

## General Information

### Mission Information

Project name	11883
Processing date	2020-12-08 21:55:50
Mission date	2020-12-05 02:18:16
Mission duration	04:01:26.306
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
120420F1nights.270	POS Data
120420F1nights.271	POS Data
120420F1nights.272	POS Data
120420F1nights.273	POS Data
120420F1nights.274	POS Data
120420F1nights.275	POS Data
120420F1nights.276	POS Data
120420F1nights.277	POS Data
120420F1nights.278	POS Data
120420F1nights.279	POS Data
120420F1nights.280	POS Data
120420F1nights.281	POS Data
120420F1nights.282	POS Data
120420F1nights.283	POS Data
120420F1nights.284	POS Data
120420F1nights.285	POS Data
120420F1nights.286	POS Data
120420F1nights.287	POS Data
120420F1nights.288	POS Data
120420F1nights.289	POS Data
120420F1nights.290	POS Data
120420F1nights.291	POS Data
120420F1nights.292	POS Data
120420F1nights.293	POS Data
120420F1nights.294	POS Data
120420F1nights.295	POS Data
120420F1nights.296	POS Data
120420F1nights.297	POS Data
120420F1nights.298	POS Data
120420F1nights.299	POS Data
120420F1nights.300	POS Data
120420F1nights.301	POS Data

### Input Files

File Name	File Type
Ephm3400.20g	GLONASS Broadcast Ephemeris
Ephm3400.20n	GPS Broadcast Ephemeris

### Output Files

Filename	File type
sbet_11883.out	SBET Trajectory File
eo_11883.txt	ZI Imaging POSEO Output
sbet_11883_NAD83(2011).out	Custom Smoothed BET Export Output
lever_arm_values.txt	ReferenceToPrimaryLeverArms Export Output

## Rover Data Summary

First raw data file	120420F1nights.270		
Last raw data file	120420F1nights.301		
Start GPS week	2134		
Start time	526695.304 (12/05/2020 02:18:15)		
End time	541181.610 (12/05/2020 06:19:41)		
Start of fine alignment	527083.568 (12/05/2020 02:24:43)		
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)	-0.485	-0.379	-1.087
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

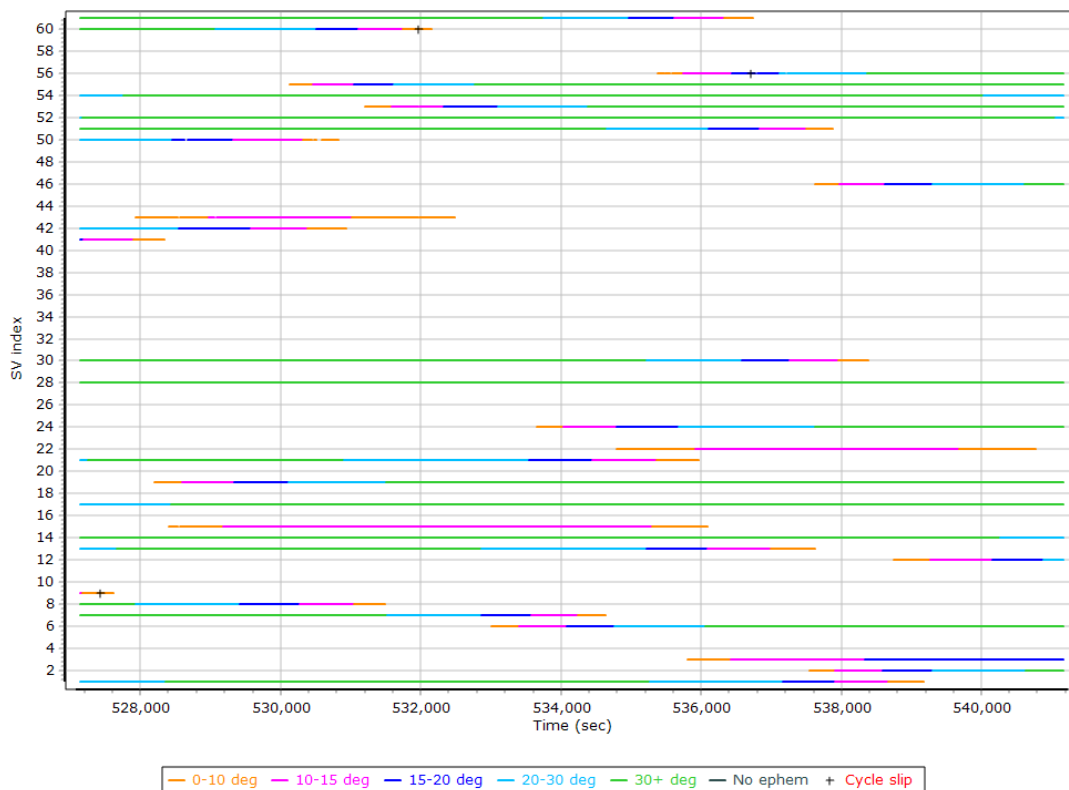
## Rover Data QC

### Raw IMU Import QC Summary

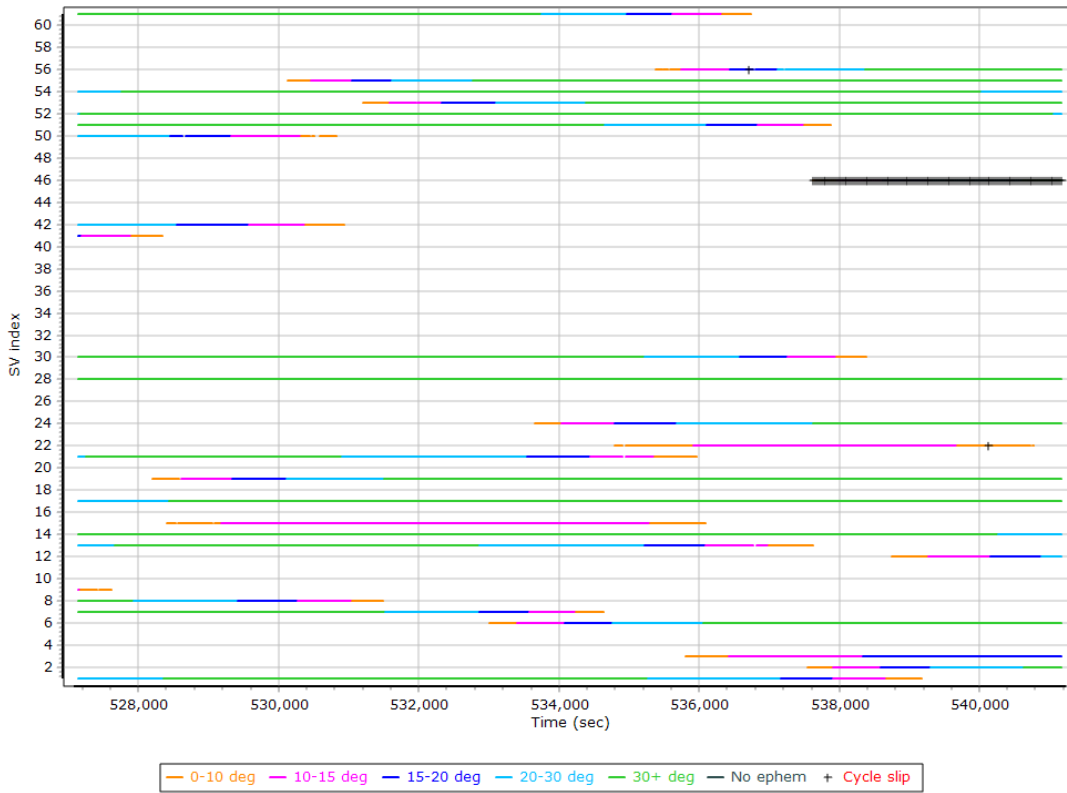
IMU data input file	imu_11883.dat
IMU data check log file	imudt_11883.log
IMU Records Processed	2896813
Termination Status	Normal
IMU Anomalies	0

## Primary Observables & Satellite Data

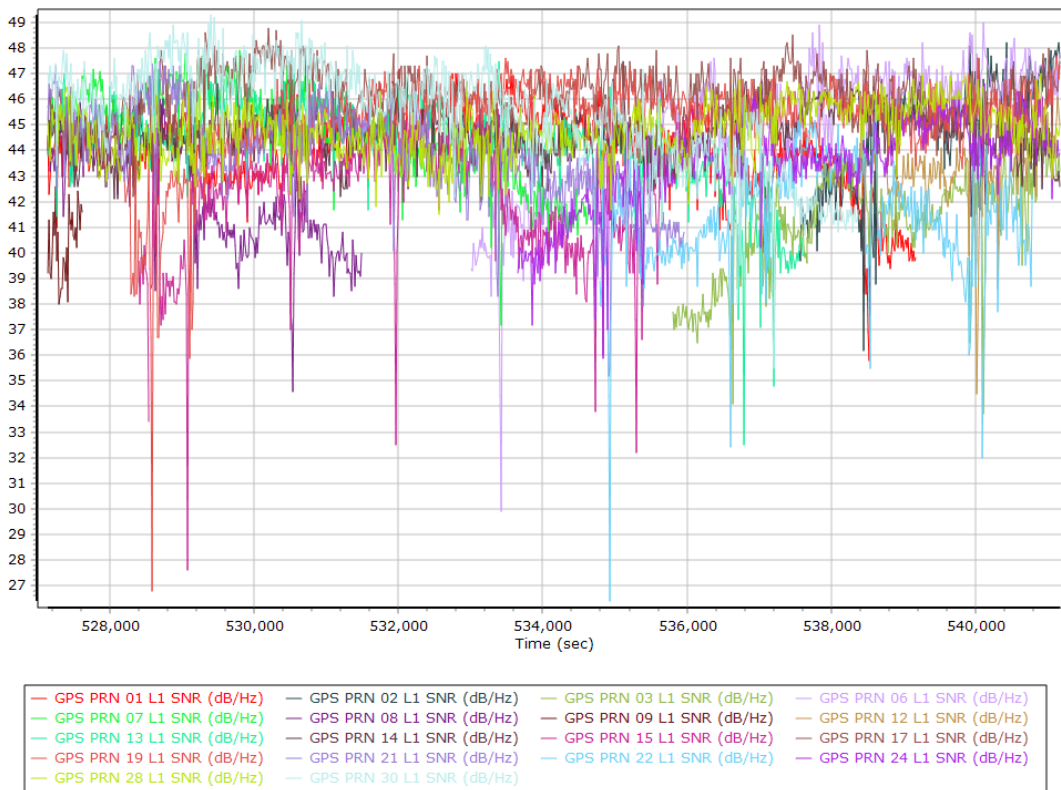
### L1 Satellite Lock/Elevation



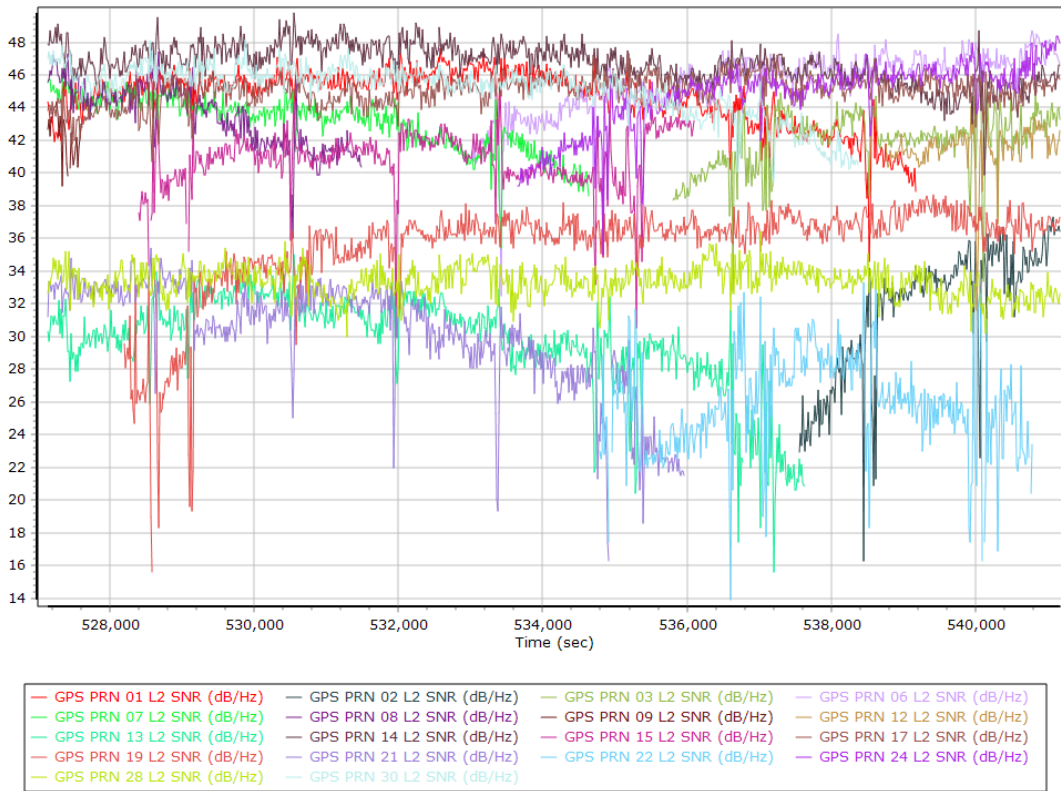
## L2 Satellite Lock/Elevation



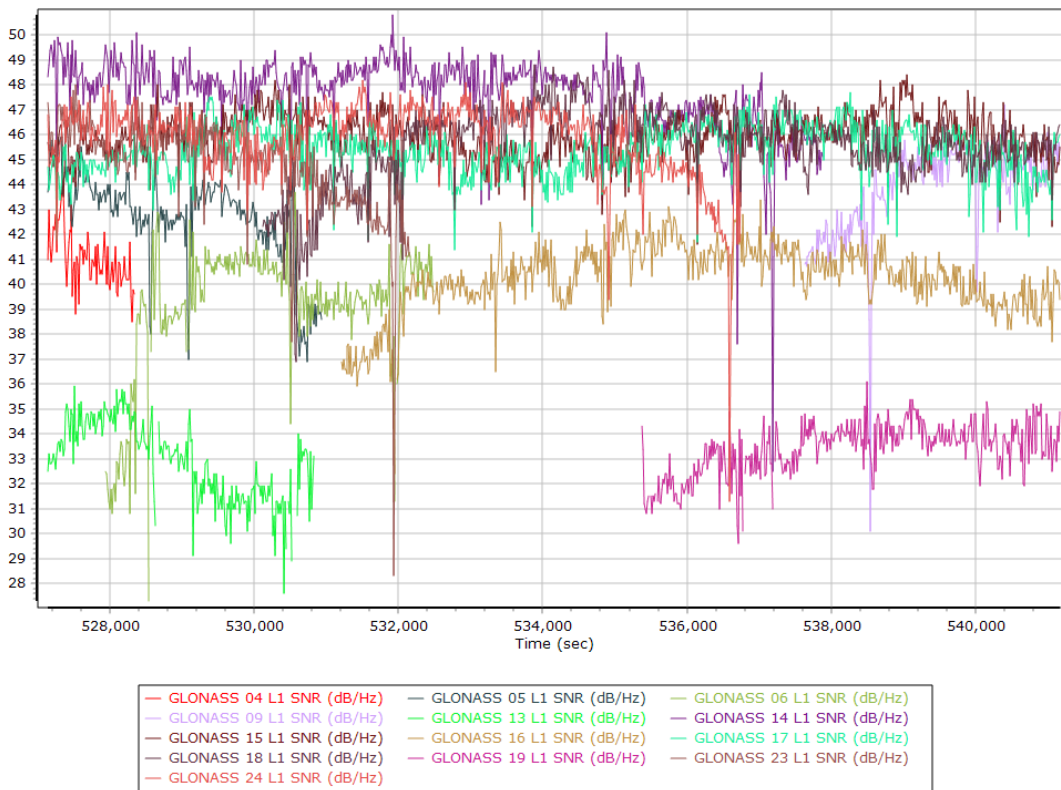
## GPS L1 SNR



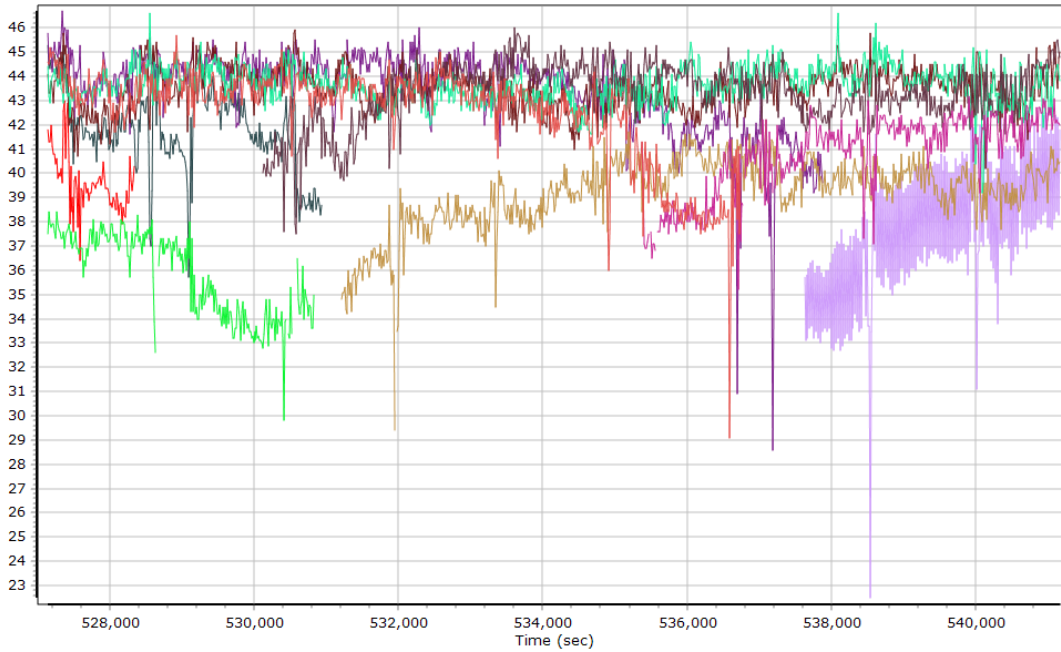
### GPS L2 SNR



### GLONASS L1 SNR

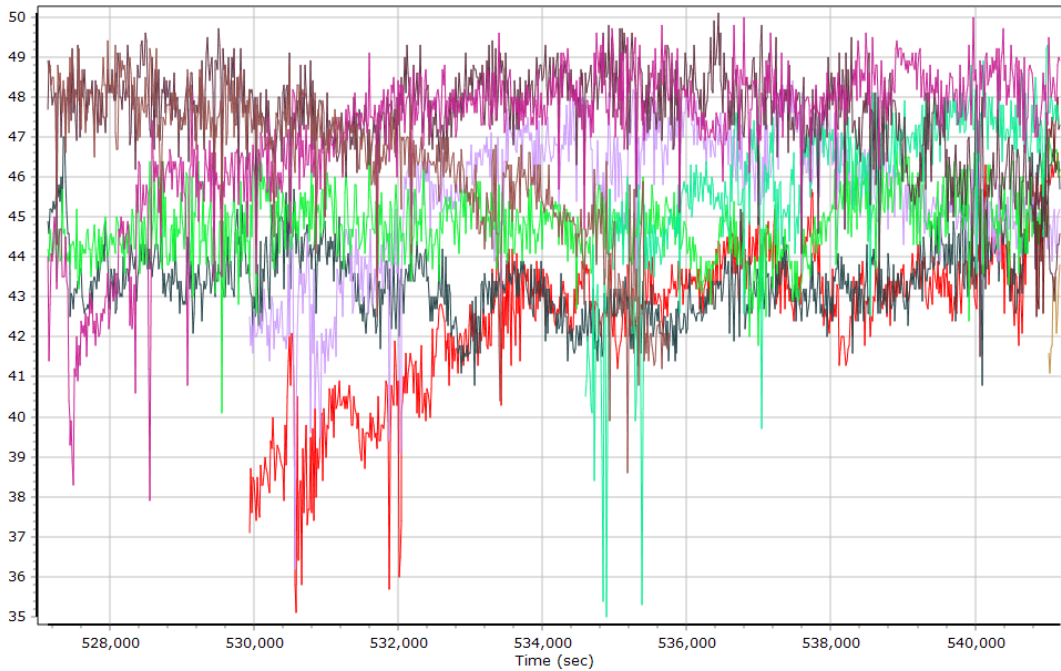


### GLONASS L2 SNR



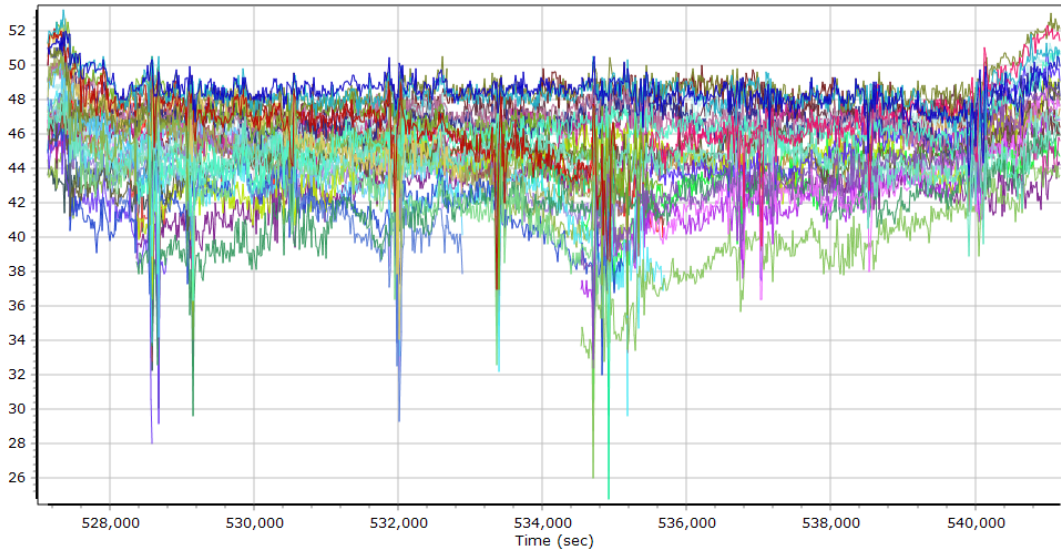
- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 04 L2 SNR (dB/Hz) | GLONASS 05 L2 SNR (dB/Hz) | GLONASS 06 L2 SNR (dB/Hz) |
| GLONASS 09 L2 SNR (dB/Hz) | GLONASS 13 L2 SNR (dB/Hz) | GLONASS 14 L2 SNR (dB/Hz) |
| GLONASS 15 L2 SNR (dB/Hz) | GLONASS 16 L2 SNR (dB/Hz) | GLONASS 17 L2 SNR (dB/Hz) |
| GLONASS 18 L2 SNR (dB/Hz) | GLONASS 19 L2 SNR (dB/Hz) | GLONASS 23 L2 SNR (dB/Hz) |
| GLONASS 24 L2 SNR (dB/Hz) |                           |                           |

### BEIDOU SNR



- |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|
| BEIDOU 11 E5B B2 SNR (dB/Hz) | BEIDOU 12 E5B B2 SNR (dB/Hz) | BEIDOU 14 E5B B2 SNR (dB/Hz) |
| BEIDOU 11 B1 B1 SNR (dB/Hz)  | BEIDOU 12 B1 B1 SNR (dB/Hz)  | BEIDOU 14 B1 B1 SNR (dB/Hz)  |
| BEIDOU 21 B1 B1 SNR (dB/Hz)  | BEIDOU 22 B1 B1 SNR (dB/Hz)  | BEIDOU 23 B1 B1 SNR (dB/Hz)  |
| BEIDOU 24 B1 B1 SNR (dB/Hz)  | BEIDOU 25 B1 B1 SNR (dB/Hz)  | BEIDOU 26 B1 B1 SNR (dB/Hz)  |

## GALILEO SNR

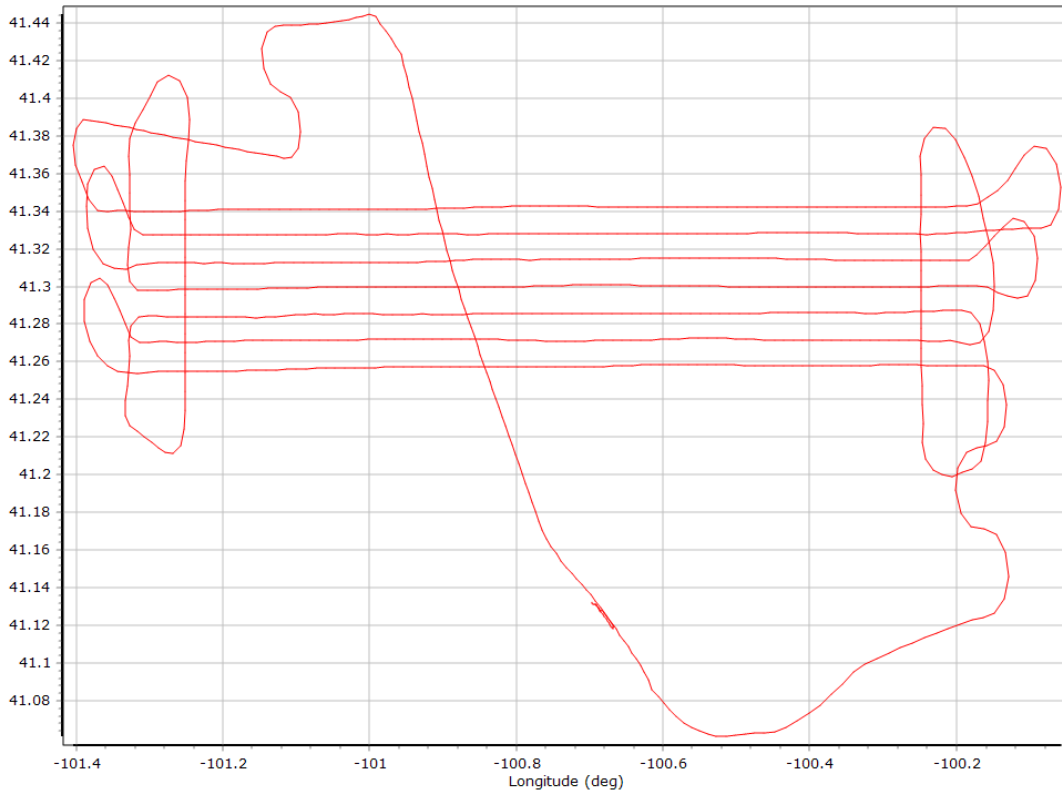


— GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 11 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 26 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 33 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 01 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 11 L5E5A BPSK10_PD SNR (dB/Hz)
— 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 26 L5E5A BPSK10_PD SNR (dB/Hz)

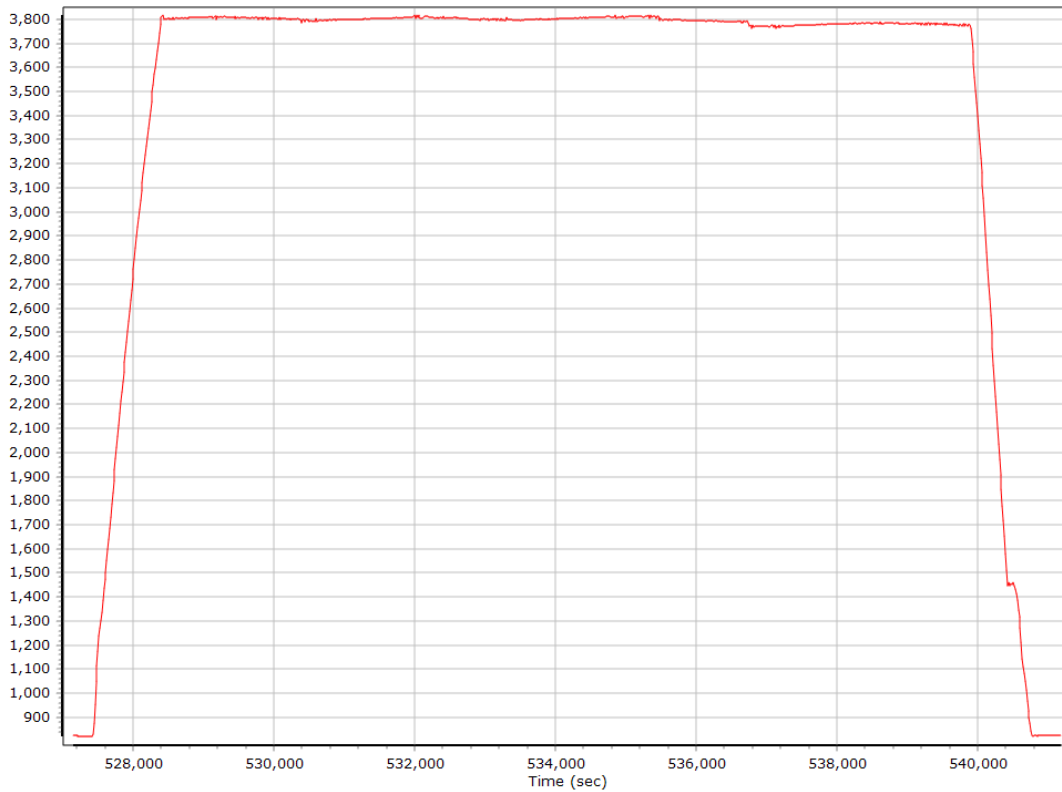


## Smoothed Trajectory Information

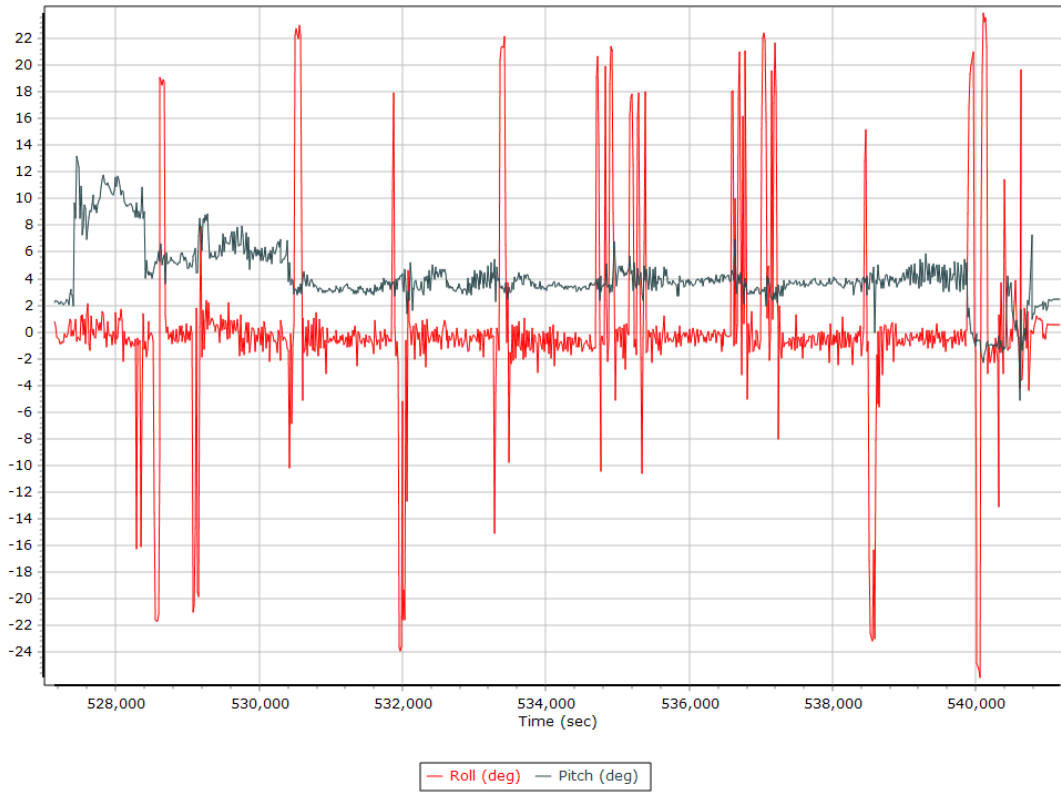
### Top View



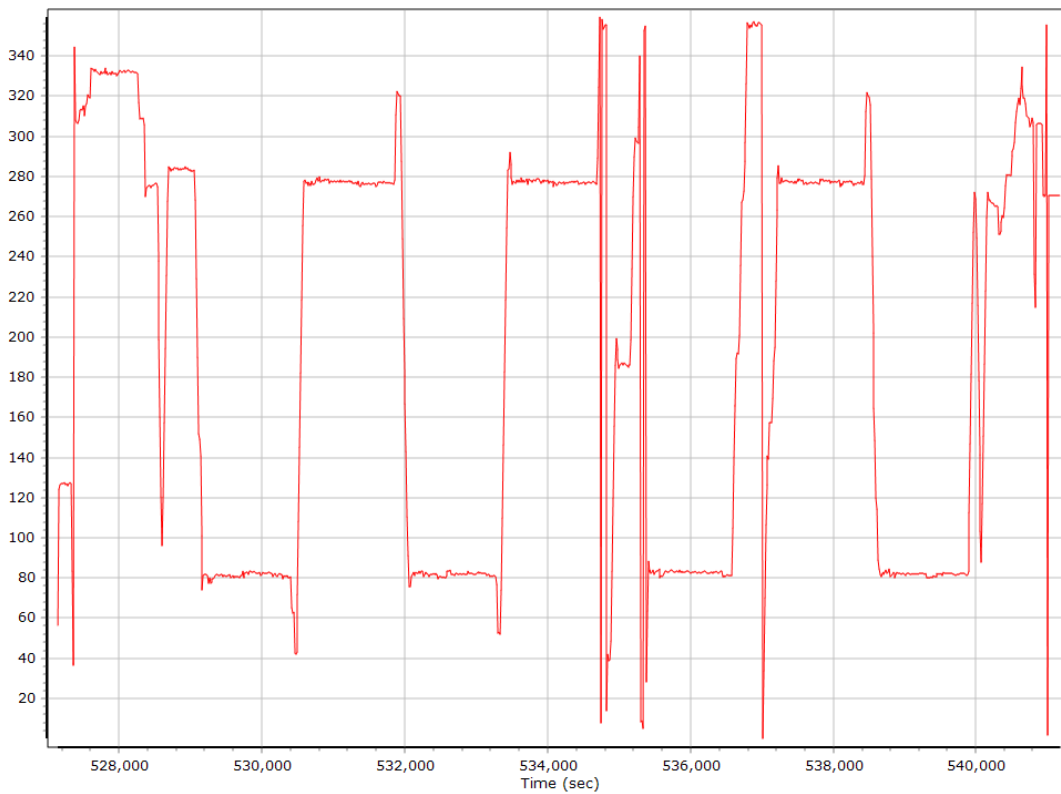
### Altitude



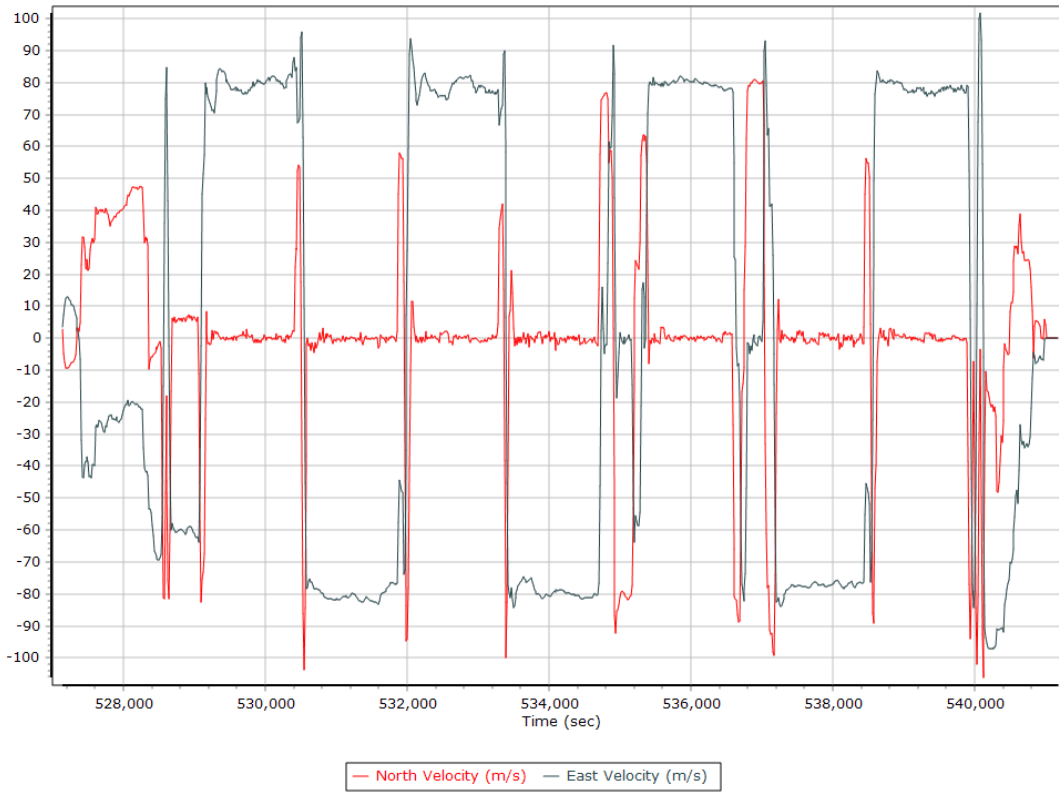
## Roll/Pitch



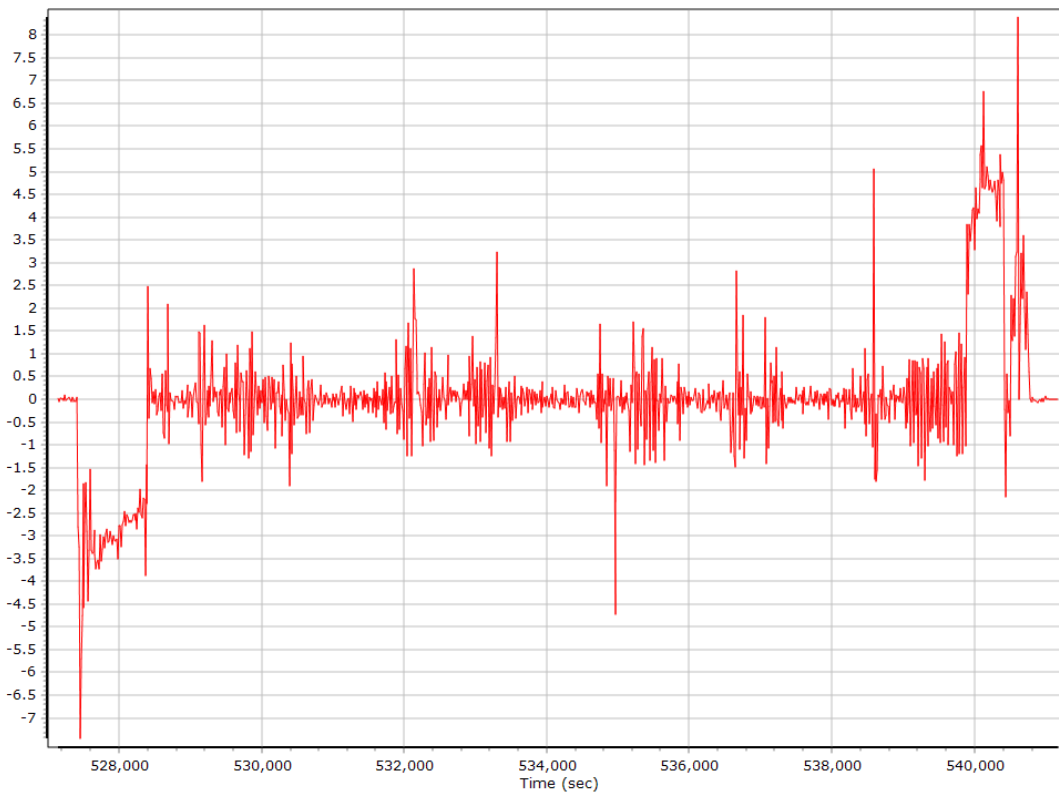
## Heading



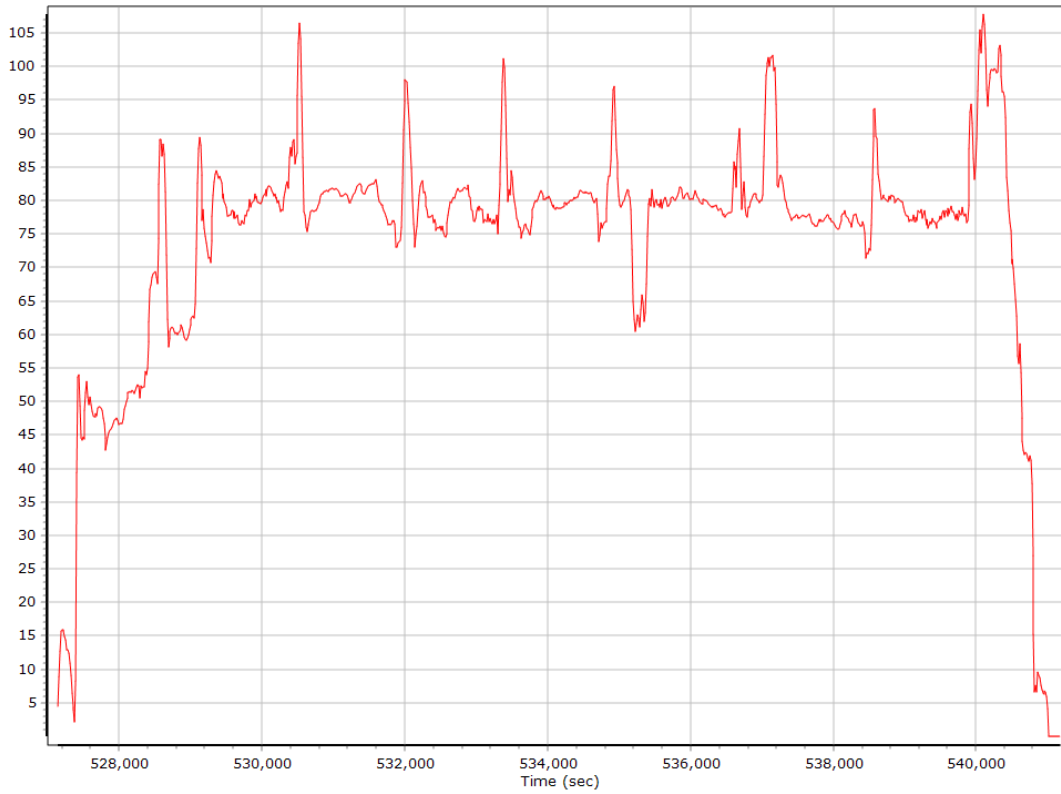
## North/East Velocity



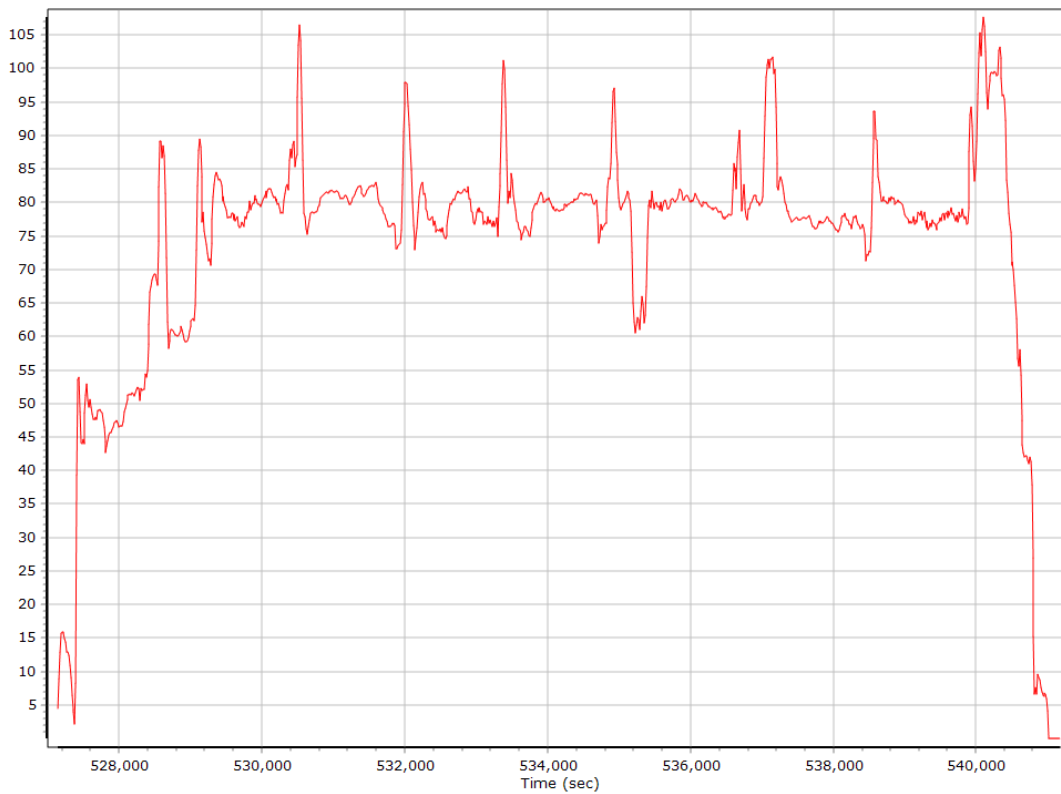
## Down Velocity



## Total Speed



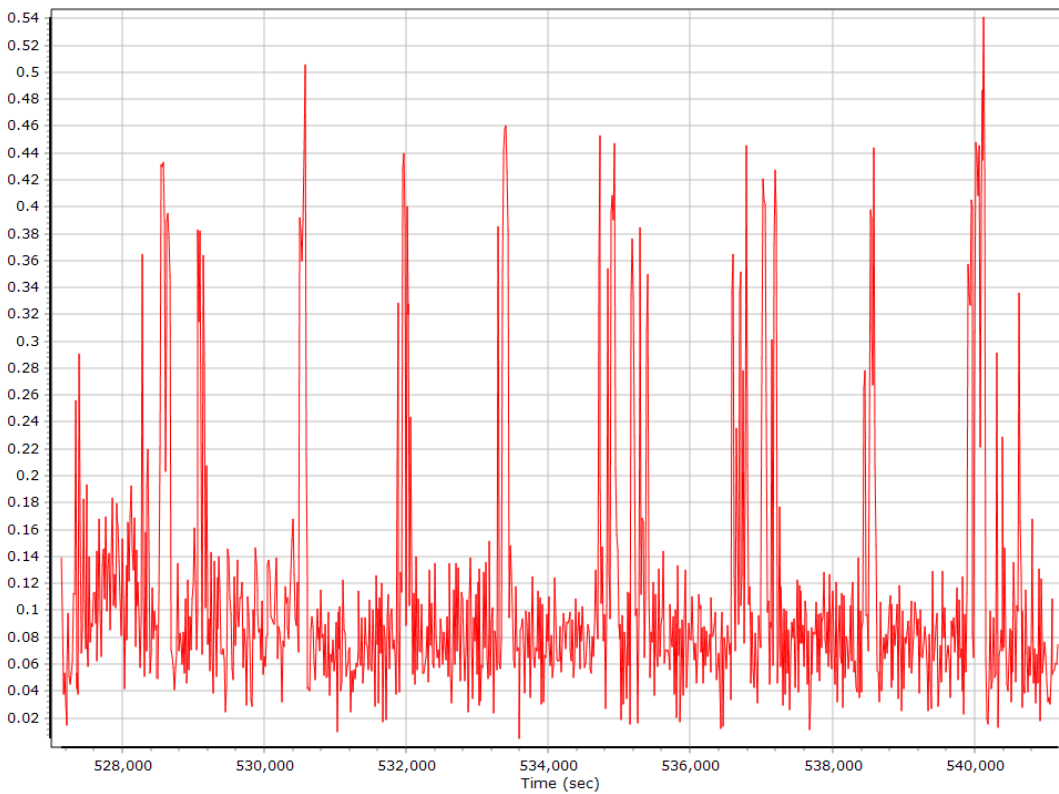
## Ground Speed



## Body Acceleration



## Total Body Acceleration

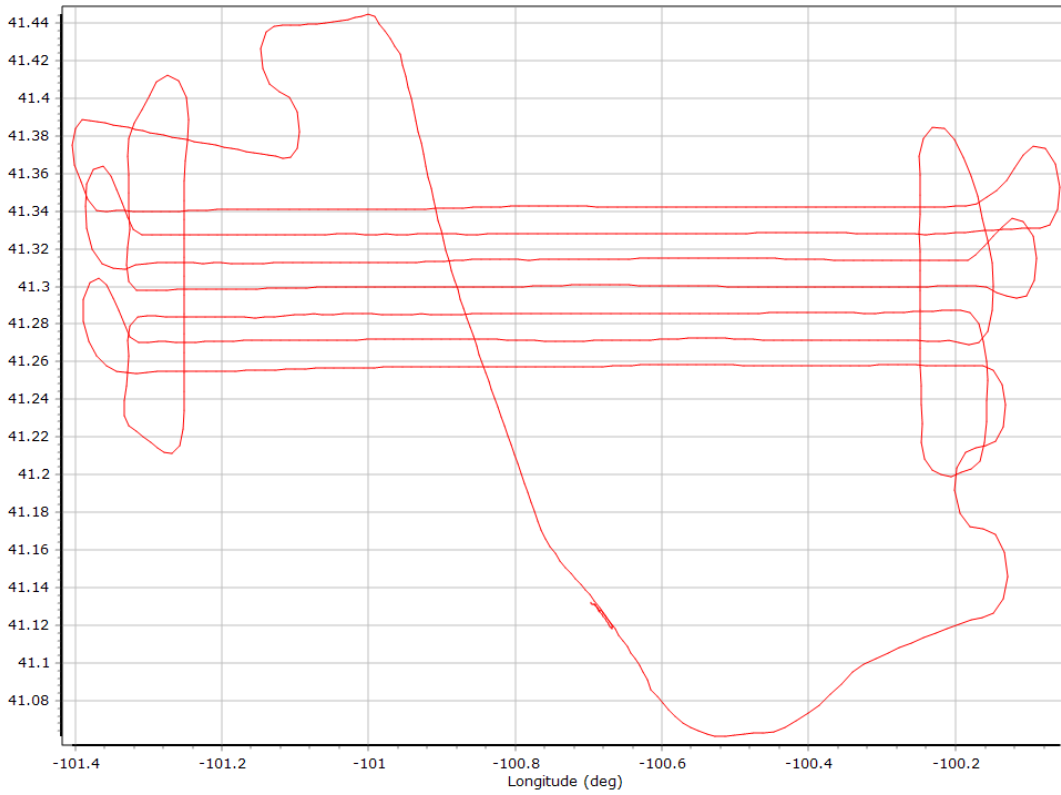


## Body Angular Rate

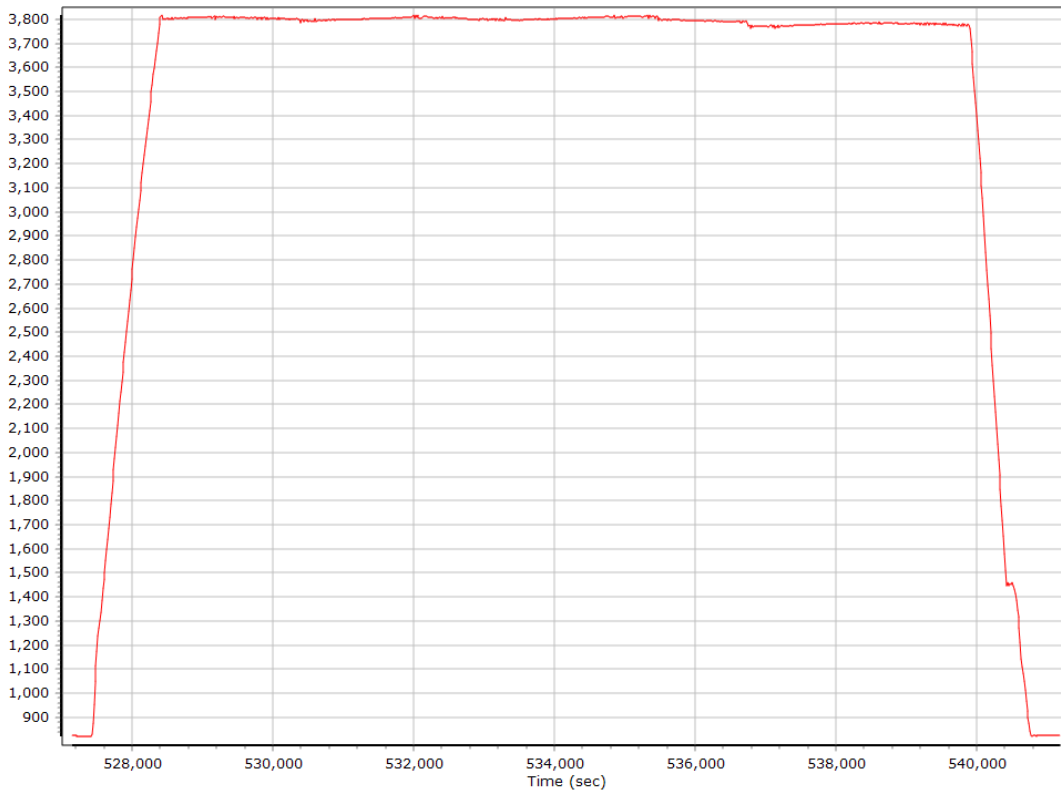


## Forward Processed Trajectory Information

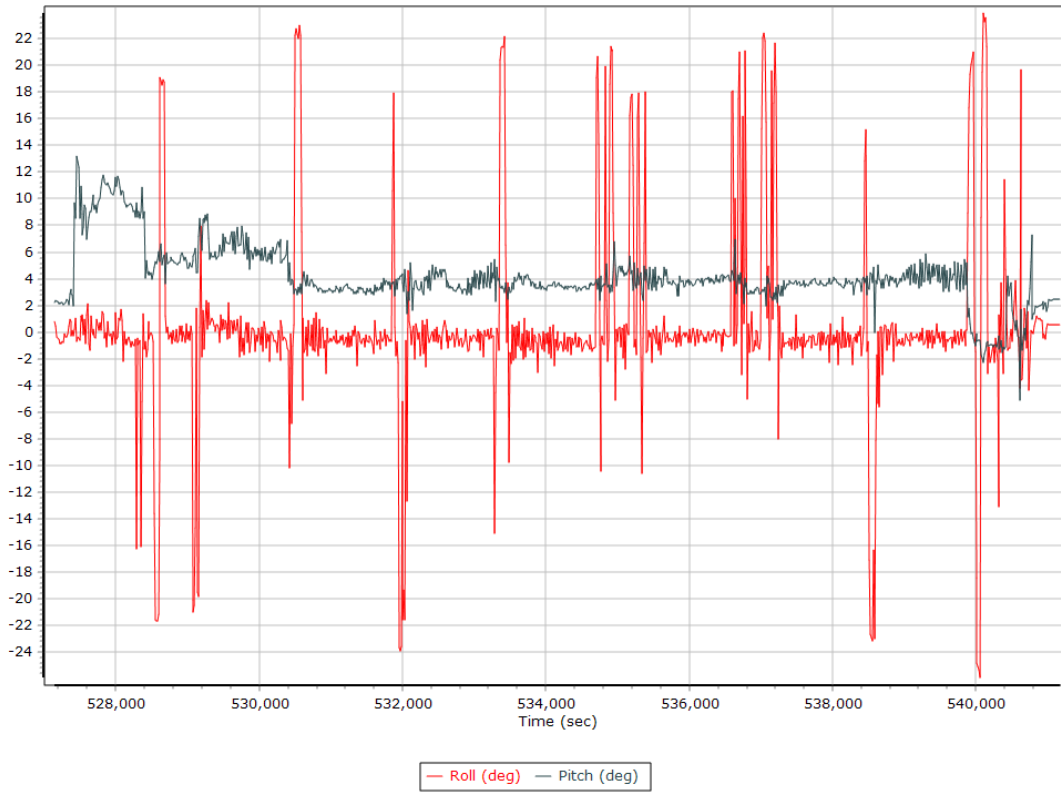
### Top View



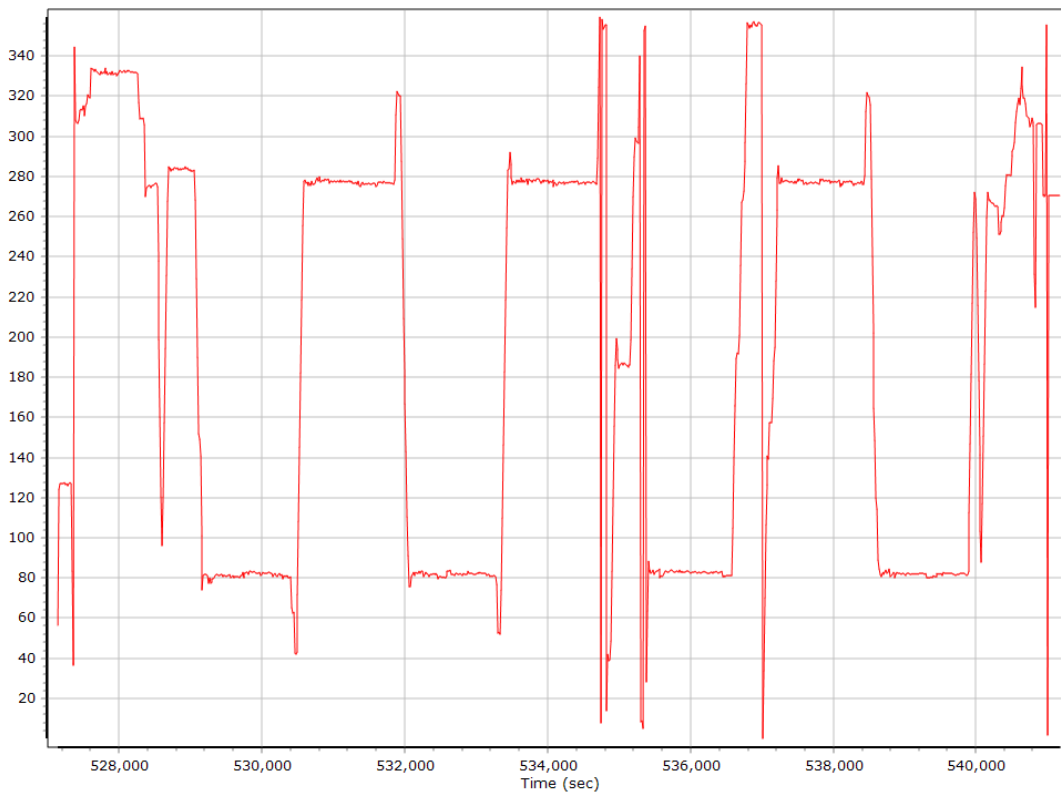
### Altitude



## Roll/Pitch

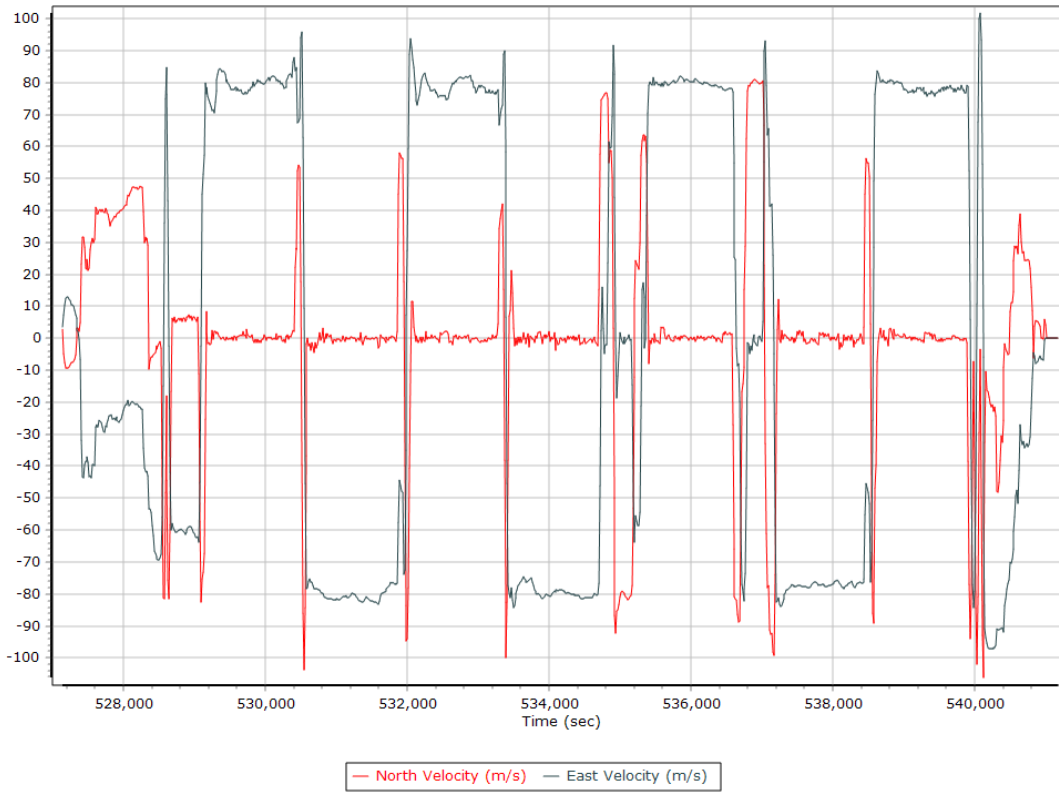


## Heading

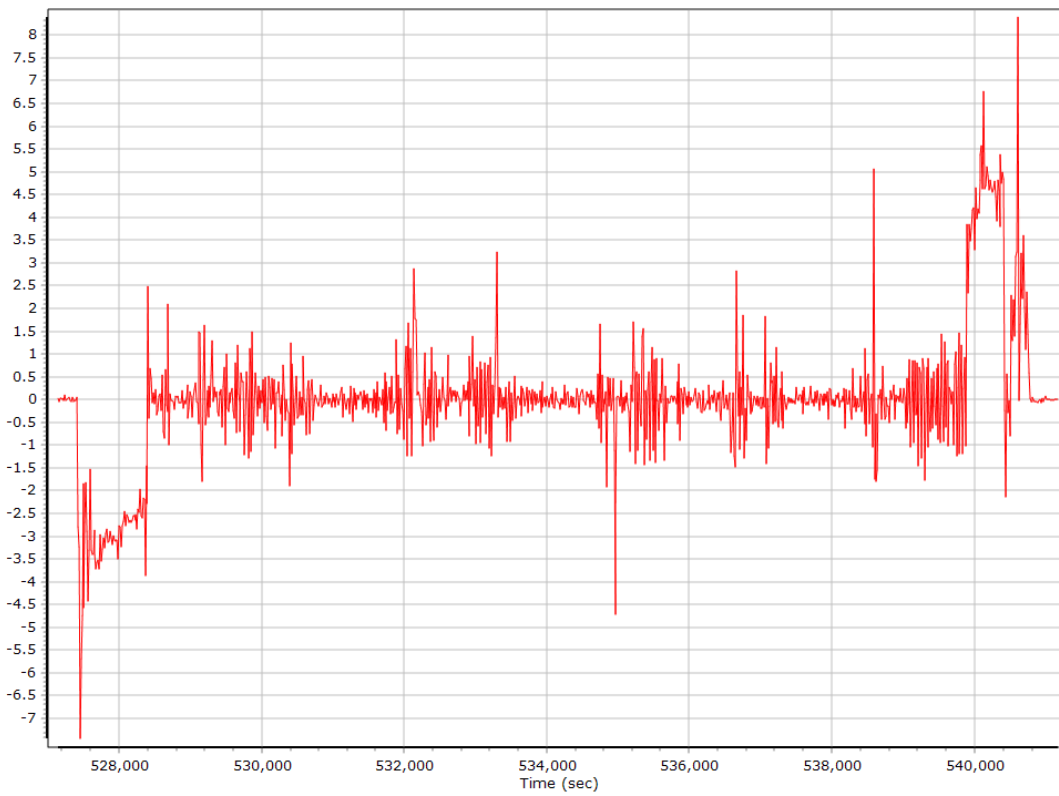




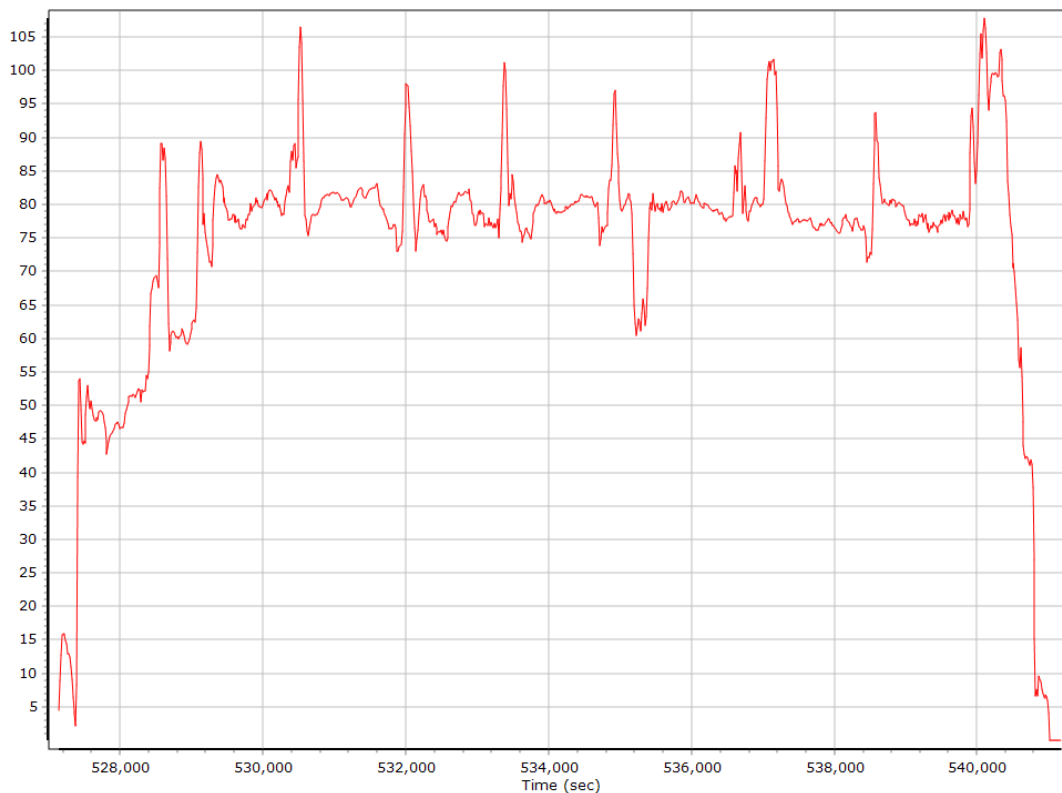
## North/East Velocity



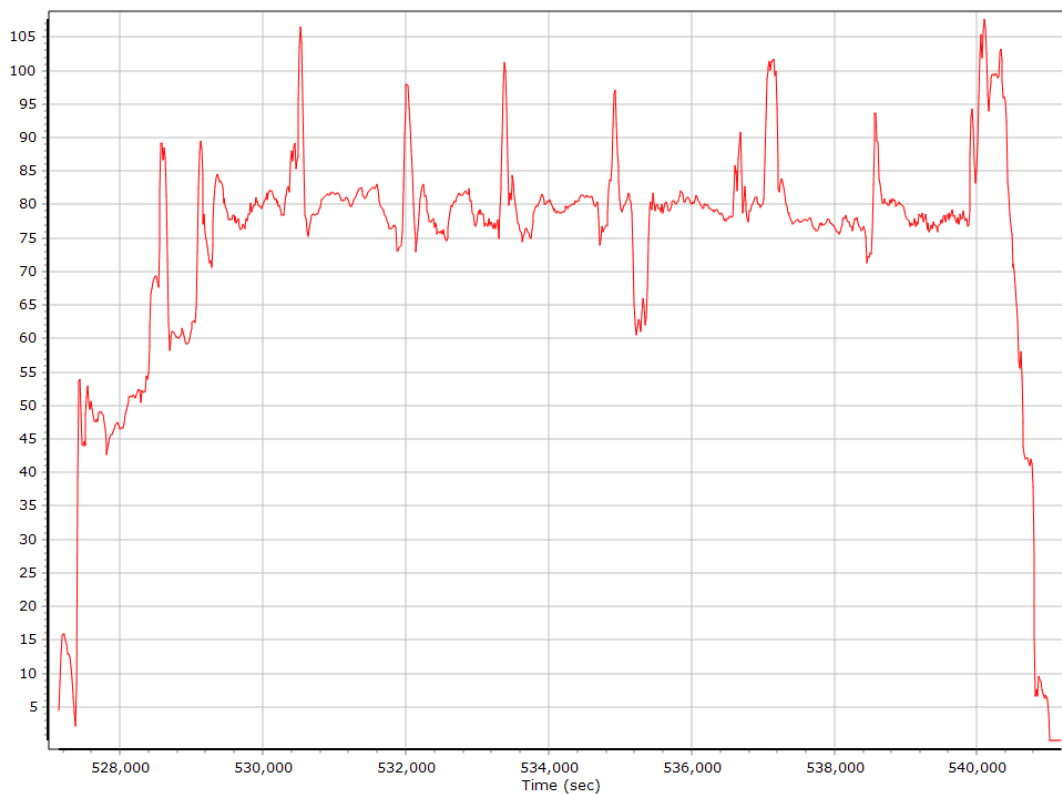
## Down Velocity



### Total Speed



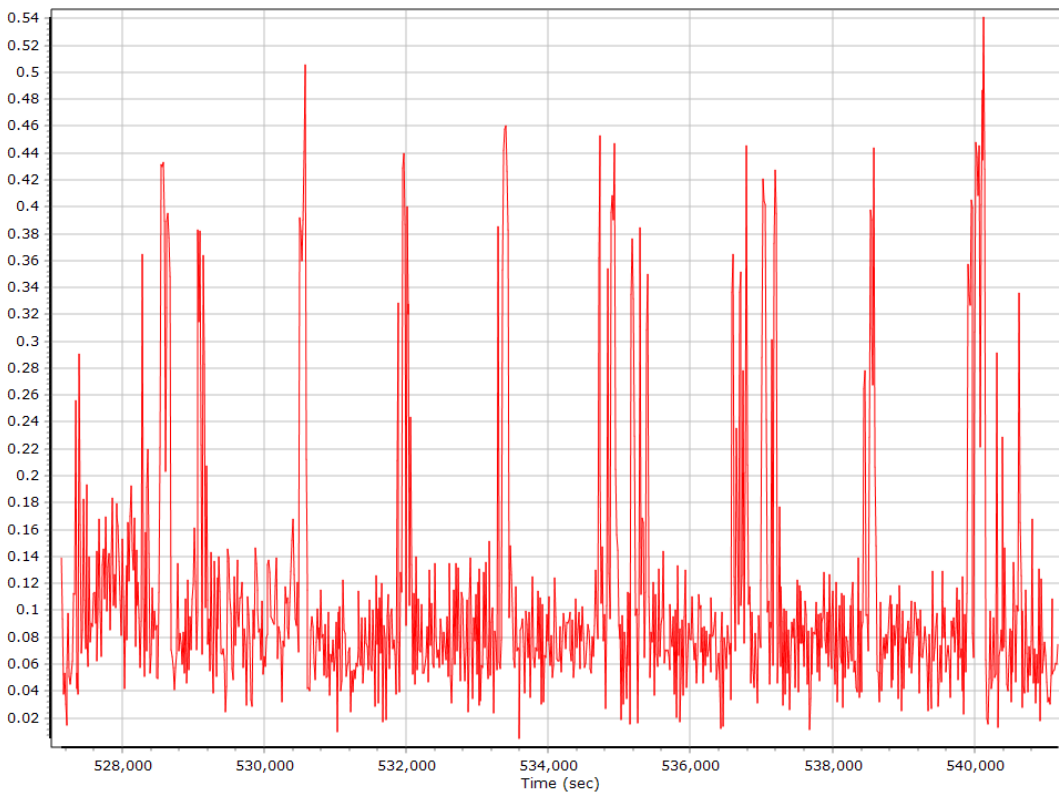
### Ground Speed



## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

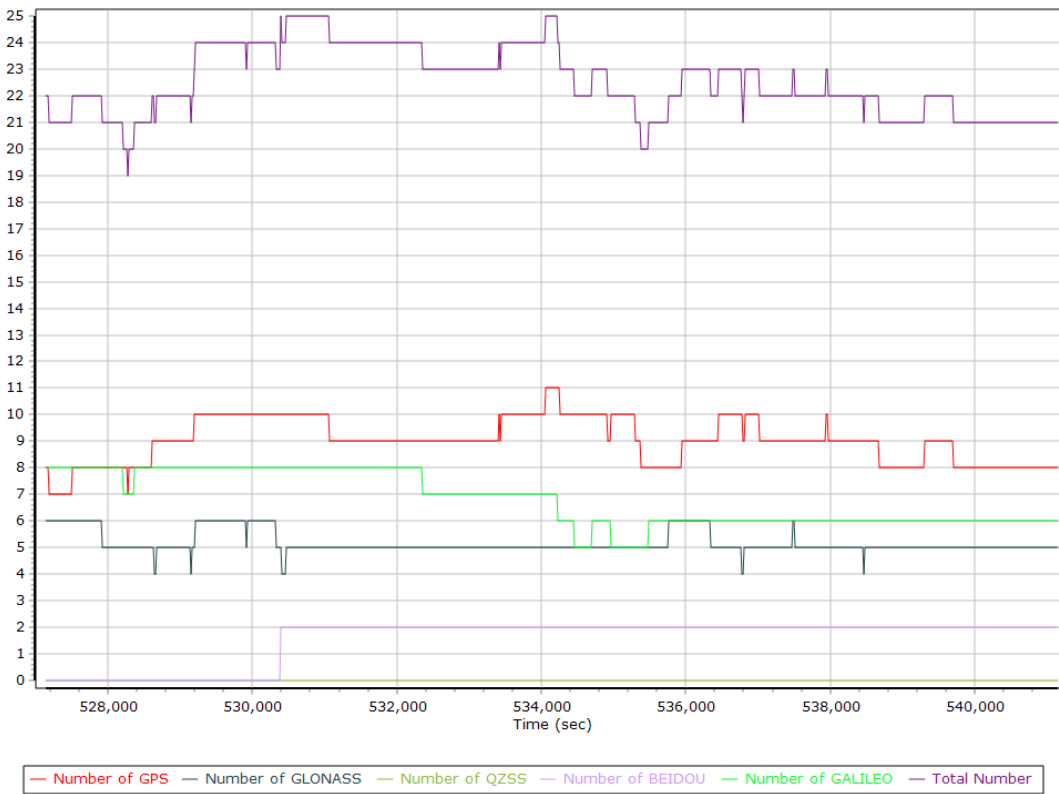


## GNSS QC

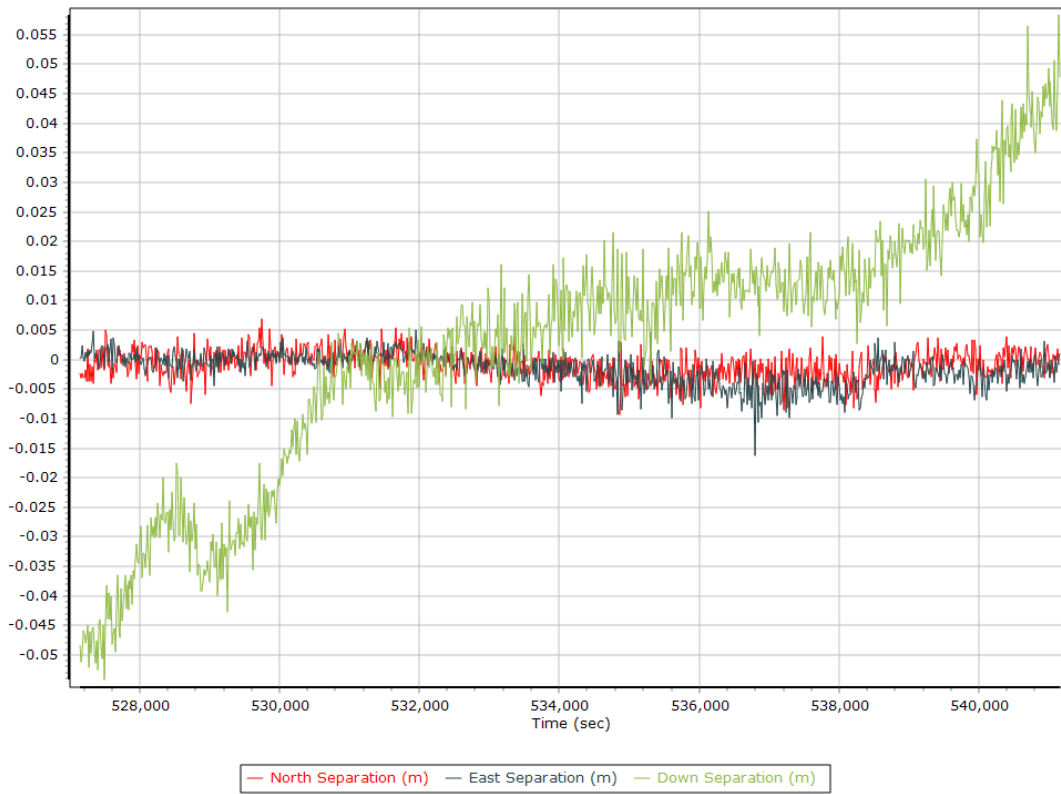
### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	7	11	9
Number of GLONASS SV	4	6	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	2	1
Number of GALILEO SV	5	8	7
Total number of SV	19	25	22
PDOP	0.91	1.36	1.11
QC Solution Gaps	1.00	2.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	14444.00	0.00	6.00
Percentage	99.96	0.00	0.04

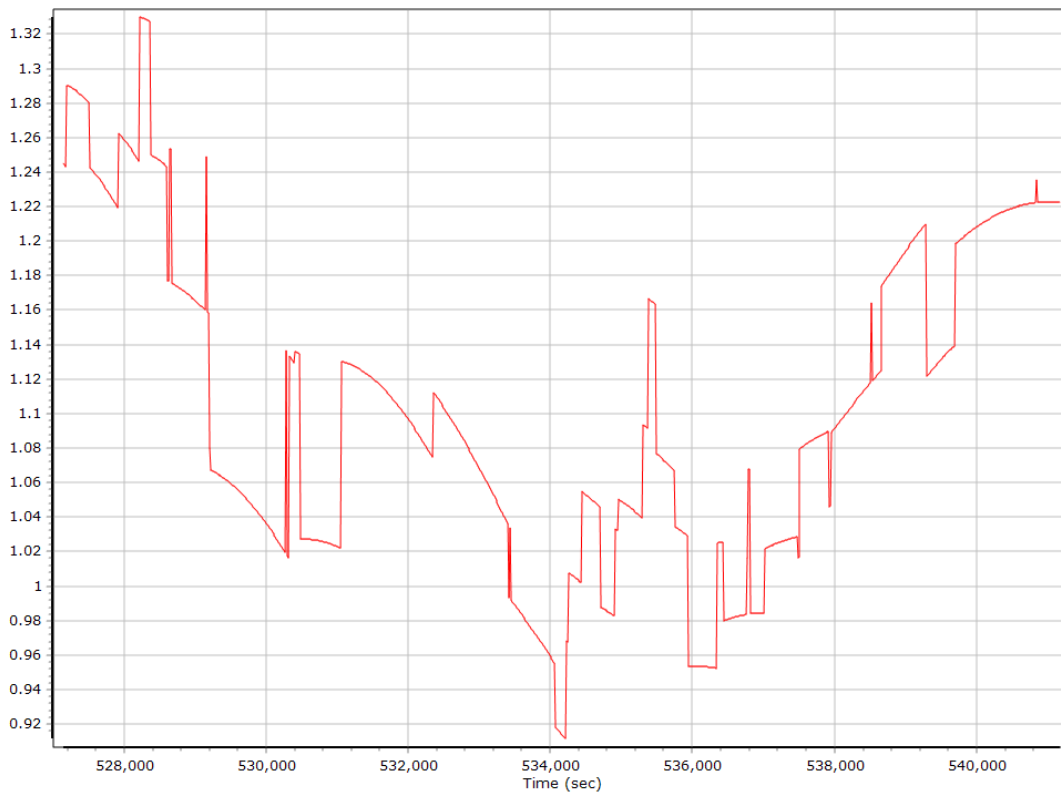
### Num SVs in solution



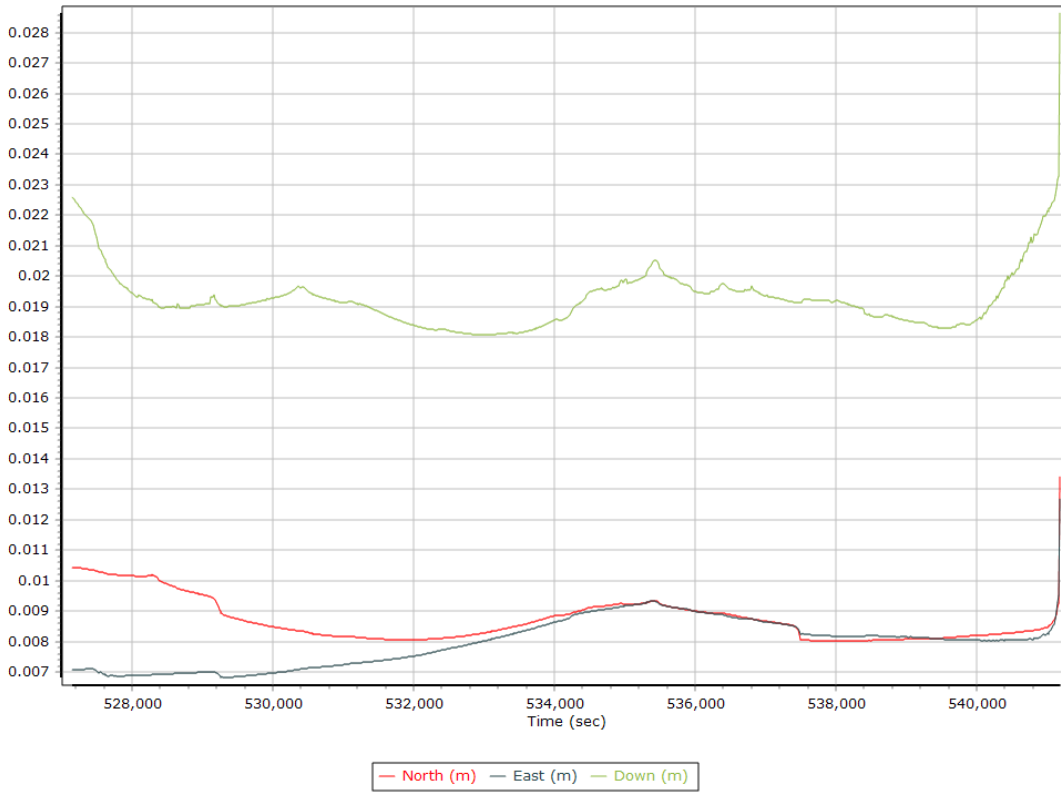
## Forward/Reverse Separation



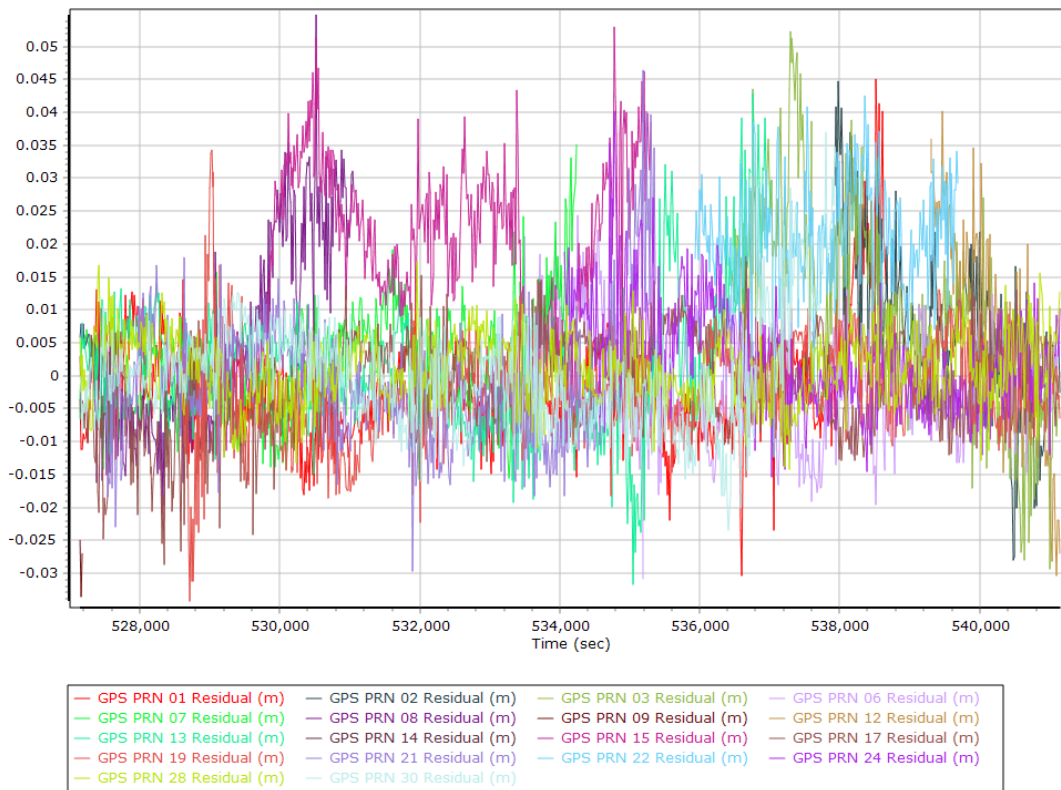
## PDOP



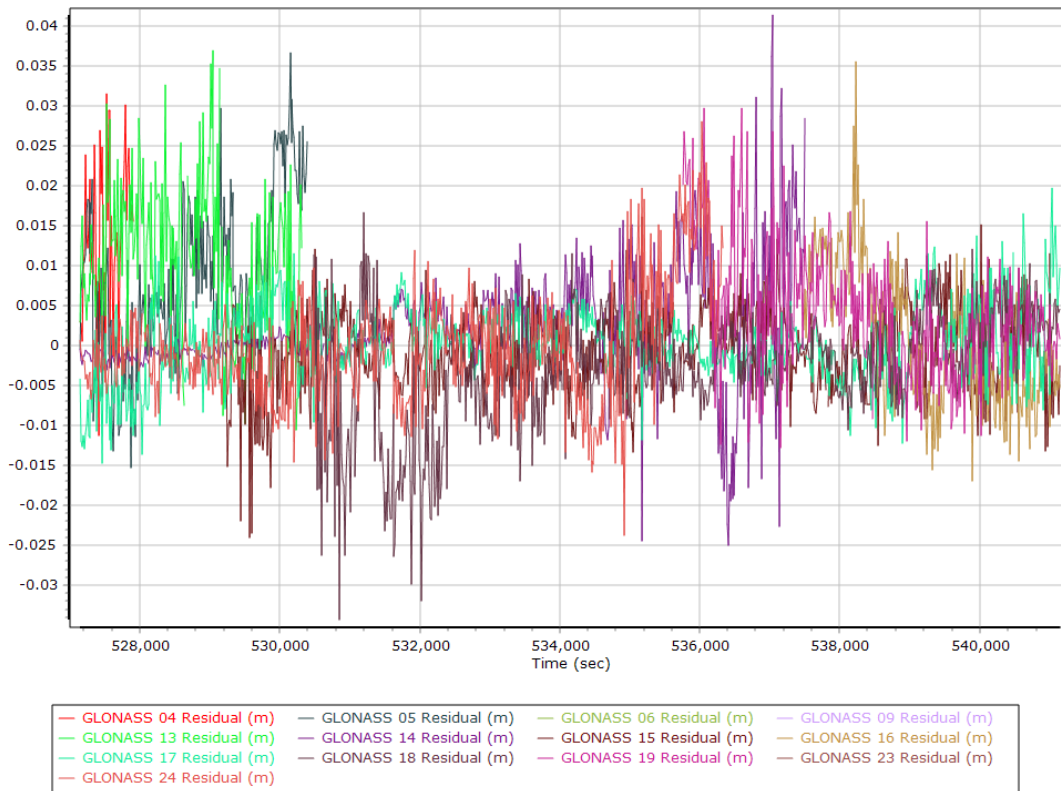
## Estimated Position Accuracy



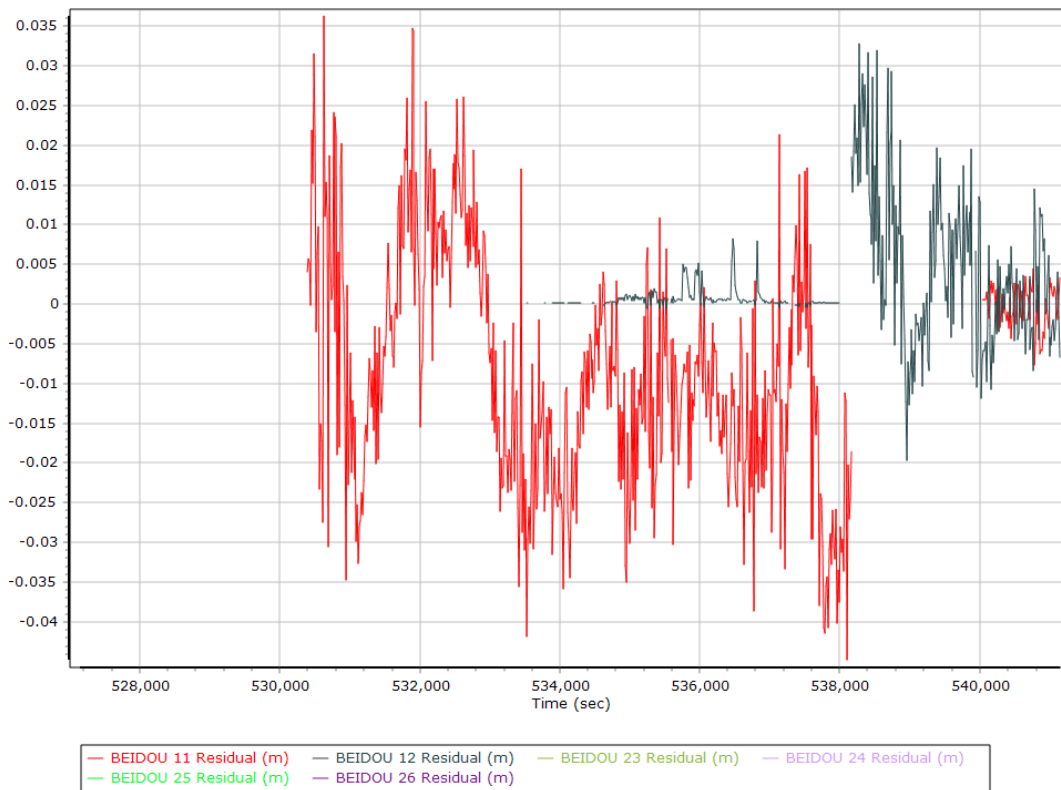
## GPS Residuals



## GLONASS Residuals

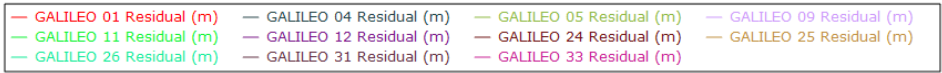
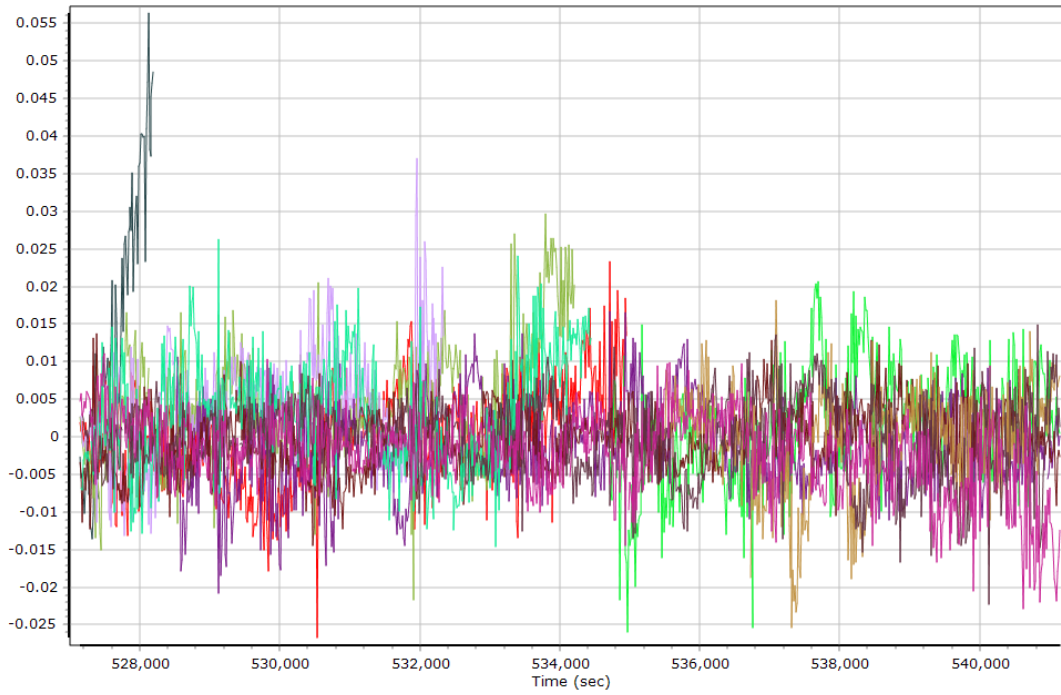


## BEIDOU Residuals





## GALILEO Residuals



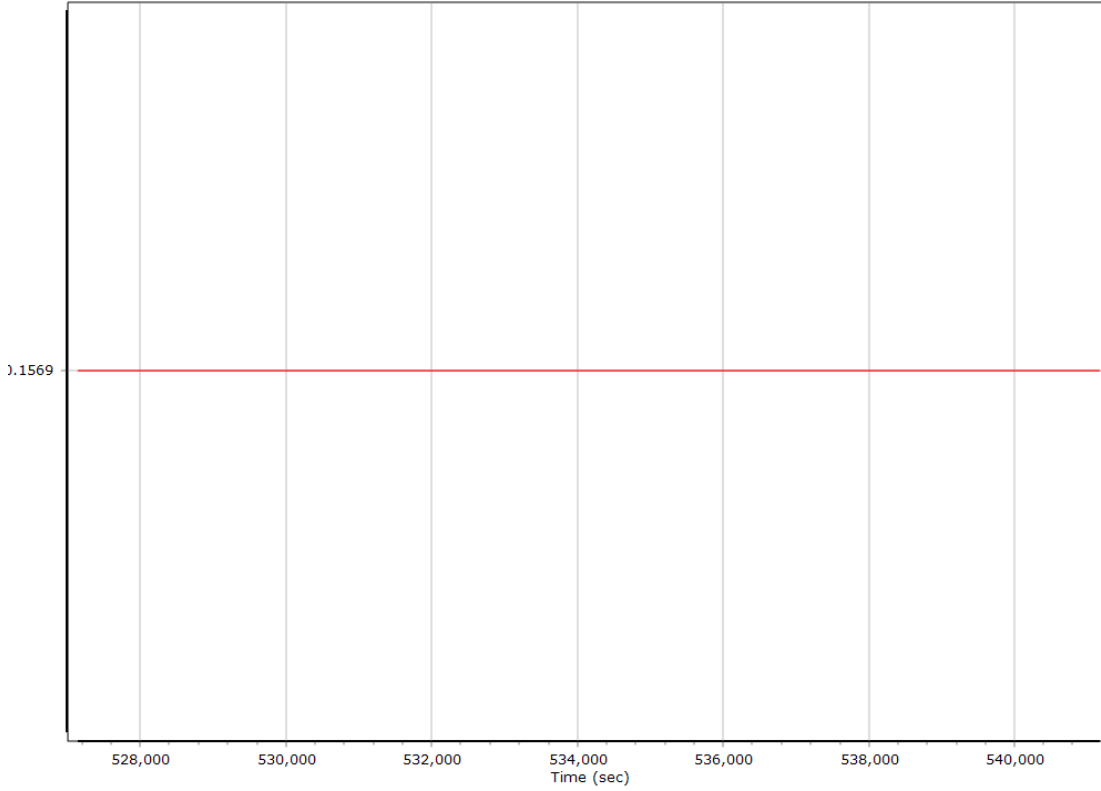
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	526696.000 (12/05/2020 02:18:16)		
Processing end time	541182.000 (12/05/2020 06:19:42)		
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

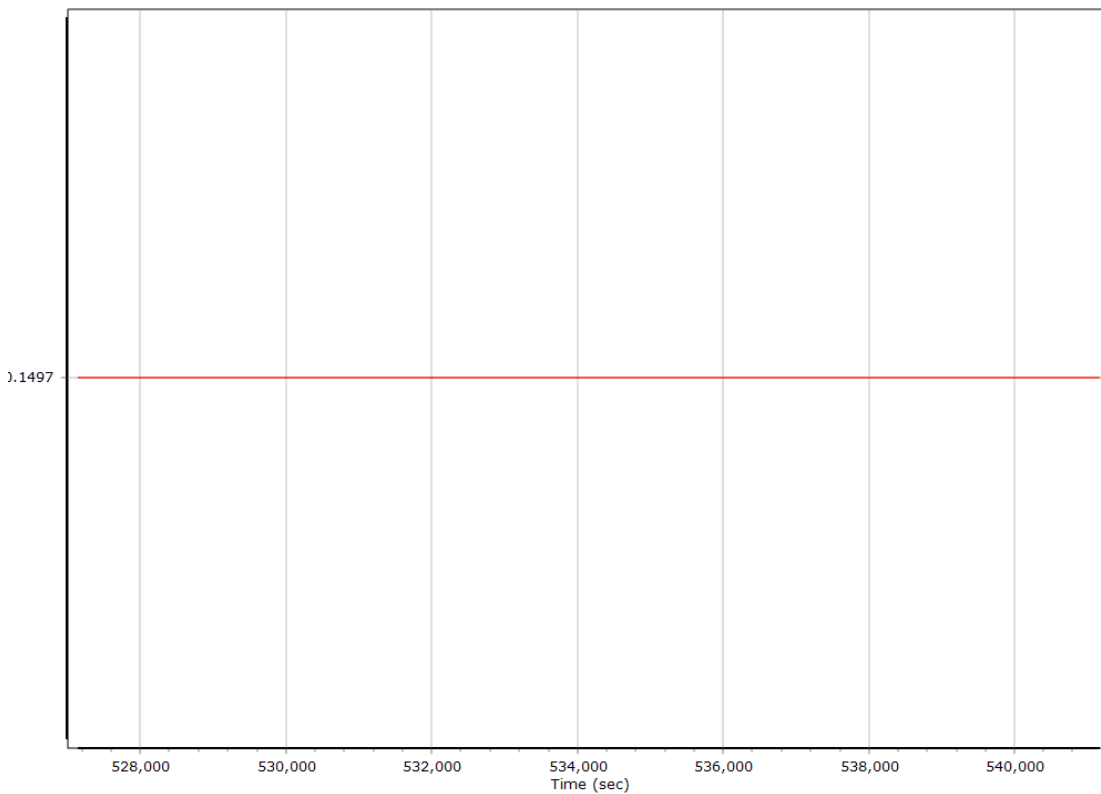
## Calibrated Installation Parameters

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

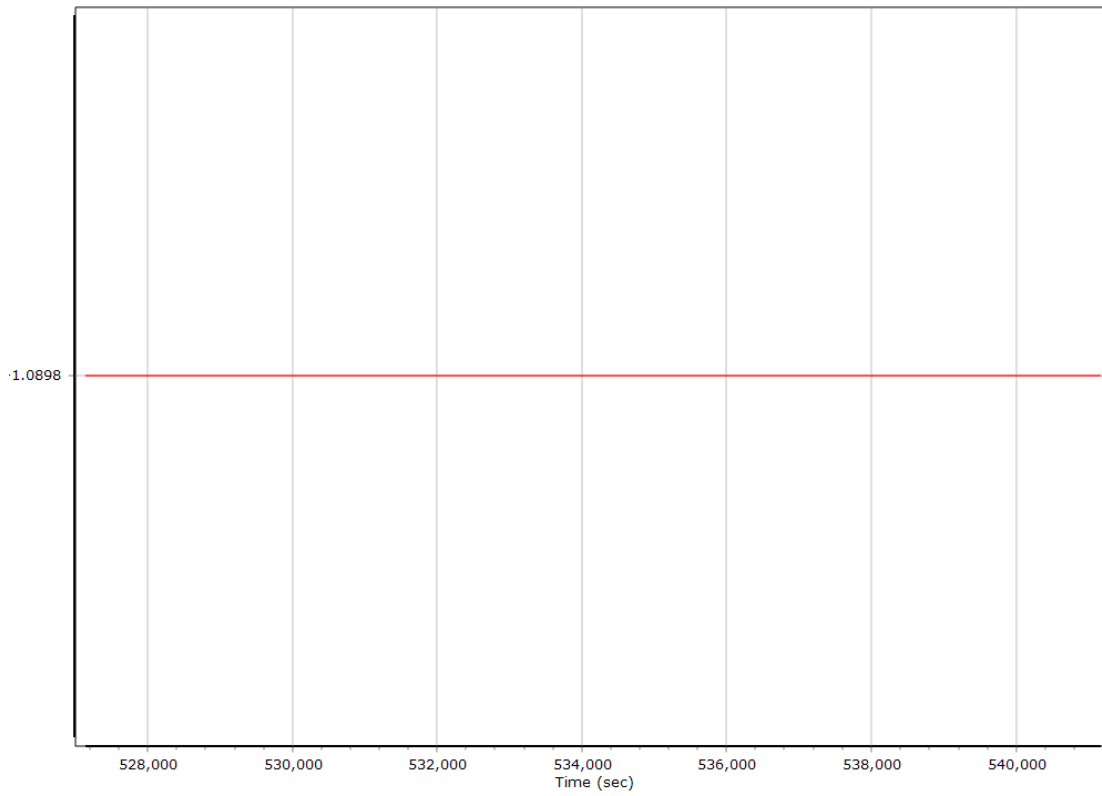
#### X Reference-Primary GNSS Lever Arm (m)



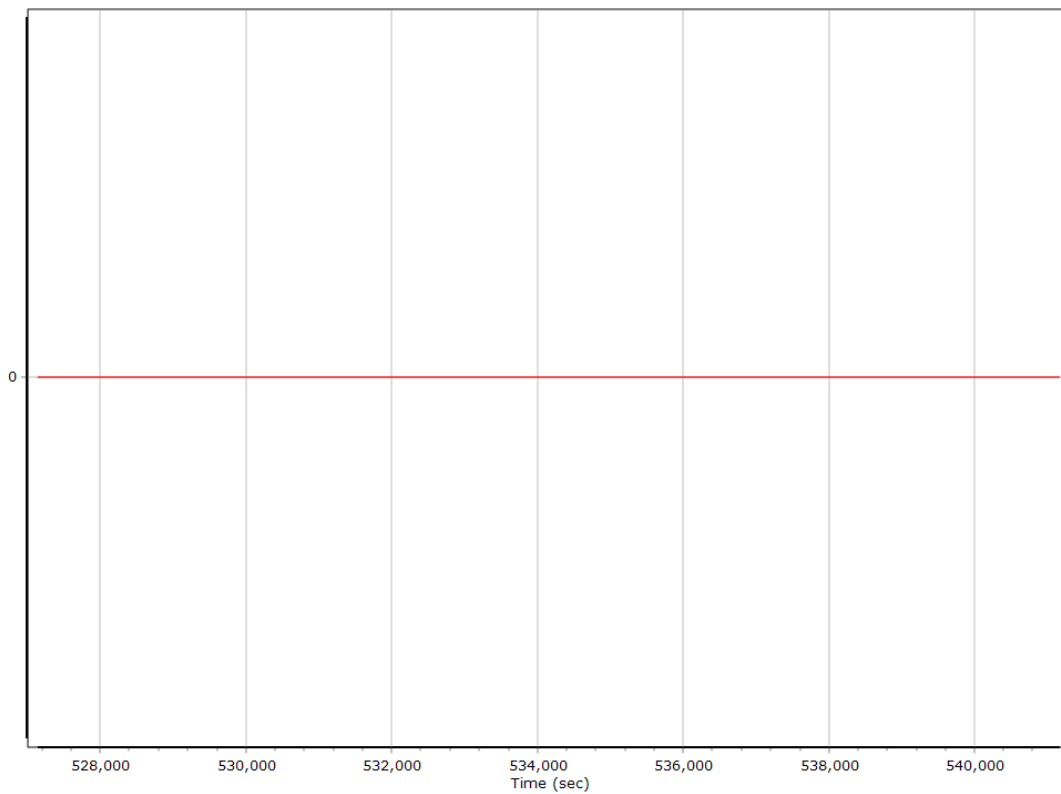
#### Y Reference-Primary GNSS Lever Arm (m)



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



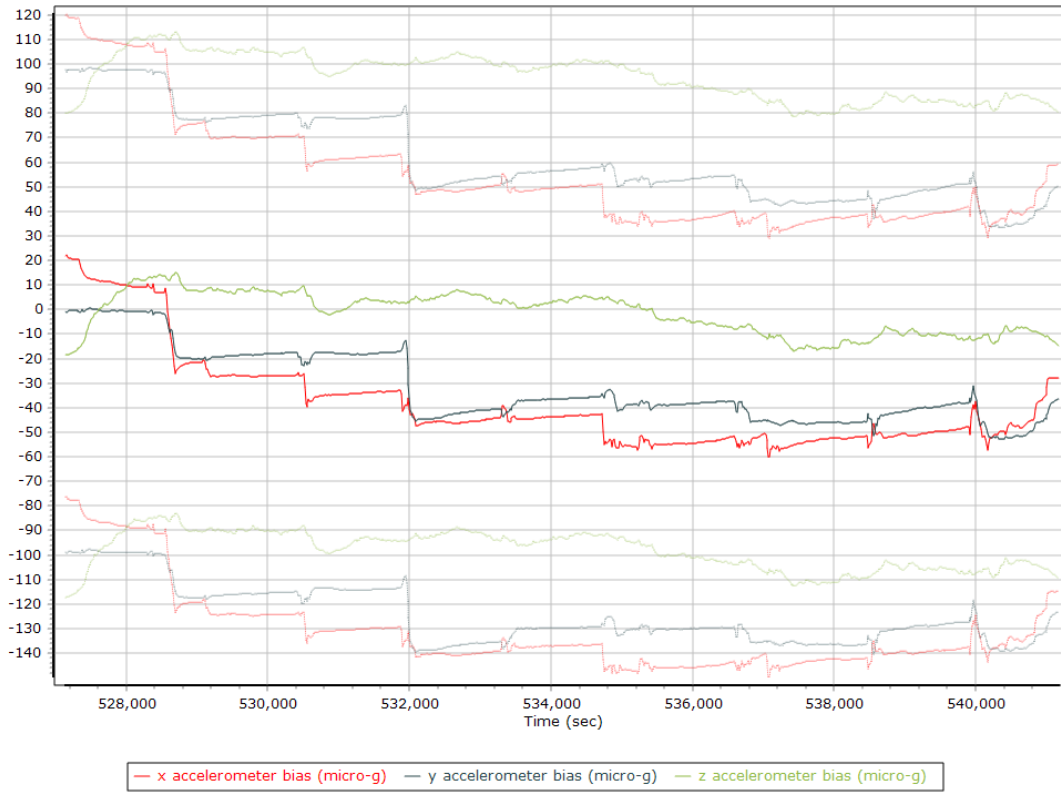
### Reference-Primary GNSS Lever Arm Figure of Merit



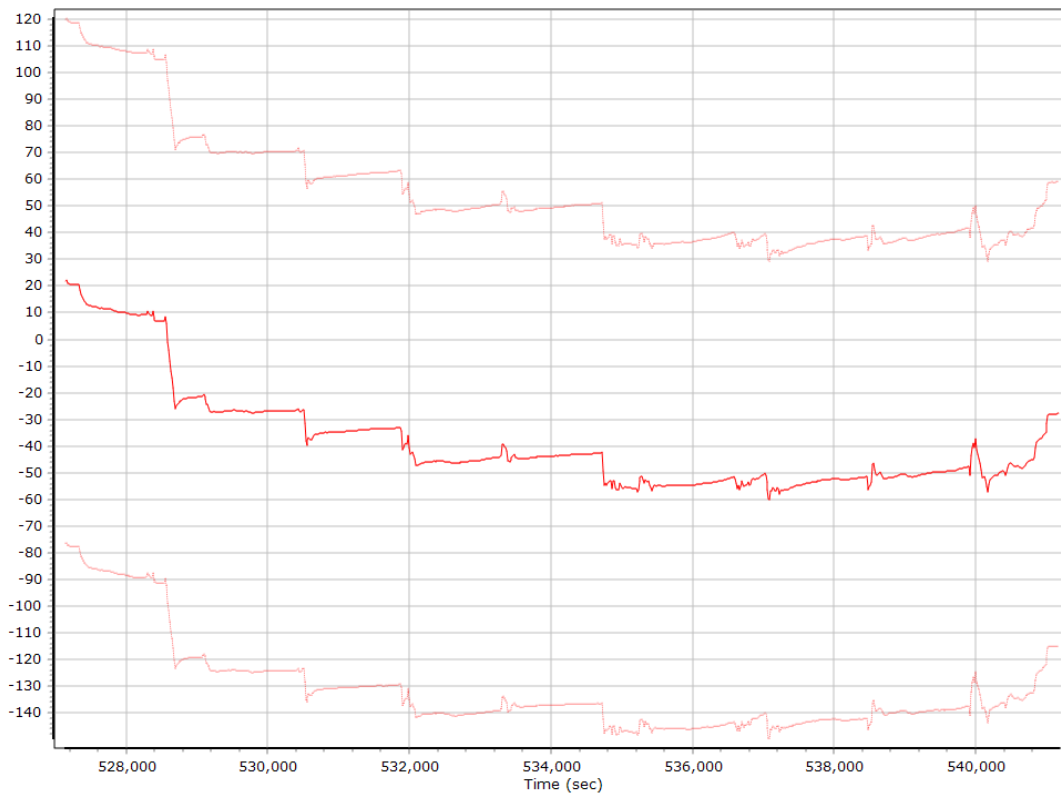
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

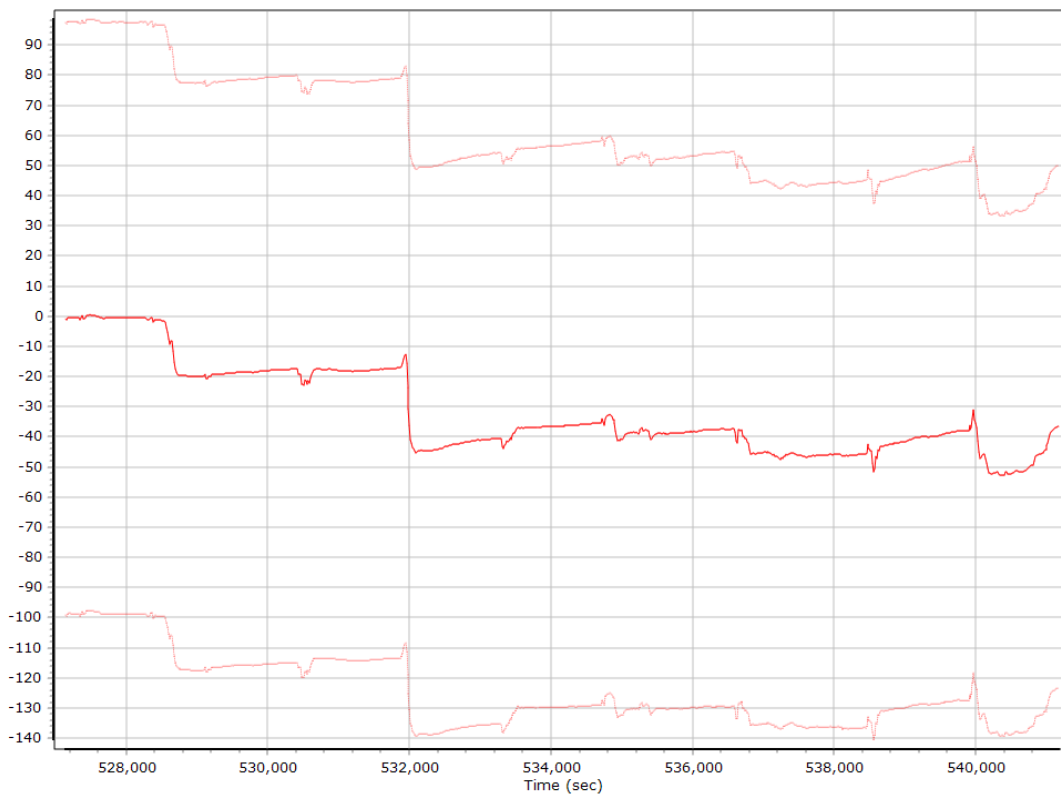
#### Accelerometer Bias (micro-g)



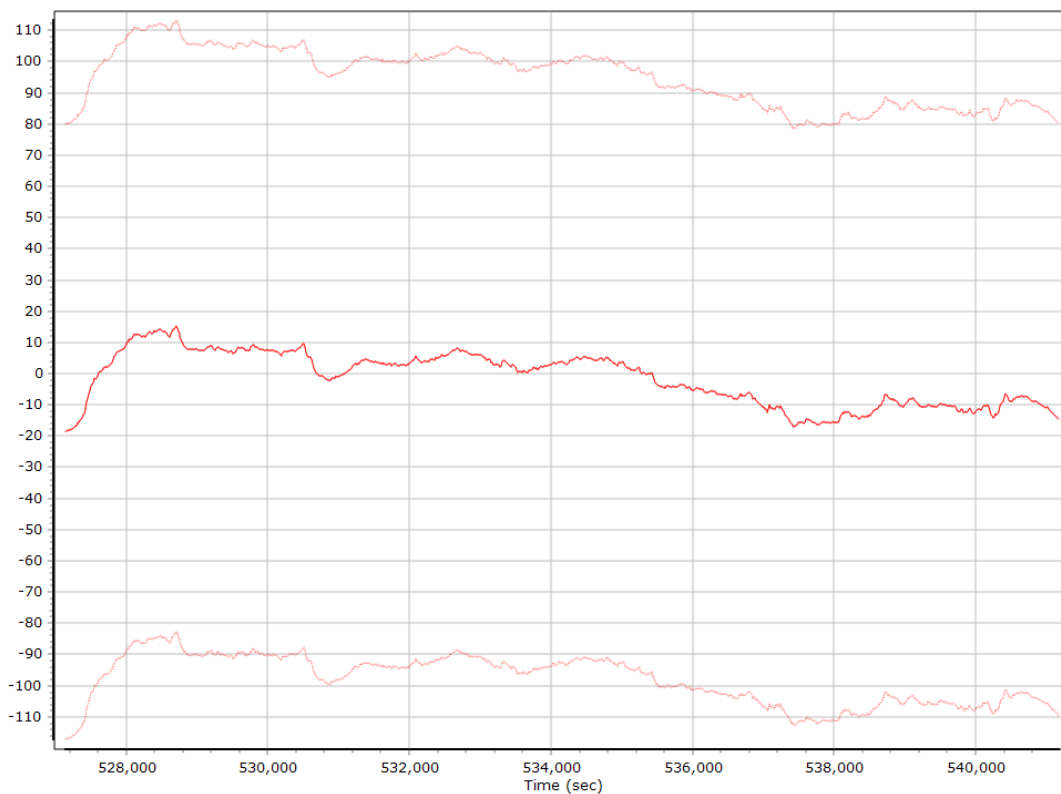
#### X Accelerometer Bias (micro-g)



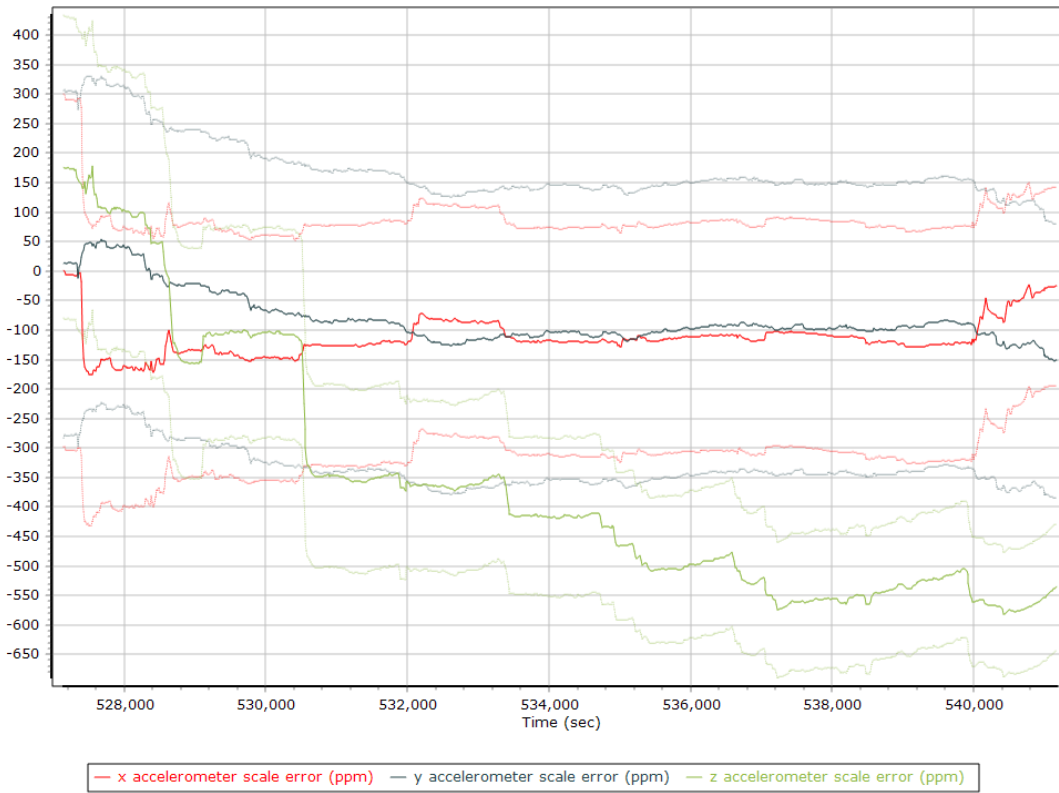
### Y Accelerometer Bias (micro-g)



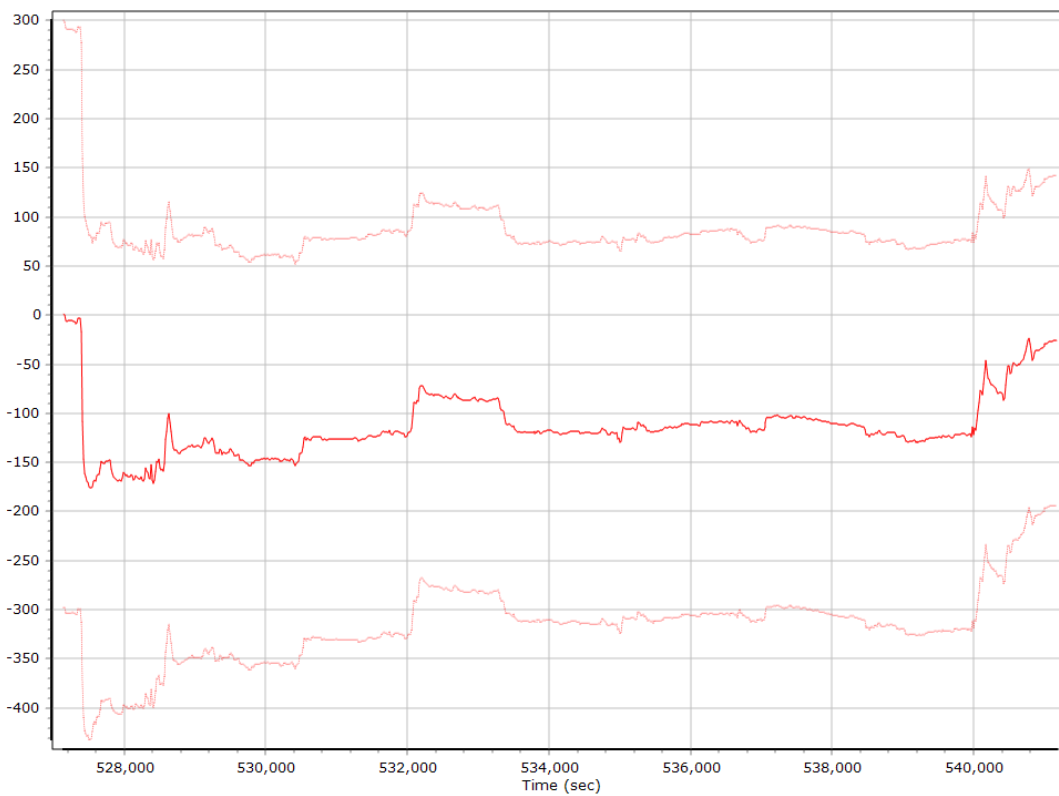
### Z Accelerometer Bias (micro-g)



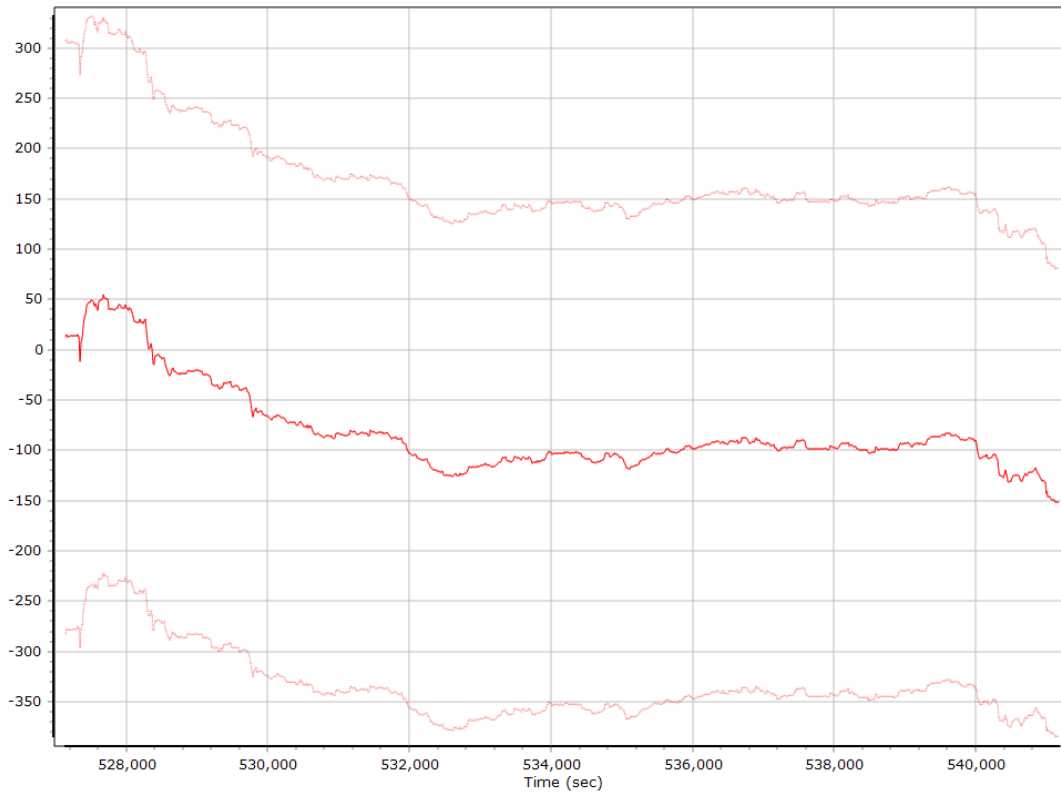
### Accelerometer Scale Error (ppm)



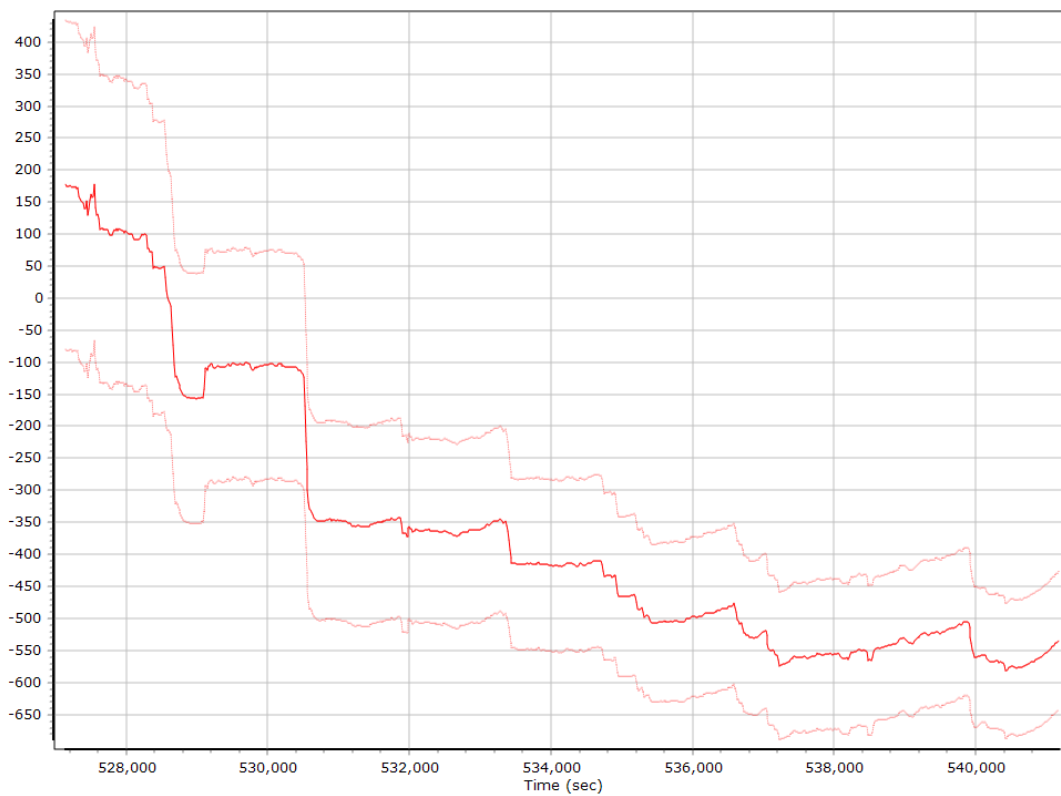
### X Accelerometer Scale Error (ppm)



### Y Accelerometer Scale Error (ppm)

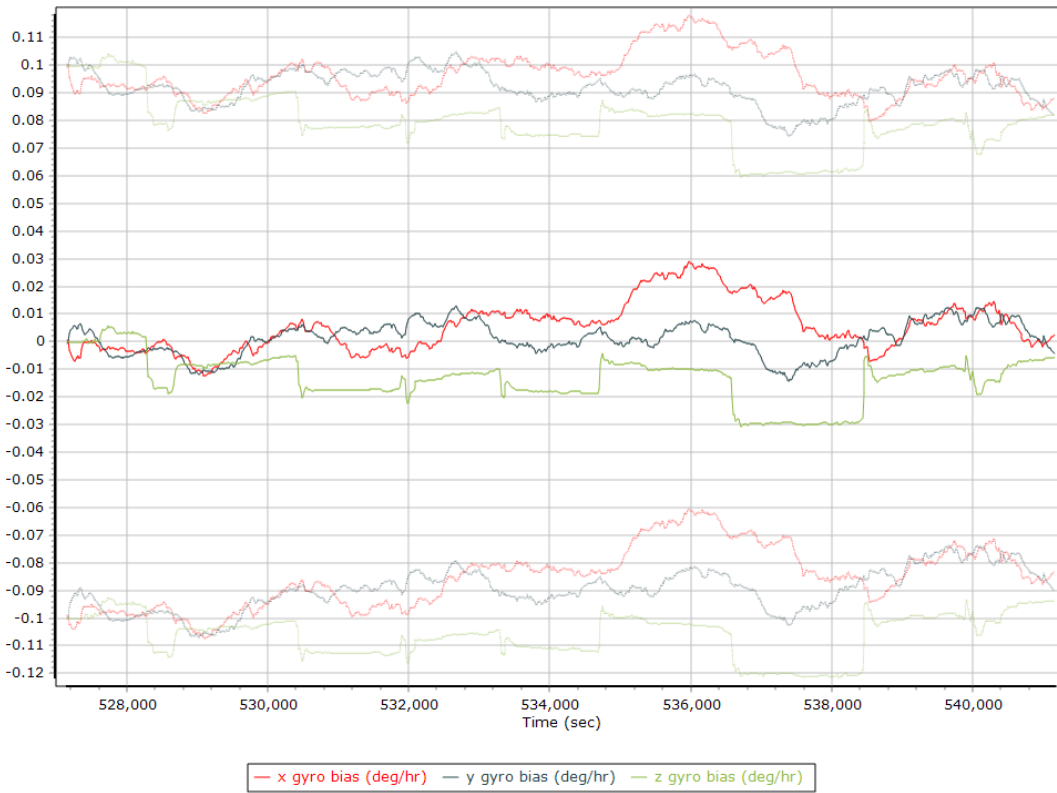


### Z Accelerometer Scale Error (ppm)

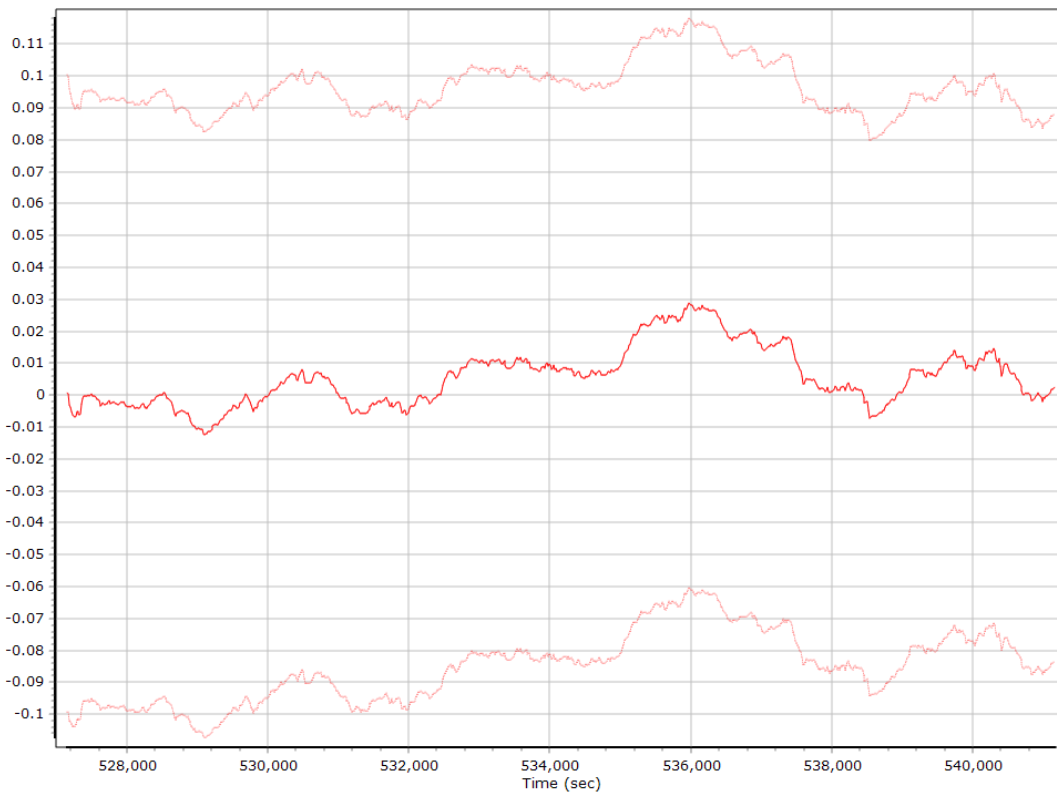




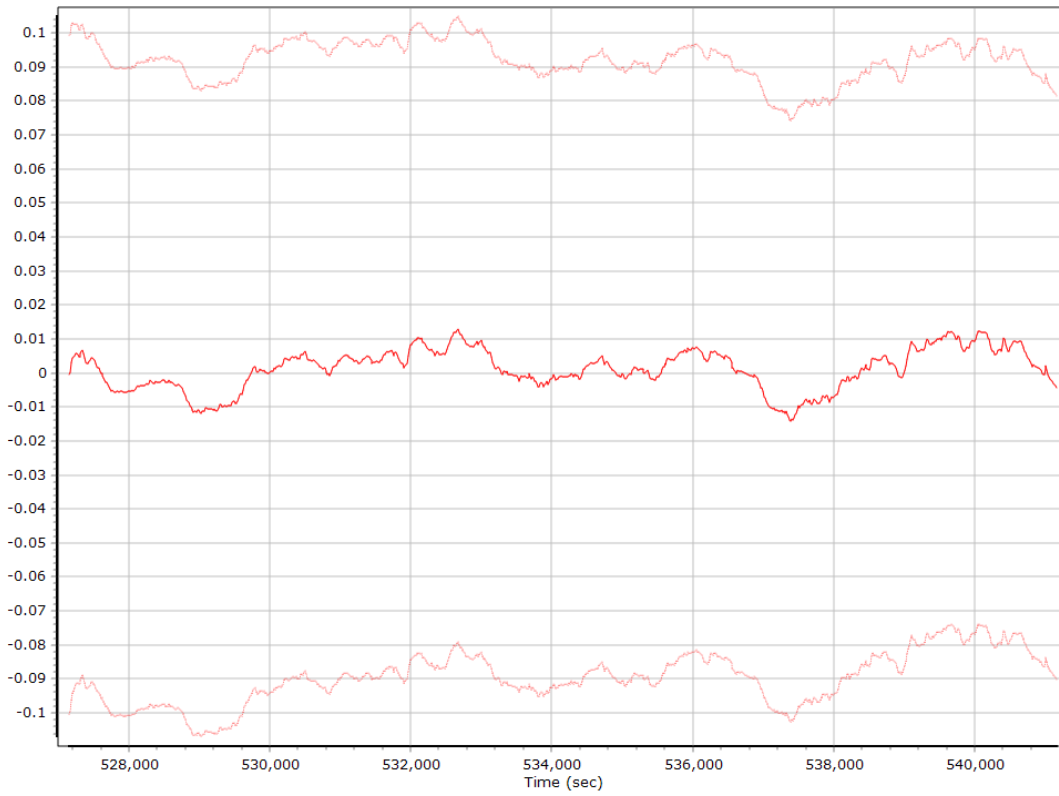
### Gyro Bias (deg/h)



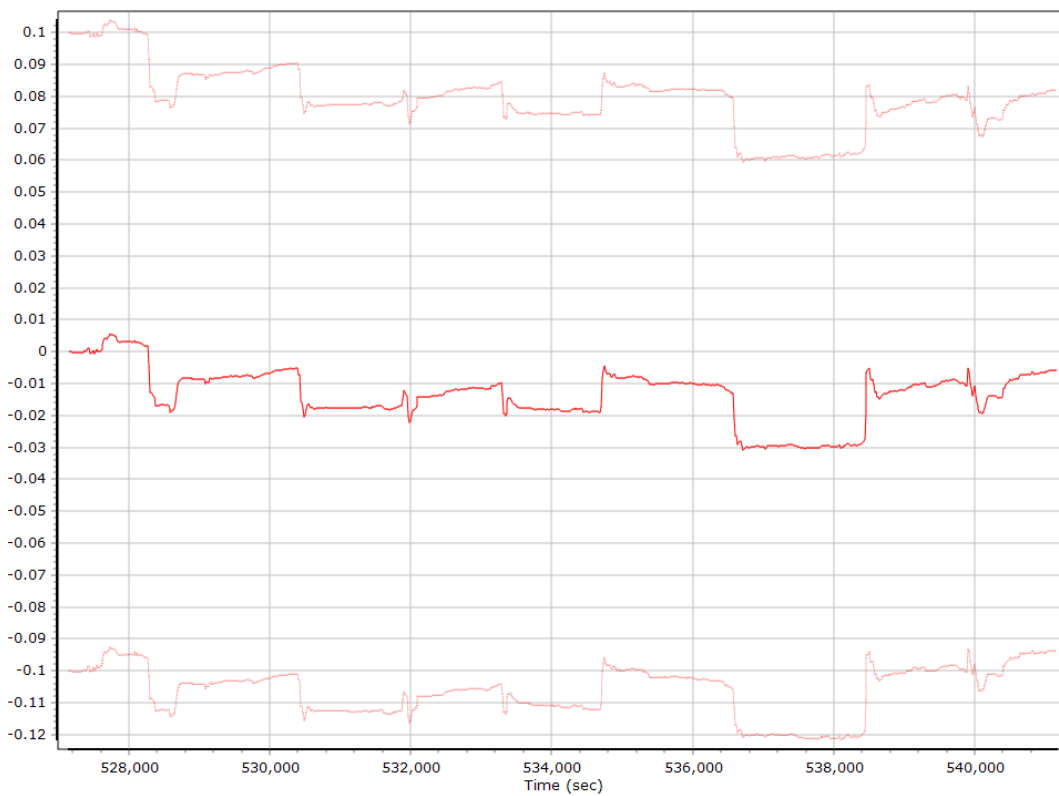
### X Gyro Bias (deg/h)



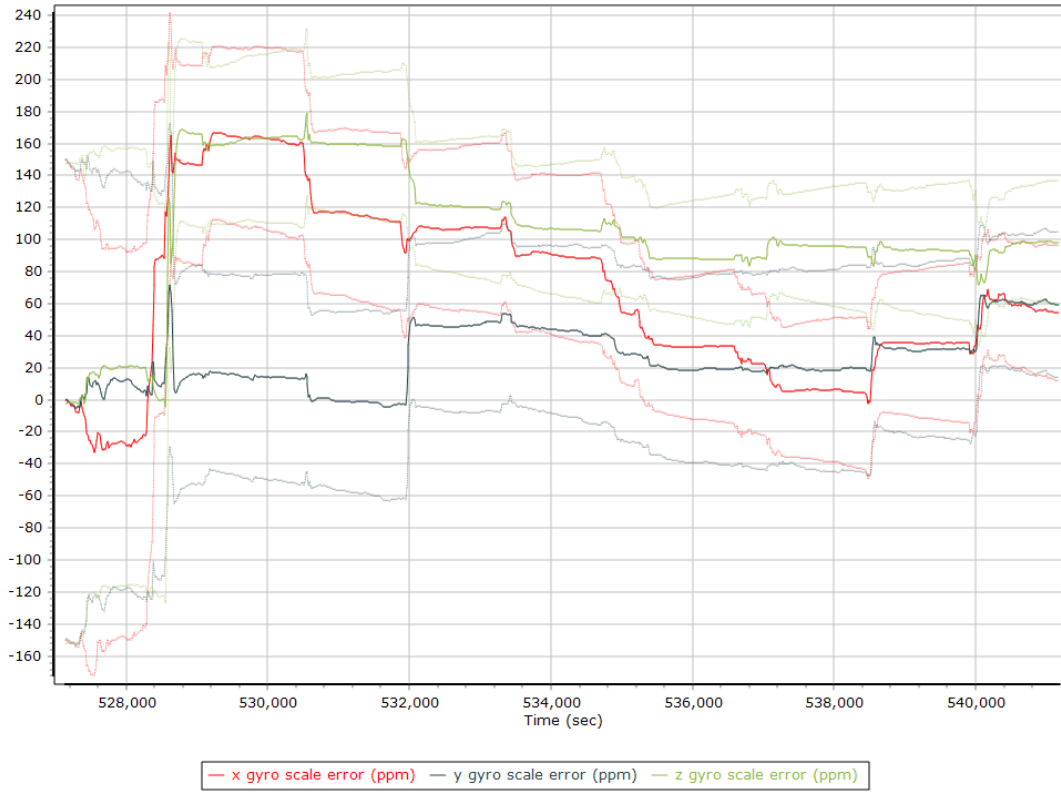
### Y Gyro Bias (deg/h)



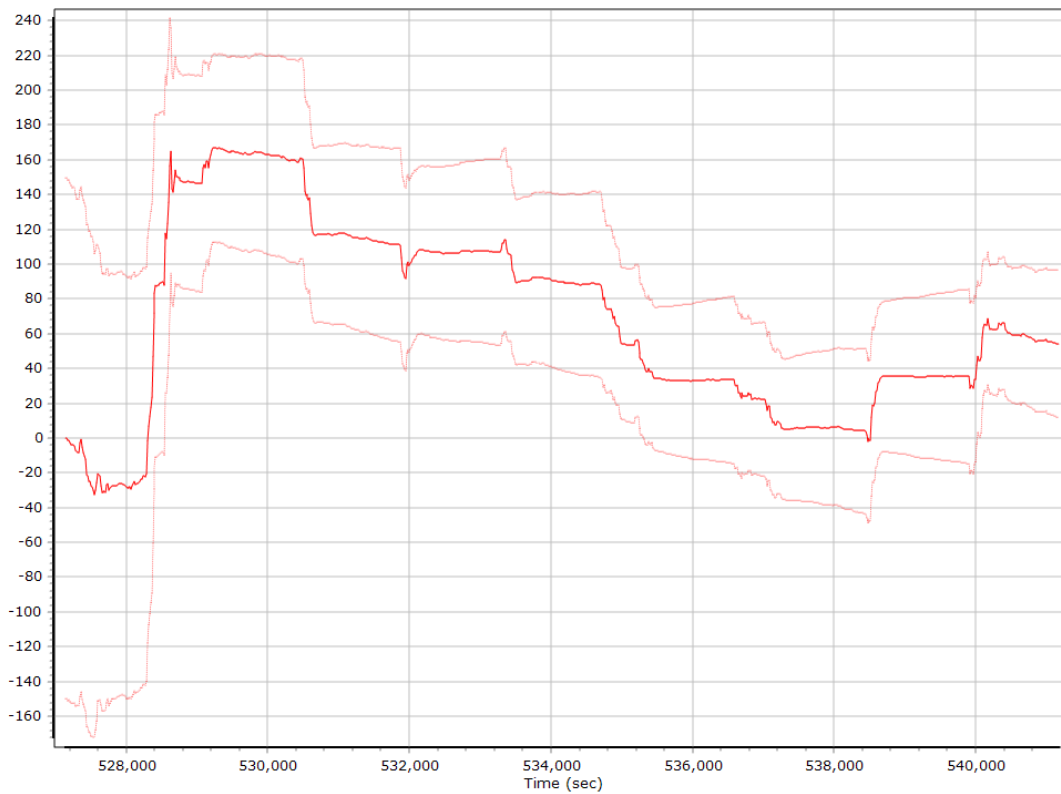
### Z Gyro Bias (deg/h)



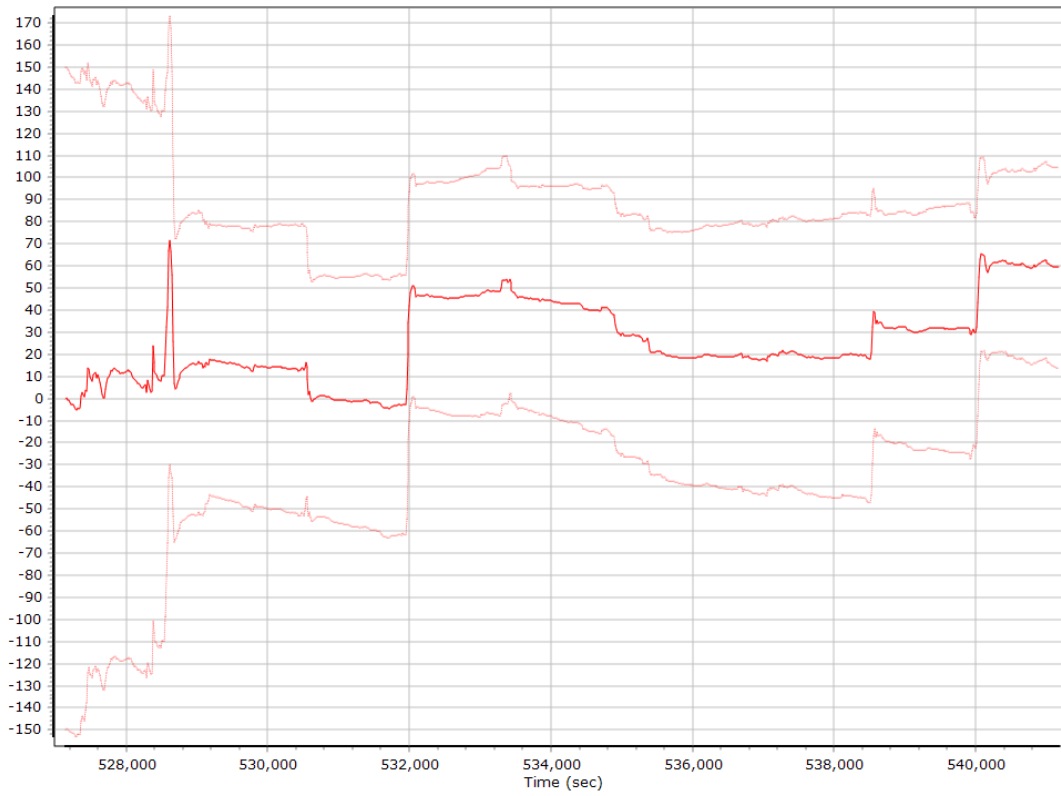
### Gyro Scale Error (ppm)



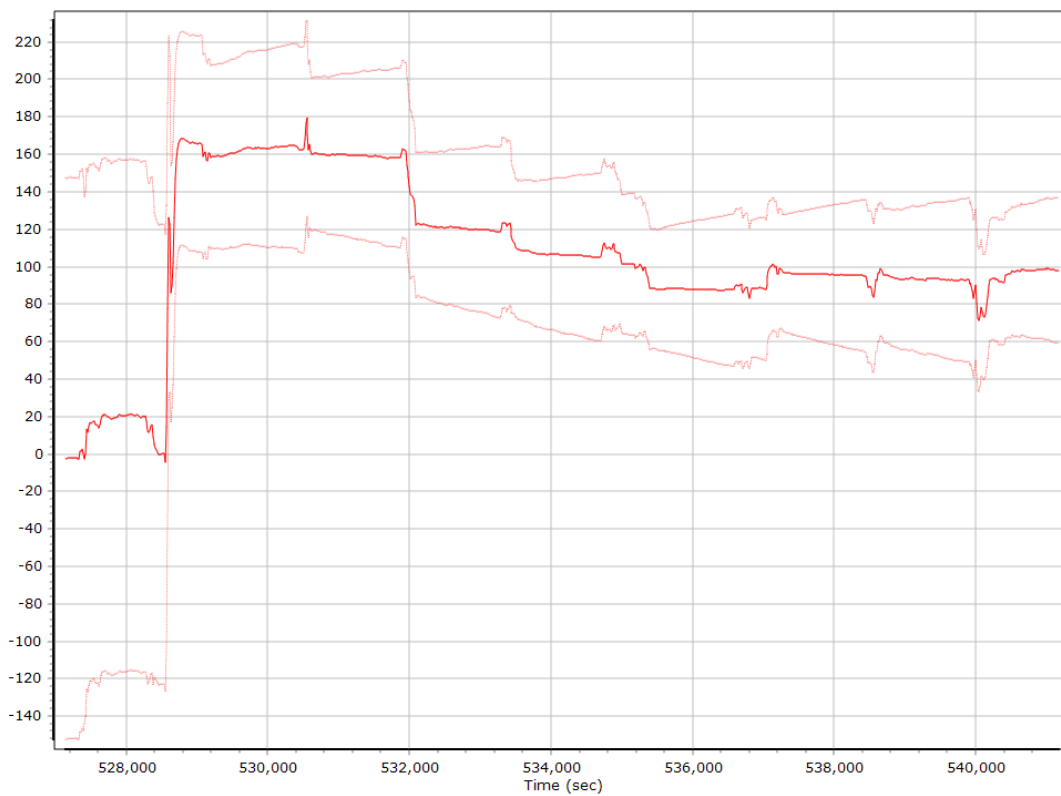
### X Gyro Scale Error (ppm)



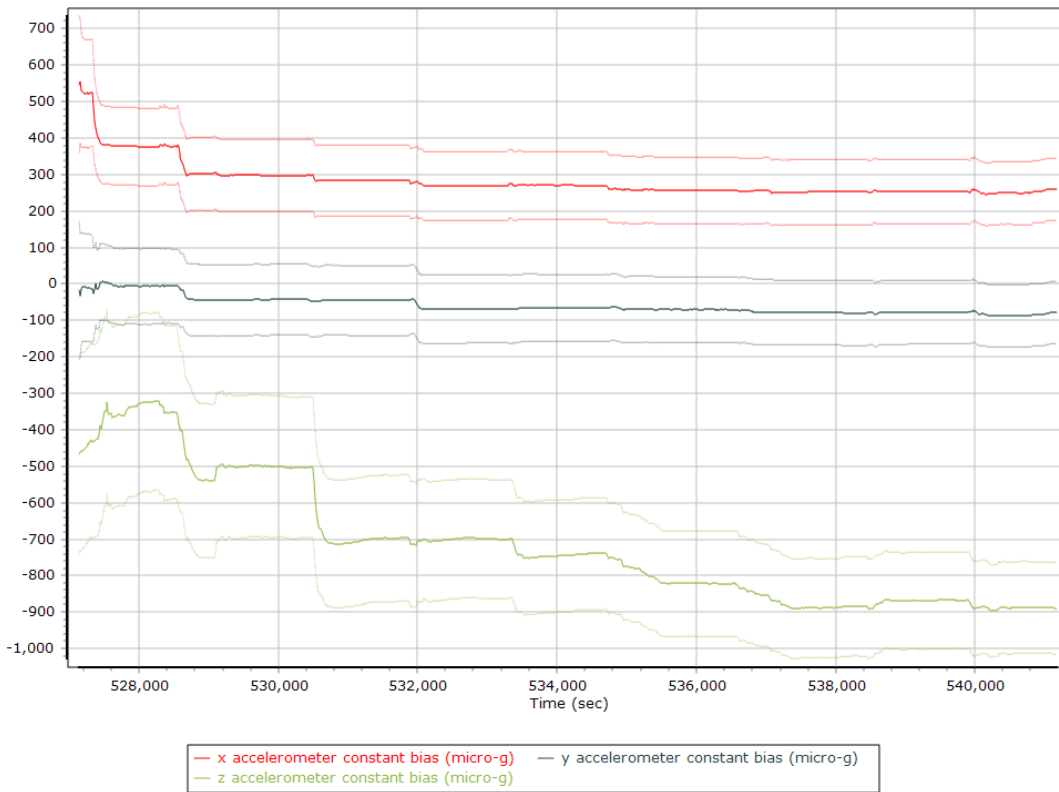
### Y Gyro Scale Error (ppm)



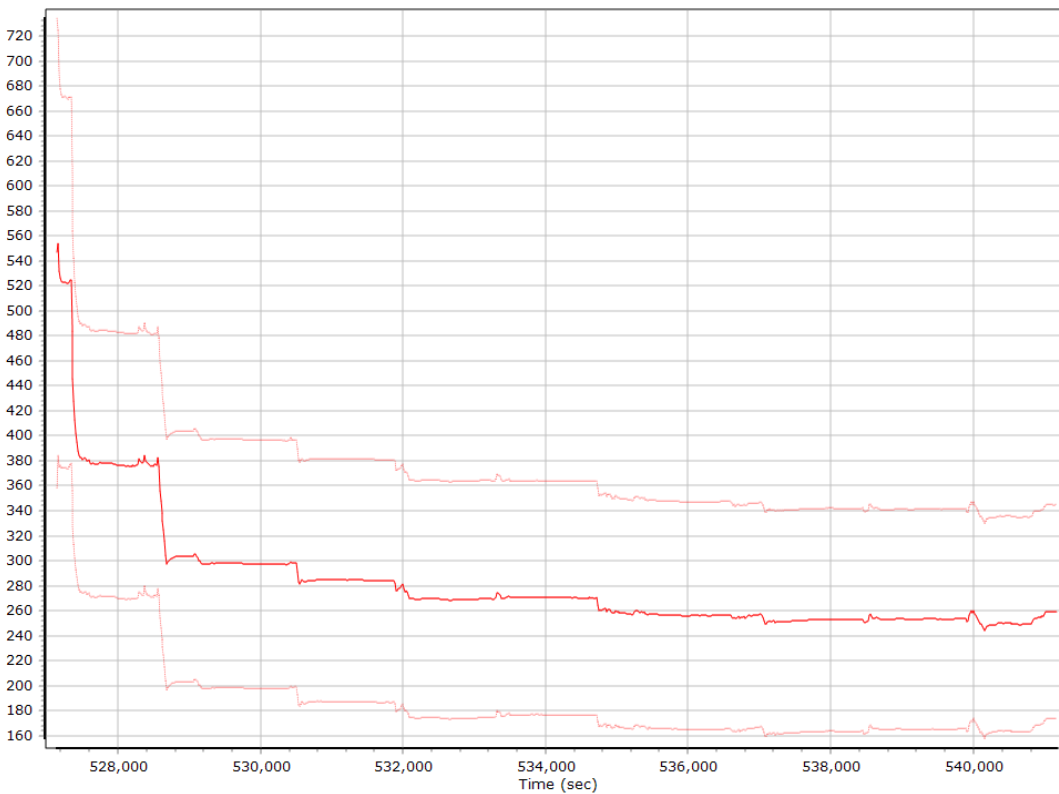
### Z Gyro Scale Error (ppm)



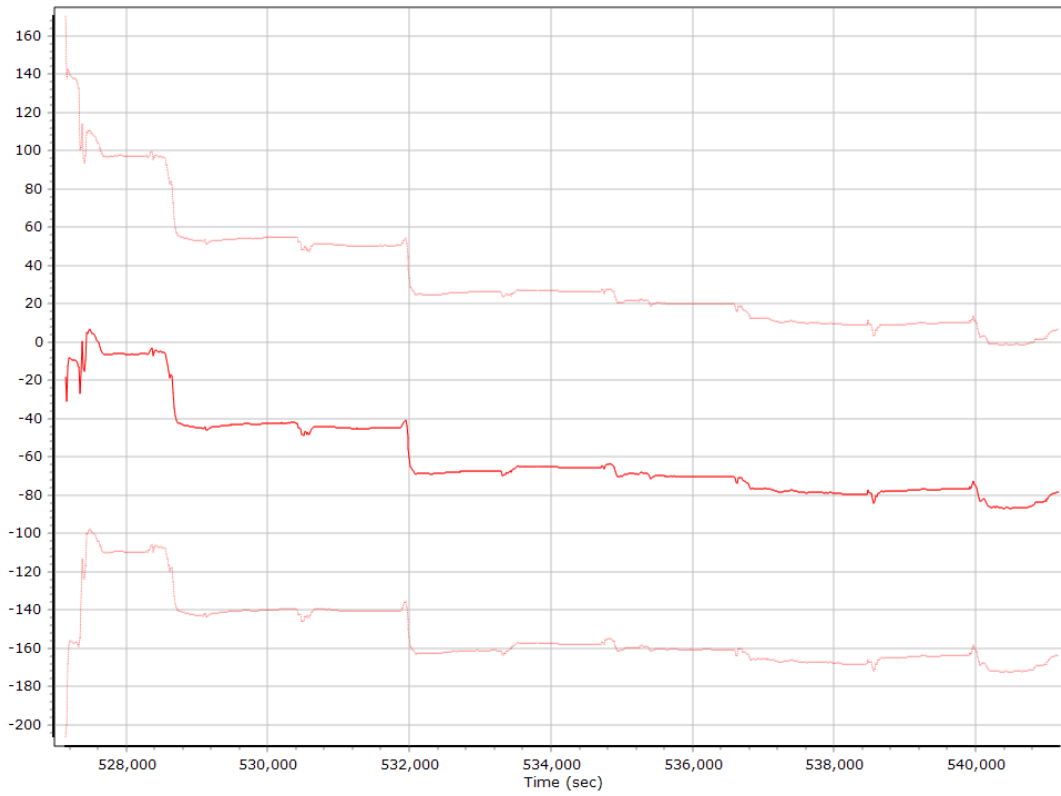
### Forward Processed Estimated Constant Errors, Reference Frame Accelerometer Bias (micro-g)



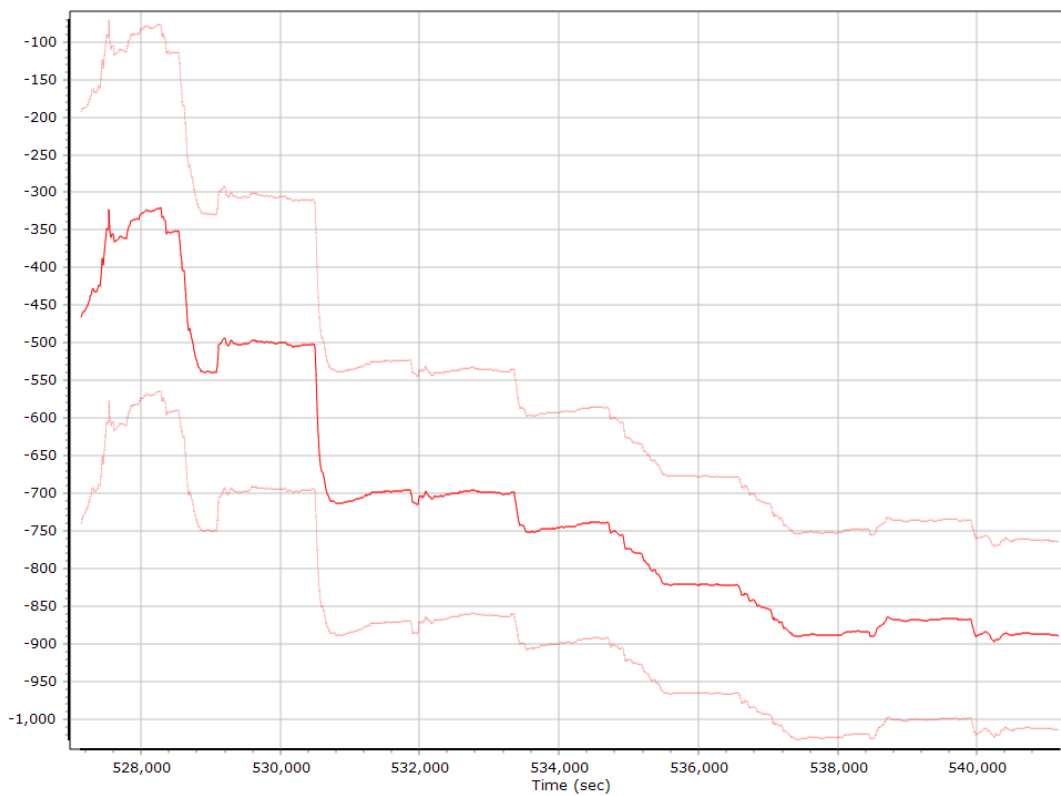
### X Accelerometer Bias (micro-g)



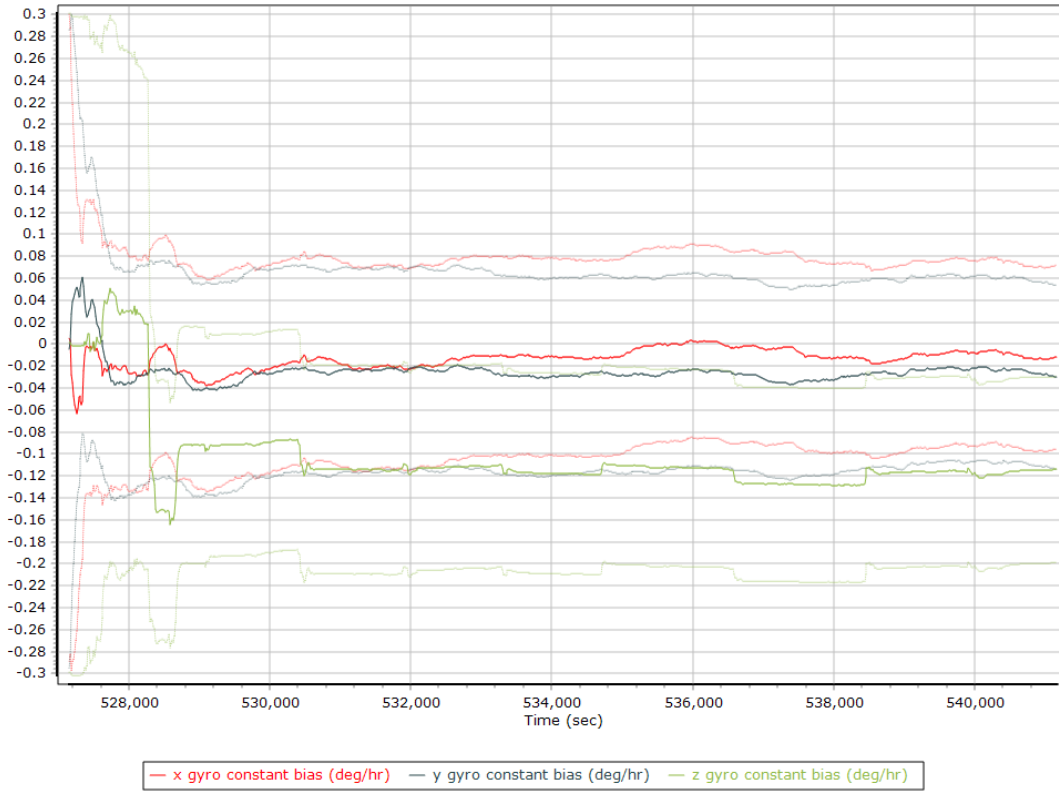
### Y Accelerometer Bias (micro-g)



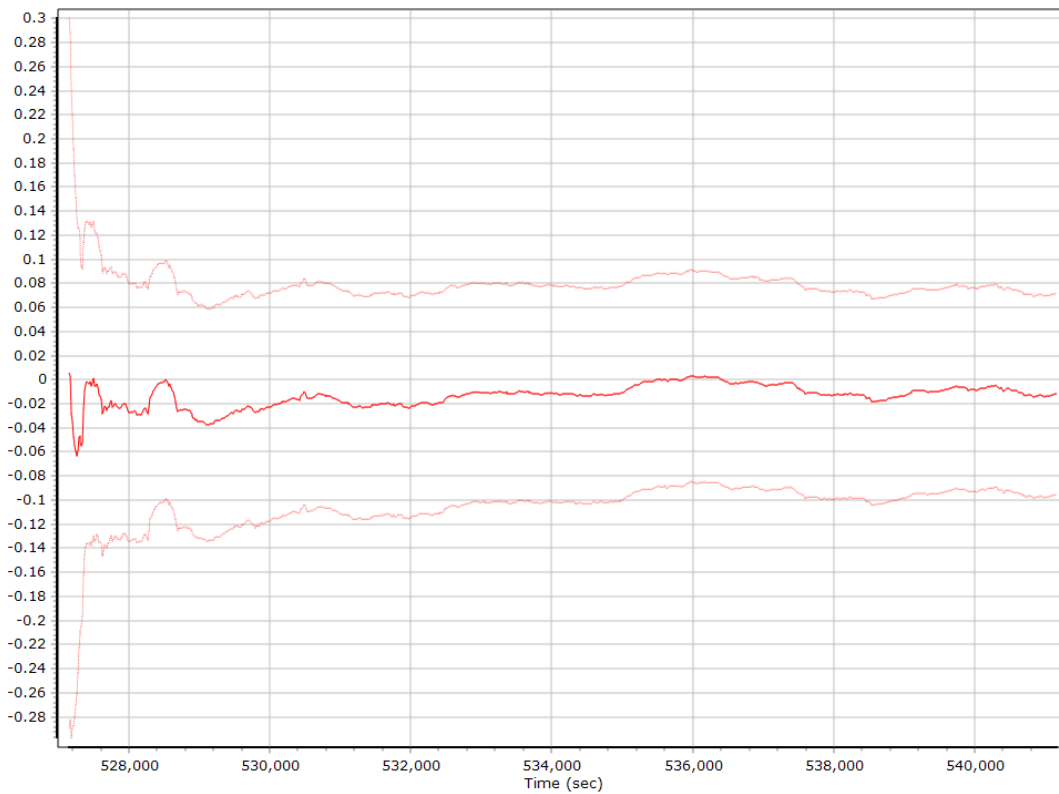
### Z Accelerometer Bias (micro-g)



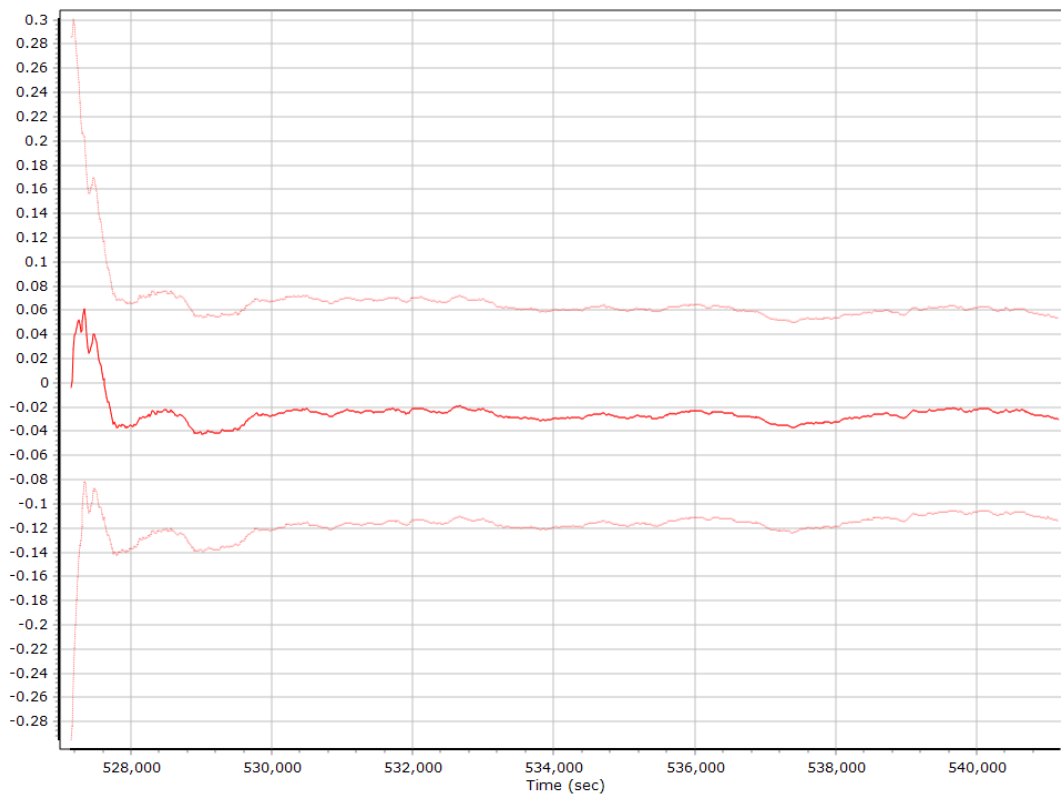
### Gyro Bias (deg/h)



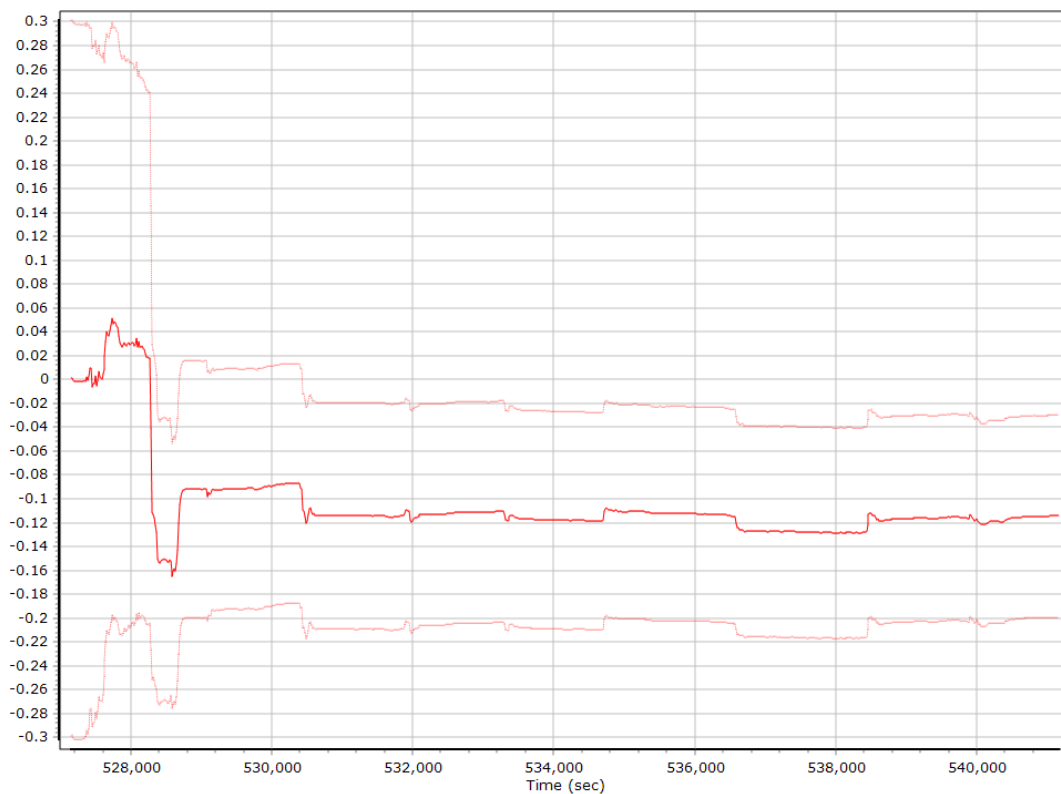
### X Gyro Bias (deg/h)



### Y Gyro Bias (deg/h)



### Z Gyro Bias (deg/h)



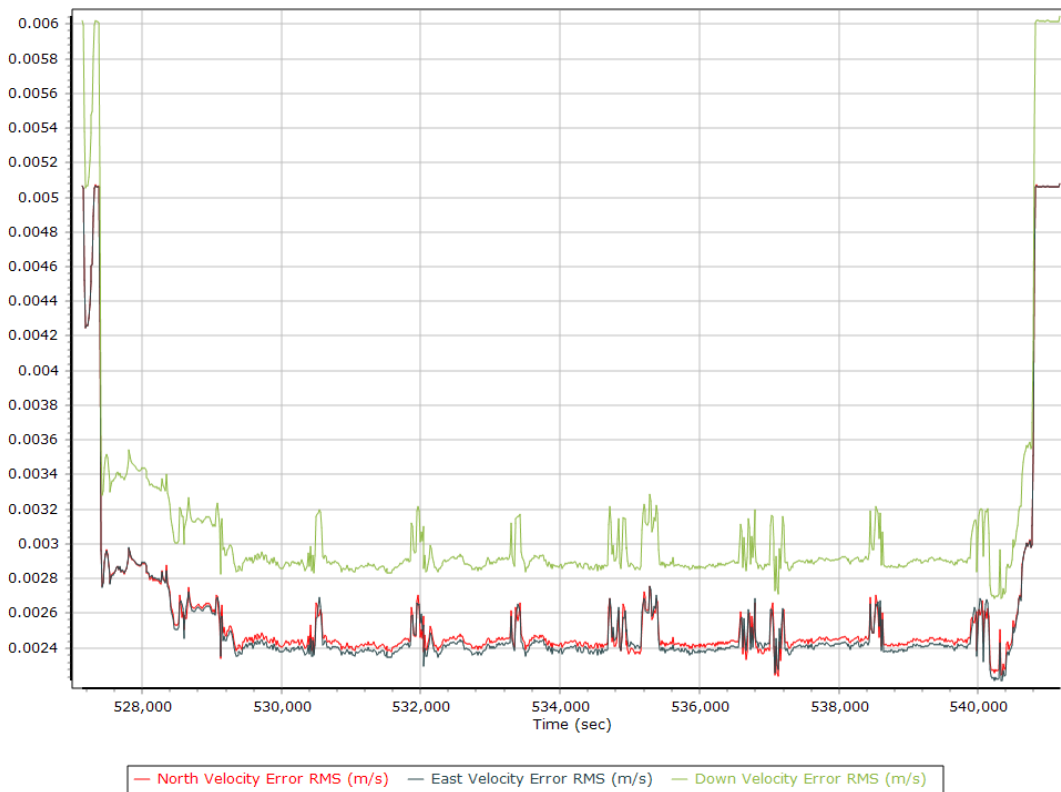


## Smoothed Performance Metrics

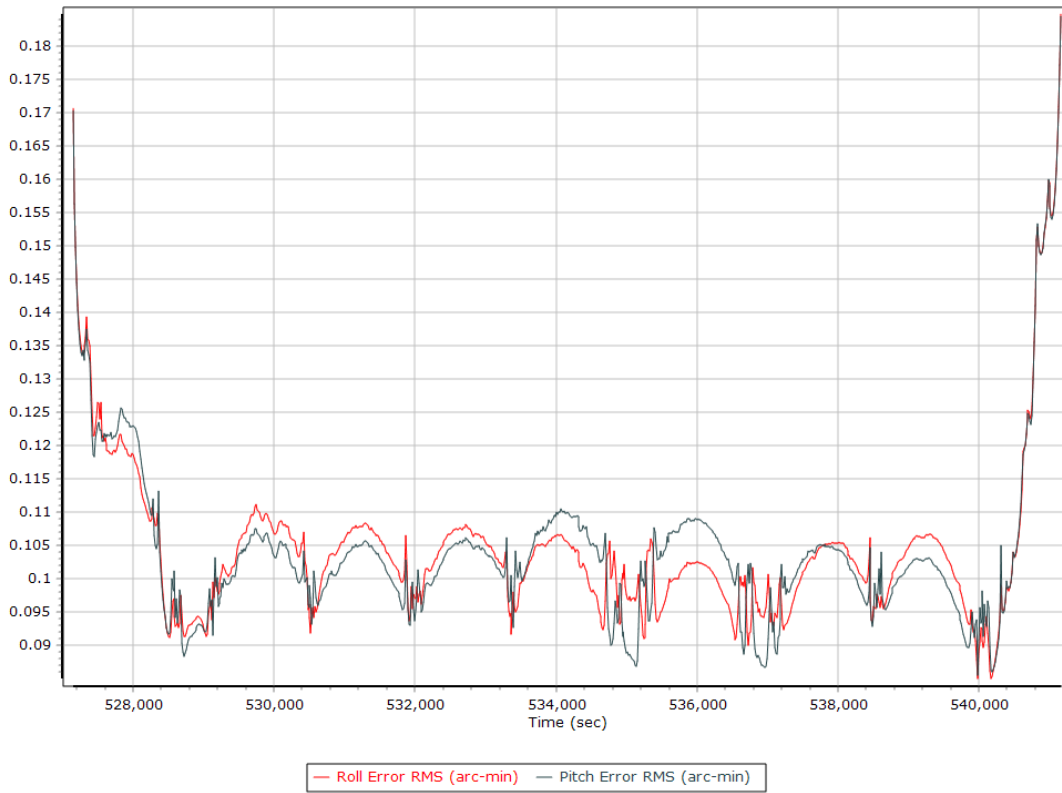
### Position Error RMS (m)



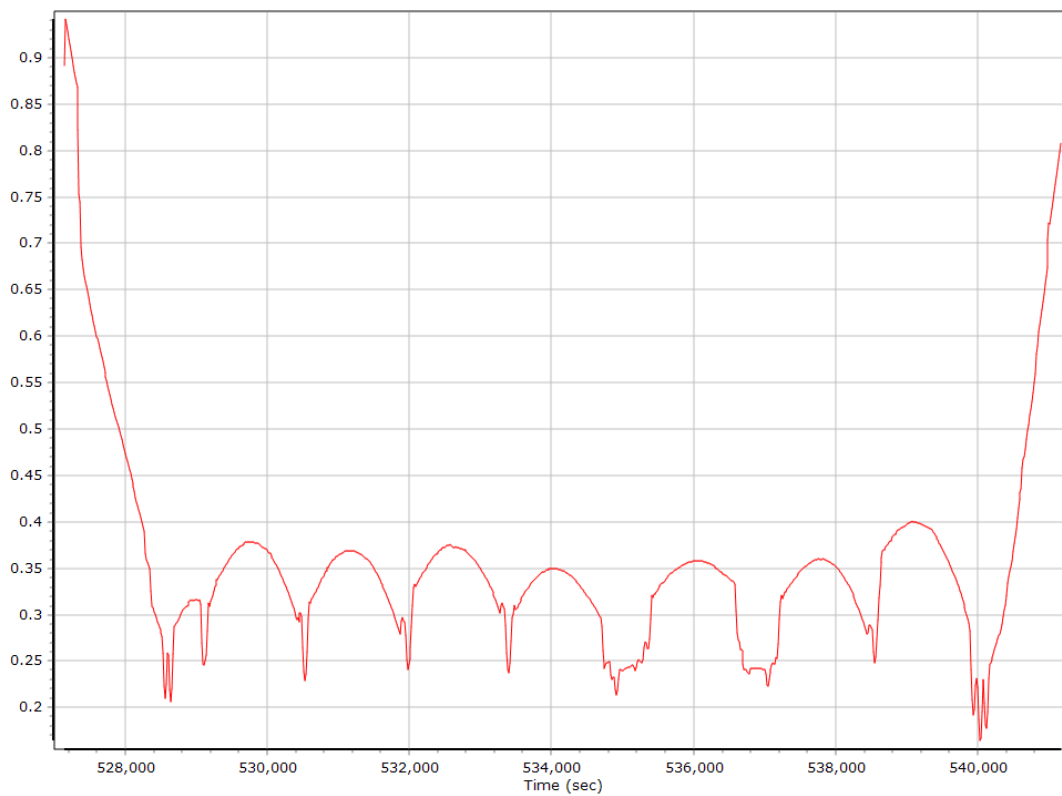
### Velocity Error RMS (m/s)



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

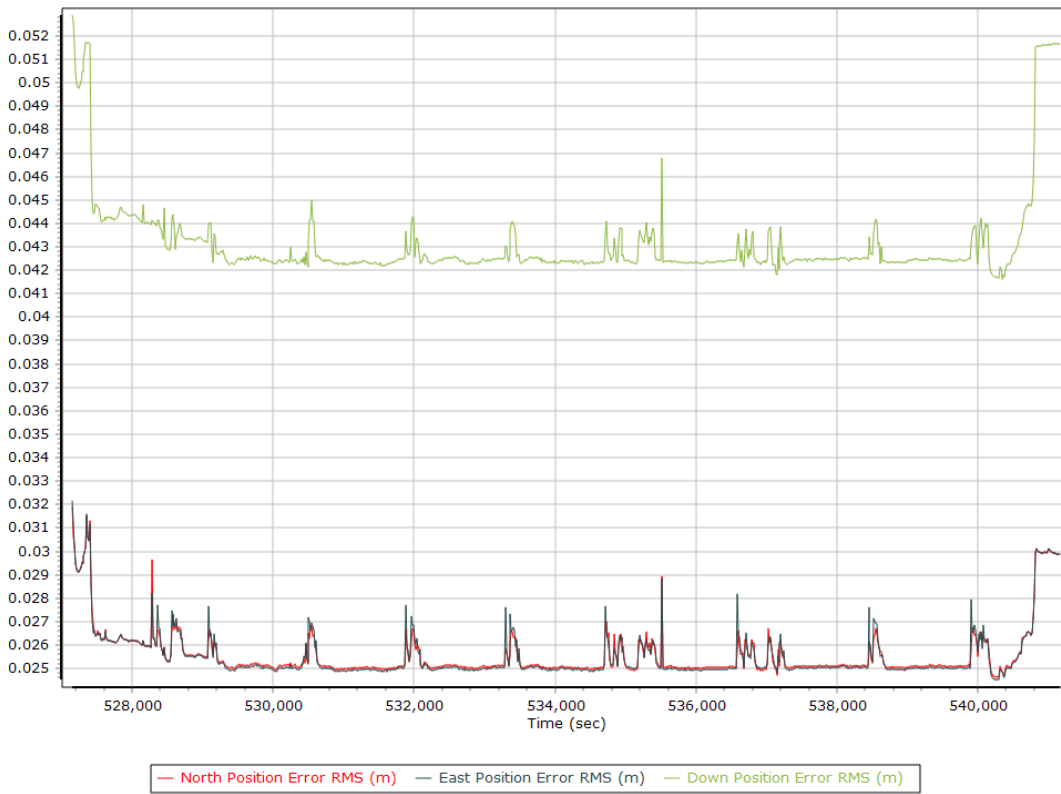


### Heading Error RMS (arc-min)

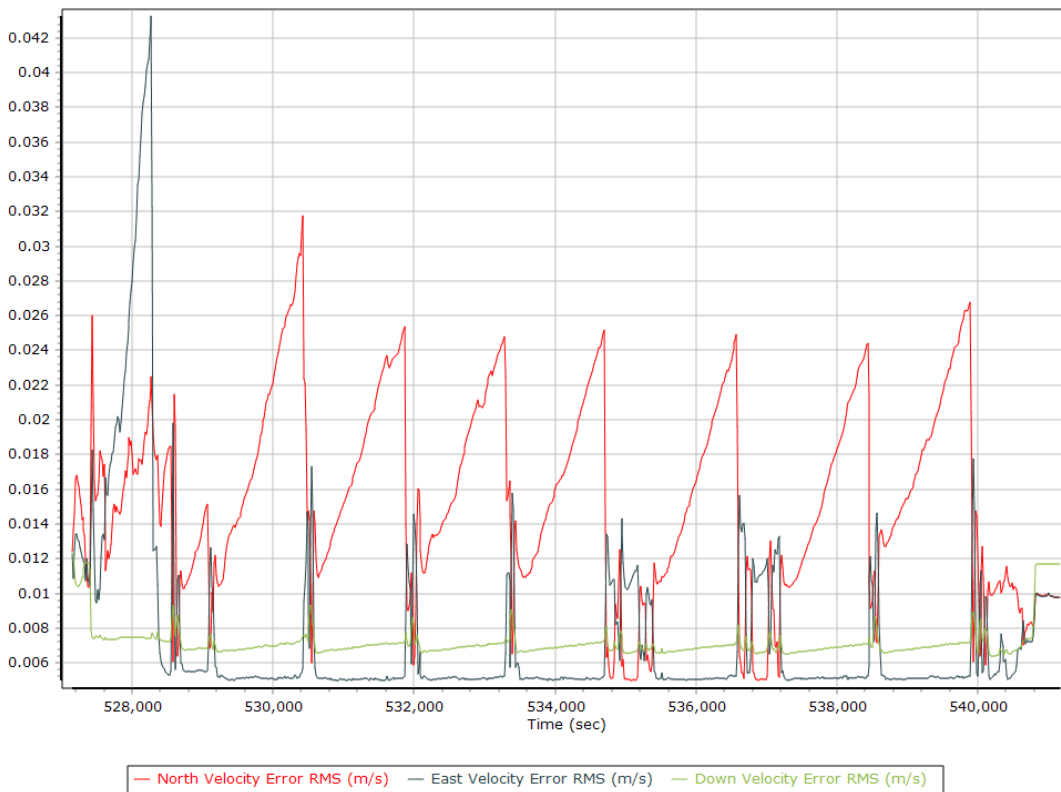


## Forward Processed Performance Metrics

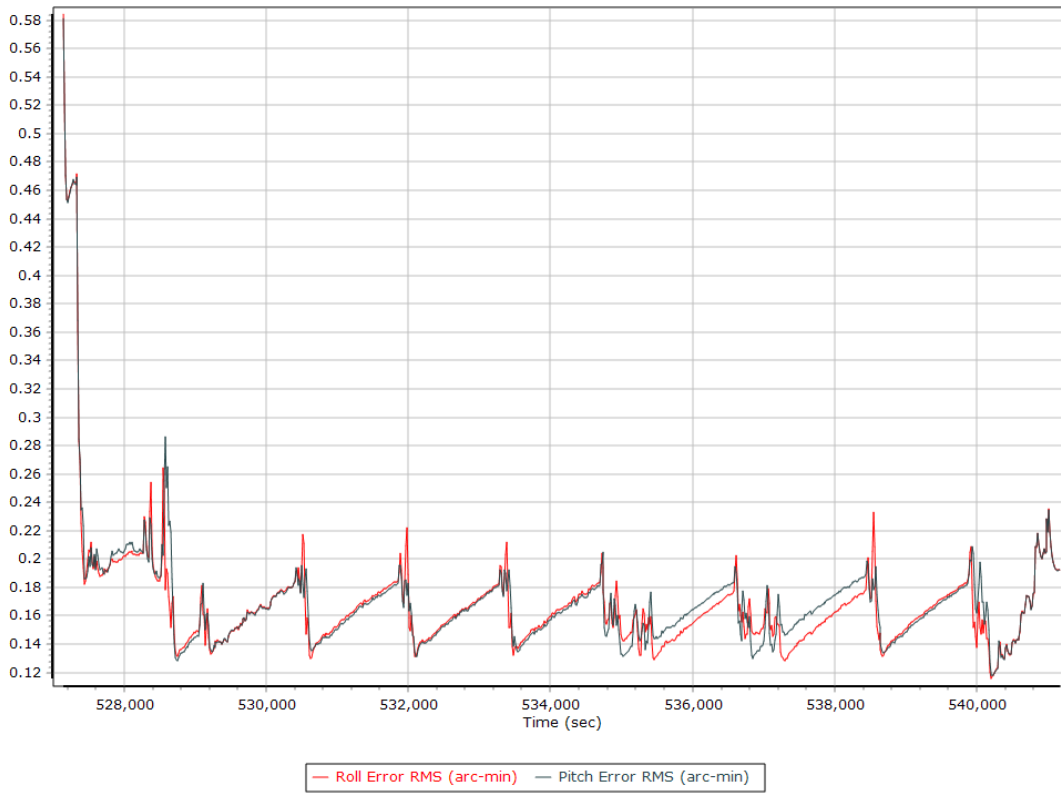
### Position Error RMS (m)



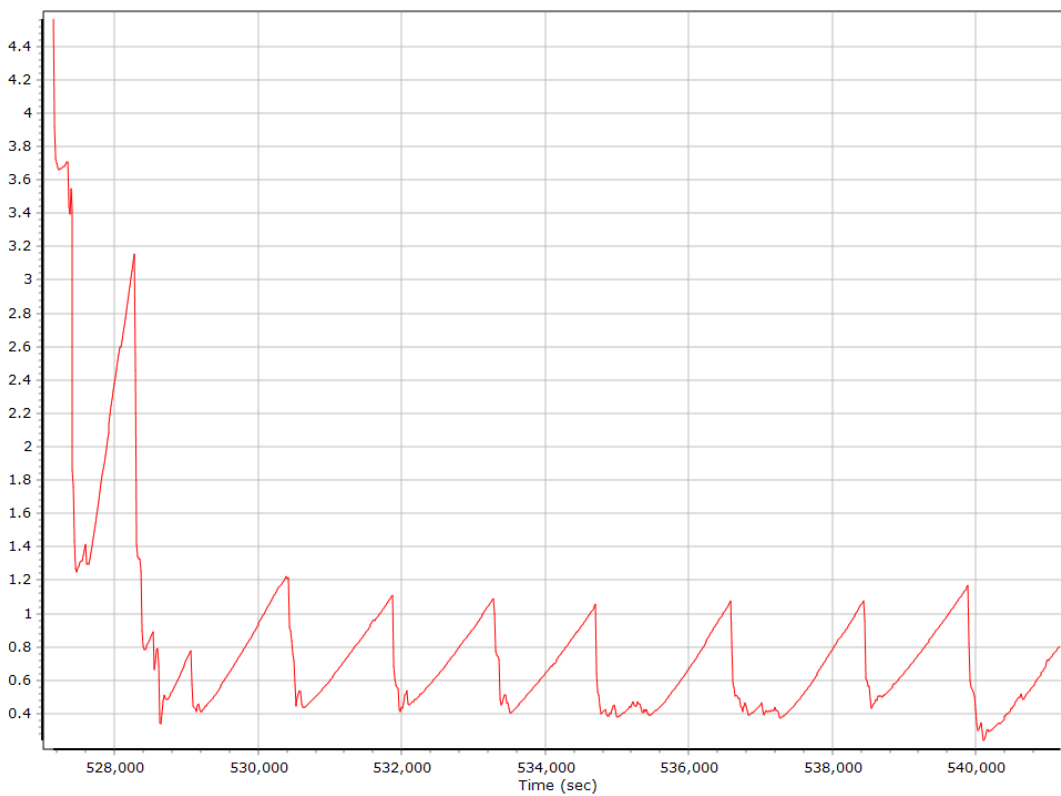
### Velocity Error RMS (m/s)



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

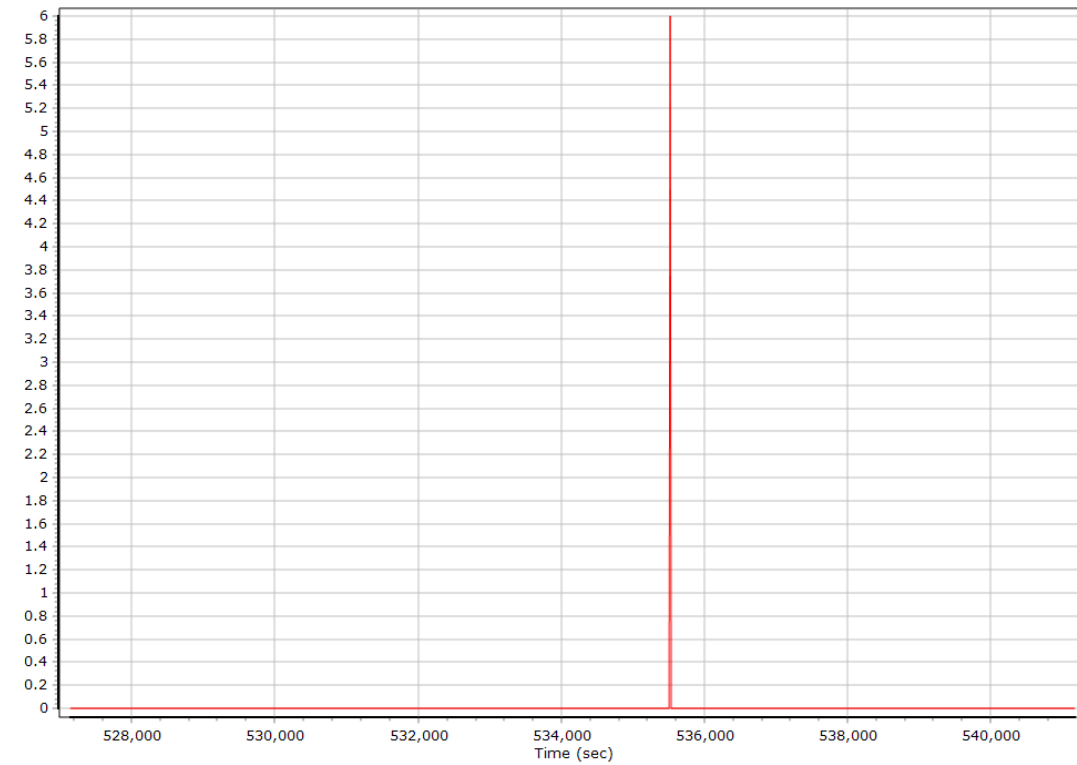


### Heading Error RMS (arc-min)



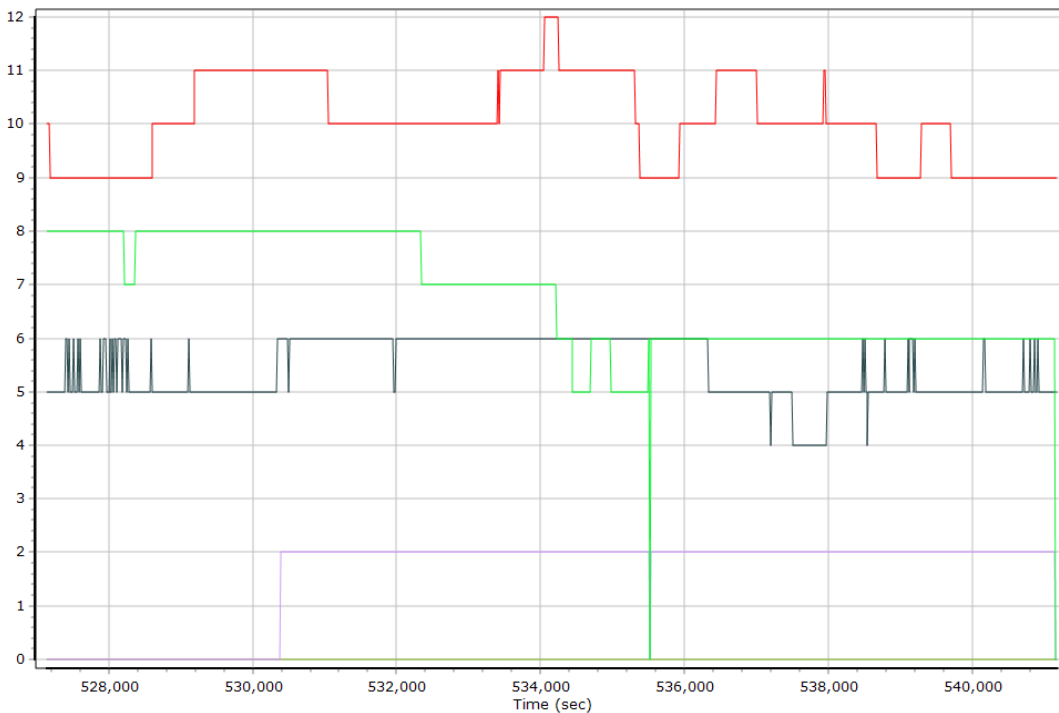
## Forward Processed Solution Status

### Processing Mode



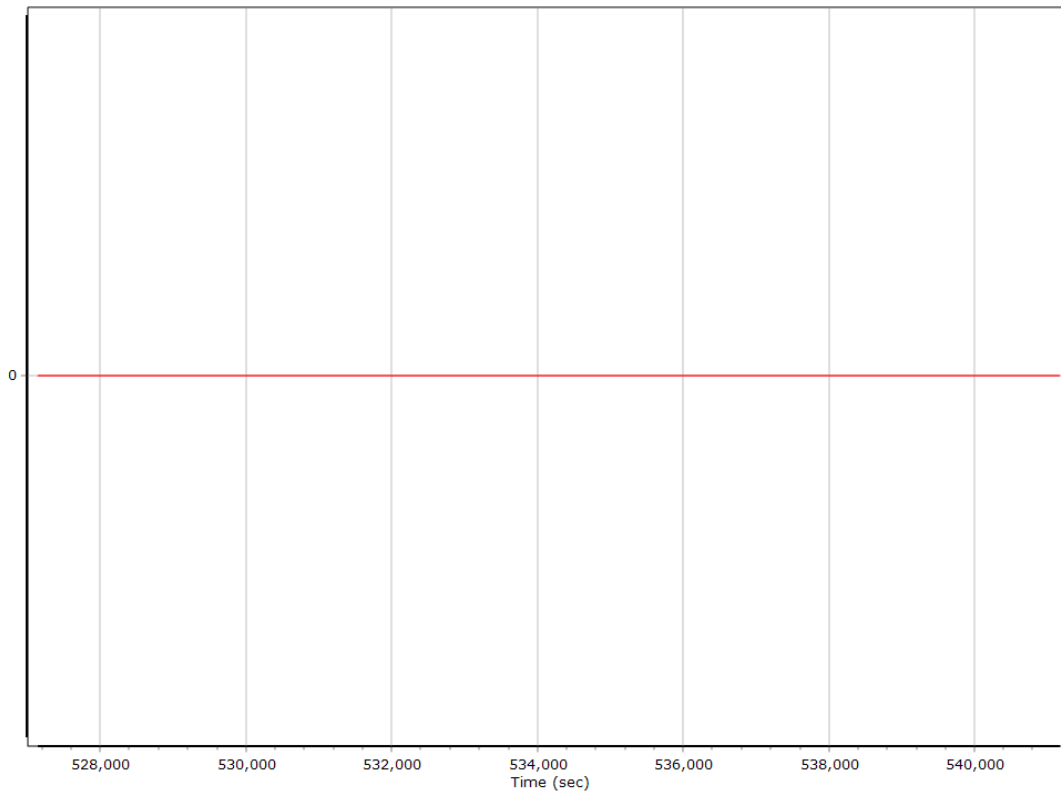
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

### 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



## Export Summary Section 1

Export file	sbet_11883_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	Meter	
Export start time	527085.004 (12/05/2020 02:24:45)		
Export end time	541182.005 (12/05/2020 06:19:42)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid			
Zone			
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation			
Target Epoch	2010		

## Export Summary Section 2

Export file	lever_arm_values.txt		
Export format	ReferenceToPrimaryLeverArms		
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	Meter	
Export start time	527085.004 (12/05/2020 02:24:45)		
Export end time	541182.005 (12/05/2020 06:19:42)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid	Universal Transverse Mercator		
Zone	UTM North 14 (102W to 96W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2010		



## EO Summary Section 1

EO file			
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	527085.004 (12/05/2020 02:24:45)		
EO end time	541182.005 (12/05/2020 06:19:42)		
Grid	Universal Transverse Mercator		
Zone	UTM North 14 (102W to 96W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		