

## General Information

### Mission Information

Project name	220508_B_5060475_nad2011_FINAL
Processing date	2022-05-24 18:55:11
Mission date	2022-05-08 21:50:52
Mission duration	03:03:54.000
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
survey4.pos	POS Data

### Input Files

File Name	File Type
Ephm1280.22g	GLONASS Broadcast Ephemeris
Ephm1280.22n	GPS Broadcast Ephemeris
Ephm1290.22g	GLONASS Broadcast Ephemeris
Ephm1290.22n	GPS Broadcast Ephemeris
igs22086.sp3	GPS Precise Ephemeris

### Output Files

Filename	File type
sbet_220508_B_5060475_nad2011_FINAL.out	SBET Trajectory File

## Rover Data Summary

First raw data file	survey4.pos		
Last raw data file	survey4.pos		
Start GPS week	2209		
Start time	78651.111 (5/8/2022 9:50:51 PM)		
End time	89686.721 (5/9/2022 12:54:46 AM)		
Start of fine alignment	79064.132 (5/8/2022 9:57:44 PM)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	Event 1 Input		
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

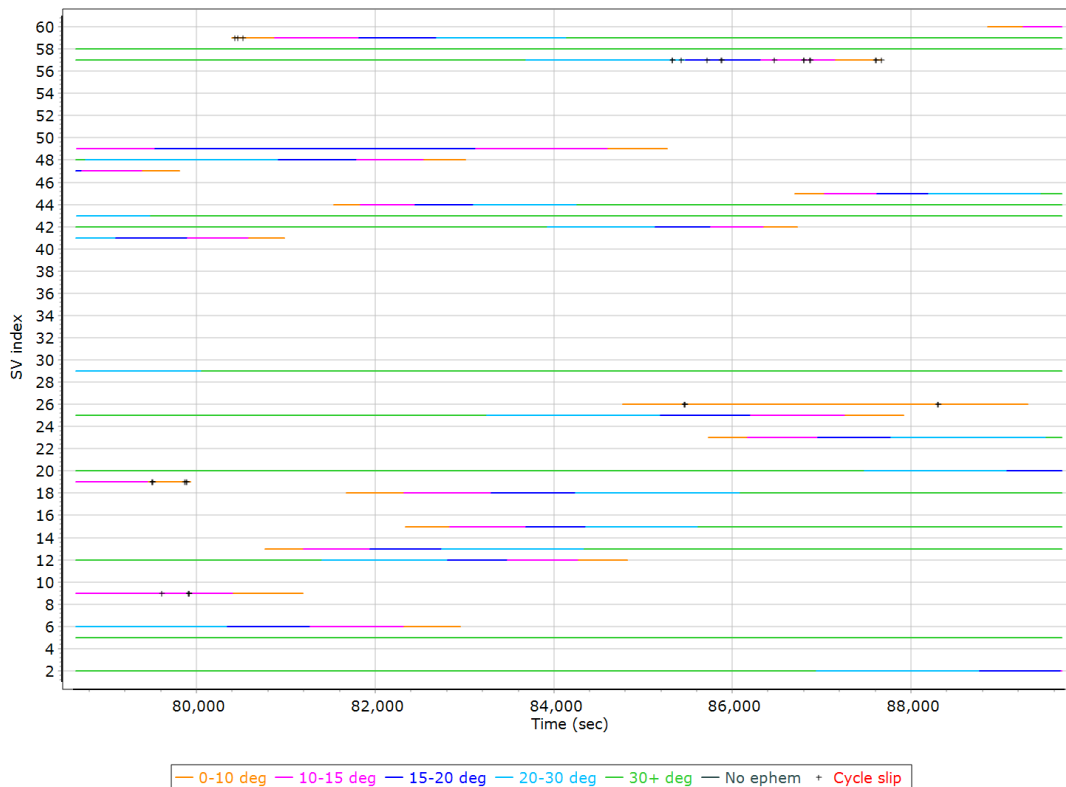
## Rover Data QC

### Raw IMU Import QC Summary

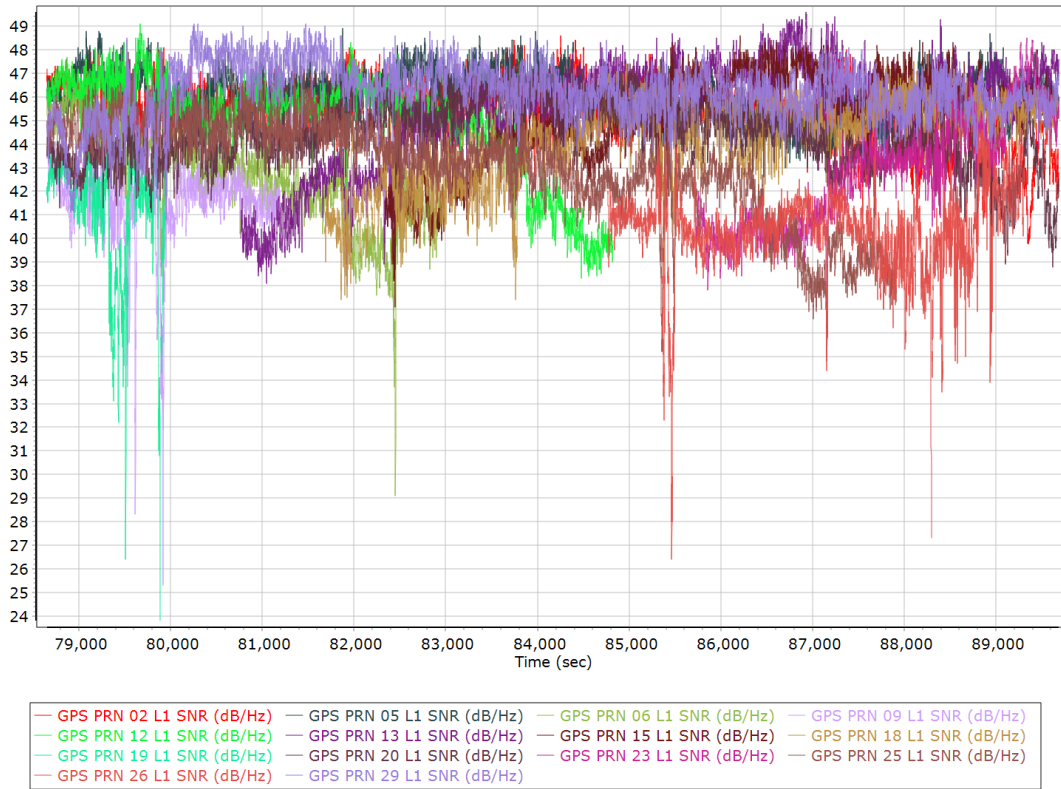
IMU data input file	imu_Mission 1.dat
IMU data check log file	imudt_220508_B_5060475_nad2011_FINAL.log
IMU Records Processed	2206606
Termination Status	Normal
IMU Anomalies	0

## Primary Observables & Satellite Data

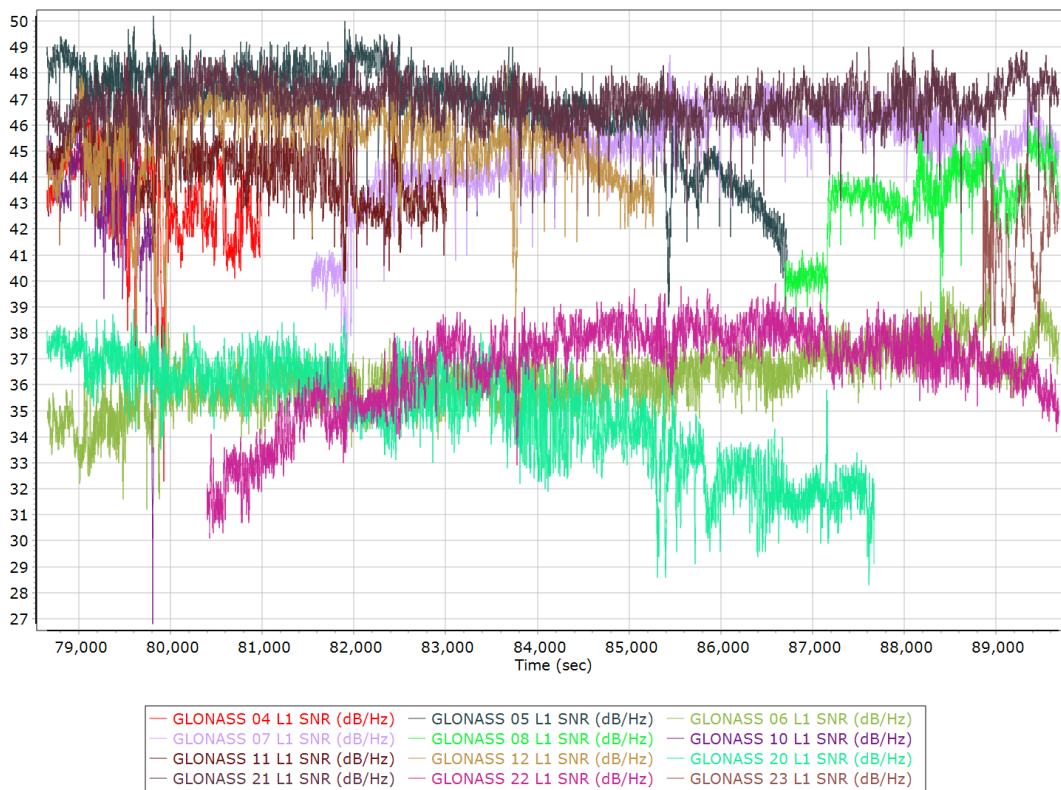
### GPS/GLONASS L1 Satellite Lock/Elevation



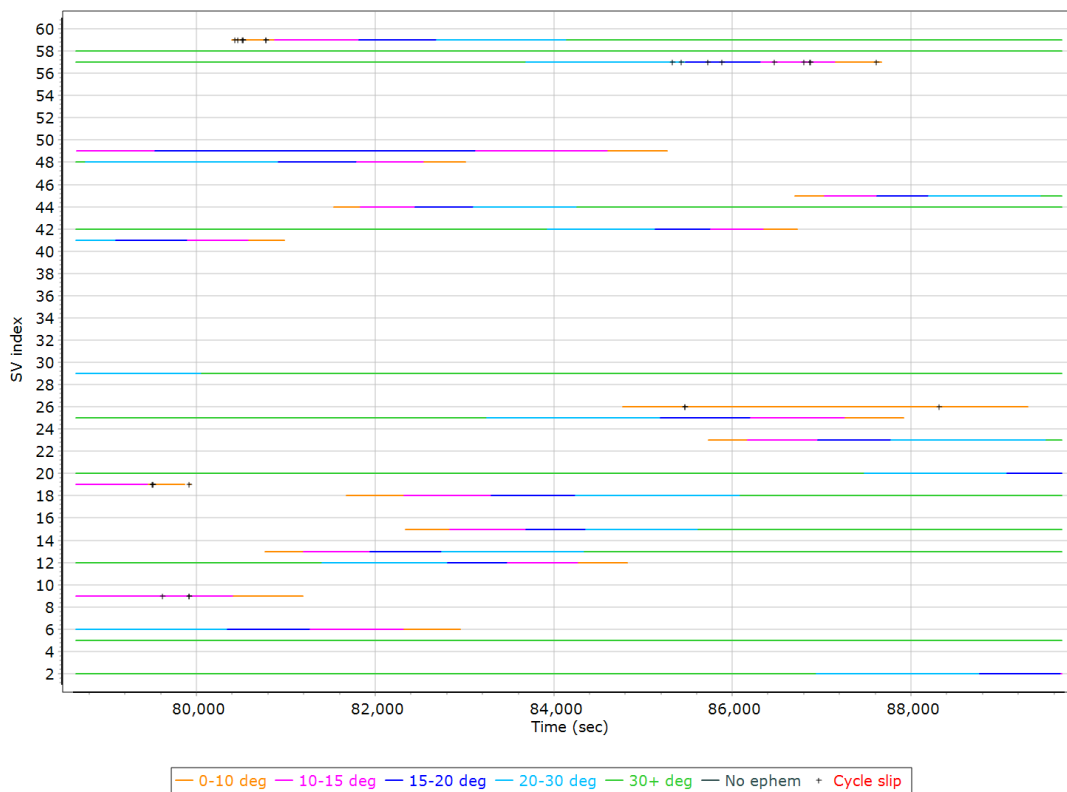
### GPS L1 SNR



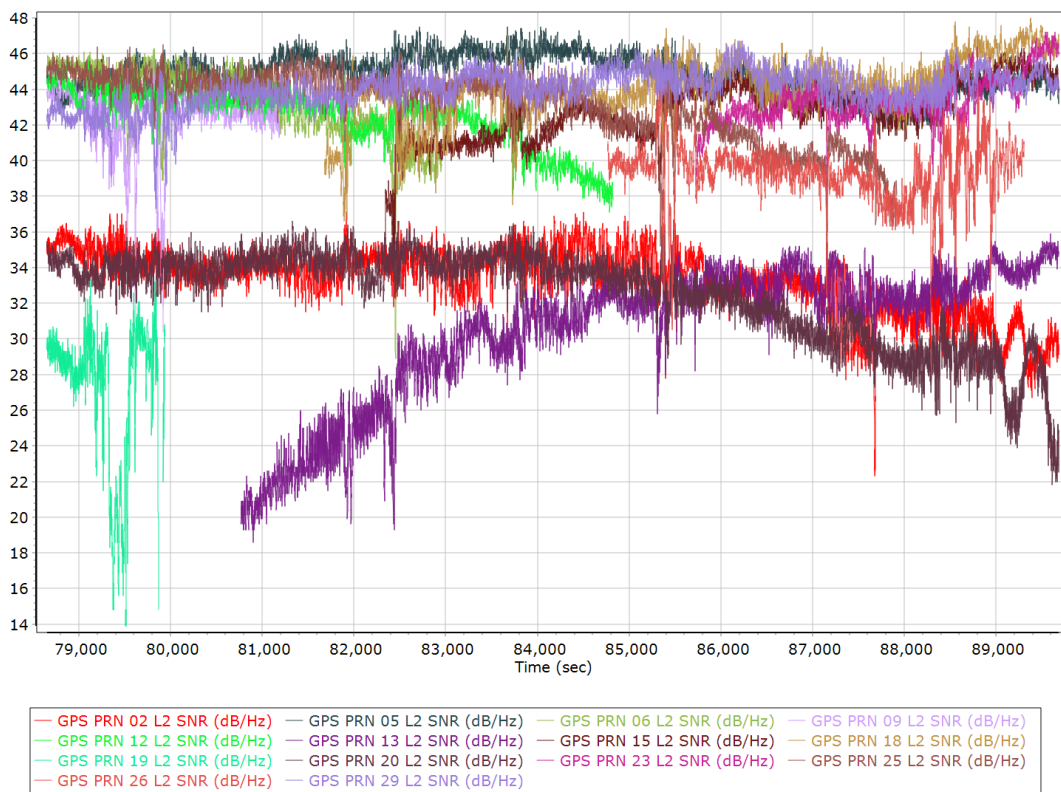
### GLONASS L1 SNR



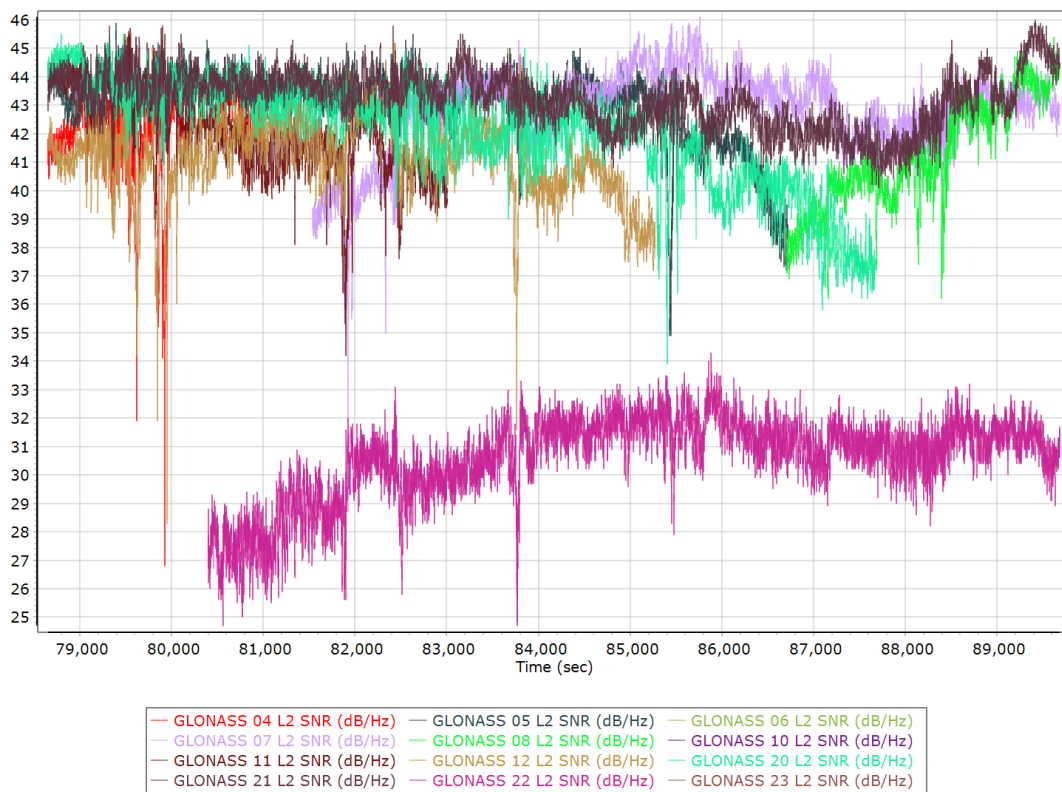
### GPS/GLONASS L2 Satellite Lock/Elevation



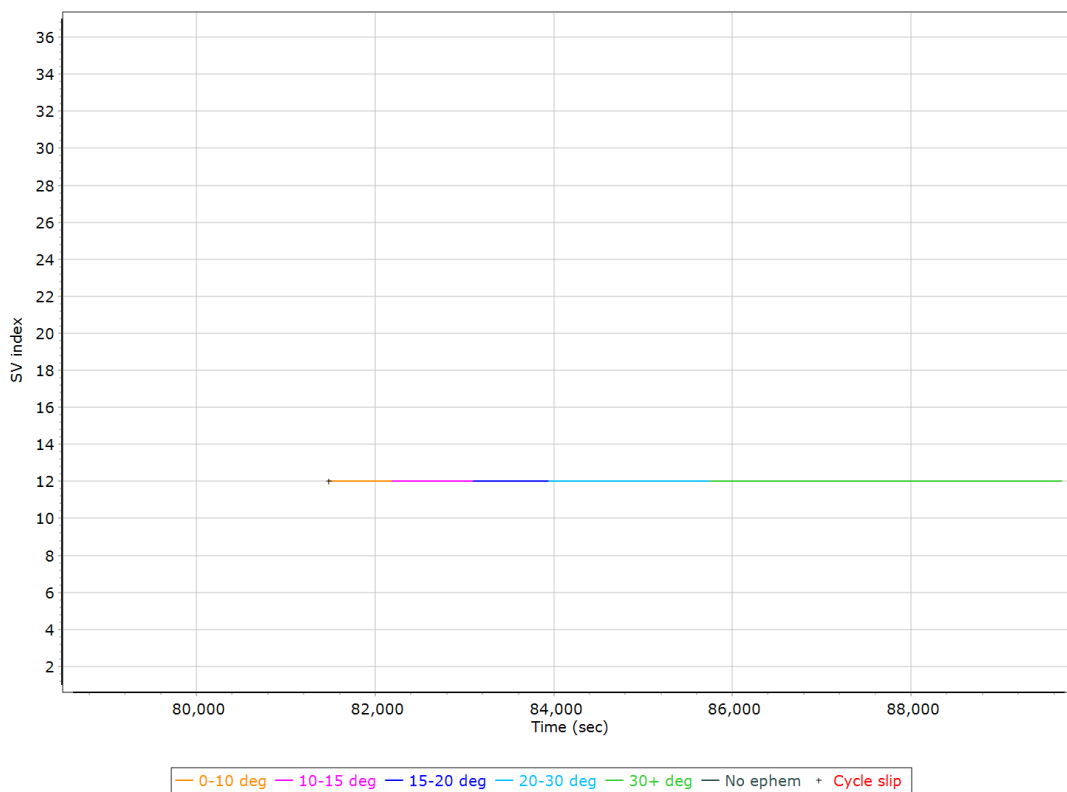
### GPS L2 SNR



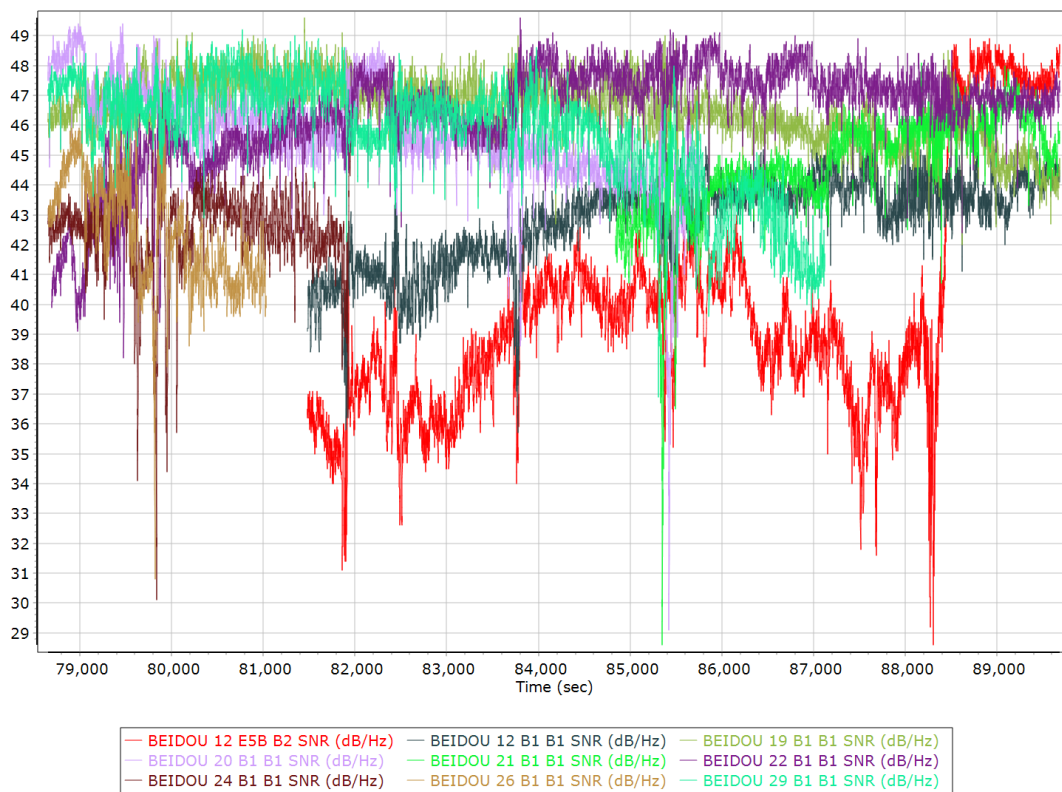
### GLONASS L2 SNR



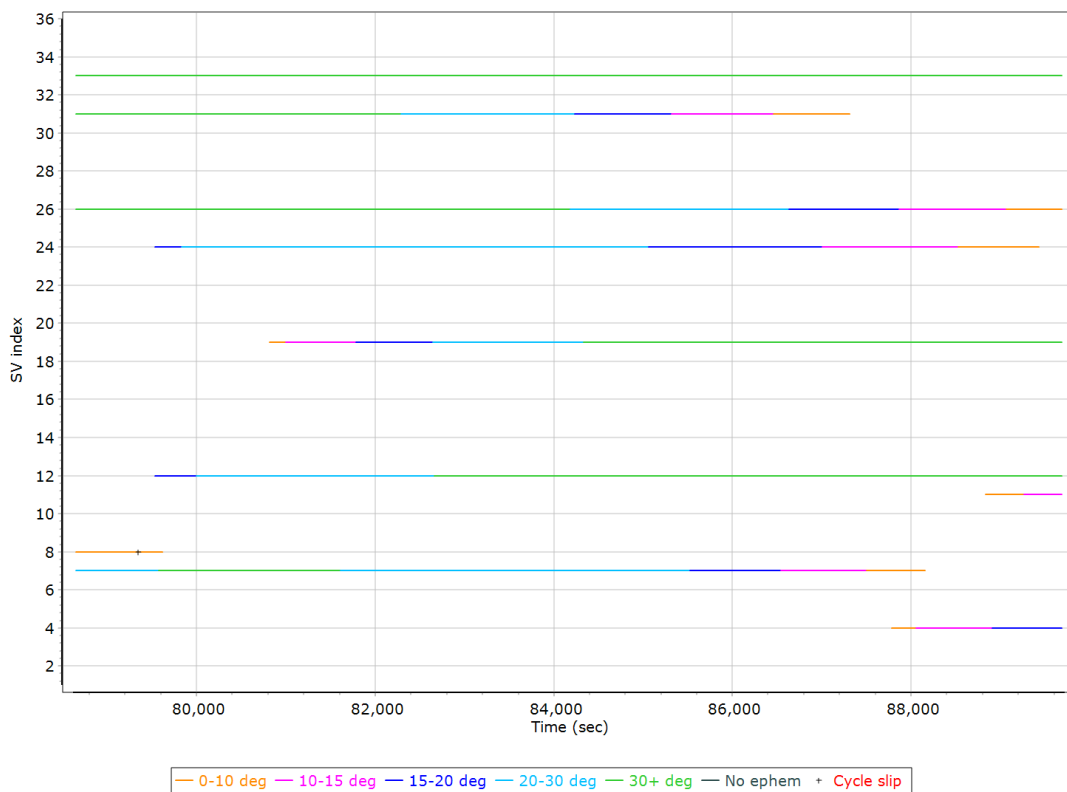
### BEIDOU Satellite Lock/Elevation



### BEIDOU SNR

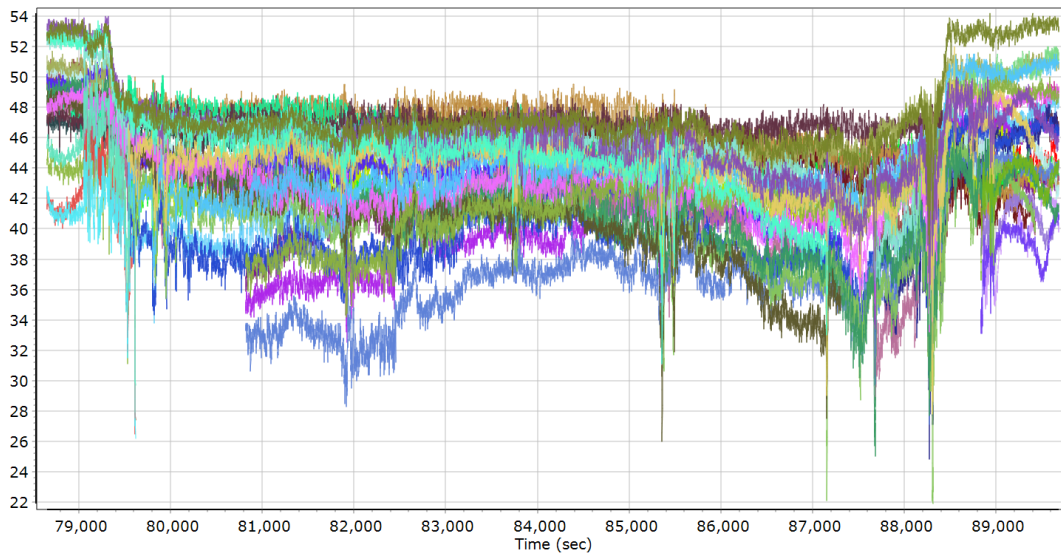


### GALILEO Satellite Lock/Elevation





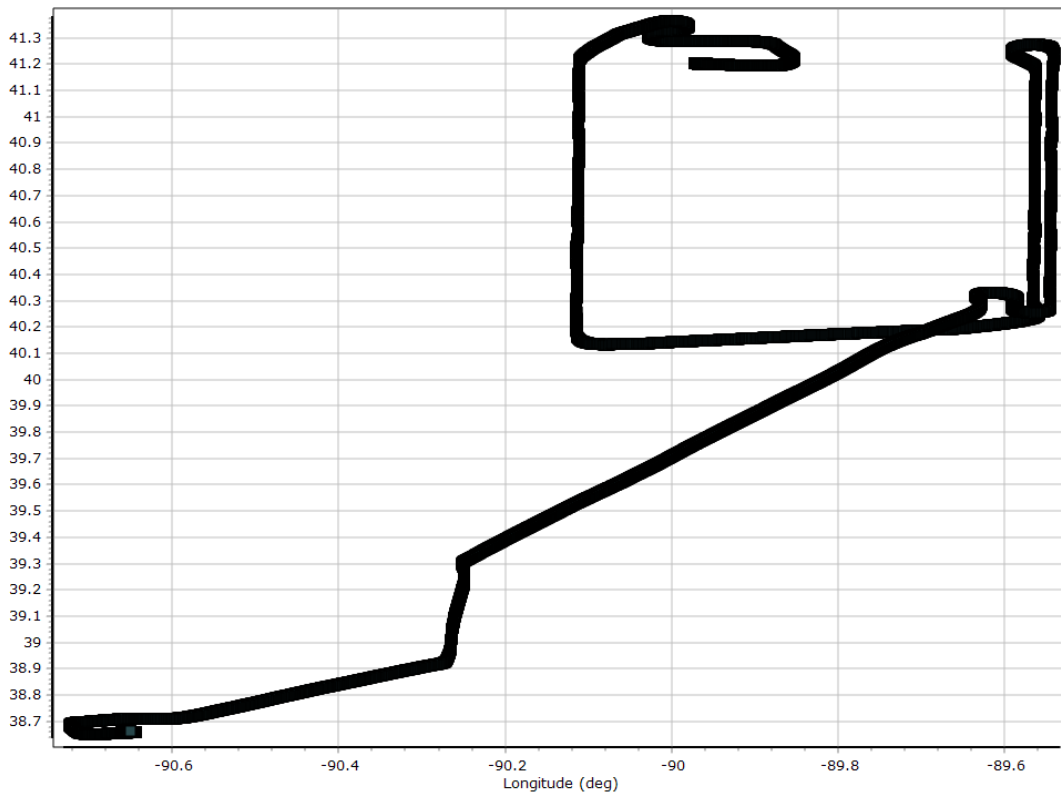
## GALILEO SNR



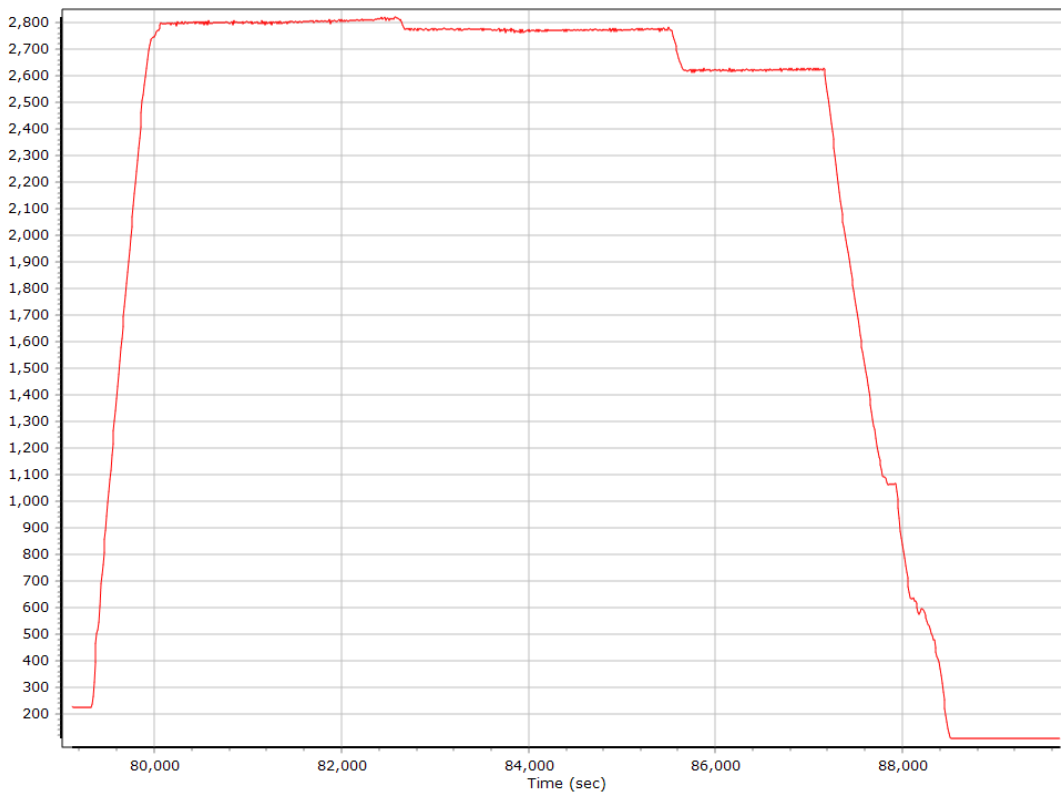
— GALILEO 04 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 07 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 08 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 11 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 12 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 19 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 24 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 26 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 31 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 33 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 07 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 11 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 12 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 19 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 24 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 26 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 31 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 33 L5E5A BPSK10_PD SNR (dB/Hz)

## Smoothed Trajectory Information

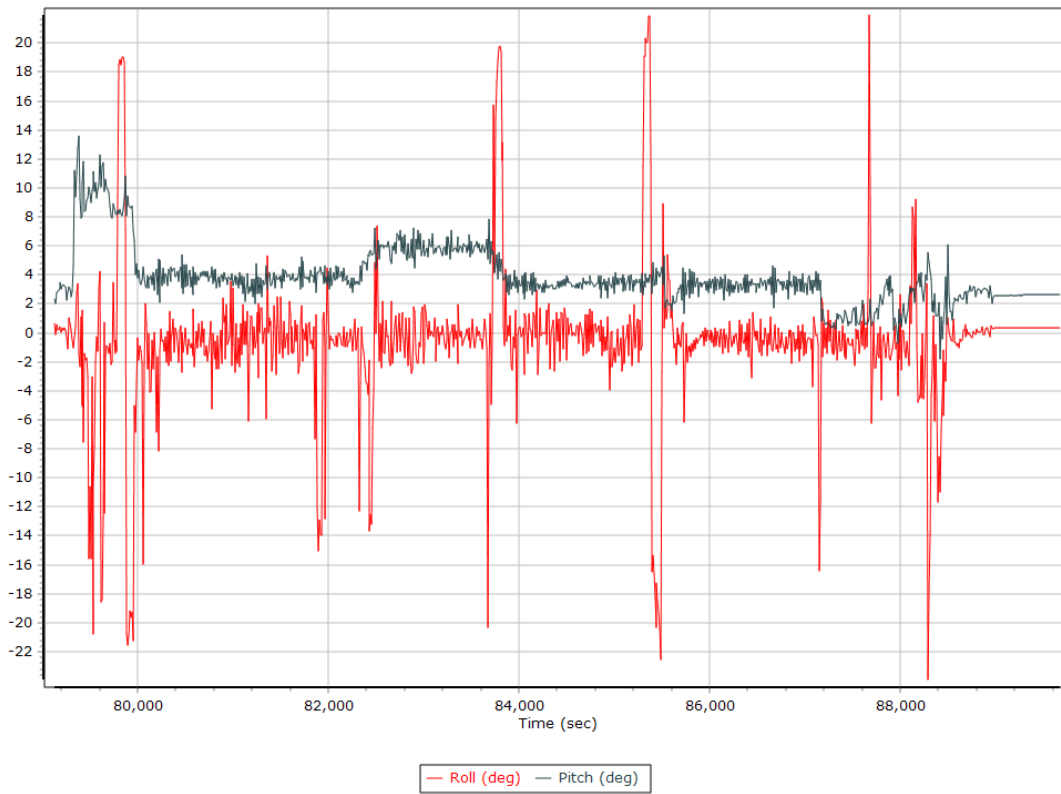
### Top View



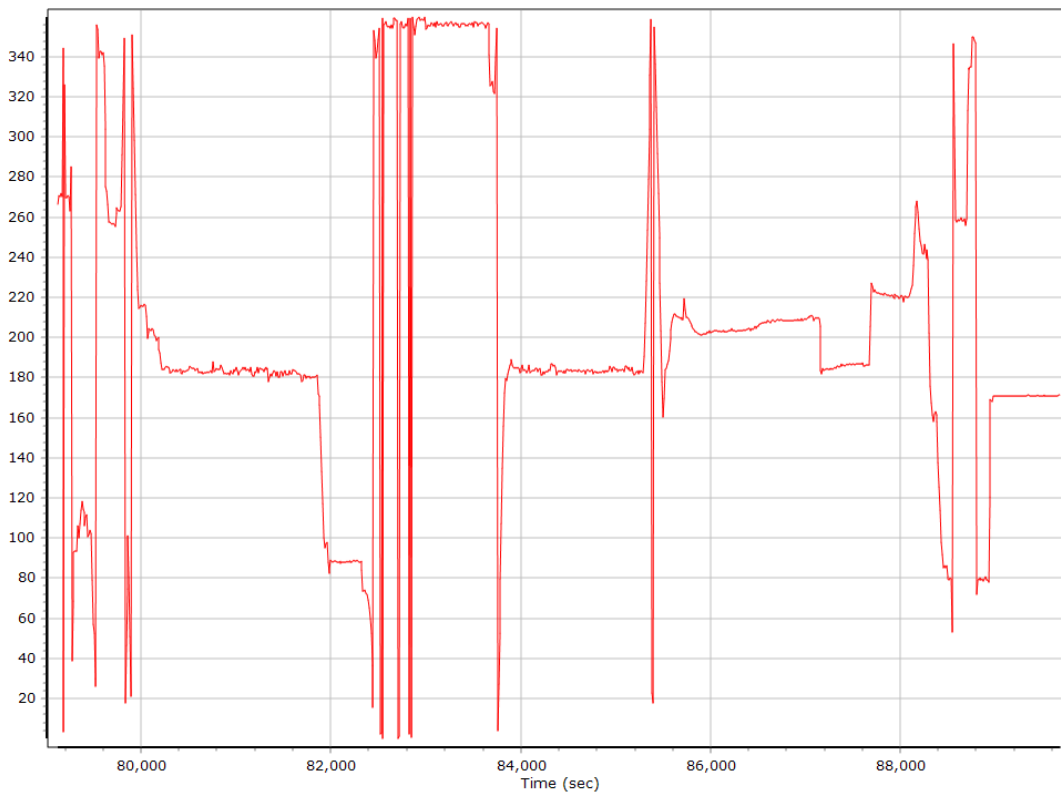
### Altitude



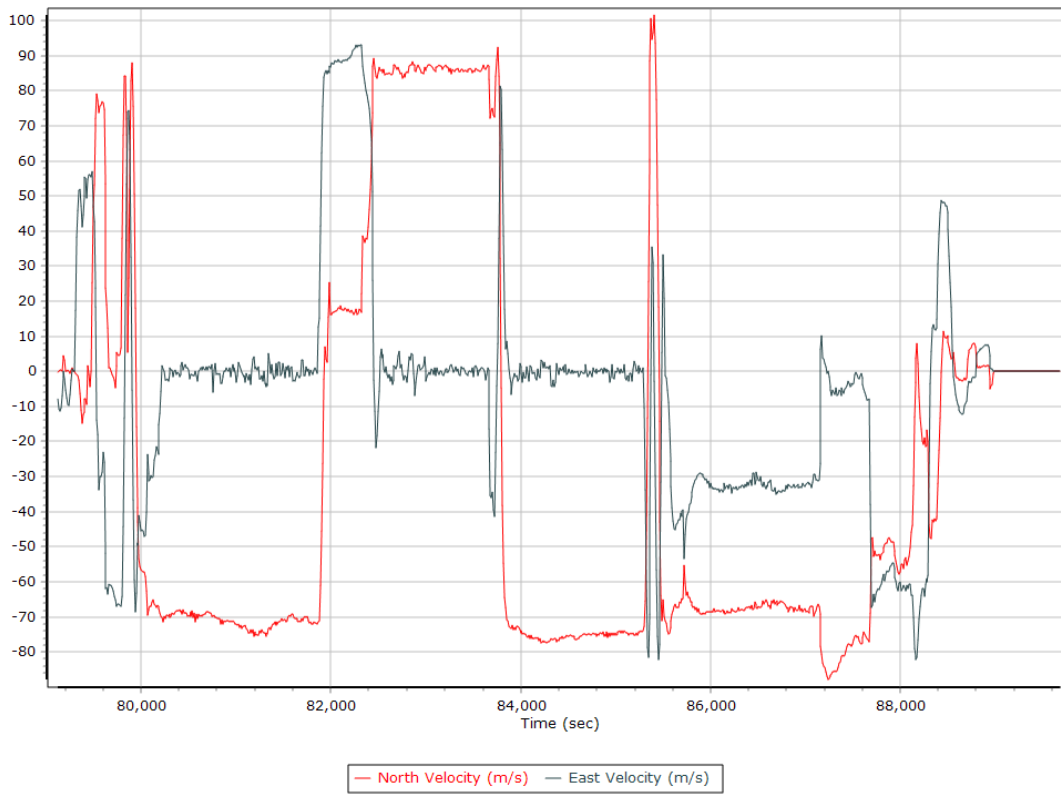
## Roll/Pitch



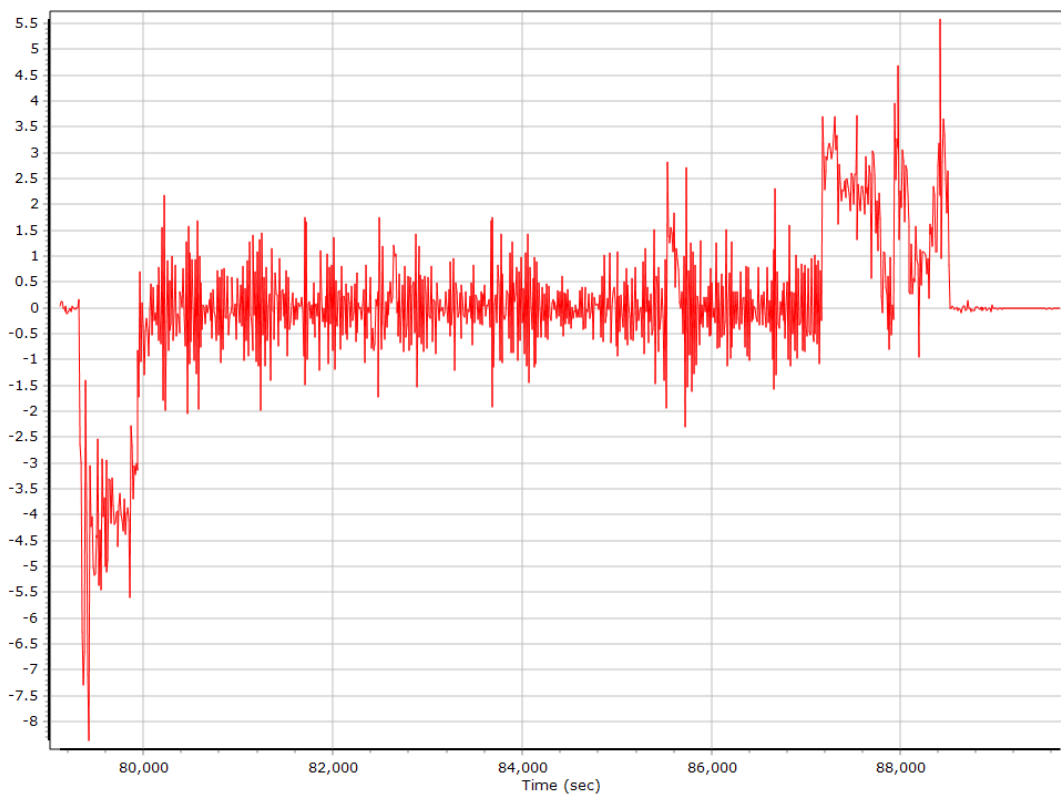
## Heading



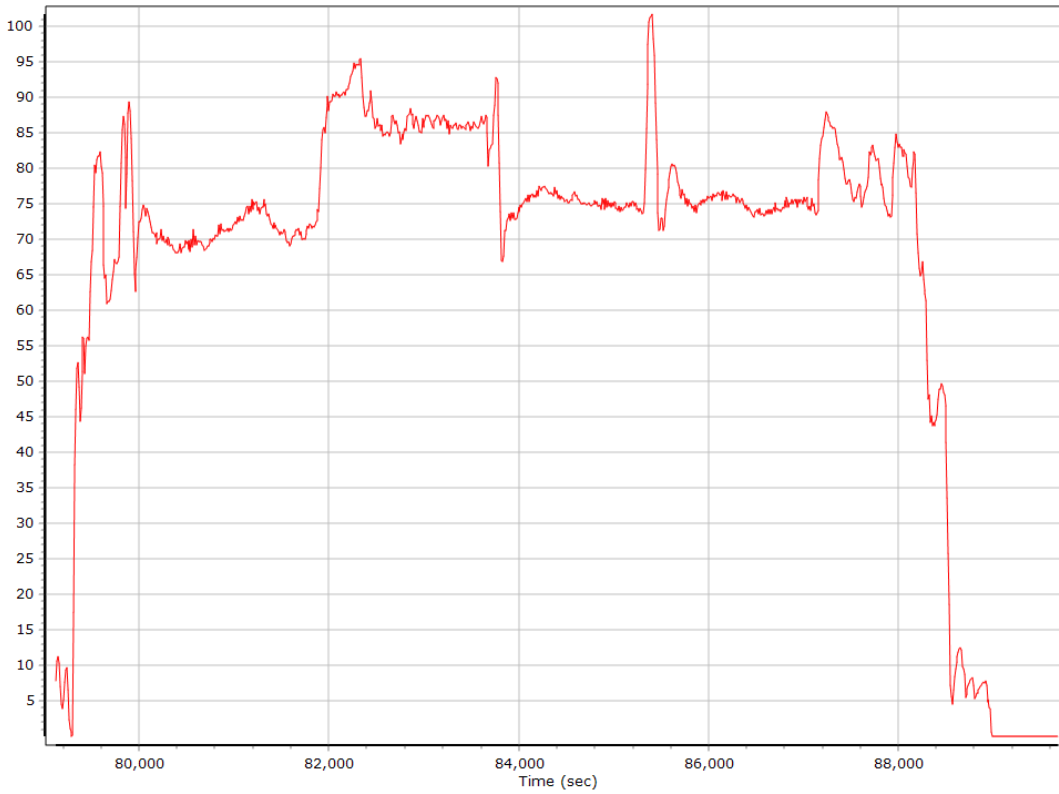
## North/East Velocity



## Down Velocity



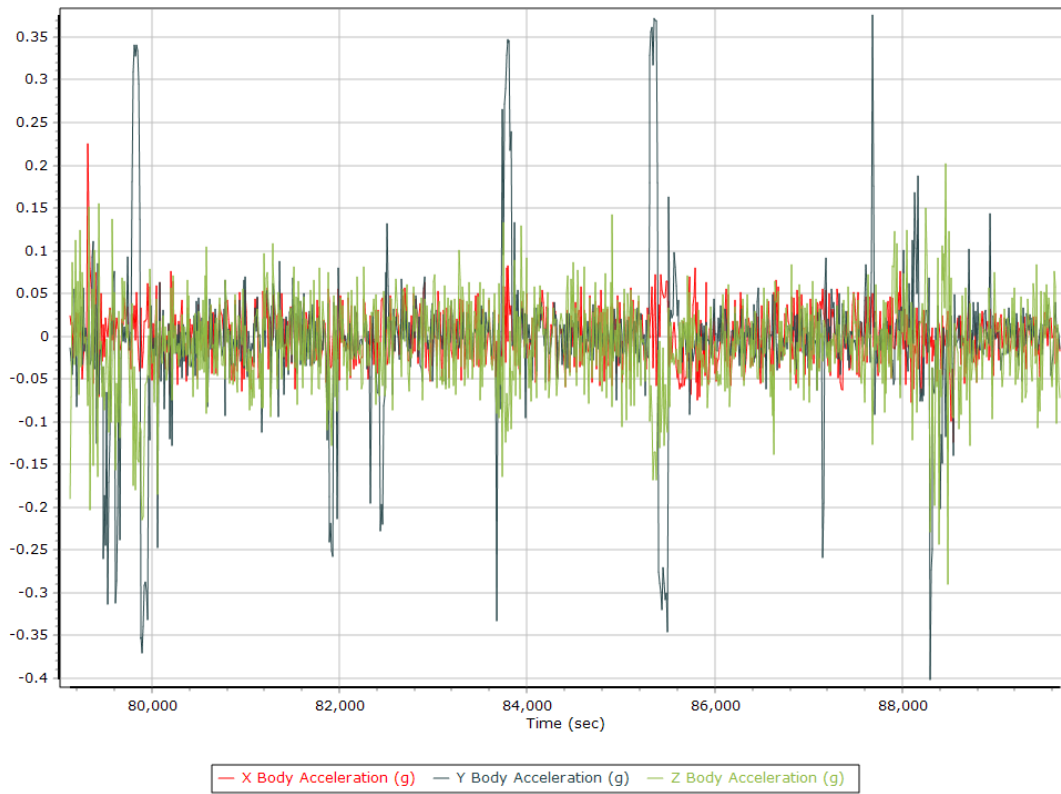
## Total Speed



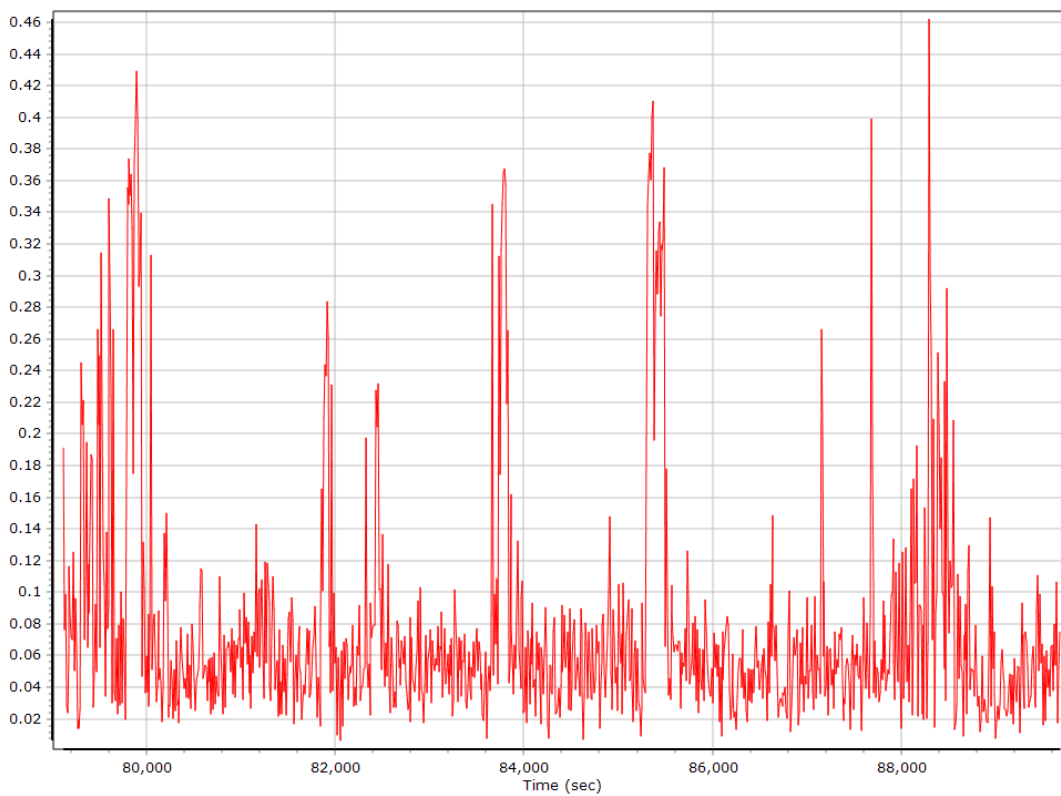
## Ground Speed



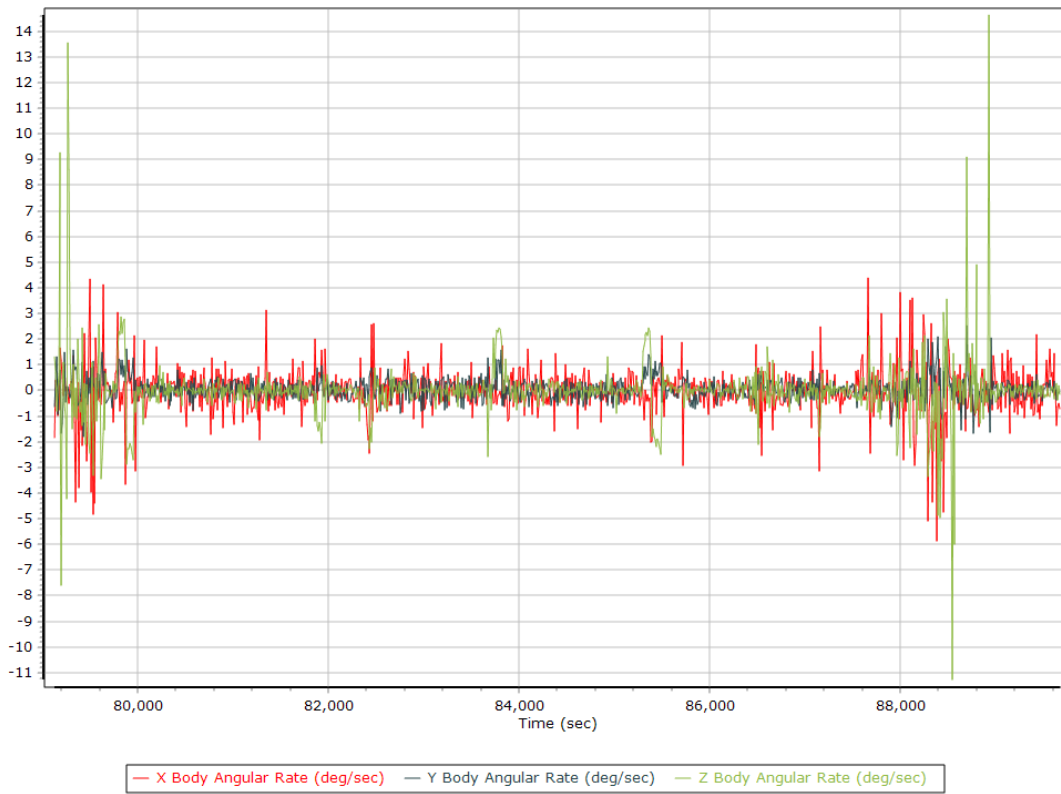
## Body Acceleration



## Total Body Acceleration

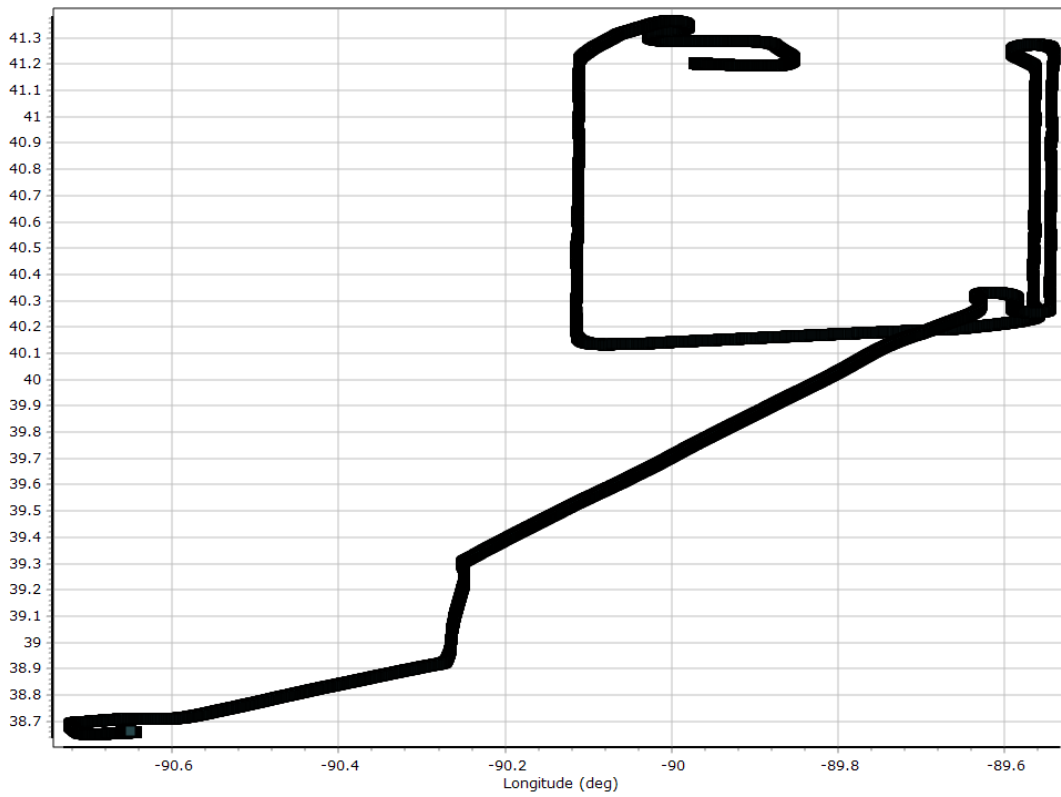


## Body Angular Rate

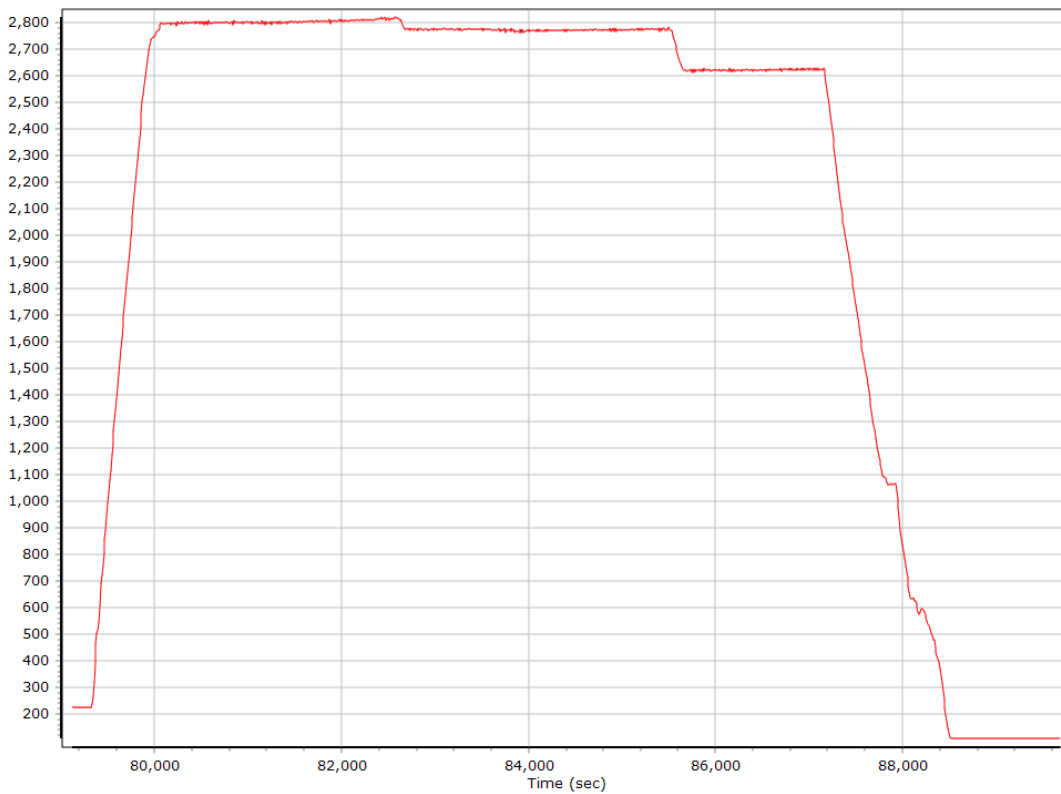


## Forward Processed Trajectory Information

### Top View

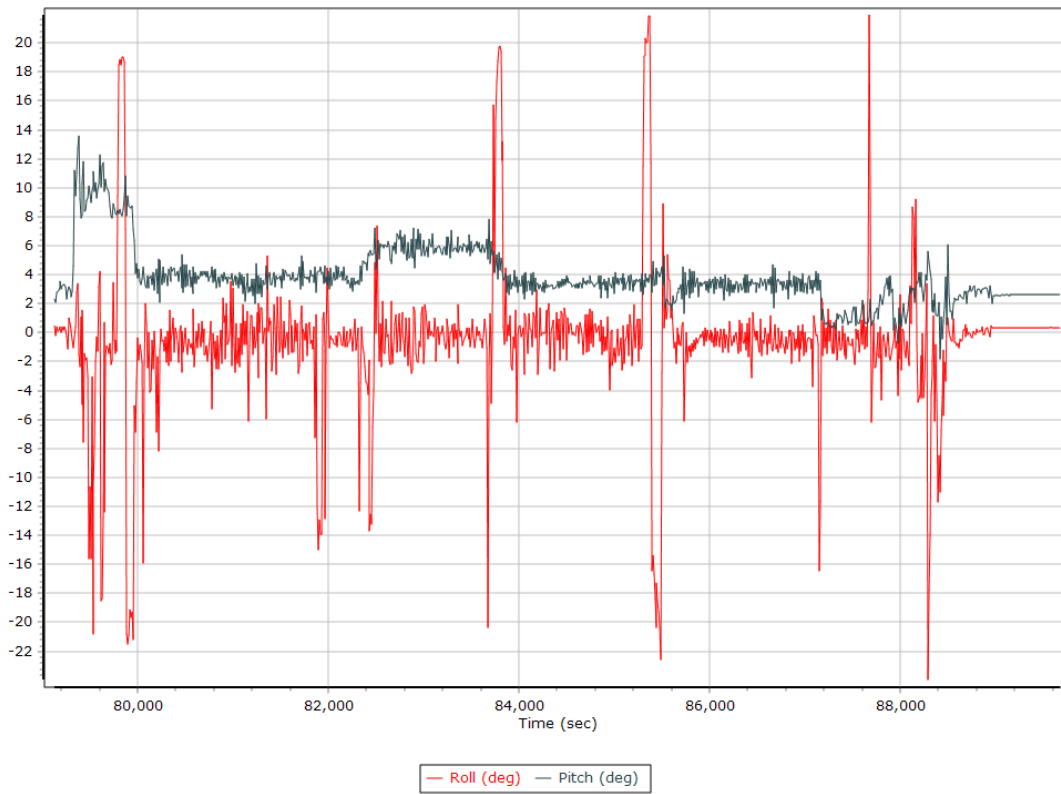


### Altitude

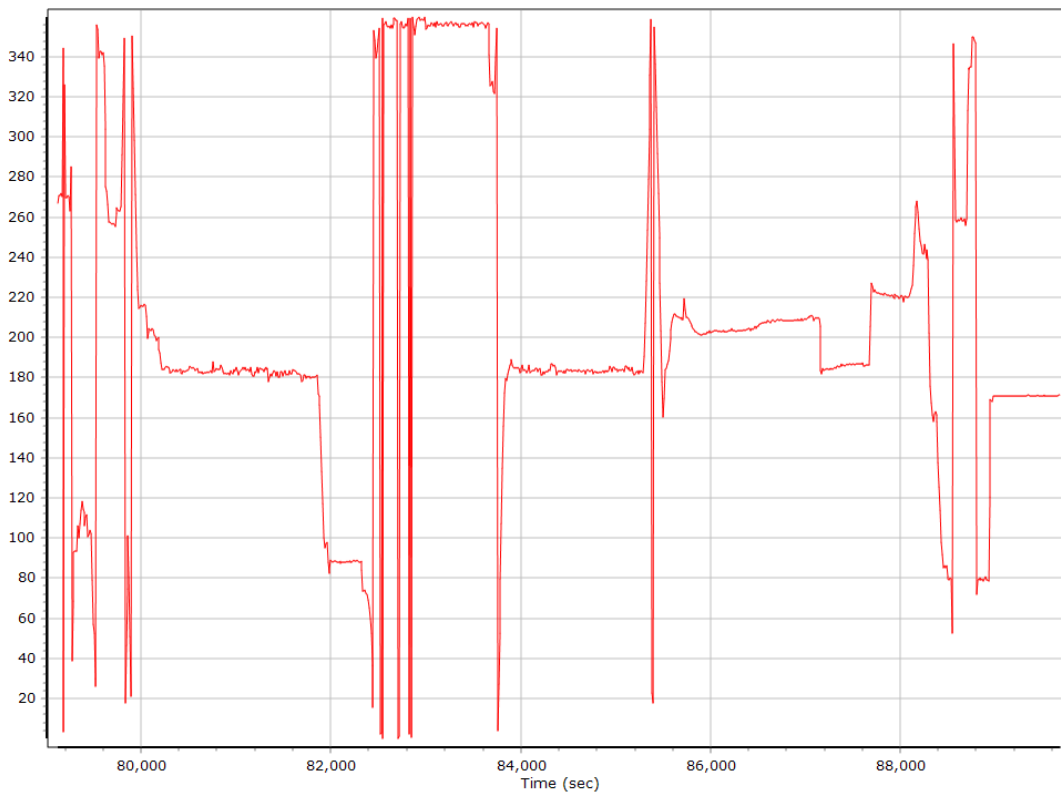




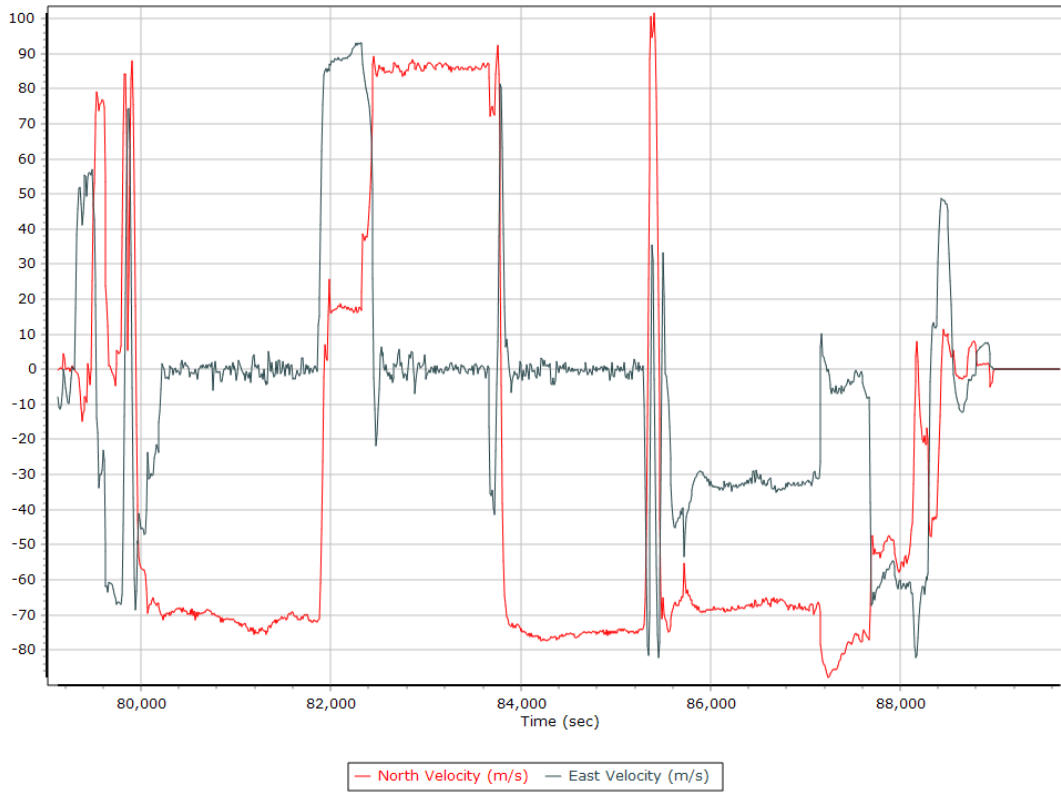
## Roll/Pitch



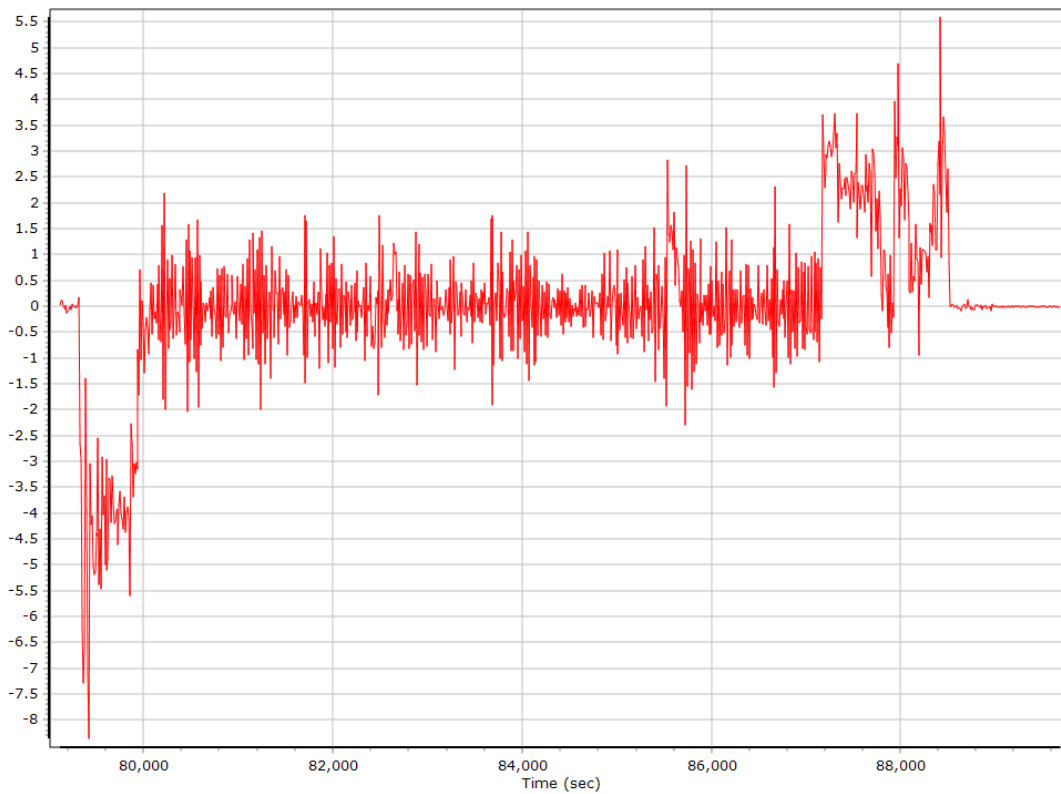
## Heading



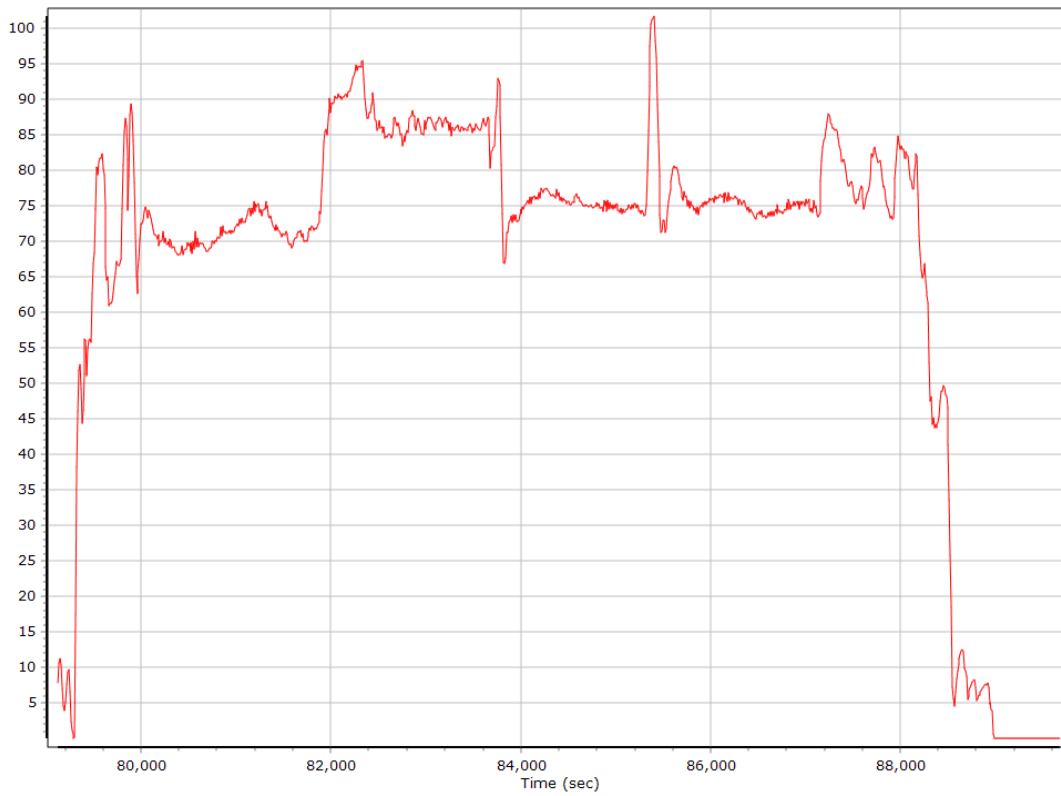
## North/East Velocity



## Down Velocity



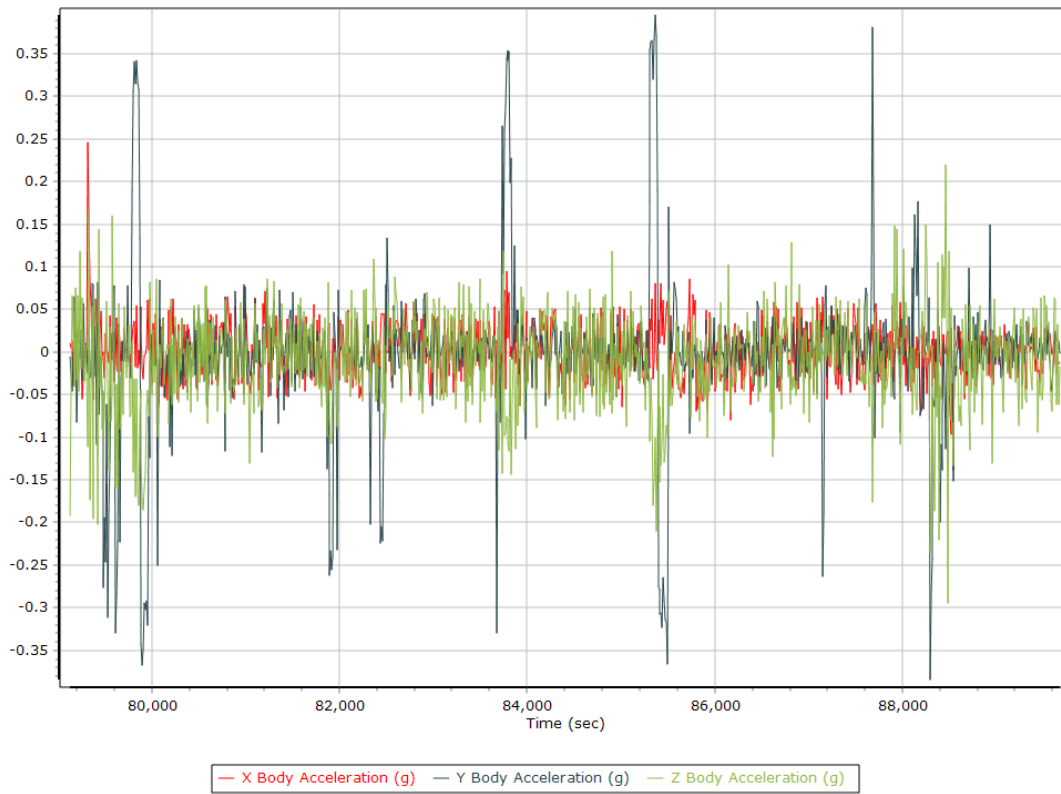
## Total Speed



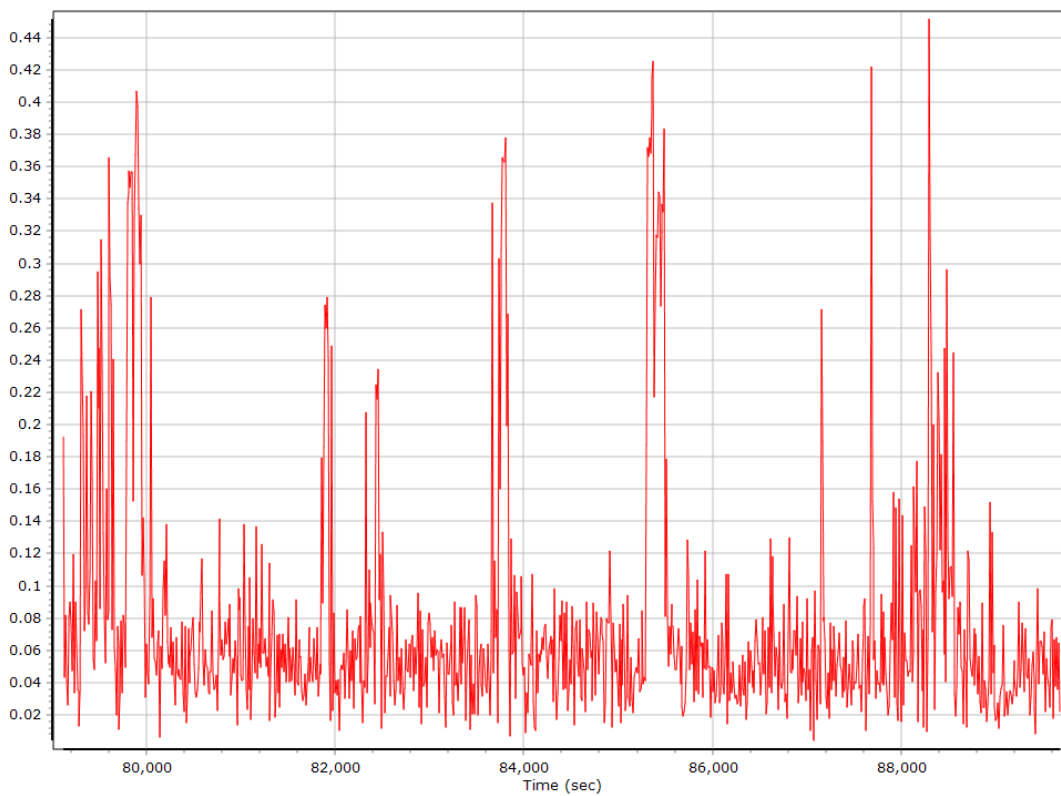
## Ground Speed



## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

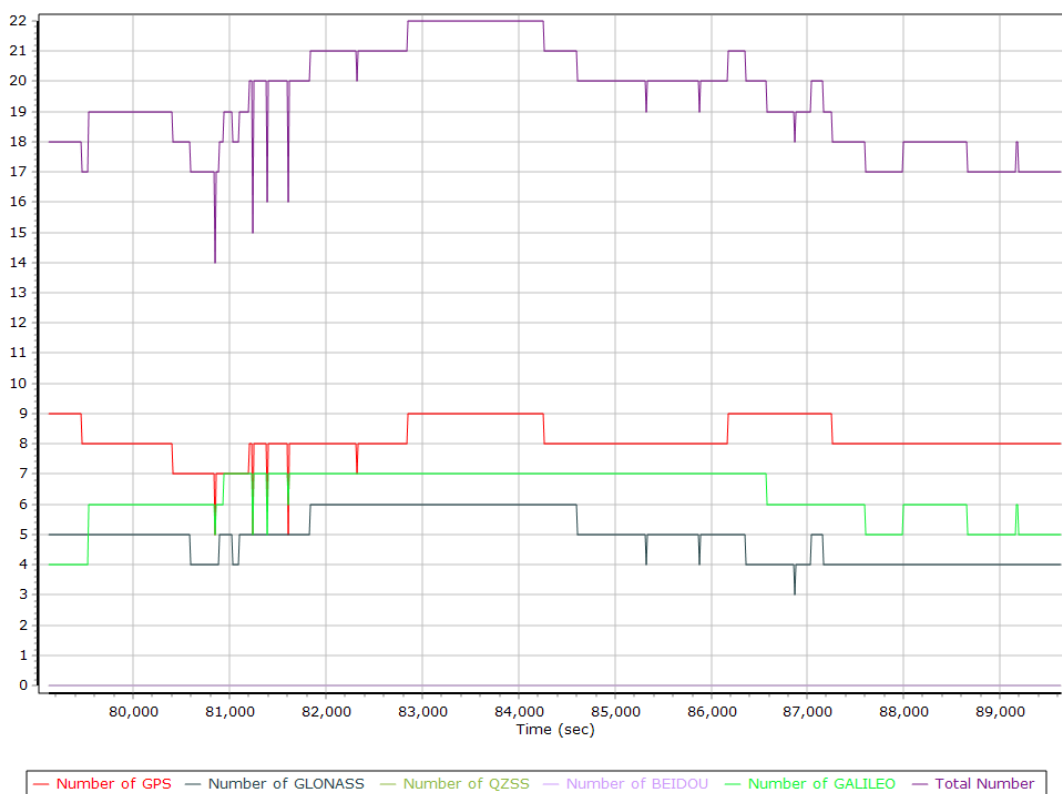


## GNSS QC

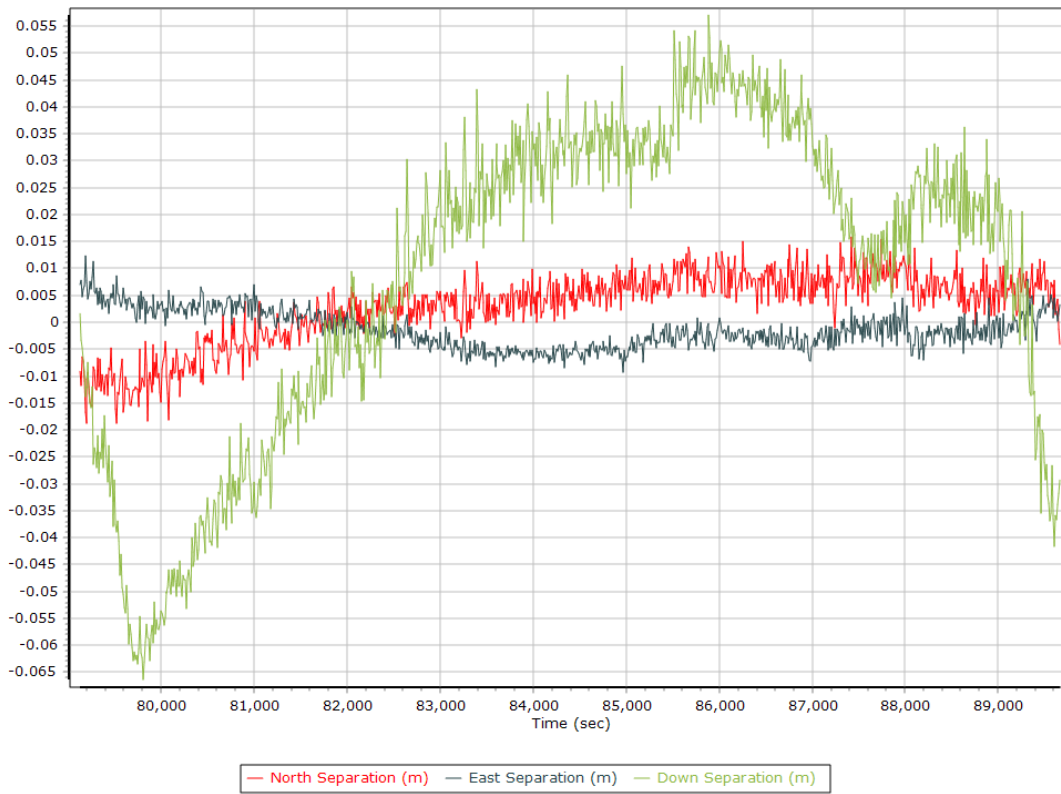
### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	5	9	8
Number of GLONASS SV	3	6	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	4	7	6
Total number of SV	14	22	19
PDOP	1.03	1.95	1.29
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	10974.00	0.00	0.00
Percentage	100.00	0.00	0.00

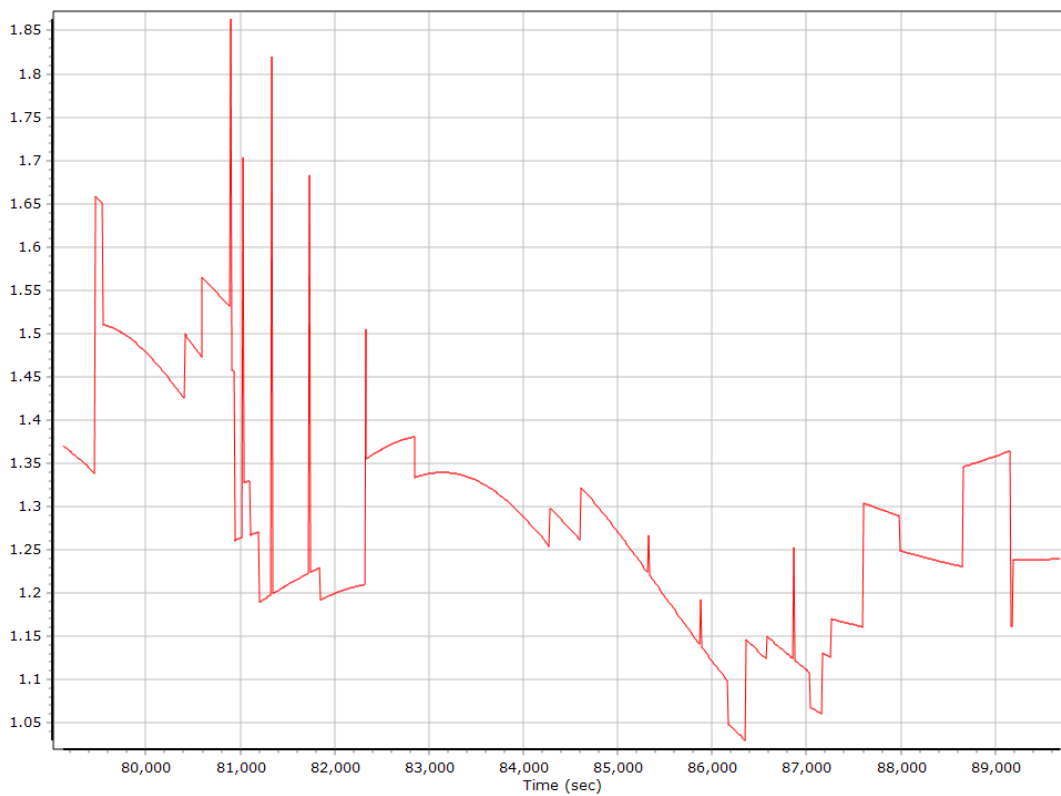
### Num SVs in solution



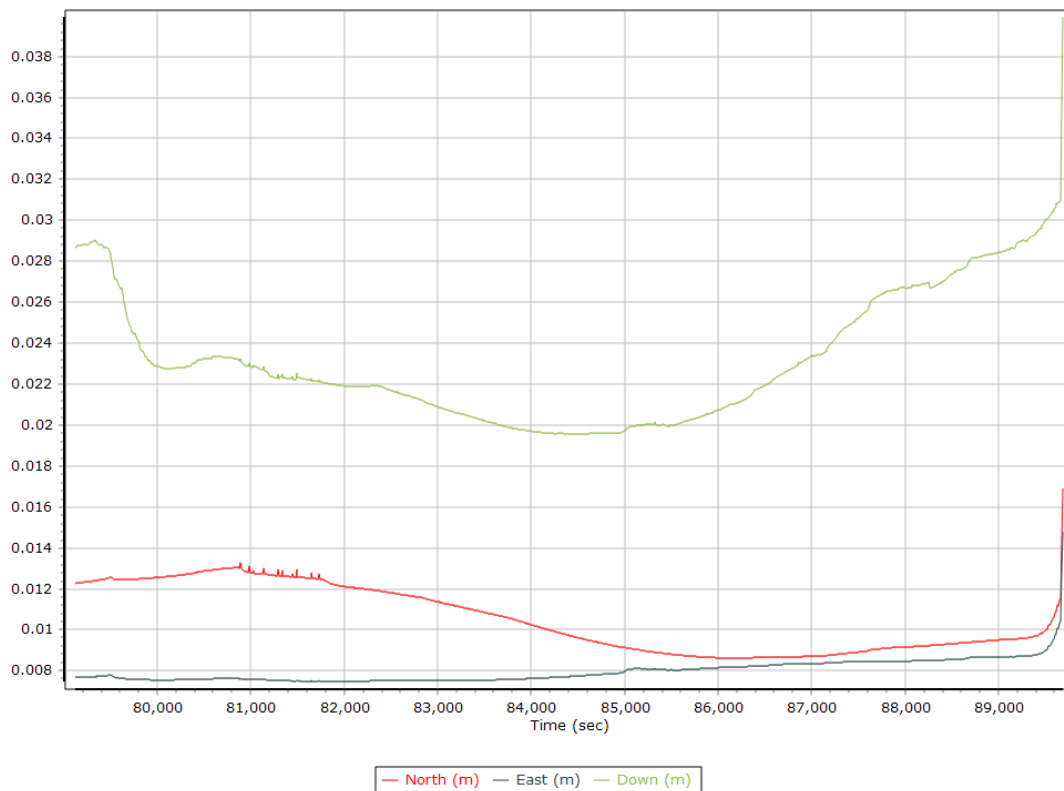
## Forward/Reverse Separation



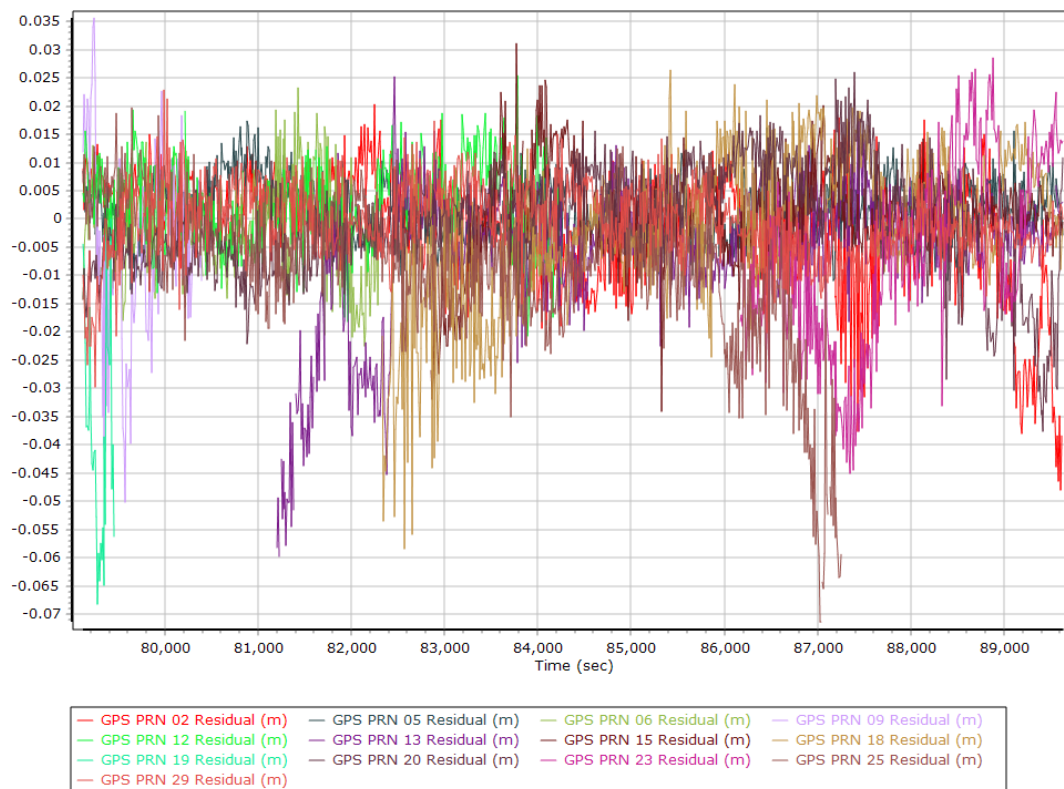
## PDOP



## Estimated Position Accuracy

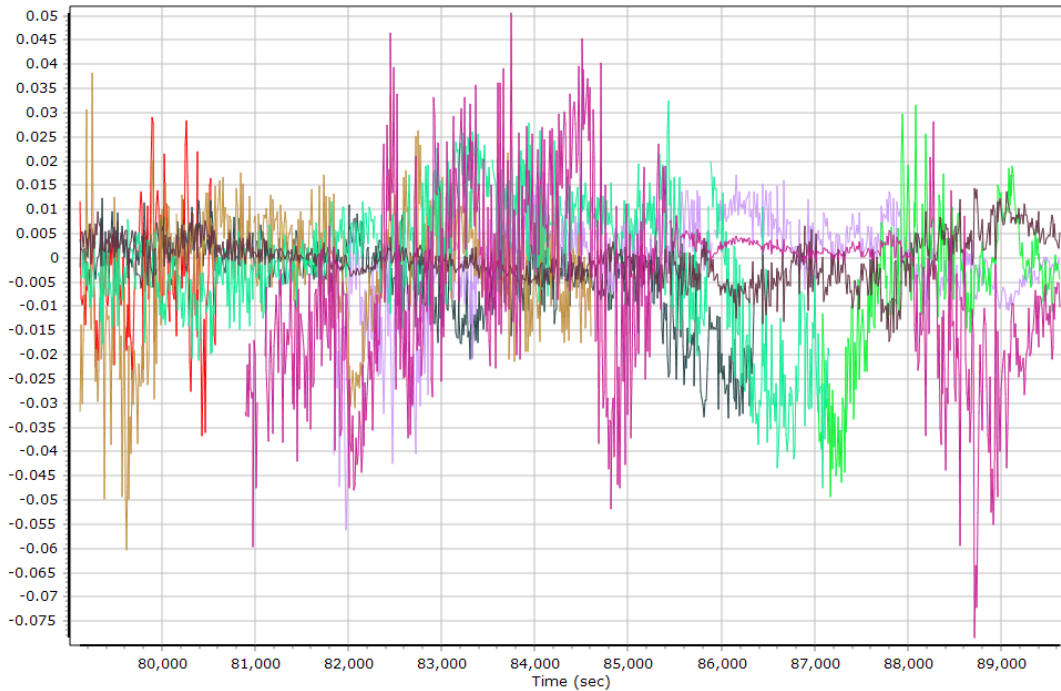


## GPS Residuals



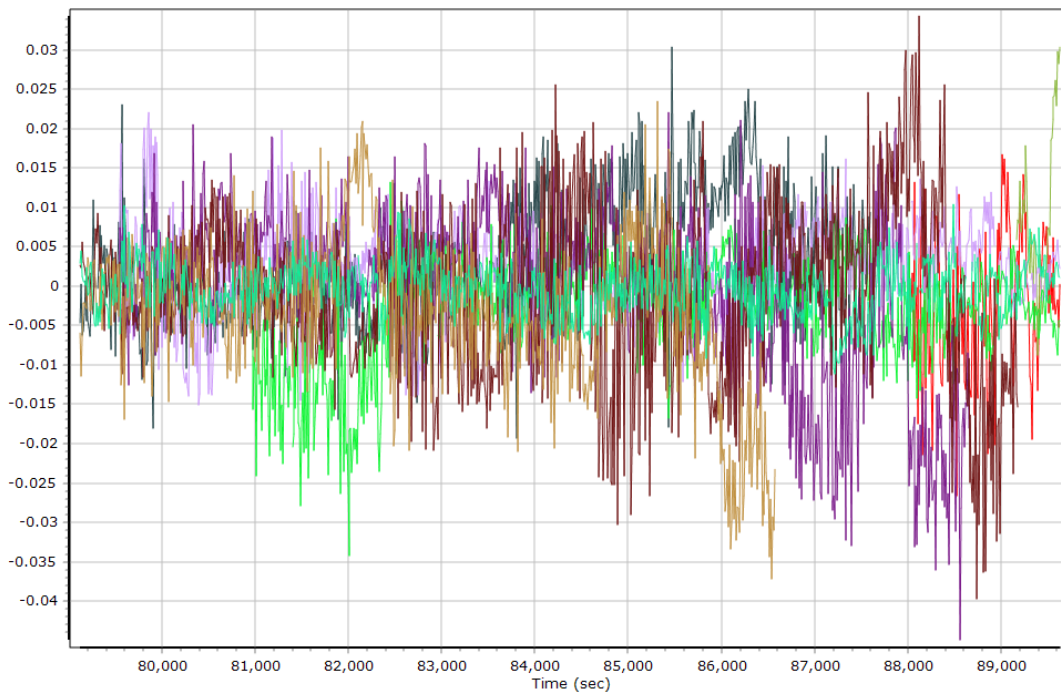


## GLONASS Residuals



- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GLONASS 04 Residual (m) | GLONASS 05 Residual (m) | GLONASS 06 Residual (m) | GLONASS 07 Residual (m) |
| GLONASS 08 Residual (m) | GLONASS 10 Residual (m) | GLONASS 11 Residual (m) | GLONASS 12 Residual (m) |
| GLONASS 20 Residual (m) | GLONASS 21 Residual (m) | GLONASS 22 Residual (m) | GLONASS 23 Residual (m) |

## GALILEO Residuals



- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GALILEO 04 Residual (m) | GALILEO 07 Residual (m) | GALILEO 11 Residual (m) | GALILEO 12 Residual (m) |
| GALILEO 19 Residual (m) | GALILEO 24 Residual (m) | GALILEO 26 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	78652.000 (5/8/2022 9:50:52 PM)		
Processing end time	89686.000 (5/9/2022 12:54:46 AM)		
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)	0.215	-0.187	-1.071
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

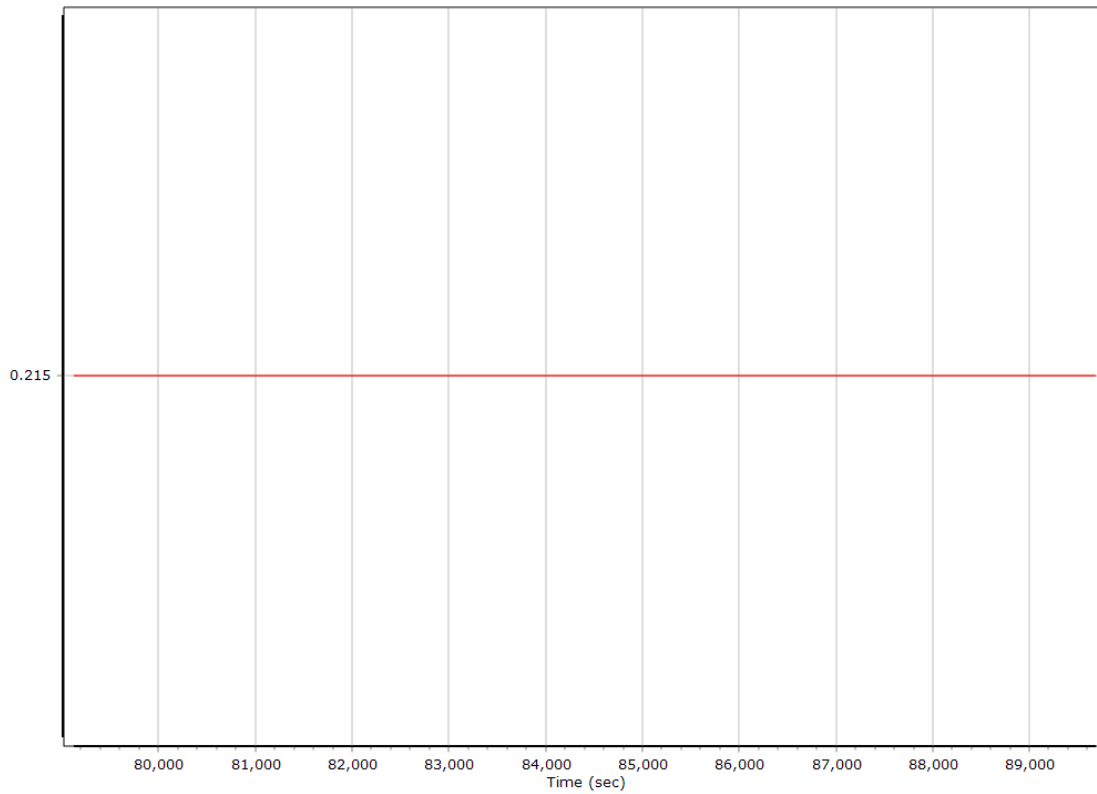
## Calibrated Installation Parameters

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

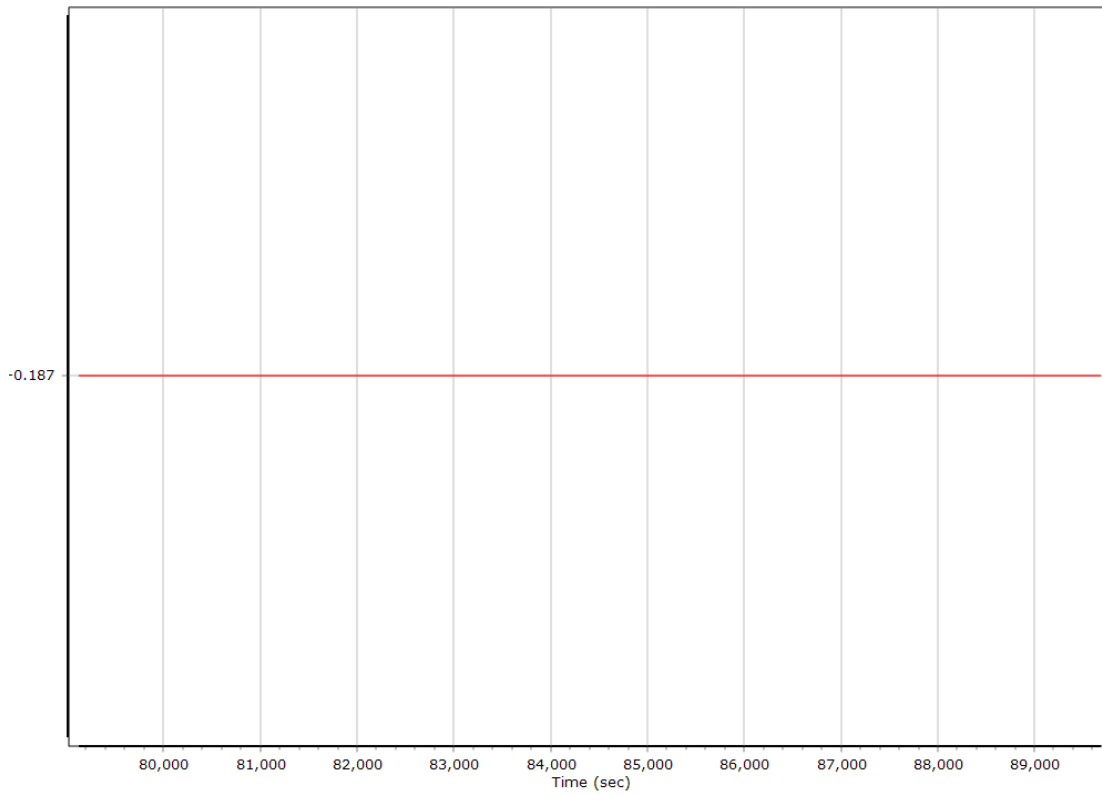
#### Reference-Primary GNSS Lever Arm Automatic Calibration Results

Original Reference to Primary GNSS lever arm (m)	-0.015	-0.196	-1.204
Iteration 1 Reference to Primary GNSS lever arm (m)	0.205	-0.198	-1.073
Iteration 2 Reference to Primary GNSS lever arm (m)	0.215	-0.187	-1.071
Primary GNSS Lever Arm In use	Iteration 2		

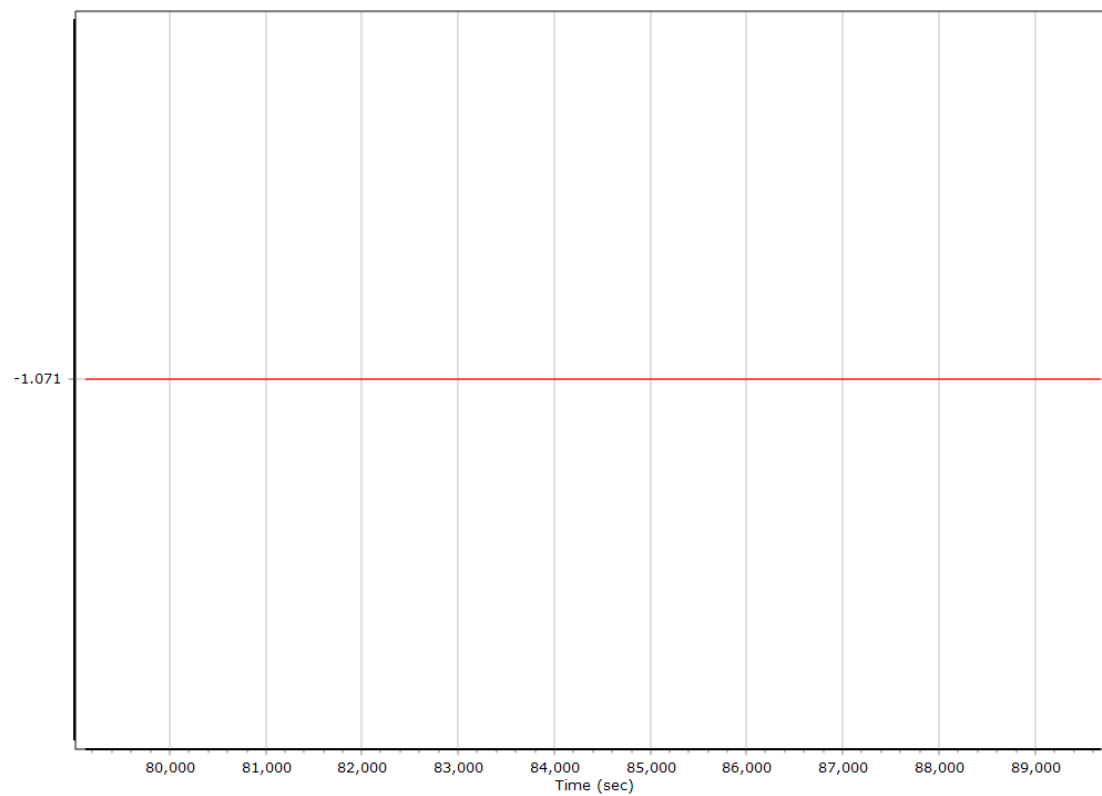
### X Reference-Primary GNSS Lever Arm (m)



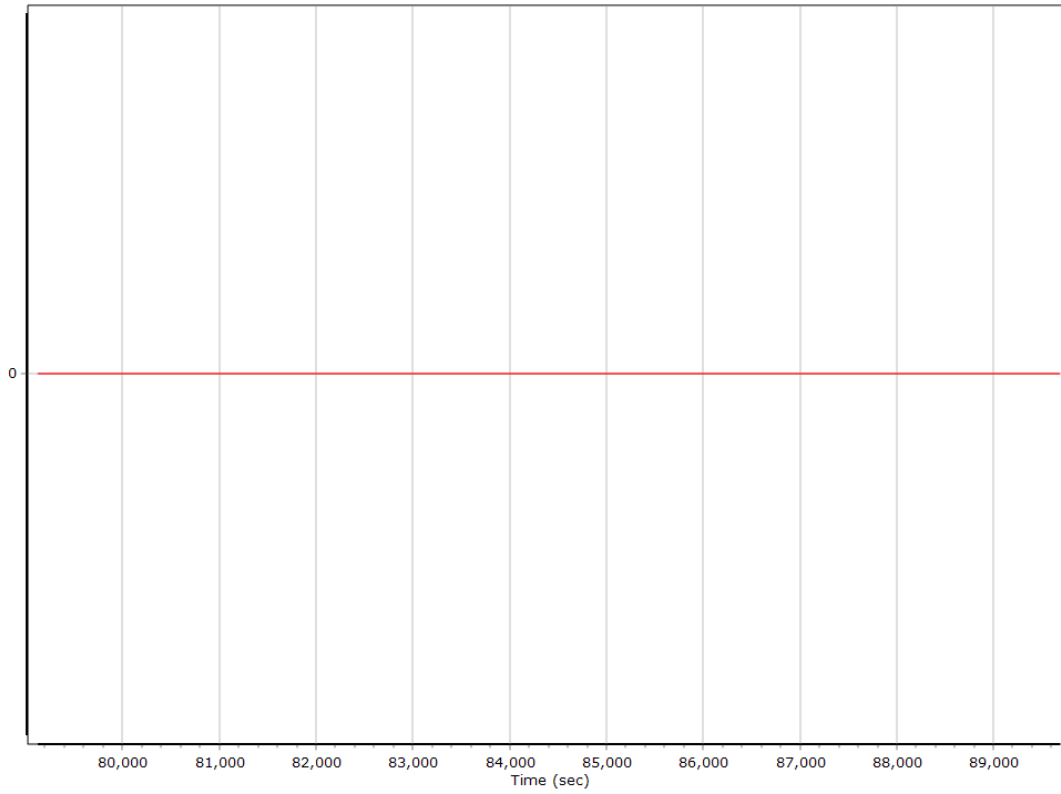
### Y Reference-Primary GNSS Lever Arm (m)



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



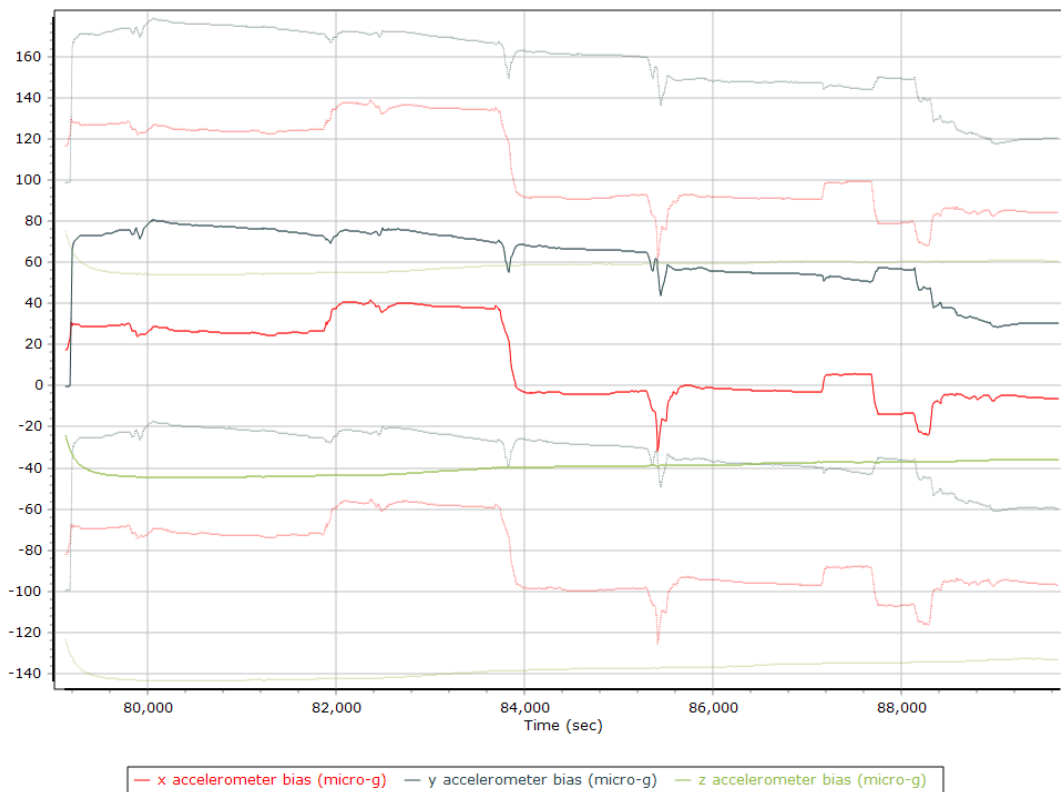
### Reference-Primary GNSS Lever Arm Figure of Merit



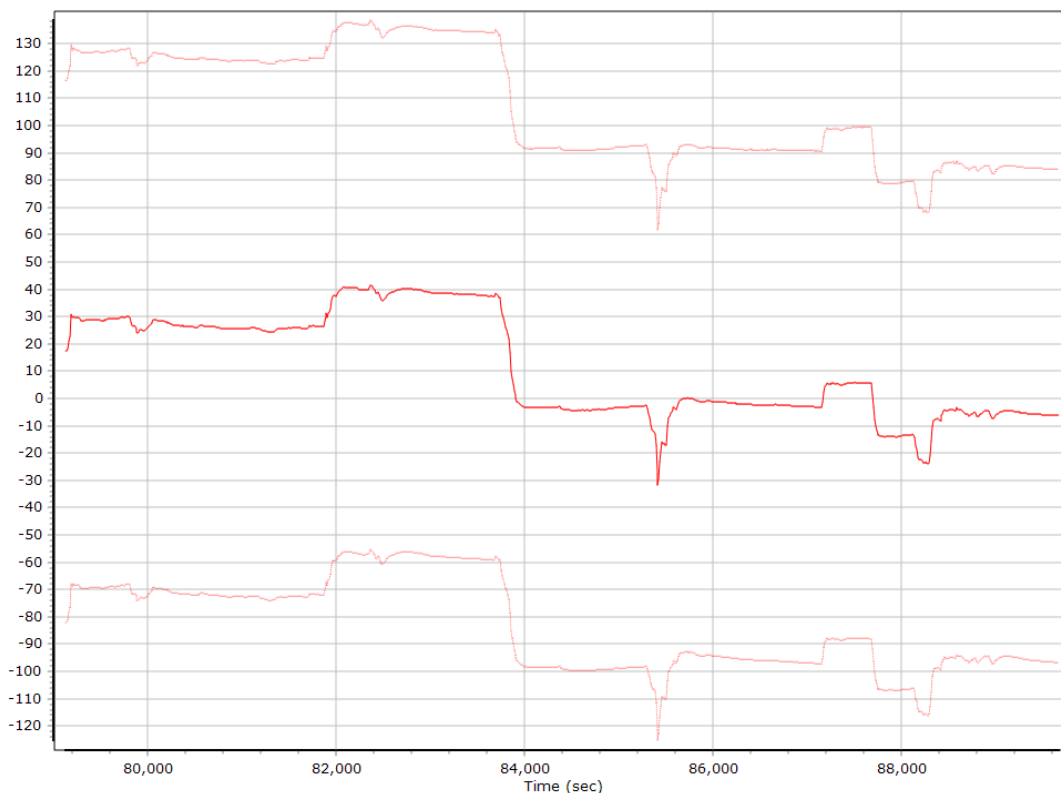
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

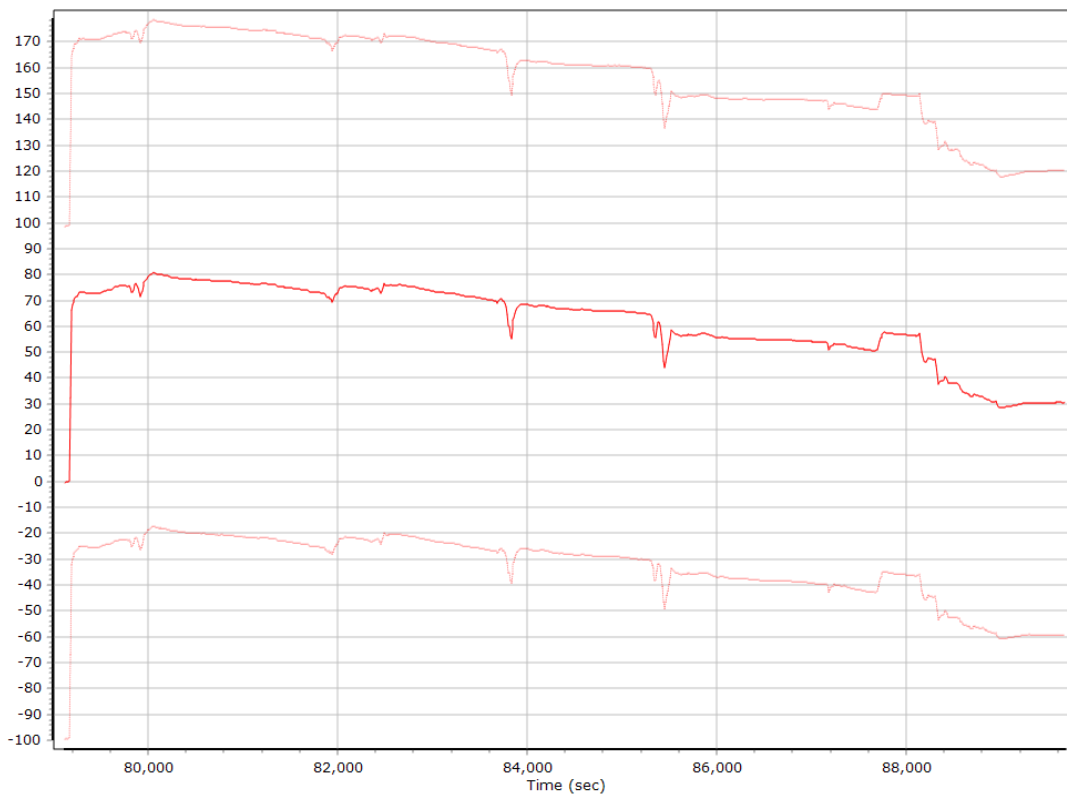
#### Accelerometer Bias (micro-g)



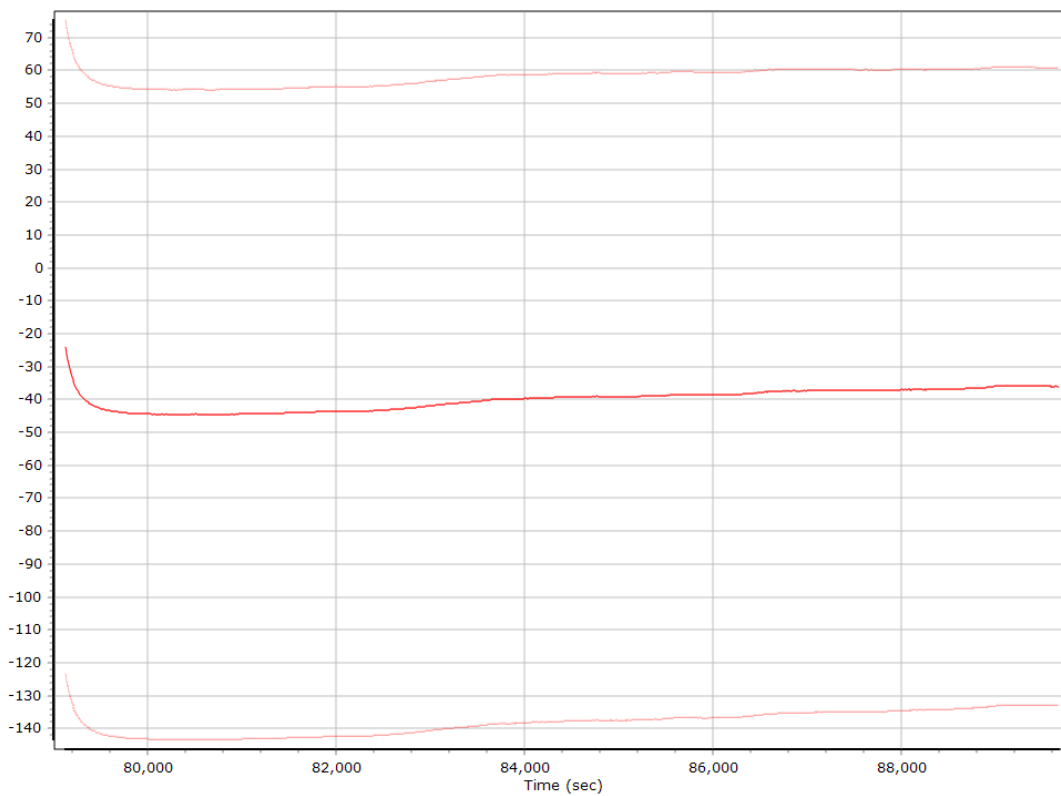
#### X Accelerometer Bias (micro-g)



### Y Accelerometer Bias (micro-g)



### Z Accelerometer Bias (micro-g)



### Accelerometer Scale Error (ppm)

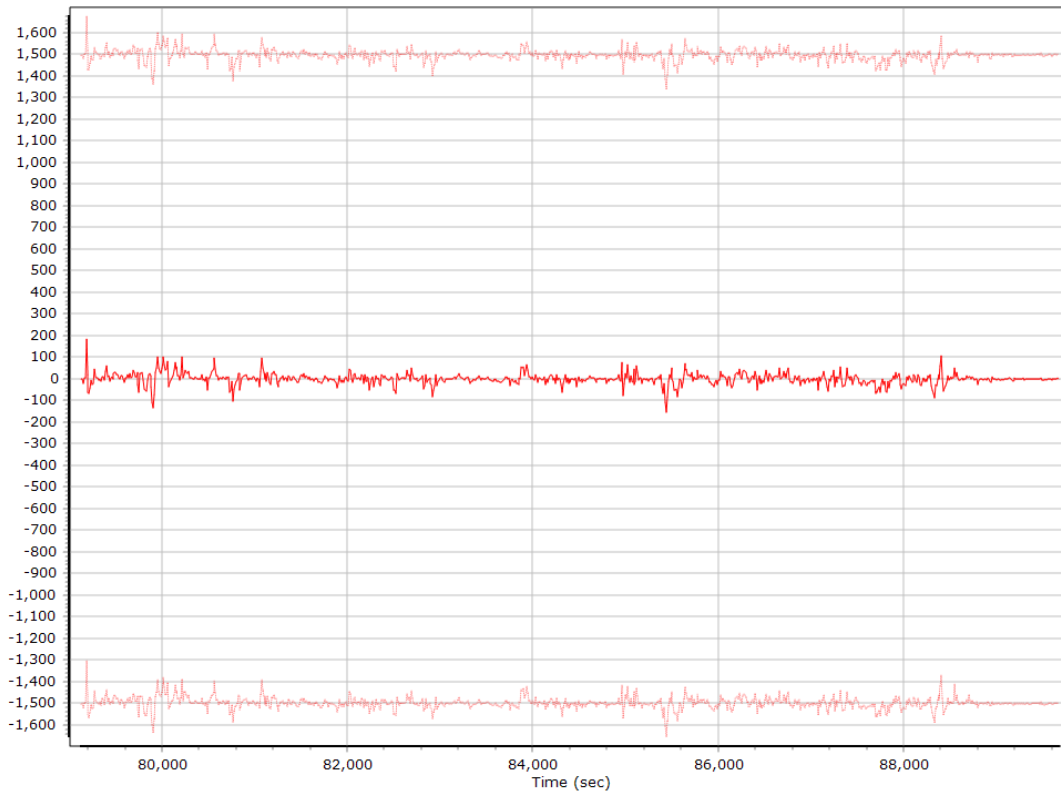


### X Accelerometer Scale Error (ppm)

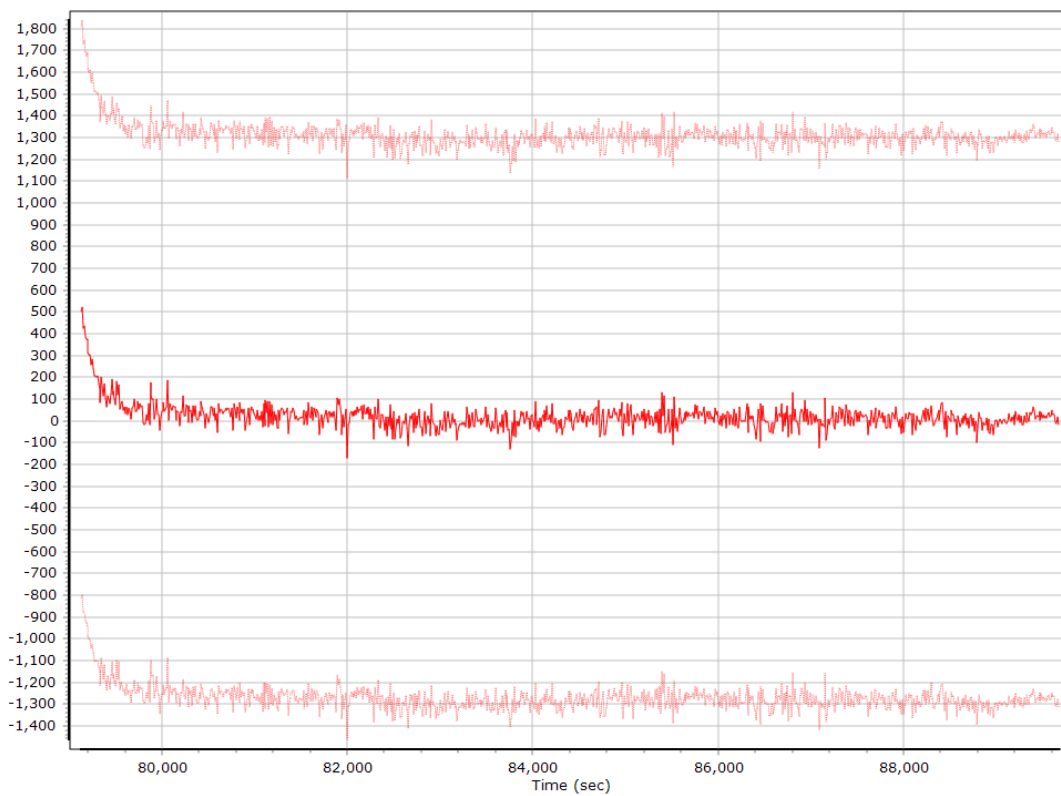




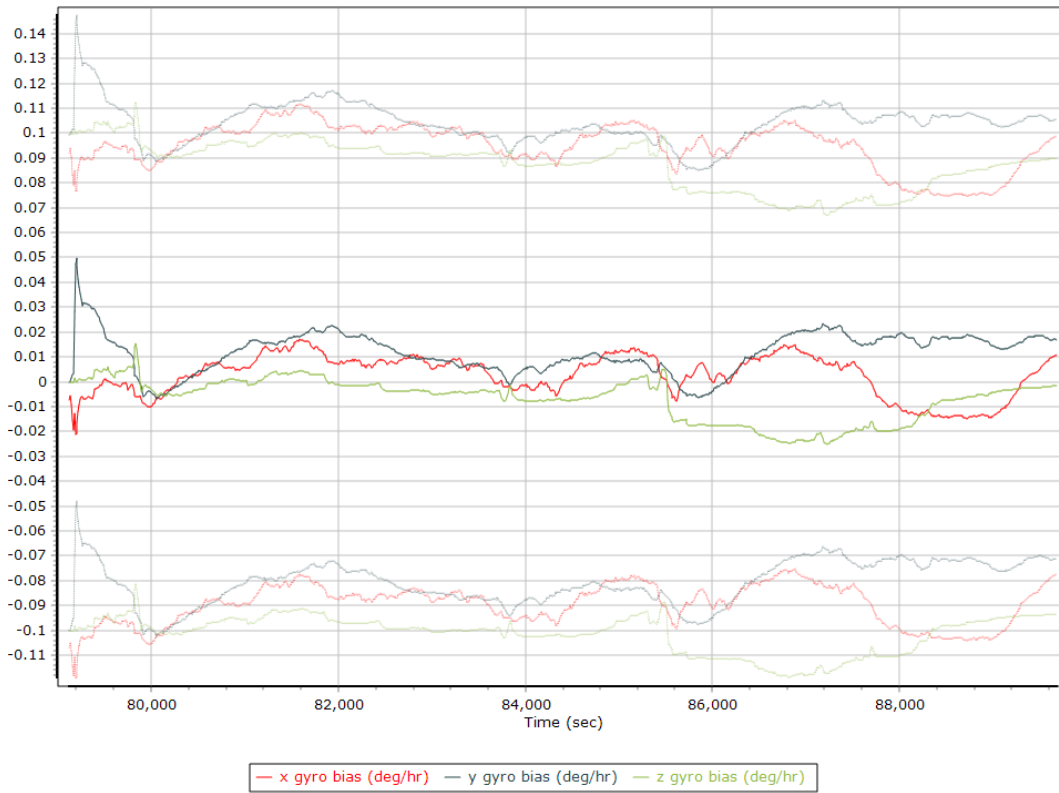
### Y Accelerometer Scale Error (ppm)



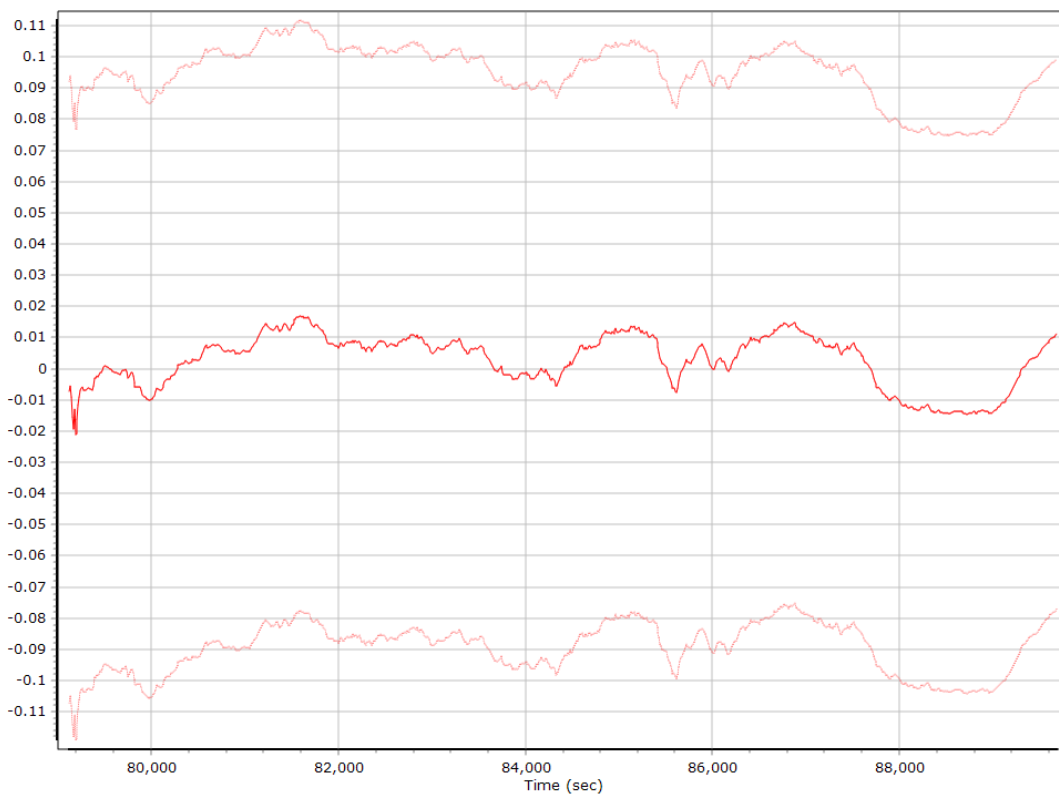
### Z Accelerometer Scale Error (ppm)



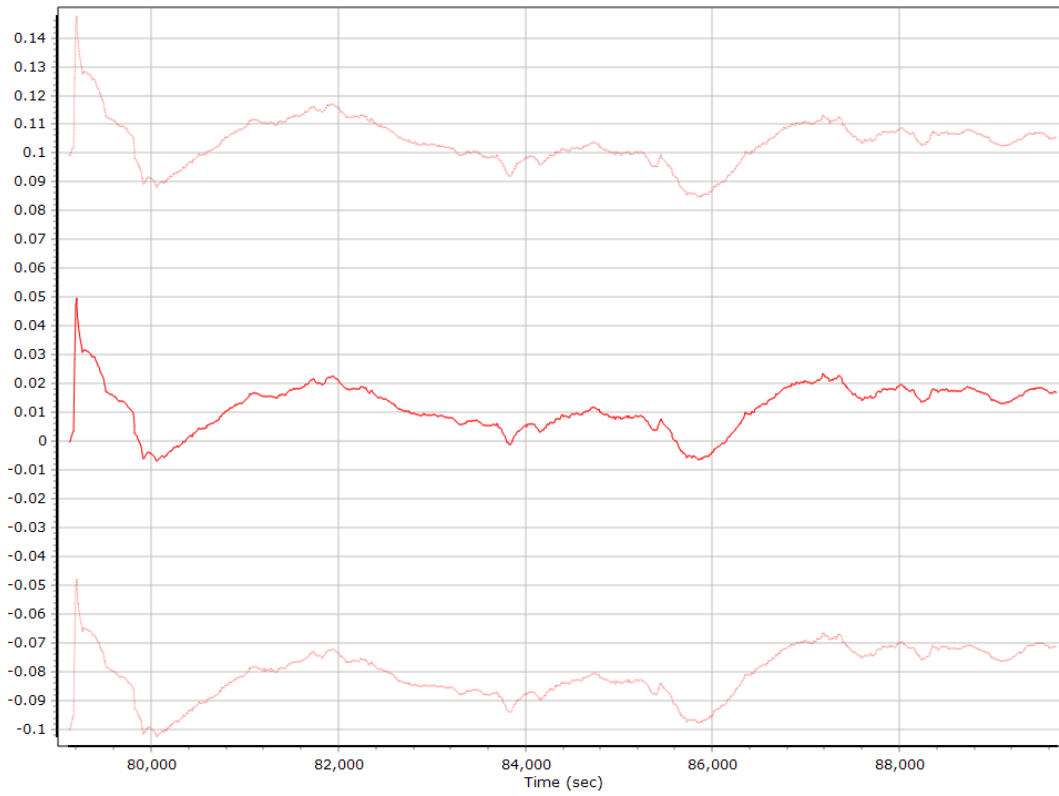
### Gyro Bias (deg/h)



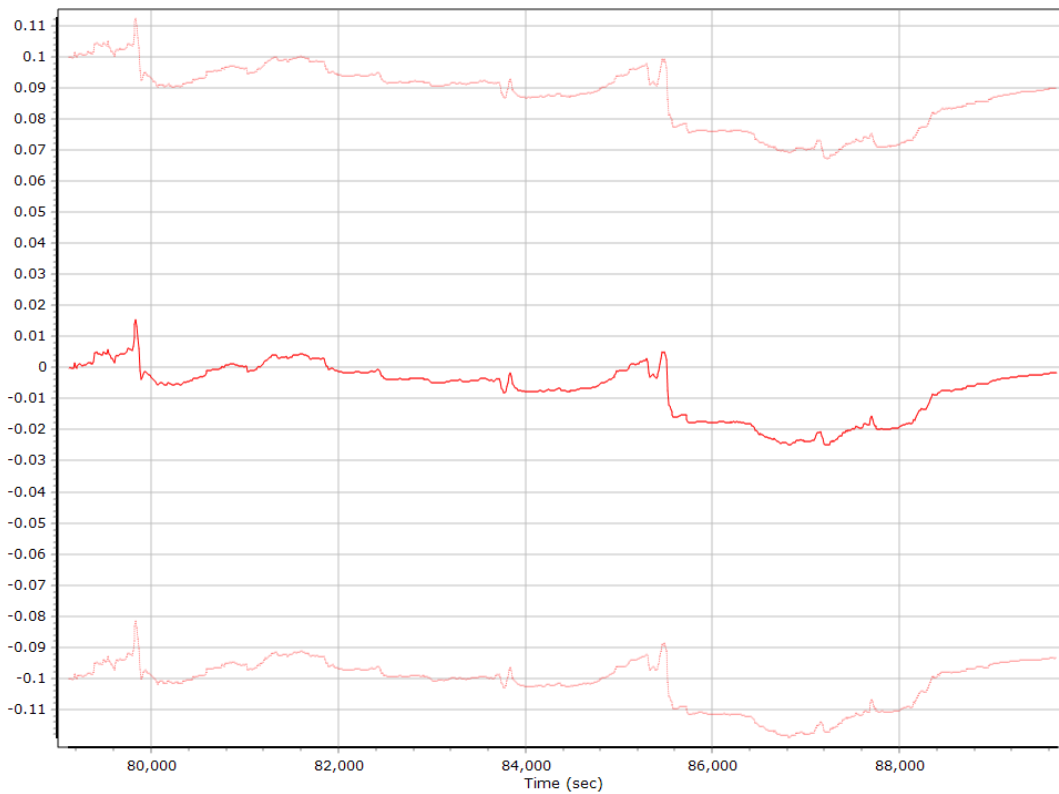
### X Gyro Bias (deg/h)



### Y Gyro Bias (deg/h)



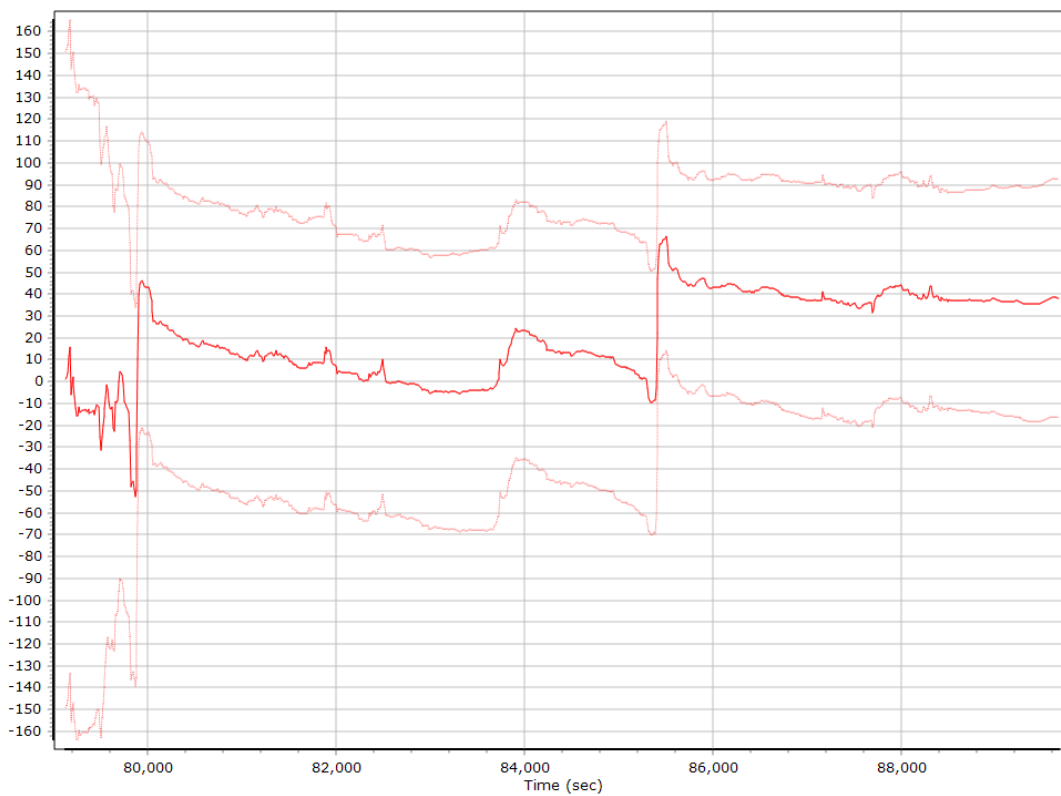
### Z Gyro Bias (deg/h)



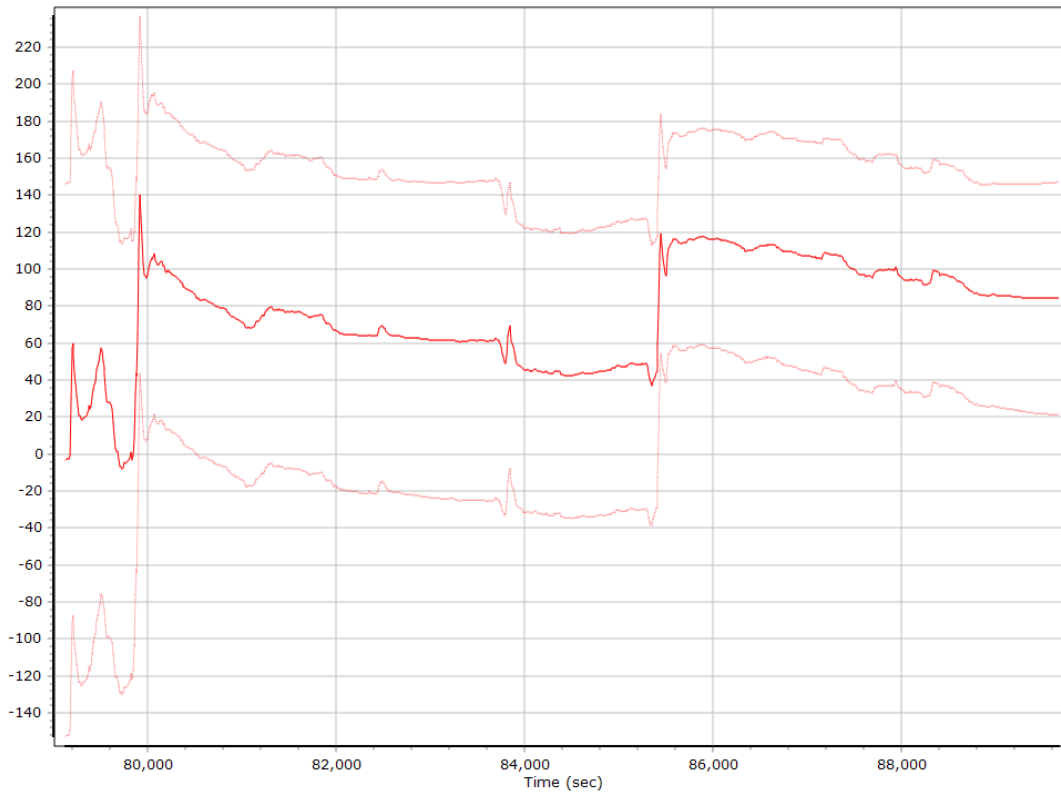
### Gyro Scale Error (ppm)



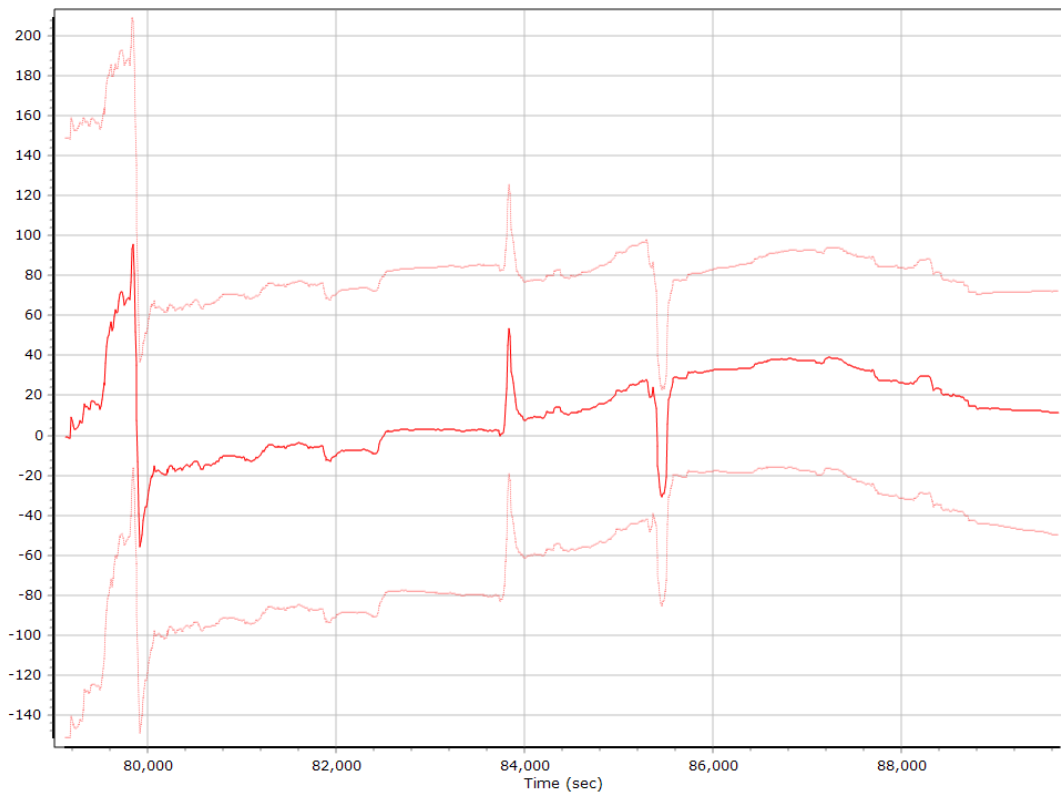
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

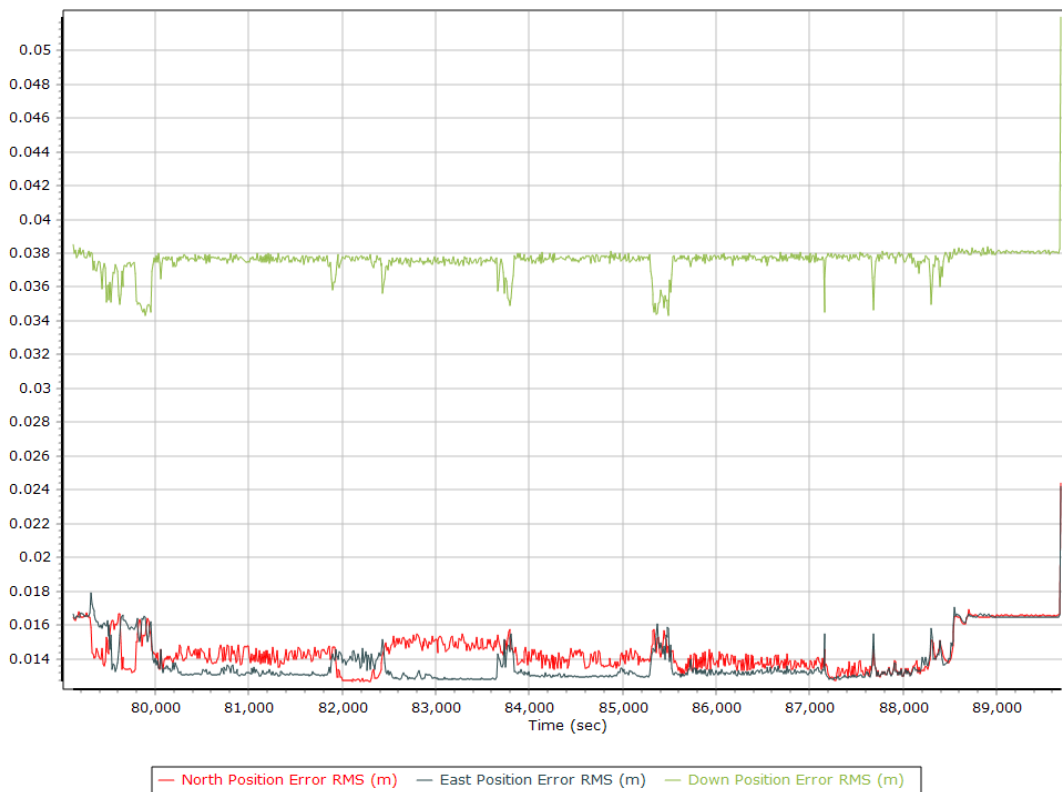


### Z Gyro Scale Error (ppm)

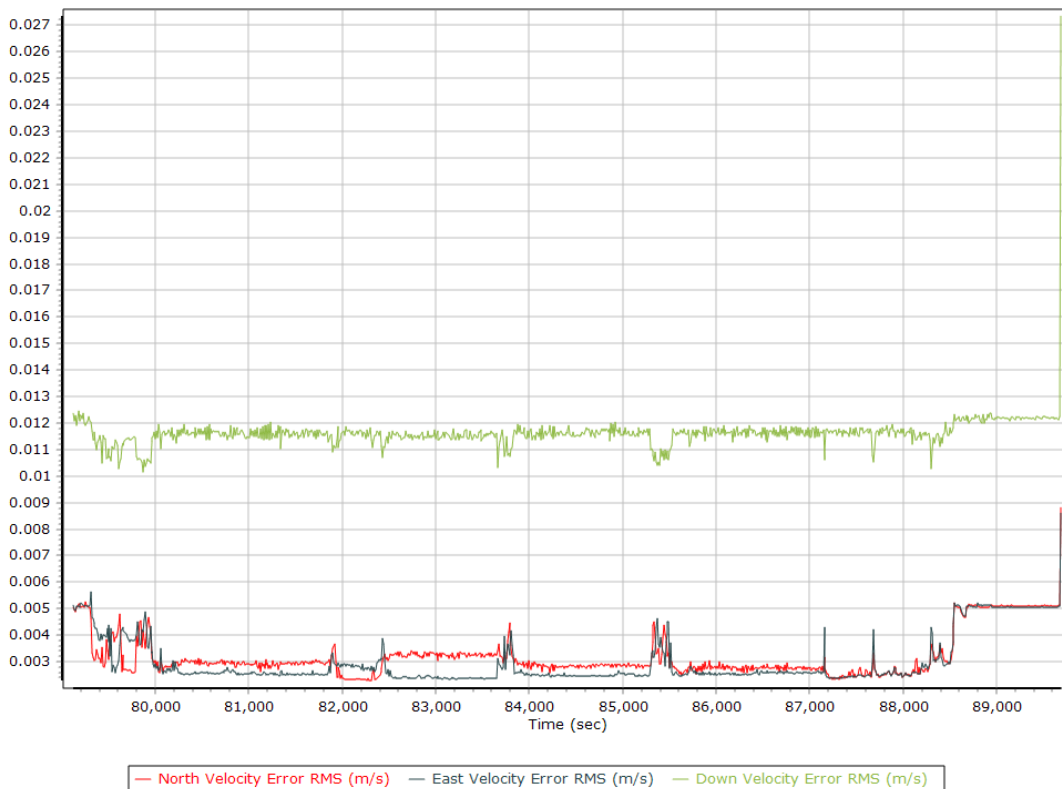


## Smoothed Performance Metrics

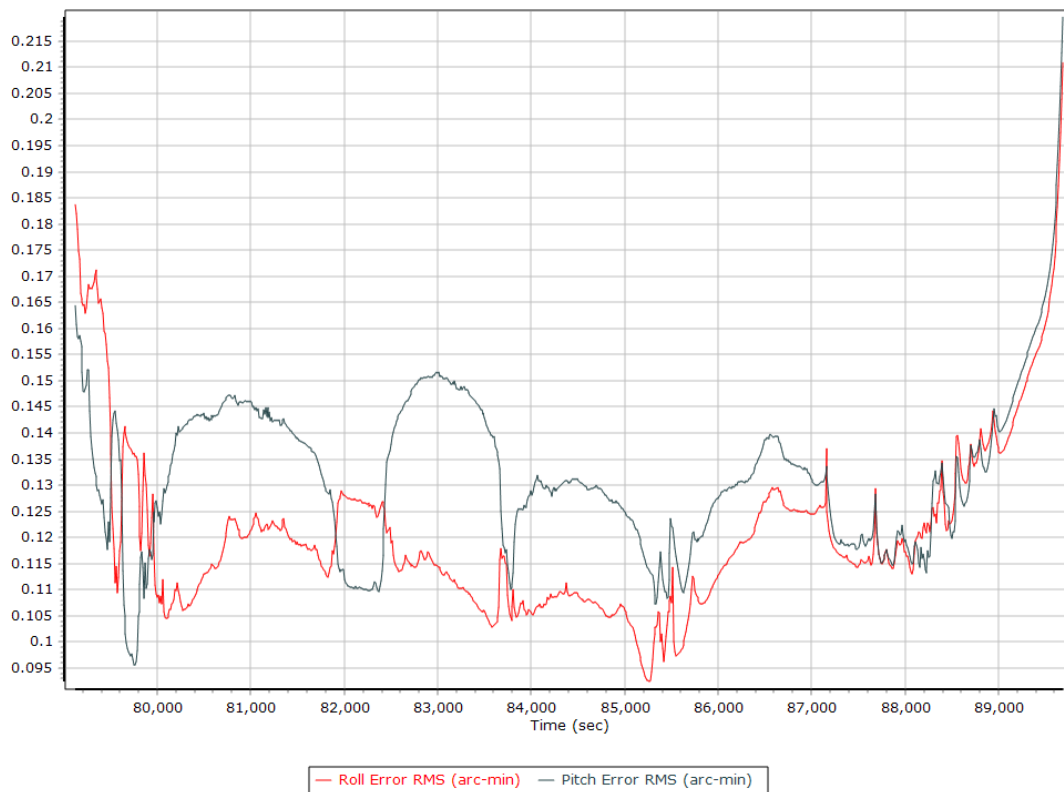
### Position Error RMS (m)



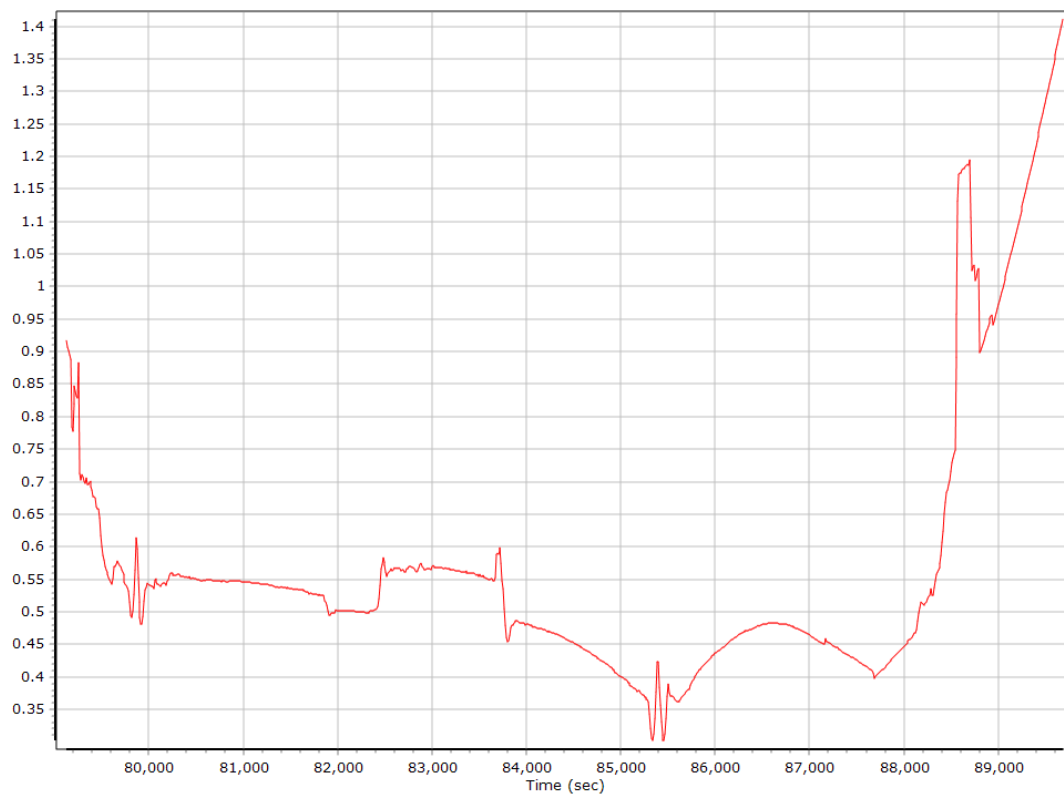
### Velocity Error RMS (m/s)



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

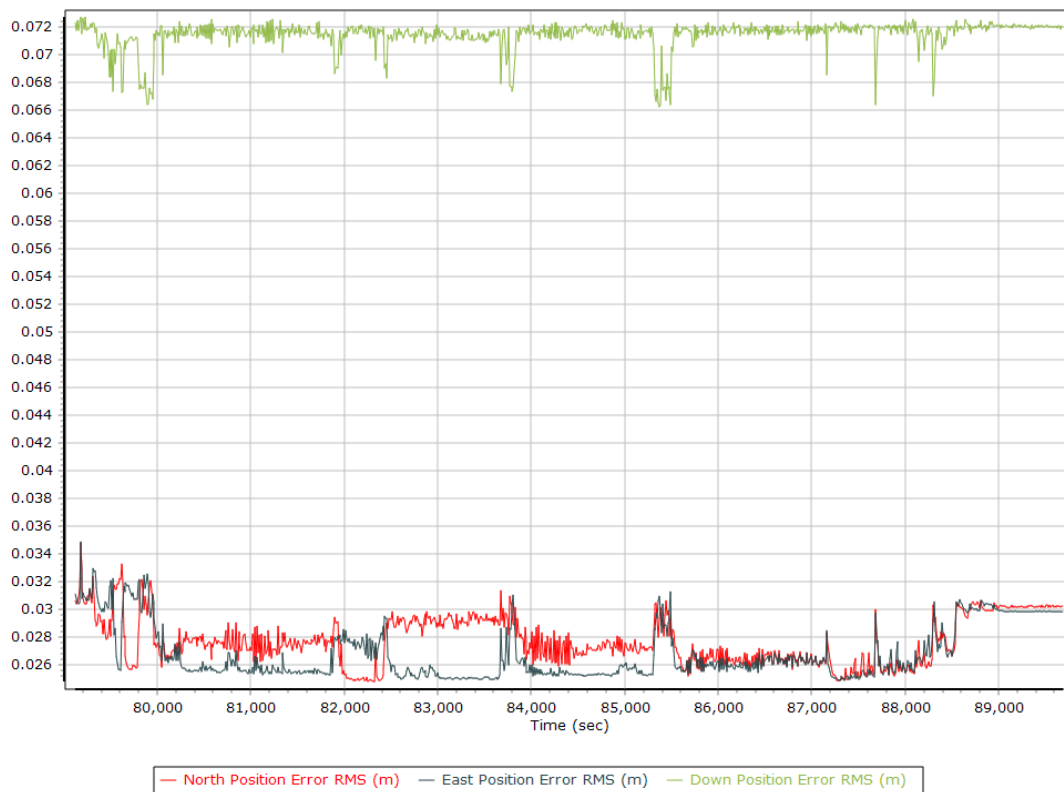


### Heading Error RMS (arc-min)

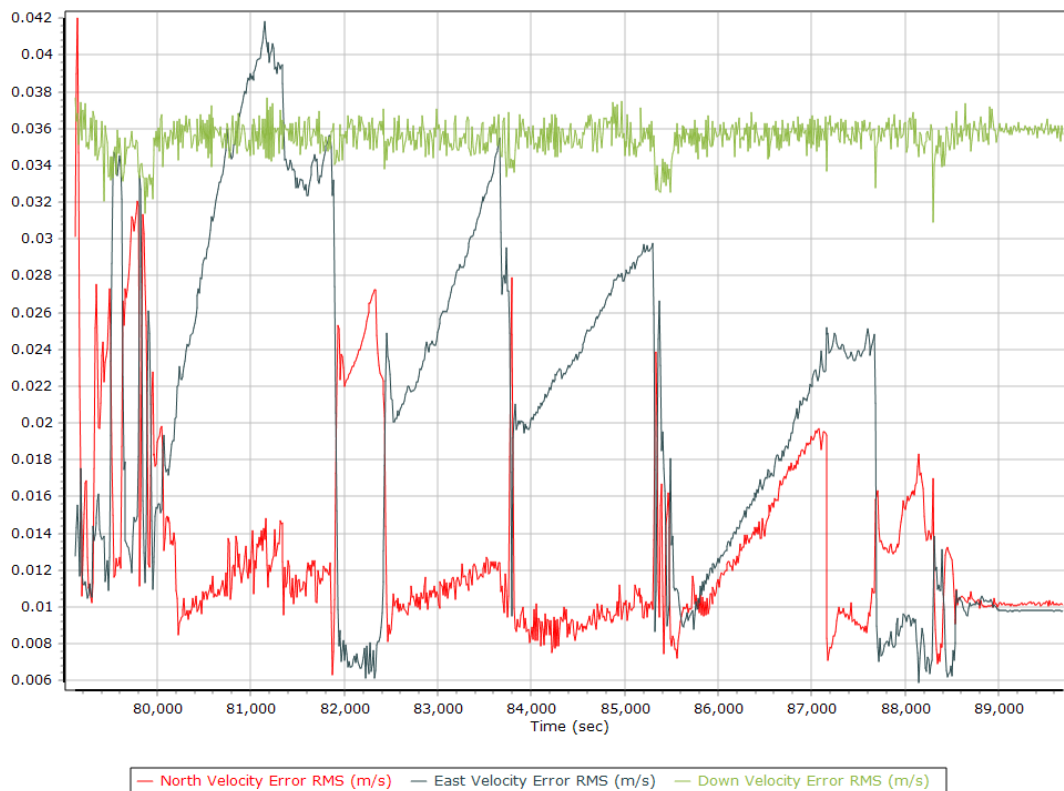


## Forward Processed Performance Metrics

### Position Error RMS (m)

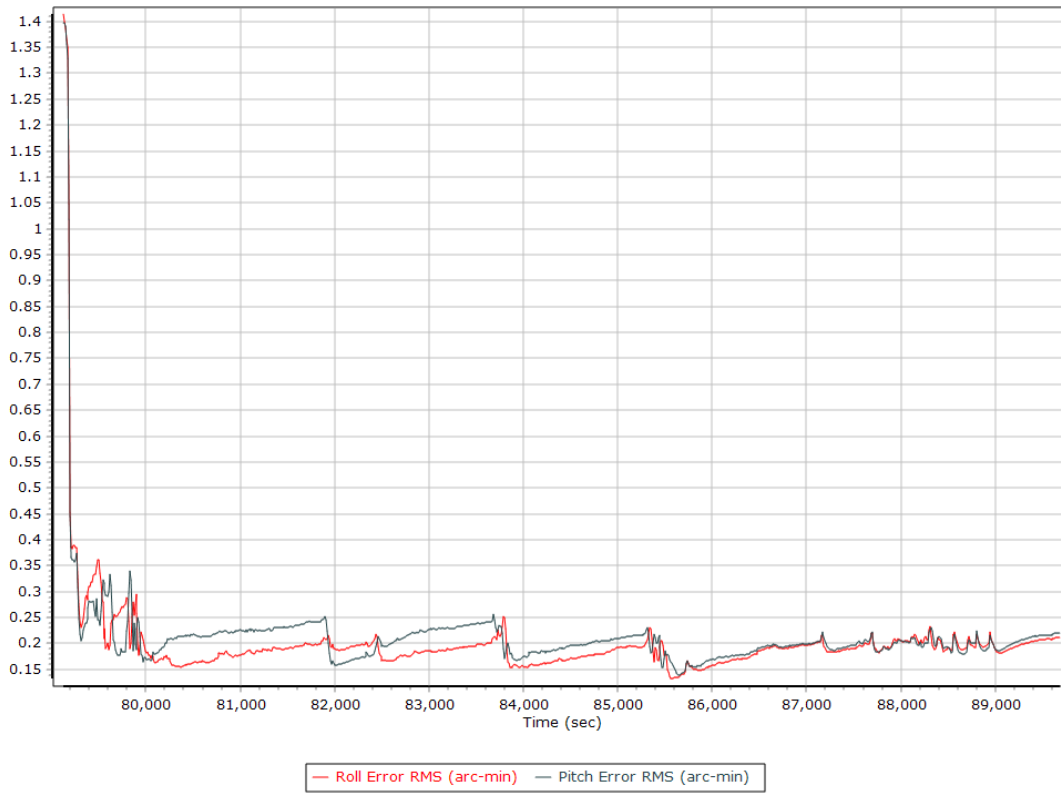


### Velocity Error RMS (m/s)

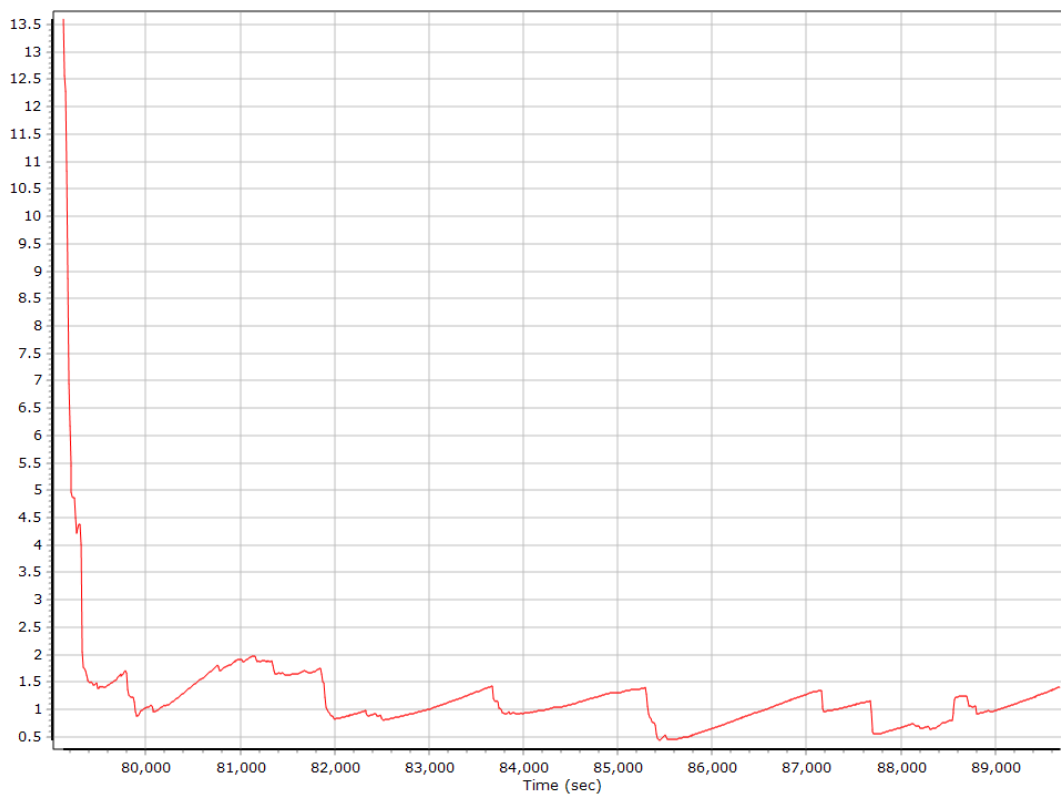




### Roll/Pitch Error RMS (arc-min)

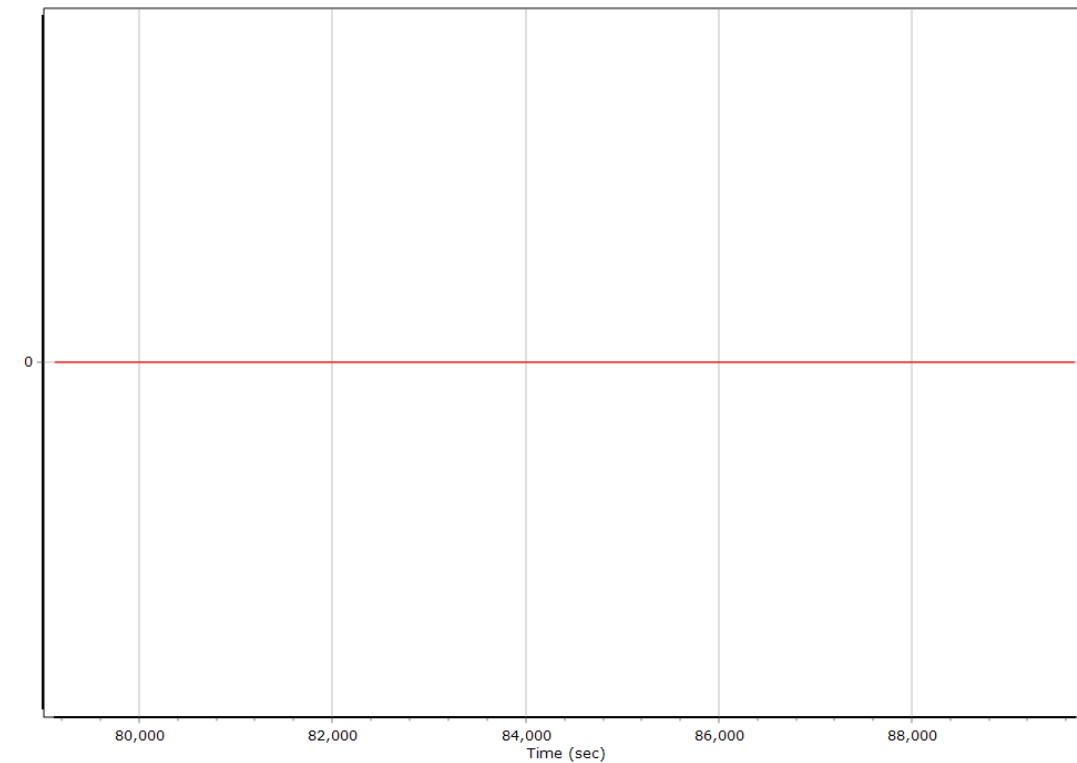


### Heading Error RMS (arc-min)



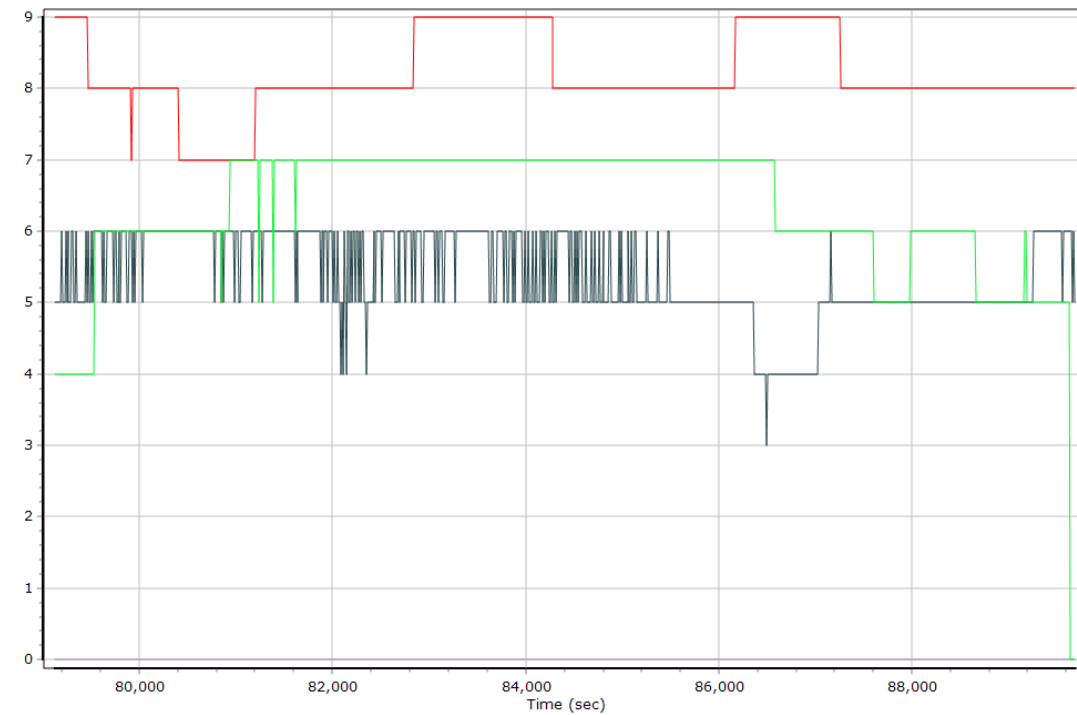
## Forward Processed Solution Status

### Processing Mode



0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

### Number of Satellites



— Number of GPS Satellites   
 — Number of GLONASS Satellites   
 — Number of QZSS Satellites  
— Number of BEIDOU Satellites   
 — Number of GALILEO Satellites

## Baseline Length

