

## General Information

### Mission Information

Project name	220726_A_5060492_nad2011_FINAL
Processing date	2022-07-28 13:32:41
Mission date	2022-07-26 12:34:21
Mission duration	04:19:28.000
Processing mode	IN-Fusion PP-RTX

### Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N12686
IMU type	57
Receiver type	BD982
Antenna type	AV39

## Project File List

### Rover Data Files

File name	File type
220726a.354	POS Data
220726a.355	POS Data
220726a.356	POS Data
220726a.357	POS Data
220726a.358	POS Data
220726a.359	POS Data
220726a.360	POS Data
220726a.361	POS Data
220726a.362	POS Data
220726a.363	POS Data
220726a.364	POS Data
220726a.365	POS Data
220726a.366	POS Data
220726a.367	POS Data
220726a.368	POS Data
220726a.369	POS Data
220726a.370	POS Data
220726a.371	POS Data
220726a.372	POS Data
220726a.373	POS Data
220726a.374	POS Data
220726a.375	POS Data
220726a.376	POS Data
220726a.377	POS Data
220726a.378	POS Data
220726a.379	POS Data
220726a.380	POS Data
220726a.381	POS Data
220726a.382	POS Data
220726a.383	POS Data
220726a.384	POS Data
220726a.385	POS Data
220726a.386	POS Data
220726a.387	POS Data

### Input Files

File Name	File Type
Ephm2070.22g	GLONASS Broadcast Ephemeris
Ephm2070.22n	GPS Broadcast Ephemeris

### Output Files

Filename	File type
sbet_220726_A_5060492_nad2011_FINAL.out	SBET Trajectory File

## Rover Data Summary

First raw data file	220726a.354		
Last raw data file	220726a.387		
Start GPS week	2220		
Start time	218078.747 (7/26/2022 12:34:20 PM)		
End time	233647.606 (7/26/2022 4:53:49 PM)		
Start of fine alignment	218240.851 (7/26/2022 12:37:02 PM)		
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	180.000
Reference to Primary GNSS lever arm (m)	0.361	-0.429	-0.945
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

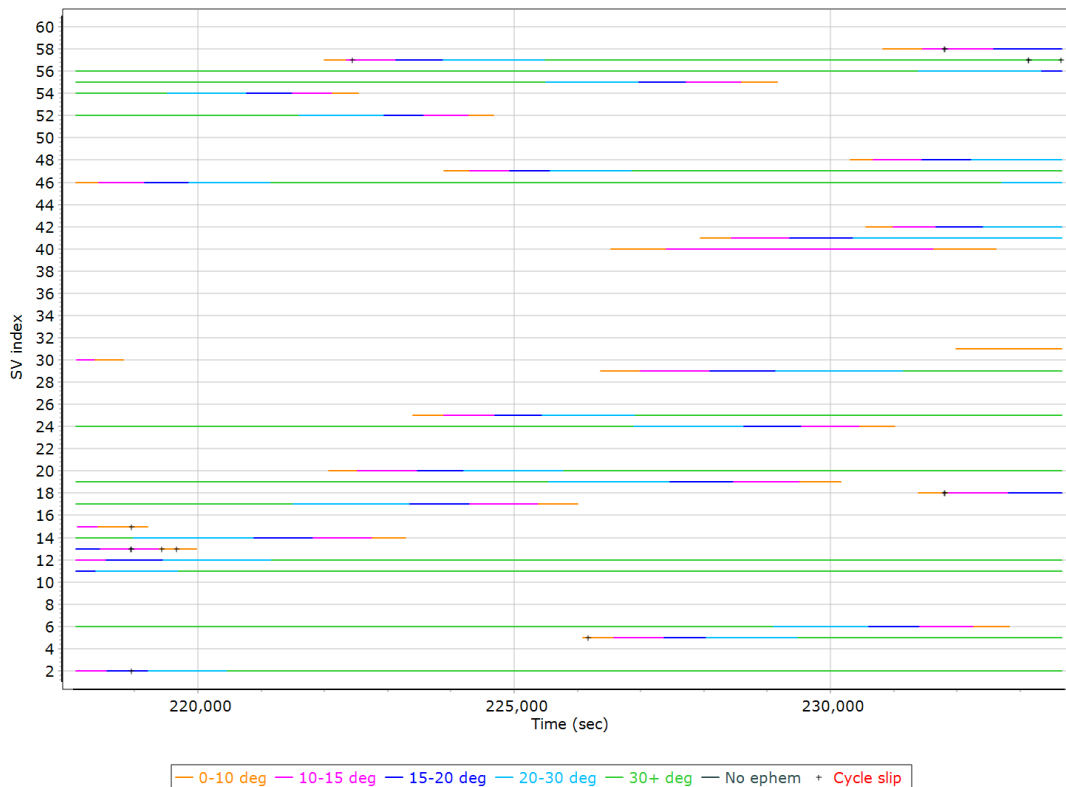
## Rover Data QC

### Raw IMU Import QC Summary

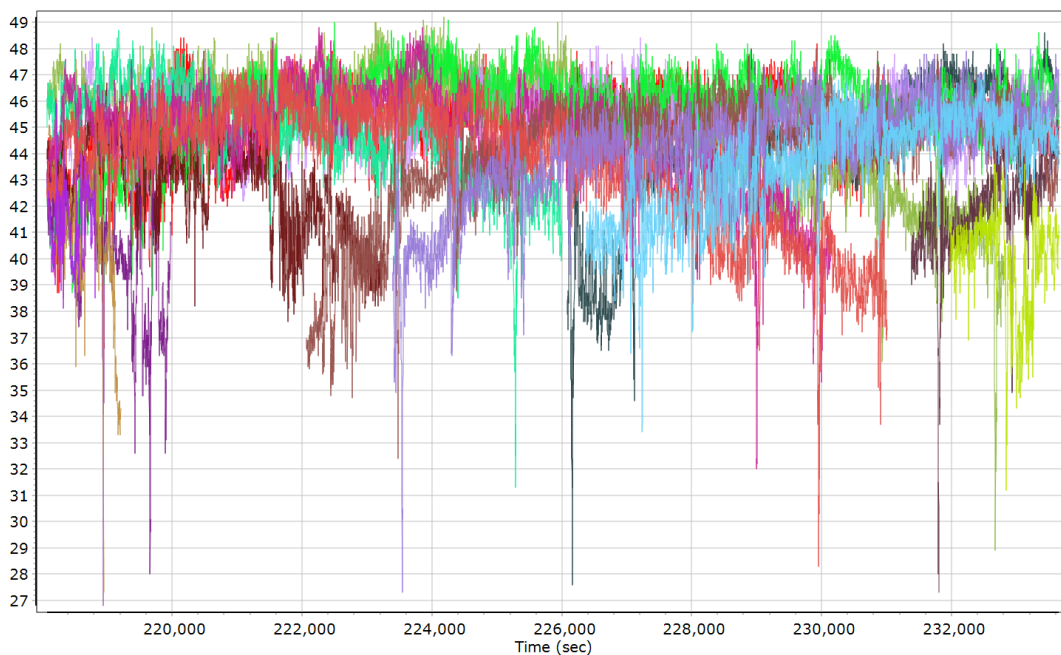
IMU data input file	imu_220726_A_5060492_nad2011_FINAL.dat
IMU data check log file	imudt_220726_A_5060492_nad2011_FINAL.log
IMU Records Processed	3113311
Termination Status	Normal
IMU Anomalies	0

## Primary Observables & Satellite Data

### GPS/GLONASS L1 Satellite Lock/Elevation

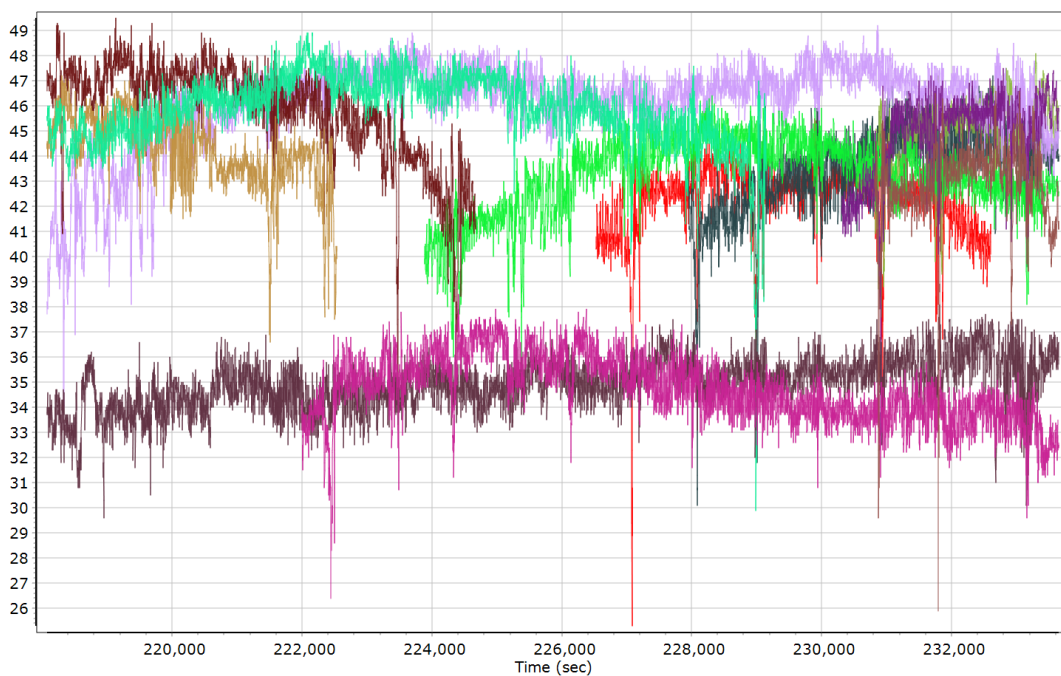


### GPS L1 SNR



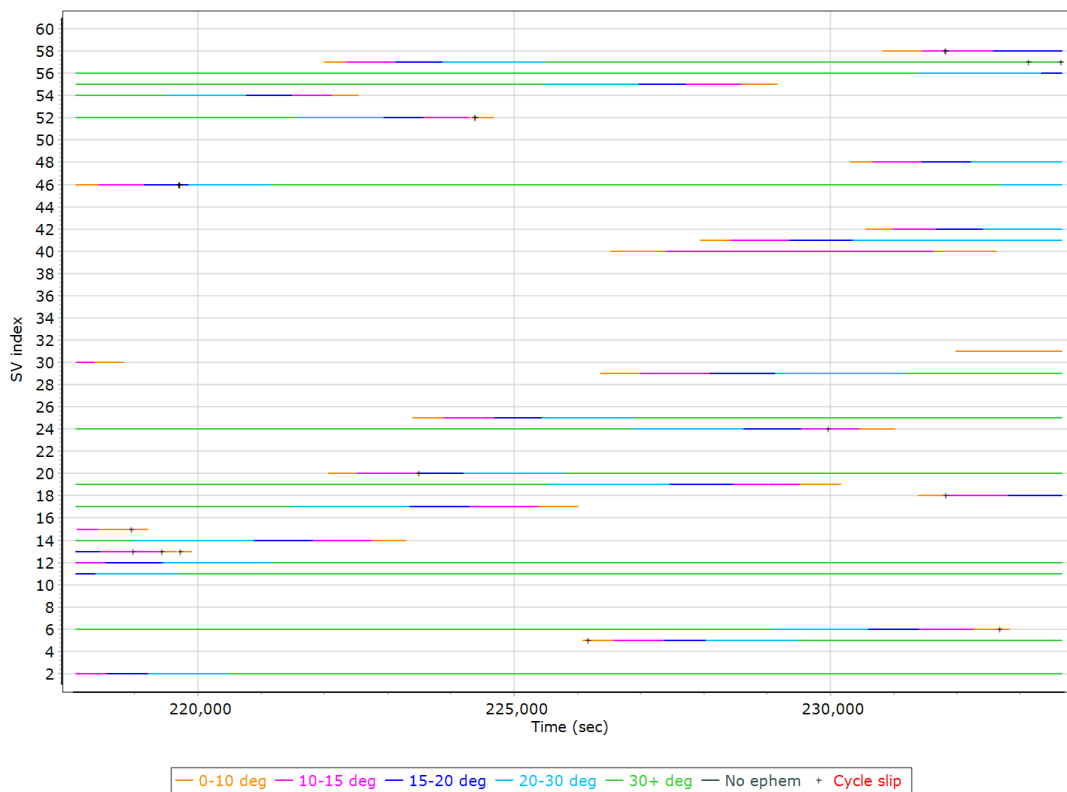
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 02 L1 SNR (dB/Hz) | GPS PRN 05 L1 SNR (dB/Hz) | GPS PRN 06 L1 SNR (dB/Hz) | GPS PRN 11 L1 SNR (dB/Hz) |
| GPS PRN 12 L1 SNR (dB/Hz) | GPS PRN 13 L1 SNR (dB/Hz) | GPS PRN 14 L1 SNR (dB/Hz) | GPS PRN 15 L1 SNR (dB/Hz) |
| GPS PRN 17 L1 SNR (dB/Hz) | GPS PRN 18 L1 SNR (dB/Hz) | GPS PRN 19 L1 SNR (dB/Hz) | GPS PRN 20 L1 SNR (dB/Hz) |
| GPS PRN 24 L1 SNR (dB/Hz) | GPS PRN 25 L1 SNR (dB/Hz) | GPS PRN 29 L1 SNR (dB/Hz) | GPS PRN 30 L1 SNR (dB/Hz) |
| GPS PRN 31 L1 SNR (dB/Hz) |                           |                           |                           |

### GLONASS L1 SNR

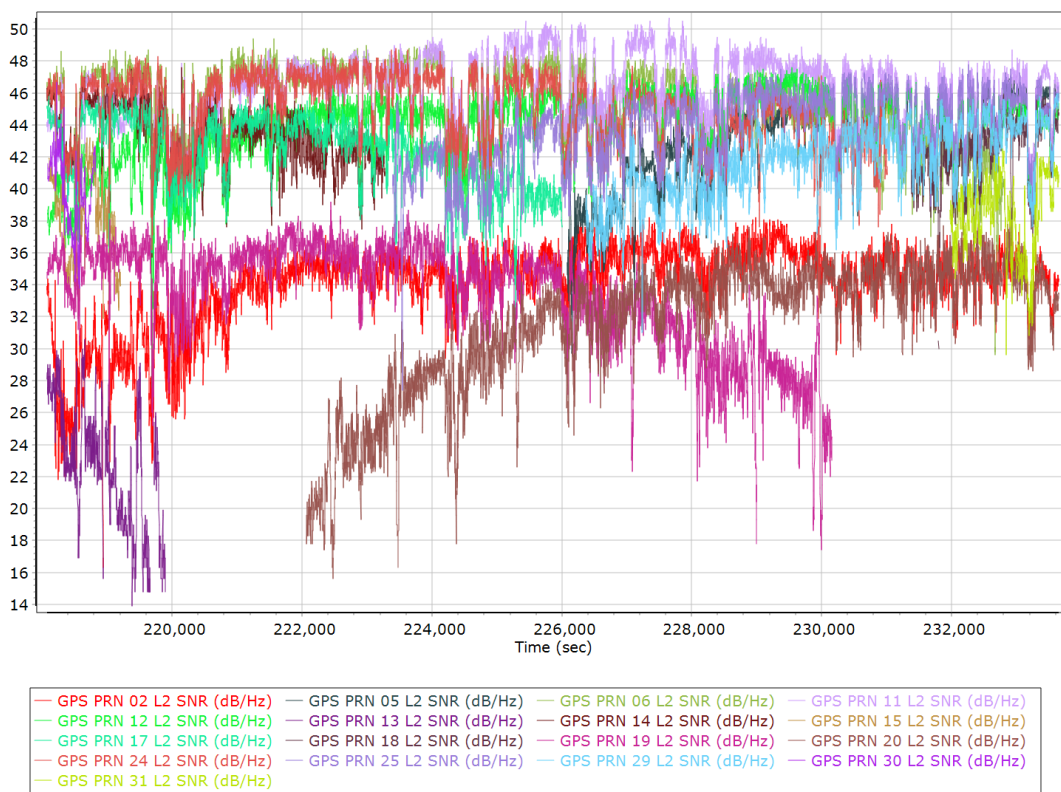


- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 03 L1 SNR (dB/Hz) | GLONASS 04 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) |
| GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) | GLONASS 11 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 21 L1 SNR (dB/Hz) |

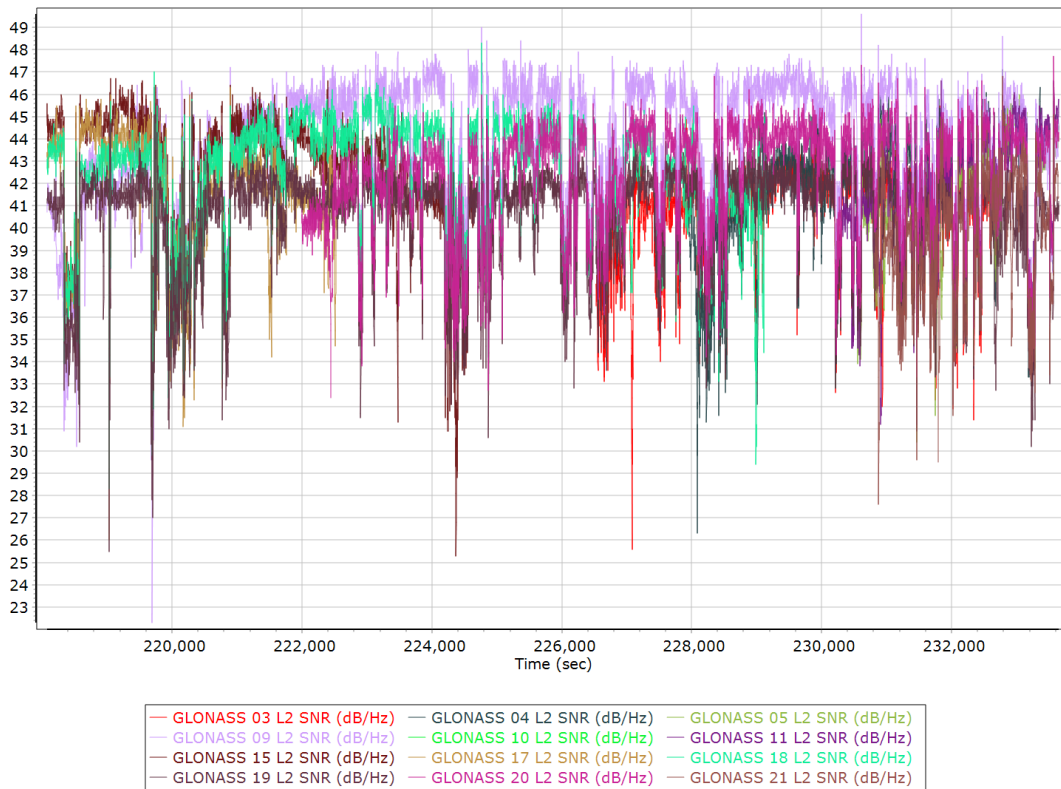
### GPS/GLONASS L2 Satellite Lock/Elevation



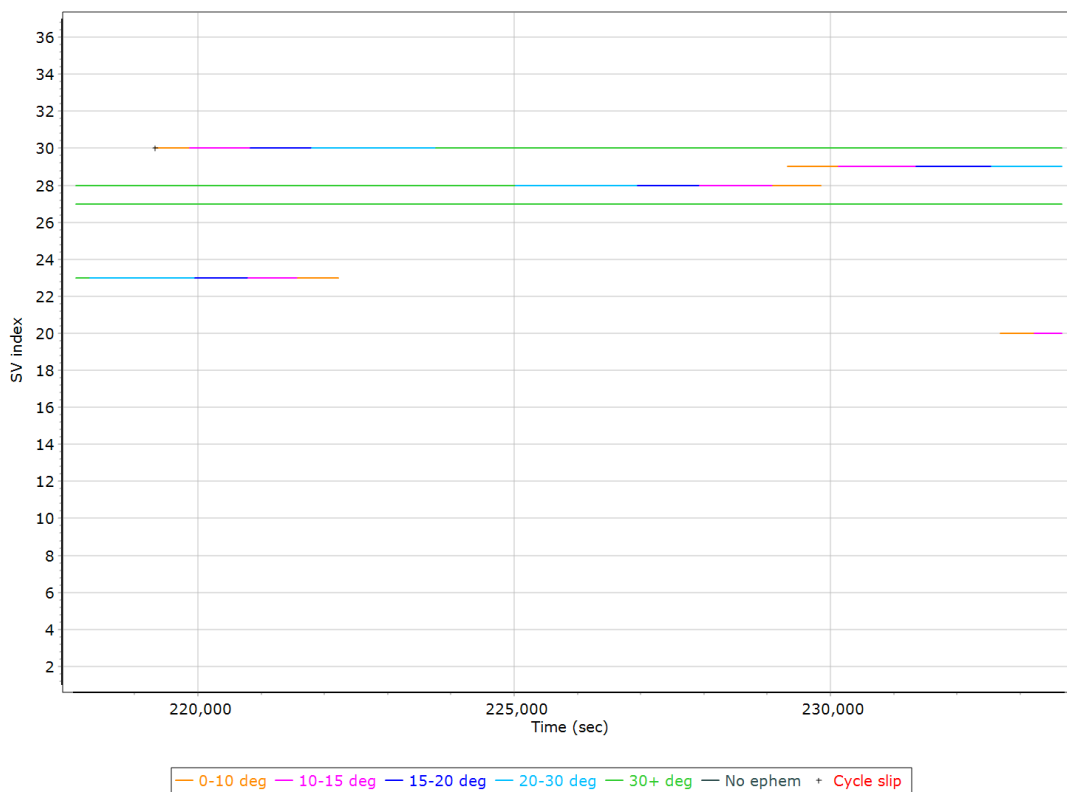
### GPS L2 SNR



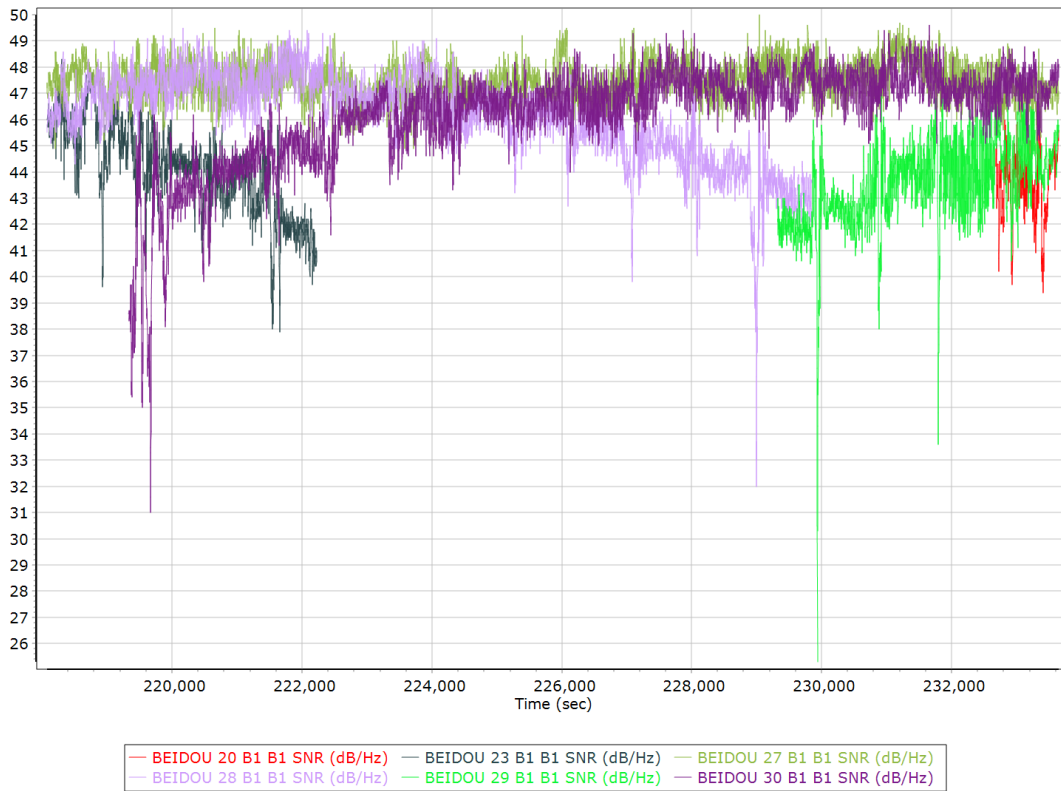
### GLONASS L2 SNR



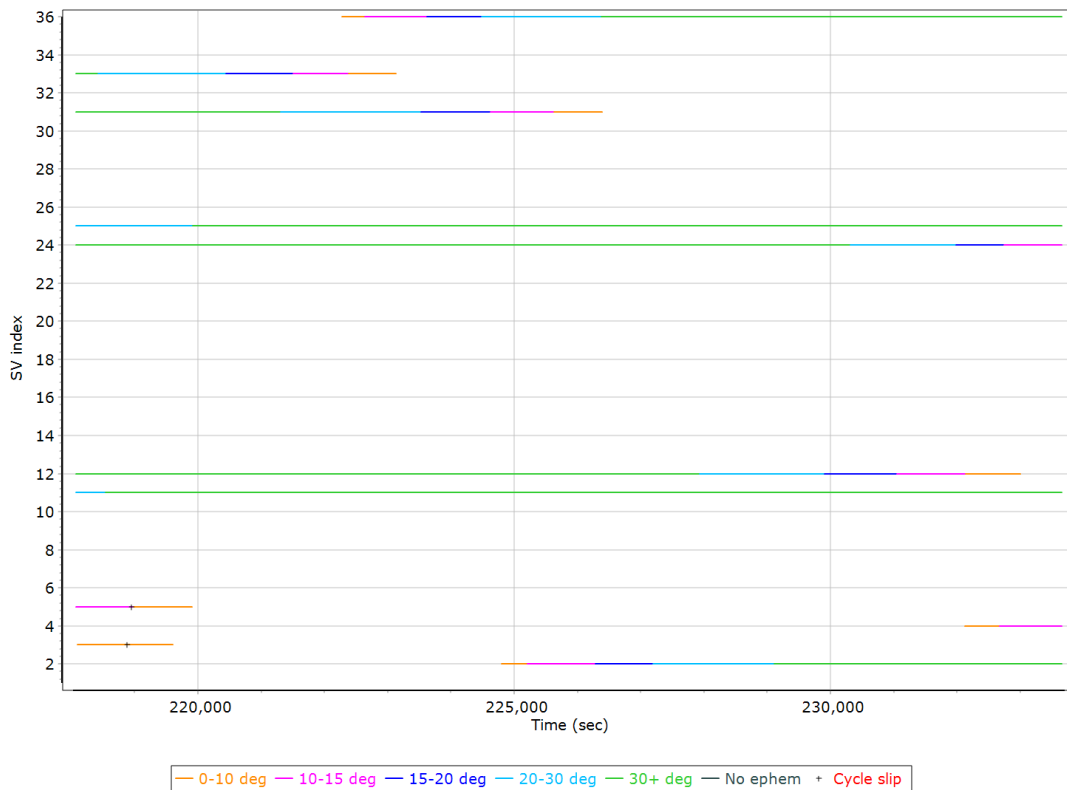
### BEIDOU Satellite Lock/Elevation



### BEIDOU SNR

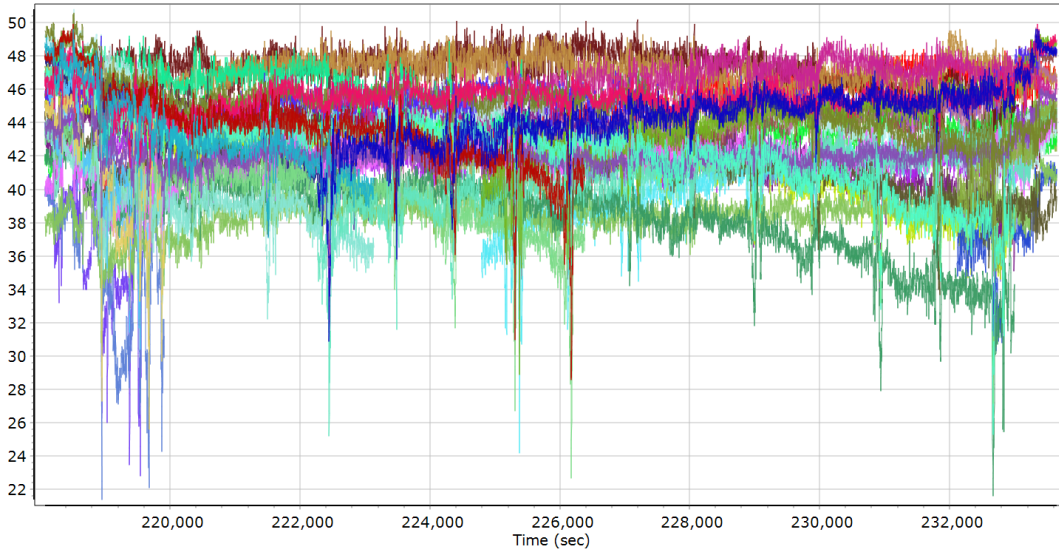


### GALILEO Satellite Lock/Elevation





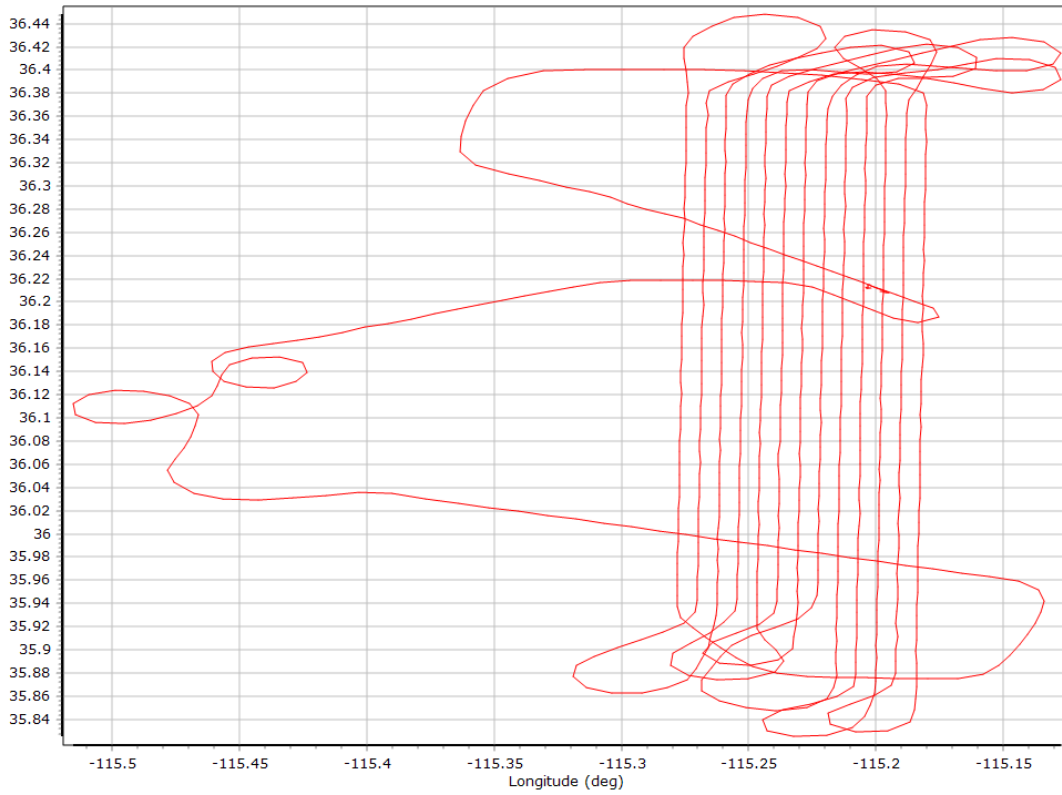
## GALILEO SNR



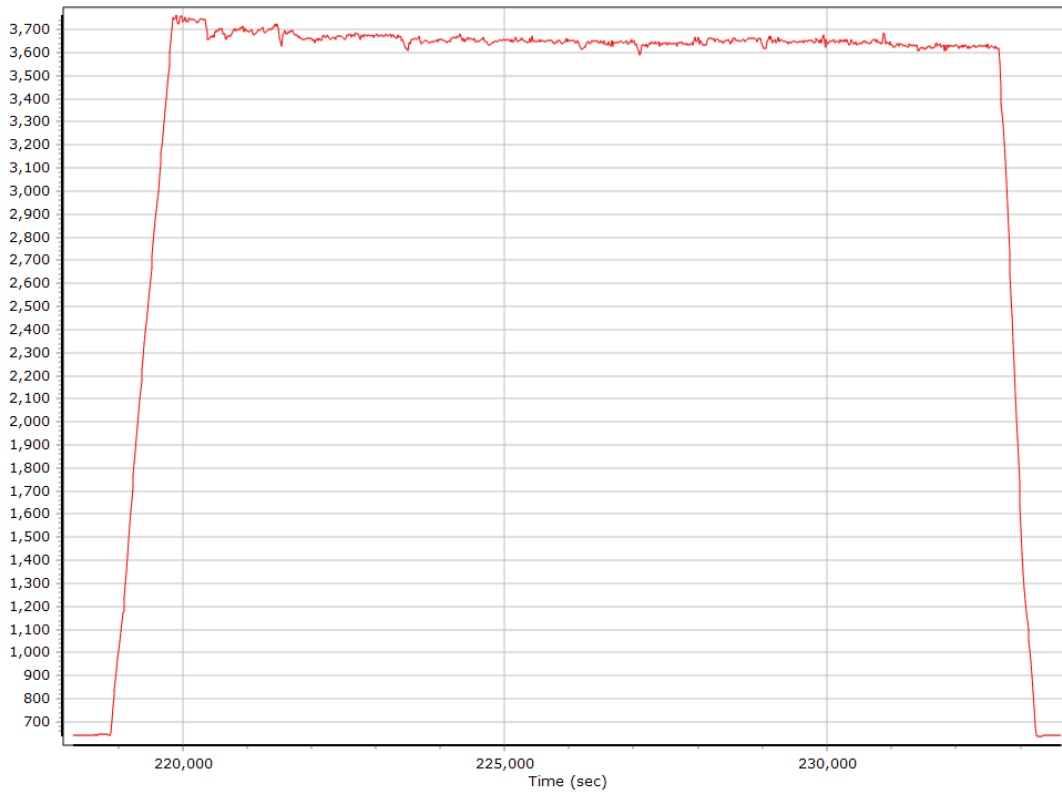
— GALILEO 02 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 03 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 04 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 05 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 11 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 12 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 24 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 25 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 31 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 33 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 04 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 11 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 12 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 24 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 25 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 31 L5E5A BPSK10_PD SNR (dB/Hz)

## Smoothed Trajectory Information

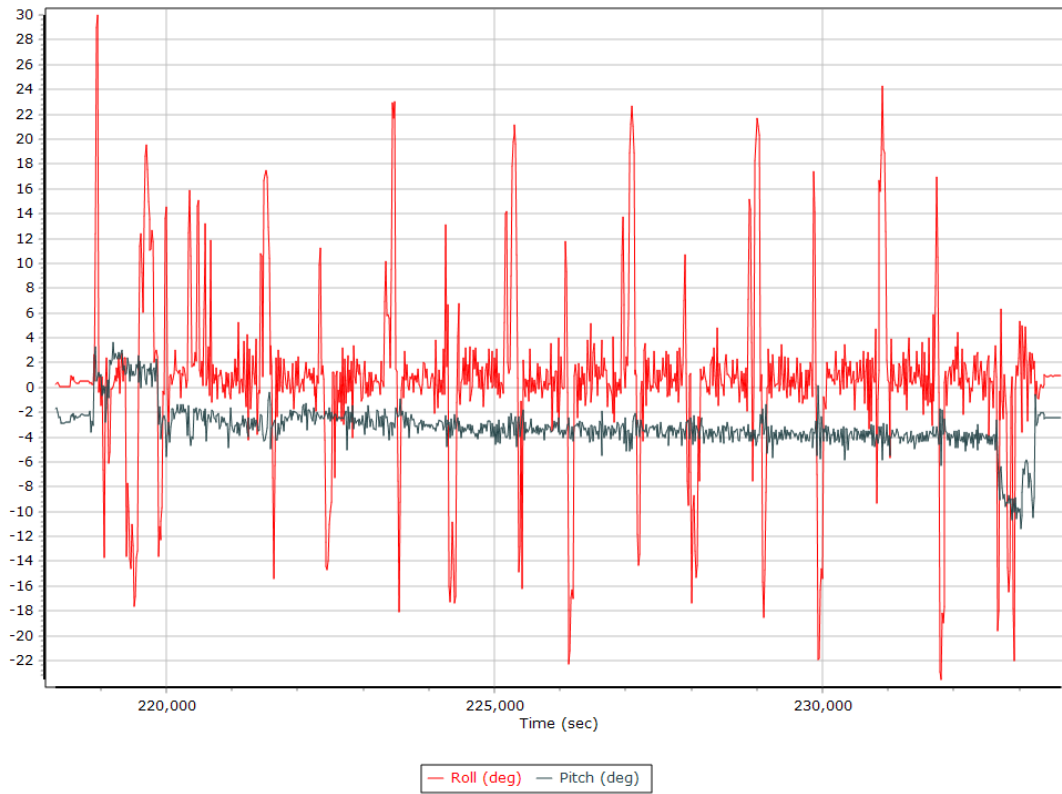
### Top View



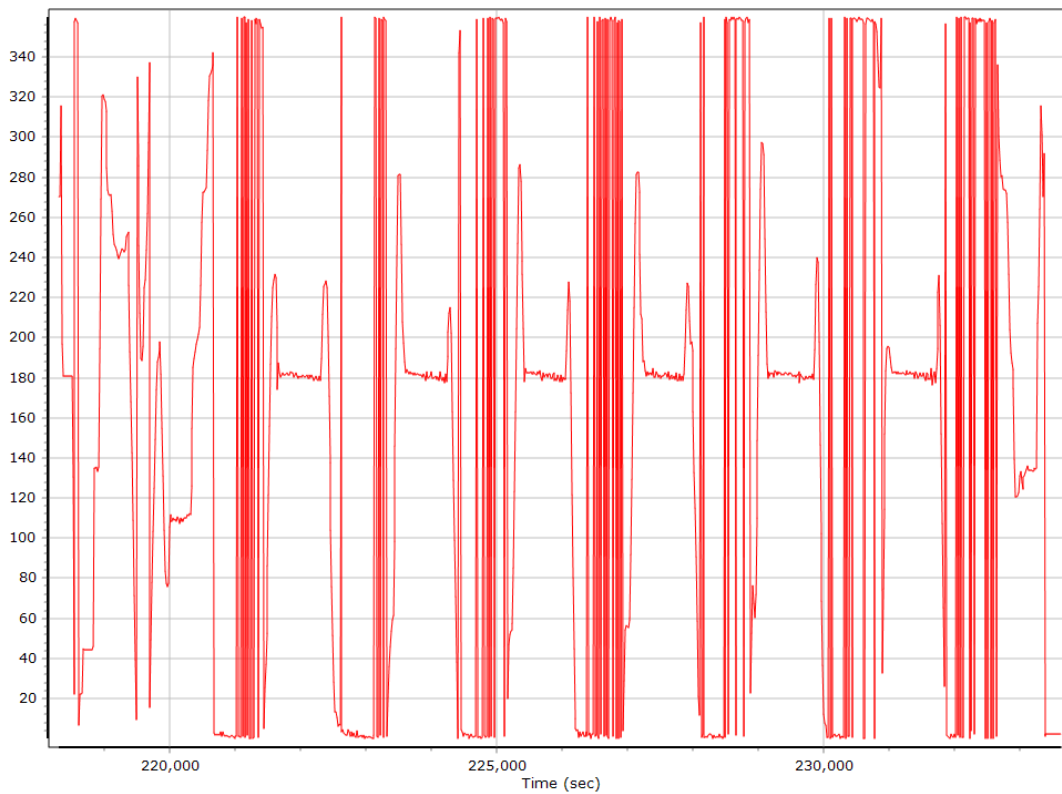
### Altitude



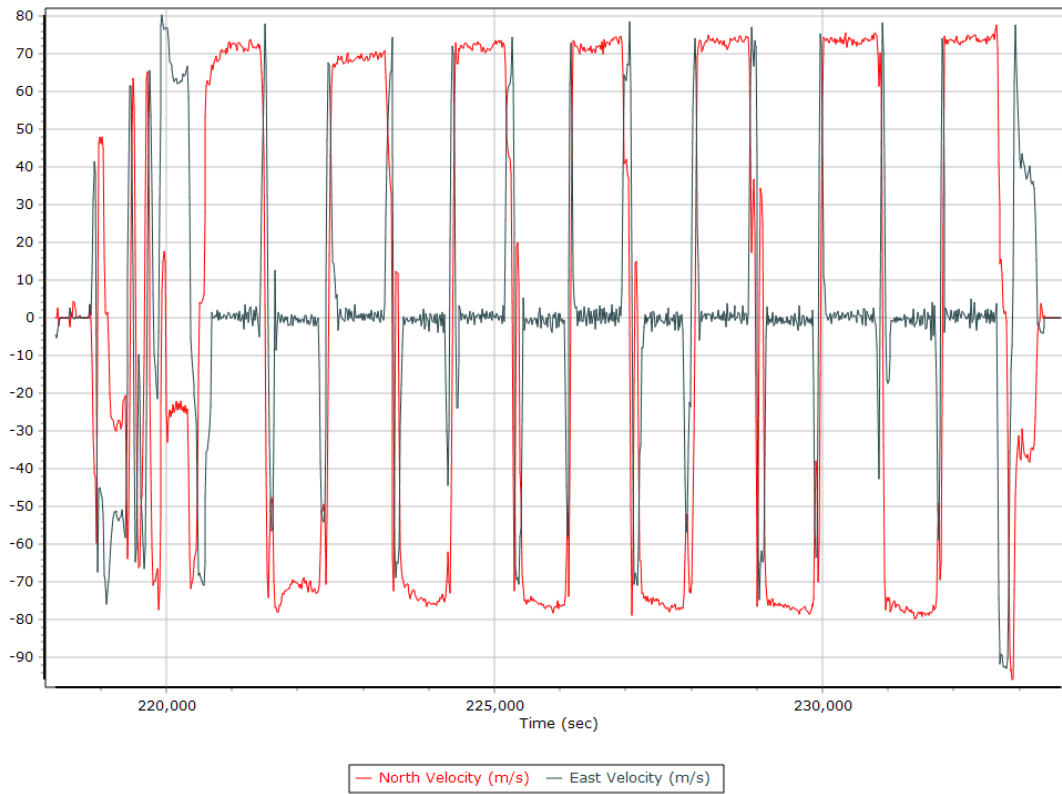
## Roll/Pitch



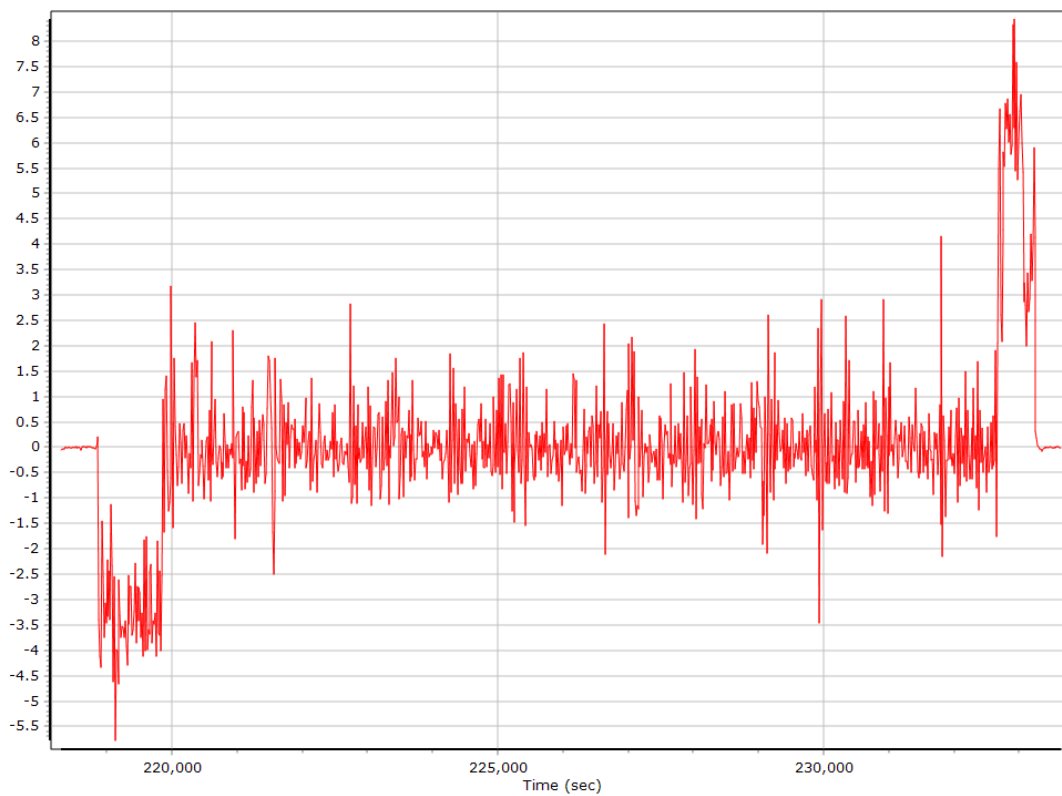
## Heading



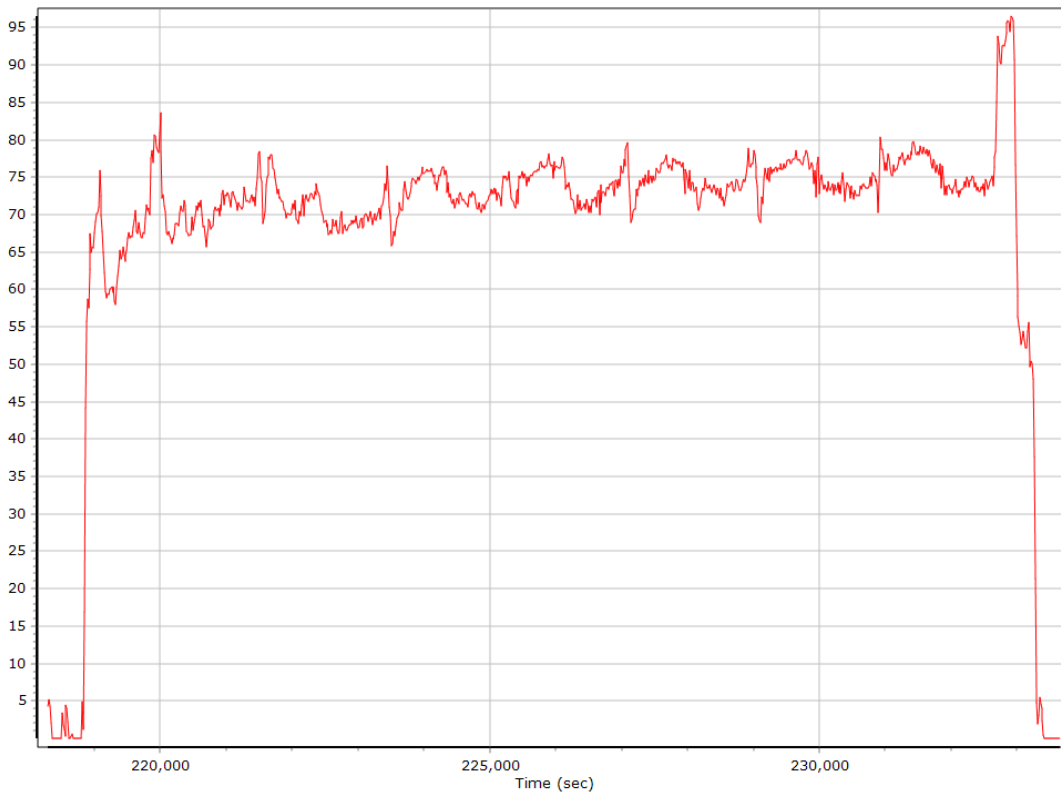
## North/East Velocity



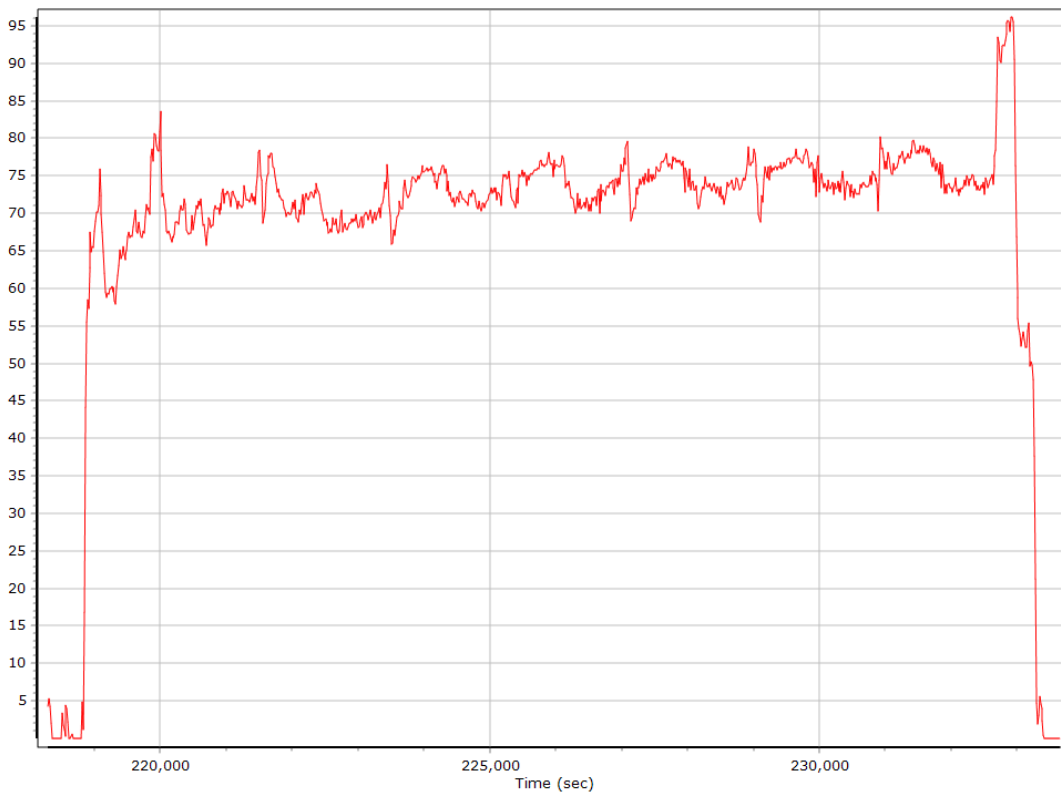
## Down Velocity



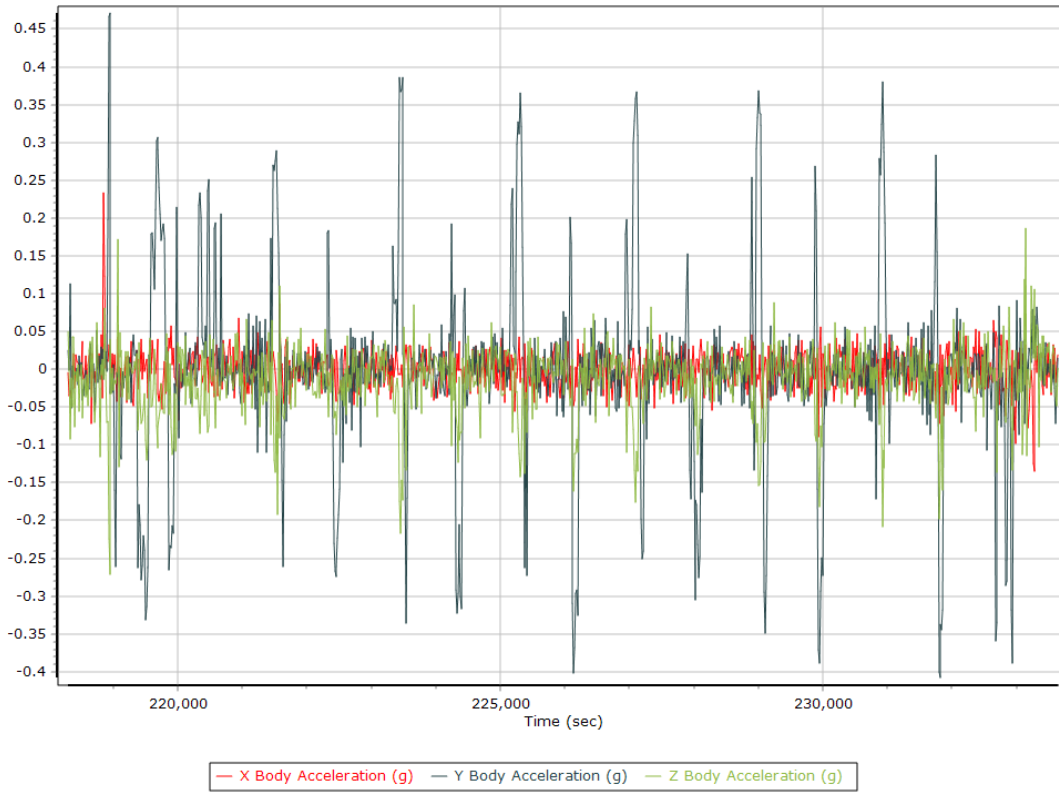
## Total Speed



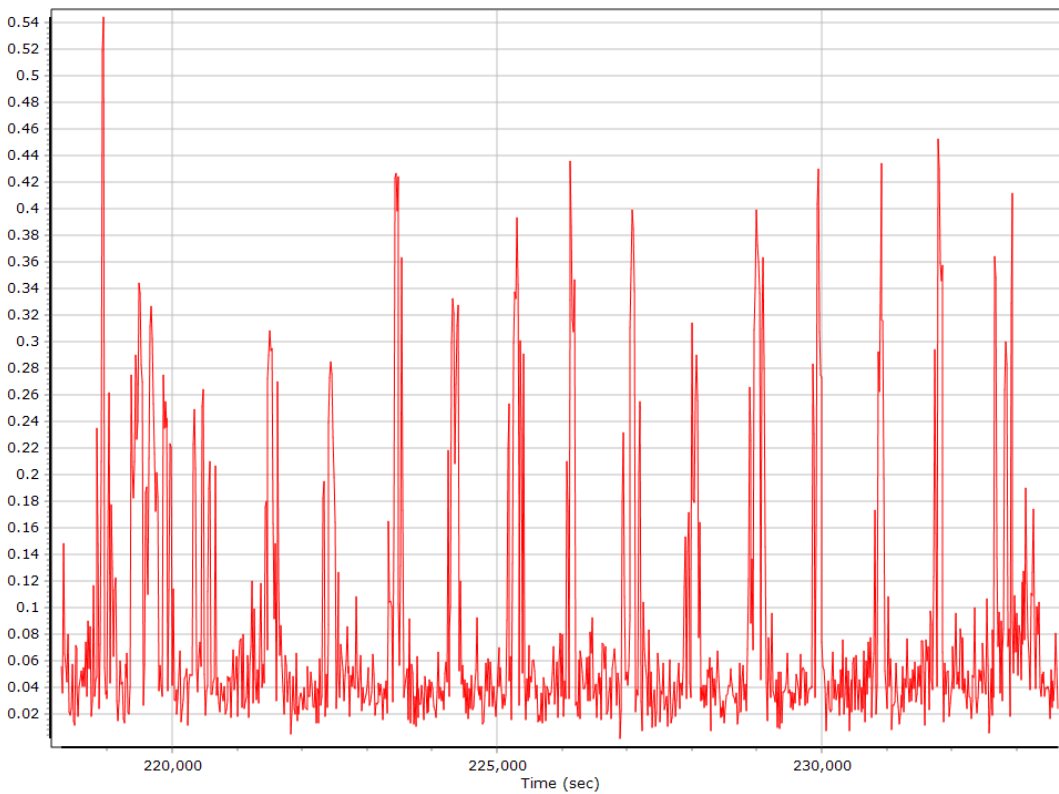
## Ground Speed



## Body Acceleration



## Total Body Acceleration

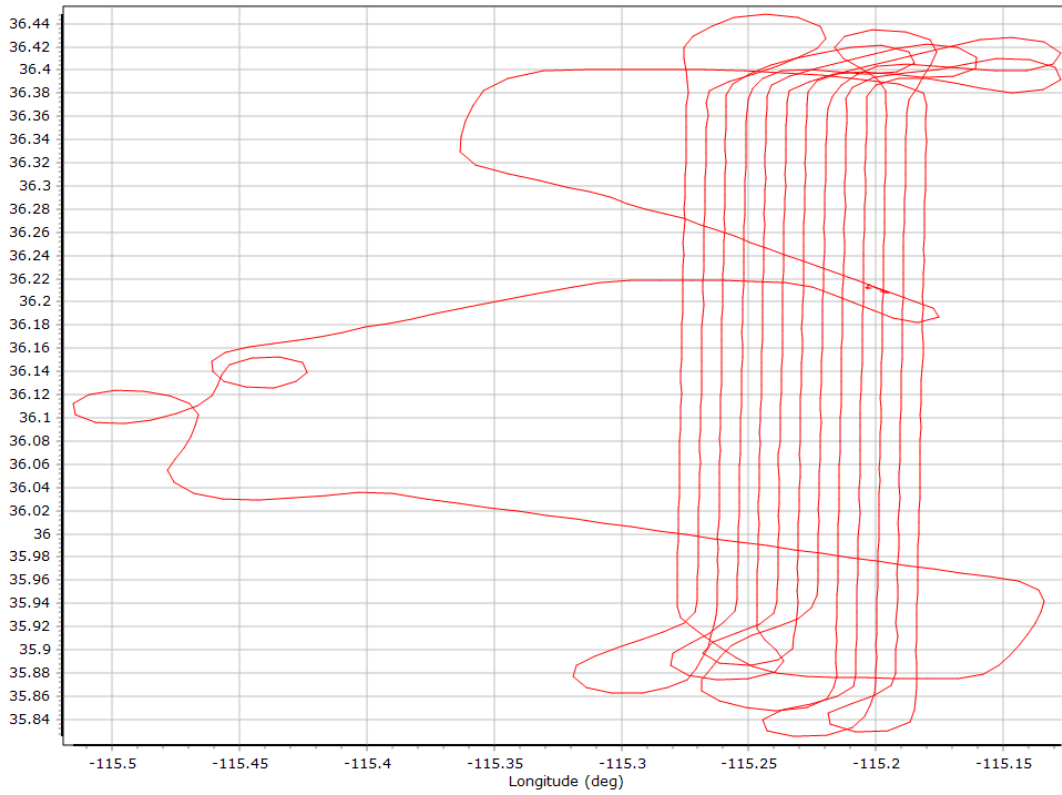


## Body Angular Rate

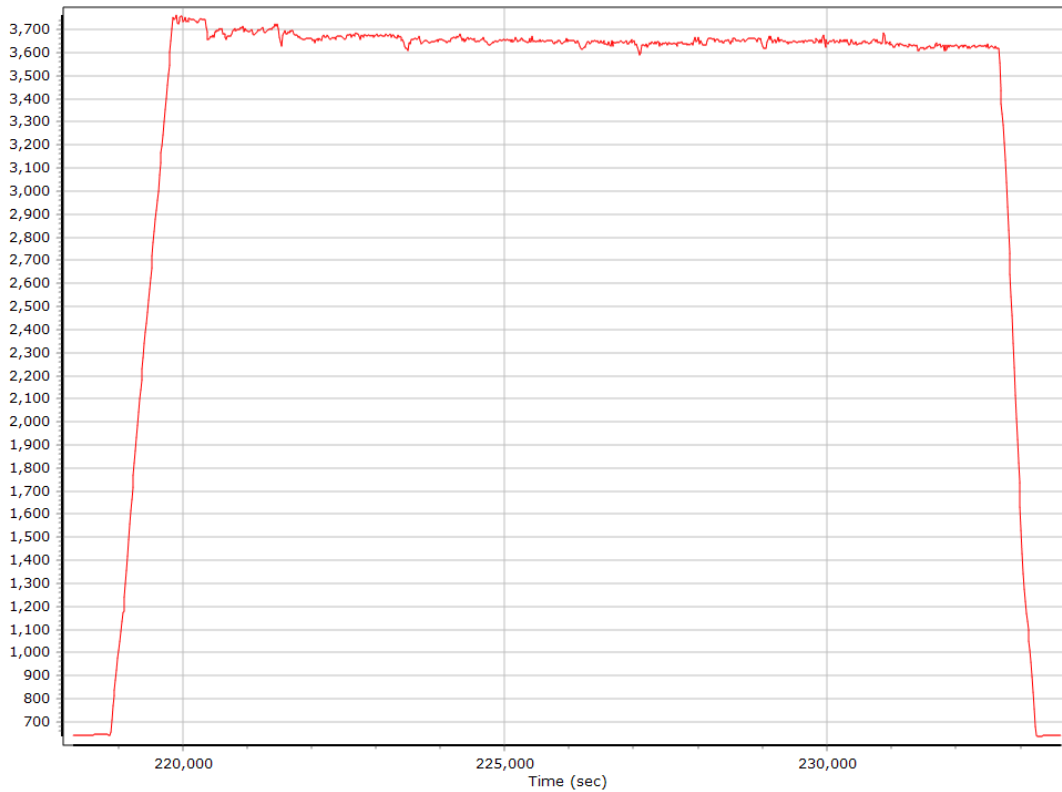


## Forward Processed Trajectory Information

### Top View

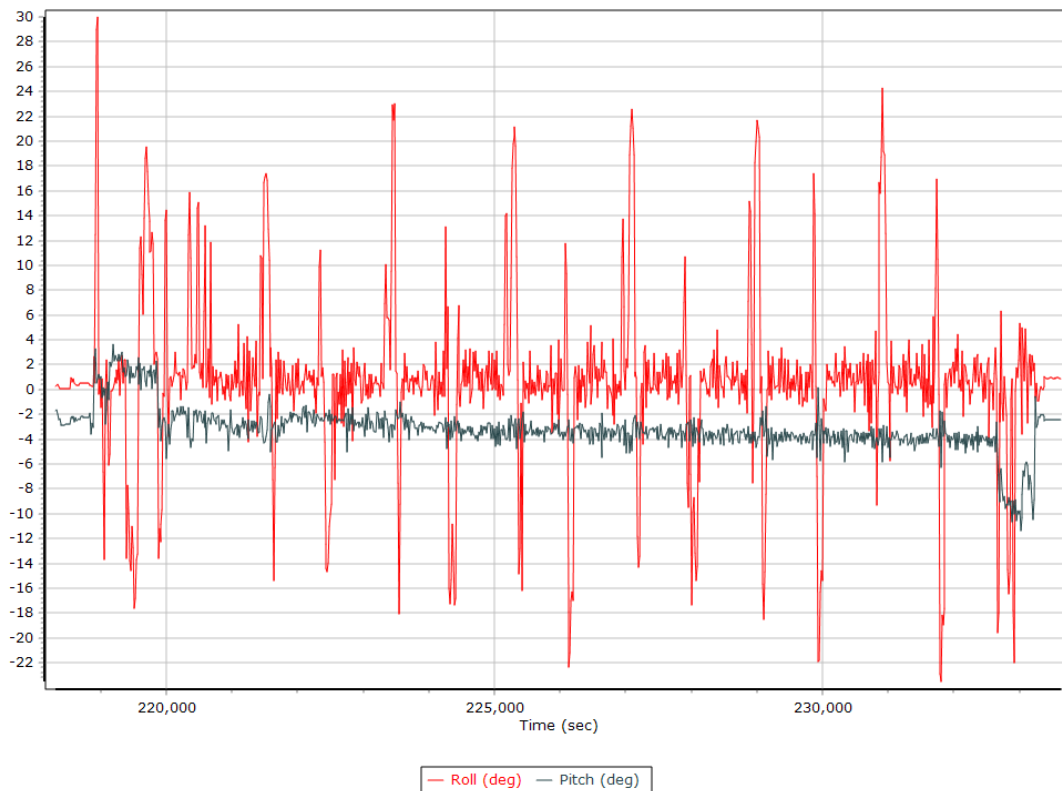


### Altitude

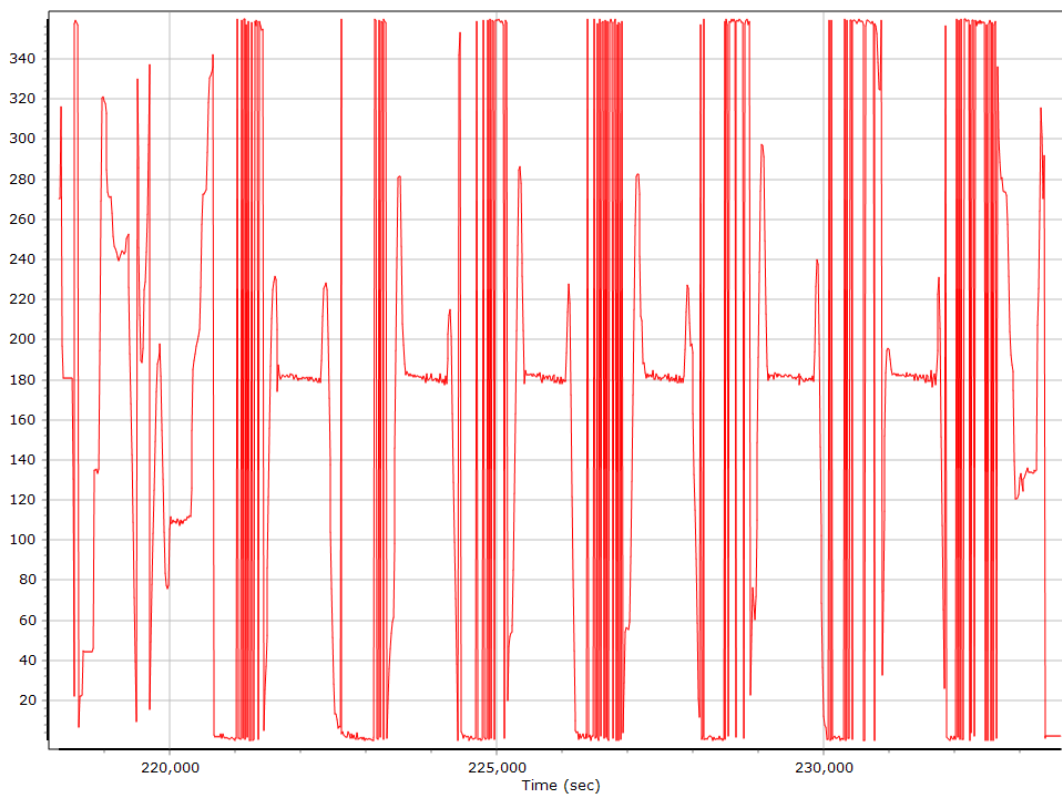




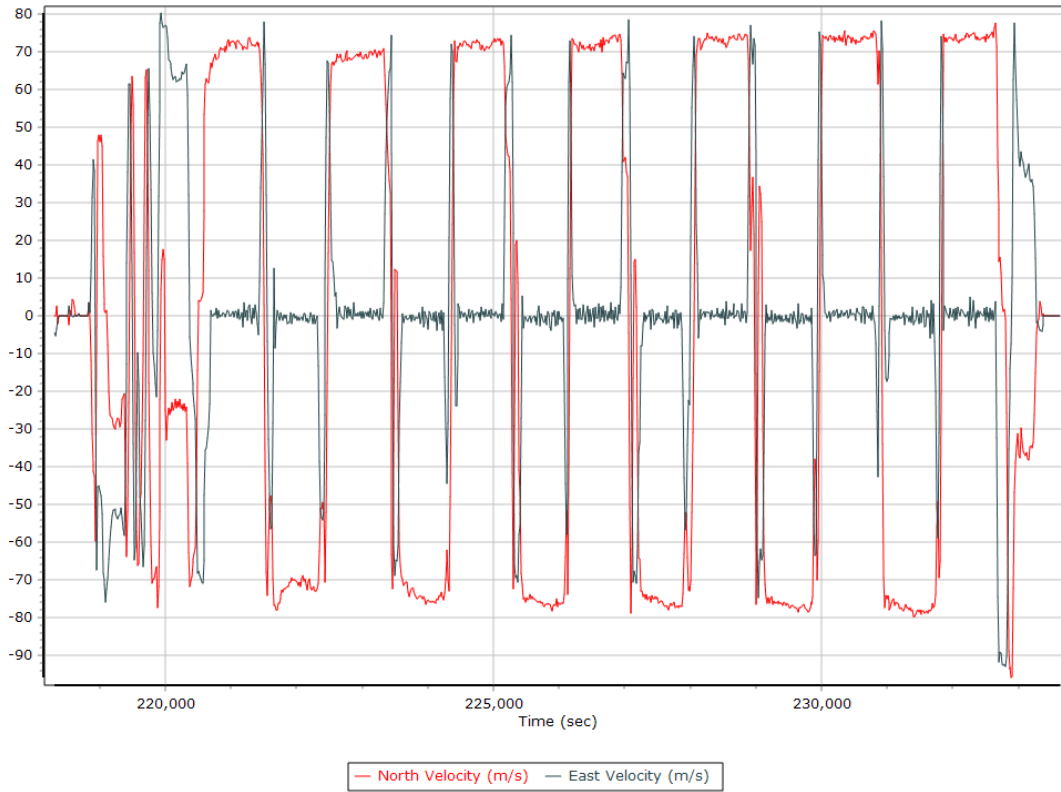
## Roll/Pitch



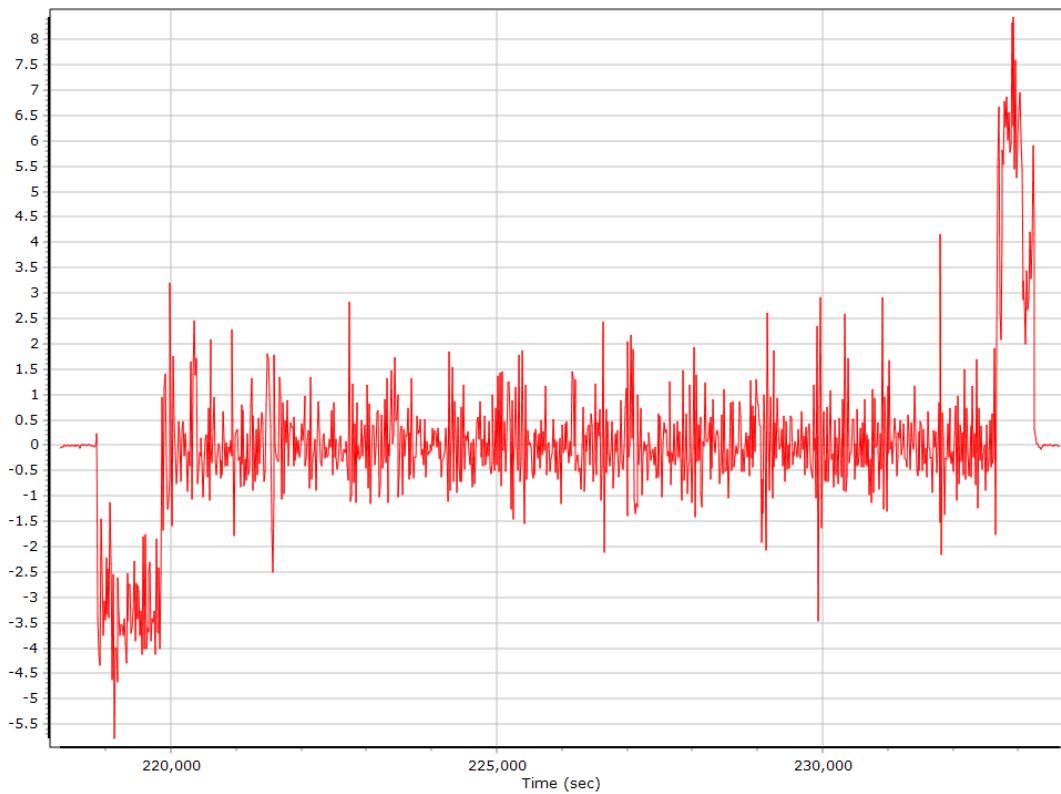
## Heading



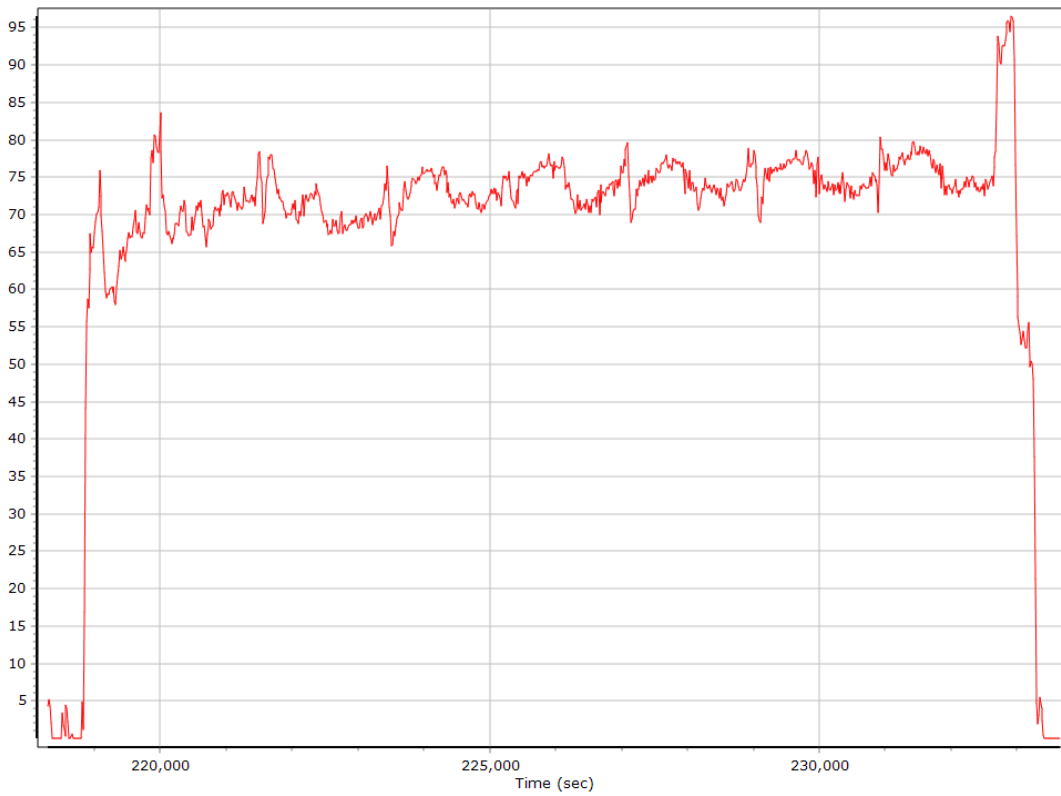
## North/East Velocity



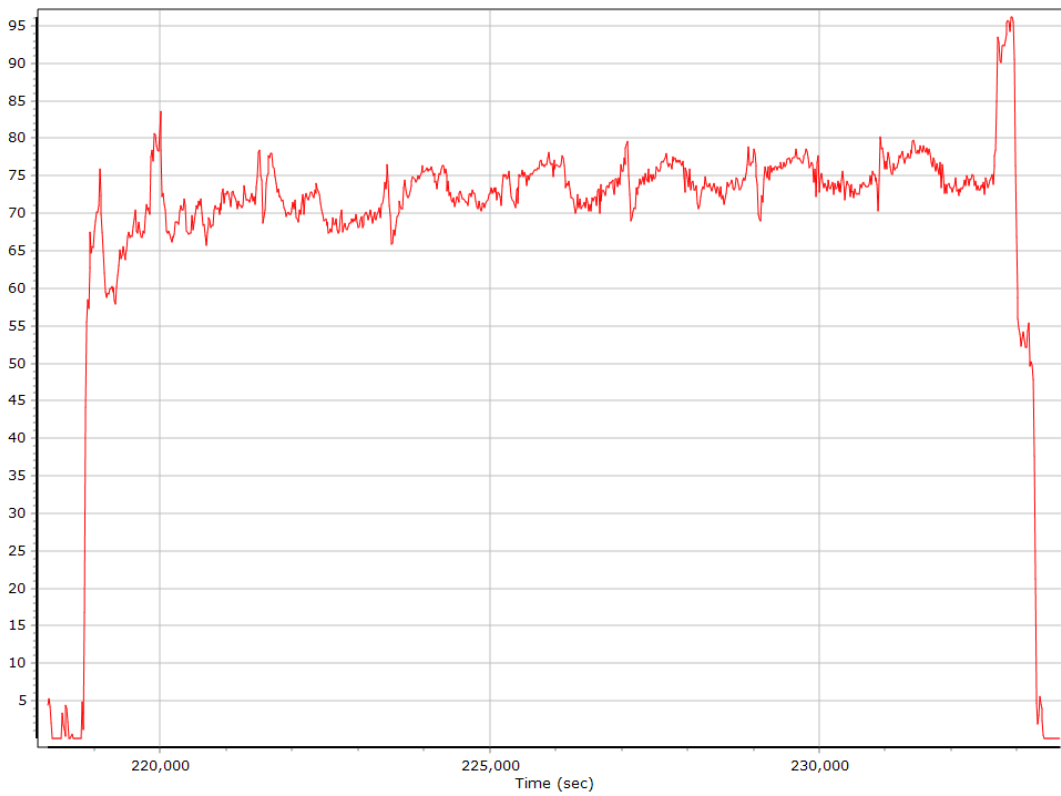
## Down Velocity



## Total Speed



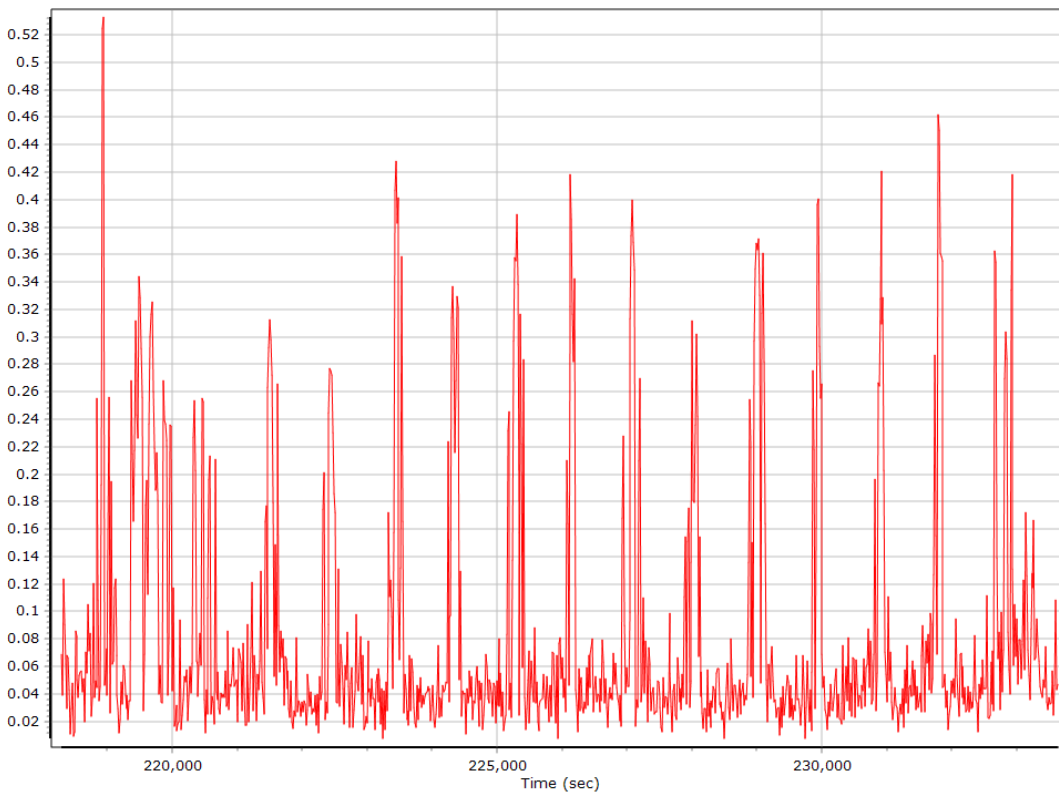
## Ground Speed



## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

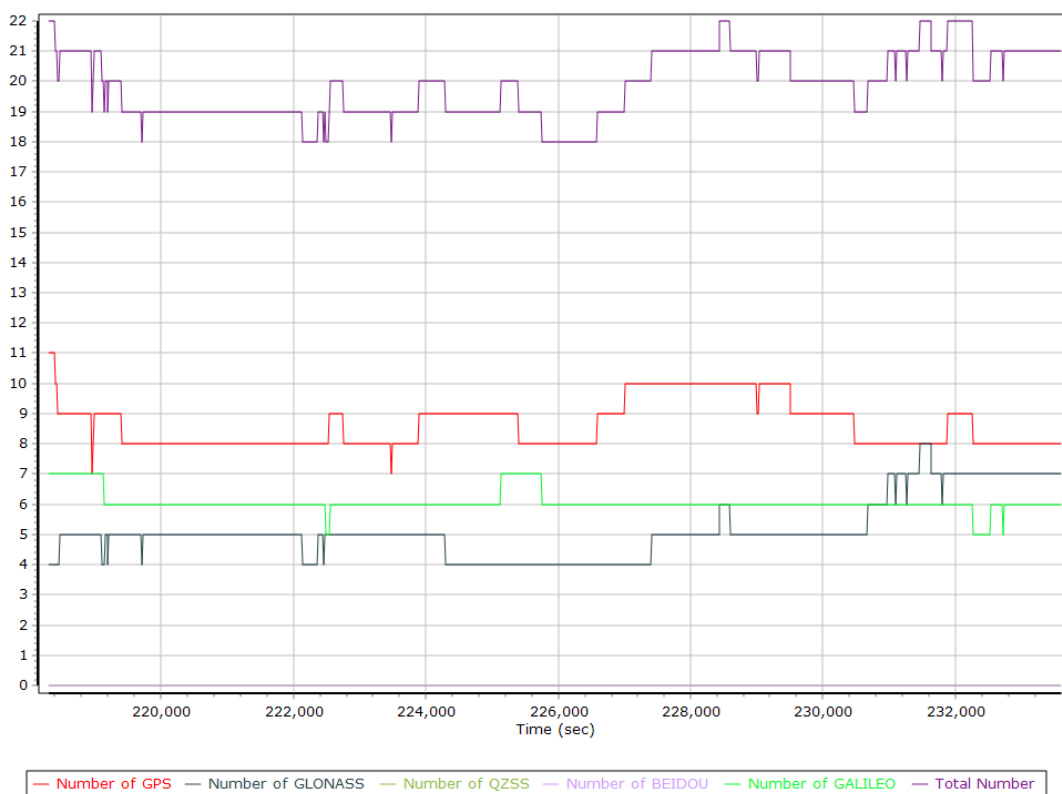


## GNSS QC

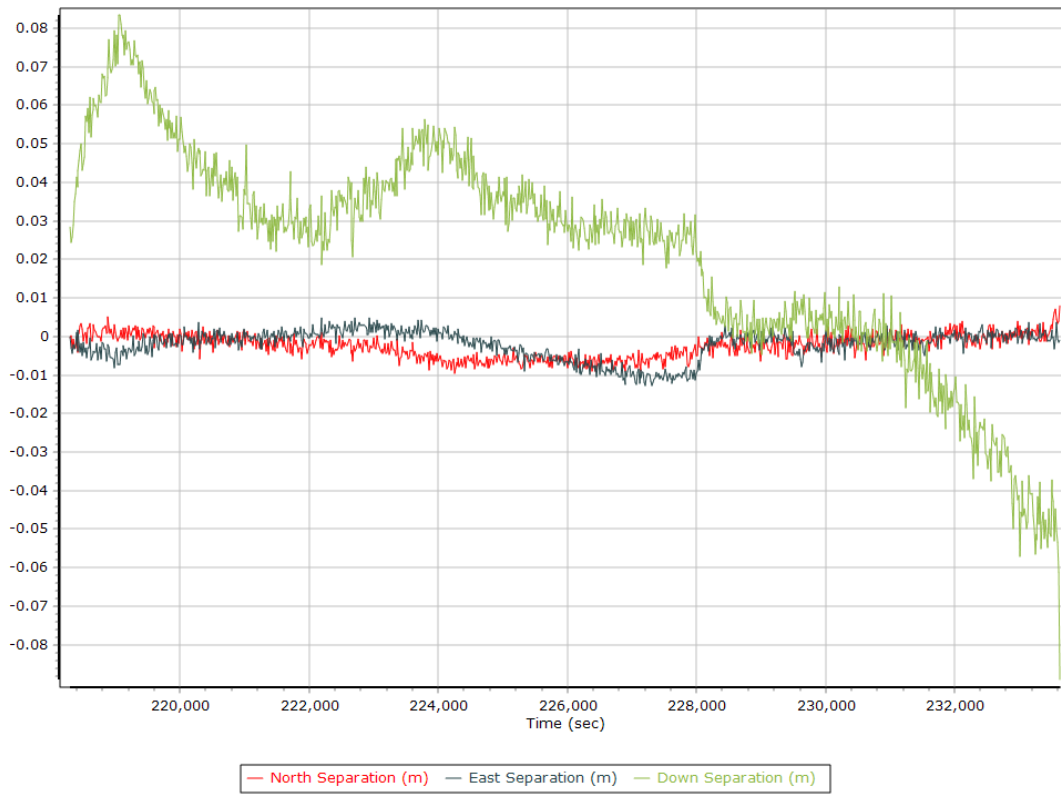
### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	6	11	9
Number of GLONASS SV	3	8	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	20
PDOP	1.03	2.34	1.21
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	15525.00	0.00	0.00
Percentage	100.00	0.00	0.00

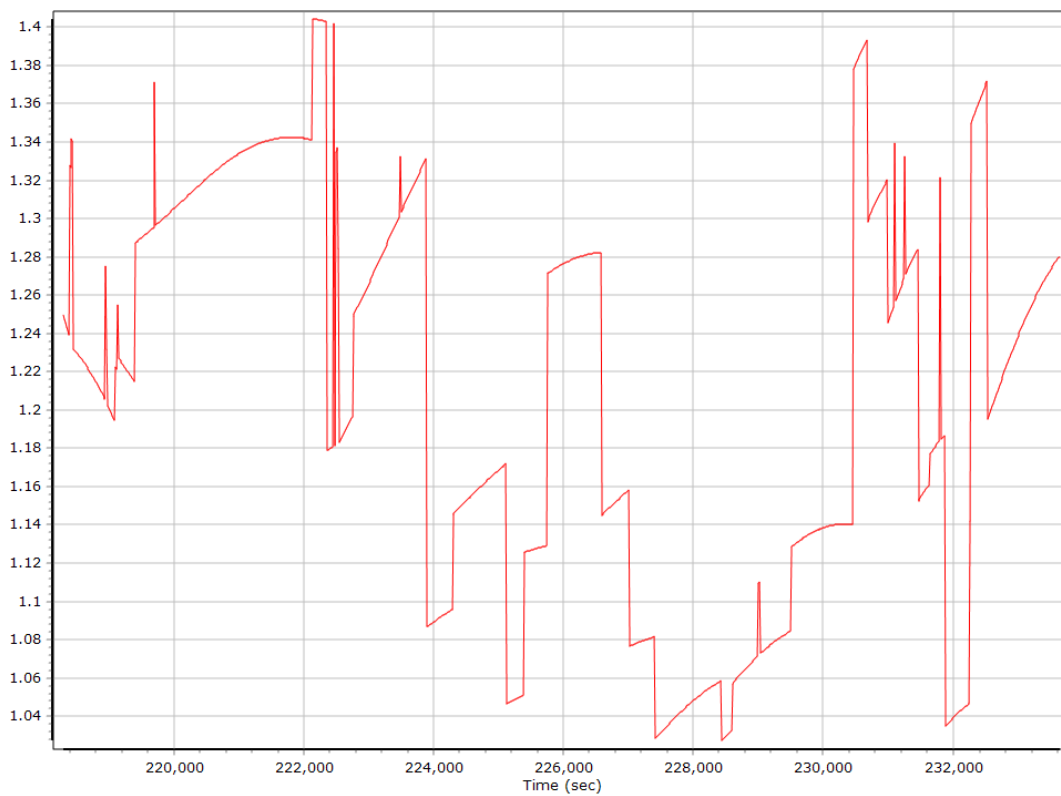
### Num SVs in solution



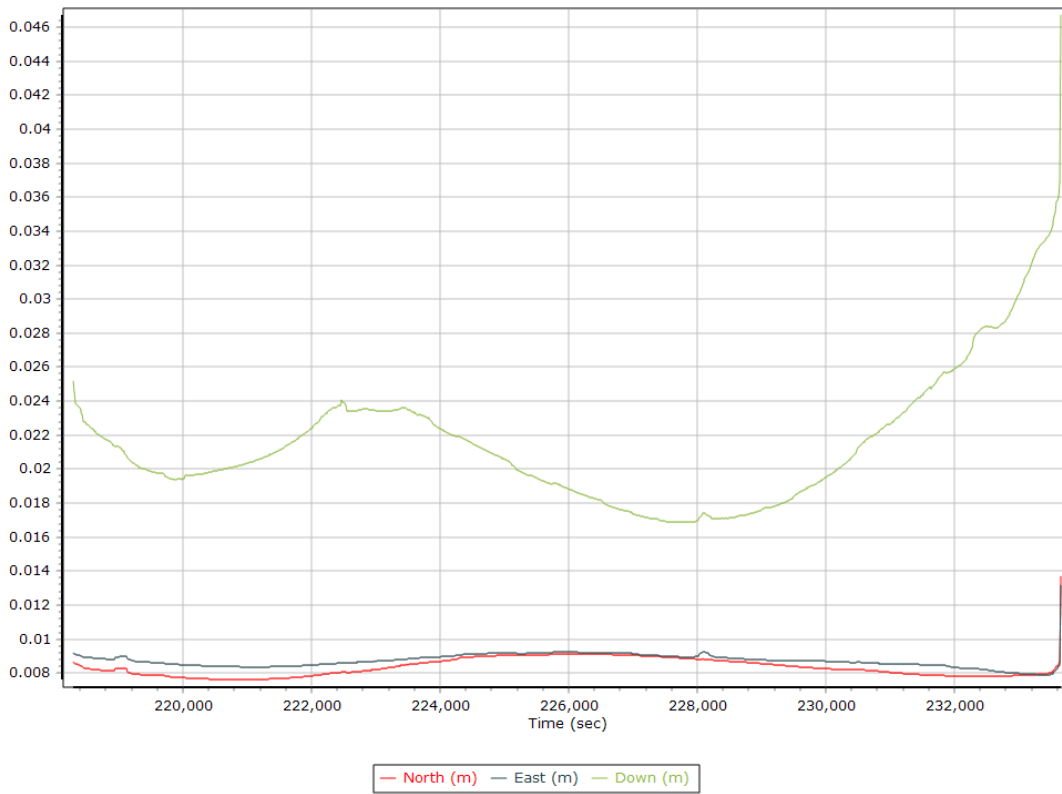
## Forward/Reverse Separation



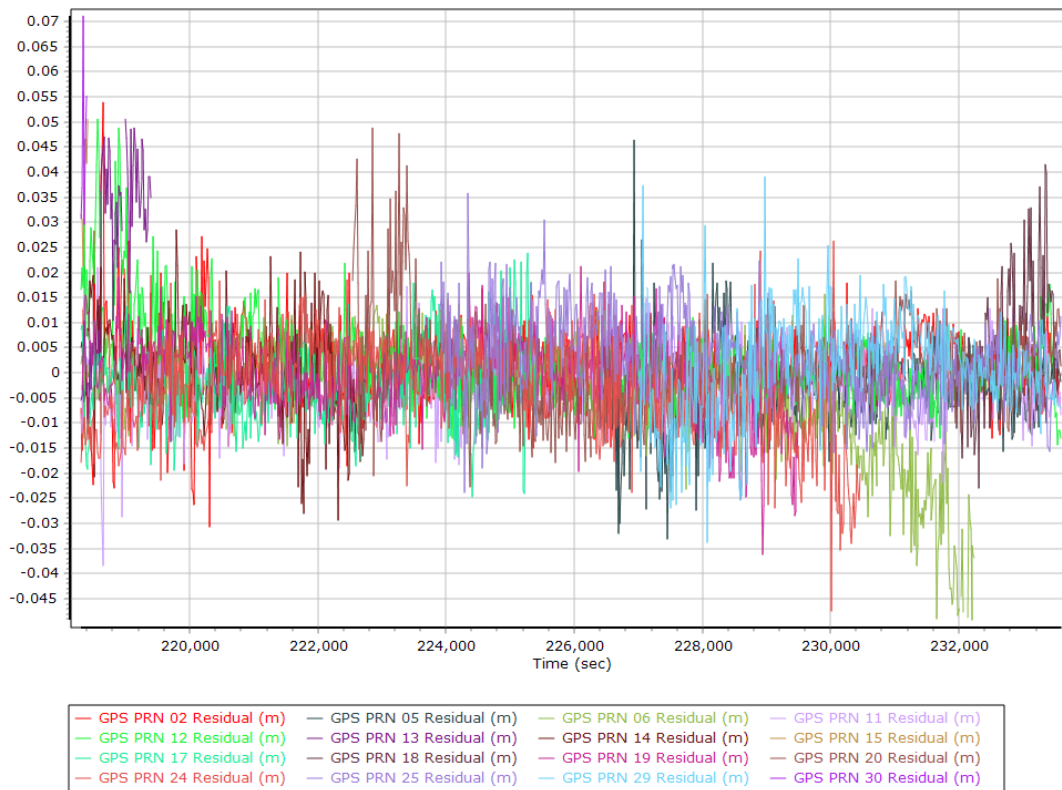
## PDOP



## Estimated Position Accuracy

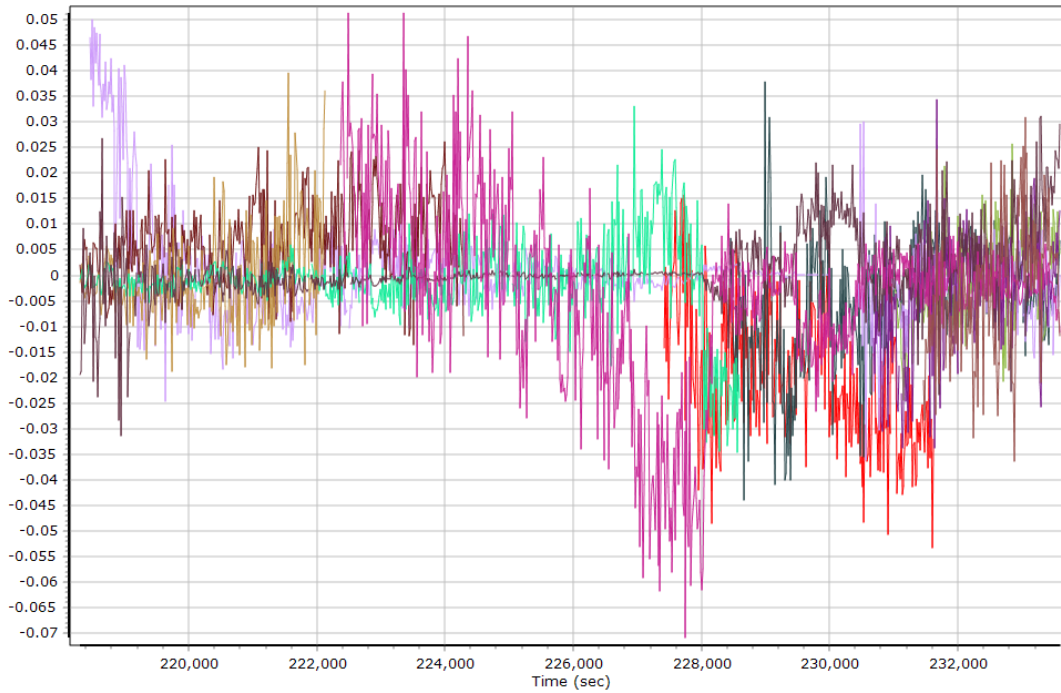


## GPS Residuals



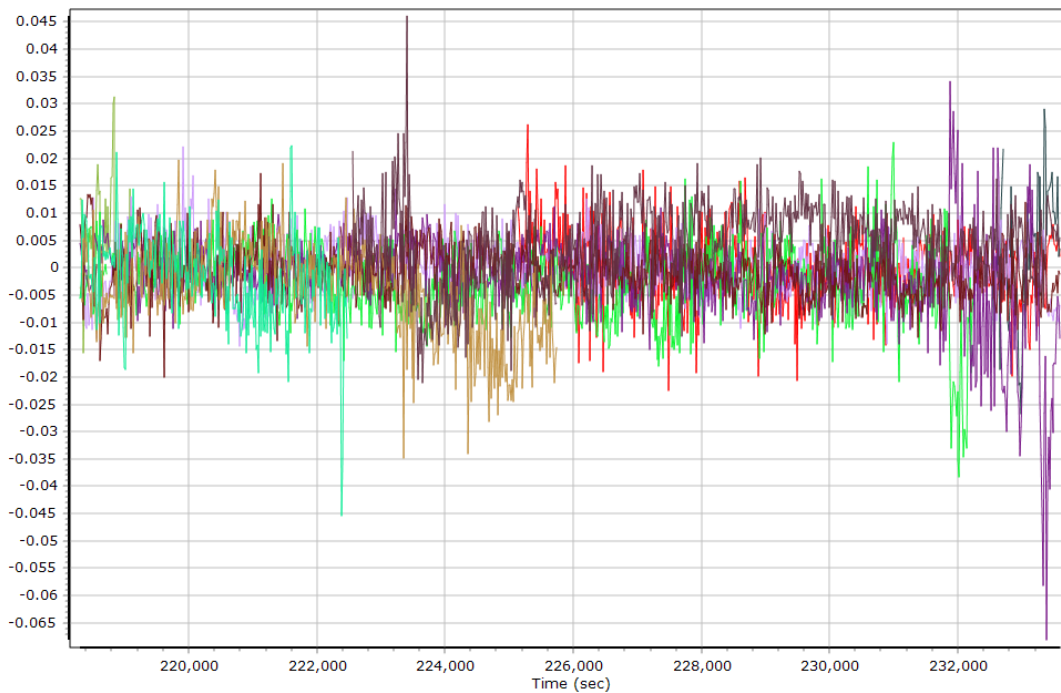


## GLONASS Residuals



- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GLONASS 03 Residual (m) | GLONASS 04 Residual (m) | GLONASS 05 Residual (m) | GLONASS 09 Residual (m) |
| GLONASS 10 Residual (m) | GLONASS 11 Residual (m) | GLONASS 15 Residual (m) | GLONASS 17 Residual (m) |
| GLONASS 18 Residual (m) | GLONASS 19 Residual (m) | GLONASS 20 Residual (m) | GLONASS 21 Residual (m) |

## GALILEO Residuals



- |                         |                         |                         |                         |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GALILEO 02 Residual (m) | GALILEO 04 Residual (m) | GALILEO 05 Residual (m) | GALILEO 11 Residual (m) |
| GALILEO 12 Residual (m) | GALILEO 24 Residual (m) | GALILEO 25 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	218079.000 (7/26/2022 12:34:21 PM)		
Processing end time	233647.000 (7/26/2022 4:53:49 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)	0.369	-0.427	-1.093
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

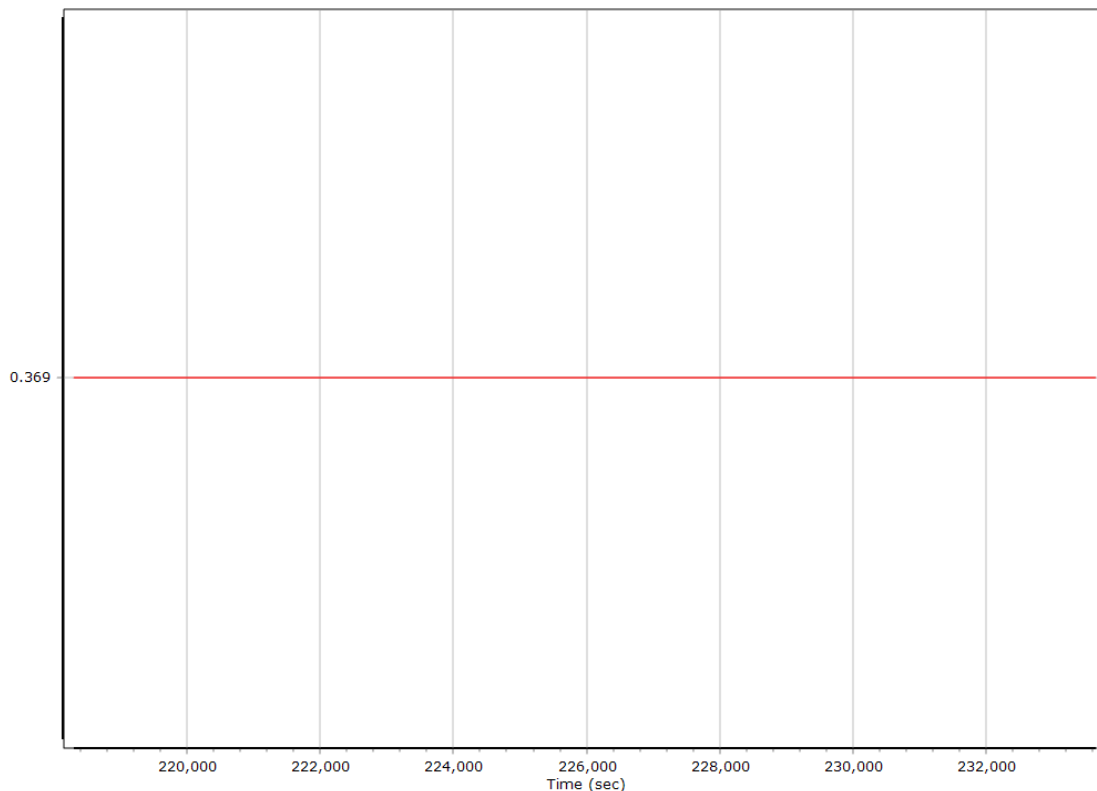
## Calibrated Installation Parameters

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

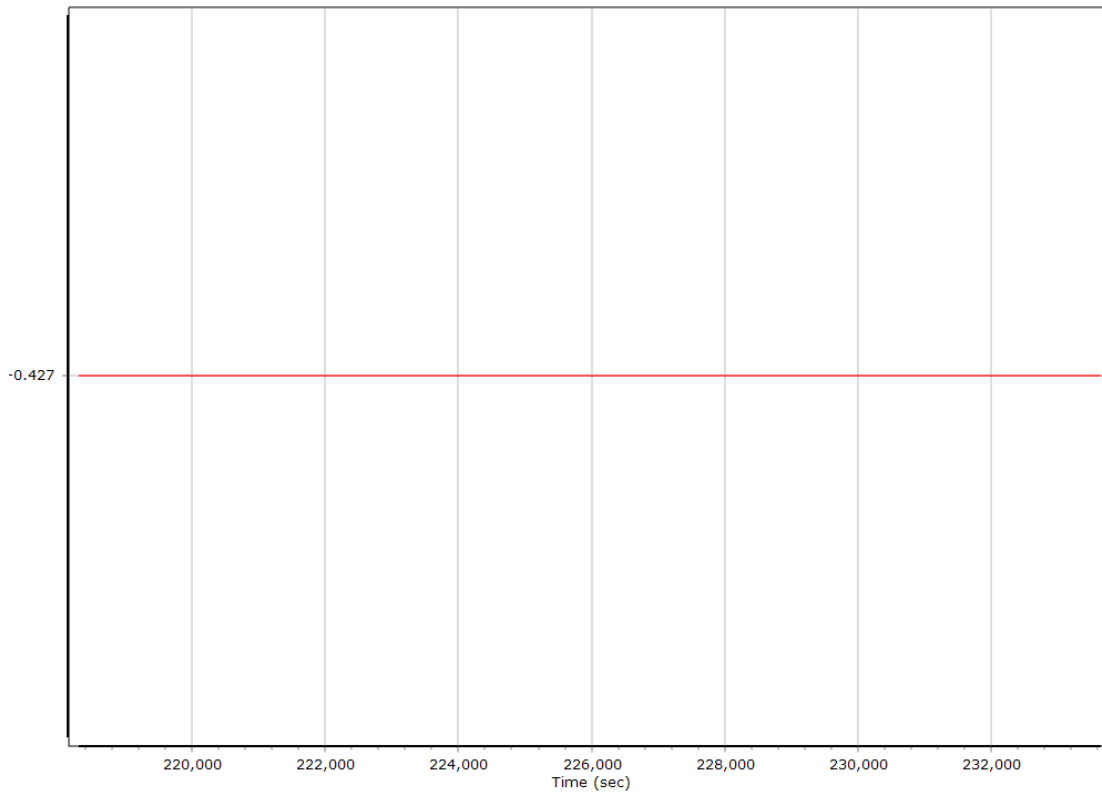
#### Reference-Primary GNSS Lever Arm Automatic Calibration Results

Original Reference to Primary GNSS lever arm (m)	0.361	-0.429	-0.945
Iteration 1 Reference to Primary GNSS lever arm (m)	0.369	-0.427	-1.092
Iteration 2 Reference to Primary GNSS lever arm (m)	0.369	-0.427	-1.093
Primary GNSS Lever Arm In use	Iteration 2		

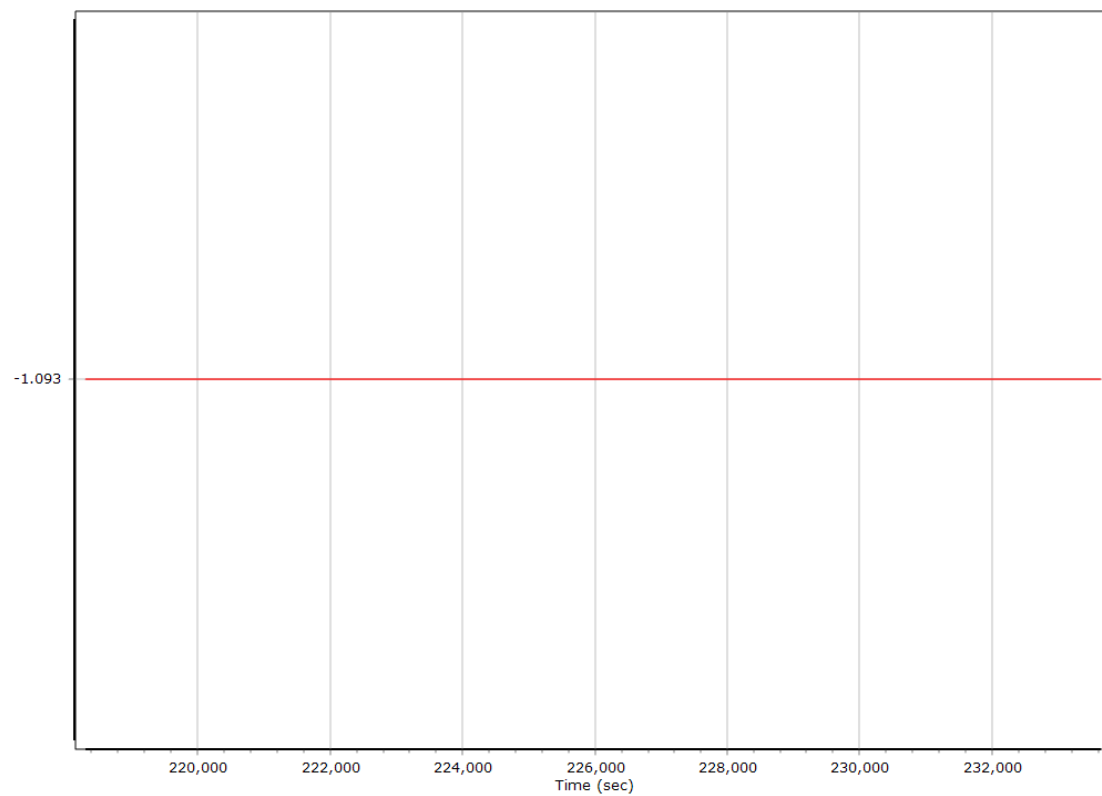
### X Reference-Primary GNSS Lever Arm (m)



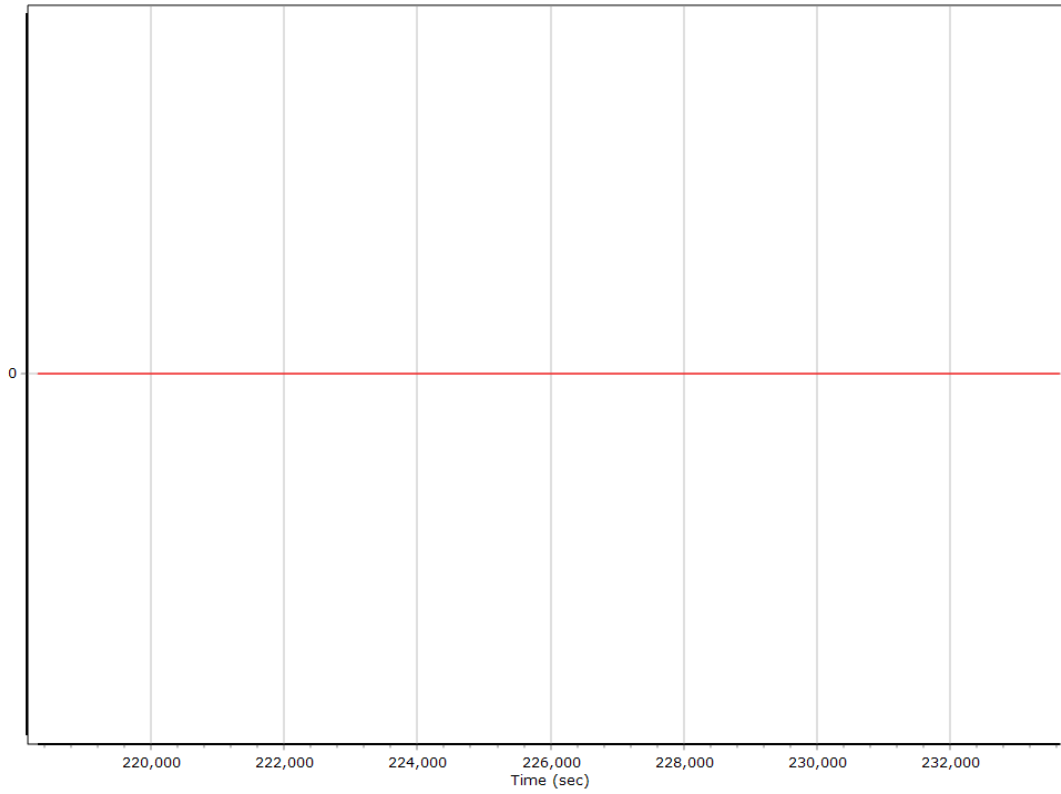
### Y Reference-Primary GNSS Lever Arm (m)



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



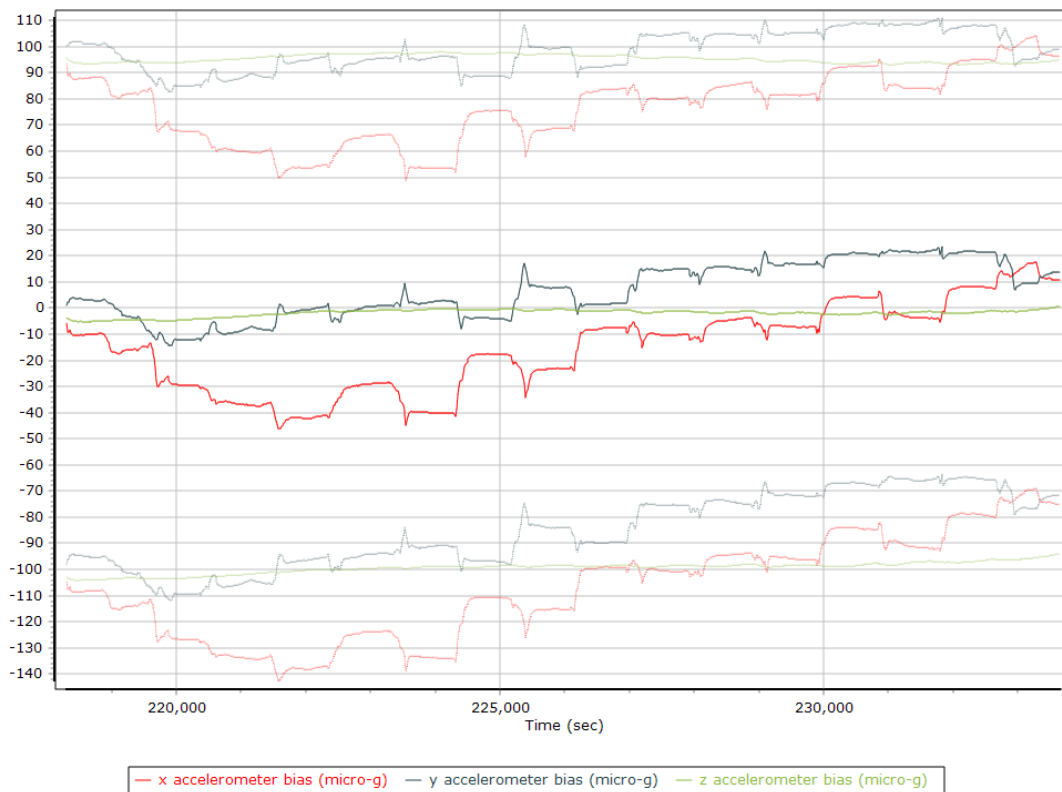
### Reference-Primary GNSS Lever Arm Figure of Merit



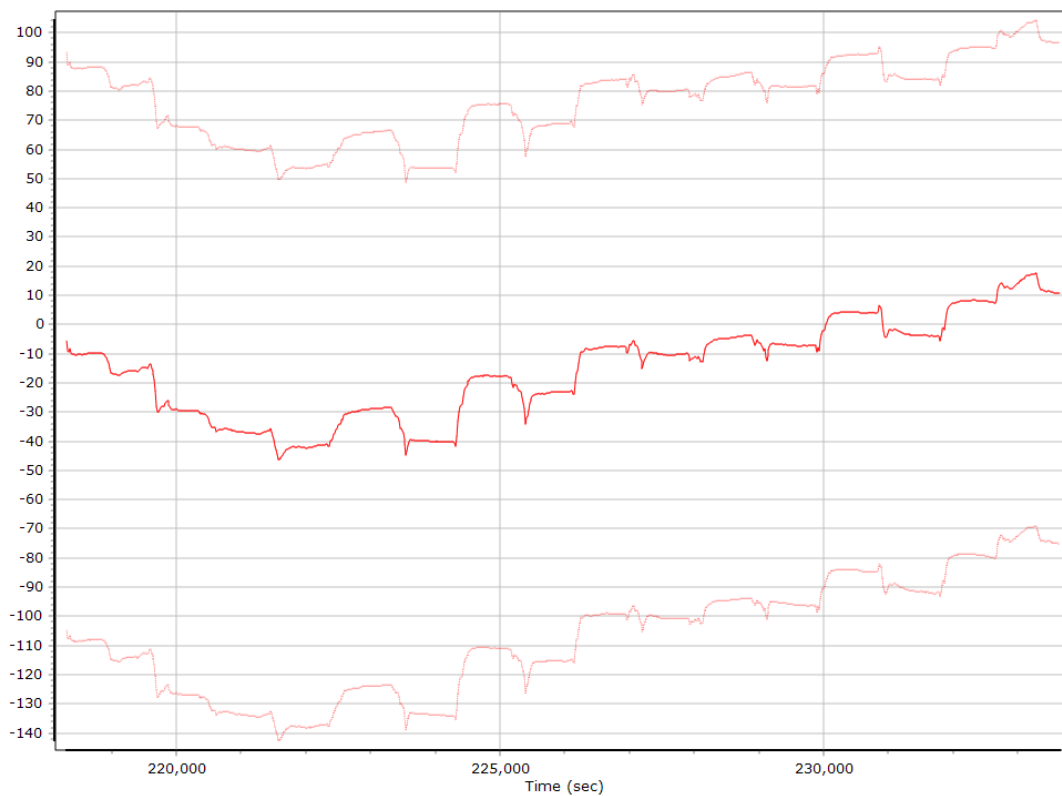
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

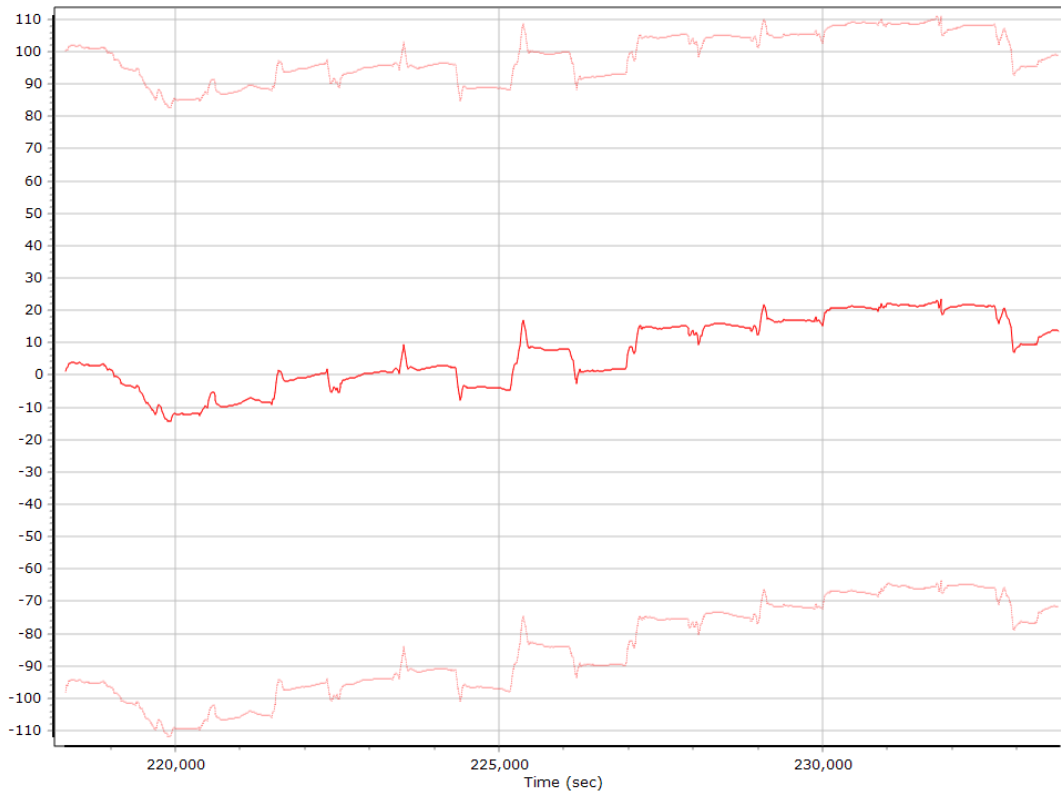
#### Accelerometer Bias (micro-g)



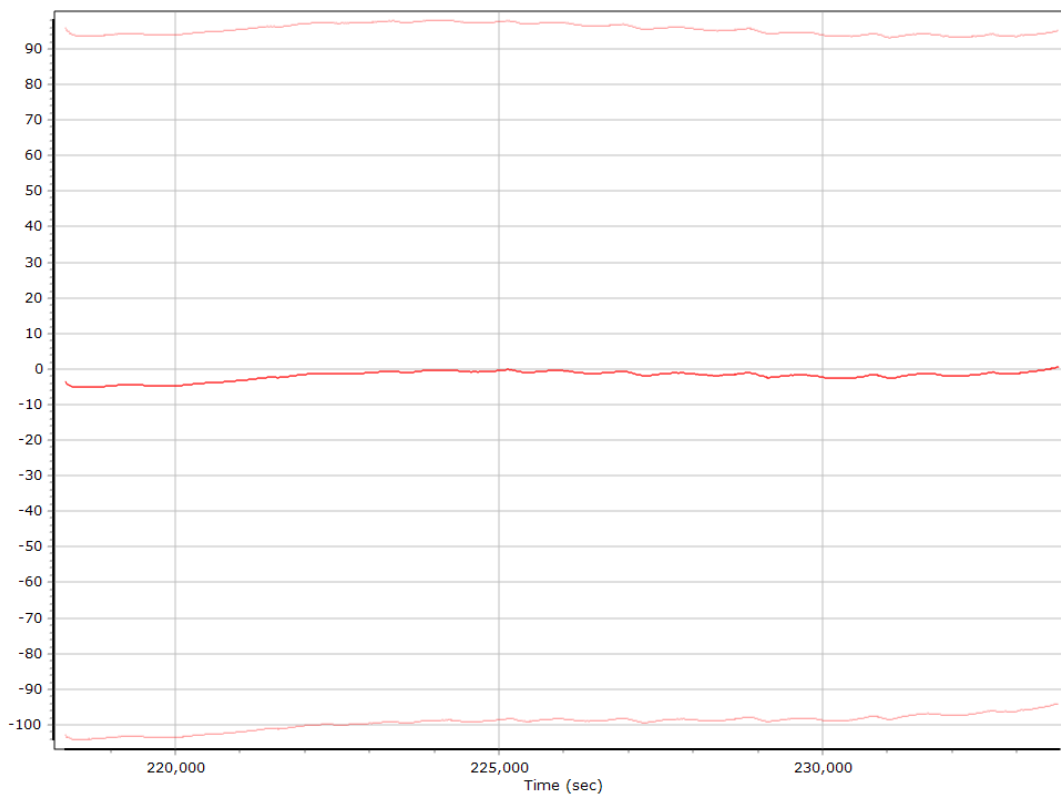
#### X Accelerometer Bias (micro-g)



### Y Accelerometer Bias (micro-g)



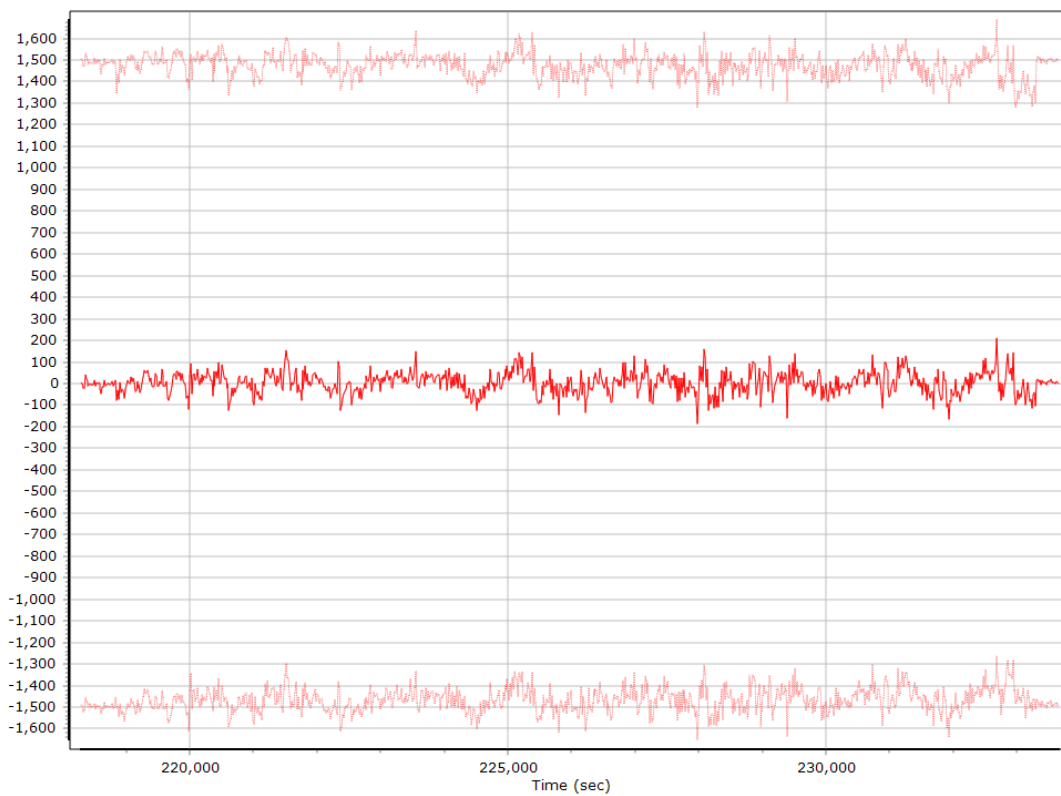
### Z Accelerometer Bias (micro-g)



### Accelerometer Scale Error (ppm)



### X Accelerometer Scale Error (ppm)





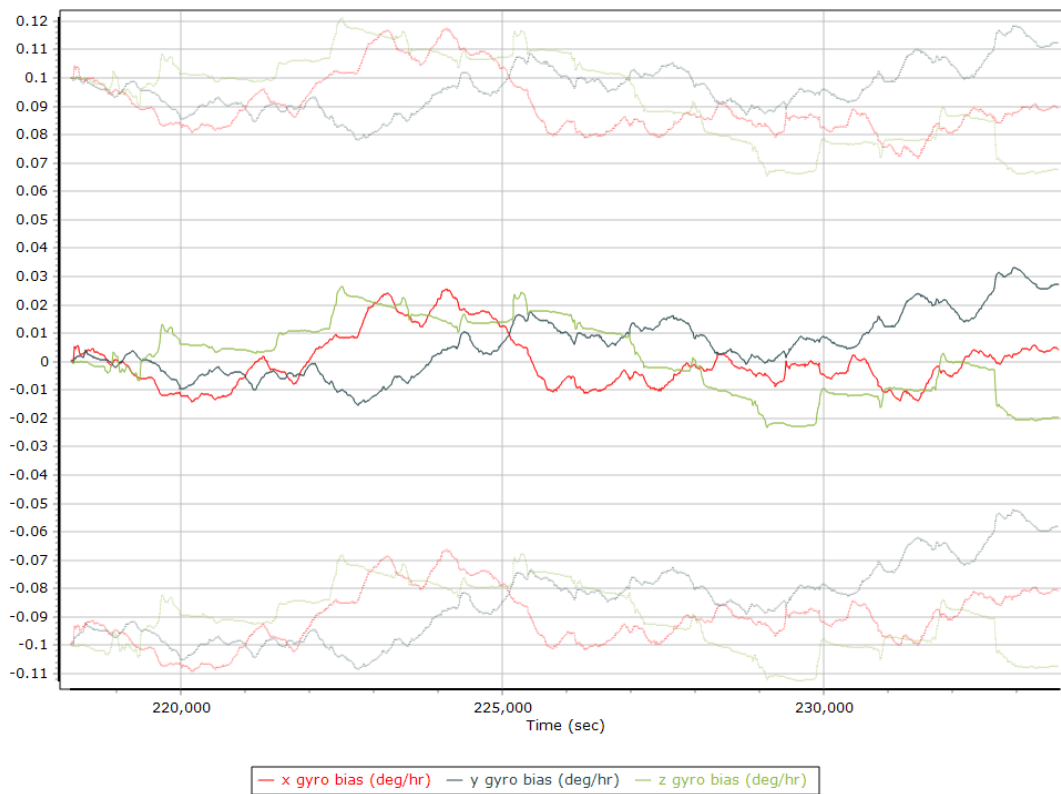
### Y Accelerometer Scale Error (ppm)



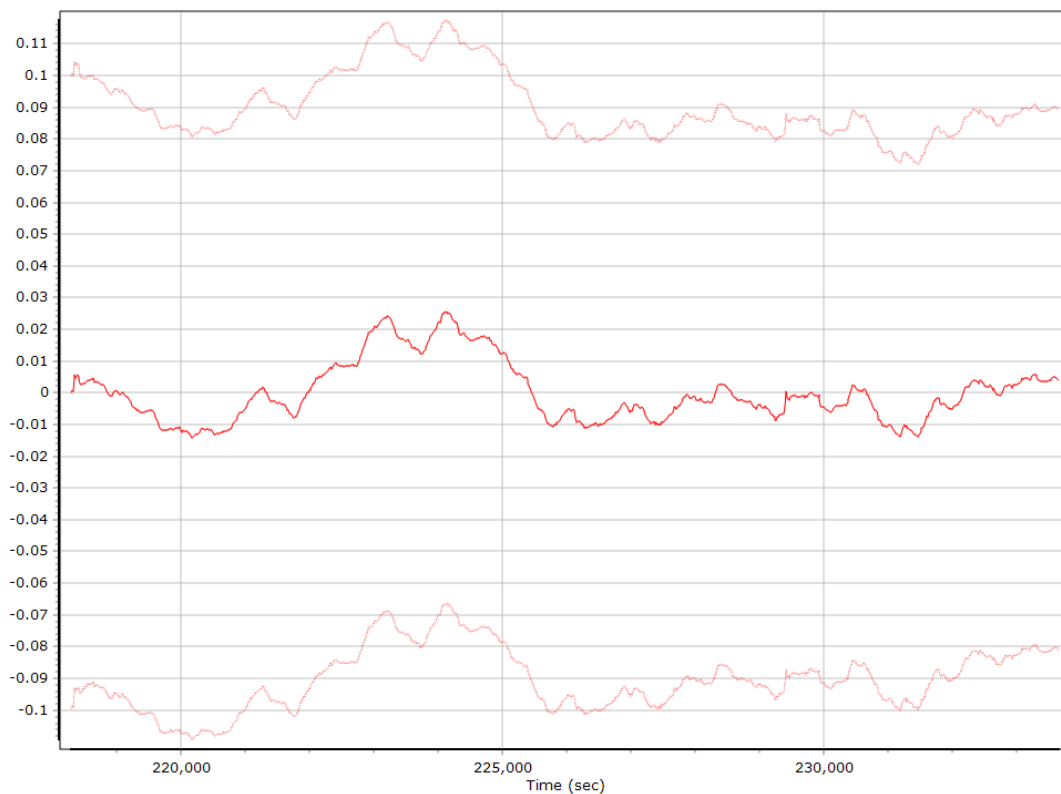
### Z Accelerometer Scale Error (ppm)



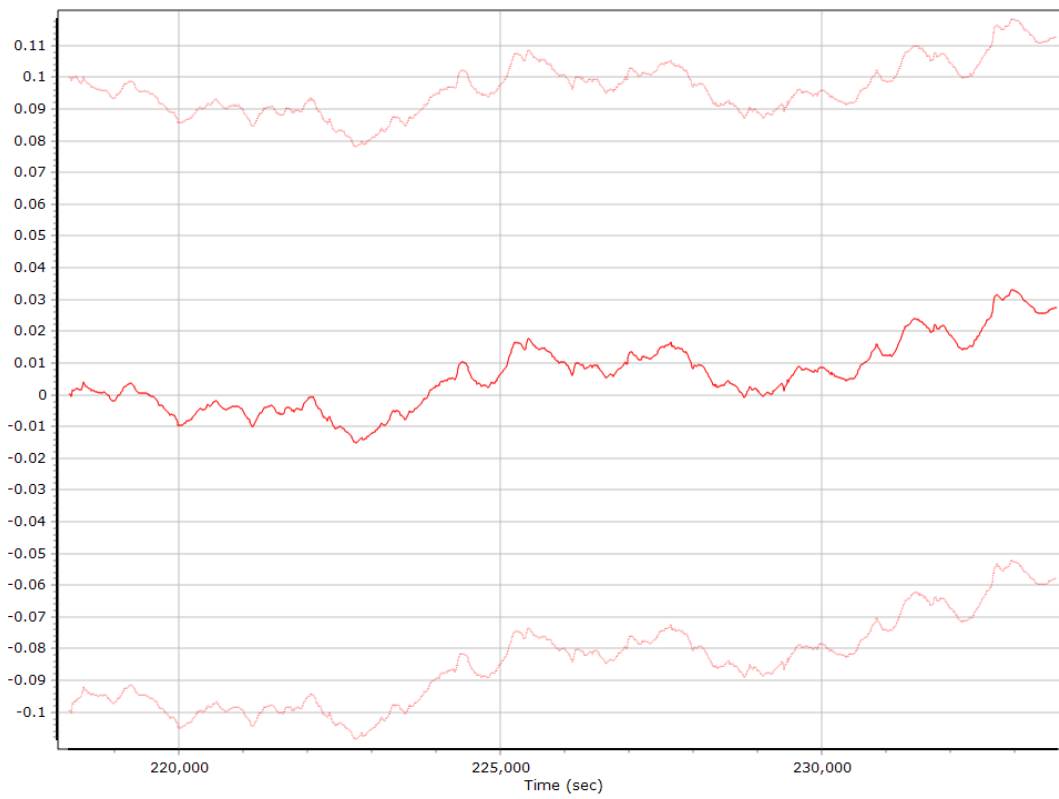
### Gyro Bias (deg/h)



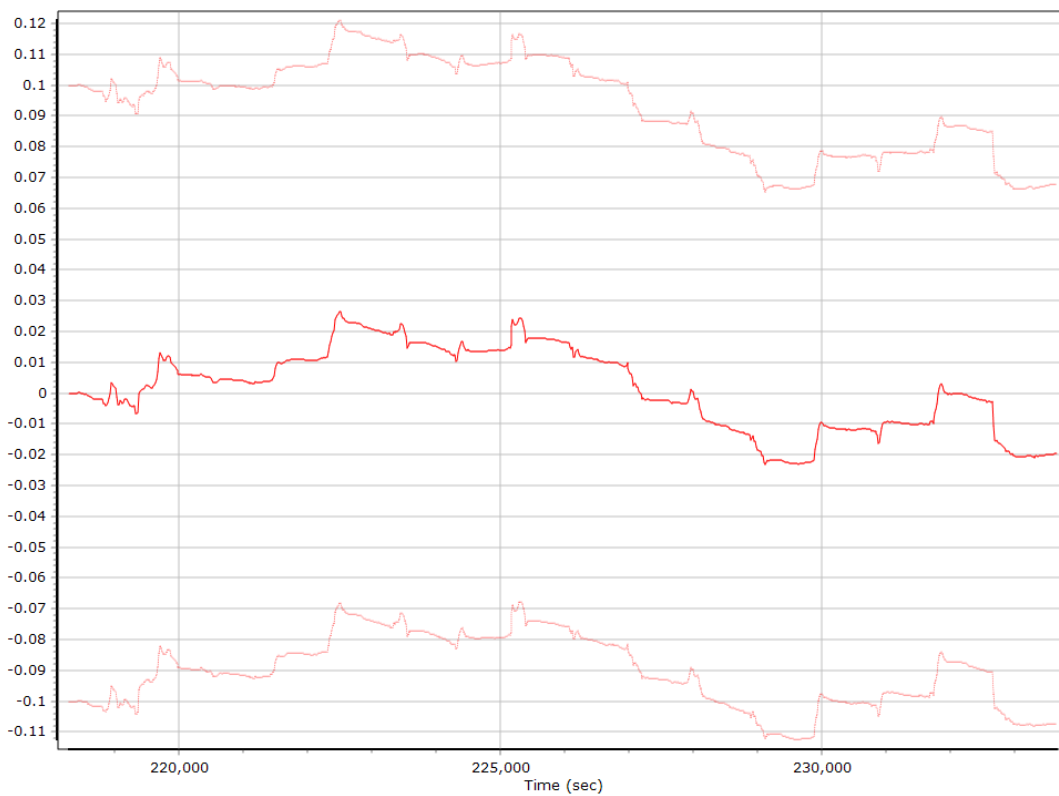
### X Gyro Bias (deg/h)



### Y Gyro Bias (deg/h)



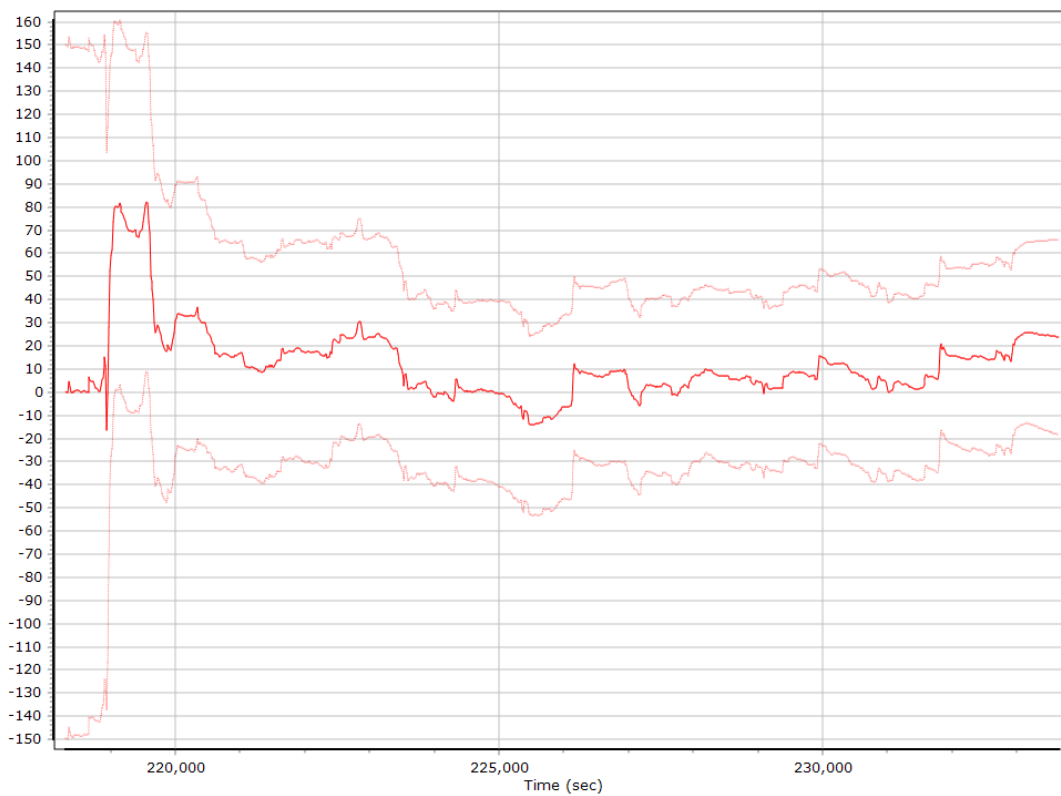
### Z Gyro Bias (deg/h)



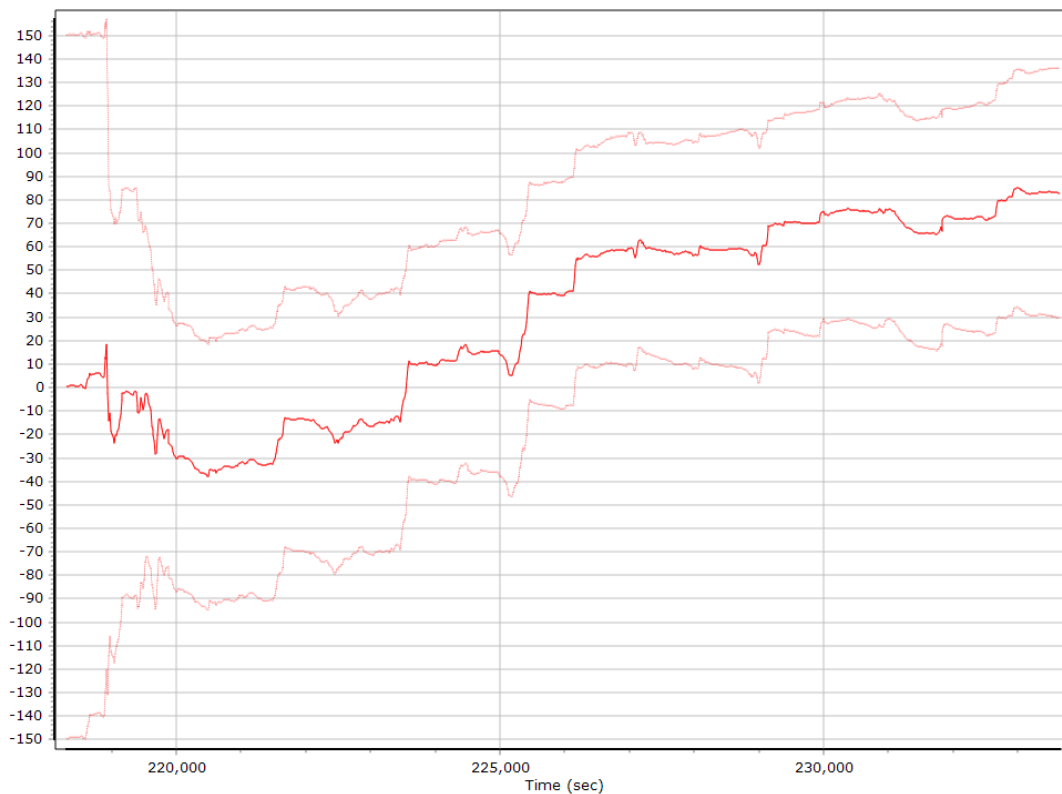
### Gyro Scale Error (ppm)



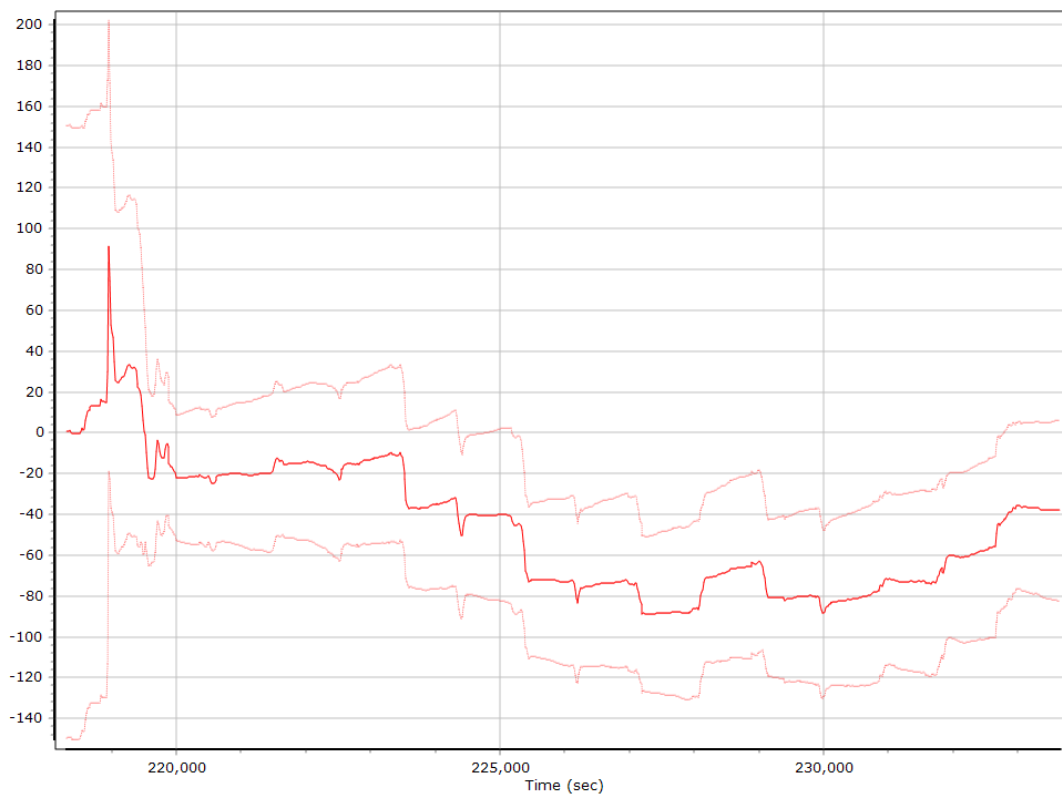
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

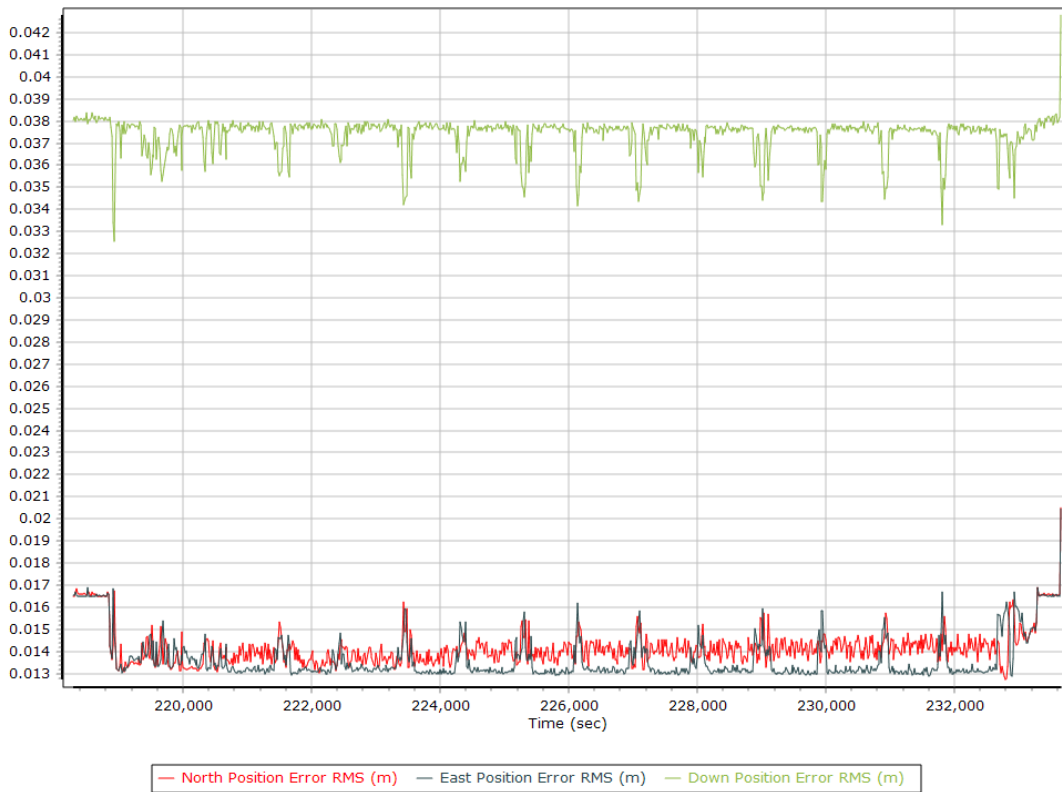


### Z Gyro Scale Error (ppm)

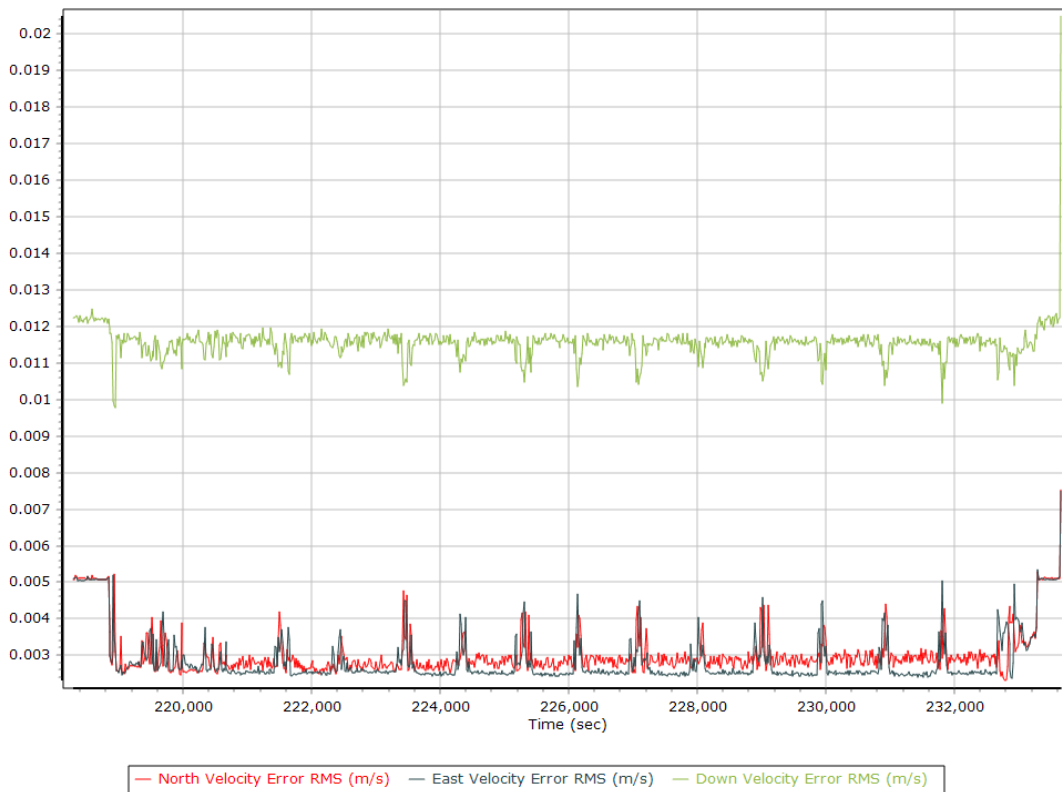


## Smoothed Performance Metrics

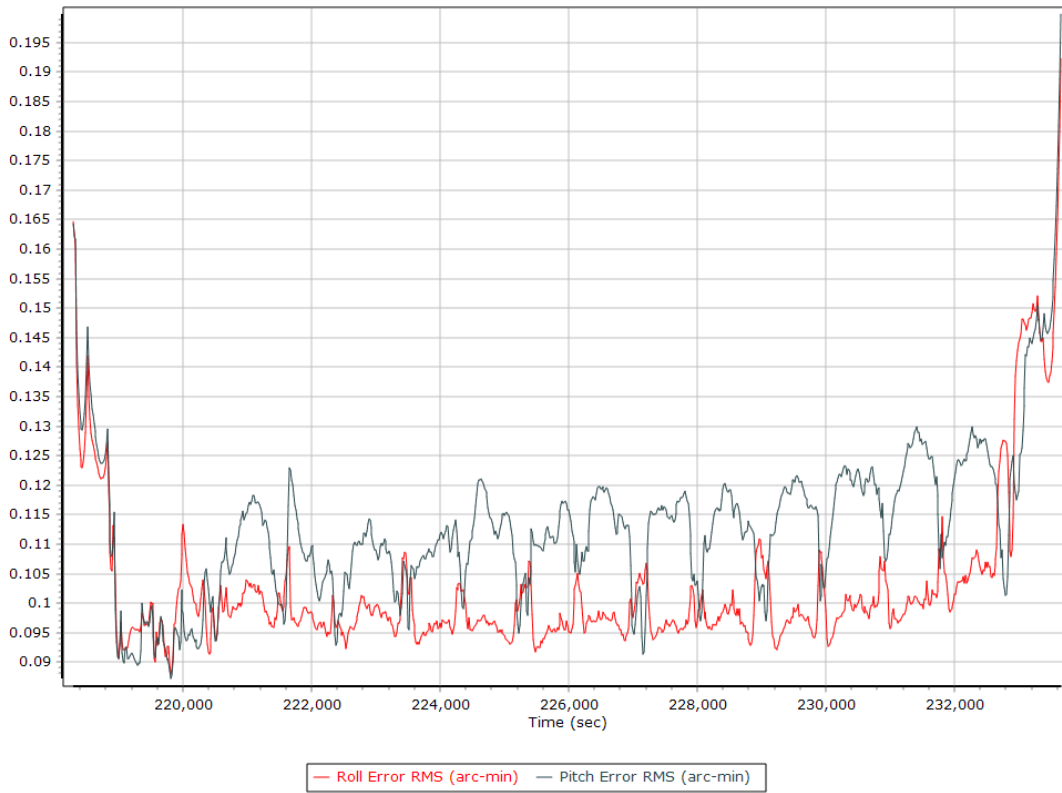
### Position Error RMS (m)



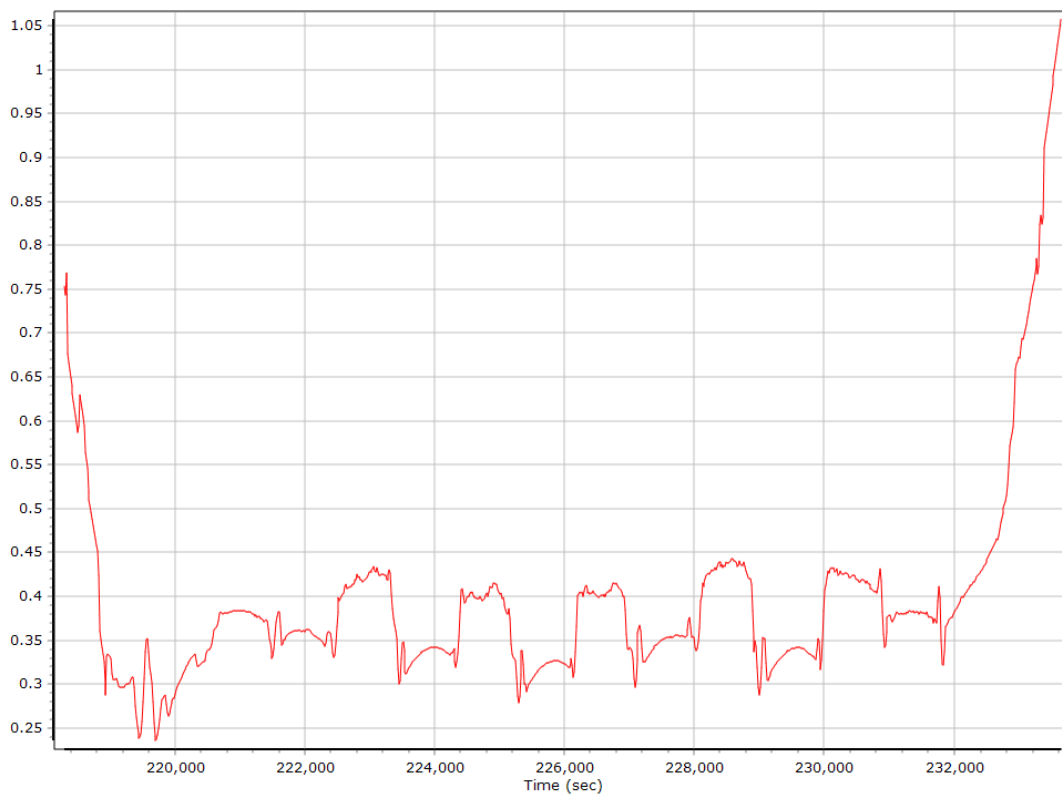
### Velocity Error RMS (m/s)



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

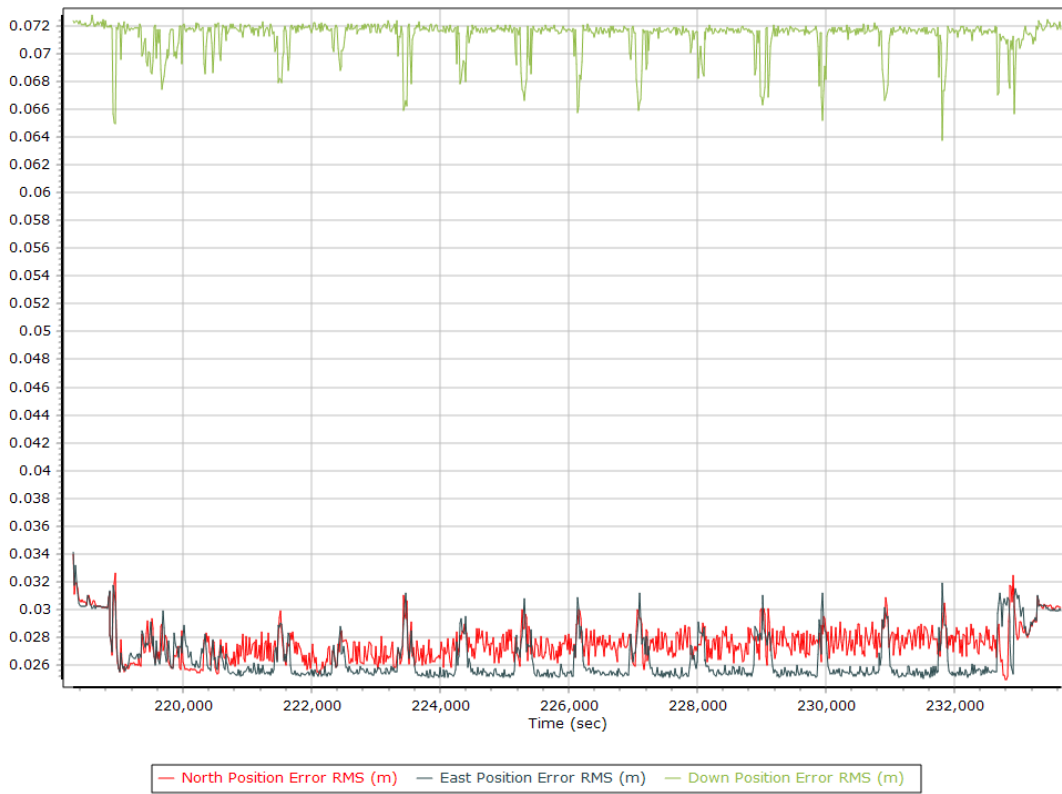


### Heading Error RMS (arc-min)

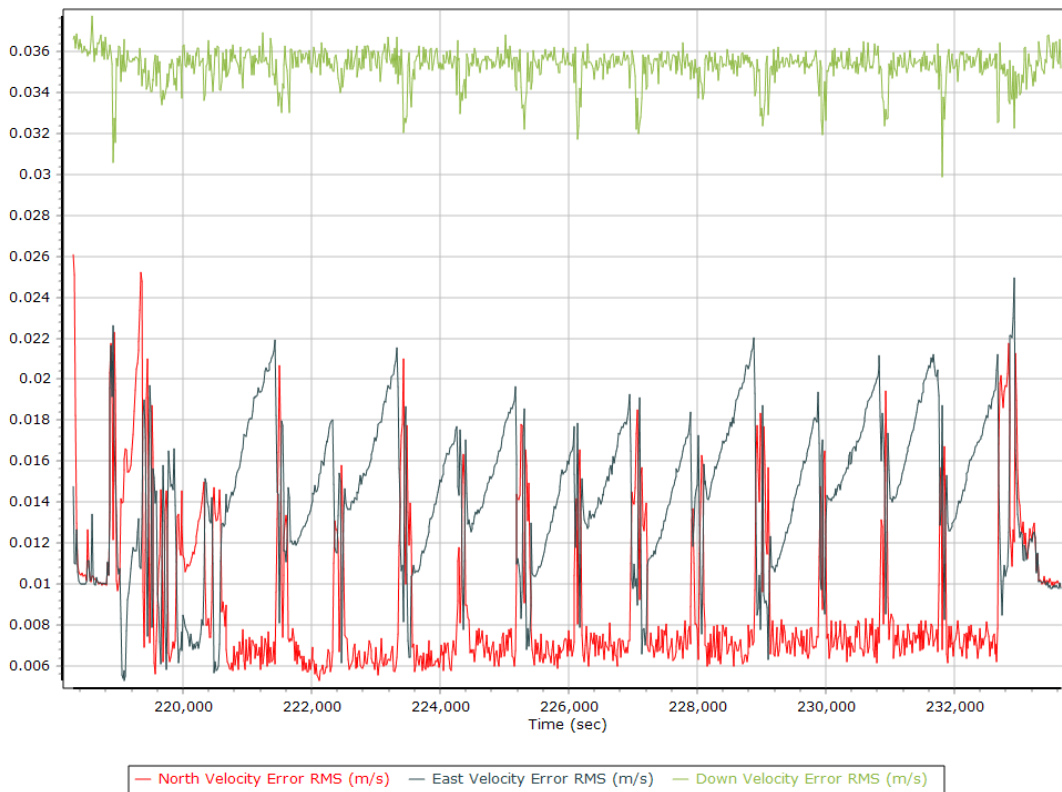


## Forward Processed Performance Metrics

### Position Error RMS (m)

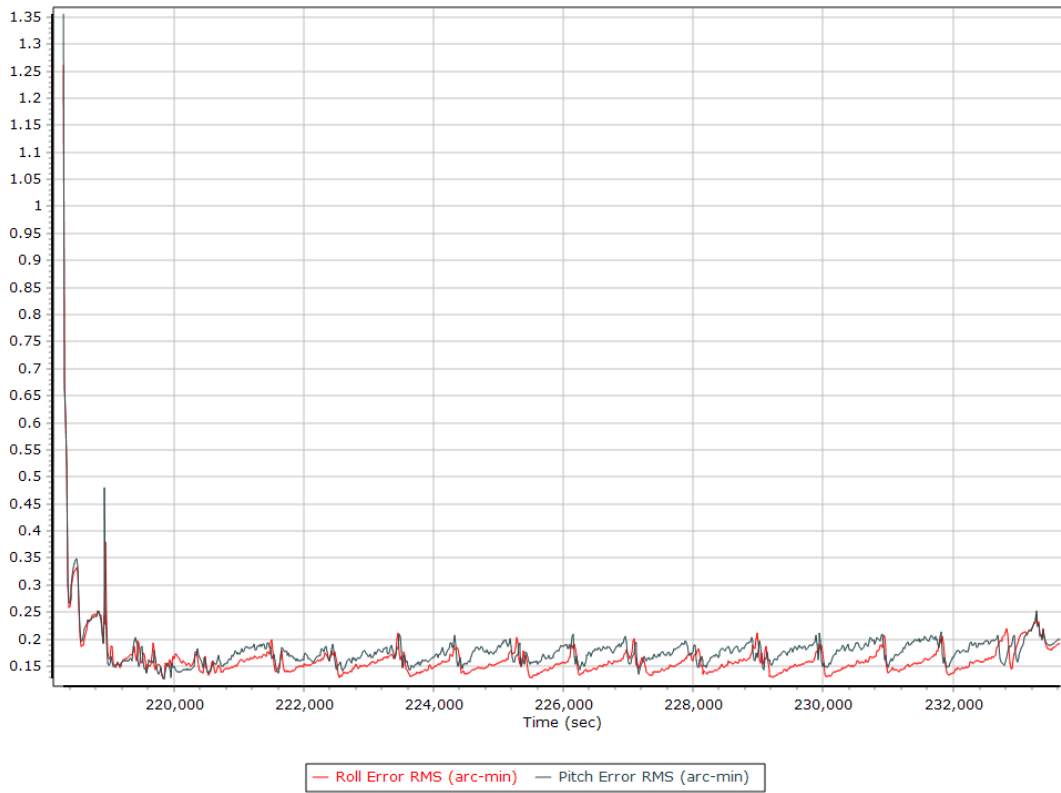


### Velocity Error RMS (m/s)

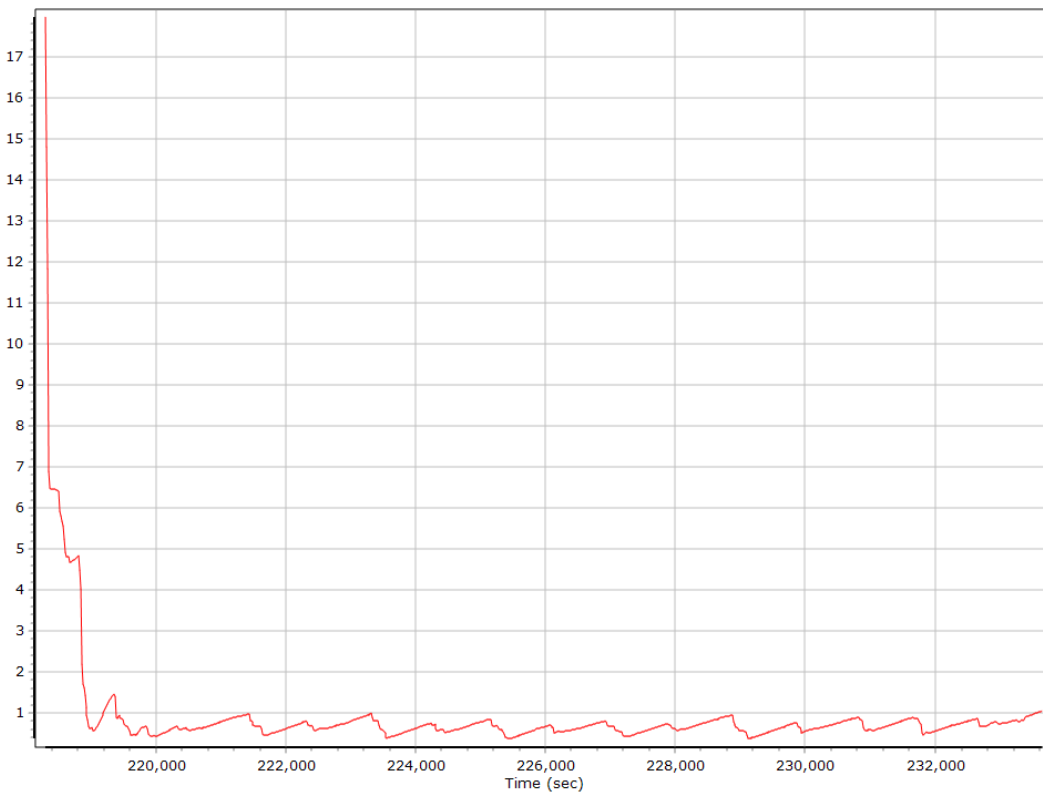




### Roll/Pitch Error RMS (arc-min)

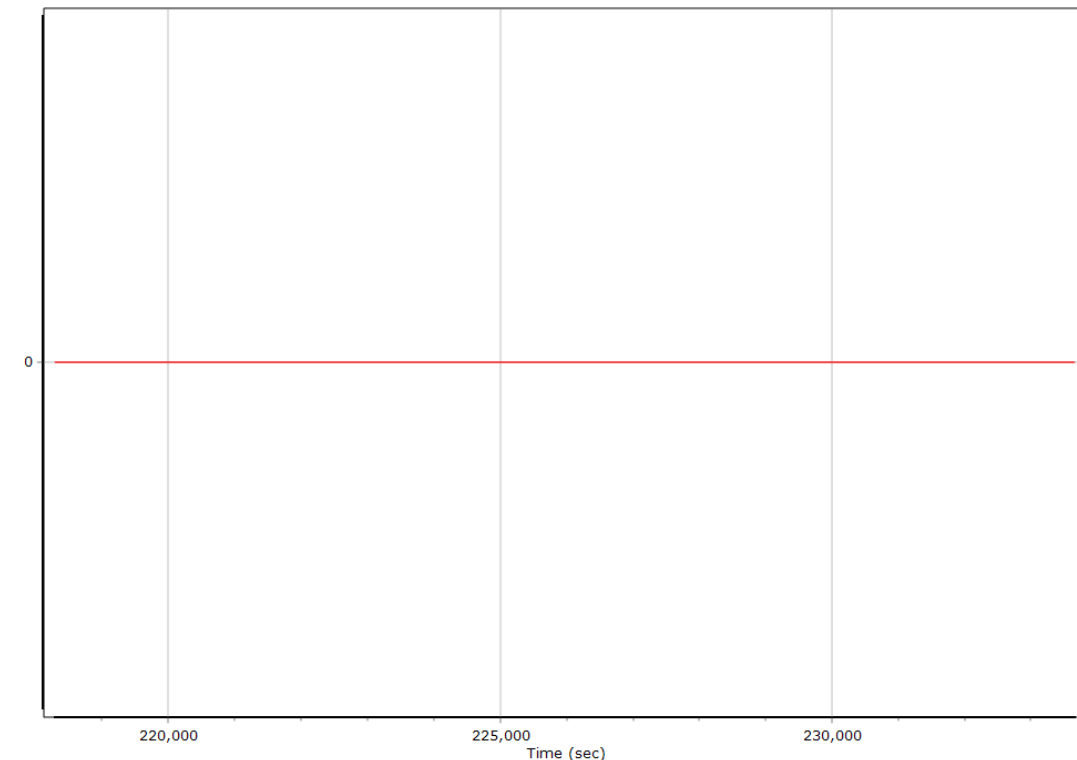


### Heading Error RMS (arc-min)



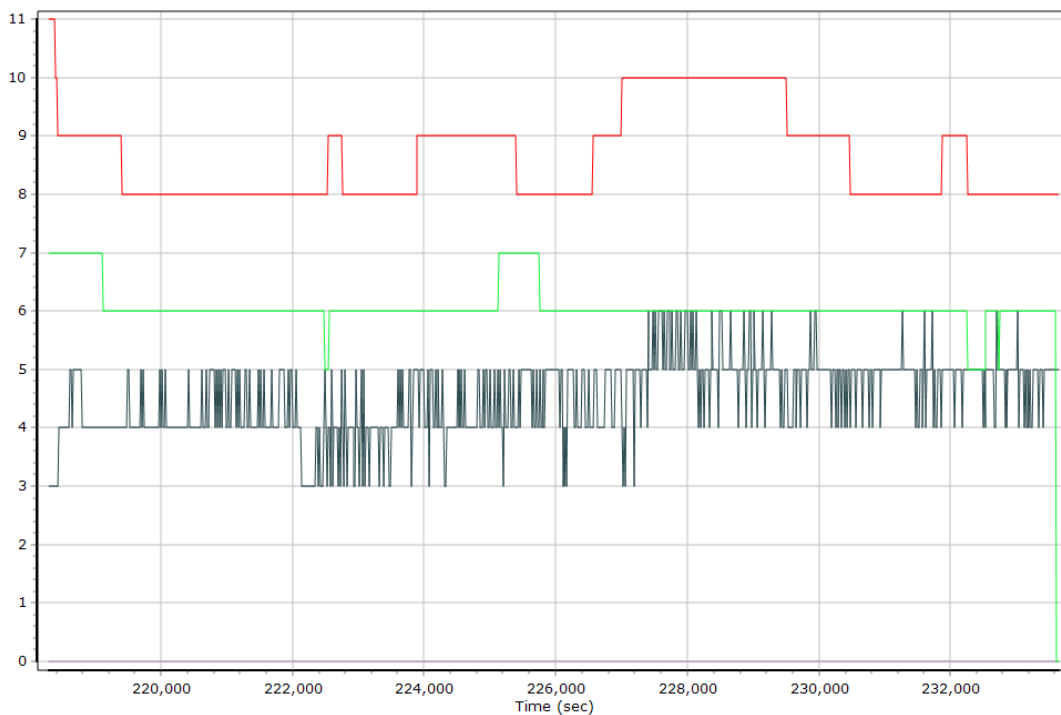
## Forward Processed Solution Status

### 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

