Body Acceleration

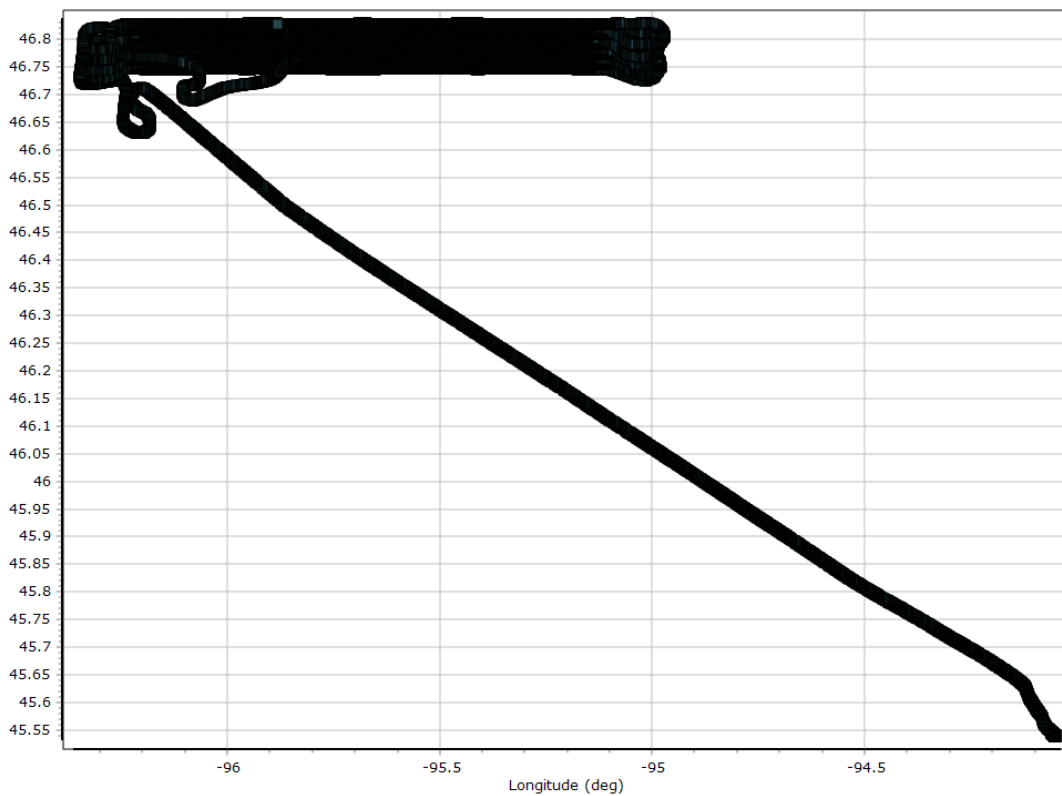


Body Angular Rate

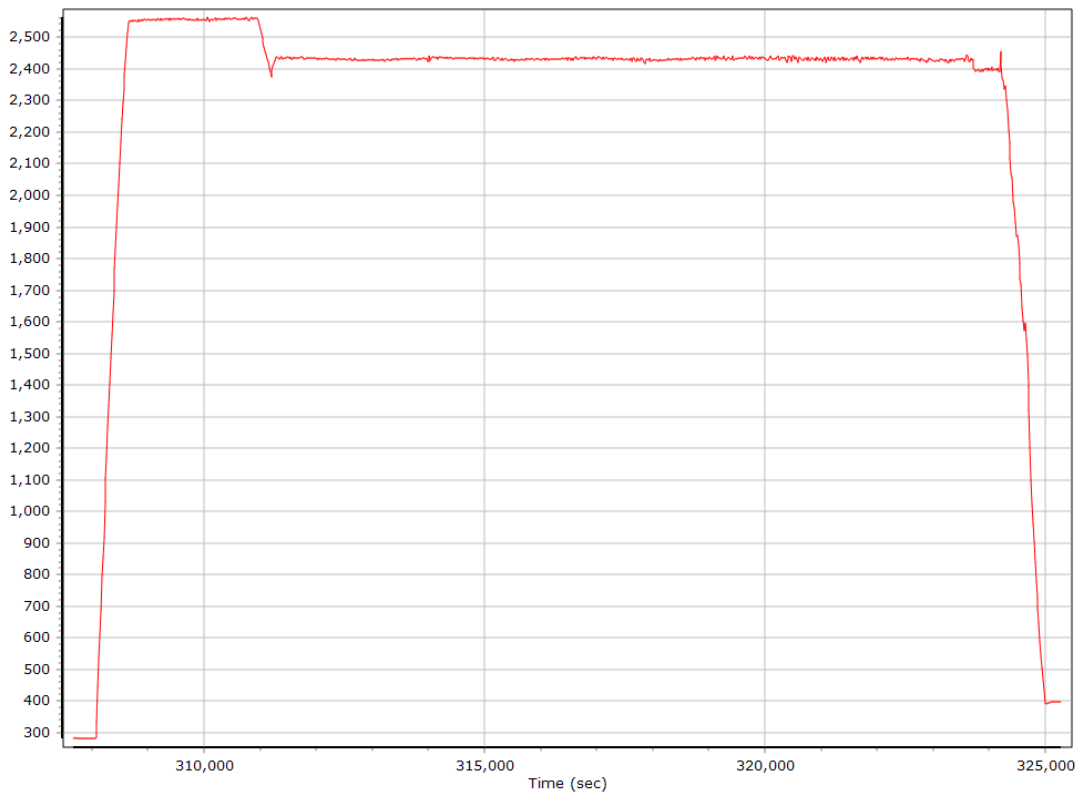


Forward Processed Trajectory Information

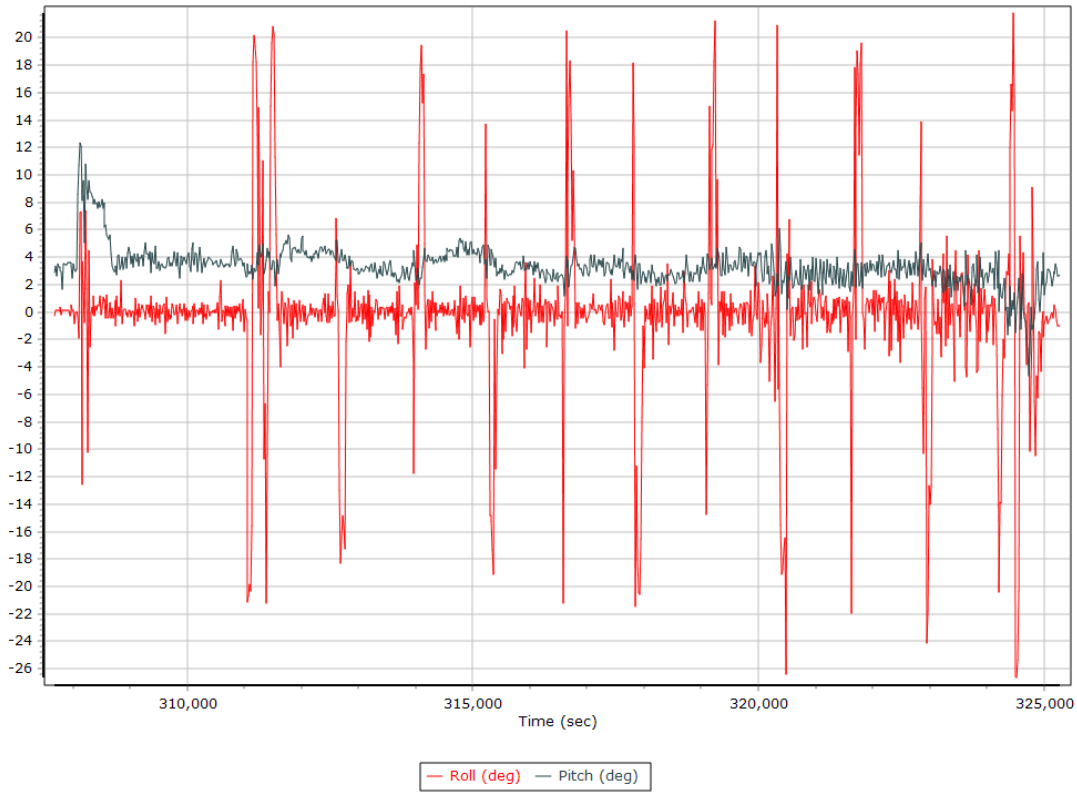
Top View



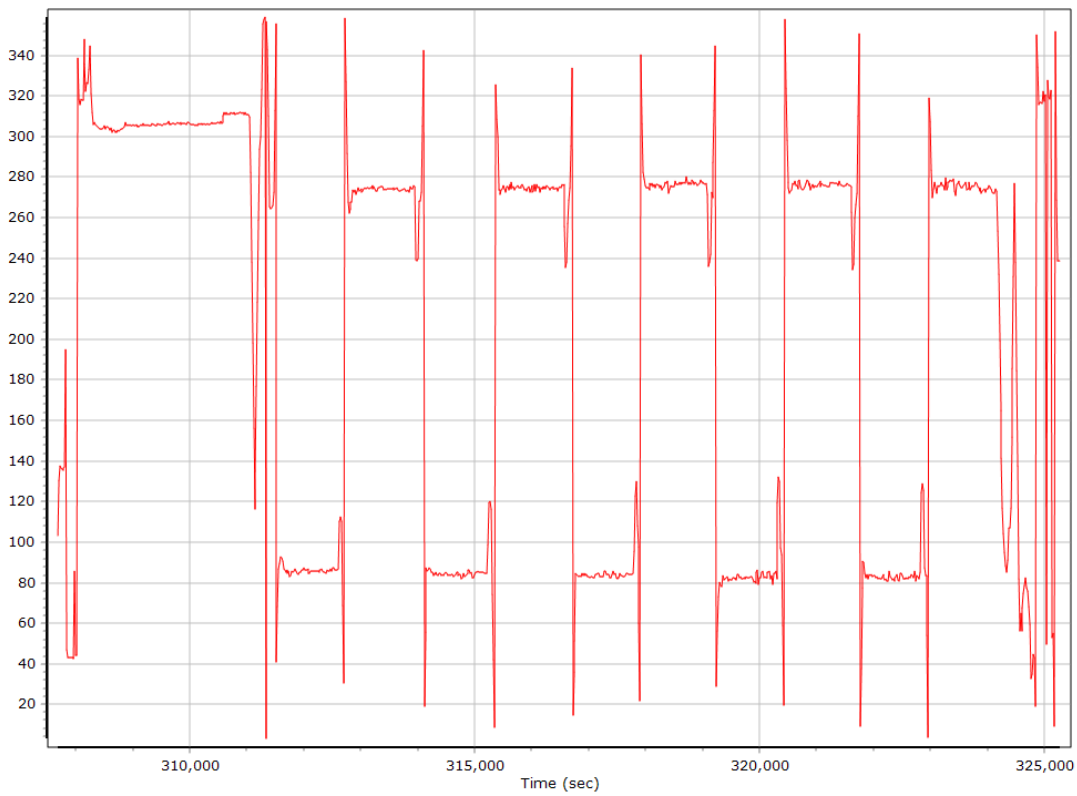
Altitude



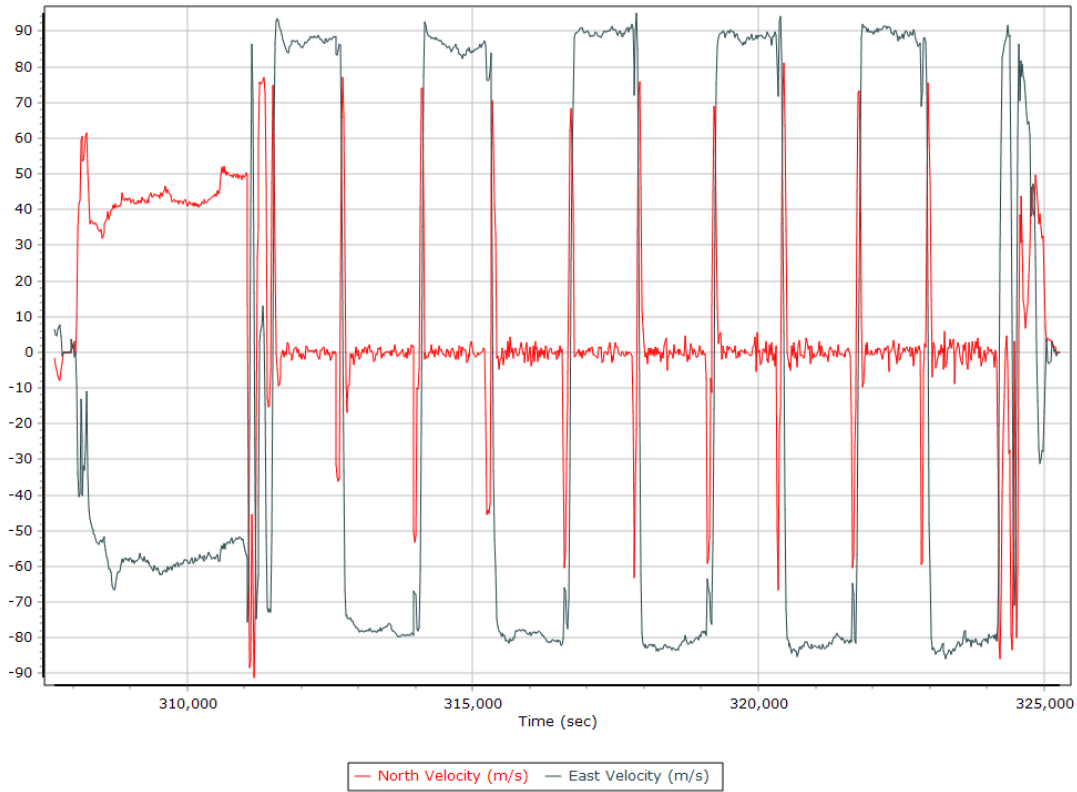
Roll/Pitch



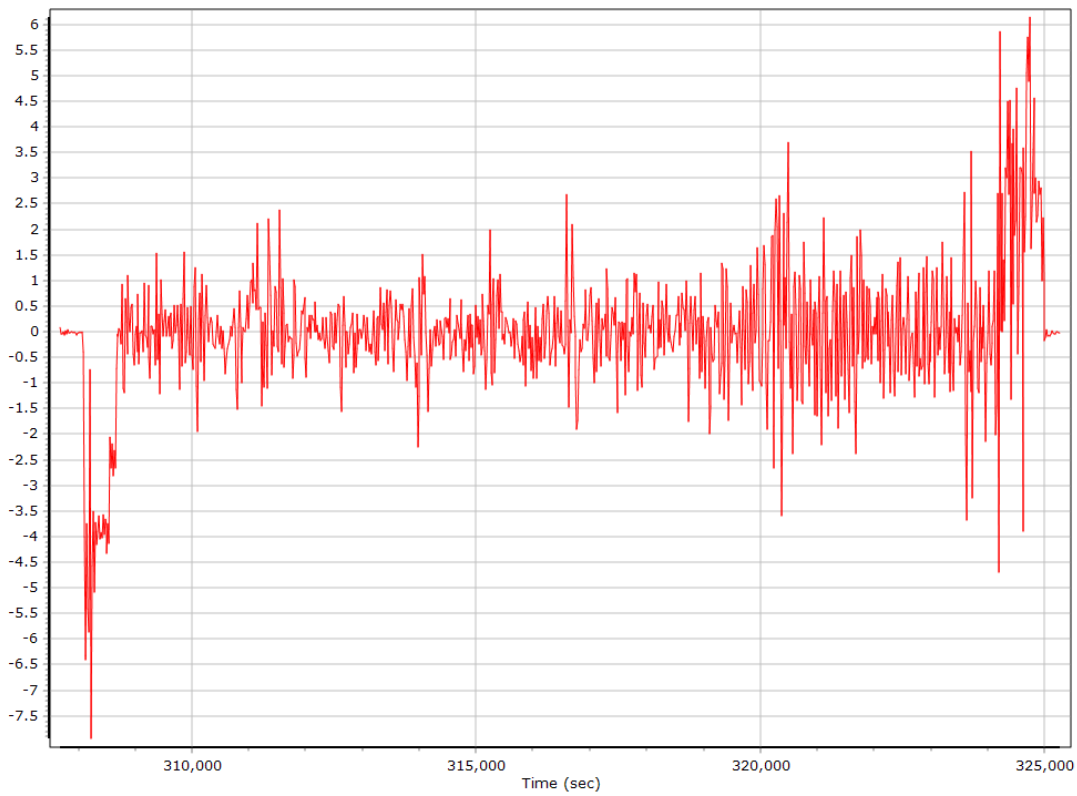
Heading



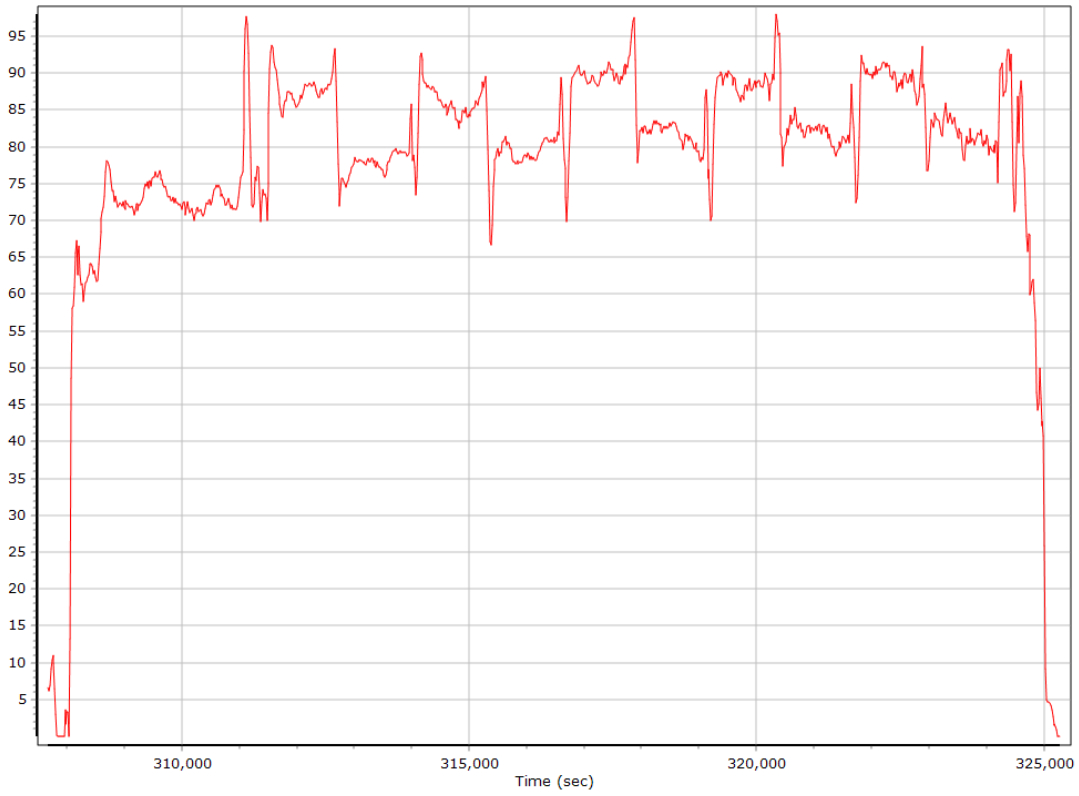
North/East Velocity



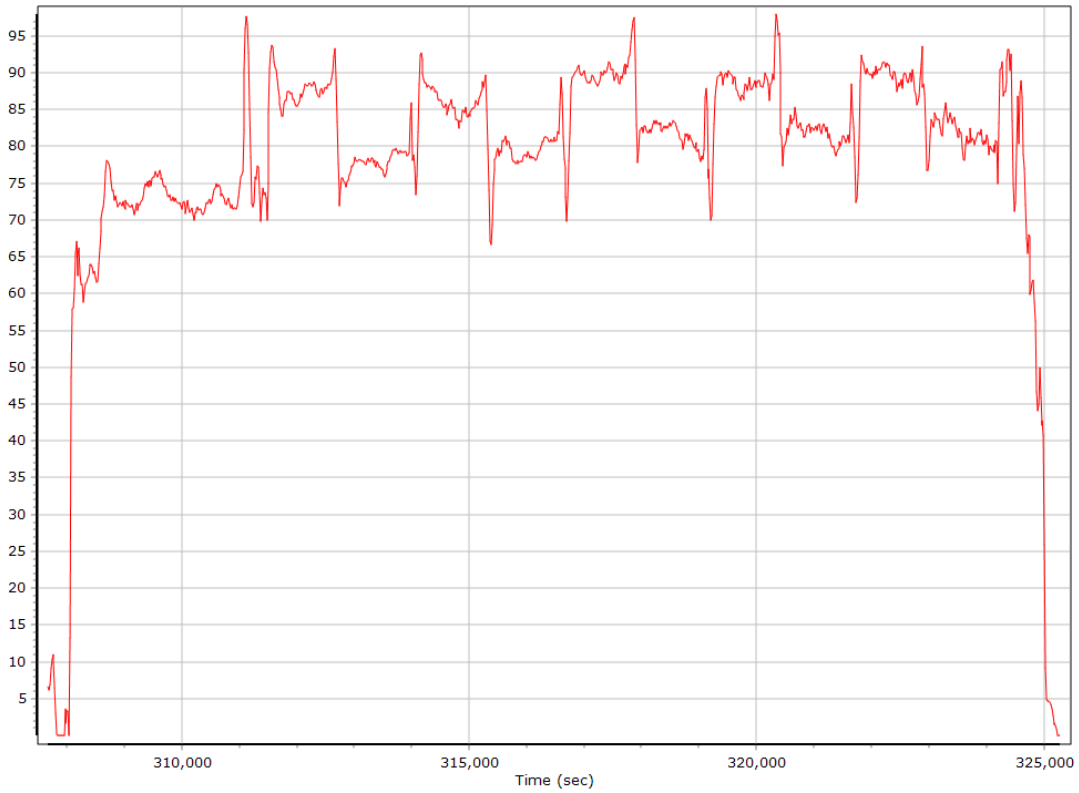
Down Velocity



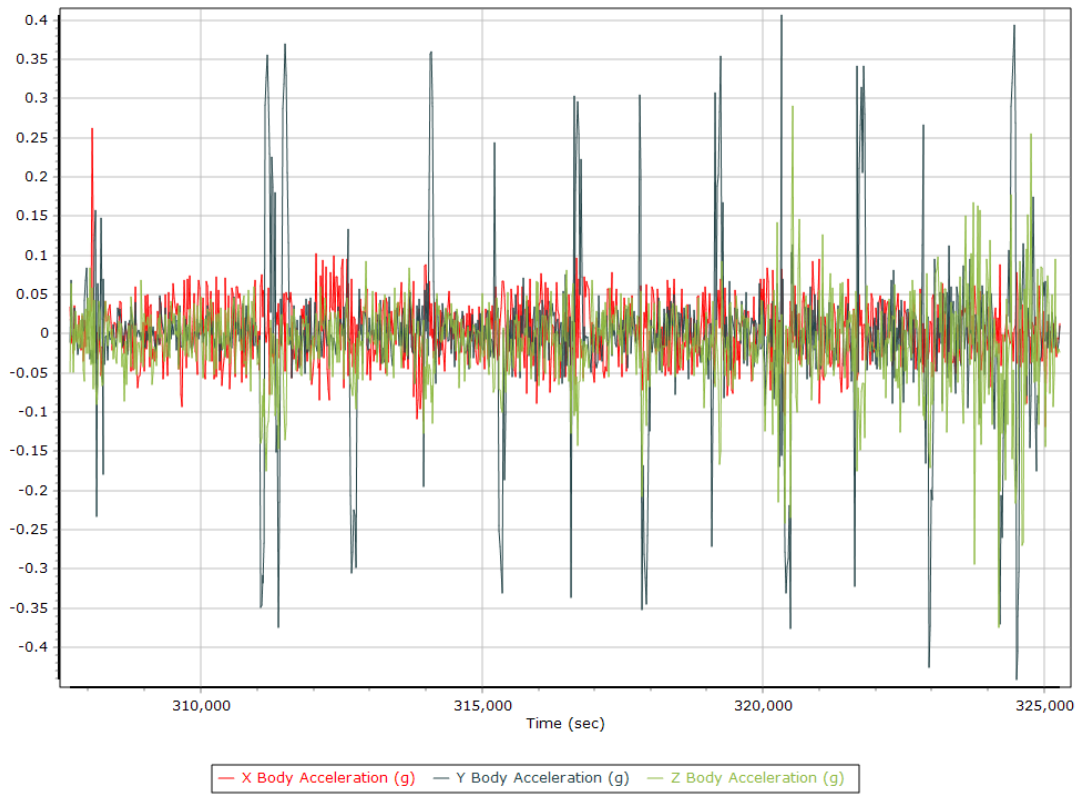
Total Speed



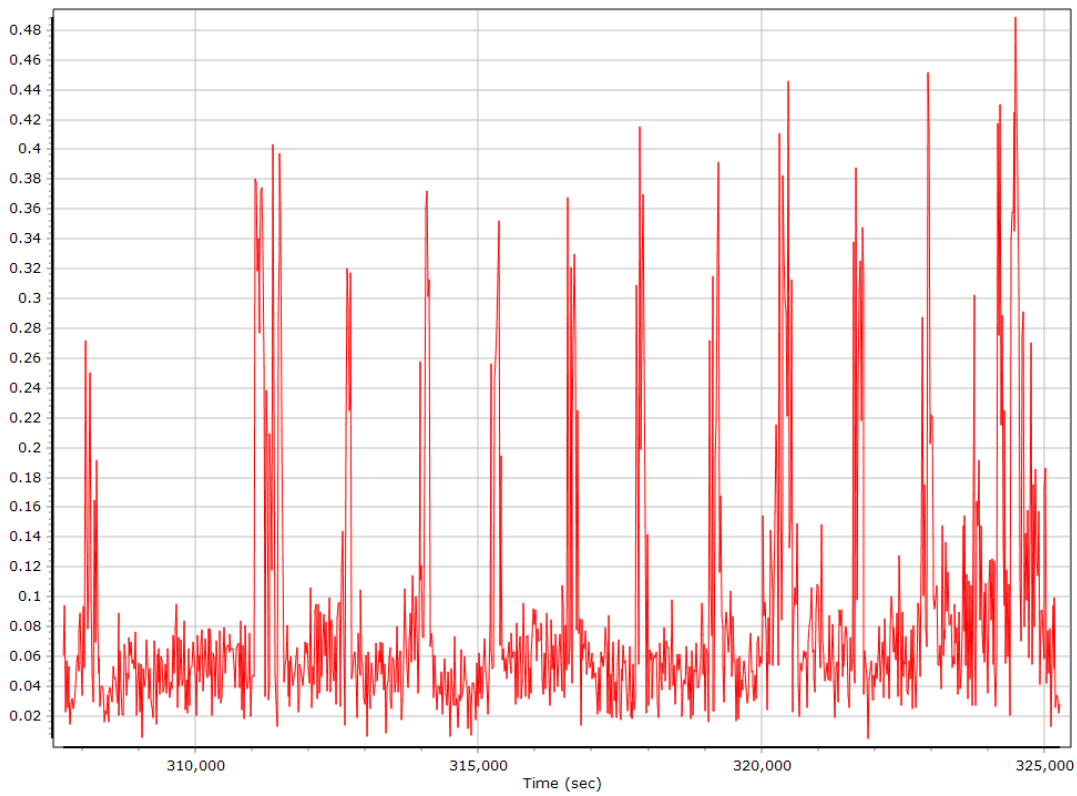
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate

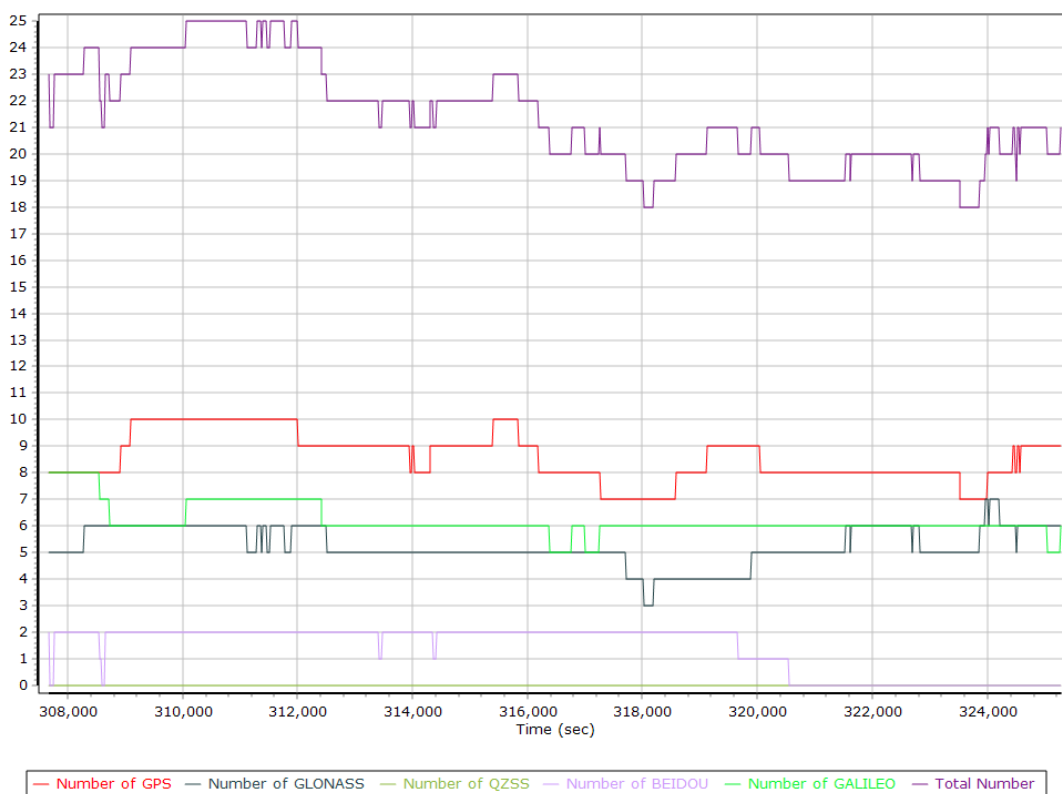


GNSS QC

GNSS QC Statistics

| Statistics | Min | Max | Mean |
|----------------------|----------|-------|-------------|
| Baseline length (km) | 0.00 | 0.00 | |
| Number of GPS SV | 5 | 10 | 9 |
| Number of GLONASS SV | 3 | 7 | 5 |
| Number of QZSS SV | 0 | 0 | 0 |
| Number of BEIDOU SV | 0 | 2 | 1 |
| Number of GALILEO SV | 4 | 8 | 6 |
| Total number of SV | 14 | 25 | 21 |
| PDOP | 0.99 | 3.01 | 1.12 |
| QC Solution Gaps | 0.00 | 0.00 | |
| Solution Type | Fixed | Float | No solution |
| Epoch (sec) | 18142.00 | 0.00 | 0.00 |
| Percentage | 100.00 | 0.00 | 0.00 |

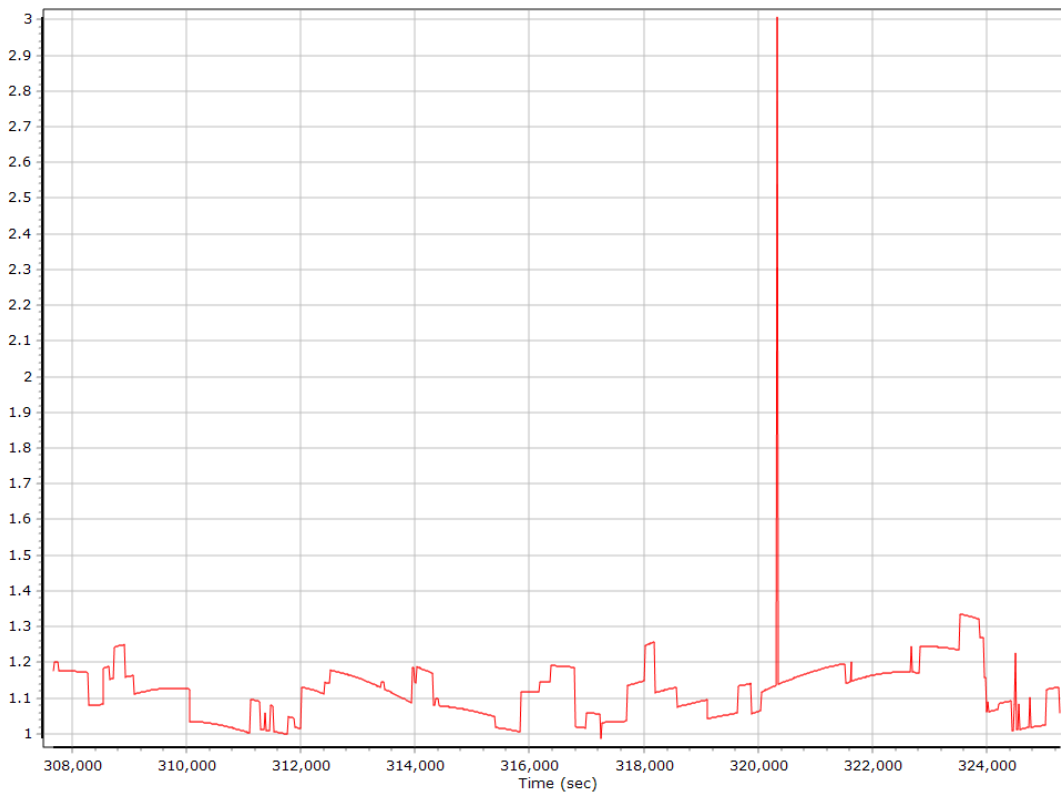
Num SVs in solution



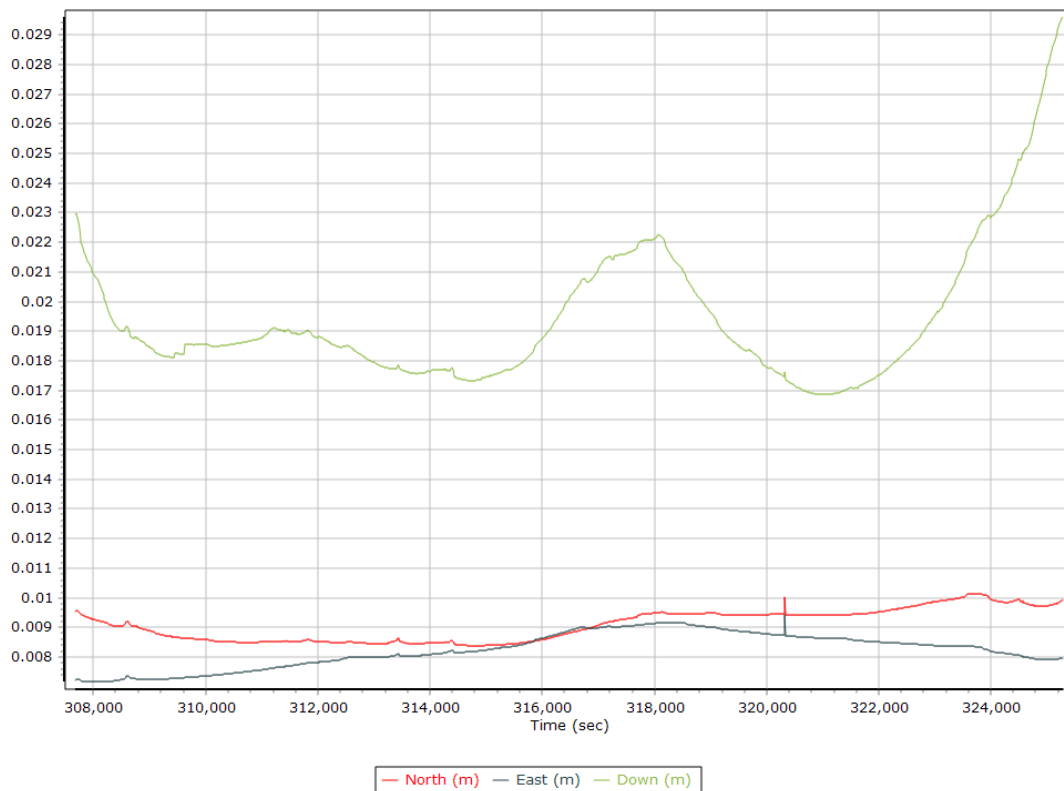
Forward/Reverse Separation



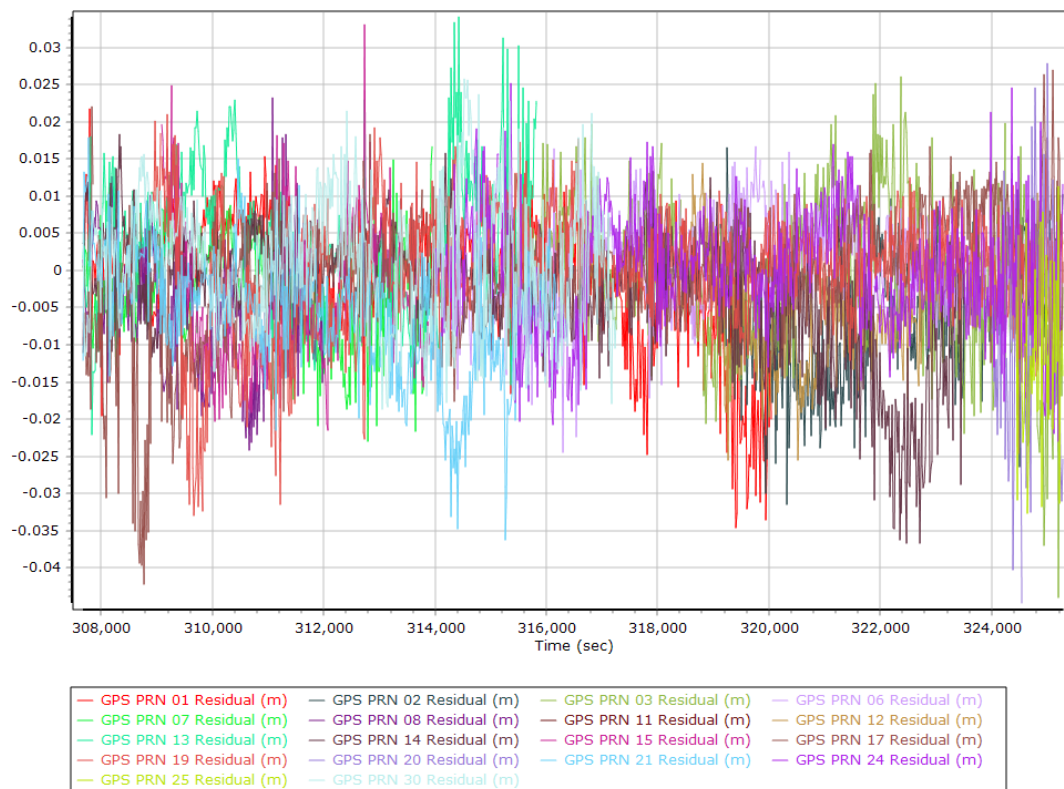
PDOP



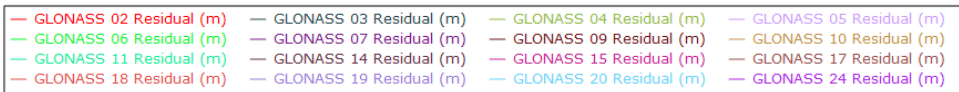
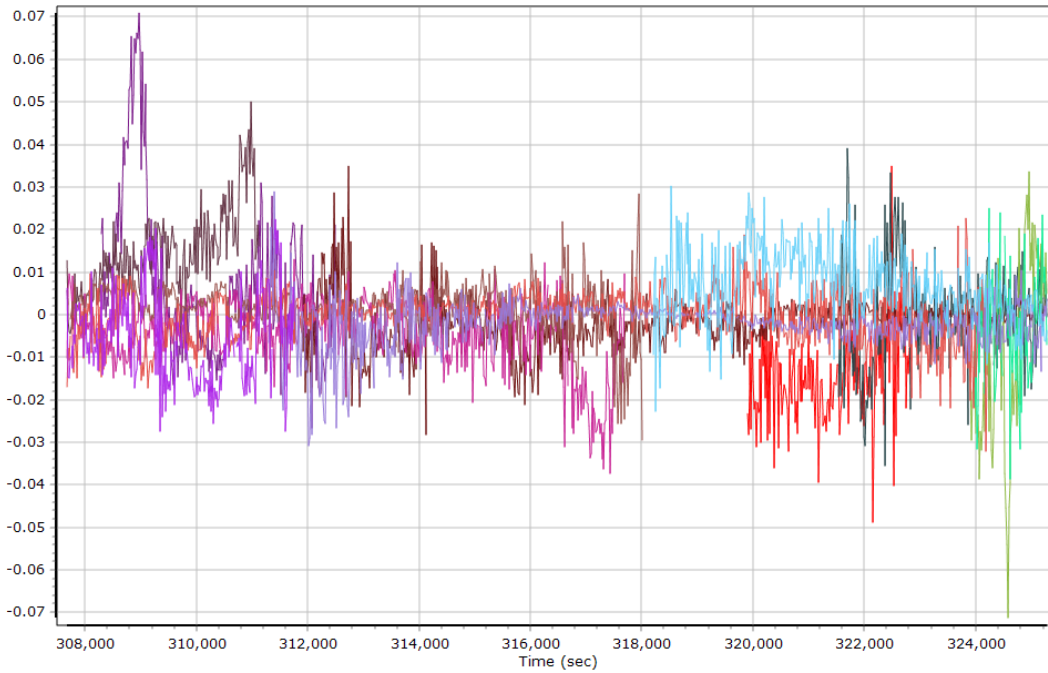
Estimated Position Accuracy



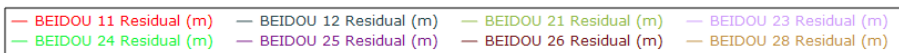
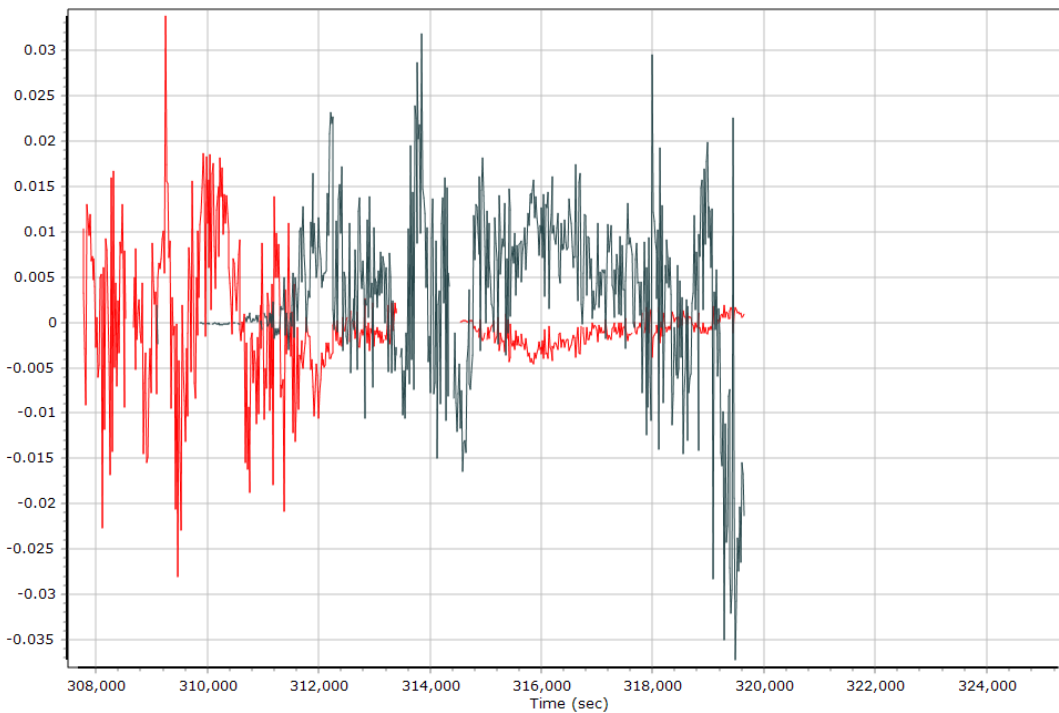
GPS Residuals



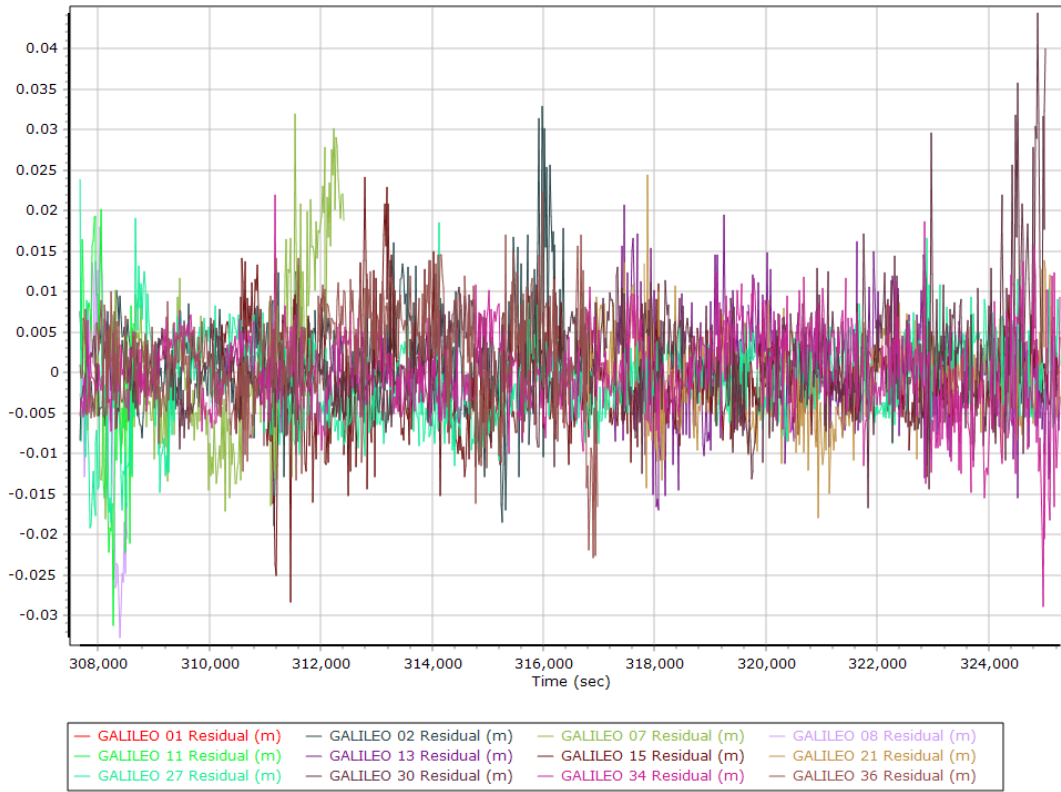
GLONASS Residuals



BEIDOU Residuals



GALILEO Residuals



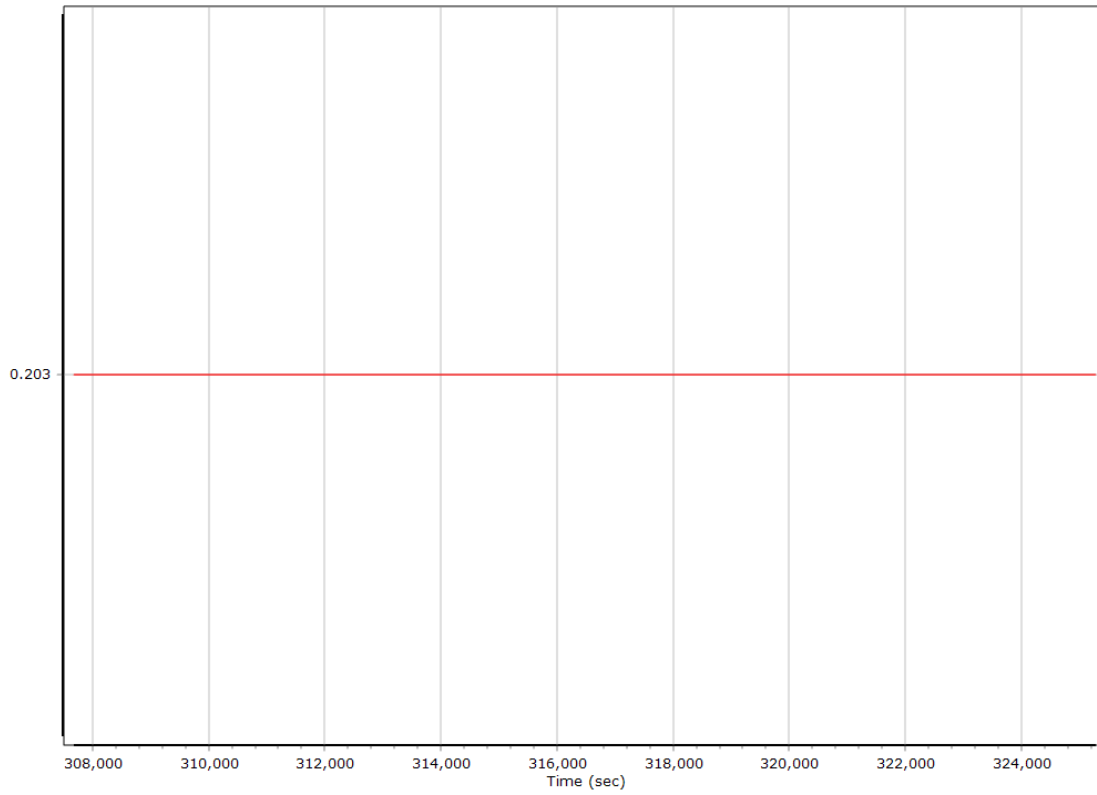
GNSS-Inertial Processor Configuration

| | | | |
|---|----------------------------------|--------|---------|
| Processing mode | IN-Fusion PP-RTX | | |
| Stabilized mount | False | | |
| Processing start time | 307322.000 (6/1/2022 1:22:02 PM) | | |
| Processing end time | 325495.000 (6/1/2022 6:24:55 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 | 180.000 |
| Reference to Primary GNSS lever arm (m) | 0.203 | -0.212 | -1.084 |
| 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 |

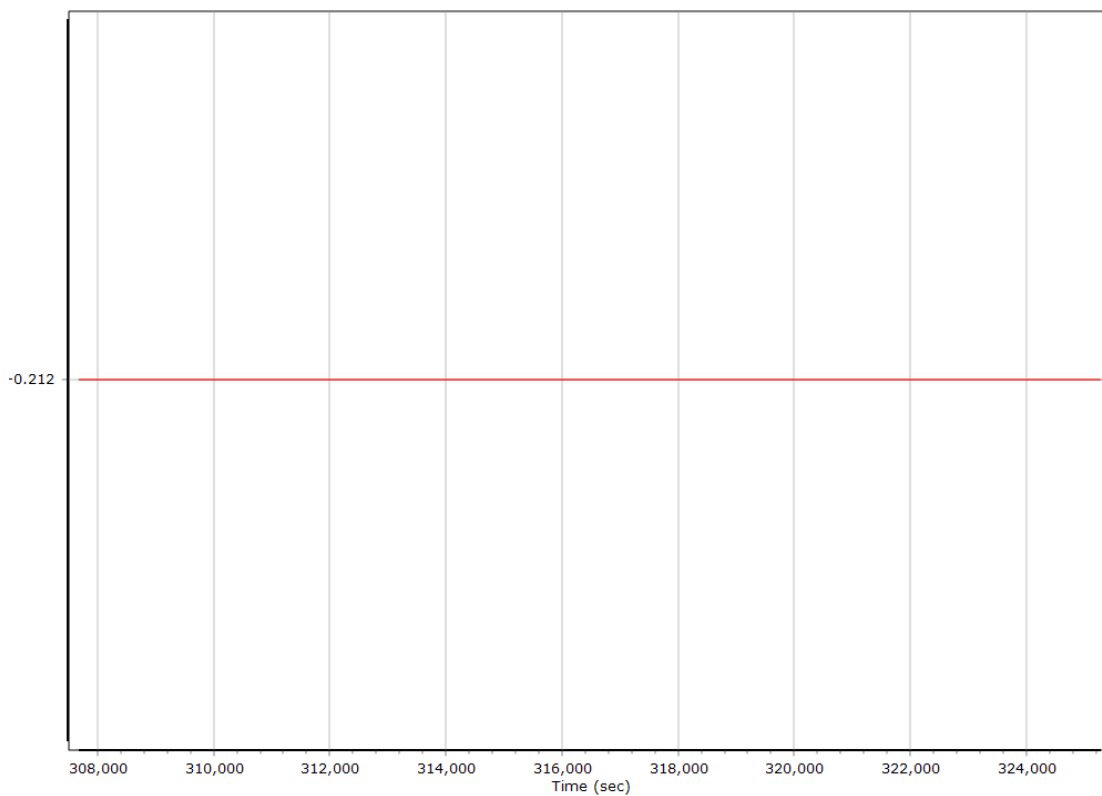
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

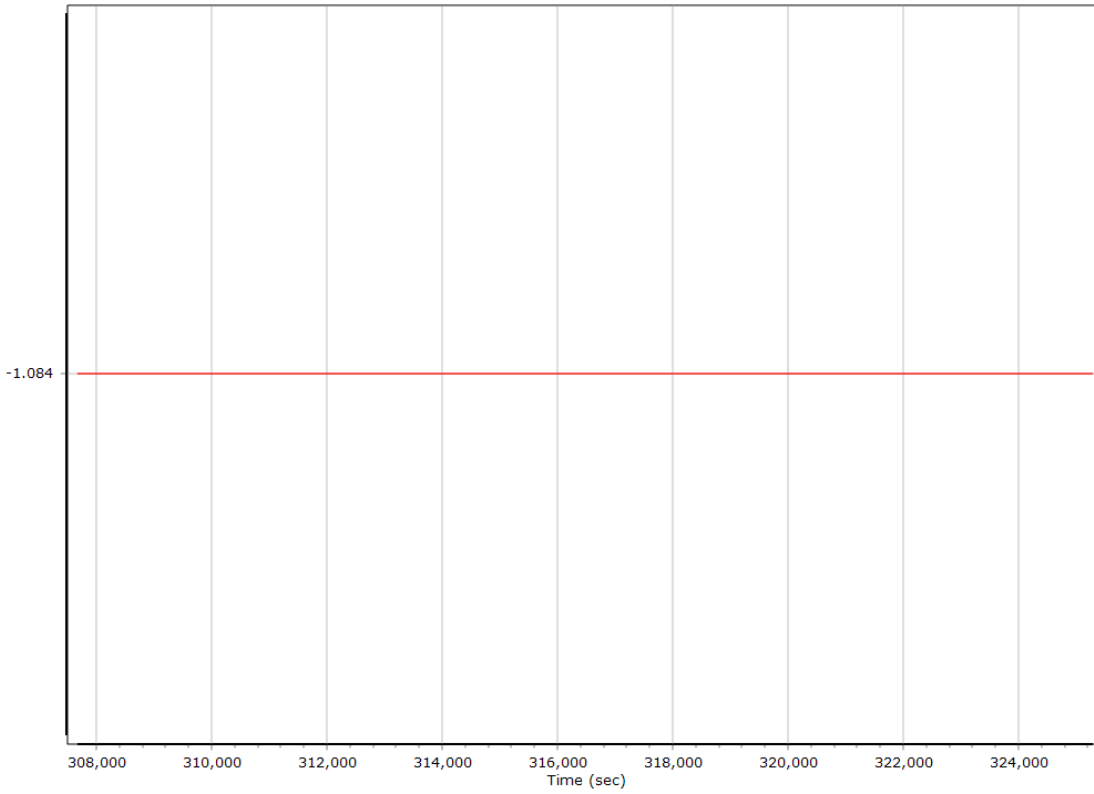
X Reference-Primary GNSS Lever Arm (m)



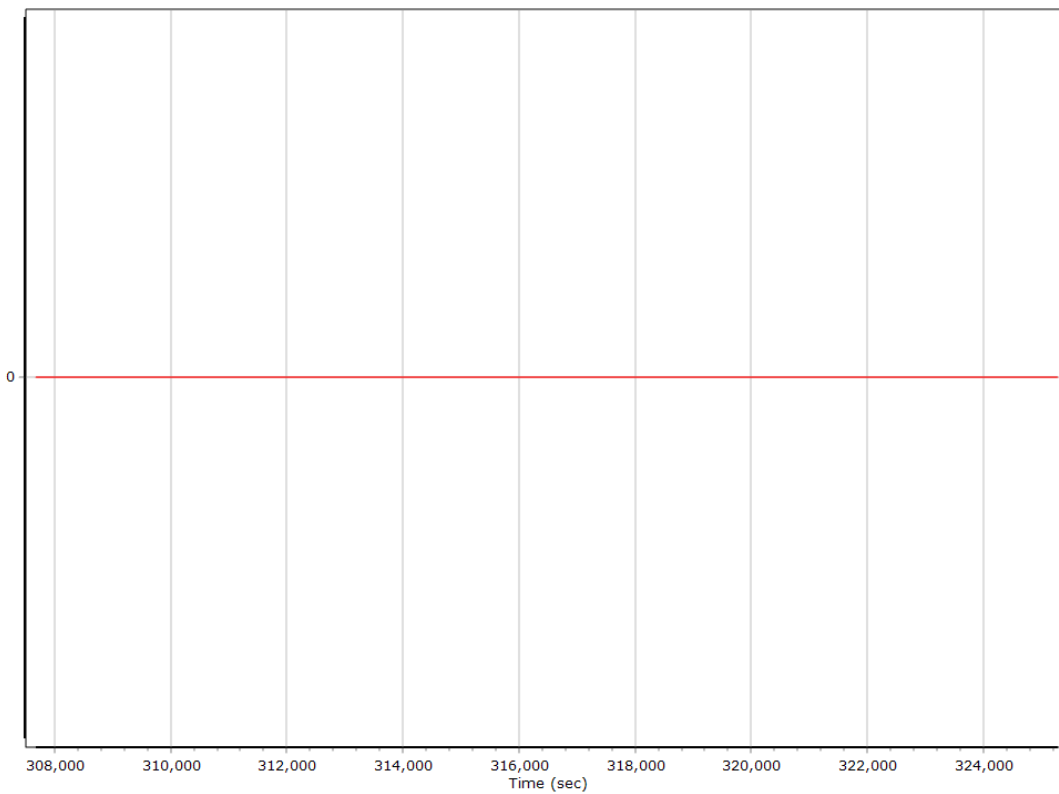
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



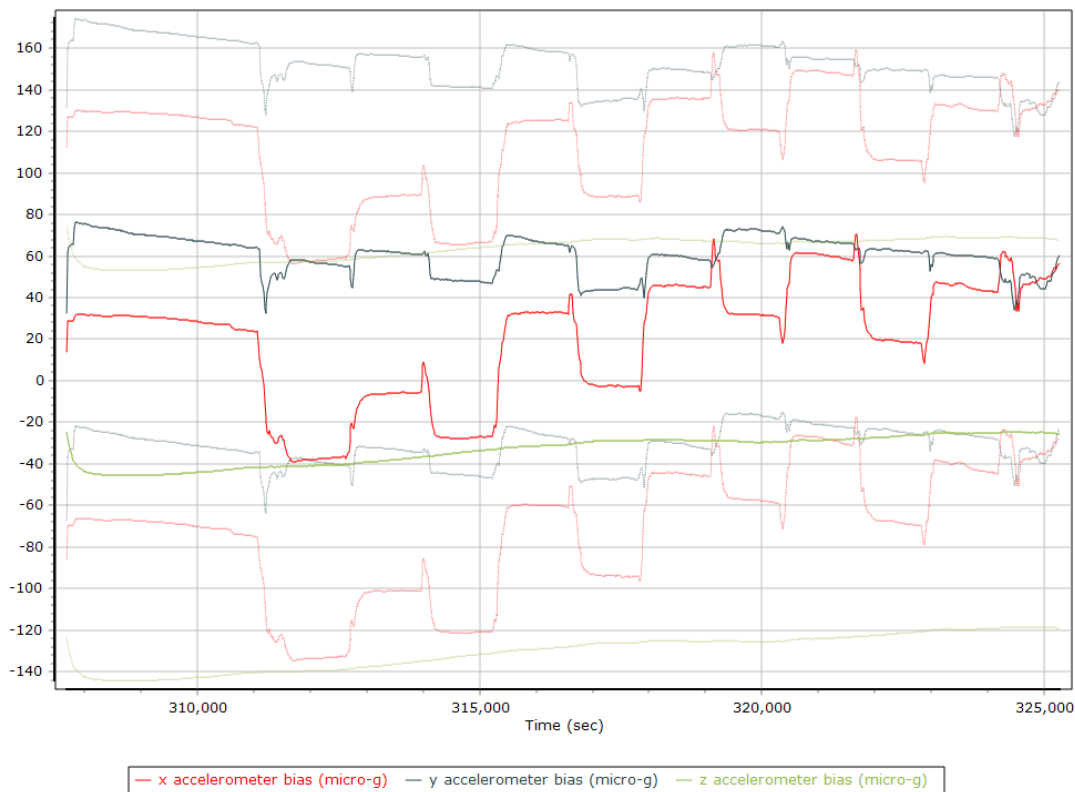
Reference-Primary GNSS Lever Arm Figure of Merit



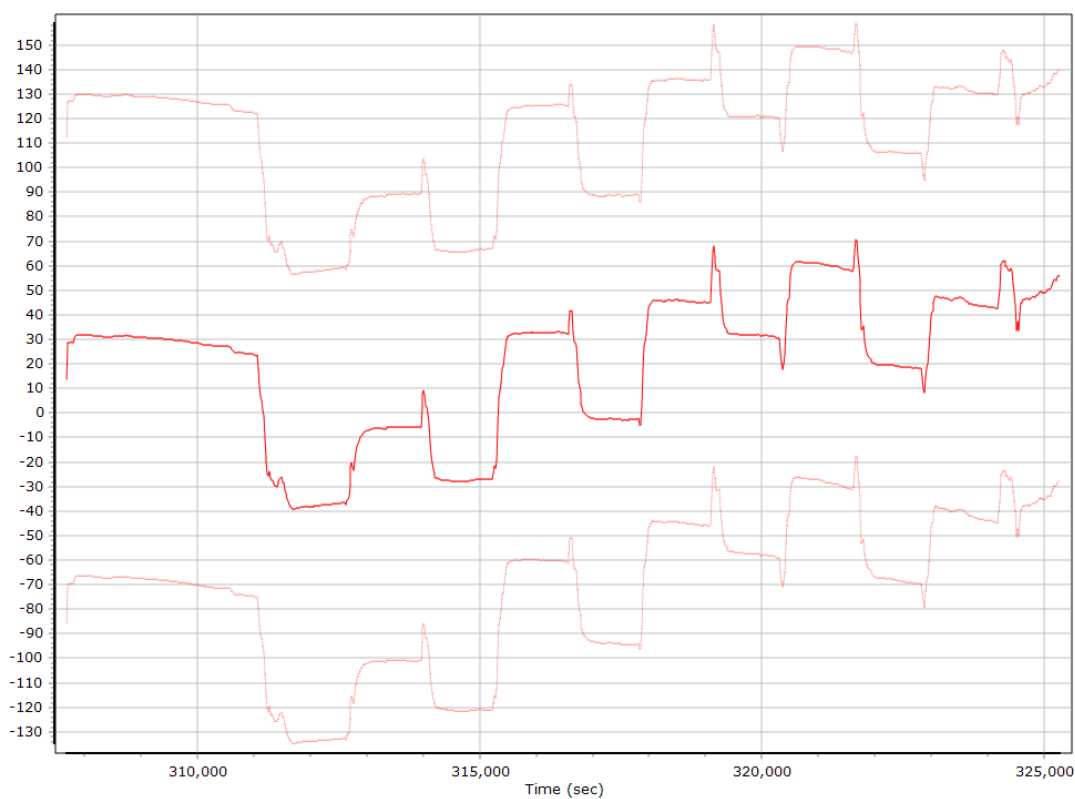
IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

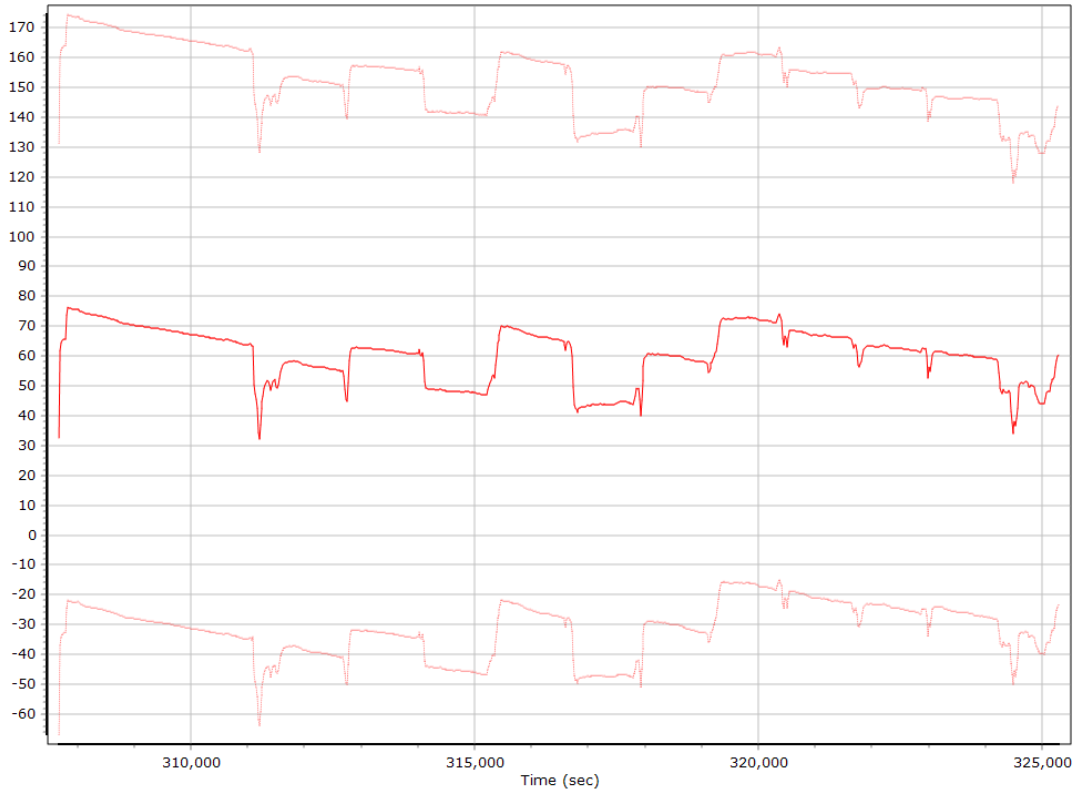
Accelerometer Bias (micro-g)



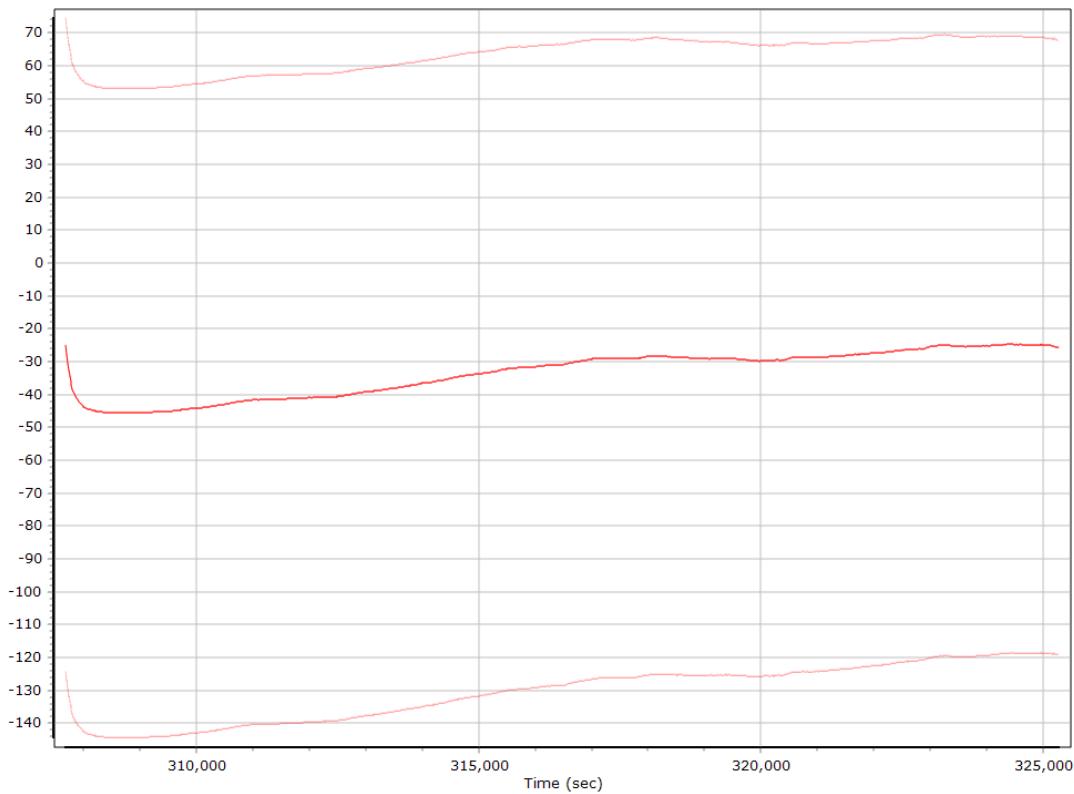
X Accelerometer Bias (micro-g)



Y Accelerometer Bias (micro-g)



Z Accelerometer Bias (micro-g)



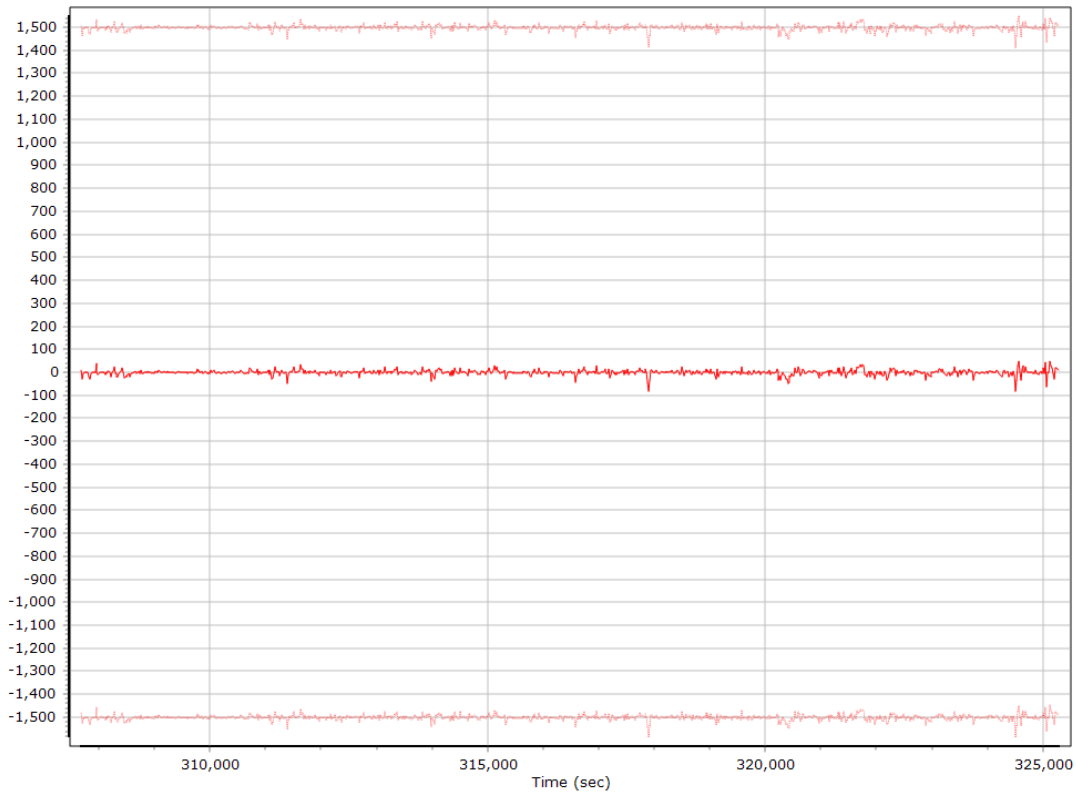
Accelerometer Scale Error (ppm)



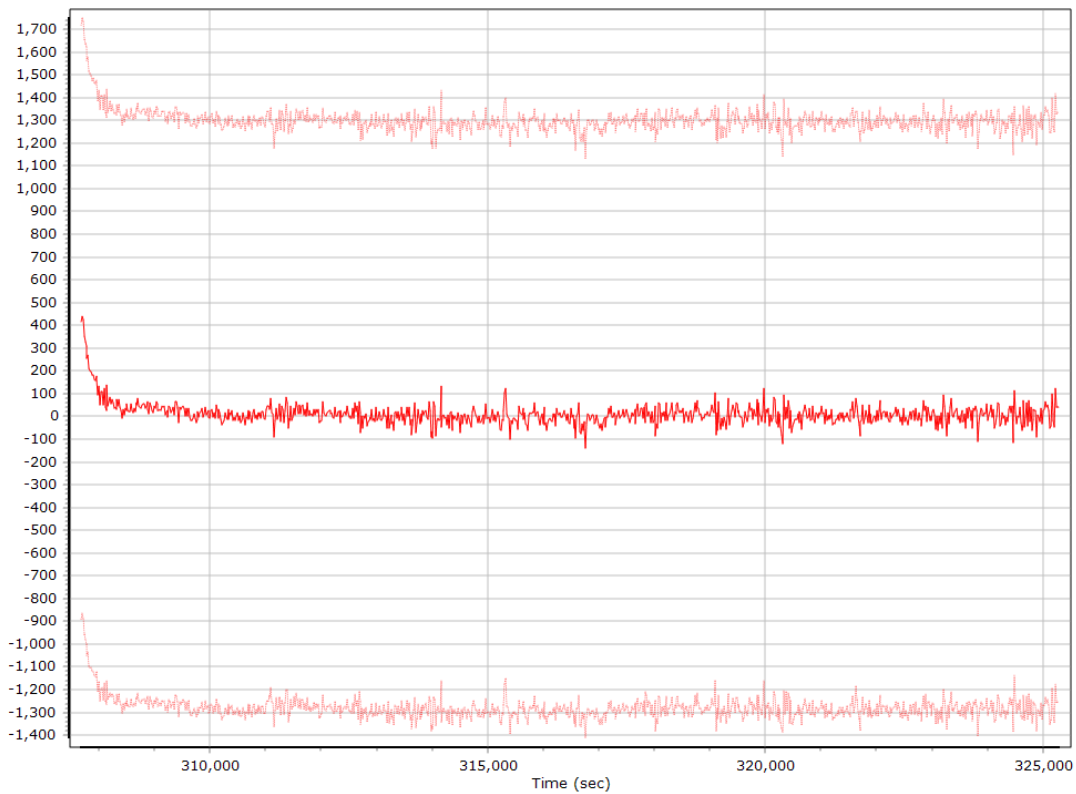
X Accelerometer Scale Error (ppm)



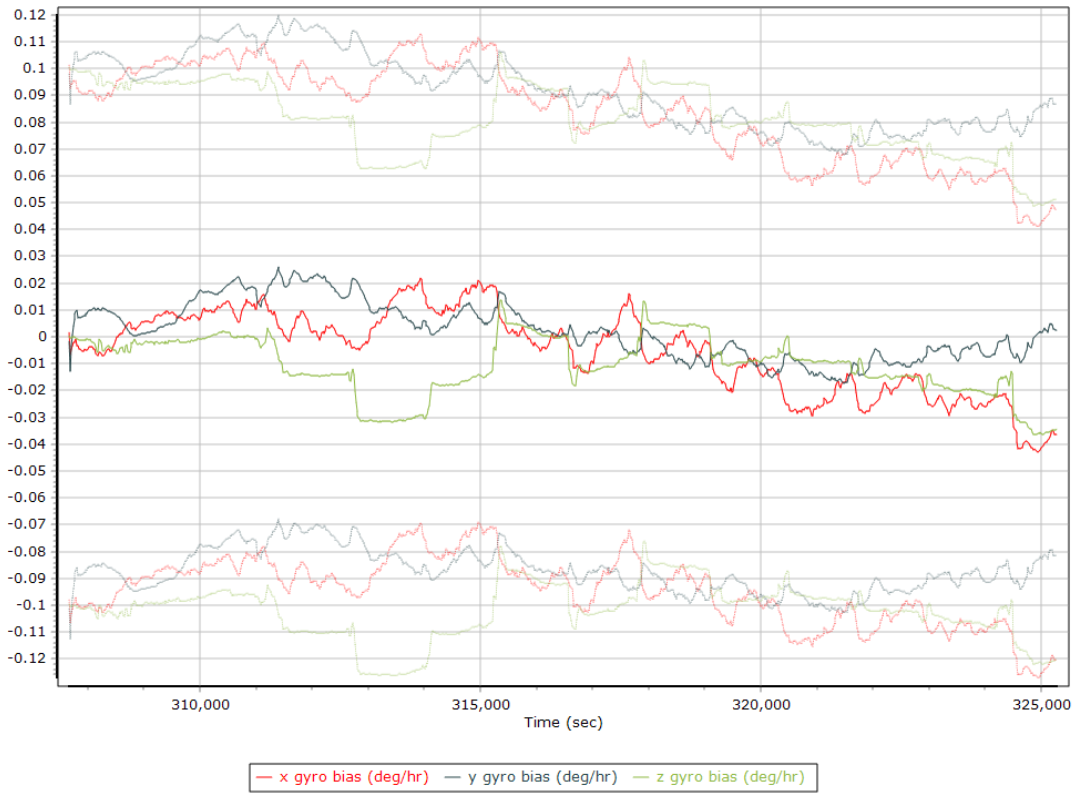
Y Accelerometer Scale Error (ppm)



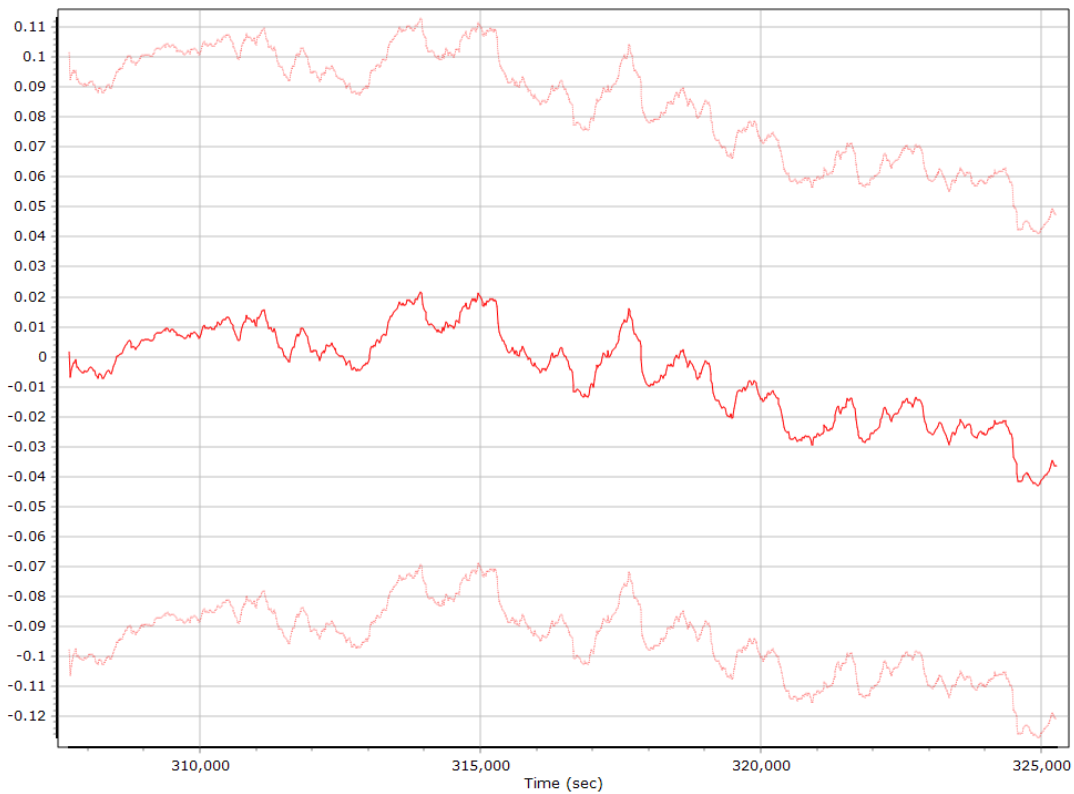
Z Accelerometer Scale Error (ppm)



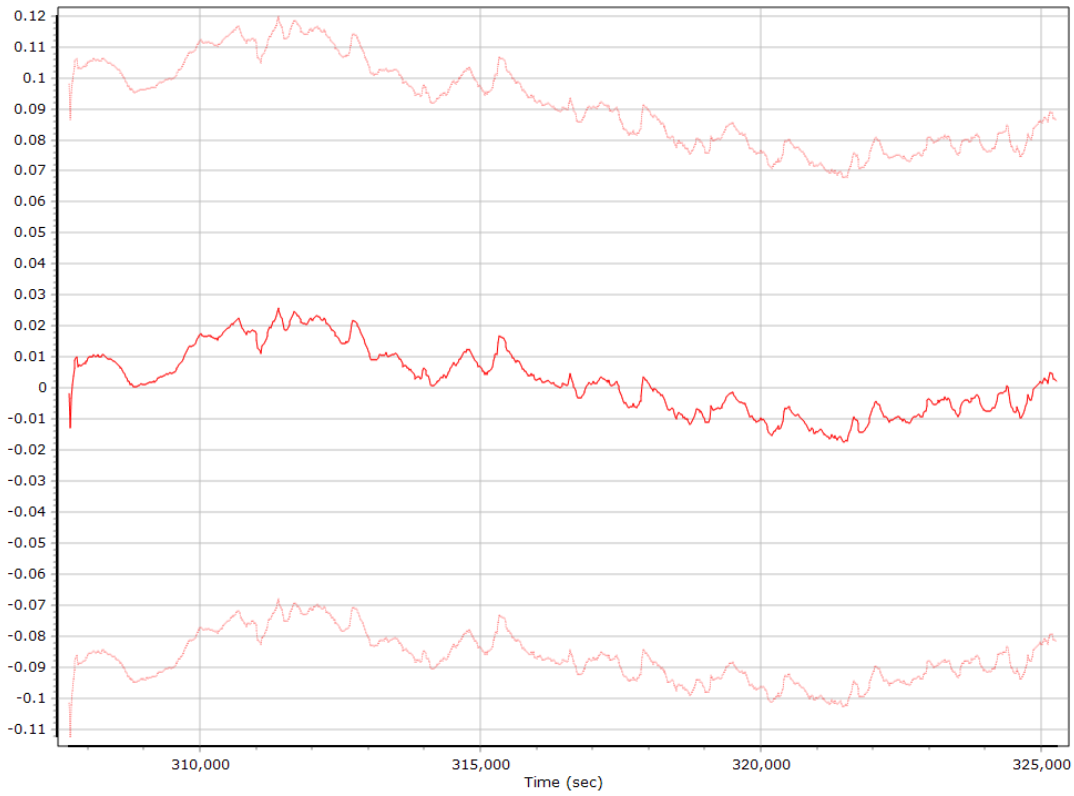
Gyro Bias (deg/h)



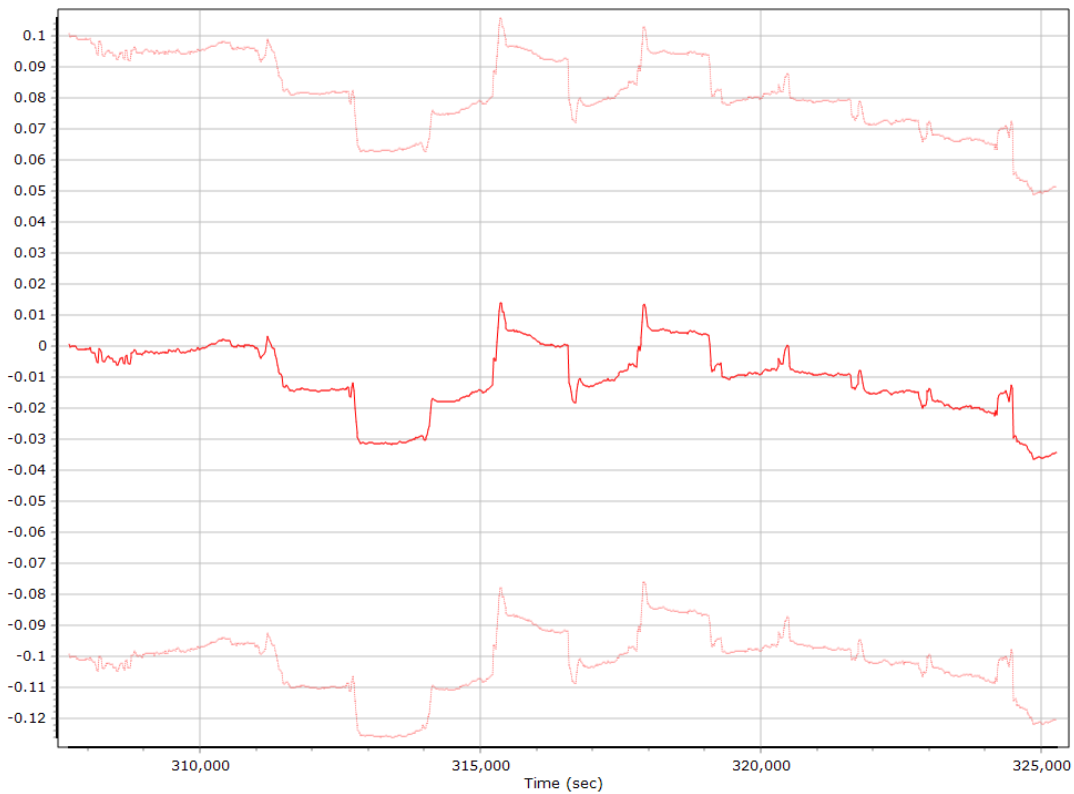
X Gyro Bias (deg/h)



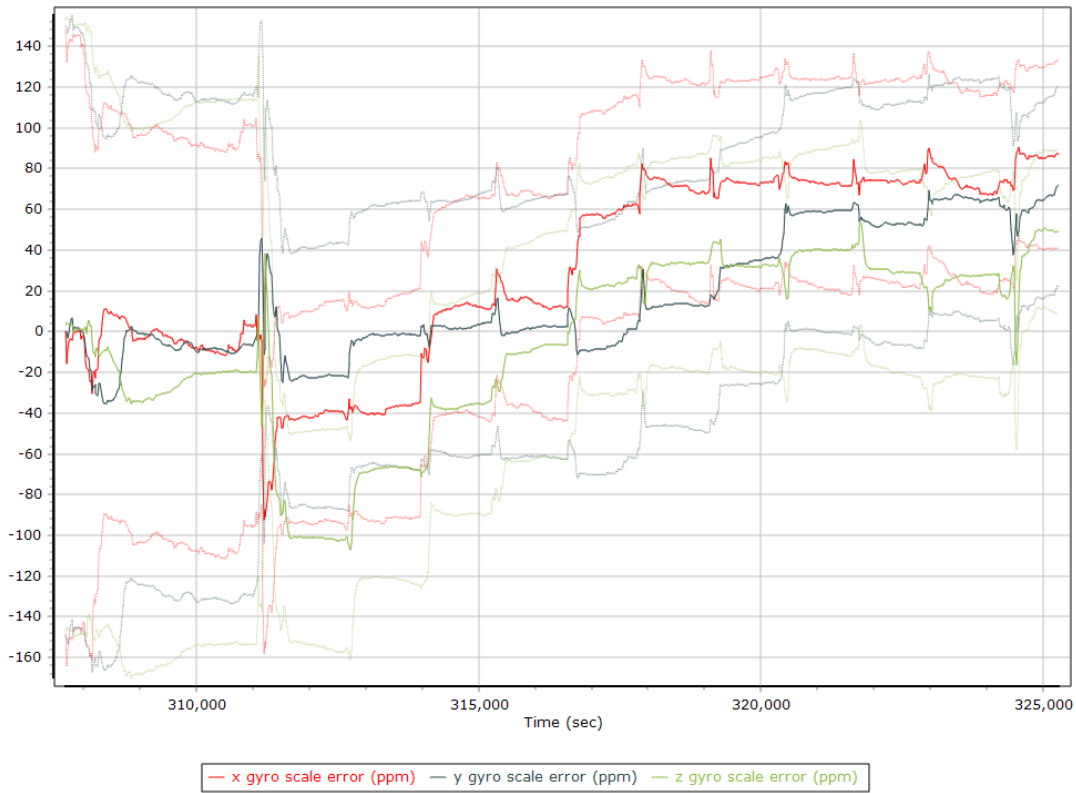
Y Gyro Bias (deg/h)



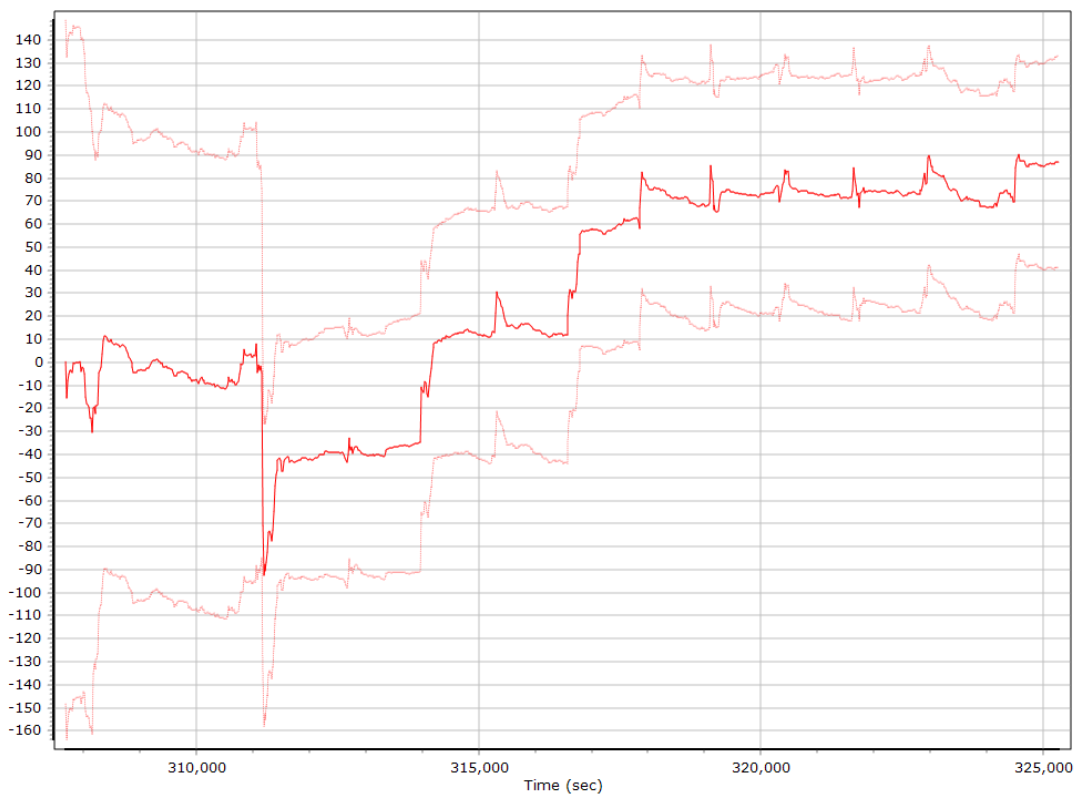
Z Gyro Bias (deg/h)



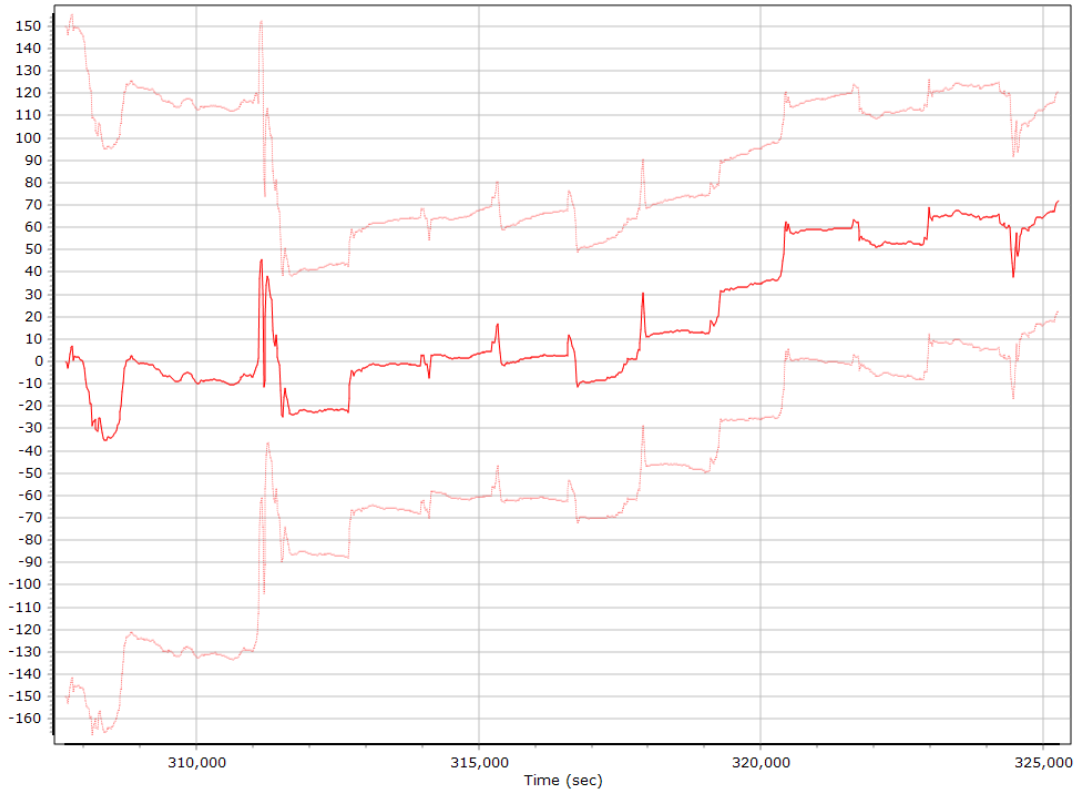
Gyro Scale Error (ppm)



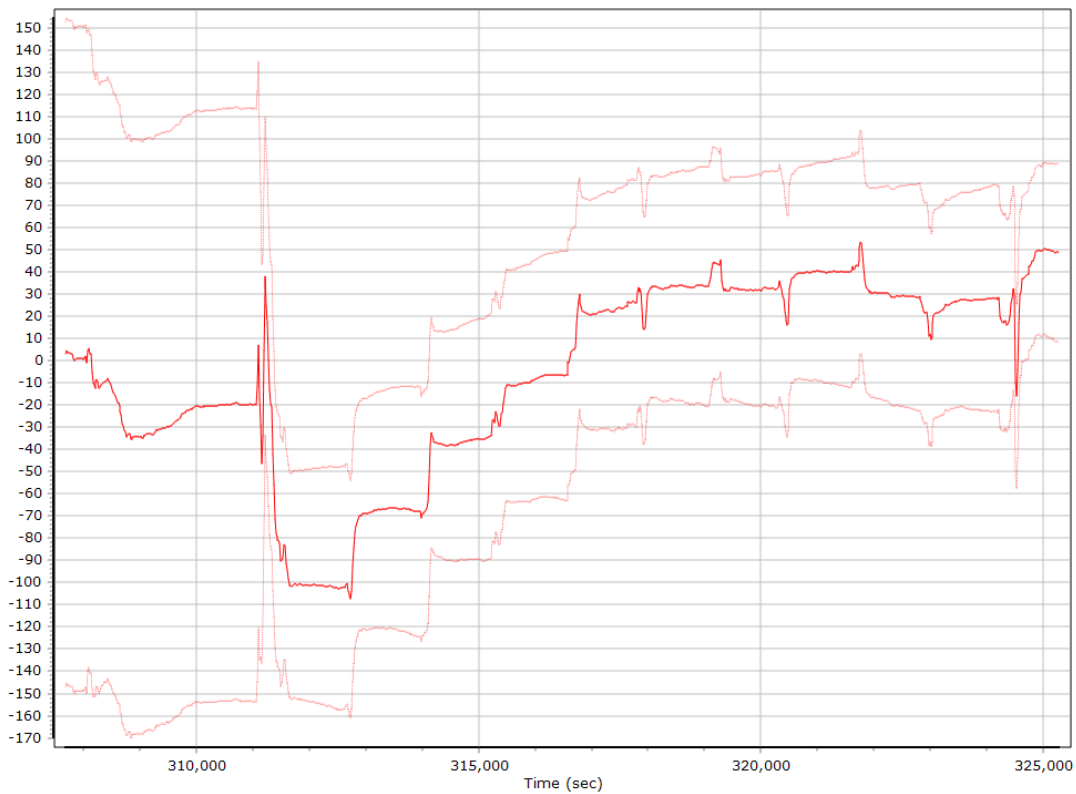
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

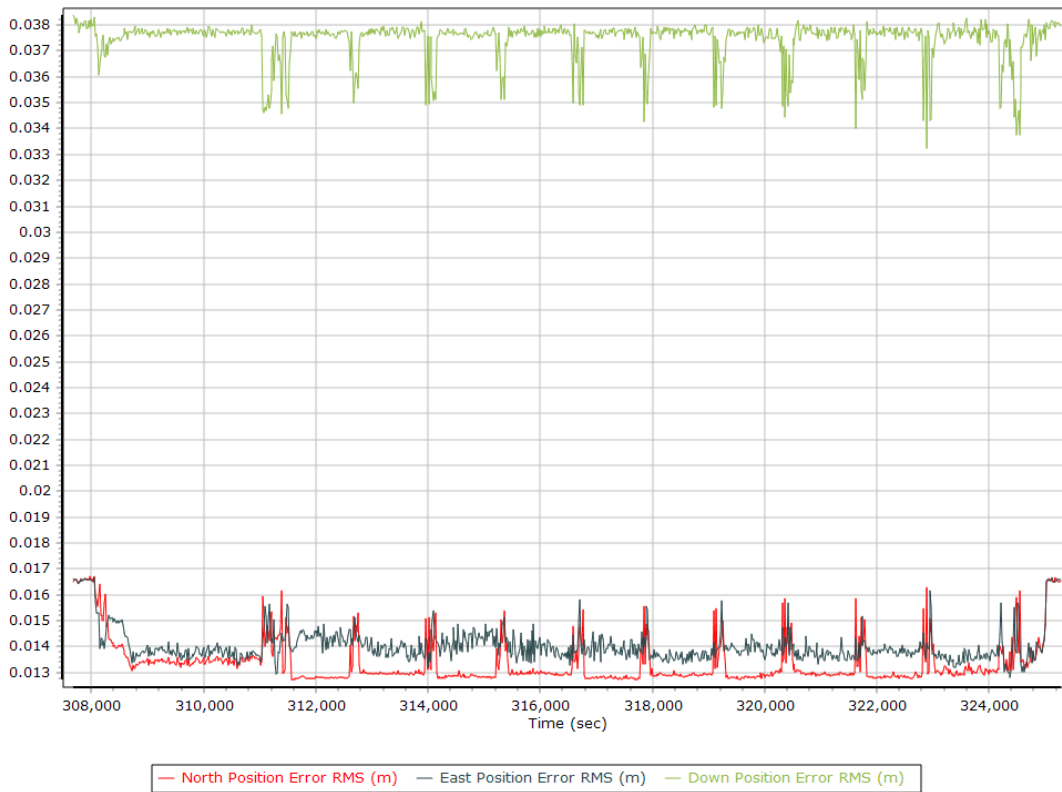


Z Gyro Scale Error (ppm)

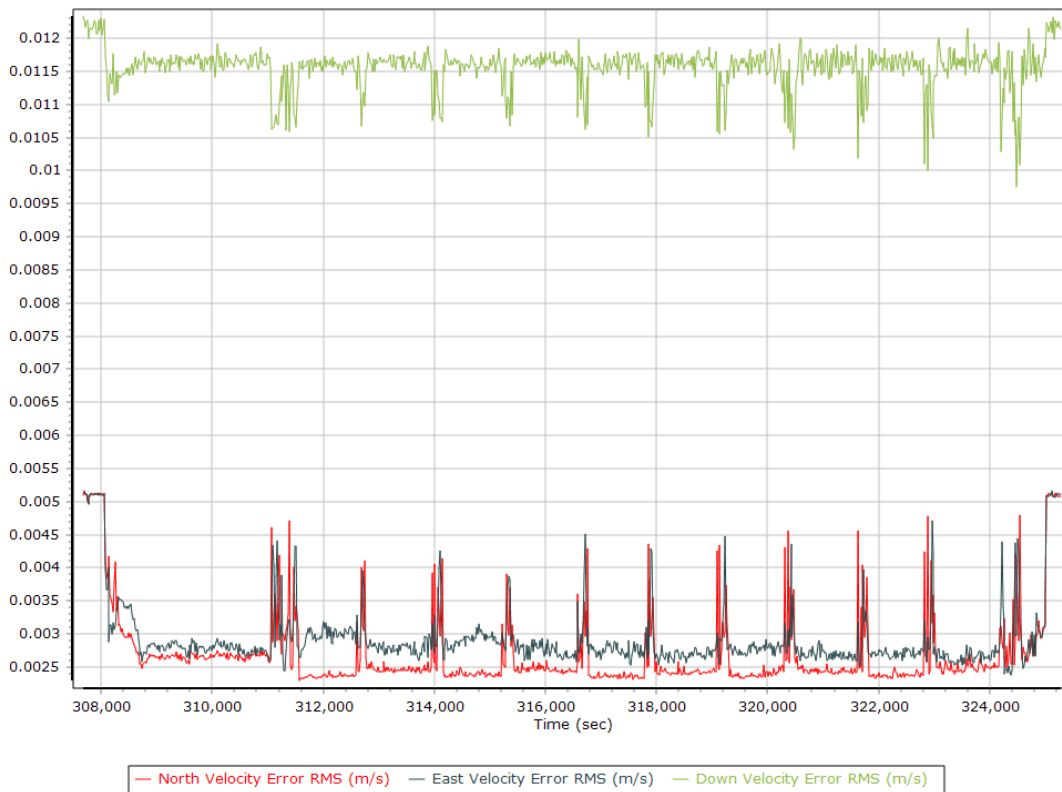


Smoothed Performance Metrics

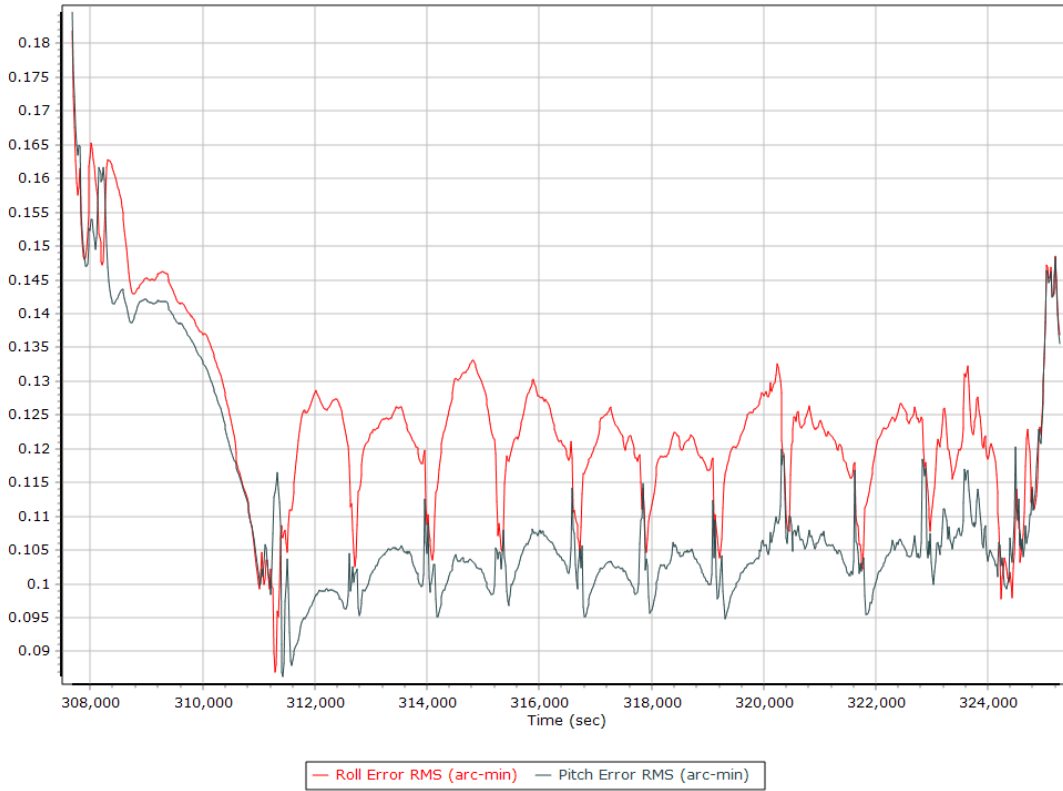
Position Error RMS (m)



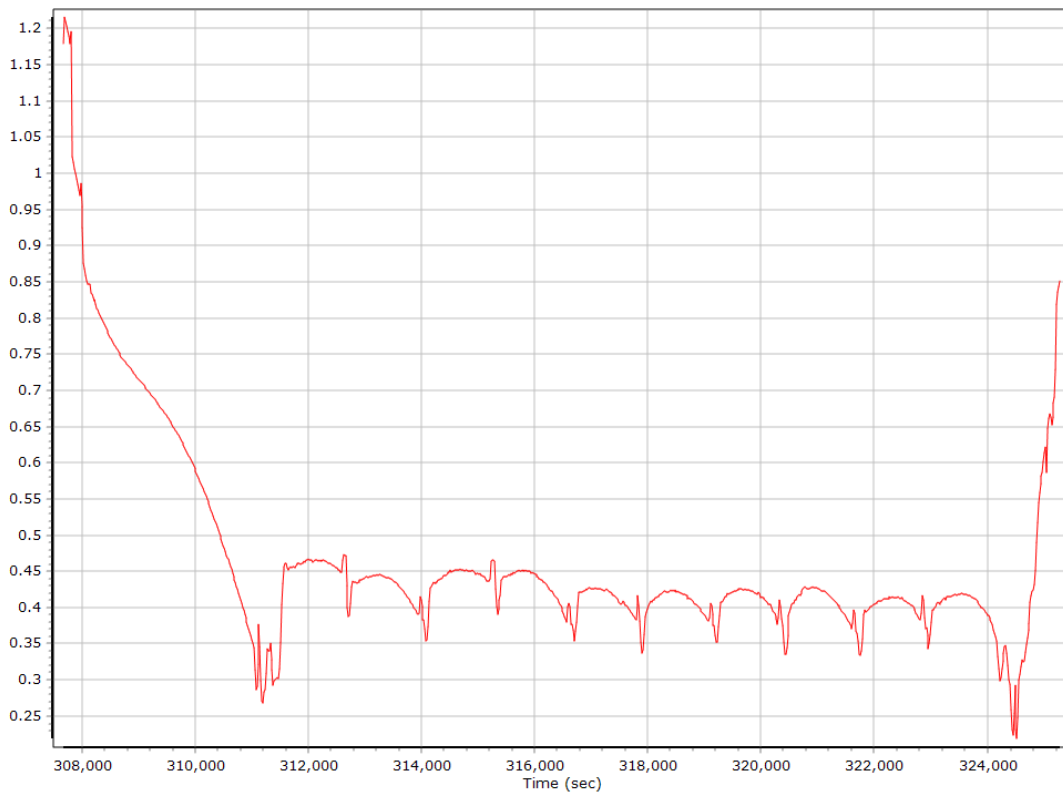
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

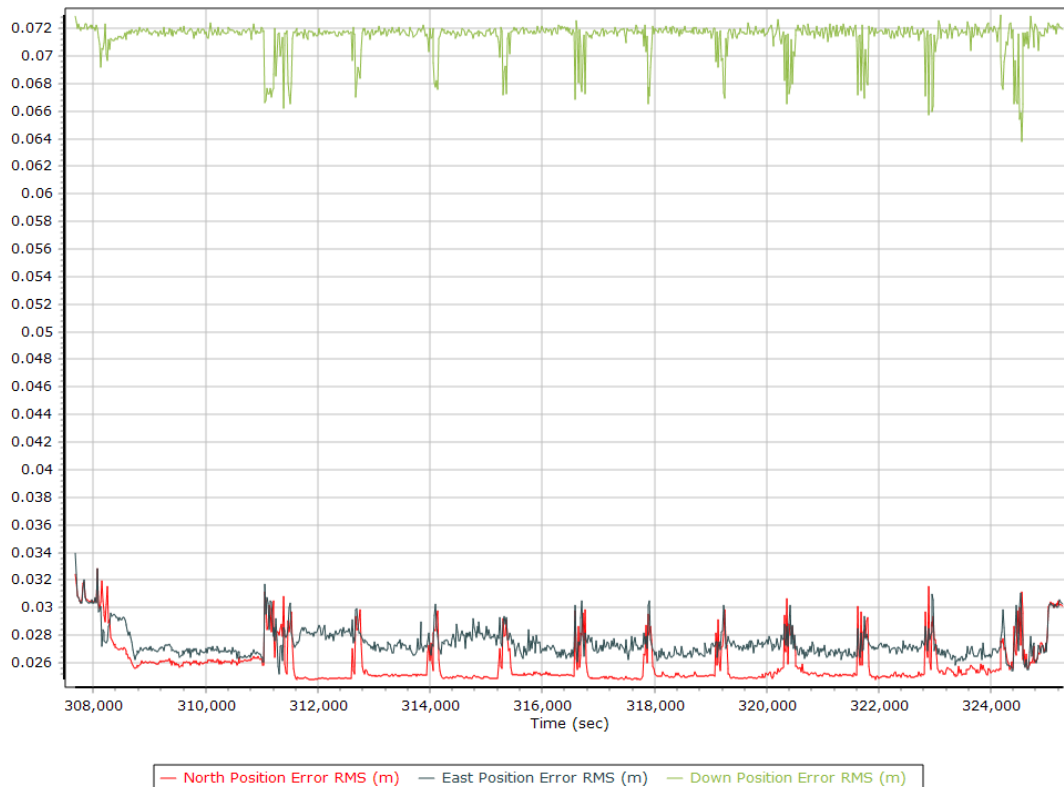


Heading Error RMS (arc-min)

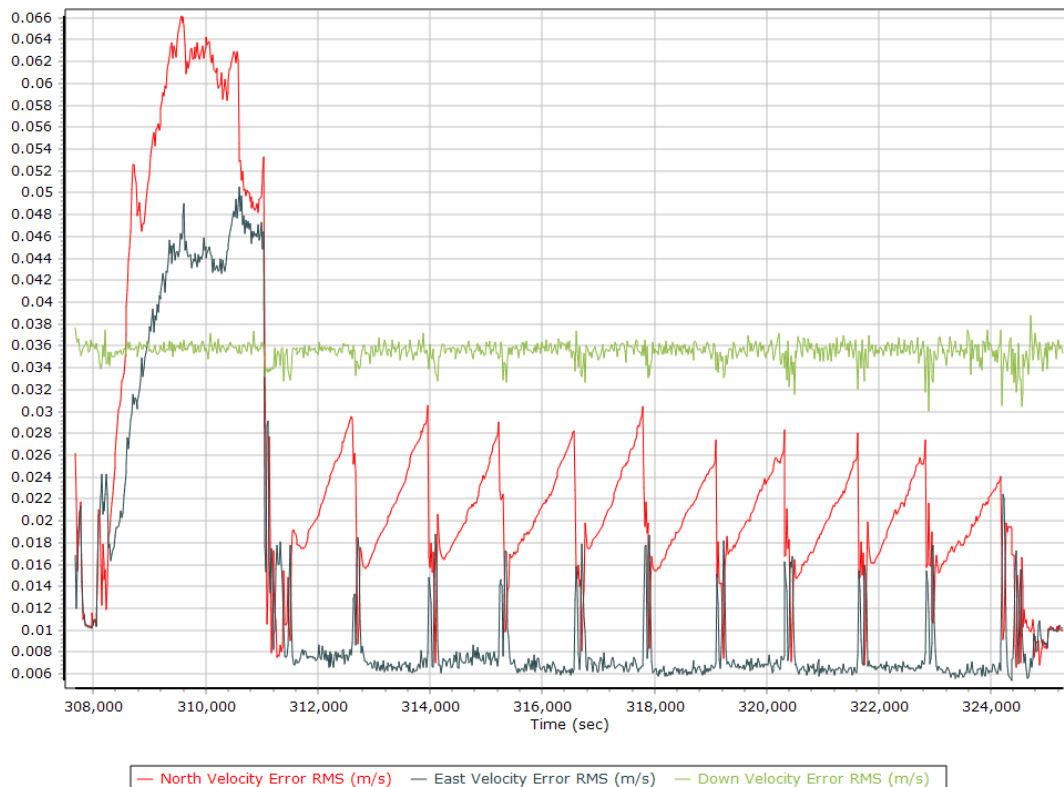


Forward Processed Performance Metrics

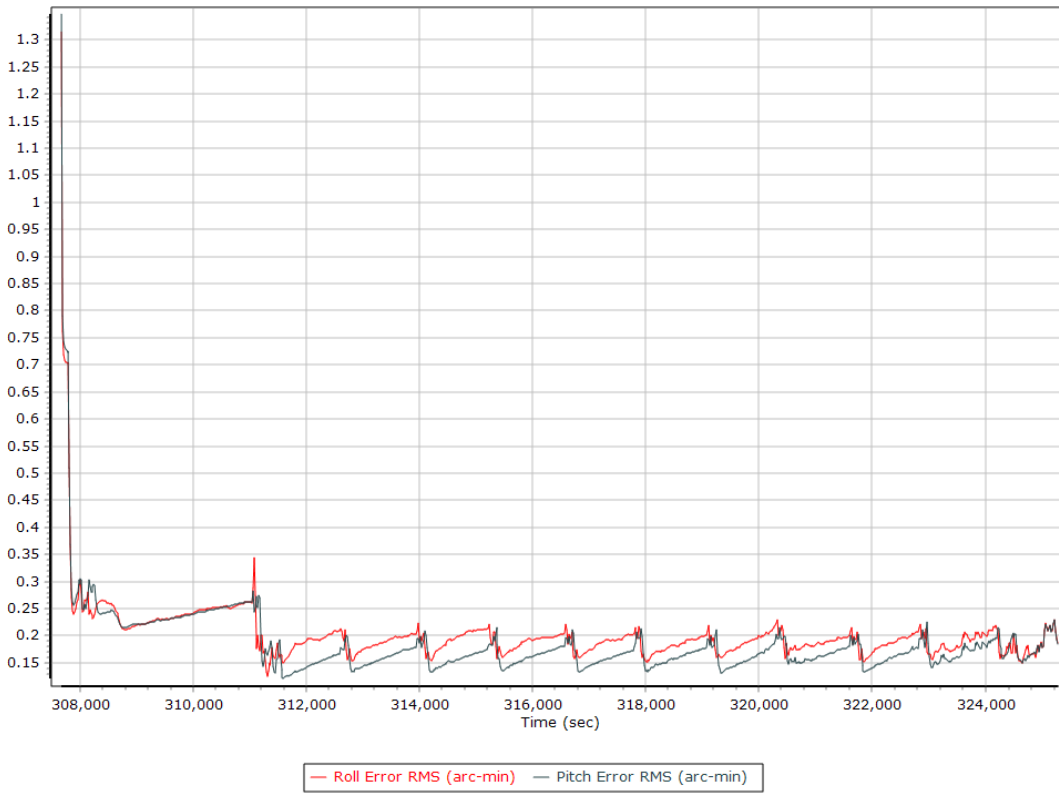
Position Error RMS (m)



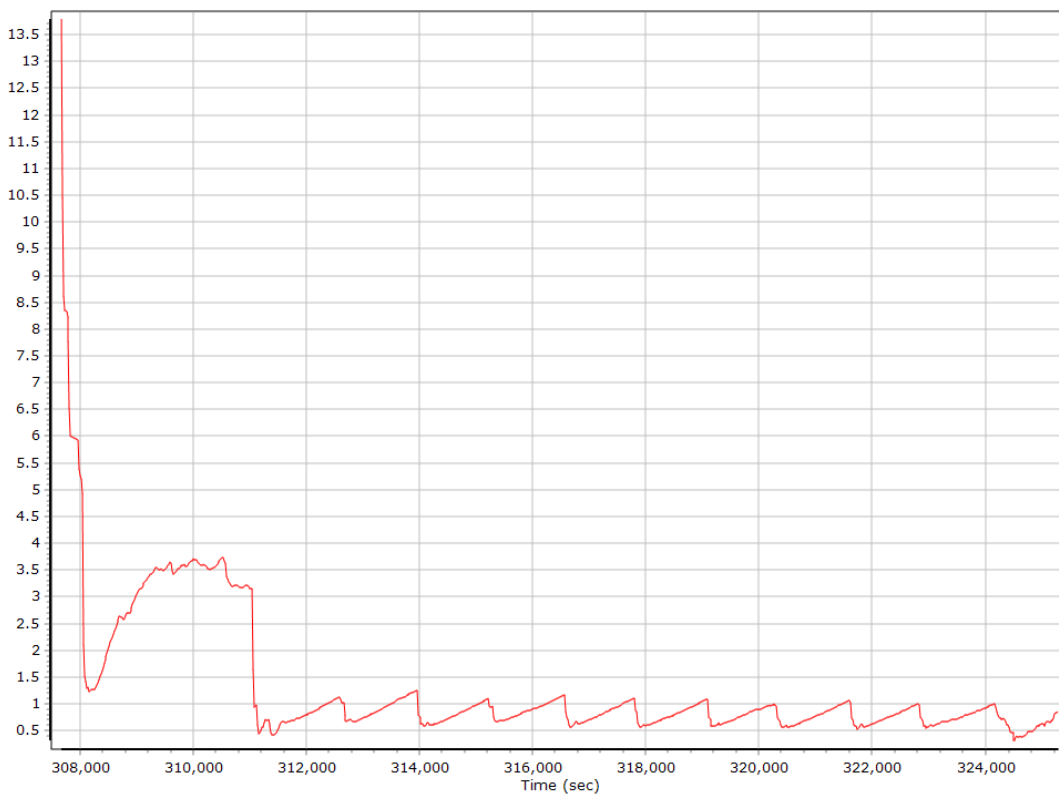
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

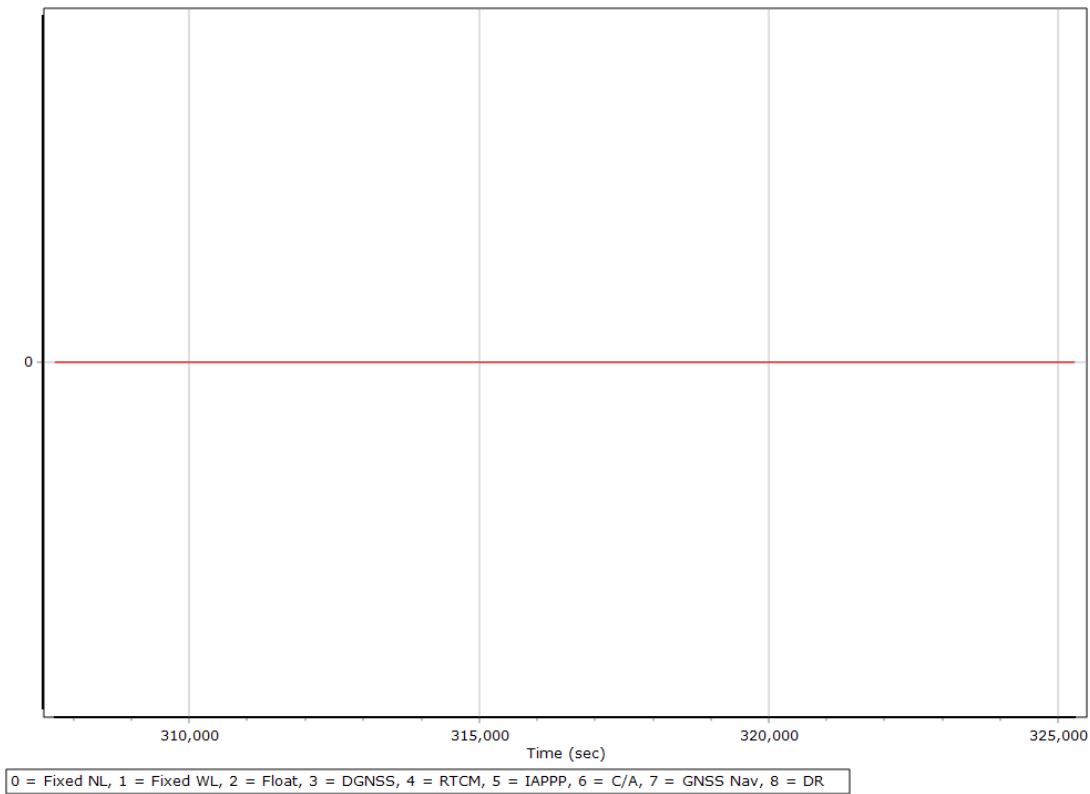


Heading Error RMS (arc-min)

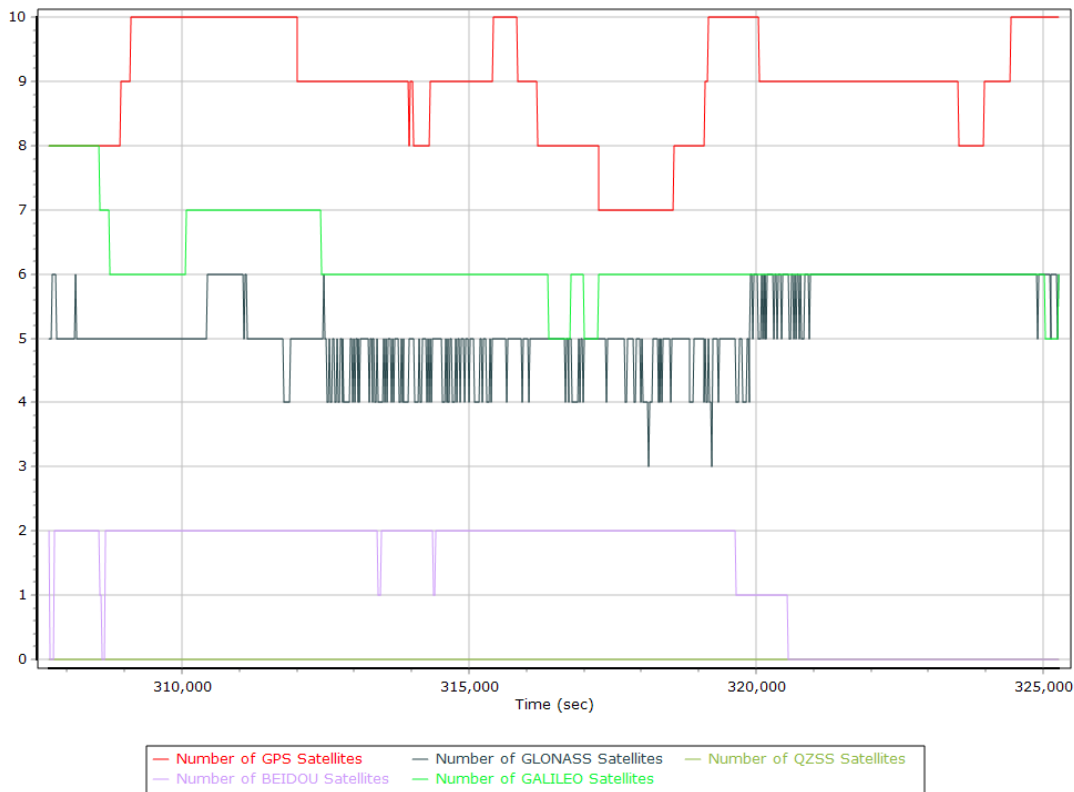


Forward Processed Solution Status

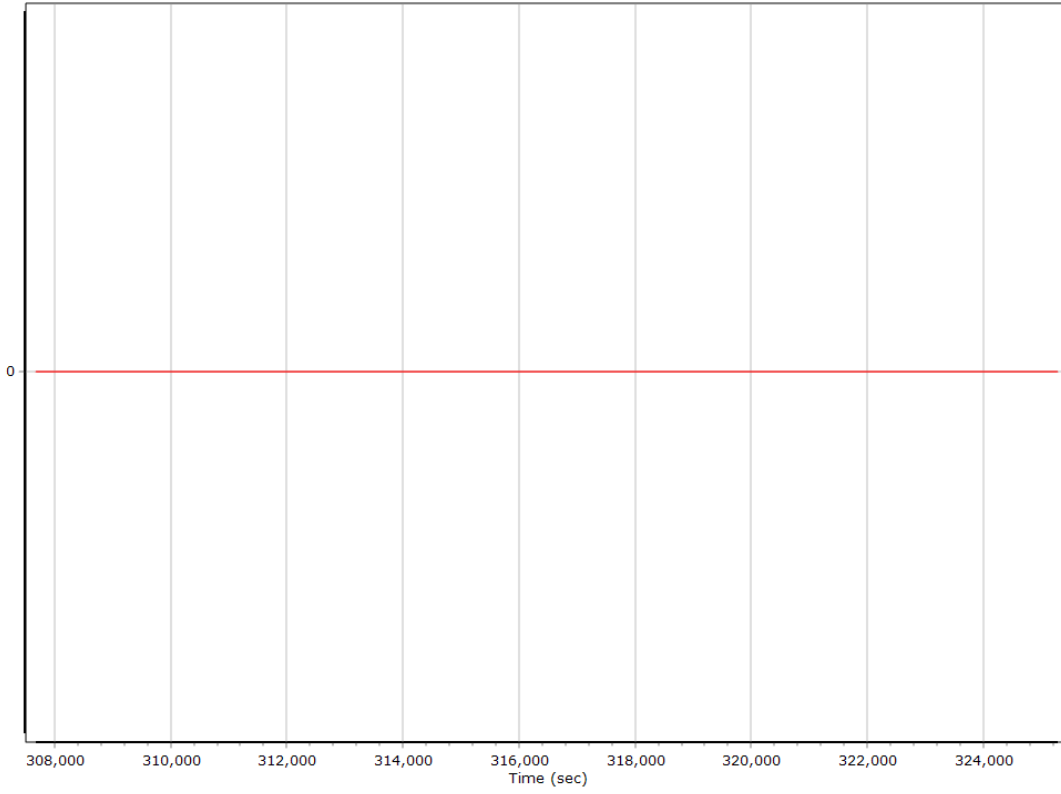
Processing Mode



Number of Satellites



Baseline Length



Export Summary

| | | | |
|---------------------------------------|----------------------------------|-------------|-------|
| Export file | sbet_14154_NAD83(2011).out | | |
| Export format | Custom Smoothed BET | | |
| Solution in use | Post-processed | | |
| Output rate | All Records | | |
| Reference to Output lever arm (m) | 0.000 | 0.000 | 0.000 |
| Reference mounting angles (deg) | 0.000 | 0.000 | 0.000 |
| Output units (Coordinate / Lat & Lon) | Meter | Deg Decimal | |
| Export start time | 307617.002 (6/1/2022 1:26:57 PM) | | |
| Export end time | 325495.004 (6/1/2022 6:24:55 PM) | | |
| Height option | Ellipsoid Height | | |
| WGS84 height flag | False | | |
| Grid | Universal Transverse Mercator | | |
| Zone | UTM North 15 (96W to 90W) | | |
| Datum | NAD83 (2011) | | |
| Ellipsoid | GRS 1980 | | |
| Local Transformation | NONE | | |
| Target Epoch | 2010 | | |

EO Summary

| | | | |
|---|----------------------------------|--------|-------------|
| EO file | event1_eo_14154.txt | | |
| EO format | ZI Imaging | | |
| Lever arm (m) | 0.000 | 0.000 | 0.000 |
| Boresight angles (arcmin) | 0.0000 | 0.0000 | 0.0000 |
| Output rate | Event 1 Time | | |
| Rotation sequence | x omega | y phi | z kappa |
| Local shift (m) | 0.000 | 0.000 | 0.000 |
| Output units (coordinate / angle / lat & lon) | Meter | Degree | Deg Decimal |
| Height option | Ellipsoid Height | | |
| WGS84 height flag | False | | |
| Scale height option | False | | |
| Kappa cardinal rotation (deg) | 0 | | |
| Solution in use | Post-processed | | |
| EO start time | 307617.002 (6/1/2022 1:26:57 PM) | | |
| EO end time | 325495.004 (6/1/2022 6:24:55 PM) | | |
| Grid | Universal Transverse Mercator | | |
| Zone | UTM North 15 (96W to 90W) | | |
| Datum | NAD83 (2011) | | |
| Ellipsoid | GRS 1980 | | |
| Local Transformation | NONE | | |
| Target Epoch | 2010 | | |