

## General Information

### Mission Information

Project name	211024_B_5060428_nad2011_FINAL
Processing date	2021-11-05 14:09:50
Mission date	2021-10-24 19:37:40
Mission duration	03:56:46.000
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
survey5.pos	POS Data

### Input Files

File Name	File Type
Ephm2970.21g	GLONASS Broadcast Ephemeris
Ephm2970.21n	GPS Broadcast Ephemeris
igl21806.sp3	GLONASS Precise Ephemeris
igs21806.sp3	GPS Precise Ephemeris

### Output Files

Filename	File type
sbet_211024_B_5060428_nad2011_FINAL.out	SBET Trajectory File

## Rover Data Summary

First raw data file	survey5.pos		
Last raw data file	survey5.pos		
Start GPS week	2181		
Start time	70659.874 (10/24/2021 19:37:39)		
End time	84866.217 (10/24/2021 23:34:26)		
Start of fine alignment	70992.281 (10/24/2021 19:43:12)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction data	None		
<b>IMU Installation Lever Arms &amp; Mounting Angles</b>			
Reference to IMU lever arm (m)	0.000	0.000	0.000
Reference to IMU mounting angles (deg)	0.000	0.000	-90.000
Reference to Primary GNSS lever arm (m)	0.534	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

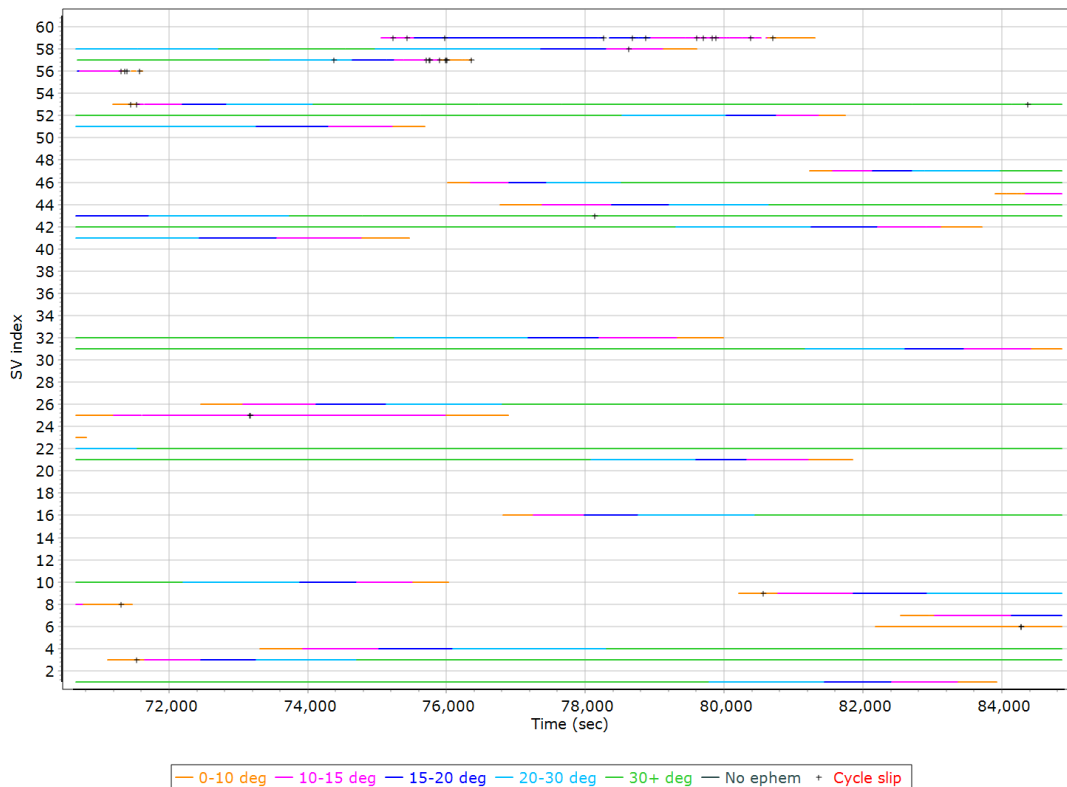
## Rover Data QC

### Raw IMU Import QC Summary

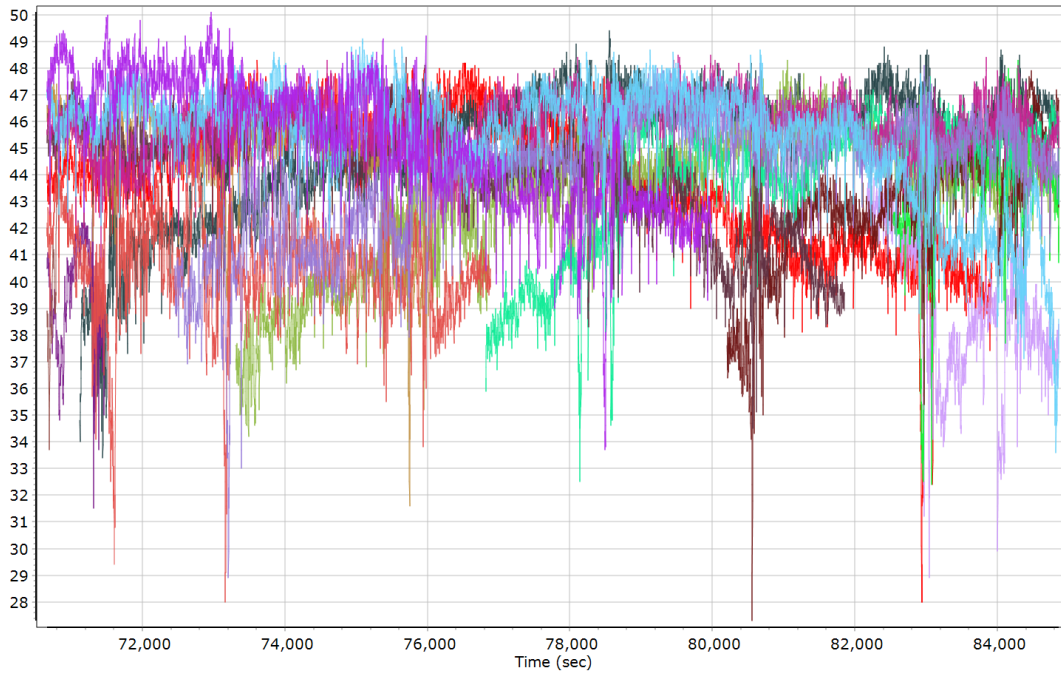
IMU data input file	imu_211024_B_5060428_nad2011_FINAL.dat
IMU data check log file	imudt_211024_B_5060428_nad2011_FINAL.log
IMU Records Processed	2840707
Termination Status	Normal
IMU Anomalies	0

## Primary Observables & Satellite Data

### GPS/GLONASS L1 Satellite Lock/Elevation

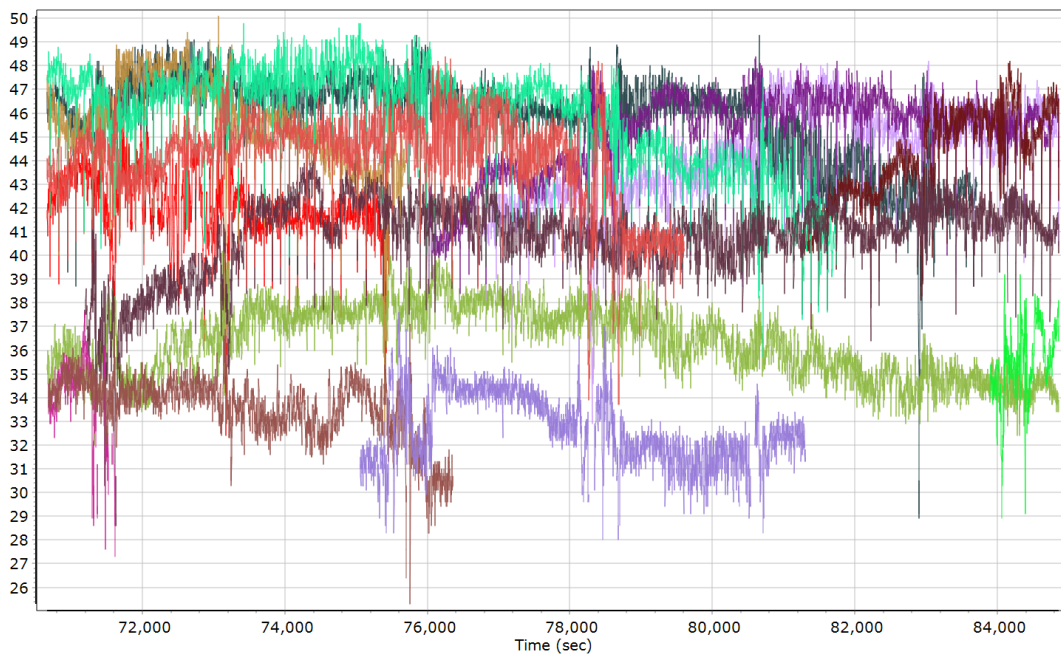


### GPS L1 SNR



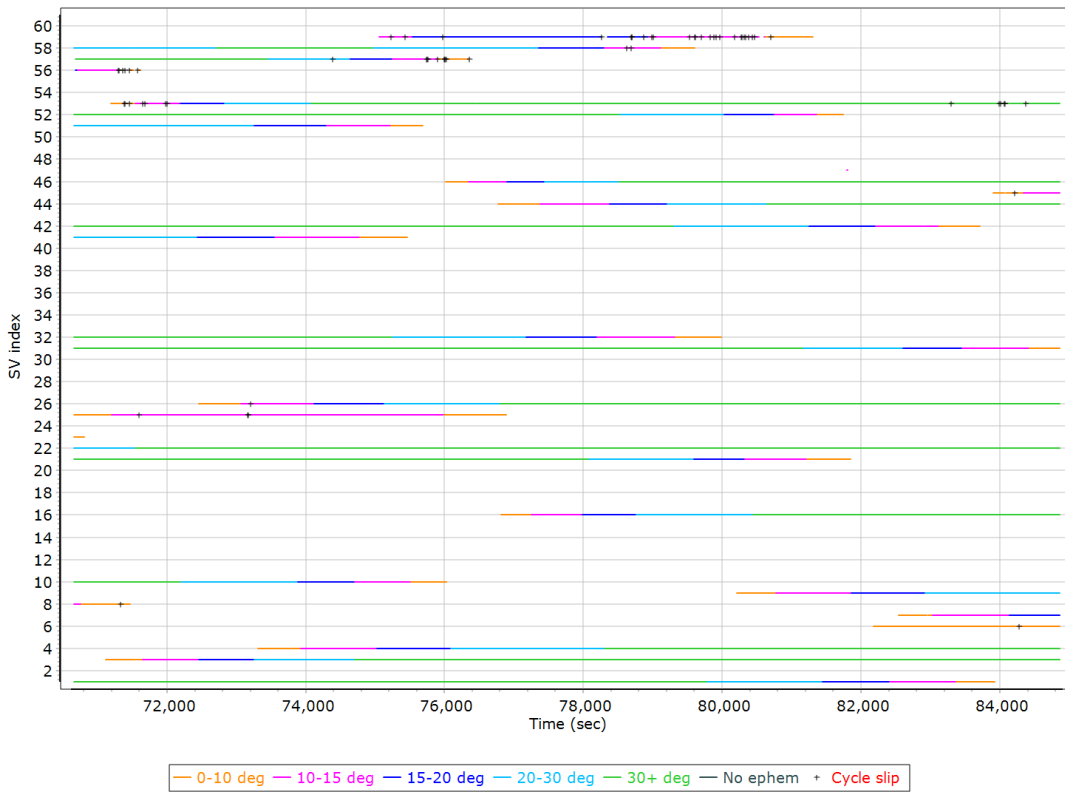
- GPS PRN 01 L1 SNR (dB/Hz)
- GPS PRN 03 L1 SNR (dB/Hz)
- GPS PRN 04 L1 SNR (dB/Hz)
- GPS PRN 06 L1 SNR (dB/Hz)
- GPS PRN 07 L1 SNR (dB/Hz)
- GPS PRN 08 L1 SNR (dB/Hz)
- GPS PRN 09 L1 SNR (dB/Hz)
- GPS PRN 10 L1 SNR (dB/Hz)
- GPS PRN 16 L1 SNR (dB/Hz)
- GPS PRN 21 L1 SNR (dB/Hz)
- GPS PRN 22 L1 SNR (dB/Hz)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

### GLONASS L1 SNR

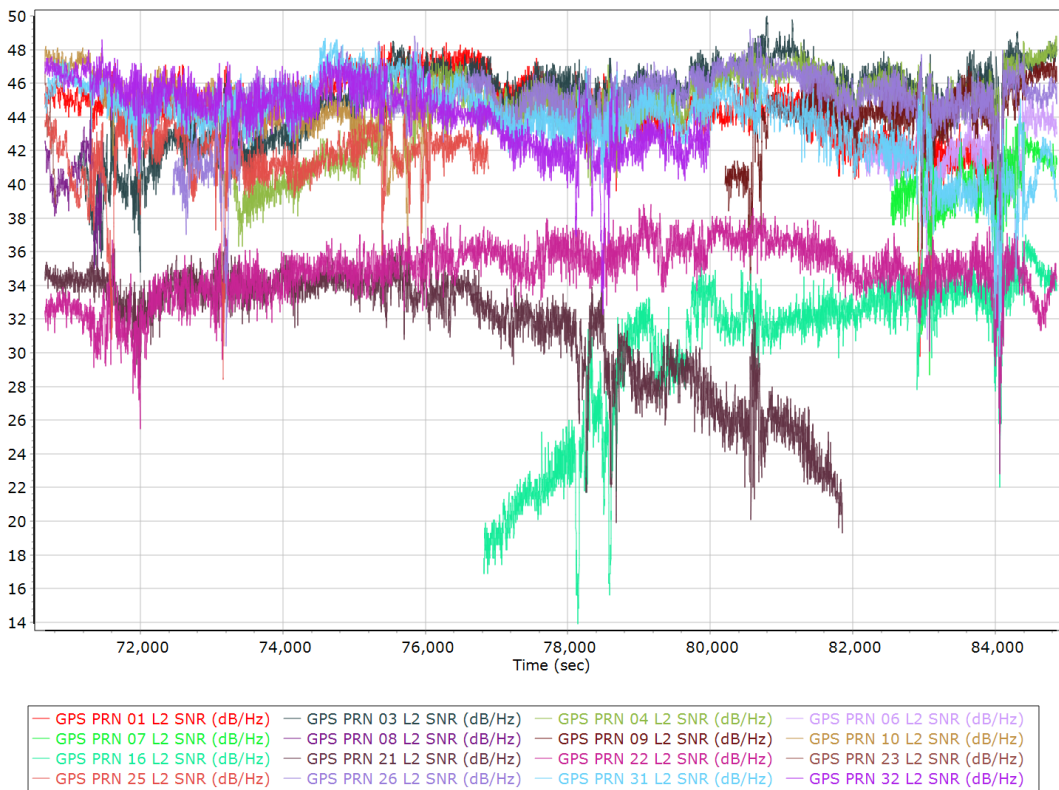


- GLONASS 04 L1 SNR (dB/Hz)
- GLONASS 05 L1 SNR (dB/Hz)
- GLONASS 06 L1 SNR (dB/Hz)
- GLONASS 07 L1 SNR (dB/Hz)
- GLONASS 08 L1 SNR (dB/Hz)
- GLONASS 09 L1 SNR (dB/Hz)
- GLONASS 10 L1 SNR (dB/Hz)
- GLONASS 14 L1 SNR (dB/Hz)
- GLONASS 15 L1 SNR (dB/Hz)
- GLONASS 16 L1 SNR (dB/Hz)
- GLONASS 19 L1 SNR (dB/Hz)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

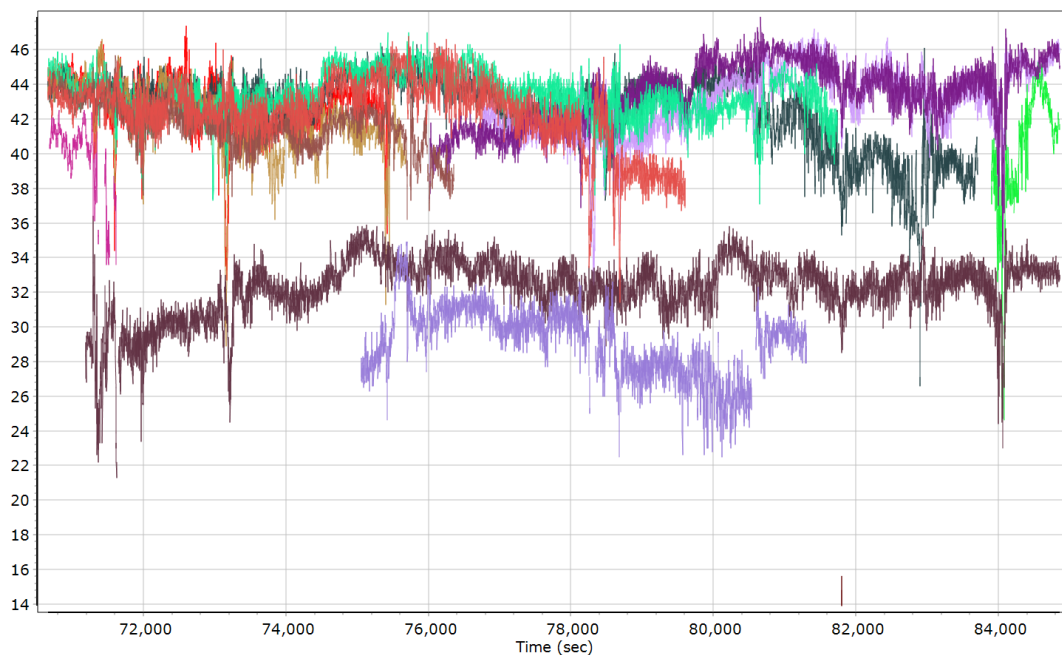
### GPS/GLONASS L2 Satellite Lock/Elevation



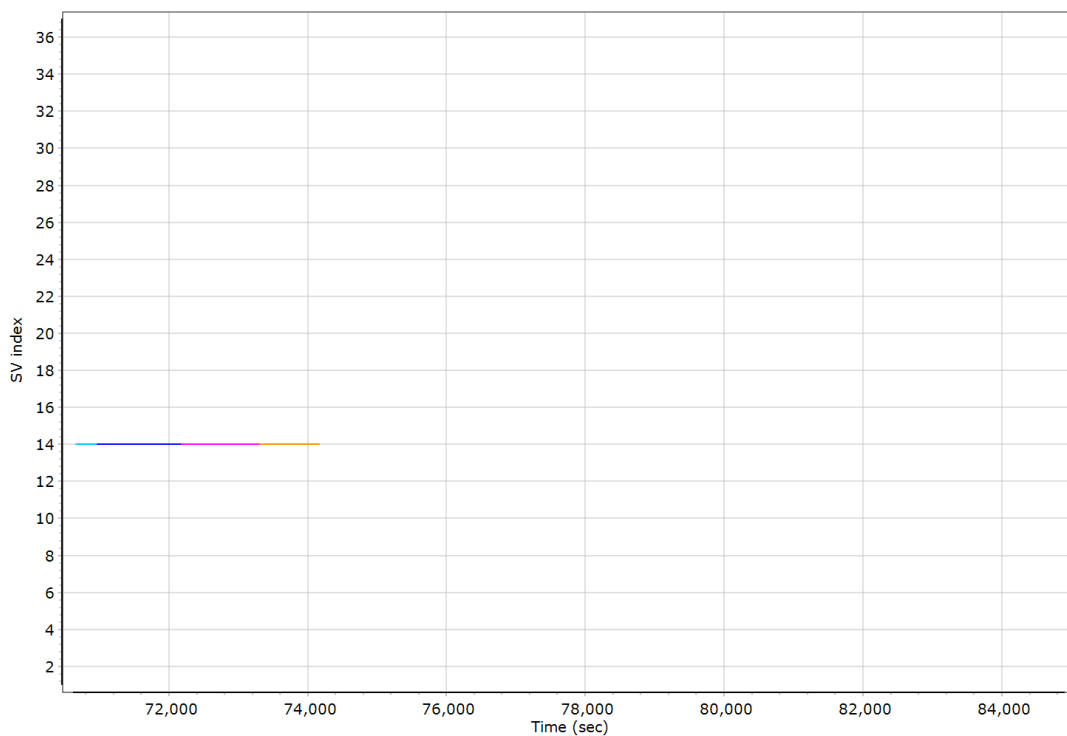
### GPS L2 SNR



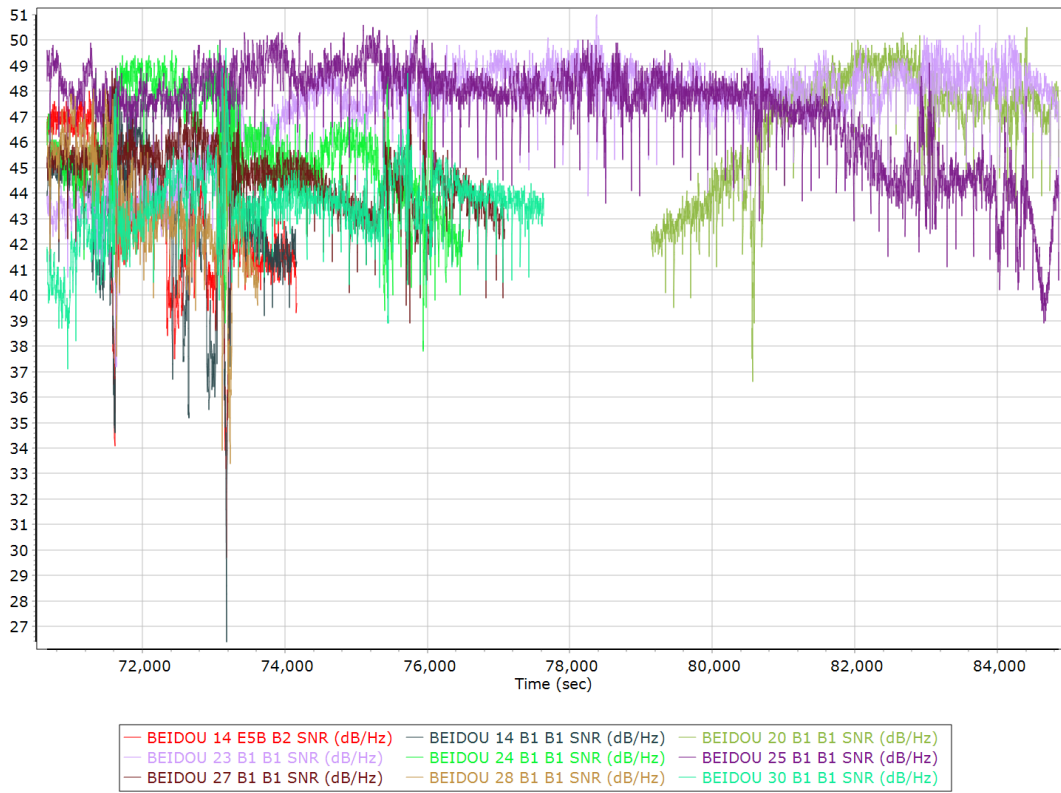
### GLONASS L2 SNR



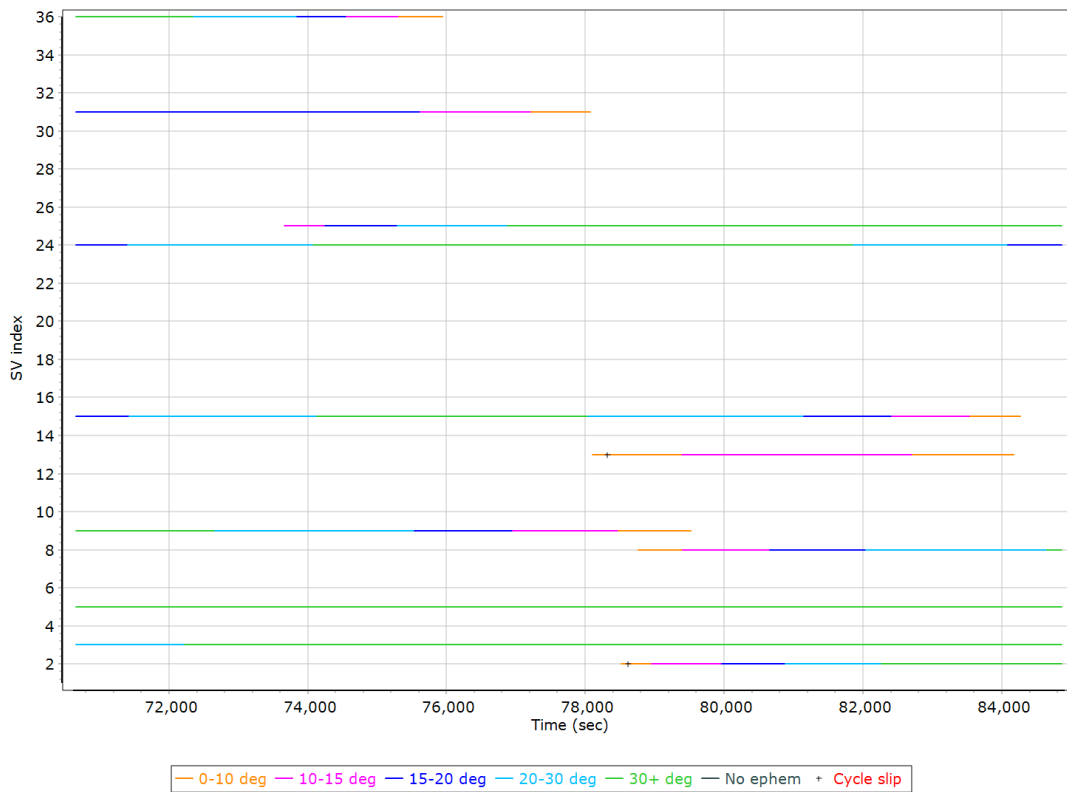
### BEIDOU Satellite Lock/Elevation



### BEIDOU SNR

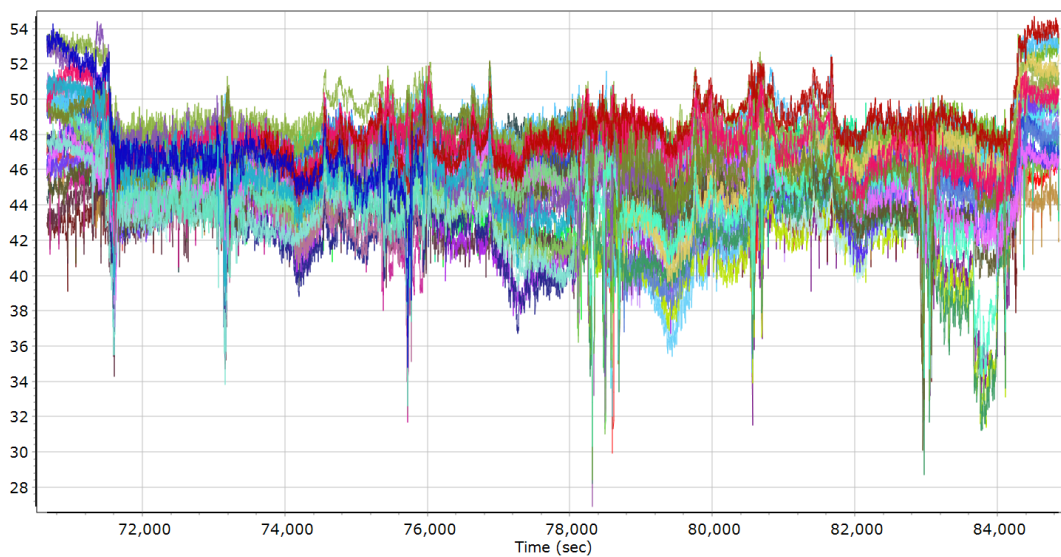


### GALILEO Satellite Lock/Elevation





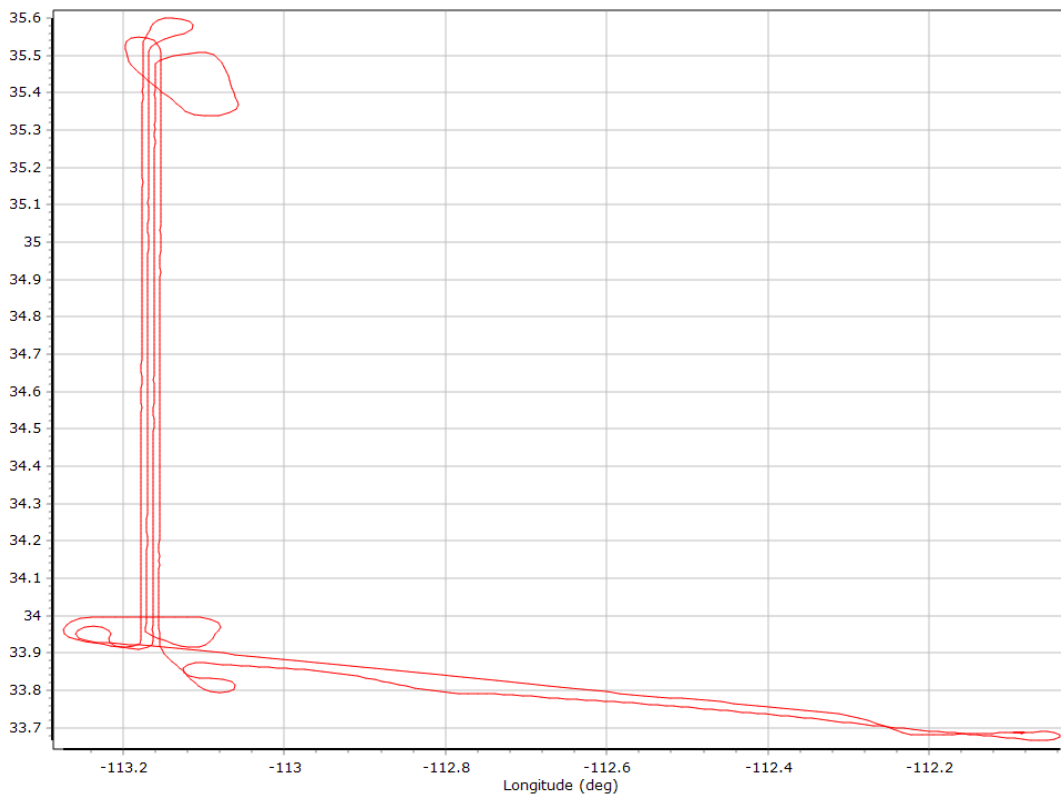
## GALILEO SNR



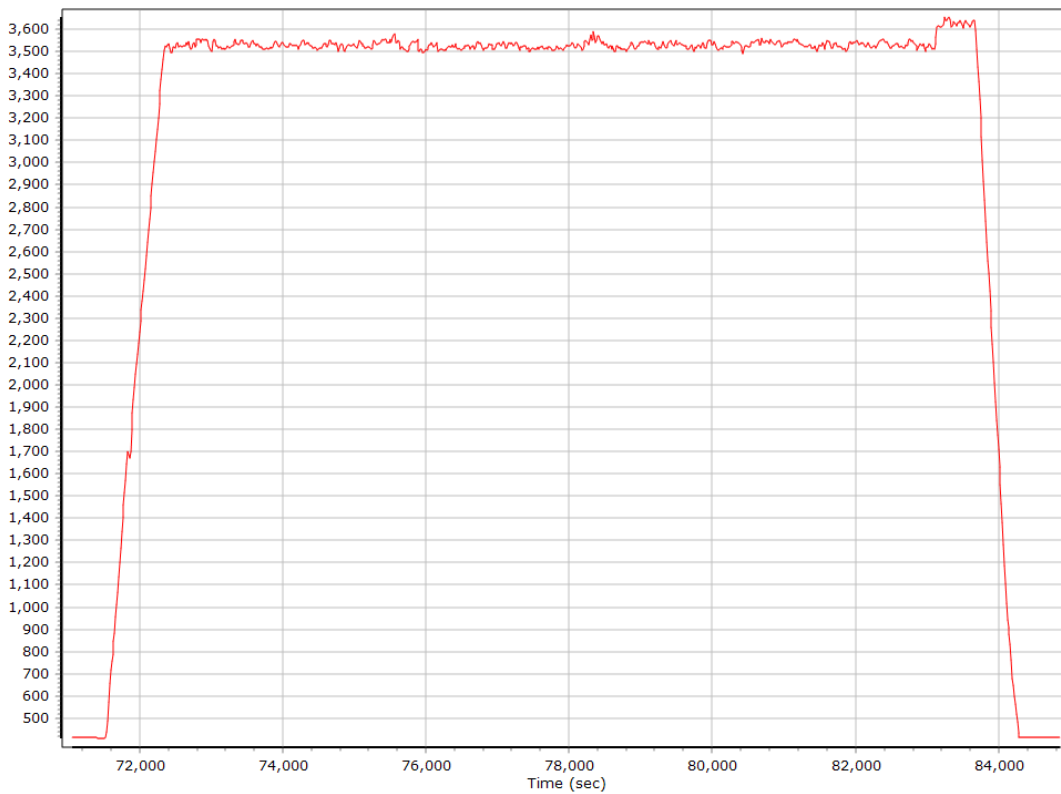
- |   |   |
|---|---|
| — GALILEO 02 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 05 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 24 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 25 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 31 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) |
| — GALILEO 36 L1 BOC_1_1_DP_MBOC SNR (dB/Hz) | — GALILEO 02 L5E5A BPSK10_PD SNR (dB/Hz)    |
| — GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz)    | — GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz)    |
| — GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz)    | — GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz)    |
| — GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz)    | — GALILEO 15 L5E5A BPSK10_PD SNR (dB/Hz)    |
| — GALILEO 24 L5E5A BPSK10_PD SNR (dB/Hz)    | — GALILEO 25 L5E5A BPSK10_PD SNR (dB/Hz)    |

## Smoothed Trajectory Information

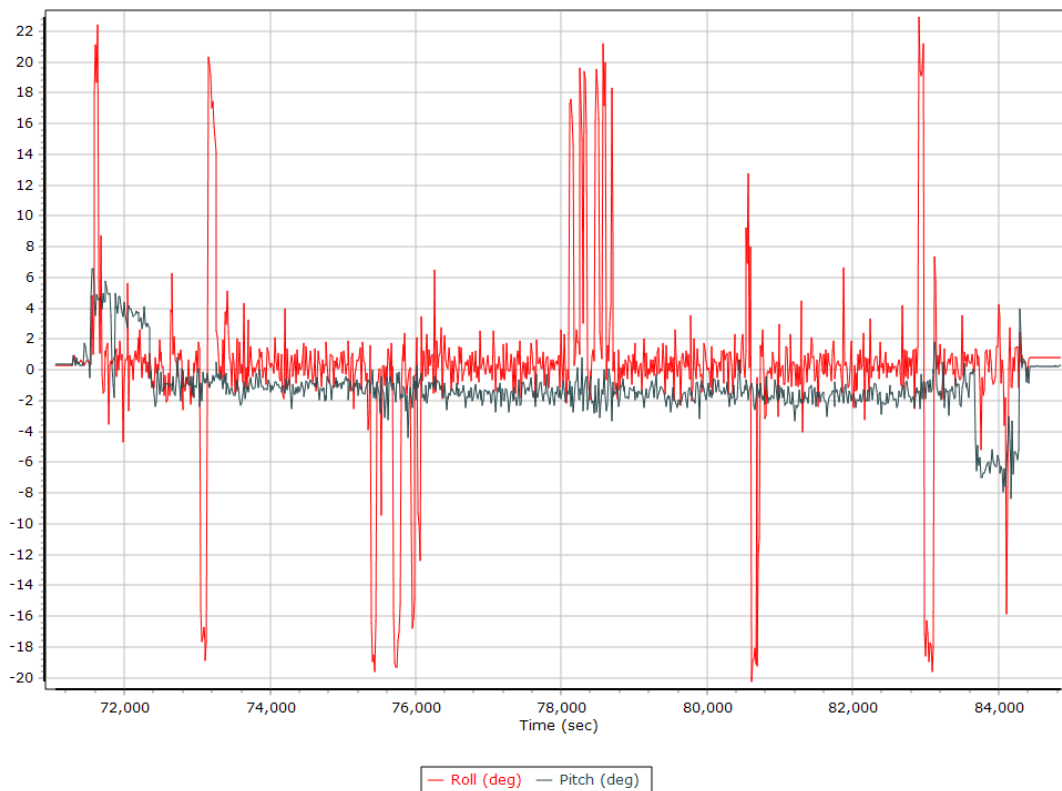
### Top View



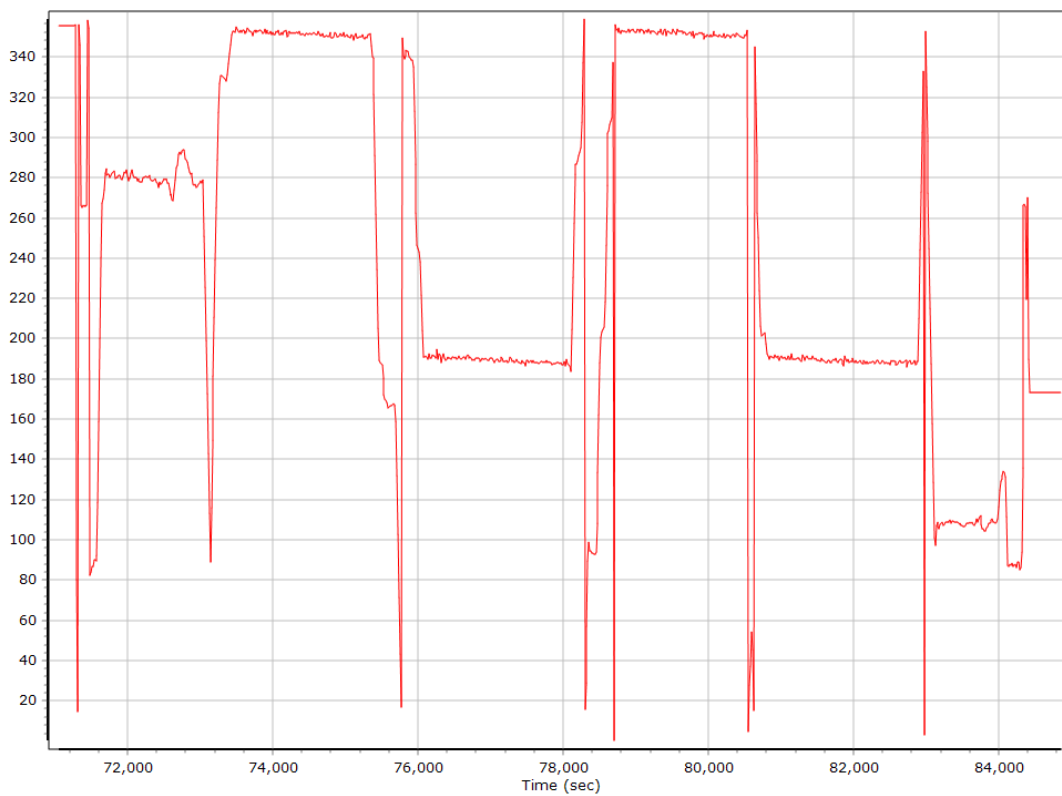
### Altitude



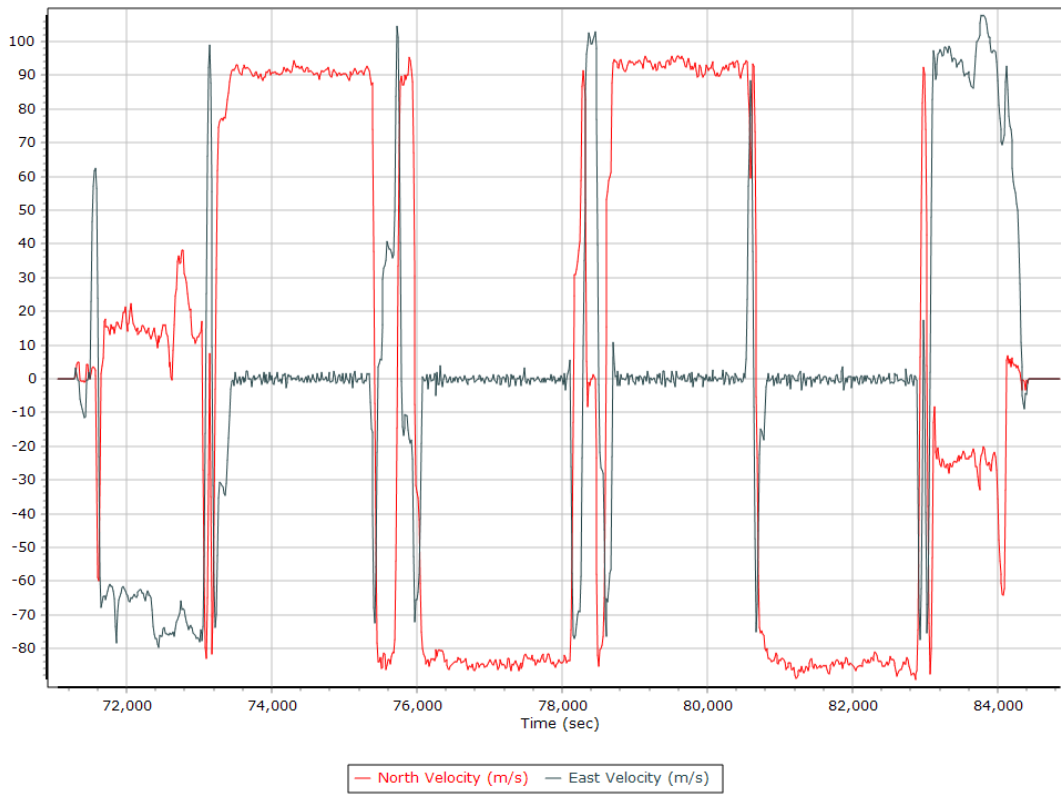
## Roll/Pitch



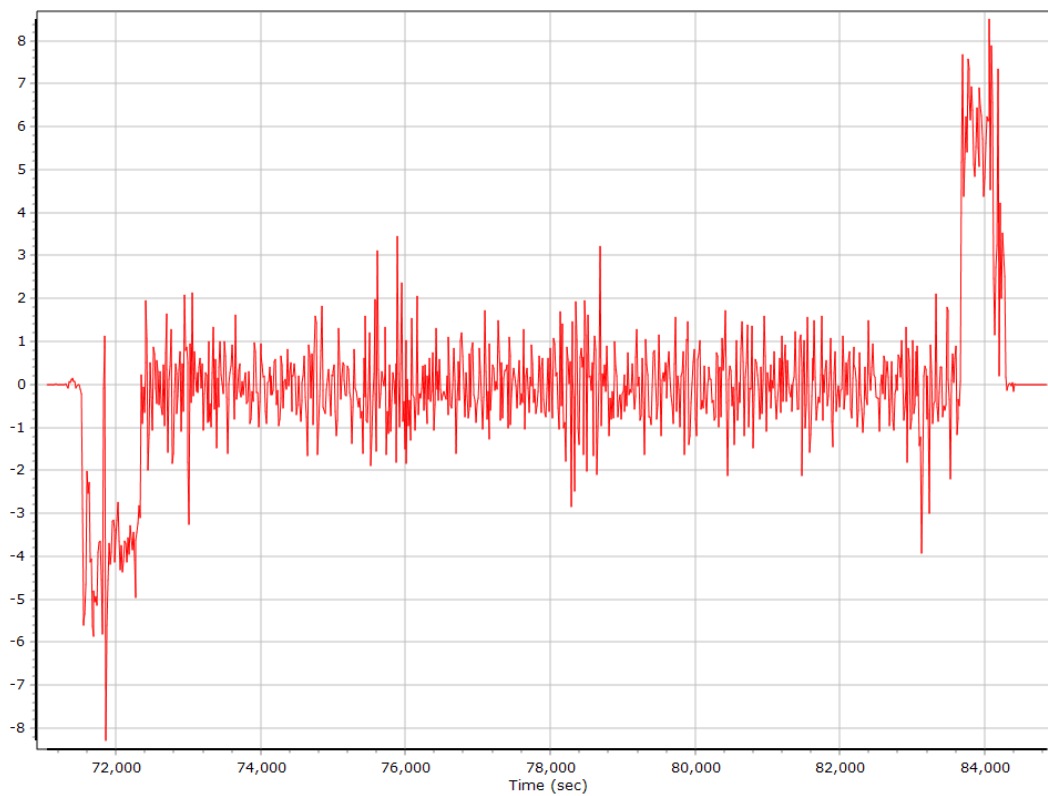
## Heading



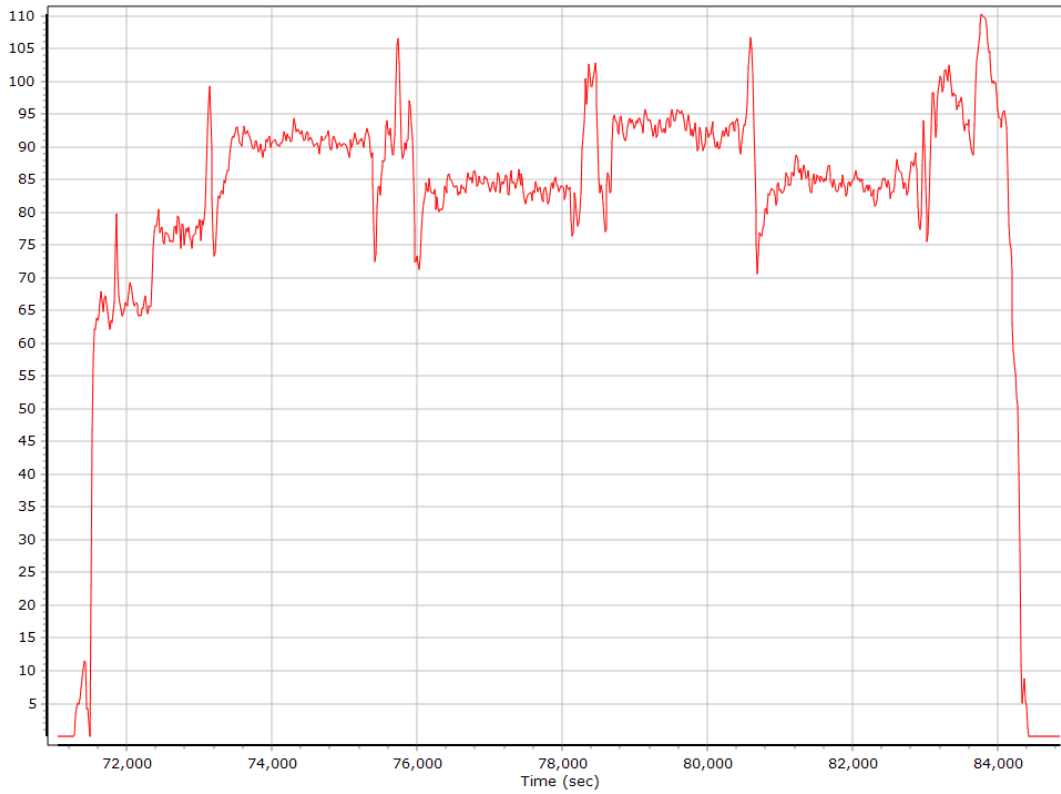
## North/East Velocity



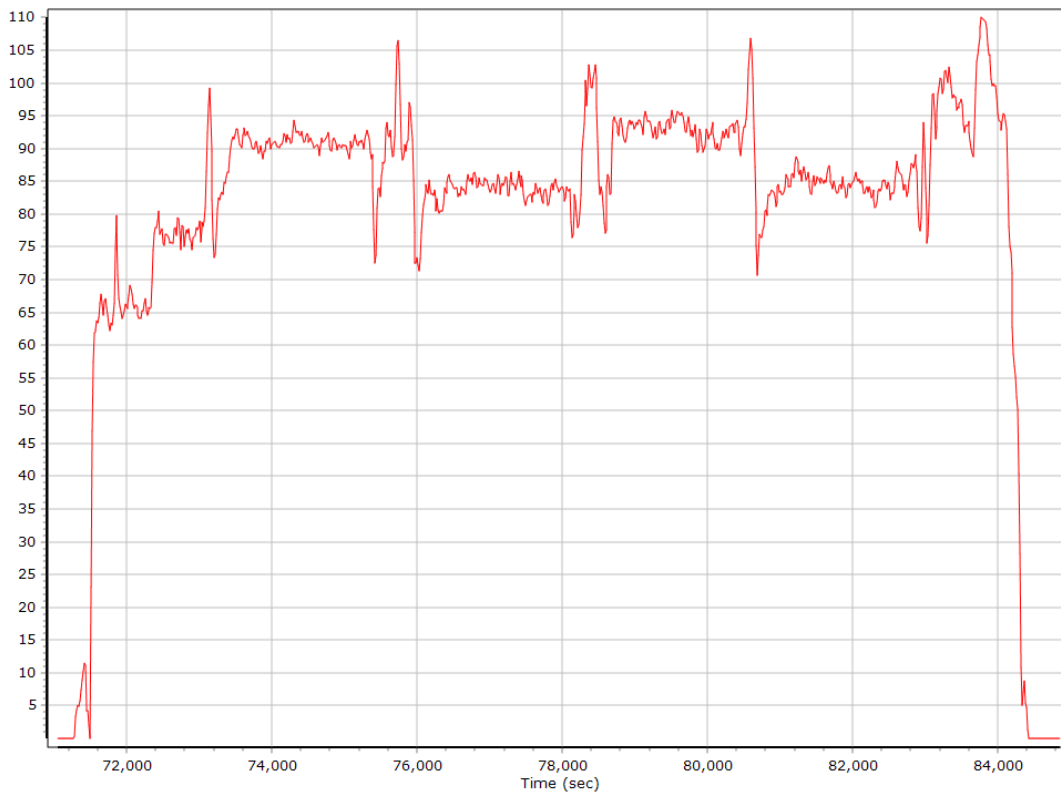
## Down Velocity



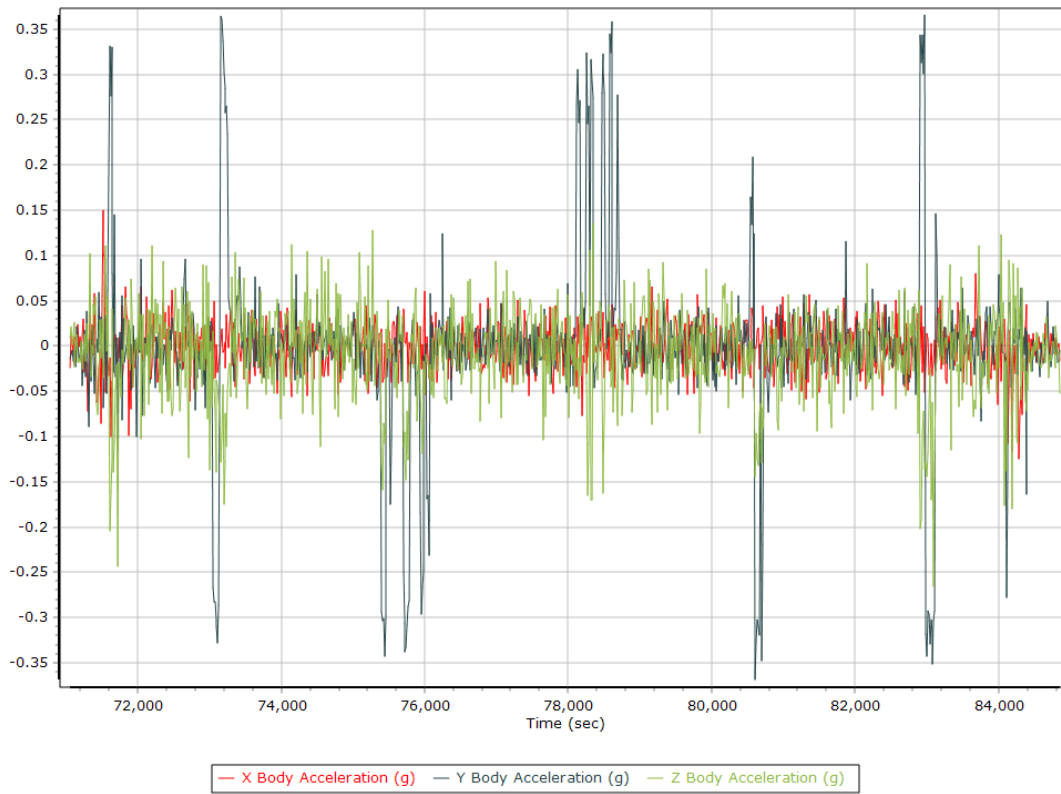
## Total Speed



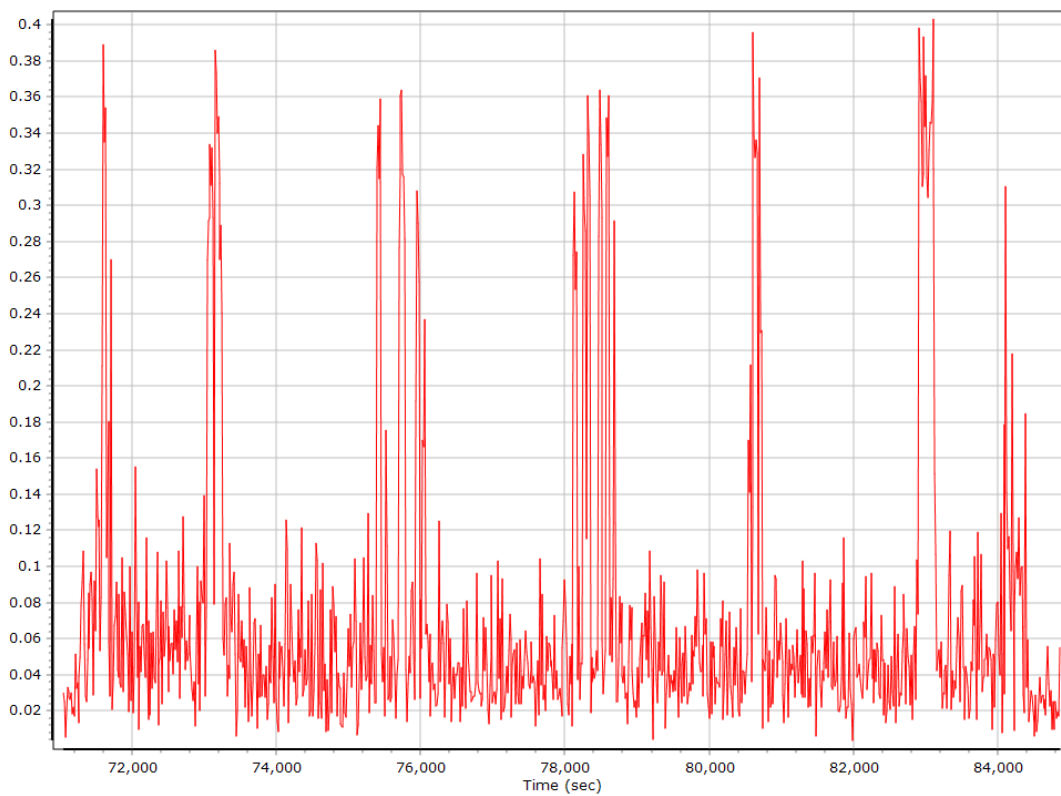
## Ground Speed



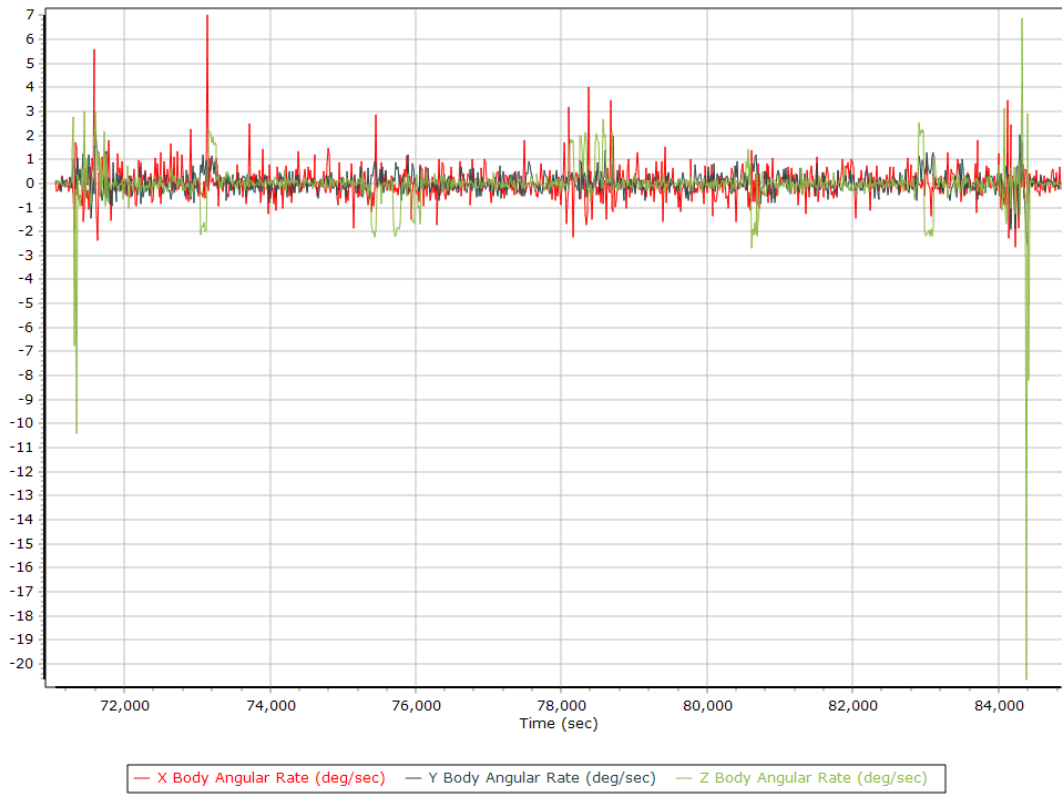
## Body Acceleration



## Total Body Acceleration

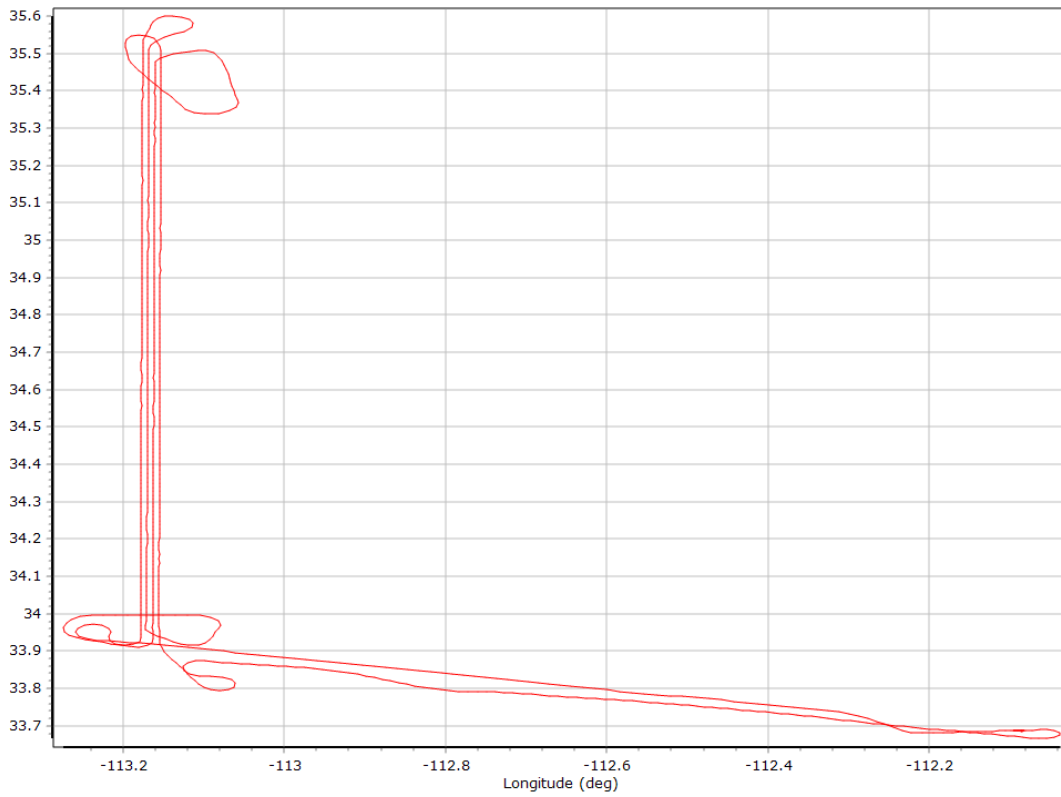


## Body Angular Rate

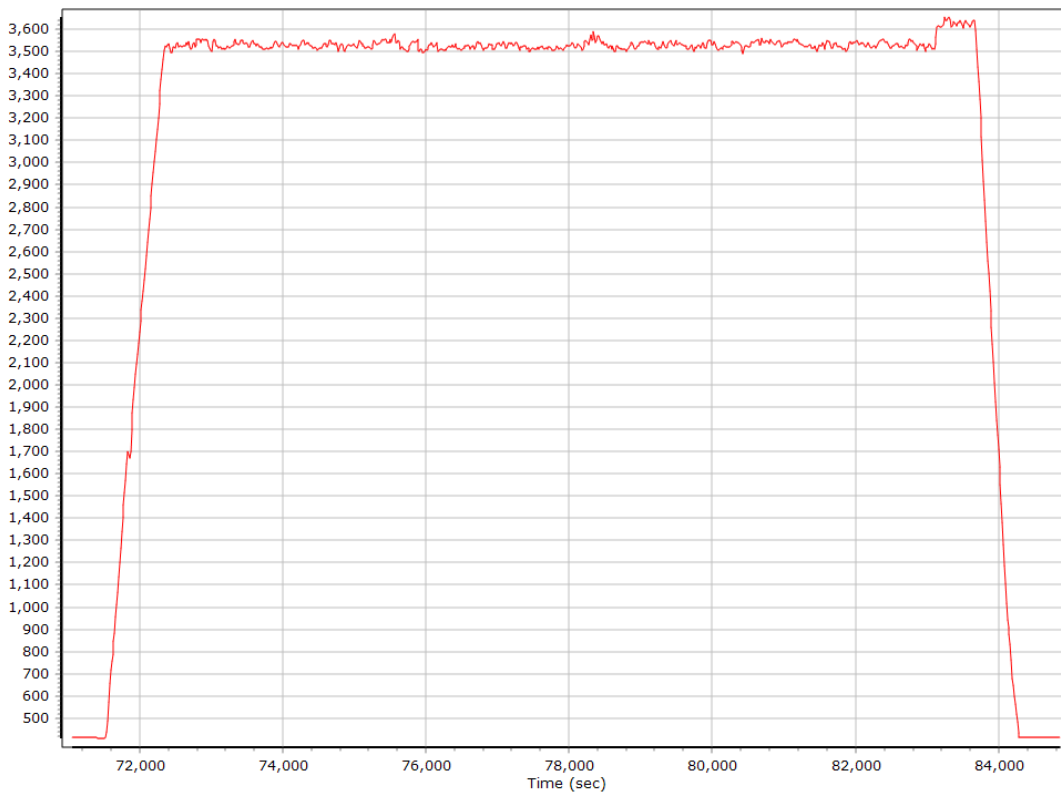


## Forward Processed Trajectory Information

### Top View

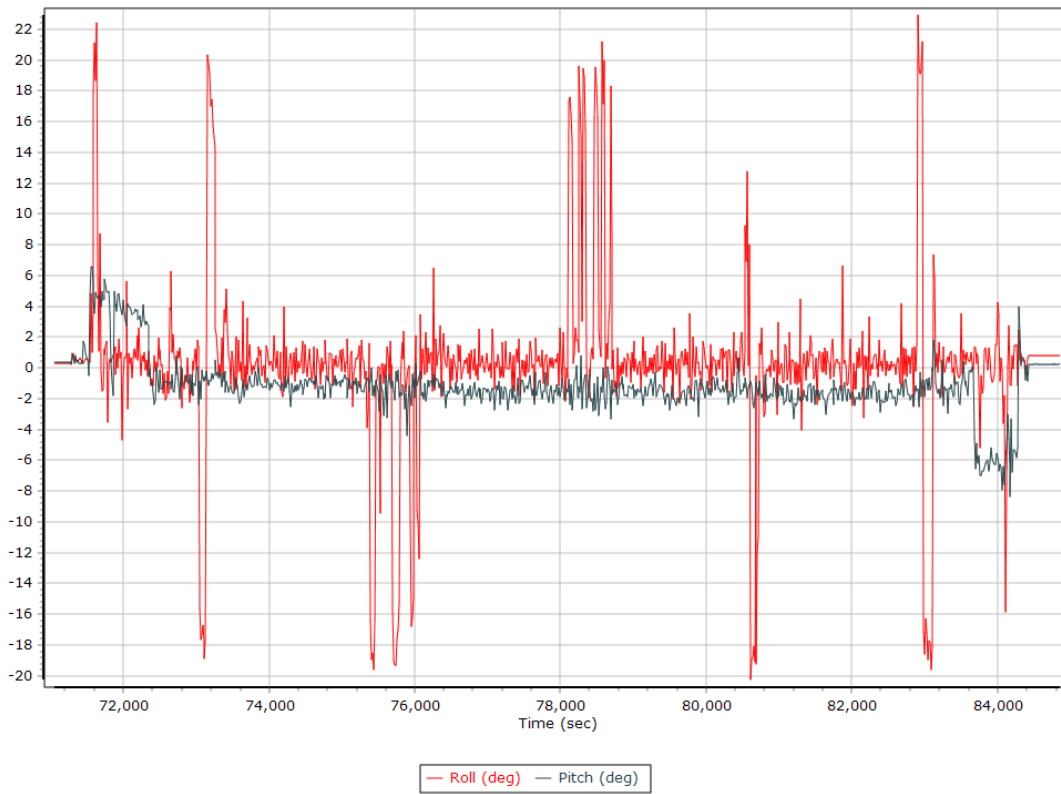


### Altitude

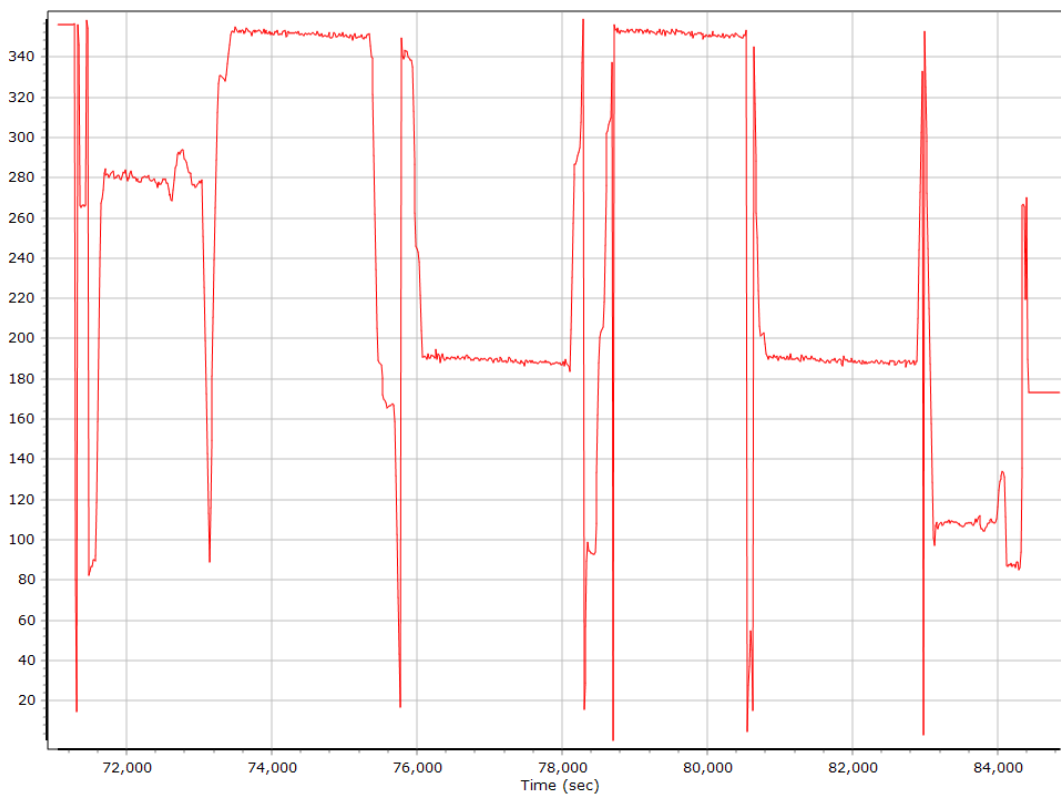




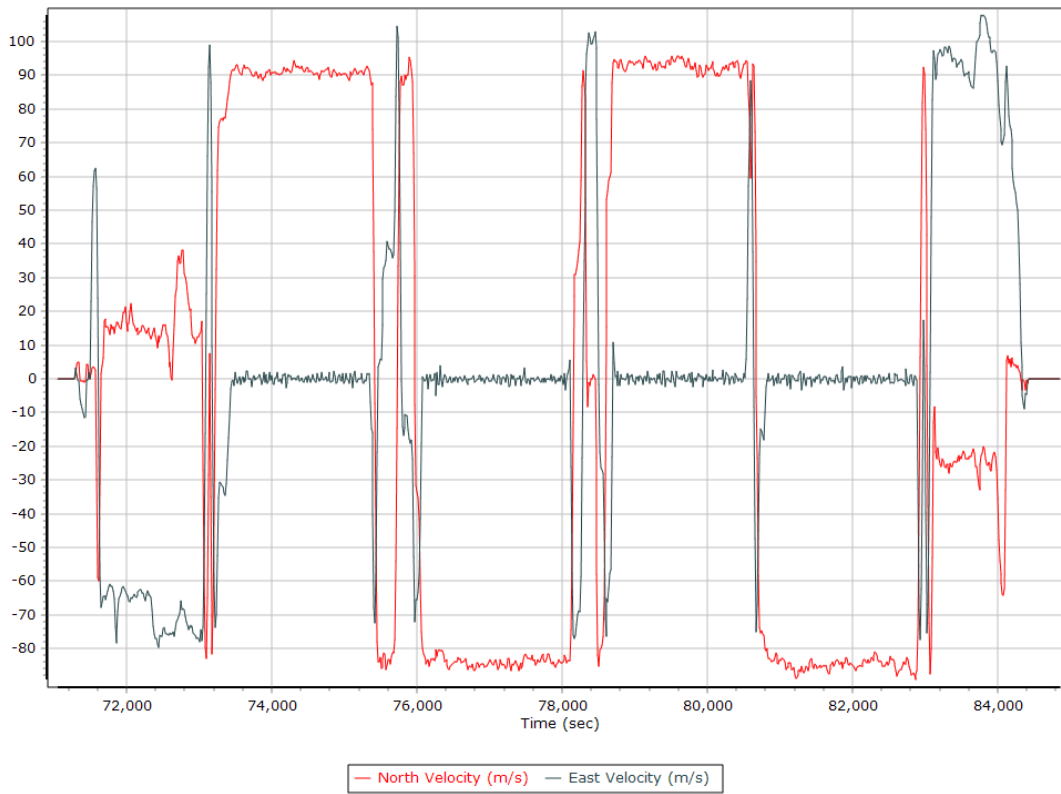
## Roll/Pitch



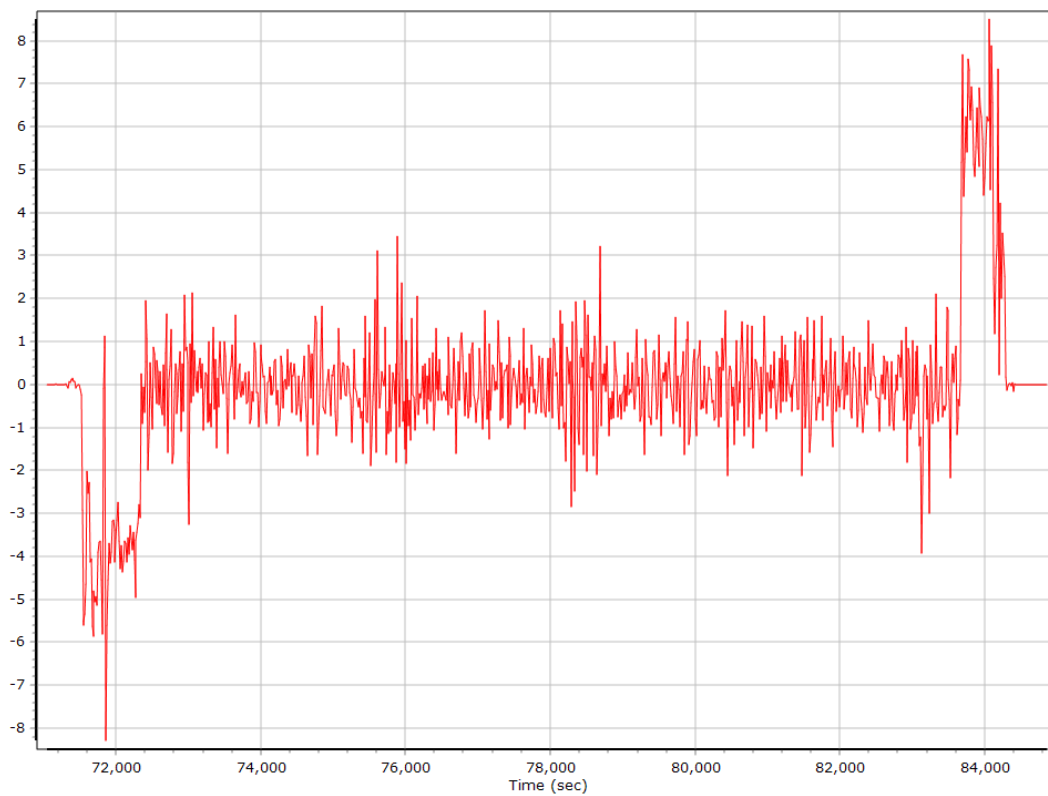
## Heading



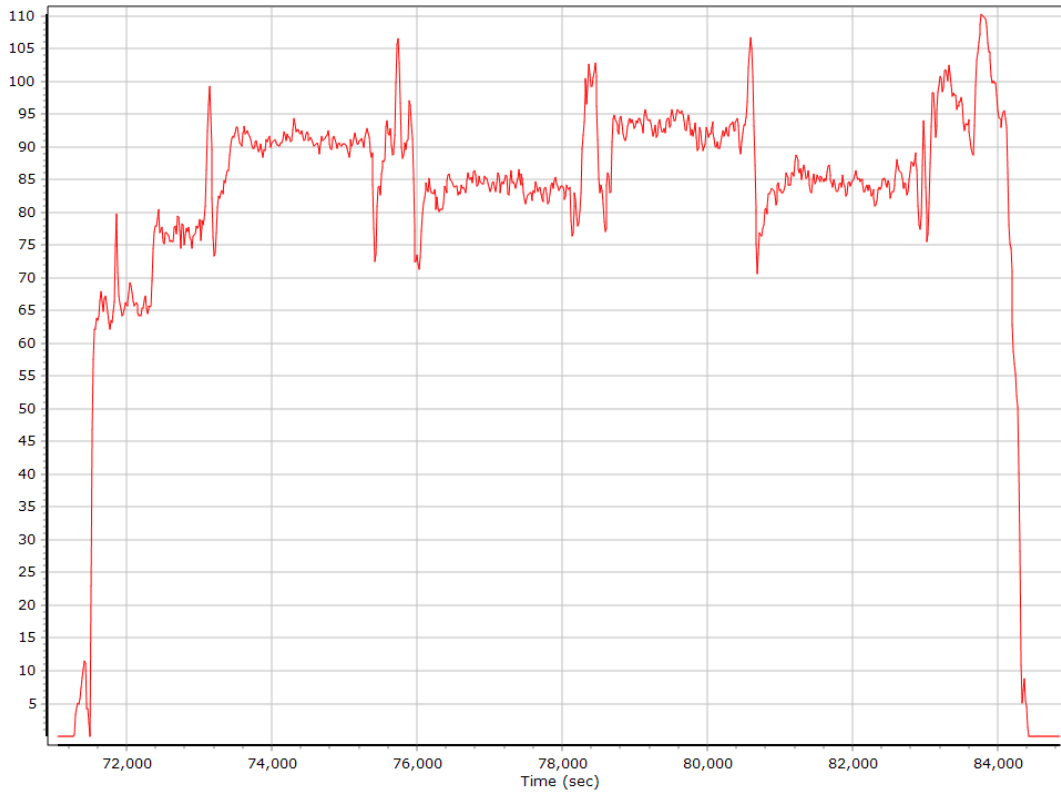
## North/East Velocity



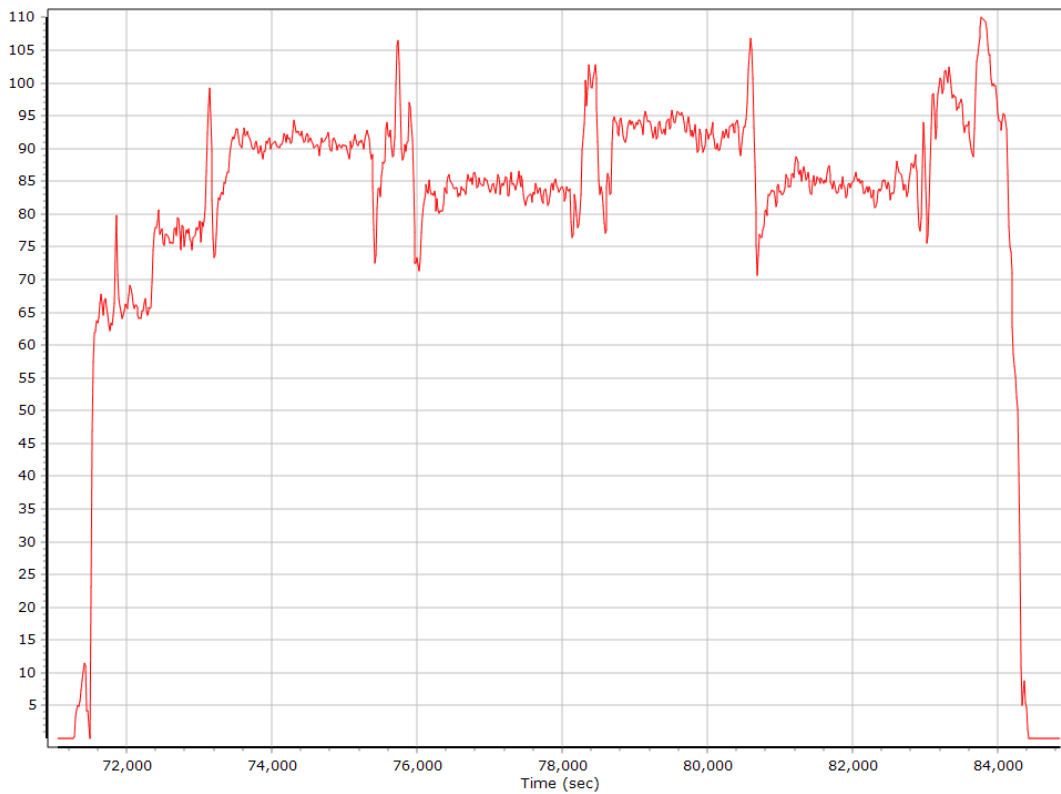
## Down Velocity



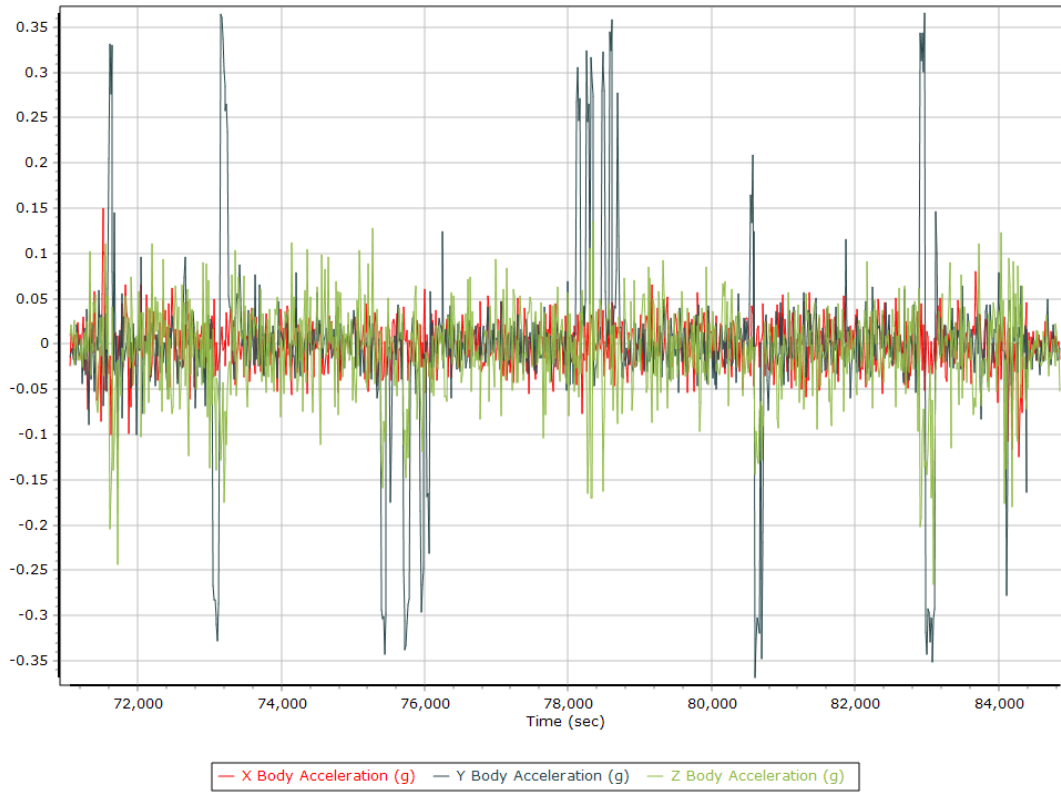
## Total Speed



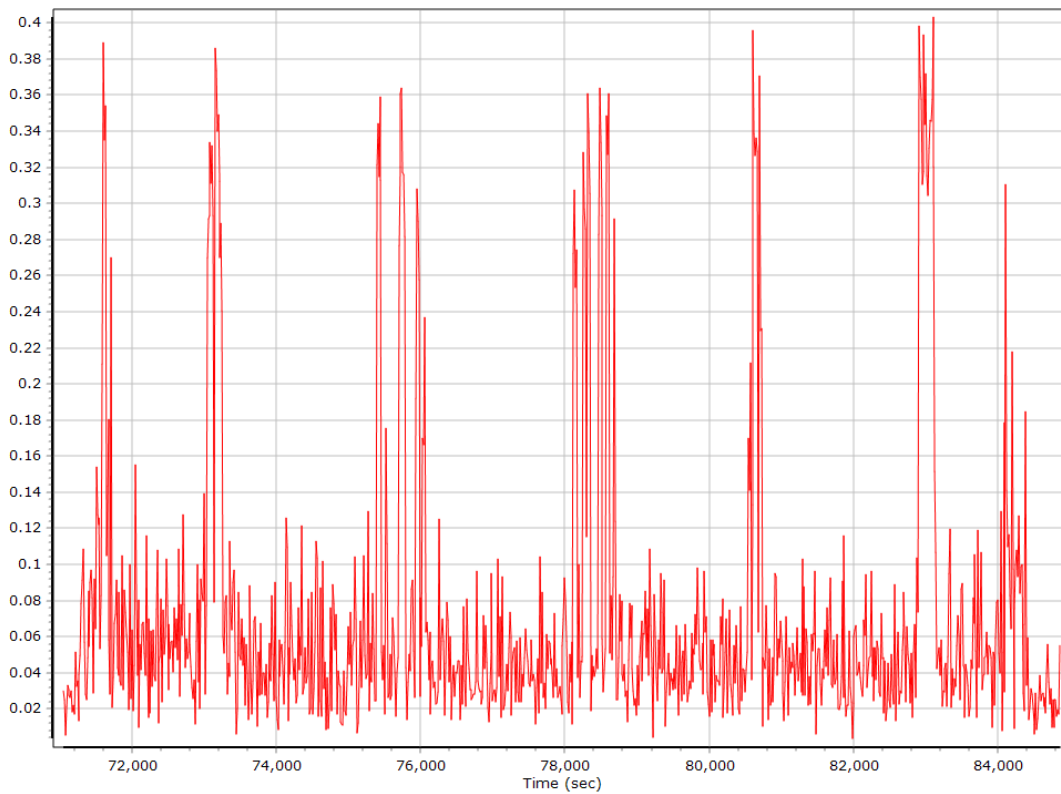
## Ground Speed



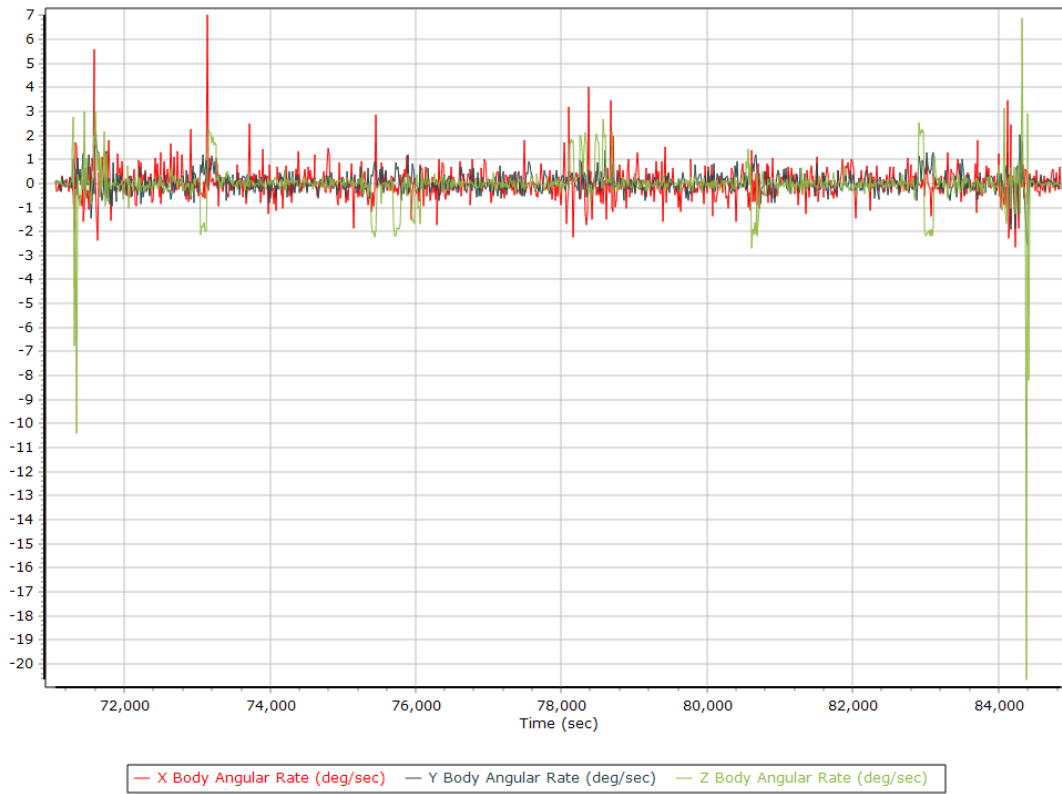
## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

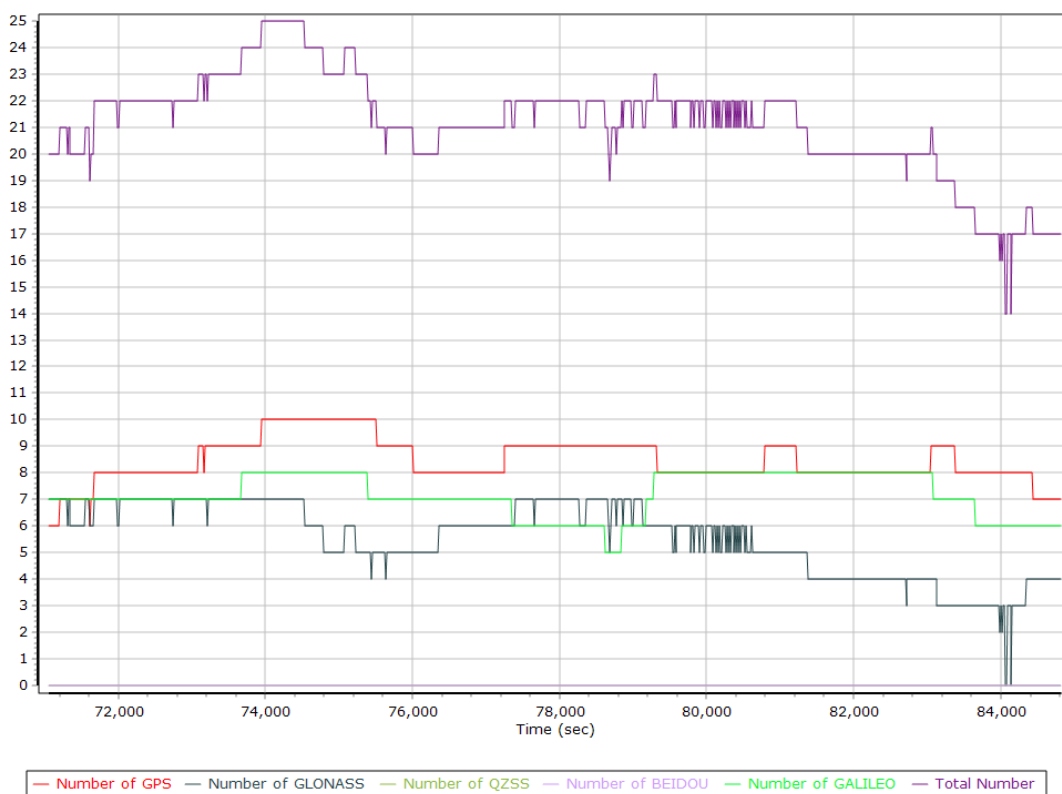


## GNSS QC

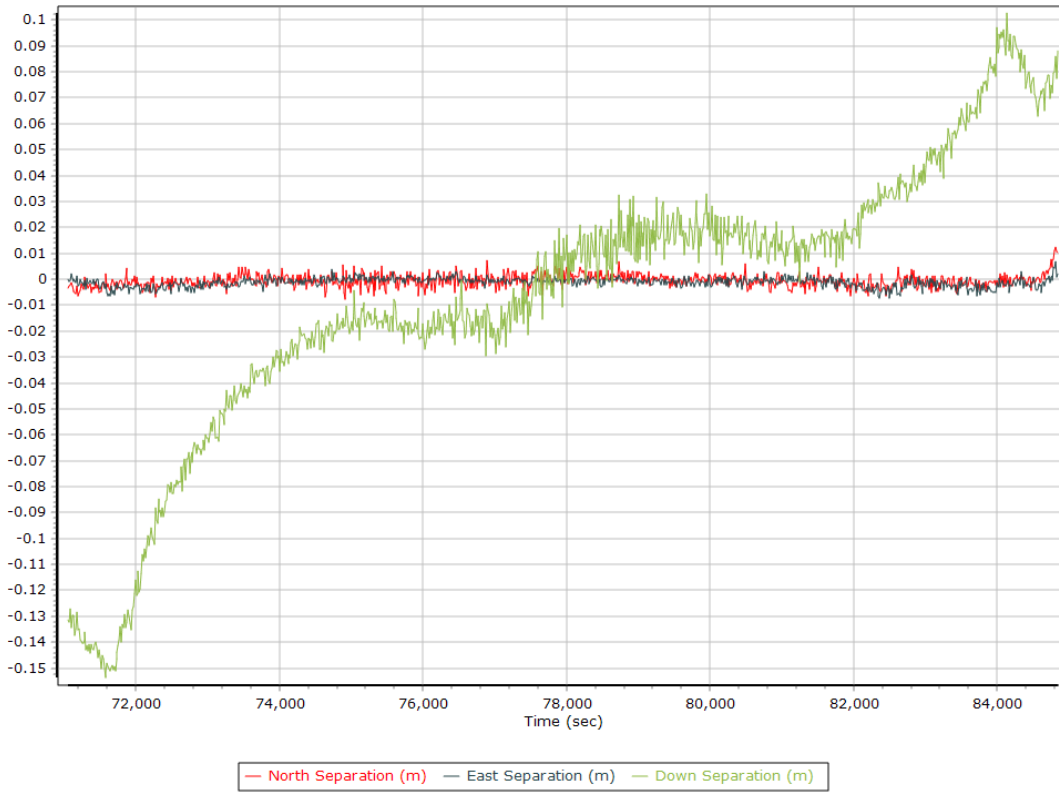
### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	6	10	8
Number of GLONASS SV	0	7	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	3	8	7
Total number of SV	14	25	21
PDOP	1.01	1.75	1.19
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	14160.00	0.00	5.00
Percentage	99.96	0.00	0.04

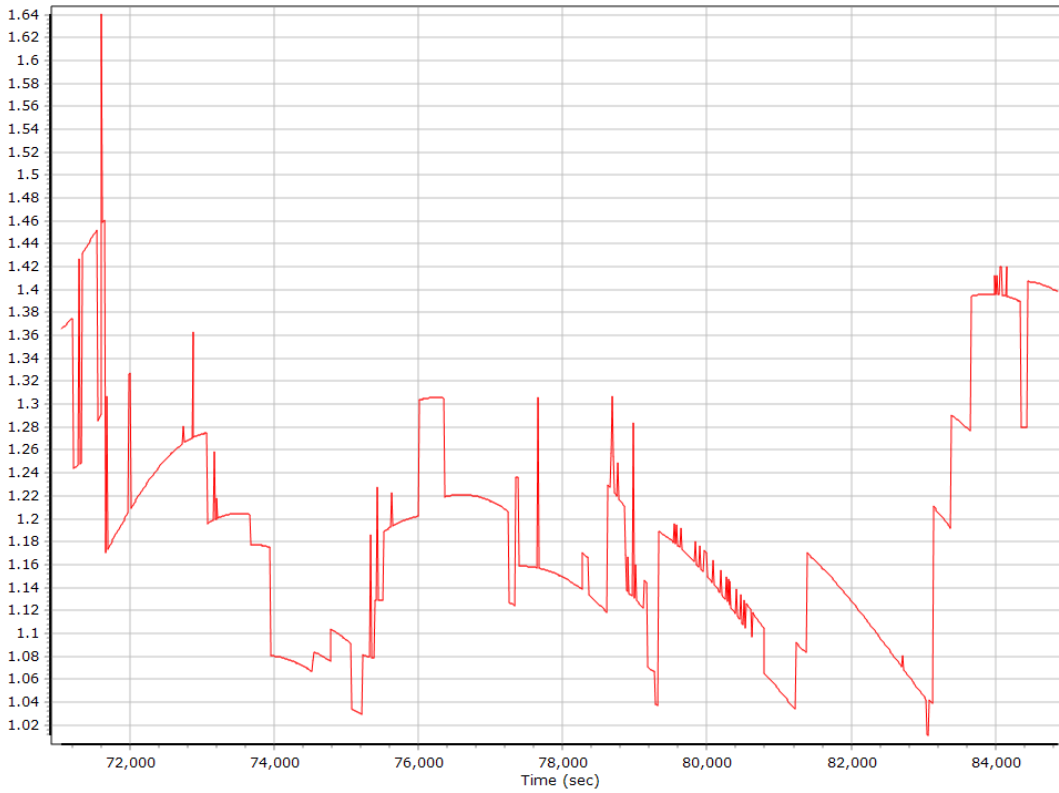
### Num SVs in solution



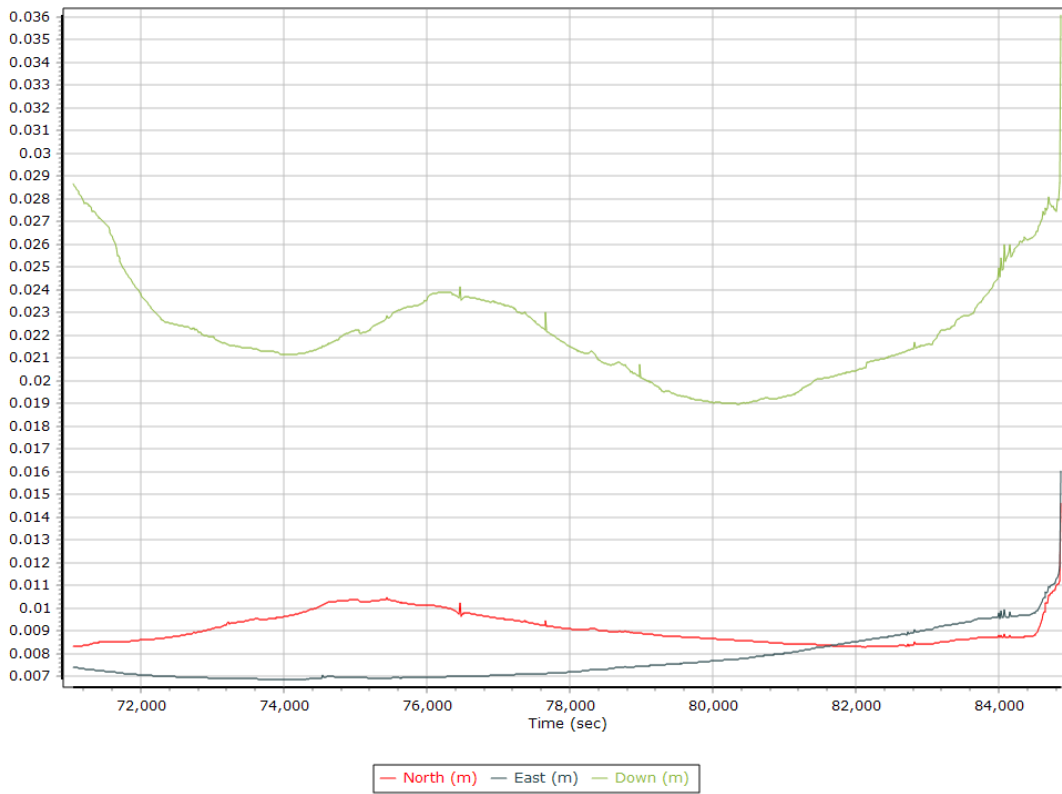
## Forward/Reverse Separation



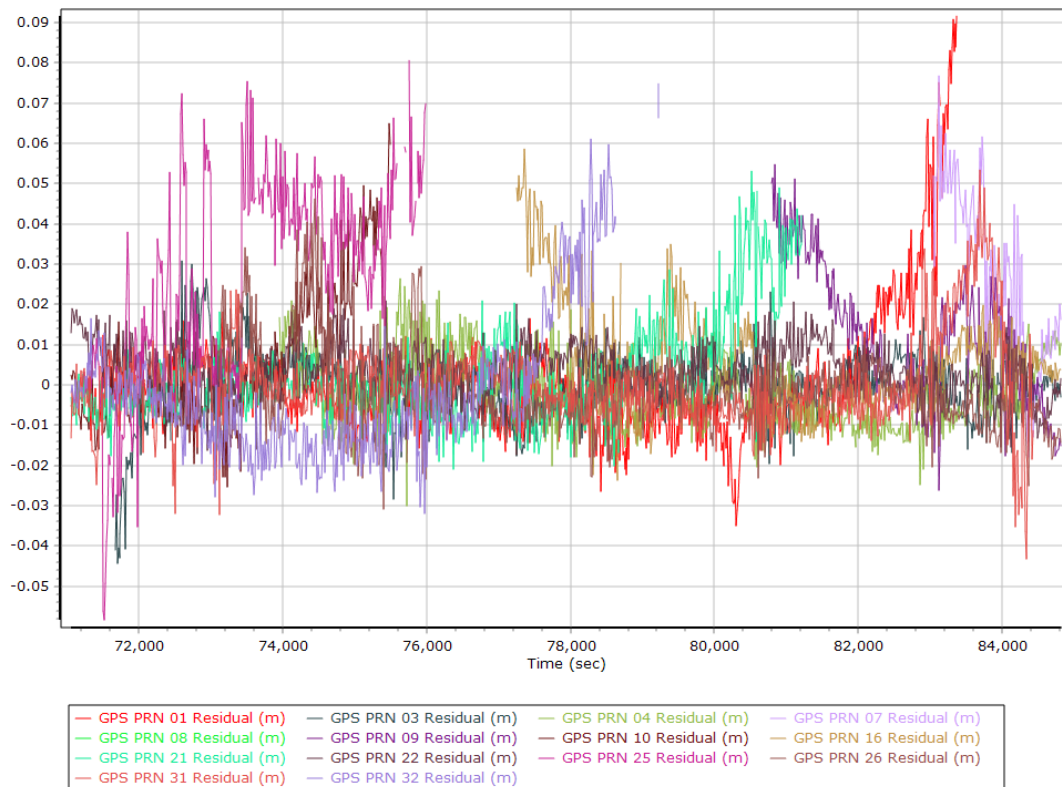
## PDOP



## Estimated Position Accuracy

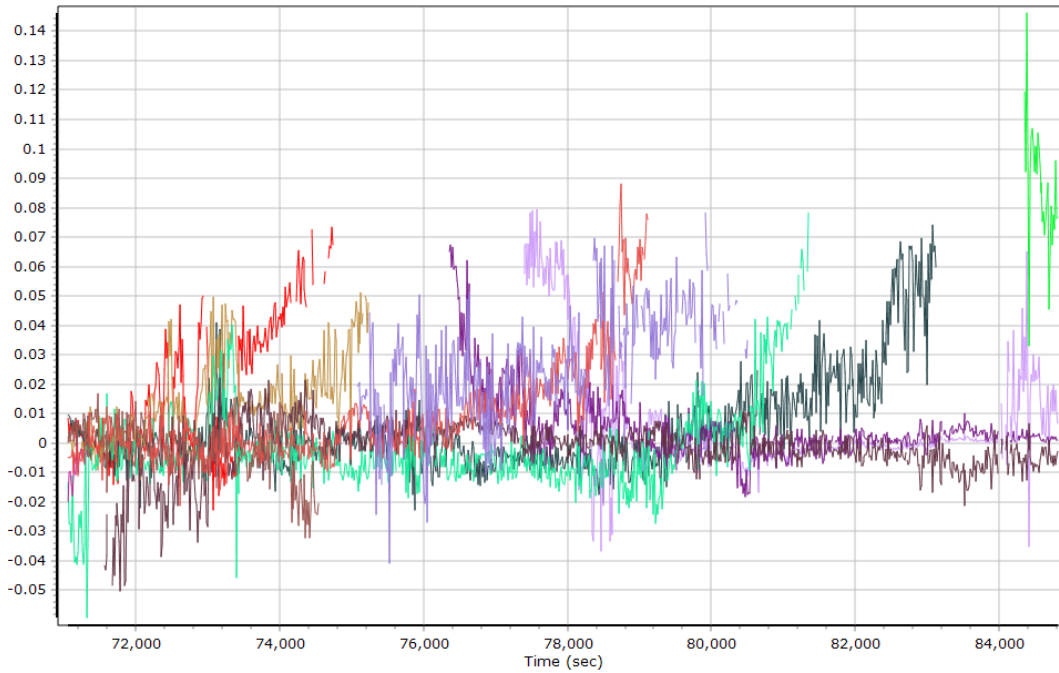


## GPS Residuals



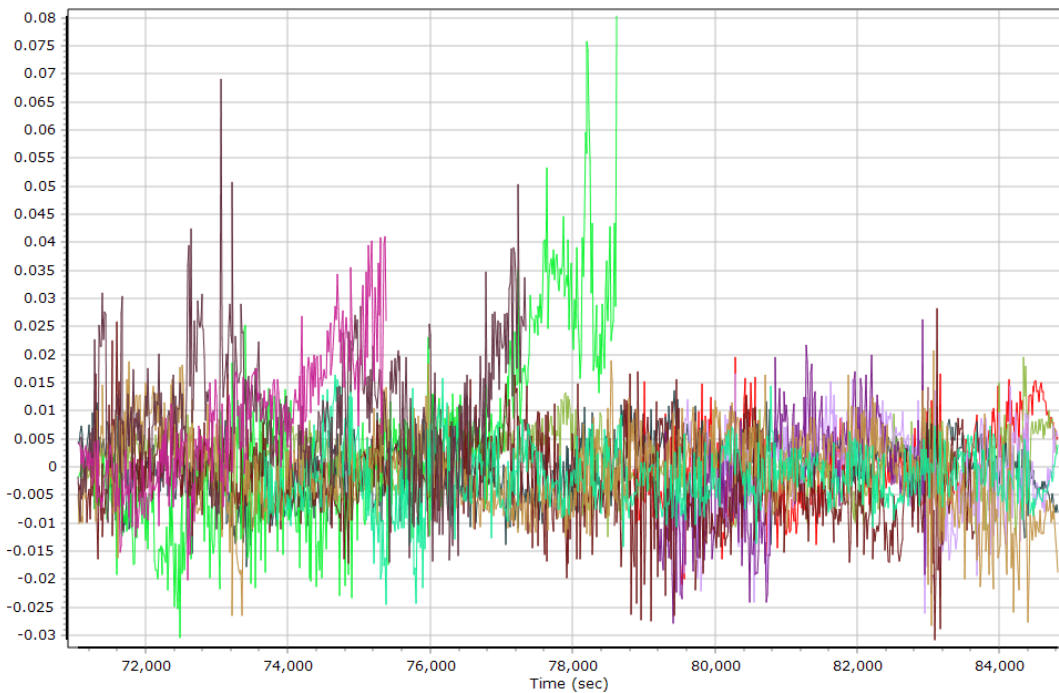


## GLONASS Residuals



- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| 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) |                         |                         |

## GALILEO Residuals



- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GALILEO 02 Residual (m) | GALILEO 03 Residual (m) | GALILEO 05 Residual (m) | GALILEO 08 Residual (m) |
| GALILEO 09 Residual (m) | GALILEO 13 Residual (m) | GALILEO 15 Residual (m) | GALILEO 24 Residual (m) |
| GALILEO 25 Residual (m) | GALILEO 31 Residual (m) | GALILEO 36 Residual (m) |                         |

## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	70660.000 (10/24/2021 19:37:40)		
Processing end time	84866.000 (10/24/2021 23:34:26)		
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)	0.528	0.045	-1.179
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

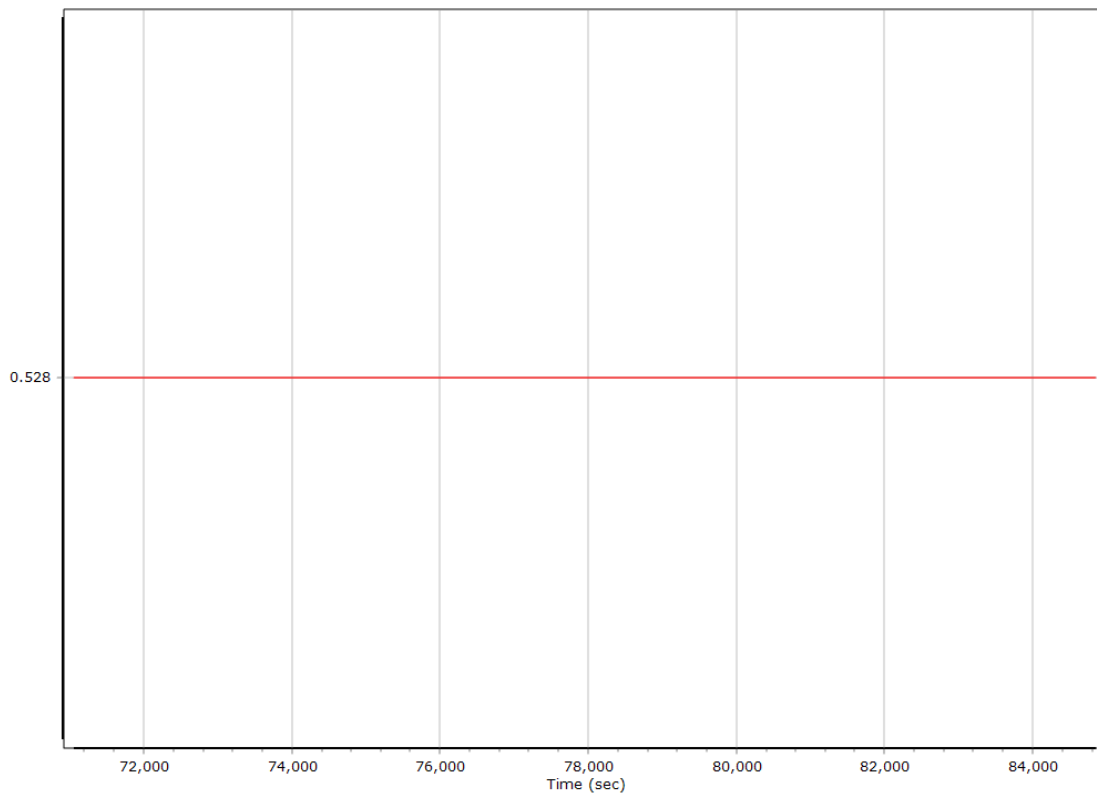
## Calibrated Installation Parameters

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

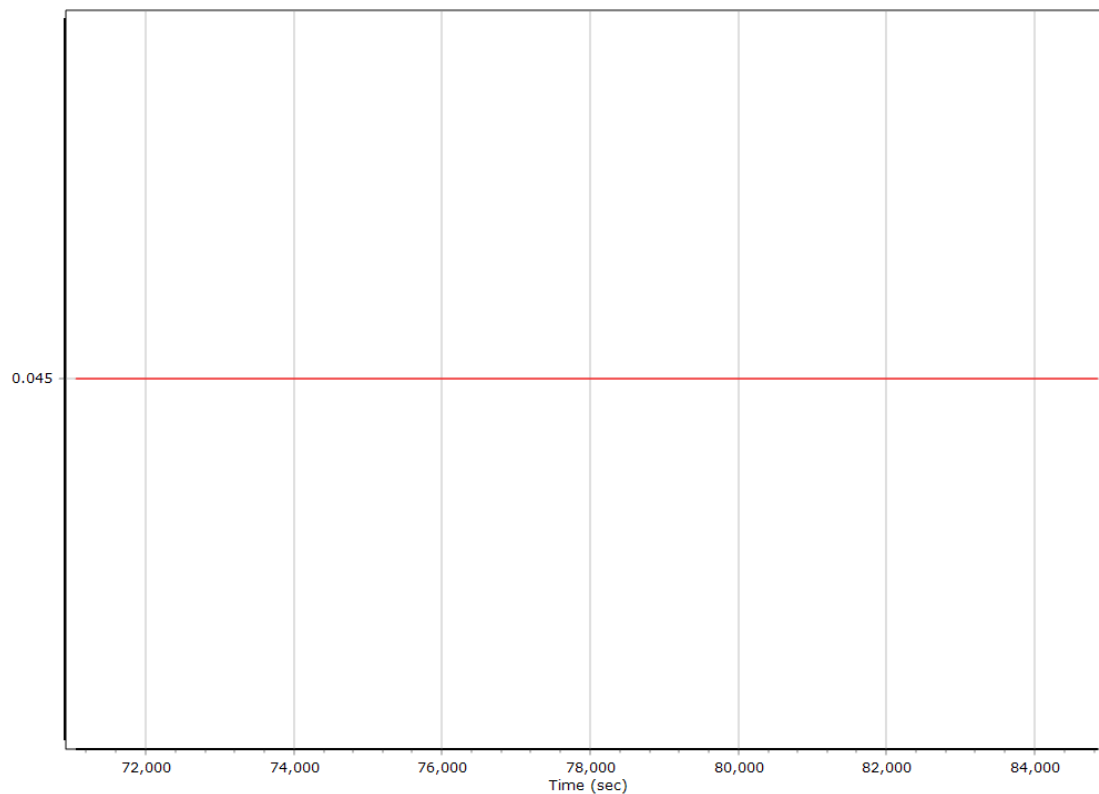
#### Reference-Primary GNSS Lever Arm Automatic Calibration Results

Original Reference to Primary GNSS lever arm (m)	0.534	0.060	-1.199
Iteration 1 Reference to Primary GNSS lever arm (m)	0.528	0.045	-1.179
Iteration 2 Reference to Primary GNSS lever arm (m)	0.528	0.045	-1.179
Primary GNSS Lever Arm In use	Iteration 2		

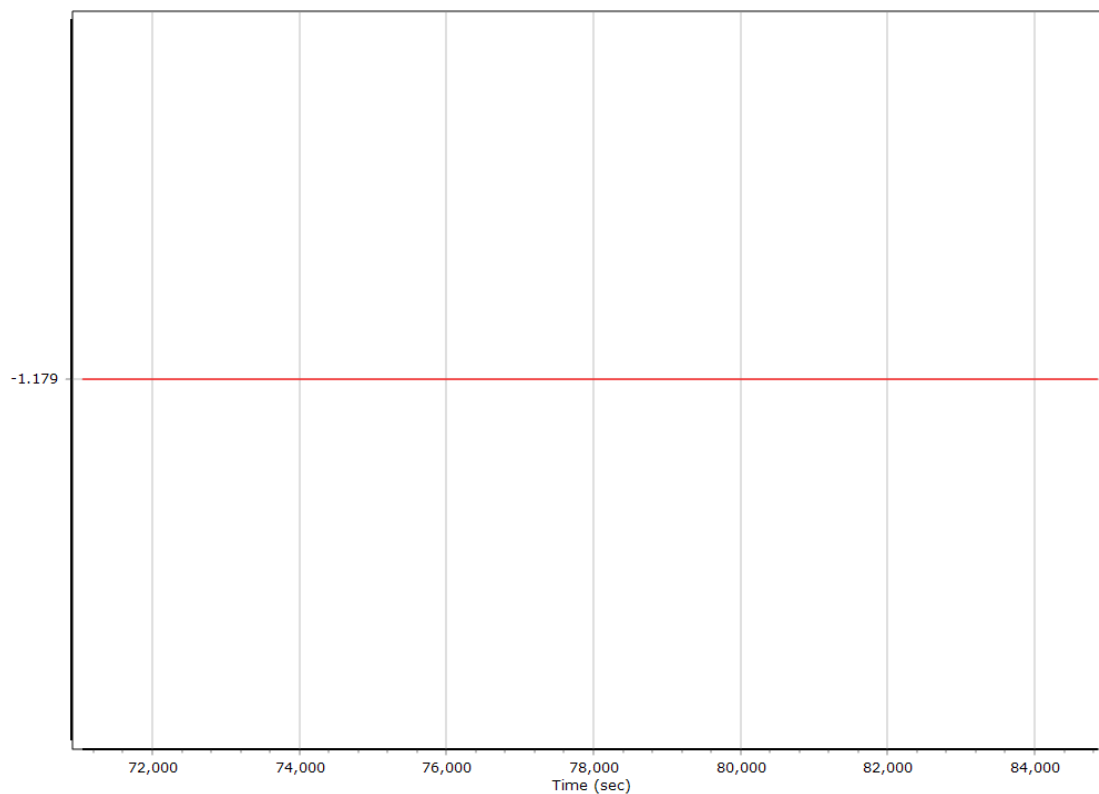
### X Reference-Primary GNSS Lever Arm (m)



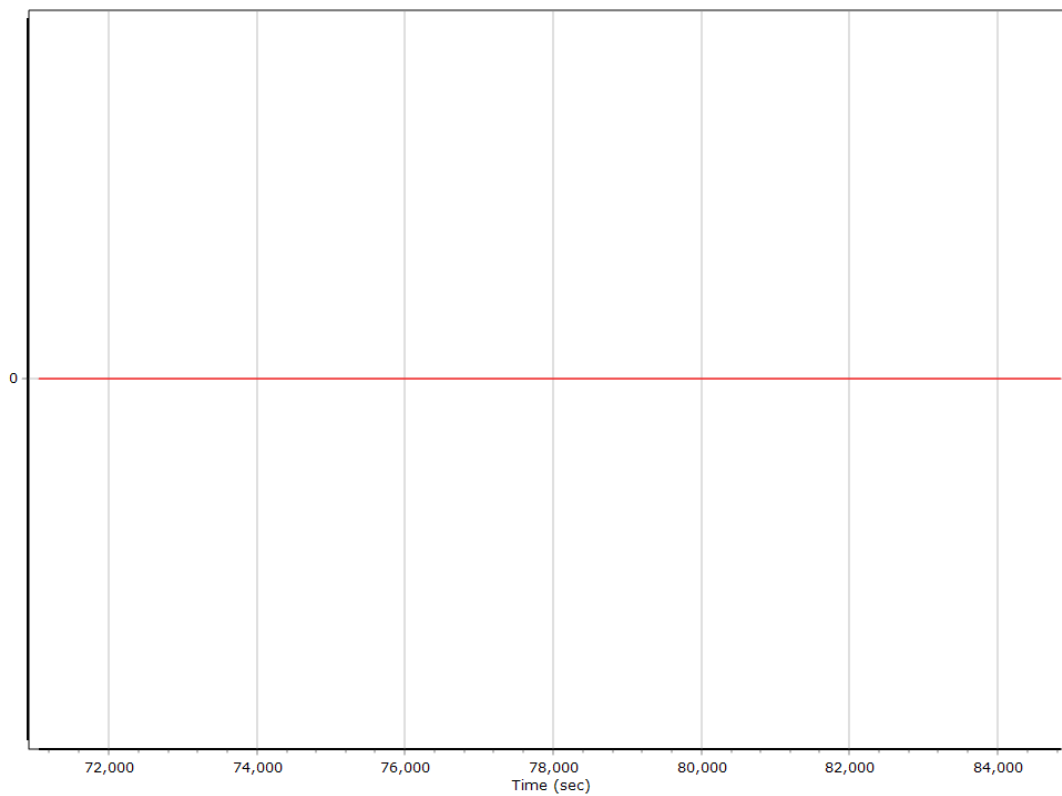
### Y Reference-Primary GNSS Lever Arm (m)



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



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



## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

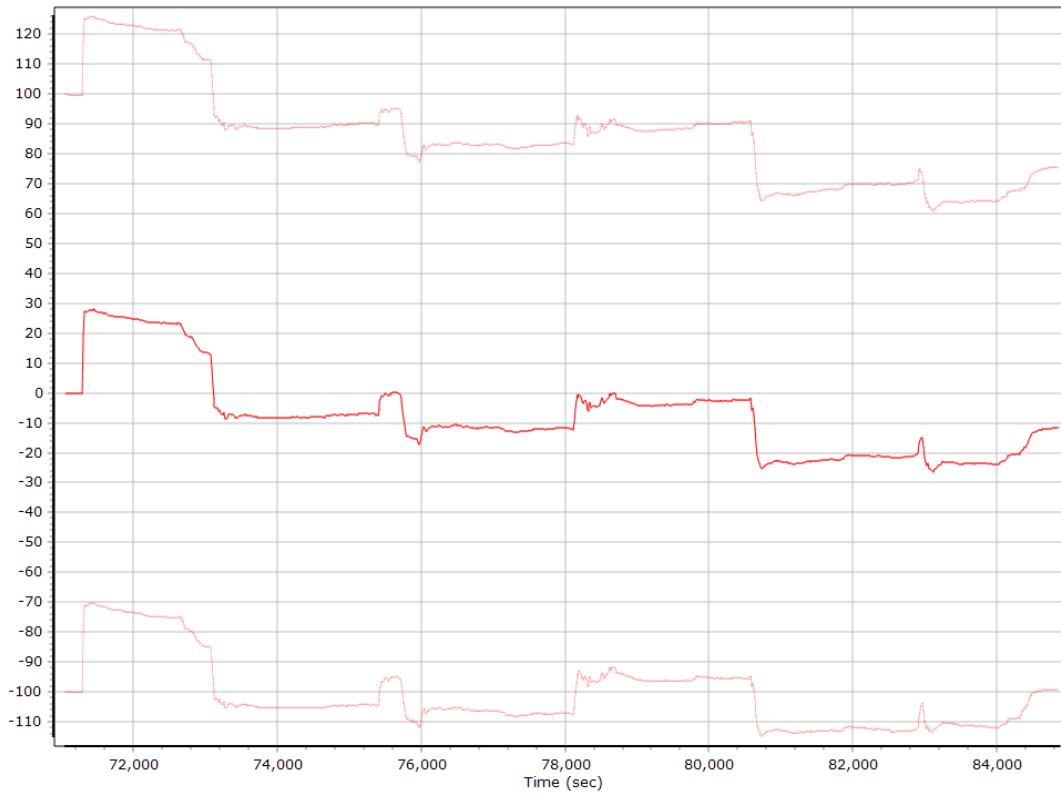
#### Accelerometer Bias (micro-g)



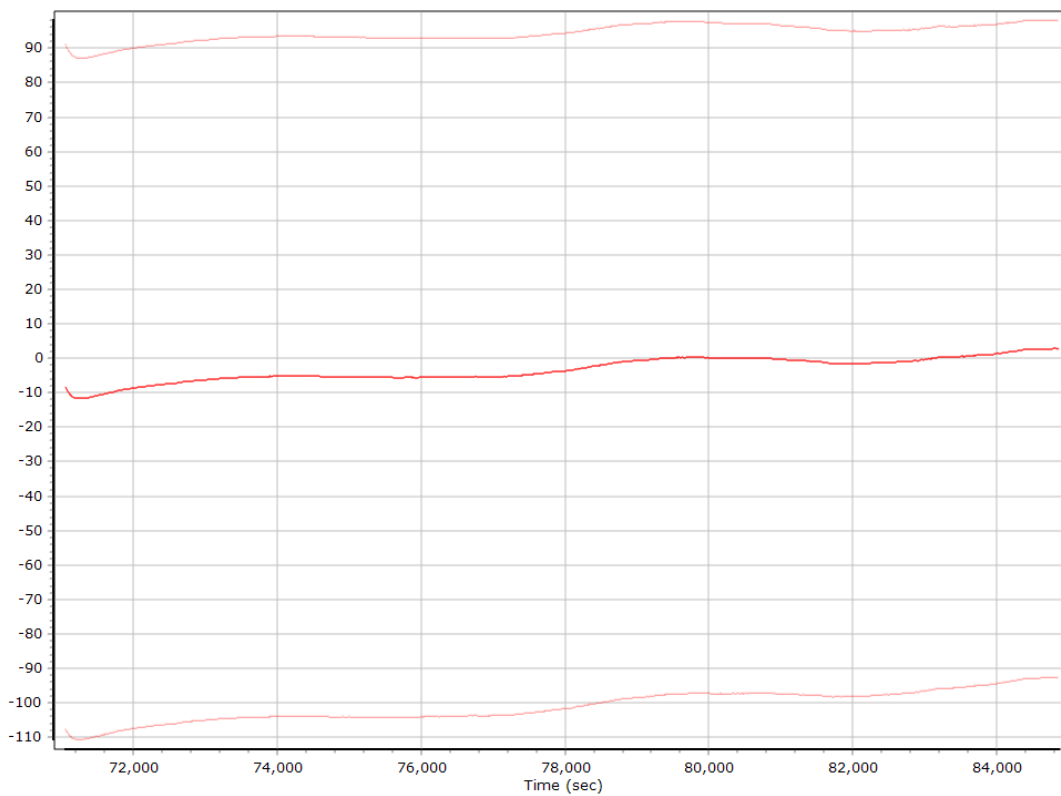
#### X Accelerometer Bias (micro-g)



### Y Accelerometer Bias (micro-g)



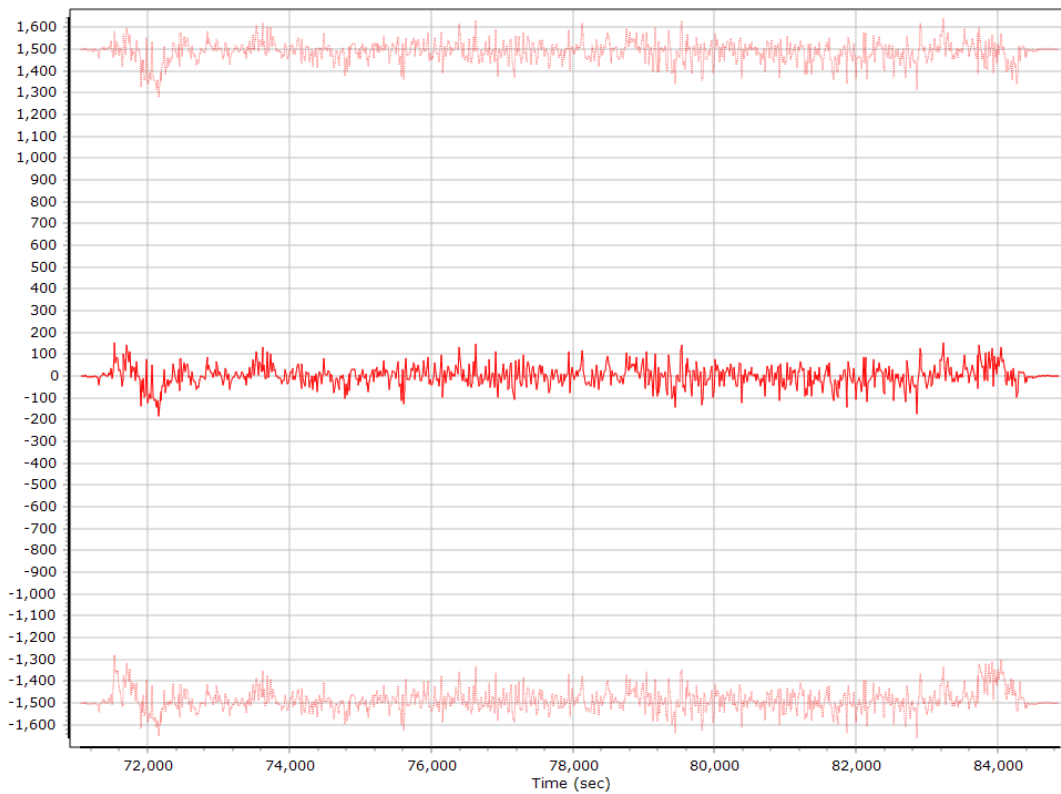
### Z Accelerometer Bias (micro-g)



### Accelerometer Scale Error (ppm)



### X Accelerometer Scale Error (ppm)





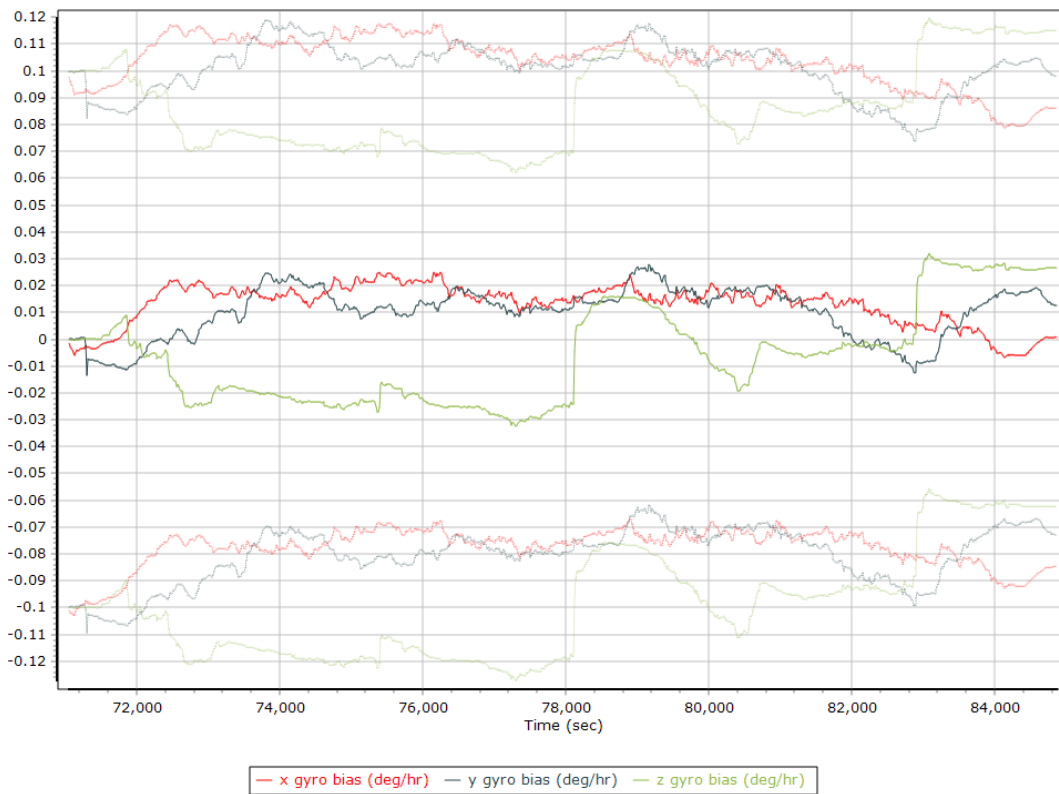
### Y Accelerometer Scale Error (ppm)



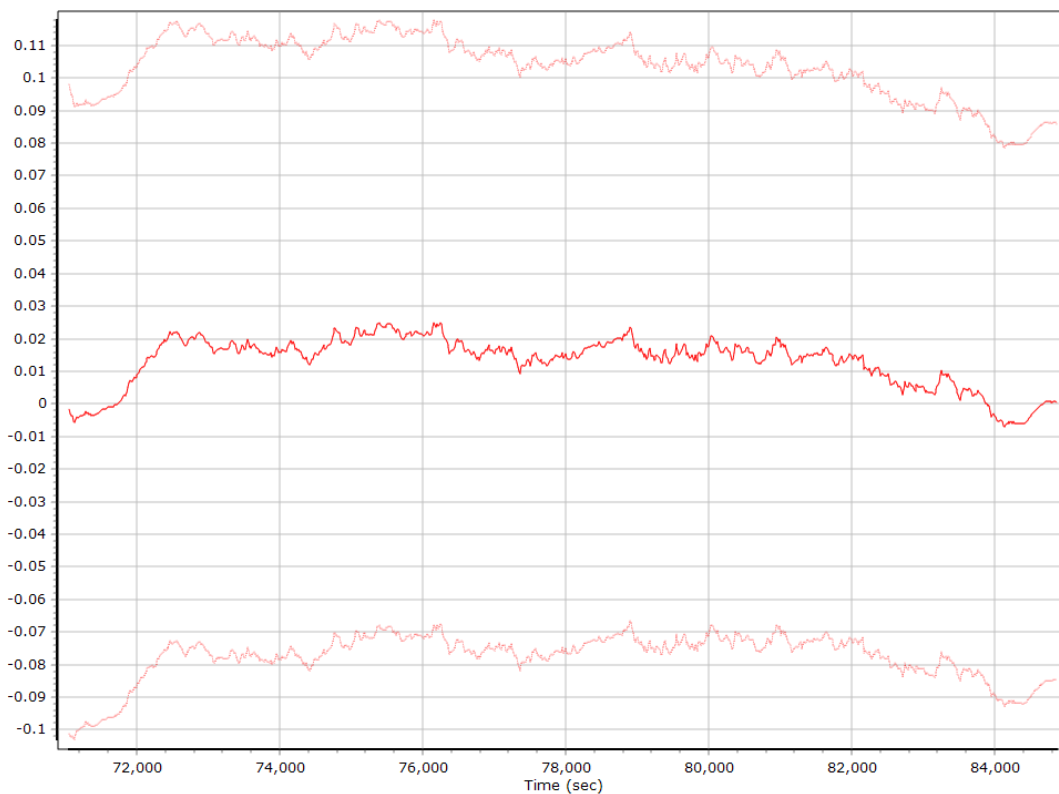
### Z Accelerometer Scale Error (ppm)



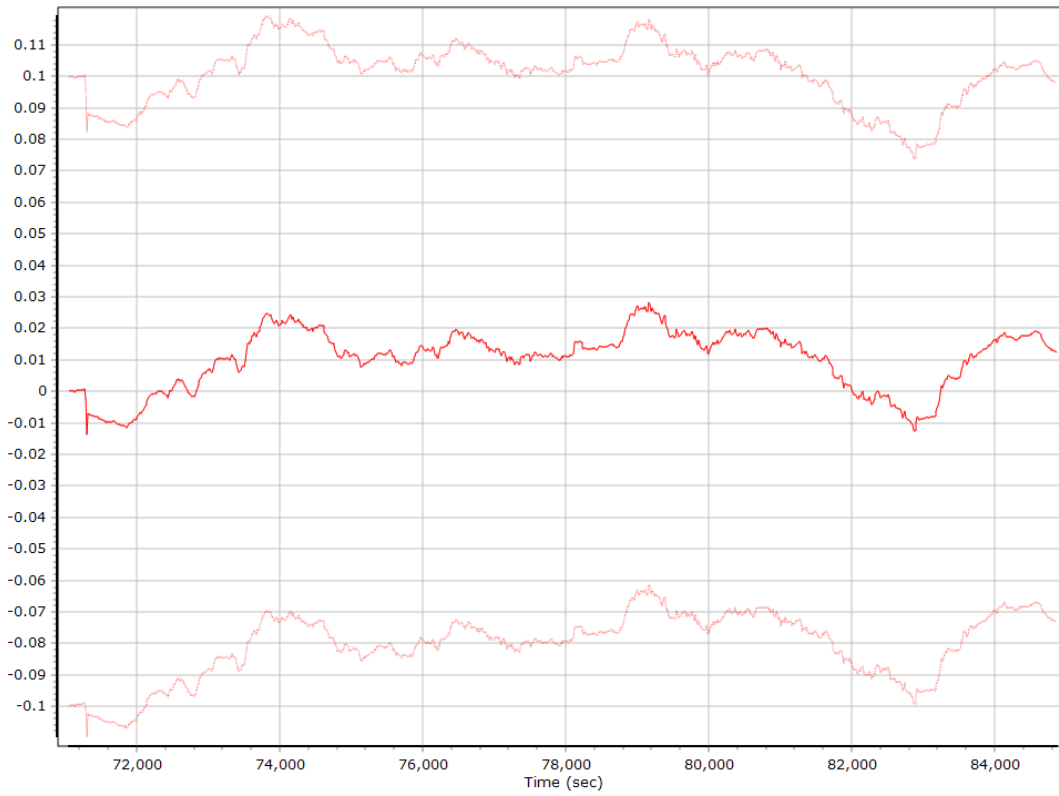
### Gyro Bias (deg/h)



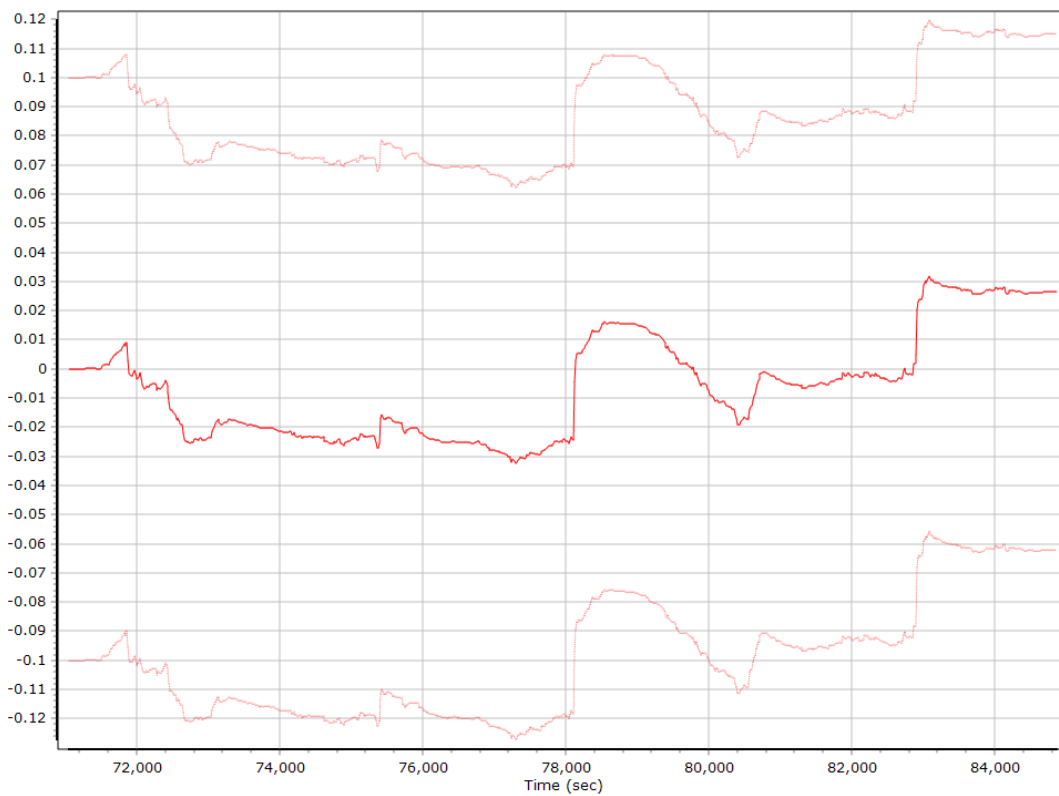
### X Gyro Bias (deg/h)



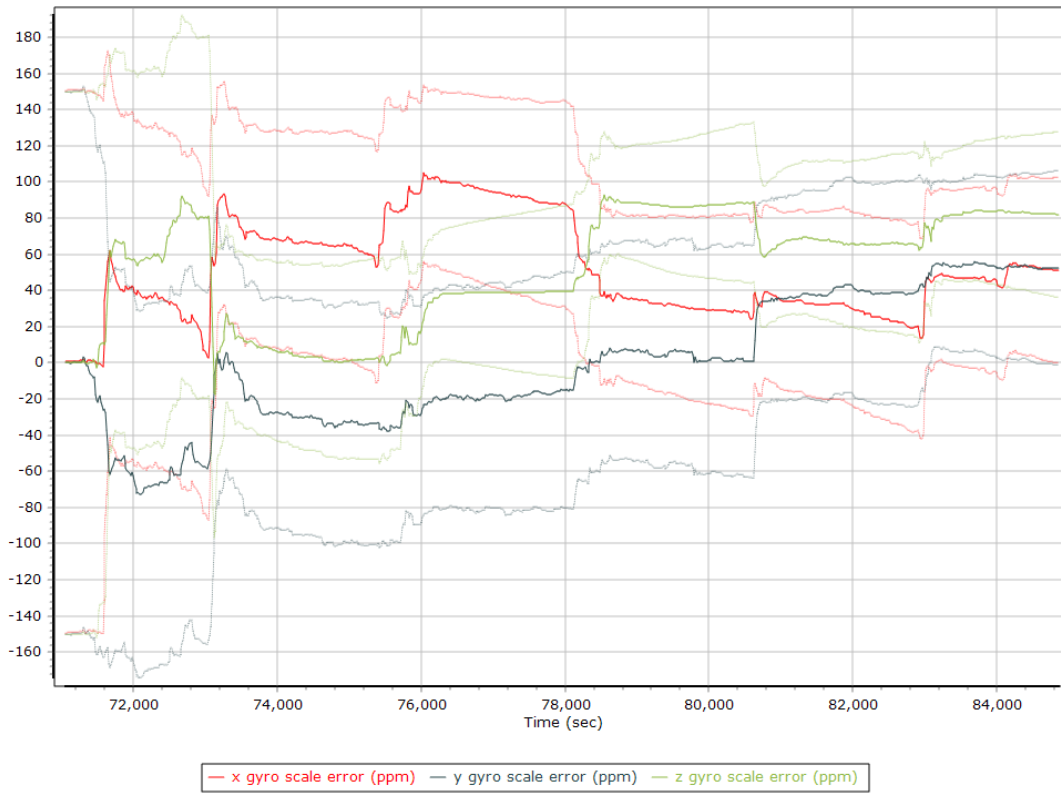
### Y Gyro Bias (deg/h)



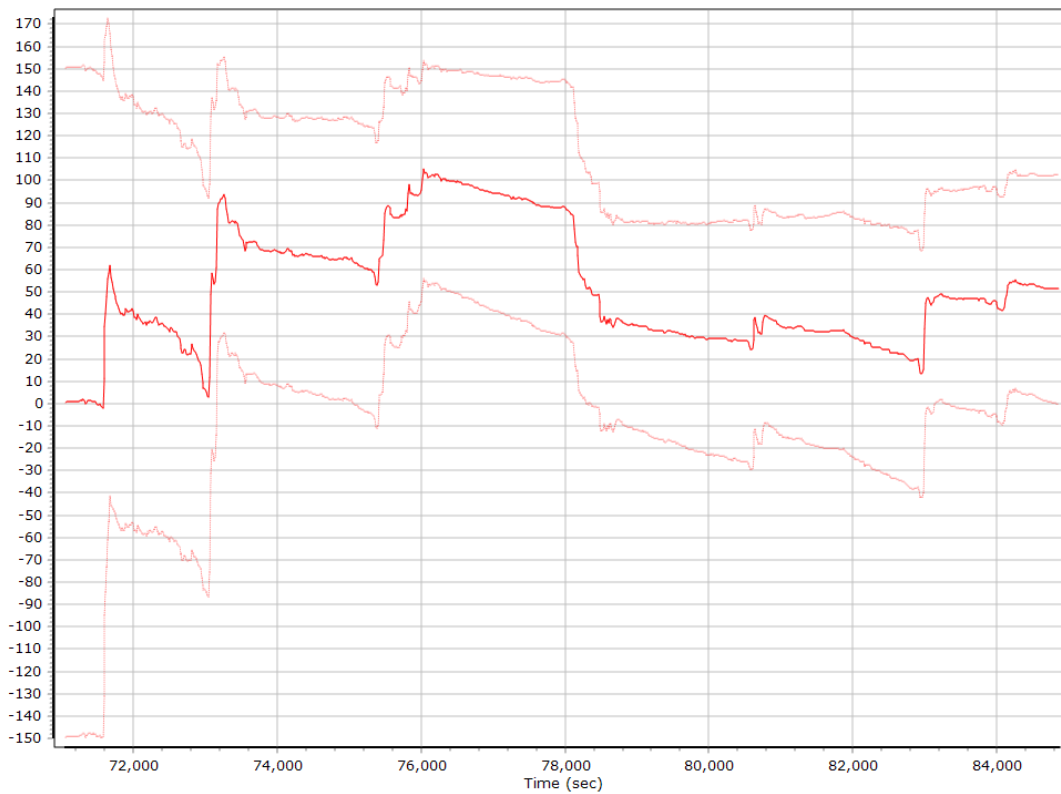
### Z Gyro Bias (deg/h)



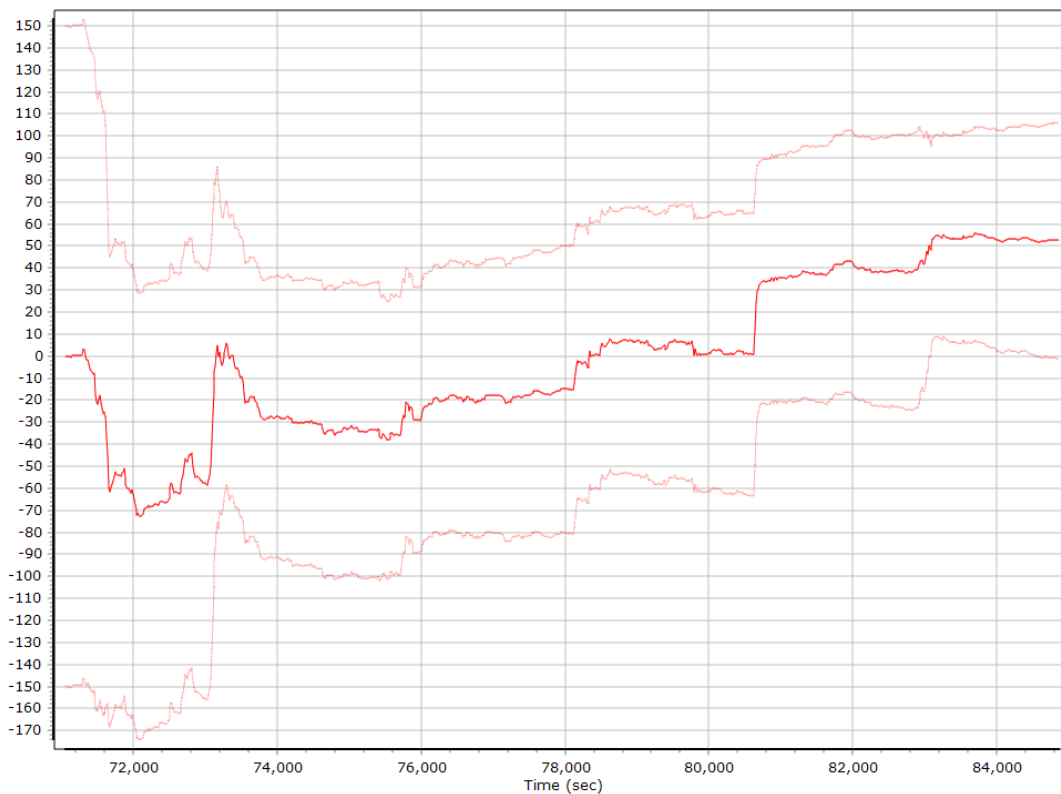
### Gyro Scale Error (ppm)



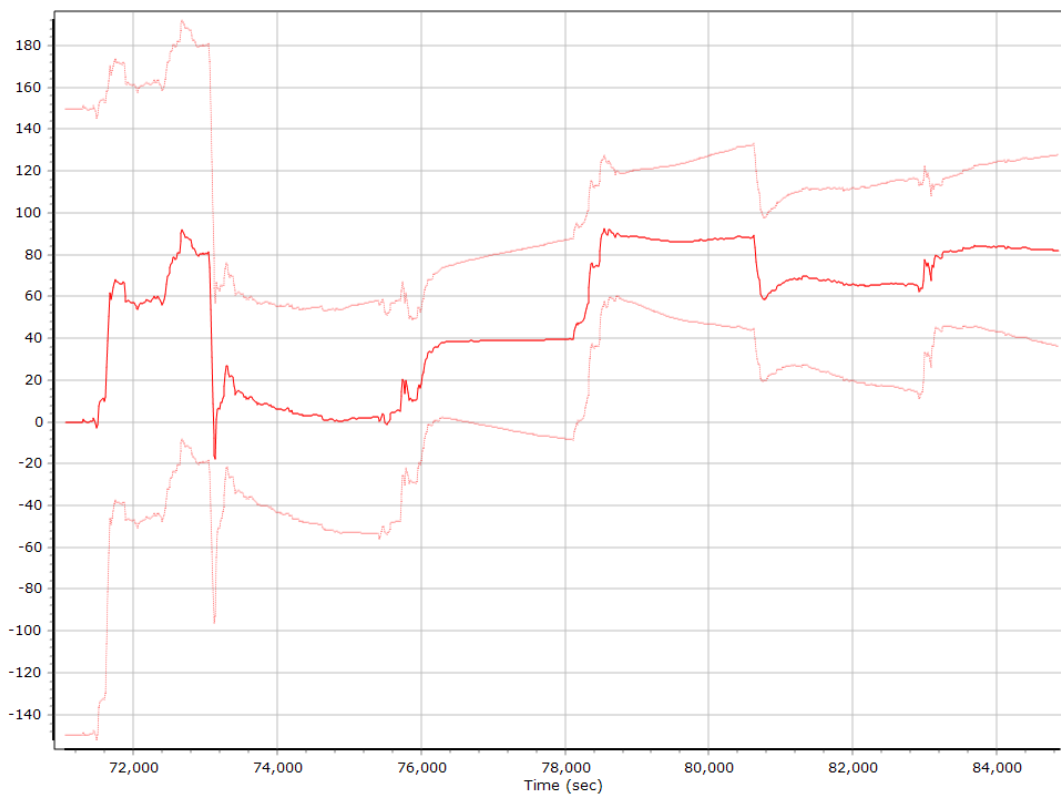
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

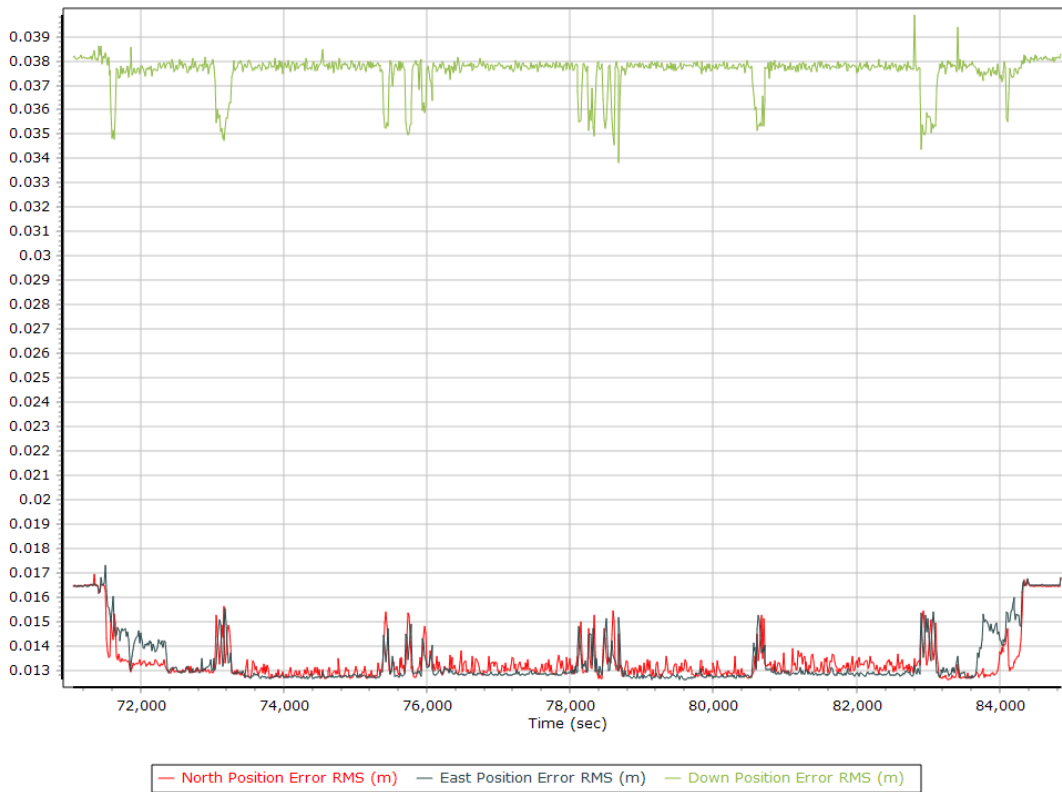


### Z Gyro Scale Error (ppm)

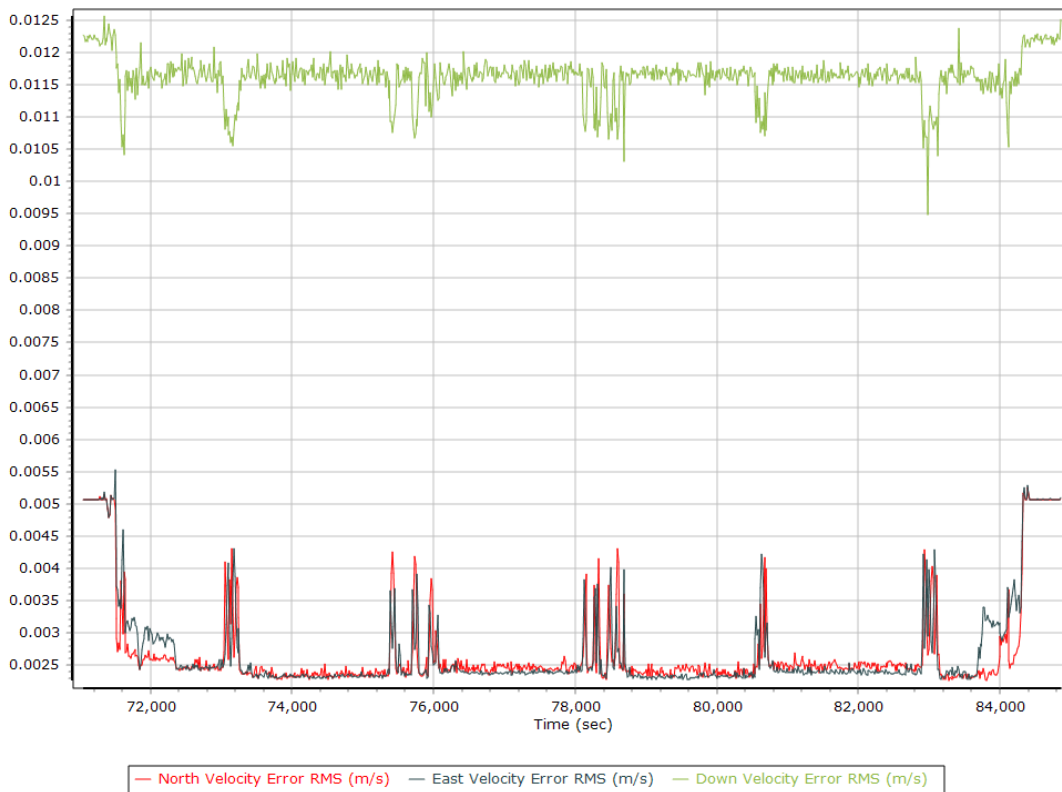


## Smoothed Performance Metrics

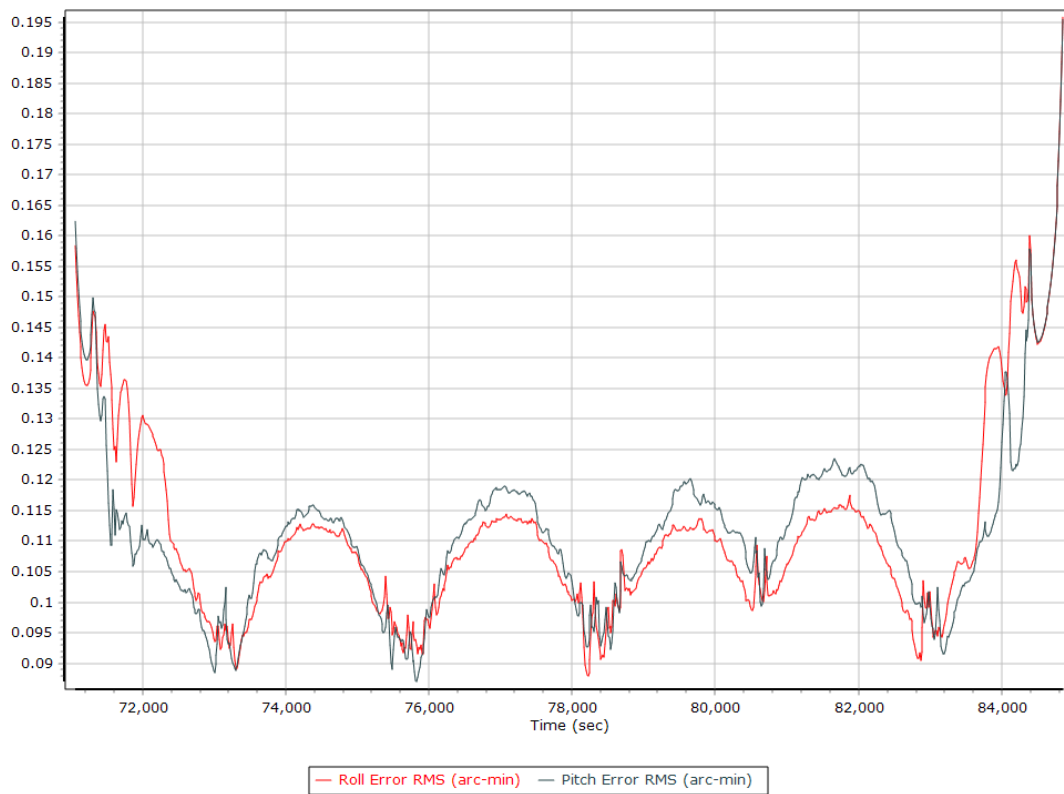
### Position Error RMS (m)



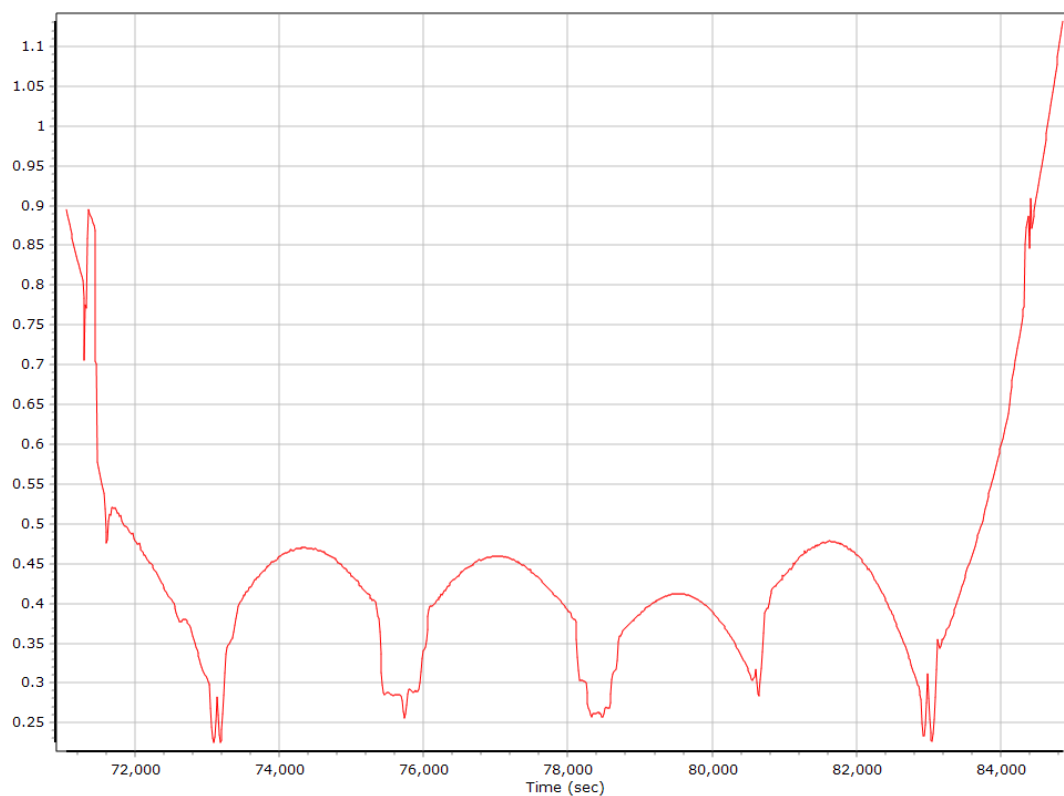
### Velocity Error RMS (m/s)



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

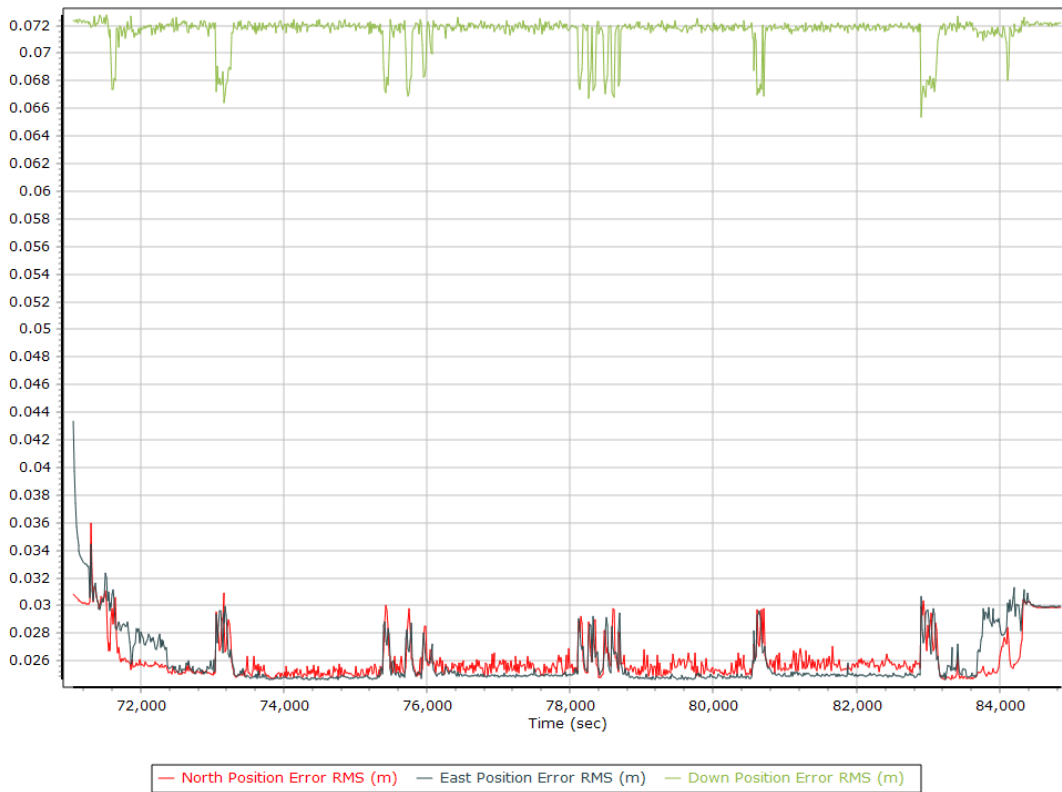


### Heading Error RMS (arc-min)

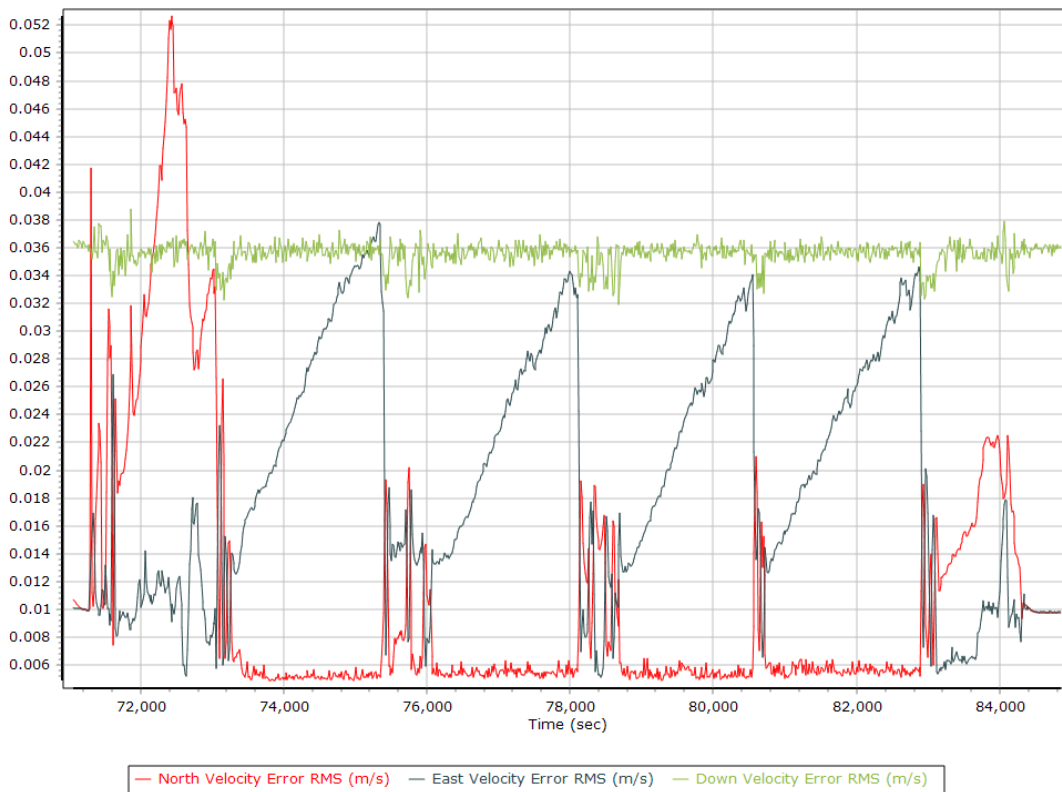


## Forward Processed Performance Metrics

### Position Error RMS (m)

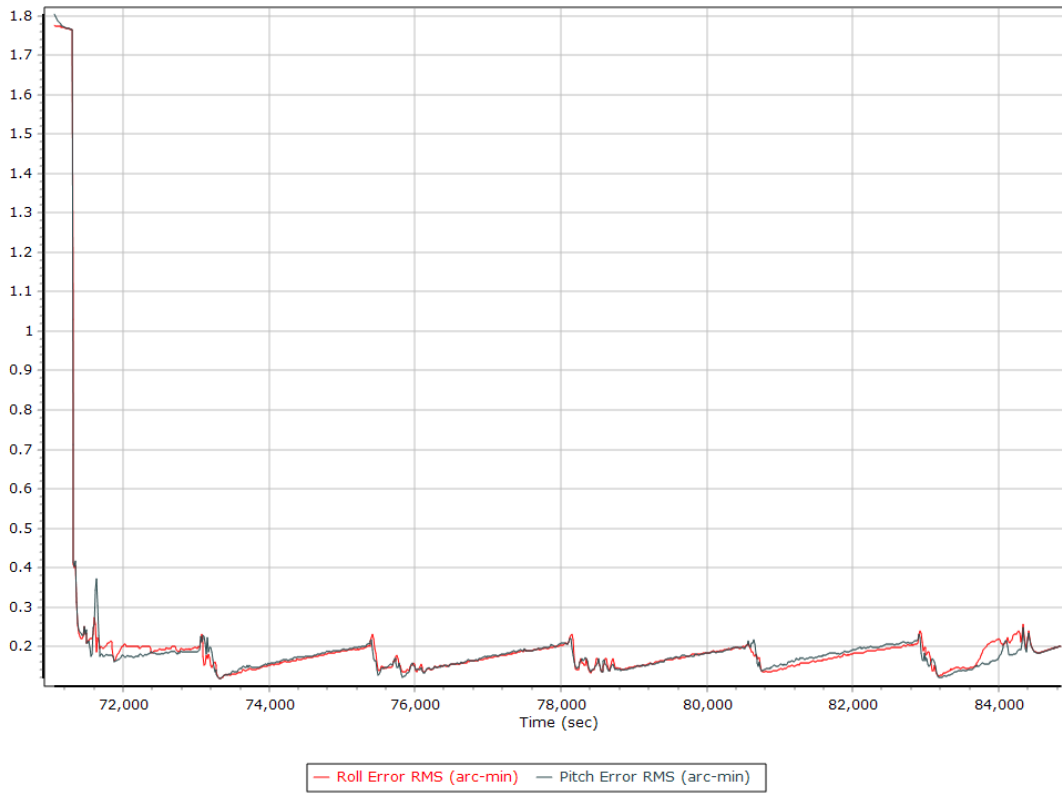


### Velocity Error RMS (m/s)

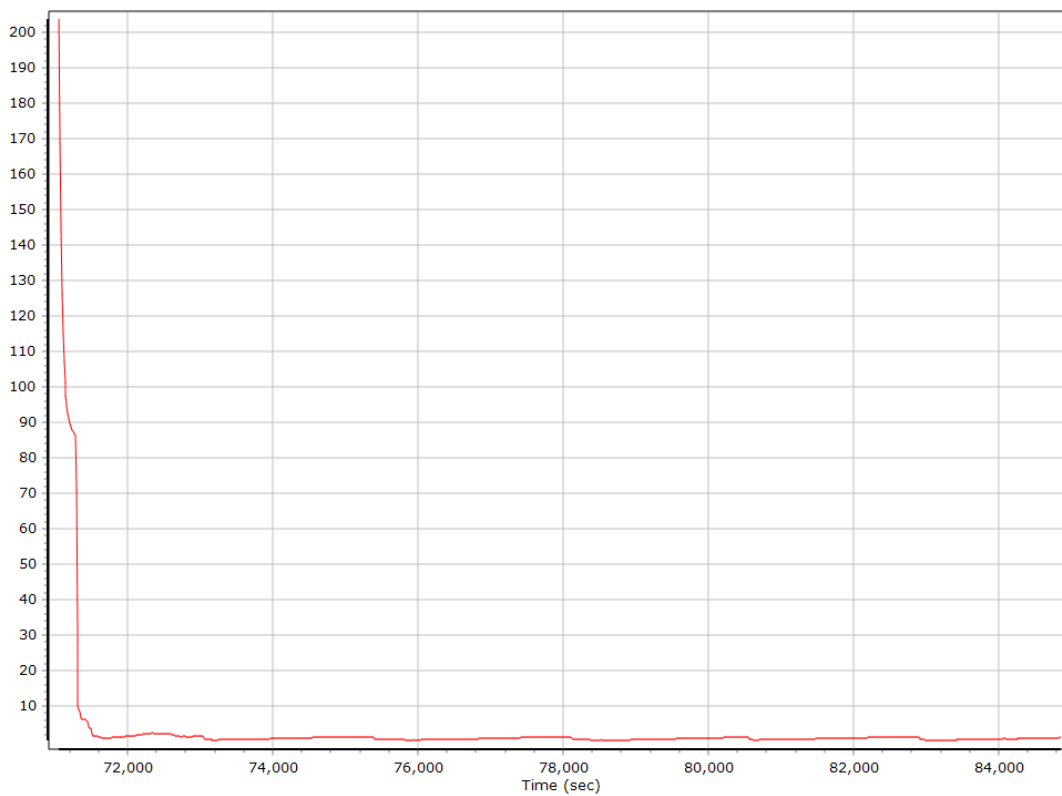




### Roll/Pitch Error RMS (arc-min)

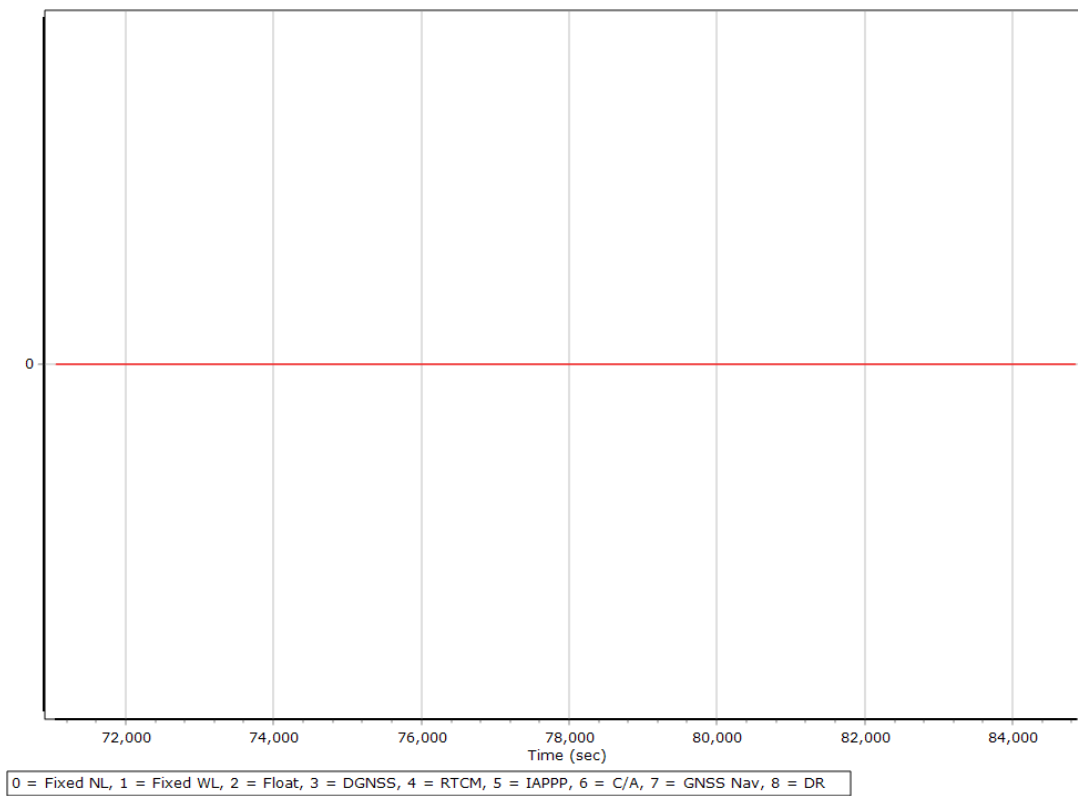


### Heading Error RMS (arc-min)

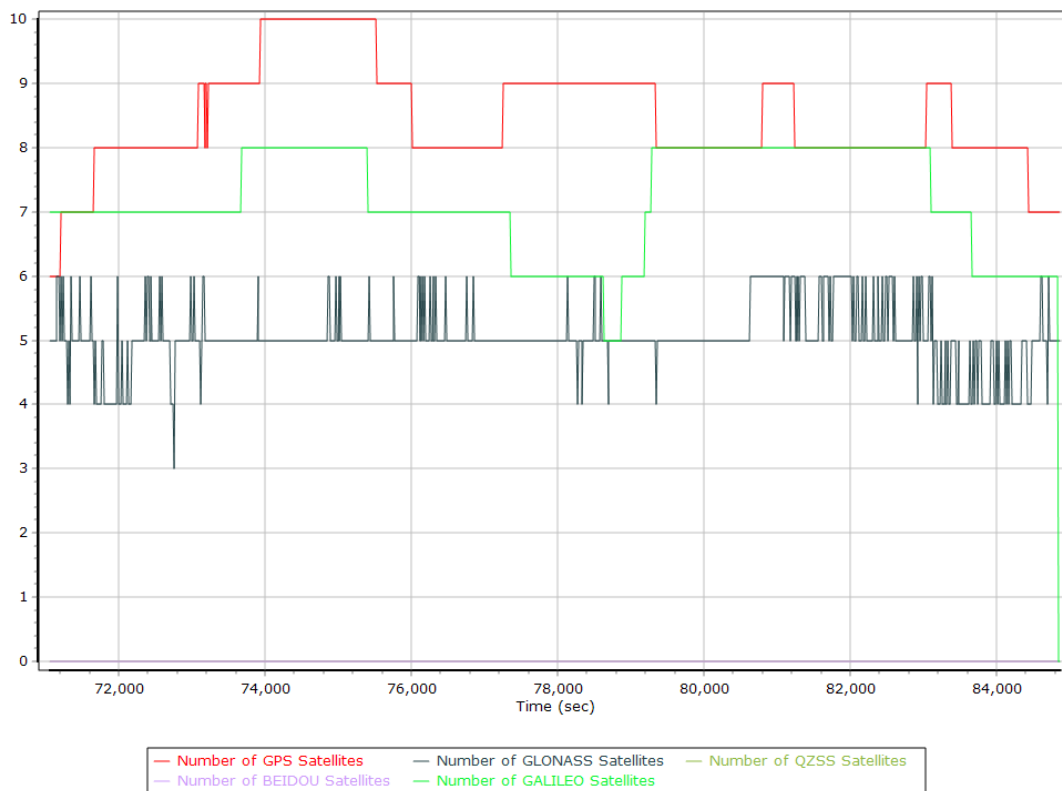


## Forward Processed Solution Status

### Processing Mode



### Number of Satellites



## Baseline Length

