

General Information

Mission Information

Project name	11922
Processing date	2020-12-21 09:35:52
Mission date	2020-12-20 16:26:06
Mission duration	20:08:54.499
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
20201220F1.673	POS Data
20201220F1.674	POS Data
20201220F1.675	POS Data
20201220F1.676	POS Data
20201220F1.677	POS Data
20201220F1.678	POS Data
20201220F1.679	POS Data
20201220F1.680	POS Data
20201220F1.681	POS Data
20201220F1.682	POS Data
20201220F1.683	POS Data
20201220F1.684	POS Data
20201220F1.685	POS Data
20201220F1.686	POS Data
20201220F1.687	POS Data
20201220F1.688	POS Data
20201220F1.689	POS Data
20201220F1.690	POS Data
20201220F1.691	POS Data
20201220F1.692	POS Data
20201220F1.693	POS Data
20201220F1.694	POS Data
20201220F1.695	POS Data
20201220F1.696	POS Data
20201220F1.697	POS Data
20201220F1.698	POS Data
20201220F1.699	POS Data
20201220F1.700	POS Data
20201220F1.701	POS Data

Input Files

File Name	File Type
Ephm3550.20g	GLONASS Broadcast Ephemeris
Ephm3550.20n	GPS Broadcast Ephemeris

Output Files

Filename	File type
sbet_11922.out	SBET Trajectory File
eo_11922.txt	ZI Imaging POSEO Output
sbet_11922_NAD83(2011).out	Custom Smoothed BET Export Output
lever_arm_values.txt	ReferenceToPrimaryLeverArms Export Output

Rover Data Summary

First raw data file	20201220F1.673		
Last raw data file	20201220F1.701		
Start GPS week	2137		
Start time	23.239 (12/20/2020 00:00:23)		
End time	72557.738 (12/20/2020 20:09:17)		
Start of fine alignment	59574.053 (12/20/2020 16:32:54)		
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)	-0.485	-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

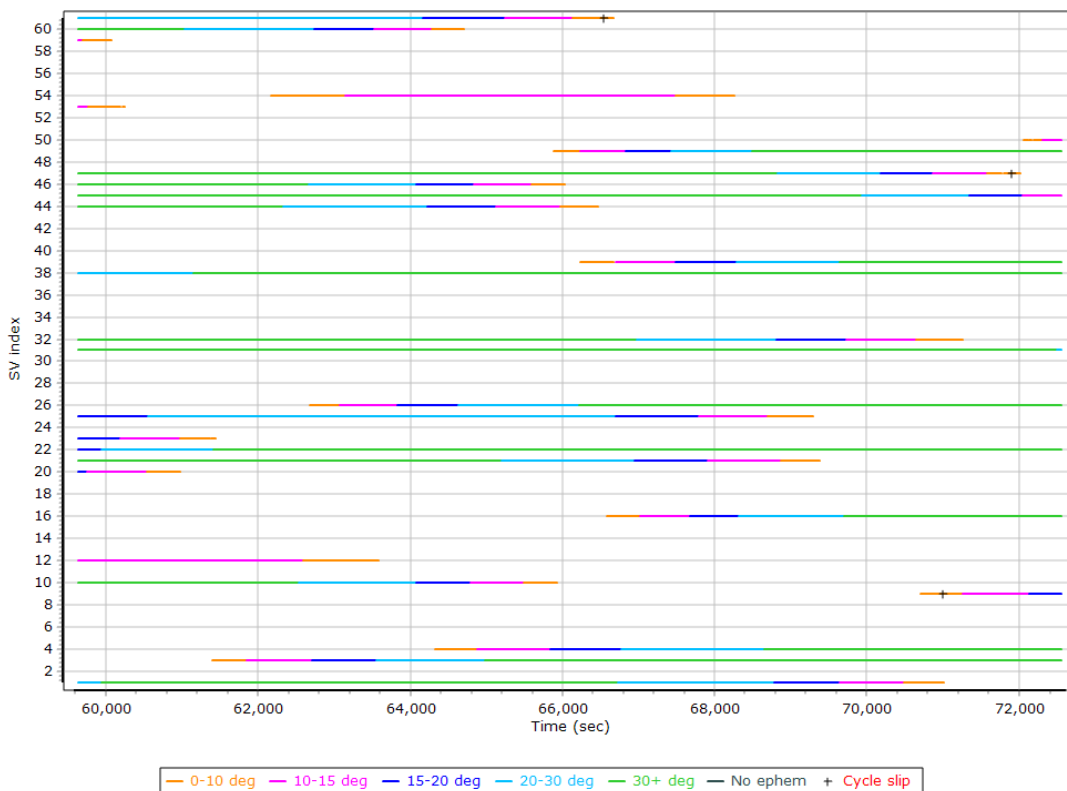
Rover Data QC

Raw IMU Import QC Summary

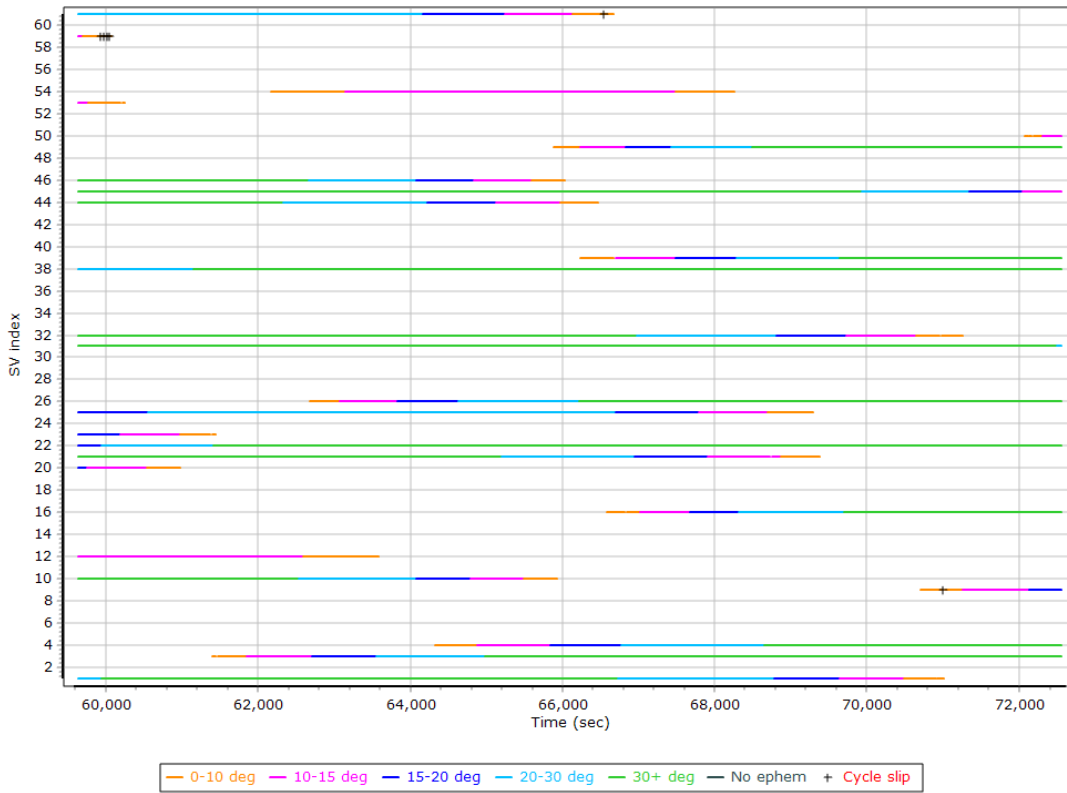
IMU data input file	imu_11922.dat
IMU data check log file	imudt_11922.log
IMU Records Processed	2678013
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
59169.951 : WARNING : Gap of 59145.9618 seconds in CHECKDT input data	

Primary Observables & Satellite Data

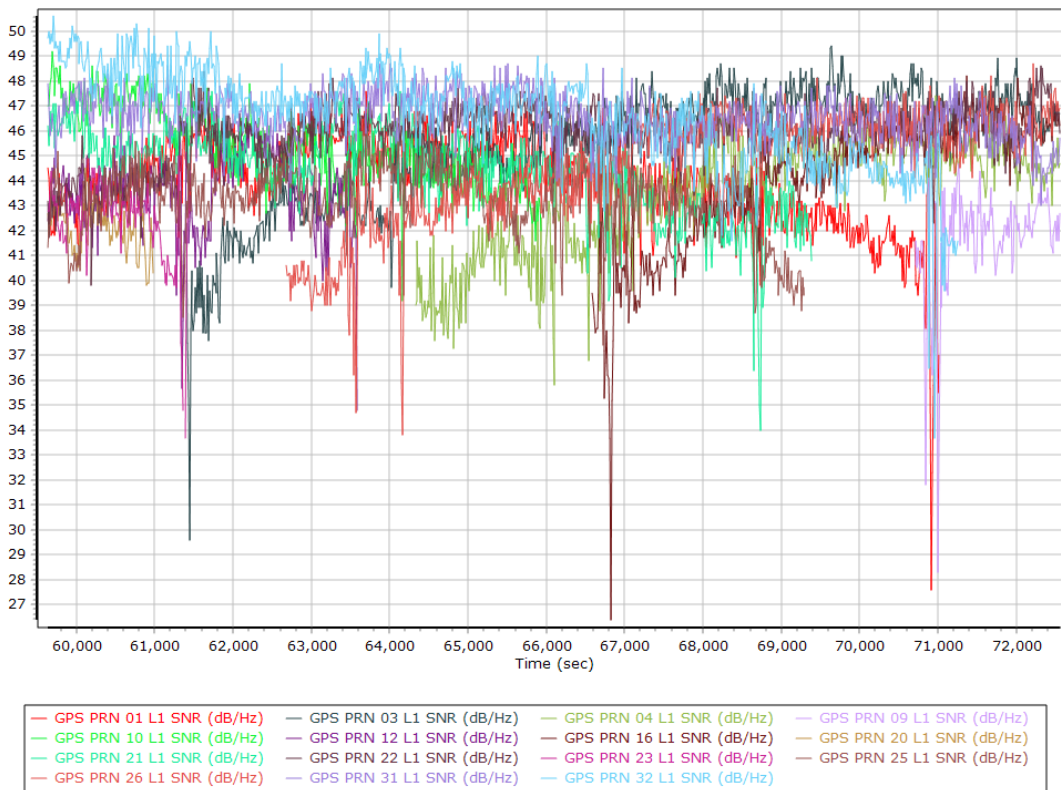
L1 Satellite Lock/Elevation



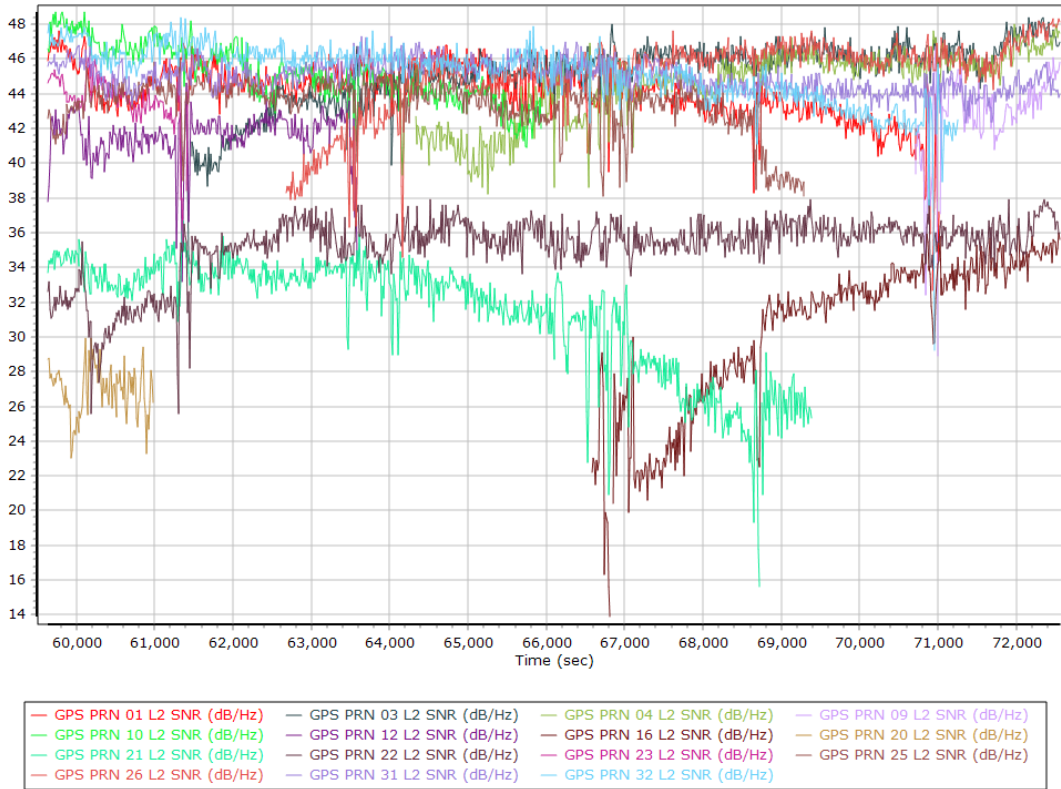
L2 Satellite Lock/Elevation



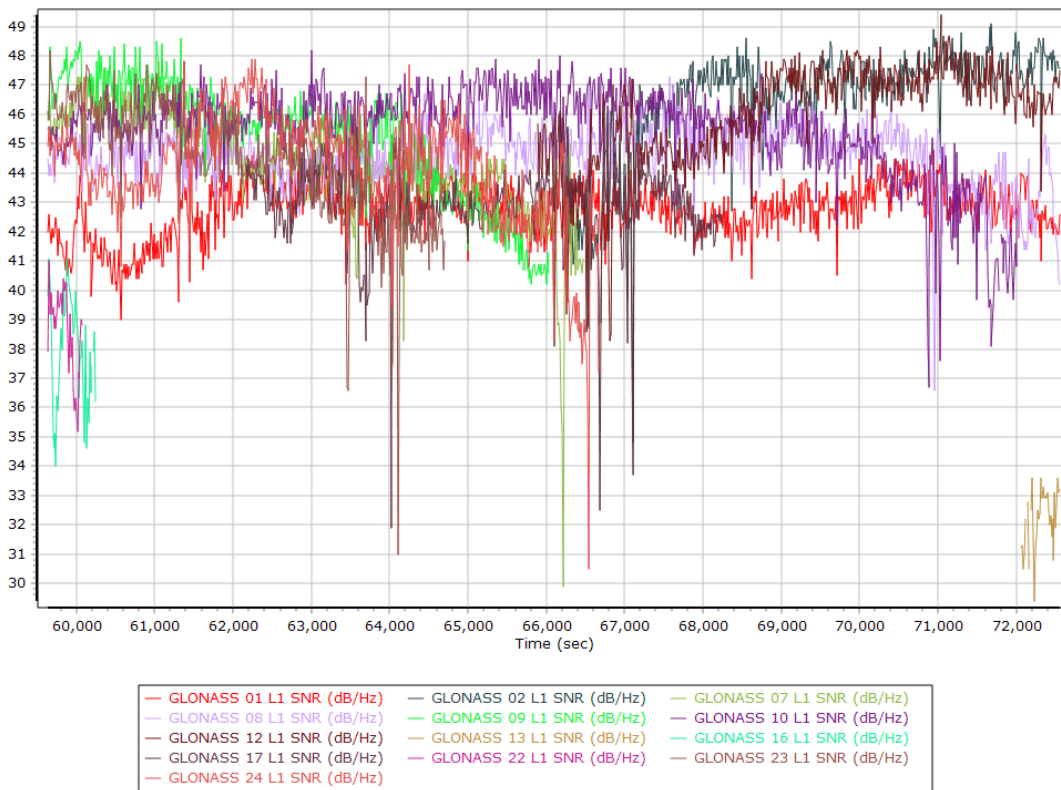
GPS L1 SNR



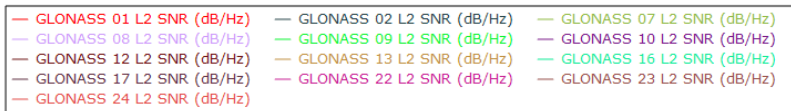
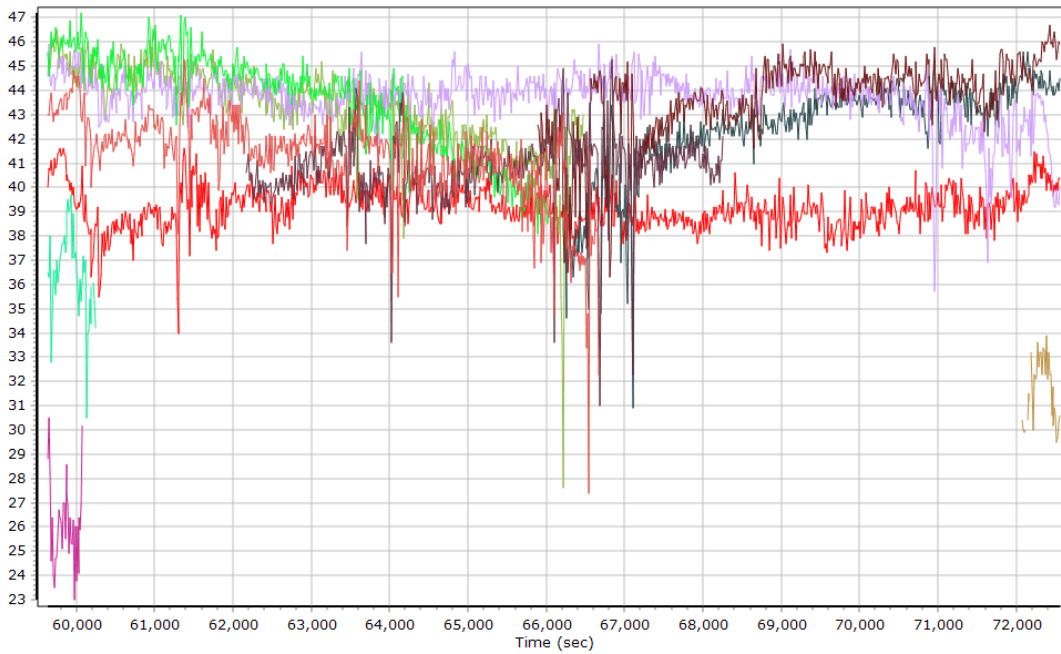
GPS L2 SNR



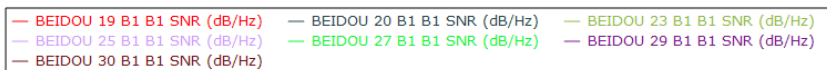
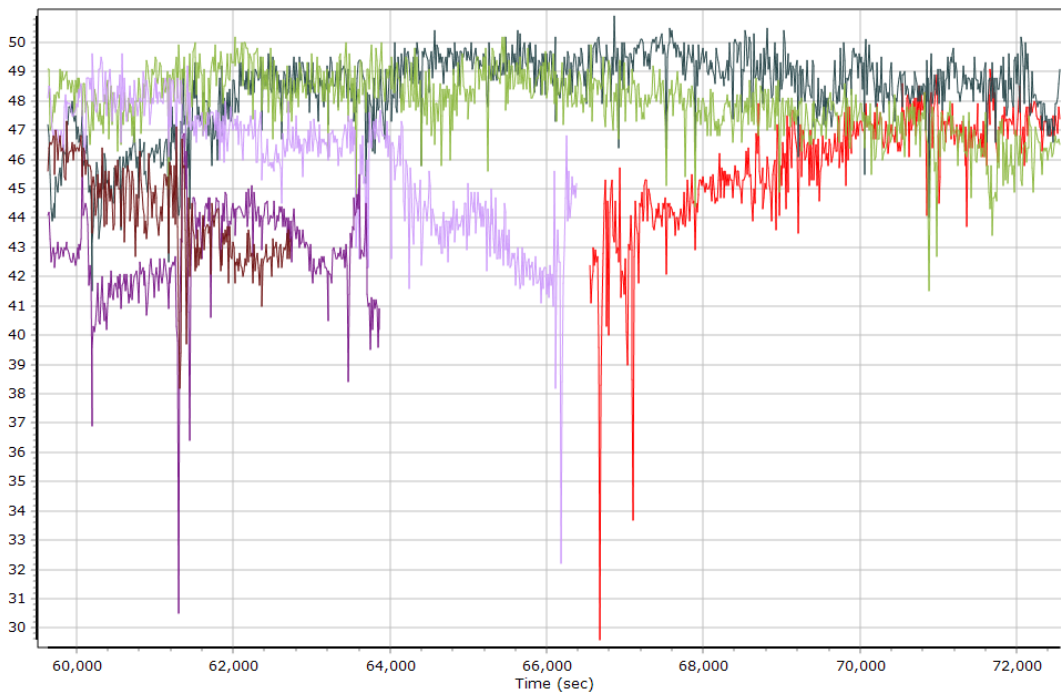
GLONASS L1 SNR



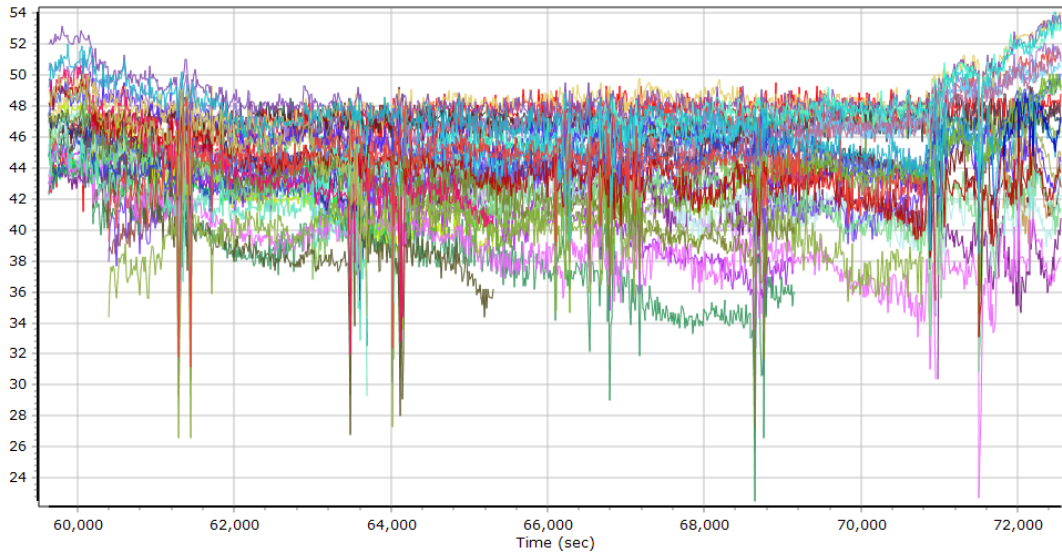
GLONASS L2 SNR



BEIDOU SNR



GALILEO SNR



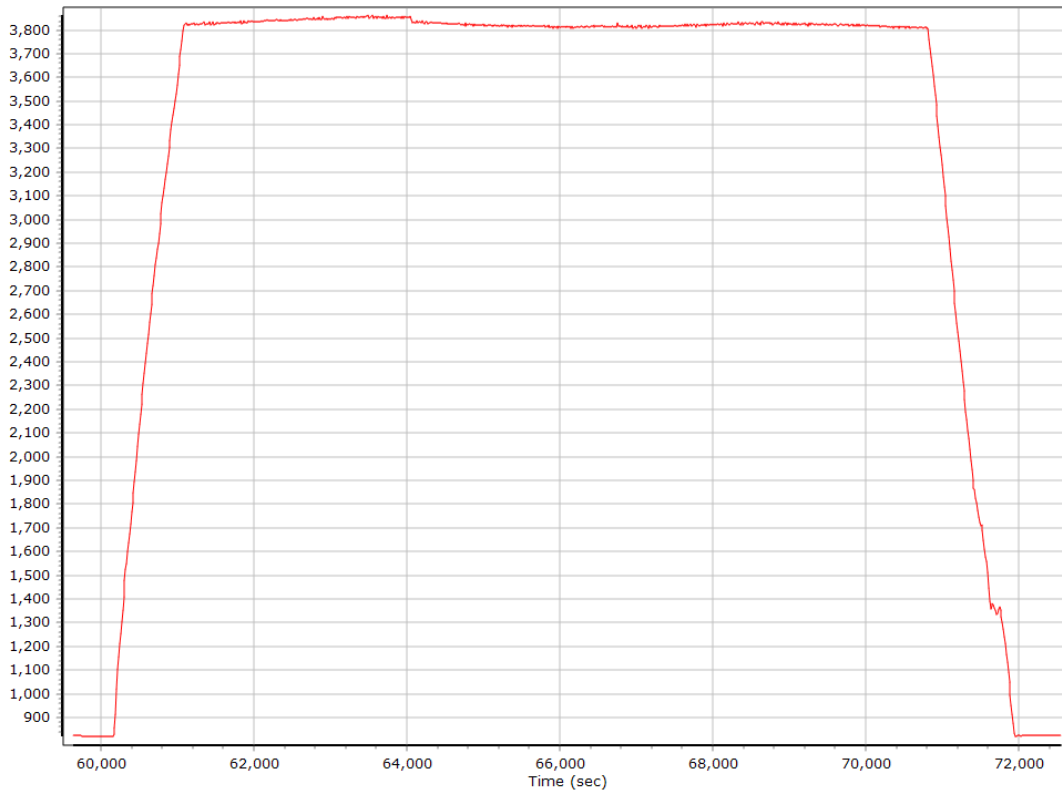
- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 11 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 27 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 36 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 09 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 21 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 24 L5E5A BPSK10_PD SNR (dB/Hz) |

Smoothed Trajectory Information

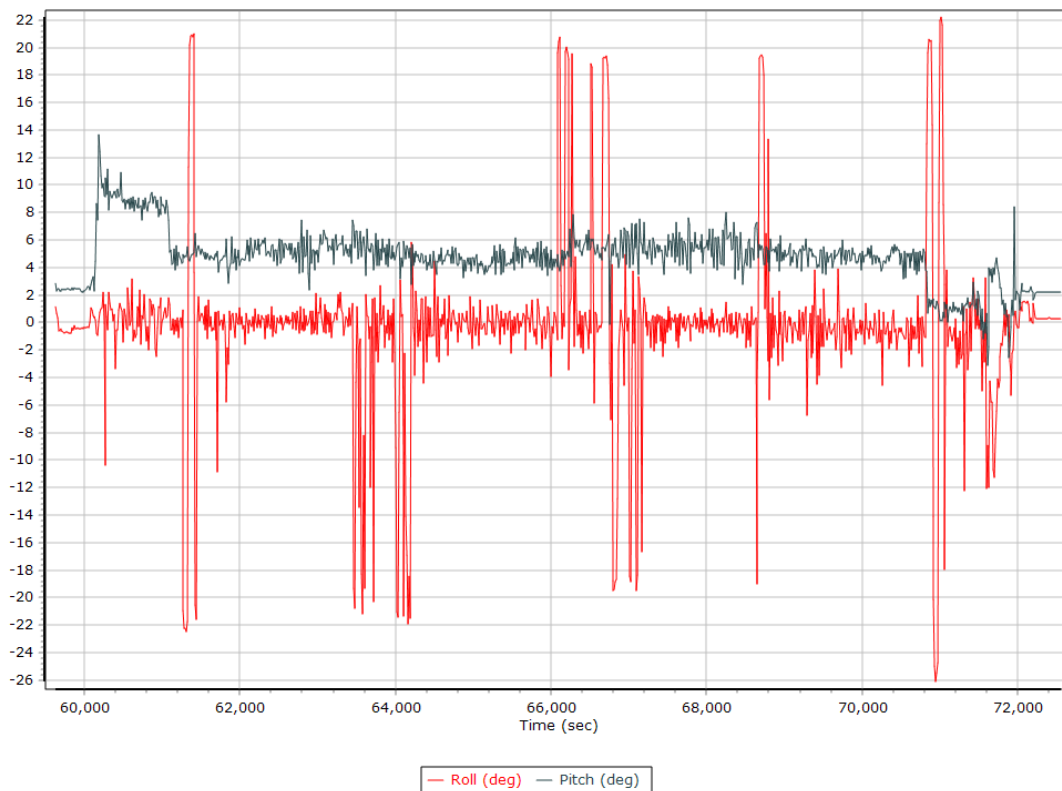
Top View



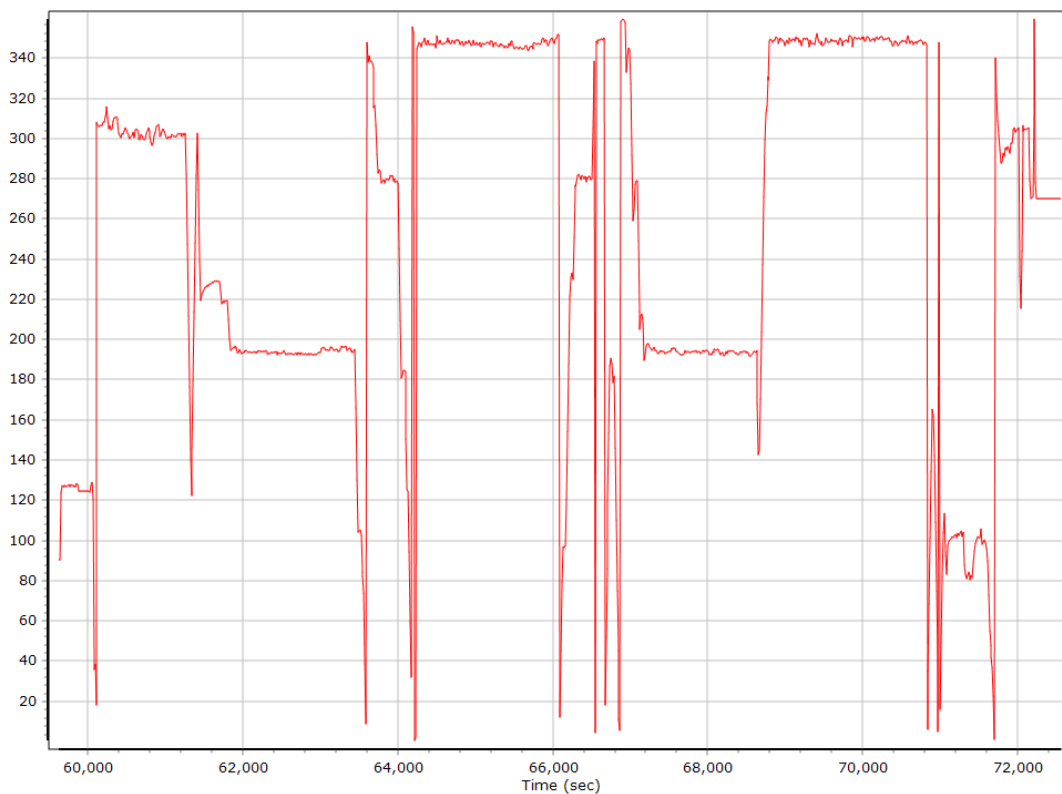
Altitude



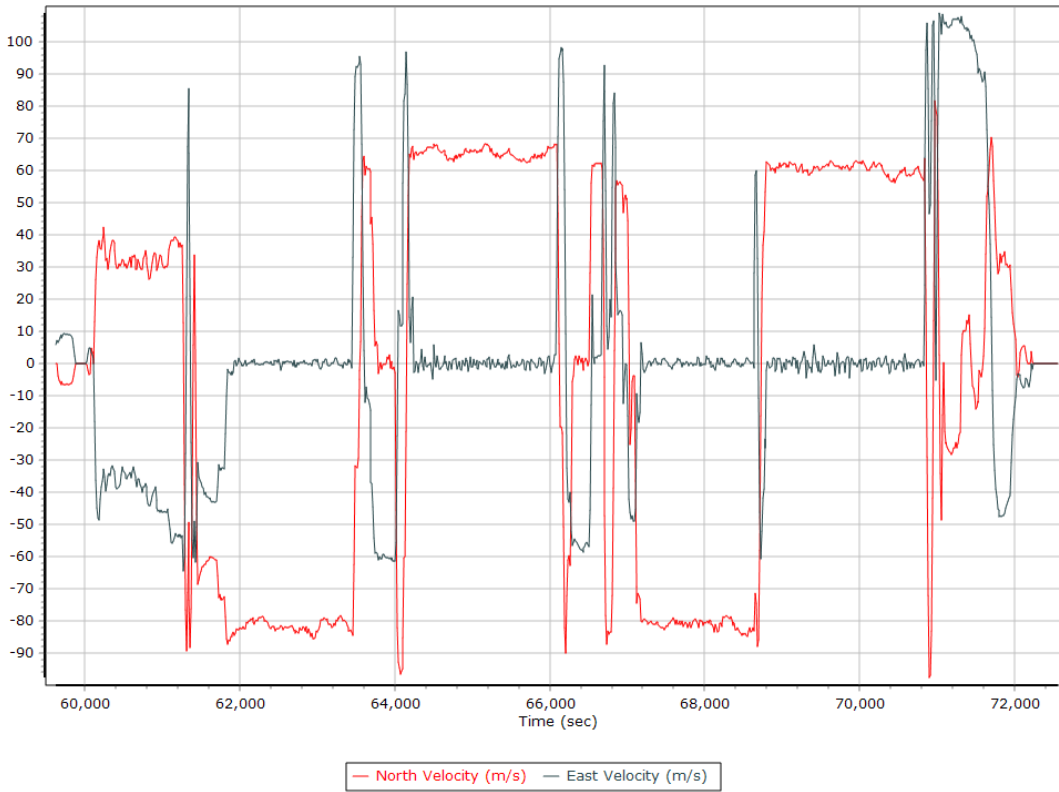
Roll/Pitch



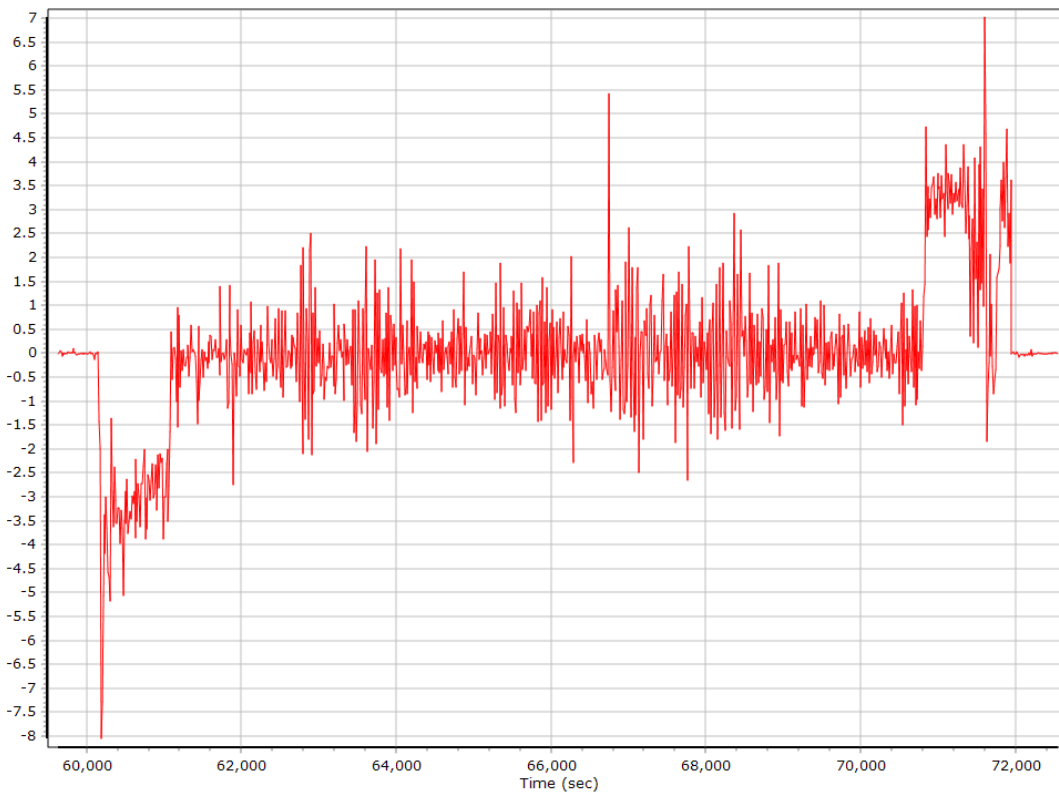
Heading



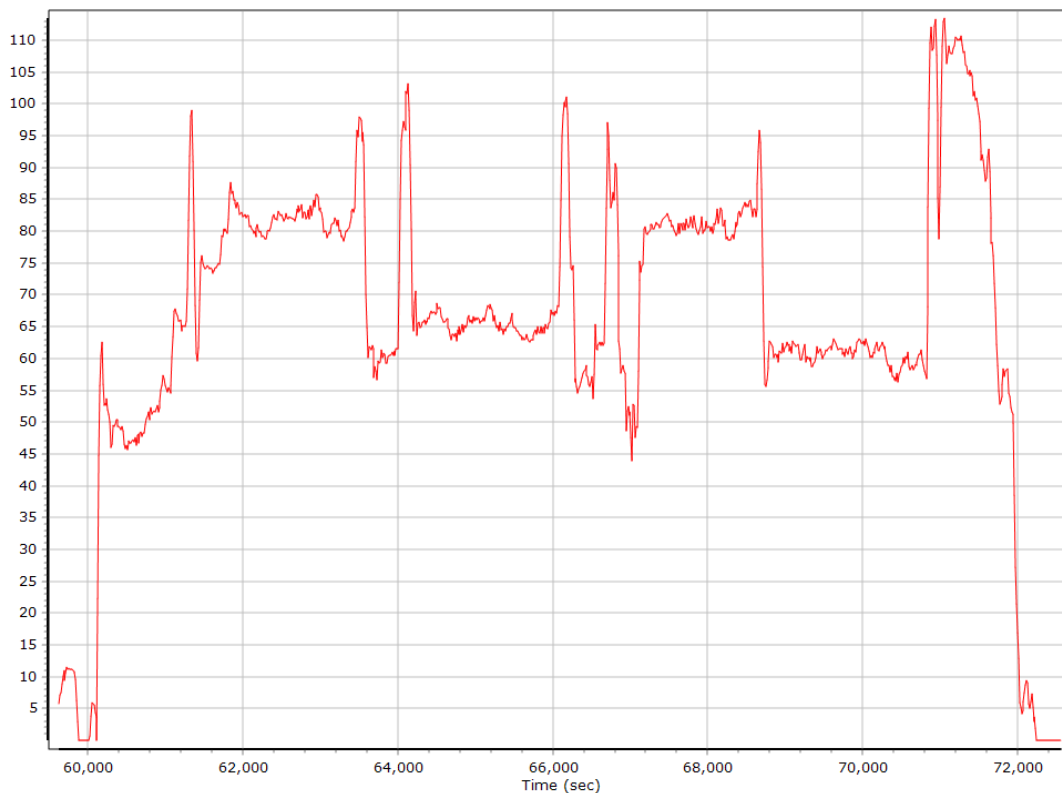
North/East Velocity



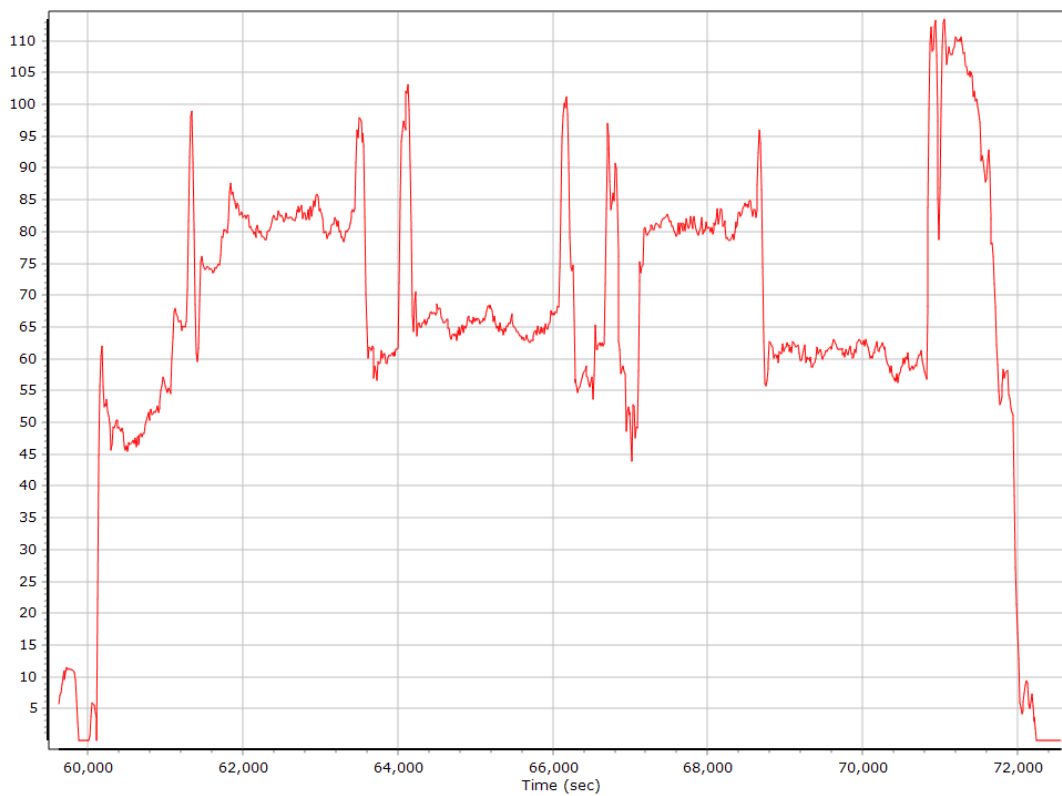
Down Velocity



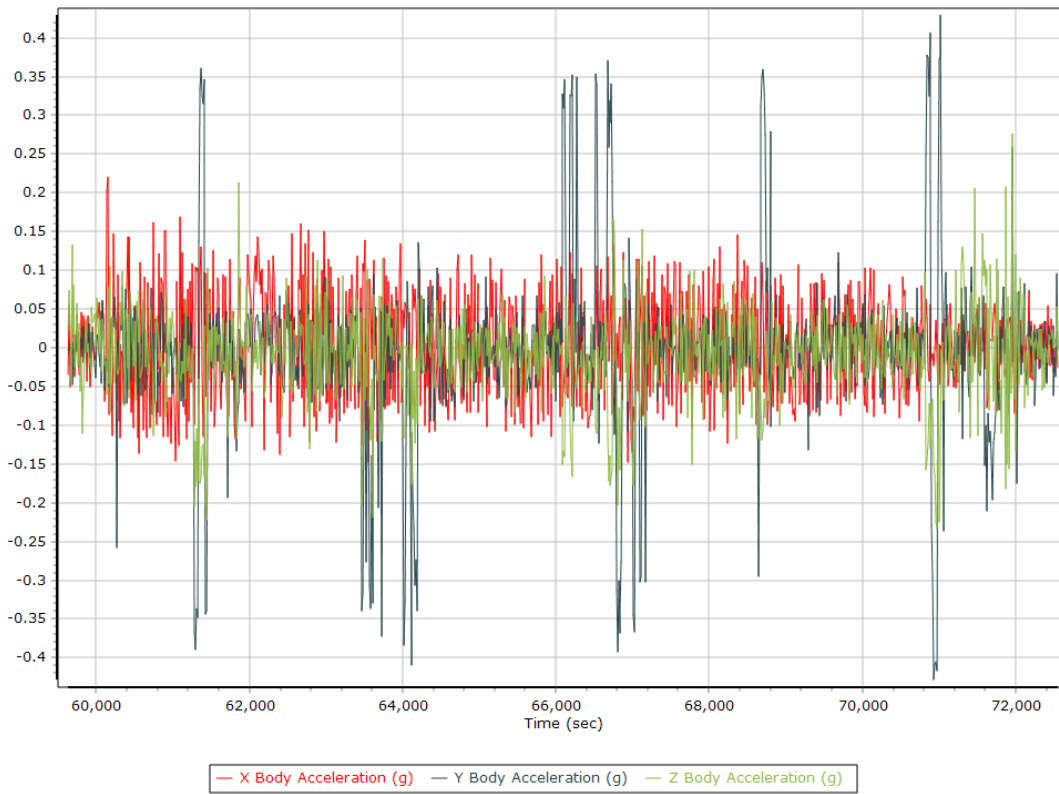
Total Speed



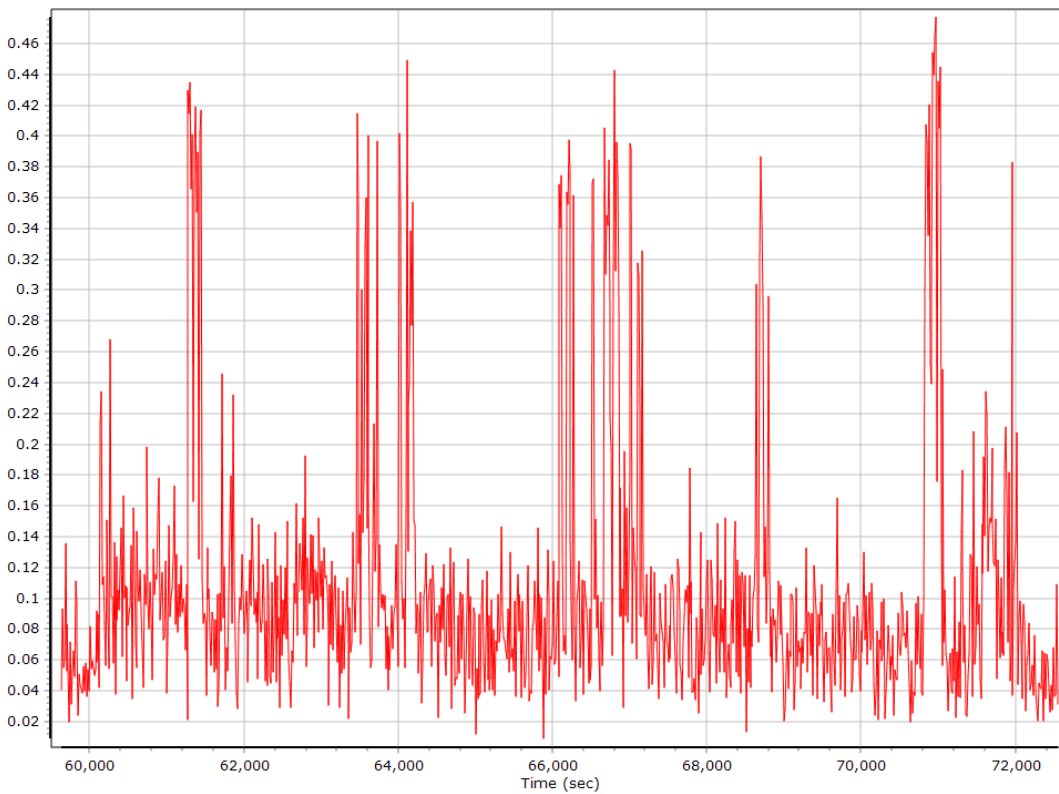
Ground Speed



Body Acceleration



Total Body Acceleration

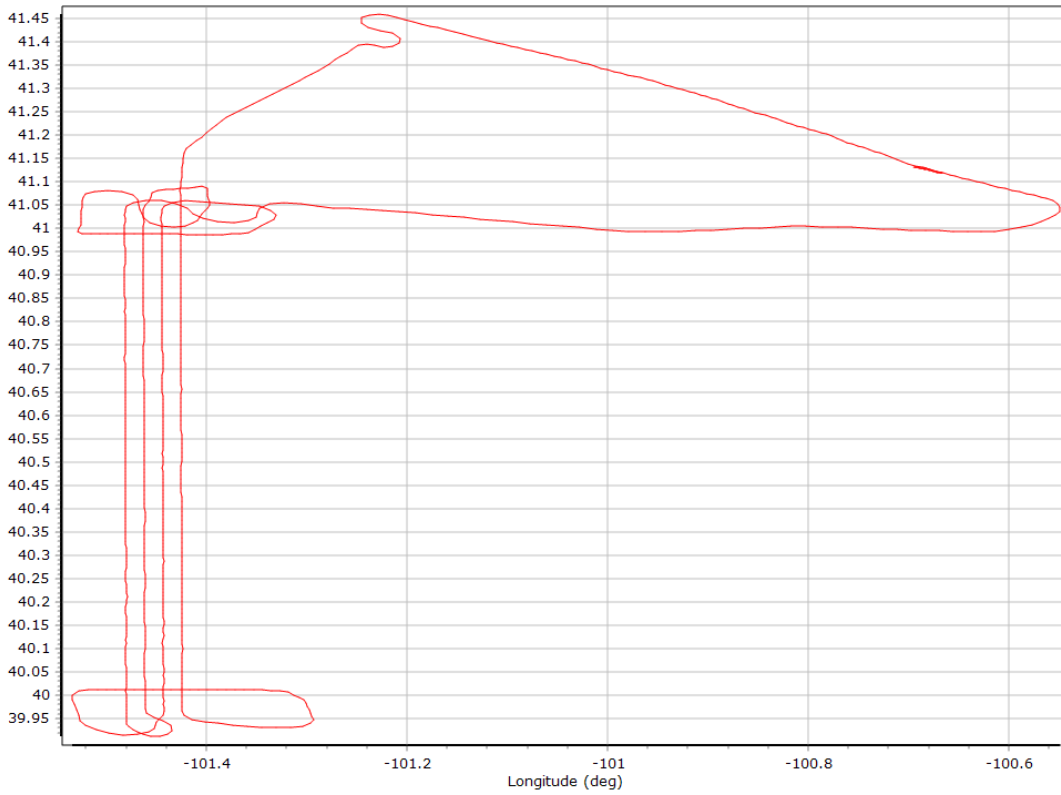


Body Angular Rate

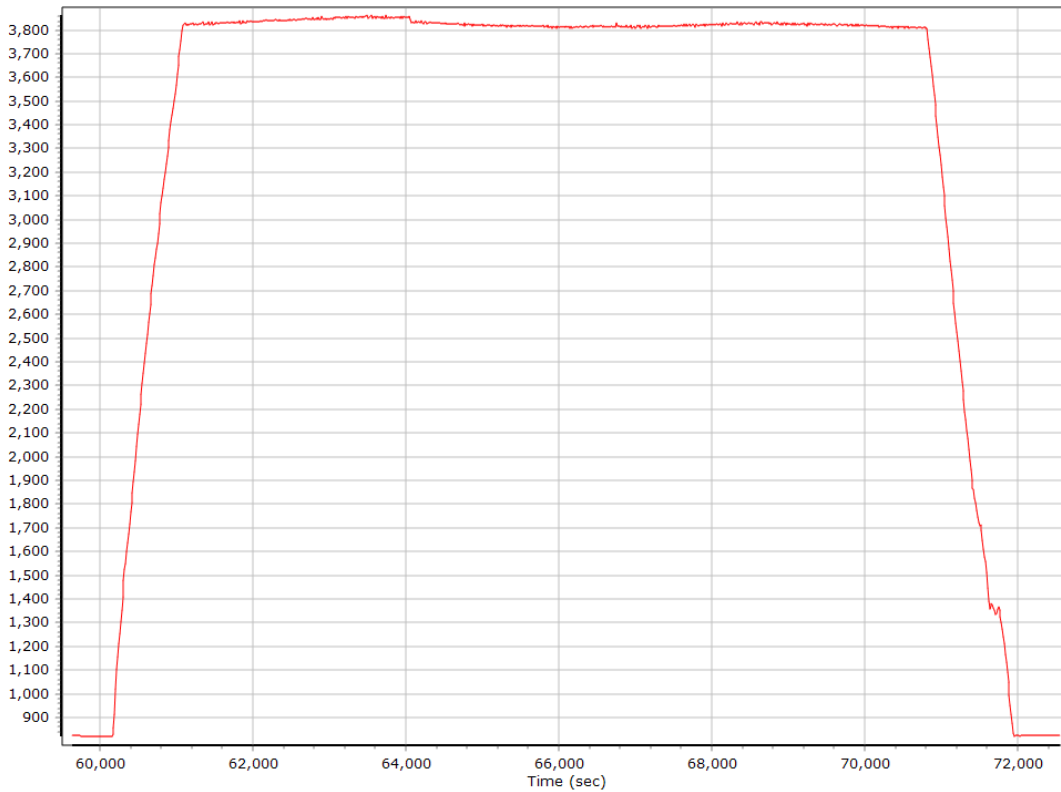


Forward Processed Trajectory Information

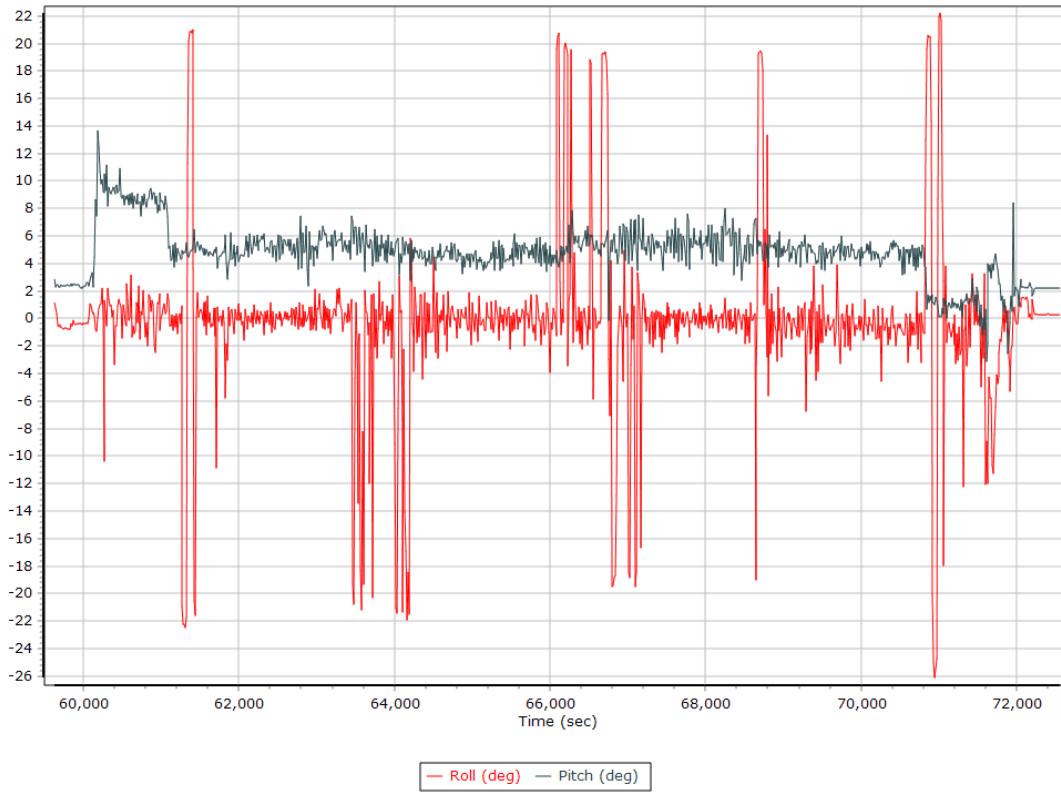
Top View



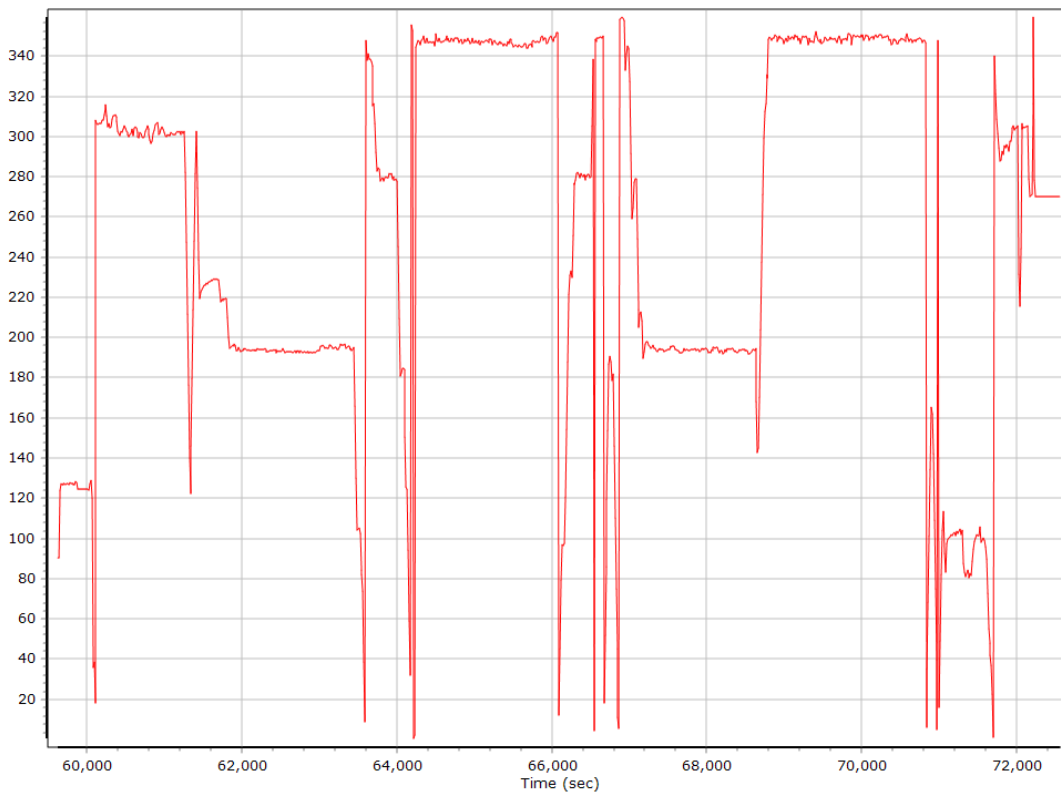
Altitude



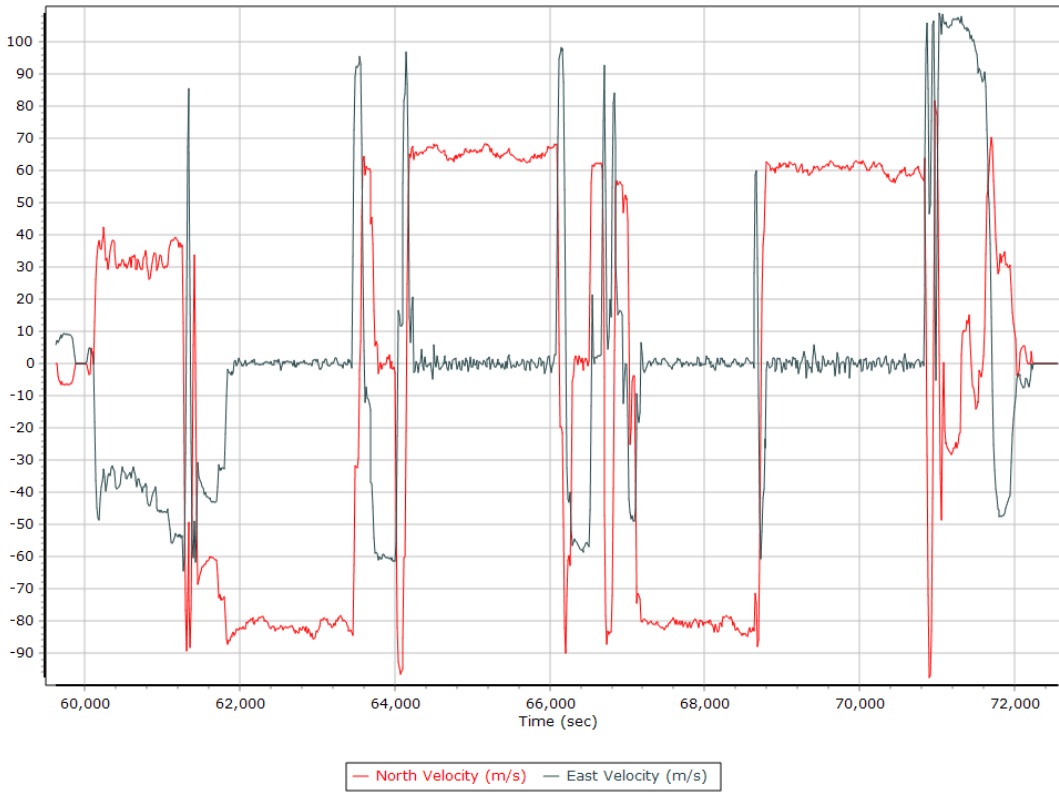
Roll/Pitch



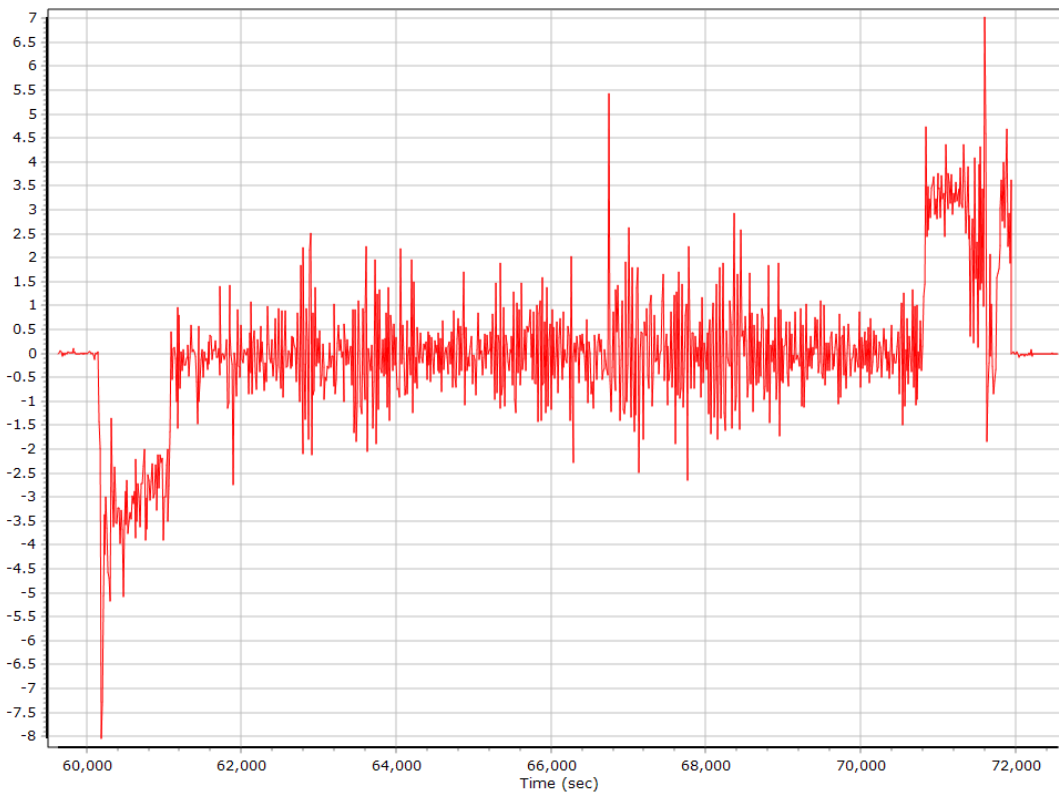
Heading



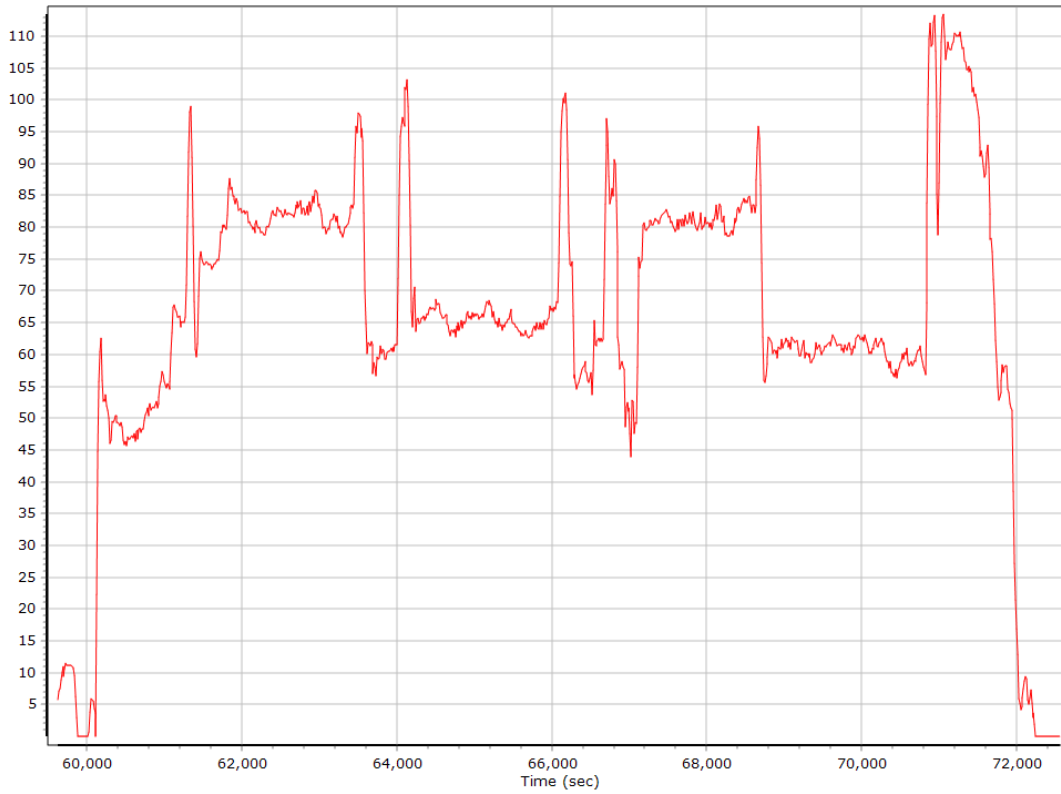
North/East Velocity



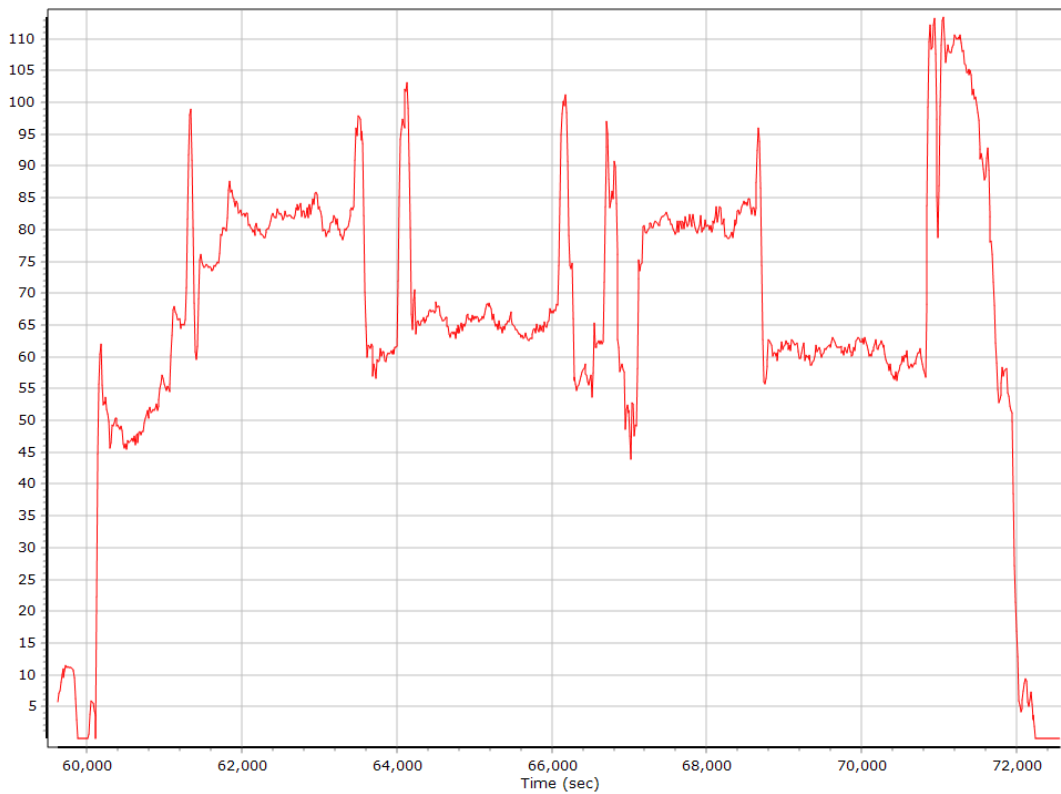
Down Velocity



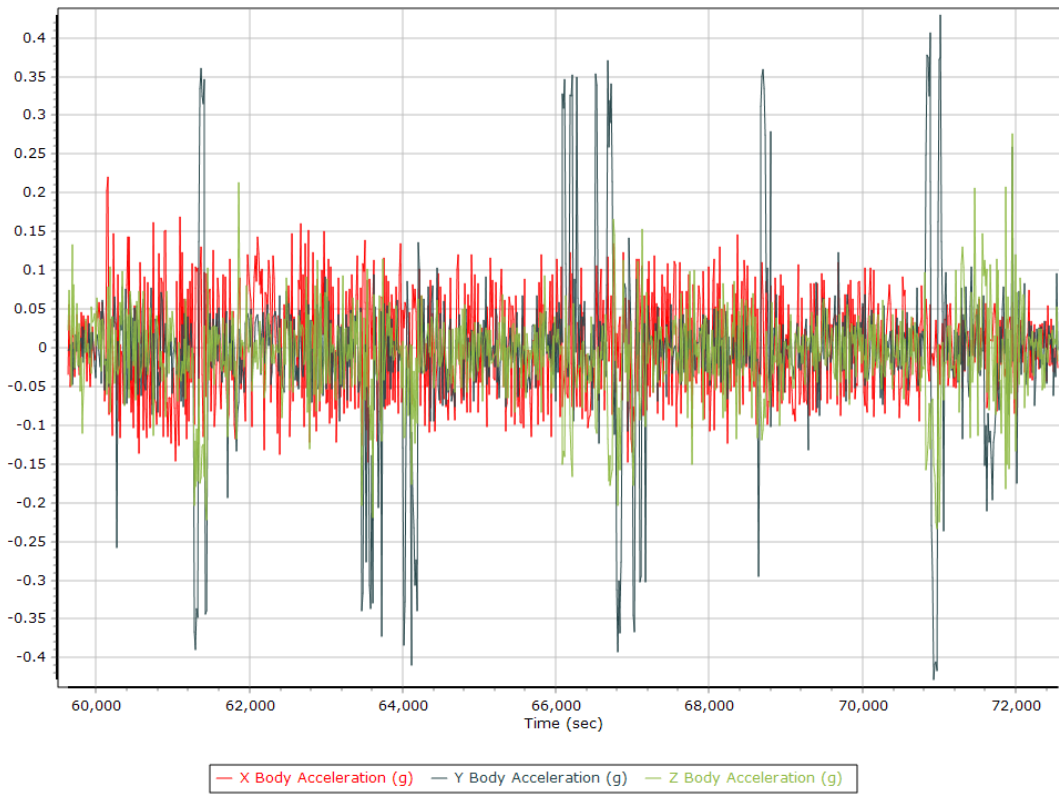
Total Speed



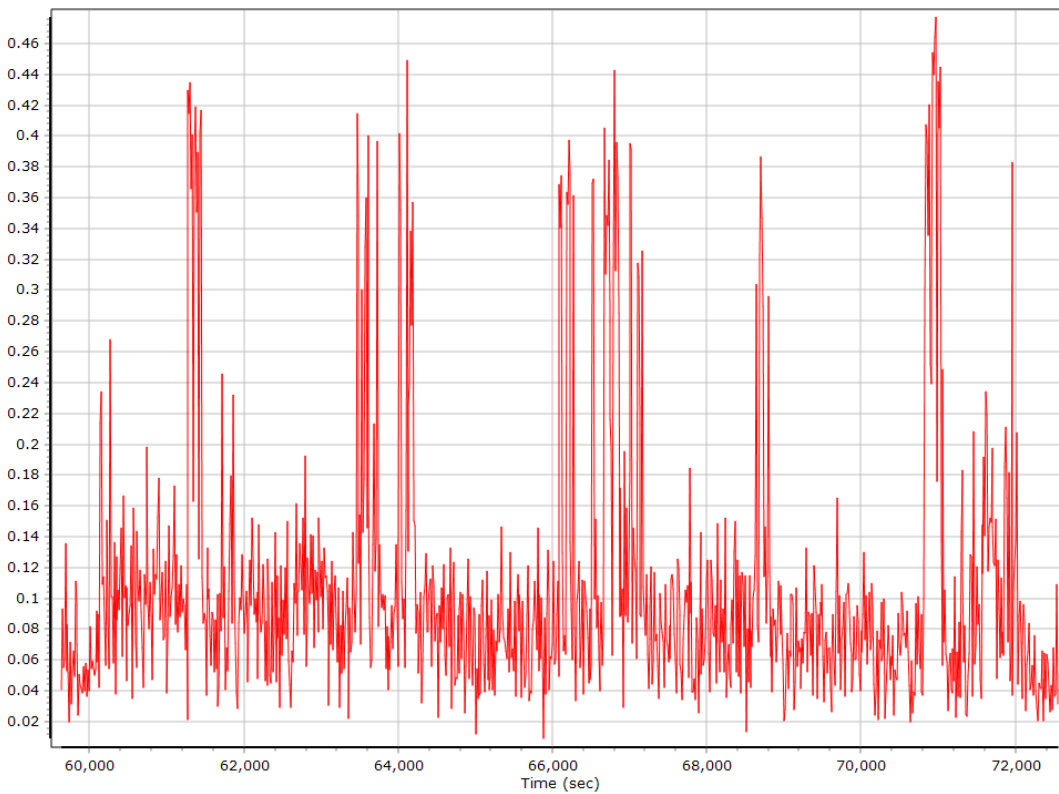
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate

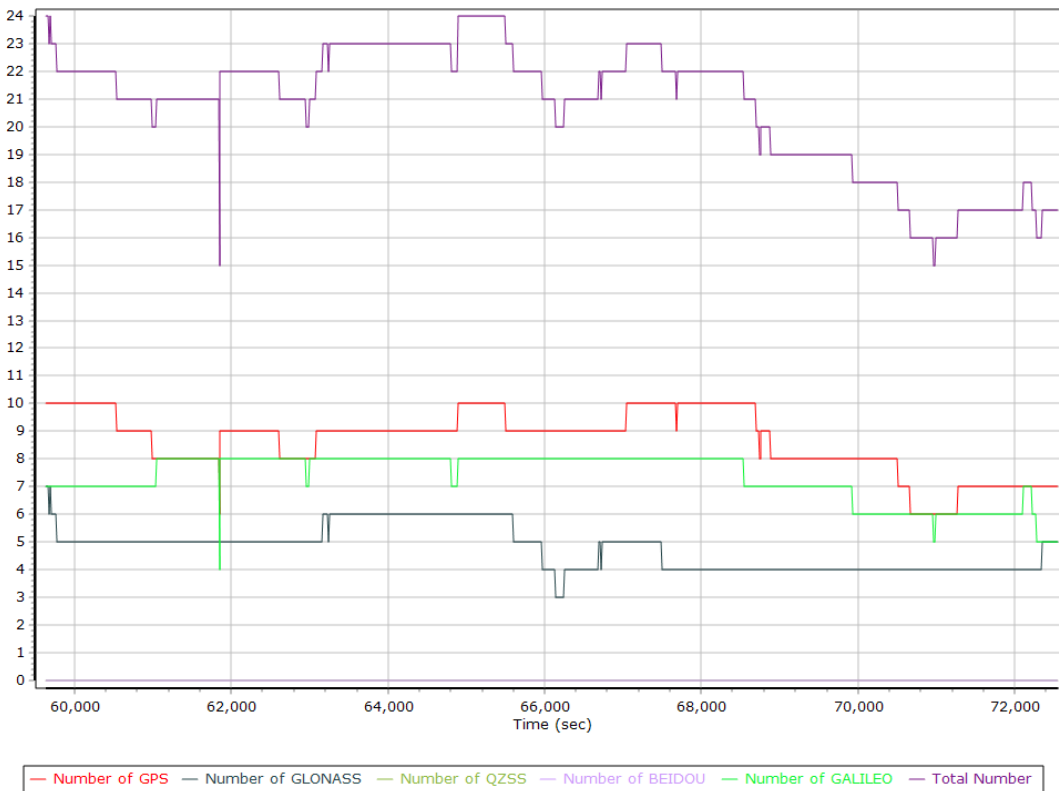


GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	5	10	9
Number of GLONASS SV	3	7	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	3	8	7
Total number of SV	14	24	21
PDOP	1.03	2.64	1.20
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	13363.00	0.00	19.00
Percentage	99.86	0.00	0.14

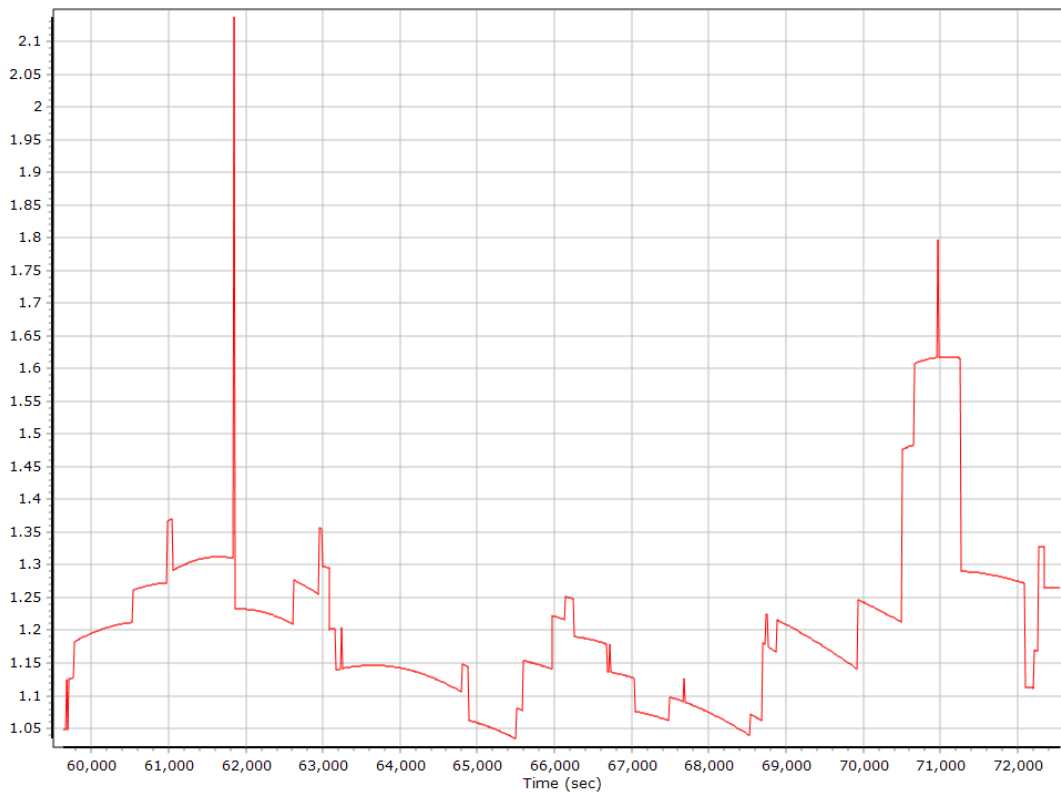
Num SVs in solution



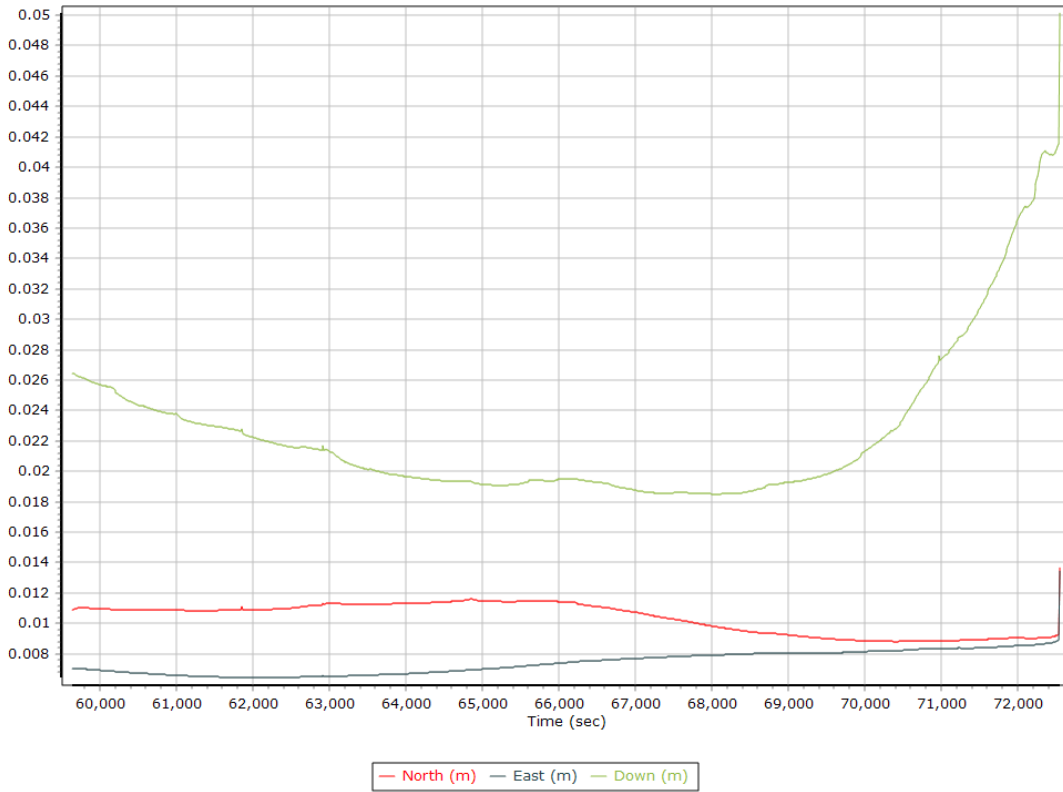
Forward/Reverse Separation



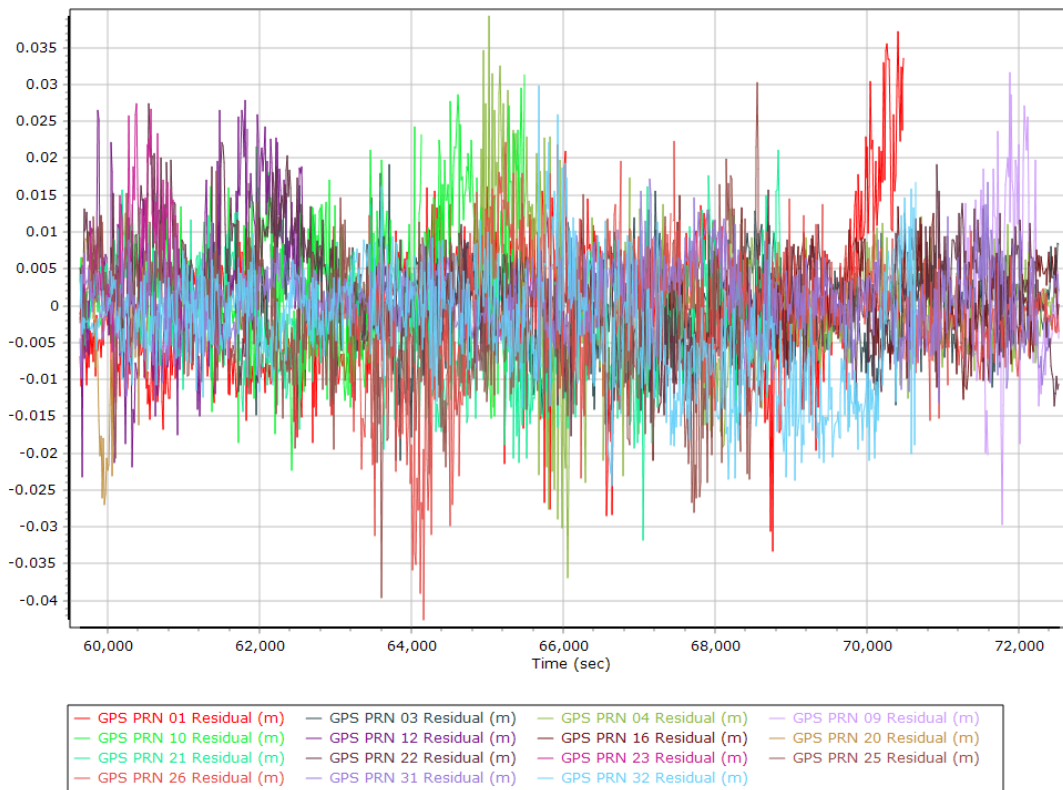
PDOP



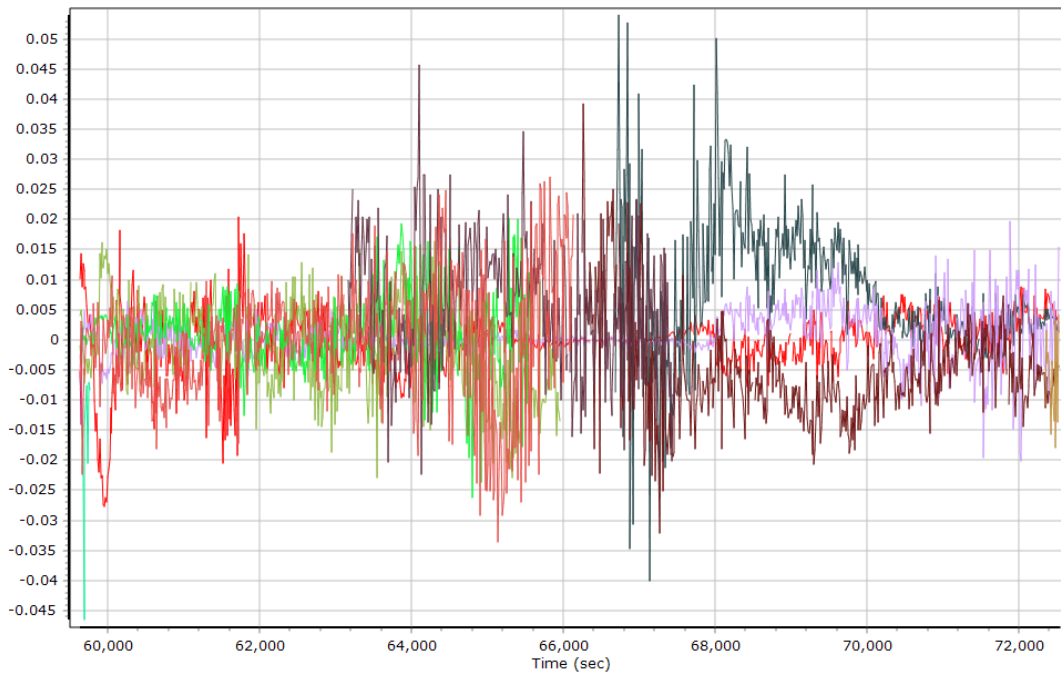
Estimated Position Accuracy



GPS Residuals

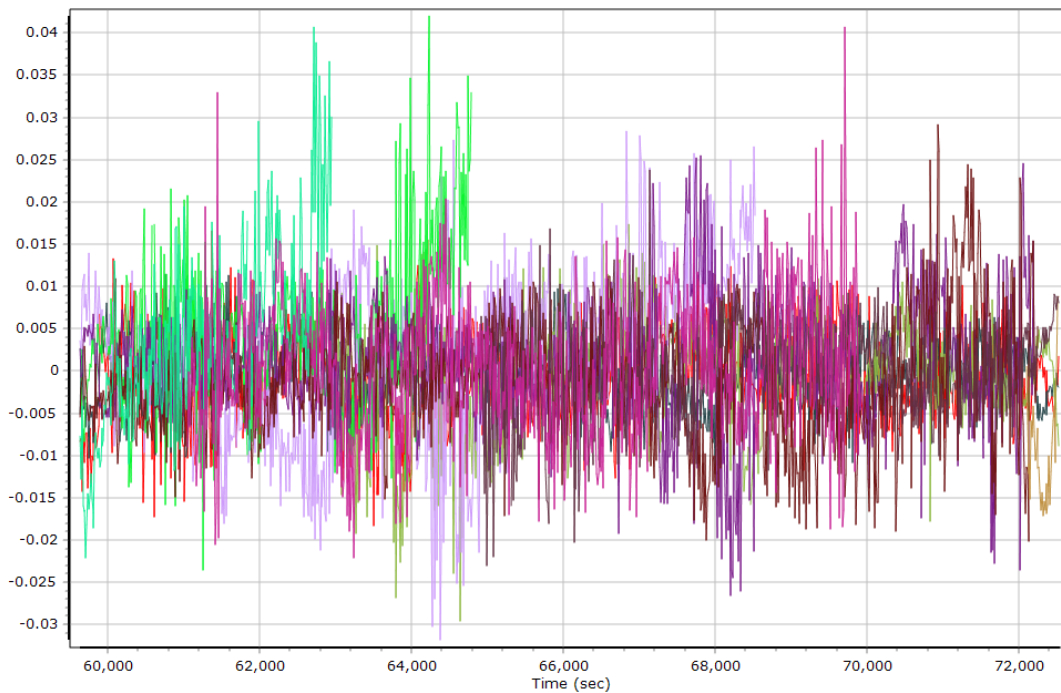


GLONASS Residuals



- | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GLONASS 01 Residual (m) | GLONASS 02 Residual (m) | GLONASS 07 Residual (m) | GLONASS 08 Residual (m) |
| GLONASS 09 Residual (m) | GLONASS 10 Residual (m) | GLONASS 12 Residual (m) | GLONASS 13 Residual (m) |
| GLONASS 16 Residual (m) | GLONASS 17 Residual (m) | GLONASS 22 Residual (m) | GLONASS 23 Residual (m) |
| GLONASS 24 Residual (m) | | | |

GALILEO Residuals



- | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GALILEO 01 Residual (m) | GALILEO 04 Residual (m) | GALILEO 09 Residual (m) | GALILEO 11 Residual (m) |
| GALILEO 12 Residual (m) | GALILEO 19 Residual (m) | GALILEO 21 Residual (m) | GALILEO 24 Residual (m) |
| GALILEO 27 Residual (m) | GALILEO 31 Residual (m) | GALILEO 36 Residual (m) | |

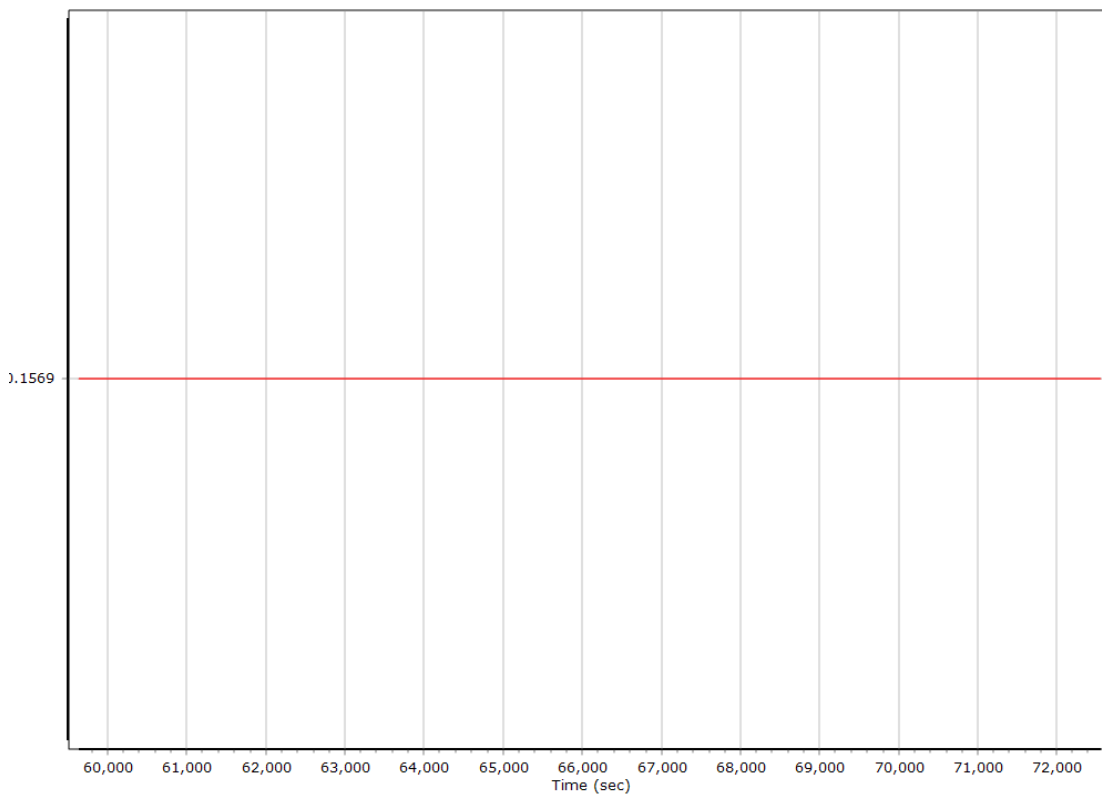
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	59166.000 (12/20/2020 16:26:06)		
Processing end time	72558.000 (12/20/2020 20:09:18)		
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

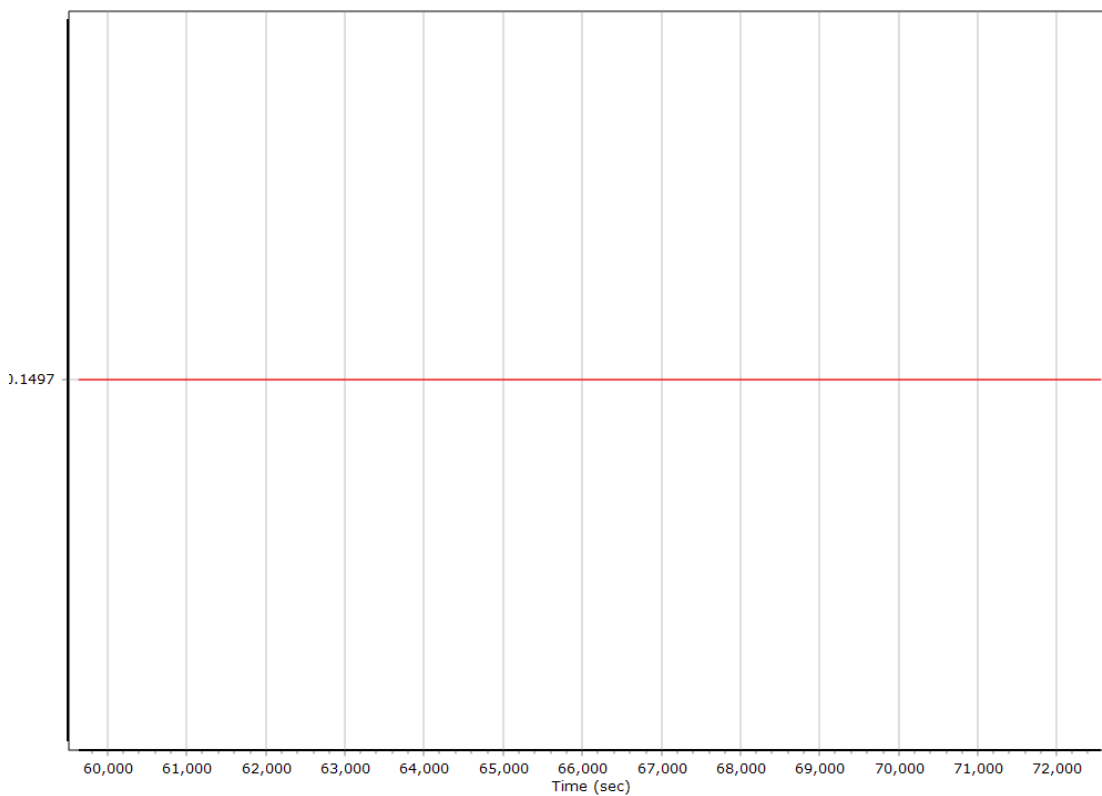
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

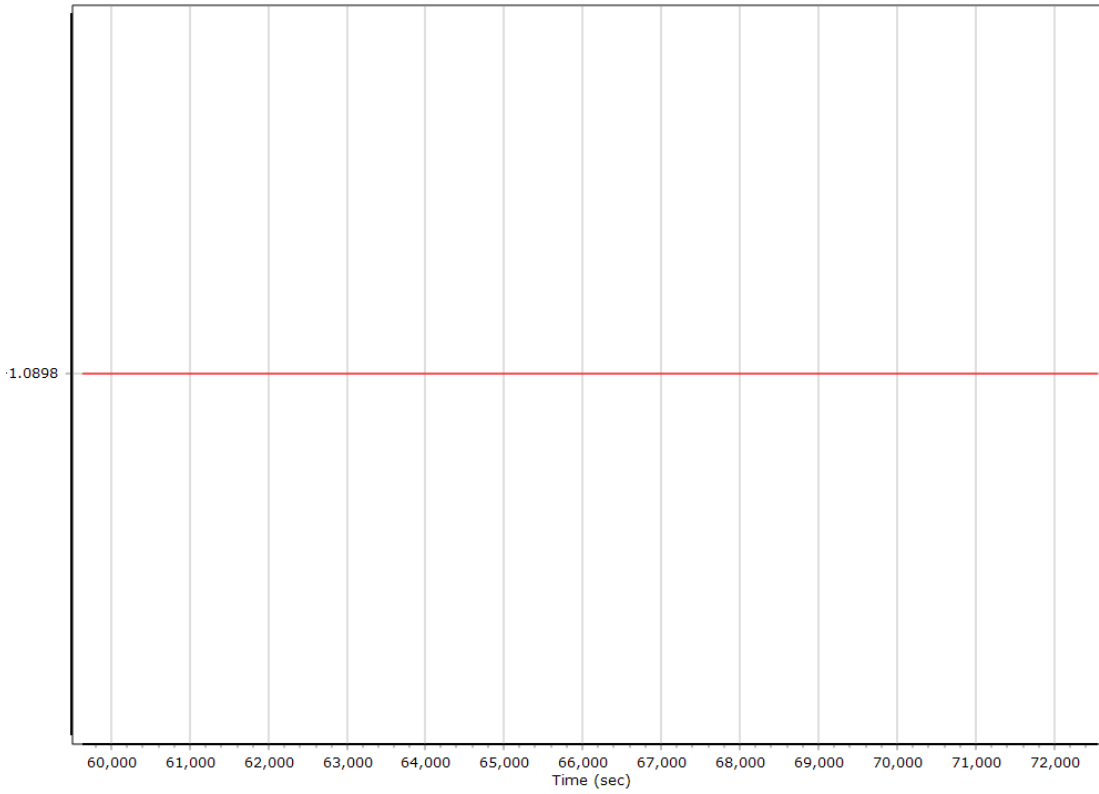
X Reference-Primary GNSS Lever Arm (m)



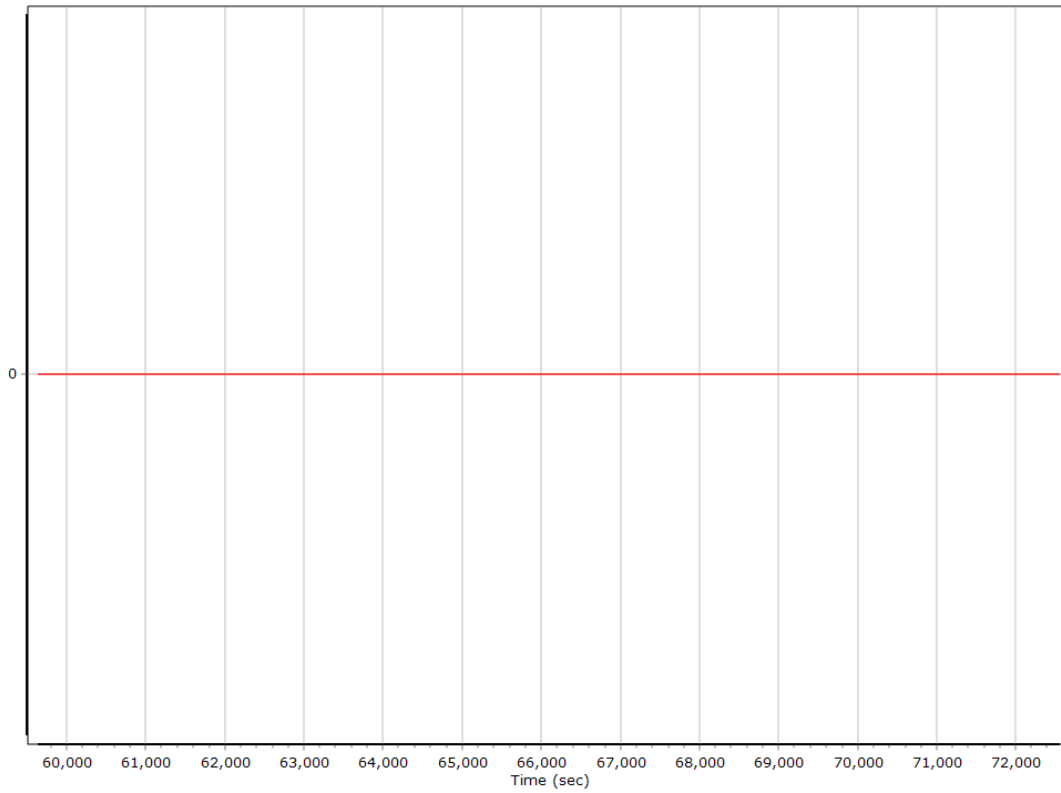
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



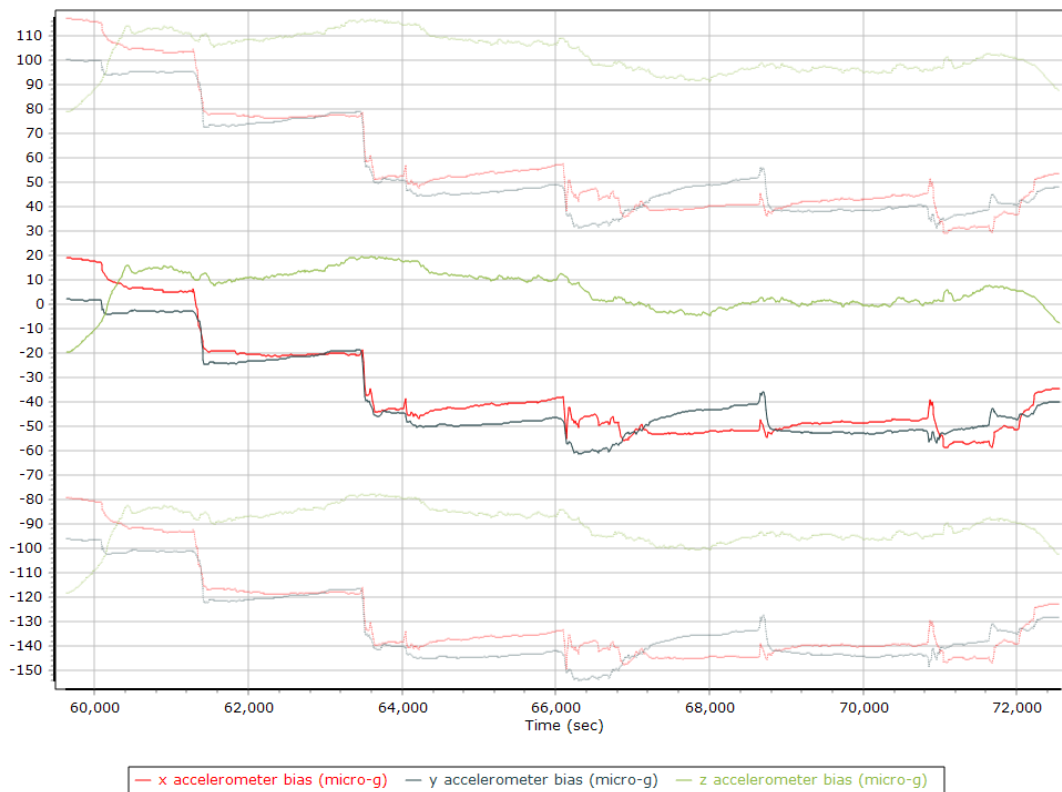
Reference-Primary GNSS Lever Arm Figure of Merit



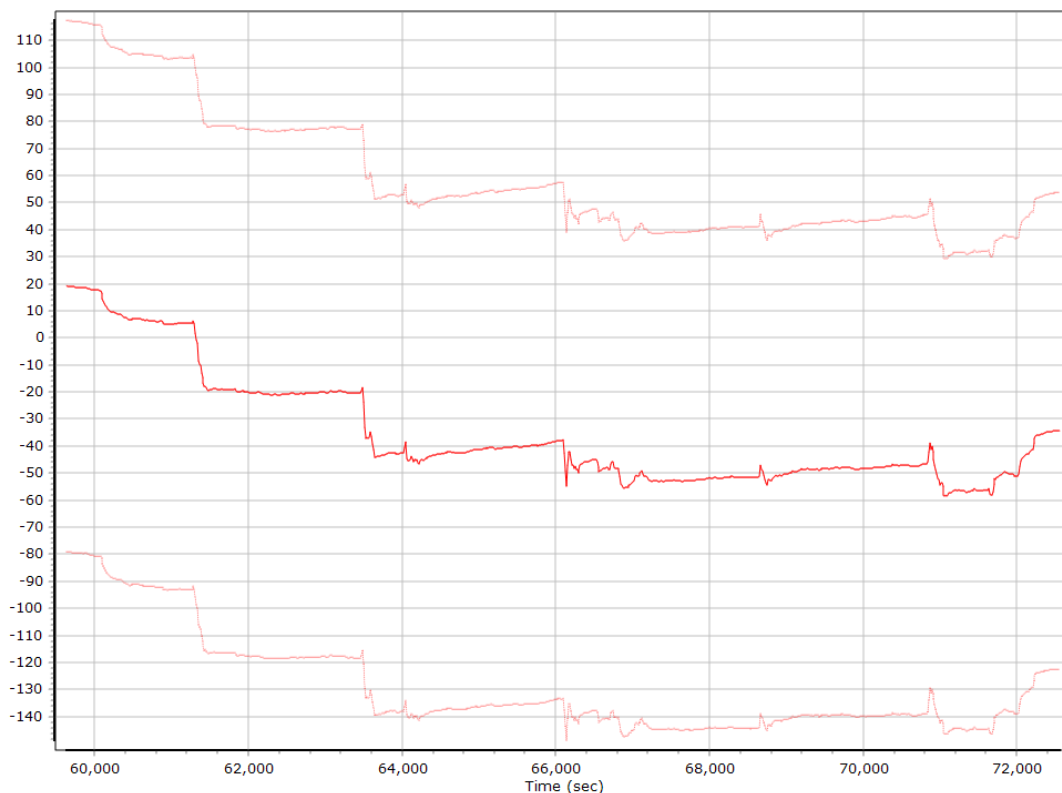
IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

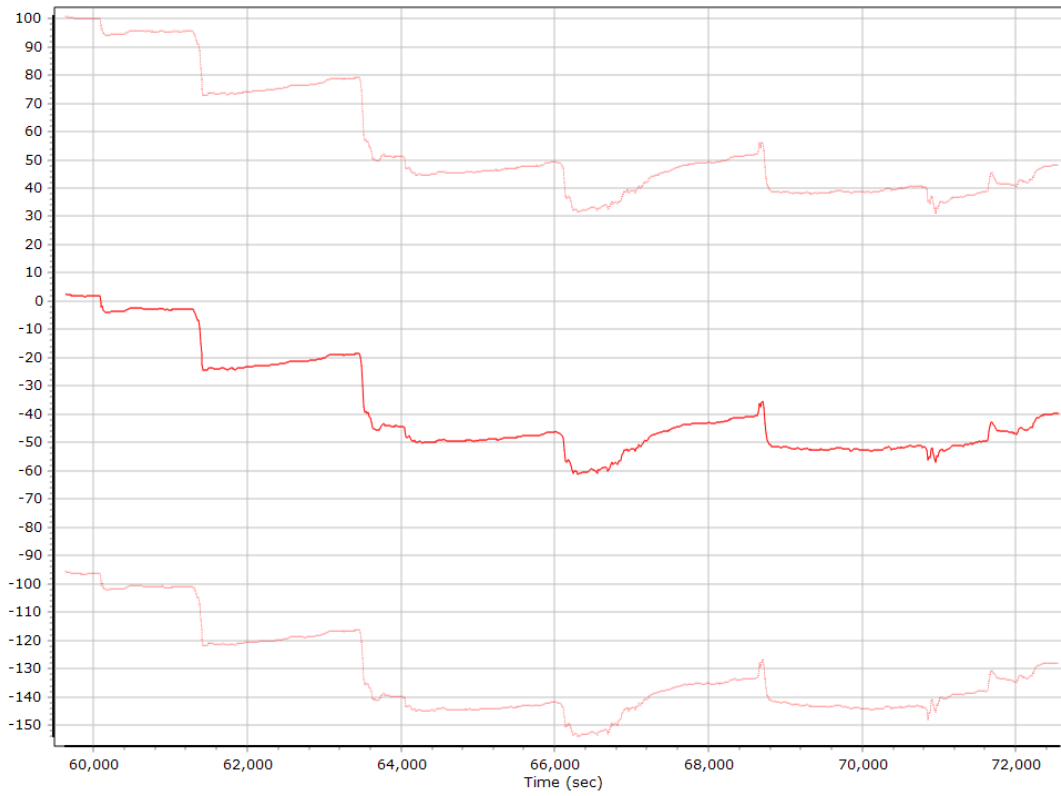
Accelerometer Bias (micro-g)



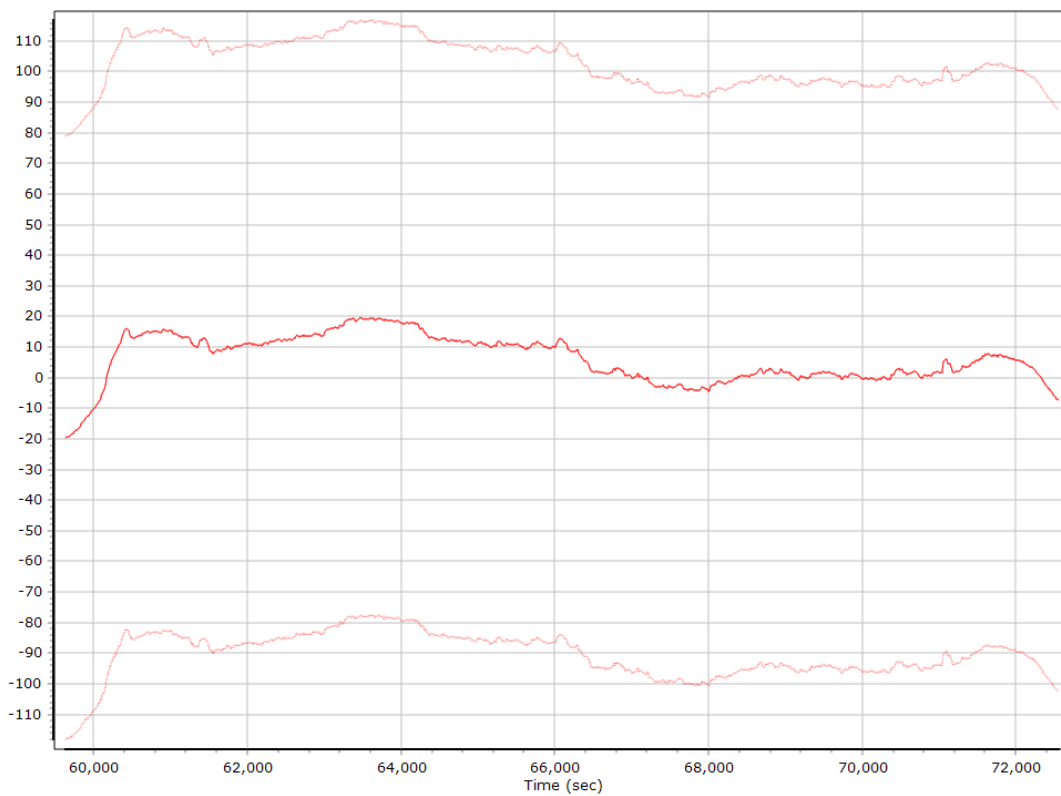
X Accelerometer Bias (micro-g)



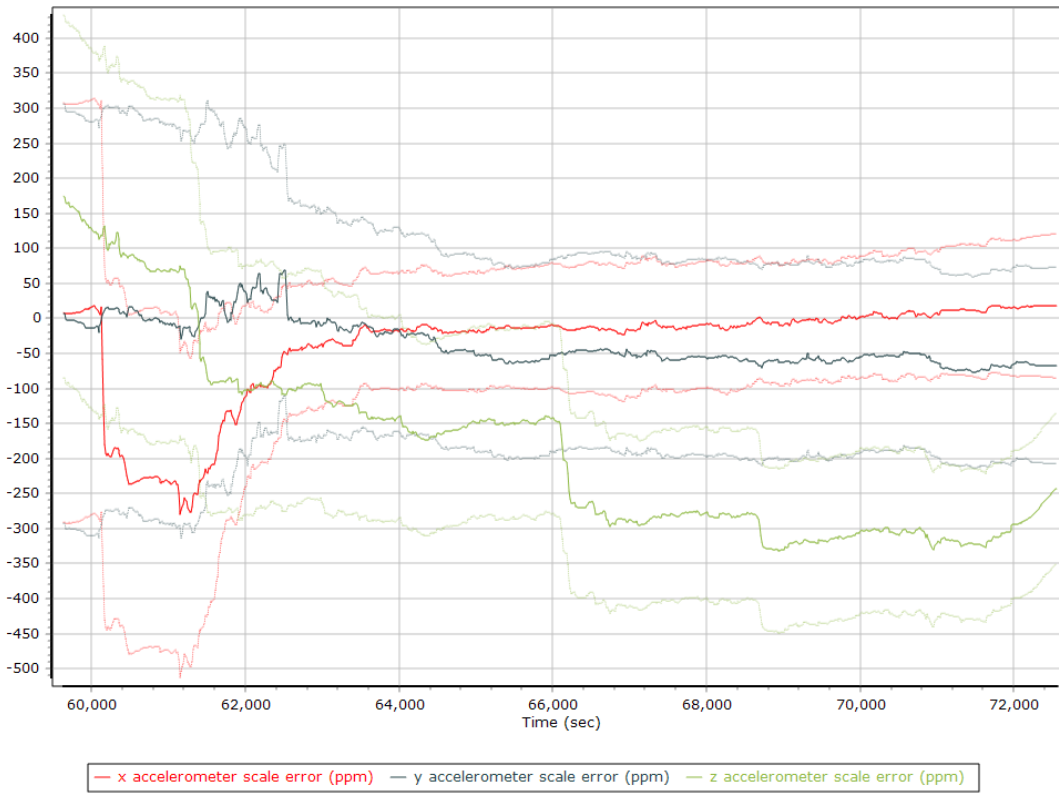
Y Accelerometer Bias (micro-g)



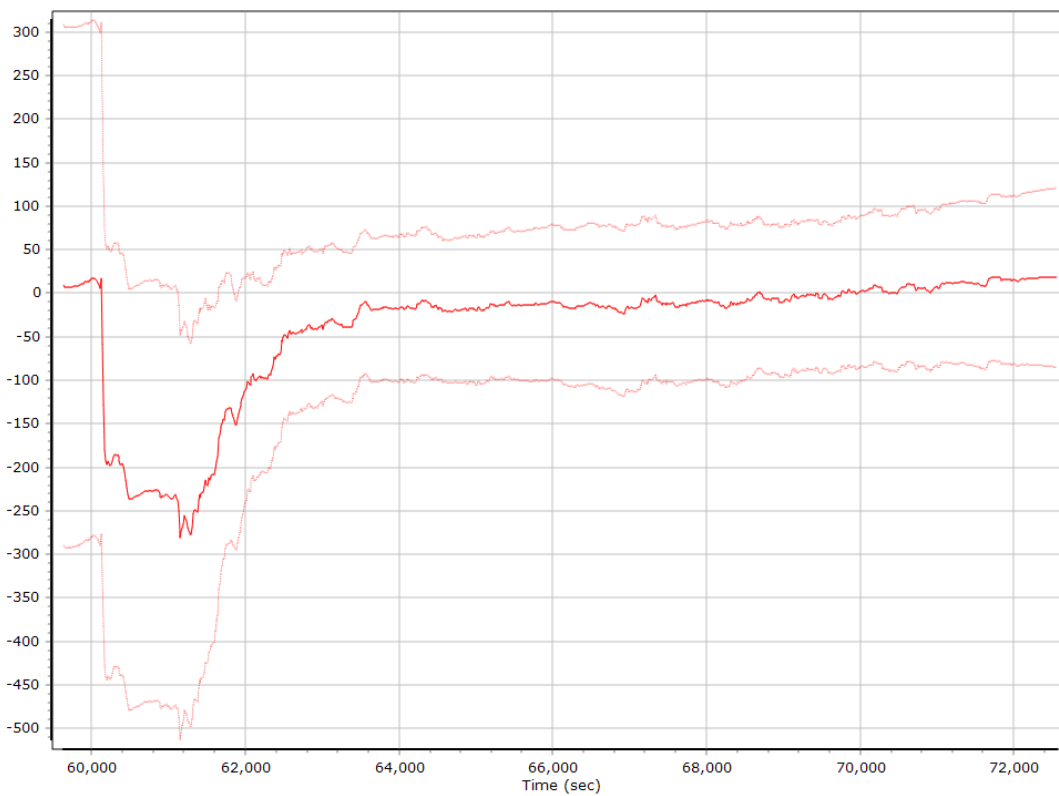
Z Accelerometer Bias (micro-g)



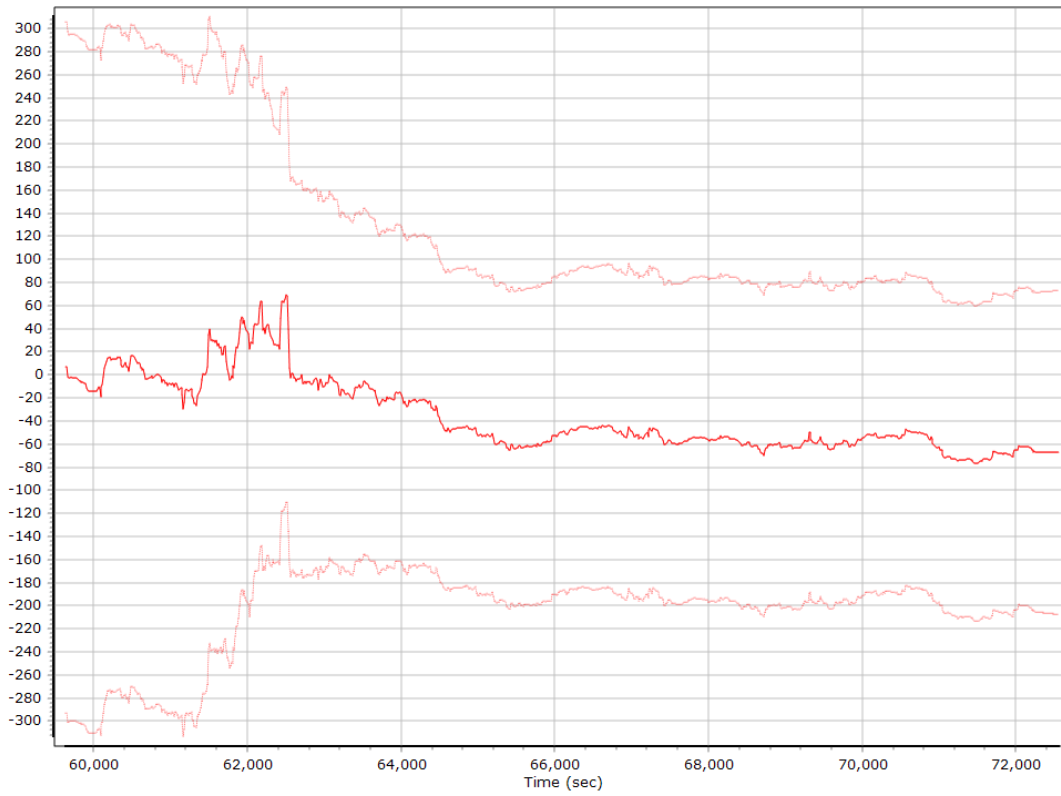
Accelerometer Scale Error (ppm)



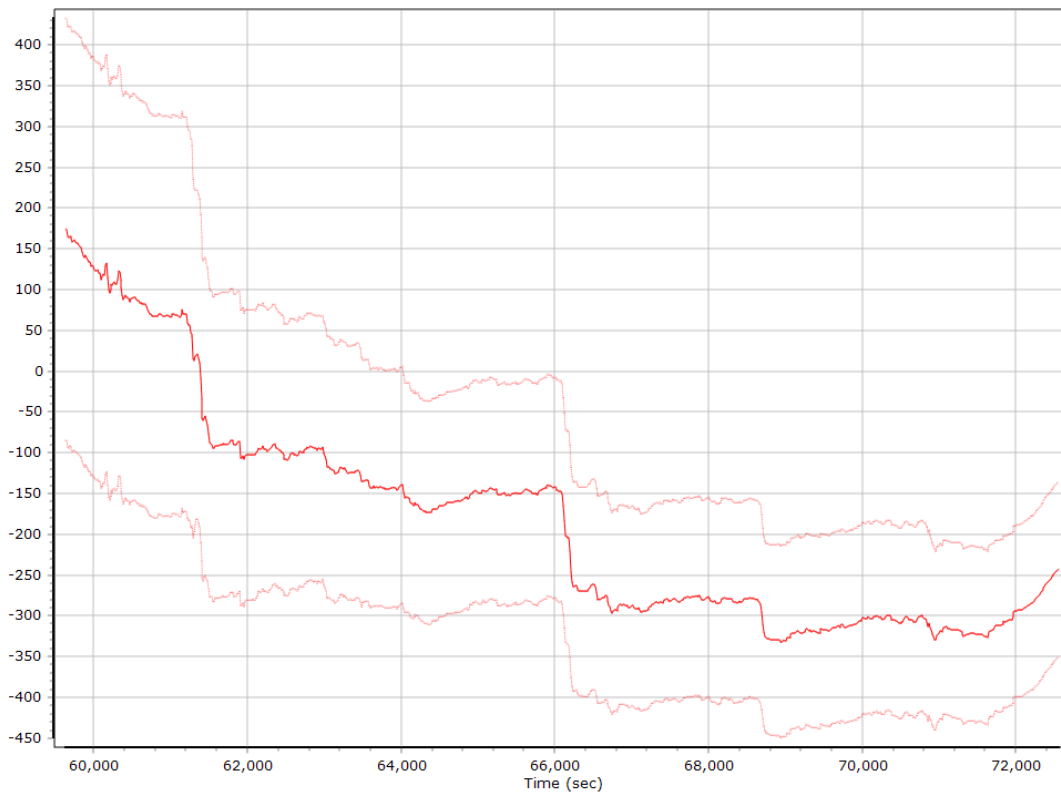
X Accelerometer Scale Error (ppm)



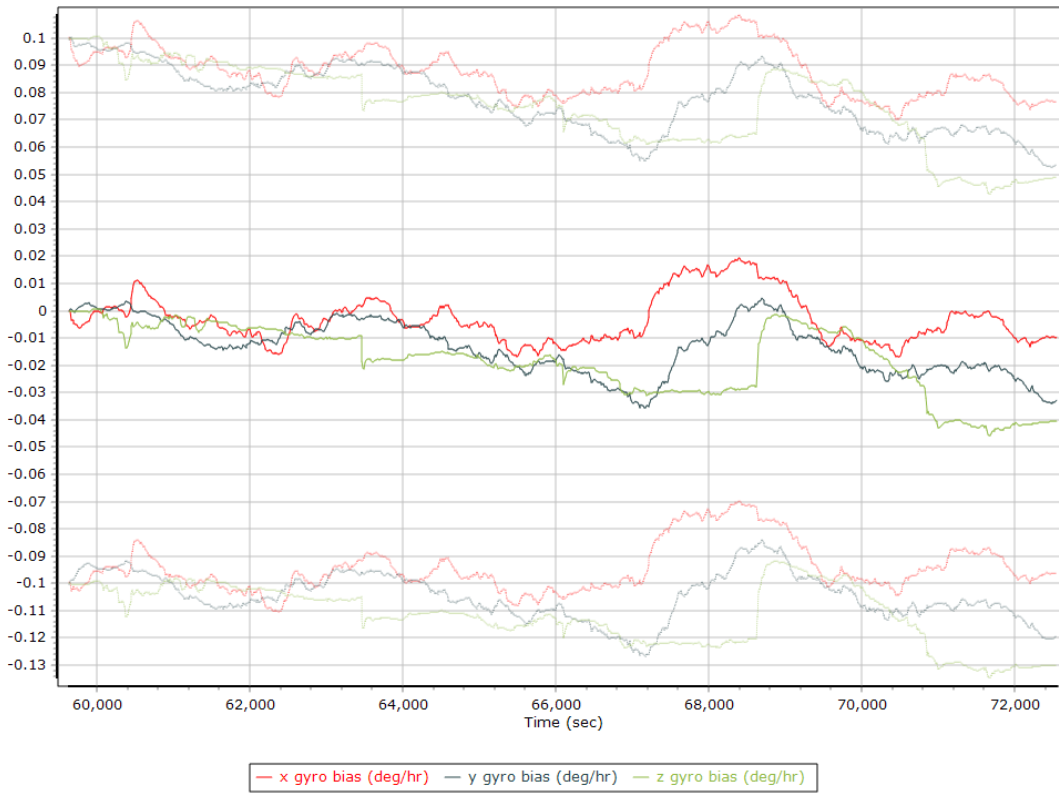
Y Accelerometer Scale Error (ppm)



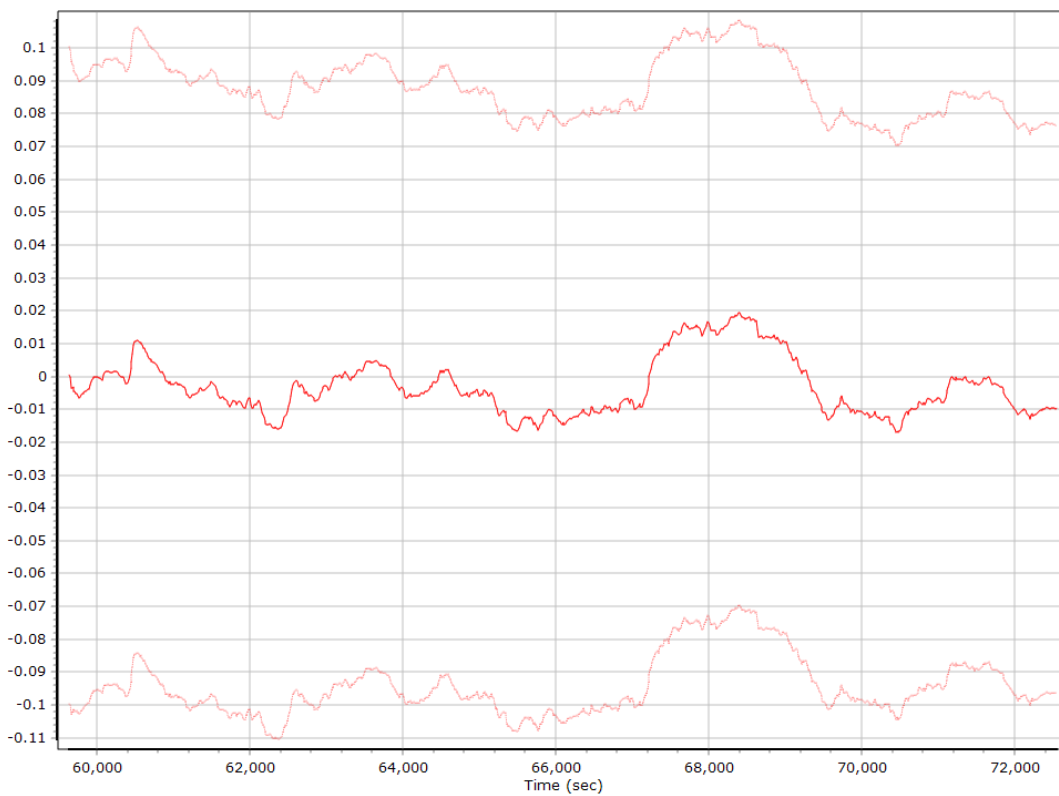
Z Accelerometer Scale Error (ppm)



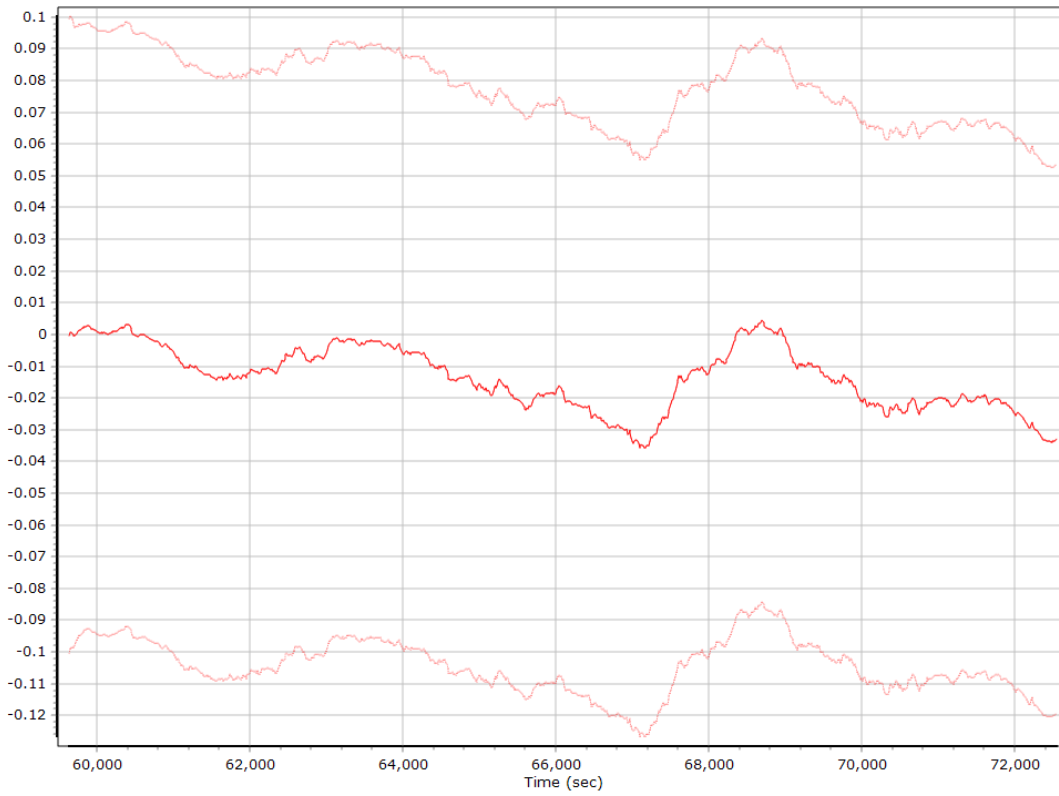
Gyro Bias (deg/h)



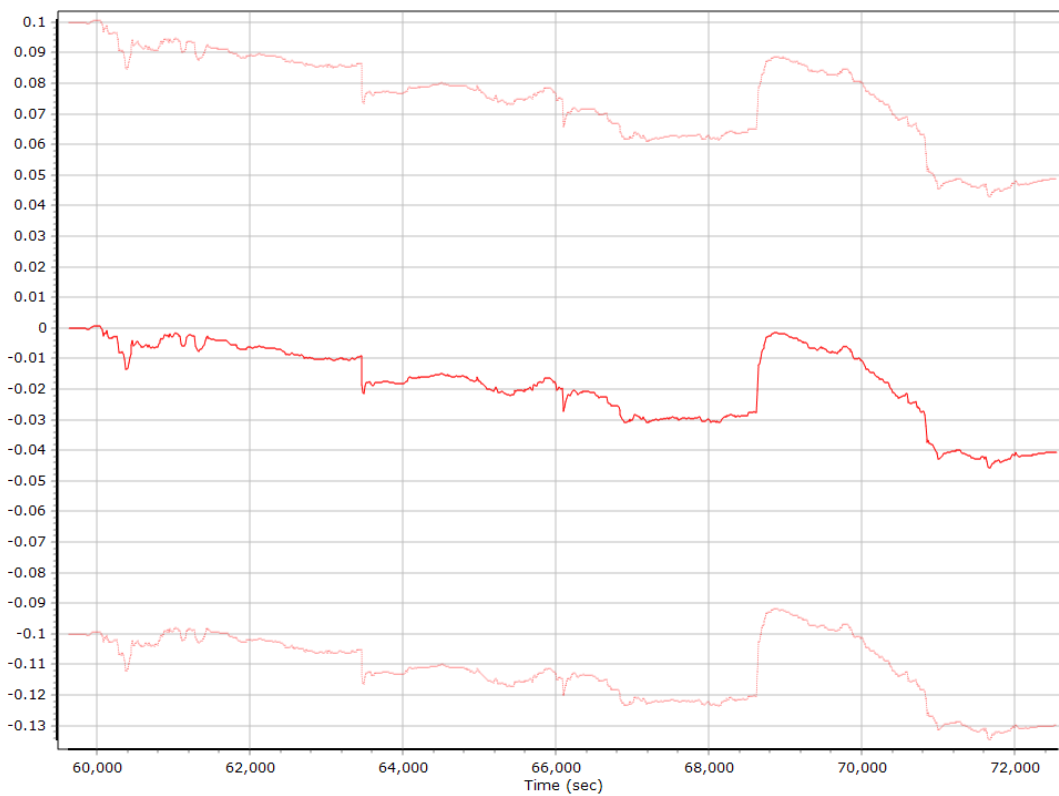
X Gyro Bias (deg/h)



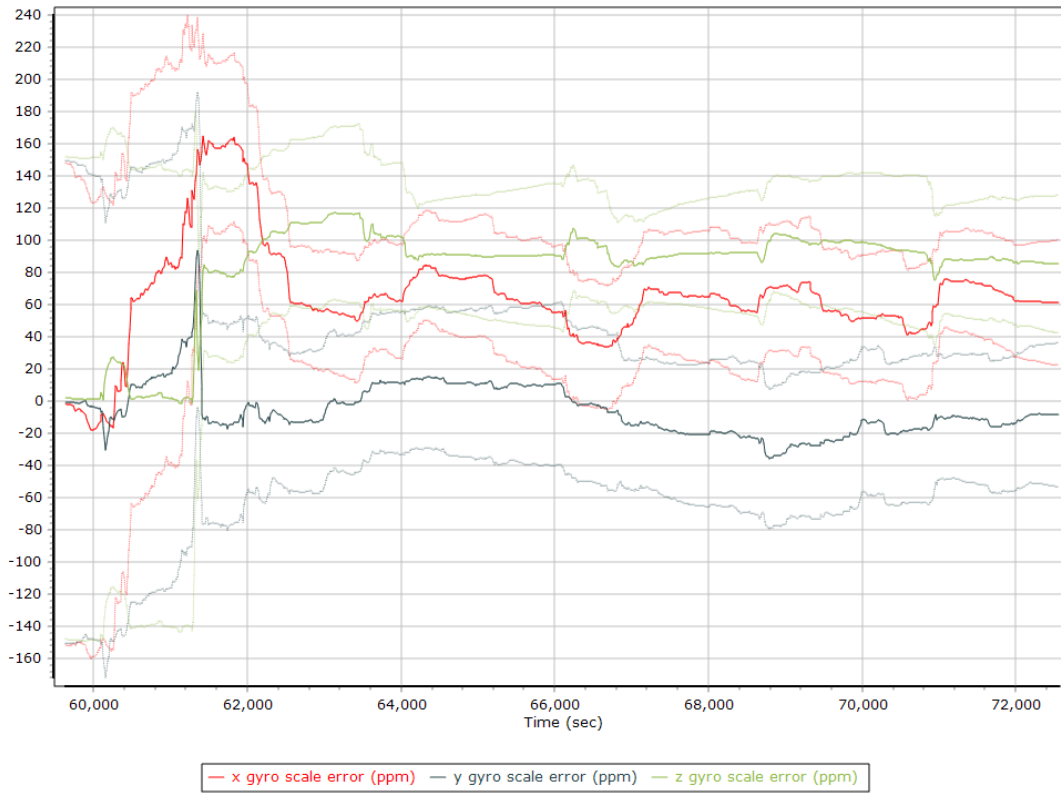
Y Gyro Bias (deg/h)



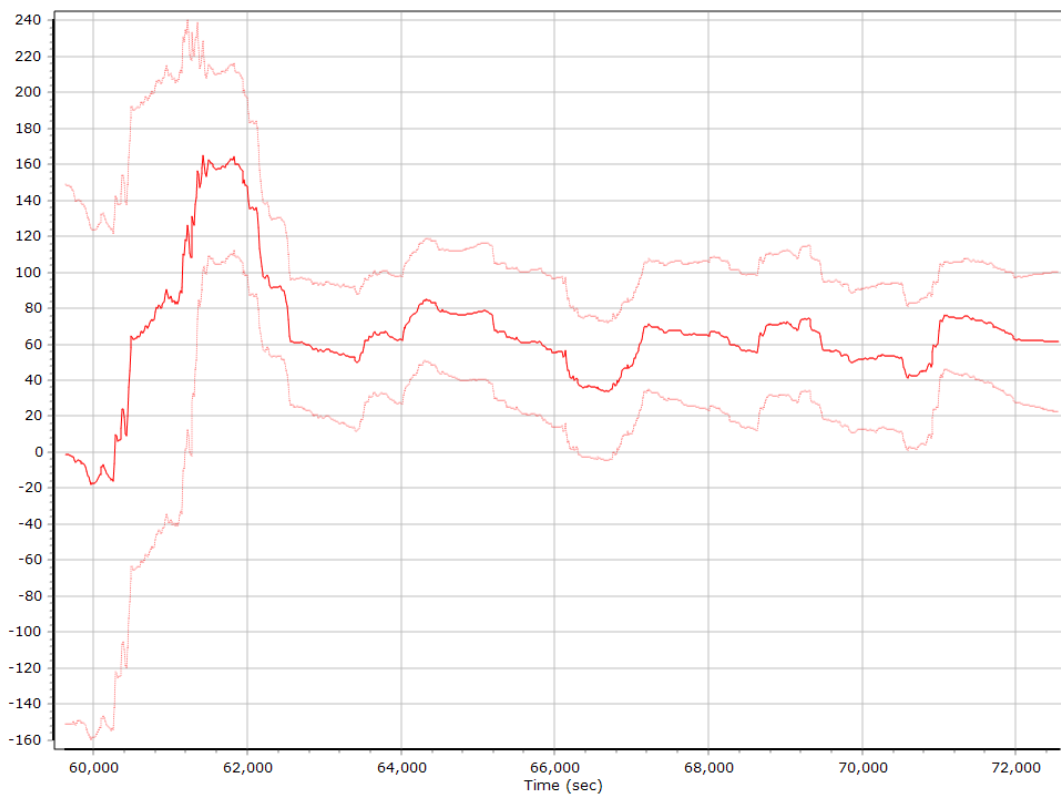
Z Gyro Bias (deg/h)



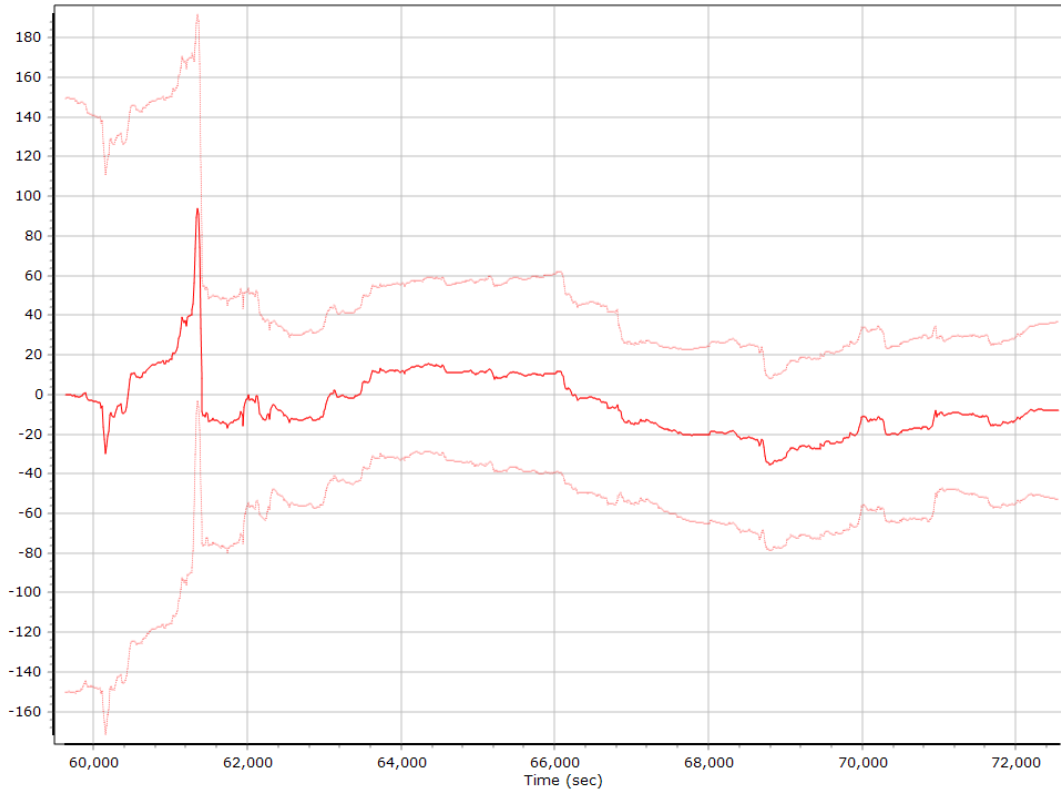
Gyro Scale Error (ppm)



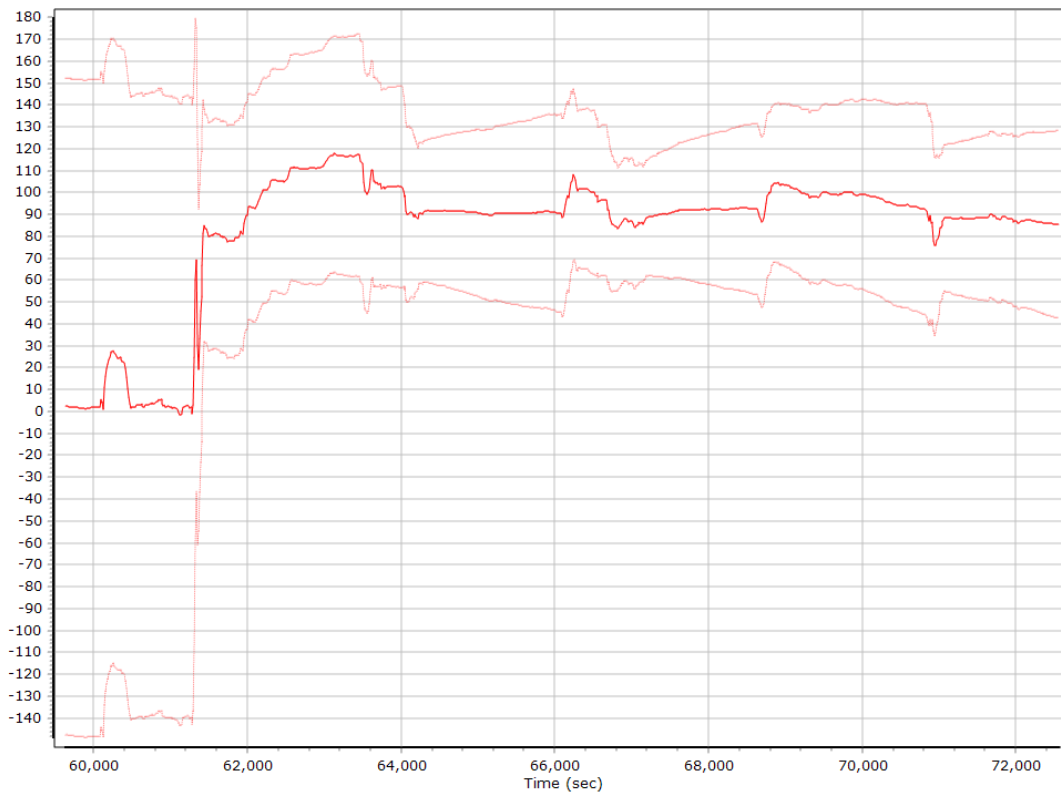
X Gyro Scale Error (ppm)



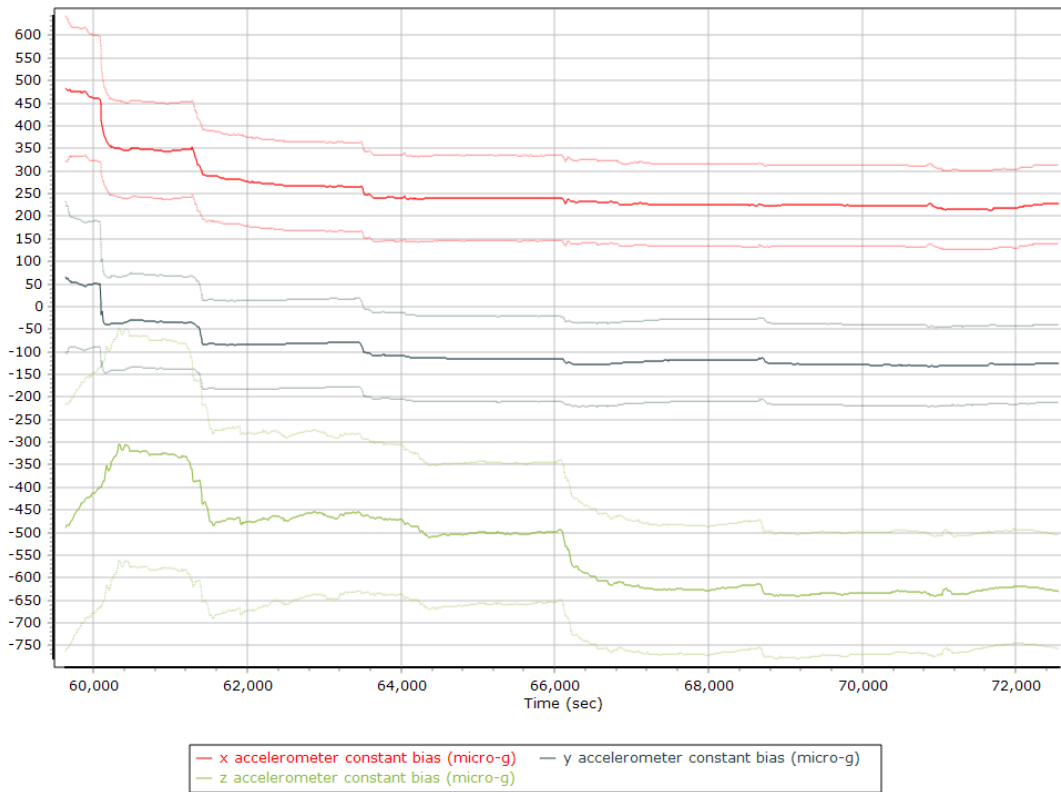
Y Gyro Scale Error (ppm)



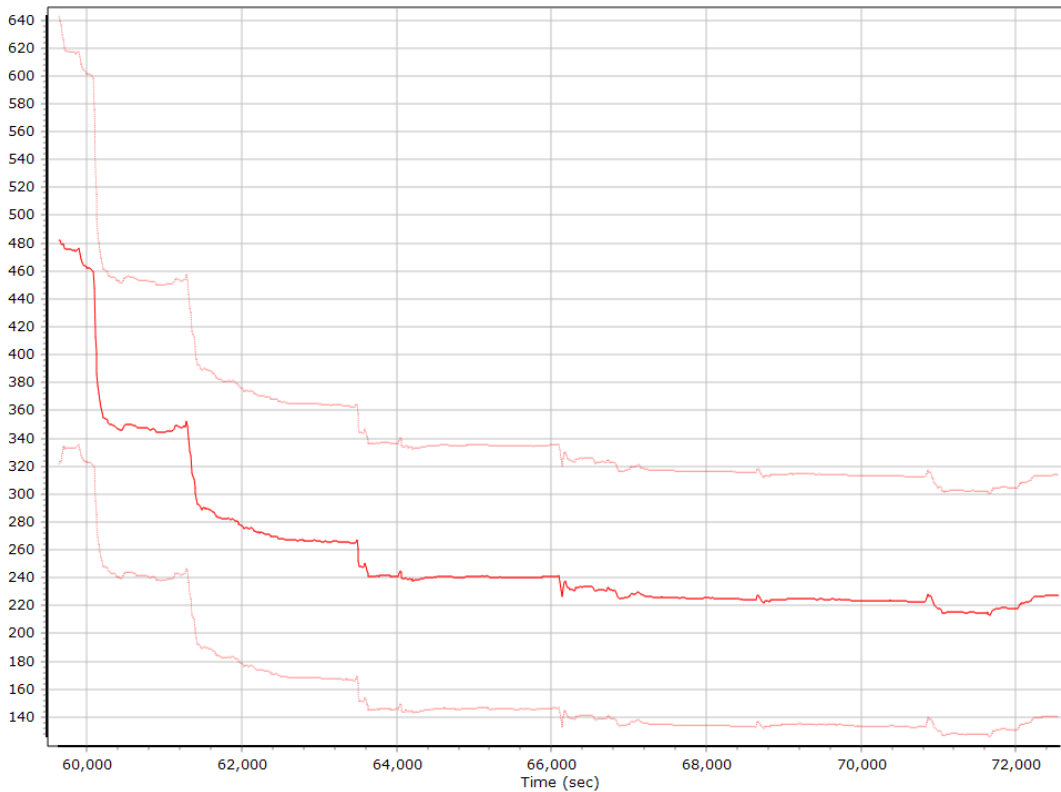
Z Gyro Scale Error (ppm)



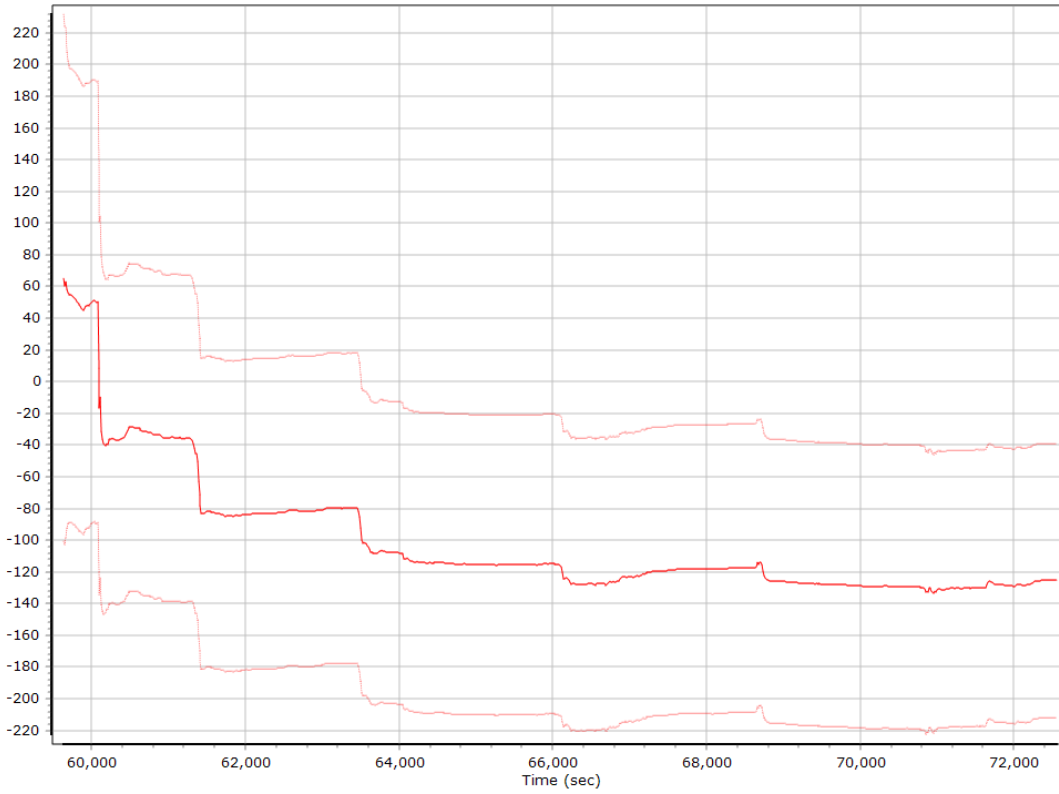
Forward Processed Estimated Constant Errors, Reference Frame Accelerometer Bias (micro-g)



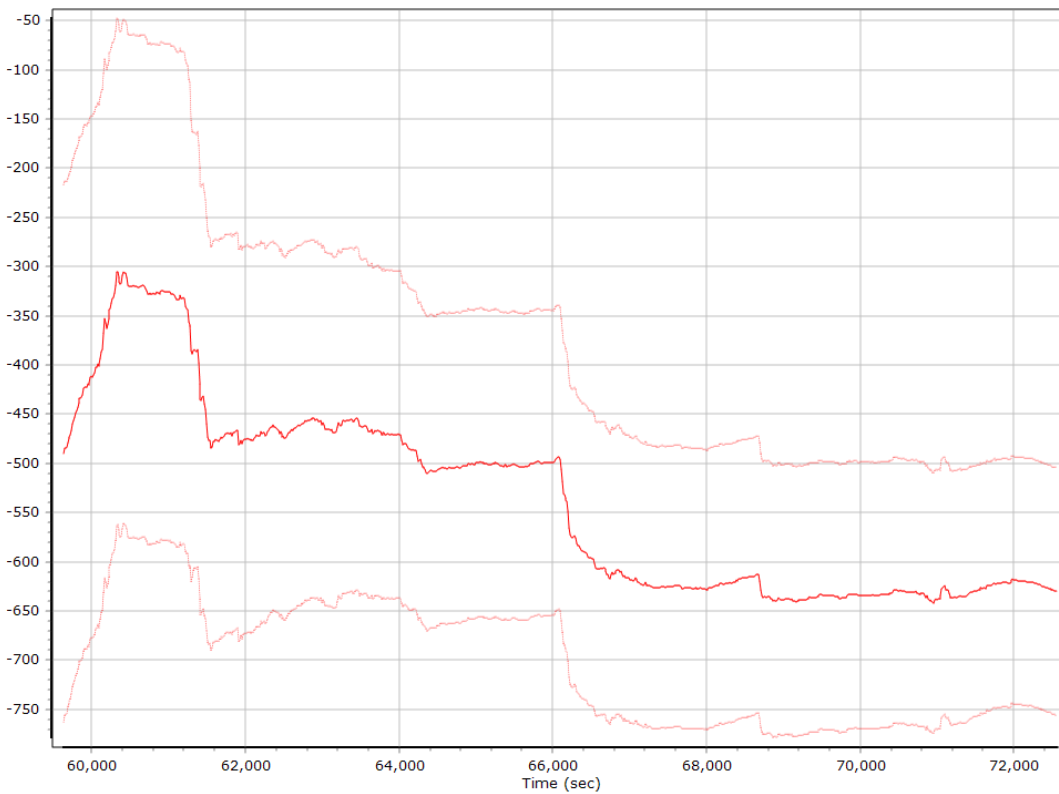
X Accelerometer Bias (micro-g)



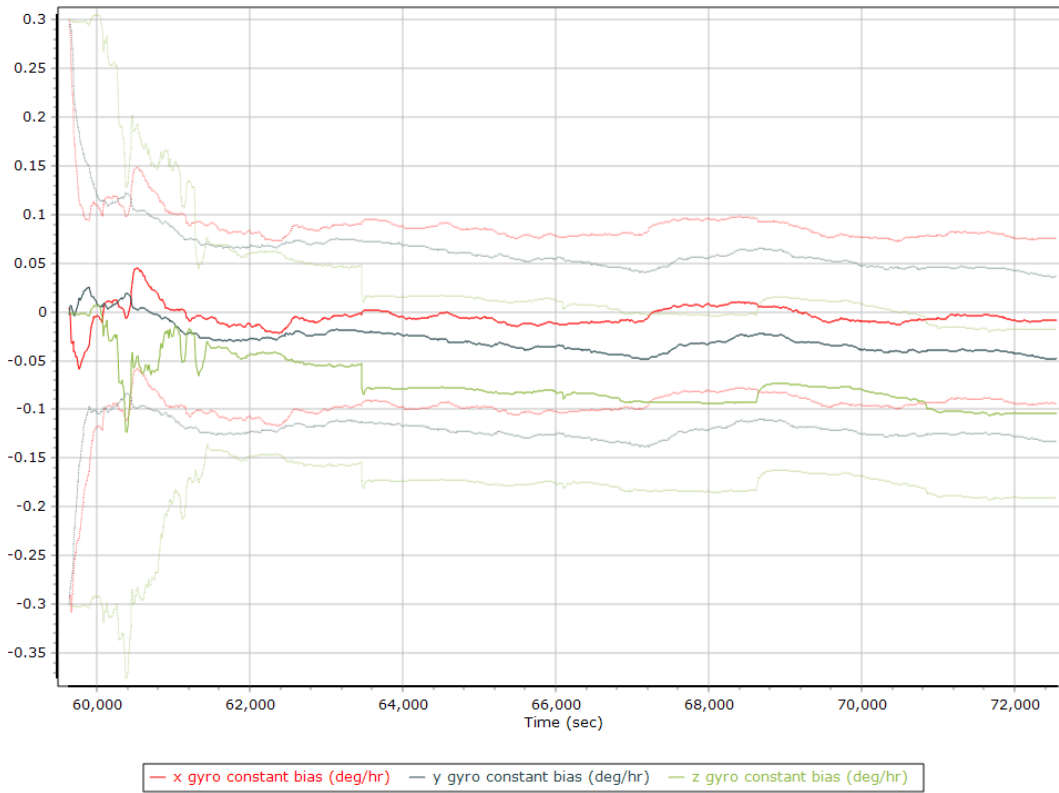
Y Accelerometer Bias (micro-g)



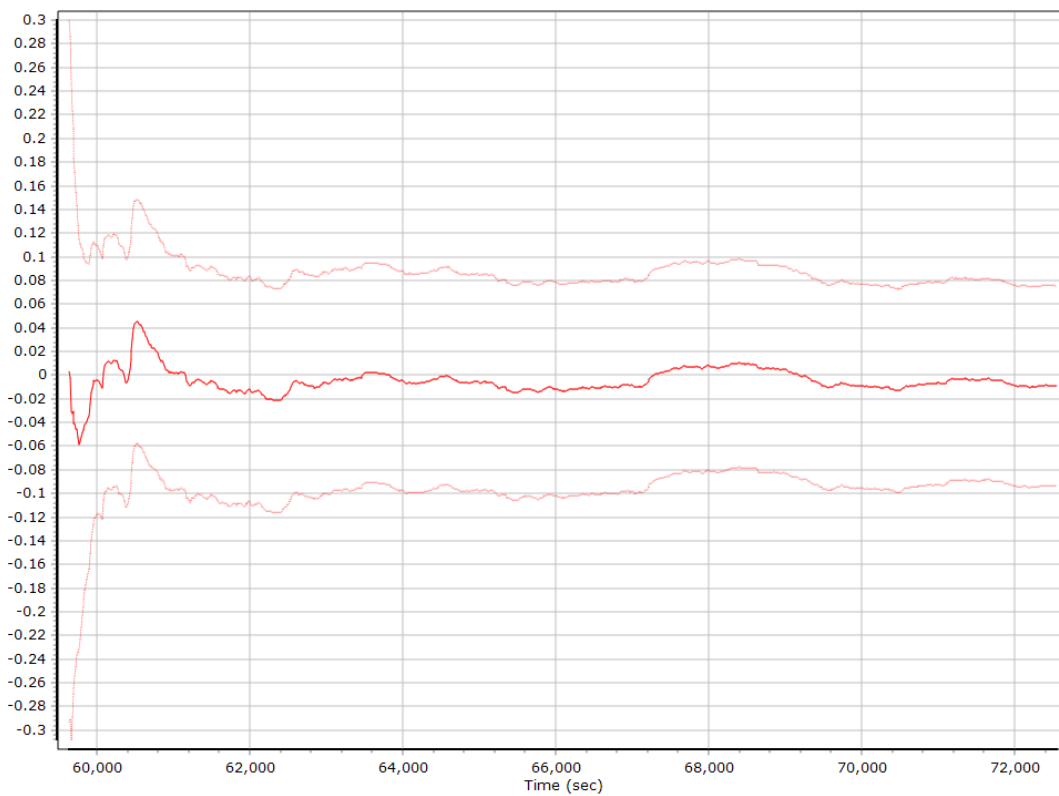
Z Accelerometer Bias (micro-g)



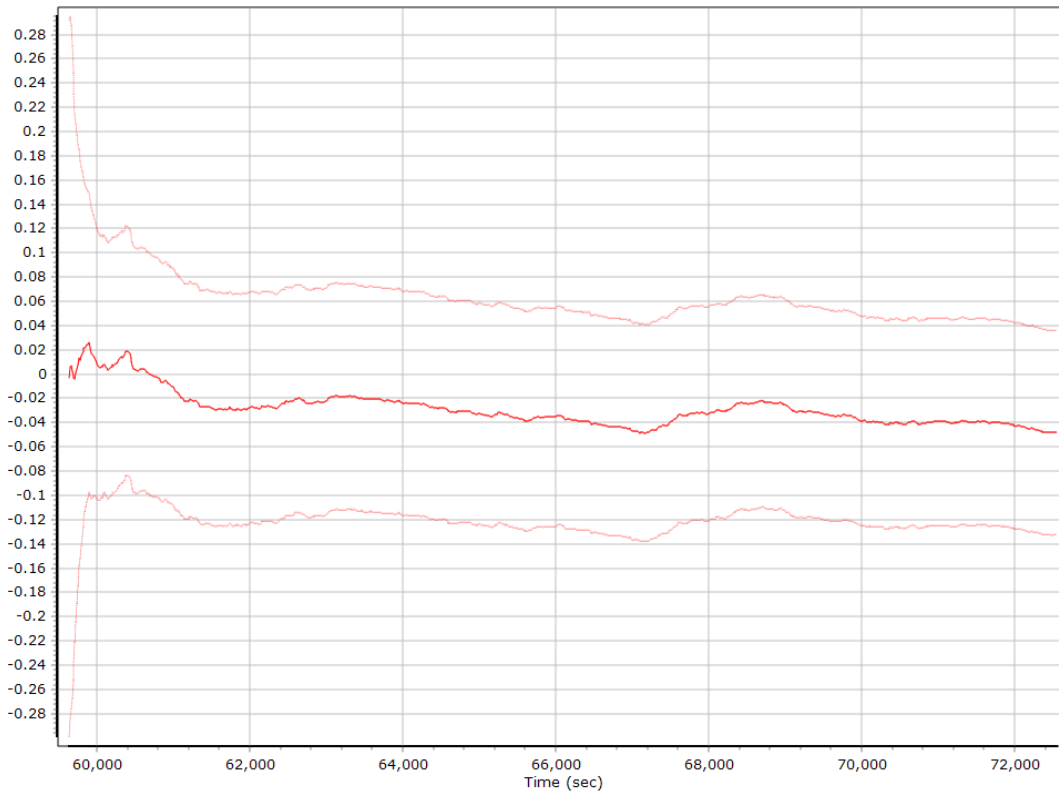
Gyro Bias (deg/h)



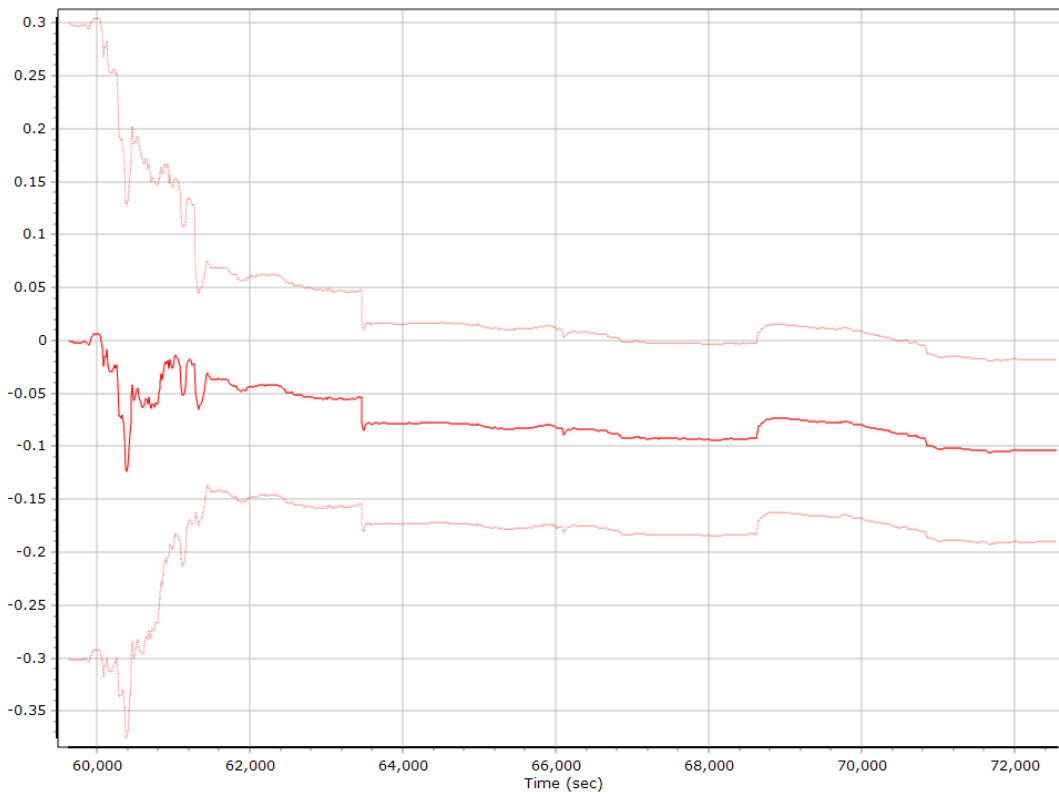
X Gyro Bias (deg/h)



Y Gyro Bias (deg/h)

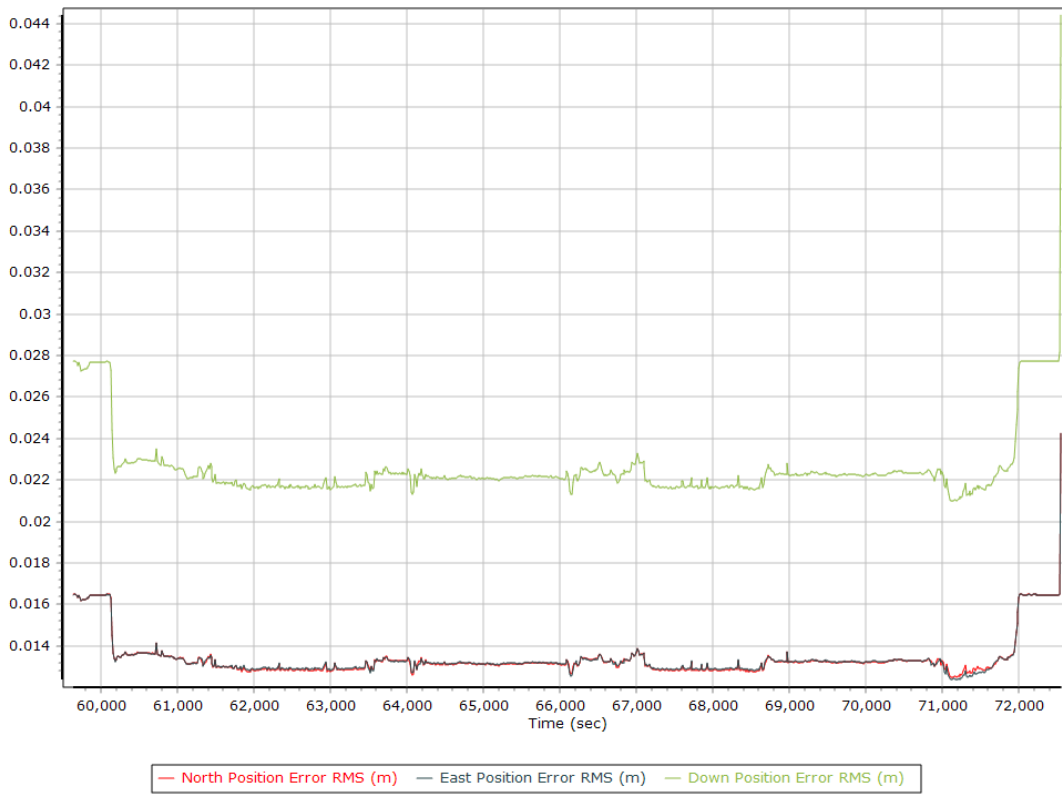


Z Gyro Bias (deg/h)

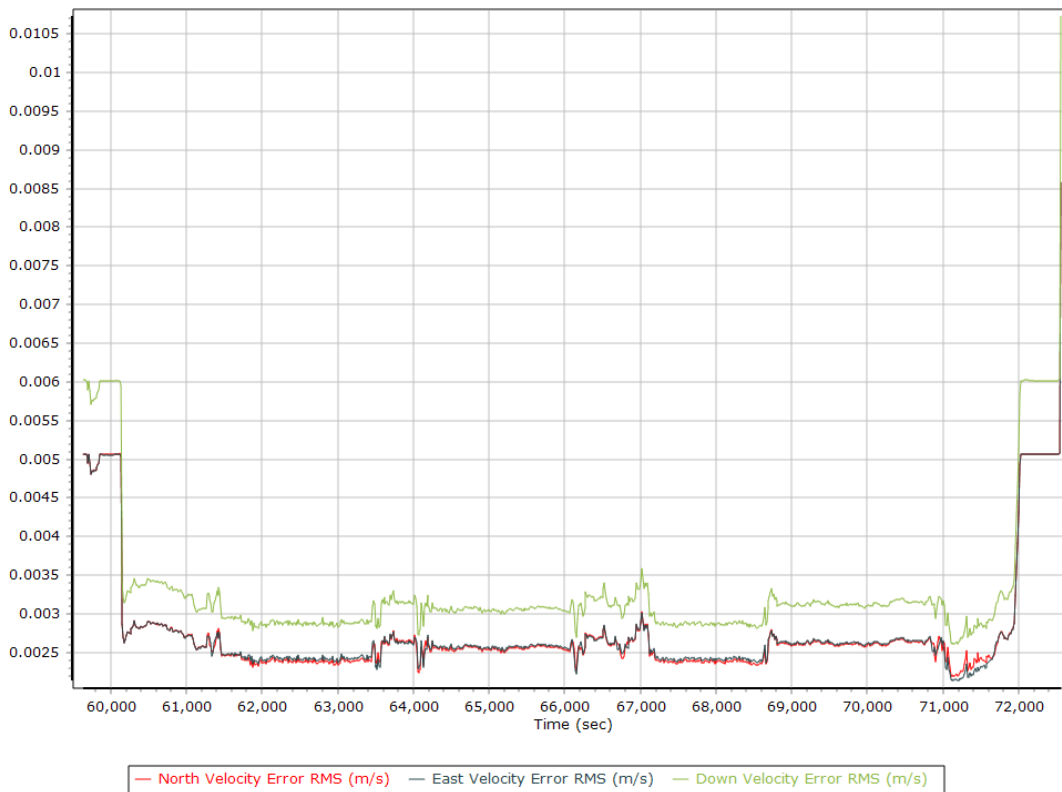


Smoothed Performance Metrics

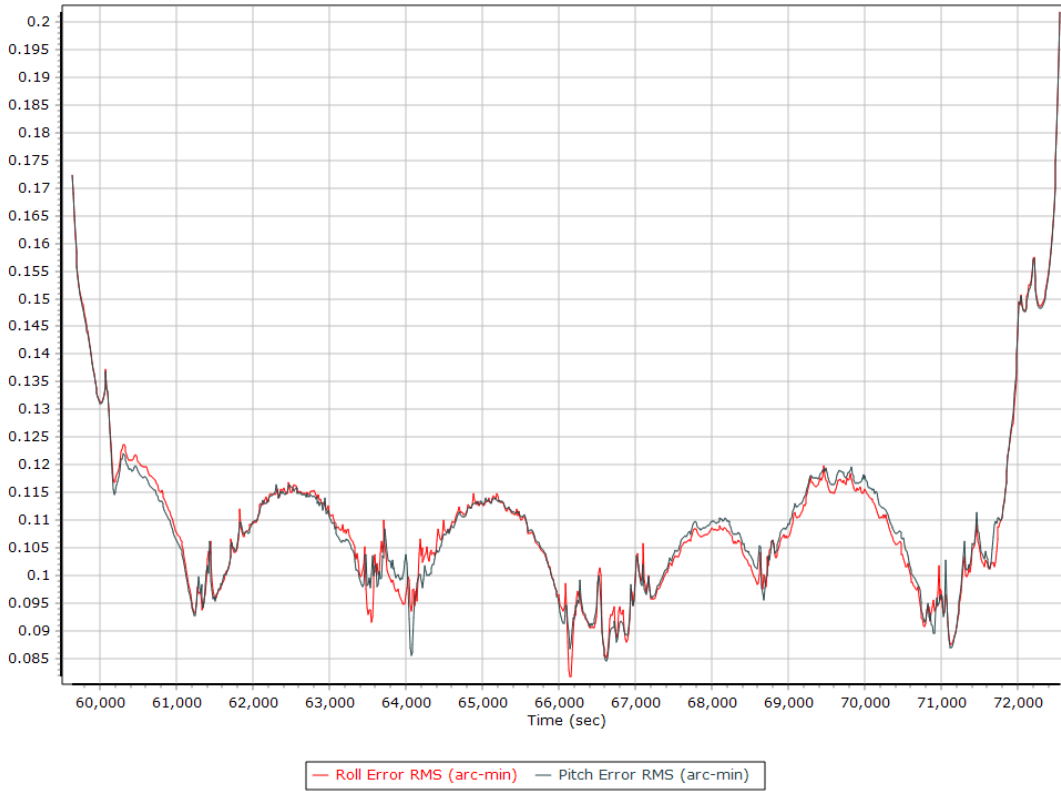
Position Error RMS (m)



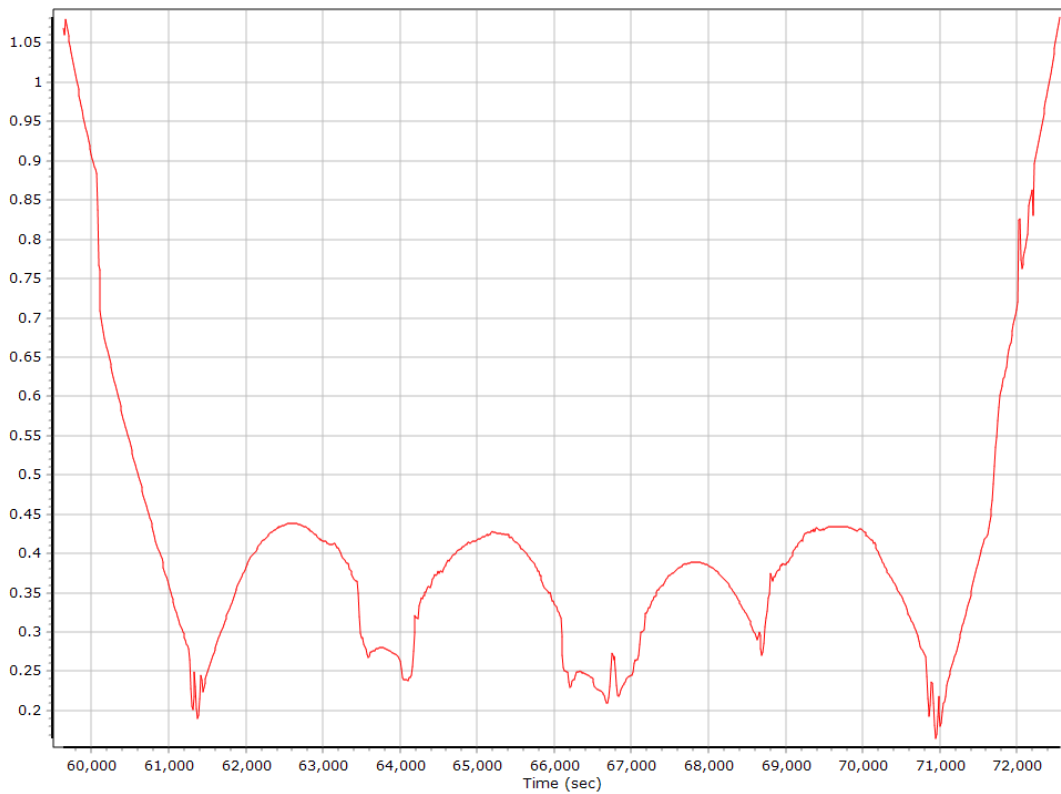
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

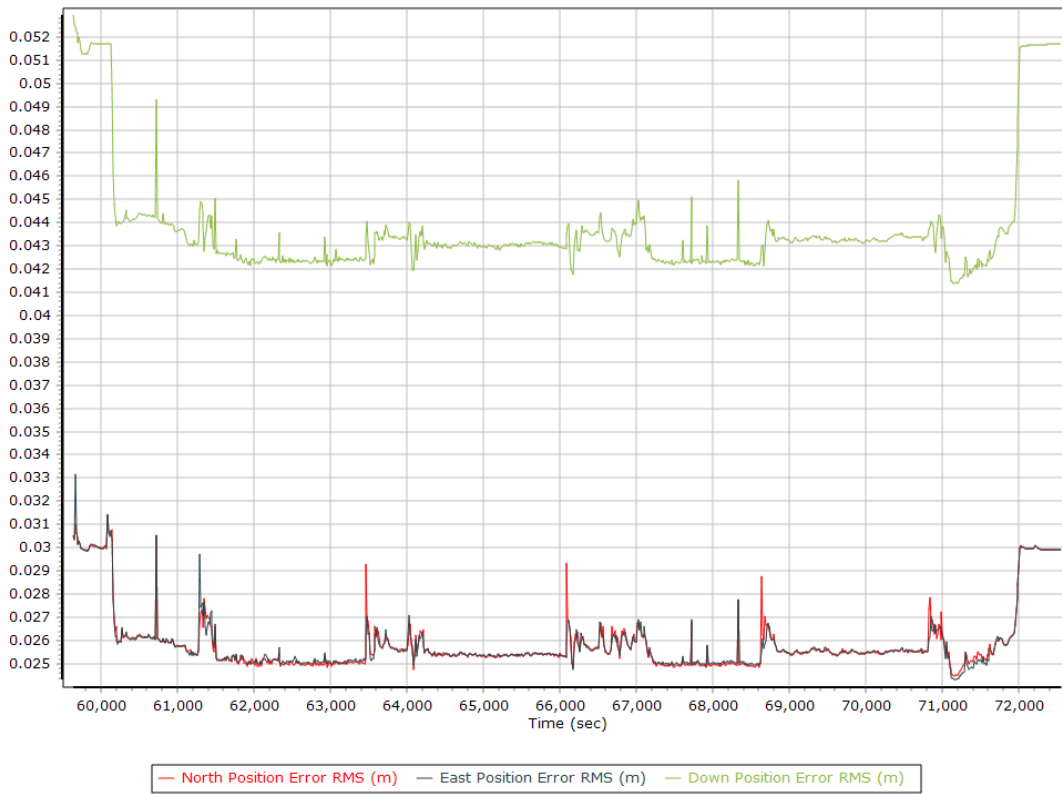


Heading Error RMS (arc-min)

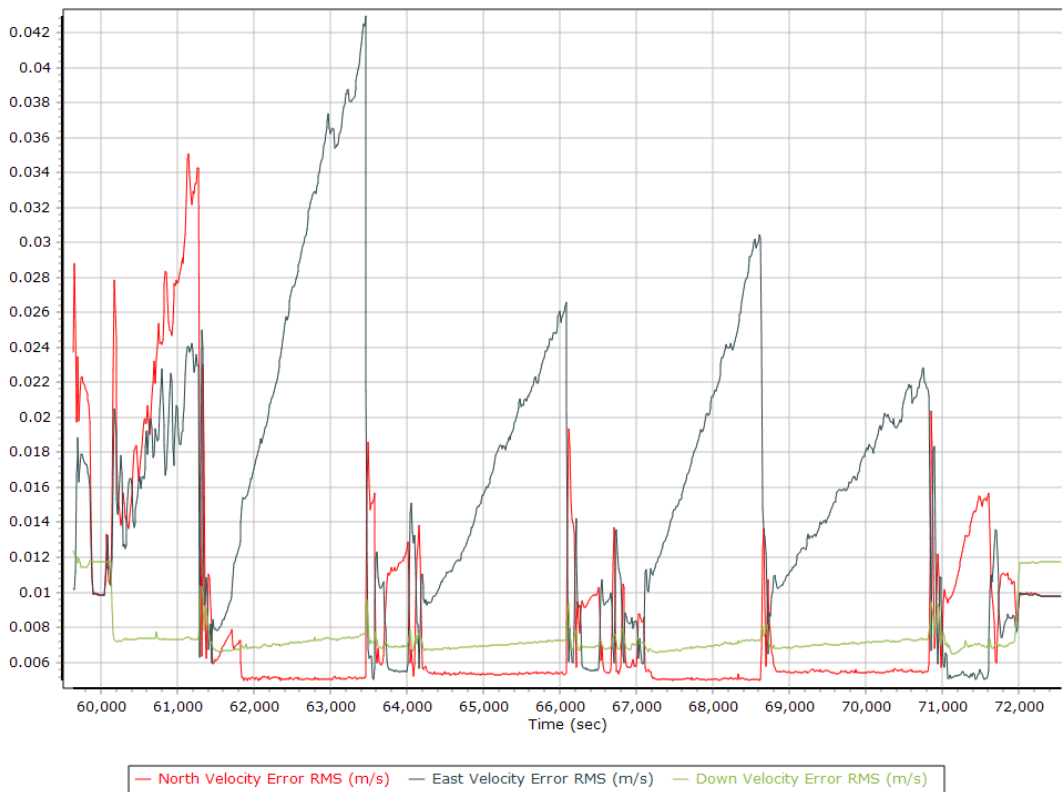


Forward Processed Performance Metrics

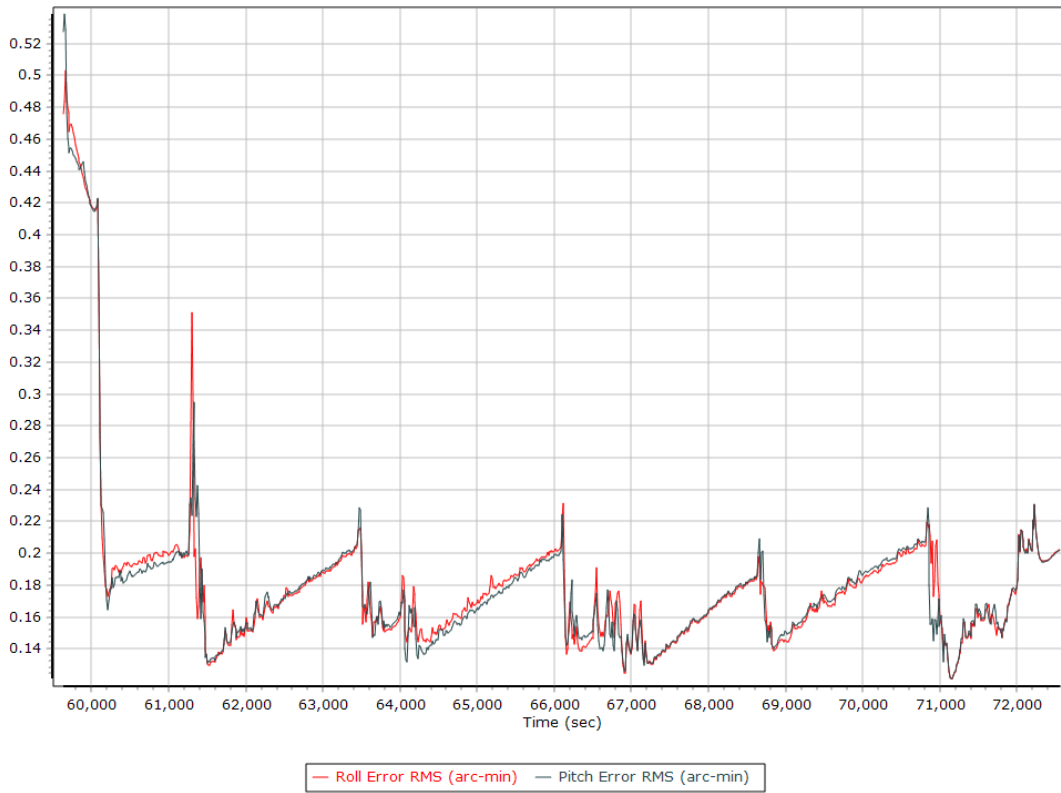
Position Error RMS (m)



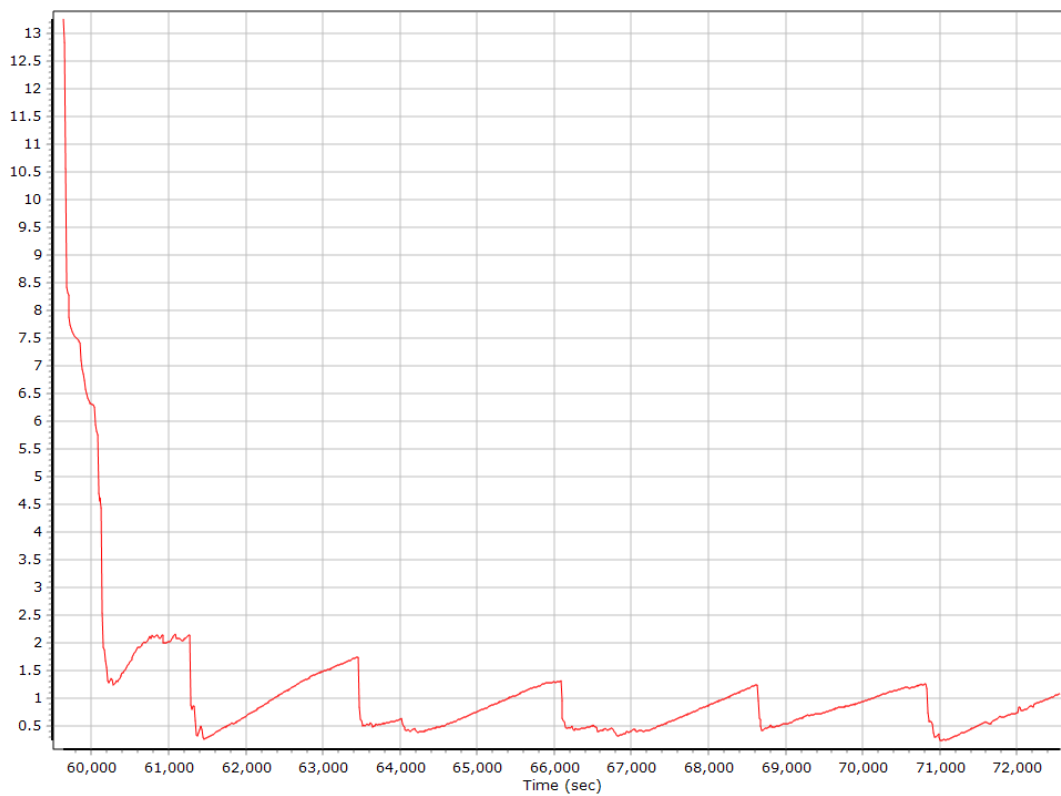
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

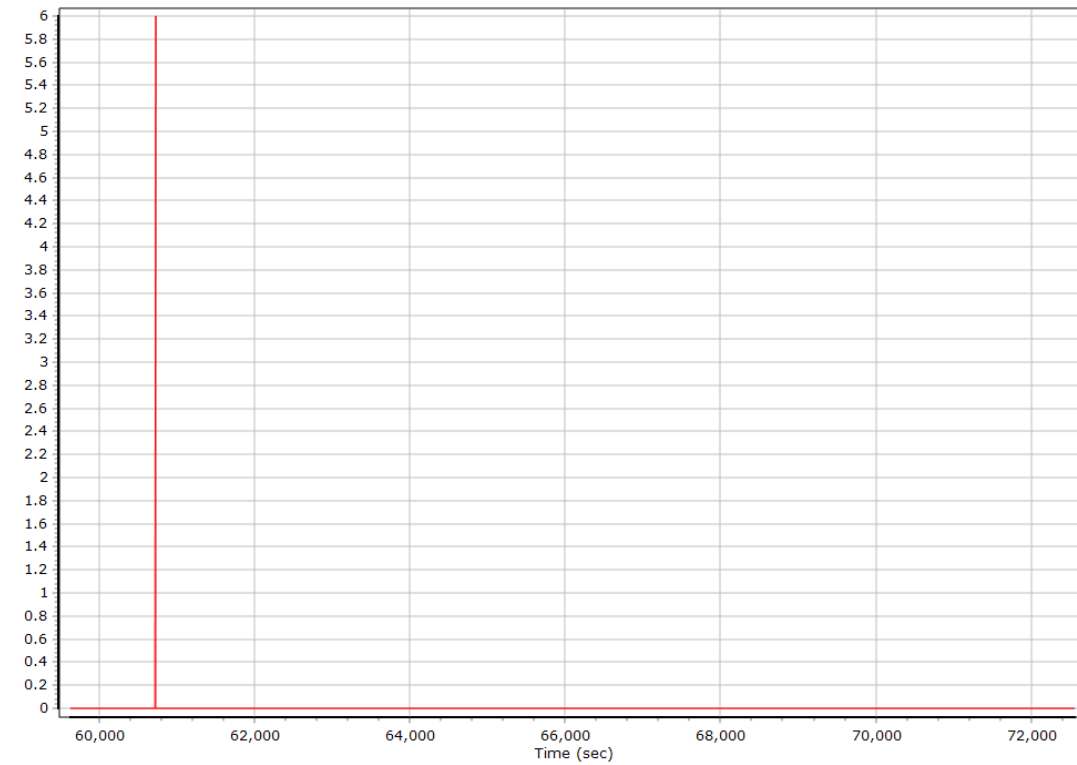


Heading Error RMS (arc-min)



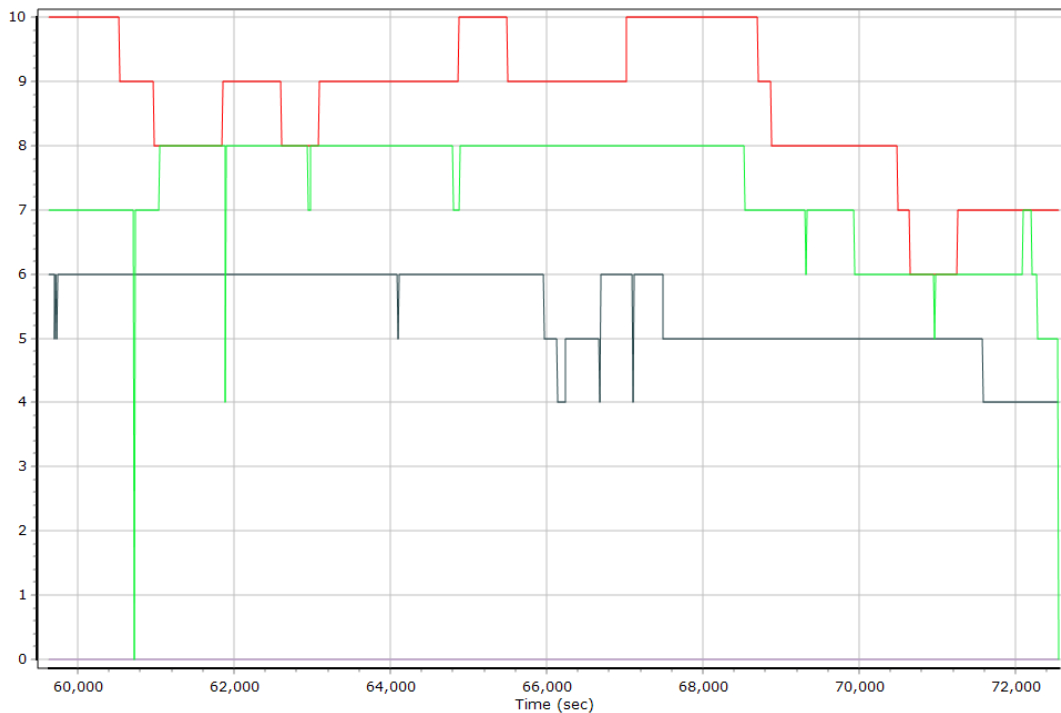
Forward Processed Solution Status

Processing Mode



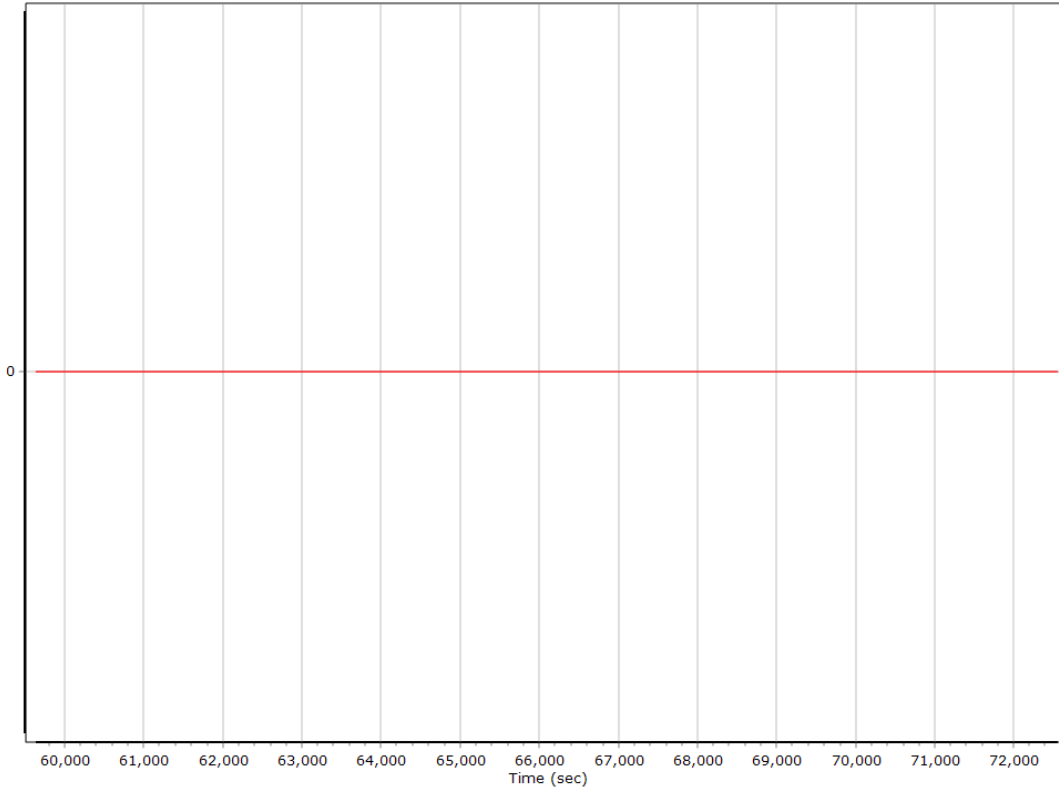
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

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_11922_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	59576.004 (12/20/2020 16:32:56)		
Export end time	72558.003 (12/20/2020 20:09:18)		
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	59576.004 (12/20/2020 16:32:56)		
Export end time	72558.003 (12/20/2020 20:09:18)		
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	59576.004 (12/20/2020 16:32:56)		
EO end time	72558.003 (12/20/2020 20:09:18)		
Grid	Universal Transverse Mercator		
Zone	UTM North 14 (102W to 96W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		