

## General Information

### Mission Information

Project name	13862
Processing date	2022-06-24 19:24:30
Mission date	2022-04-14 14:59:46
Mission duration	04:48:48.000
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
20220414.000	POS Data
20220414.001	POS Data
20220414.002	POS Data
20220414.003	POS Data
20220414.004	POS Data
20220414.005	POS Data
20220414.006	POS Data
20220414.007	POS Data
20220414.008	POS Data
20220414.009	POS Data
20220414.010	POS Data
20220414.011	POS Data
20220414.012	POS Data
20220414.013	POS Data
20220414.014	POS Data
20220414.015	POS Data
20220414.016	POS Data
20220414.017	POS Data
20220414.018	POS Data
20220414.019	POS Data
20220414.020	POS Data
20220414.021	POS Data
20220414.022	POS Data
20220414.023	POS Data
20220414.024	POS Data
20220414.025	POS Data
20220414.026	POS Data
20220414.027	POS Data
20220414.028	POS Data
20220414.029	POS Data
20220414.030	POS Data
20220414.031	POS Data
20220414.032	POS Data
20220414.033	POS Data
20220414.034	POS Data
20220414.035	POS Data
20220414.036	POS Data
20220414.037	POS Data
20220414.038	POS Data

### Input Files

File Name	File Type
Ephm1040.22g	GLONASS Broadcast Ephemeris
Ephm1040.22n	GPS Broadcast Ephemeris

### Output Files

Filename	File type
sbet_13862.out	SBET Trajectory File
eo_13862.txt	ZI Imaging POSEO Output
sbet_13862_NAD83(2011).out	Custom Smoothed BET Export Output

## Rover Data Summary

First raw data file	20220414.000		
Last raw data file	20220414.038		
Start GPS week	2205		
Start time	399585.879 (04/14/2022 14:59:45)		
End time	416913.976 (04/14/2022 19:48:33)		
Start of fine alignment	400132.573 (04/14/2022 15:08:52)		
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)	-0.230	-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

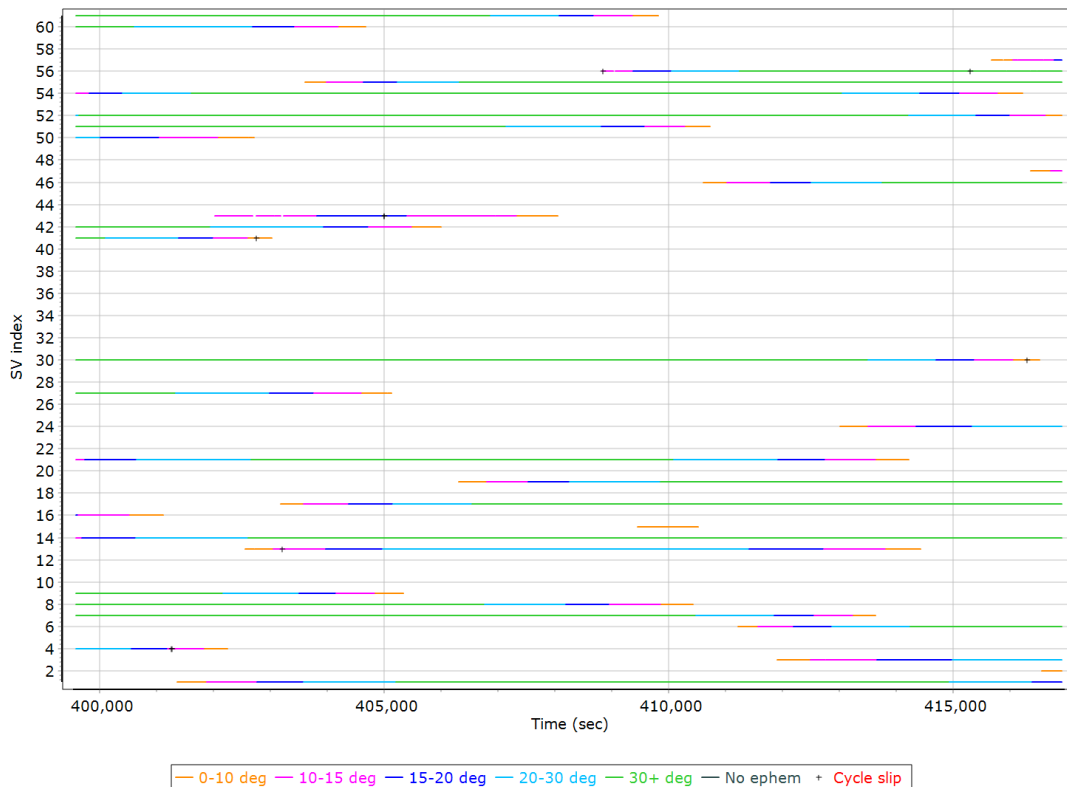
## Rover Data QC

### Raw IMU Import QC Summary

IMU data input file	imu_13862.dat
IMU data check log file	imudt_13862.log
IMU Records Processed	3465012
Termination Status	Normal
IMU Anomalies	0

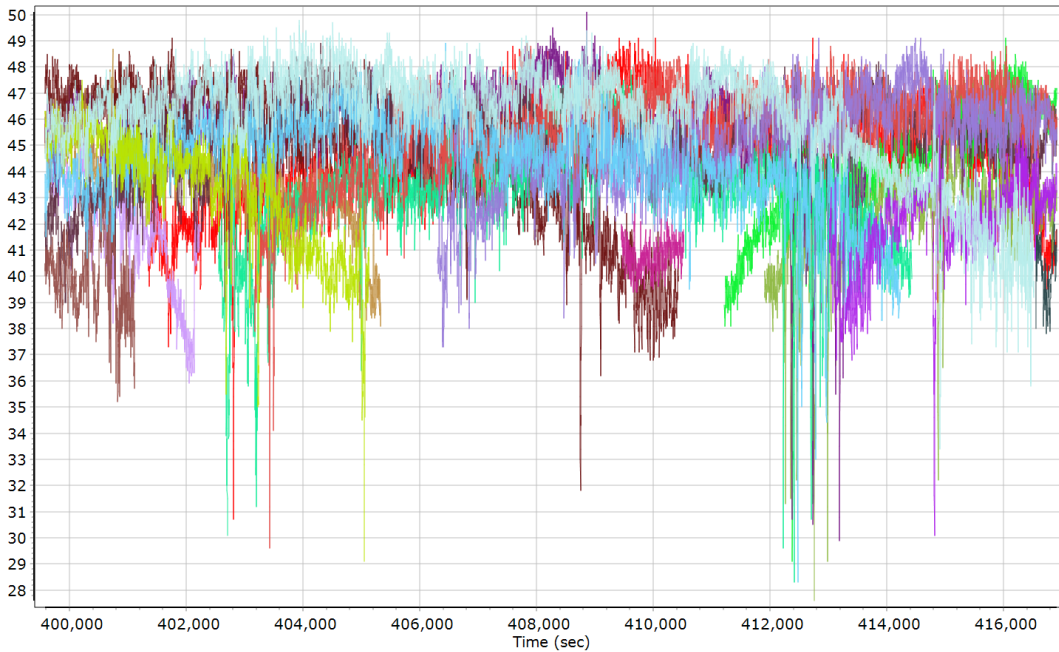
## Primary Observables & Satellite Data

### GPS/GLONASS L1 Satellite Lock/Elevation



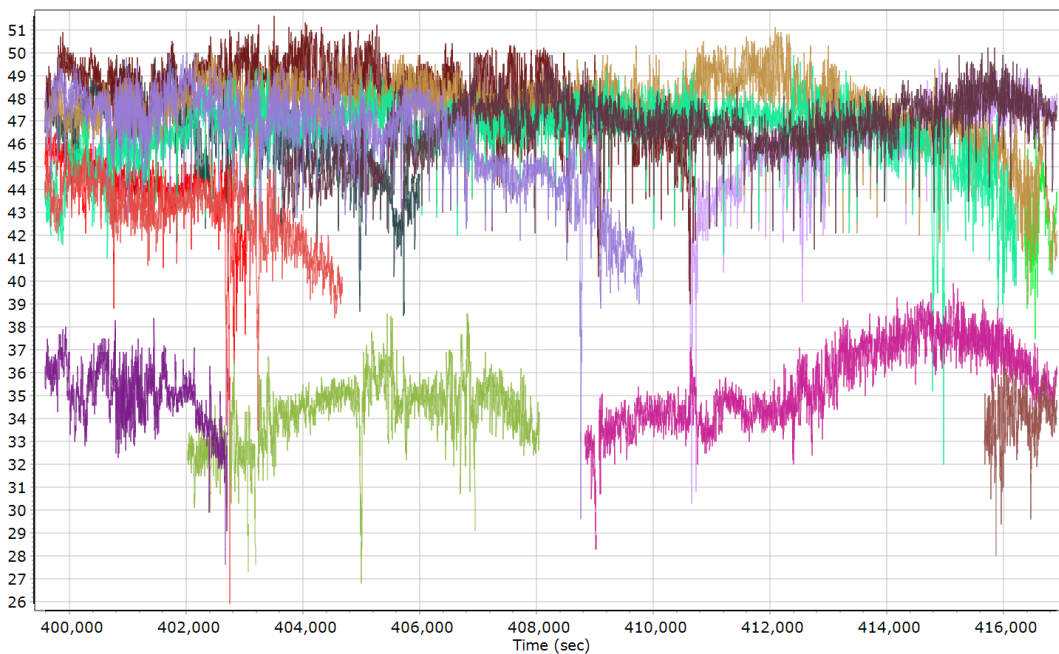


### GPS L1 SNR



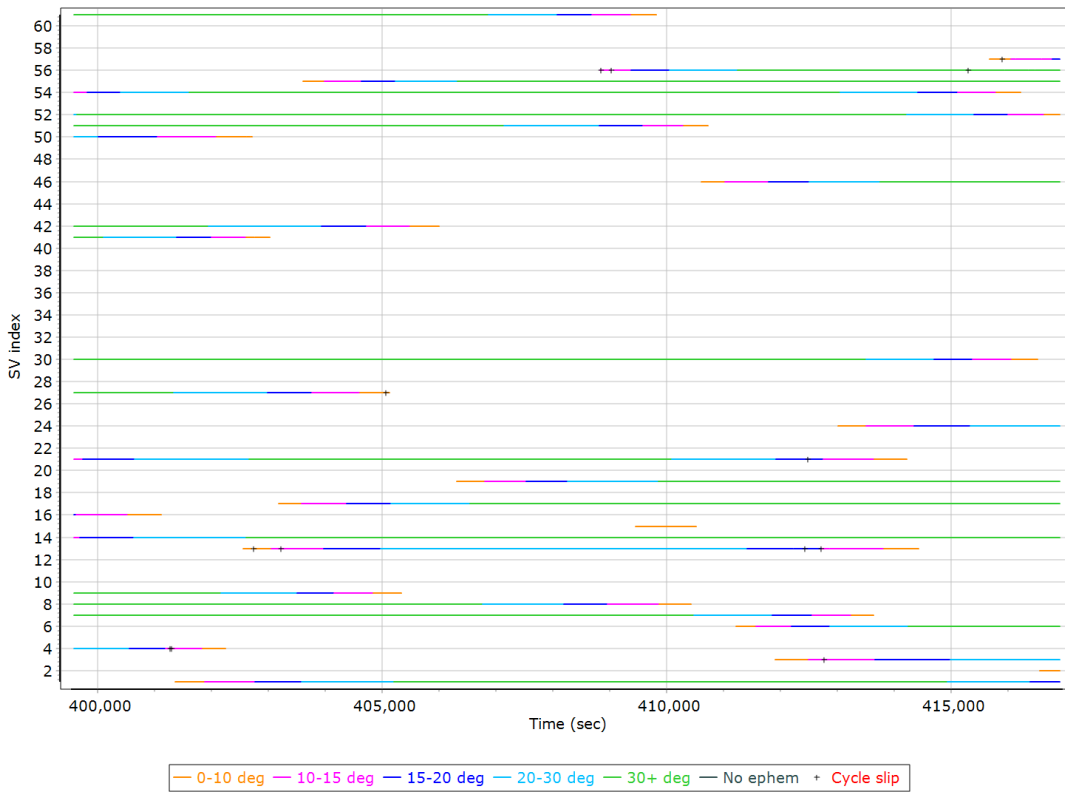
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L1 SNR (dB/Hz) | GPS PRN 02 L1 SNR (dB/Hz) | GPS PRN 03 L1 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 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

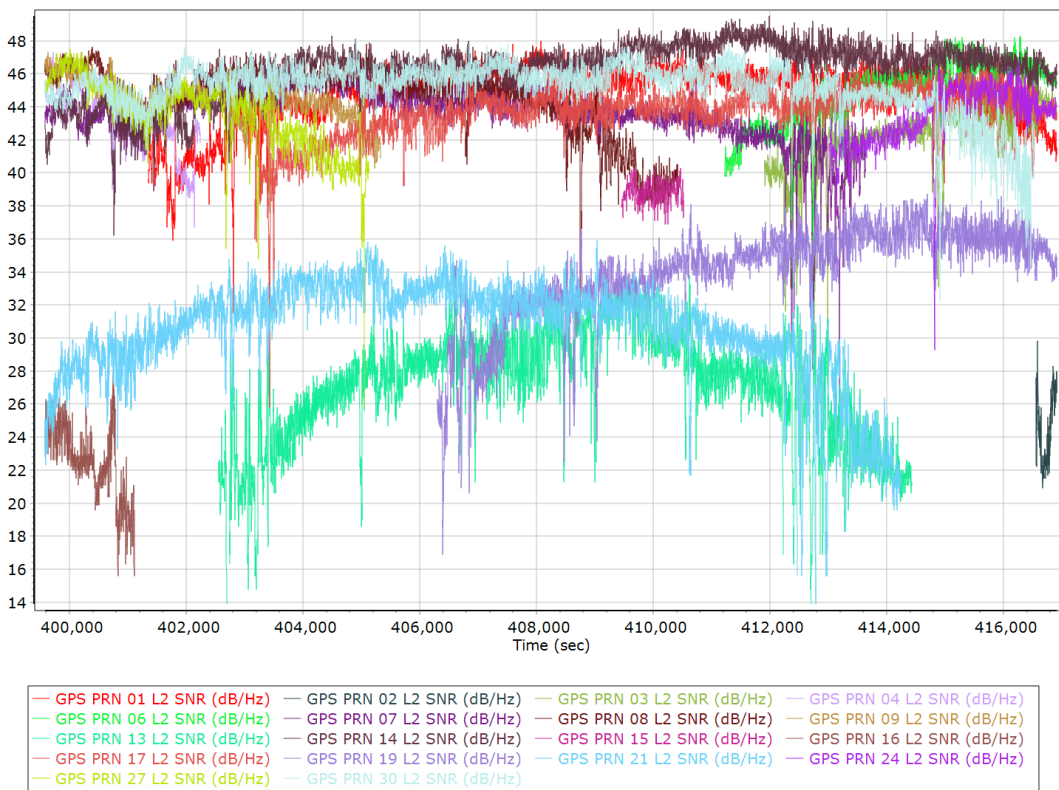


- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 04 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 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) |                           |

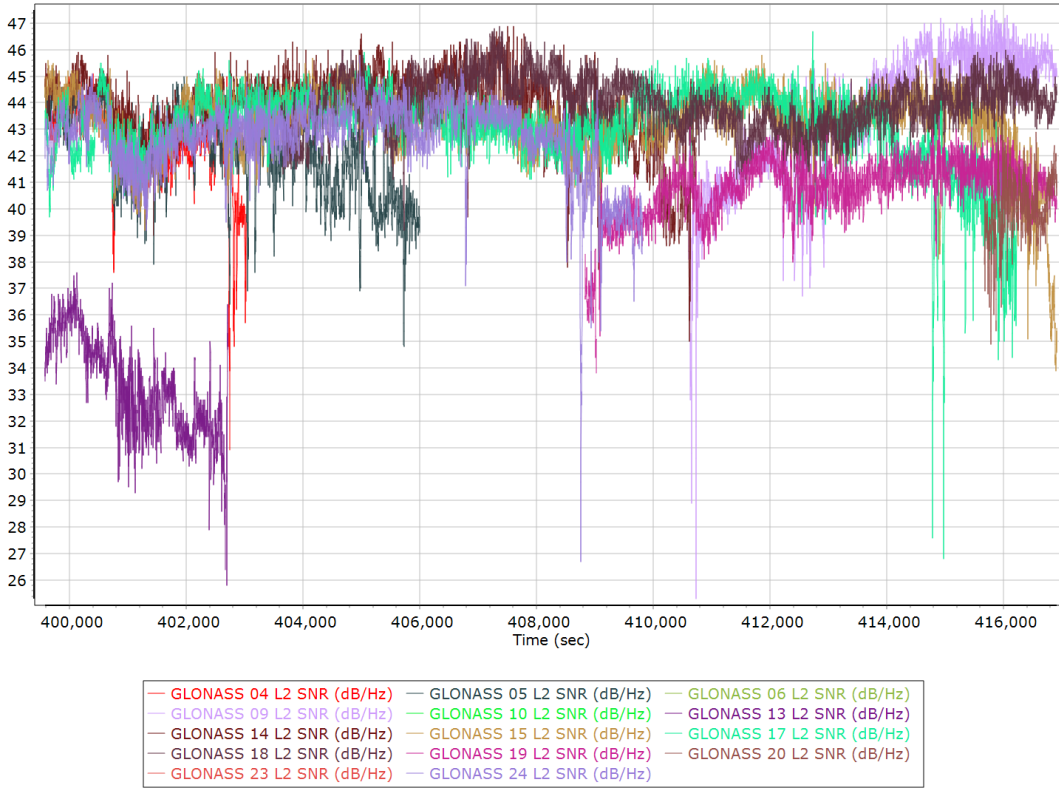
### GPS/GLONASS L2 Satellite Lock/Elevation



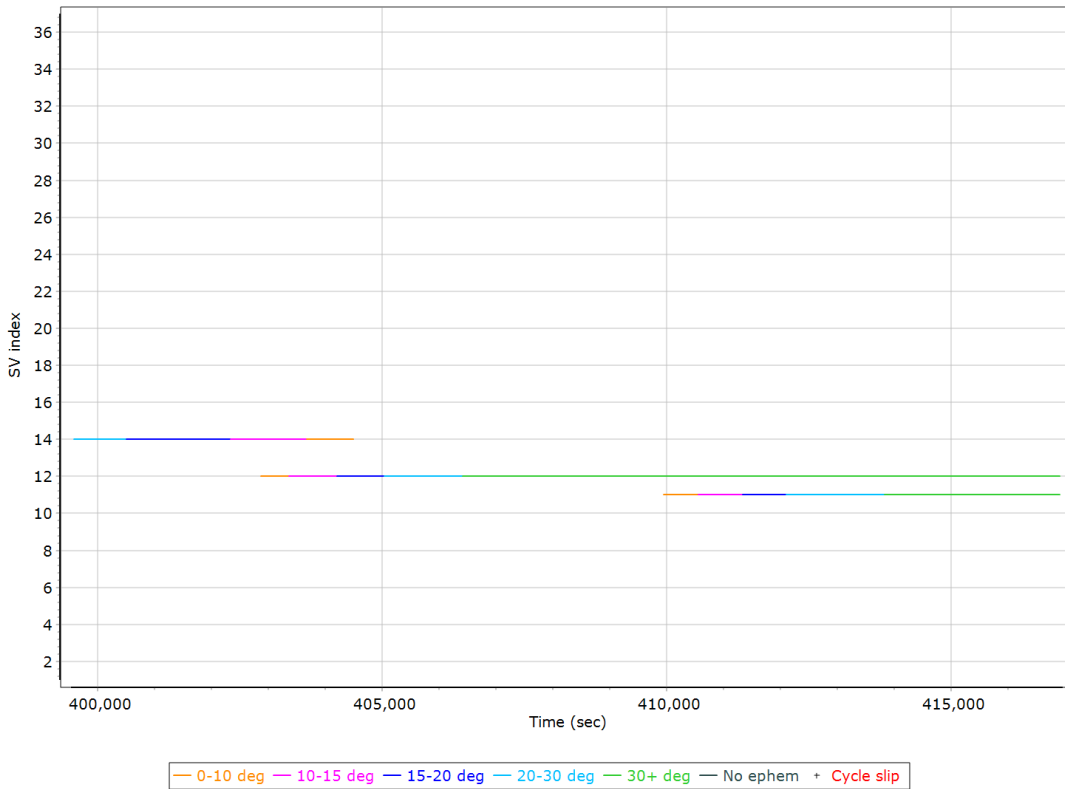
### GPS L2 SNR



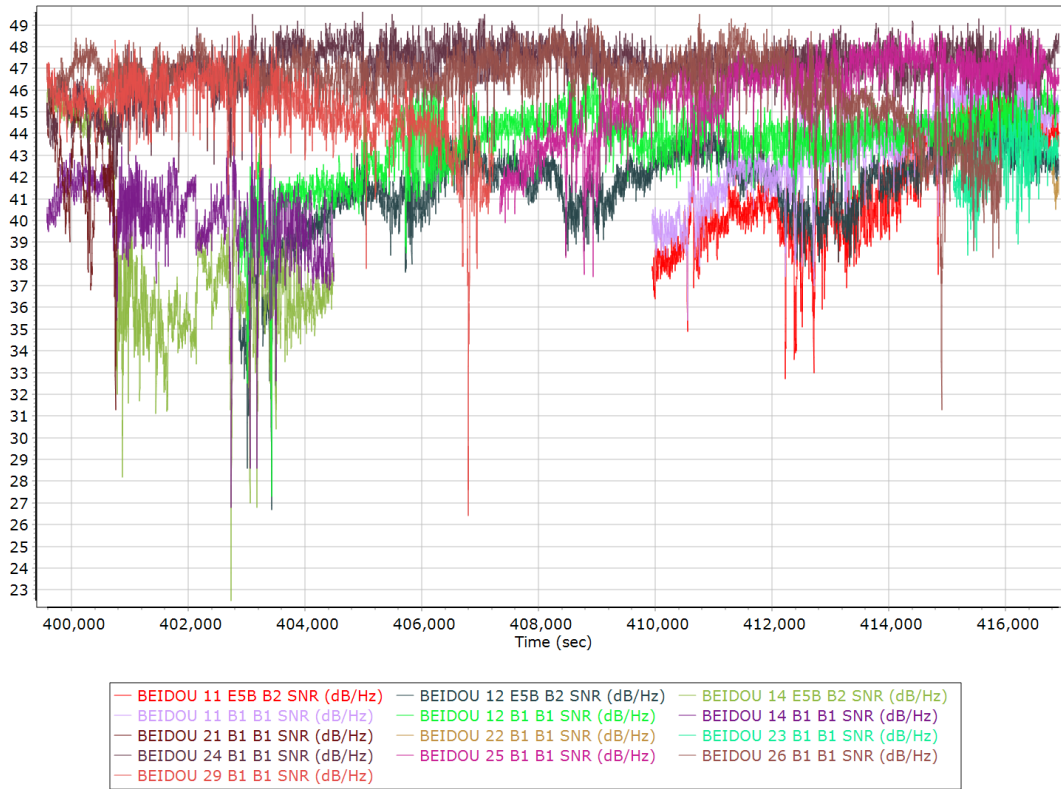
### GLONASS L2 SNR



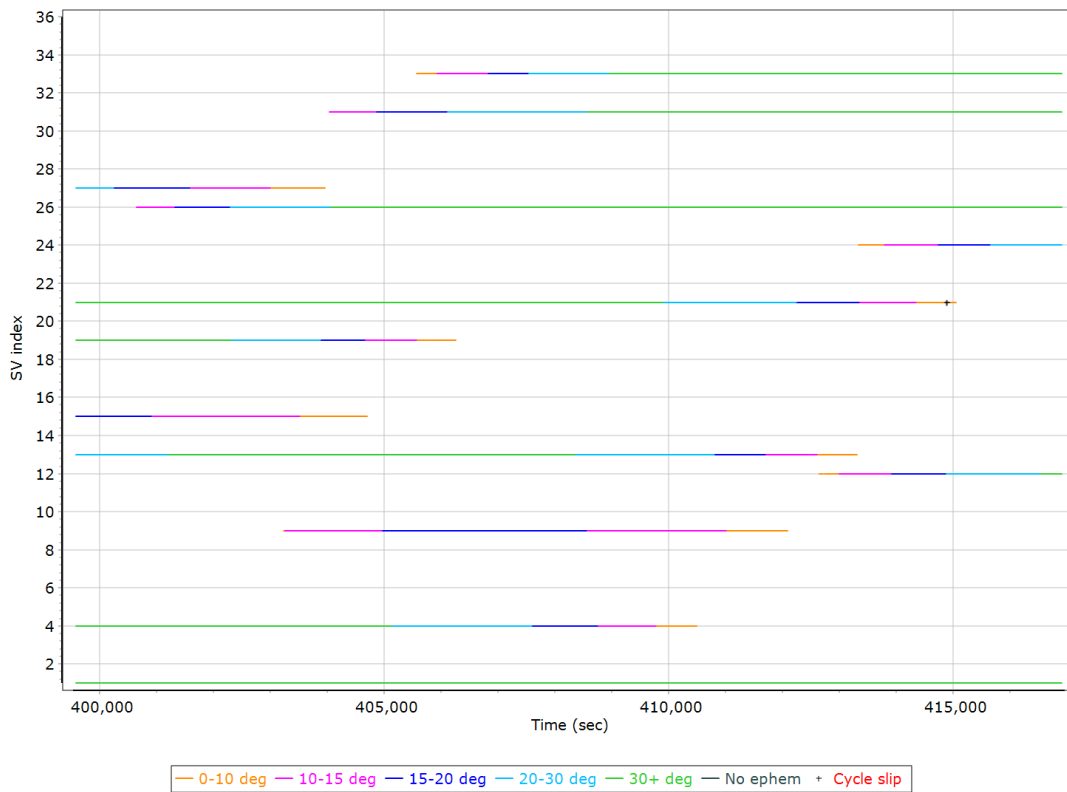
### BEIDOU Satellite Lock/Elevation



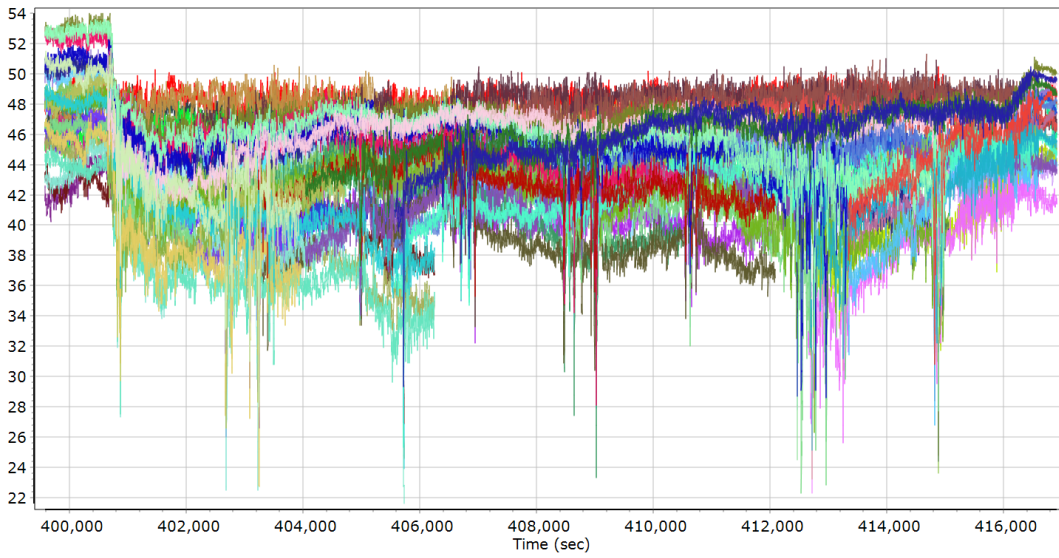
### BEIDOU SNR



### GALILEO Satellite Lock/Elevation



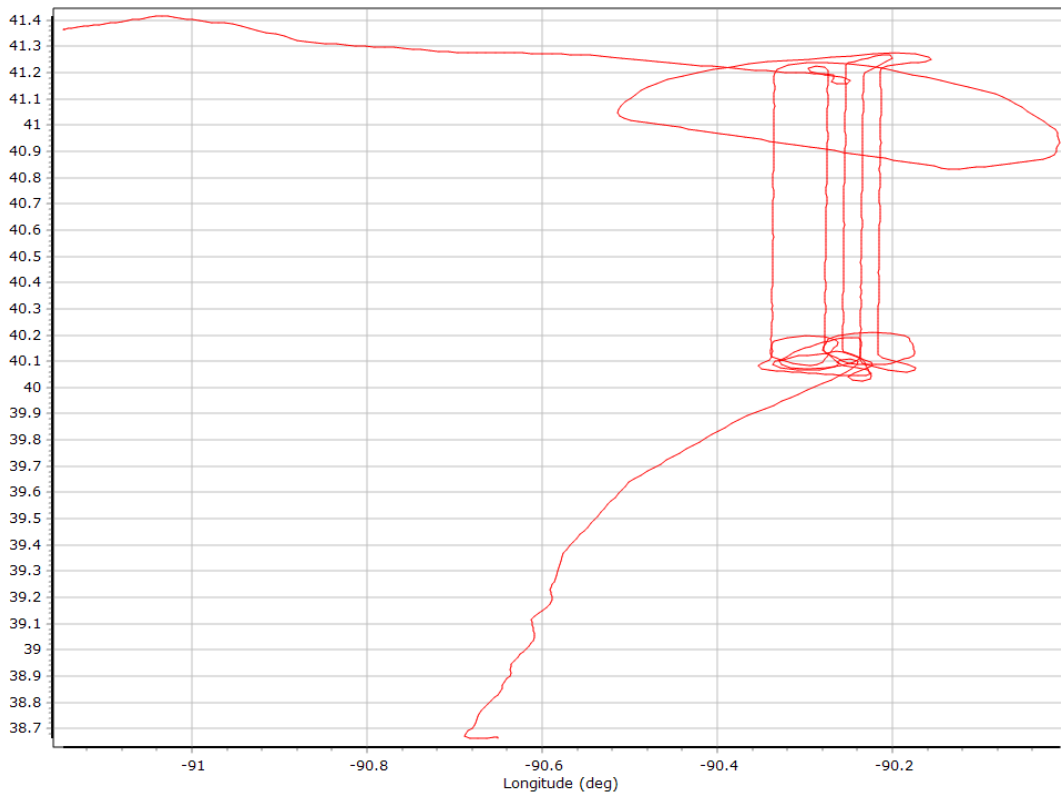
## GALILEO SNR



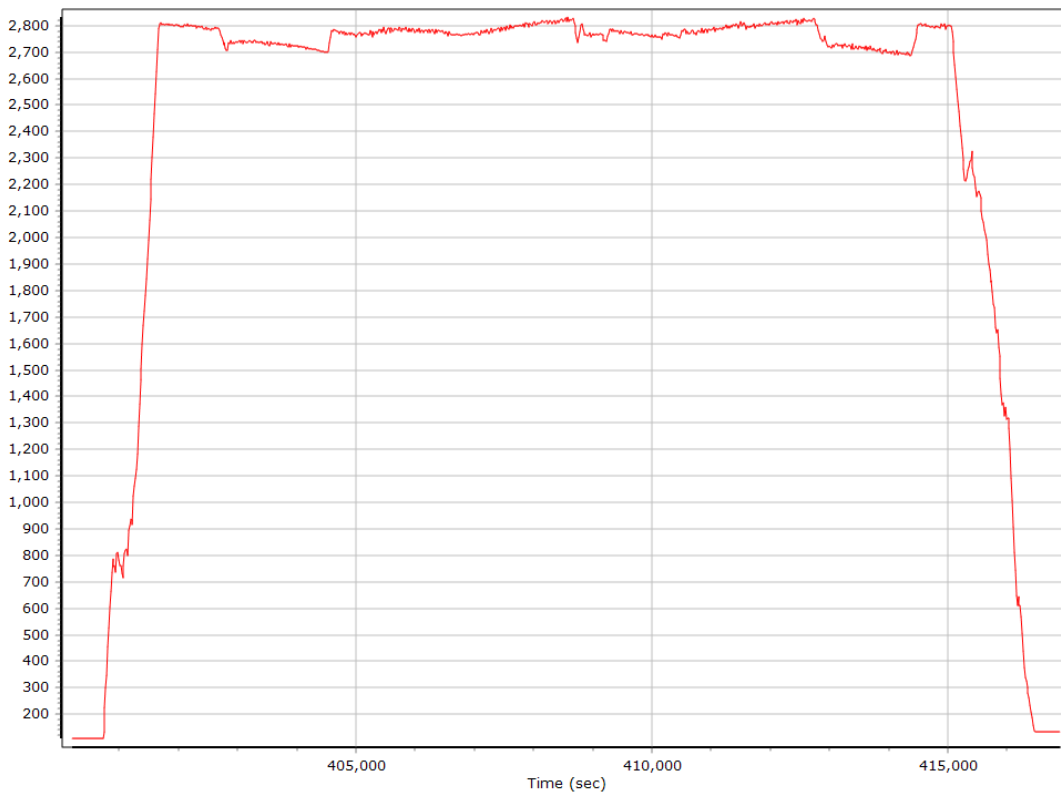
— GALILEO 01 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 04 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 09 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 12 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 13 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 15 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 19 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 21 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 24 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 31 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 33 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 01 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 12 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 15 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 19 L5E5A BPSK10_PD SNR (dB/Hz)

## Smoothed Trajectory Information

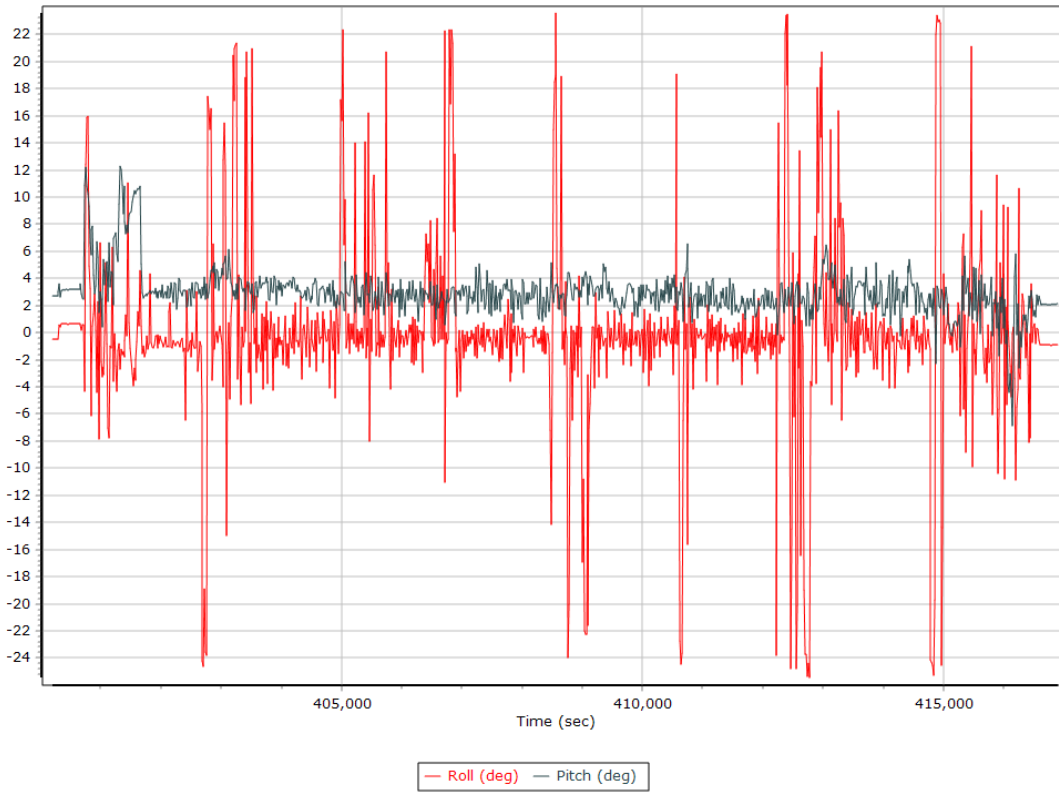
### Top View



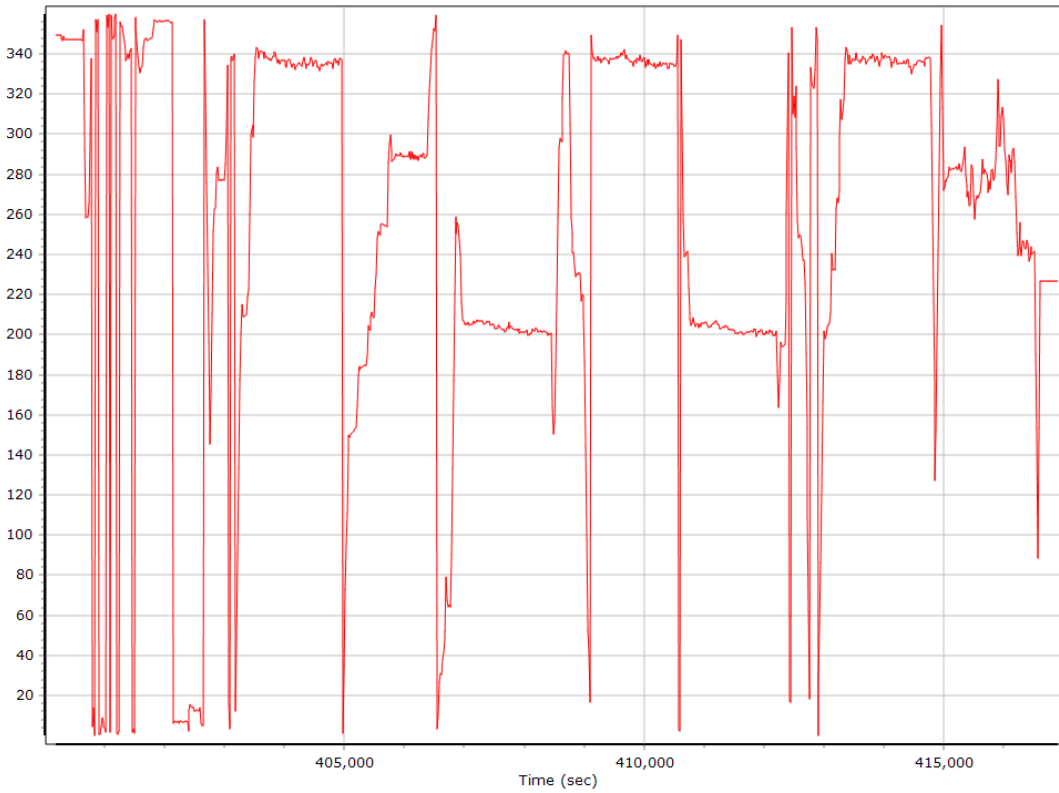
### Altitude



## Roll/Pitch

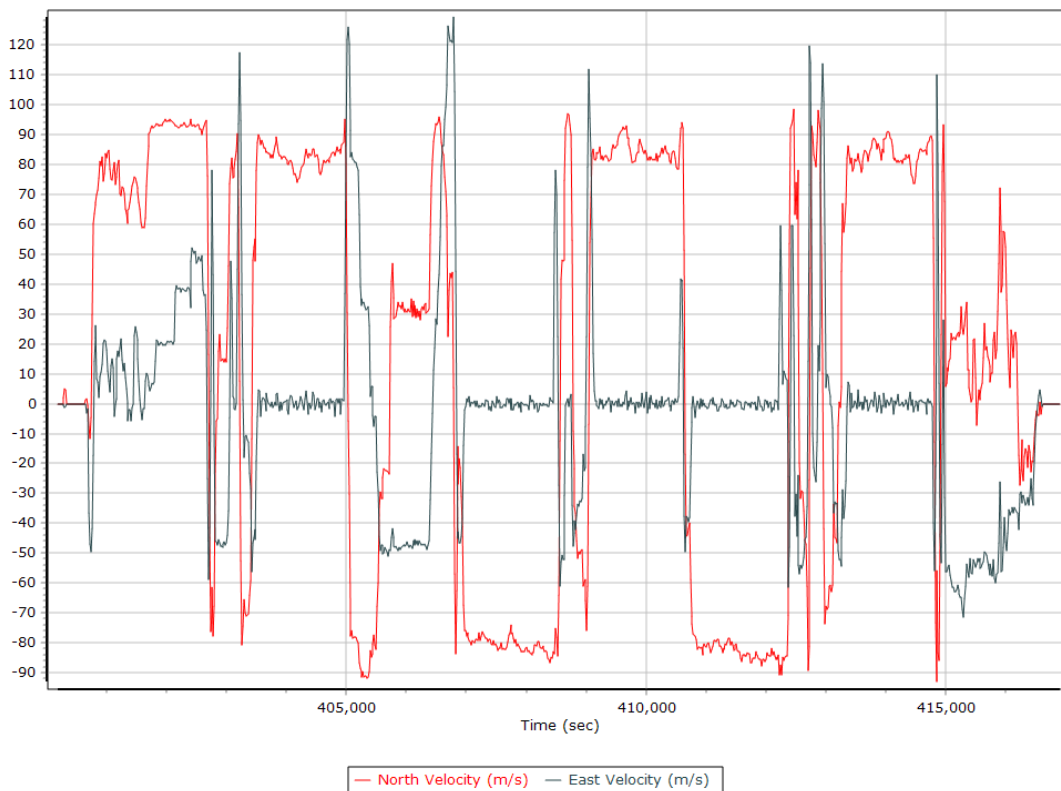


## Heading

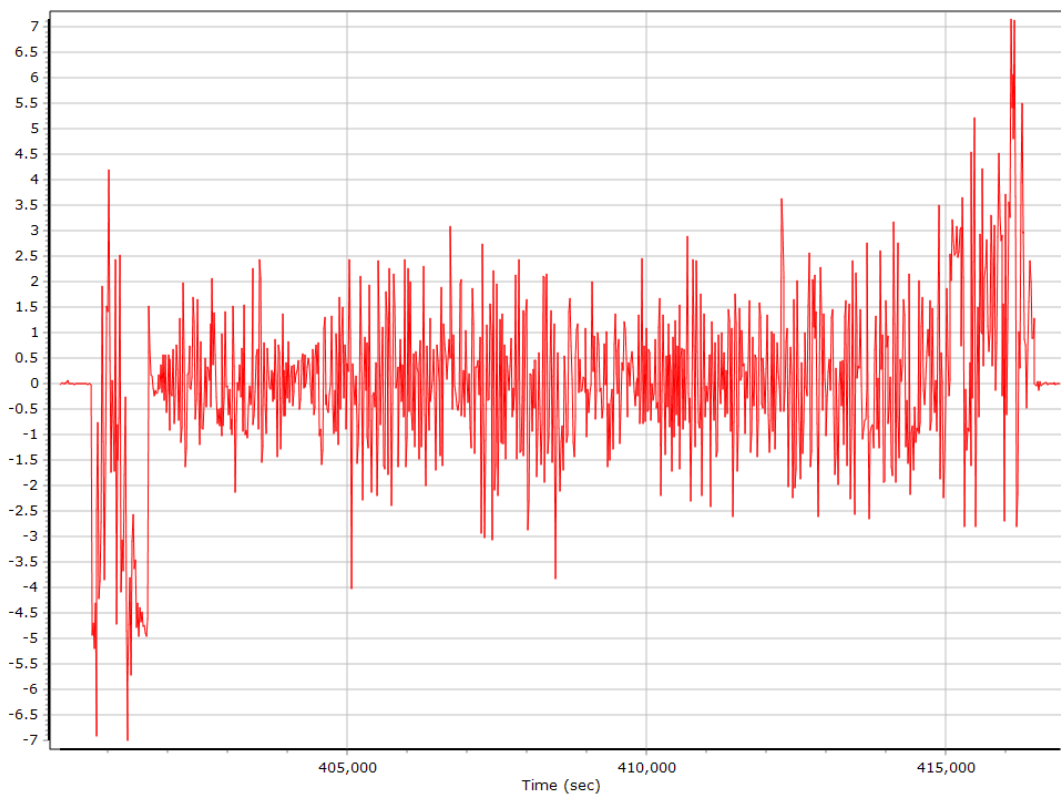




### North/East Velocity

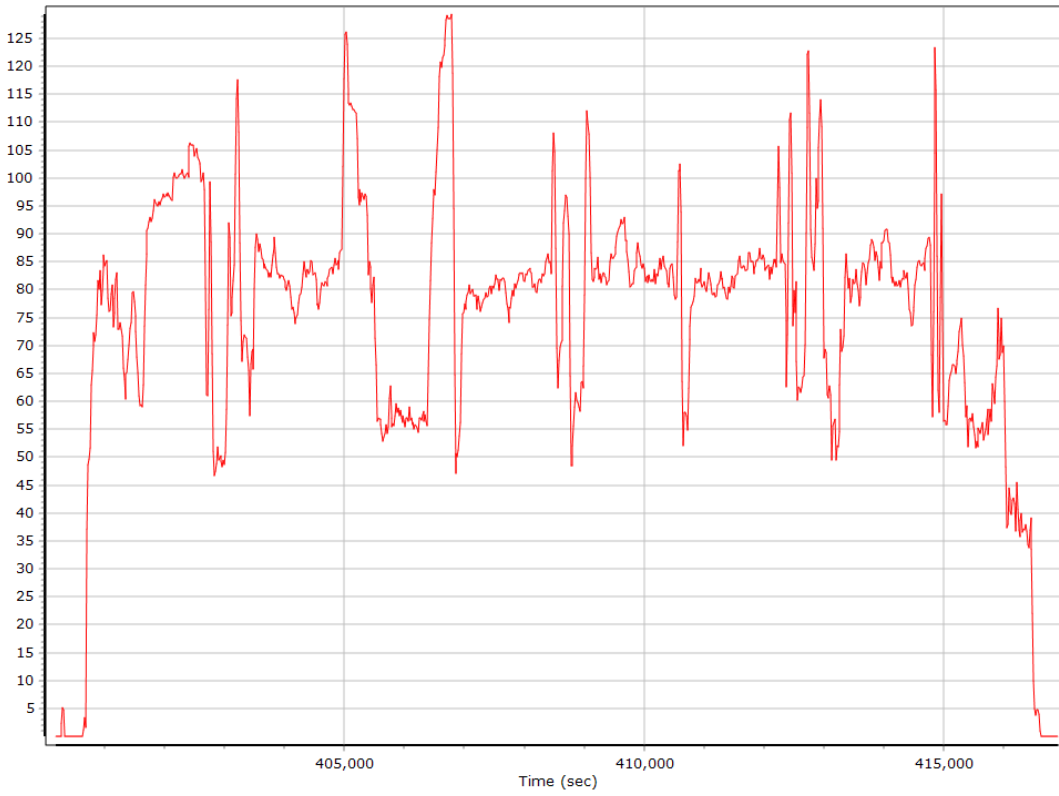


### Down Velocity

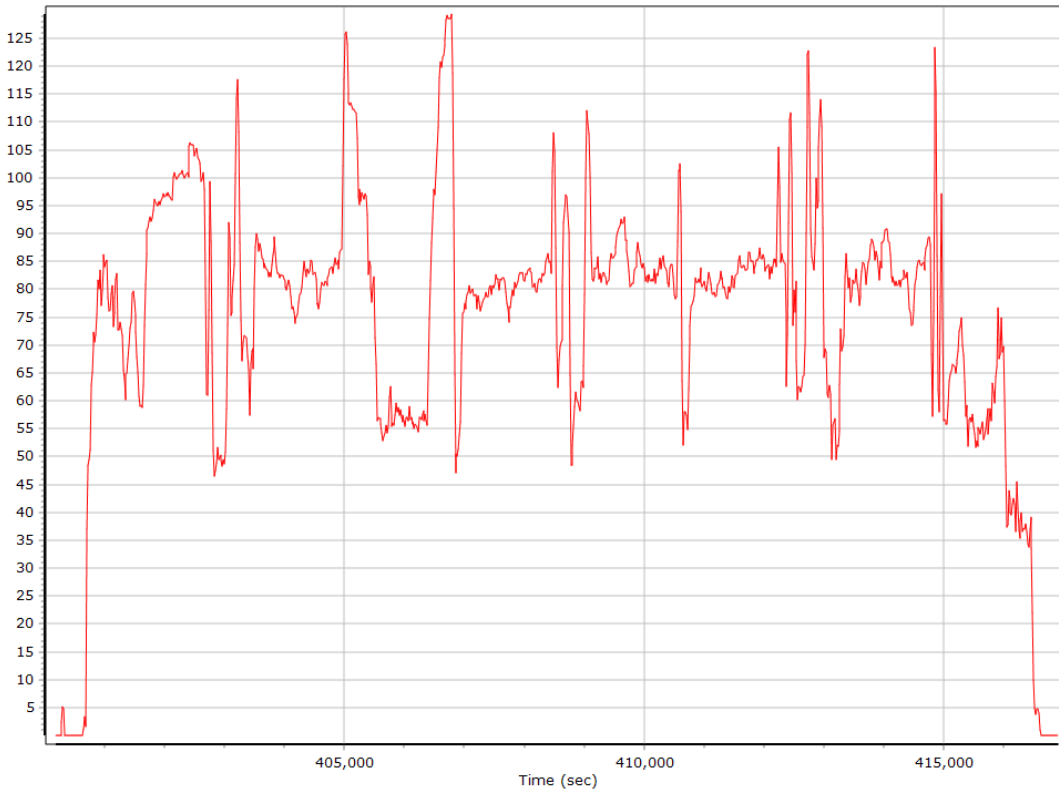




## Total Speed



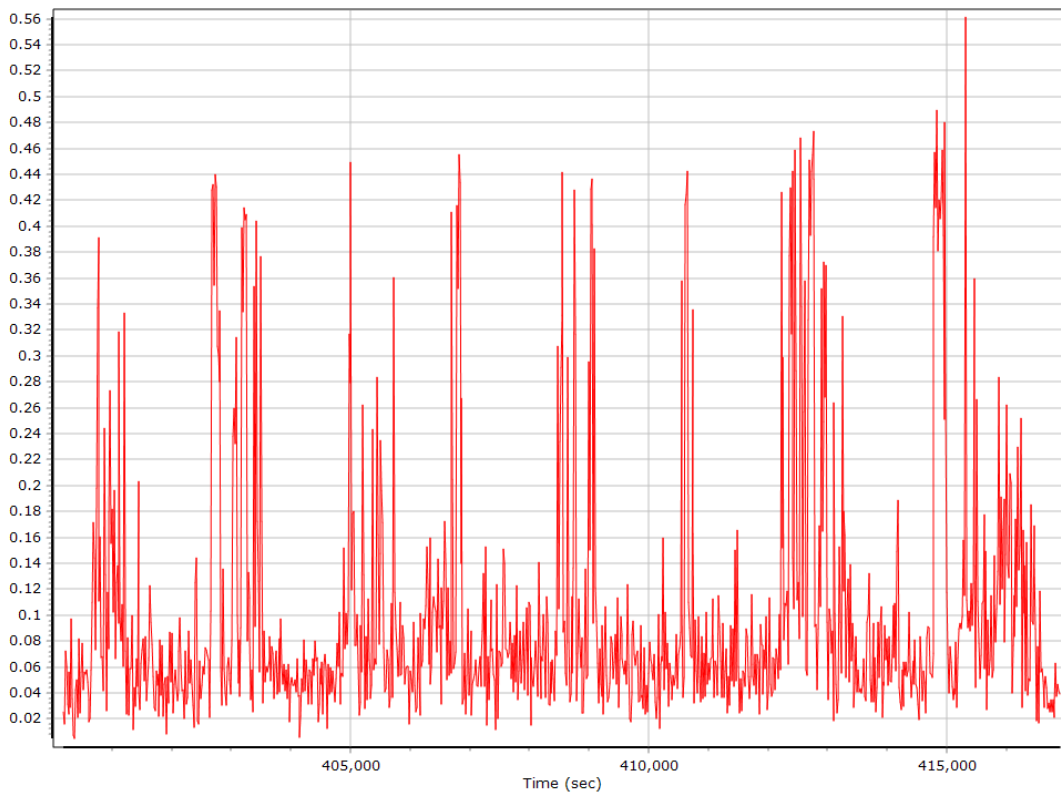
## Ground Speed



## Body Acceleration



## Total Body Acceleration

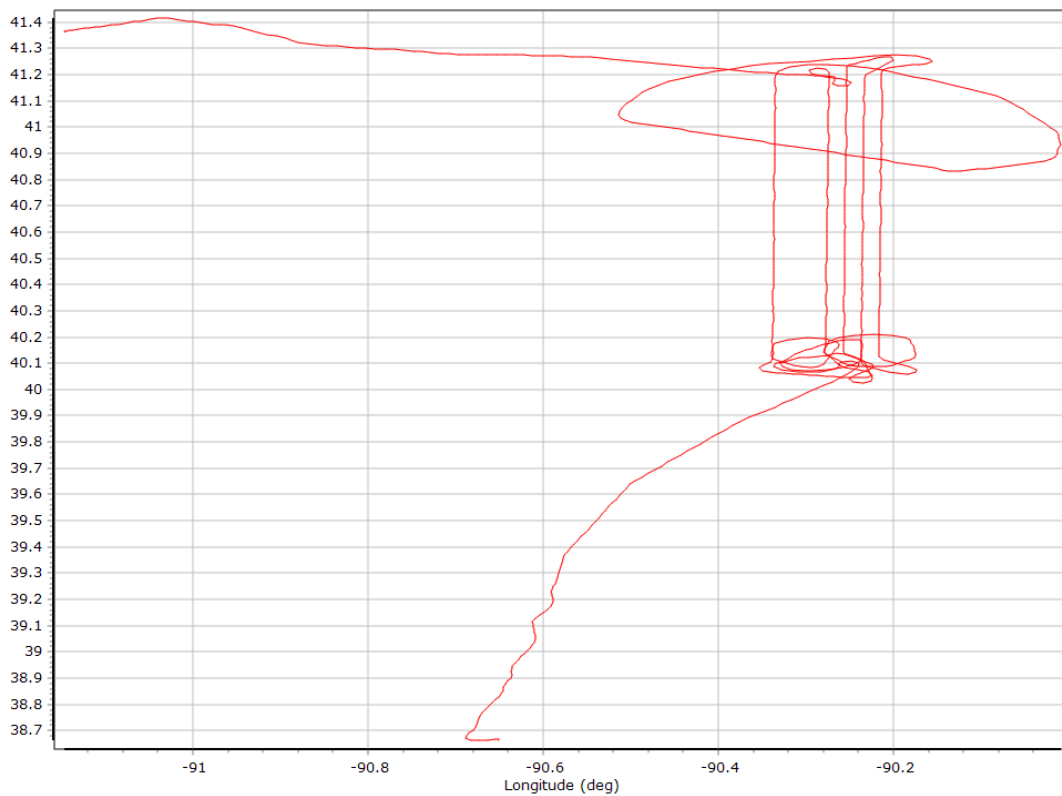


## Body Angular Rate

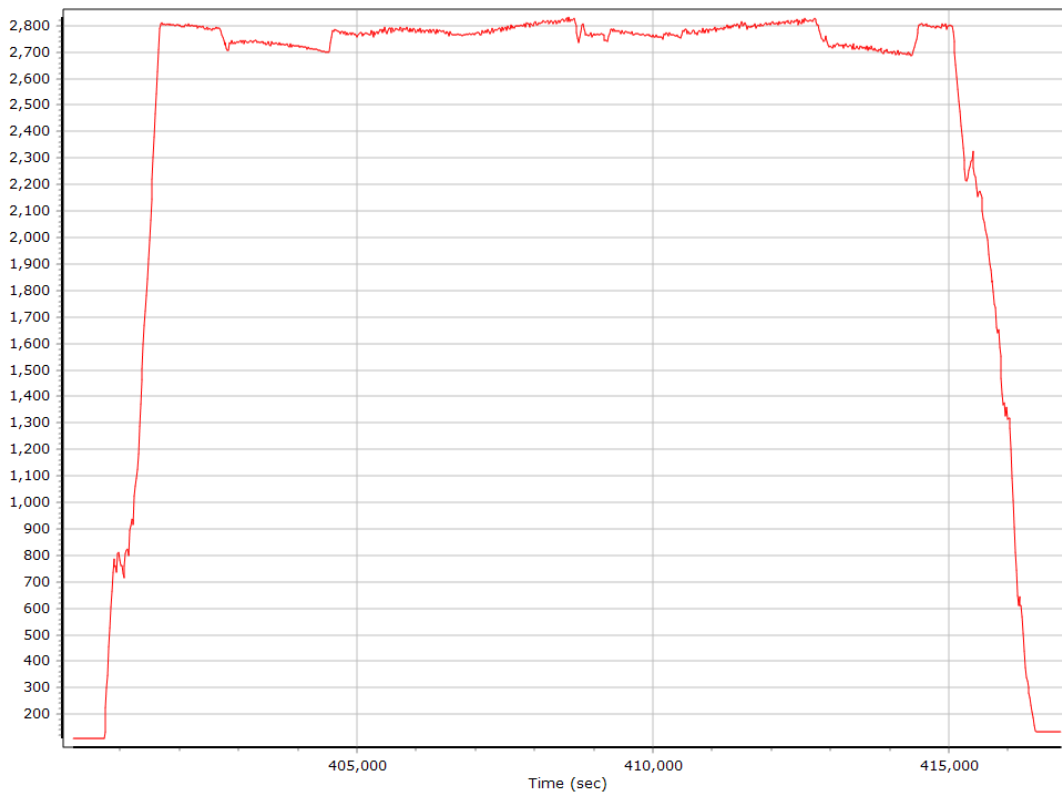


## Forward Processed Trajectory Information

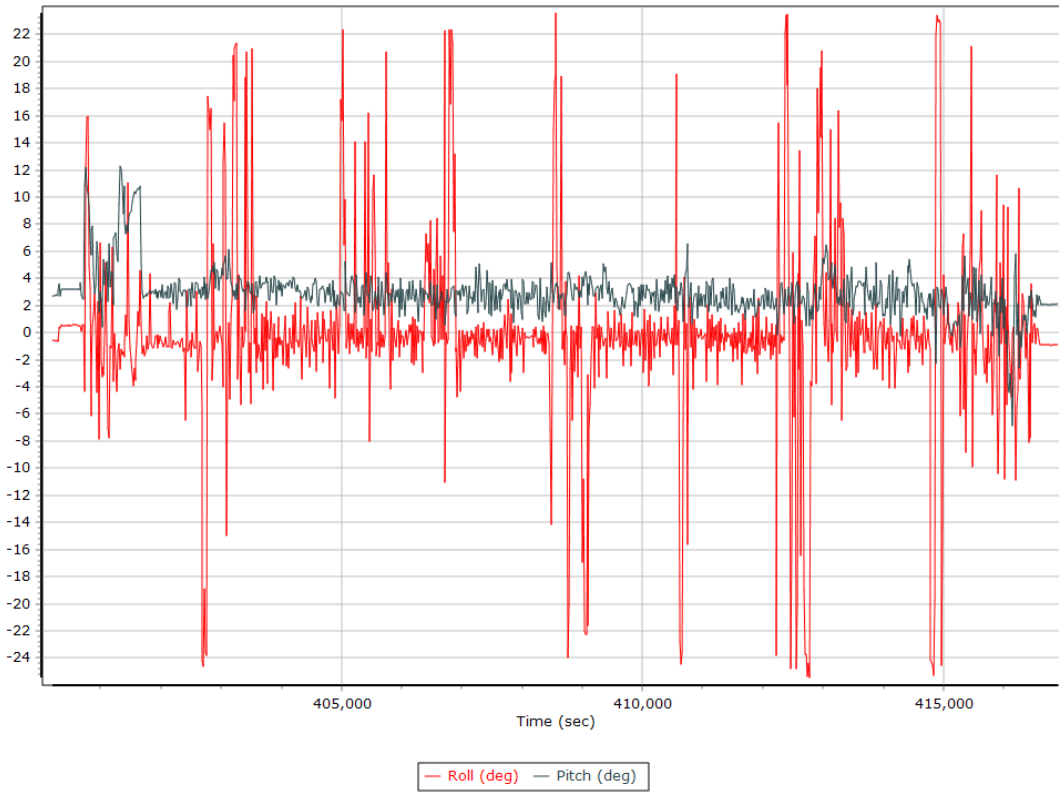
### Top View



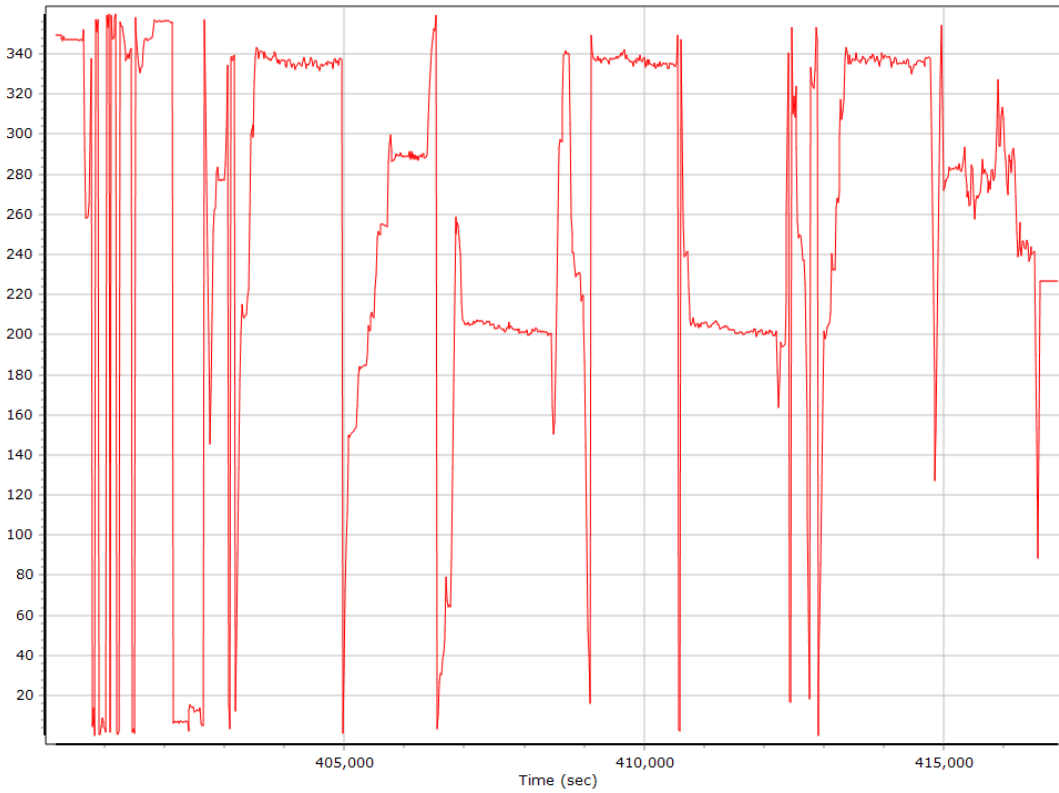
### Altitude



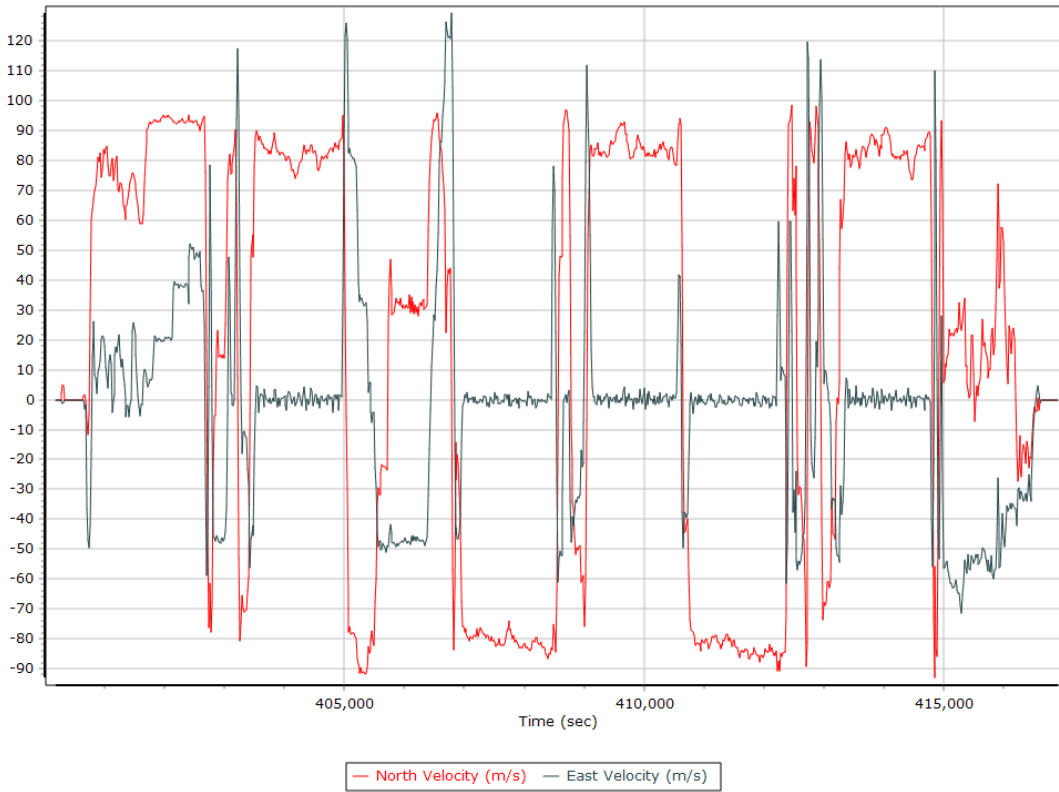
## Roll/Pitch



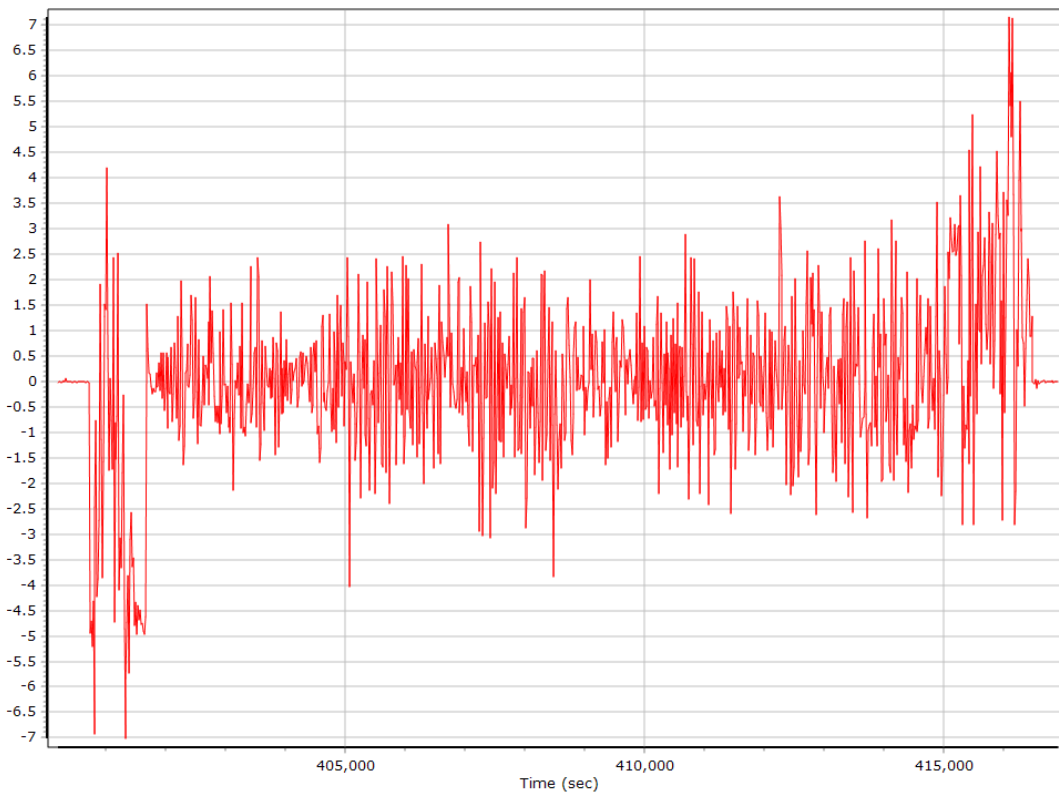
## Heading



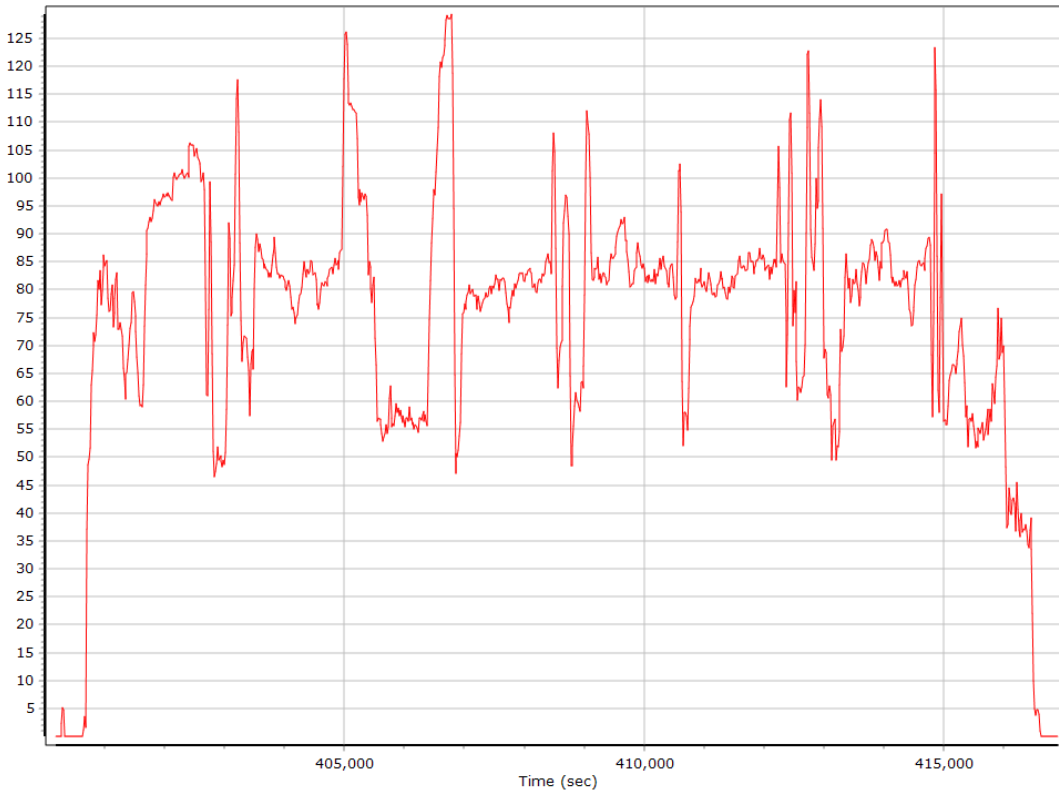
## North/East Velocity



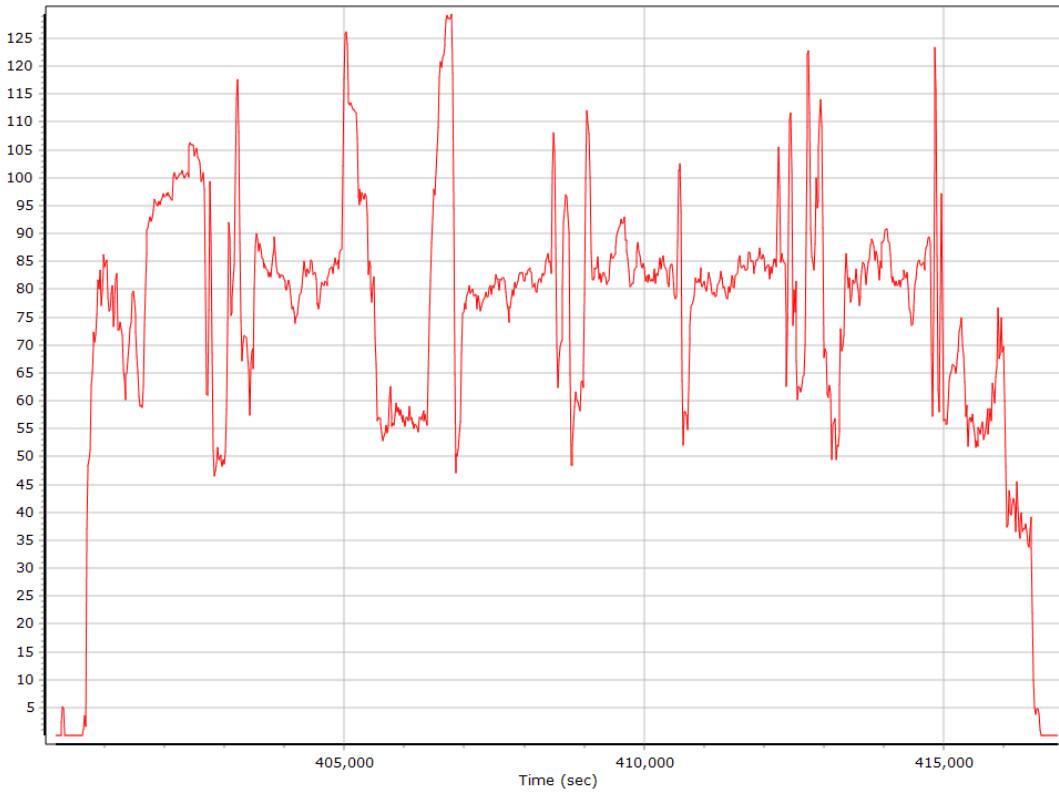
## Down Velocity



## Total Speed



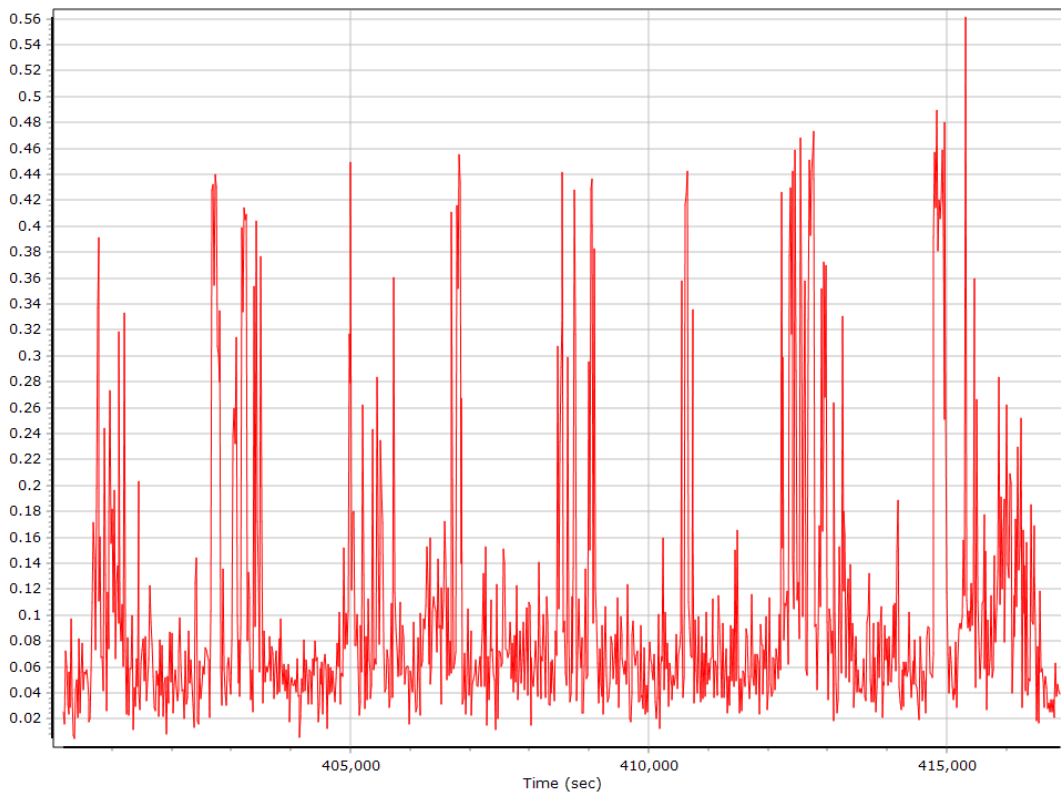
## Ground Speed



## Body Acceleration

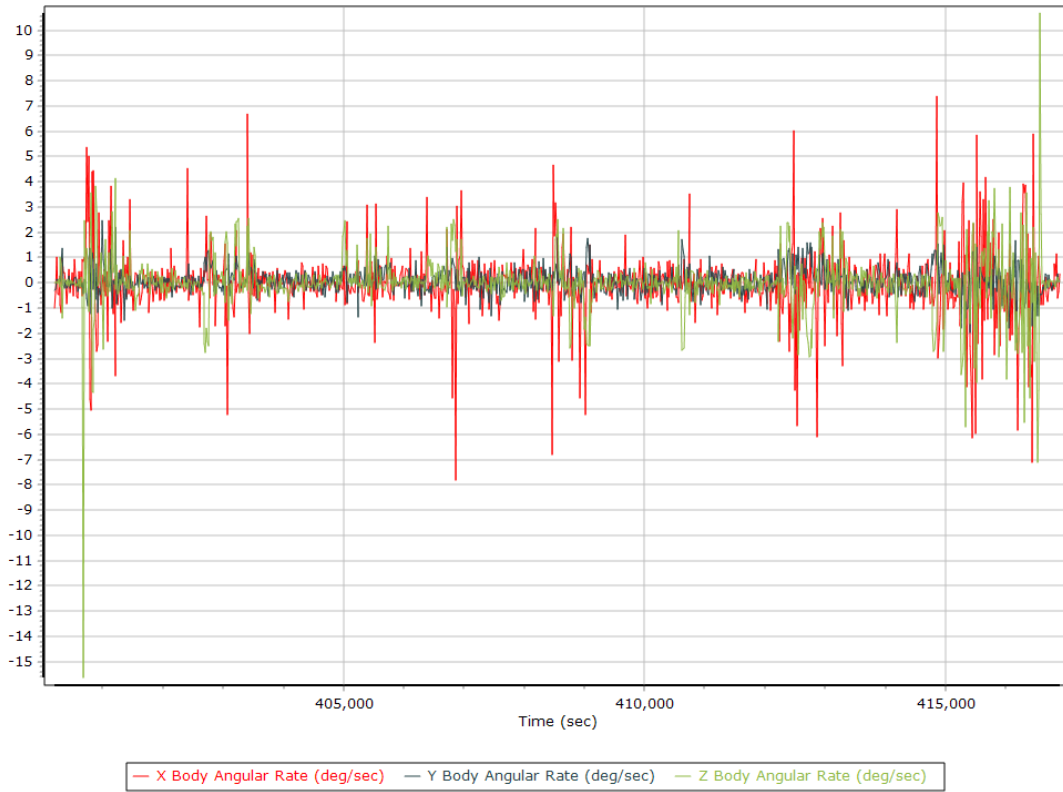


## Total Body Acceleration





## Body Angular Rate

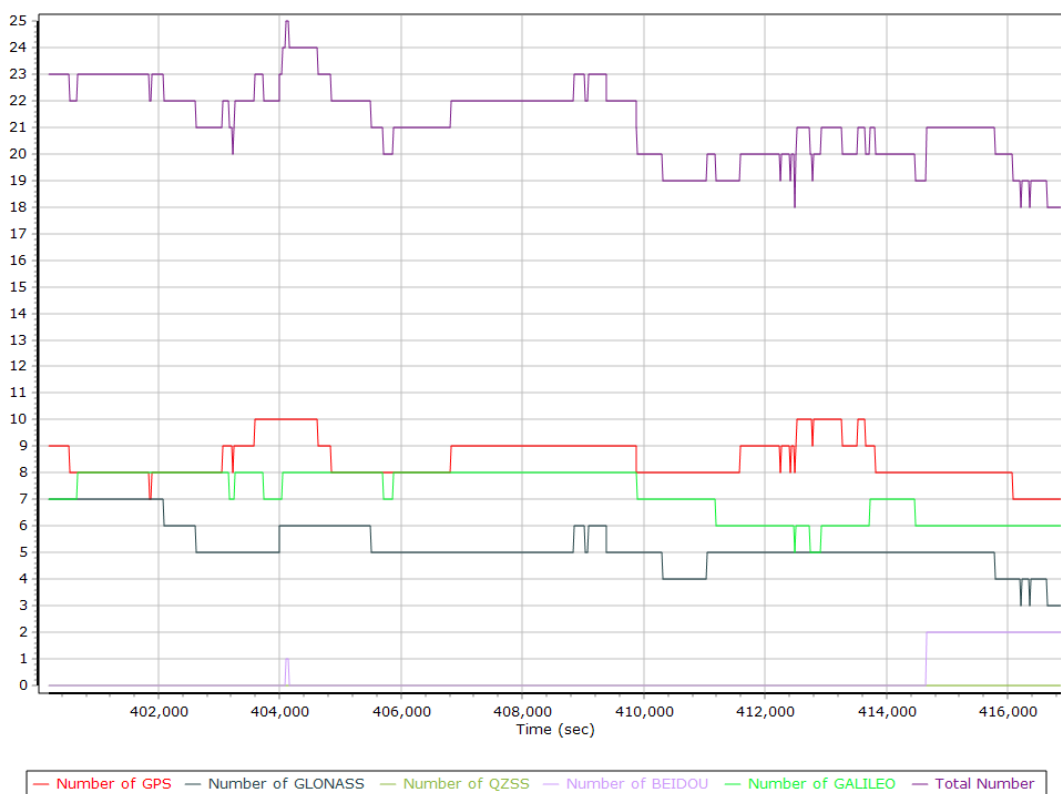


## GNSS QC

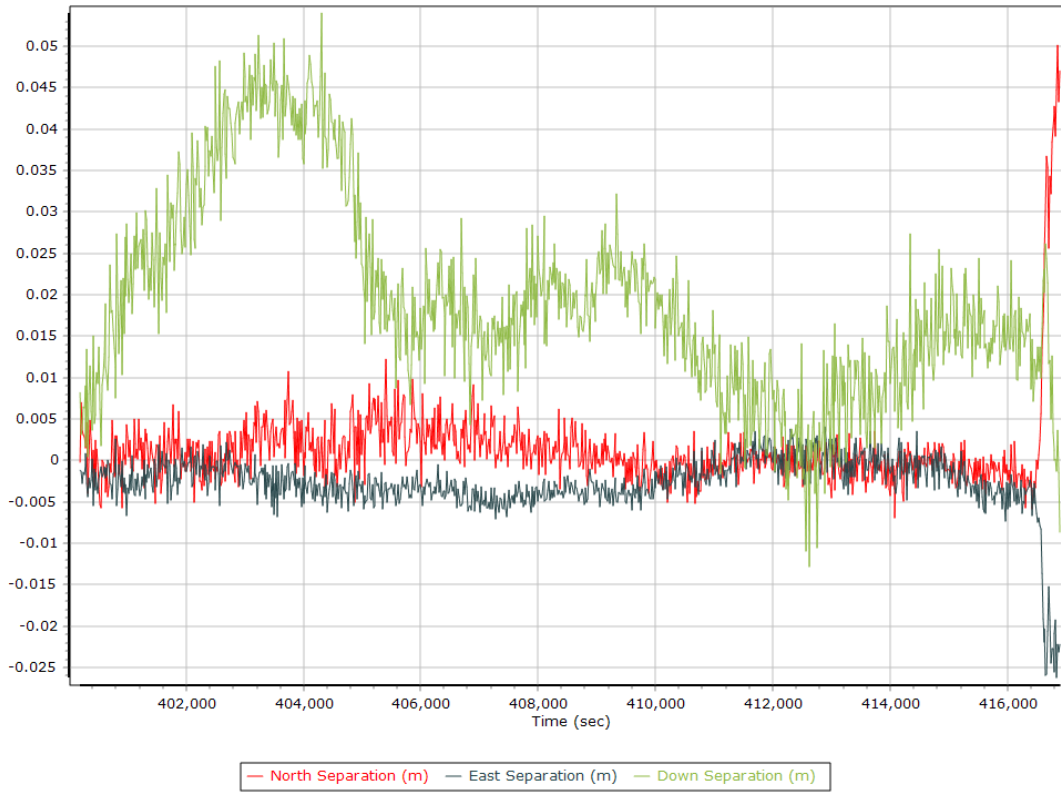
### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	7	10	9
Number of GLONASS SV	3	7	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	2	0
Number of GALILEO SV	5	8	7
Total number of SV	18	25	21
PDOP	0.98	1.47	1.15
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	17289.00	0.00	0.00
Percentage	100.00	0.00	0.00

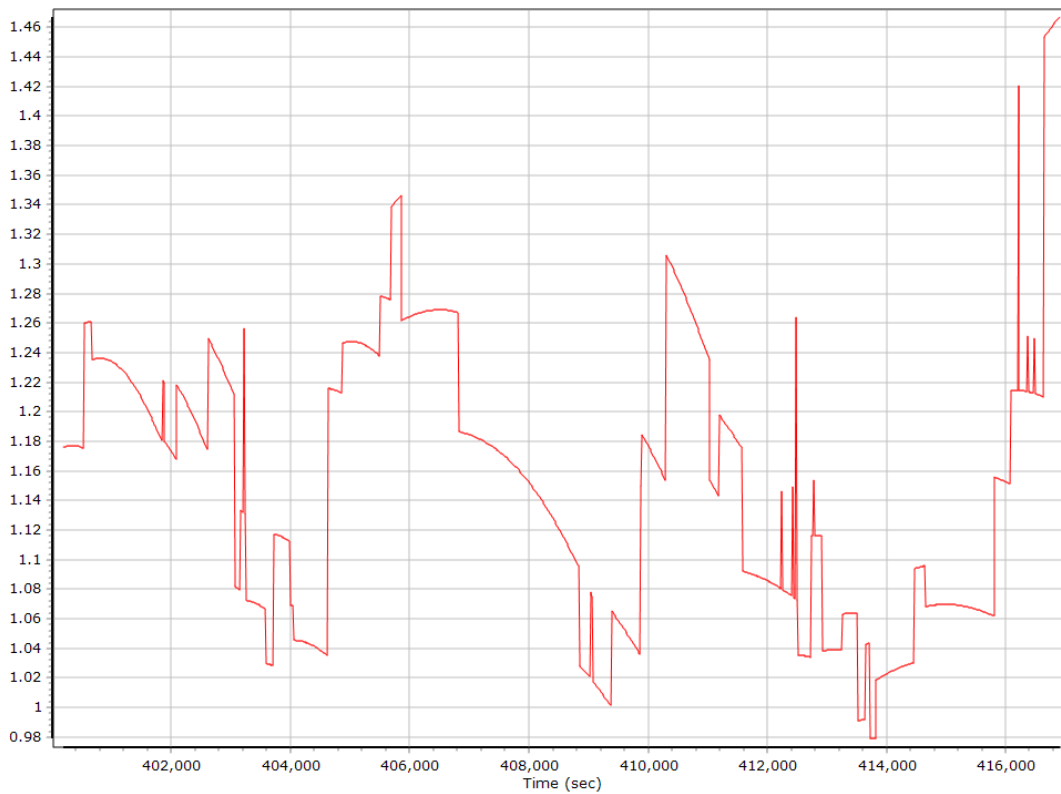
### Num SVs in solution



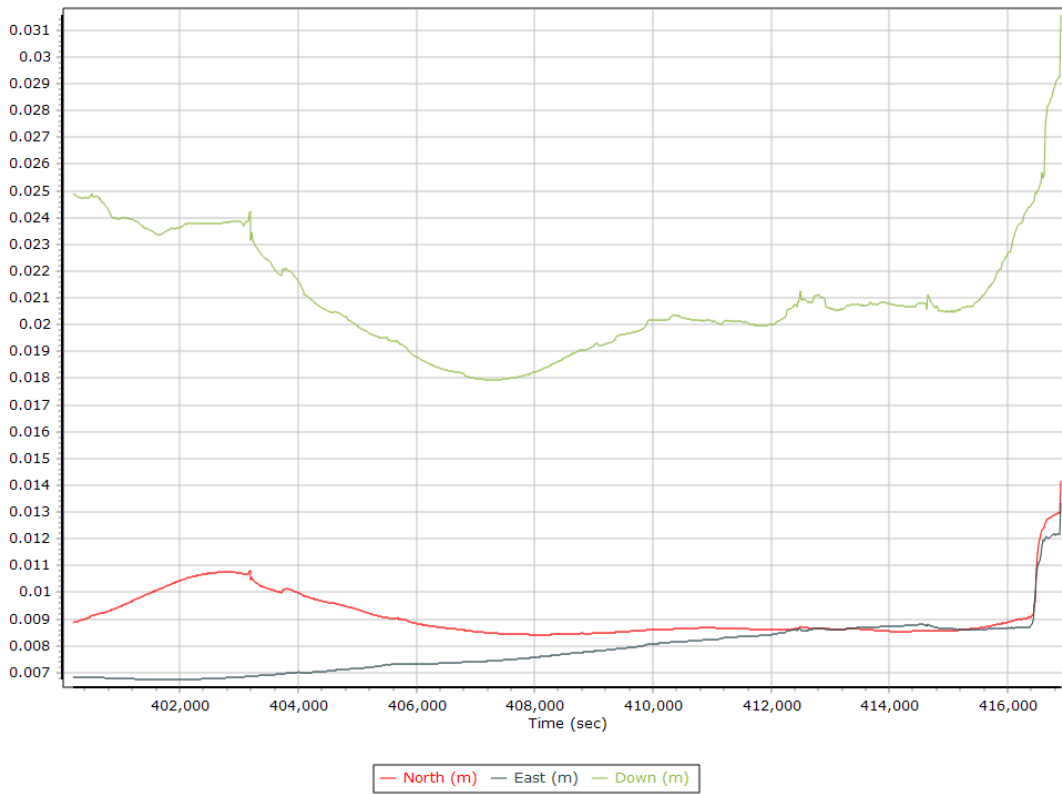
## Forward/Reverse Separation



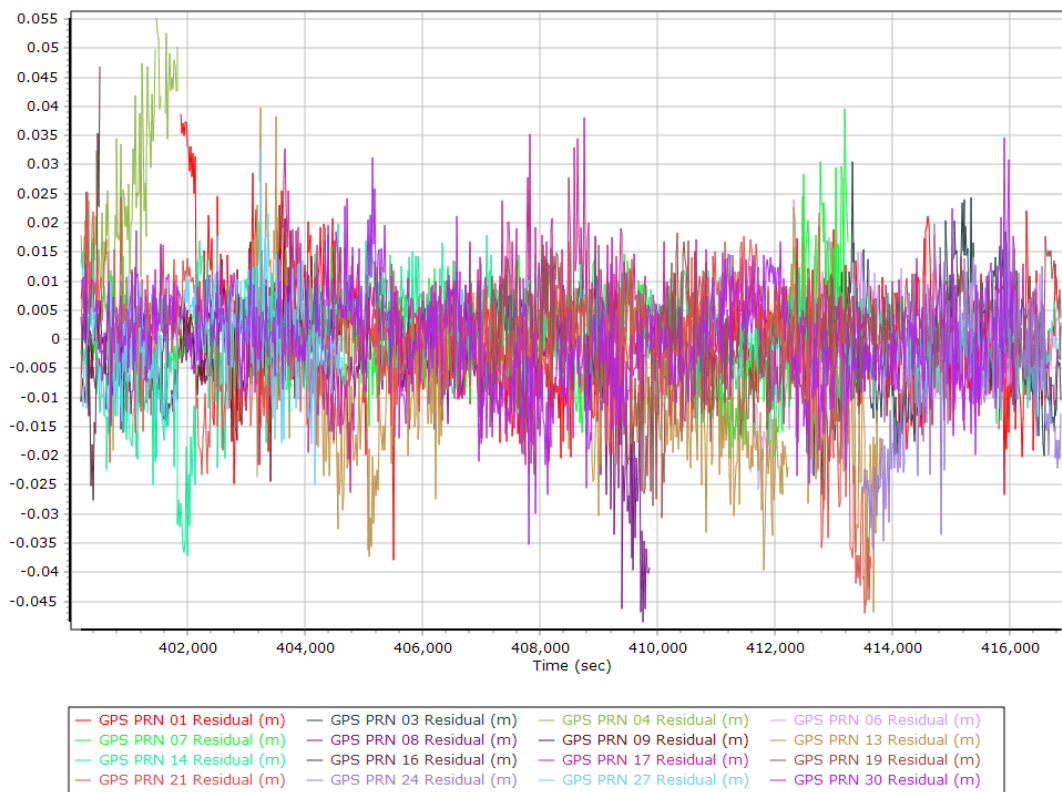
## PDOP



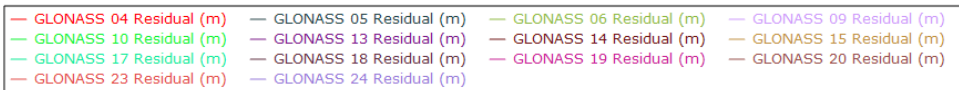
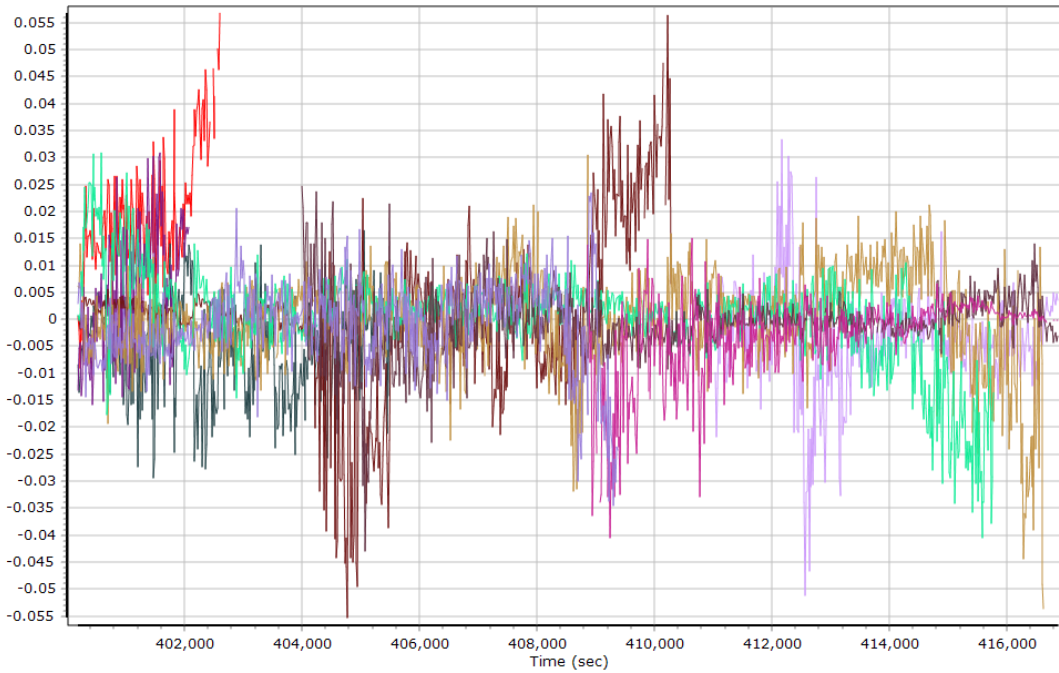
## Estimated Position Accuracy



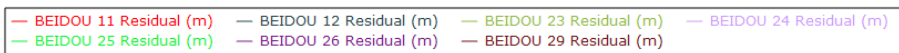
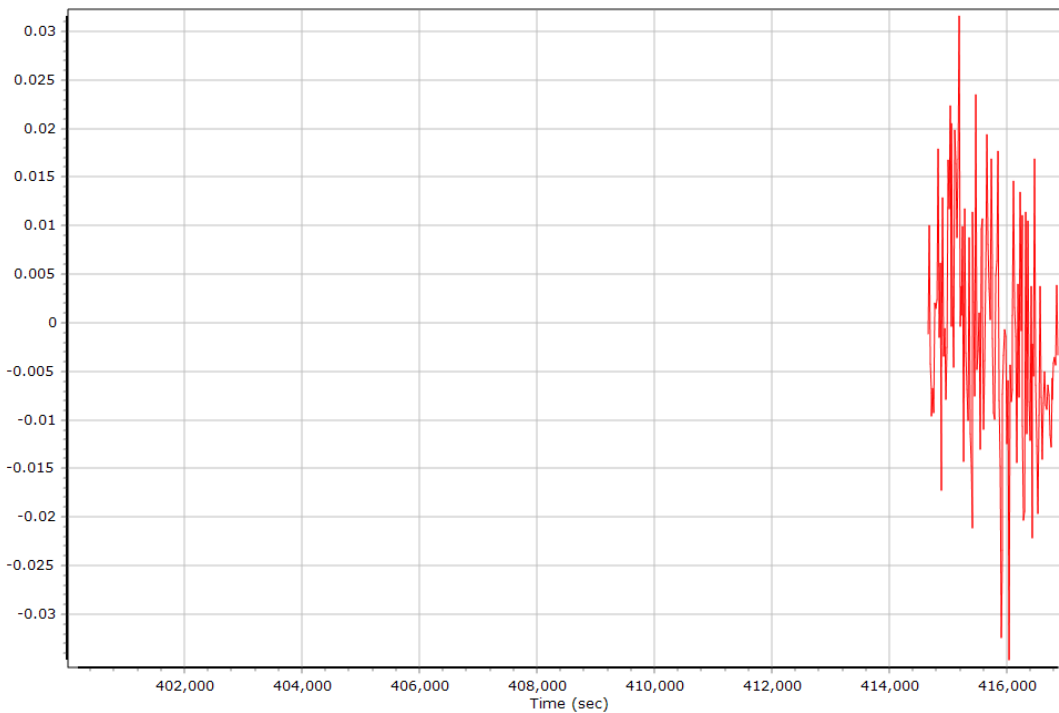
## GPS Residuals



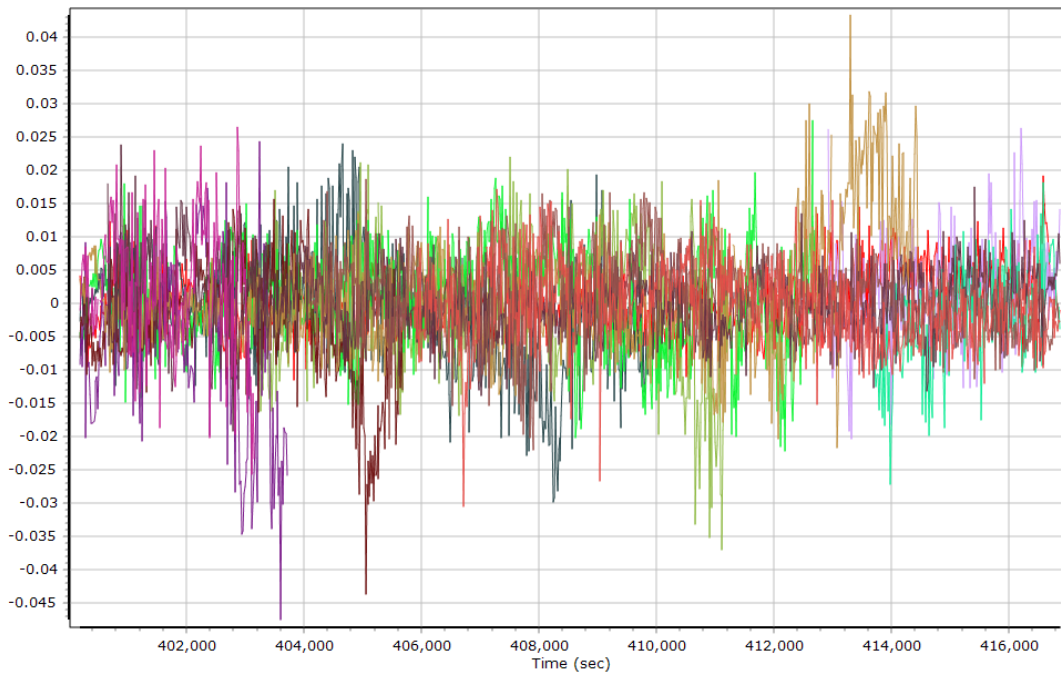
## GLONASS Residuals



## BEIDOU Residuals



## GALILEO Residuals



- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| — GALILEO 01 Residual (m) | — GALILEO 04 Residual (m) | — GALILEO 09 Residual (m) | — GALILEO 12 Residual (m) |
| — GALILEO 13 Residual (m) | — GALILEO 15 Residual (m) | — GALILEO 19 Residual (m) | — GALILEO 21 Residual (m) |
| — GALILEO 24 Residual (m) | — GALILEO 26 Residual (m) | — GALILEO 27 Residual (m) | — GALILEO 31 Residual (m) |
| — GALILEO 33 Residual (m) |                           |                           |                           |

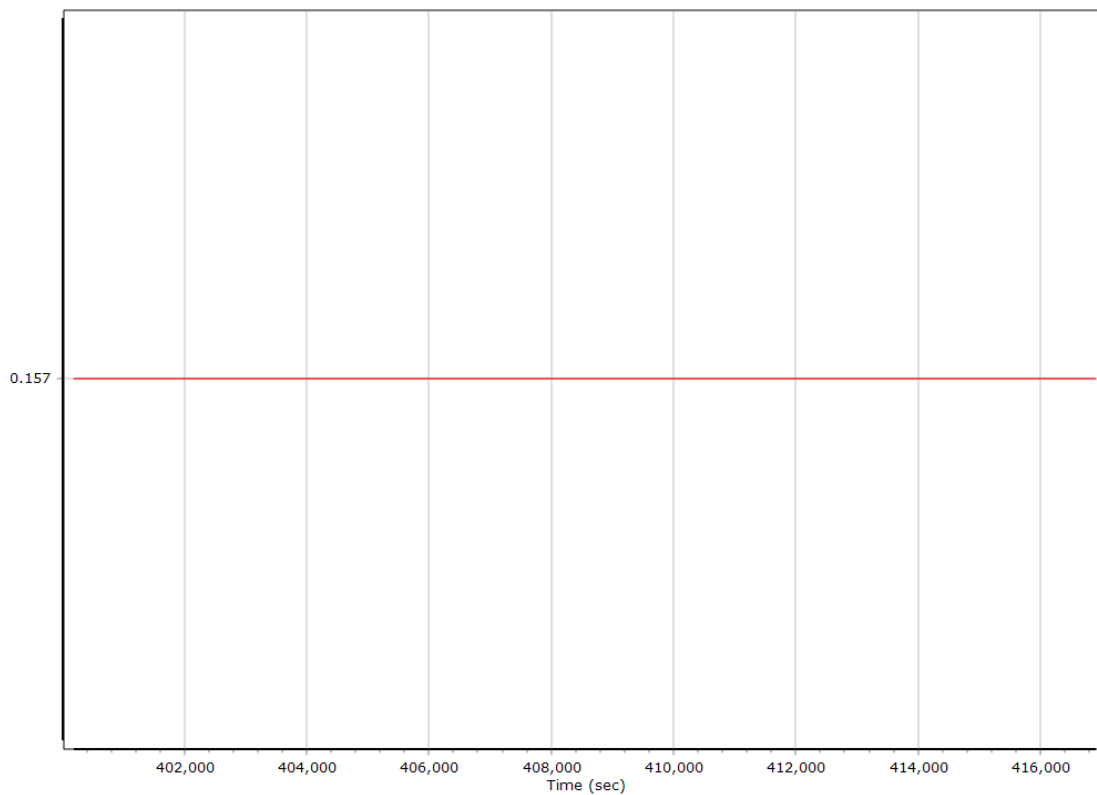
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	399586.000 (04/14/2022 14:59:46)		
Processing end time	416914.000 (04/14/2022 19:48:34)		
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)	0.157	-0.150	-1.090
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

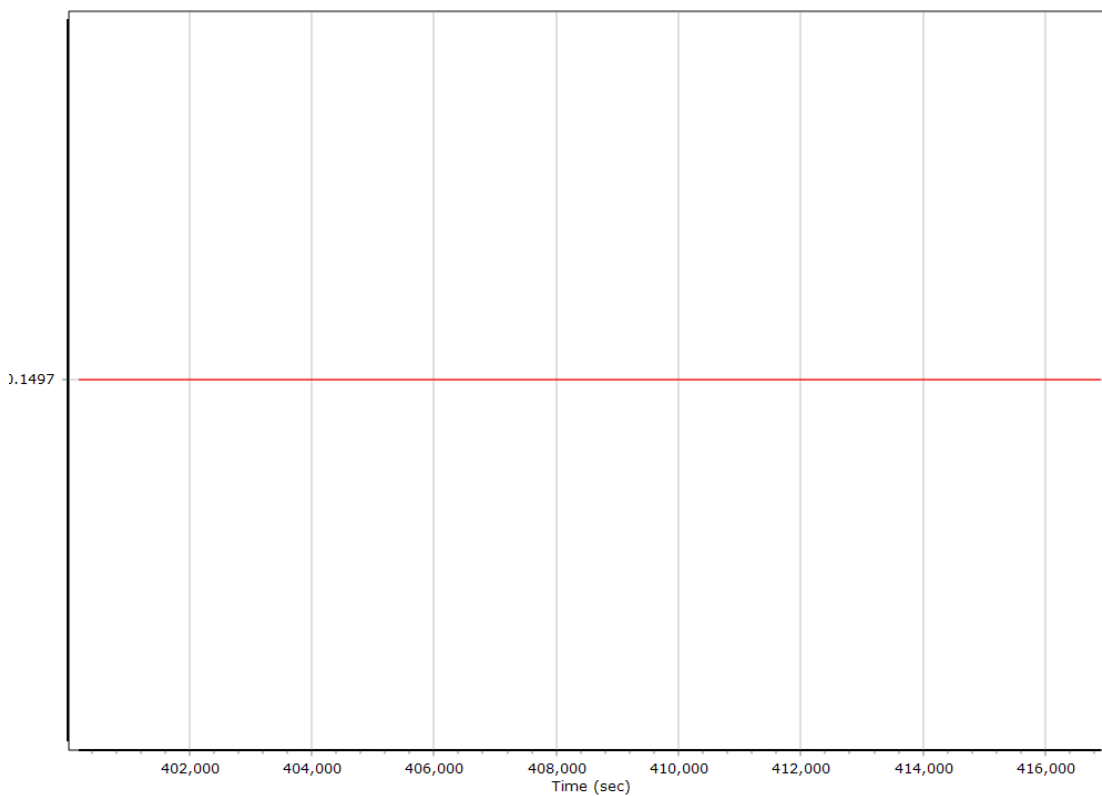
## Calibrated Installation Parameters

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

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

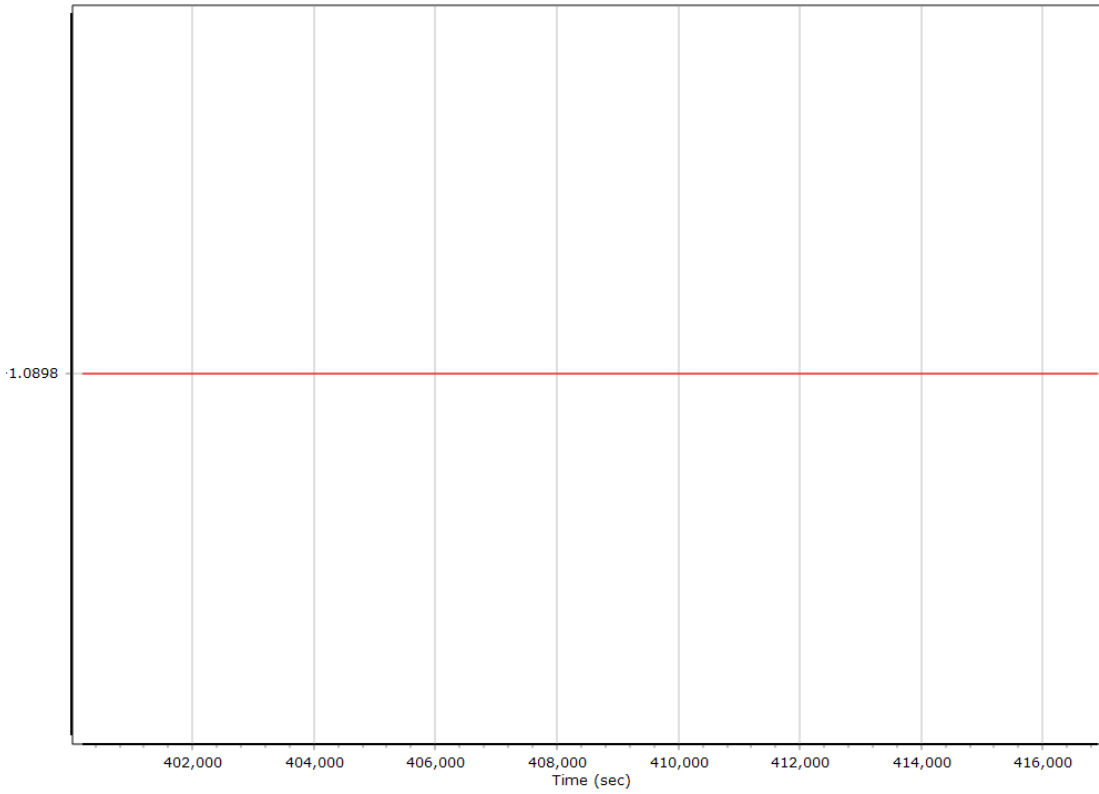


#### Y Reference-Primary GNSS Lever Arm (m)

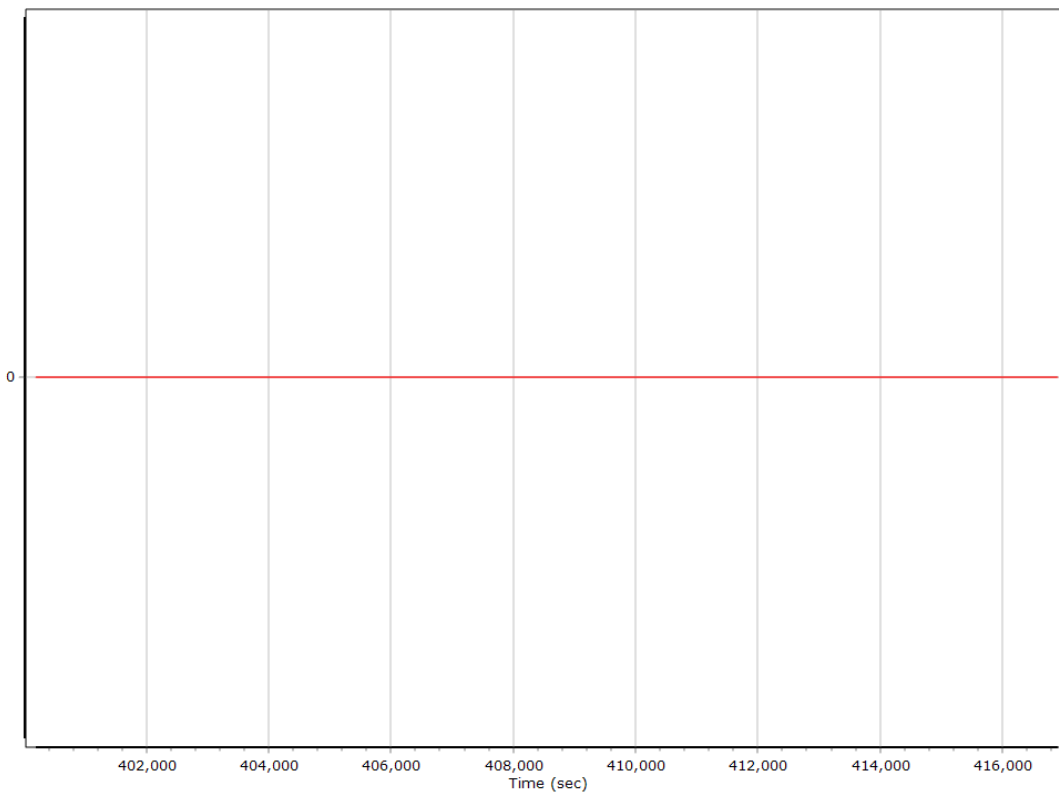




### Z Reference-Primary GNSS Lever Arm (m)



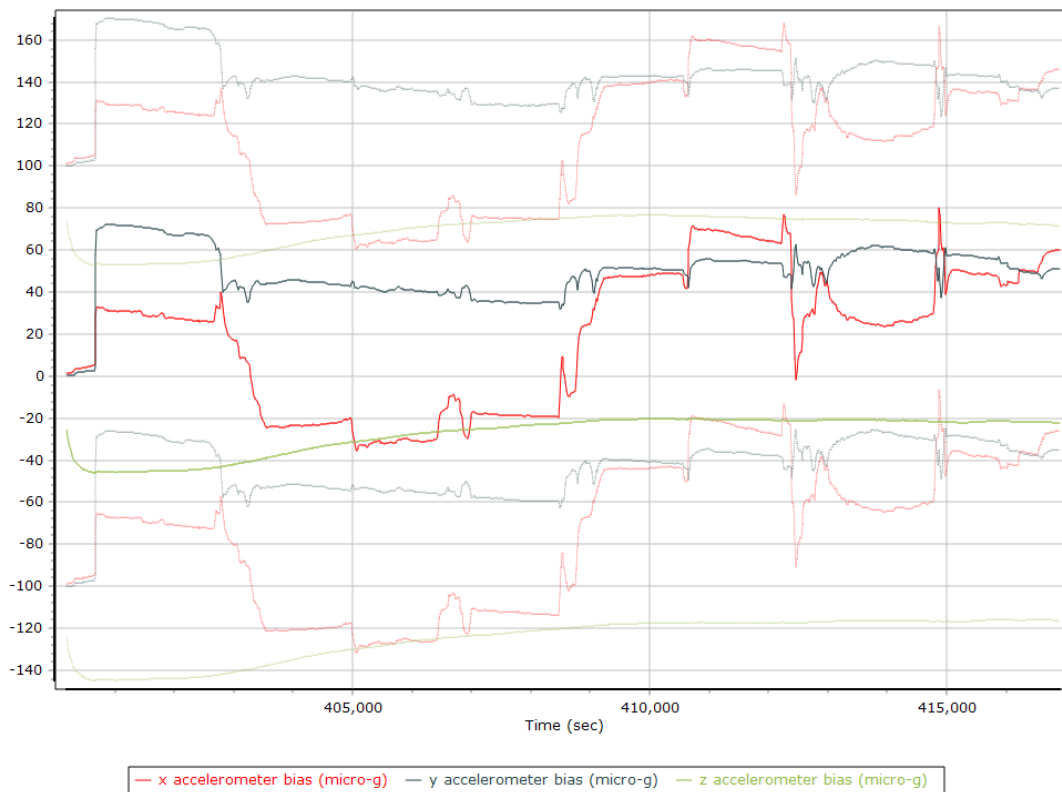
### Reference-Primary GNSS Lever Arm Figure of Merit



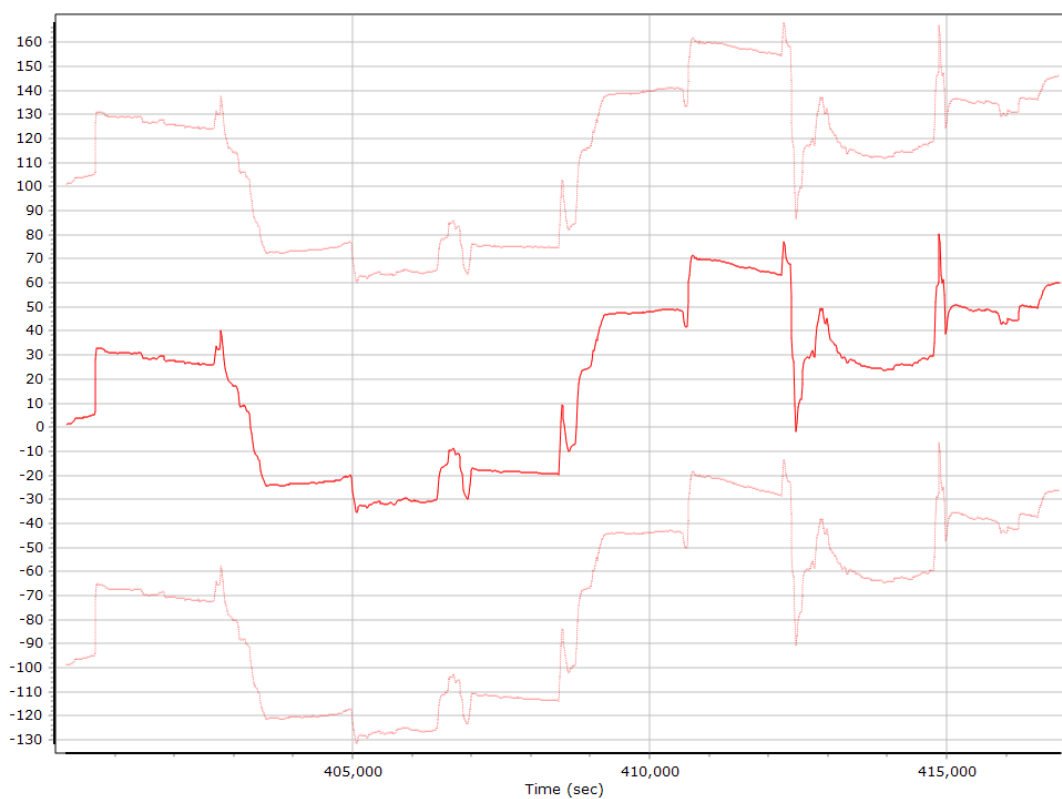
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

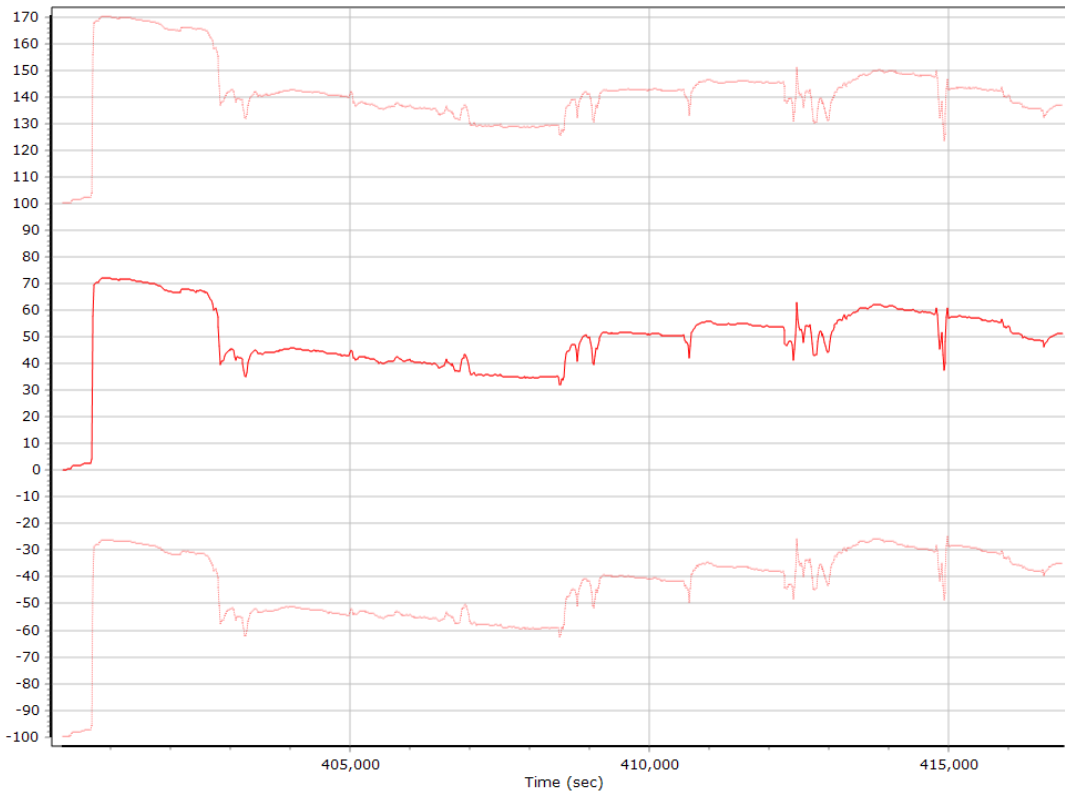
#### Accelerometer Bias (micro-g)



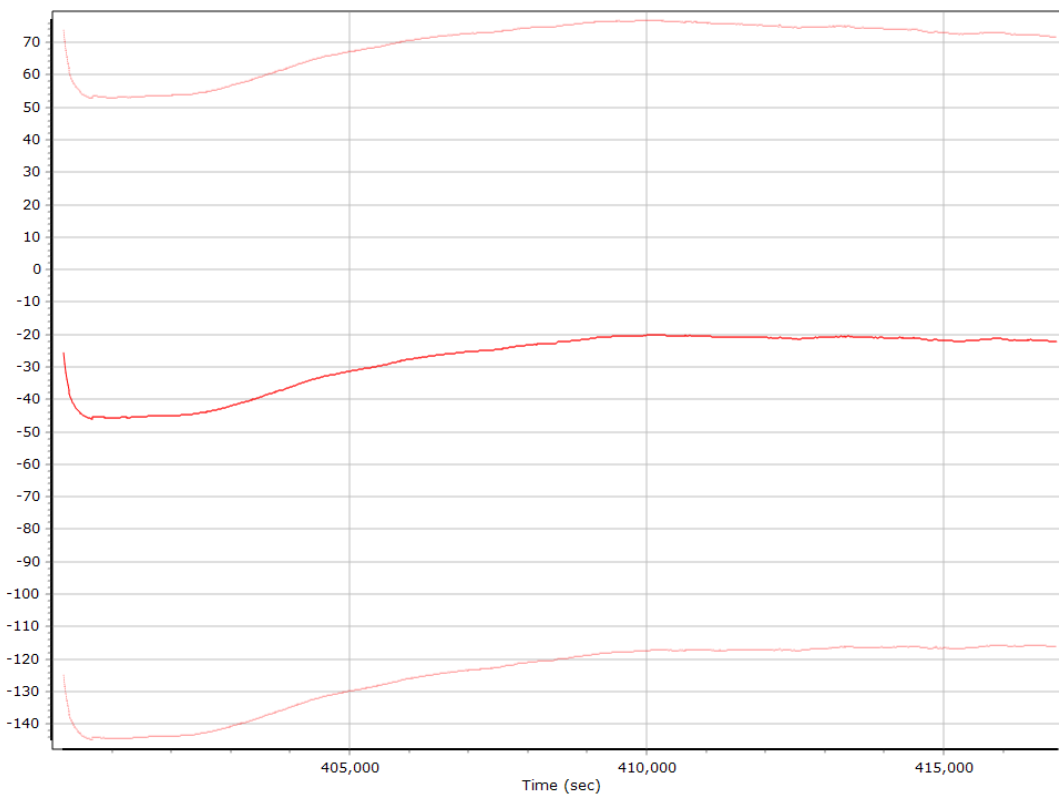
#### X Accelerometer Bias (micro-g)



### Y Accelerometer Bias (micro-g)



### Z Accelerometer Bias (micro-g)



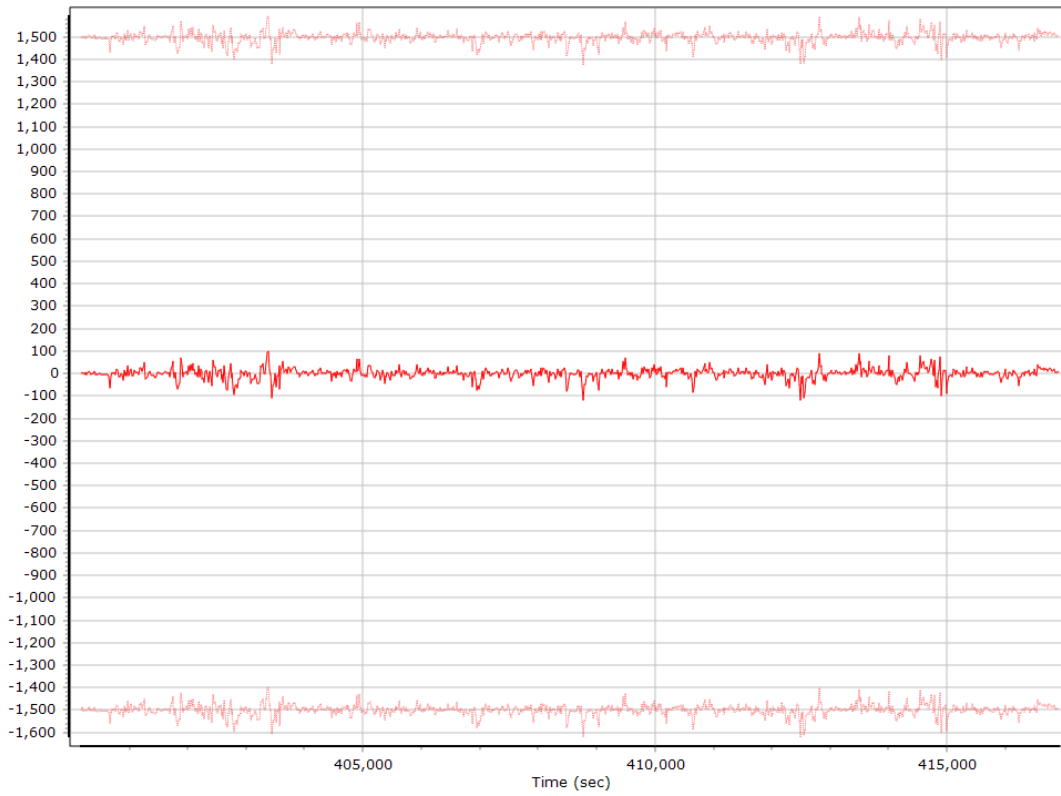
### Accelerometer Scale Error (ppm)



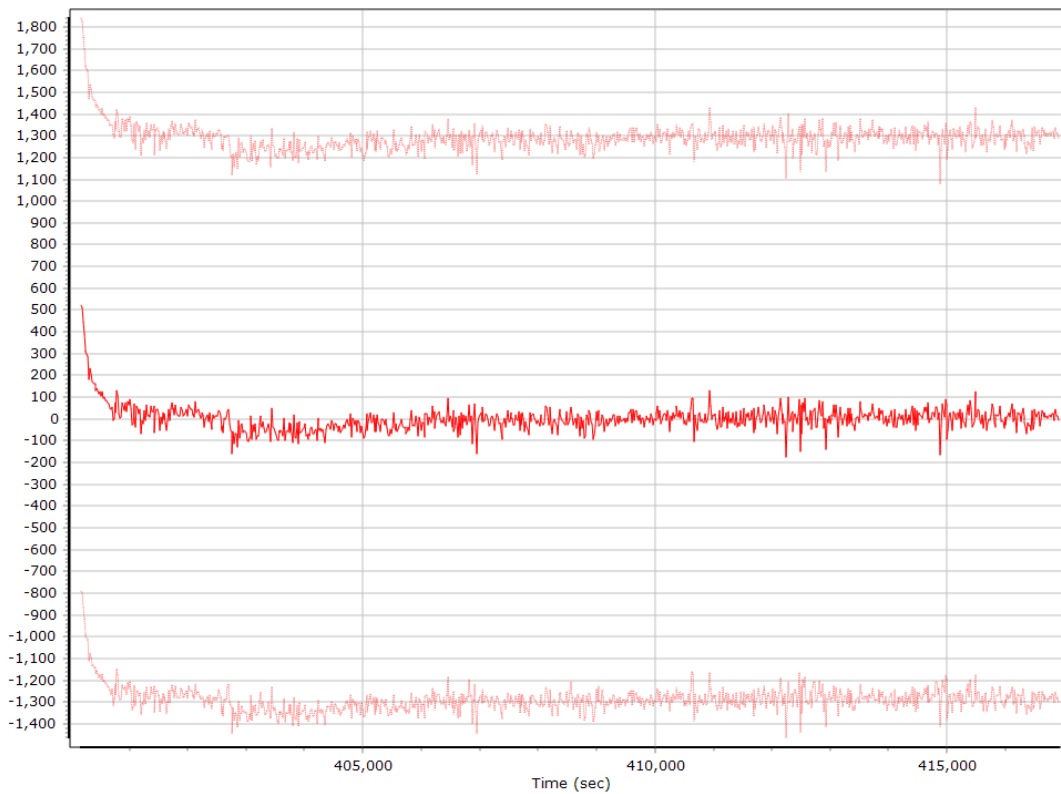
### X Accelerometer Scale Error (ppm)



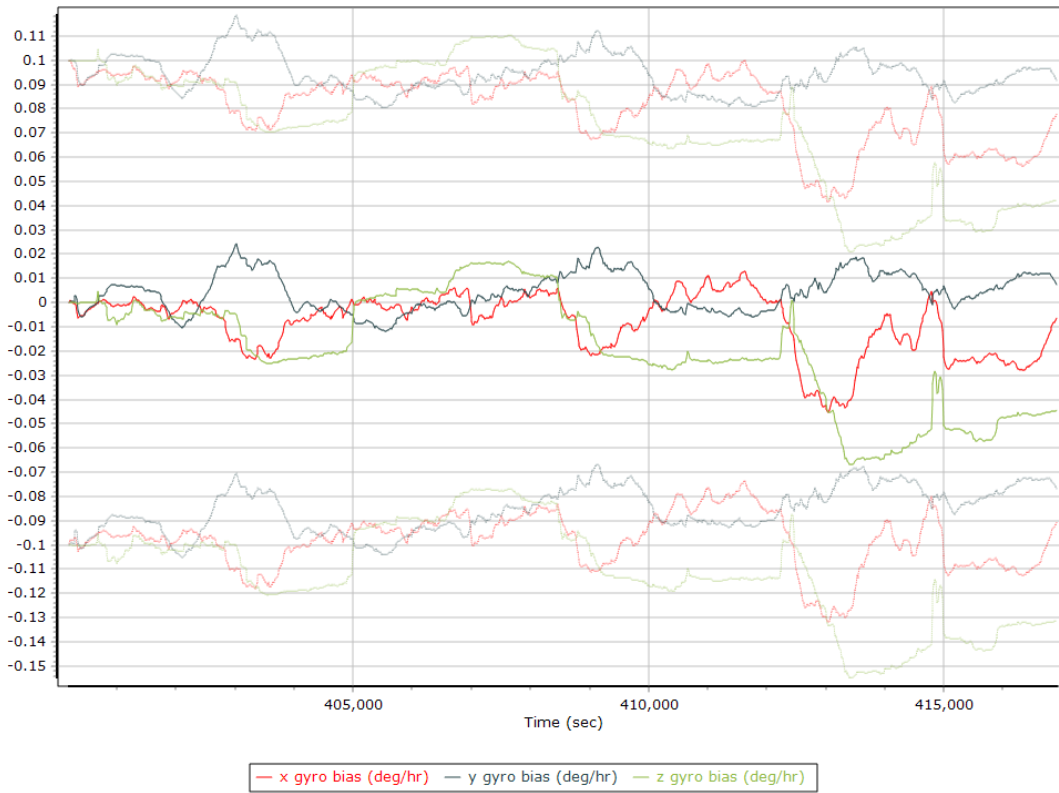
### Y Accelerometer Scale Error (ppm)



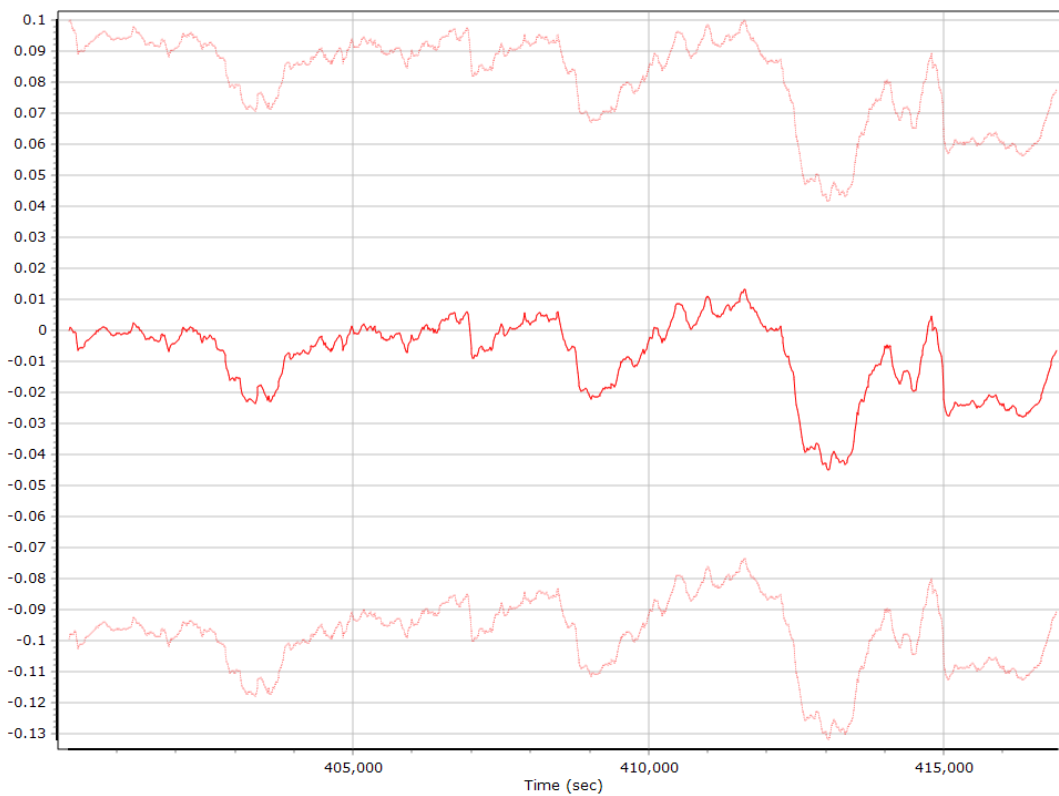
### Z Accelerometer Scale Error (ppm)



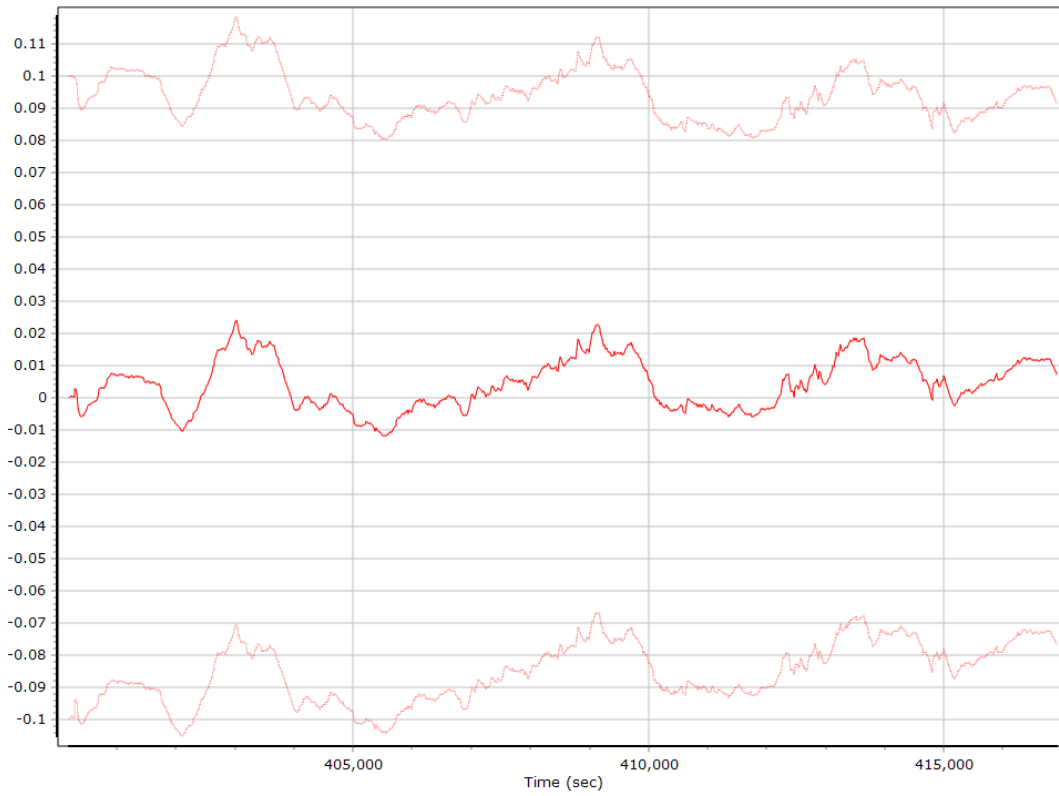
### Gyro Bias (deg/h)



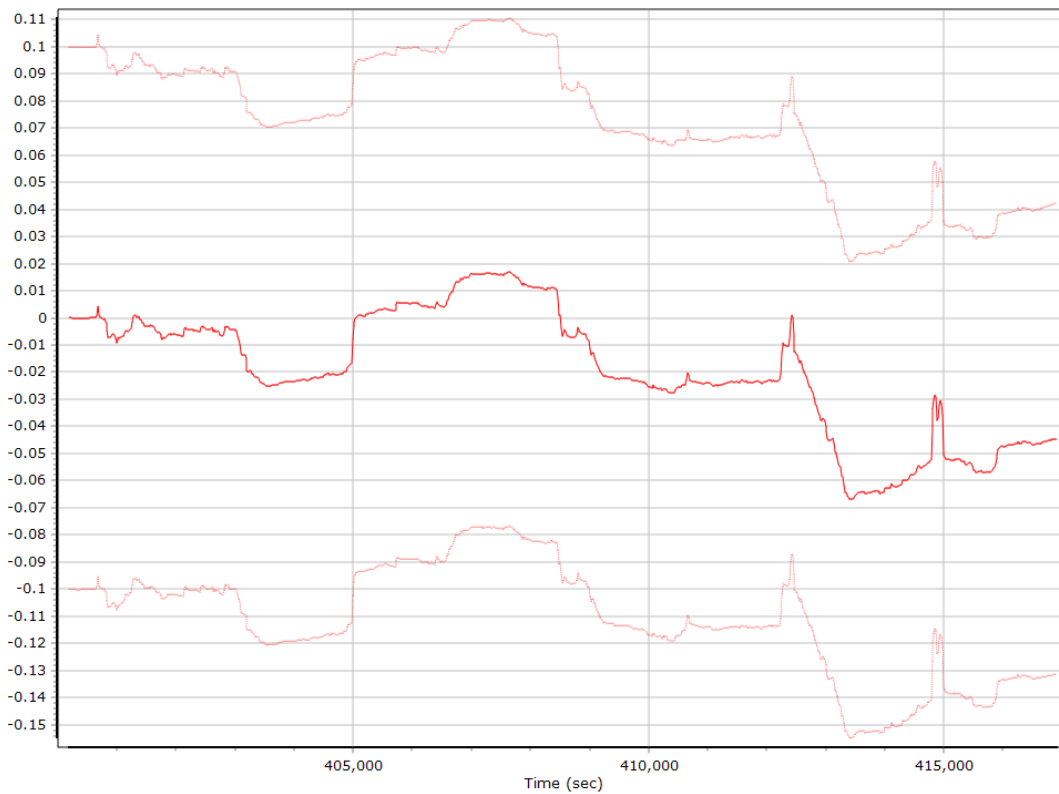
### X Gyro Bias (deg/h)



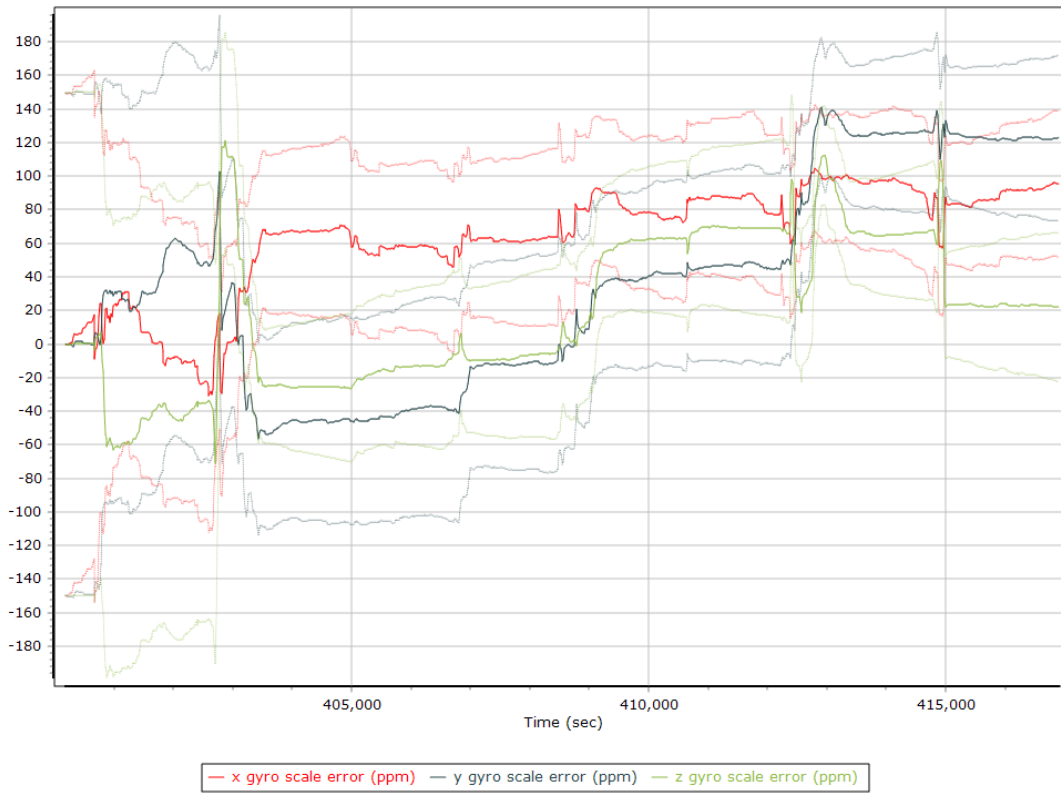
### Y Gyro Bias (deg/h)



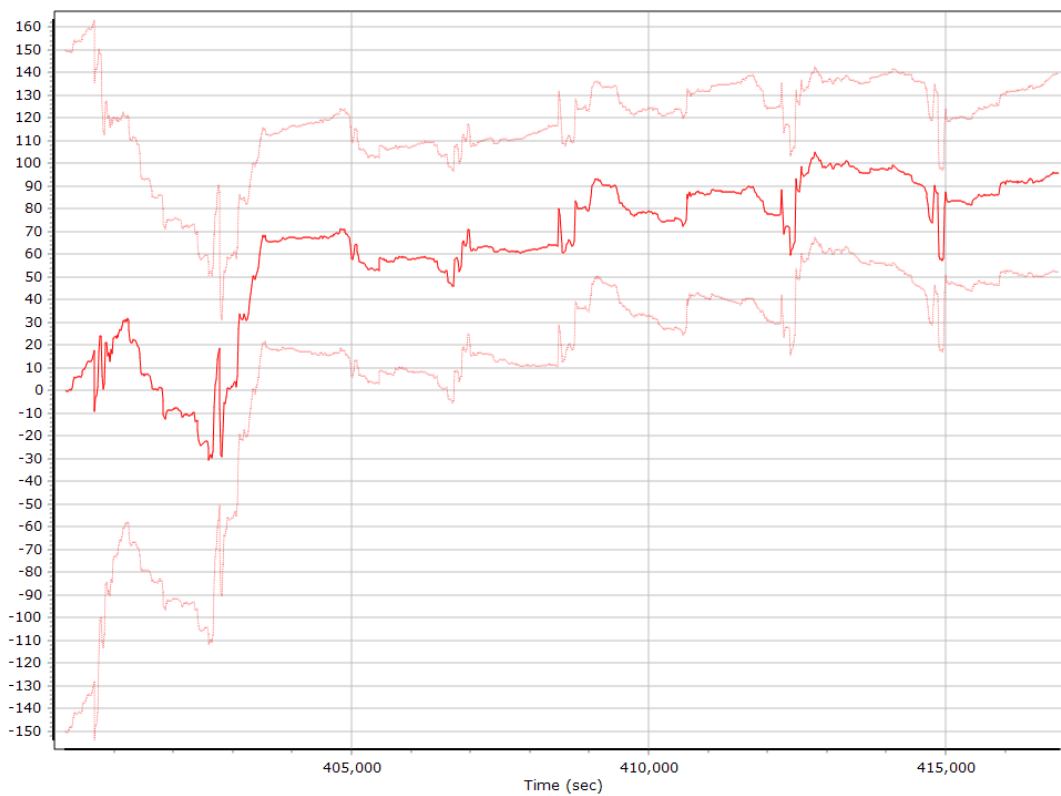
### Z Gyro Bias (deg/h)



### Gyro Scale Error (ppm)

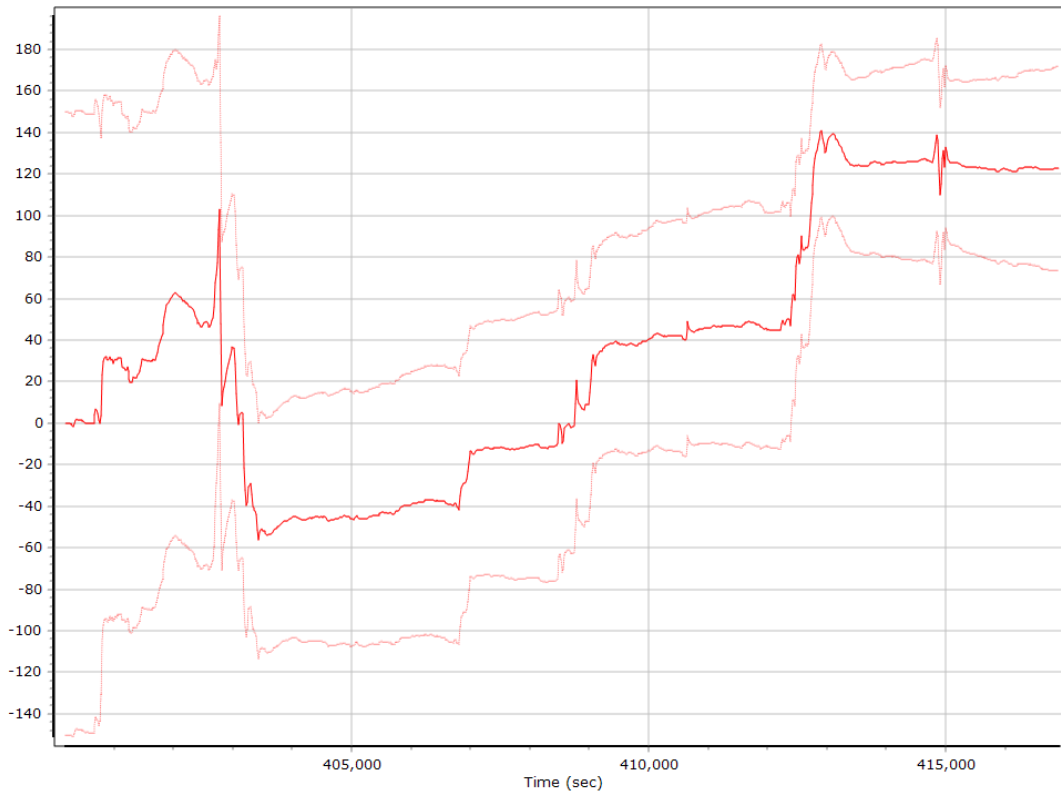


### X Gyro Scale Error (ppm)

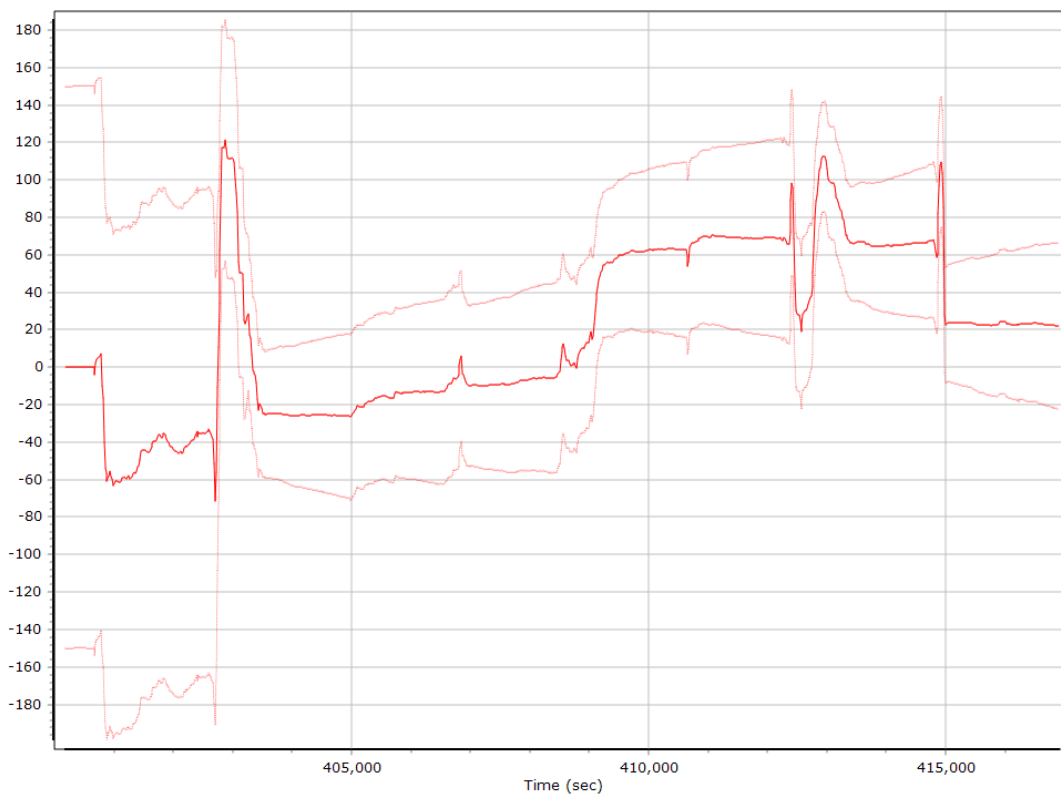




### Y Gyro Scale Error (ppm)

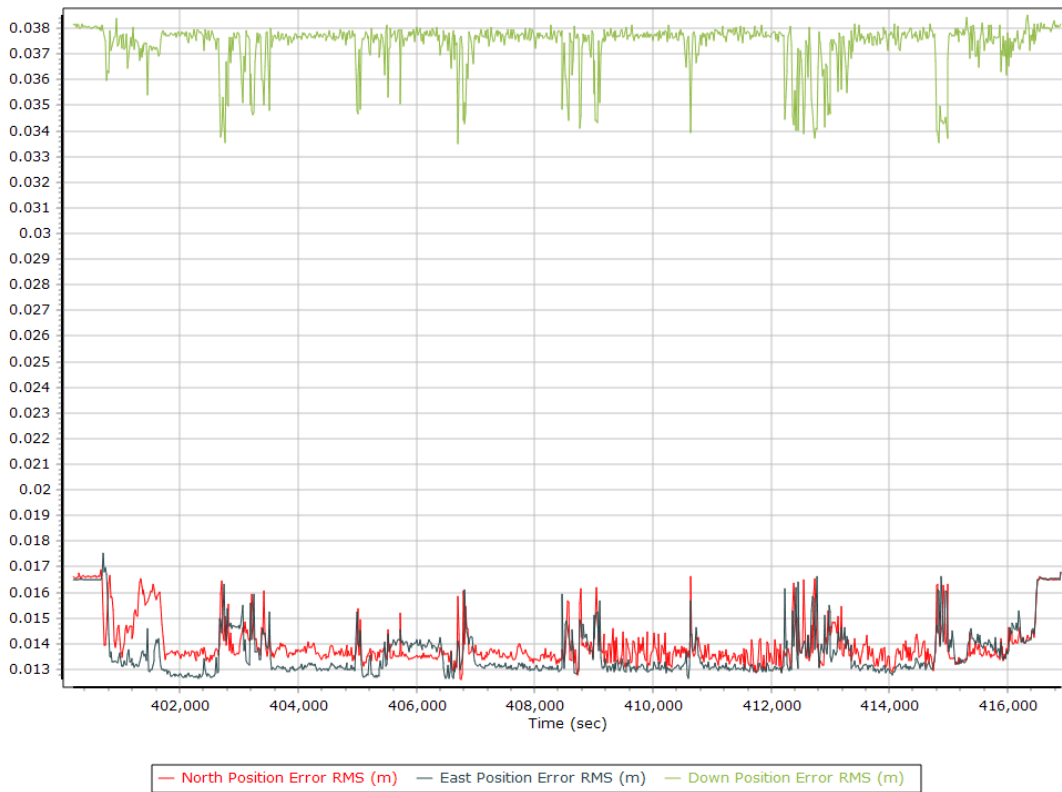


### Z Gyro Scale Error (ppm)

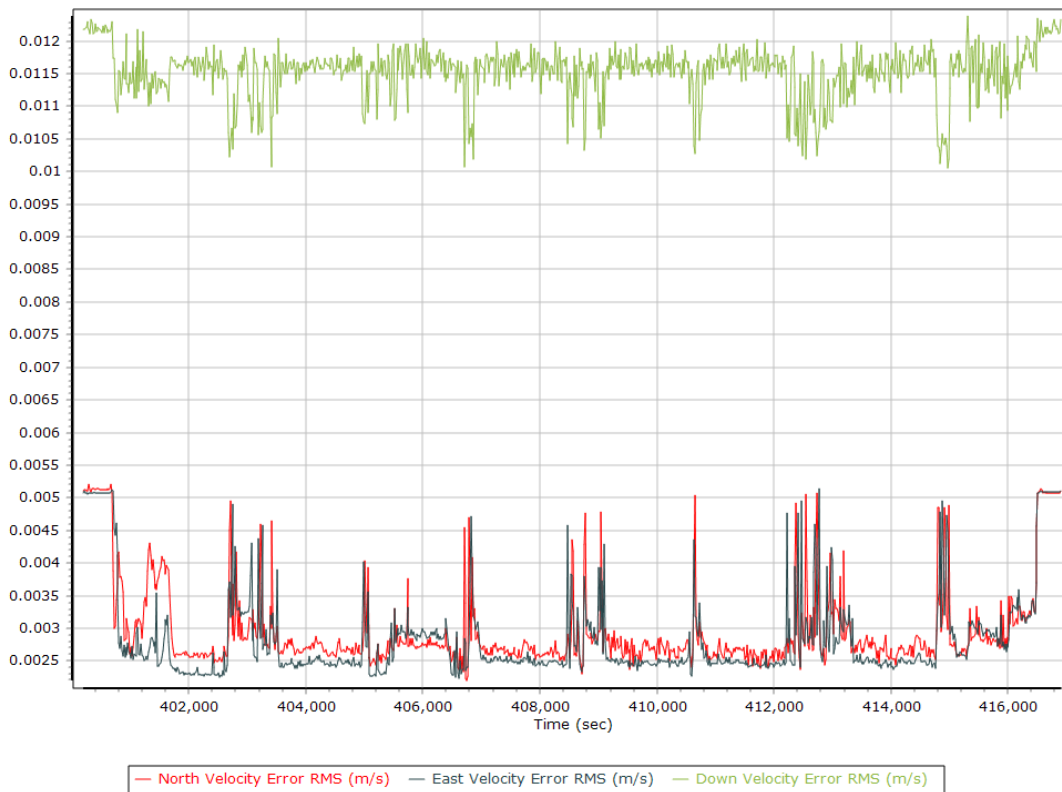


## Smoothed Performance Metrics

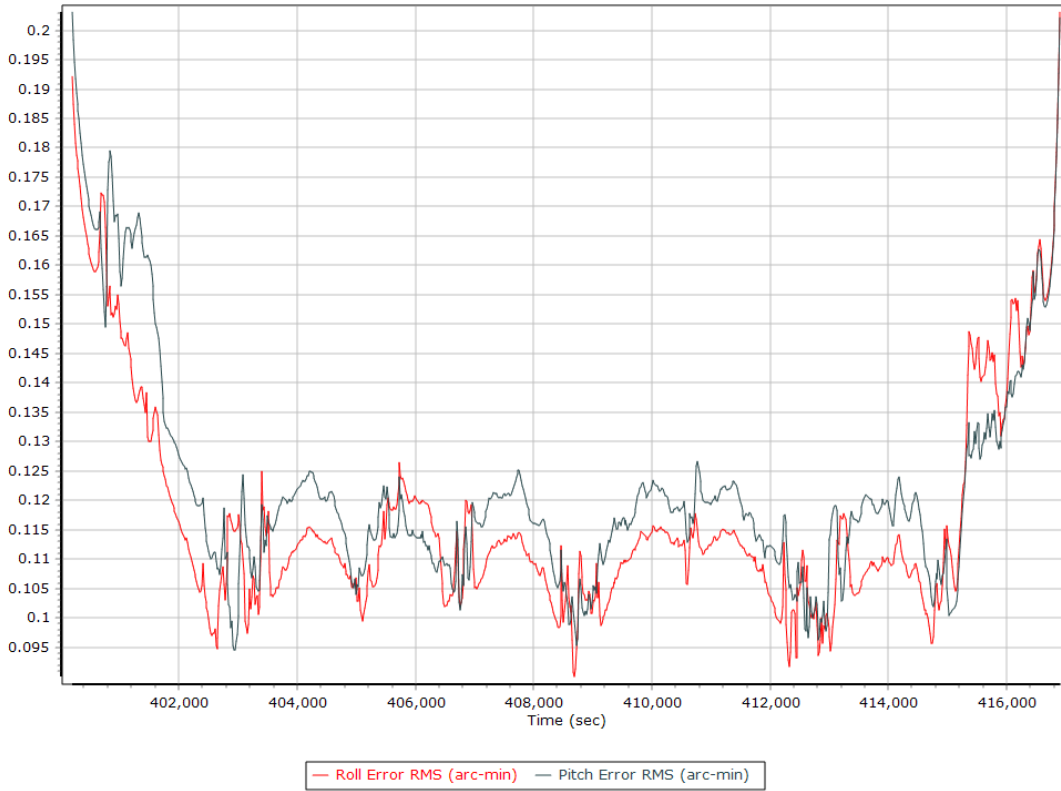
### Position Error RMS (m)



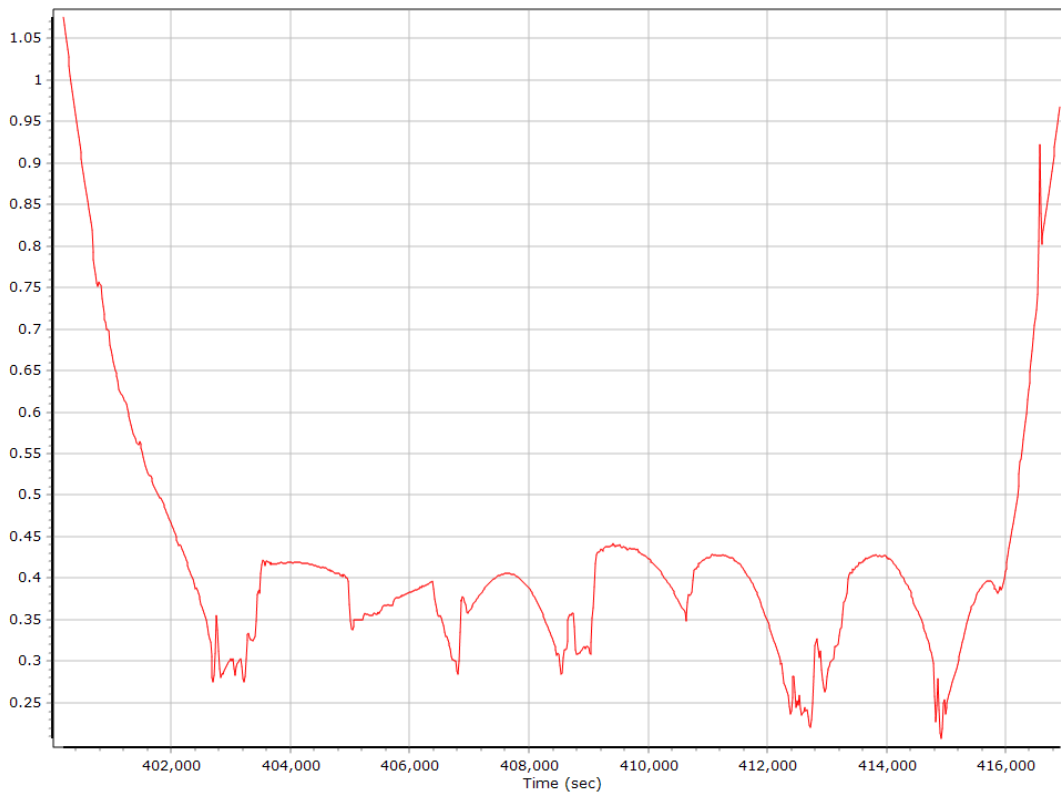
### Velocity Error RMS (m/s)



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

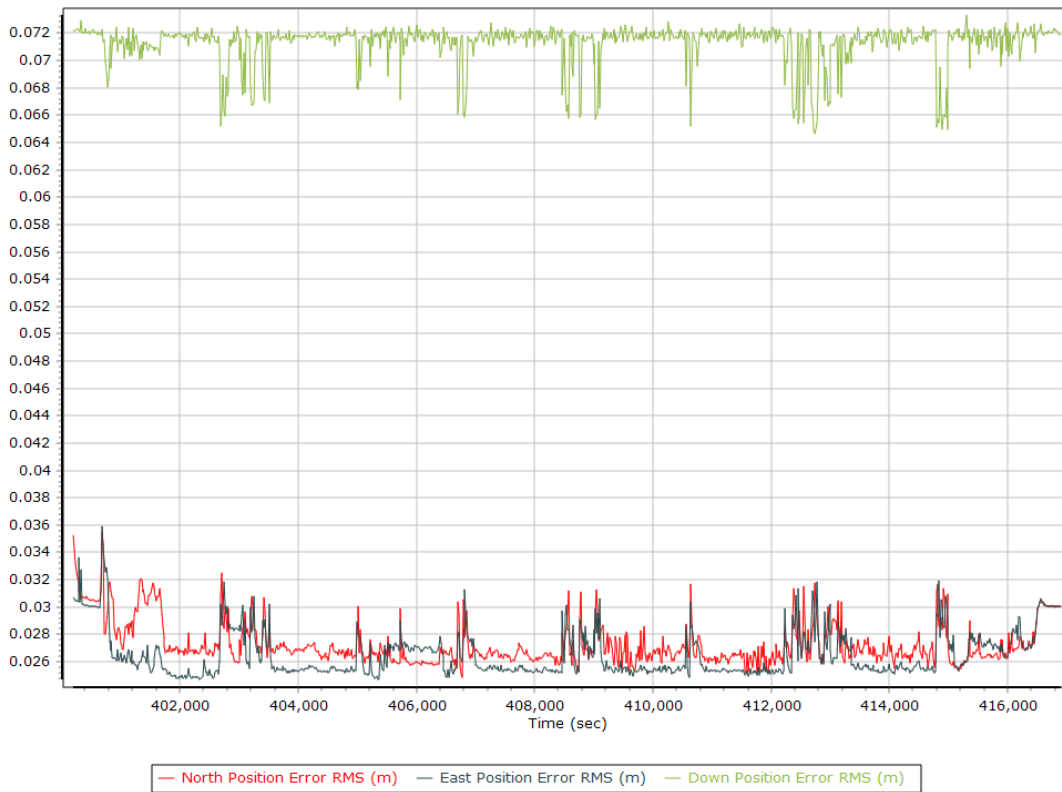


### Heading Error RMS (arc-min)

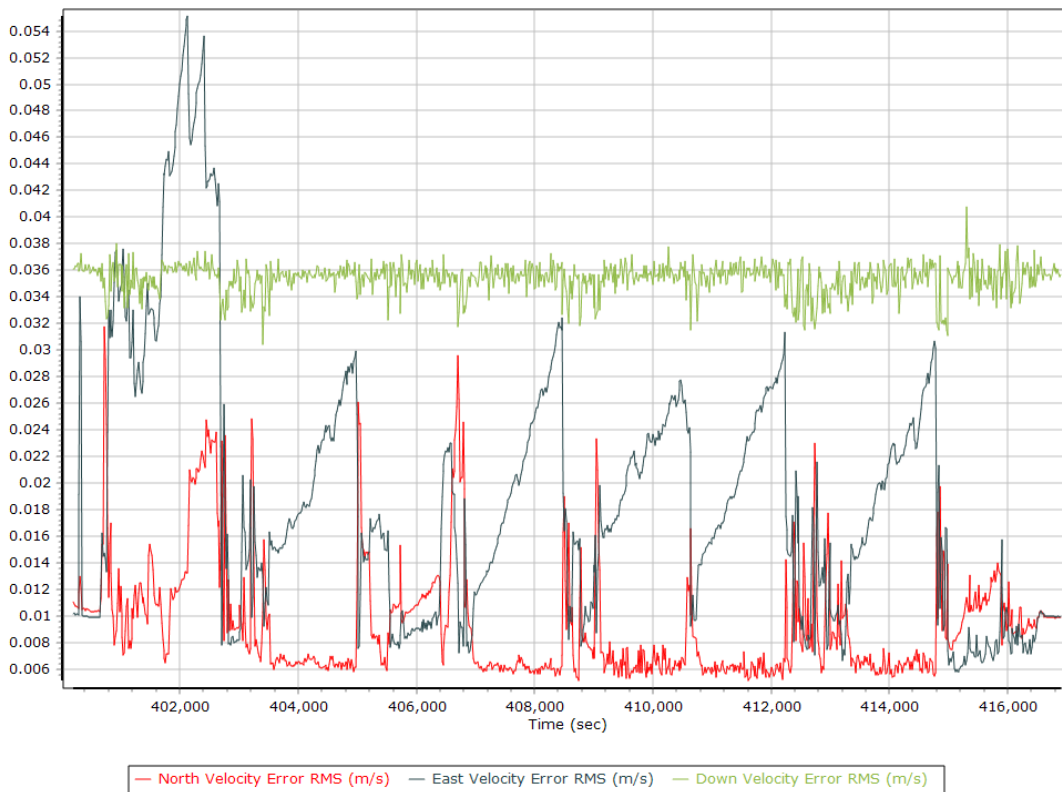


## Forward Processed Performance Metrics

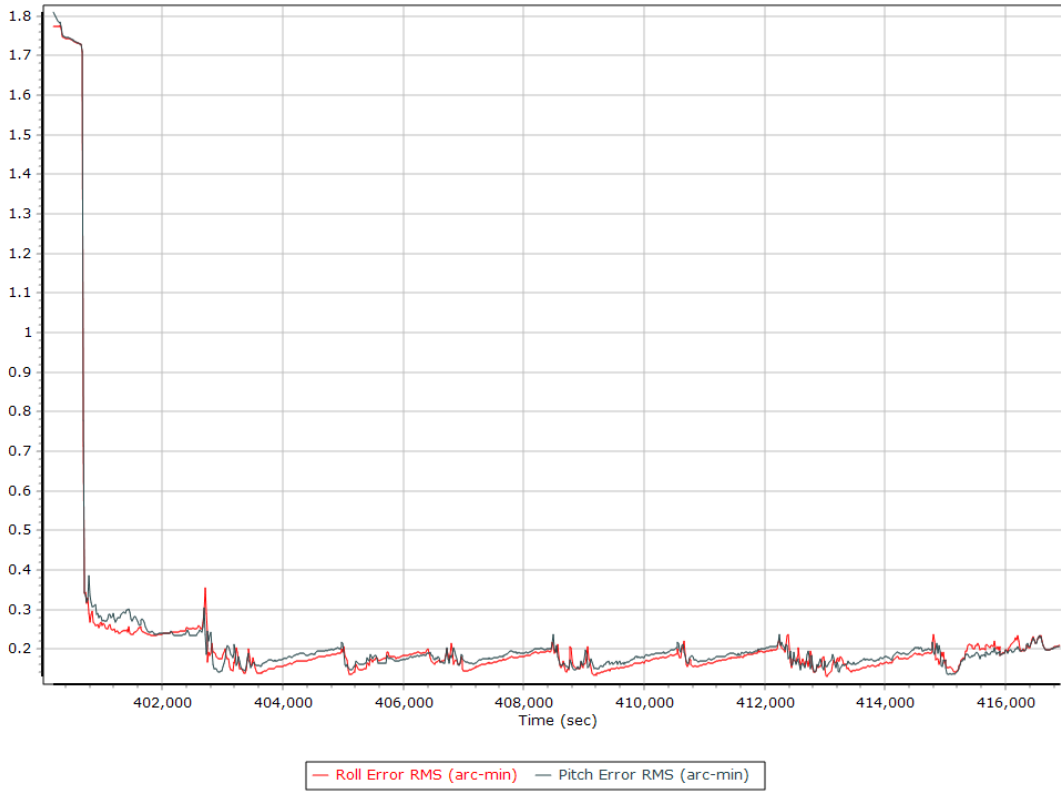
### Position Error RMS (m)



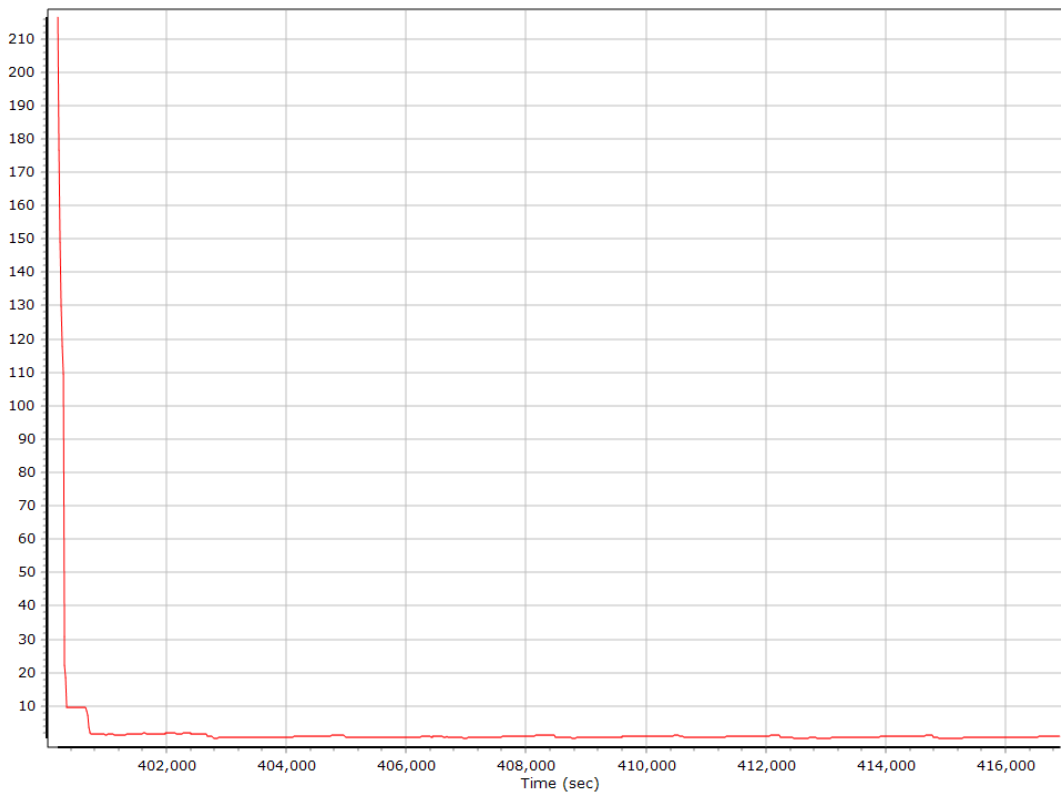
### Velocity Error RMS (m/s)



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

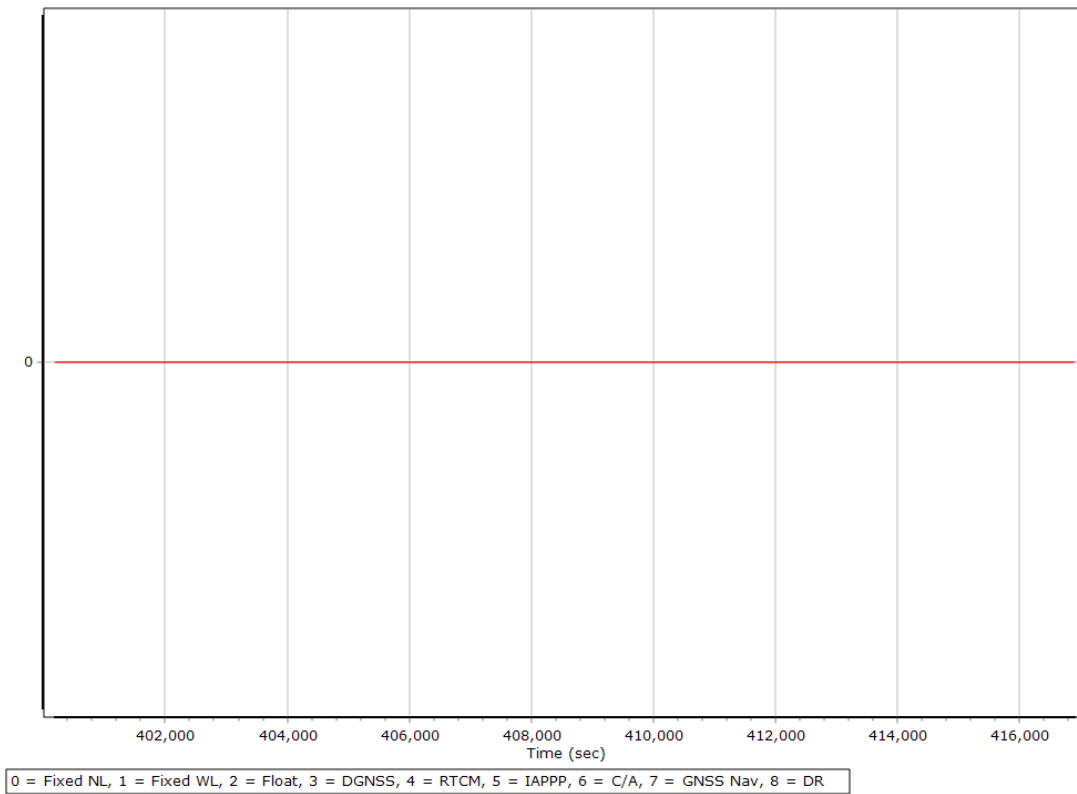


### Heading Error RMS (arc-min)

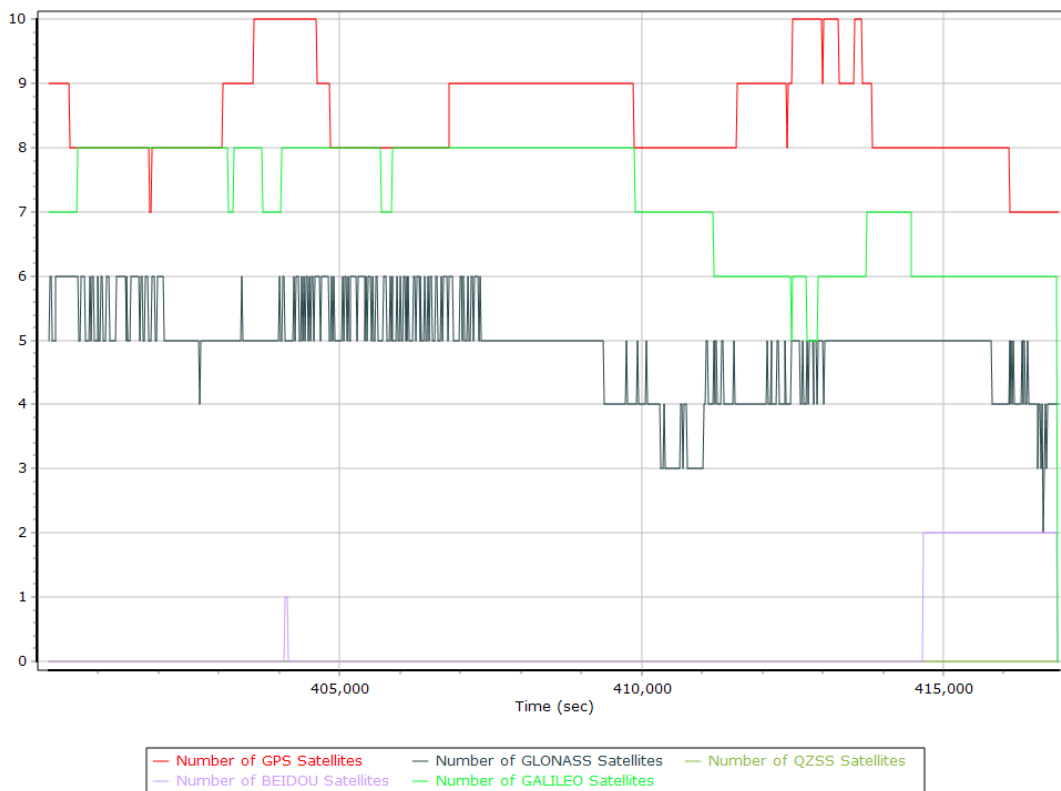


## Forward Processed Solution Status

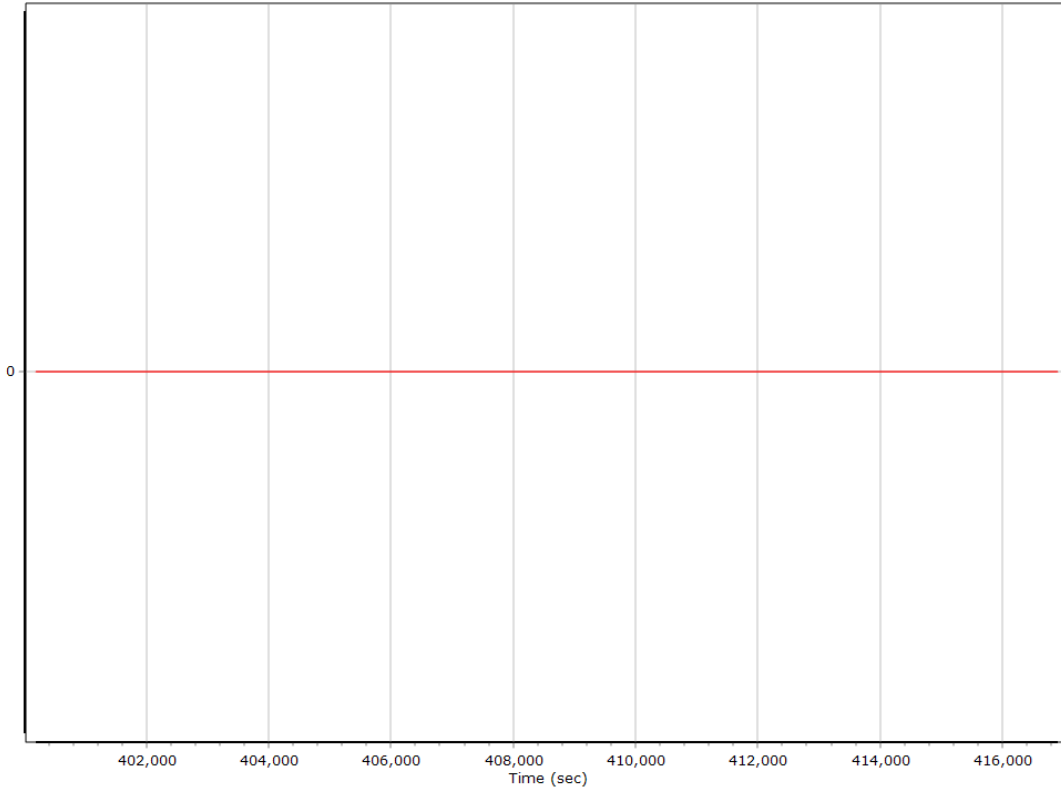
### Processing Mode



### Number of Satellites



### Baseline Length



## Export Summary

Export file	sbet_13862_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	400134.004 (04/14/2022 15:08:54)		
Export end time	416914.001 (04/14/2022 19:48:34)		
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	eo_13862.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	All Records		
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	400134.004 (04/14/2022 15:08:54)		
EO end time	416914.001 (04/14/2022 19:48:34)		
Grid	Universal Transverse Mercator		
Zone	UTM North 15 (96W to 90W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		