General Information

Mission Information

Project name	20211128_PIN_Basestation
Processing date	2022-01-18 14:03:43
Mission date	2021-11-28 15:01:55
Mission duration	05:06:19.000
Processing mode	IN-Fusion Single Base
GPS Station	PIN1 Pinyon 1

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N12299
IMU type	57
Receiver type	BD982
Antenna type	AV39

Project File List

Rover Data Files

File name	File type
VQ1560.270	POS Data
VQ1560.271	POS Data
VQ1560.272	POS Data
VQ1560.273	POS Data
VQ1560.274	POS Data
VQ1560.275	POS Data
VQ1560.276	POS Data
VQ1560.277	POS Data
VQ1560.278	POS Data
VQ1560.279	POS Data
VQ1560.280	POS Data
VQ1560.281	POS Data
VQ1560.282	POS Data
VQ1560.283	POS Data
VQ1560.284	POS Data
VQ1560.285	POS Data
VQ1560.286	POS Data
VQ1560.287	POS Data
VQ1560.288	POS Data
VQ1560.289	POS Data
VQ1560.290	POS Data
VQ1560.291	POS Data
VQ1560.292	POS Data
VQ1560.293	POS Data
VQ1560.294	POS Data
VQ1560.295	POS Data
VQ1560.296	POS Data
VQ1560.297	POS Data
VQ1560.298	POS Data
VQ1560.299	POS Data
VQ1560.300	POS Data
VQ1560.301	POS Data
VQ1560.302	POS Data
VQ1560.303	POS Data
VQ1560.304	POS Data
VQ1560.305	POS Data
VQ1560.306	POS Data
VQ1560.307	POS Data
VQ1560.308	POS Data
VQ1560.309	POS Data
VQ1560.310	POS Data
VQ1560.311	POS Data

Input Files

File Name	File type
Ephm3320.21g	GLONASS Broadcast Ephemeris
Ephm3320.21n	GPS Broadcast Ephemeris
pin13320.21o	GNSS SingleBase

Output Files

Filename	File type
sbet_20211128_PIN_Basestation.out	SBET Trajectory File
export_20211128_PIN_Basestation_NAD83_2011	Custom Smoothed BET Export Output

Rover Data Summary

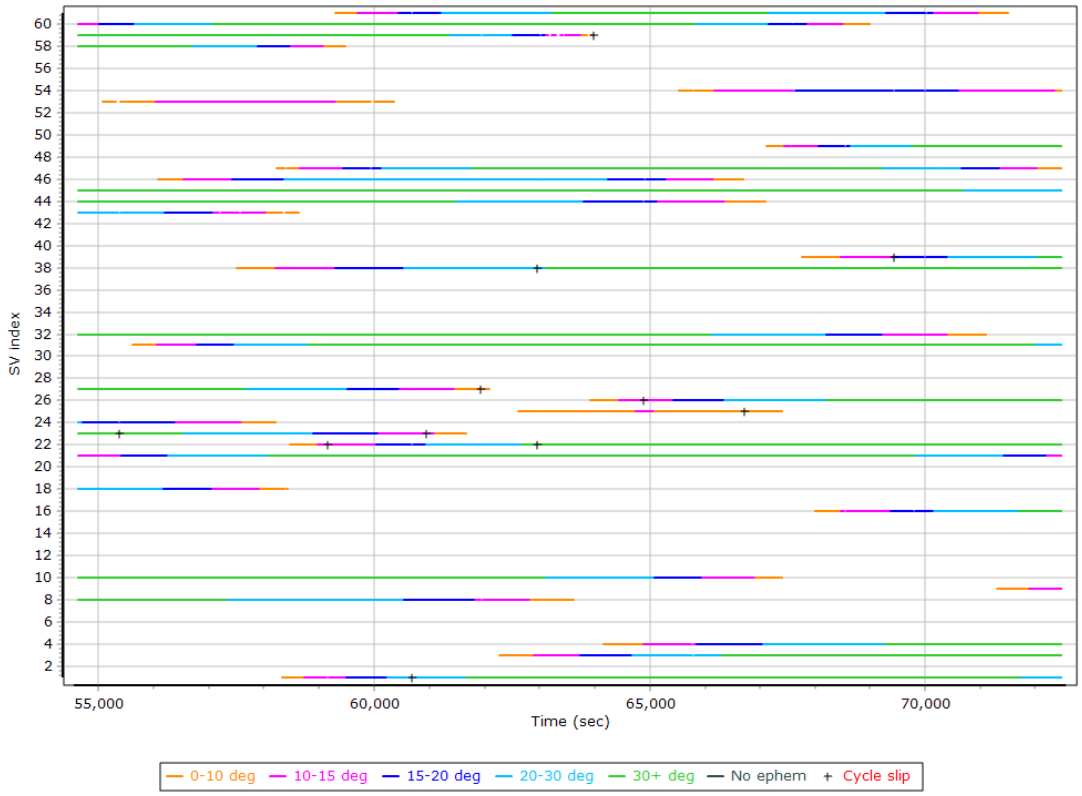
First raw data file	VQ1560.270		
Last raw data file	VQ1560.311		
Start GPS week	2186		
Start time	54113.198 (11/28/2021 15:01:53)		
End time	72467.679 (11/28/2021 20:07:47)		
Start of fine alignment	54567.156 (11/28/2021 15:09:27)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Reference to IMU lever arm [m]	0.018	-0.010	-0.464
Reference to IMU mounting angles [deg]	0.000	0.000	0.000
Reference to Primary GNSS lever arm [m]	0.000	0.000	-1.000
Reference to Primary GNSS lever arm std dev [m]	-1.000		
Aircraft to Reference mounting angles [deg]	0.000	0.000	0.000

Raw Data QC

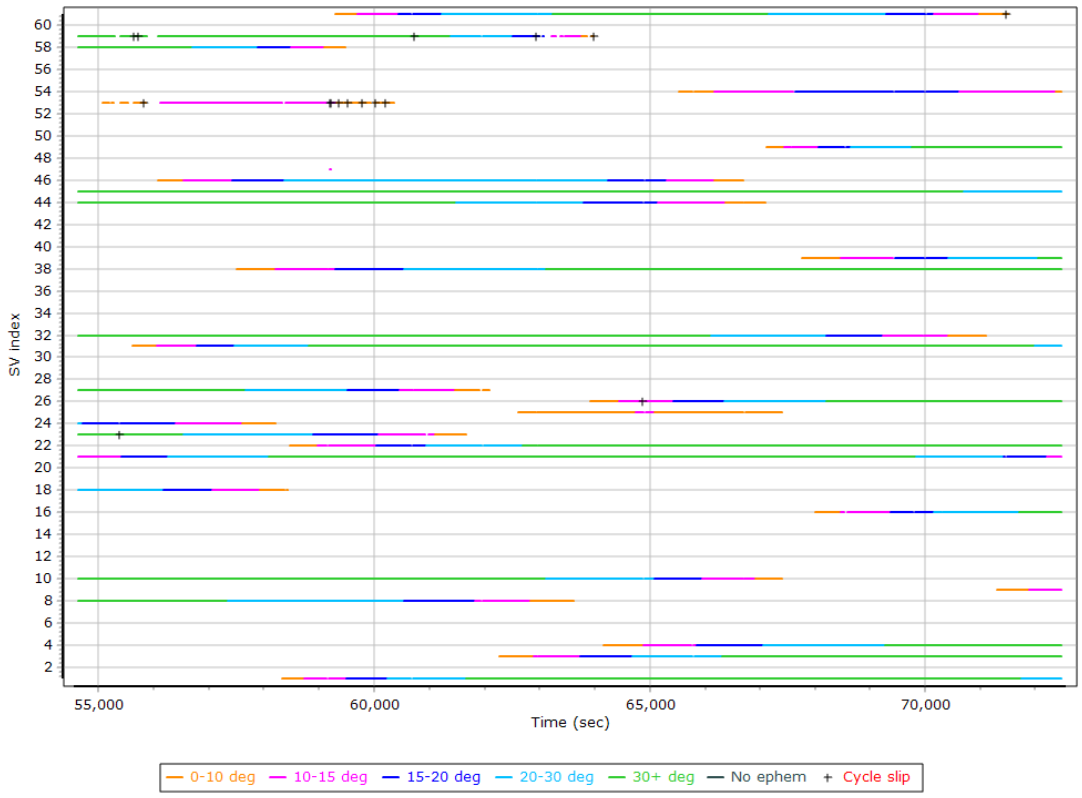
Raw IMU Import QC Summary

IMU data input file	imu_20211128_PIN_Basestation.dat
IMU data check log file	imudt_20211128_PIN_Basestation.log
IMU Records Processed	3675134
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
54112.007 : WARNING : Gap of 54096.0500 seconds in CHECKDT input data	

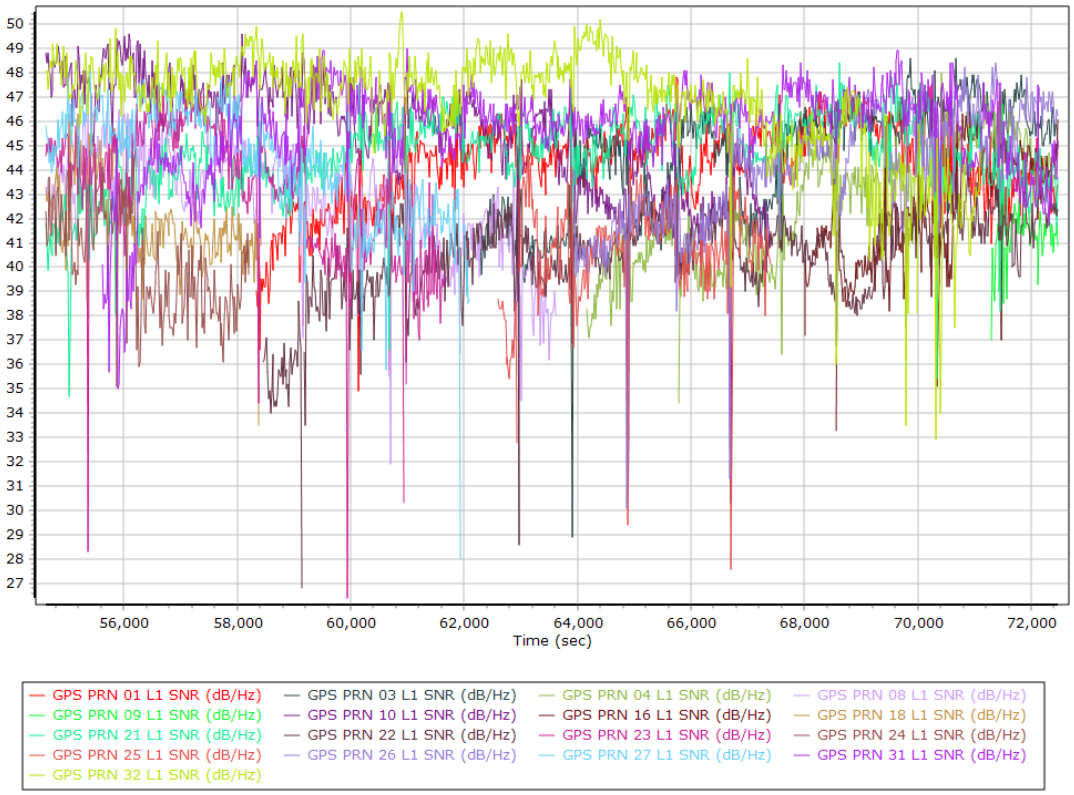
L1 Satellite Lock/Elevation



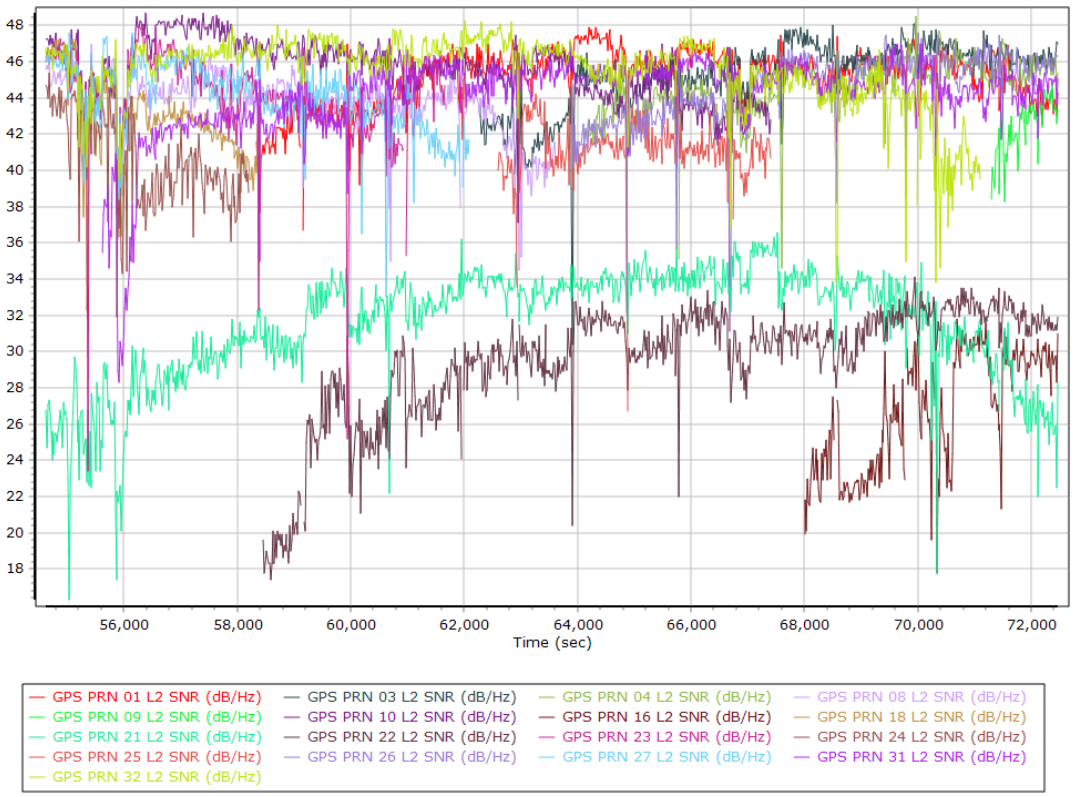
L2 Satellite Lock/Elevation



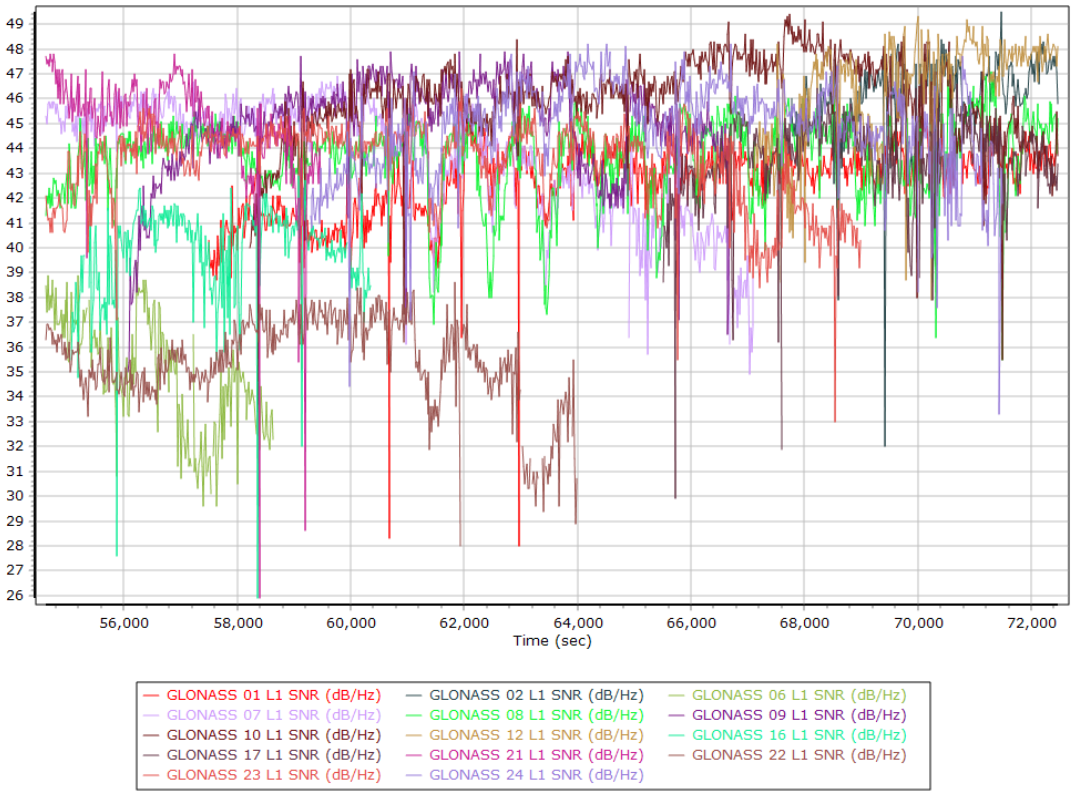
GPS L1 SNR



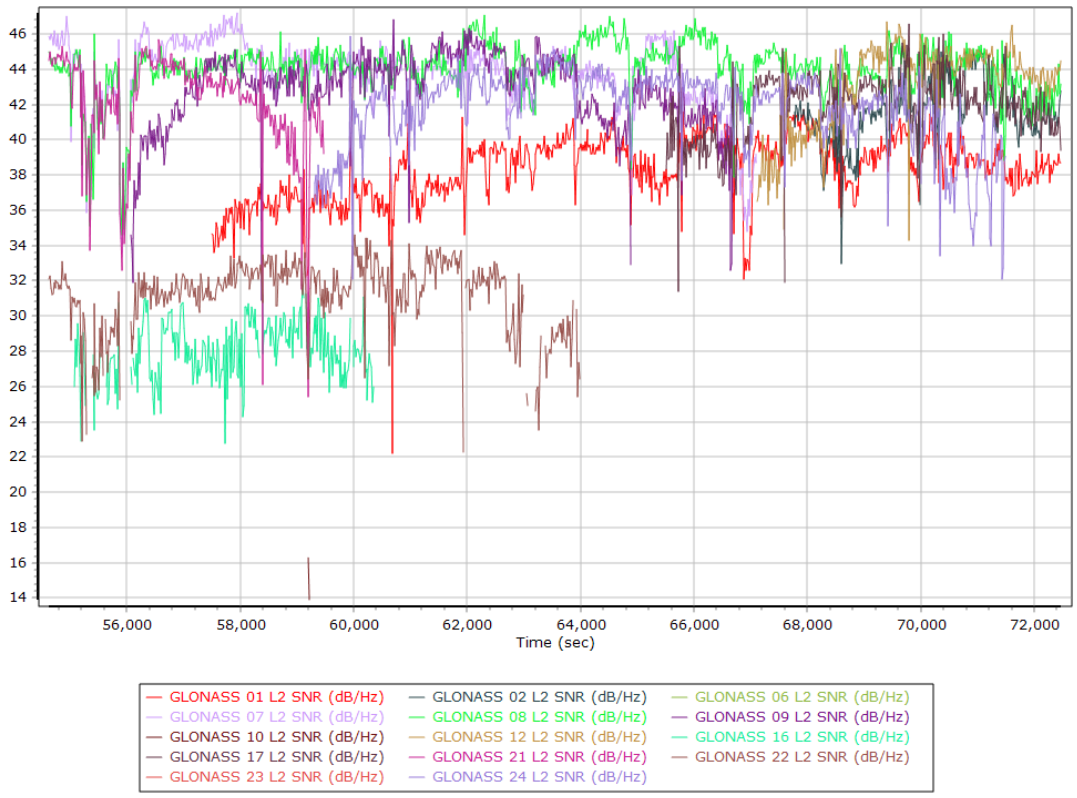
GPS L2 SNR



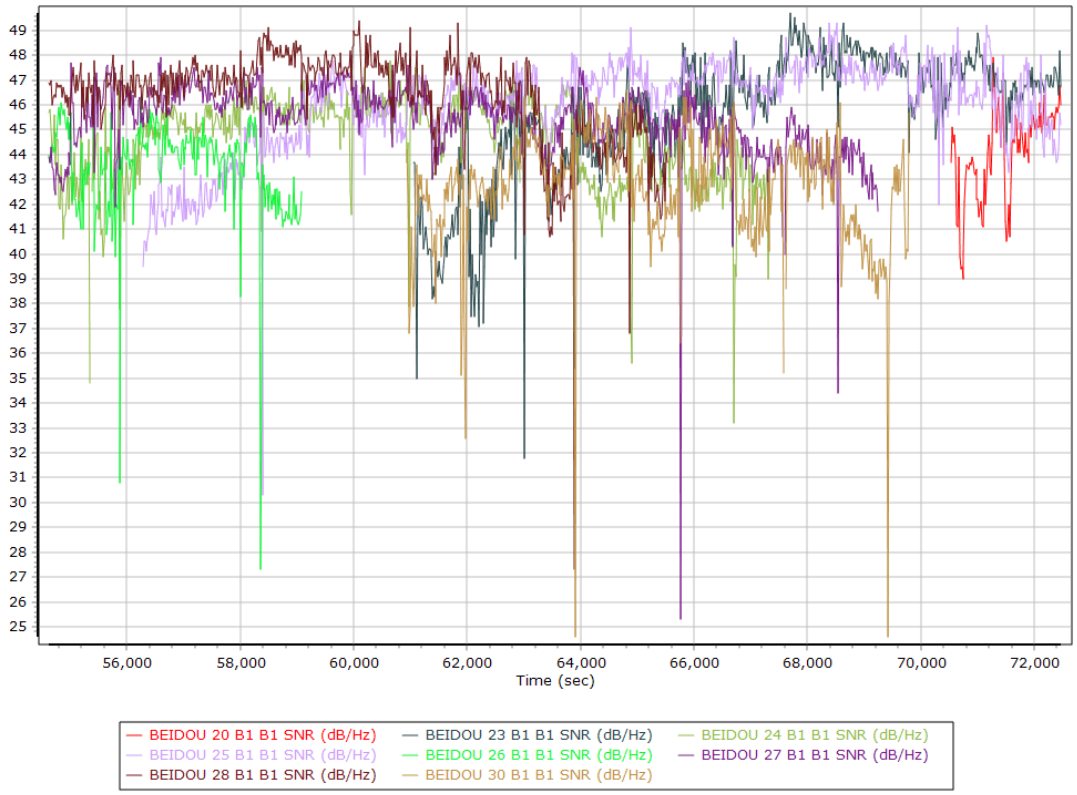
GLONASS L1 SNR



GLONASS L2 SNR

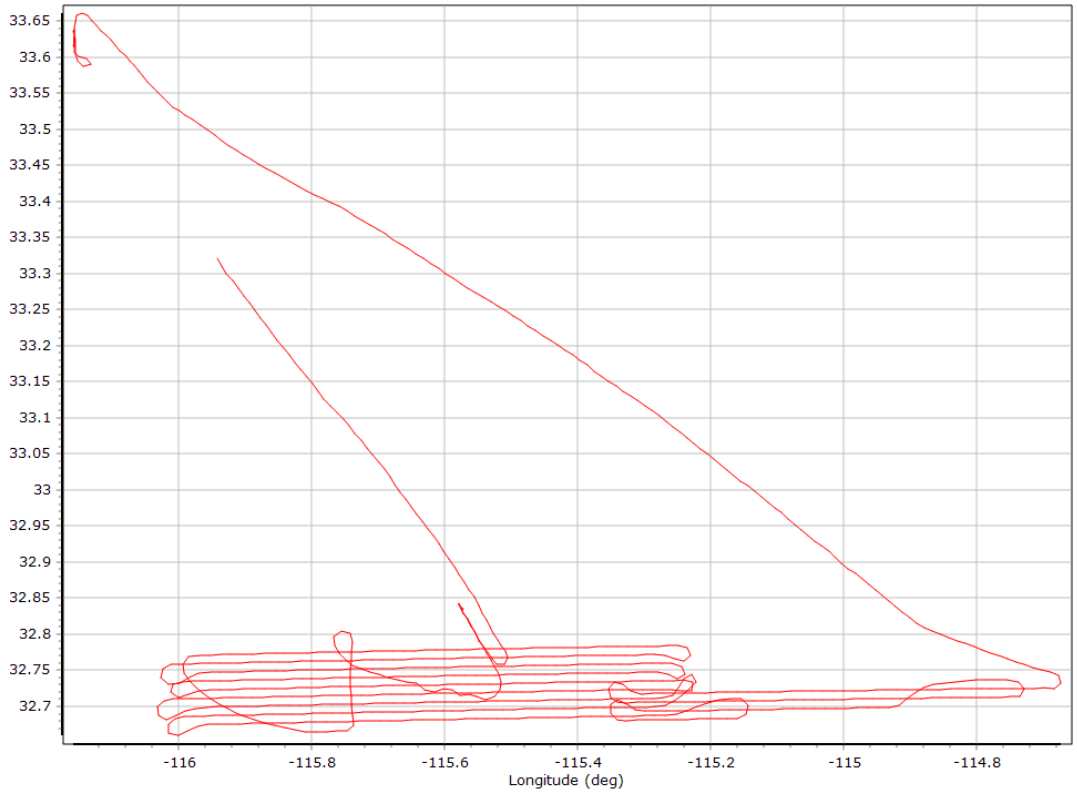


BEIDOU SNR

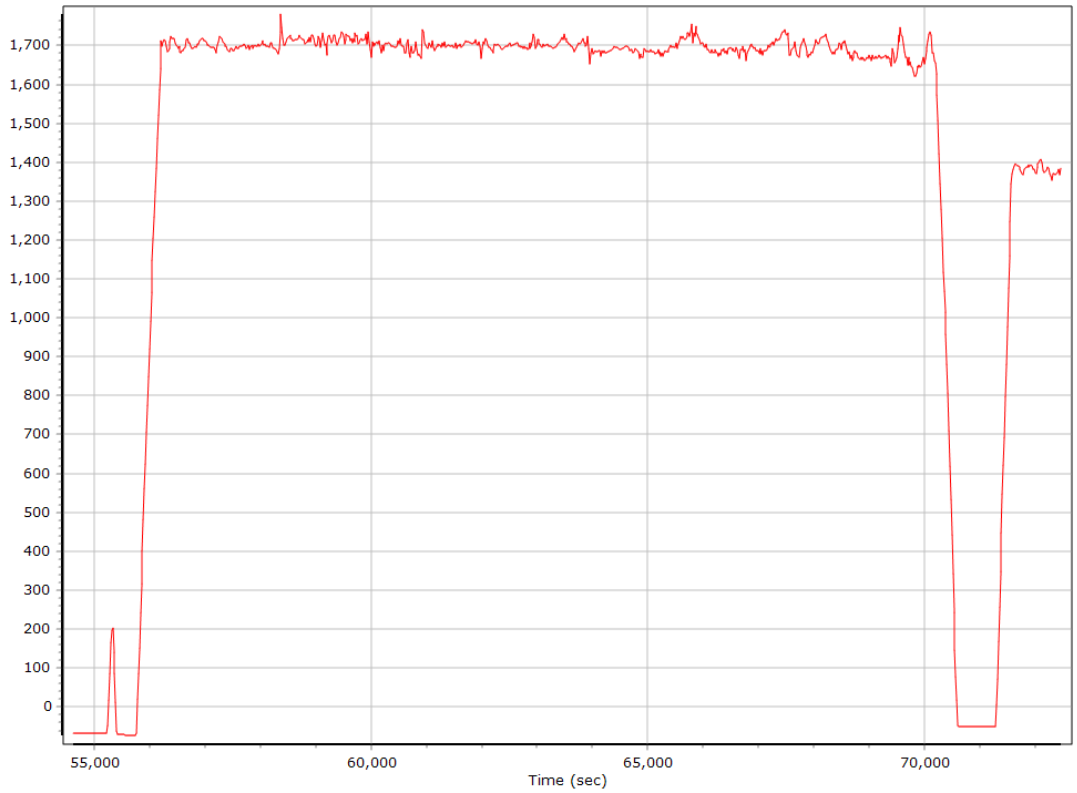


Trajectory Information

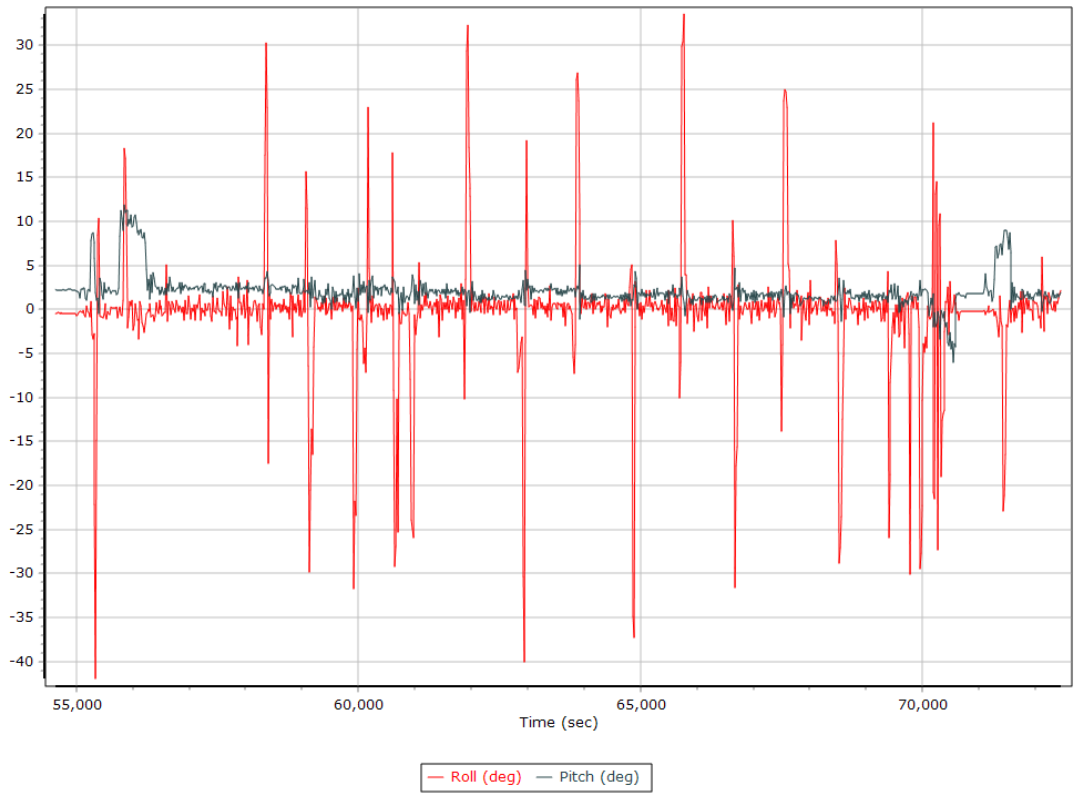
Top View



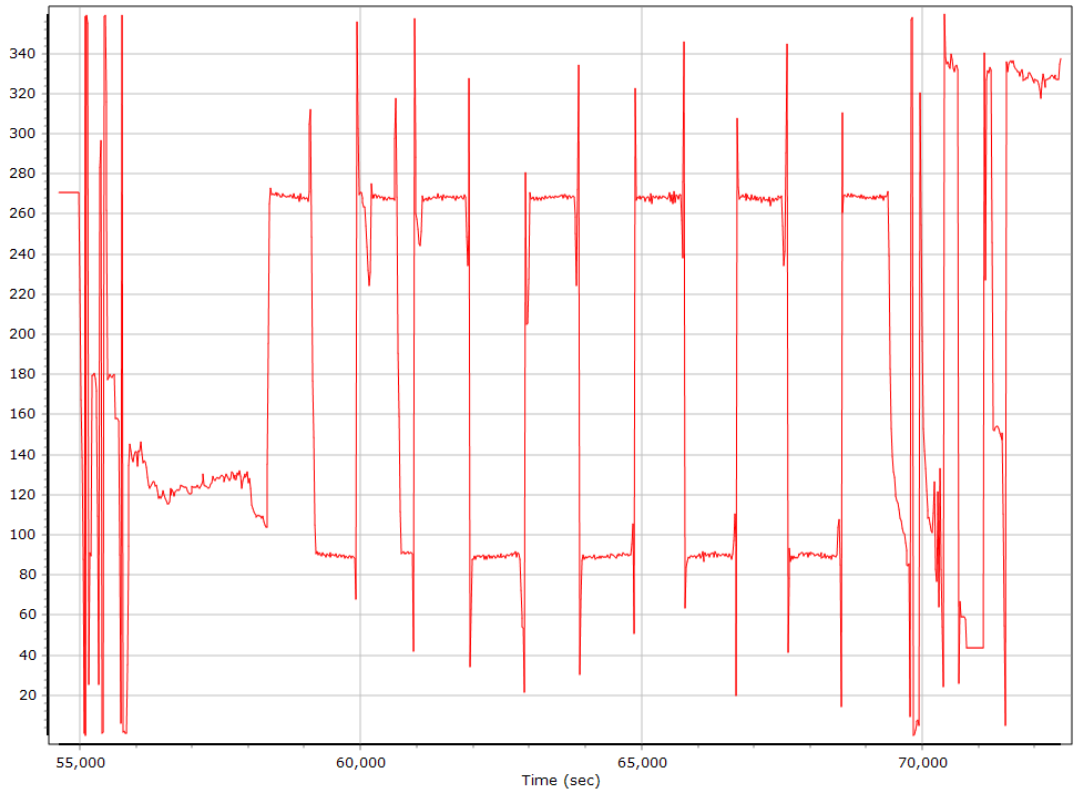
Altitude



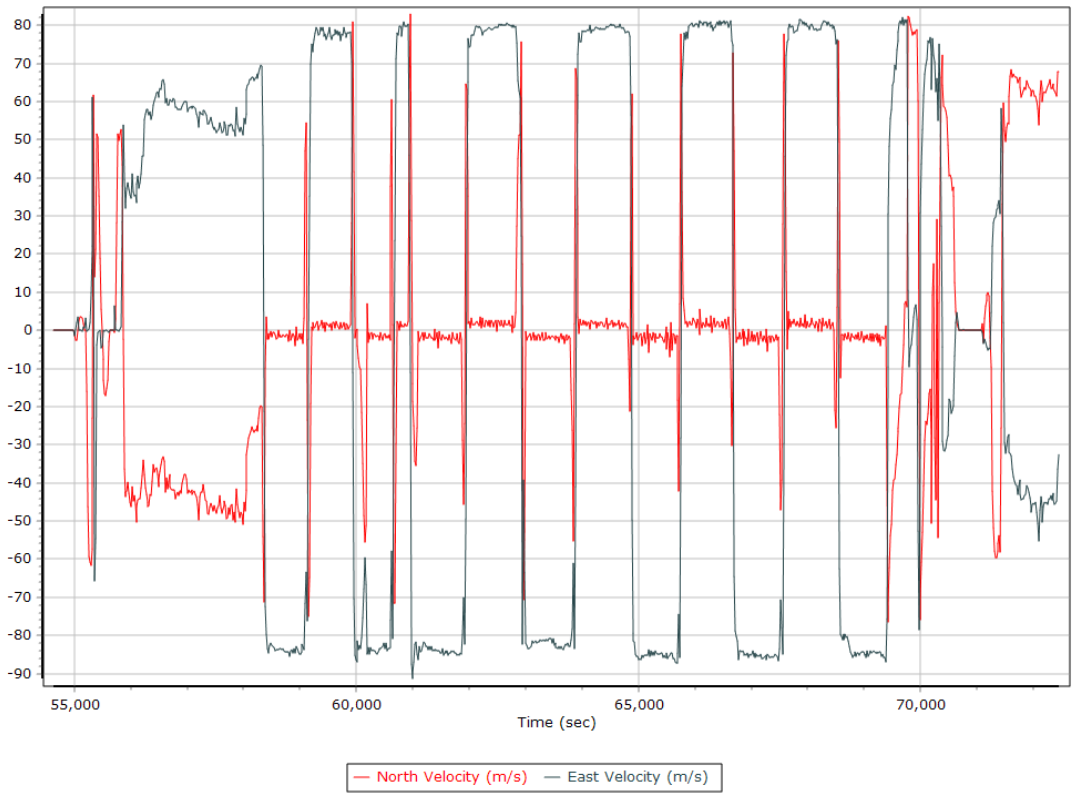
Roll/Pitch



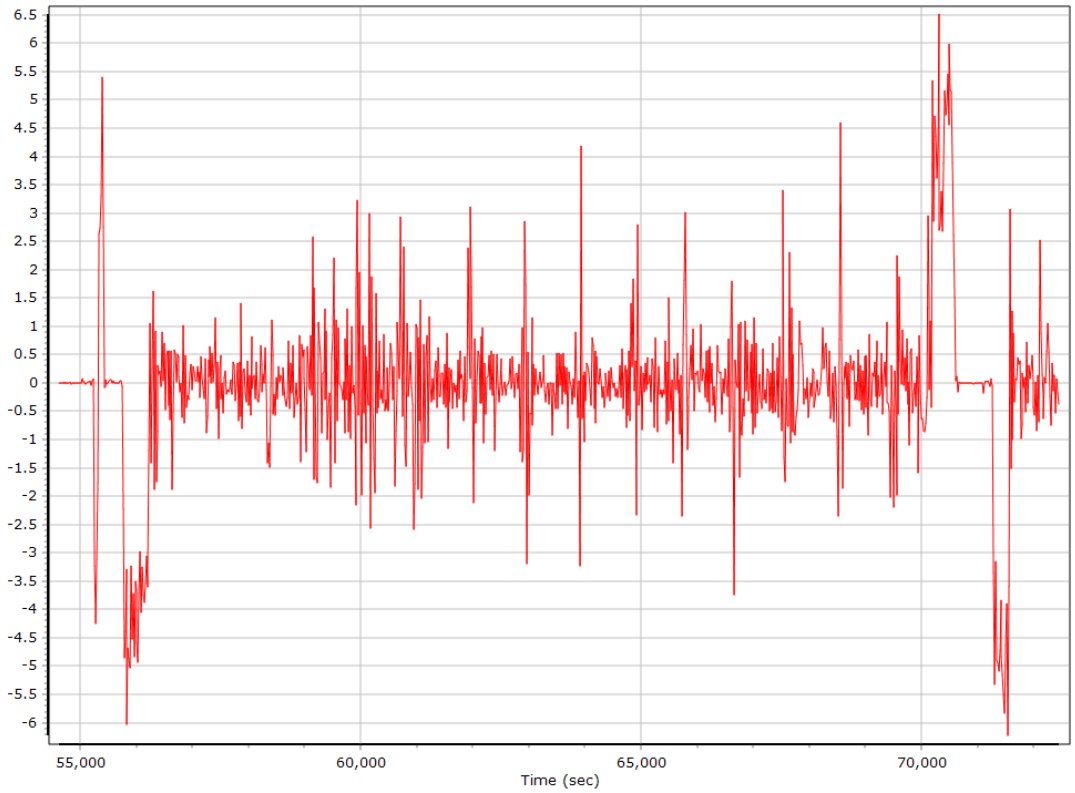
Heading



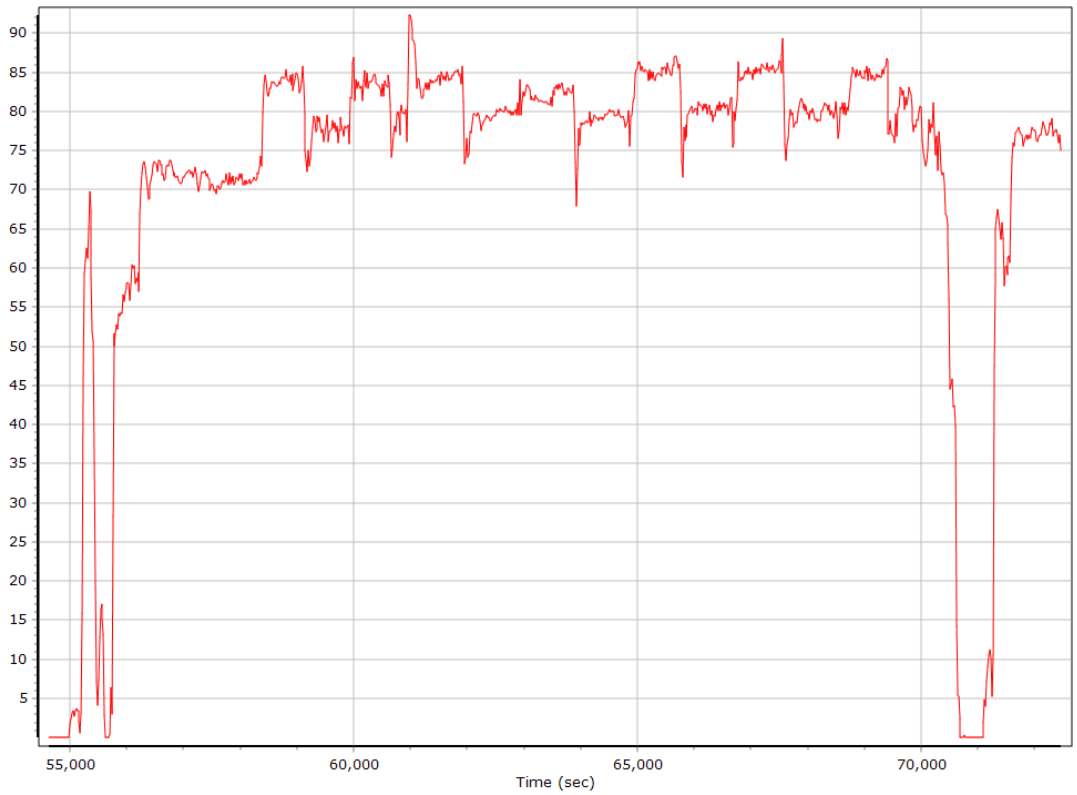
North/East Velocity



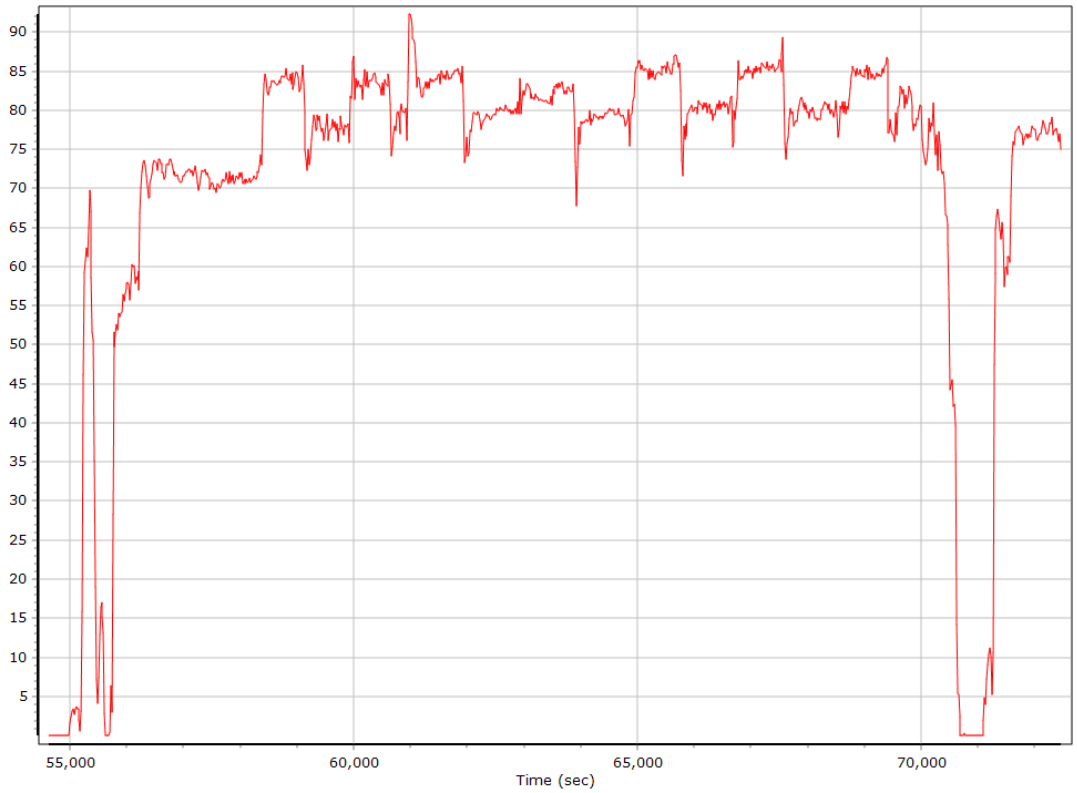
Down Velocity



Total Speed

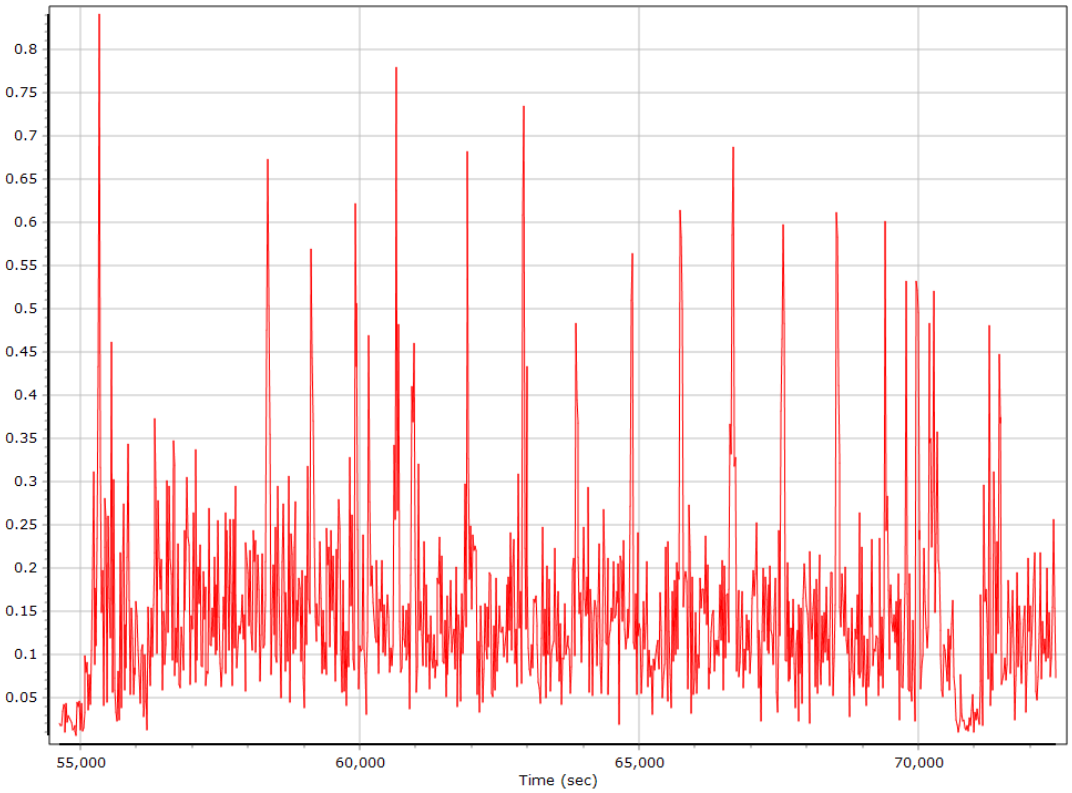


Ground Speed



Body Acceleration

Total Body Acceleration



Body Angular Rate

Base Station Information

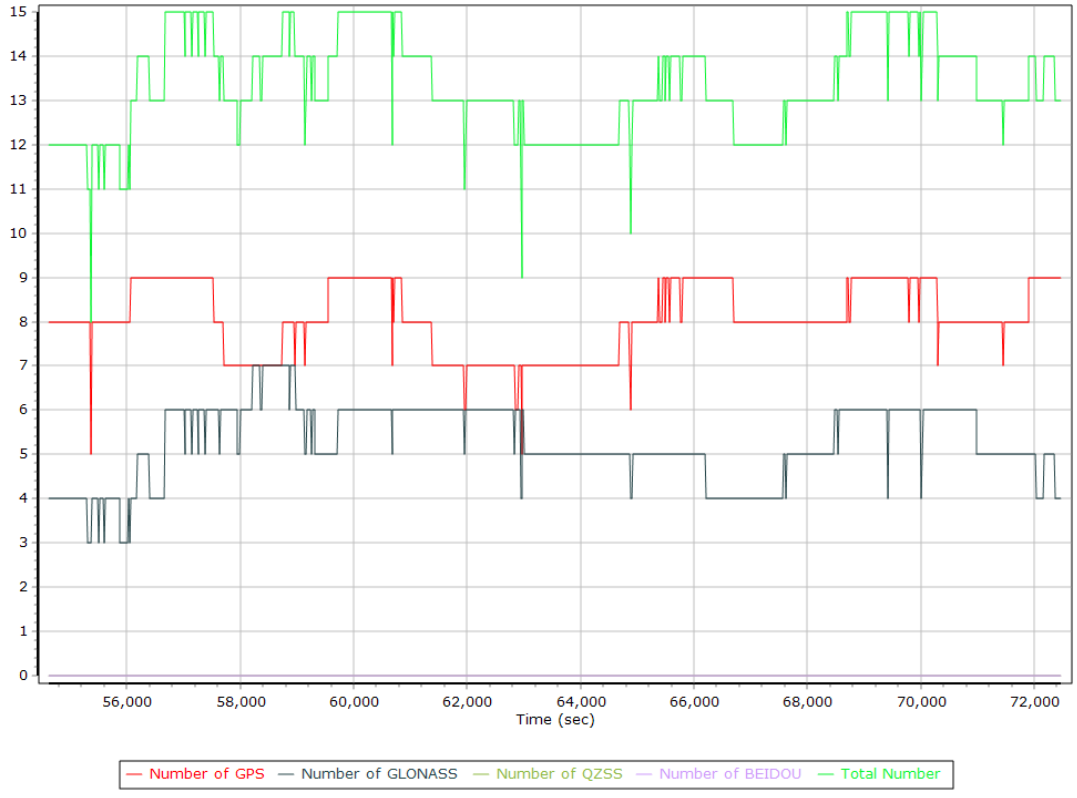
Station ID	PIN1 Pinyon 1		
Filename	pin13320.21o		
Start date	11/28/2021 00:00:00		
End date	11/28/2021 23:59:59		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Topcon	NET-G3A	618-01134
Antenna manufacturer, model	Ashtech	701945B_M w/SCIS Dome	
Antenna height [m]	1.745		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC [m]	0.11		
Latitude	N33°36'43.75399"		
Longitude	W116°27'29.33492"		
Ellipsoidal height [m]	1256.92500		
Frame	NAD83_2011		
Epoch	2010		
Ellipsoid	GRS_1980		
Velocity North [mm/y]	36.73		
Velocity East [mm/y]	-29.85		
Velocity Up [mm/y]	-1.09		

GNSS QC

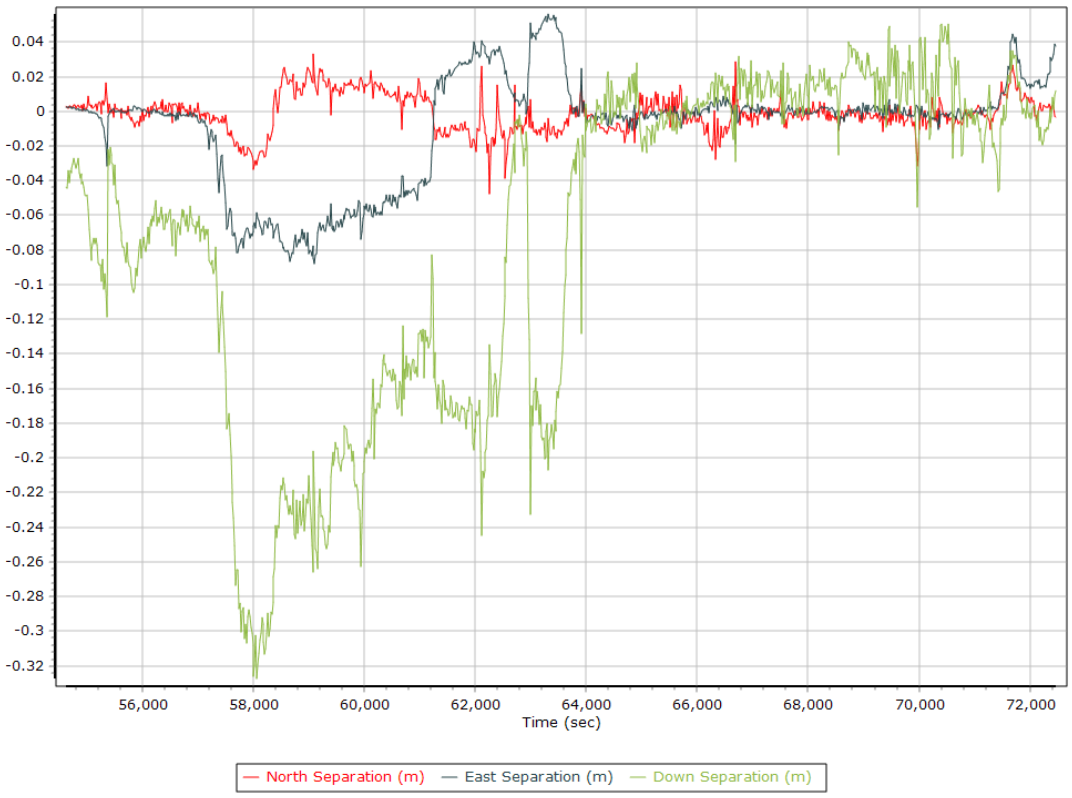
GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length [km]	27.88	193.08	
Number of GPS SV	5	9	8
Number of GLONASS SV	3	7	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Total number of SV	8	15	13
PDOP	1.25	3.48	1.65
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (s)	18365.00	0.00	0.00
Percentage	100.00	0.00	0.00

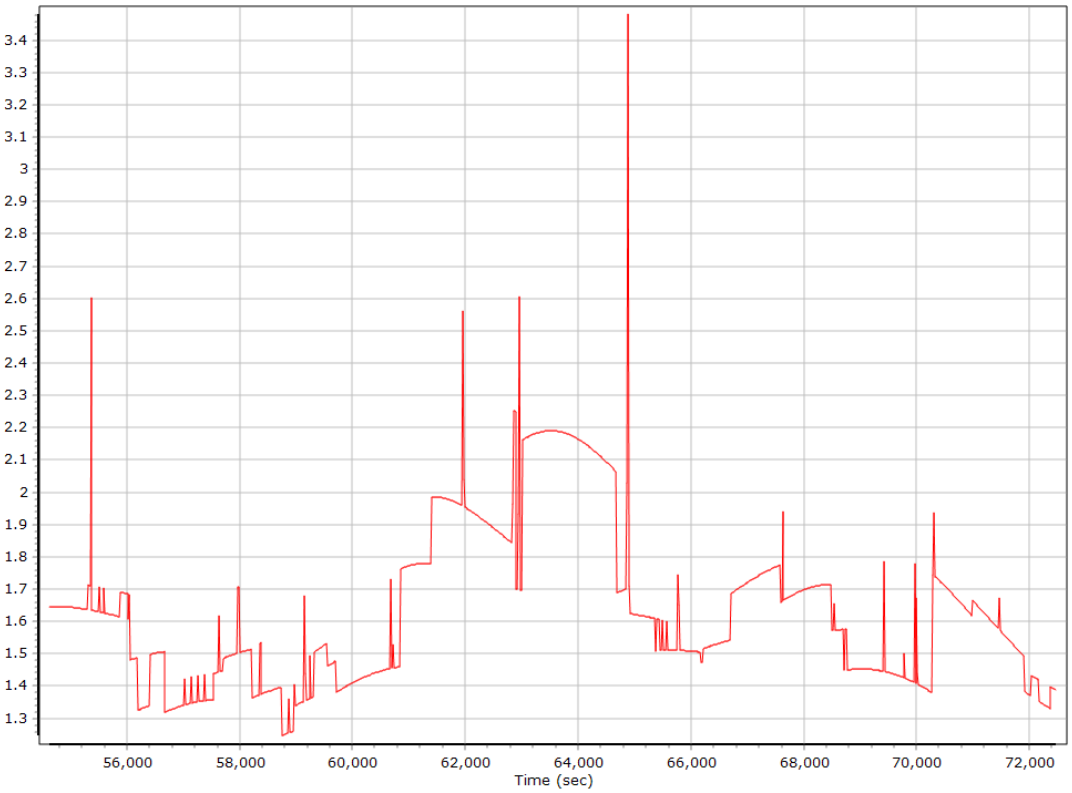
Num SVs in solution



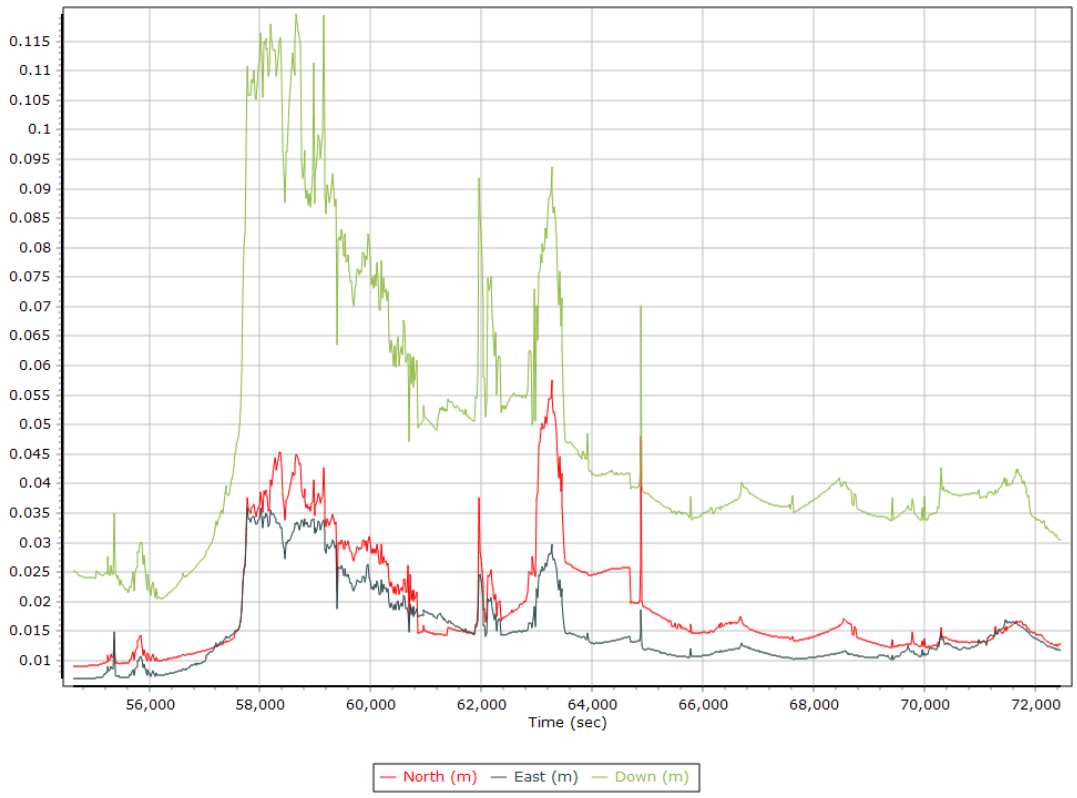
Forward/Reverse Separation



PDOP



Estimated Position Accuracy



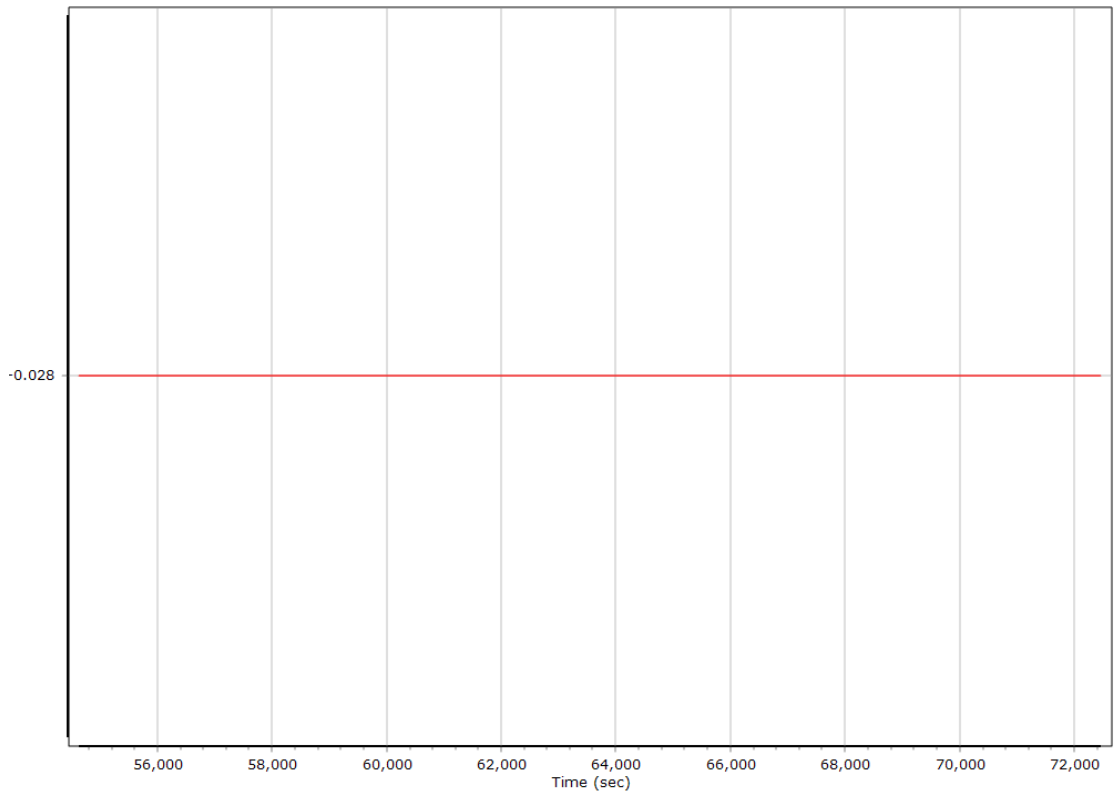
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion Single Base		
Stabilized mount	False		
Base station	PIN1 Pinyon 1		
Processing start time	54097.000 (11/28/2021 15:01:37)		
Processing end time	72476.000 (11/28/2021 20:07:56)		
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	0.000
Reference to Primary GNSS lever arm [m]	-0.028	-0.054	-0.948
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

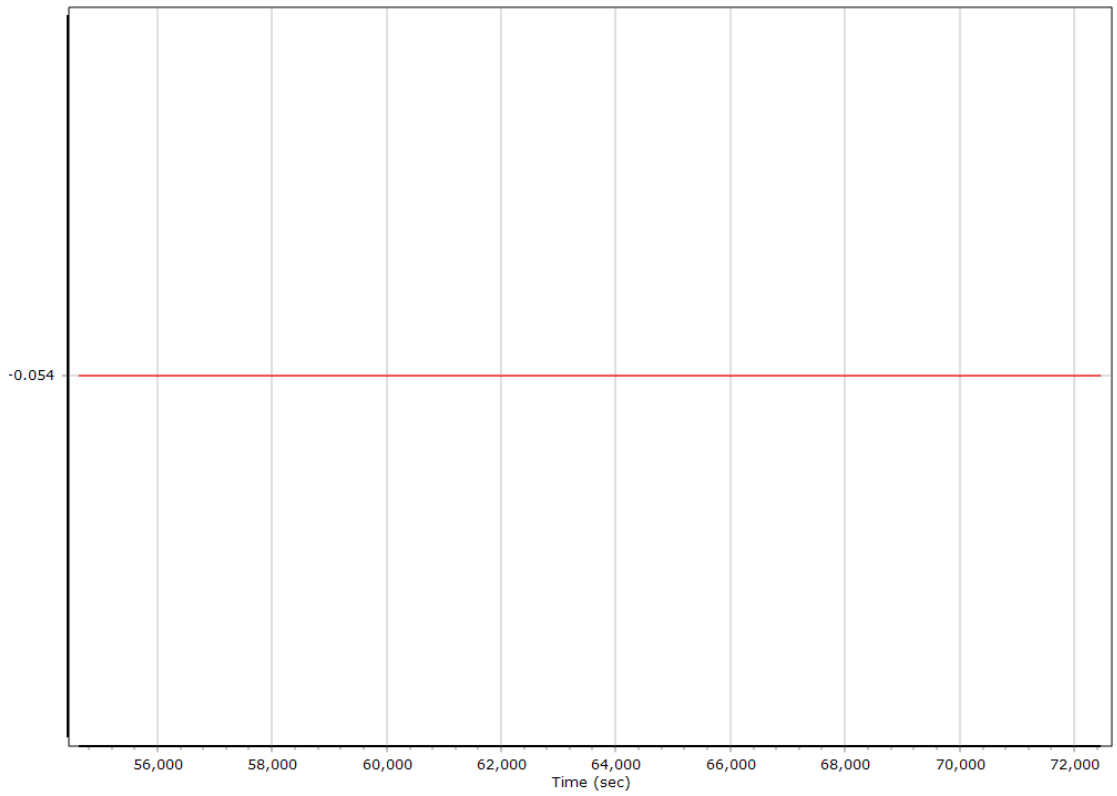
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm

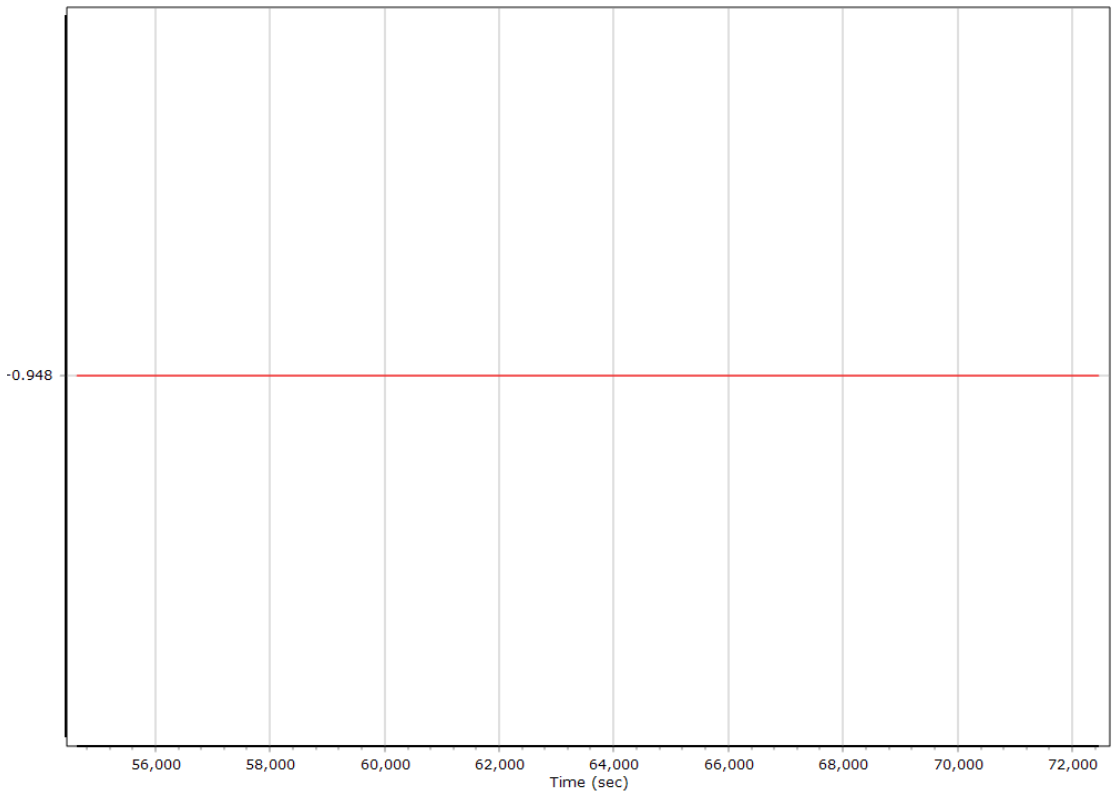
X Reference-Primary GNSS Lever Arm (m)



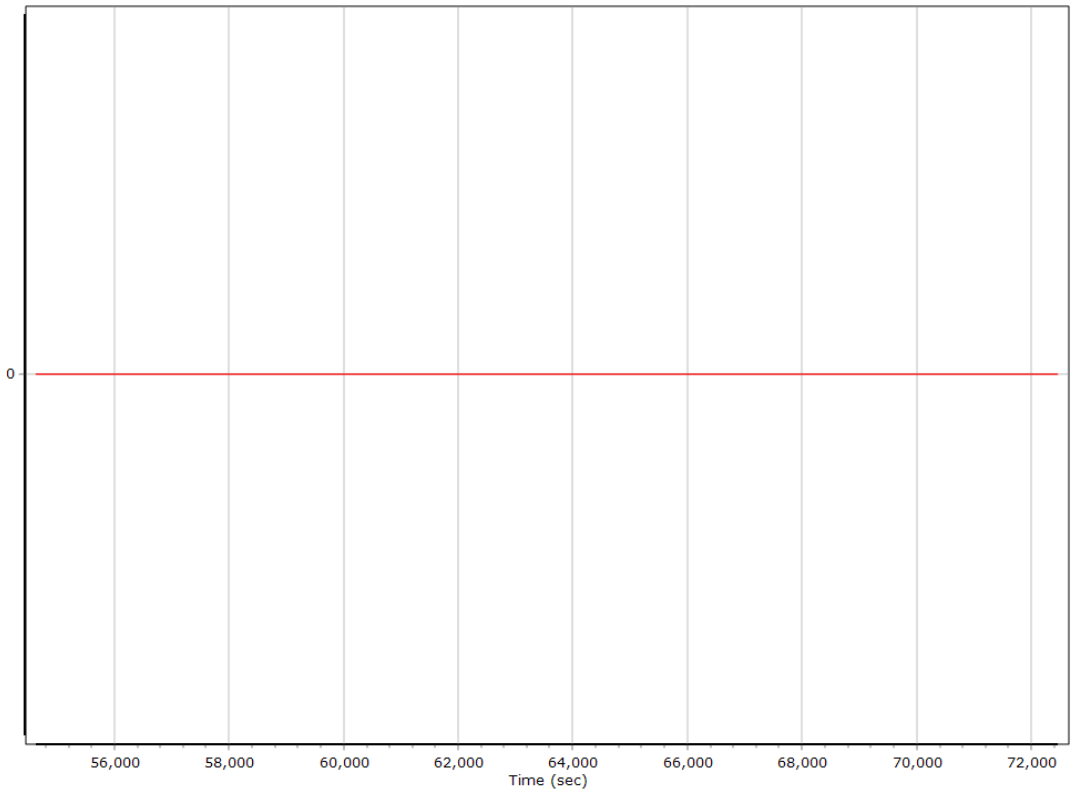
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



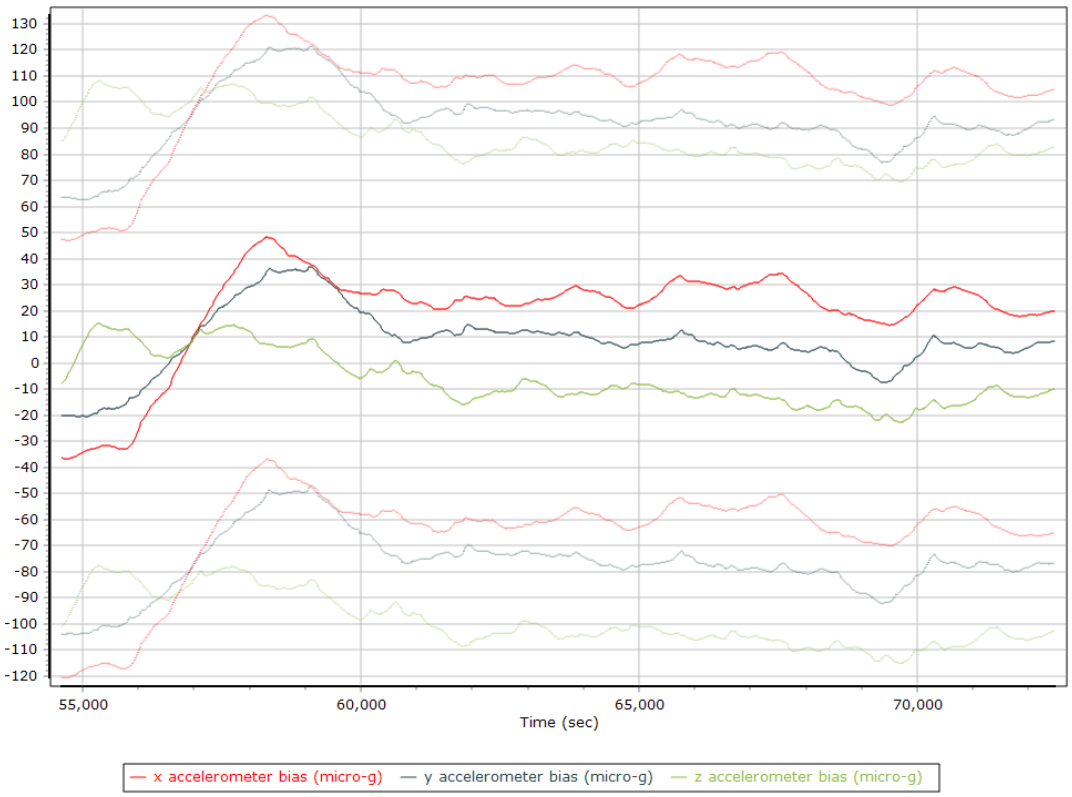
Reference-Primary GNSS Lever Arm Figure of Merit



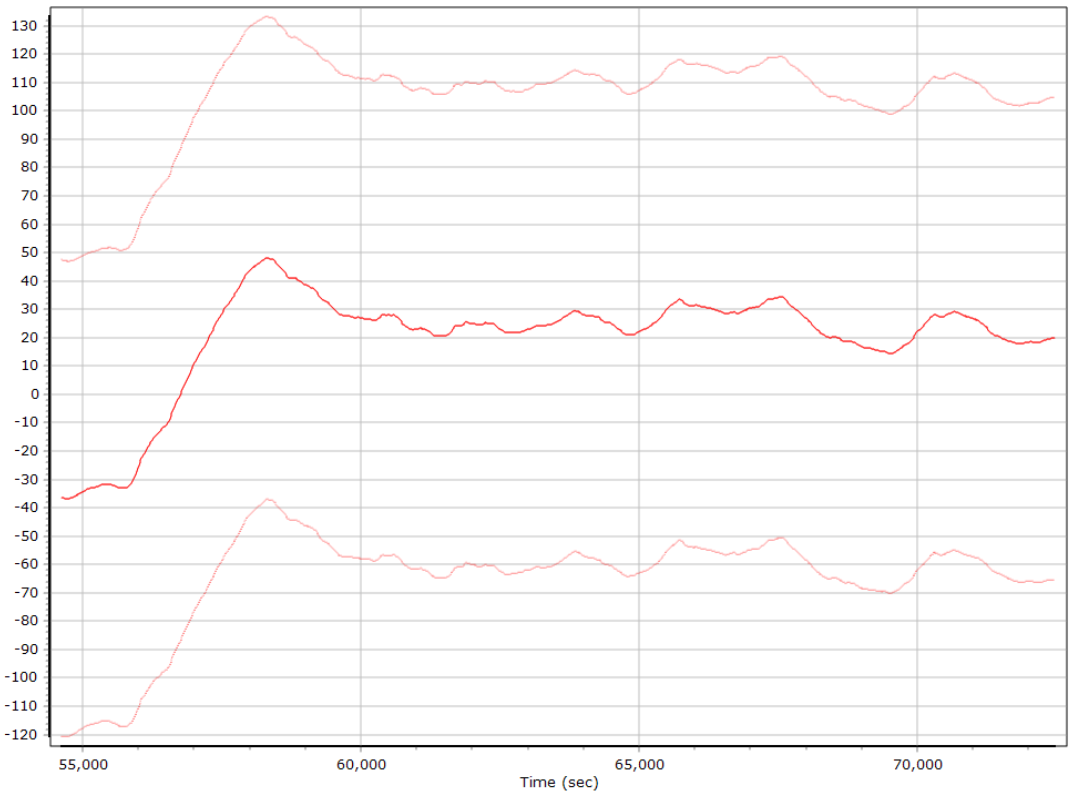
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

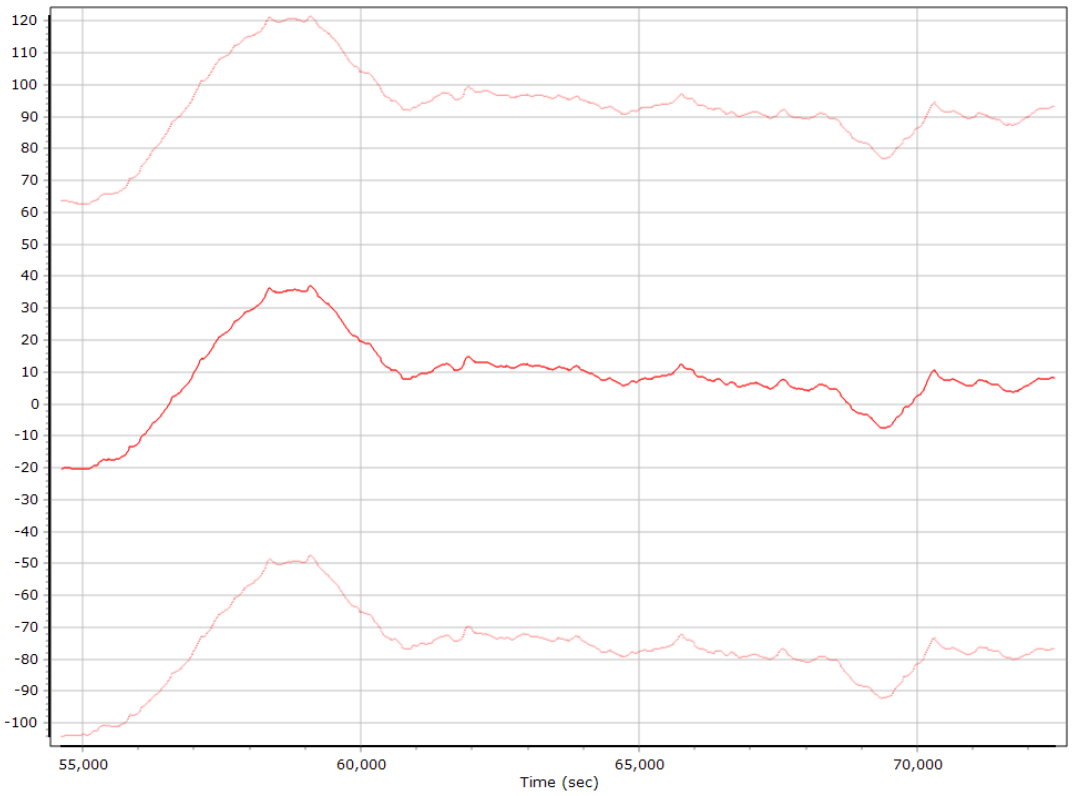
Accelerometer Bias (micro-g)



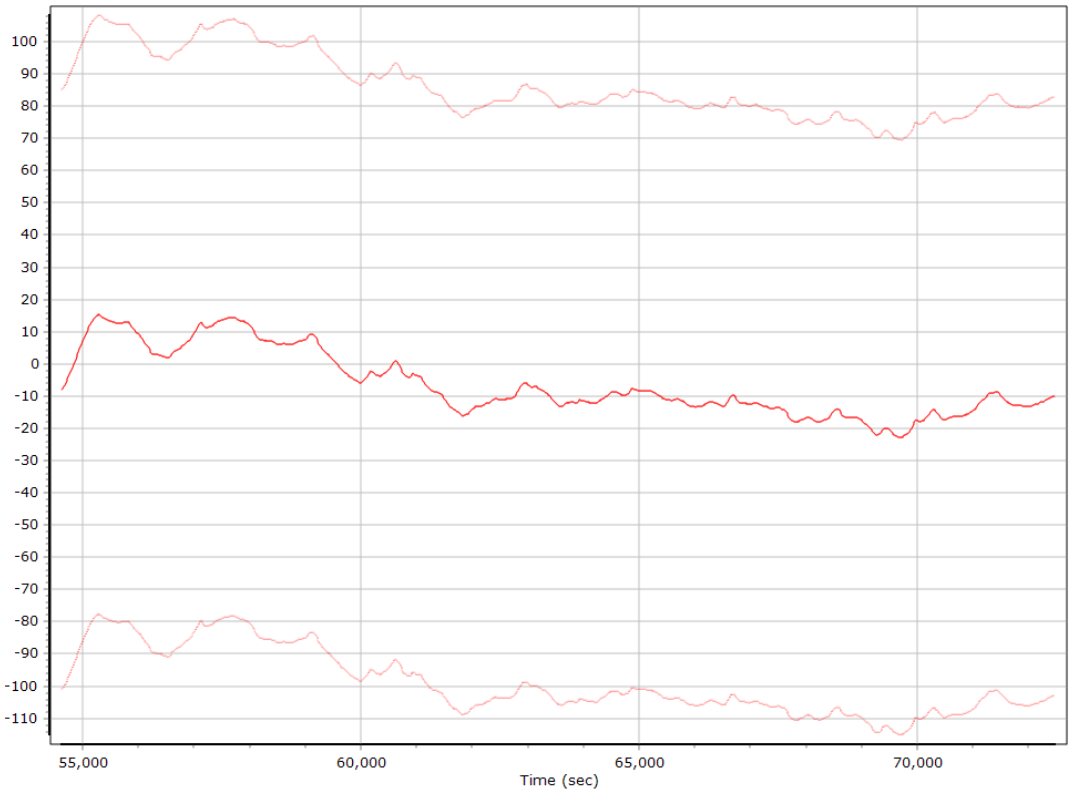
X Accelerometer Bias (micro-g)



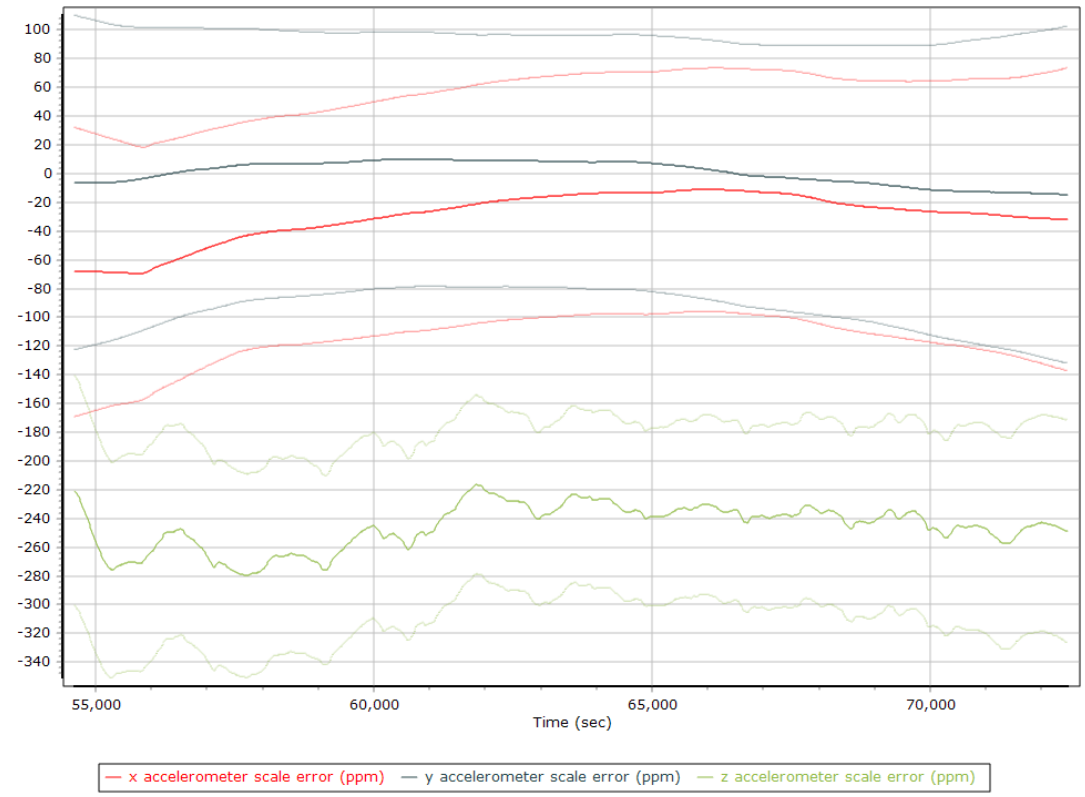
Y Accelerometer Bias (micro-g)



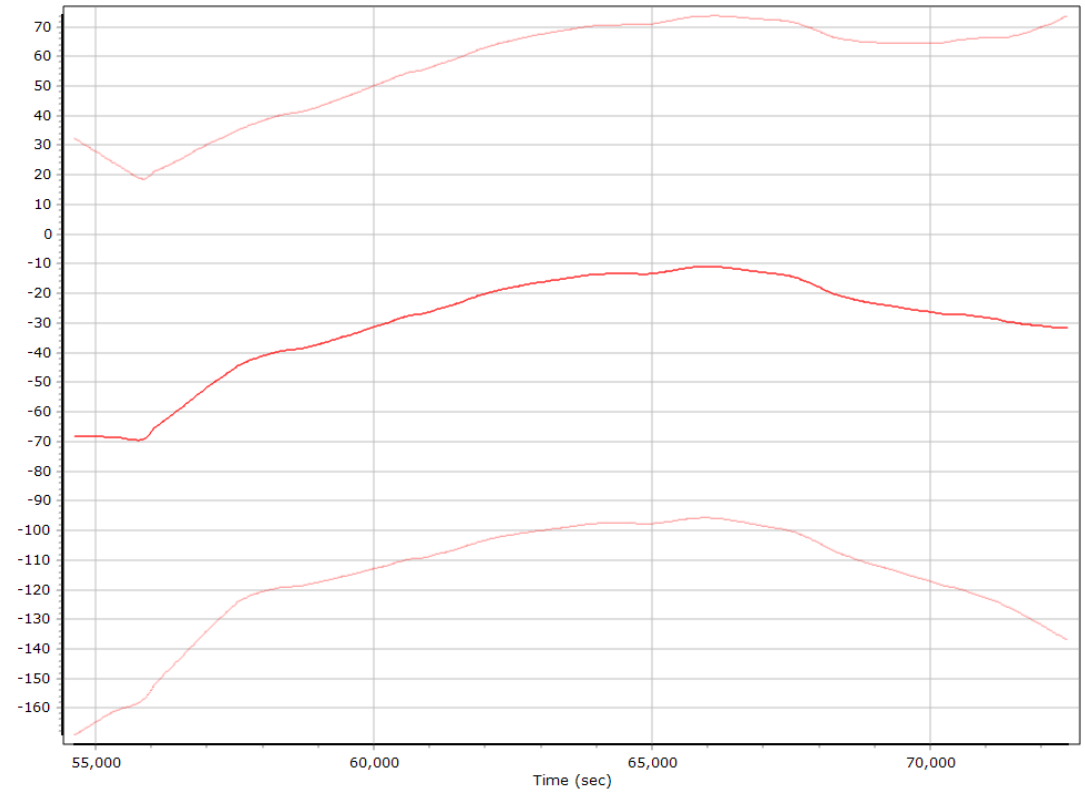
Z Accelerometer Bias (micro-g)



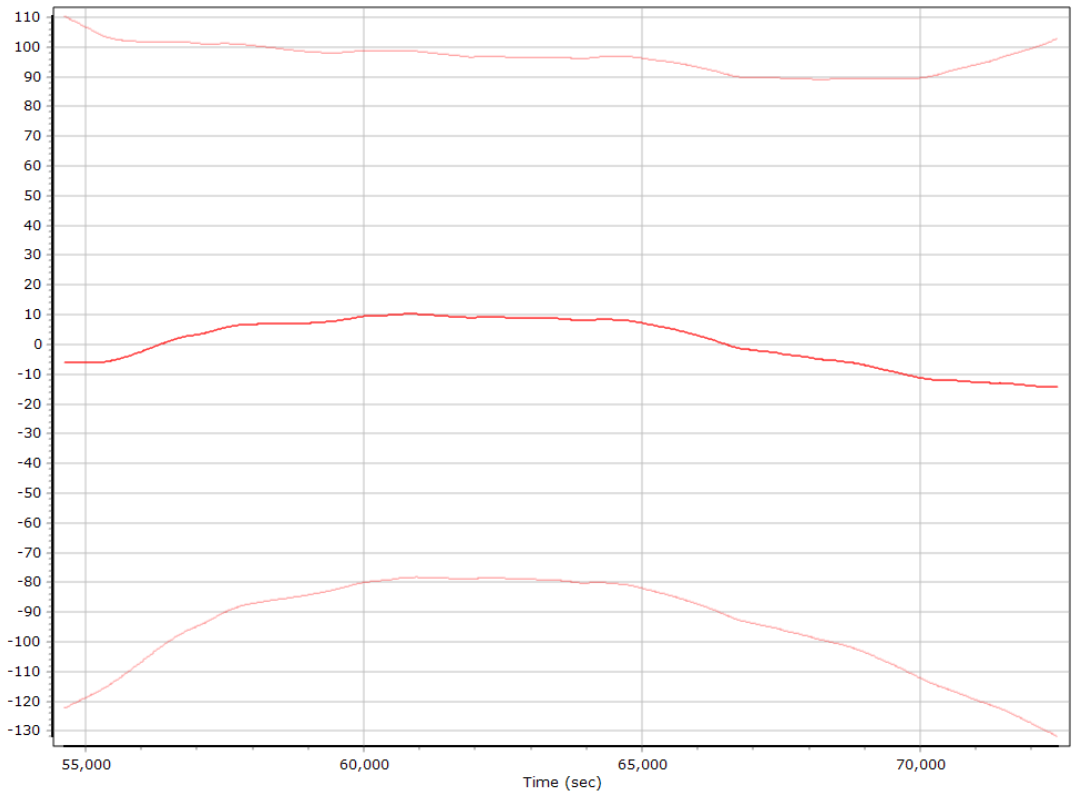
Accelerometer Scale Error (ppm)



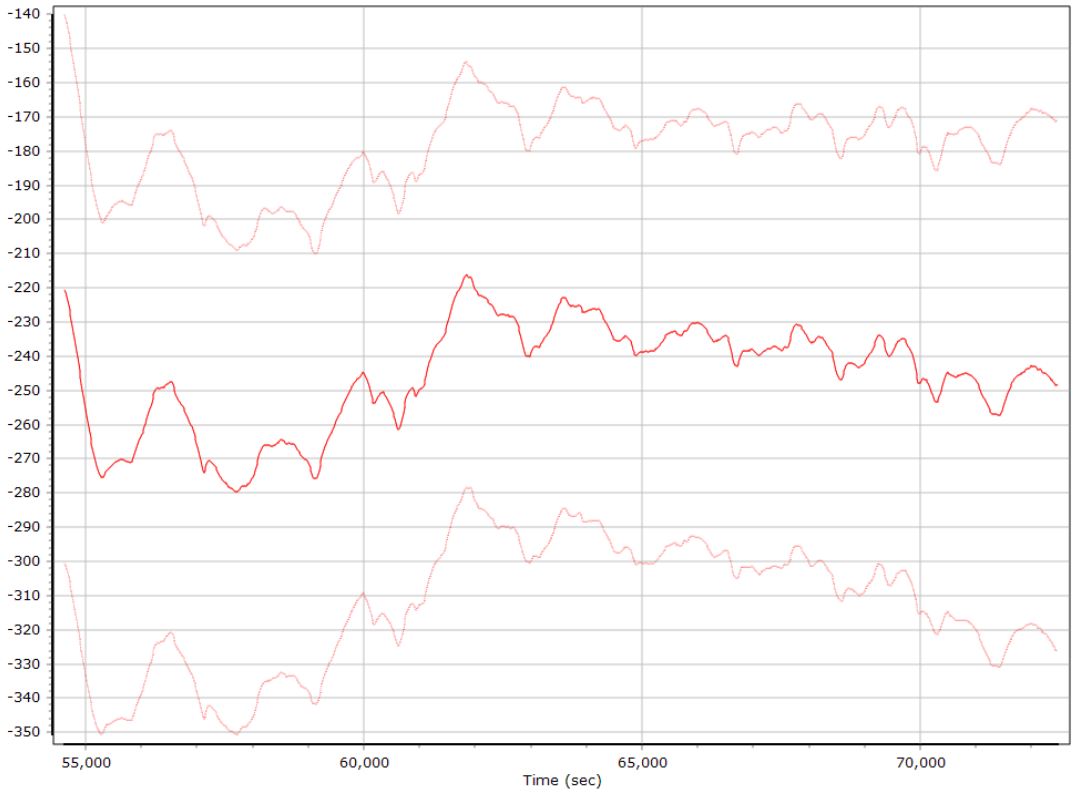
X Accelerometer Scale Error (ppm)



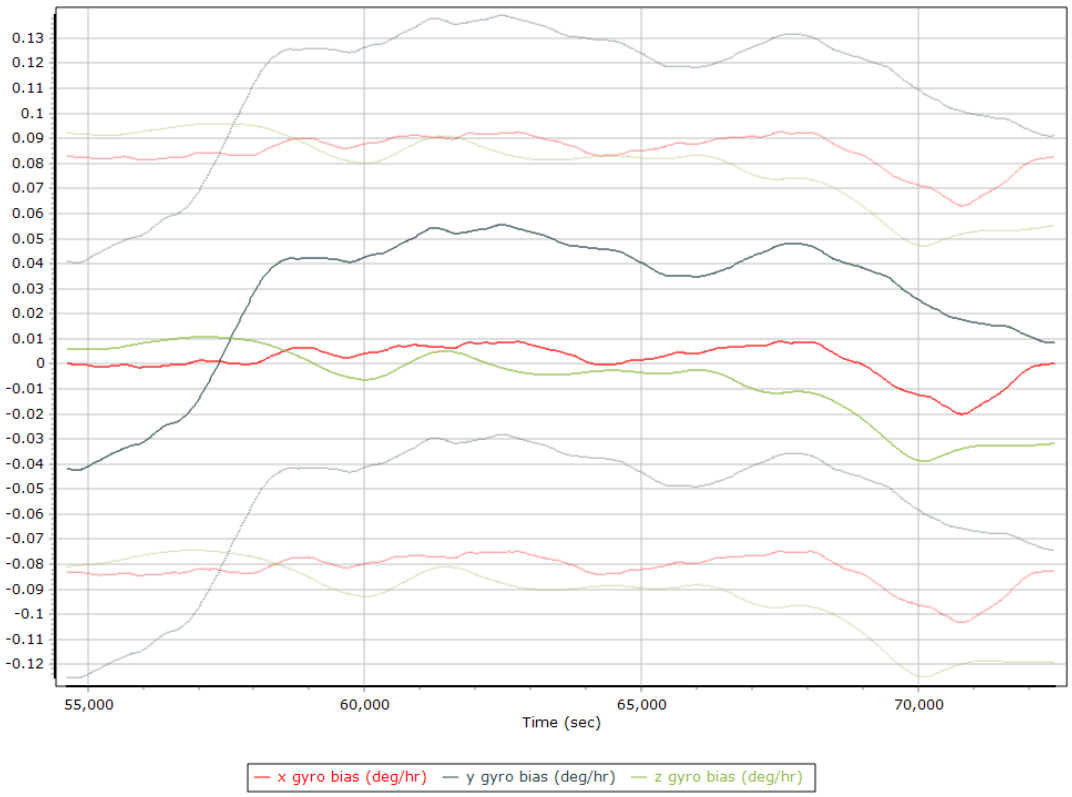
Y Accelerometer Scale Error (ppm)



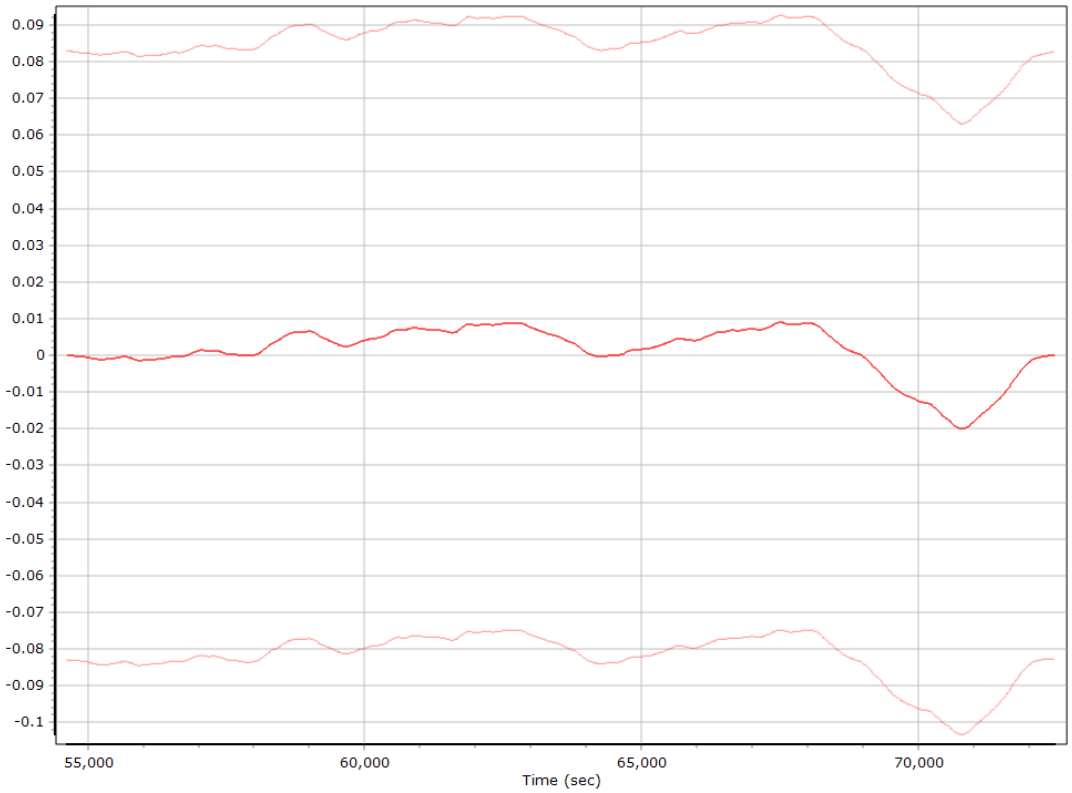
Z Accelerometer Scale Error (ppm)



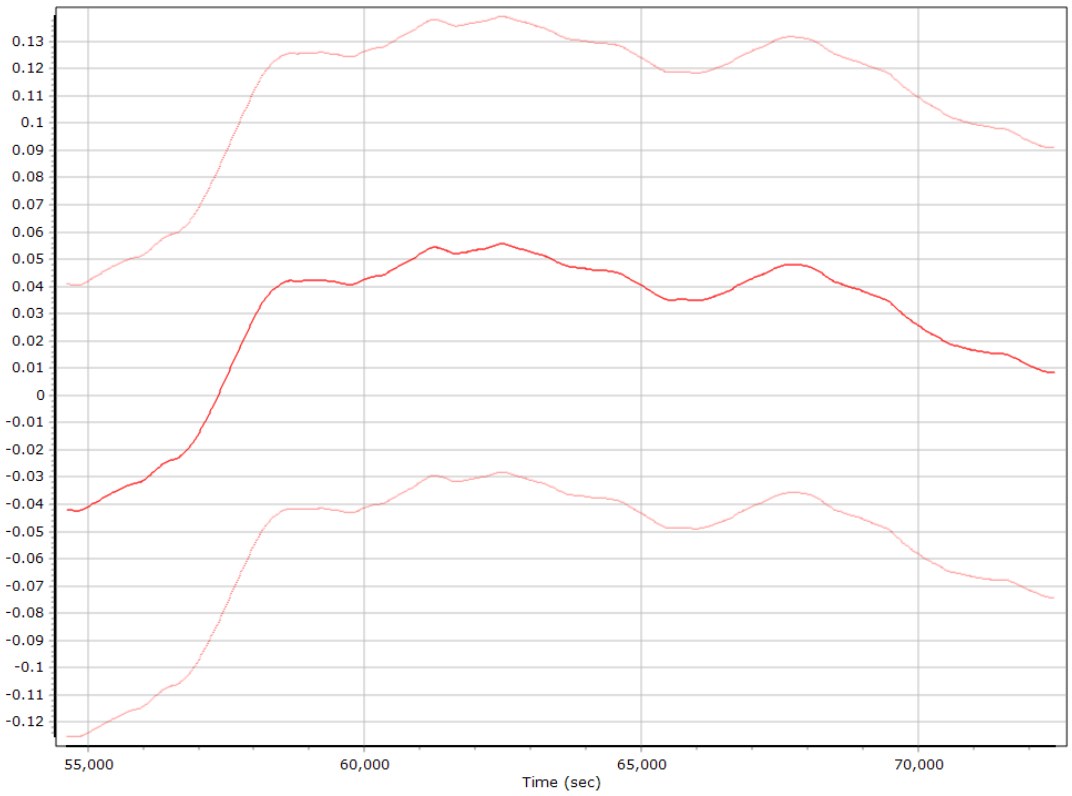
Gyro Bias (deg/h)



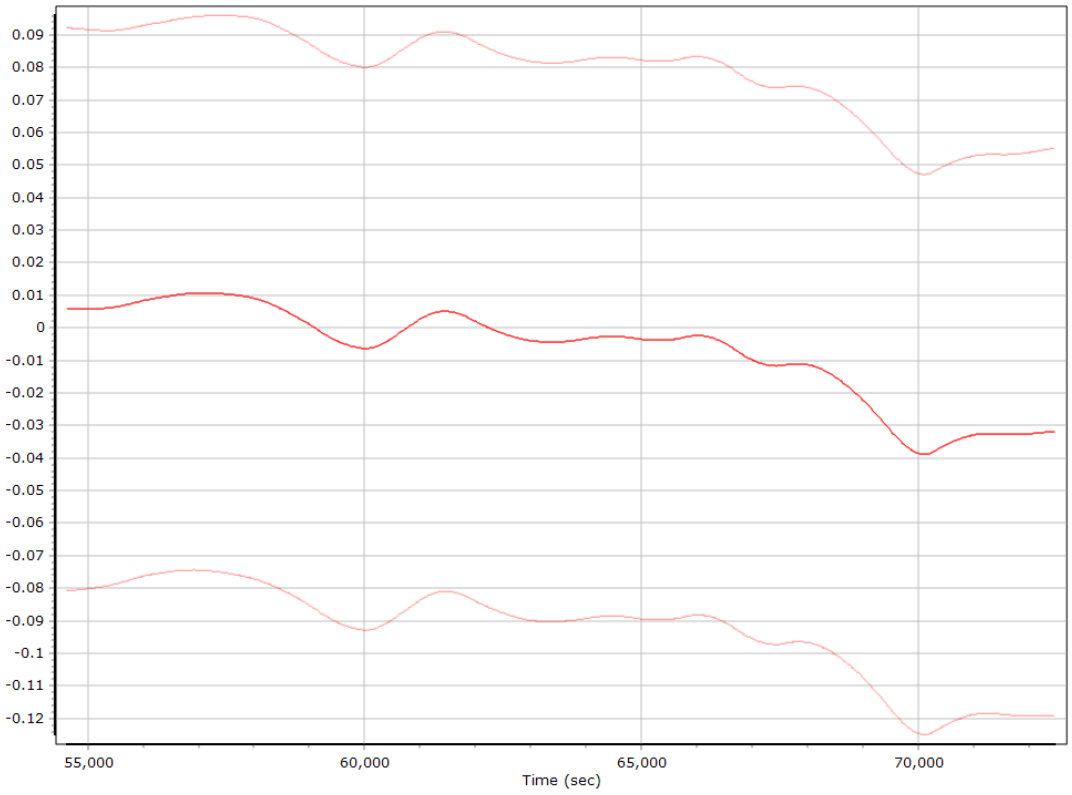
X Gyro Bias (deg/h)



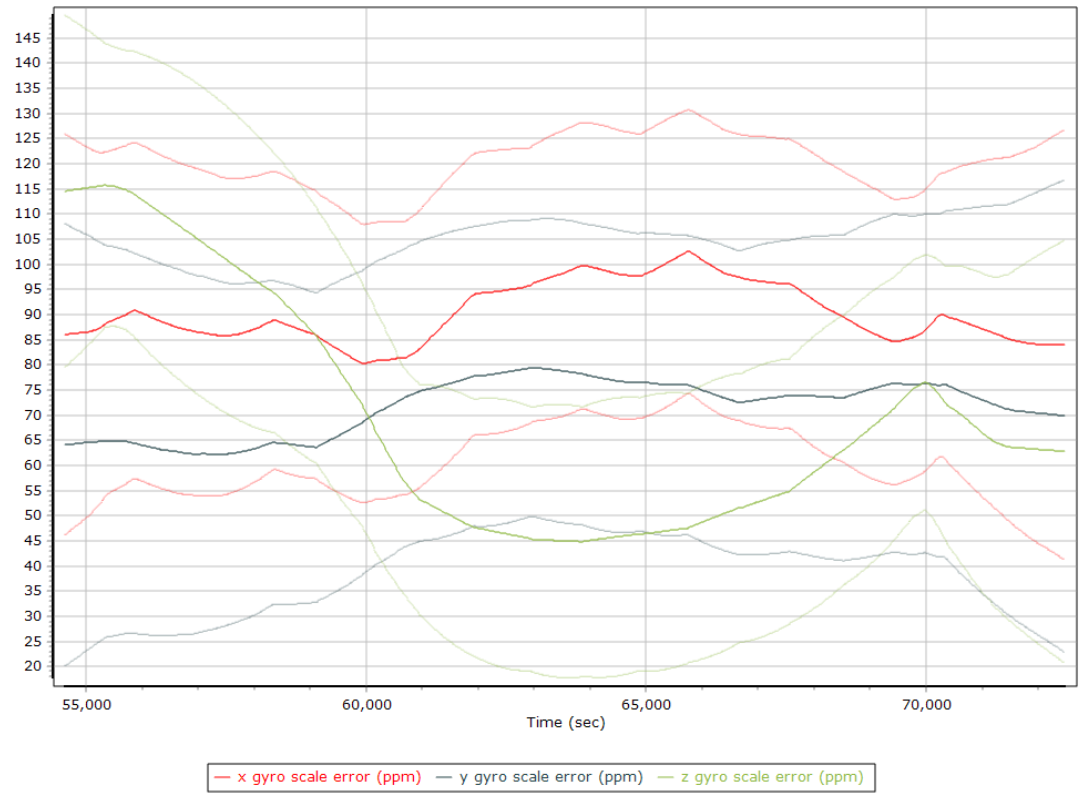
Y Gyro Bias (deg/h)



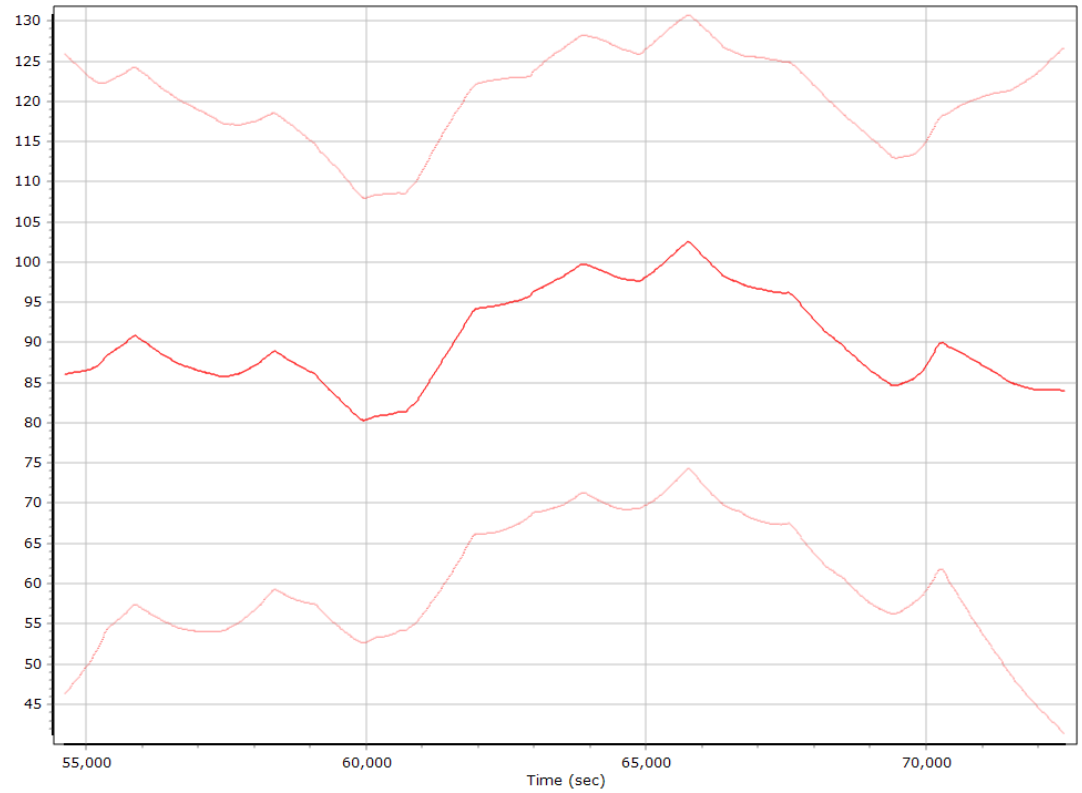
Z Gyro Bias (deg/h)



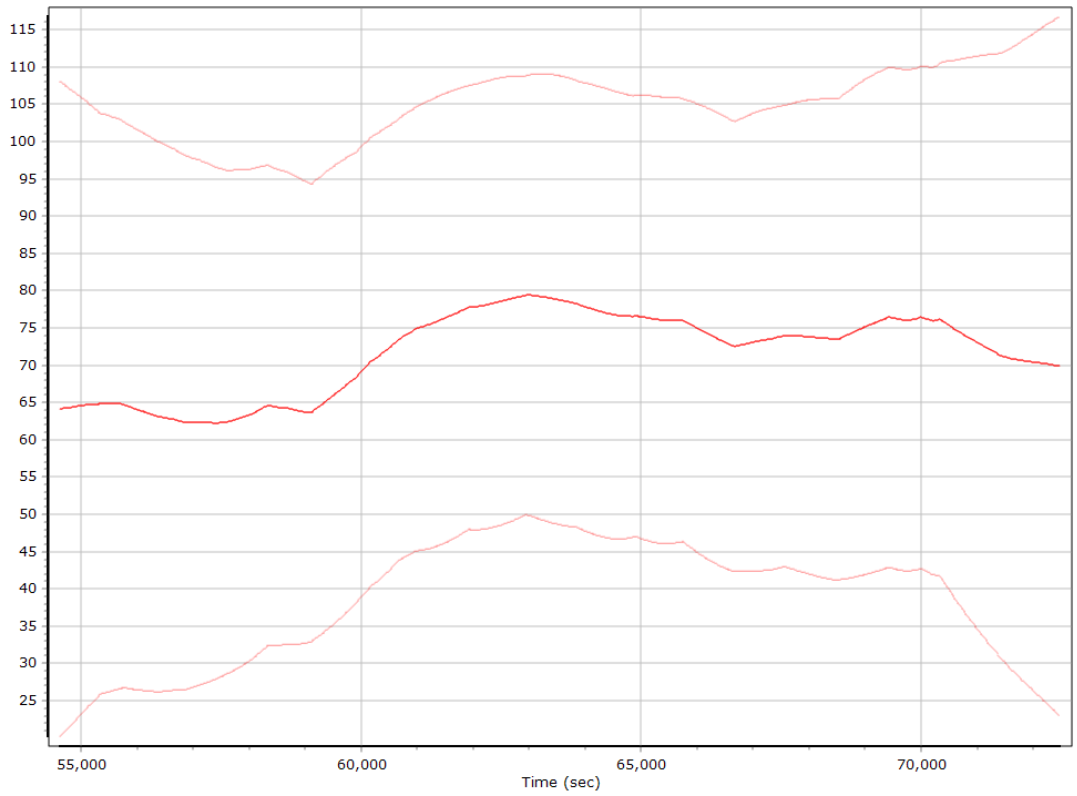
Gyro Scale Error (ppm)



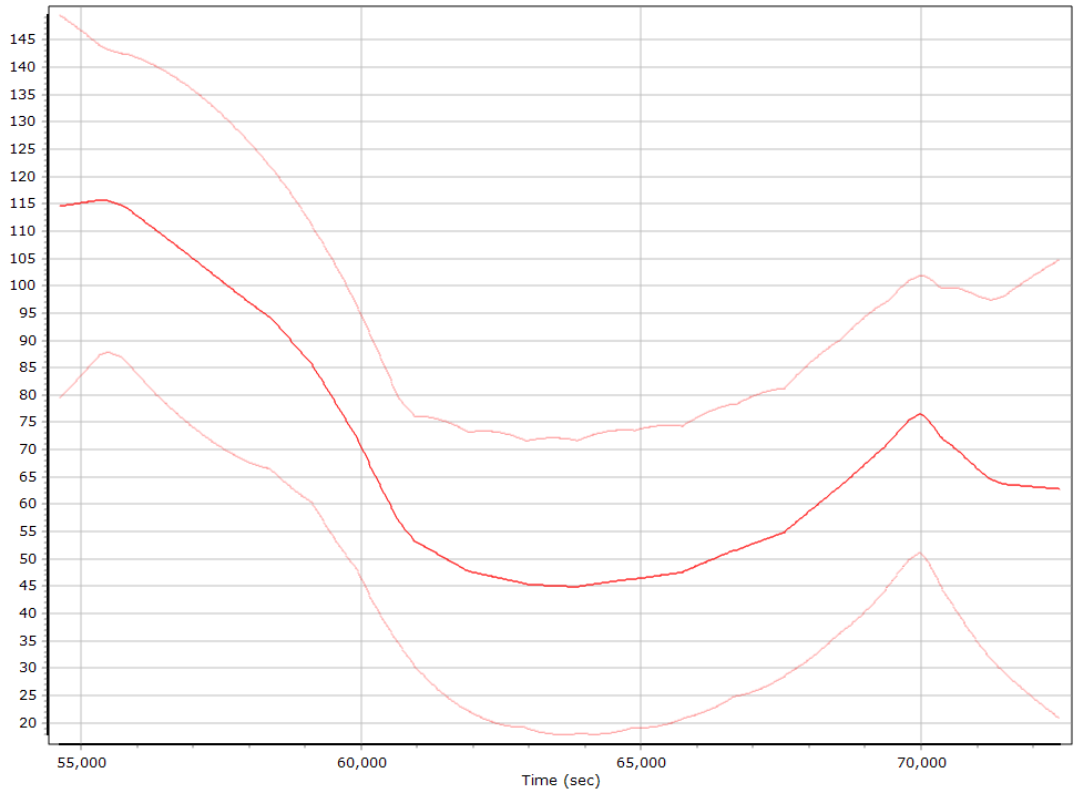
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

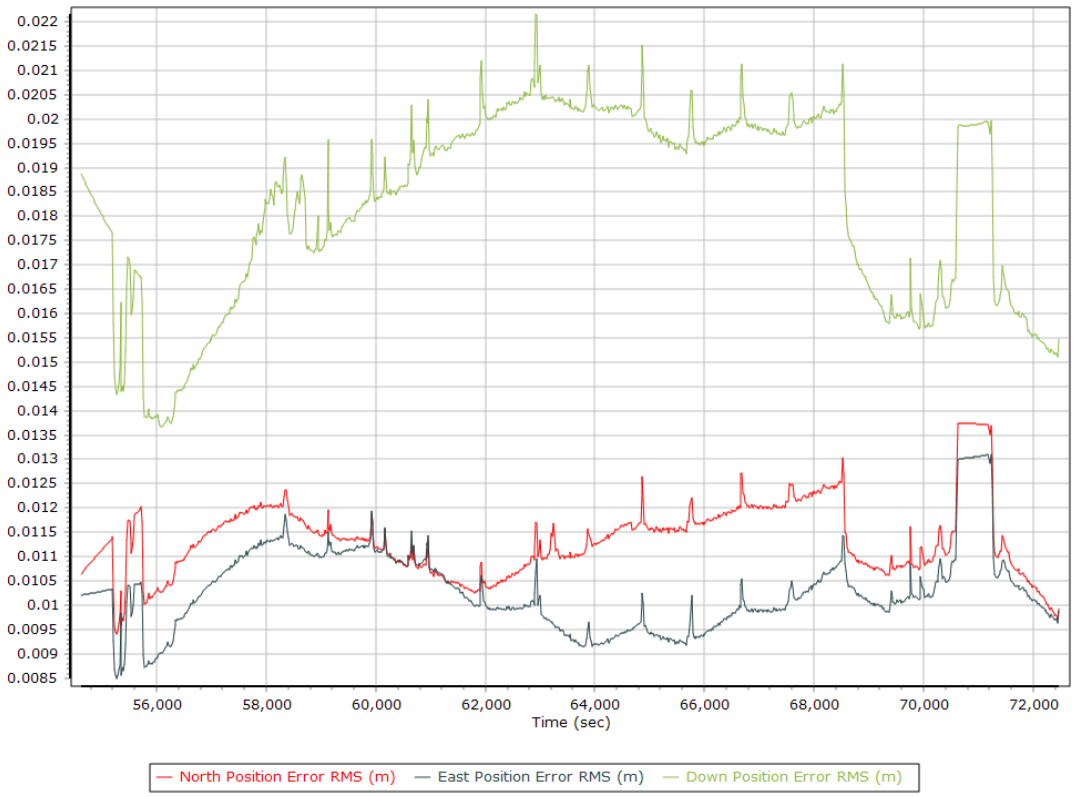


Z Gyro Scale Error (ppm)

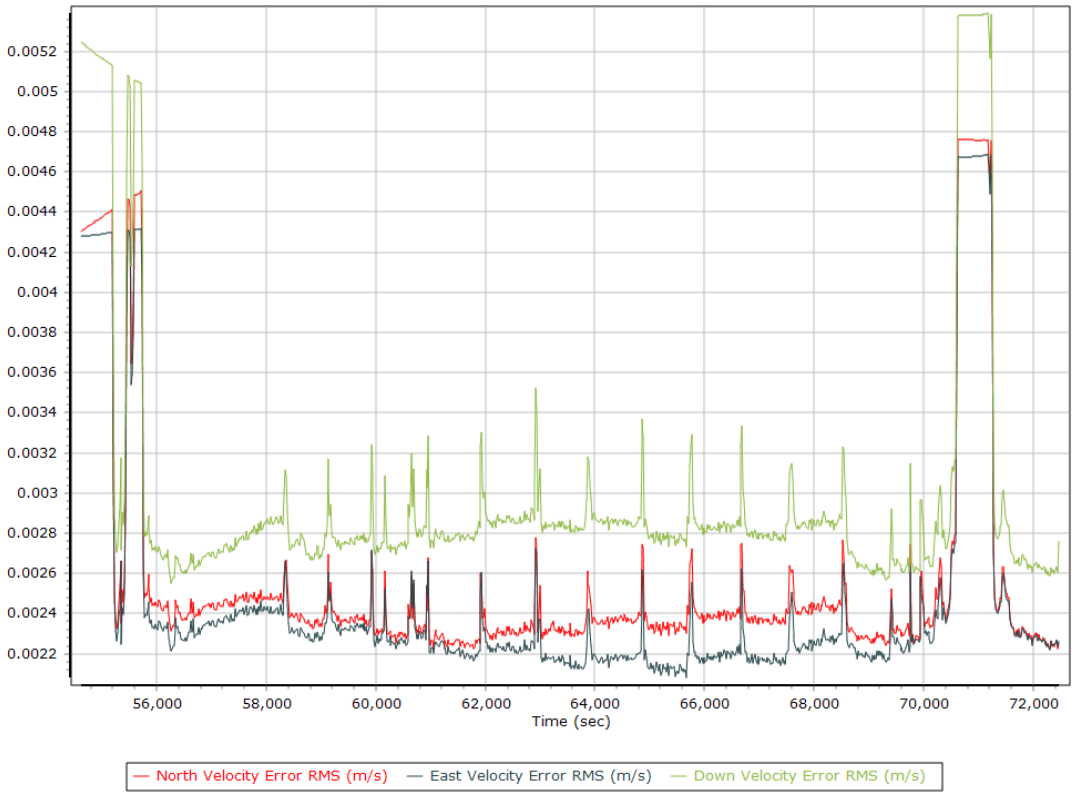


Smoothed Performance Metrics

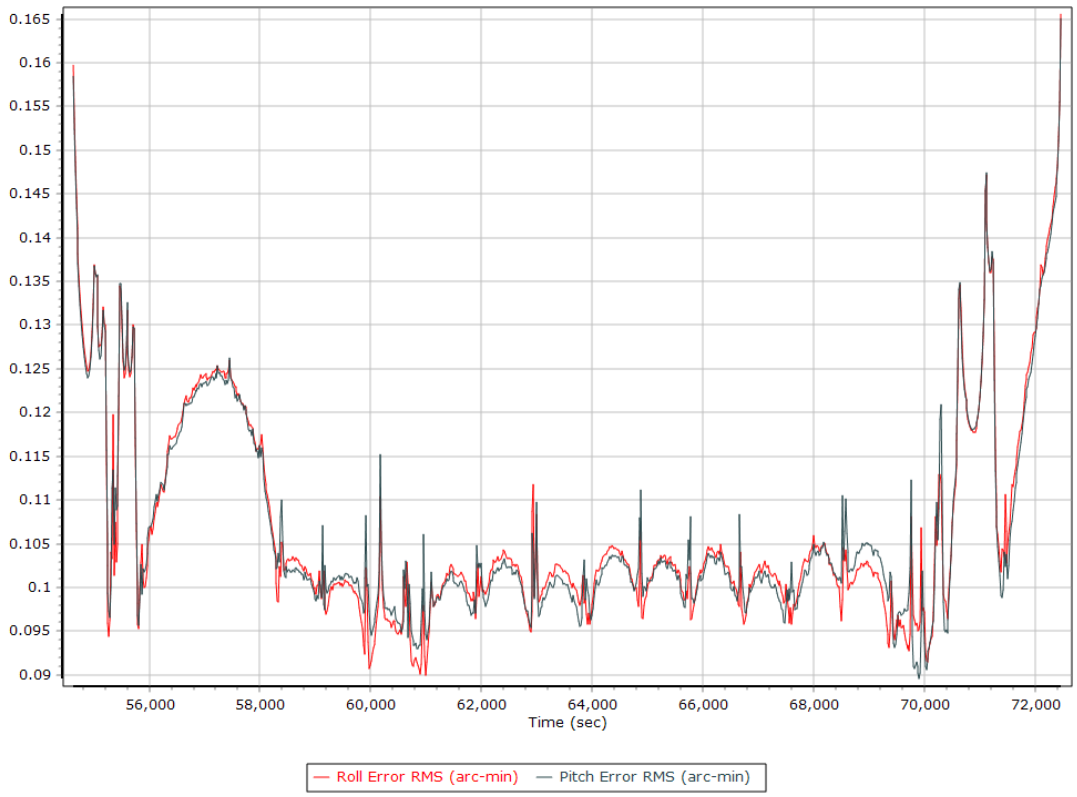
Position Error RMS (m)



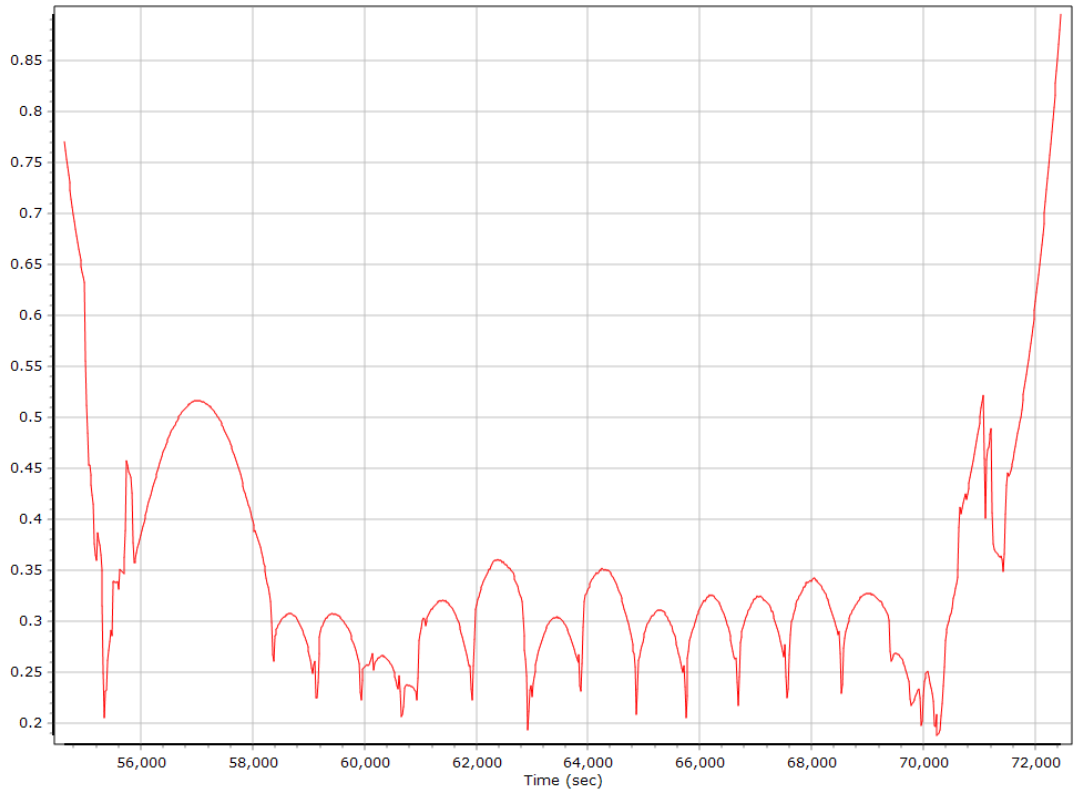
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

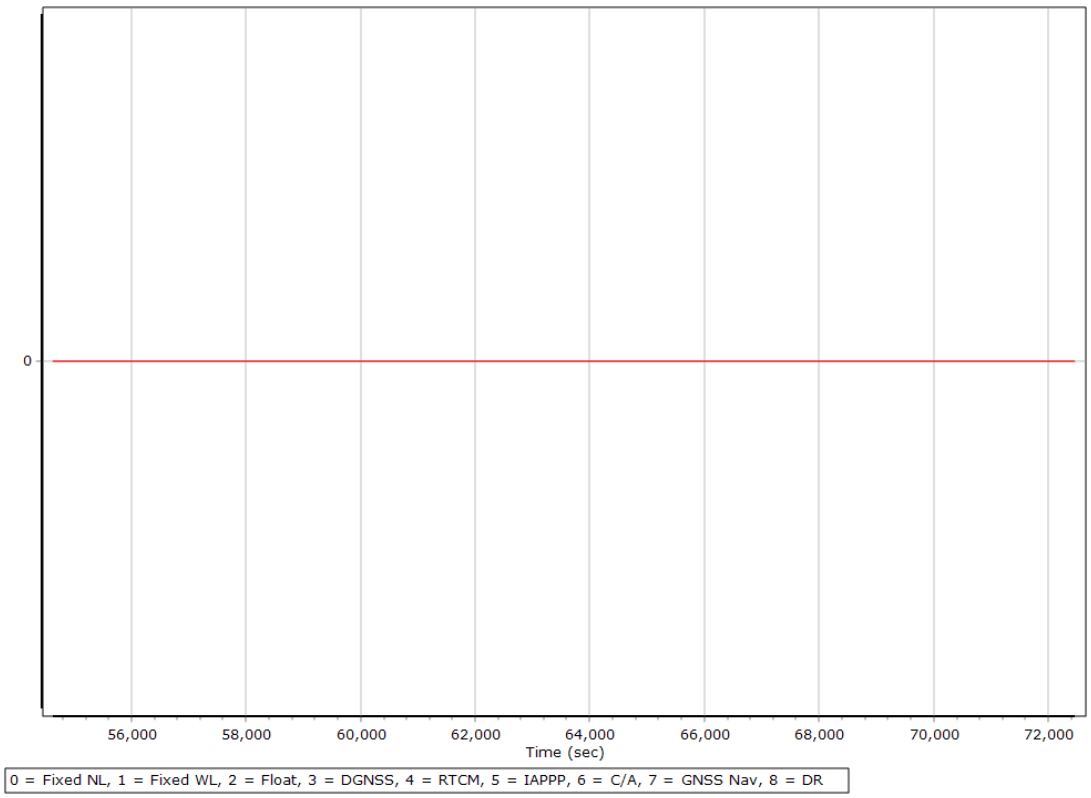


Heading Error RMS (arc-min)

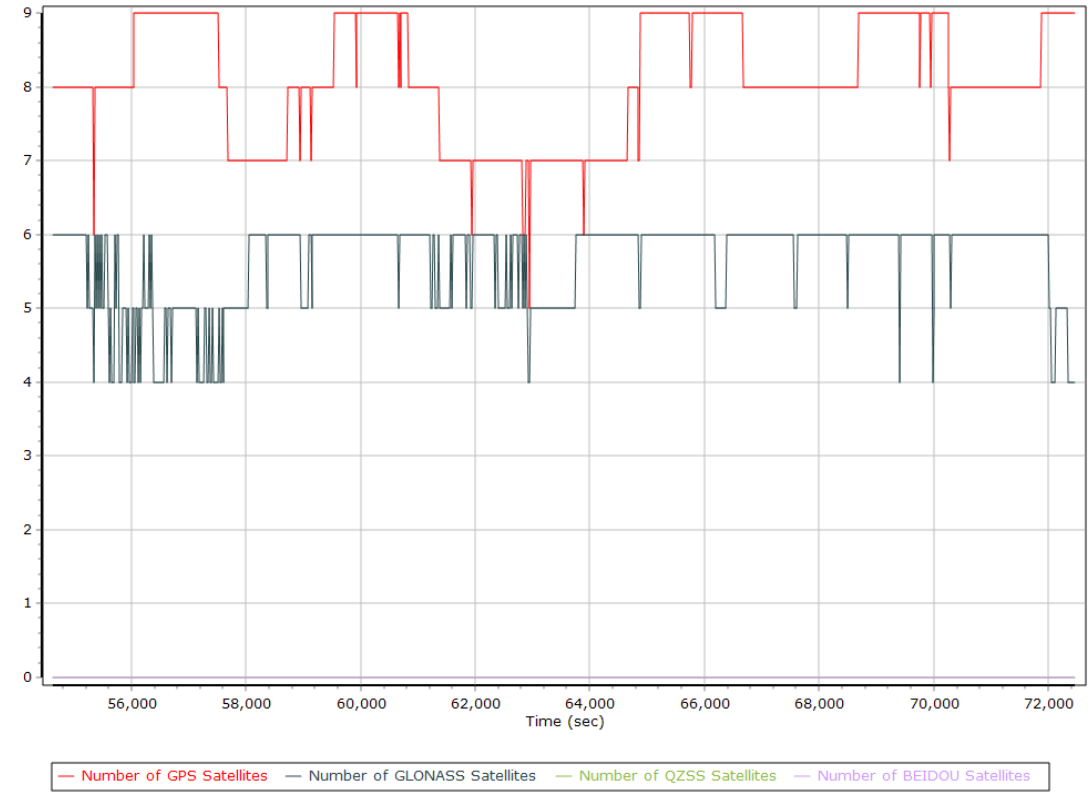


Smoothed Solution Status

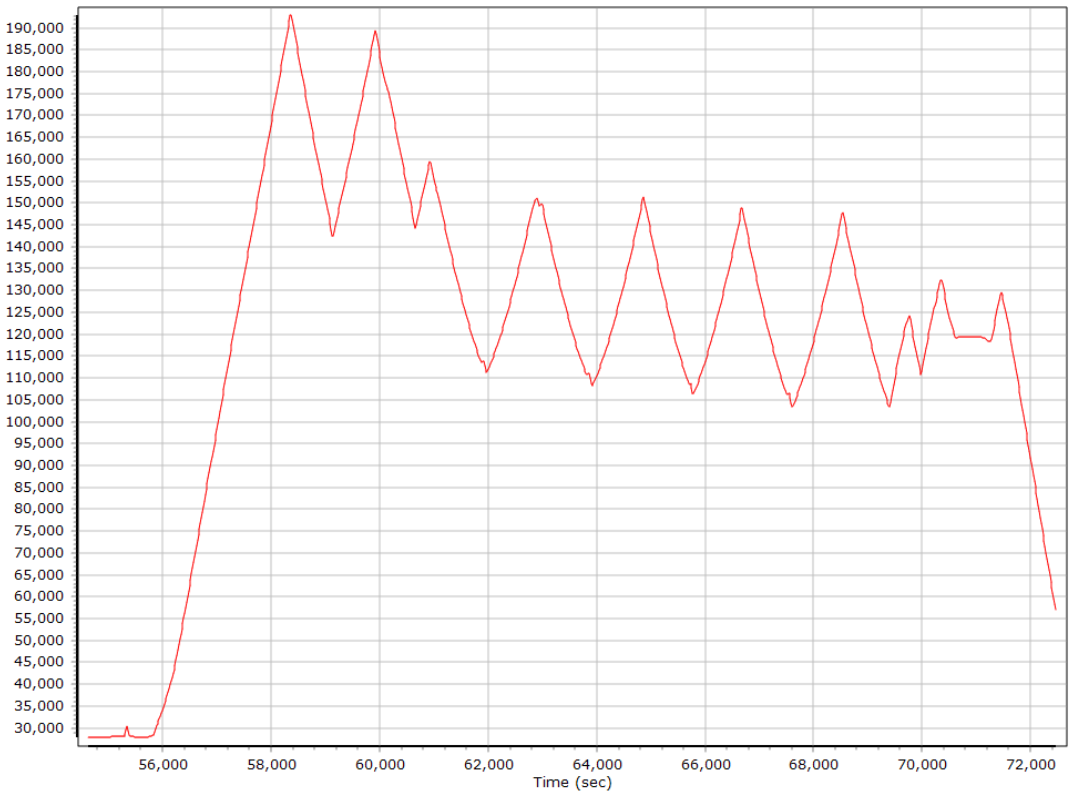
Processing Mode



Number of Satellites



Baseline Length



SBET IAKAR Separation

Export Summary

Export file	export_20211128_PIN_Basestation_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	Deg Decimal	
Export start time	54569.002 (11/28/2021 15:09:29)		
Export end time	72476.001 (11/28/2021 20:07:56)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		

EO Summary

EO file			
EO format			
Lever arm [m]	0.000	0.000	0.000
Boresight angles [arcmin]	0.000	0.000	0.000
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	54569.002 (11/28/2021 15:09:29)		
EO end time	72476.001 (11/28/2021 20:07:56)		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2021.906849		