

General Information

Mission Information

Project name	14238
Processing date	2022-06-23 20:57:28
Mission date	2022-06-09 11:33:08
Mission duration	04:58:06.000
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
20220609.000	POS Data
20220609.001	POS Data
20220609.002	POS Data
20220609.003	POS Data
20220609.004	POS Data
20220609.005	POS Data
20220609.006	POS Data
20220609.007	POS Data
20220609.008	POS Data
20220609.009	POS Data
20220609.010	POS Data
20220609.011	POS Data
20220609.012	POS Data
20220609.013	POS Data
20220609.014	POS Data
20220609.015	POS Data
20220609.016	POS Data
20220609.017	POS Data
20220609.018	POS Data
20220609.019	POS Data
20220609.020	POS Data
20220609.021	POS Data
20220609.022	POS Data
20220609.023	POS Data
20220609.024	POS Data
20220609.025	POS Data
20220609.026	POS Data
20220609.027	POS Data
20220609.028	POS Data
20220609.029	POS Data
20220609.030	POS Data
20220609.031	POS Data
20220609.032	POS Data
20220609.033	POS Data
20220609.034	POS Data
20220609.035	POS Data
20220609.036	POS Data
20220609.037	POS Data
20220609.038	POS Data
20220609.039	POS Data

Input Files

File Name	File Type
Ephm1600.22g	GLONASS Broadcast Ephemeris
Ephm1600.22n	GPS Broadcast Ephemeris

Output Files

Filename	File type
sbet_14238.out	SBET Trajectory File
event1_eo_14238.txt	ZI Imaging POSEO Output

Rover Data Summary

First raw data file	20220609.000		
Last raw data file	20220609.039		
Start GPS week	2213		
Start time	387187.150 (6/9/2022 11:33:07 AM)		
End time	405074.365 (6/9/2022 4:31:14 PM)		
Start of fine alignment	387528.892 (6/9/2022 11:38:48 AM)		
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

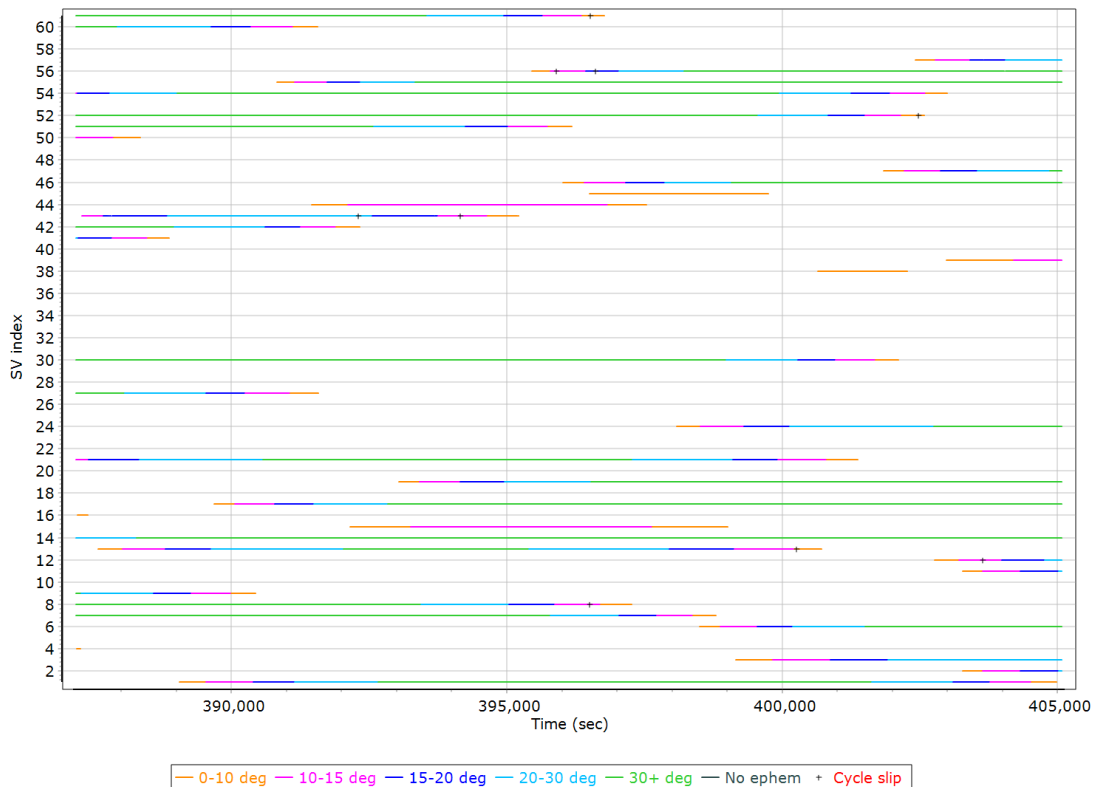
Rover Data QC

Raw IMU Import QC Summary

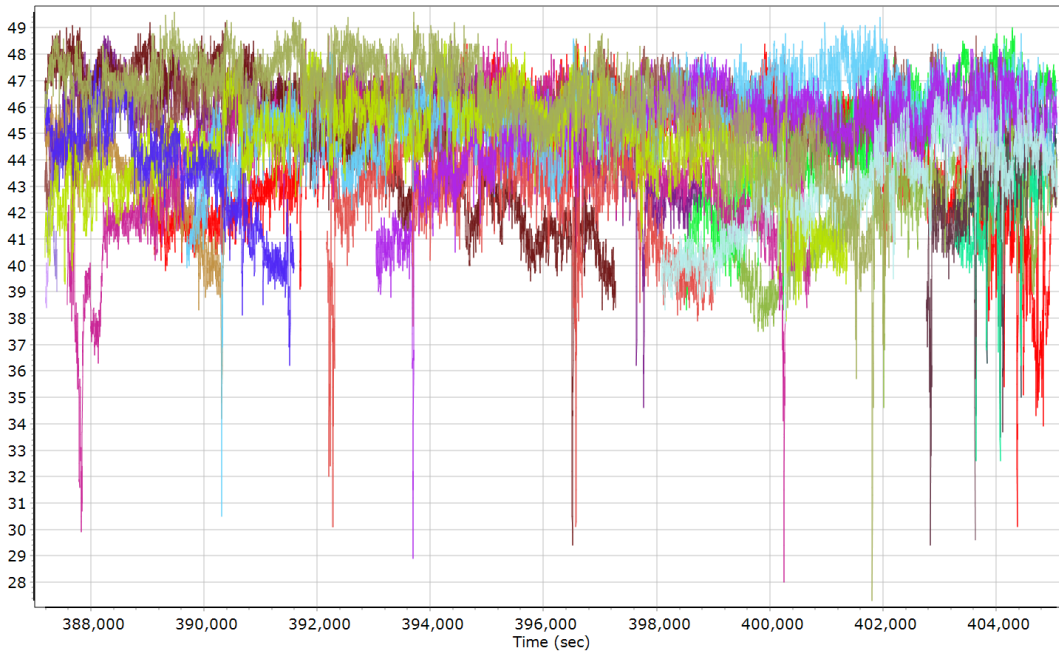
IMU data input file	imu_14238.dat
IMU data check log file	imudt_14238.log
IMU Records Processed	3576726
Termination Status	Normal
IMU Anomalies	0

Primary Observables & Satellite Data

GPS/GLONASS L1 Satellite Lock/Elevation

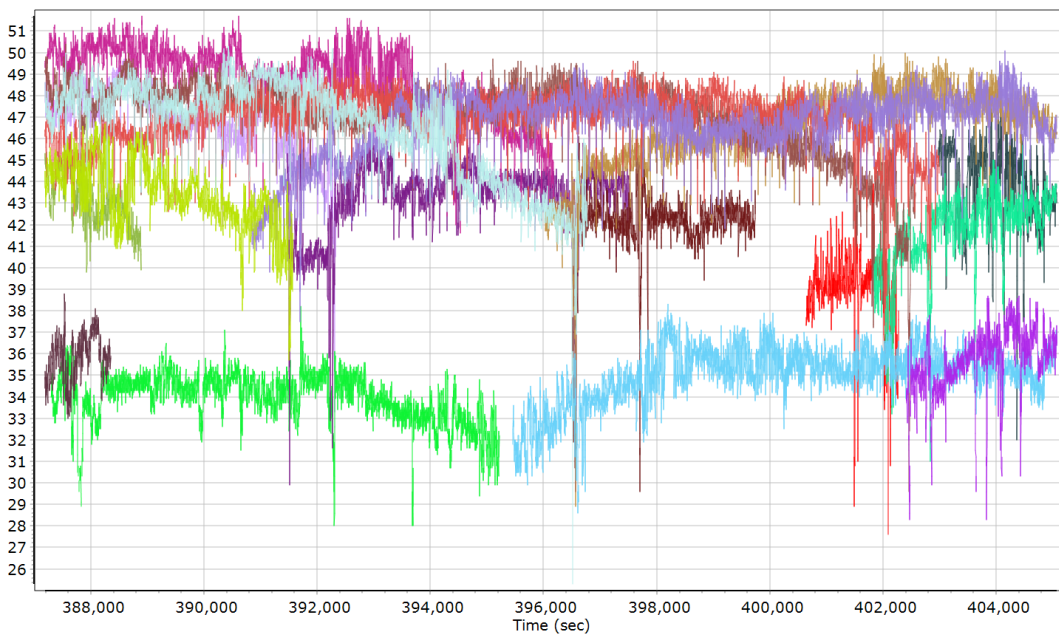


GPS L1 SNR



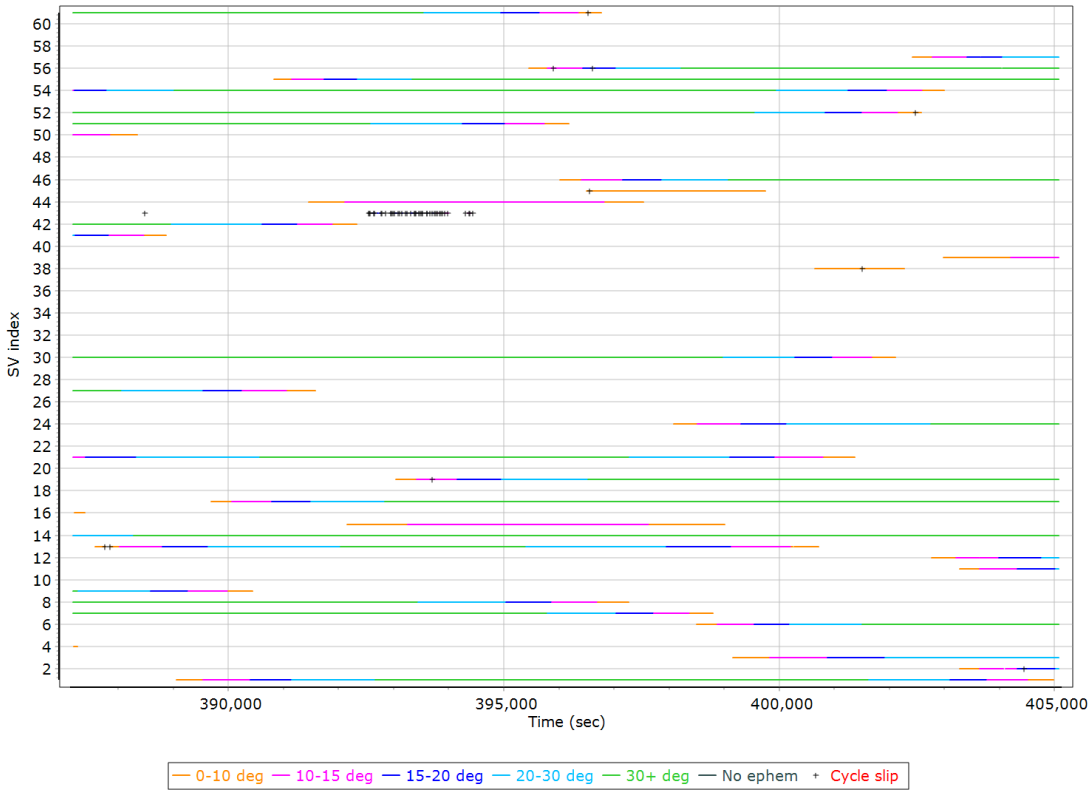
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L1 SNR (dB/Hz) | GPS PRN 02 L1 SNR (dB/Hz) | GPS PRN 03 L1 SNR (dB/Hz) | GPS PRN 04 L1 SNR (dB/Hz) |
| GPS PRN 06 L1 SNR (dB/Hz) | GPS PRN 07 L1 SNR (dB/Hz) | GPS PRN 08 L1 SNR (dB/Hz) | GPS PRN 09 L1 SNR (dB/Hz) |
| GPS PRN 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 16 L1 SNR (dB/Hz) | GPS PRN 17 L1 SNR (dB/Hz) | GPS PRN 19 L1 SNR (dB/Hz) |
| GPS PRN 21 L1 SNR (dB/Hz) | GPS PRN 24 L1 SNR (dB/Hz) | GPS PRN 27 L1 SNR (dB/Hz) | GPS PRN 30 L1 SNR (dB/Hz) |

GLONASS L1 SNR

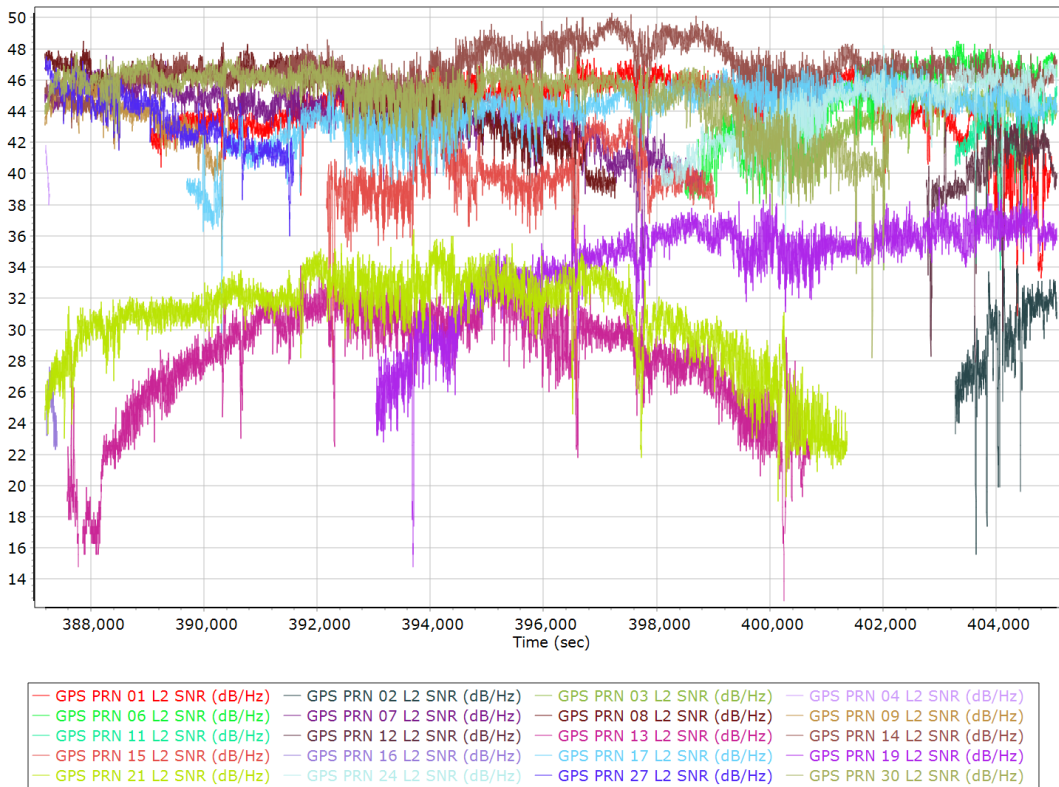


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 04 L1 SNR (dB/Hz) |
| GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) |
| GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) |
| GLONASS 13 L1 SNR (dB/Hz) | GLONASS 14 L1 SNR (dB/Hz) | GLONASS 15 L1 SNR (dB/Hz) |
| GLONASS 17 L1 SNR (dB/Hz) | GLONASS 18 L1 SNR (dB/Hz) | GLONASS 19 L1 SNR (dB/Hz) |
| GLONASS 20 L1 SNR (dB/Hz) | GLONASS 23 L1 SNR (dB/Hz) | GLONASS 24 L1 SNR (dB/Hz) |

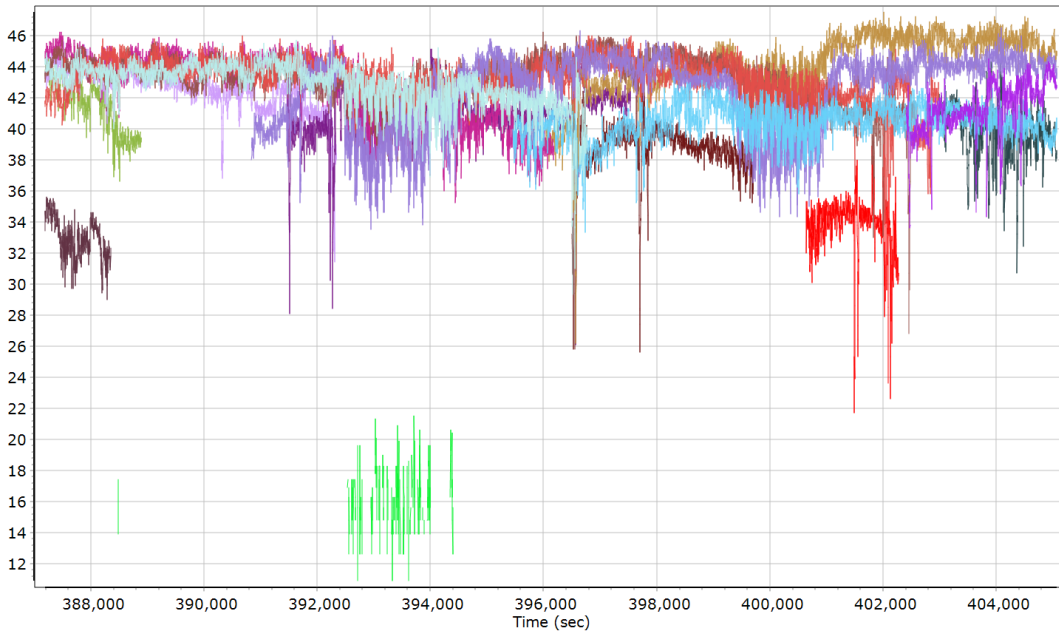
GPS/GLONASS L2 Satellite Lock/Elevation



GPS L2 SNR

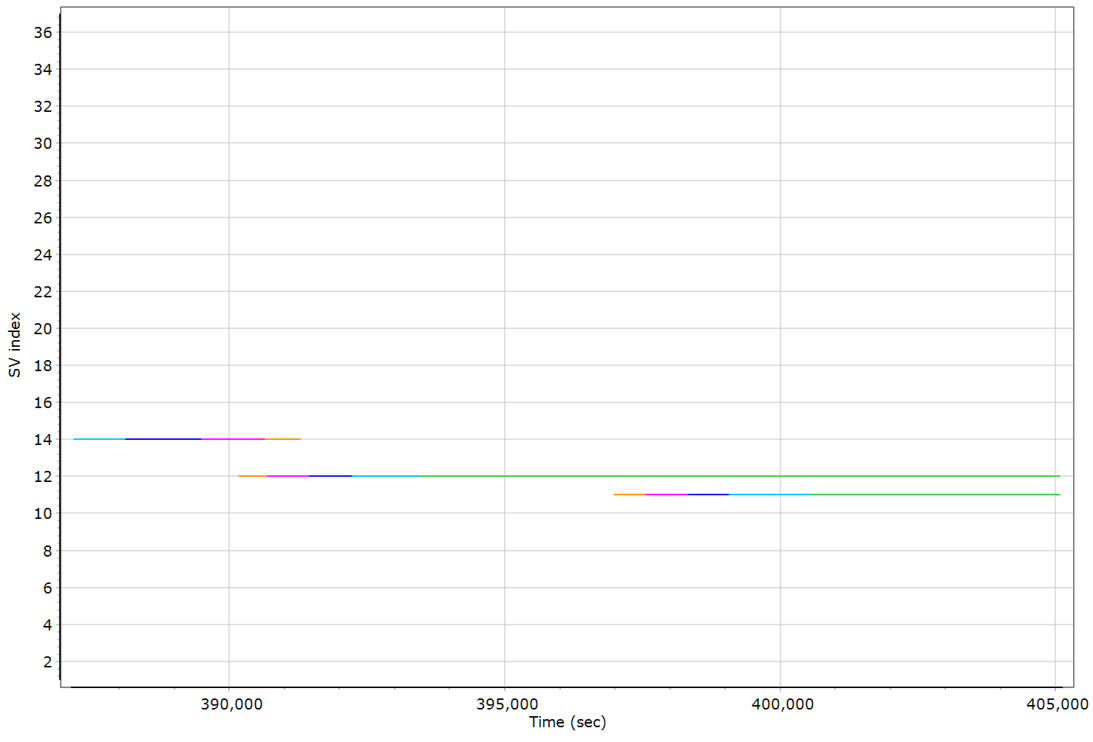


GLONASS L2 SNR



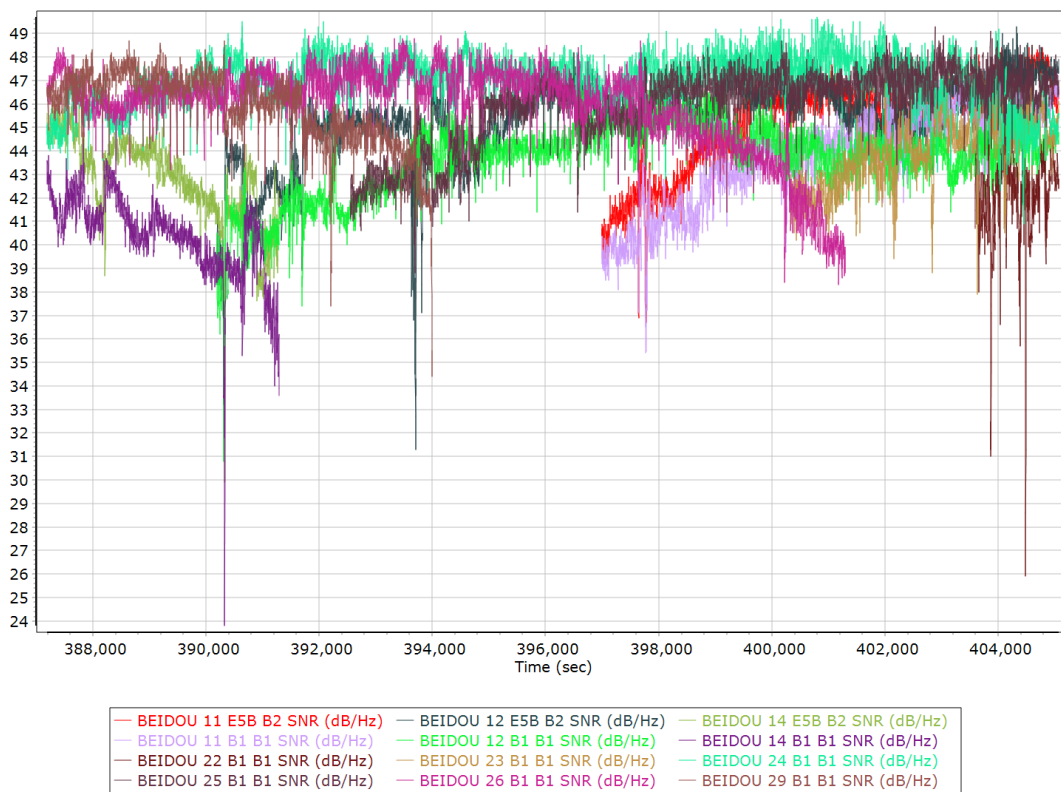
- GLONASS 01 L2 SNR (dB/Hz)
- GLONASS 02 L2 SNR (dB/Hz)
- GLONASS 04 L2 SNR (dB/Hz)
- GLONASS 05 L2 SNR (dB/Hz)
- GLONASS 06 L2 SNR (dB/Hz)
- GLONASS 07 L2 SNR (dB/Hz)
- GLONASS 08 L2 SNR (dB/Hz)
- GLONASS 09 L2 SNR (dB/Hz)
- GLONASS 10 L2 SNR (dB/Hz)
- GLONASS 13 L2 SNR (dB/Hz)
- GLONASS 14 L2 SNR (dB/Hz)
- 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 23 L2 SNR (dB/Hz)
- GLONASS 24 L2 SNR (dB/Hz)

BEIDOU Satellite Lock/Elevation

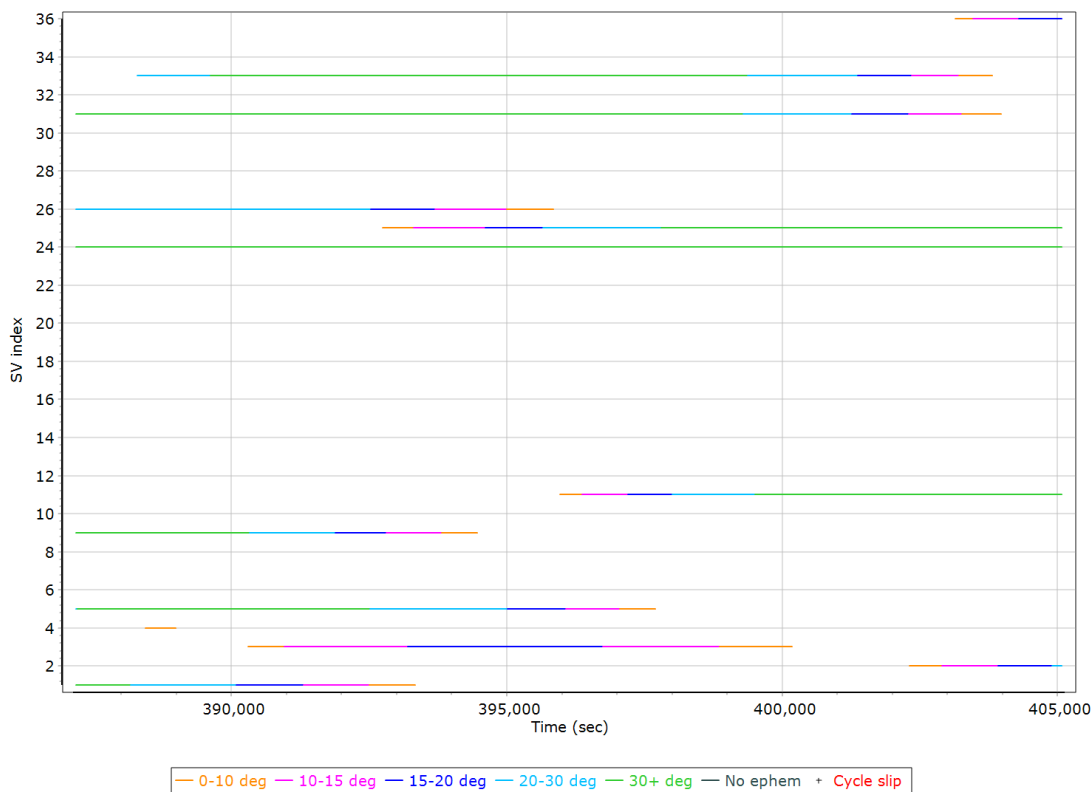


- 0-10 deg
- 10-15 deg
- 15-20 deg
- 20-30 deg
- 30+ deg
- No ephemeris
- Cycle slip

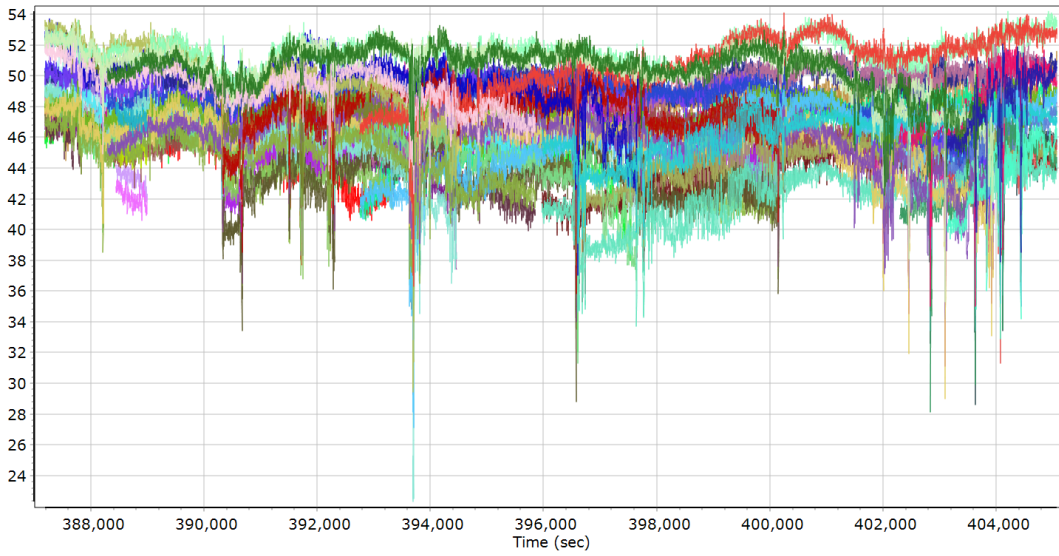
BEIDOU SNR



GALILEO Satellite Lock/Elevation



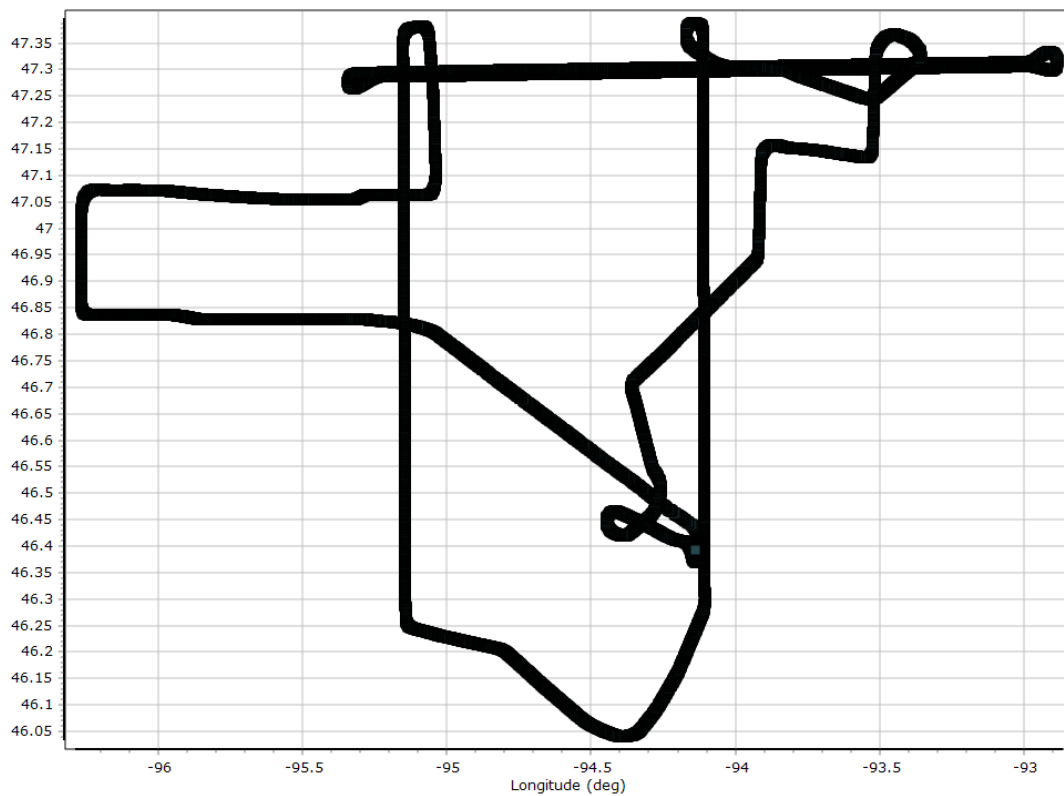
GALILEO SNR



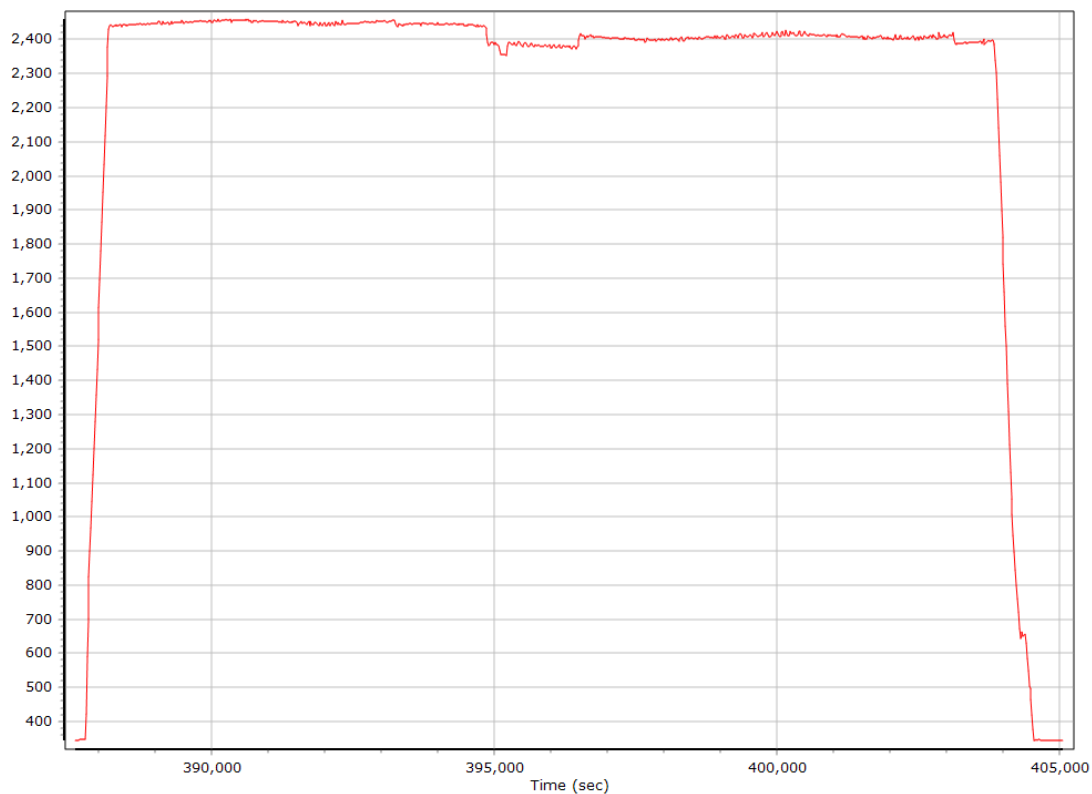
— GALILEO 01 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 02 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 03 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 04 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 05 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 09 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 11 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 24 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 31 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 33 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 36 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 01 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 02 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 11 L5E5A BPSK10_PD SNR (dB/Hz)

Smoothed Trajectory Information

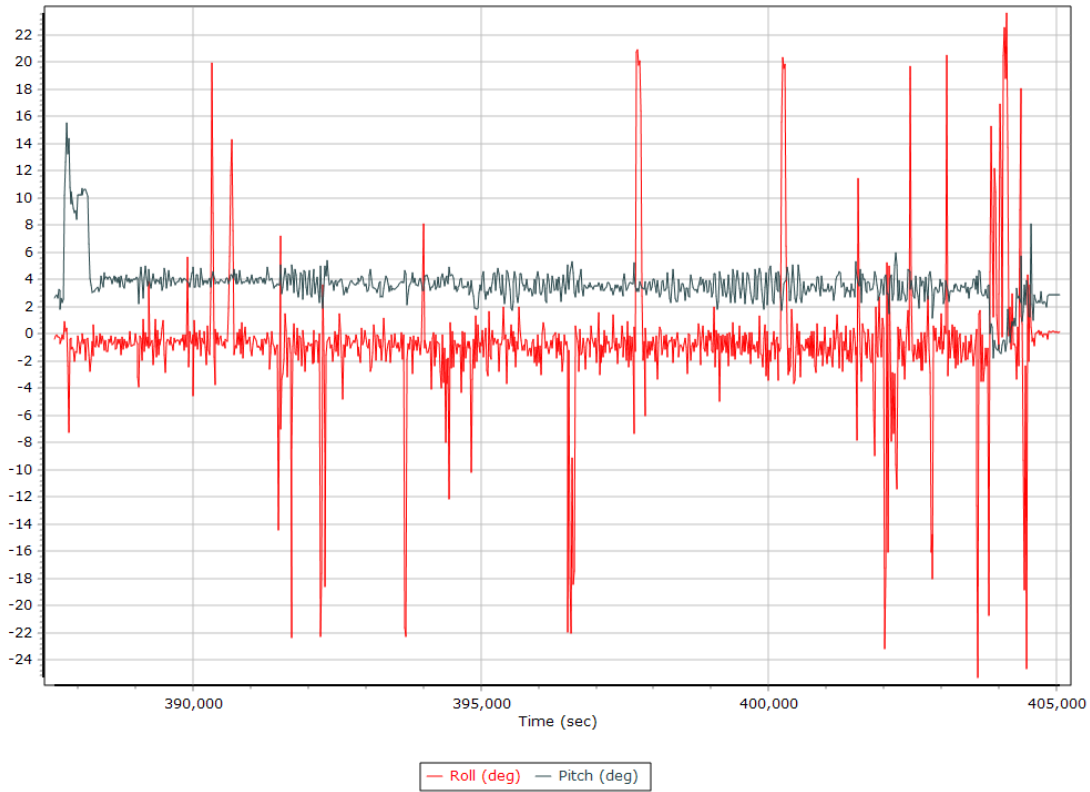
Top View



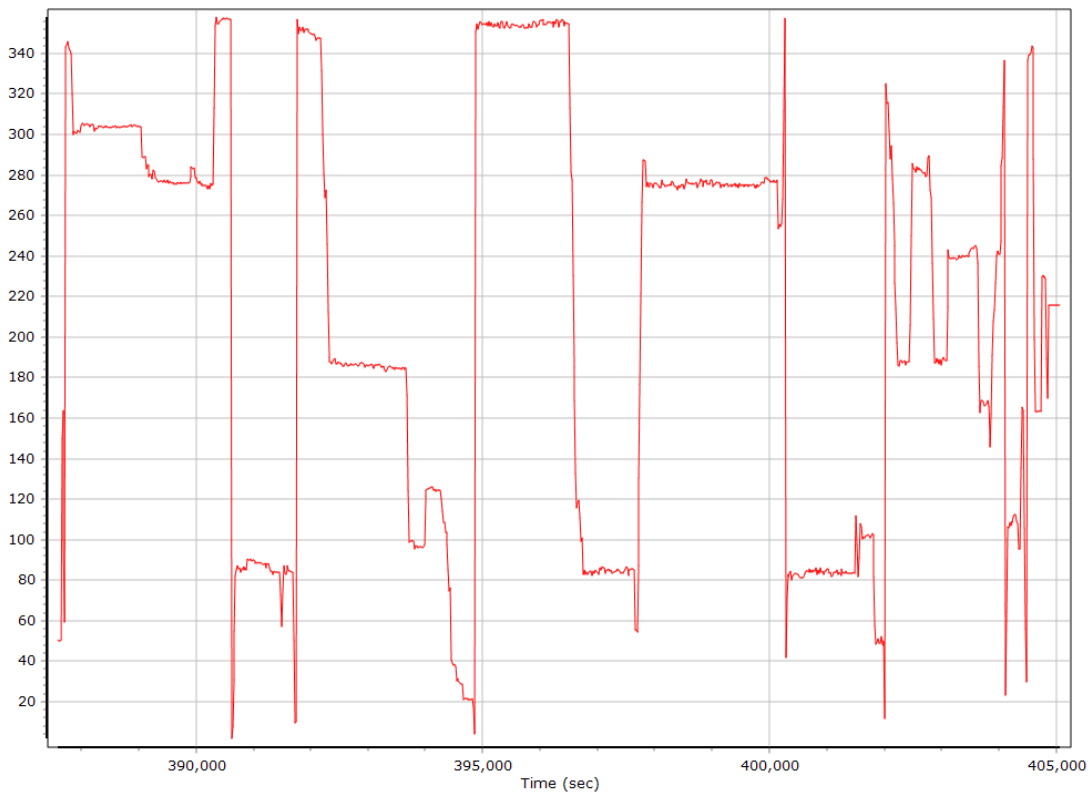
Altitude



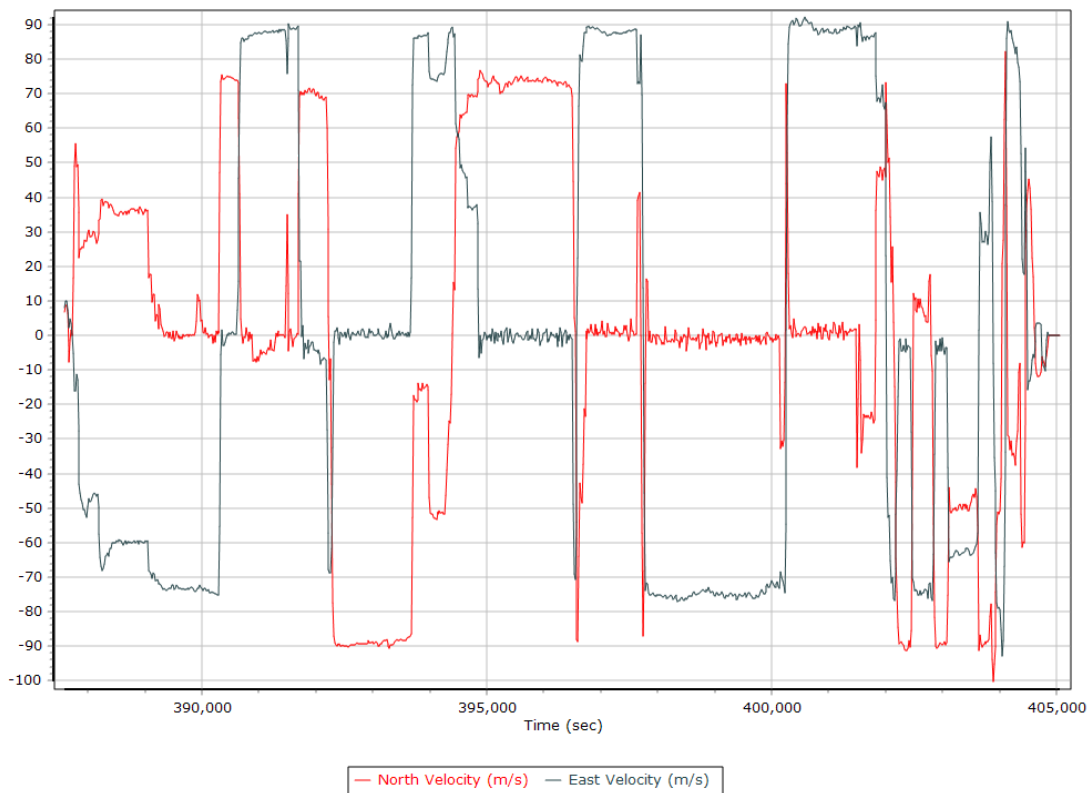
Roll/Pitch



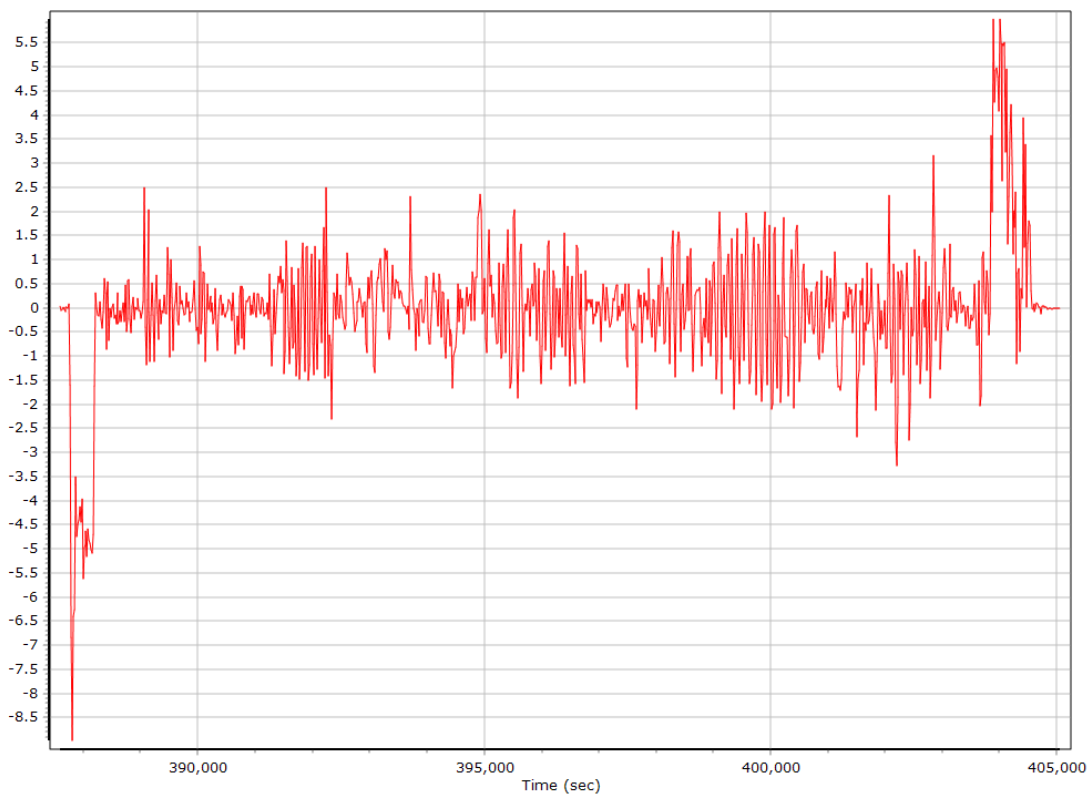
Heading



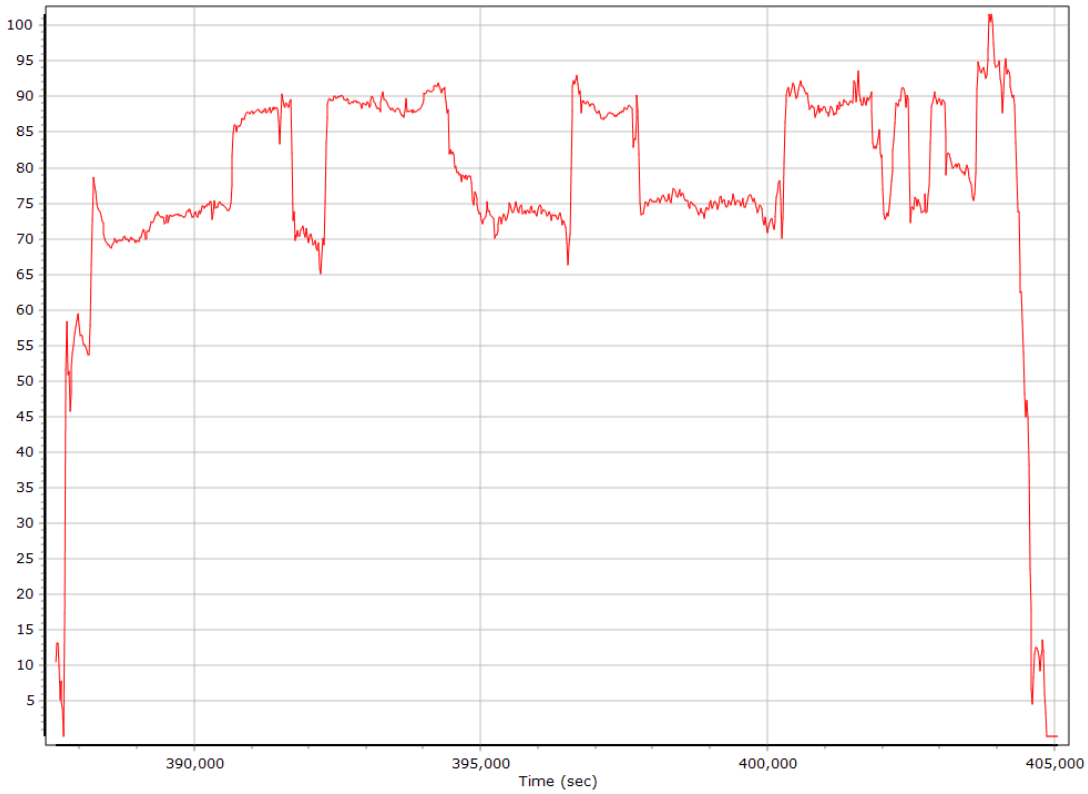
North/East Velocity



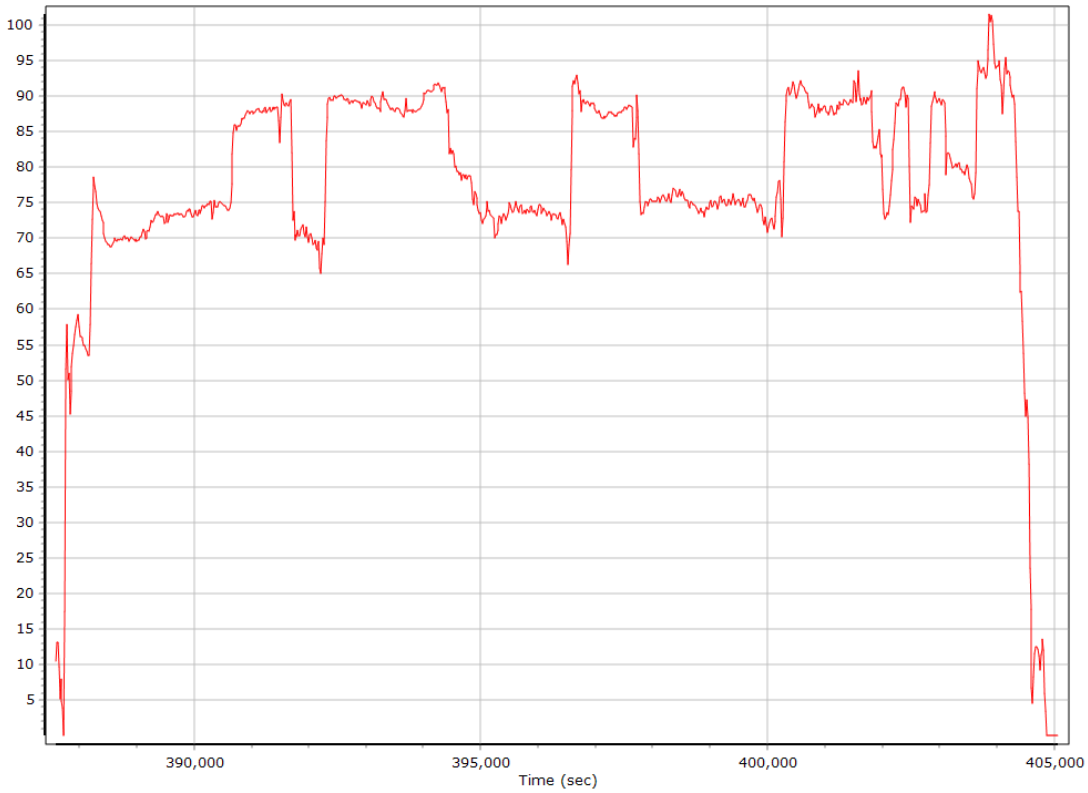
Down Velocity



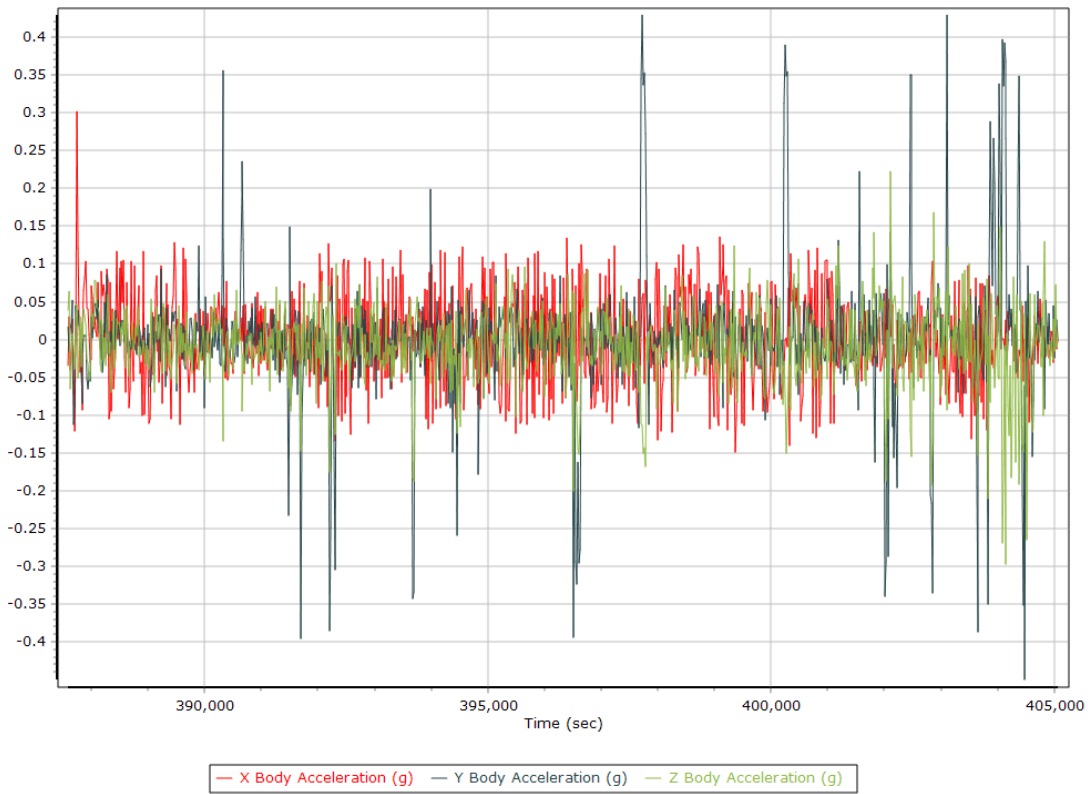
Total Speed



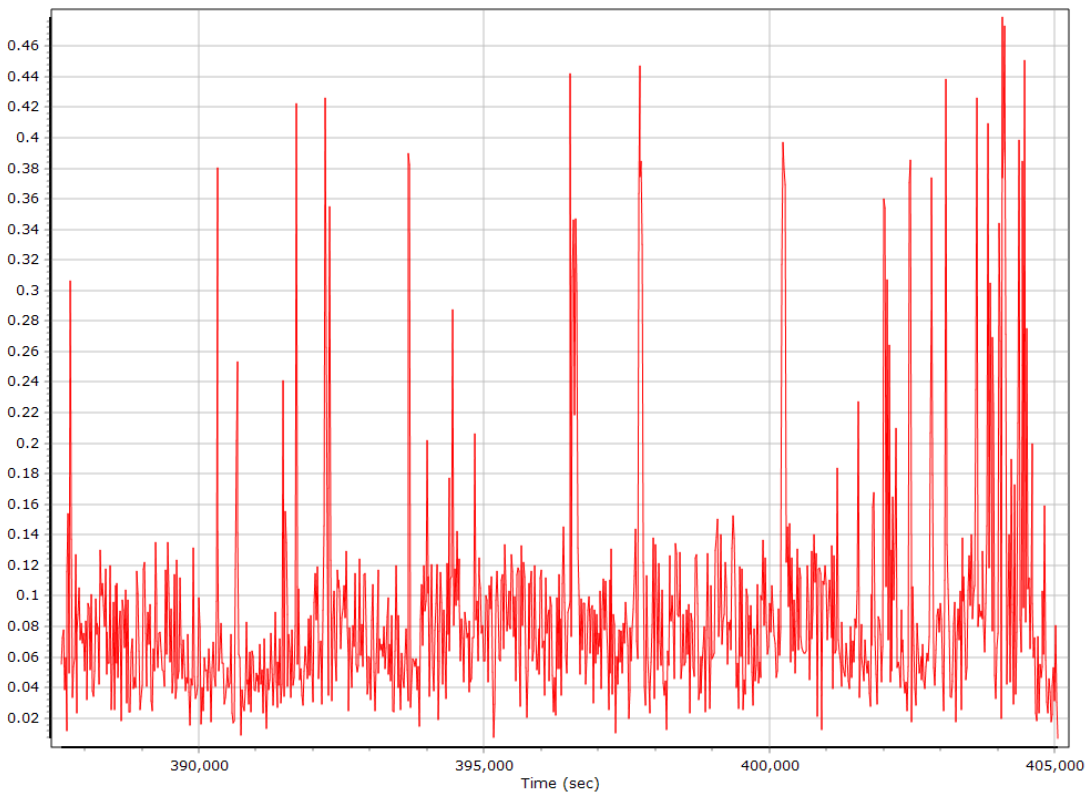
Ground Speed



Body Acceleration



Total Body Acceleration

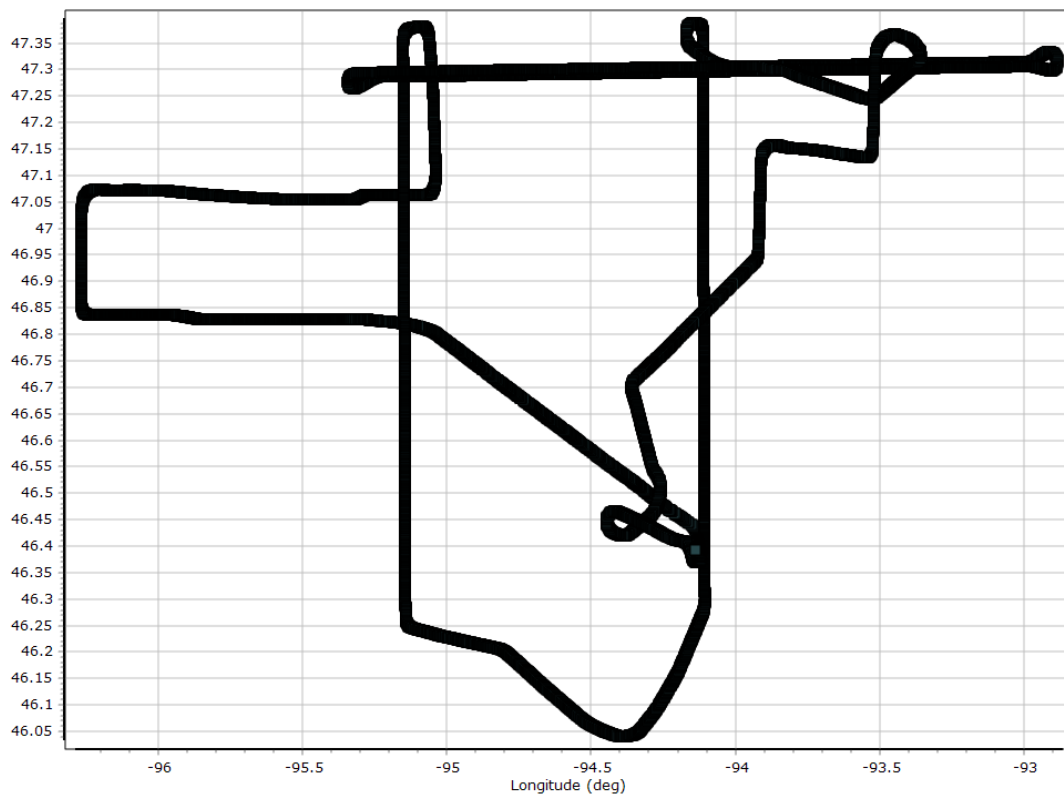


Body Angular Rate

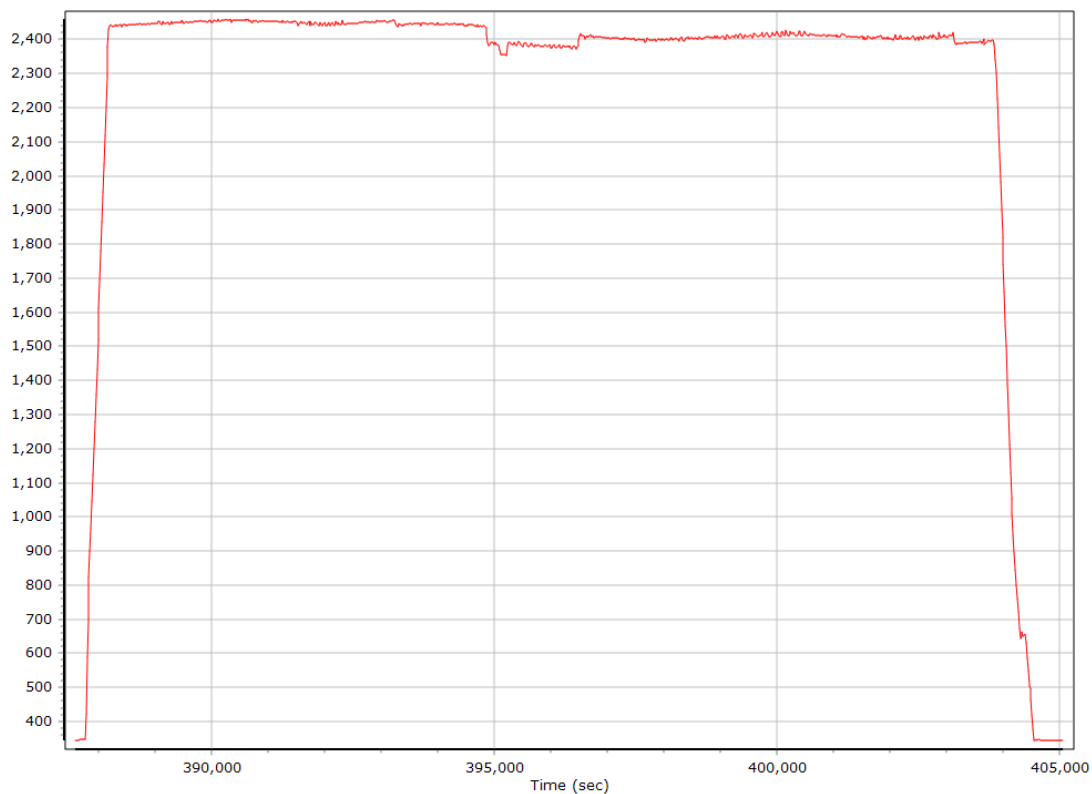


Forward Processed Trajectory Information

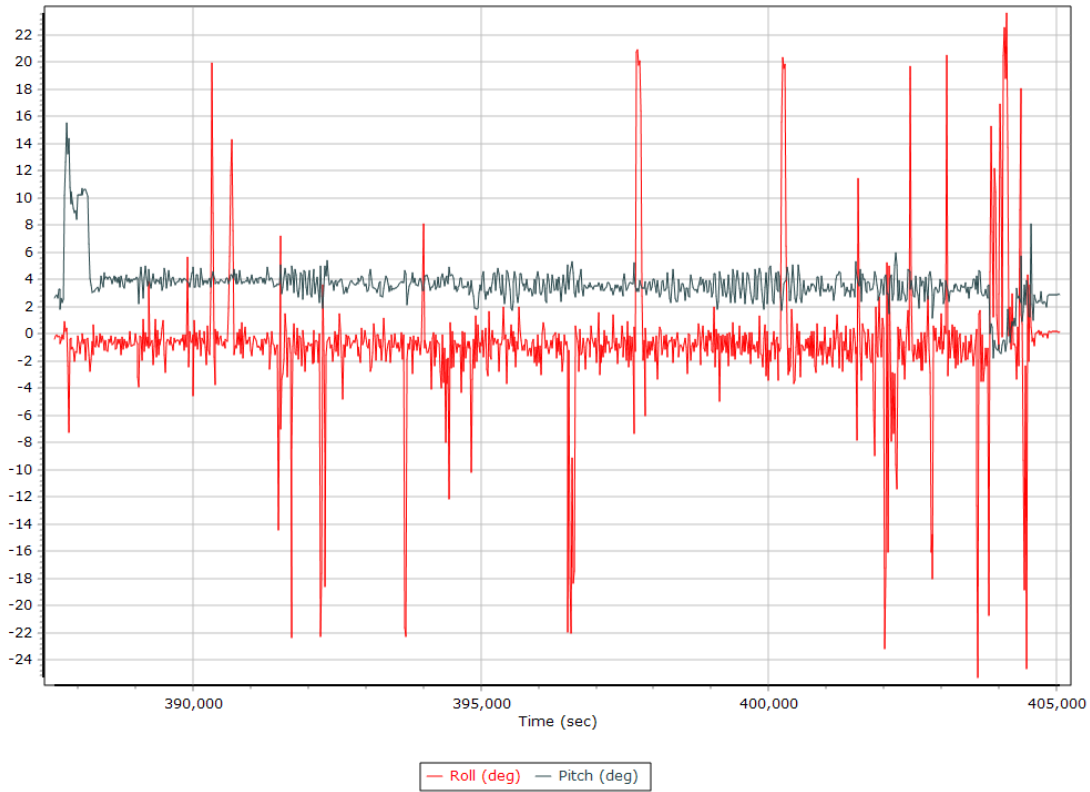
Top View



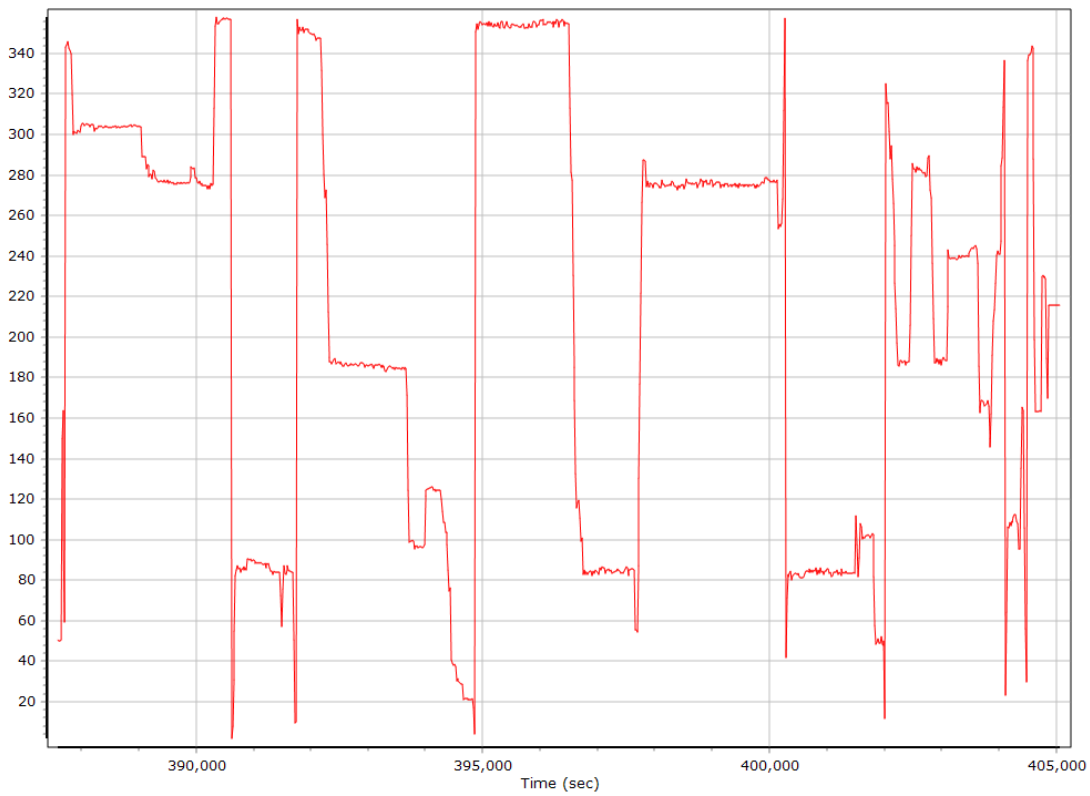
Altitude



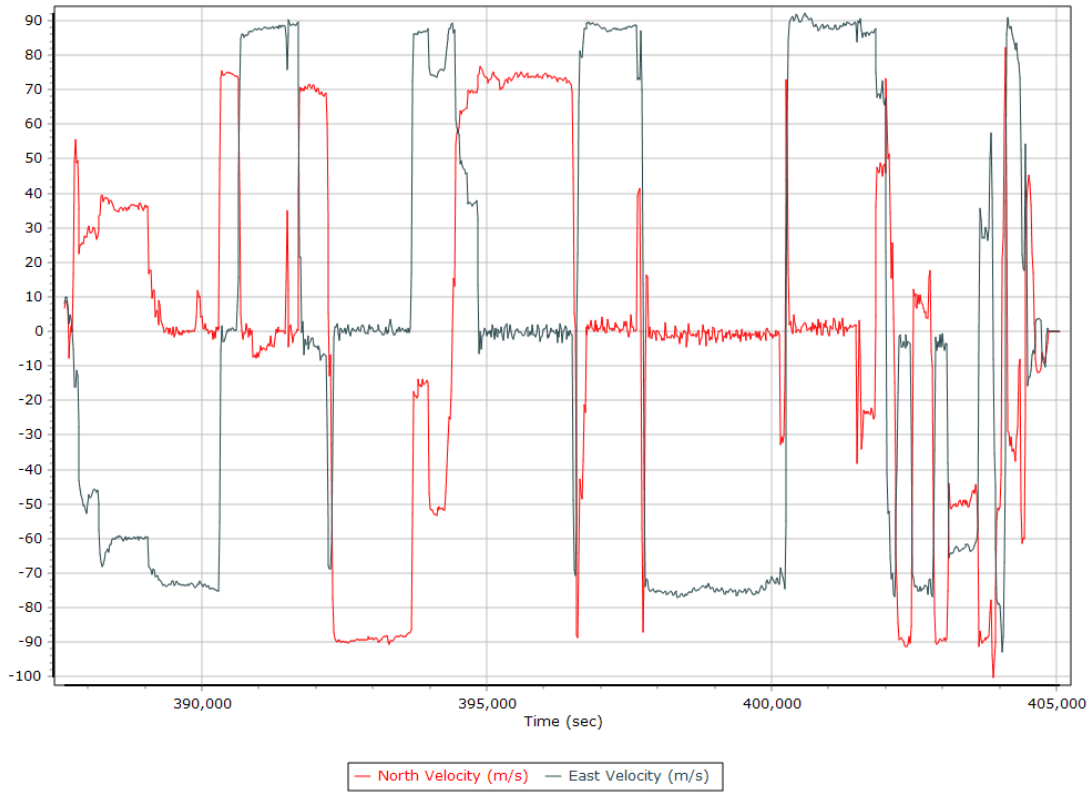
Roll/Pitch



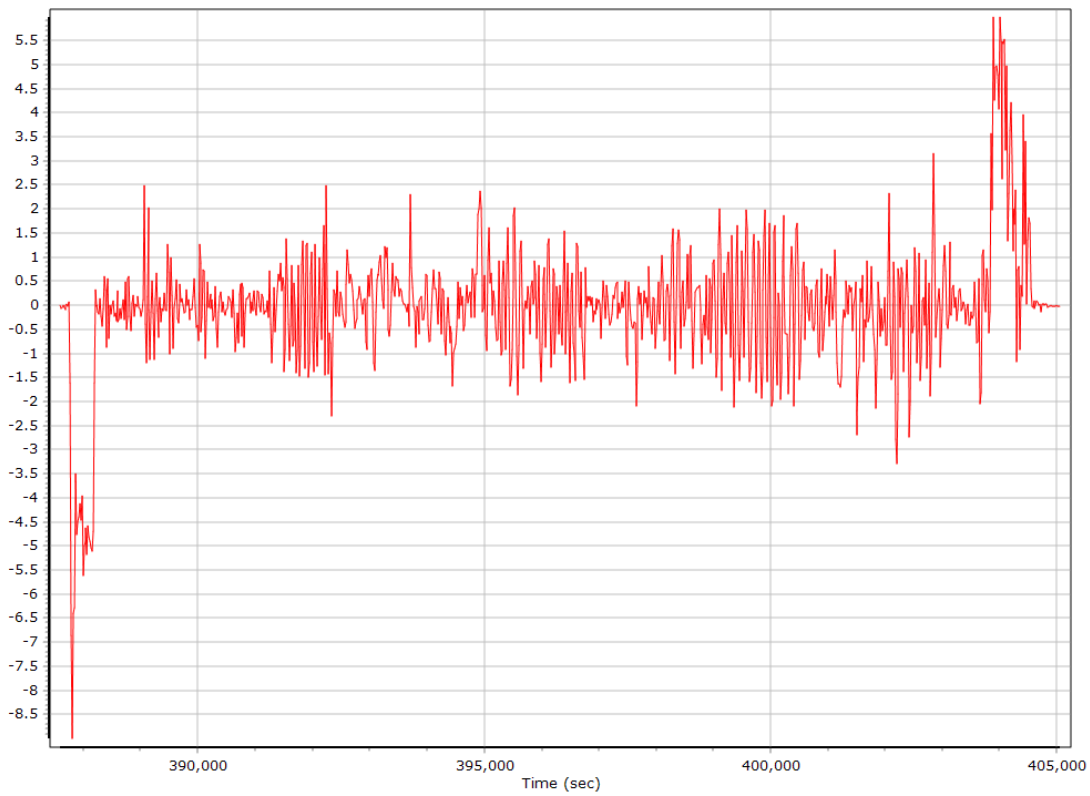
Heading



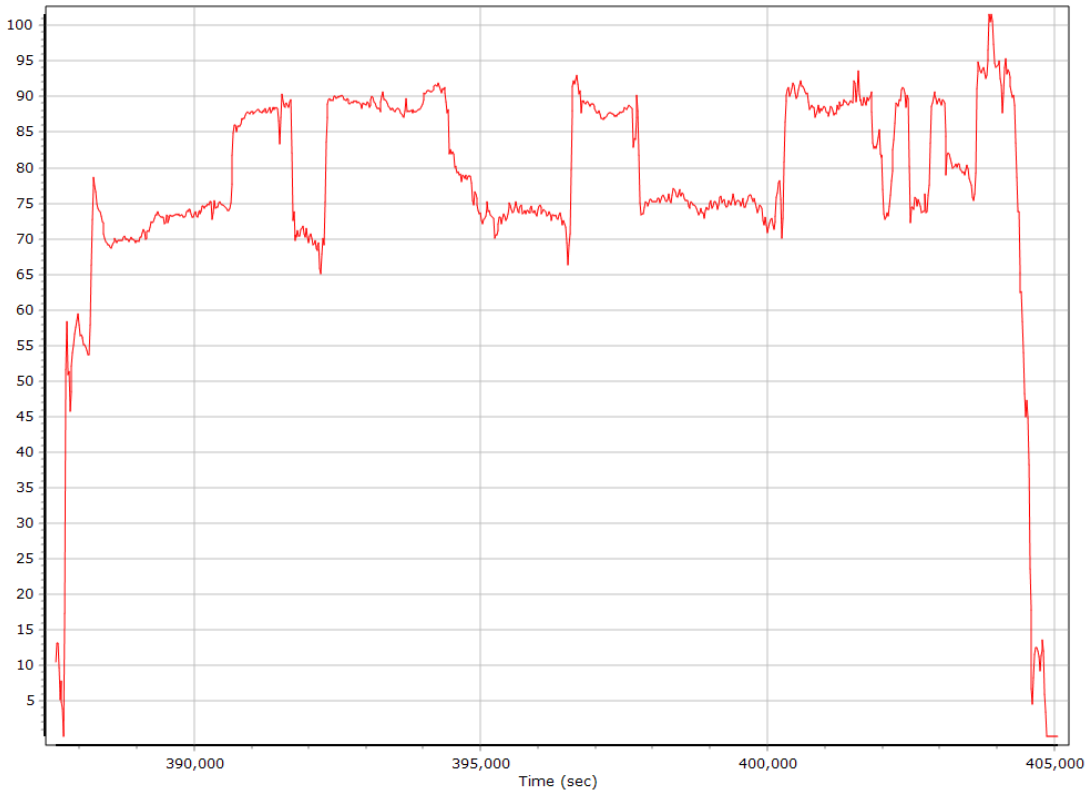
North/East Velocity



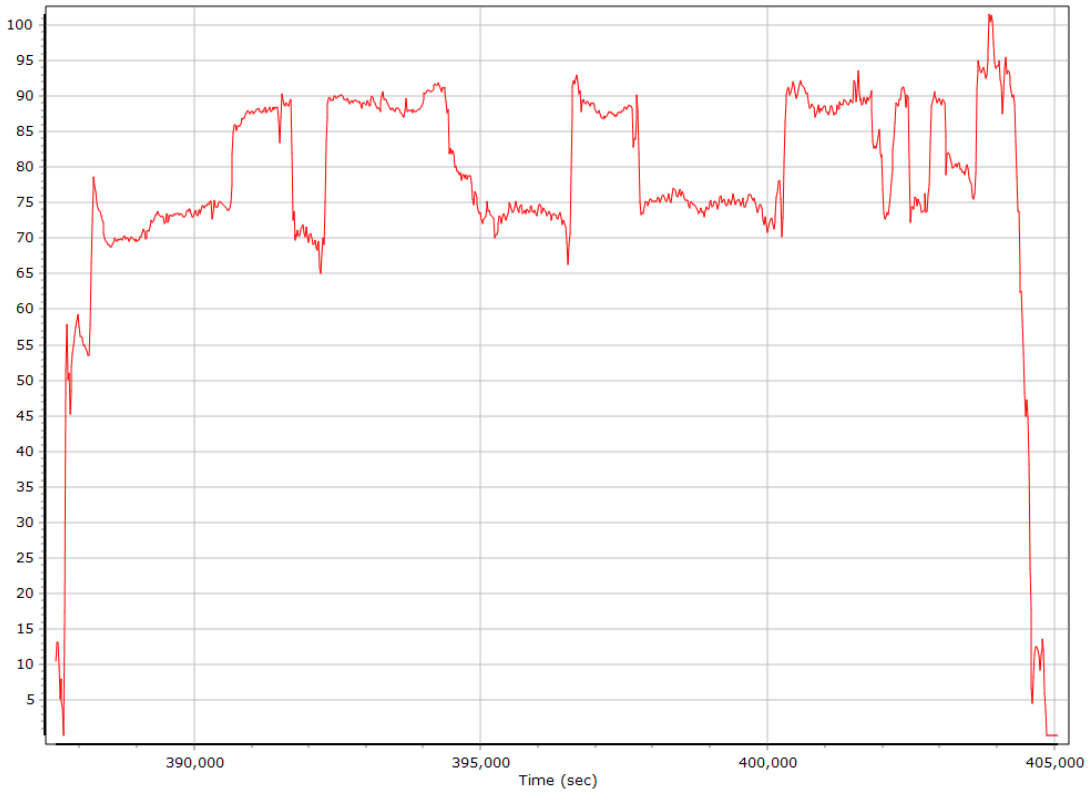
Down Velocity



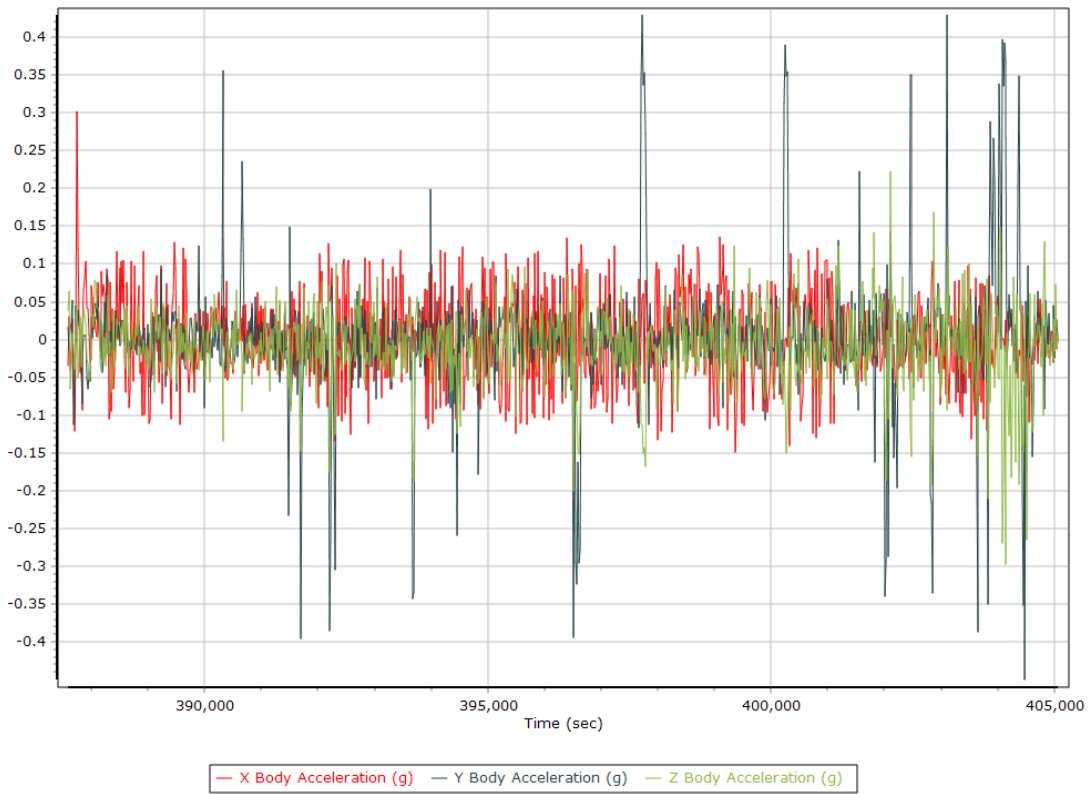
Total Speed



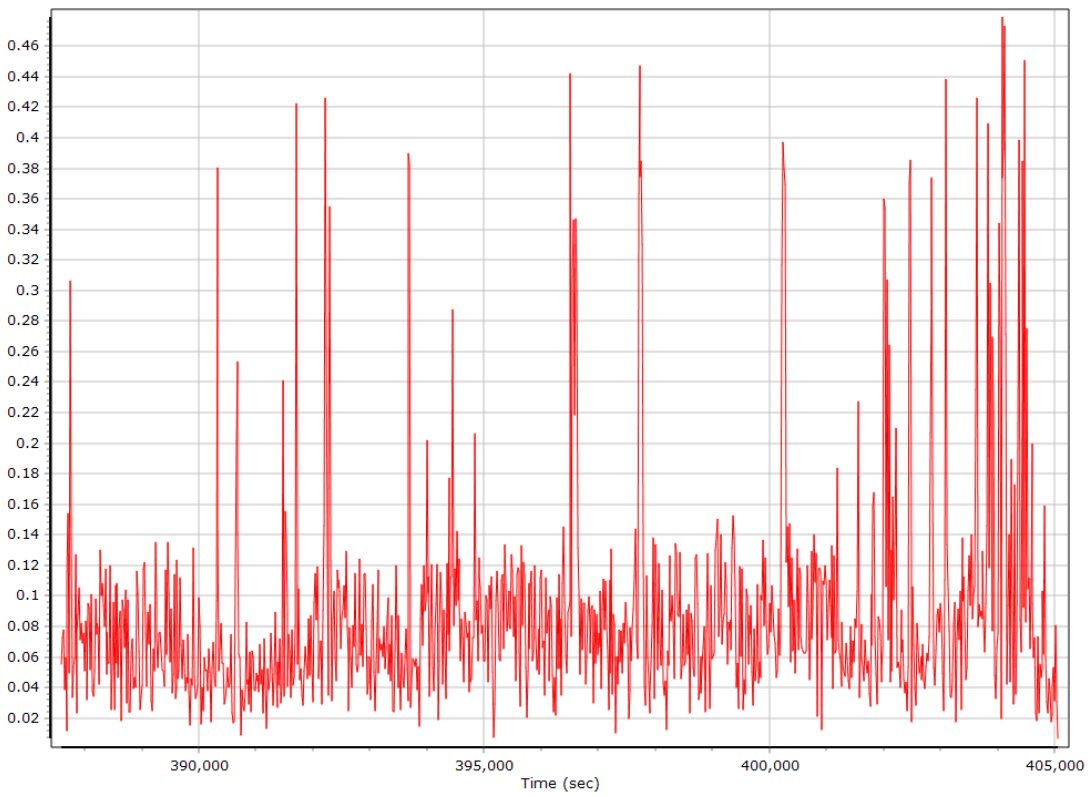
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate

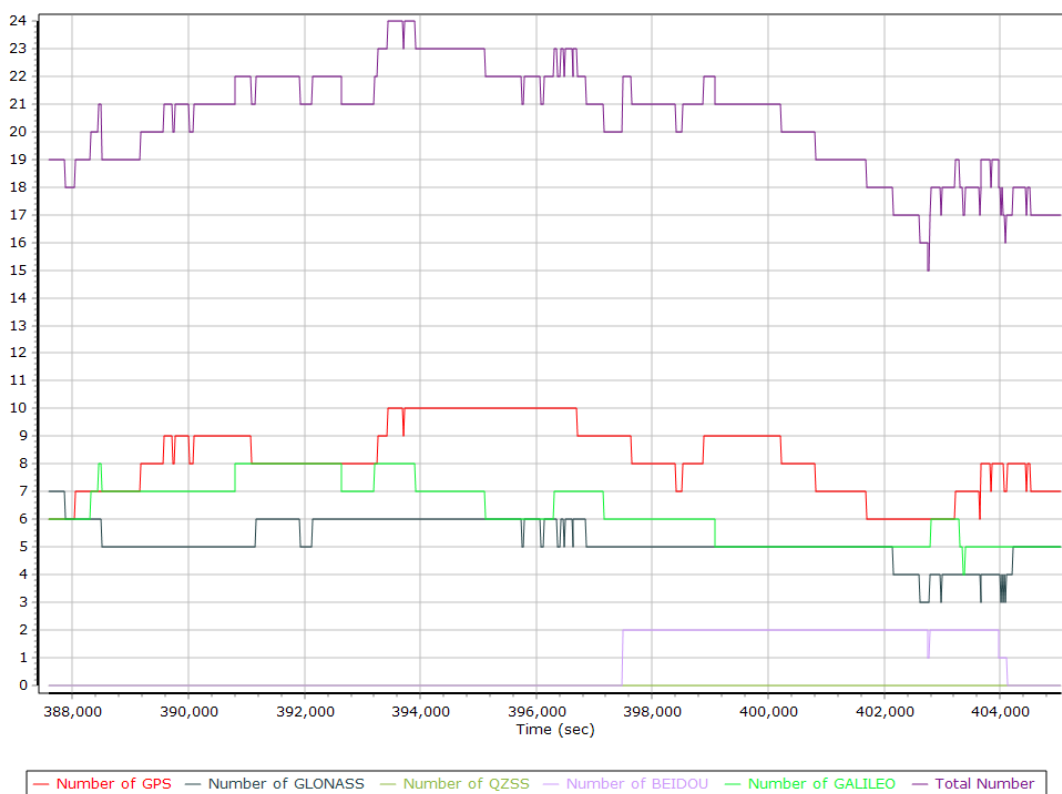


GNSS QC

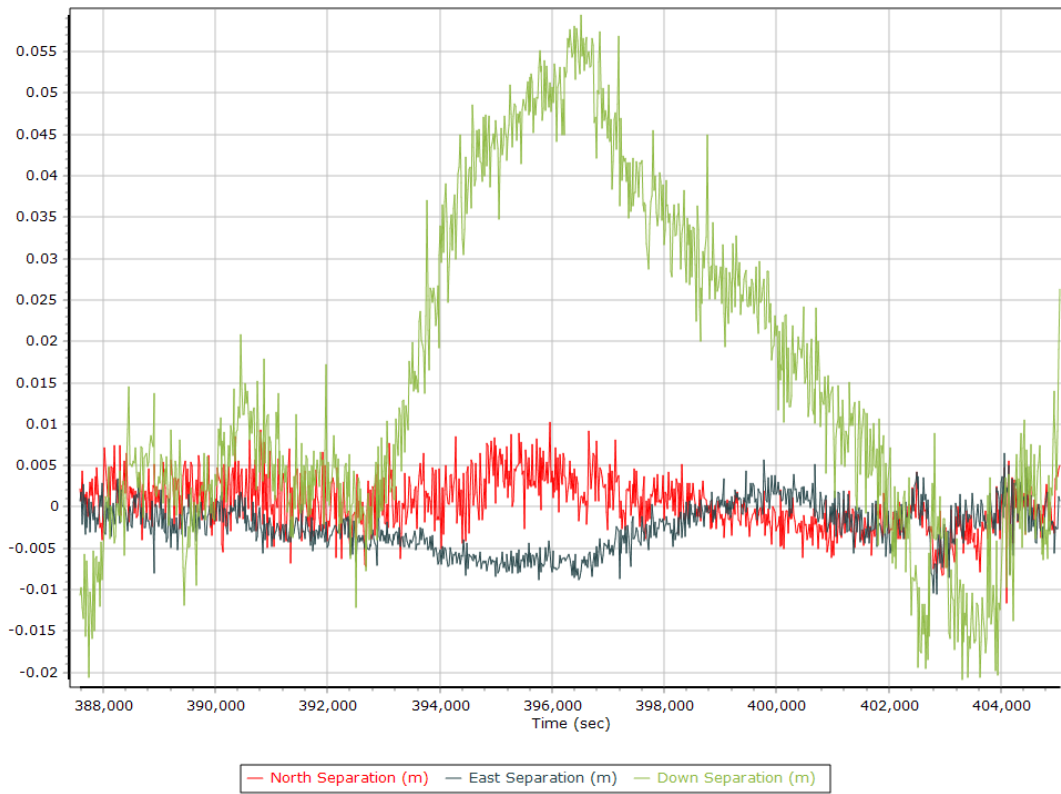
GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	4	10	8
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	3	8	6
Total number of SV	11	24	20
PDOP	0.98	2.23	1.16
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	17858.00	0.00	0.00
Percentage	100.00	0.00	0.00

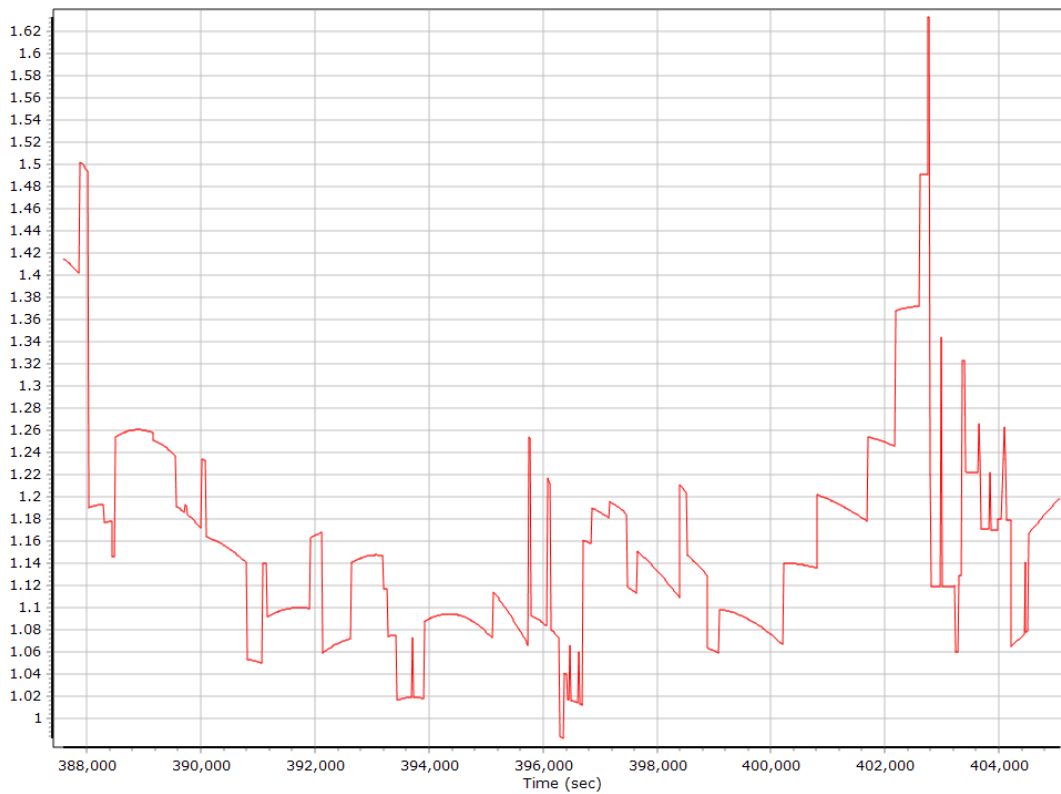
Num SVs in solution



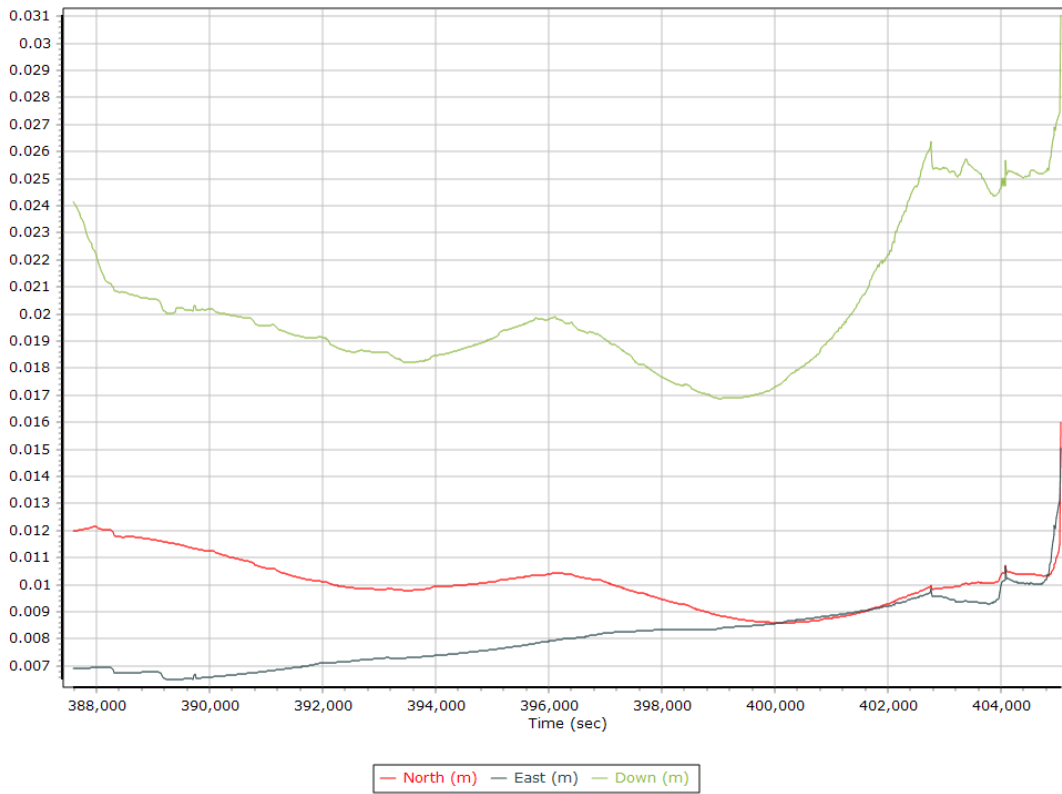
Forward/Reverse Separation



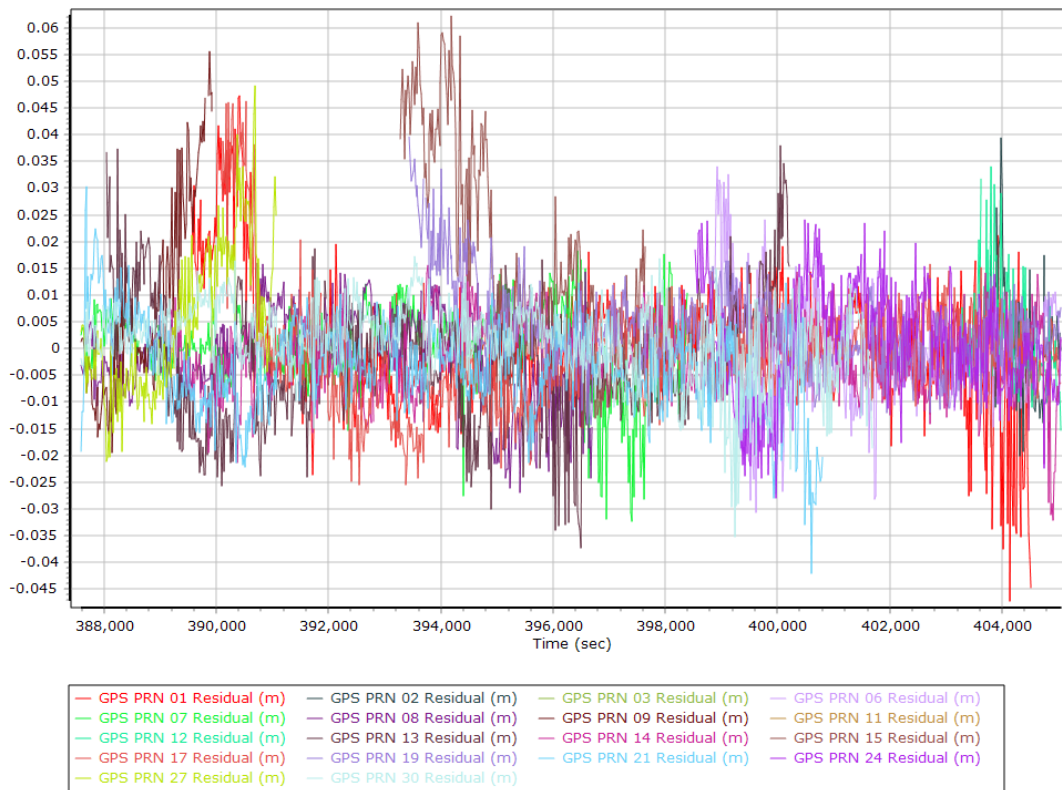
PDOP



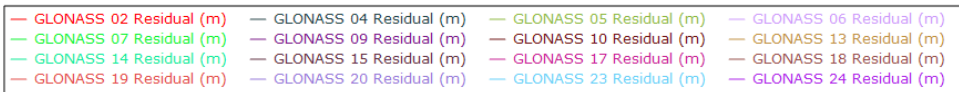
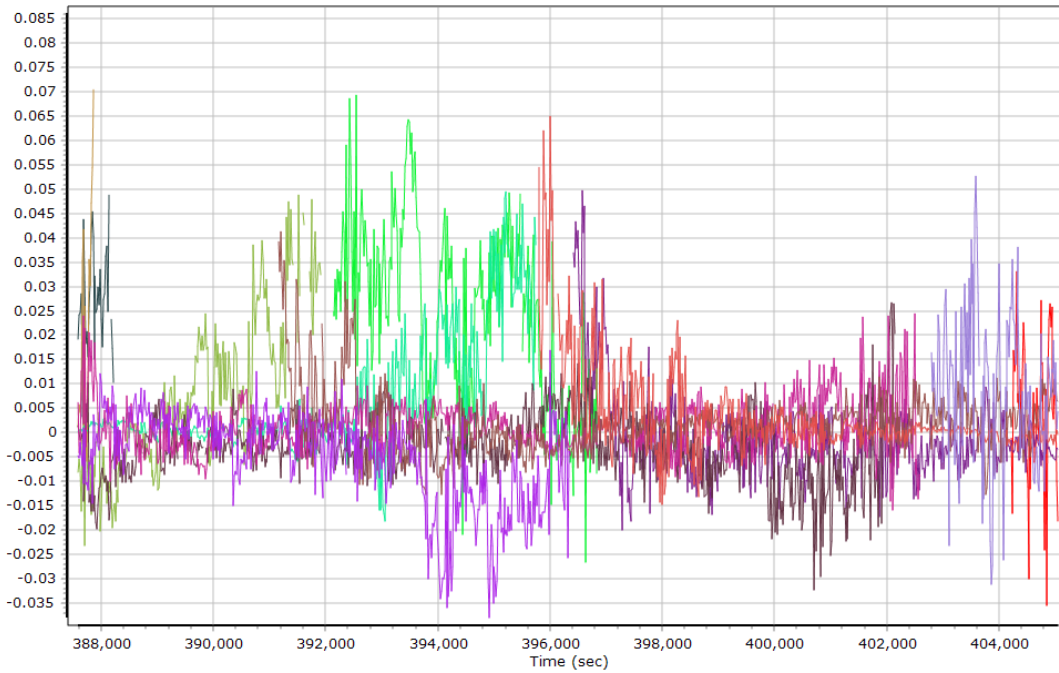
Estimated Position Accuracy



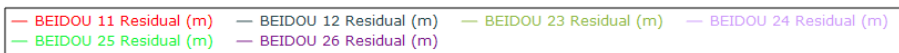
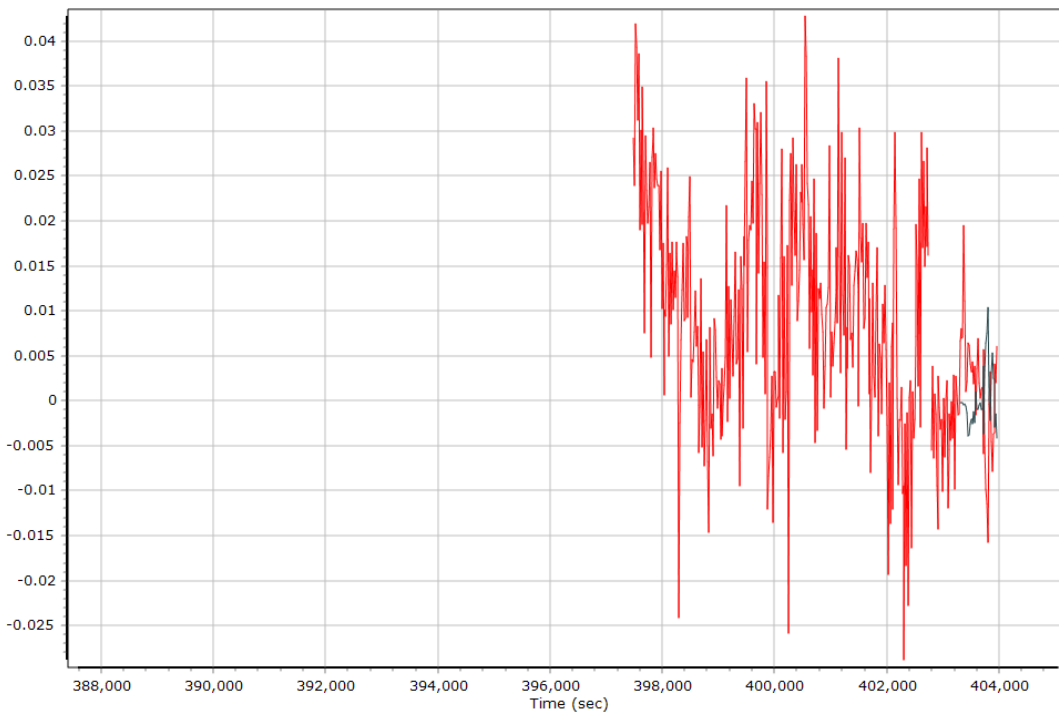
GPS Residuals



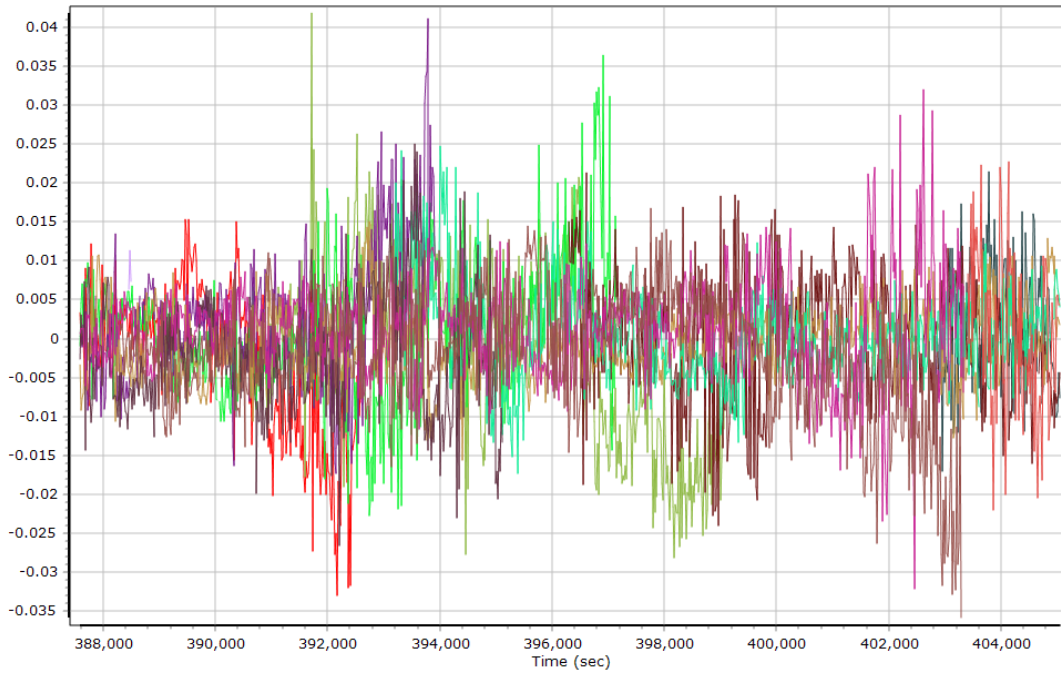
GLONASS Residuals



BEIDOU Residuals



GALILEO Residuals



- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| — GALILEO 01 Residual (m) | — GALILEO 02 Residual (m) | — GALILEO 03 Residual (m) | — GALILEO 04 Residual (m) |
| — GALILEO 05 Residual (m) | — GALILEO 09 Residual (m) | — GALILEO 11 Residual (m) | — GALILEO 24 Residual (m) |
| — GALILEO 25 Residual (m) | — GALILEO 26 Residual (m) | — GALILEO 31 Residual (m) | — GALILEO 33 Residual (m) |
| — GALILEO 36 Residual (m) | | | |

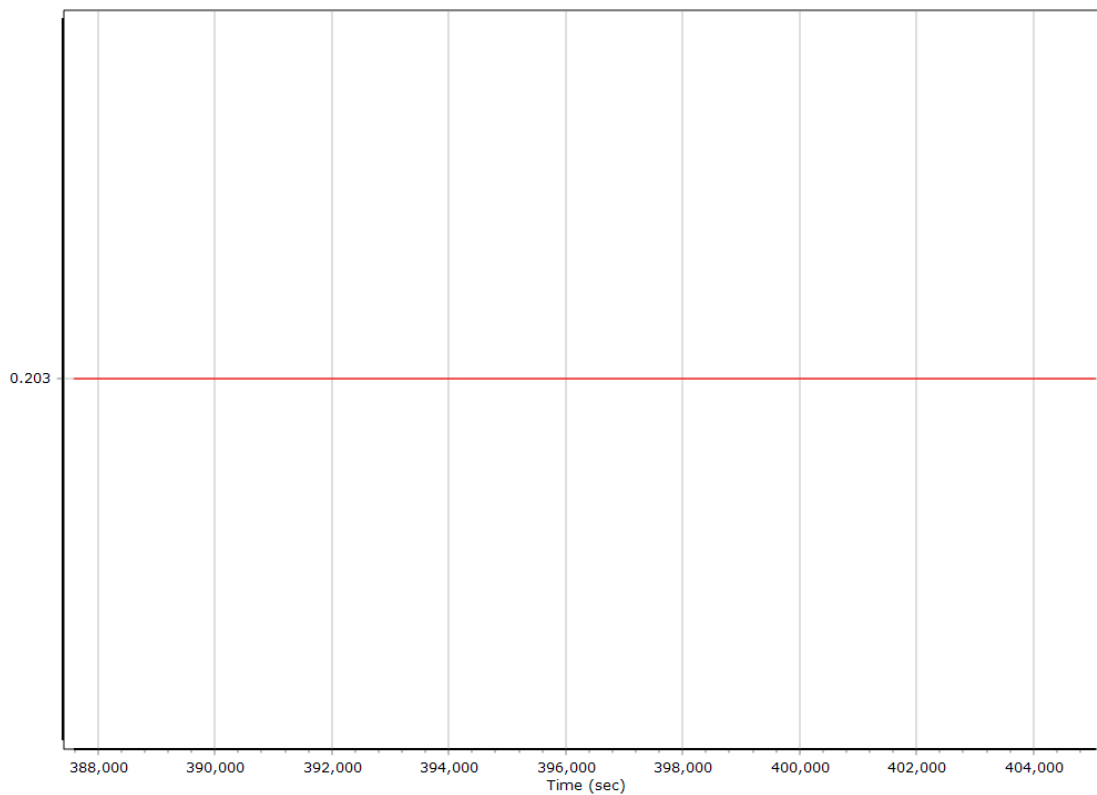
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	387188.000 (6/9/2022 11:33:08 AM)		
Processing end time	405074.000 (6/9/2022 4:31:14 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

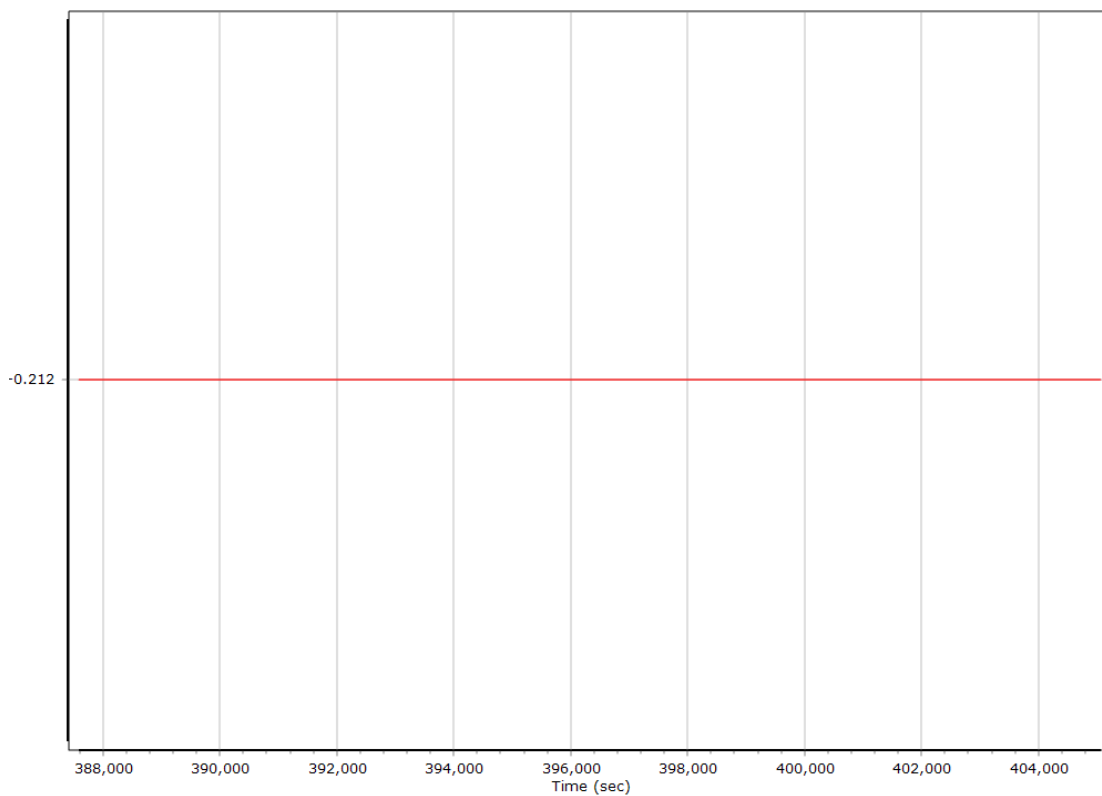
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

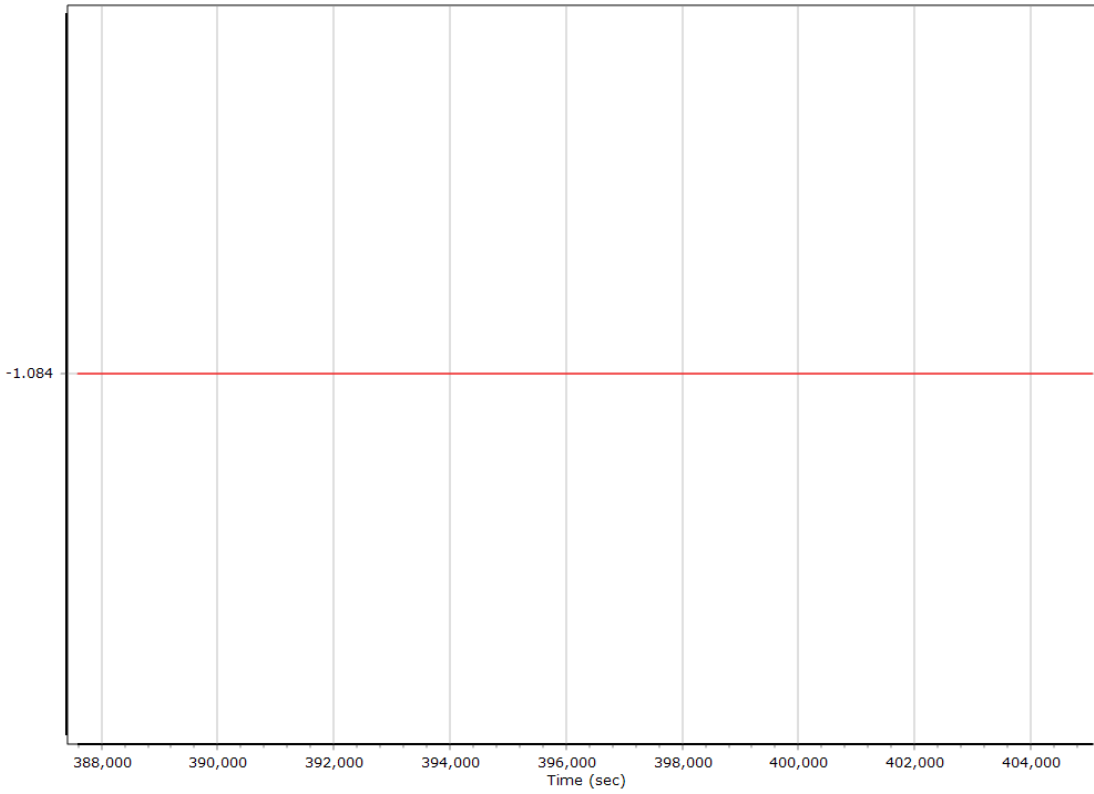
X Reference-Primary GNSS Lever Arm (m)



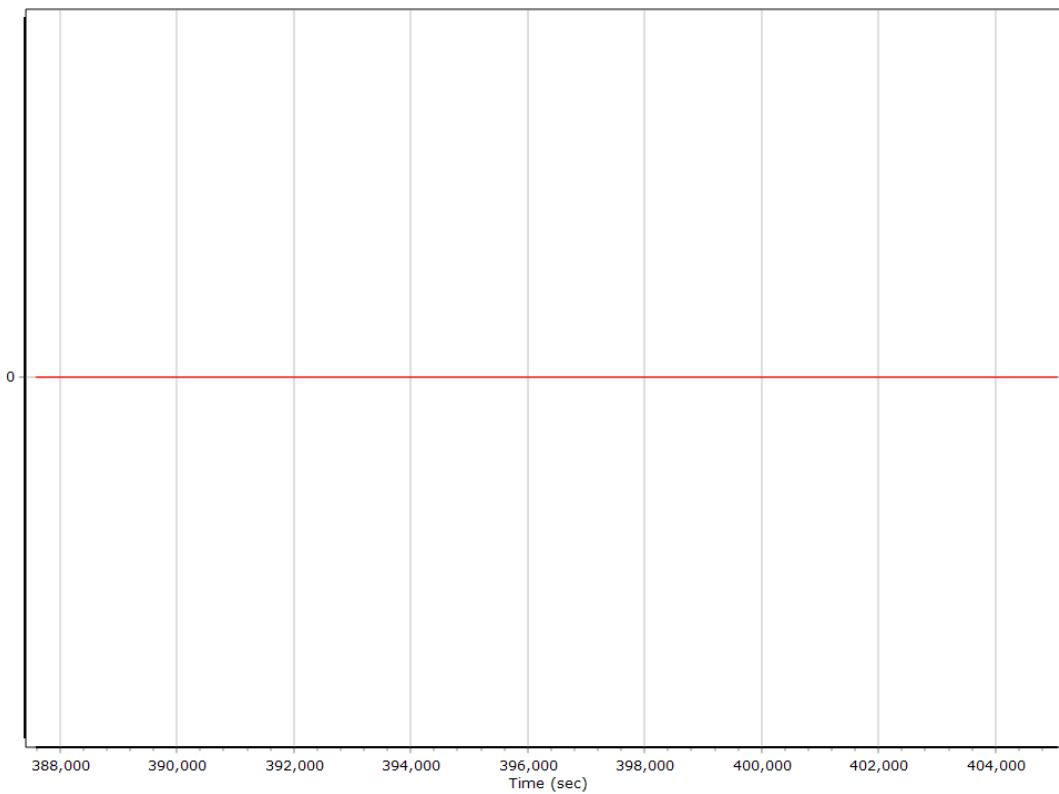
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



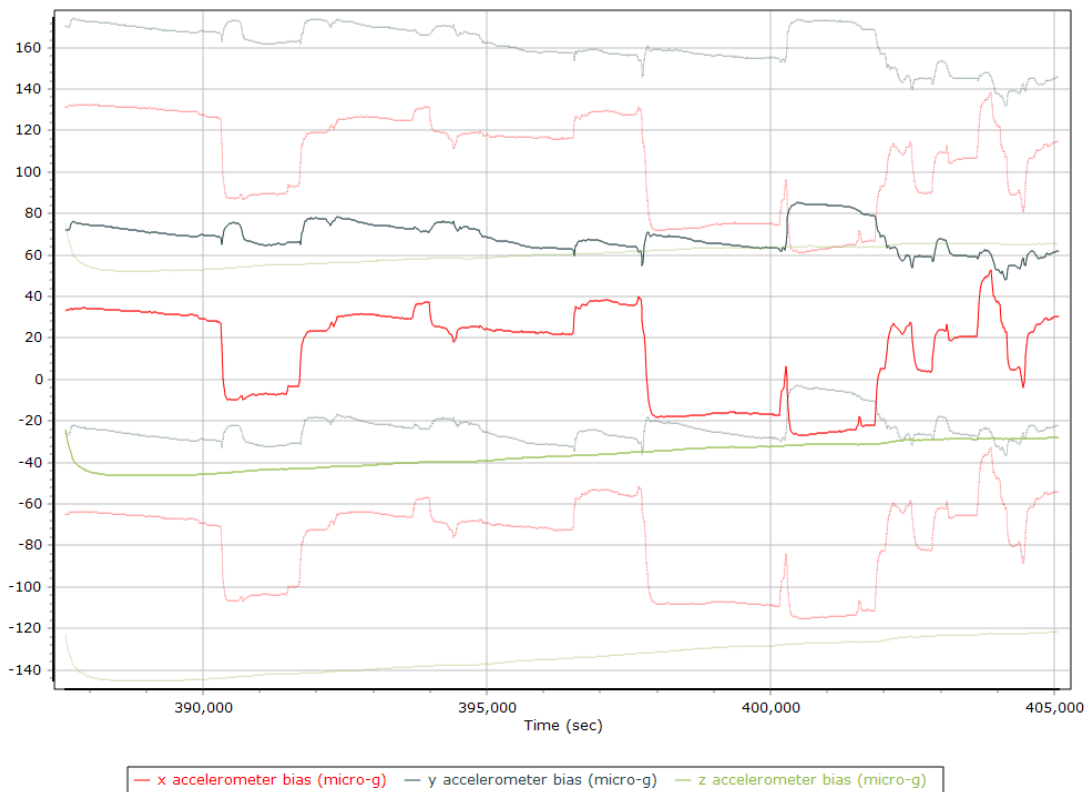
Reference-Primary GNSS Lever Arm Figure of Merit



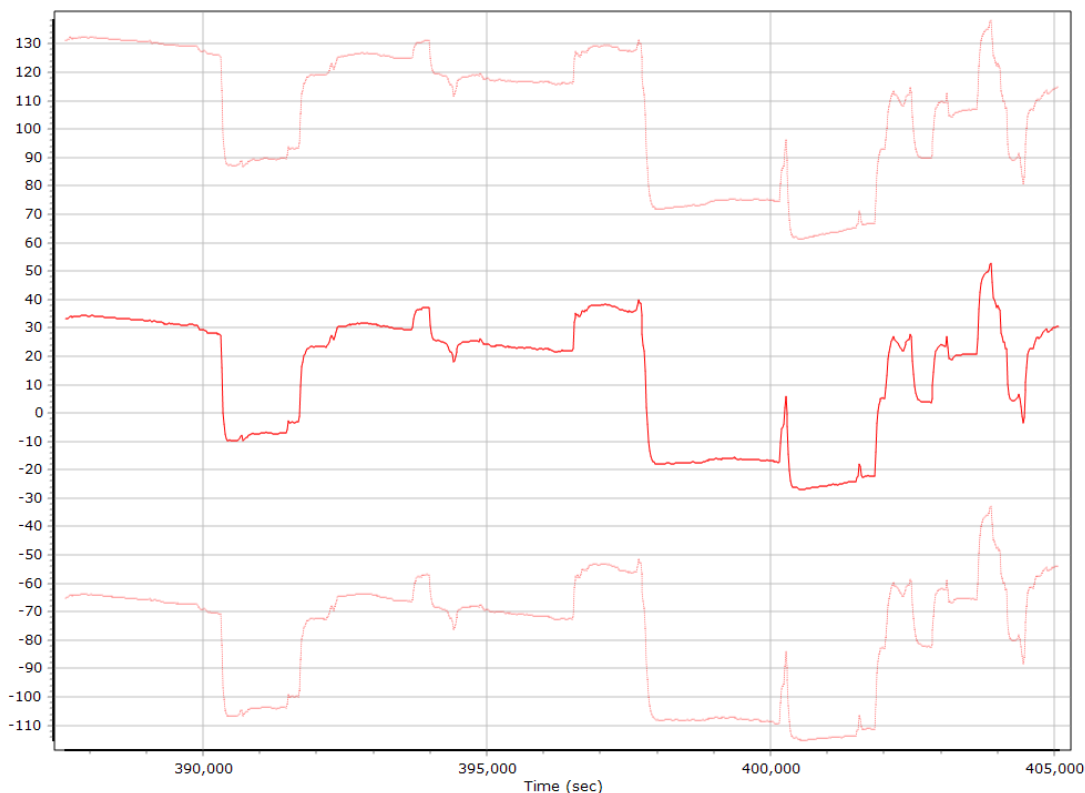
IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

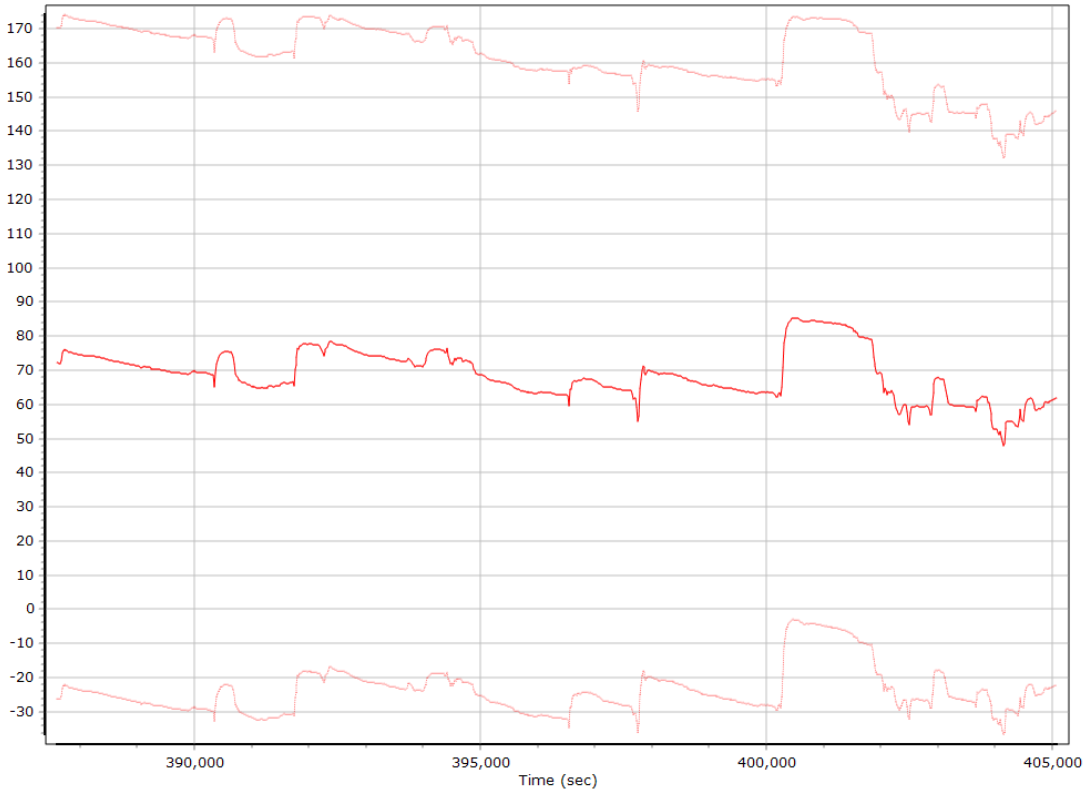
Accelerometer Bias (micro-g)



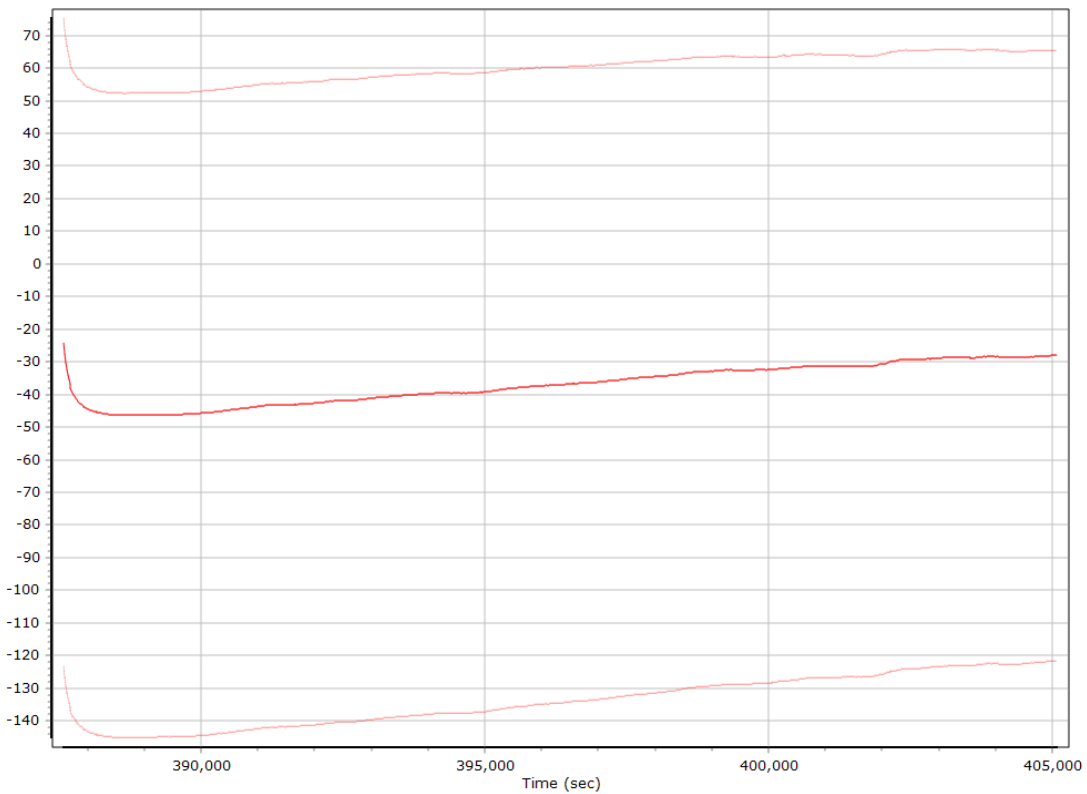
X Accelerometer Bias (micro-g)



Y Accelerometer Bias (micro-g)



Z Accelerometer Bias (micro-g)



Accelerometer Scale Error (ppm)



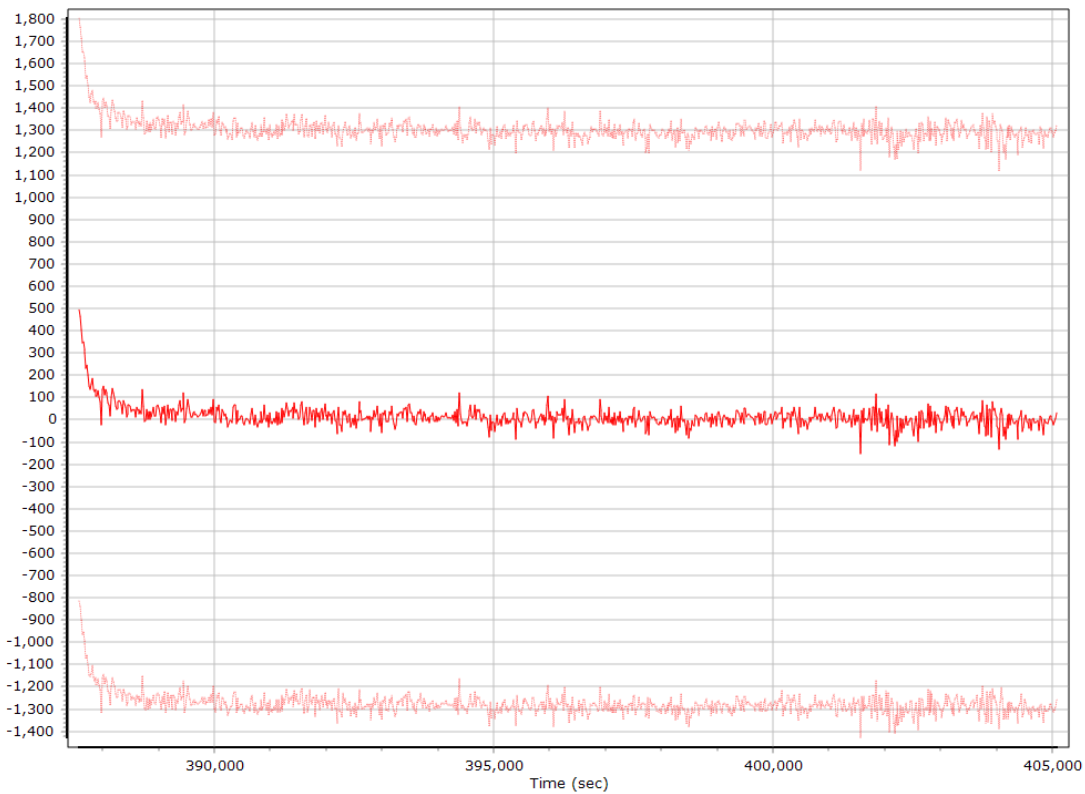
X Accelerometer Scale Error (ppm)



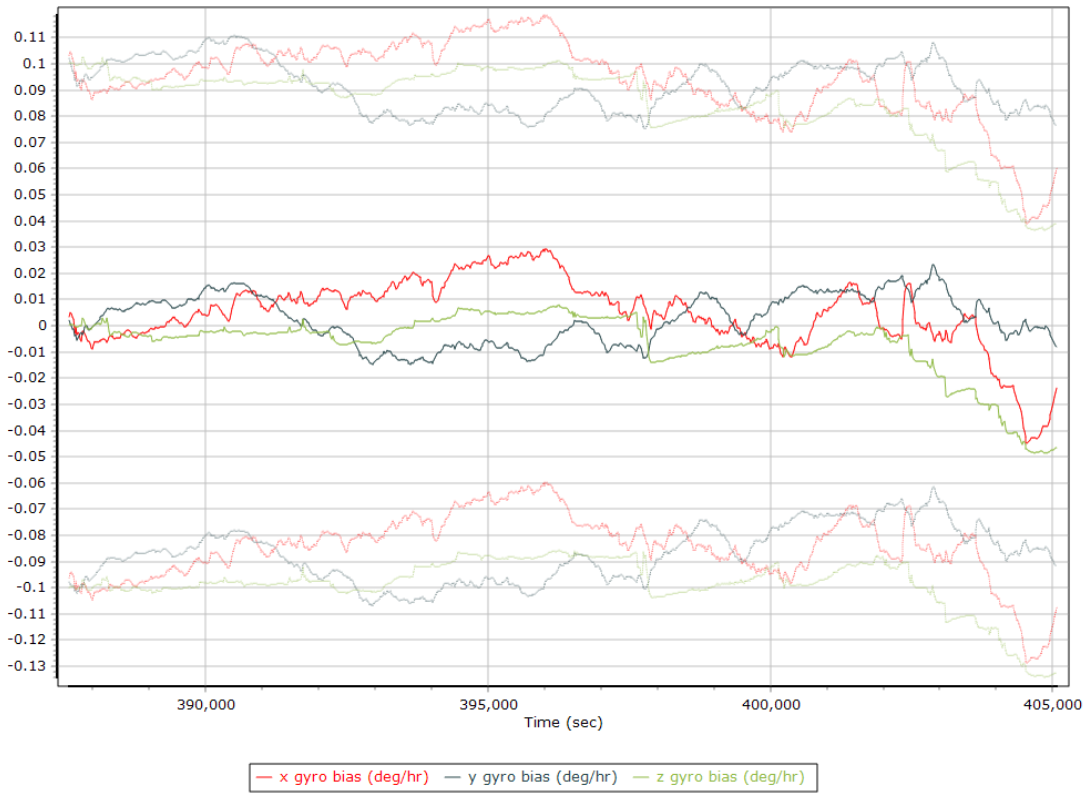
Y Accelerometer Scale Error (ppm)



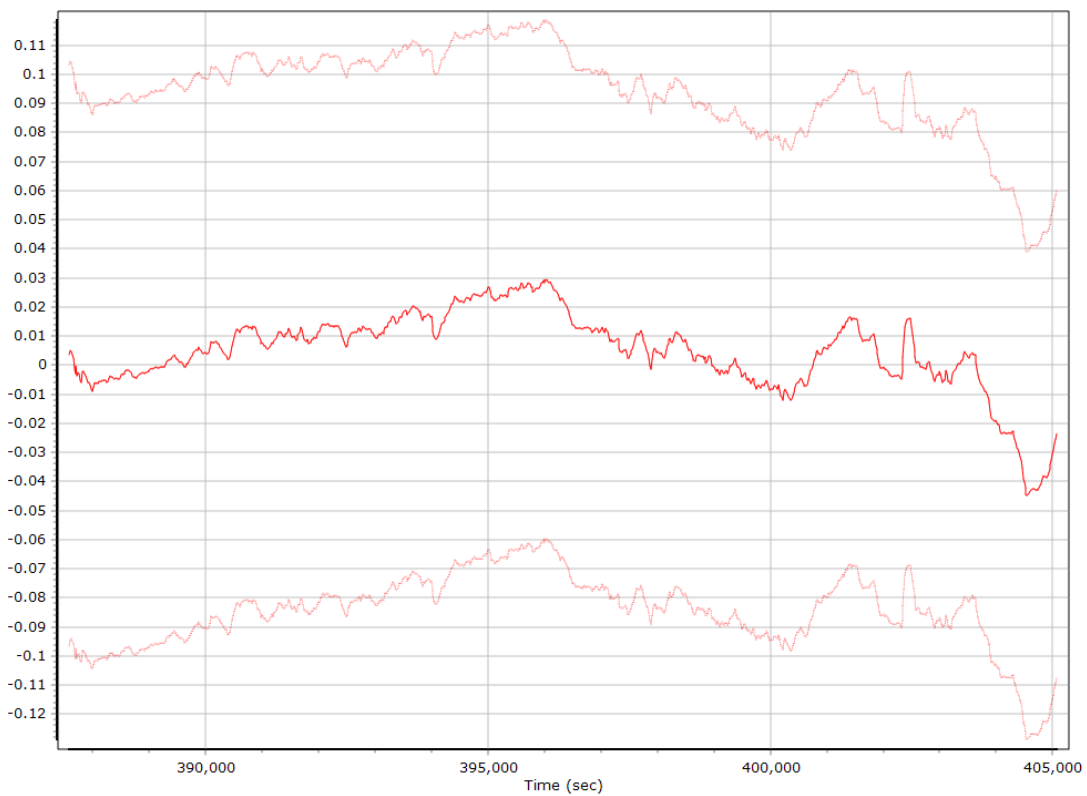
Z Accelerometer Scale Error (ppm)



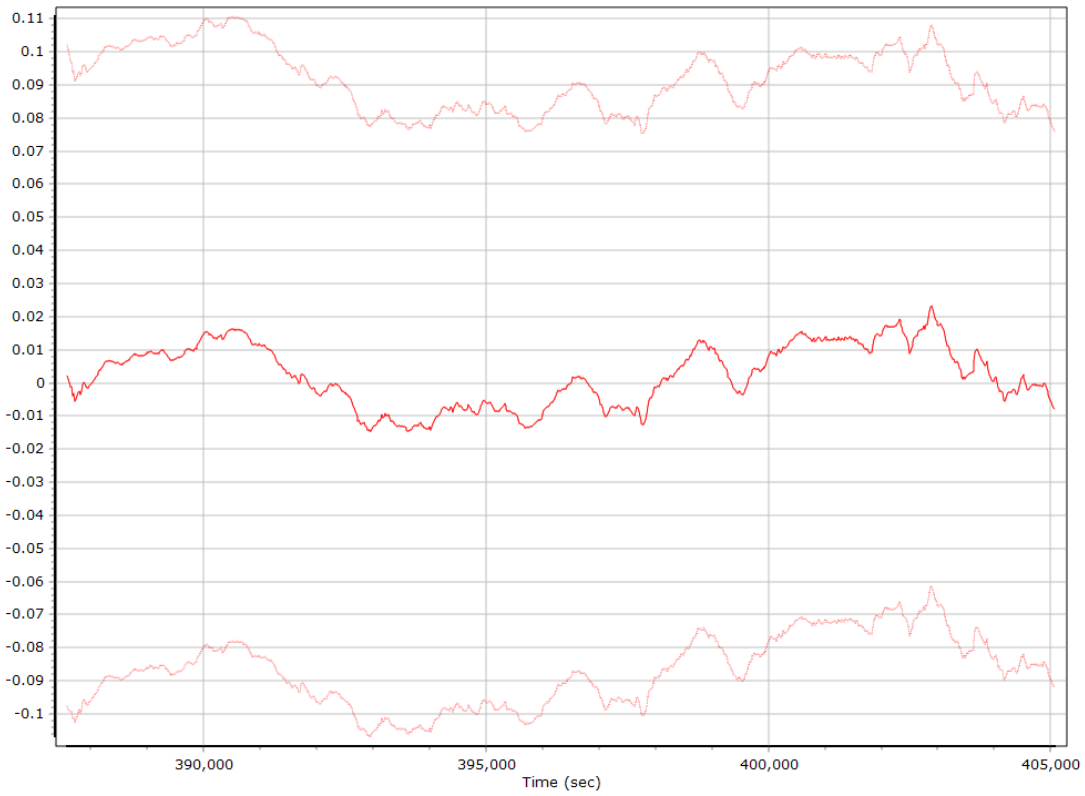
Gyro Bias (deg/h)



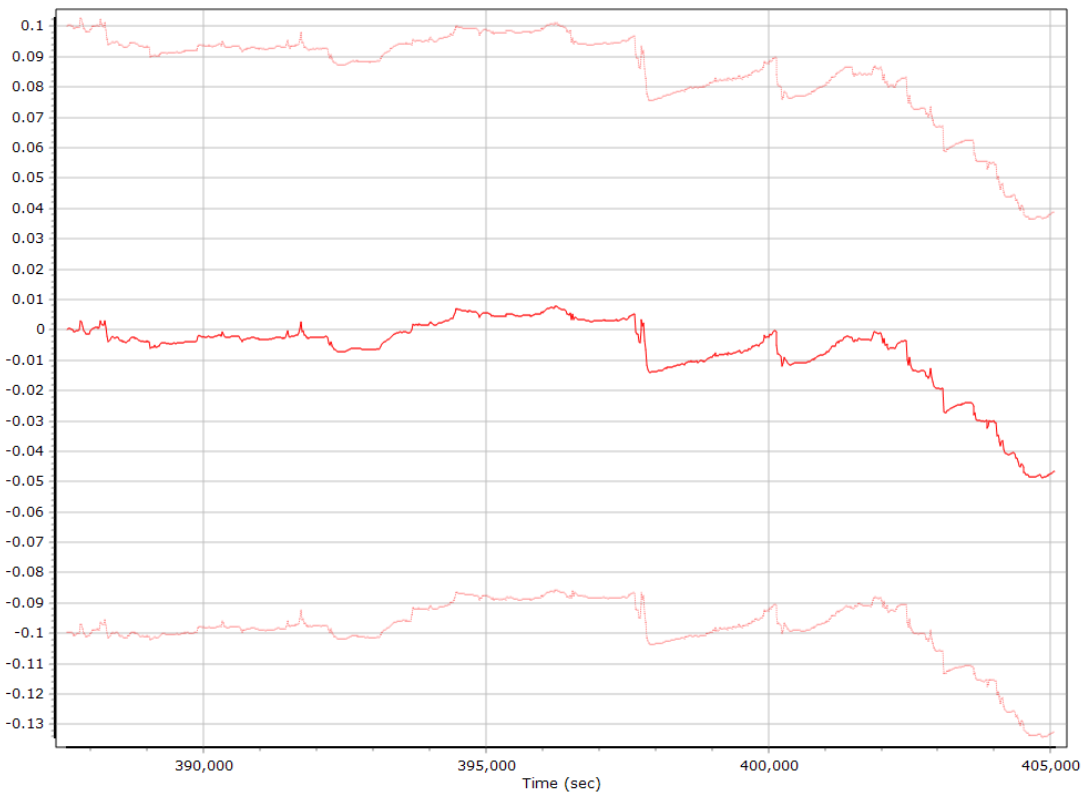
X Gyro Bias (deg/h)



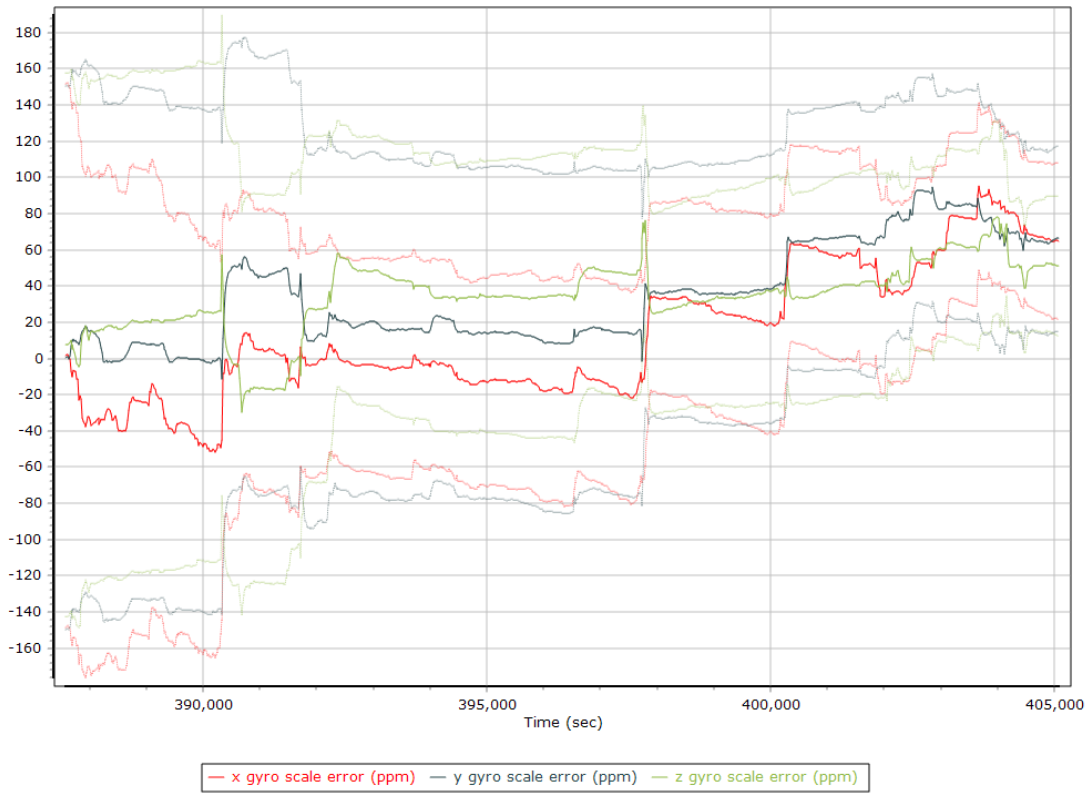
Y Gyro Bias (deg/h)



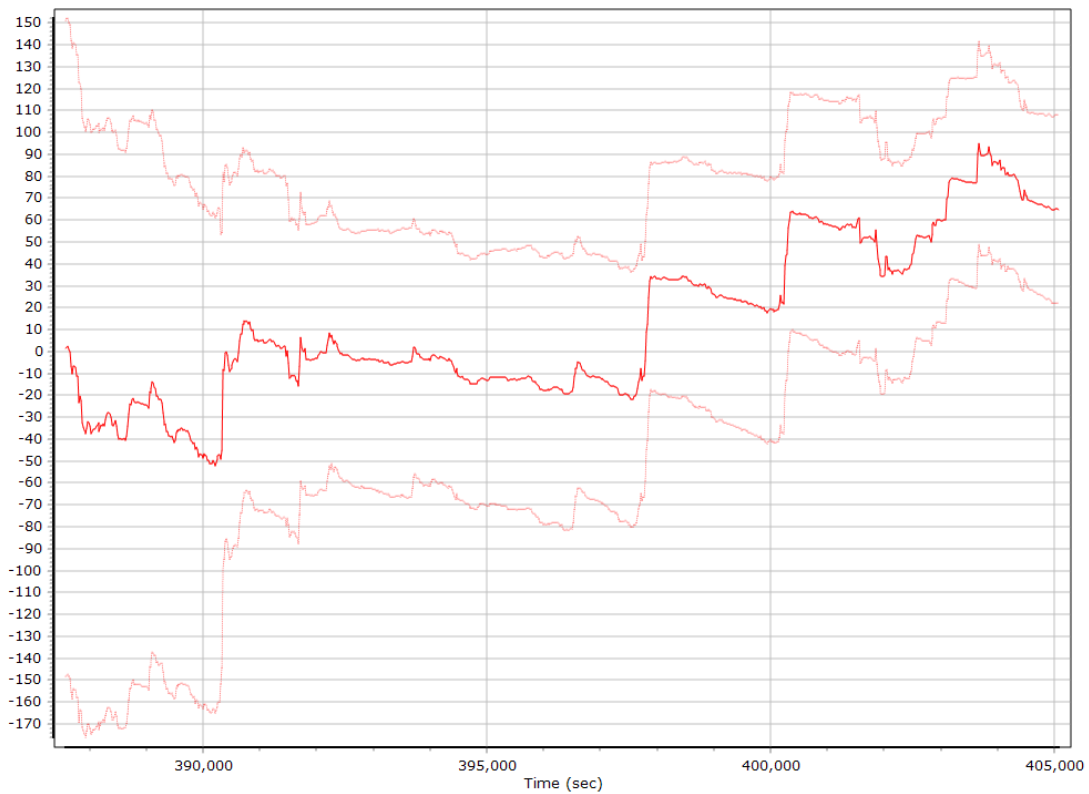
Z Gyro Bias (deg/h)



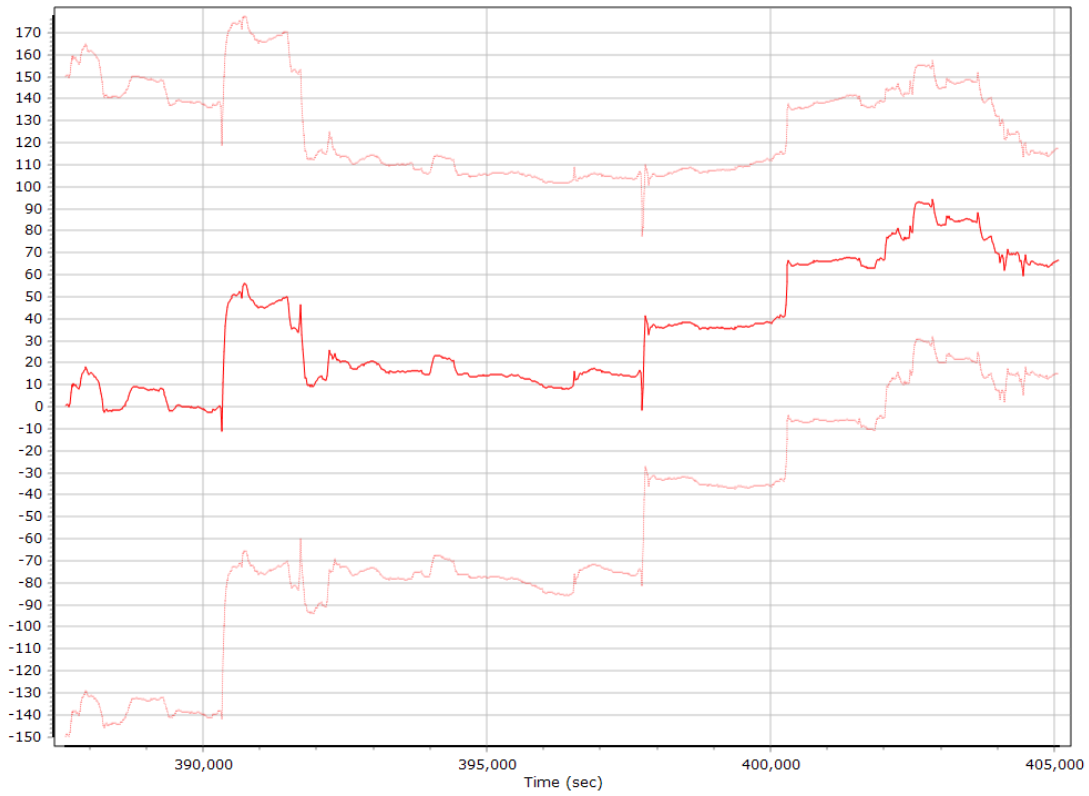
Gyro Scale Error (ppm)



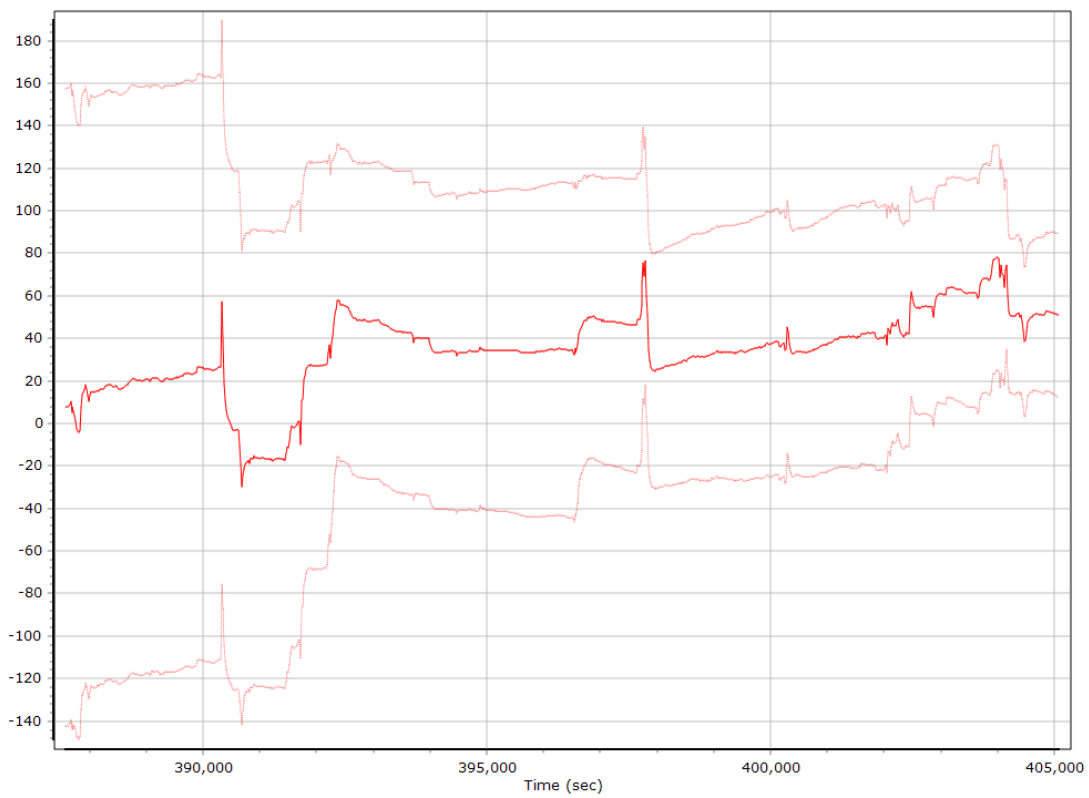
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

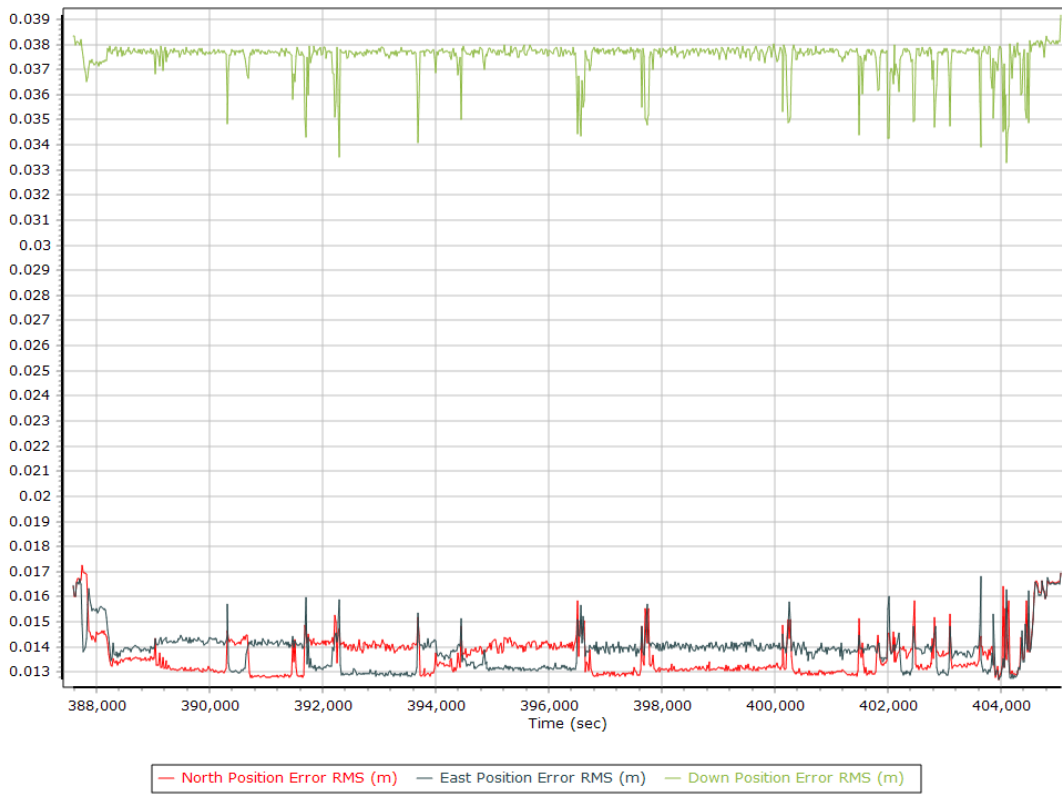


Z Gyro Scale Error (ppm)

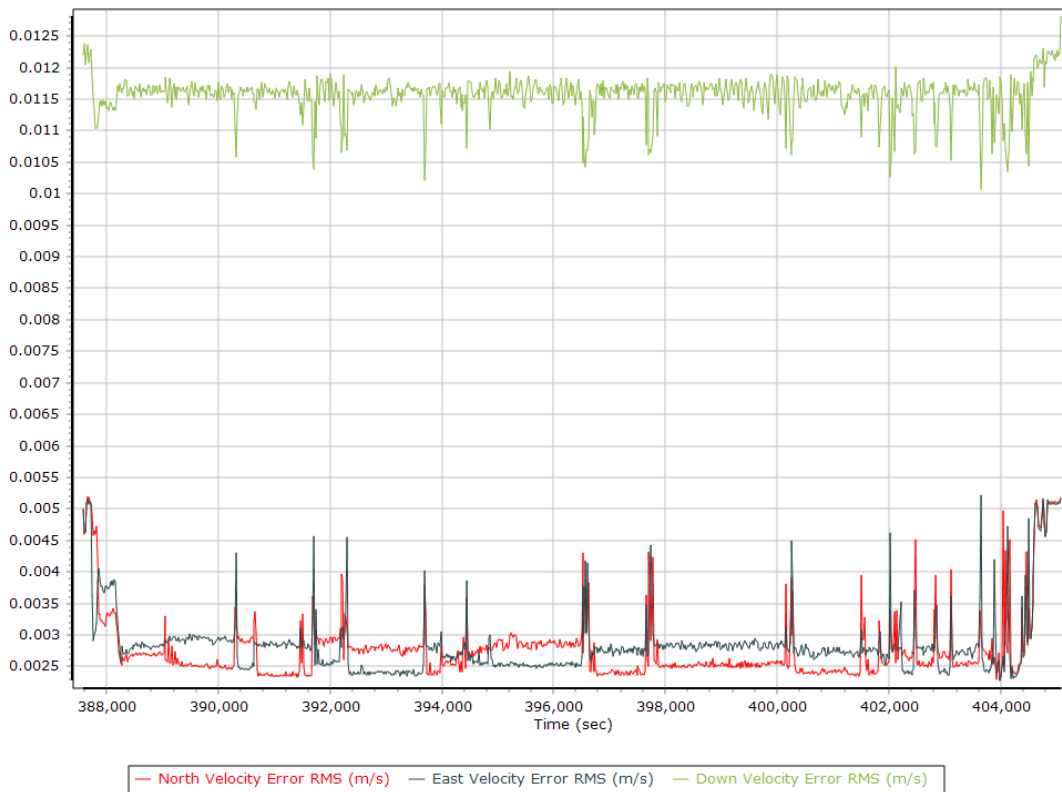


Smoothed Performance Metrics

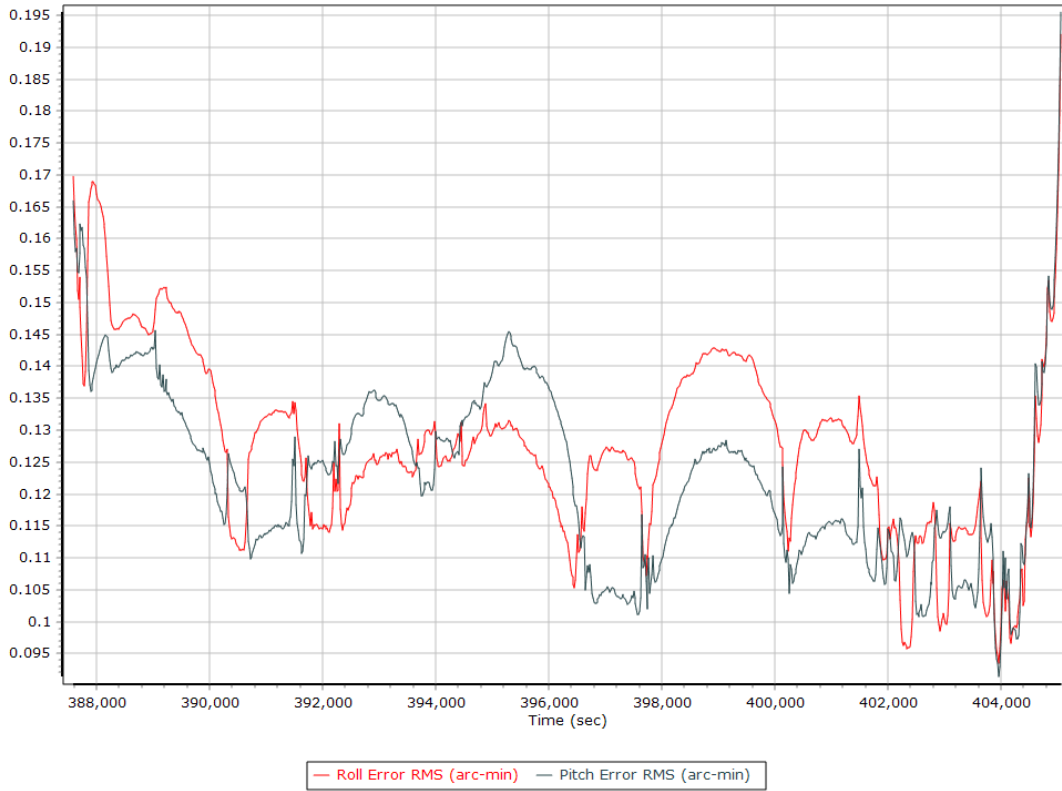
Position Error RMS (m)



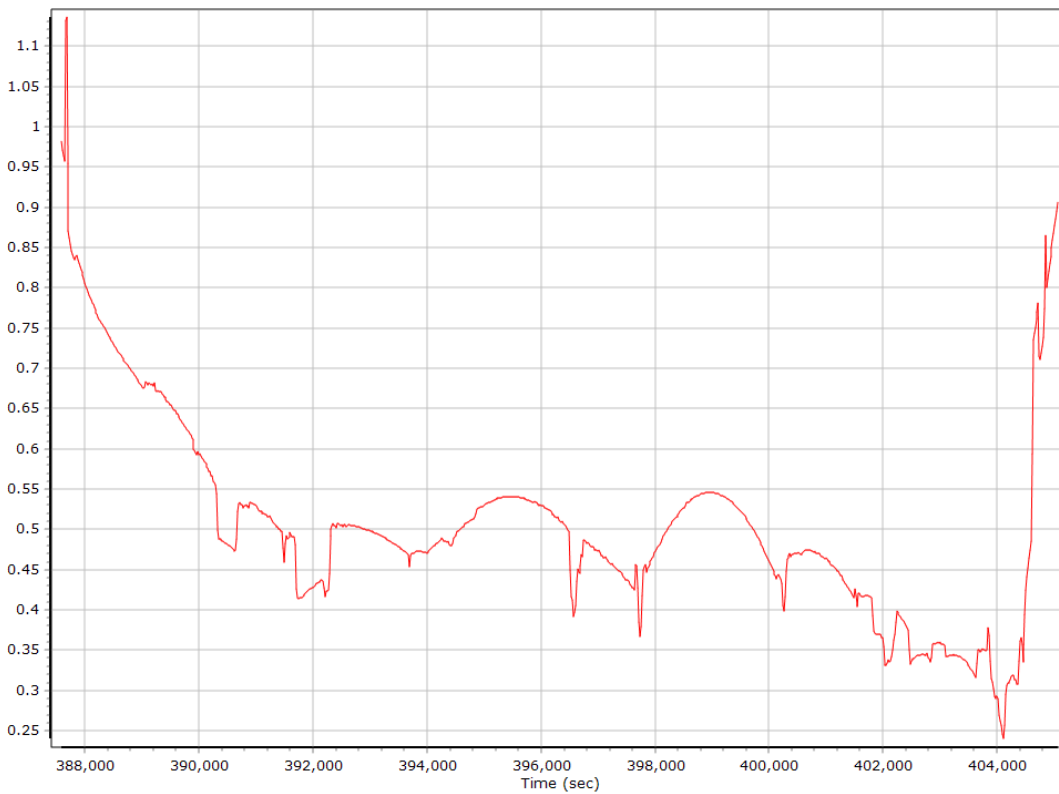
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

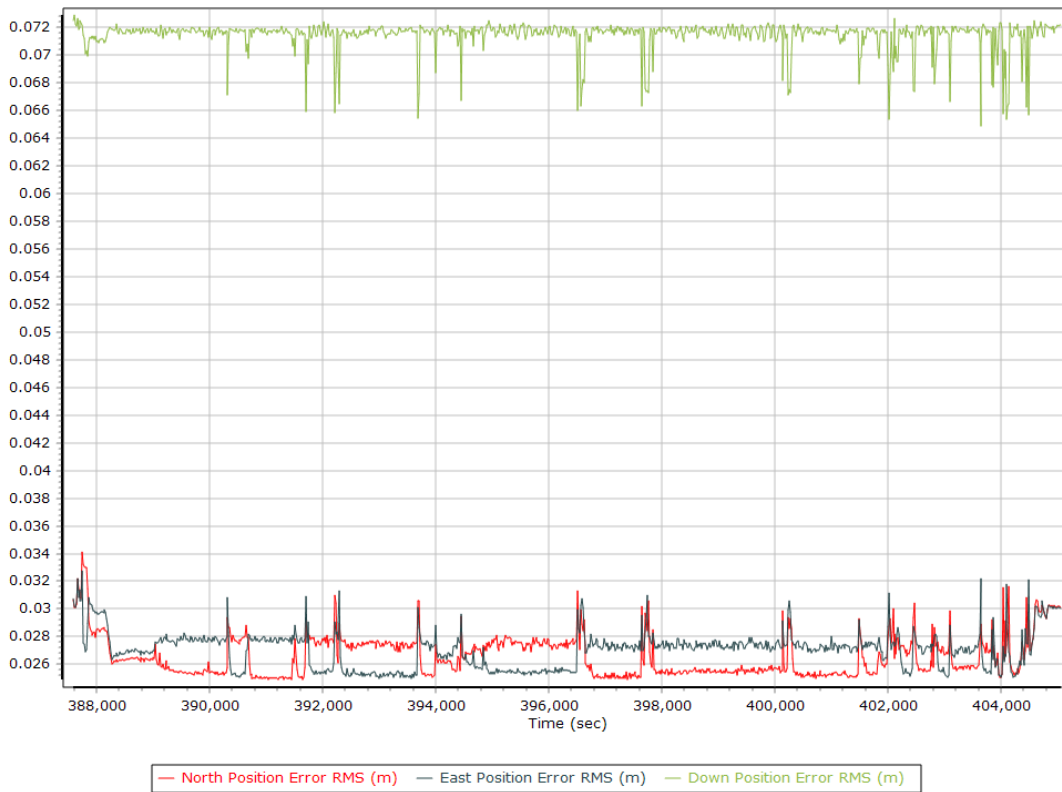


Heading Error RMS (arc-min)

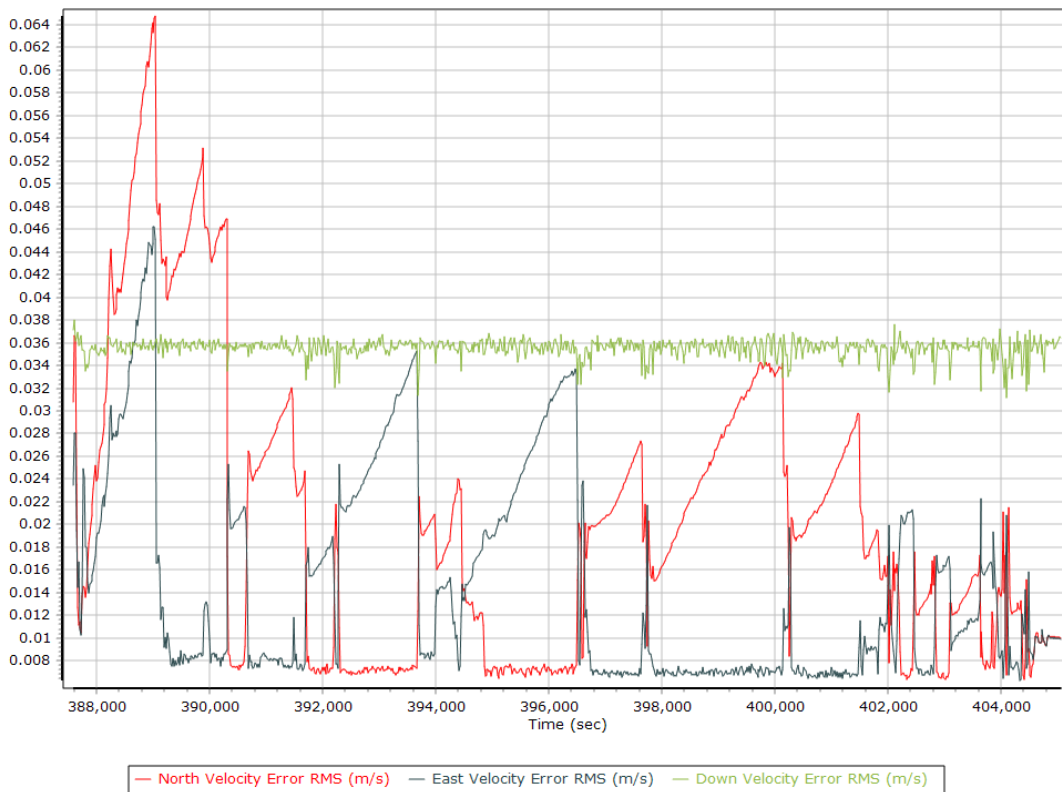


Forward Processed Performance Metrics

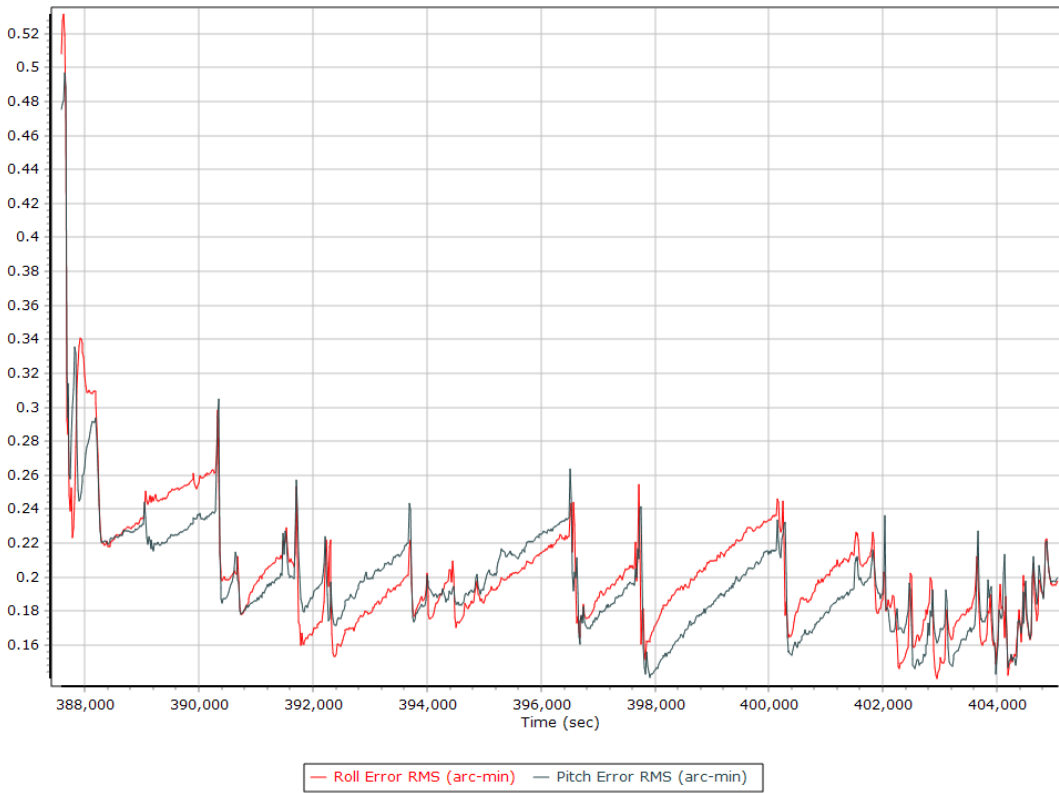
Position Error RMS (m)



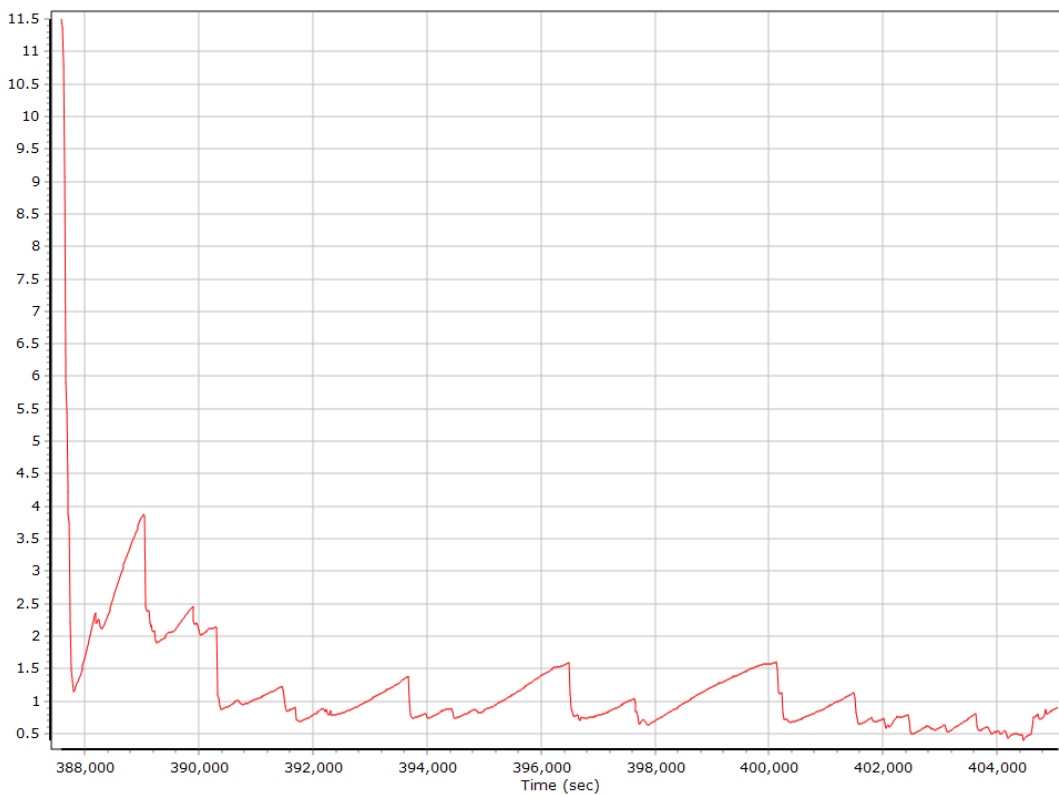
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

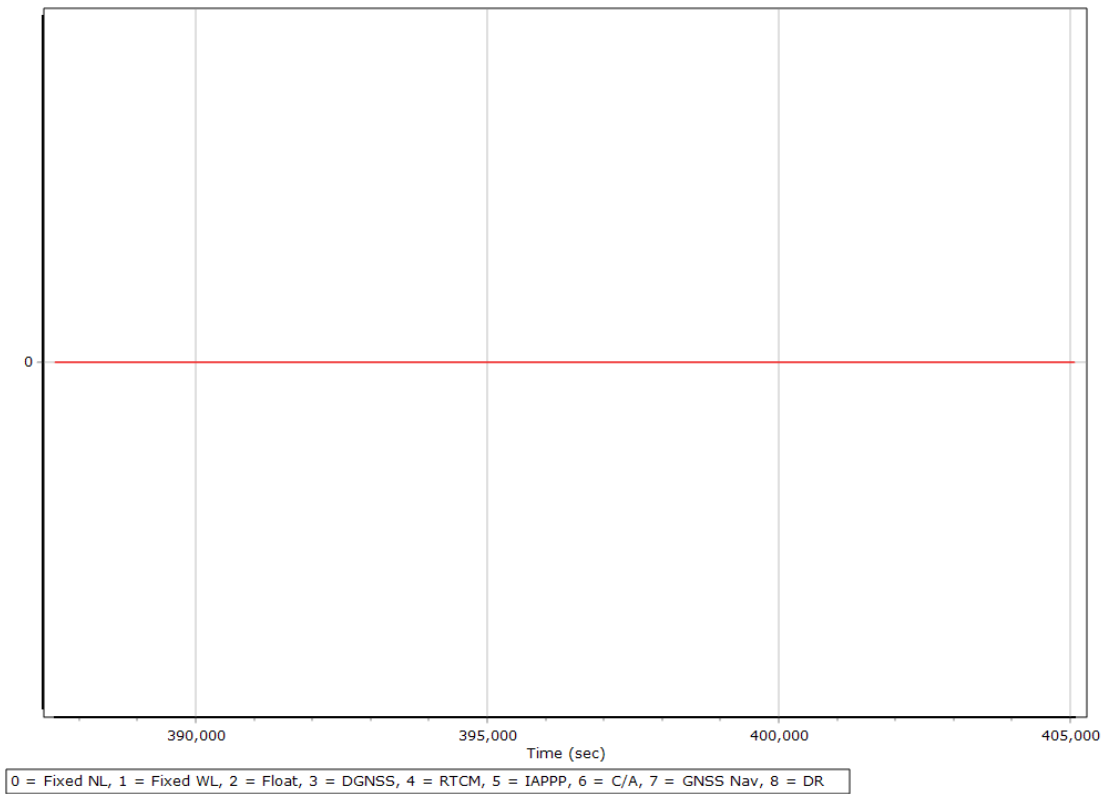


Heading Error RMS (arc-min)

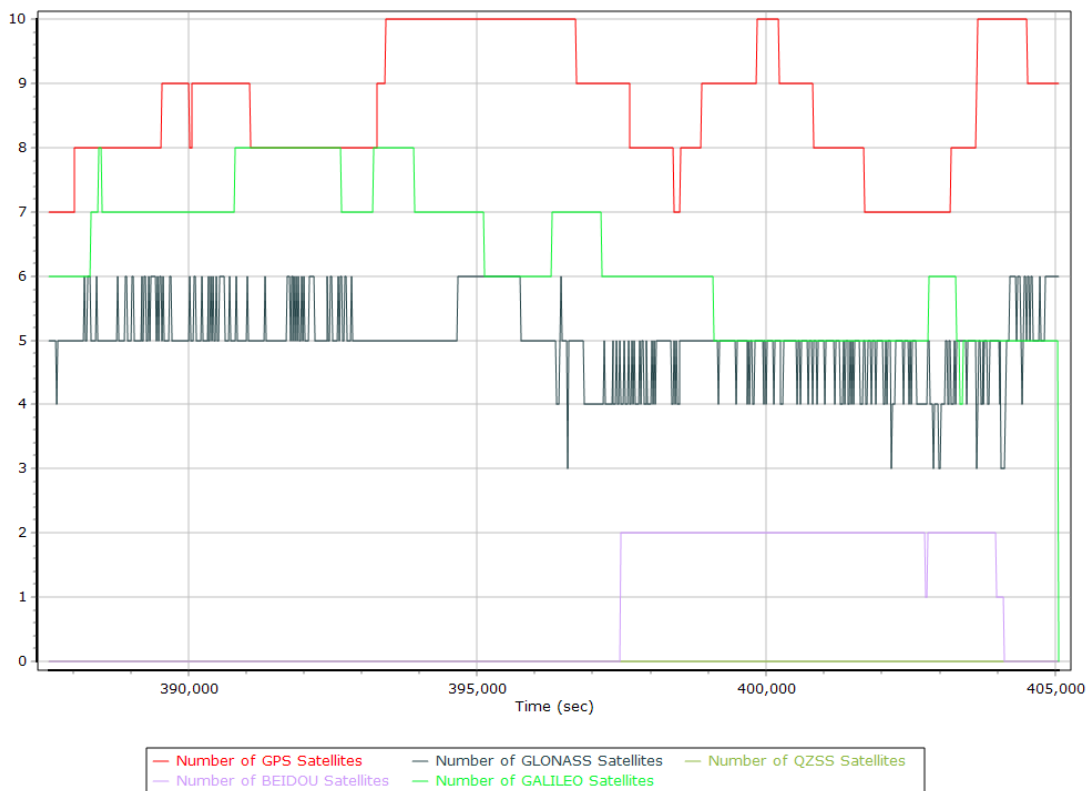


Forward Processed Solution Status

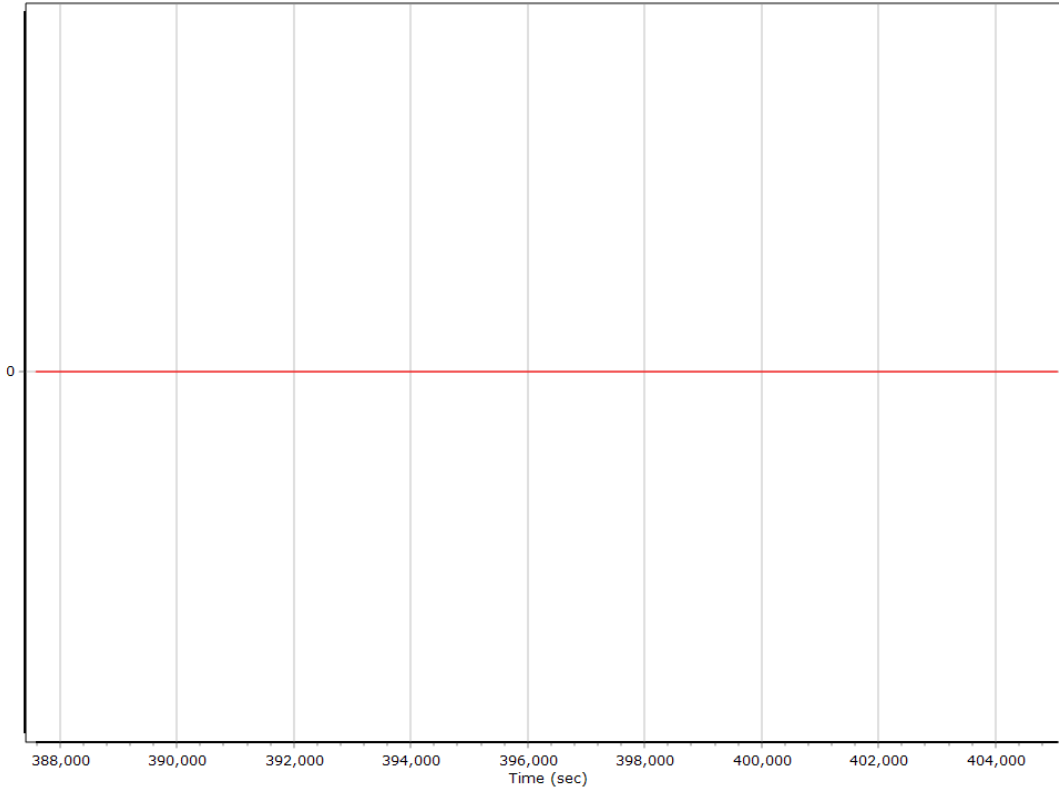
Processing Mode



Number of Satellites



Baseline Length



EO Summary

EO file	event1_eo_14238.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	387530.003 (6/9/2022 11:38:50 AM)		
EO end time	405074.005 (6/9/2022 4:31:14 PM)		
Grid	Universal Transverse Mercator		
Zone	UTM North 15 (96W to 90W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		