

General Information

Mission Information

Project name	12089
Processing date	2021-03-06 10:03:08
Mission date	2021-03-05 18:32:58
Mission duration	02:40:45.317
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
20210305F2.130	POS Data
20210305F2.131	POS Data
20210305F2.132	POS Data
20210305F2.133	POS Data
20210305F2.134	POS Data
20210305F2.135	POS Data
20210305F2.136	POS Data
20210305F2.137	POS Data
20210305F2.138	POS Data
20210305F2.139	POS Data
20210305F2.140	POS Data
20210305F2.141	POS Data
20210305F2.142	POS Data
20210305F2.143	POS Data
20210305F2.144	POS Data
20210305F2.145	POS Data
20210305F2.146	POS Data
20210305F2.147	POS Data
20210305F2.148	POS Data
20210305F2.149	POS Data
20210305F2.150	POS Data

Input Files

File Name	File Type
Ephm0640.21g	GLONASS Broadcast Ephemeris
Ephm0640.21n	GPS Broadcast Ephemeris

Output Files

Filename	File type
sbet_12089.out	SBET Trajectory File
eo_12089.txt	ZI Imaging POSEO Output
sbet_12089_NAD83(2011).out	Custom Smoothed BET Export Output
lever_arm_values.txt	ReferenceToPrimaryLeverArms Export Output

Rover Data Summary

First raw data file	20210305F2.130		
Last raw data file	20210305F2.150		
Start GPS week	2147		
Start time	498777.372 (03/05/2021 18:32:57)		
End time	508422.689 (03/05/2021 21:13:42)		
Start of fine alignment	499101.734 (03/05/2021 18:38:21)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
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)	-0.108	-0.248	-0.901
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

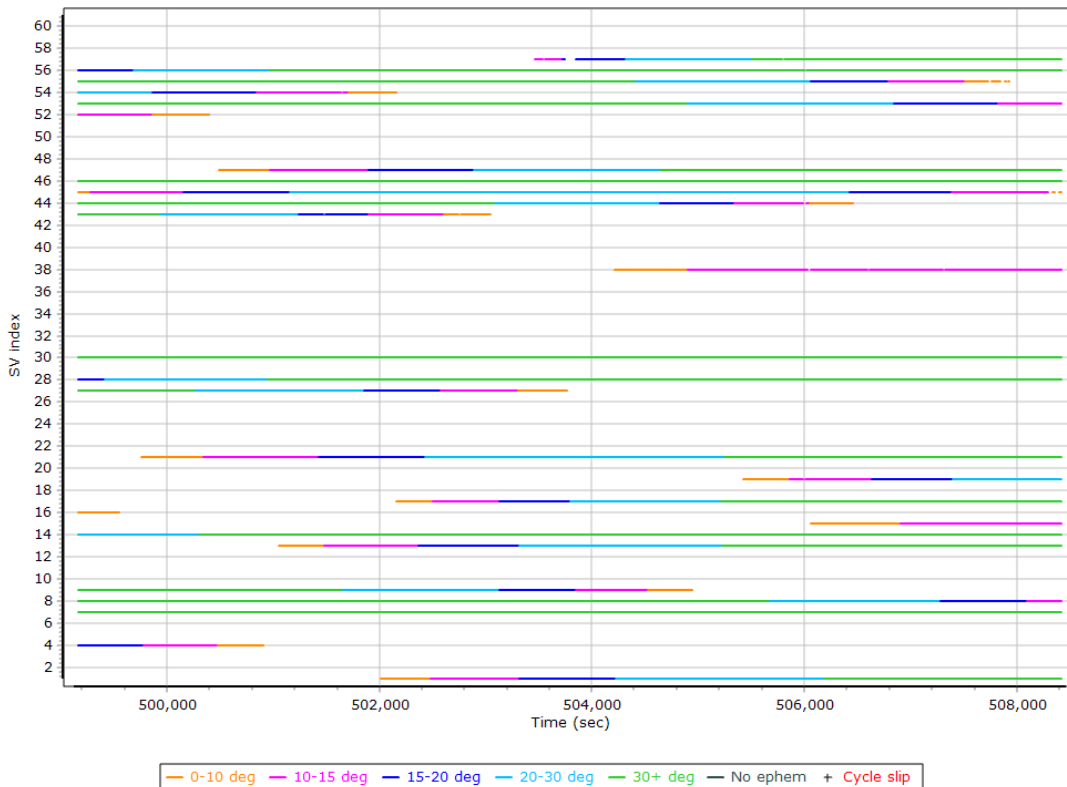
Rover Data QC

Raw IMU Import QC Summary

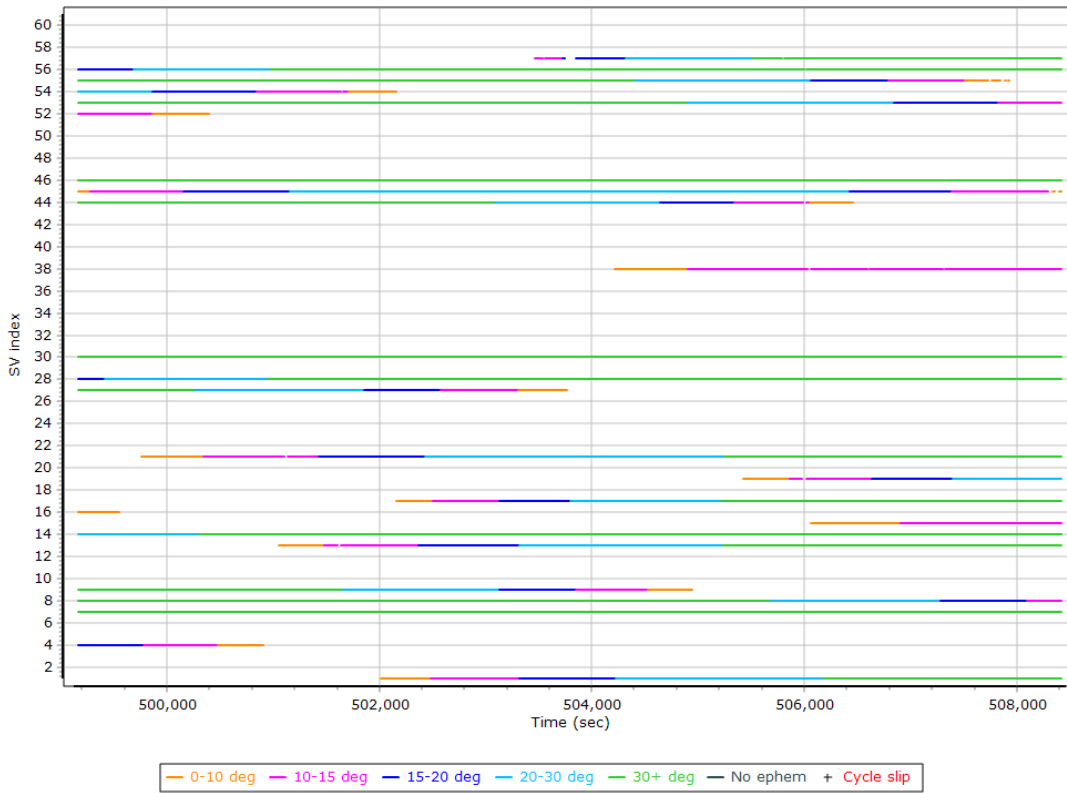
IMU data input file	imu_12089.dat
IMU data check log file	imudt_12089.log
IMU Records Processed	1928736
Termination Status	Normal
IMU Anomalies	0

Primary Observables & Satellite Data

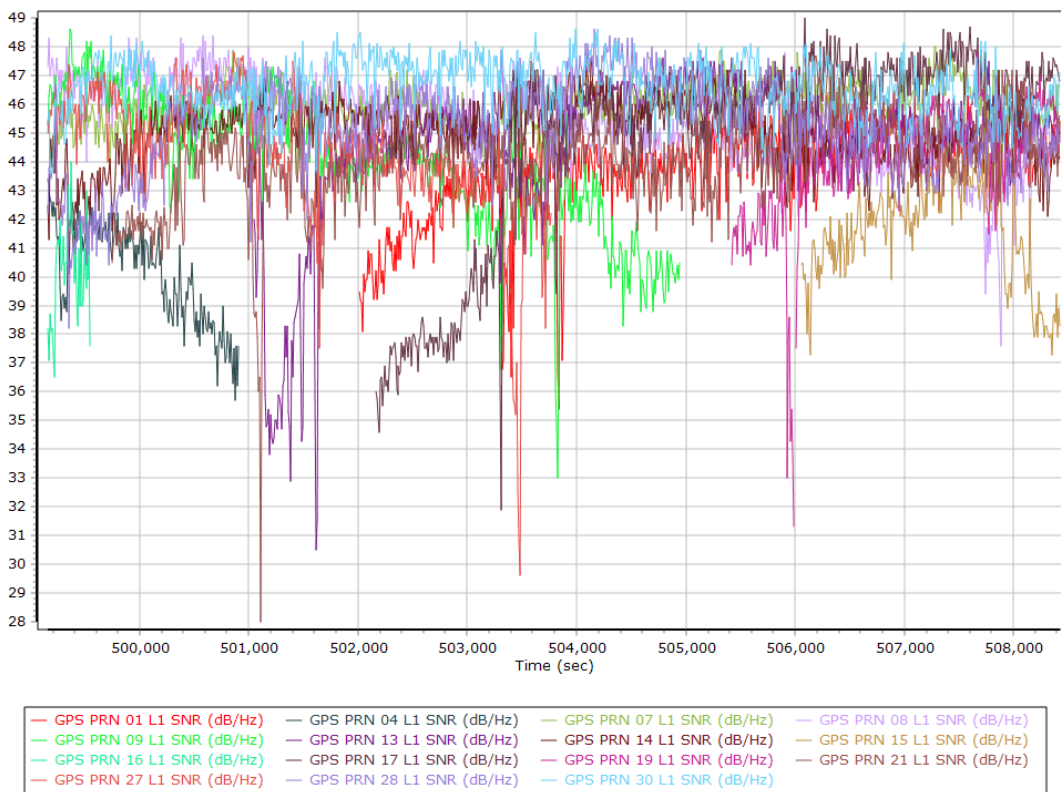
L1 Satellite Lock/Elevation



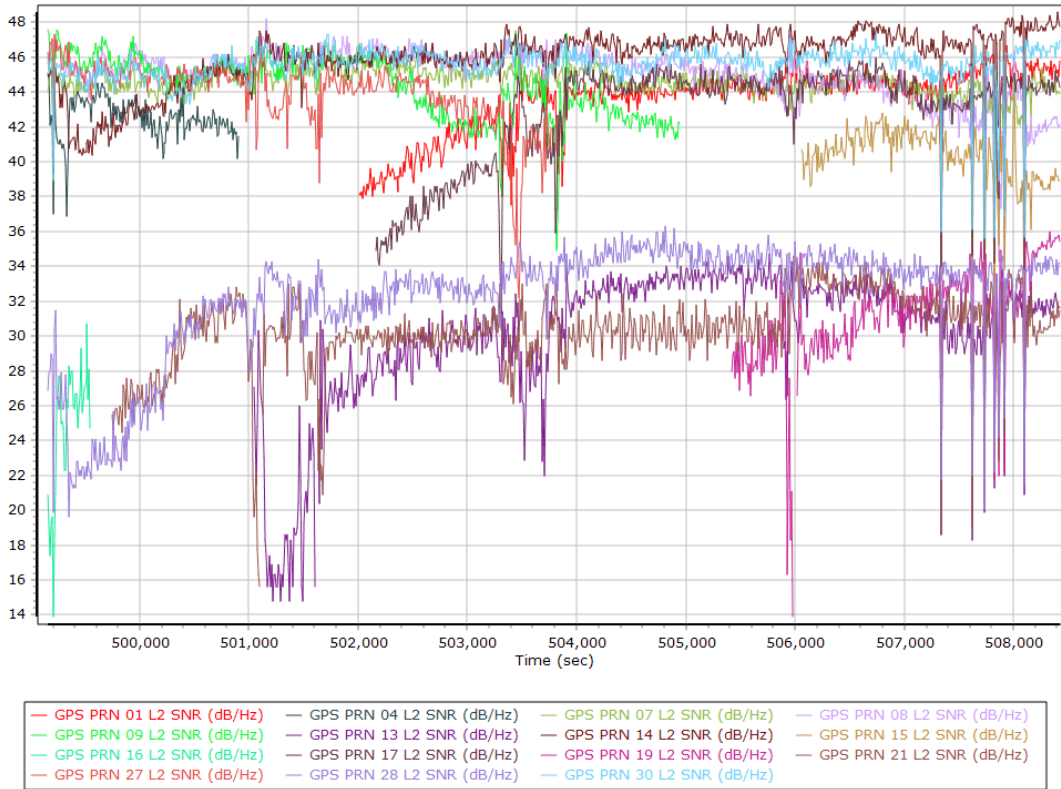
L2 Satellite Lock/Elevation



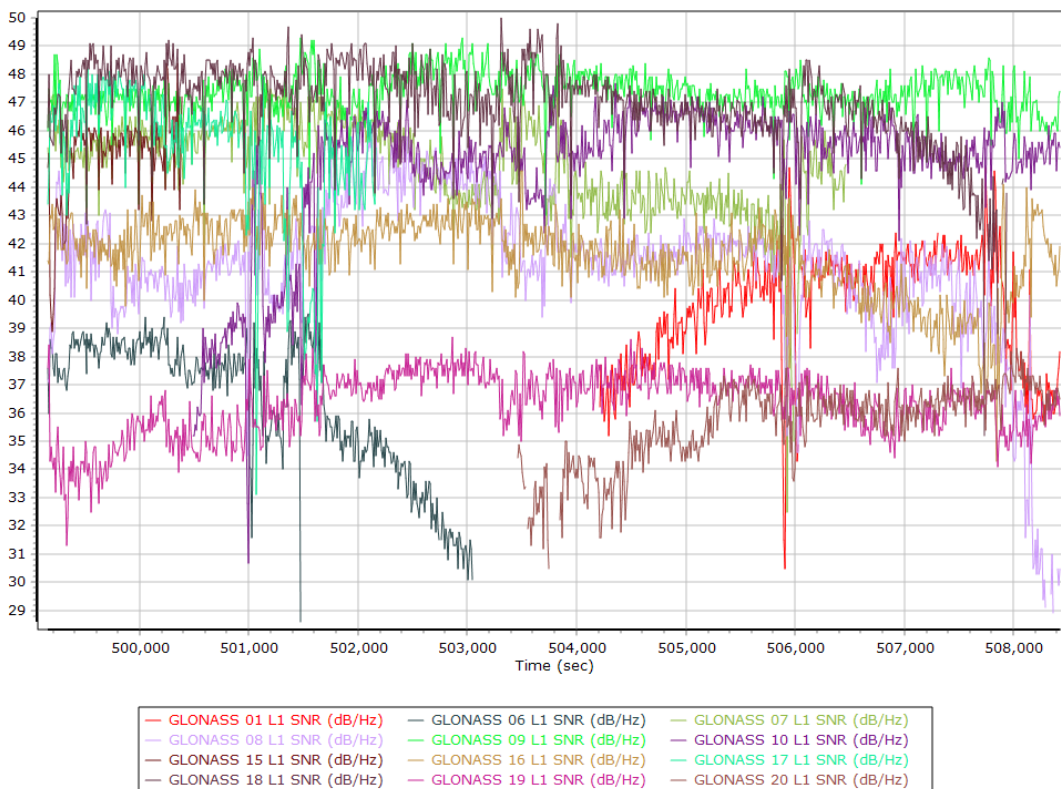
GPS L1 SNR



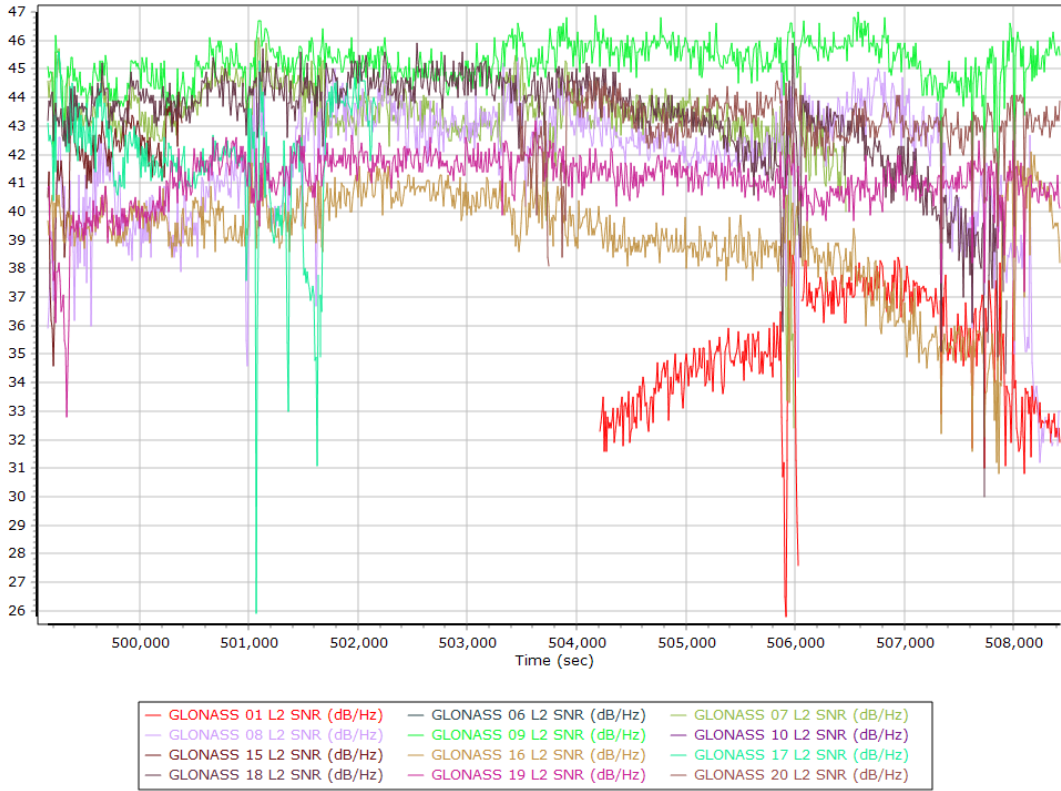
GPS L2 SNR



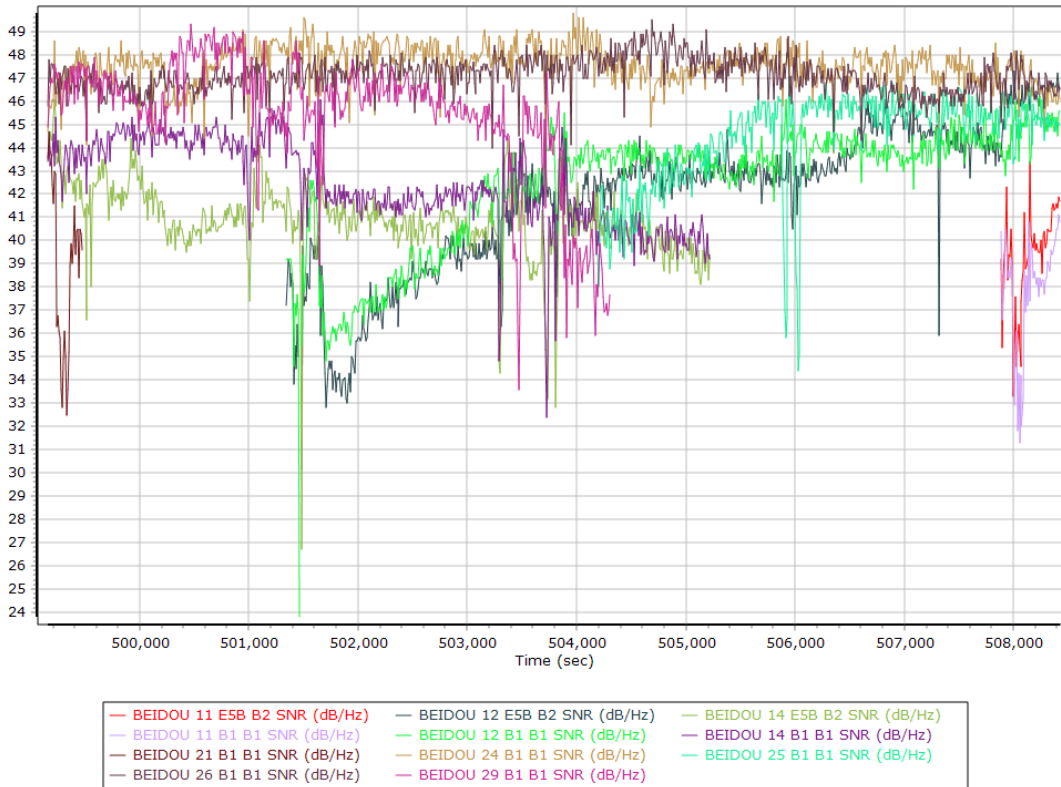
GLONASS L1 SNR



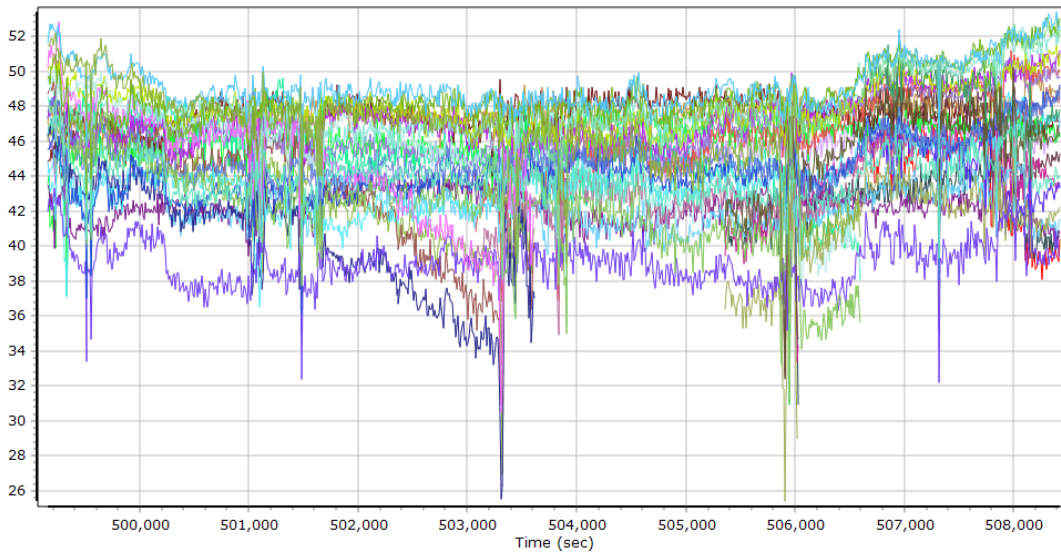
GLONASS L2 SNR



BEIDOU SNR



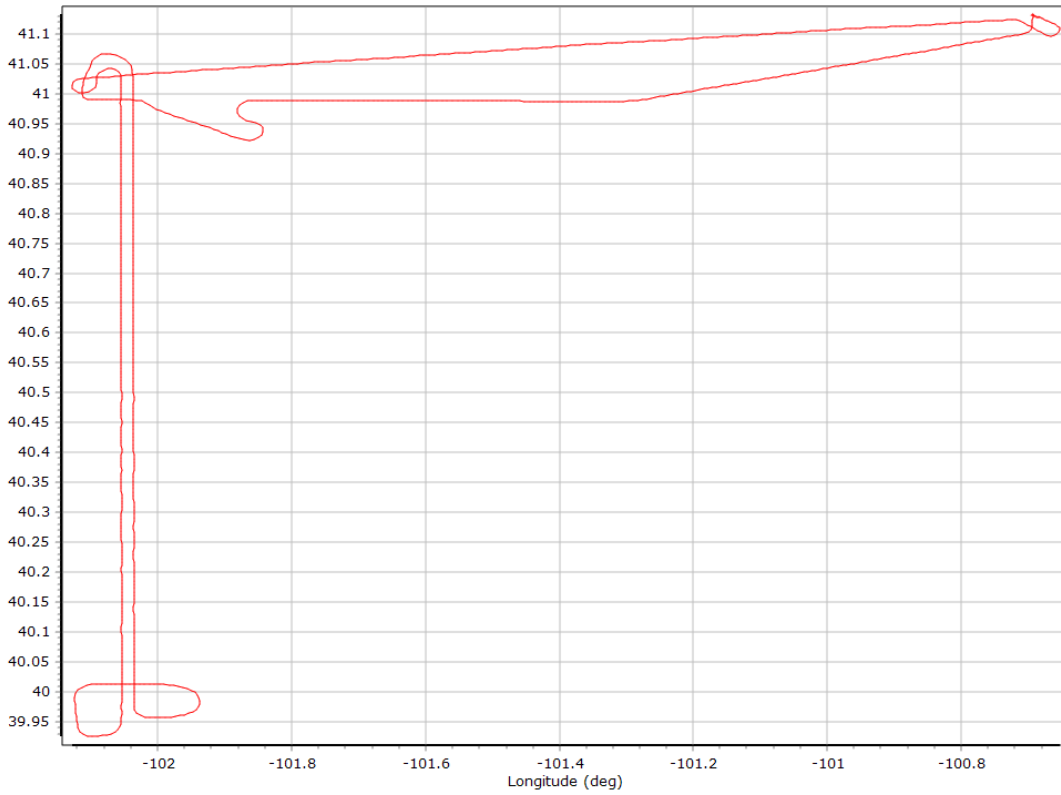
GALILEO SNR



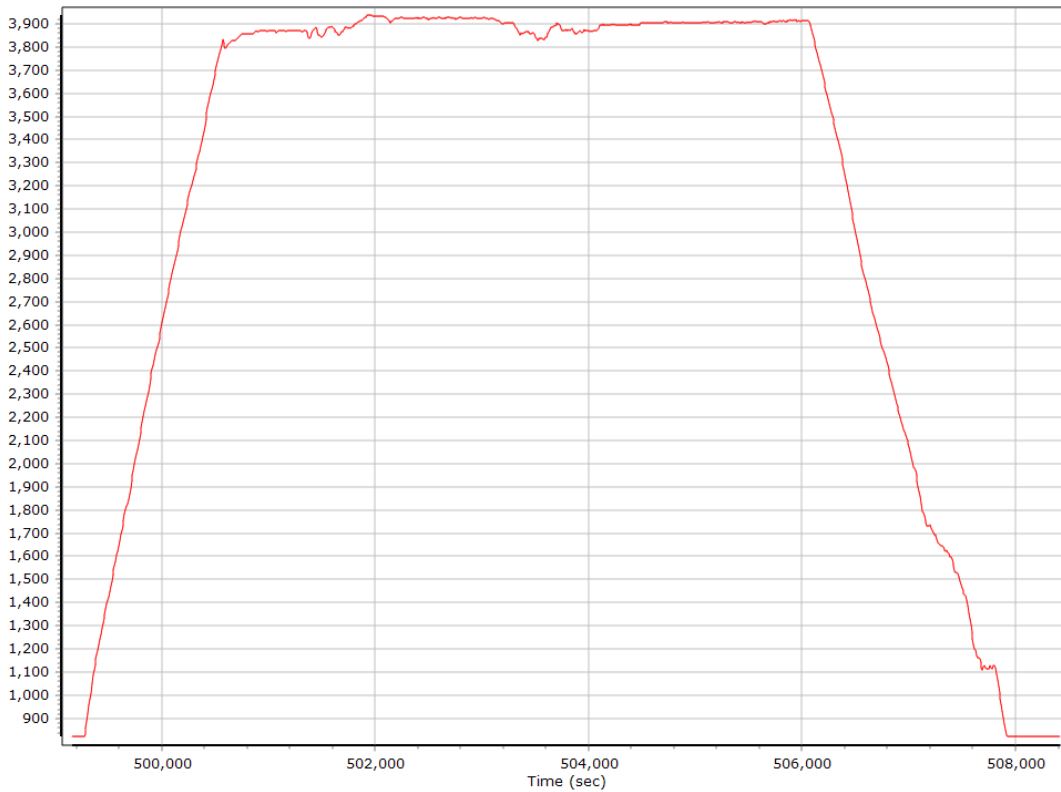
- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 27 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 30 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 07 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 15 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 19 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 21 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 27 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 30 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 01 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 04 E5B BPSK10_PD SNR (dB/Hz) |

Smoothed Trajectory Information

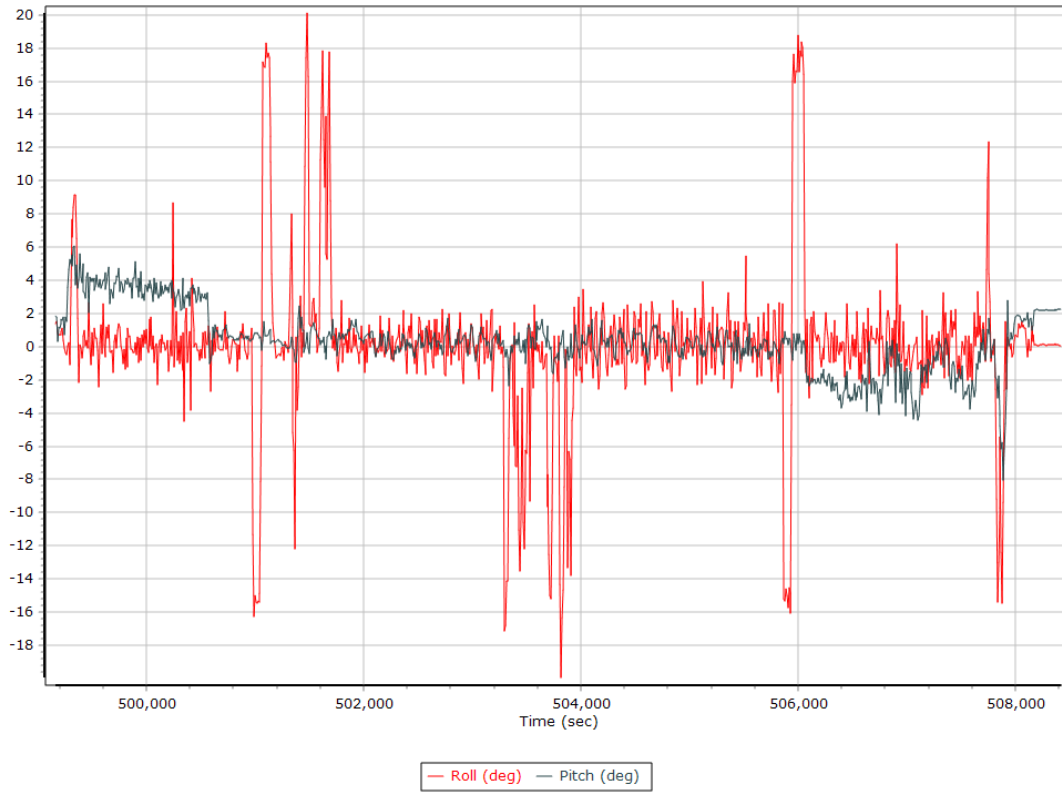
Top View



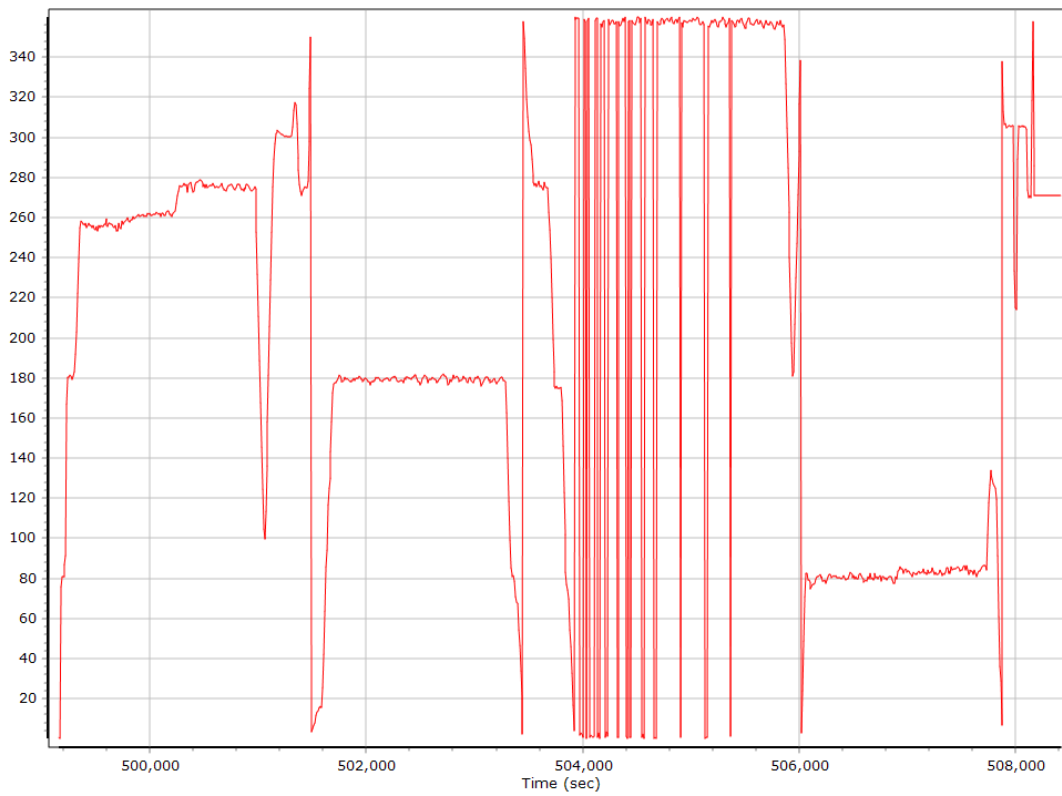
Altitude



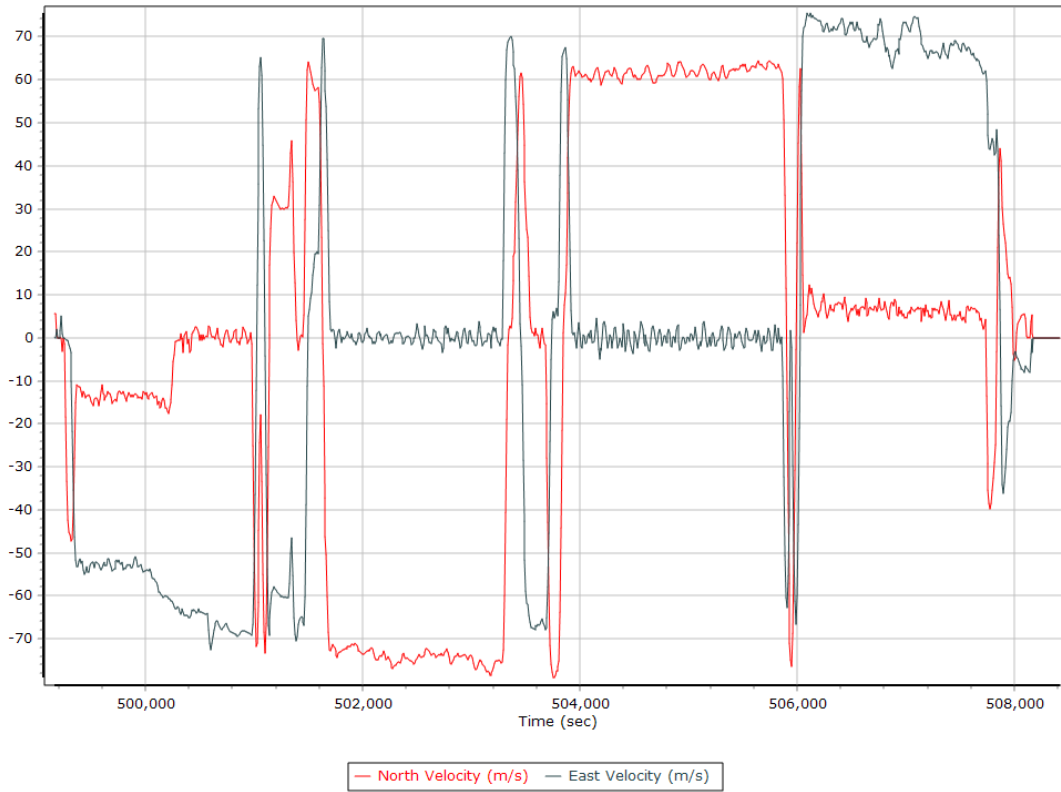
Roll/Pitch



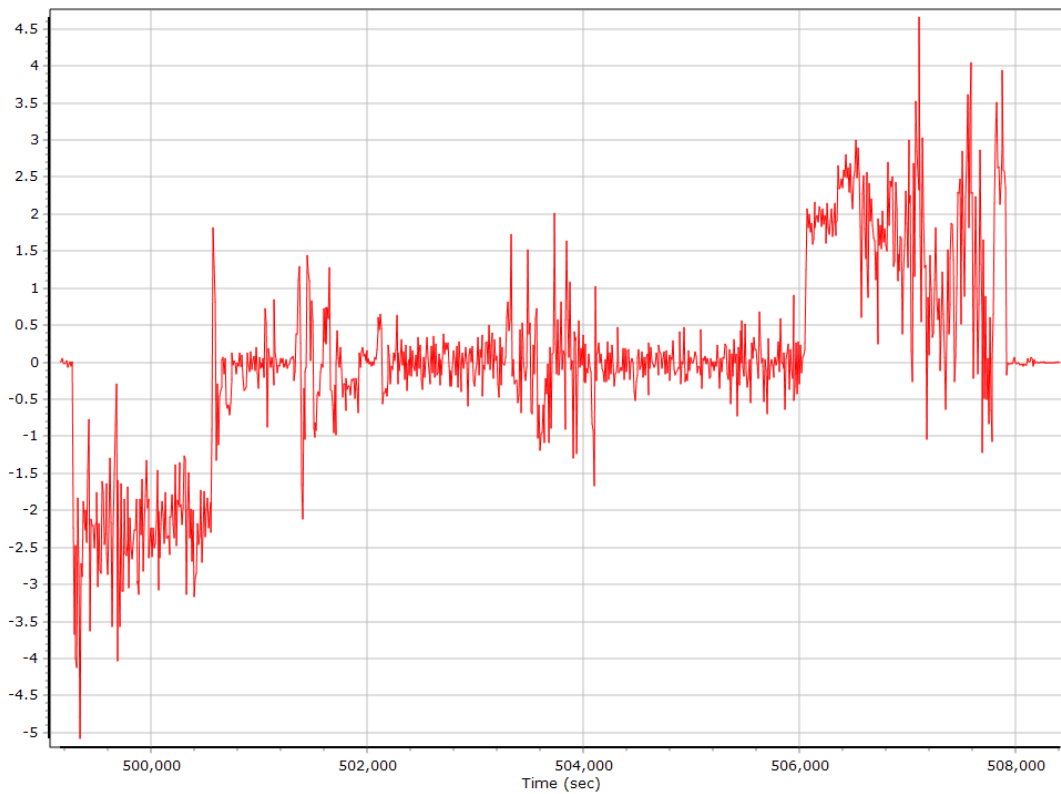
Heading



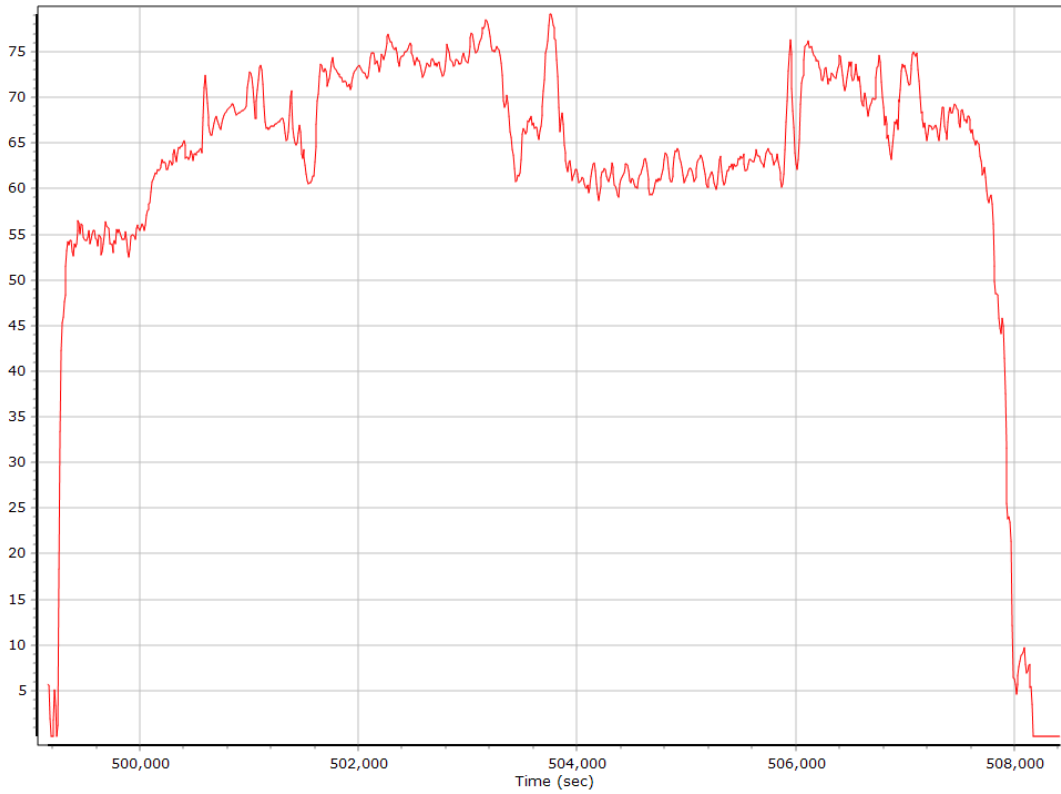
North/East Velocity



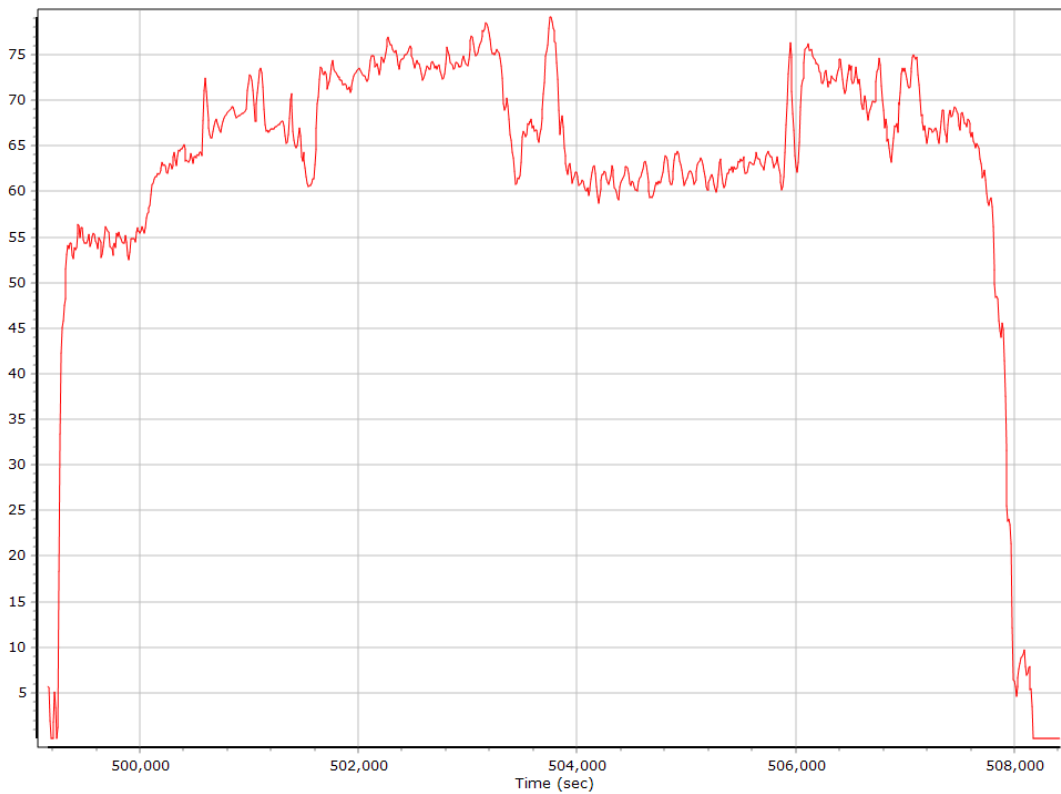
Down Velocity



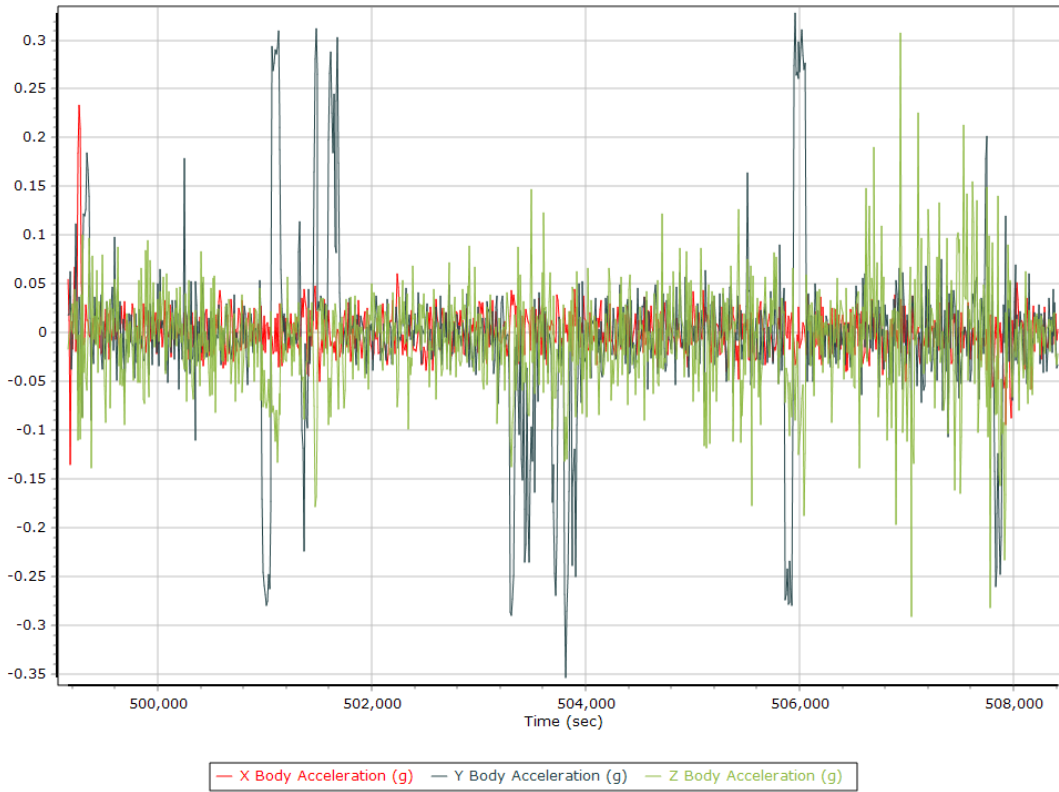
Total Speed



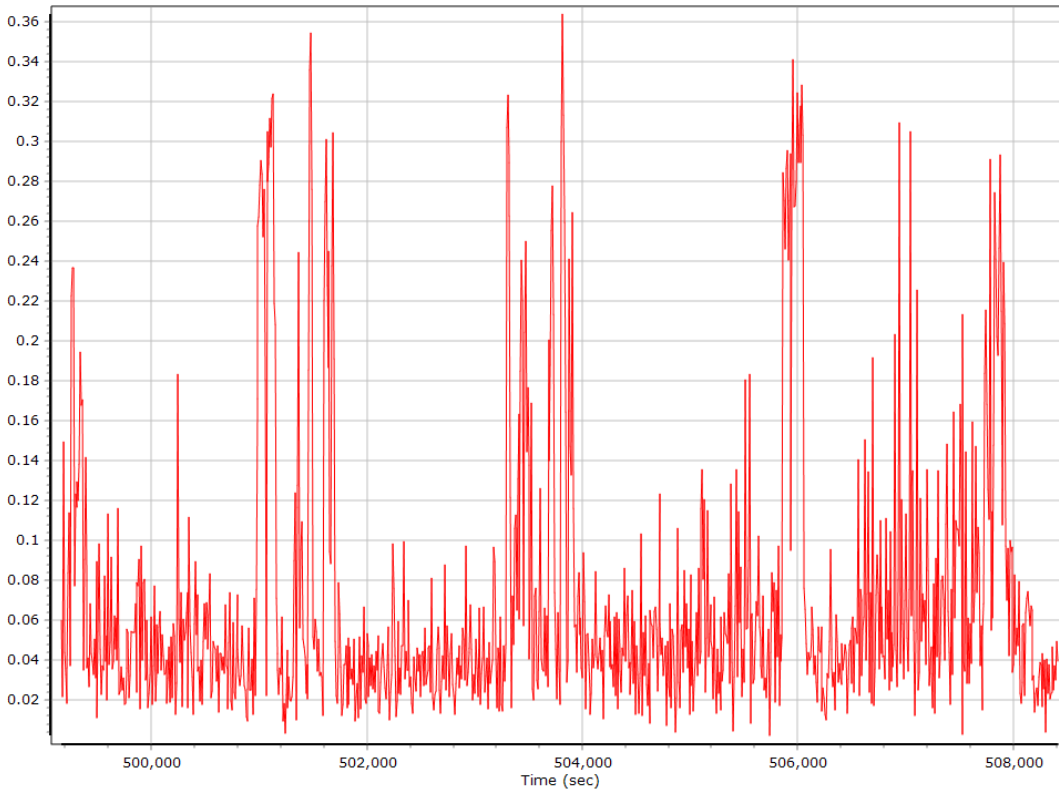
Ground Speed



Body Acceleration



Total Body Acceleration

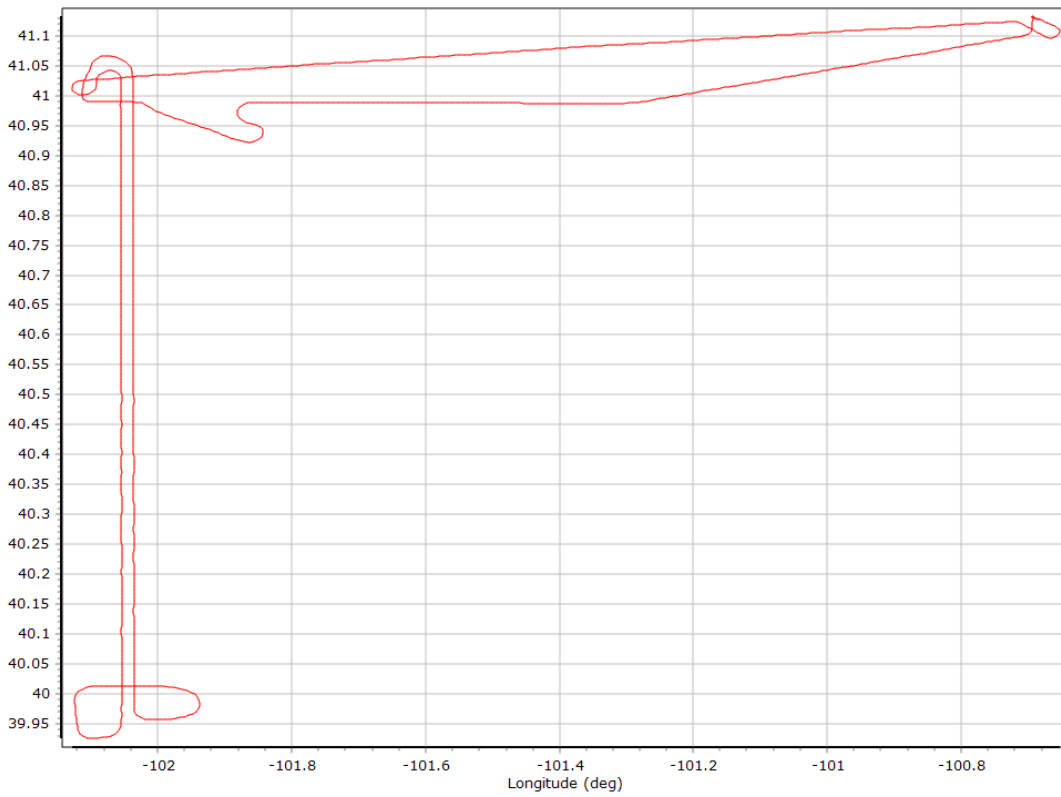


Body Angular Rate

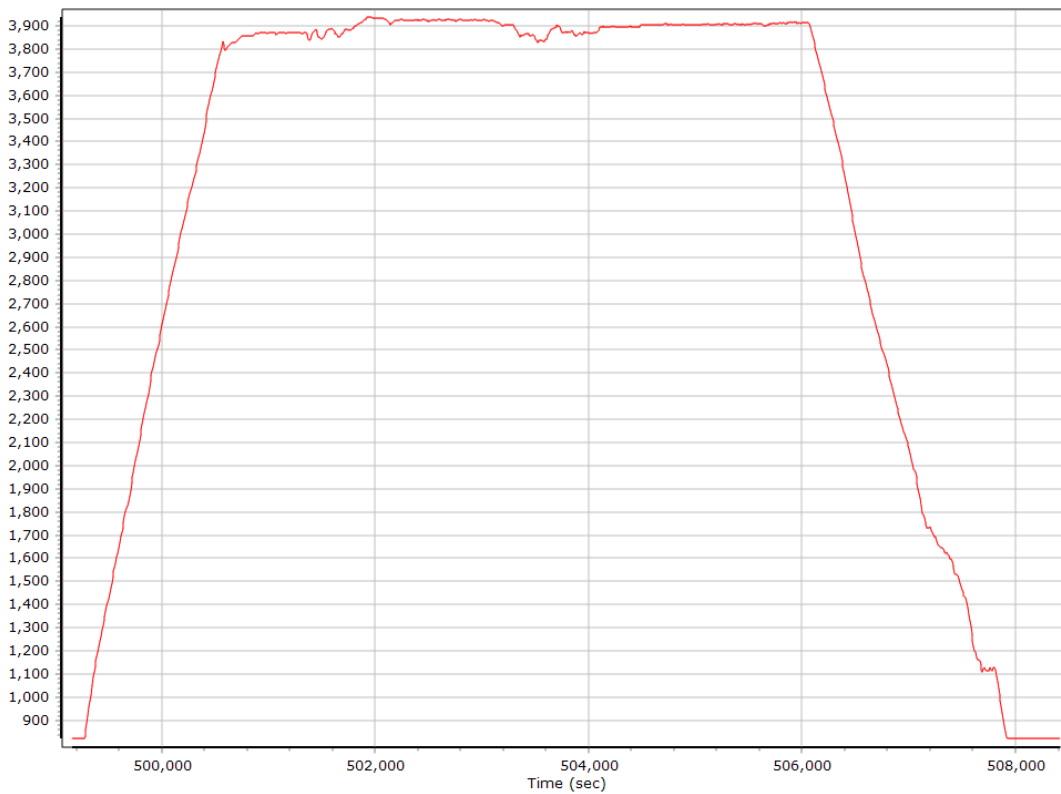


Forward Processed Trajectory Information

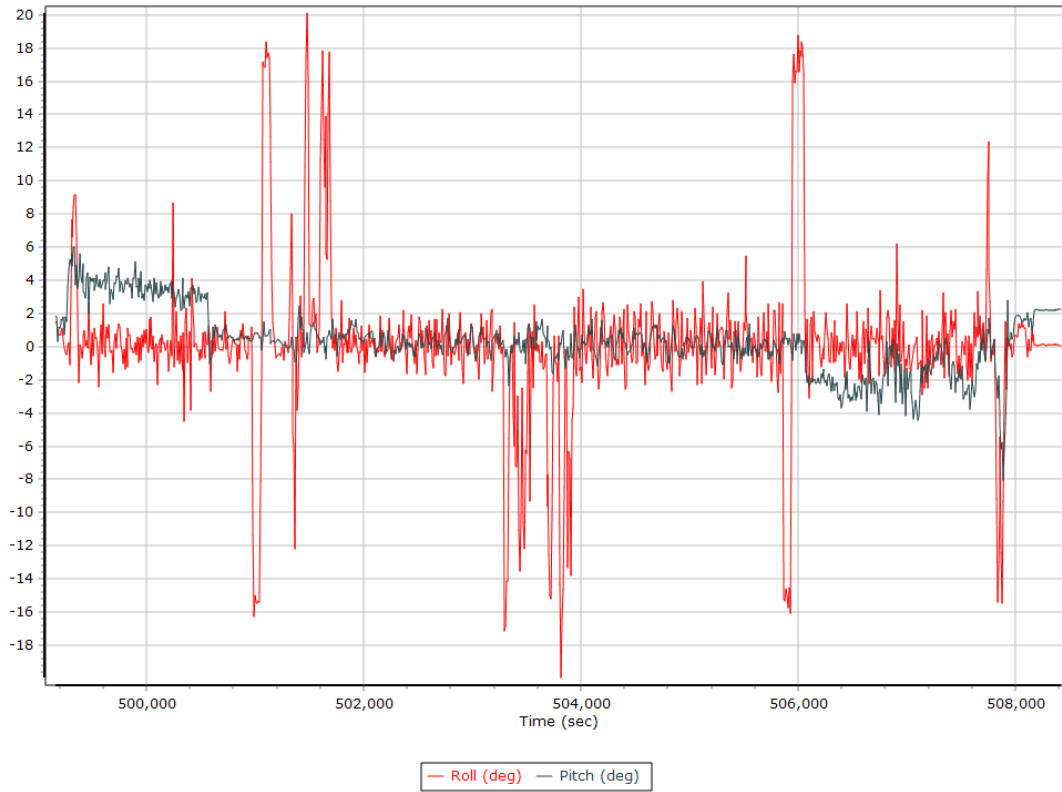
Top View



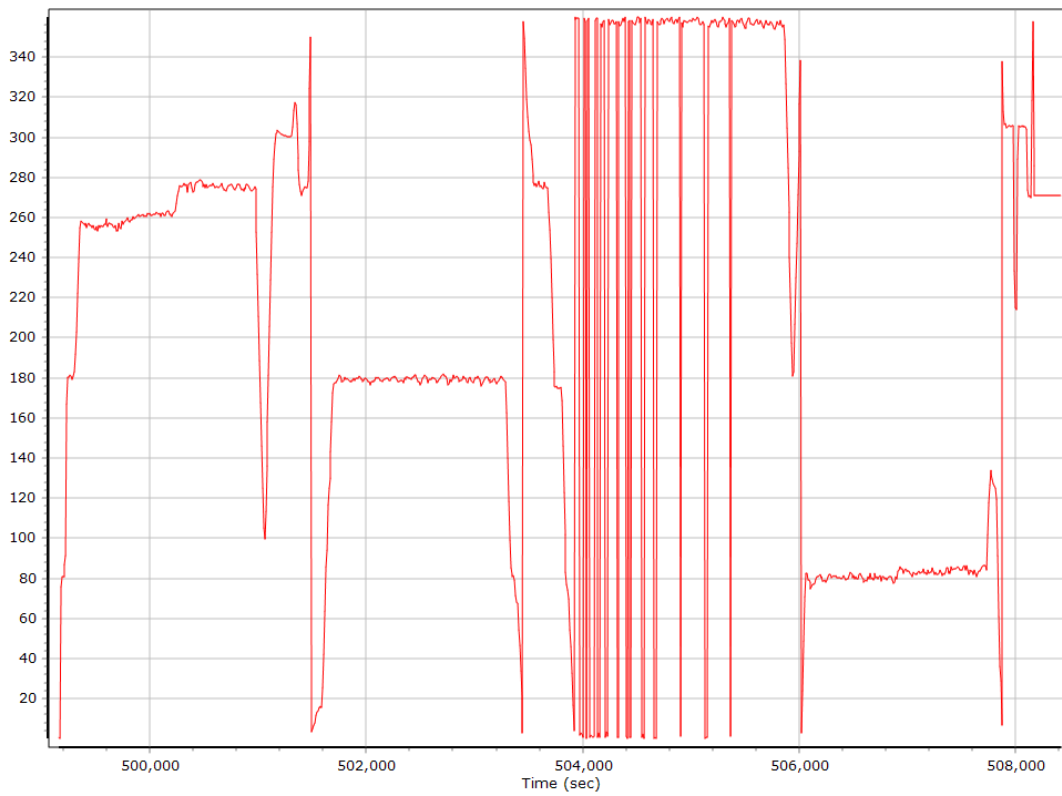
Altitude



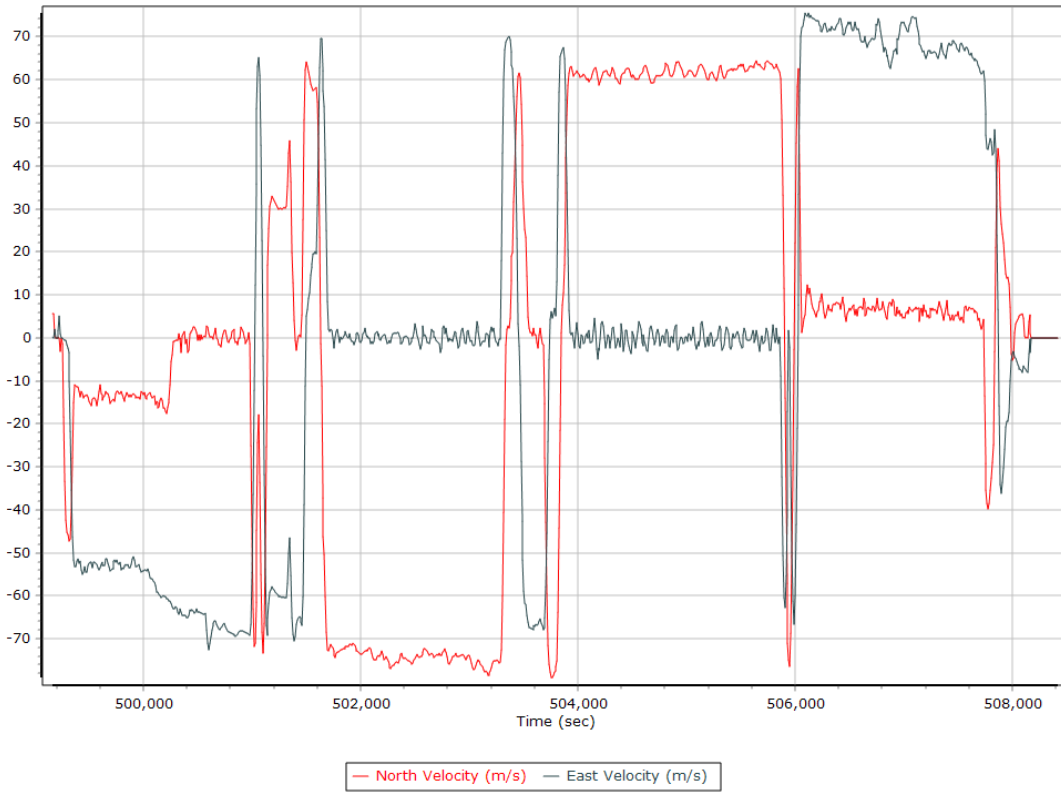
Roll/Pitch



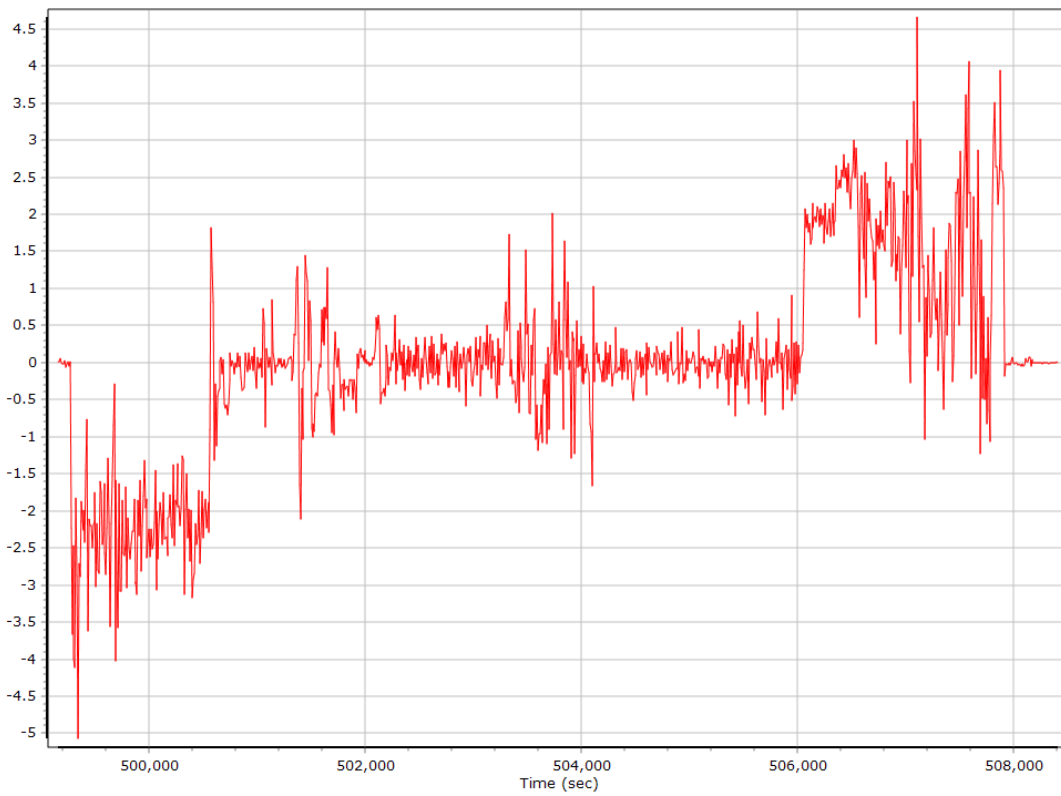
Heading



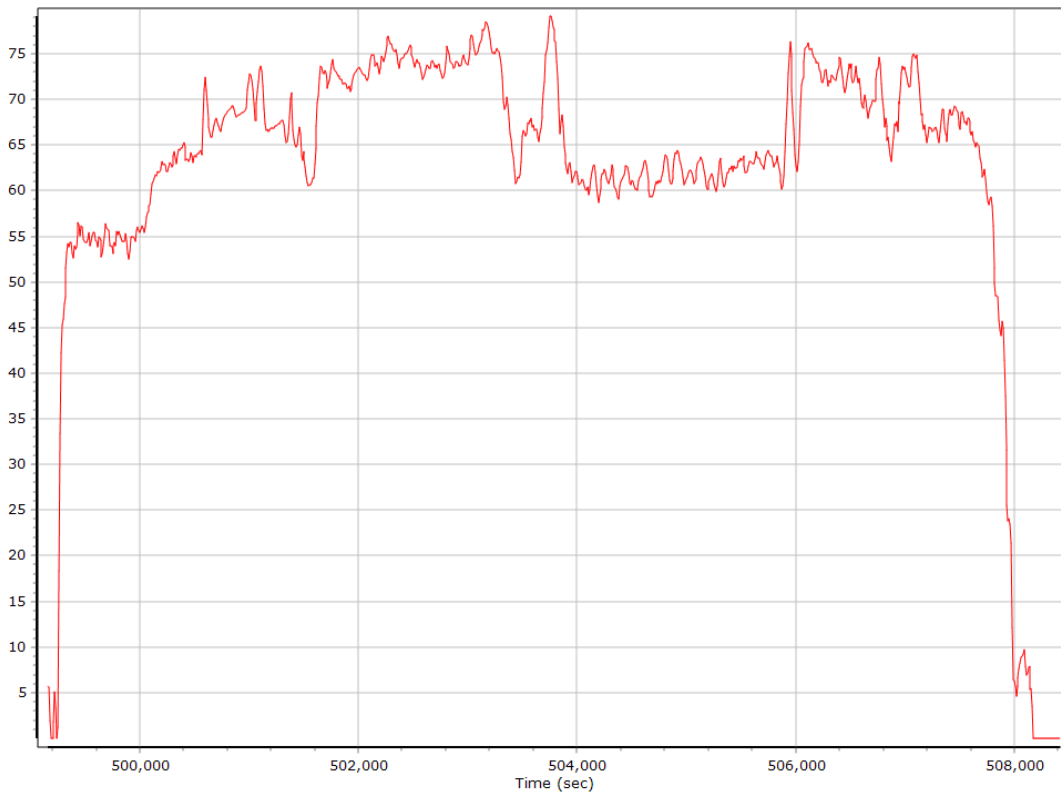
North/East Velocity



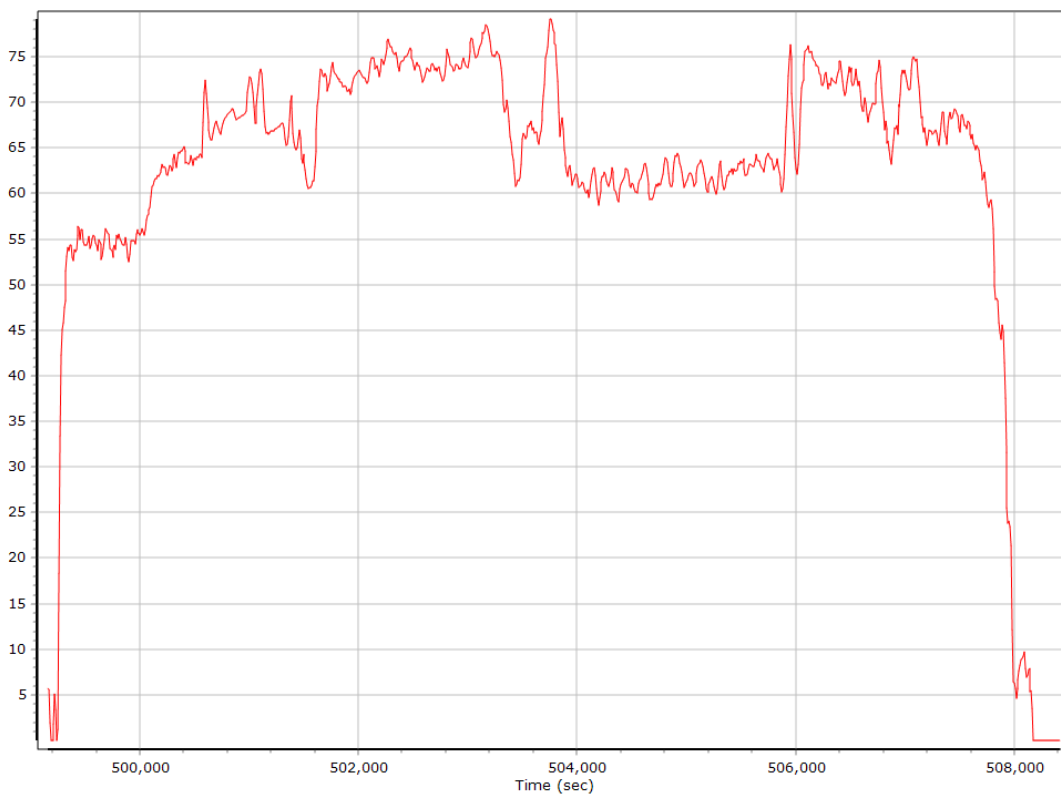
Down Velocity



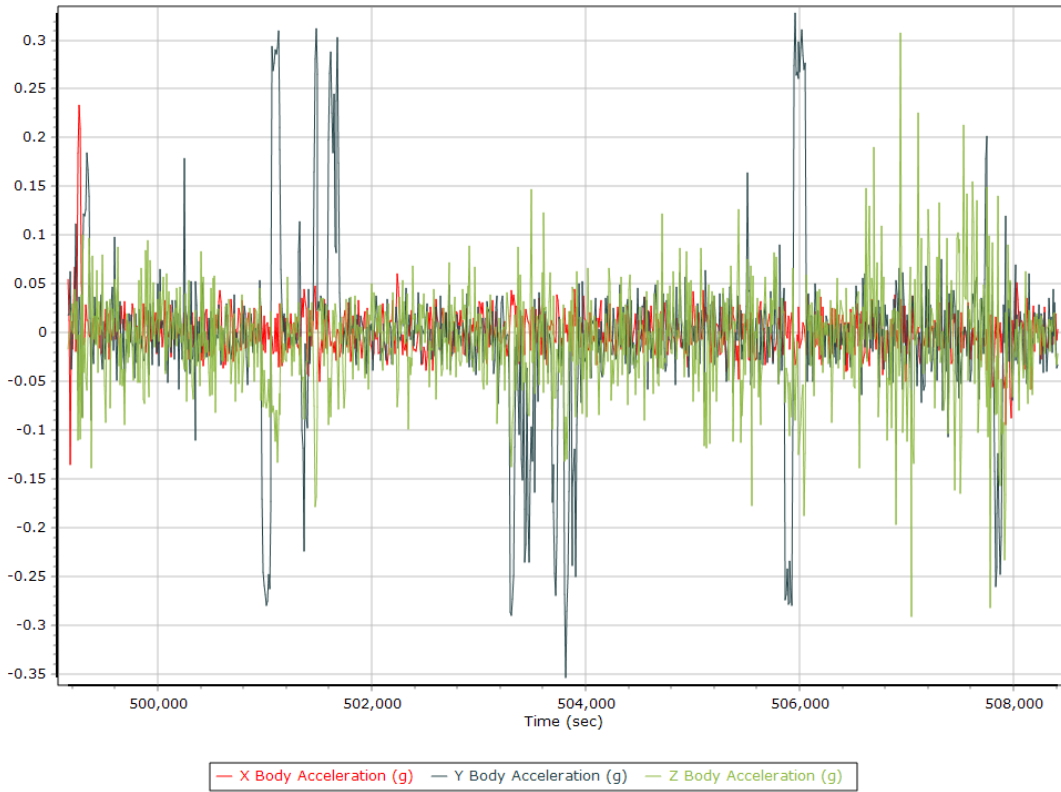
Total Speed



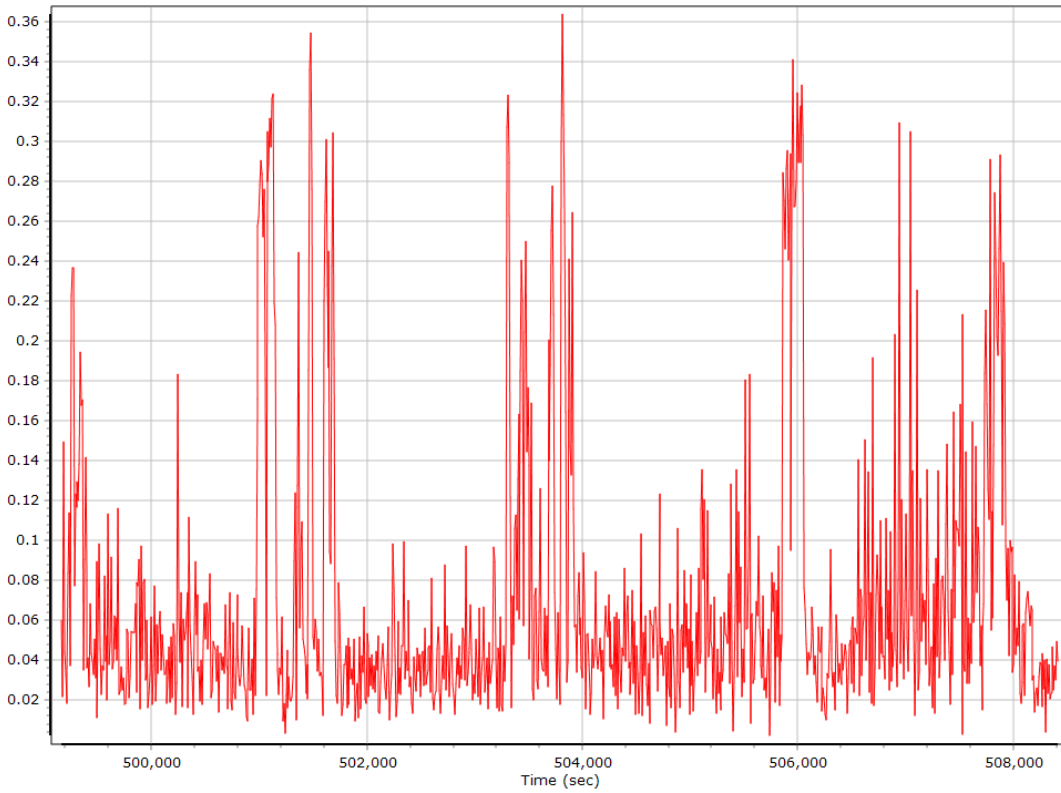
Ground Speed



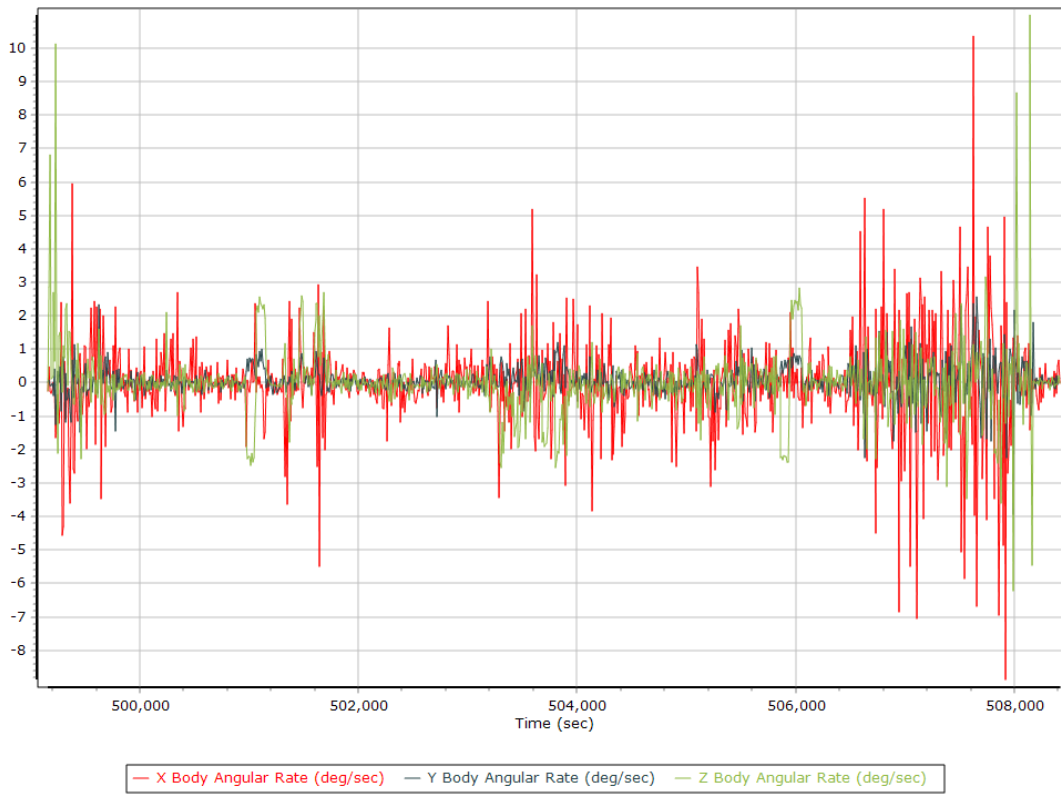
Body Acceleration



Total Body Acceleration



Body Angular Rate

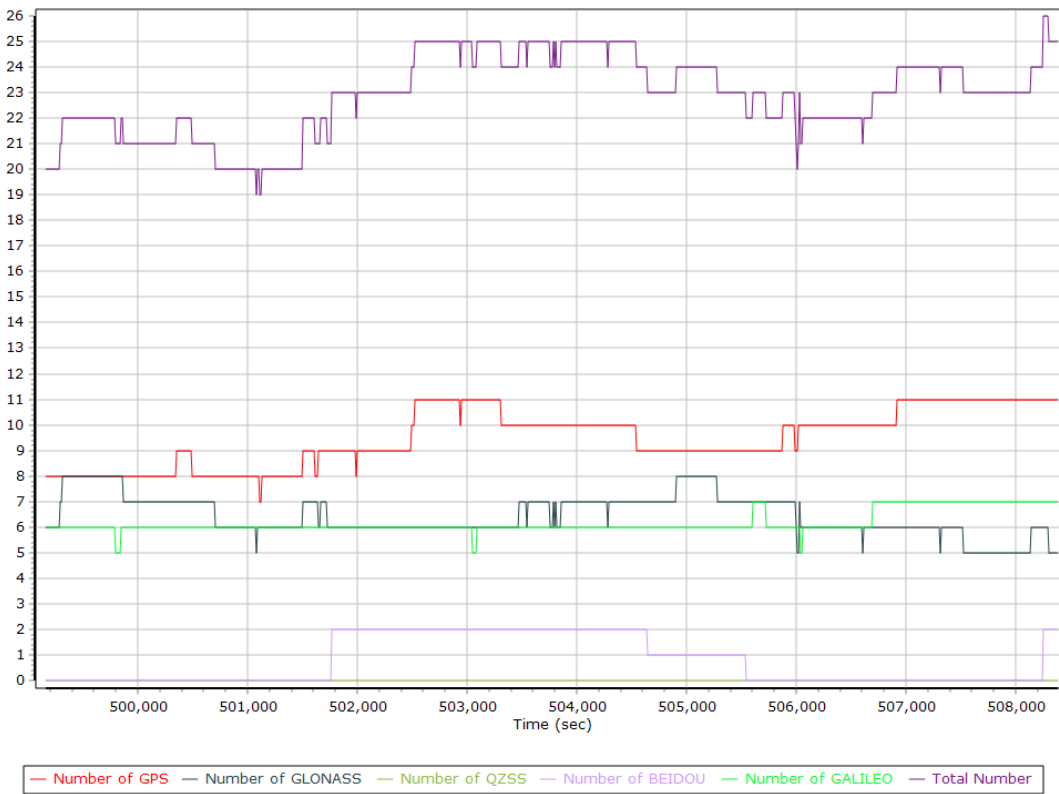


GNSS QC

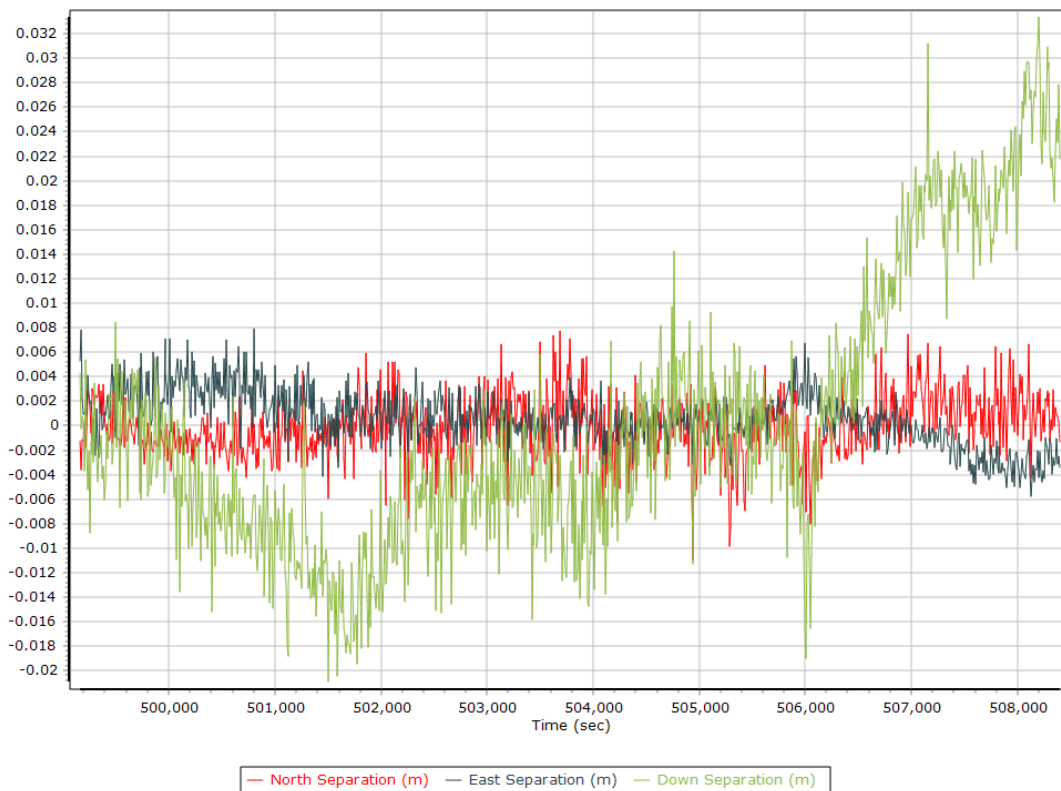
GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	7	11	9
Number of GLONASS SV	4	8	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	2	1
Number of GALILEO SV	5	7	6
Total number of SV	19	26	23
PDOP	0.99	1.38	1.17
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	9609.00	0.00	0.00
Percentage	100.00	0.00	0.00

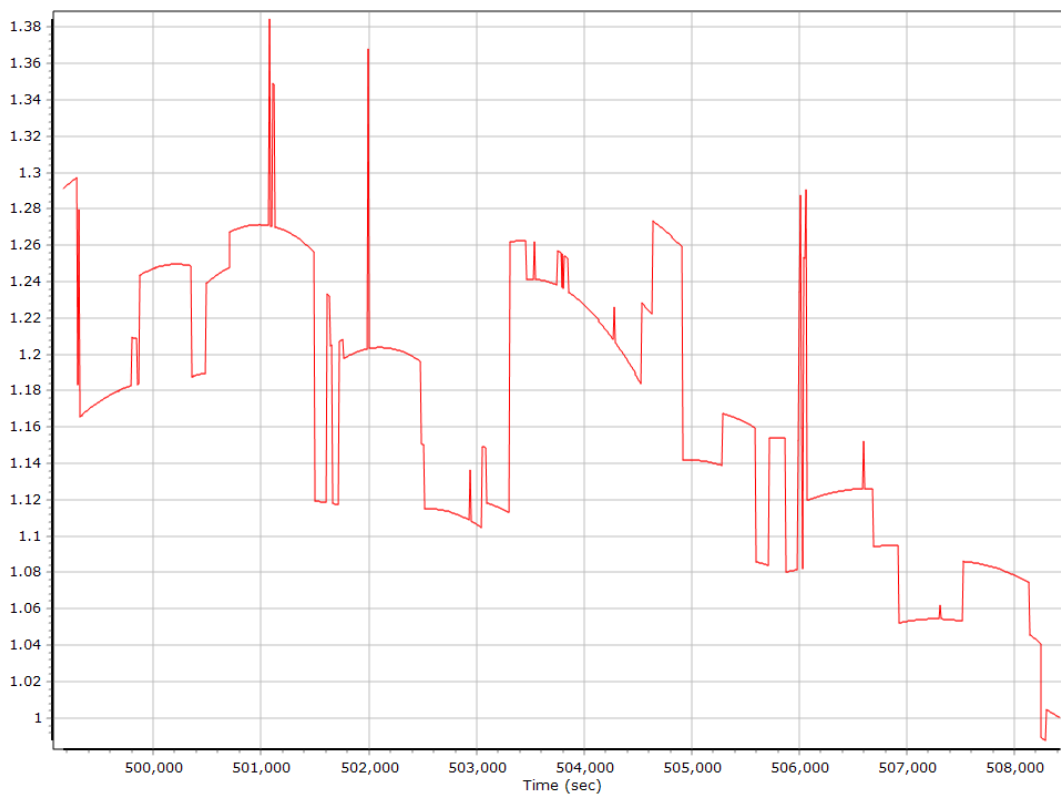
Num SVs in solution



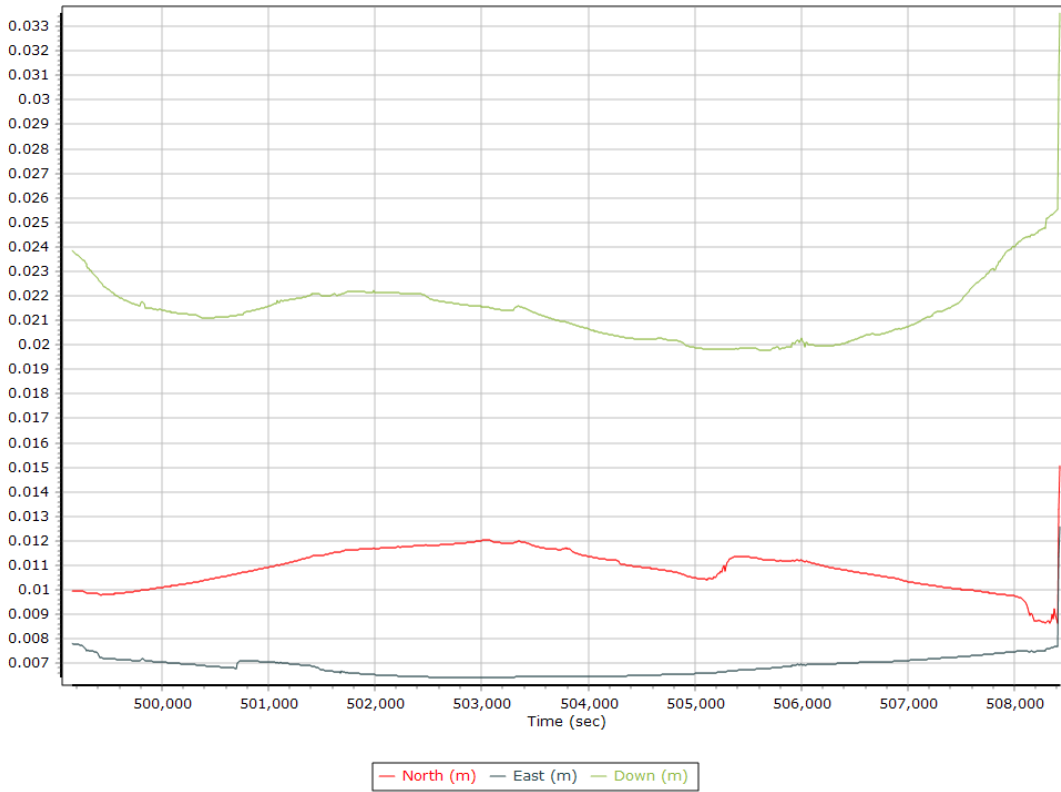
Forward/Reverse Separation



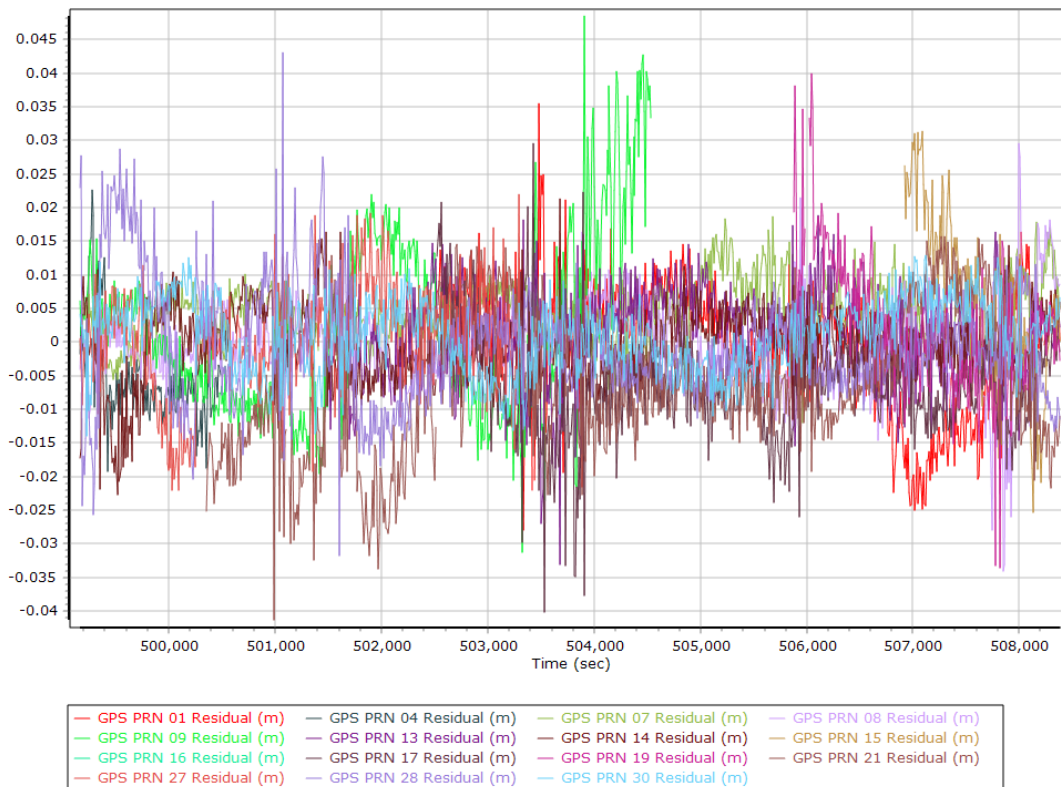
PDOP



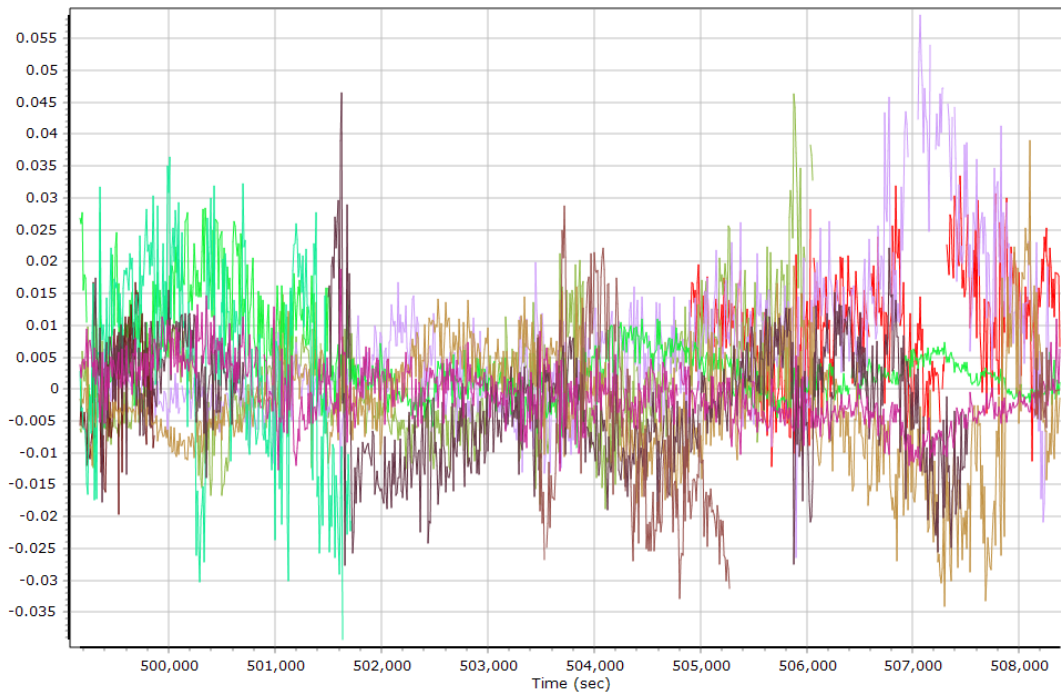
Estimated Position Accuracy



GPS Residuals

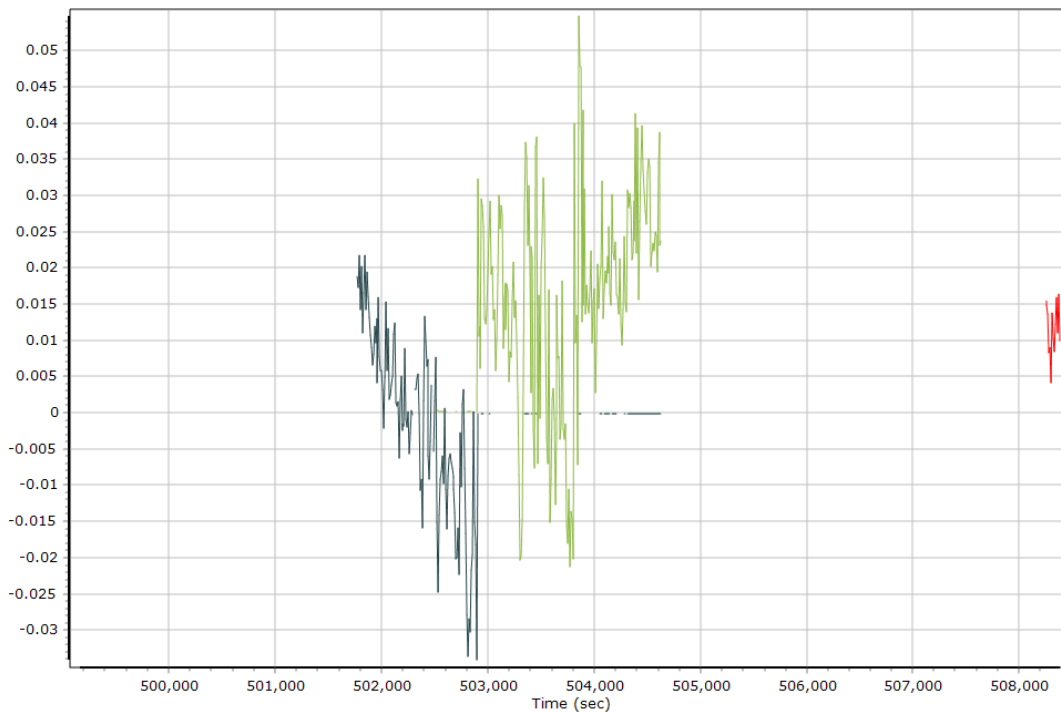


GLONASS Residuals



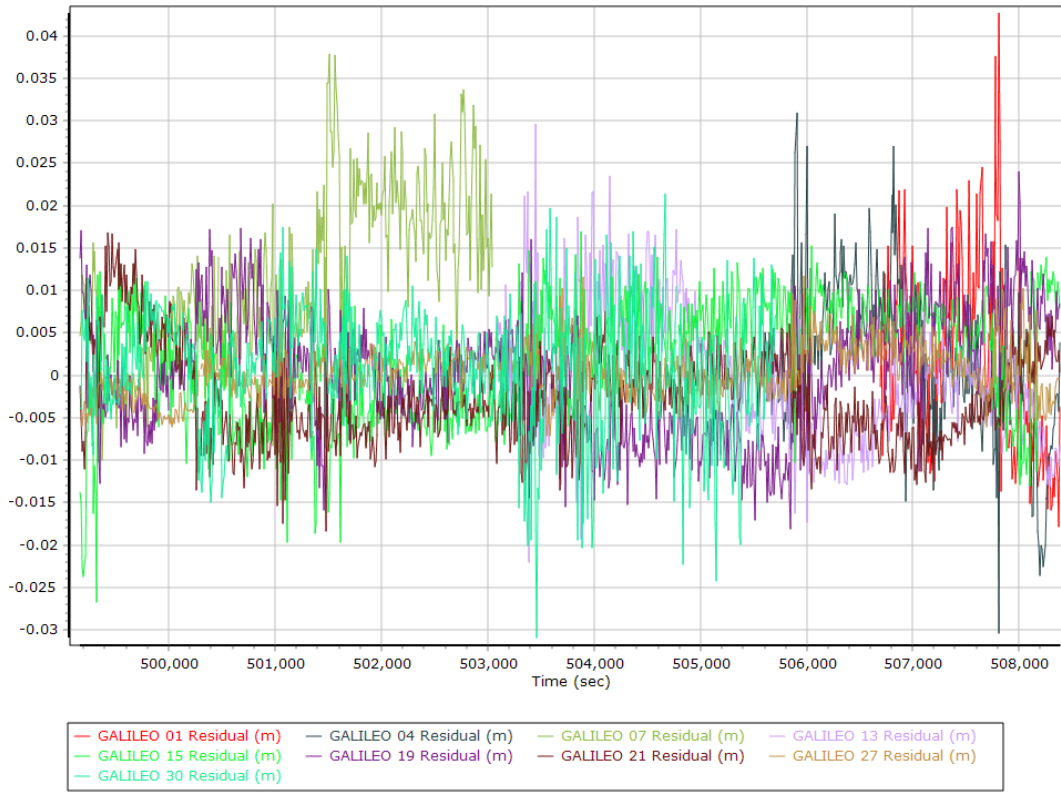
- | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GLONASS 01 Residual (m) | GLONASS 06 Residual (m) | GLONASS 07 Residual (m) | GLONASS 08 Residual (m) |
| GLONASS 09 Residual (m) | GLONASS 10 Residual (m) | GLONASS 15 Residual (m) | GLONASS 16 Residual (m) |
| GLONASS 17 Residual (m) | GLONASS 18 Residual (m) | GLONASS 19 Residual (m) | GLONASS 20 Residual (m) |

BEIDOU Residuals



- | | | | |
|------------------------|------------------------|------------------------|------------------------|
| BEIDOU 11 Residual (m) | BEIDOU 12 Residual (m) | BEIDOU 14 Residual (m) | BEIDOU 24 Residual (m) |
| BEIDOU 25 Residual (m) | BEIDOU 26 Residual (m) | BEIDOU 29 Residual (m) | |

GALILEO Residuals



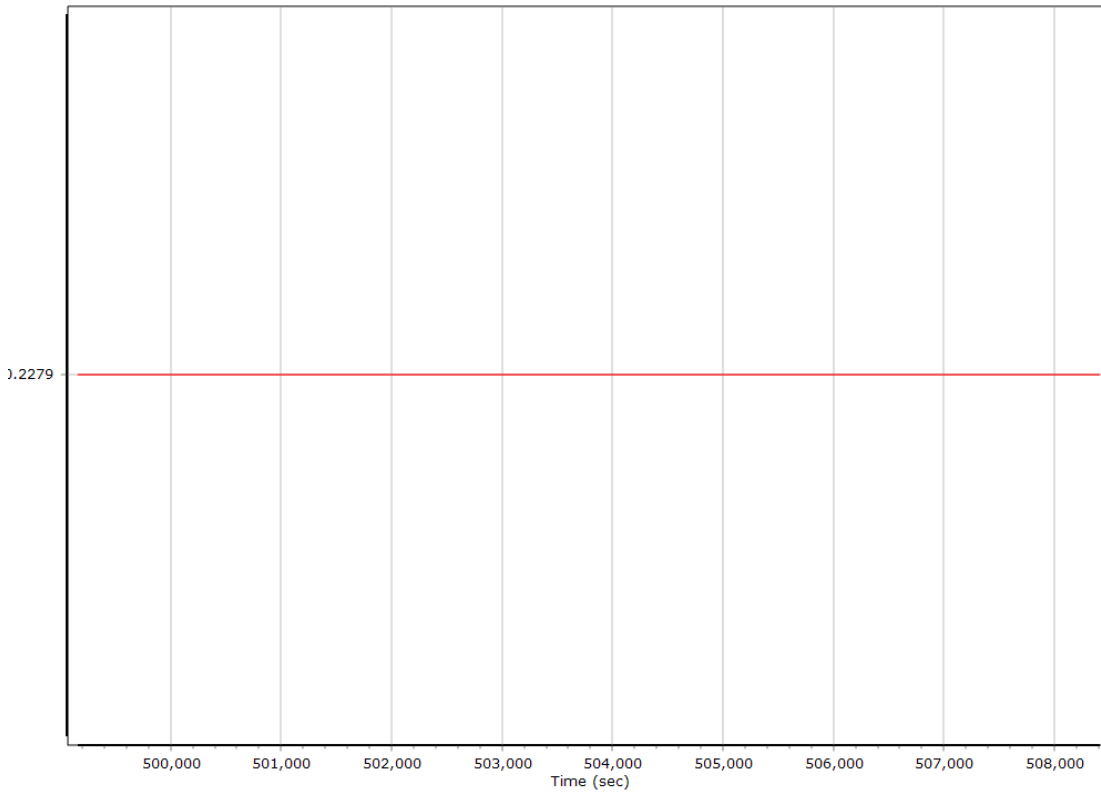
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	498778.000 (03/05/2021 18:32:58)		
Processing end time	508422.000 (03/05/2021 21:13:42)		
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)	0.228	-0.286	-0.967
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

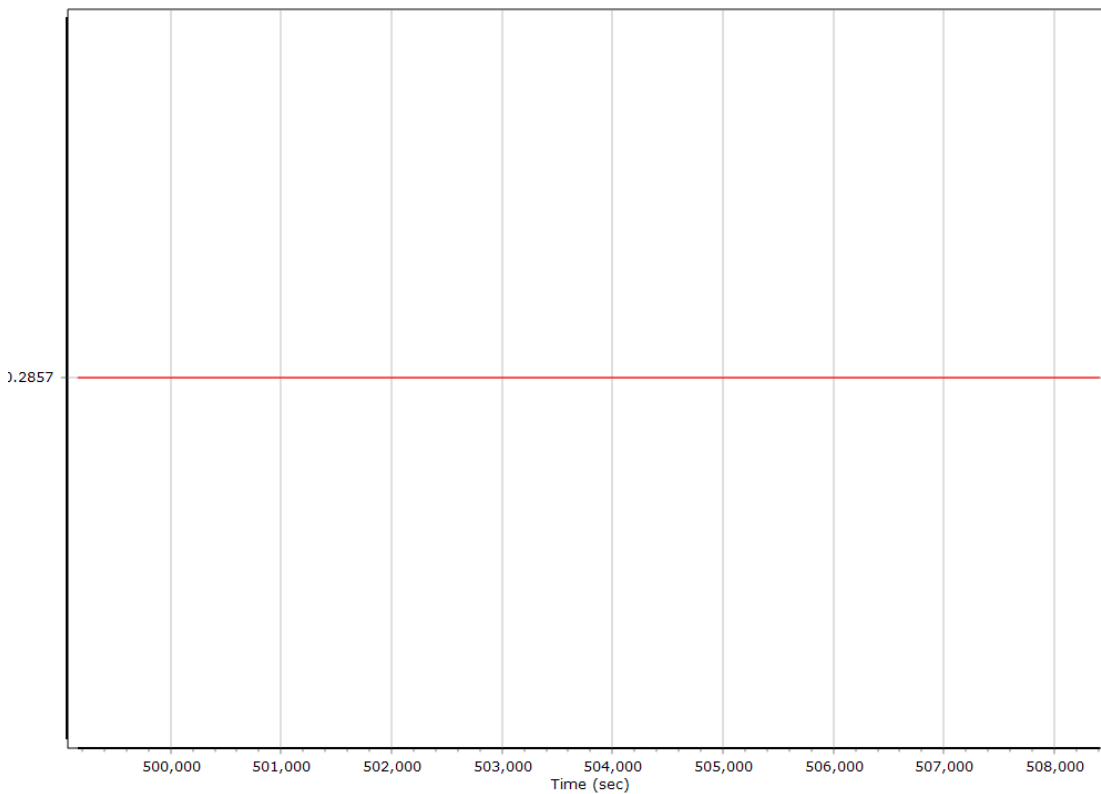
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

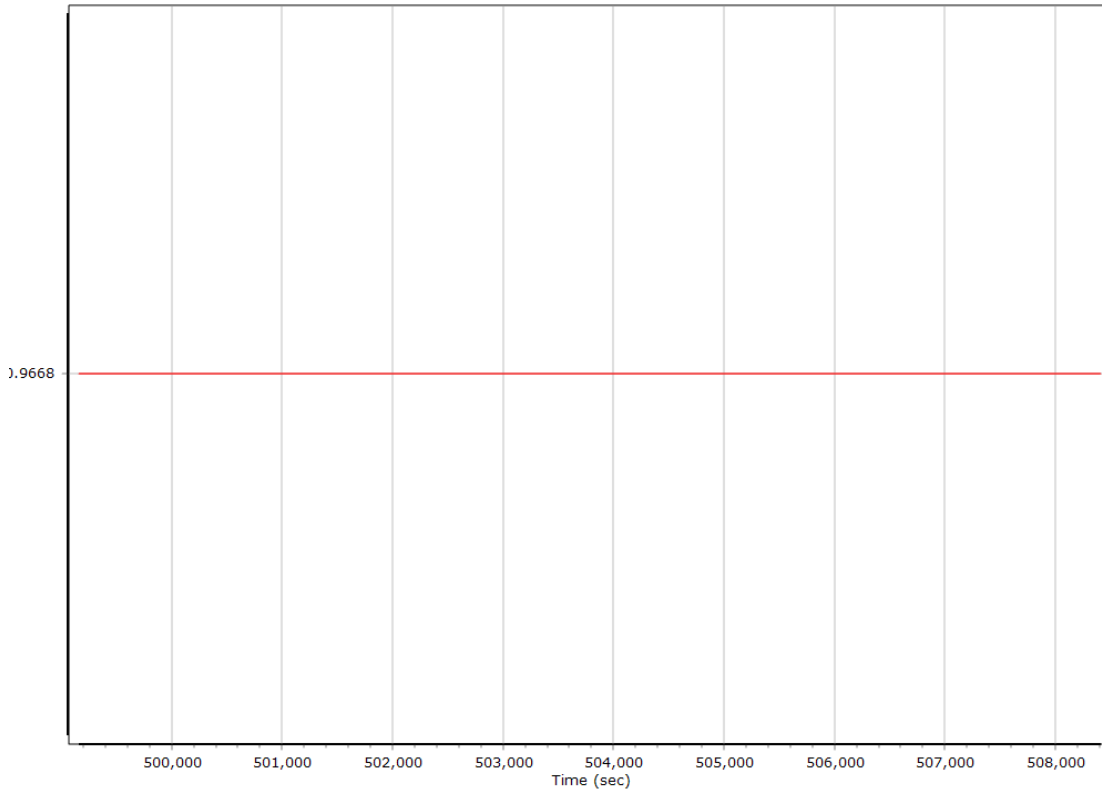
X Reference-Primary GNSS Lever Arm (m)



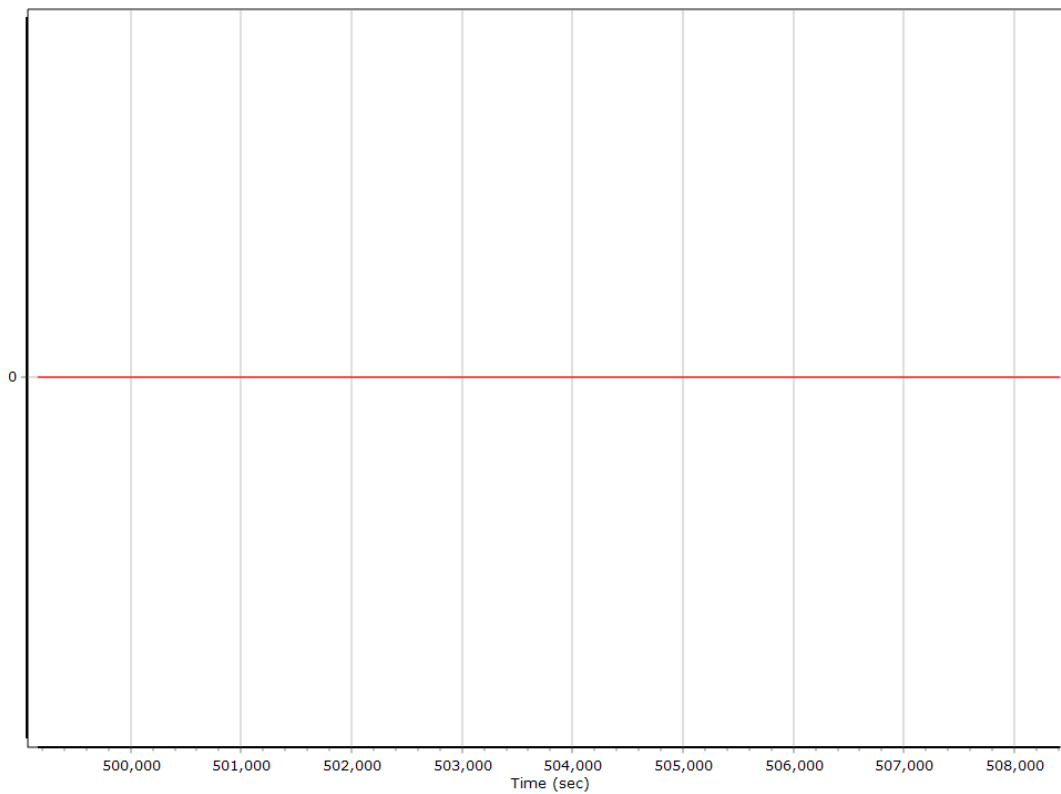
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



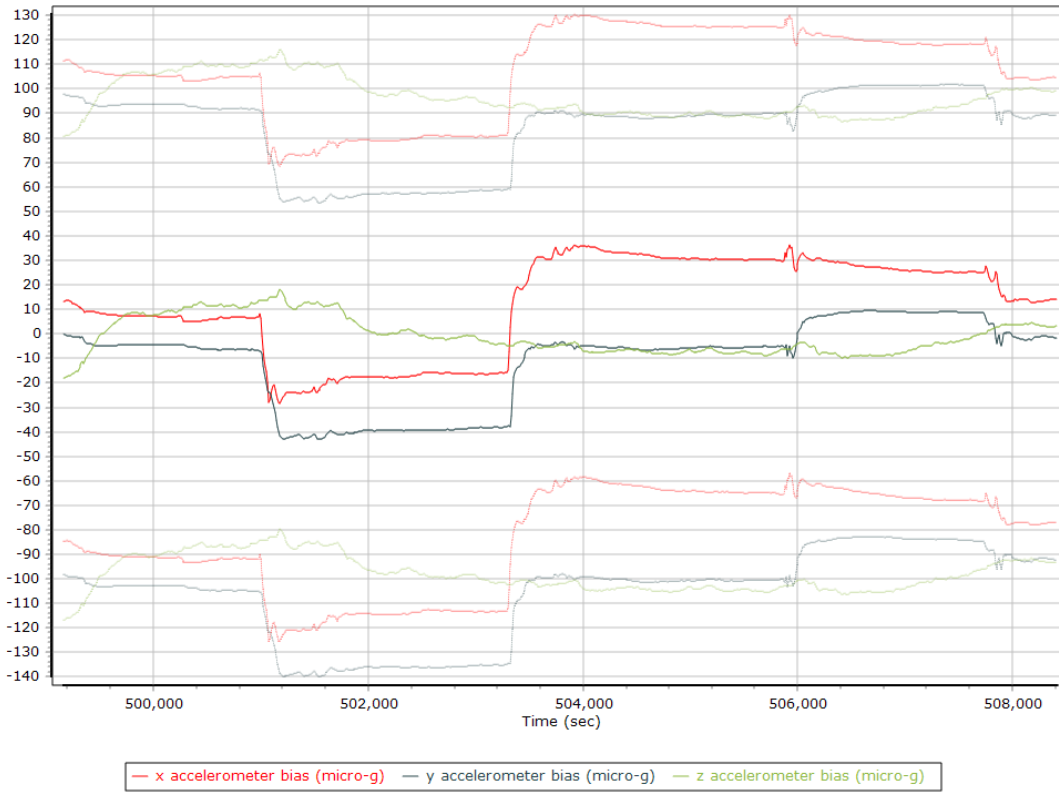
Reference-Primary GNSS Lever Arm Figure of Merit



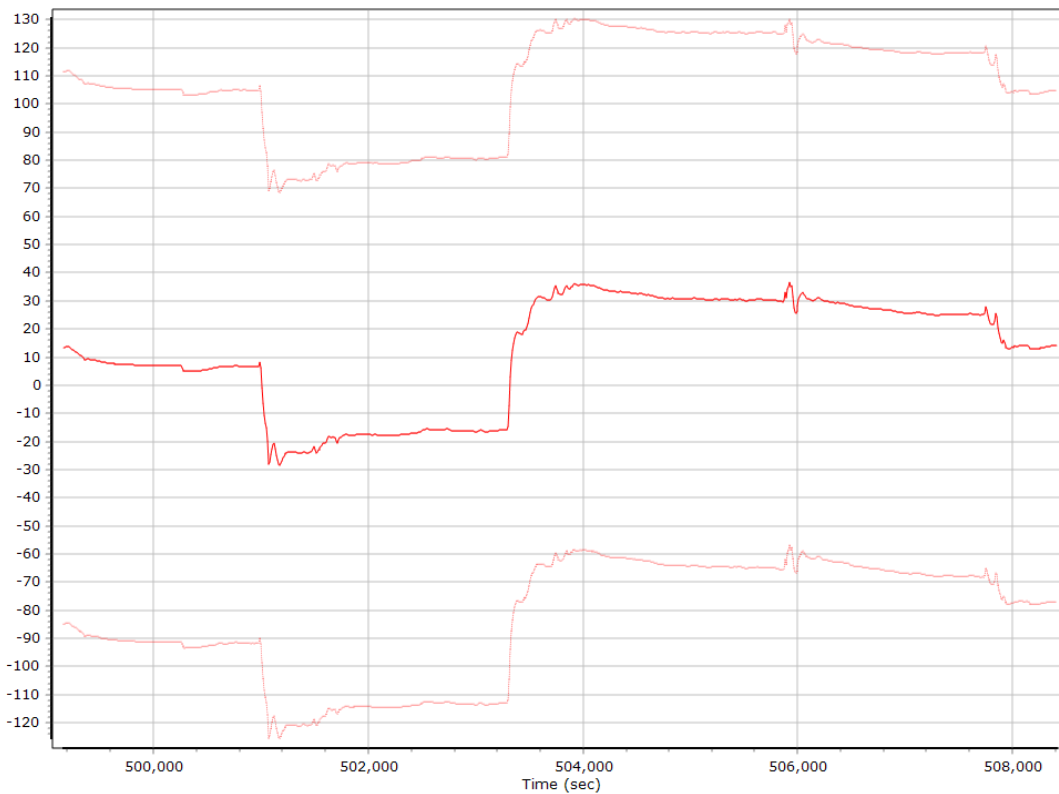
IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

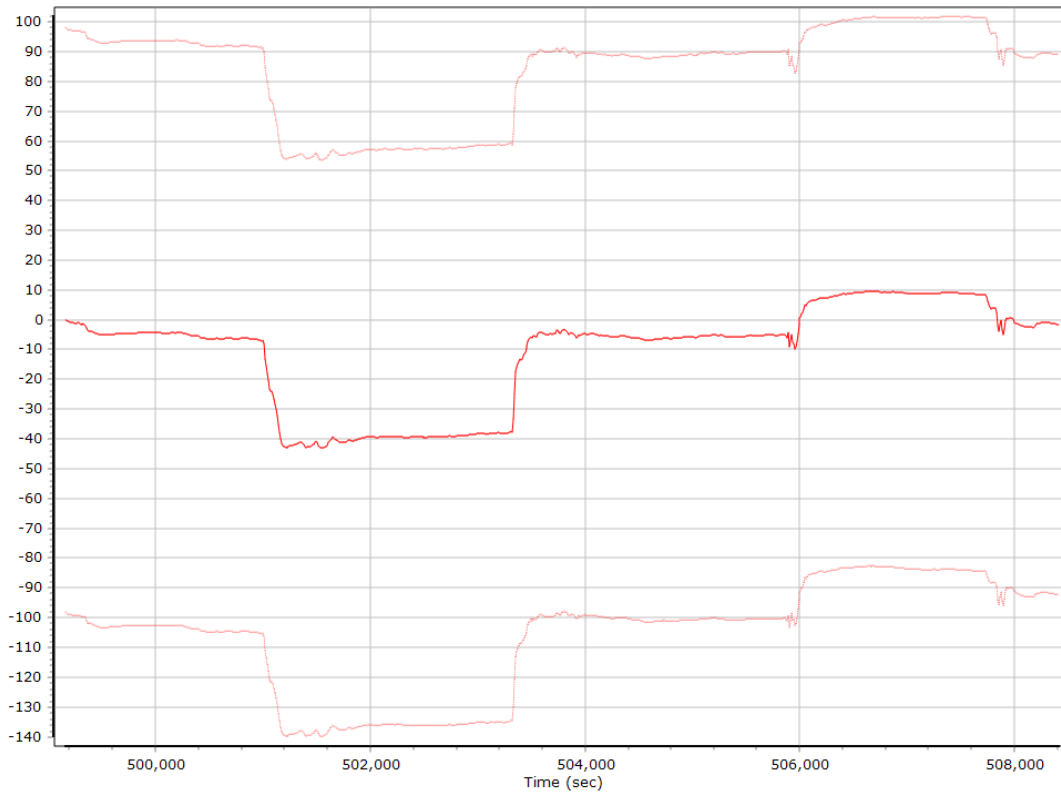
Accelerometer Bias (micro-g)



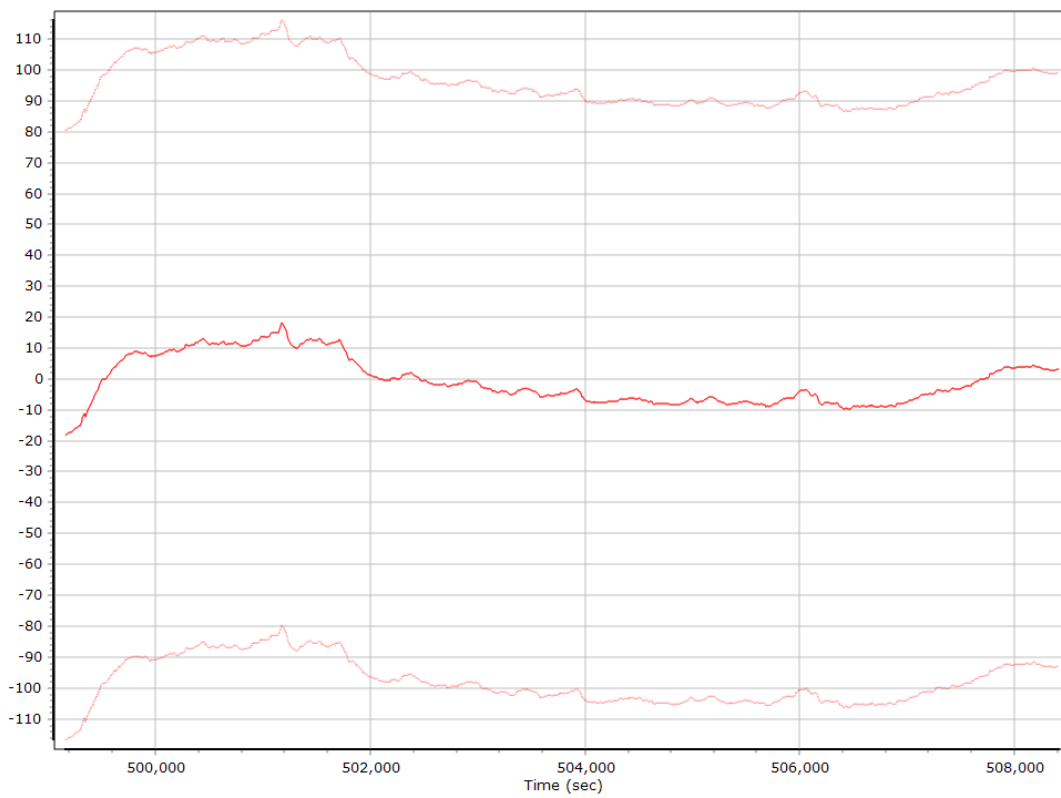
X Accelerometer Bias (micro-g)



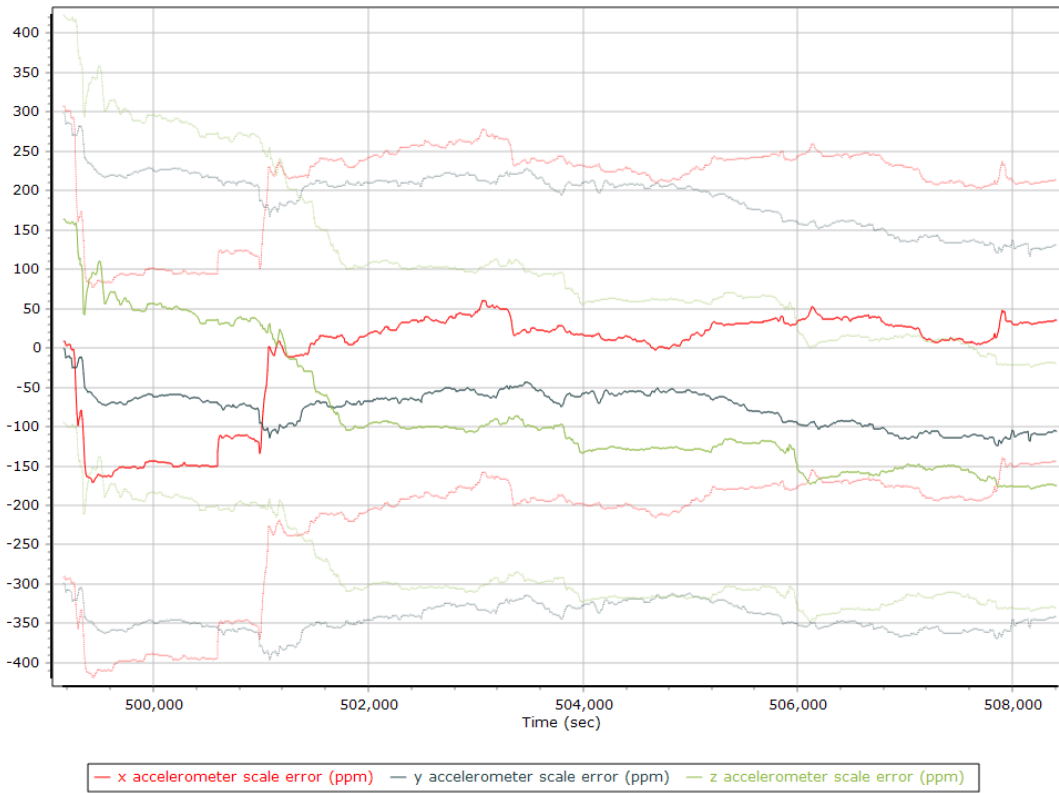
Y Accelerometer Bias (micro-g)



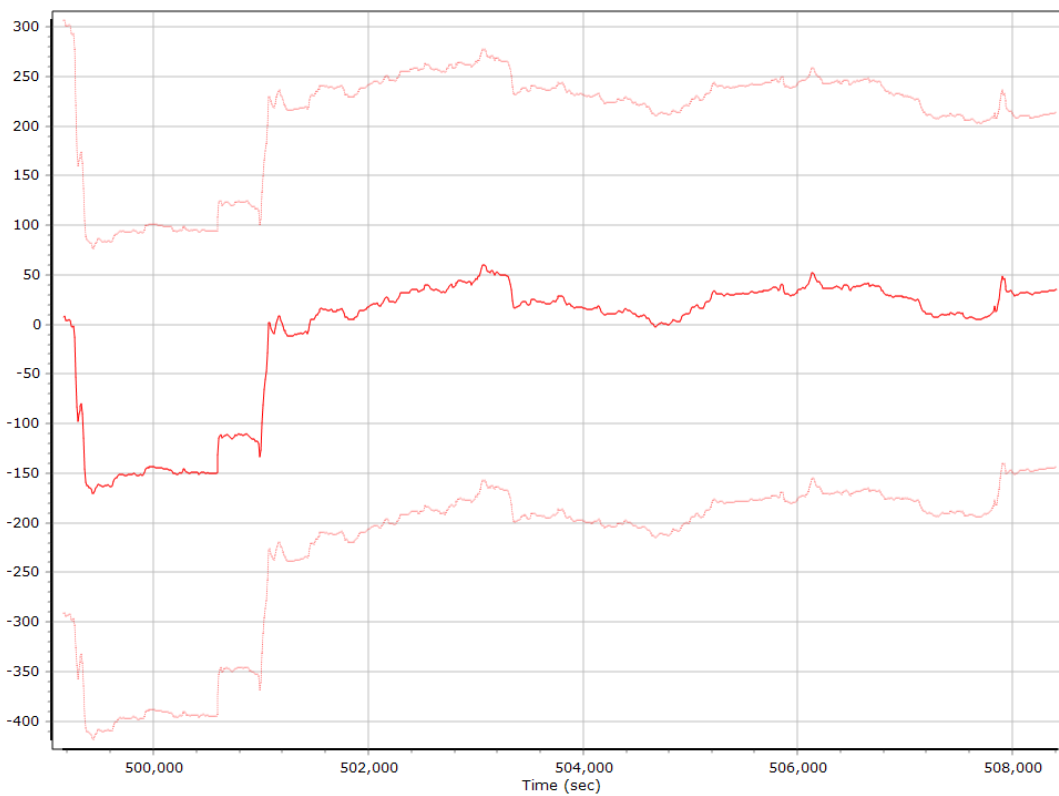
Z Accelerometer Bias (micro-g)



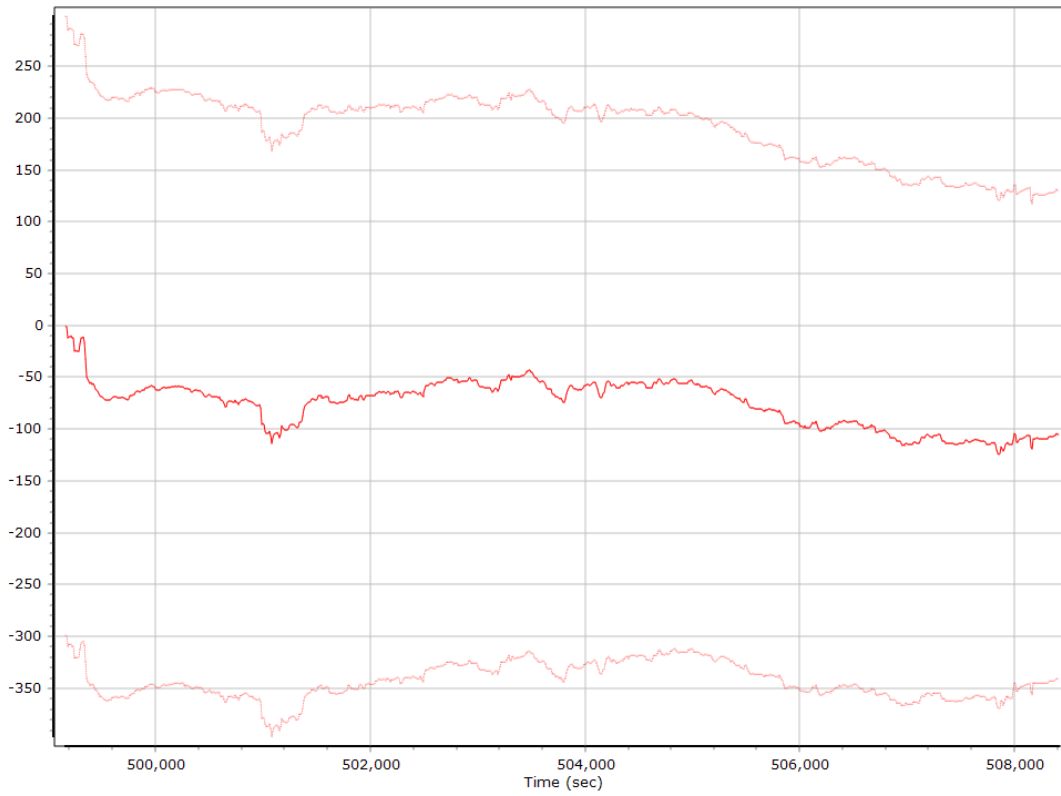
Accelerometer Scale Error (ppm)



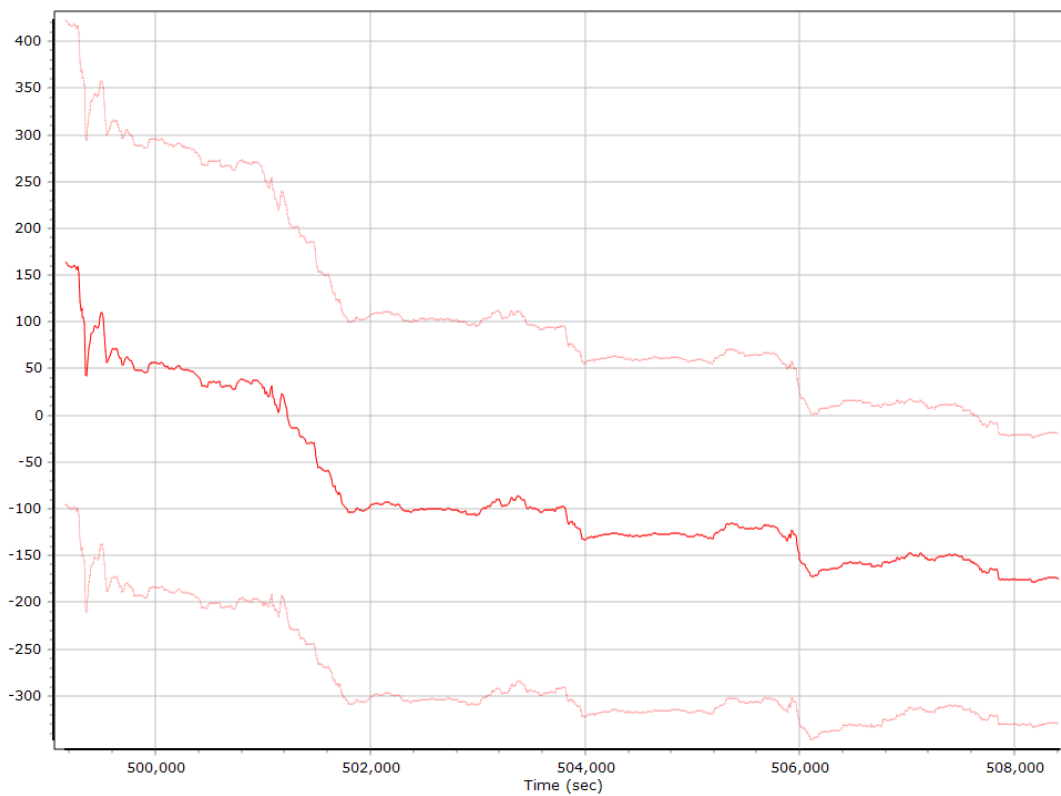
X Accelerometer Scale Error (ppm)



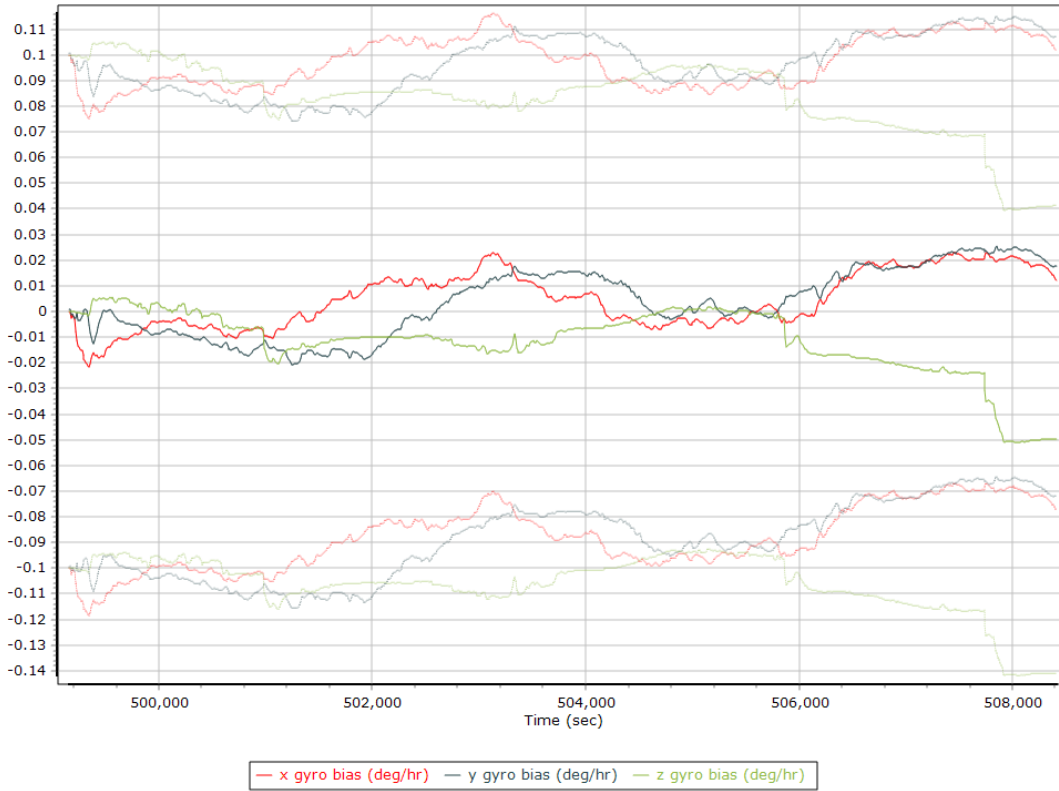
Y Accelerometer Scale Error (ppm)



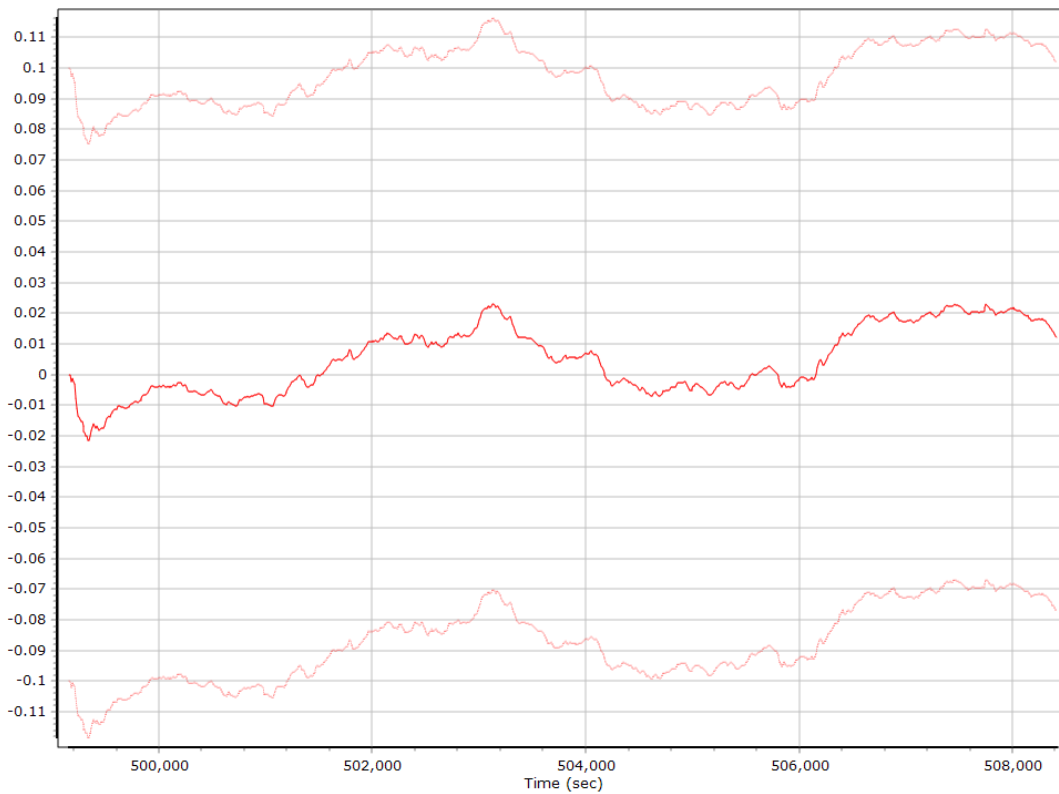
Z Accelerometer Scale Error (ppm)



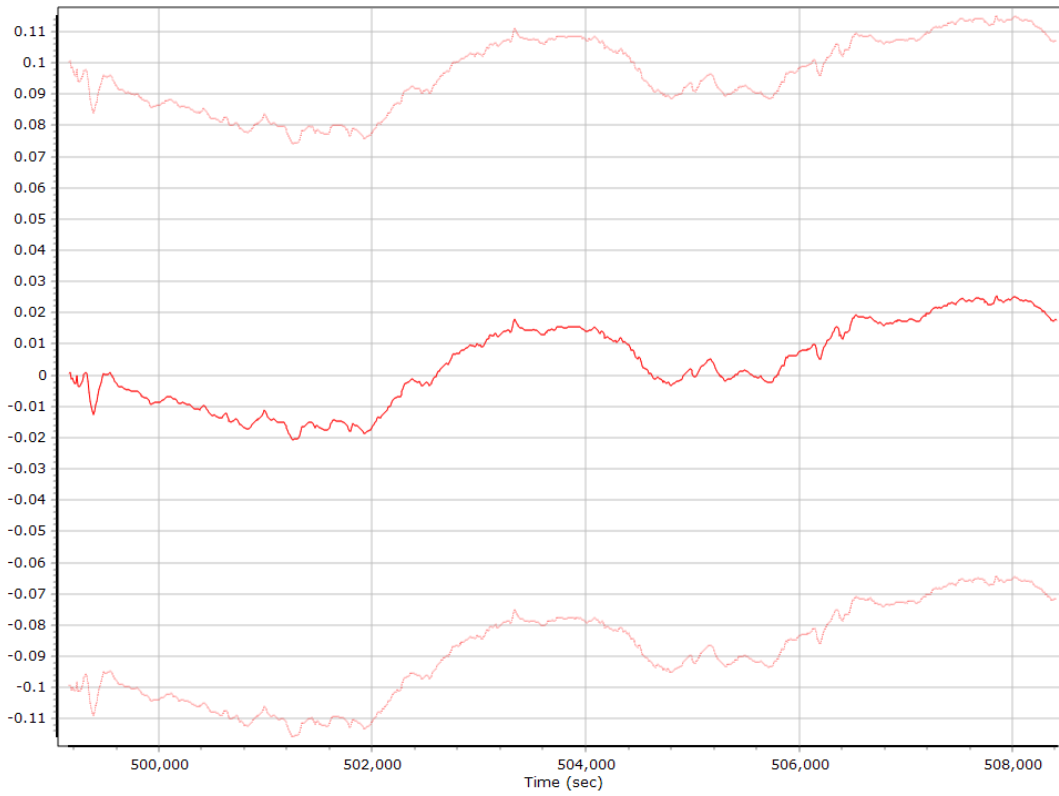
Gyro Bias (deg/h)



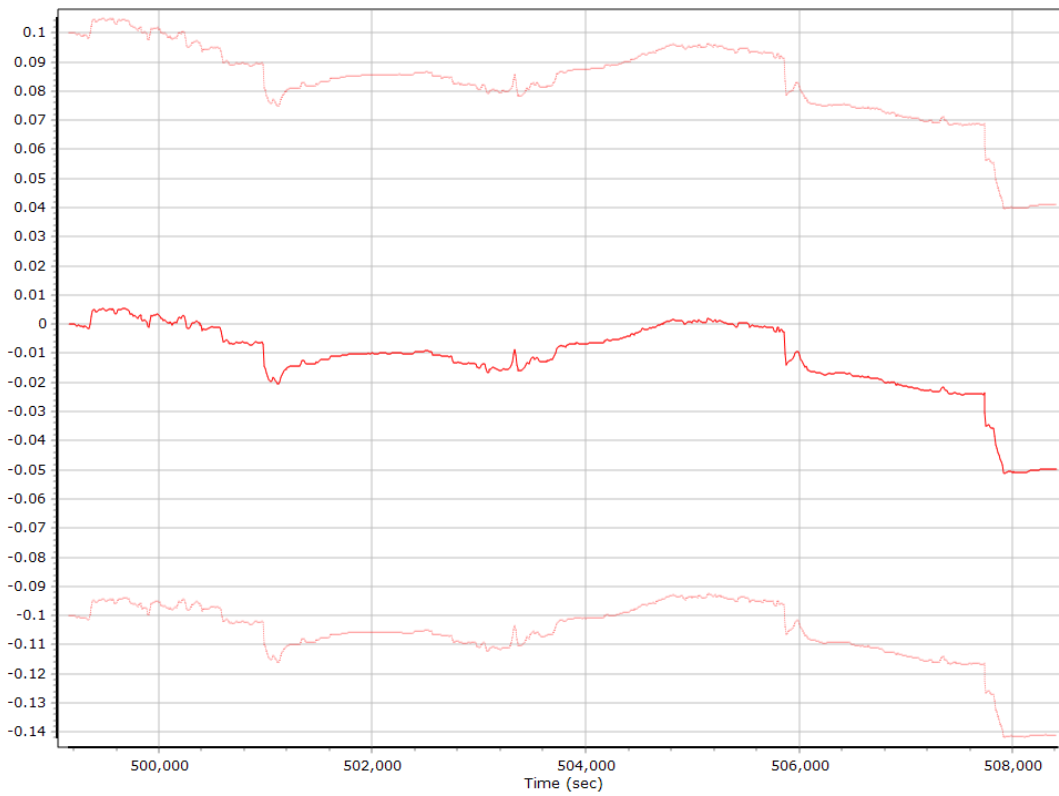
X Gyro Bias (deg/h)



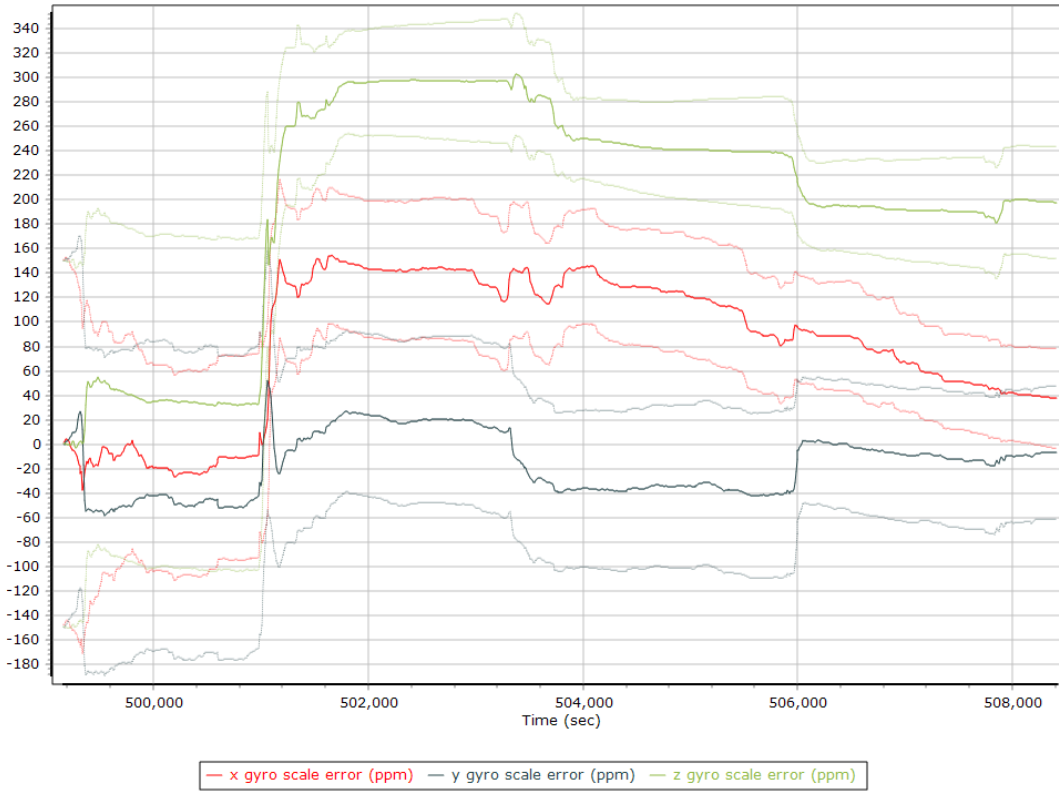
Y Gyro Bias (deg/h)



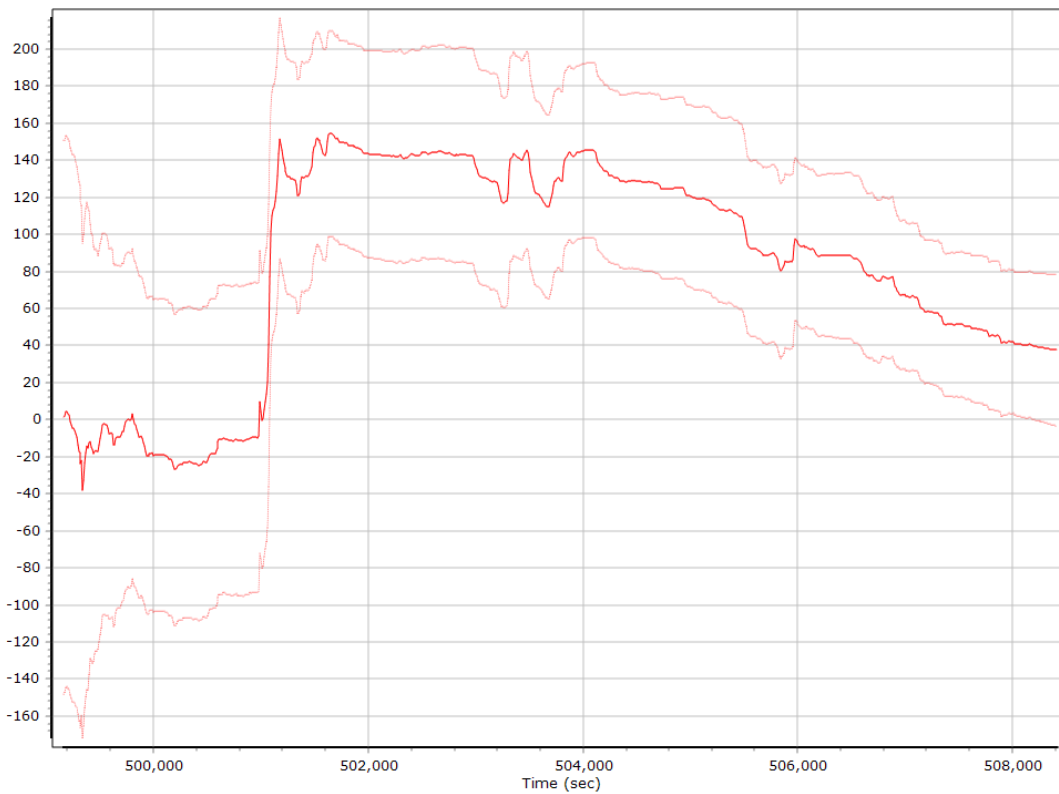
Z Gyro Bias (deg/h)



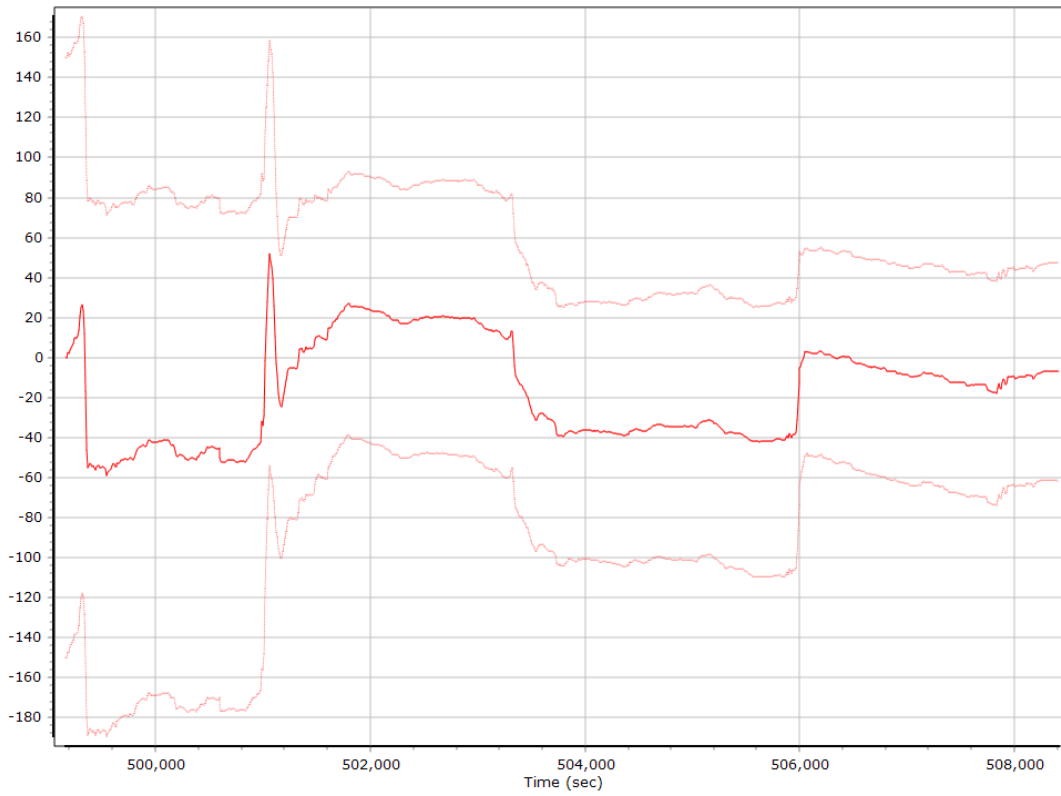
Gyro Scale Error (ppm)



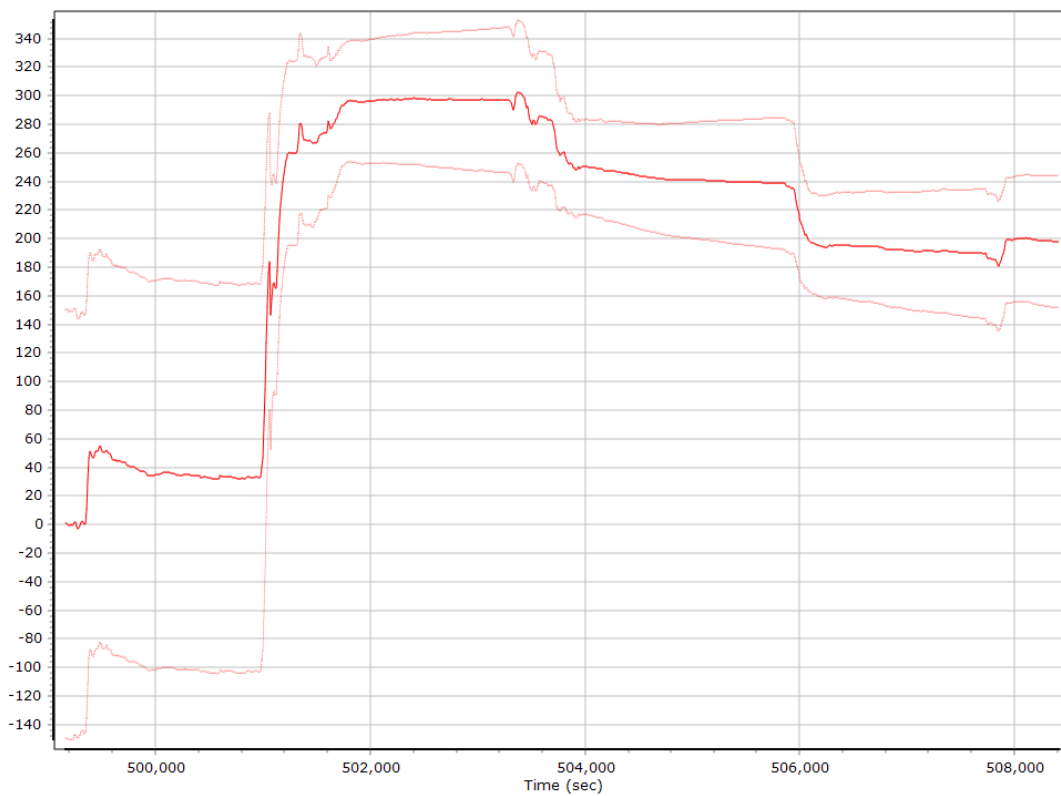
X Gyro Scale Error (ppm)



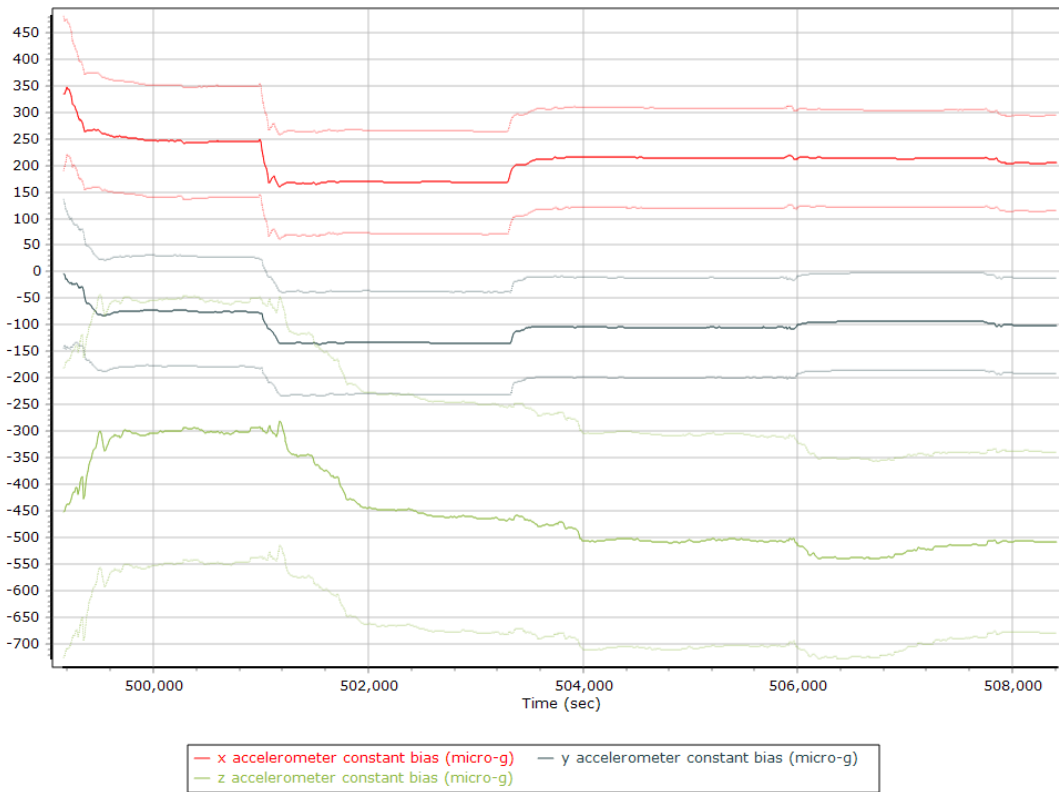
Y Gyro Scale Error (ppm)



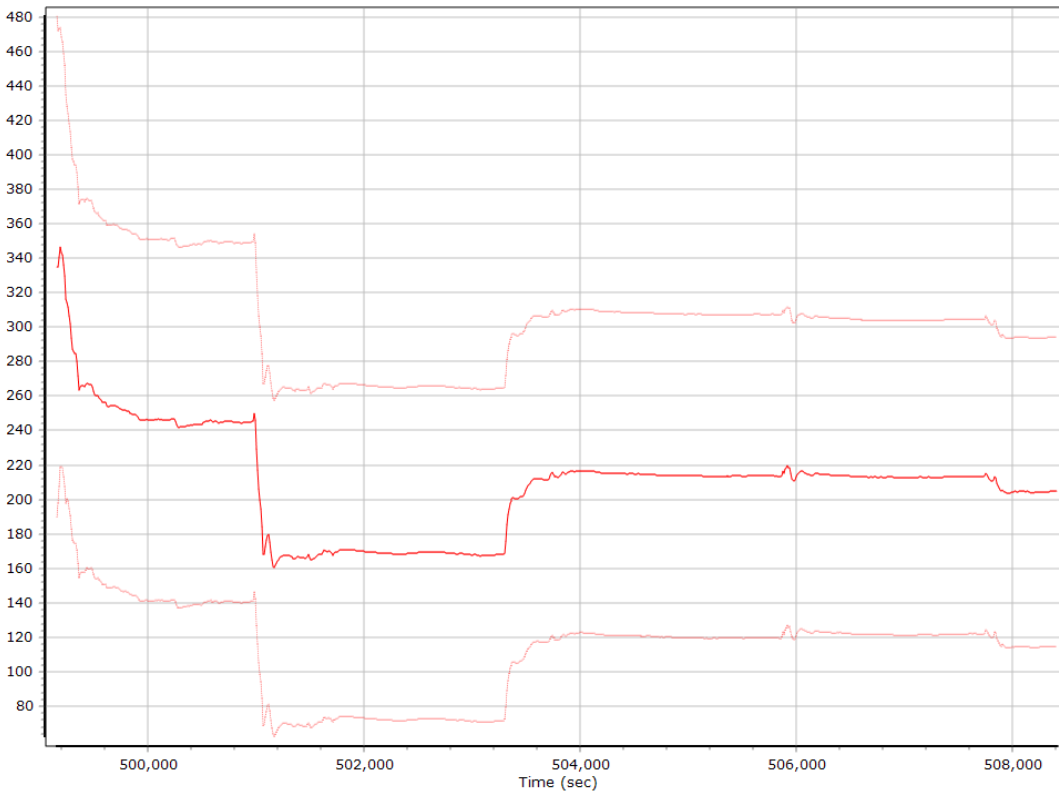
Z Gyro Scale Error (ppm)



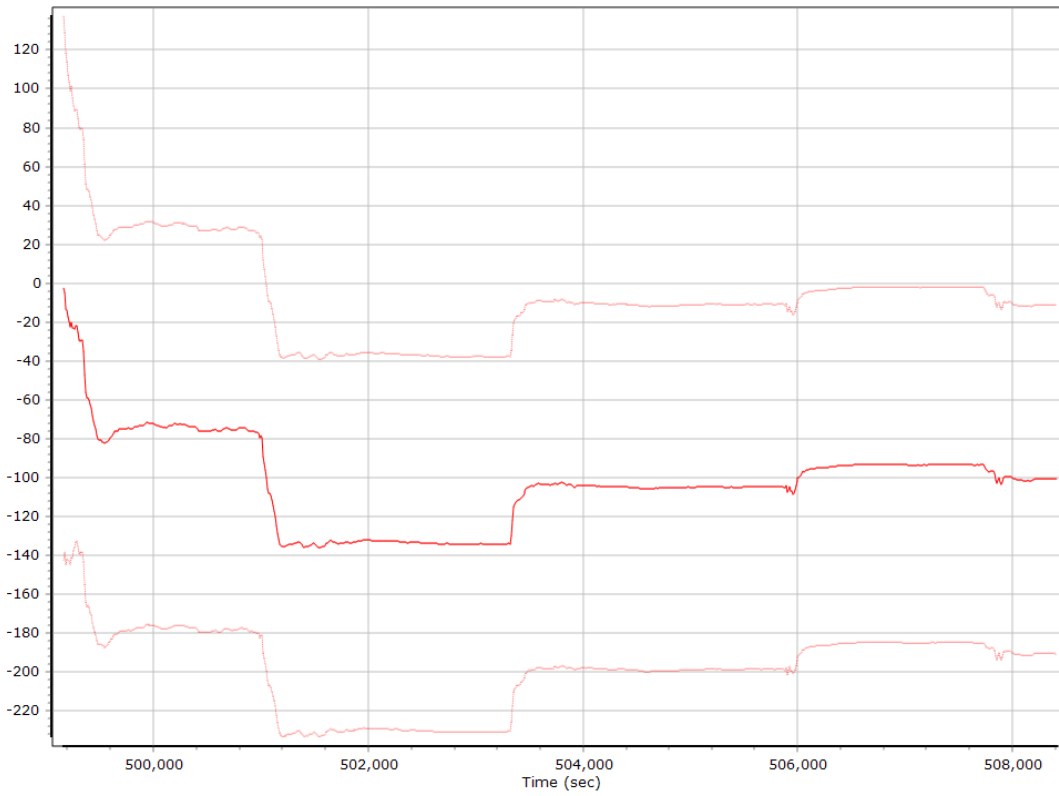
Forward Processed Estimated Constant Errors, Reference Frame Accelerometer Bias (micro-g)



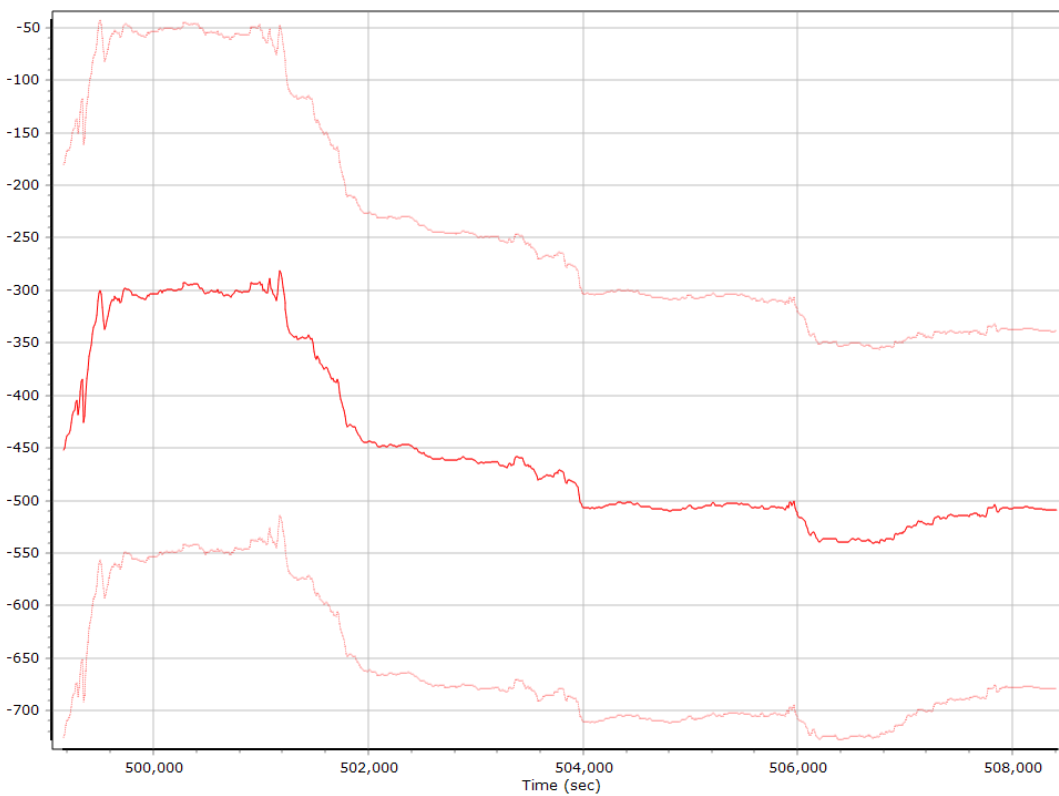
X Accelerometer Bias (micro-g)



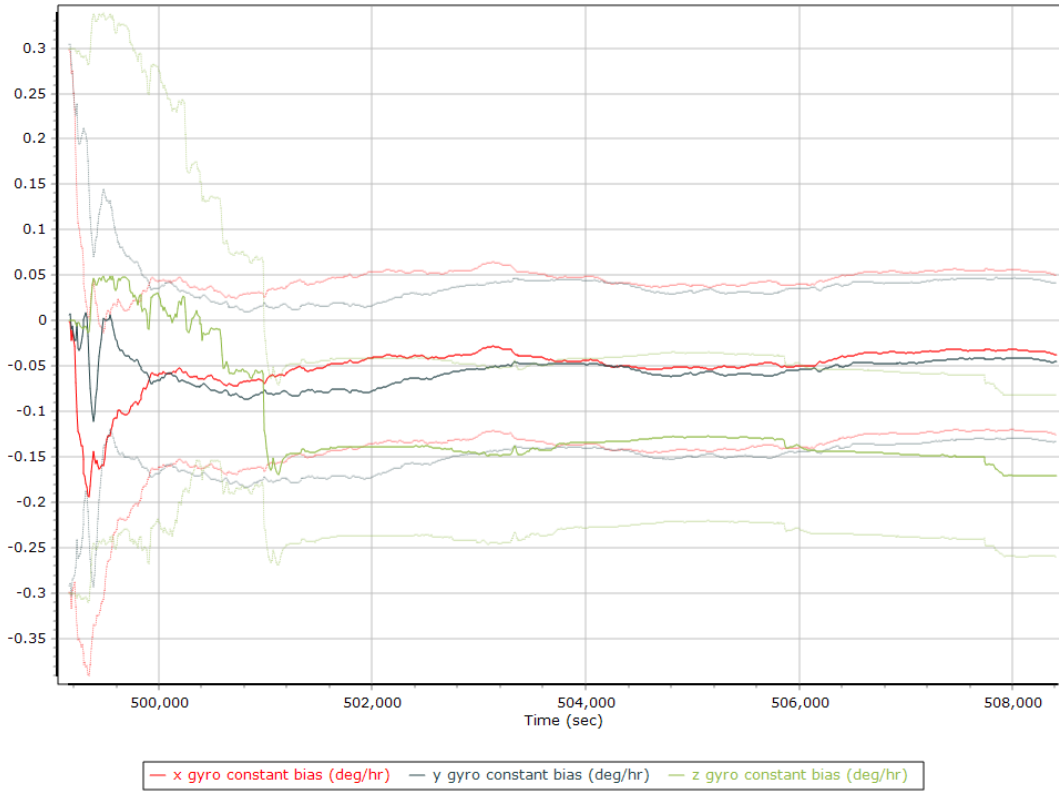
Y Accelerometer Bias (micro-g)



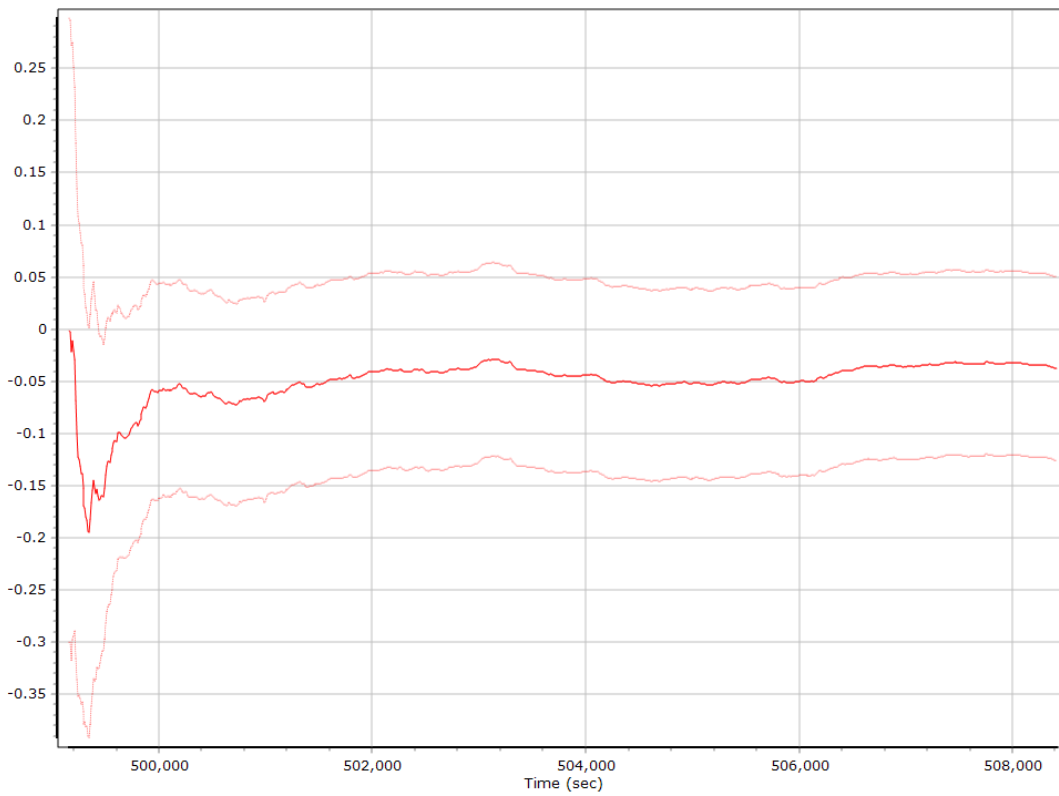
Z Accelerometer Bias (micro-g)



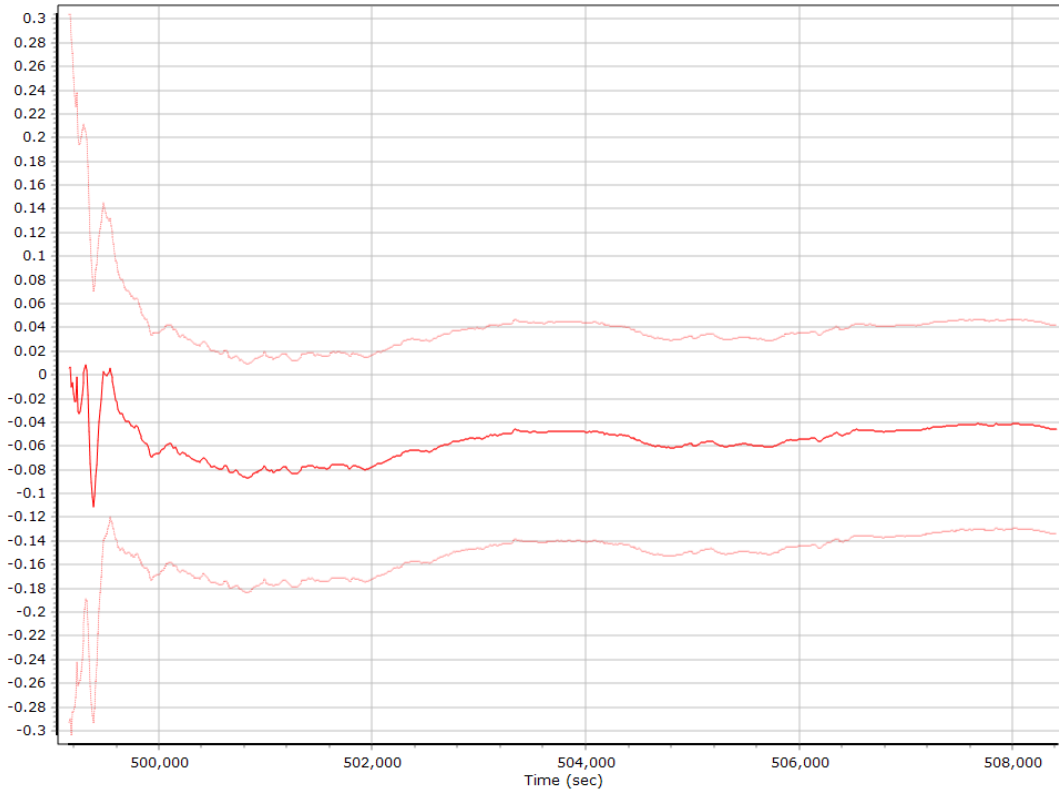
Gyro Bias (deg/h)



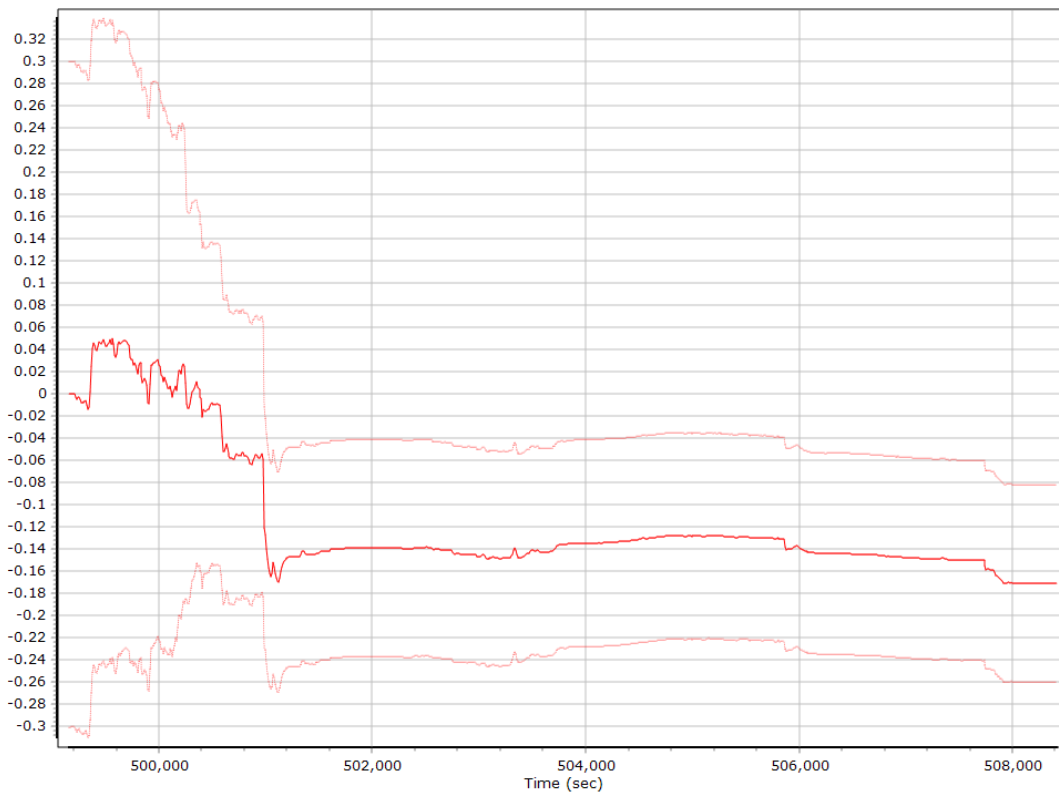
X Gyro Bias (deg/h)



Y Gyro Bias (deg/h)

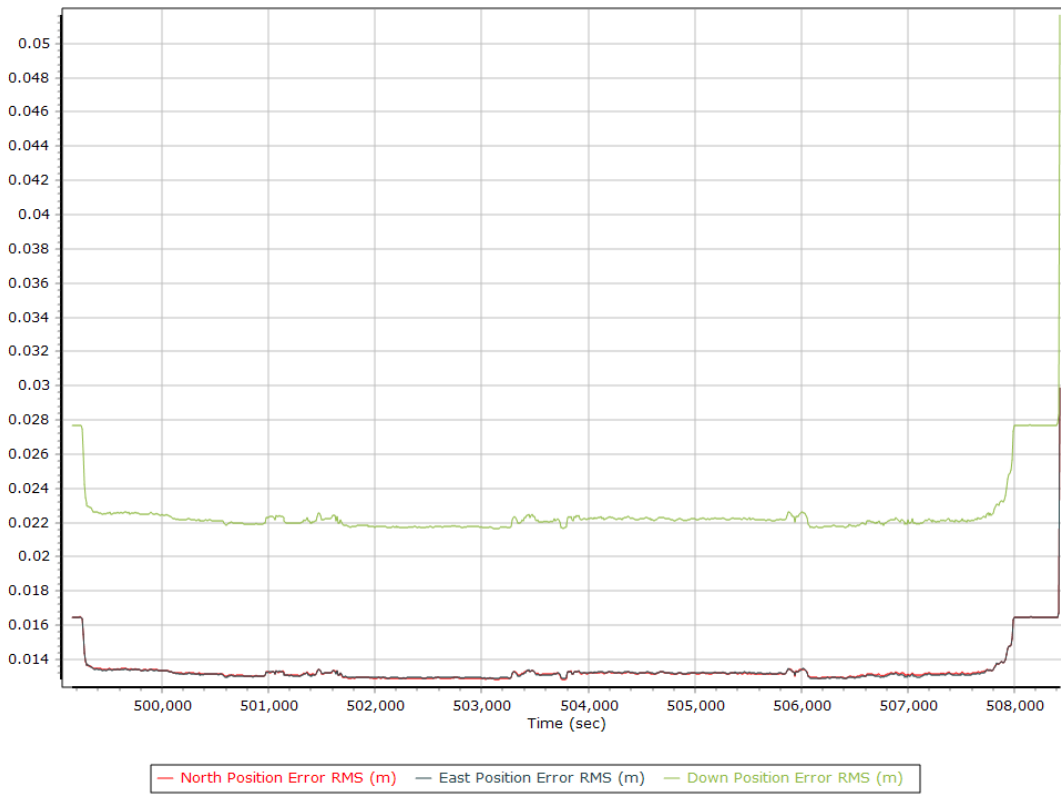


Z Gyro Bias (deg/h)

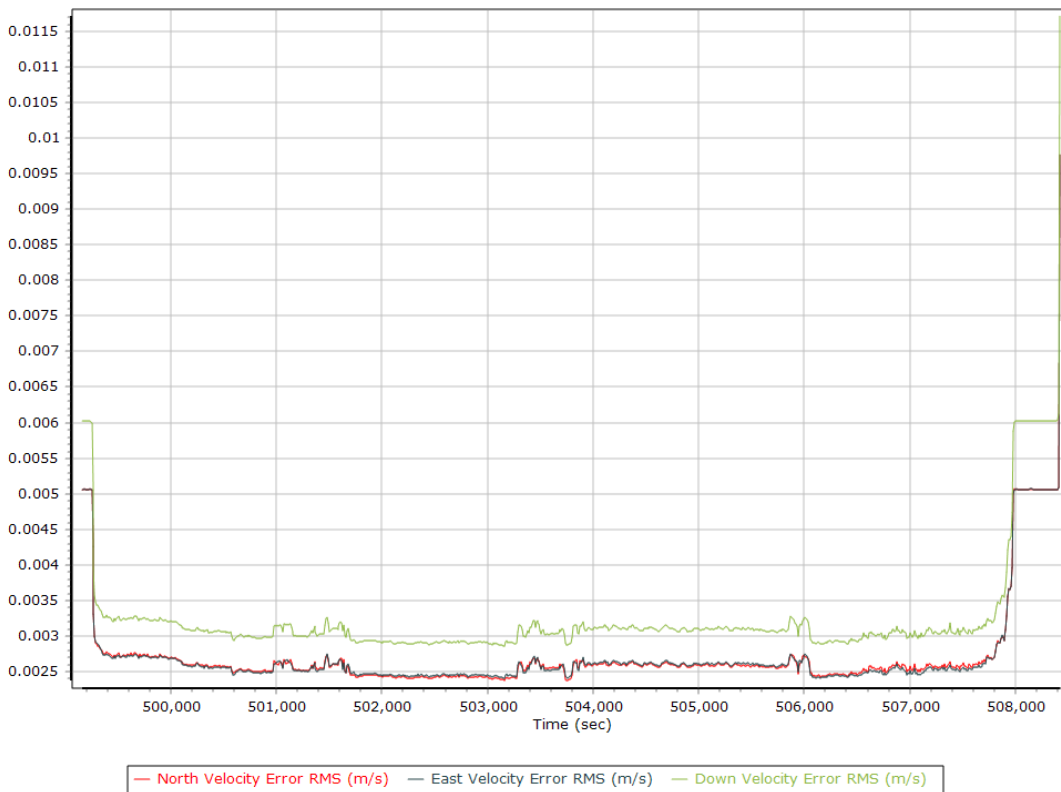


Smoothed Performance Metrics

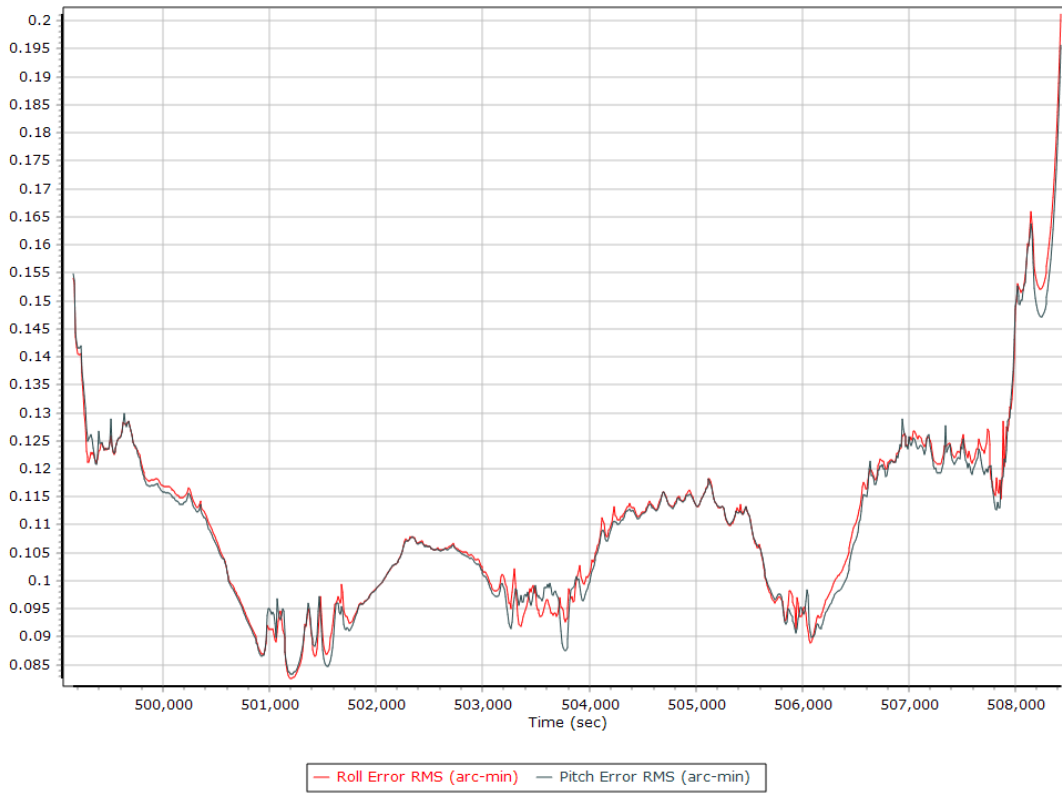
Position Error RMS (m)



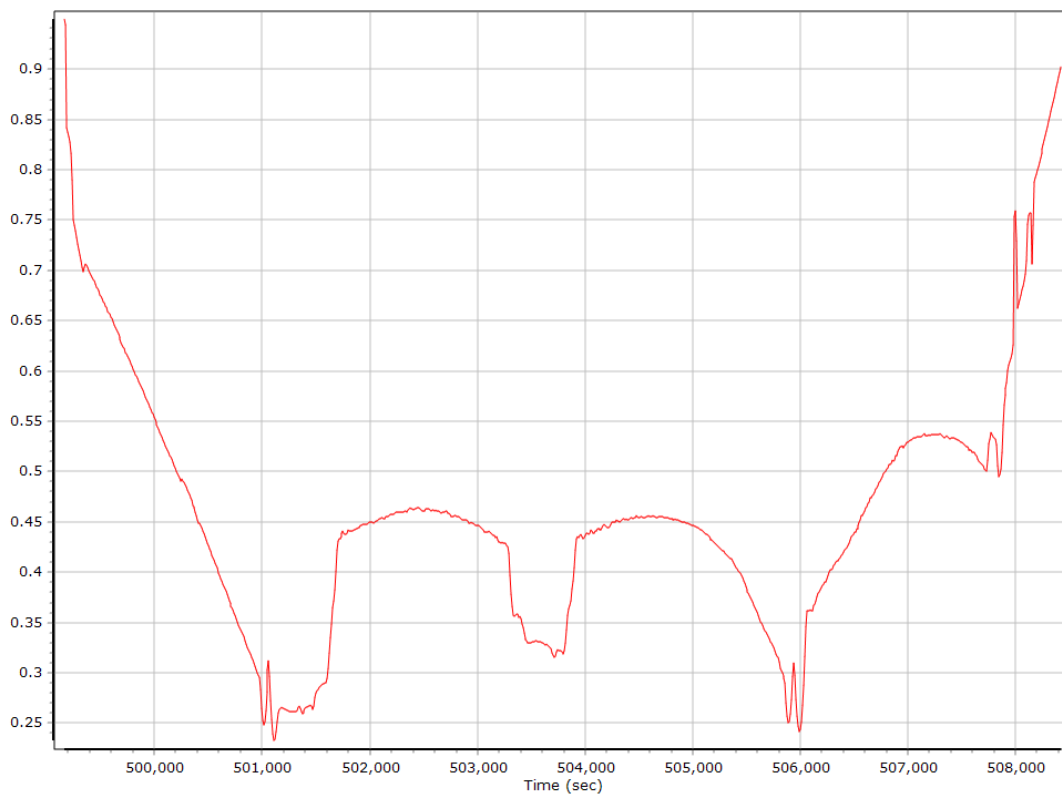
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

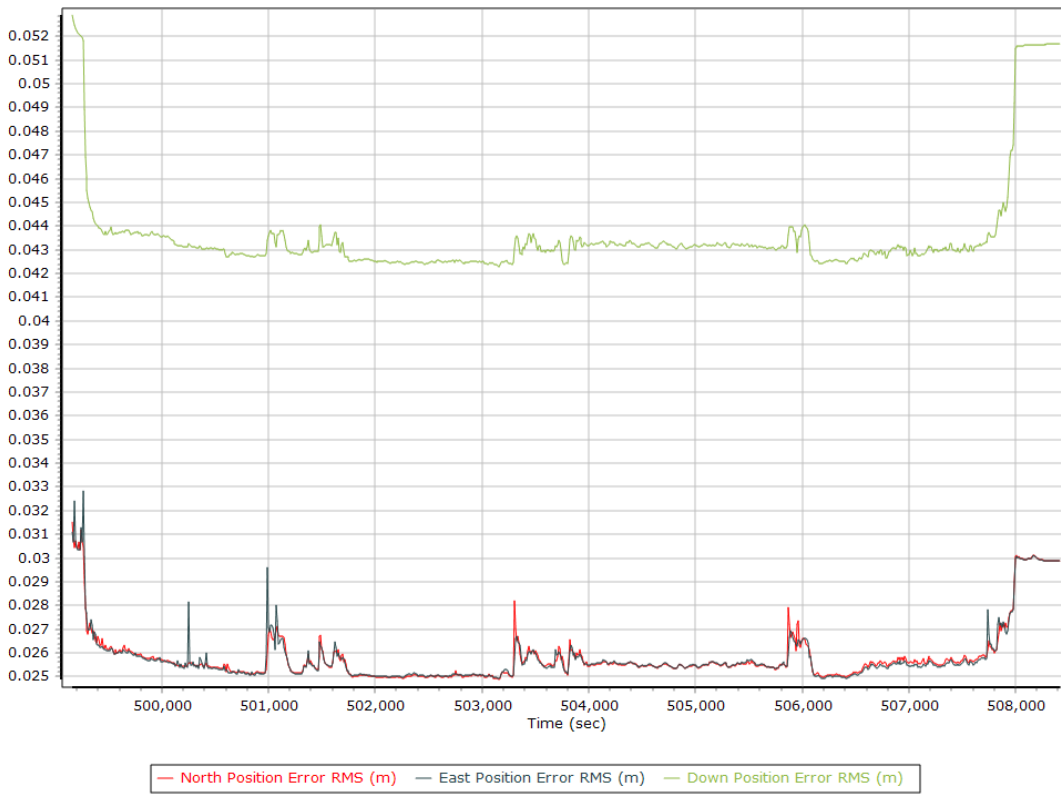


Heading Error RMS (arc-min)

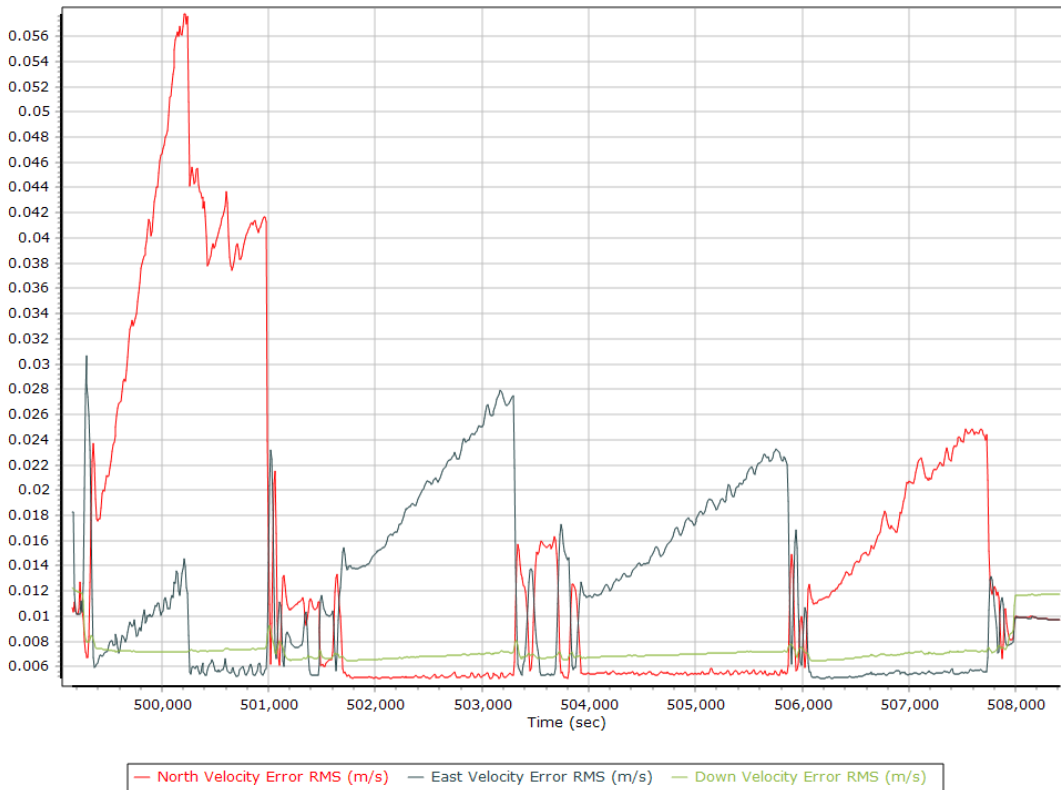


Forward Processed Performance Metrics

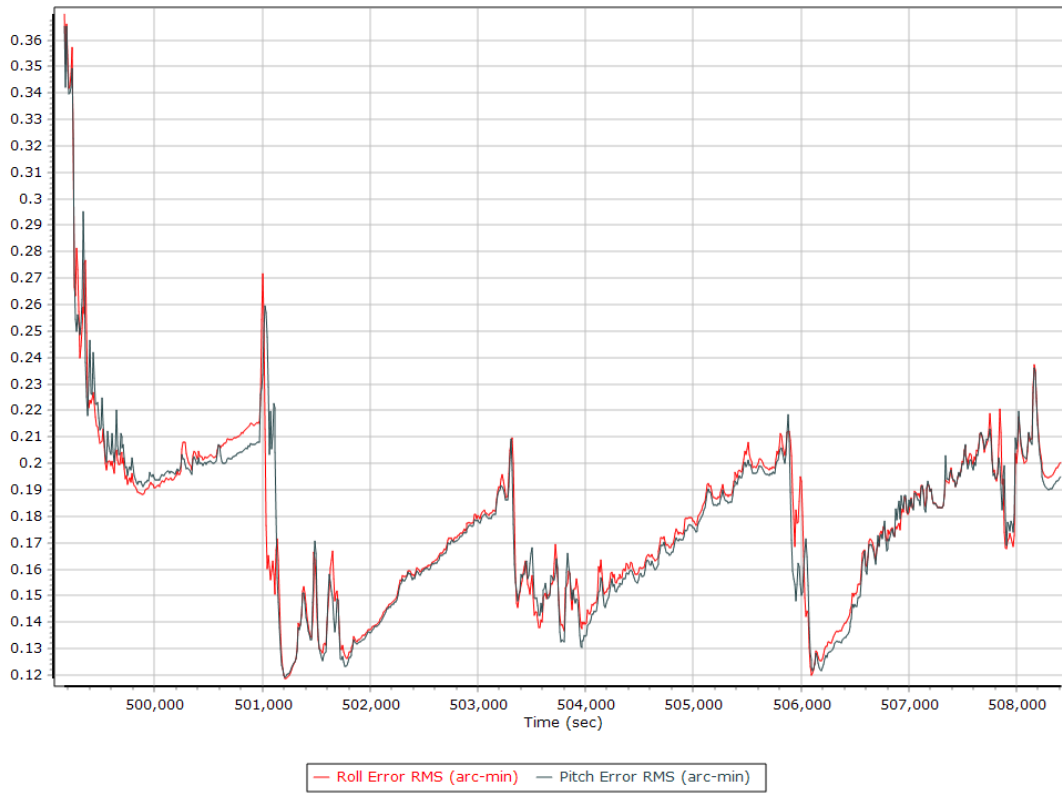
Position Error RMS (m)



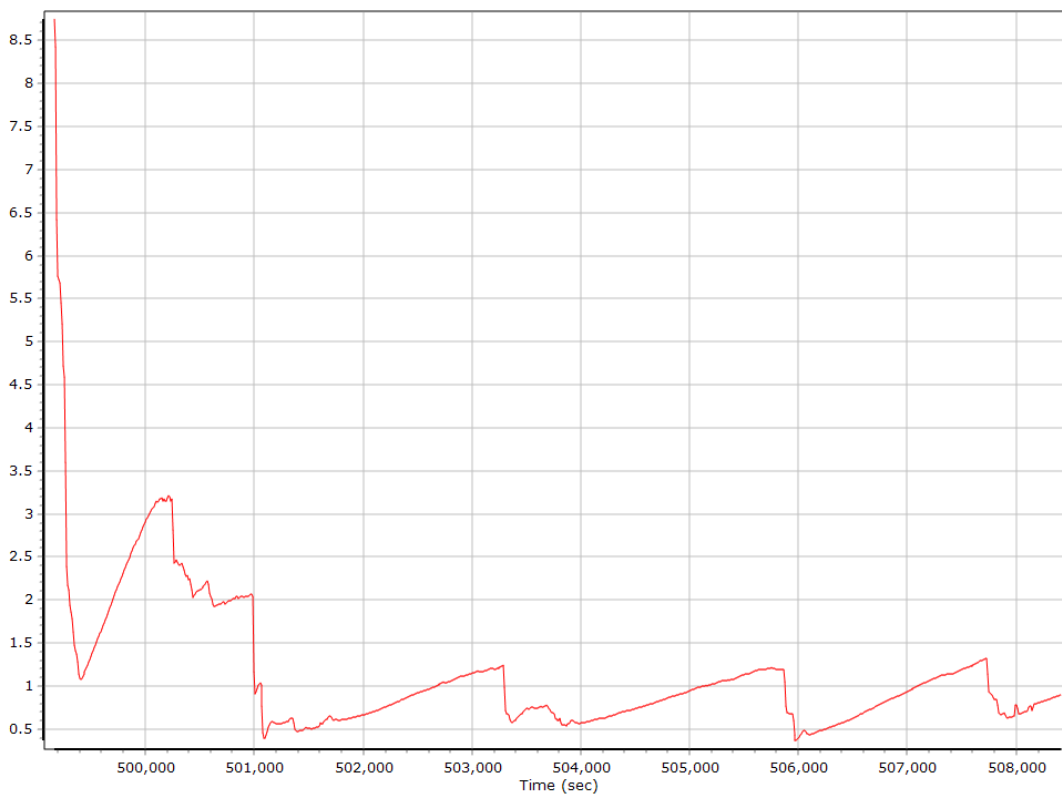
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

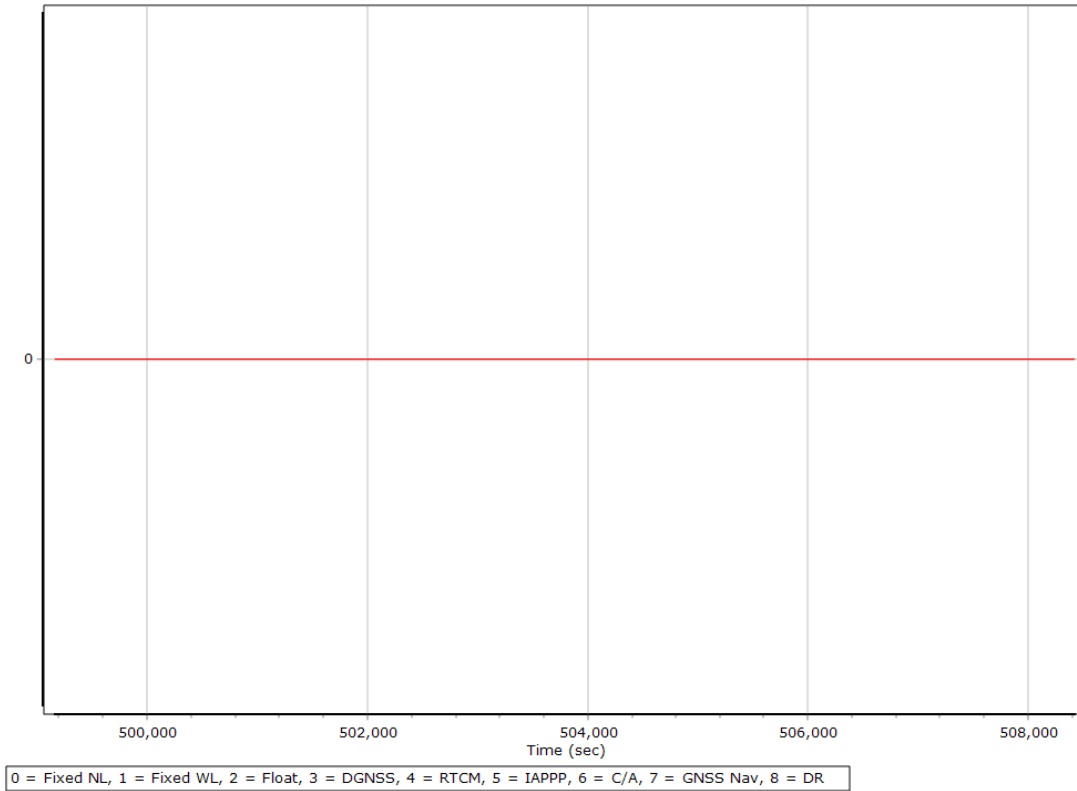


Heading Error RMS (arc-min)

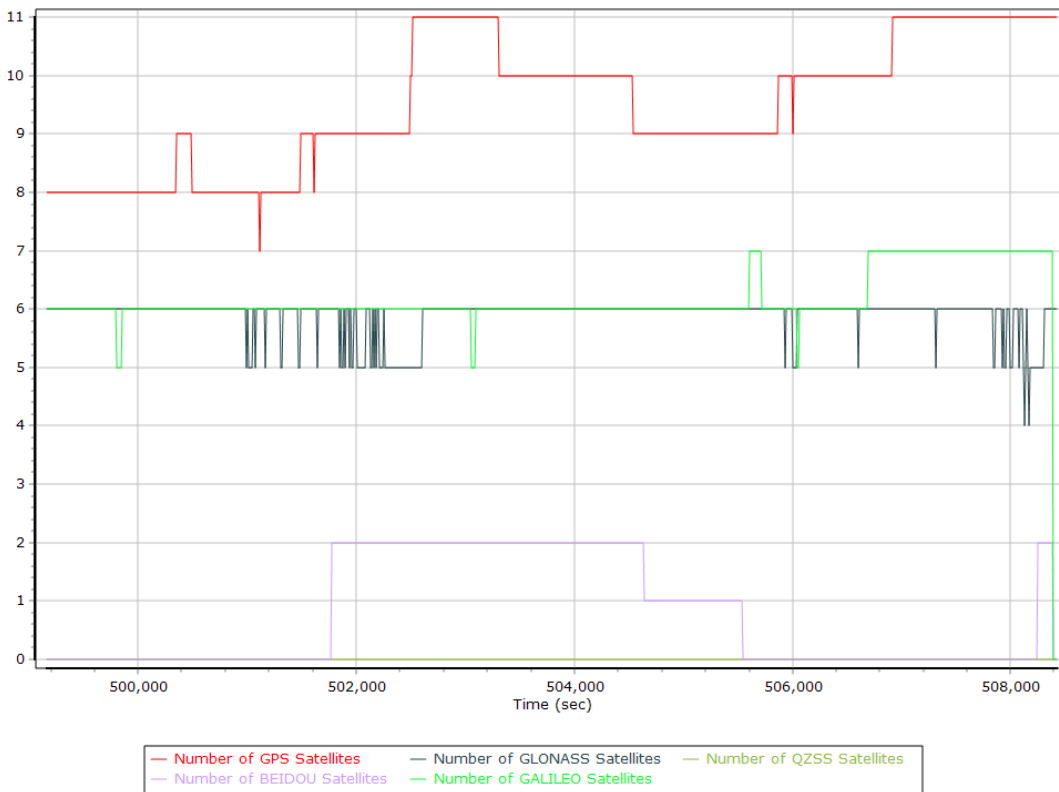


Forward Processed Solution Status

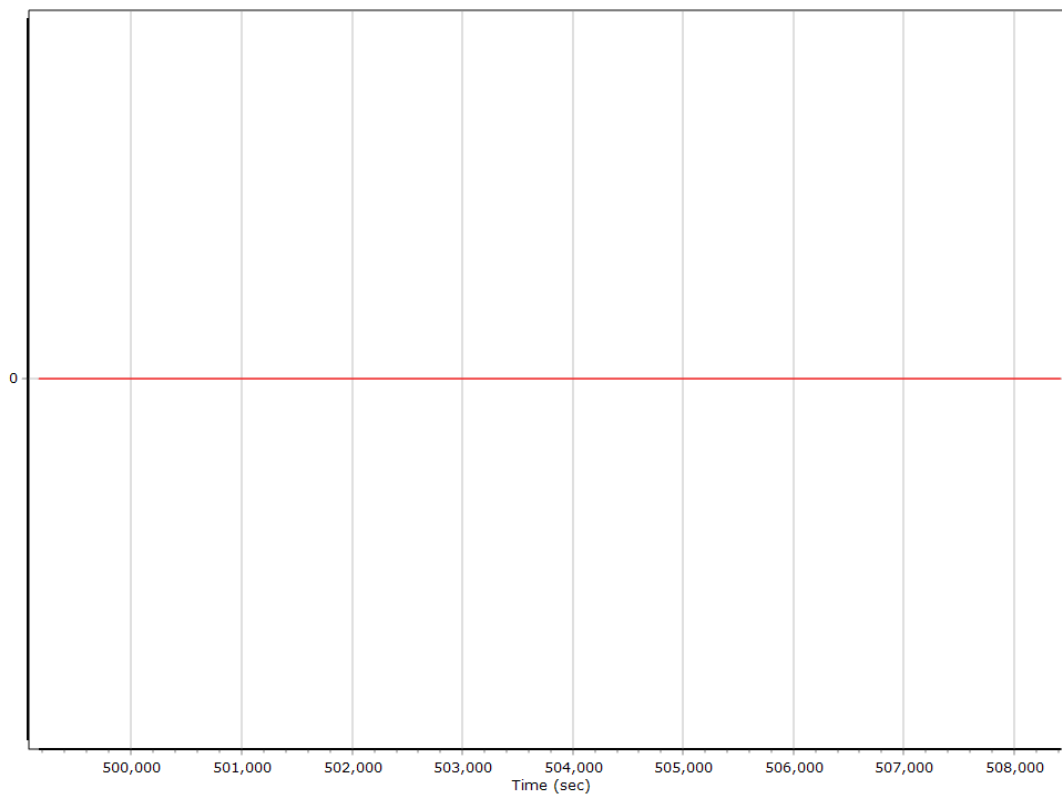
Processing Mode



Number of Satellites



Baseline Length



Export Summary Section 1

Export file	sbet_12089_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	499103.005 (03/05/2021 18:38:23)		
Export end time	508422.004 (03/05/2021 21:13:42)		
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	499103.005 (03/05/2021 18:38:23)		
Export end time	508422.004 (03/05/2021 21:13:42)		
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	499103.005 (03/05/2021 18:38:23)		
EO end time	508422.004 (03/05/2021 21:13:42)		
Grid	Universal Transverse Mercator		
Zone	UTM North 13 (108W to 102W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		