

General Information

Mission Information

Project name	220731_A_5060492_nad2011_FINAL
Processing date	2022-08-02 13:34:55
Mission date	2022-07-31 12:28:49
Mission duration	03:10:48.000
Processing mode	IN-Fusion PP-RTX

Rover Hardware Information

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

Project File List

Rover Data Files

File name	File type
220731a.540	POS Data
220731a.541	POS Data
220731a.542	POS Data
220731a.543	POS Data
220731a.544	POS Data
220731a.545	POS Data
220731a.546	POS Data
220731a.547	POS Data
220731a.548	POS Data
220731a.549	POS Data
220731a.550	POS Data
220731a.551	POS Data
220731a.552	POS Data
220731a.553	POS Data
220731a.554	POS Data
220731a.555	POS Data
220731a.556	POS Data
220731a.557	POS Data
220731a.558	POS Data
220731a.559	POS Data
220731a.560	POS Data
220731a.561	POS Data
220731a.562	POS Data
220731a.563	POS Data
220731a.564	POS Data

Input Files

File Name	File Type
Ephm2120.22g	GLONASS Broadcast Ephemeris
Ephm2120.22n	GPS Broadcast Ephemeris

Output Files

Filename	File type
sbet_220731_A_5060492_nad2011_FINAL.out	SBET Trajectory File
sbet_220731_A_5060492_nad2011_FINAL.shp	Shapefile Export Output

Rover Data Summary

First raw data file	220731a.540		
Last raw data file	220731a.564		
Start GPS week	2221		
Start time	23.248 (07/31/2022 00:00:23)		
End time	56377.525 (07/31/2022 15:39:37)		
Start of fine alignment	45130.245 (07/31/2022 12:32:10)		
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)	0.361	-0.429	-0.945
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

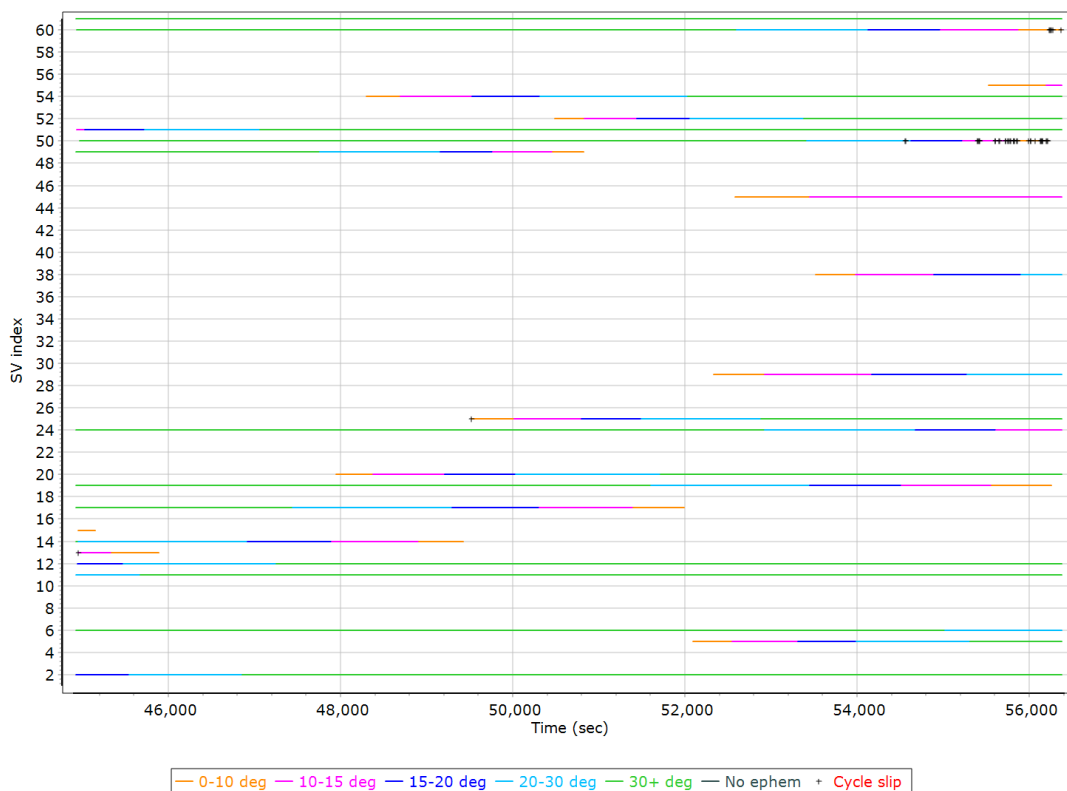
Rover Data QC

Raw IMU Import QC Summary

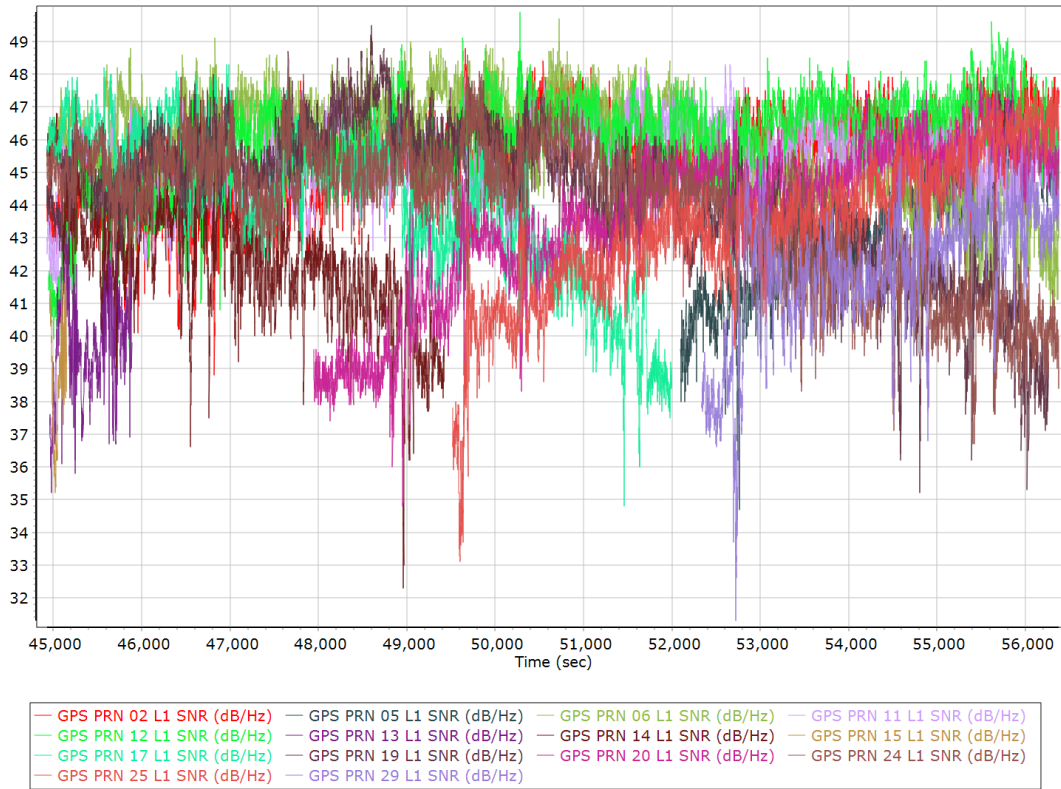
IMU data input file	imu_220731_A_5060492_nad2011_FINAL.dat
IMU data check log file	imudt_220731_A_5060492_nad2011_FINAL.log
IMU Records Processed	2289476
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
44931.199 : WARNING : Gap of 44907.2058 seconds in CHECKDT input data	

Primary Observables & Satellite Data

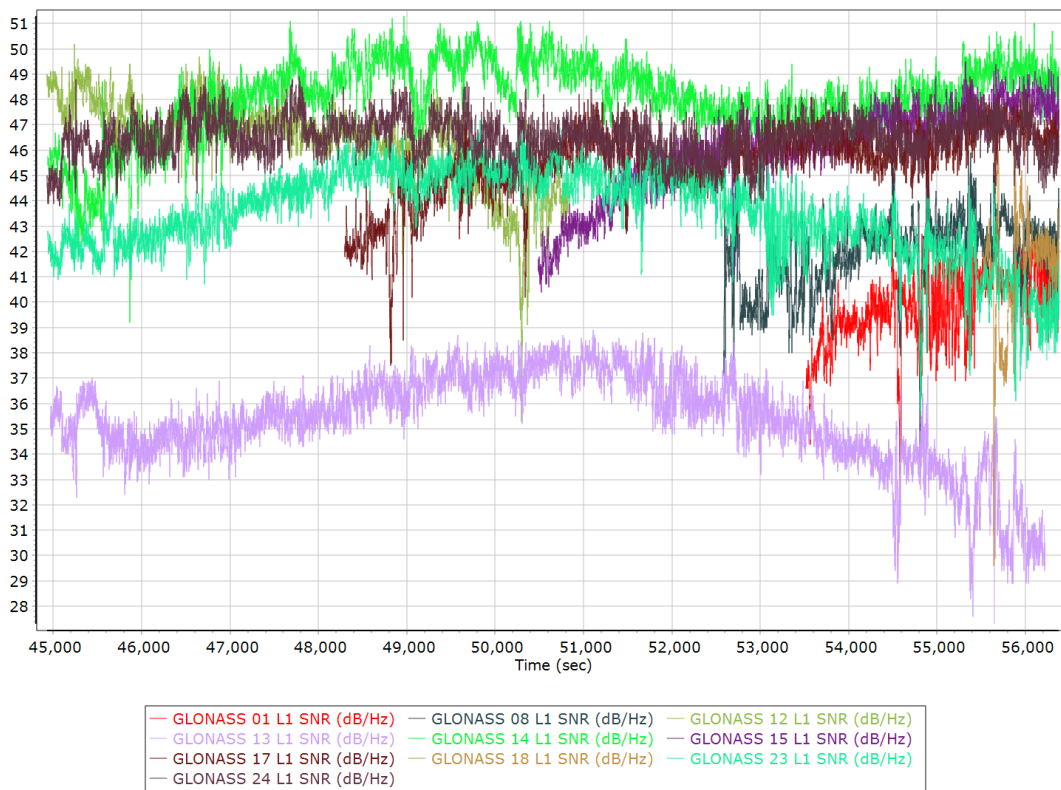
GPS/GLONASS L1 Satellite Lock/Elevation



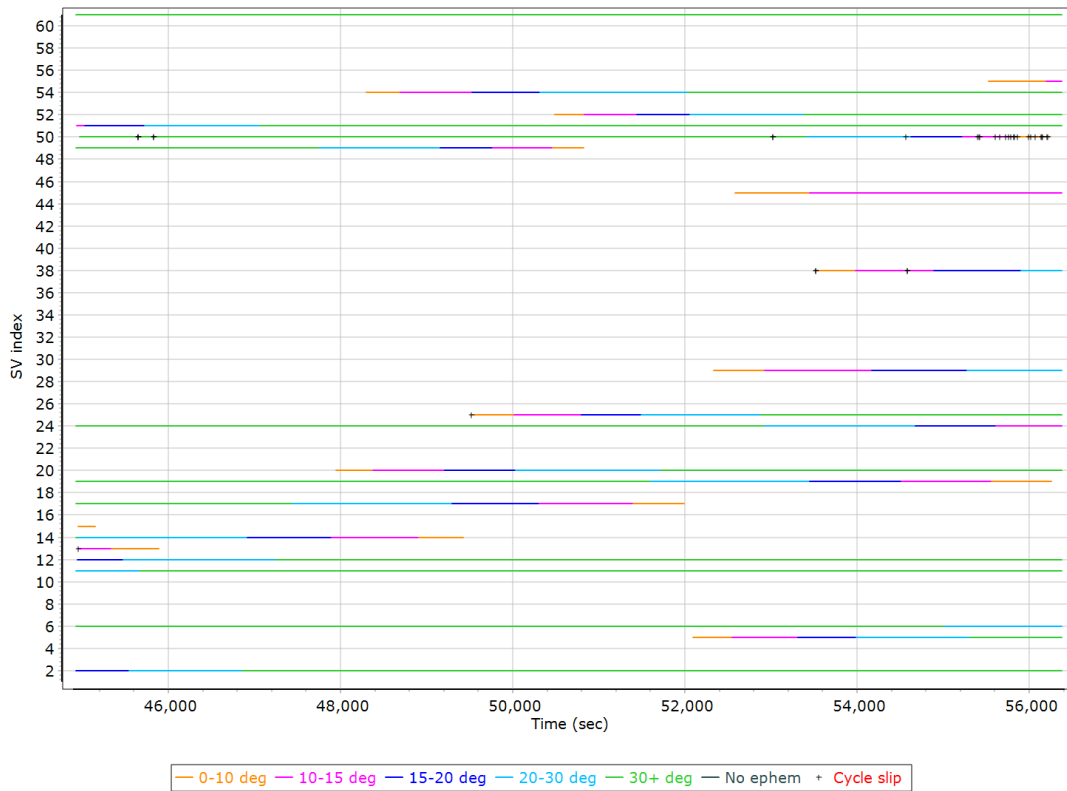
GPS L1 SNR



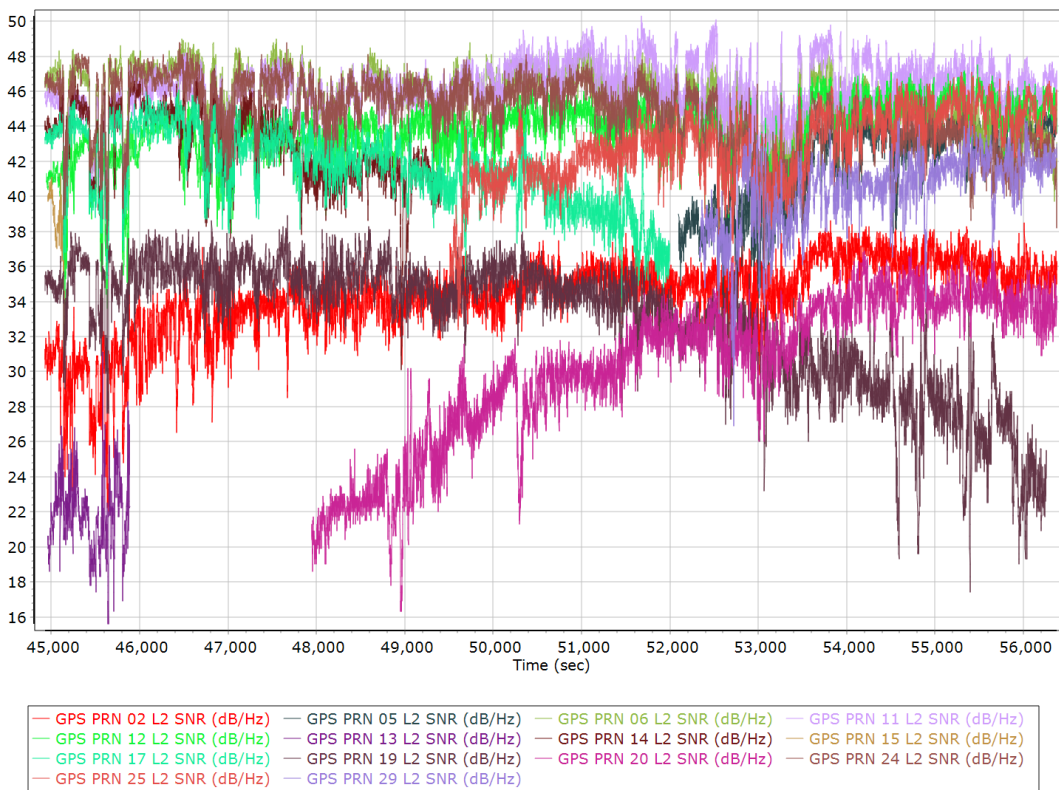
GLONASS L1 SNR



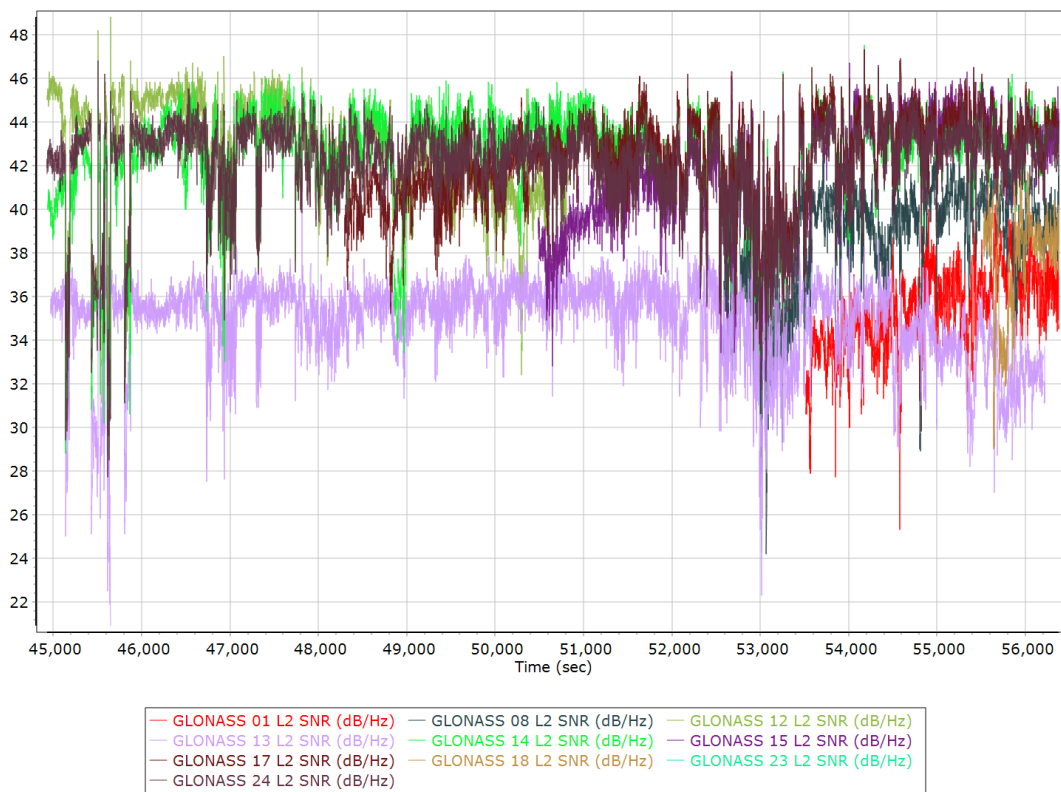
GPS/GLONASS L2 Satellite Lock/Elevation



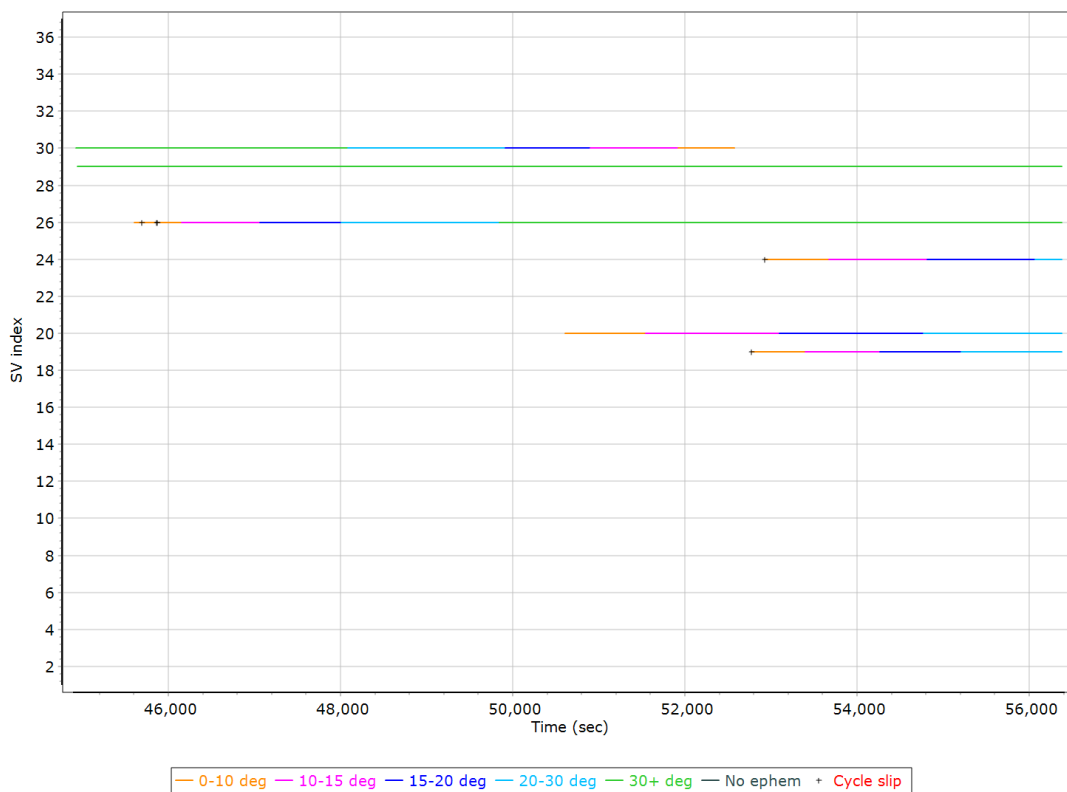
GPS L2 SNR



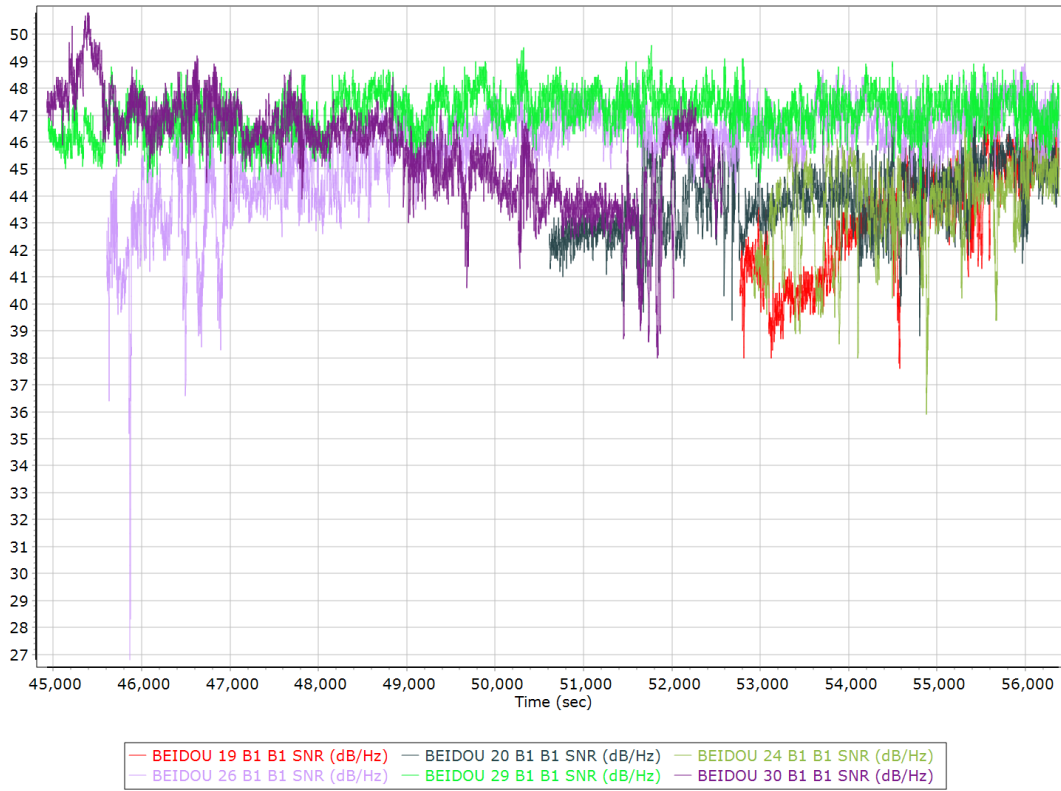
GLONASS L2 SNR



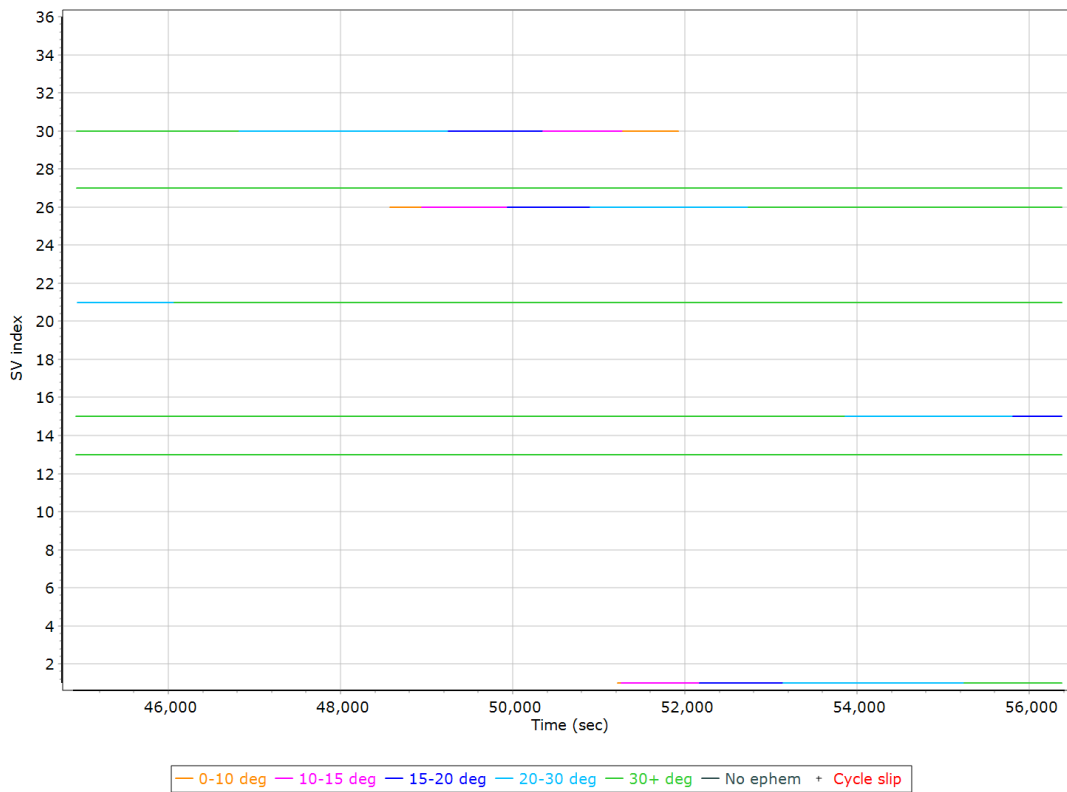
BEIDOU Satellite Lock/Elevation



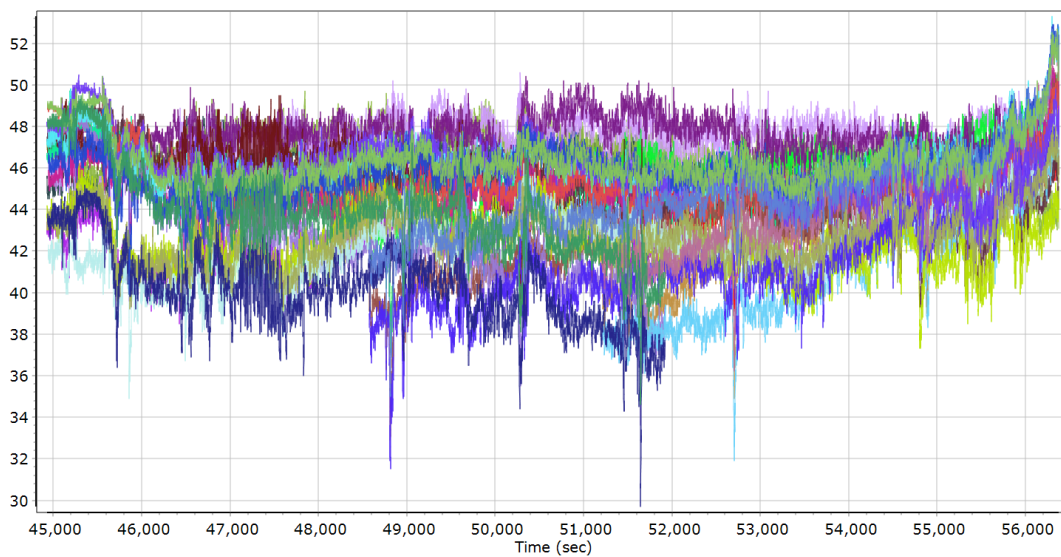
BEIDOU SNR



GALILEO Satellite Lock/Elevation



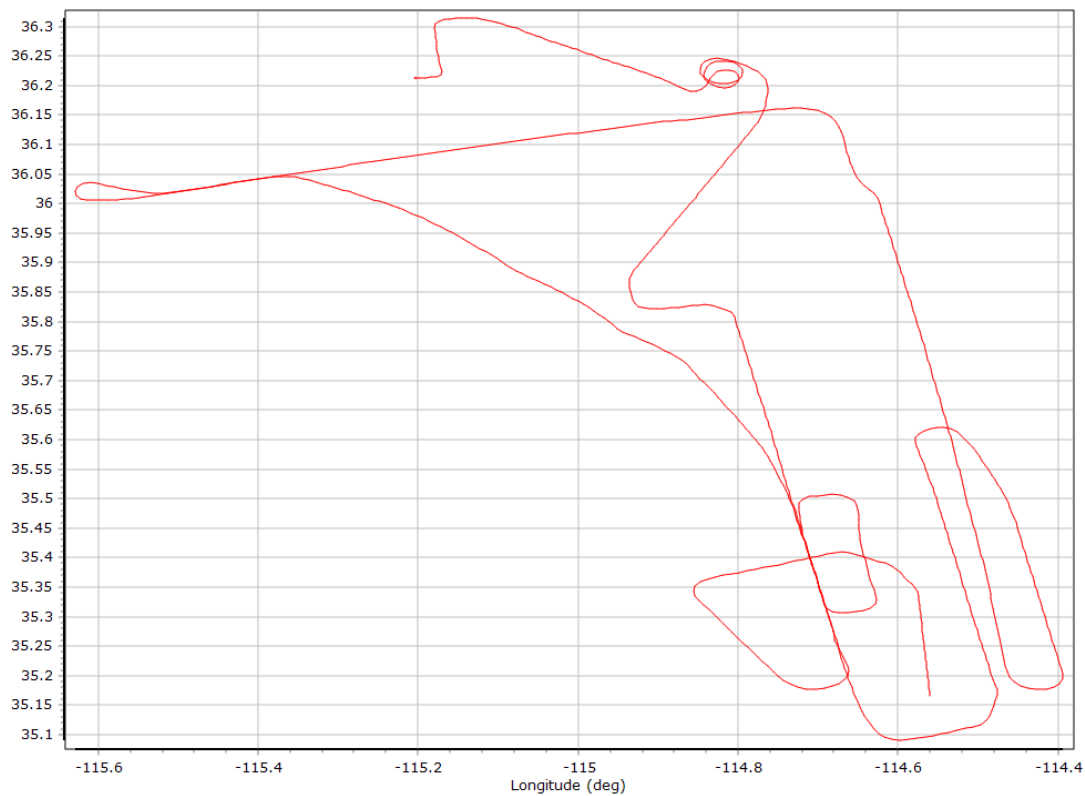
GALILEO SNR



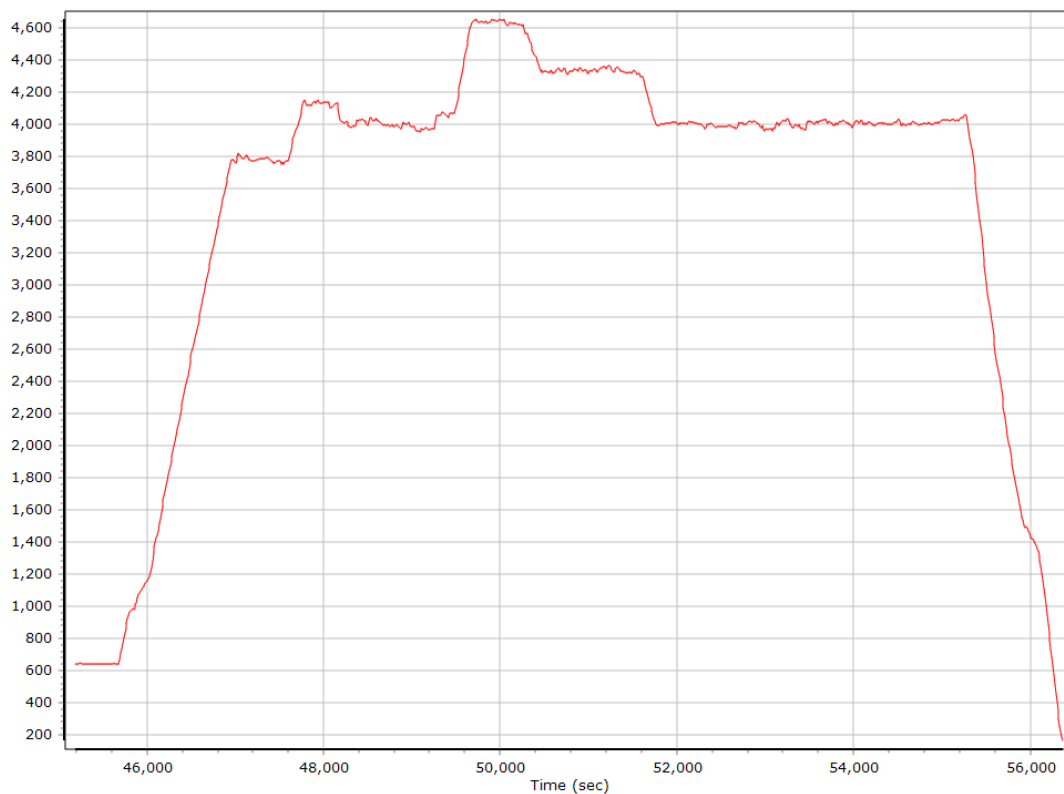
— GALILEO 01 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 13 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 15 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 21 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 26 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 27 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)
— GALILEO 30 L1 BOC_1_1_DP_MBOC SNR (dB/Hz)	— GALILEO 01 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 15 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 21 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 26 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 13 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 15 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 21 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 26 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 27 E5B BPSK10_PD SNR (dB/Hz)

Smoothed Trajectory Information

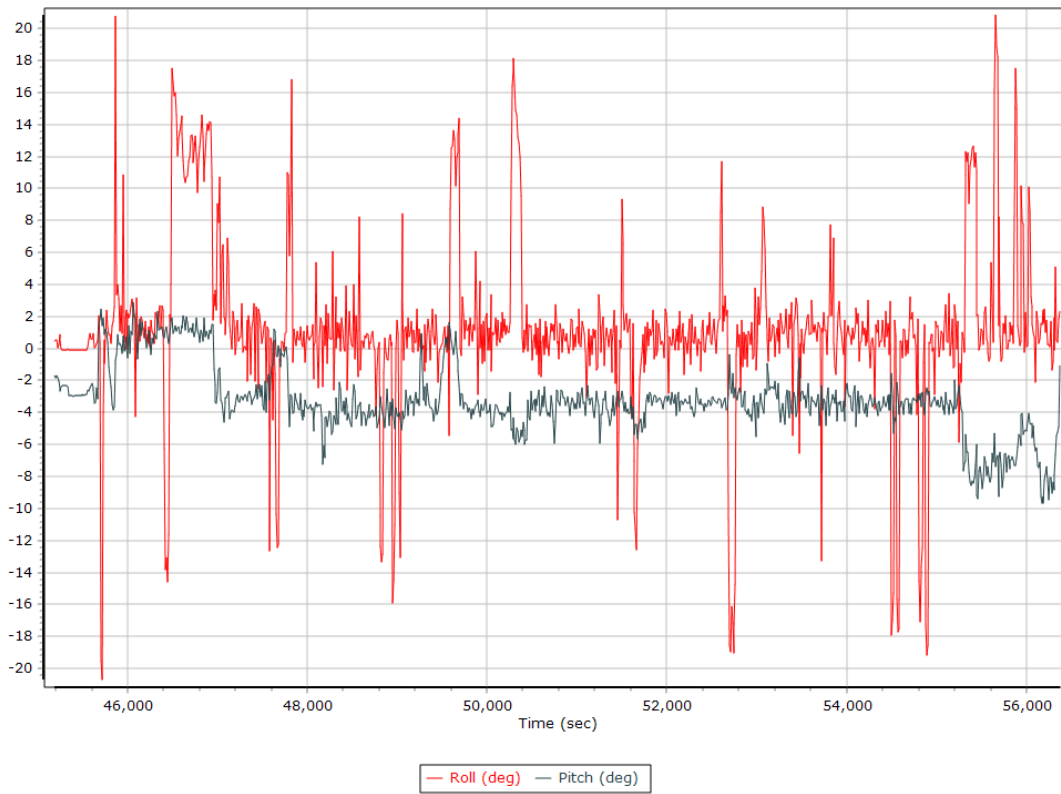
Top View



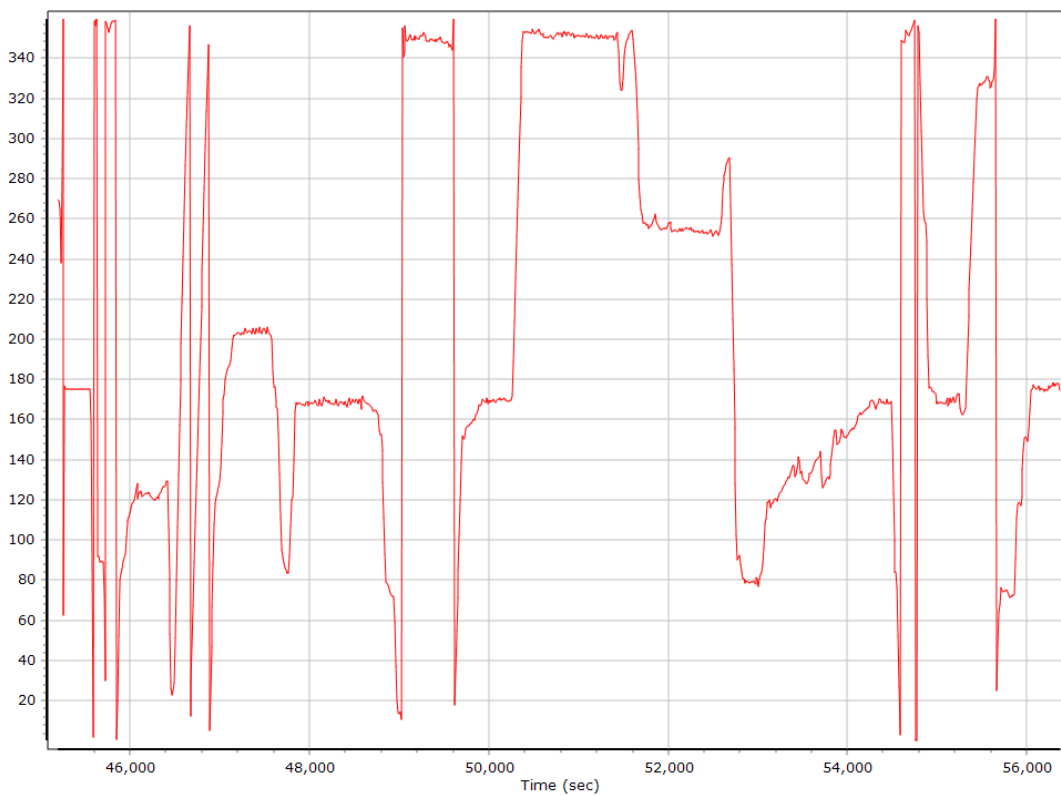
Altitude



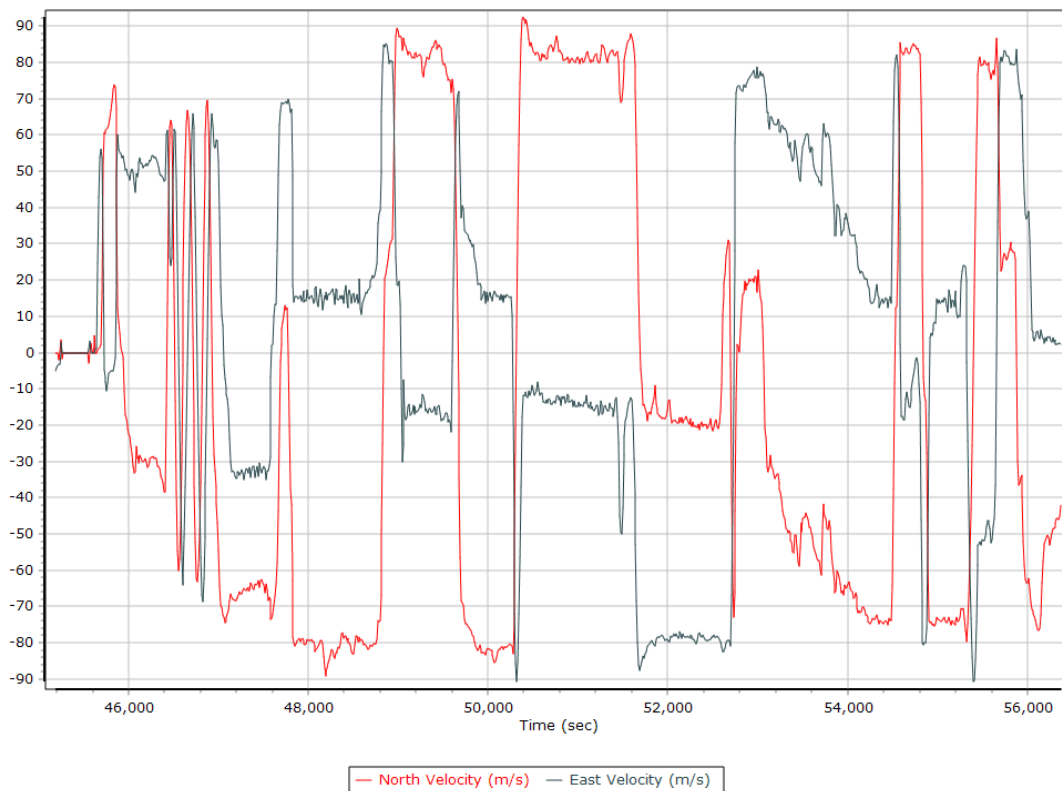
Roll/Pitch



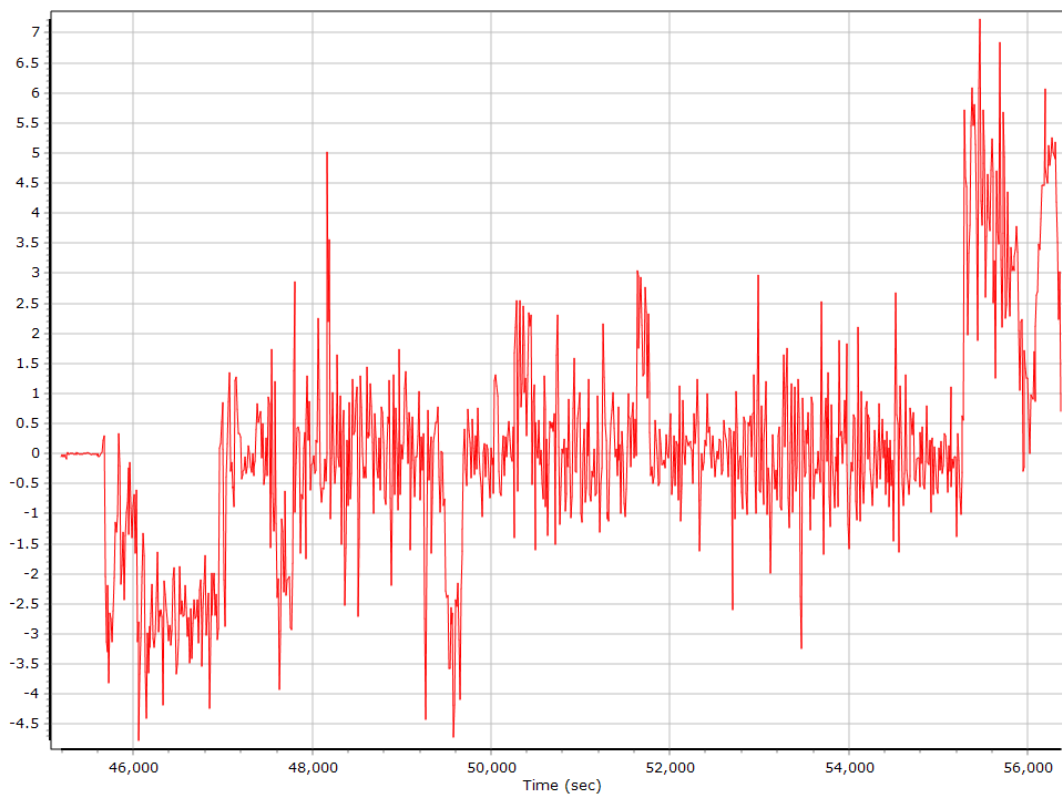
Heading



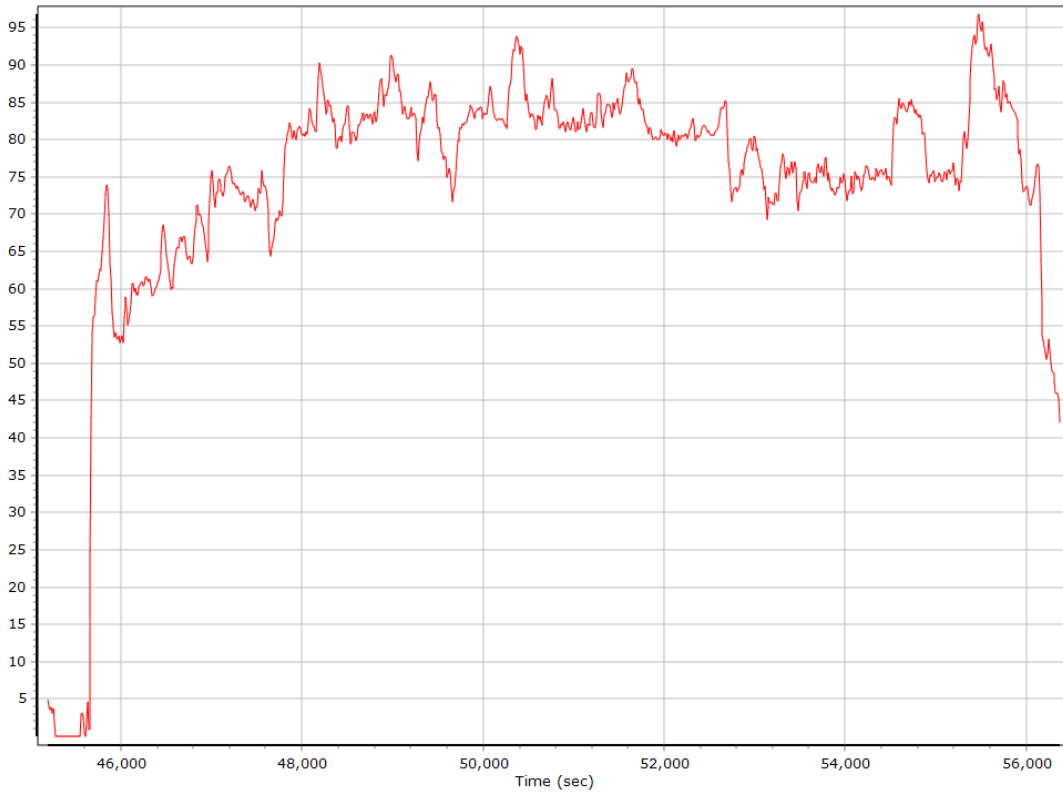
North/East Velocity



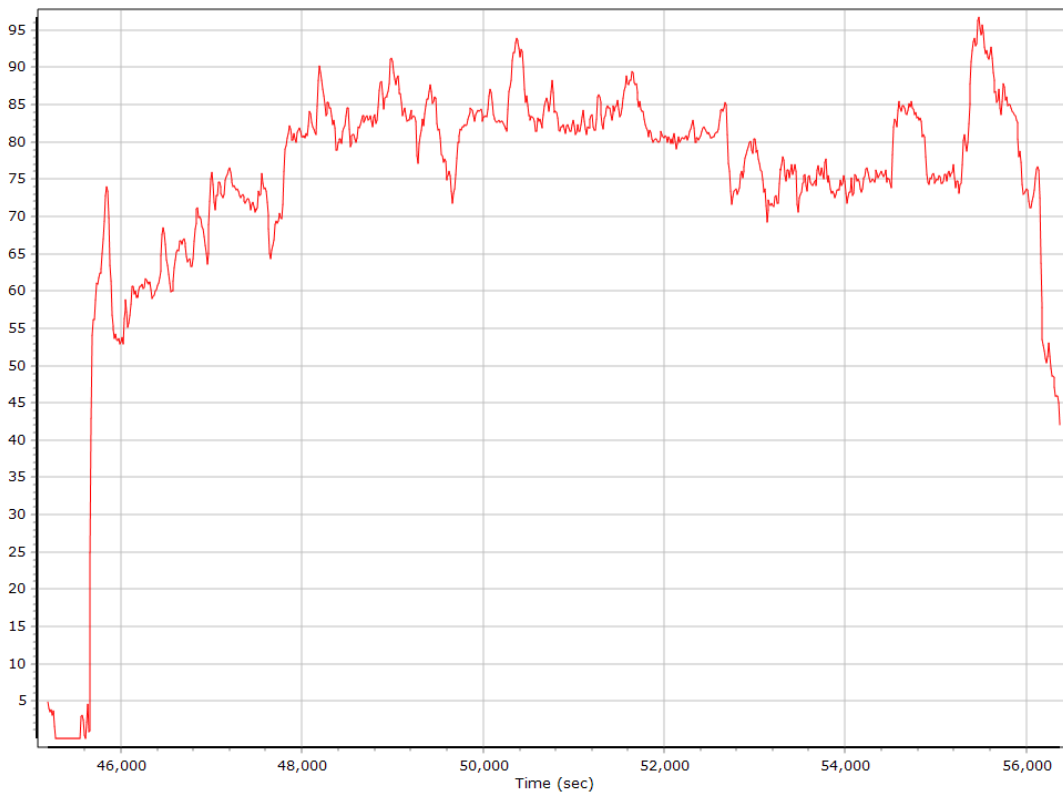
Down Velocity



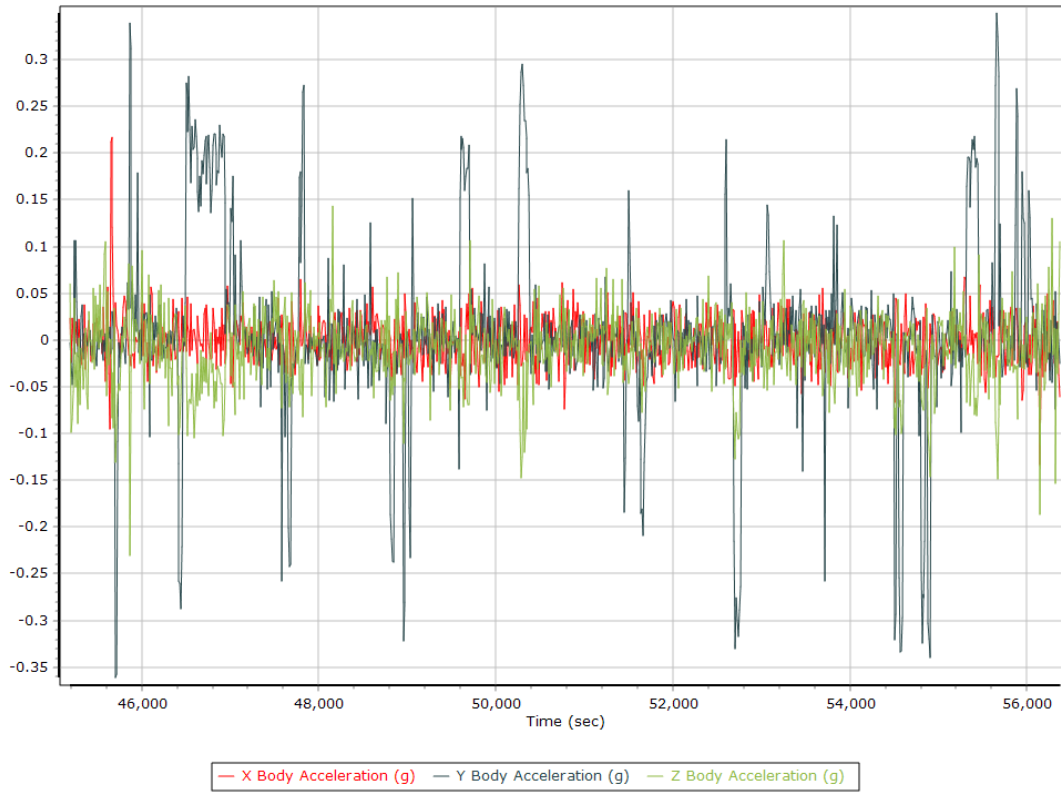
Total Speed



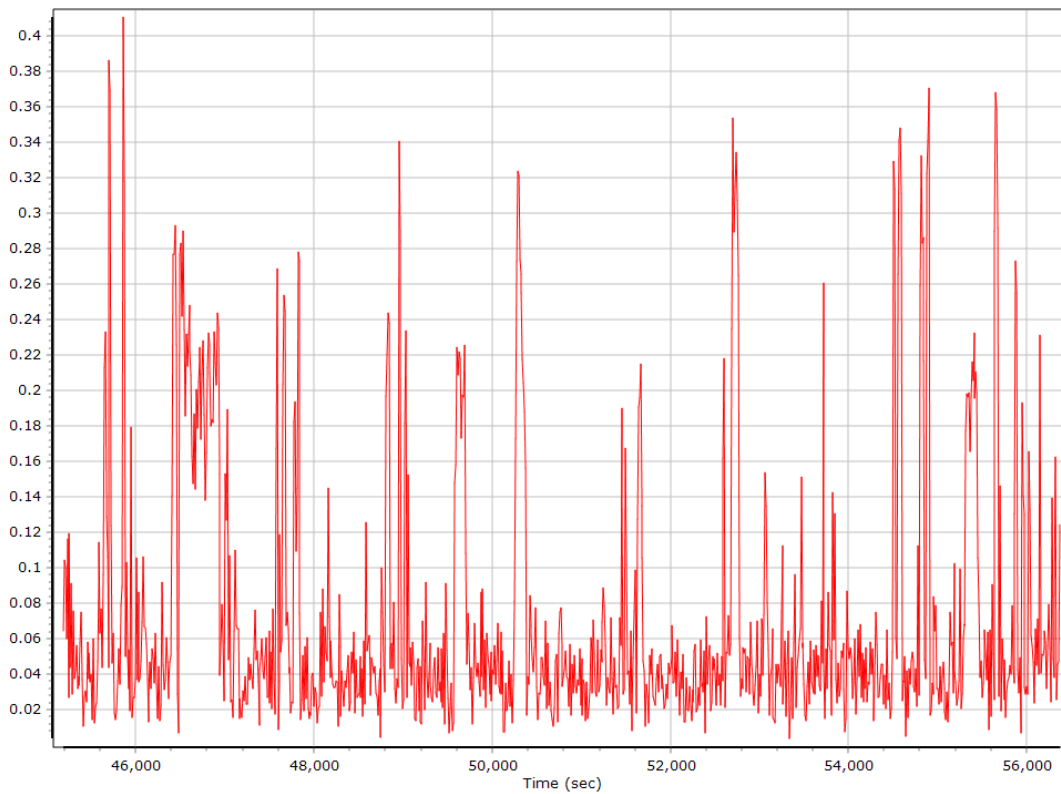
Ground Speed



Body Acceleration



Total Body Acceleration

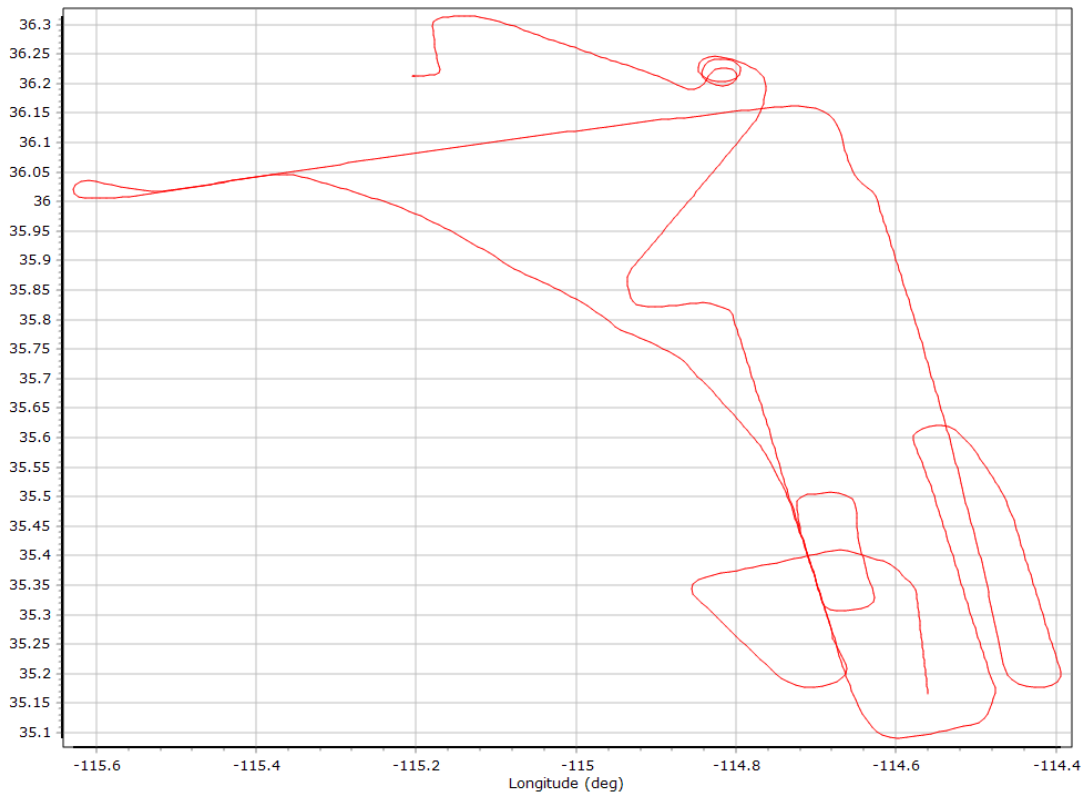


Body Angular Rate

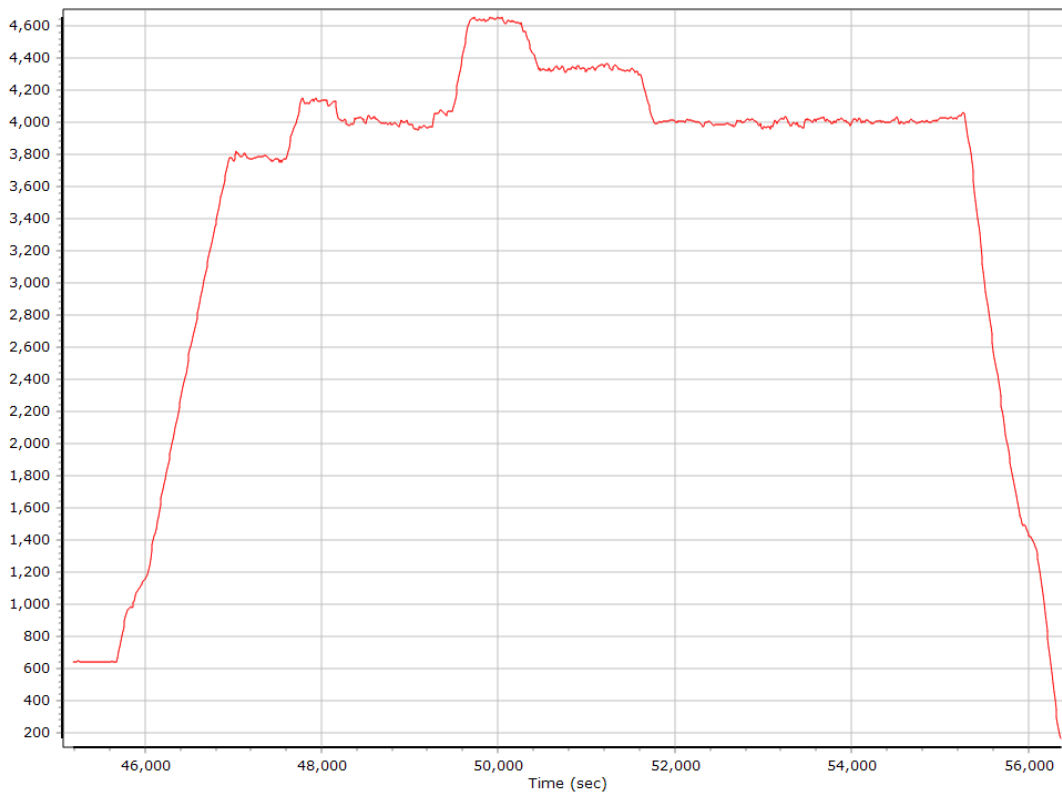


Forward Processed Trajectory Information

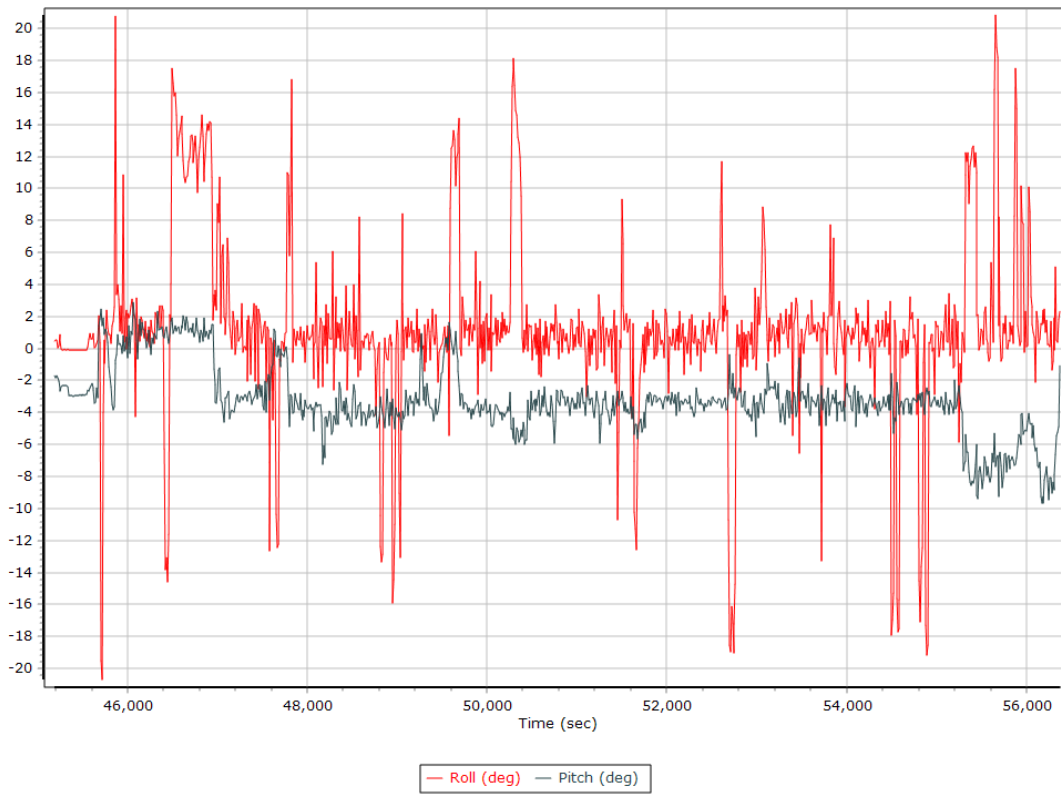
Top View



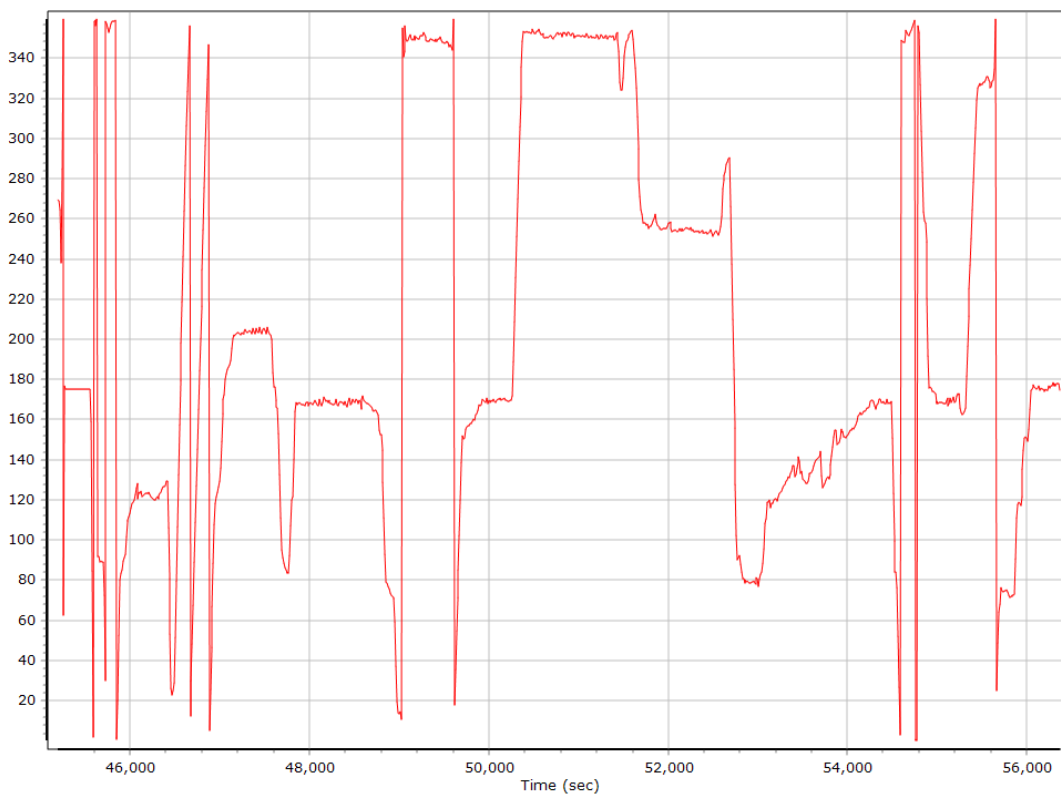
Altitude



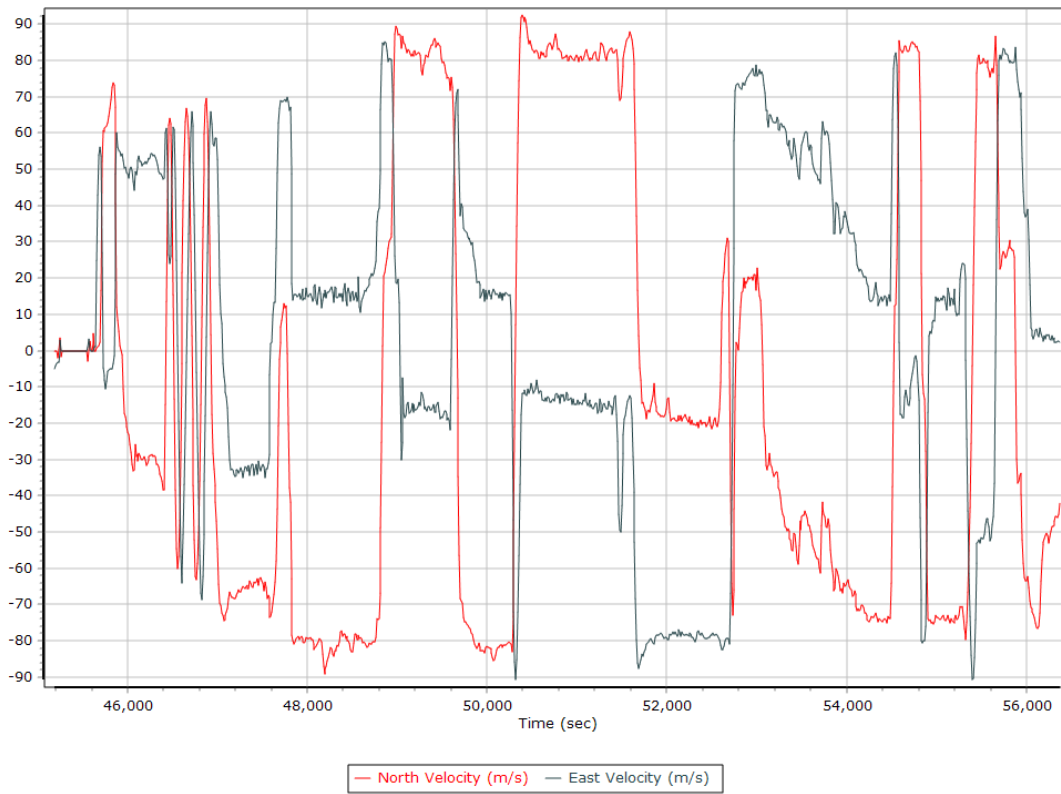
Roll/Pitch



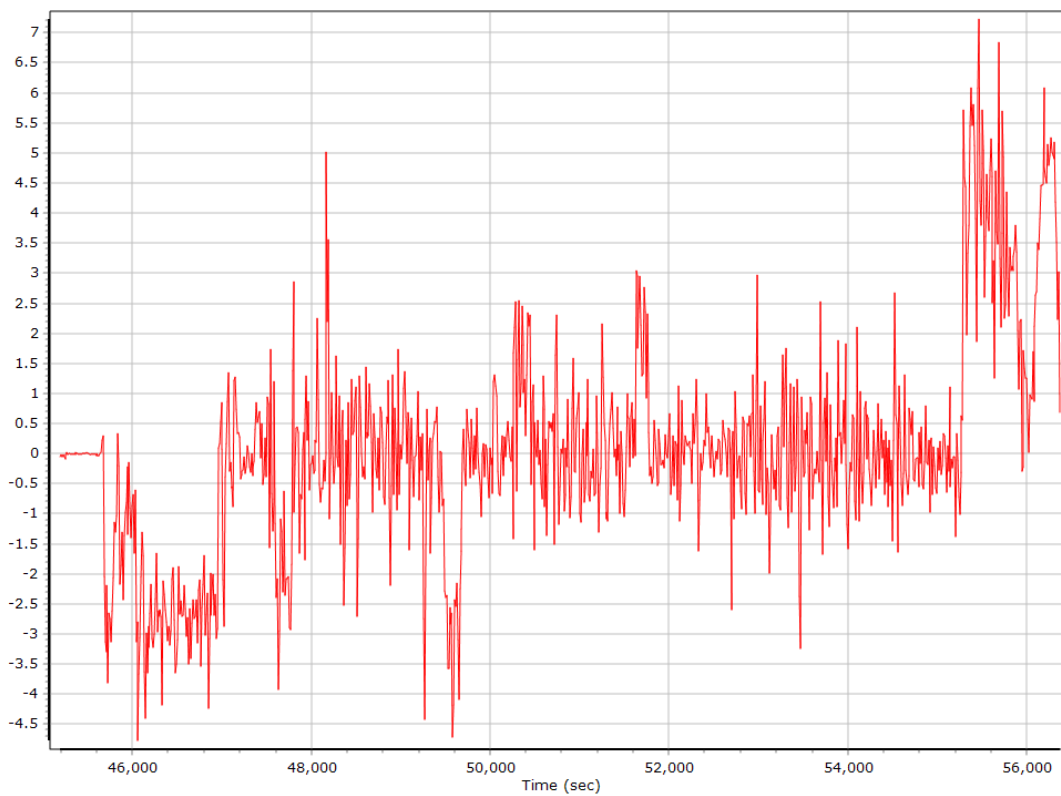
Heading



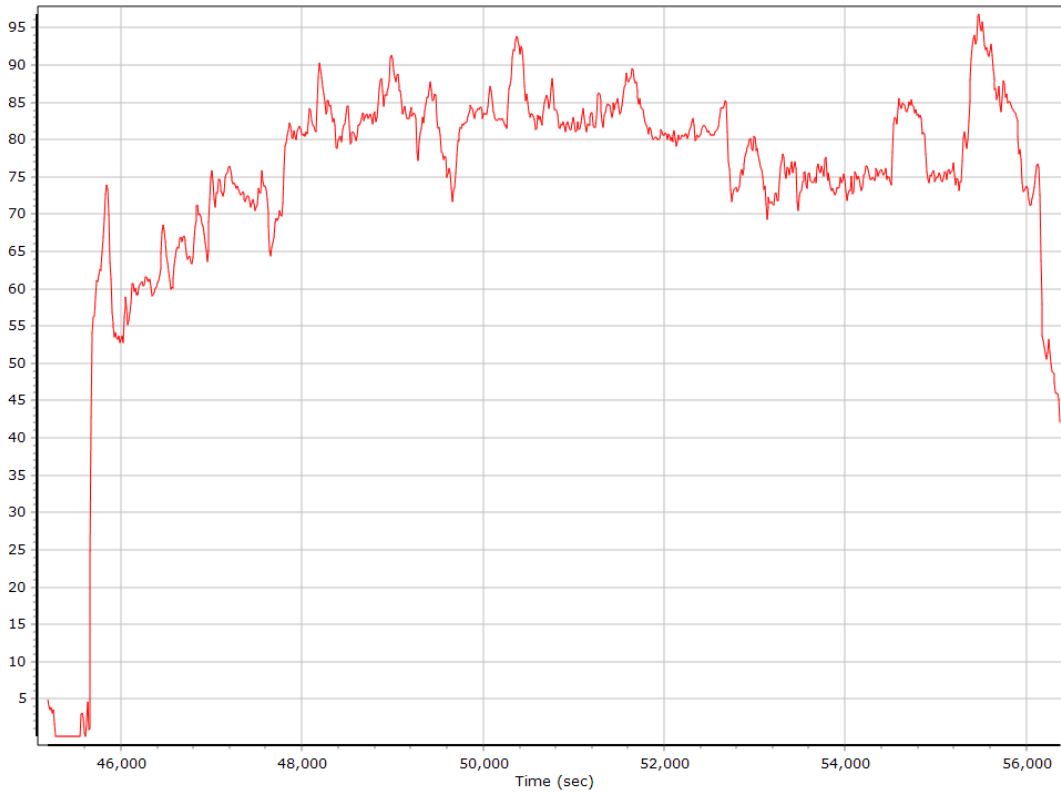
North/East Velocity



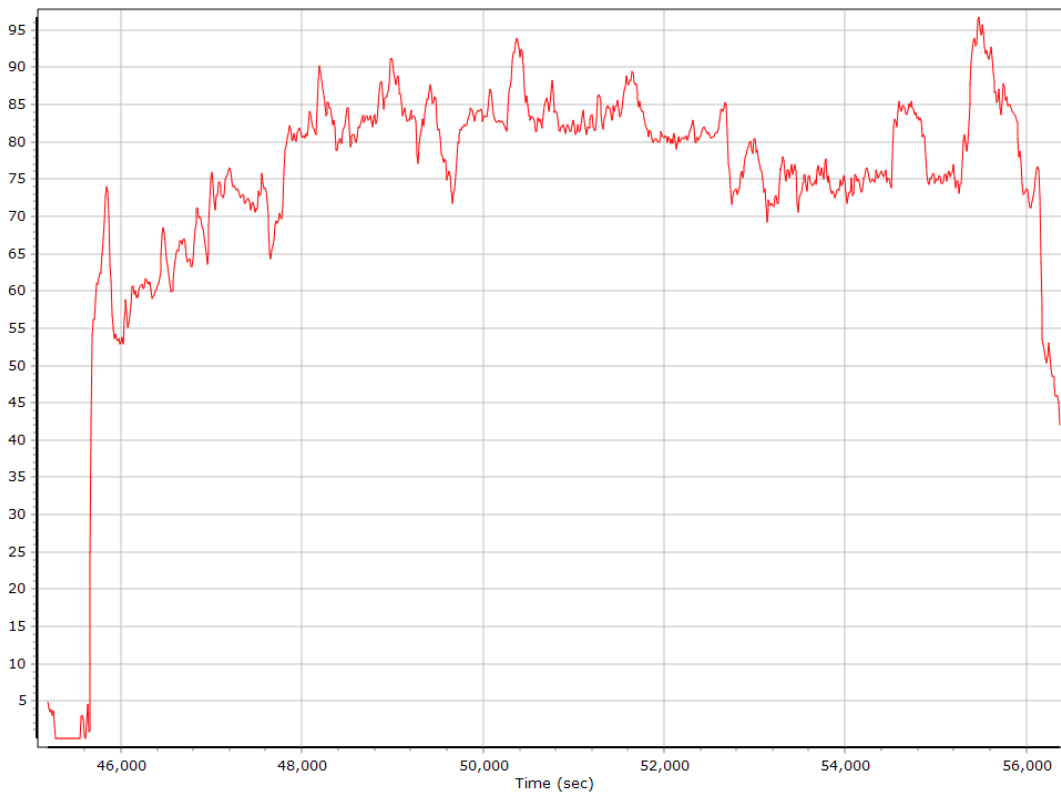
Down Velocity



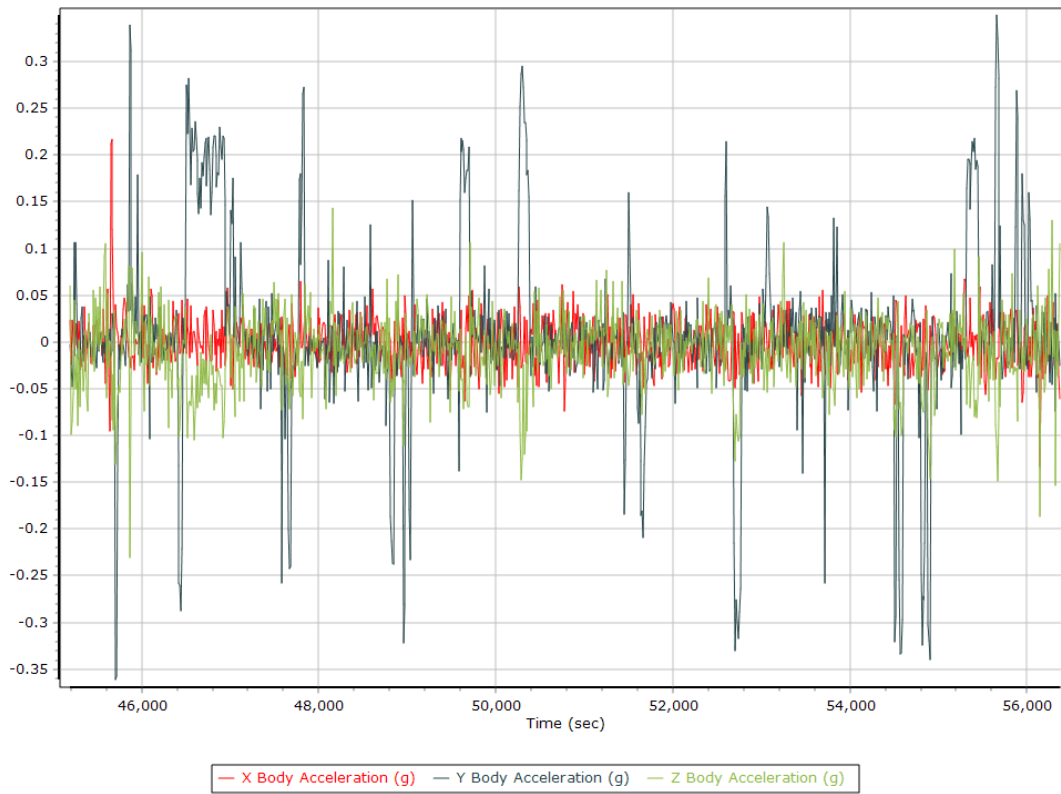
Total Speed



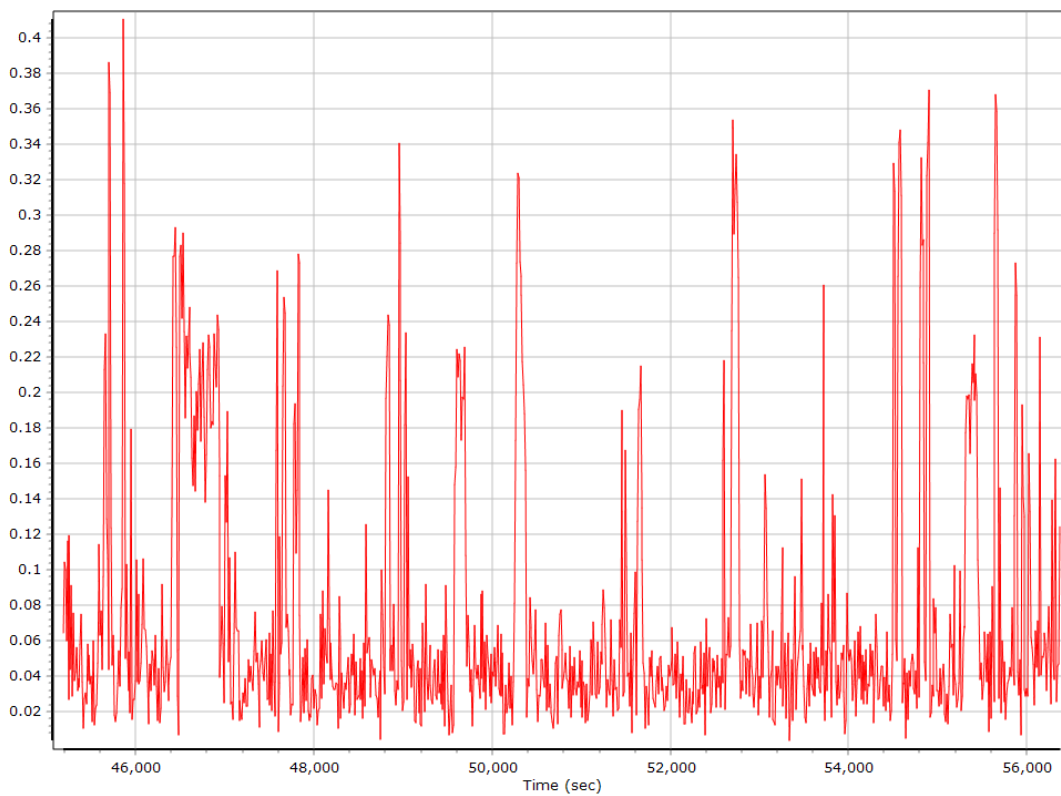
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate

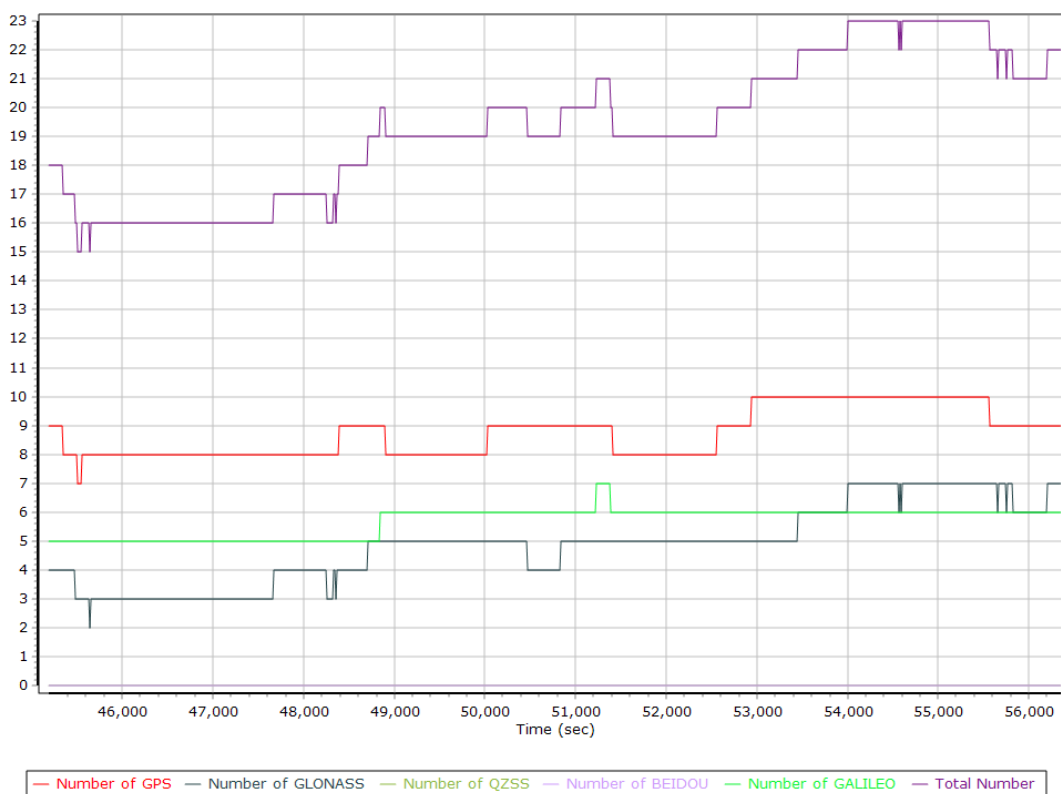


GNSS QC

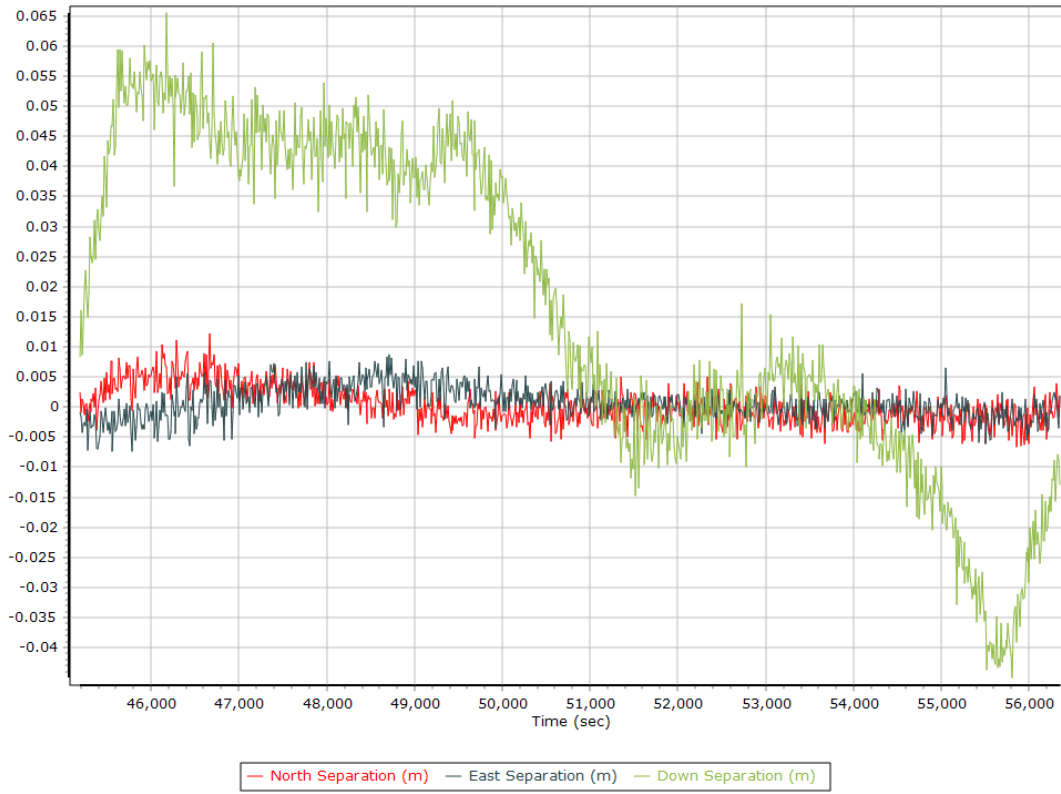
GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	7	10	9
Number of GLONASS SV	0	7	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	2	7	6
Total number of SV	9	23	19
PDOP	0.99	2.54	1.23
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	11429.00	0.00	0.00
Percentage	100.00	0.00	0.00

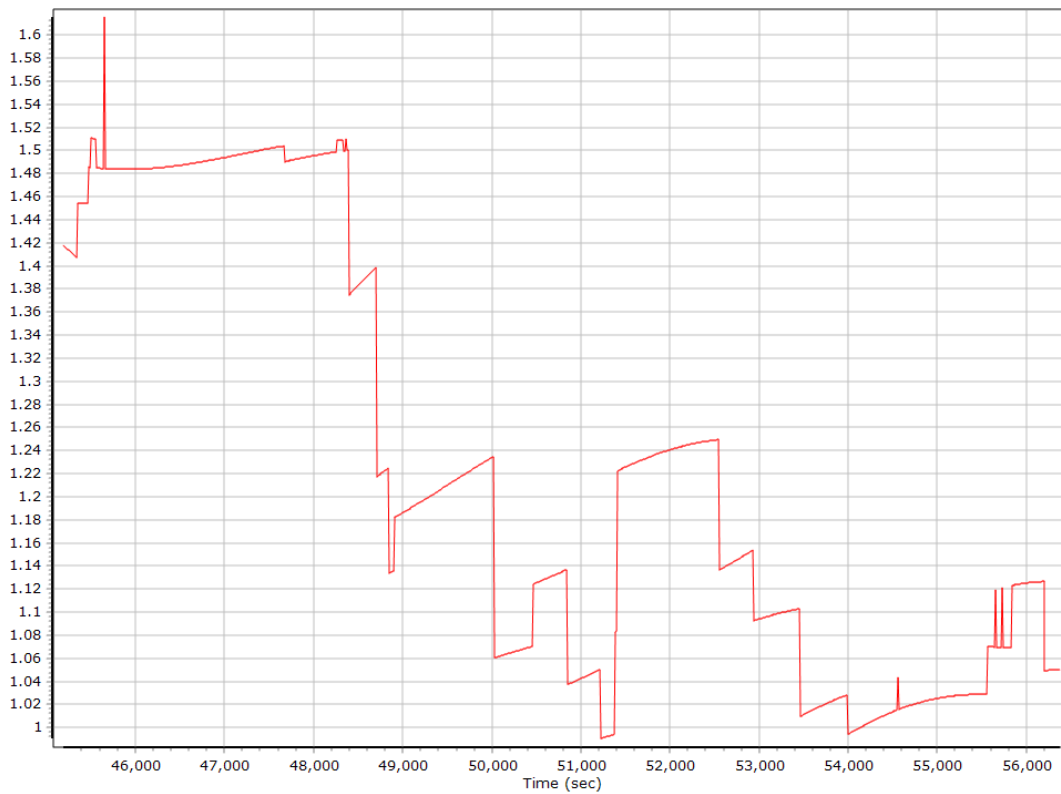
Num SVs in solution



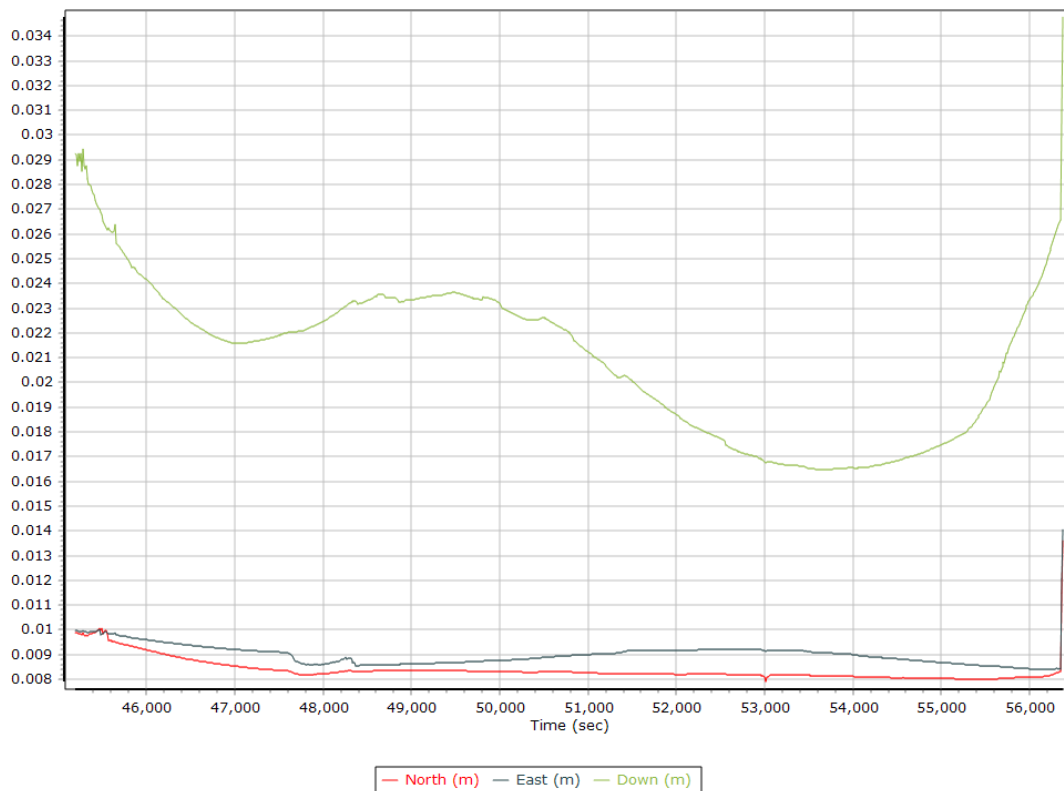
Forward/Reverse Separation



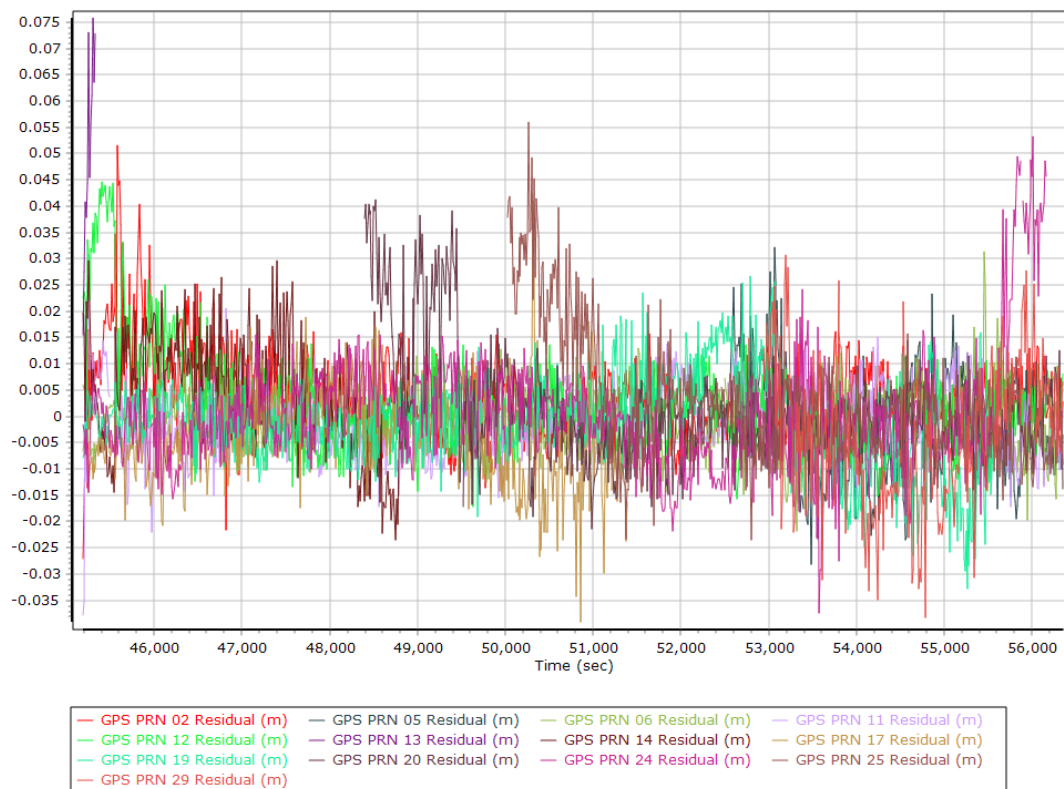
PDOP



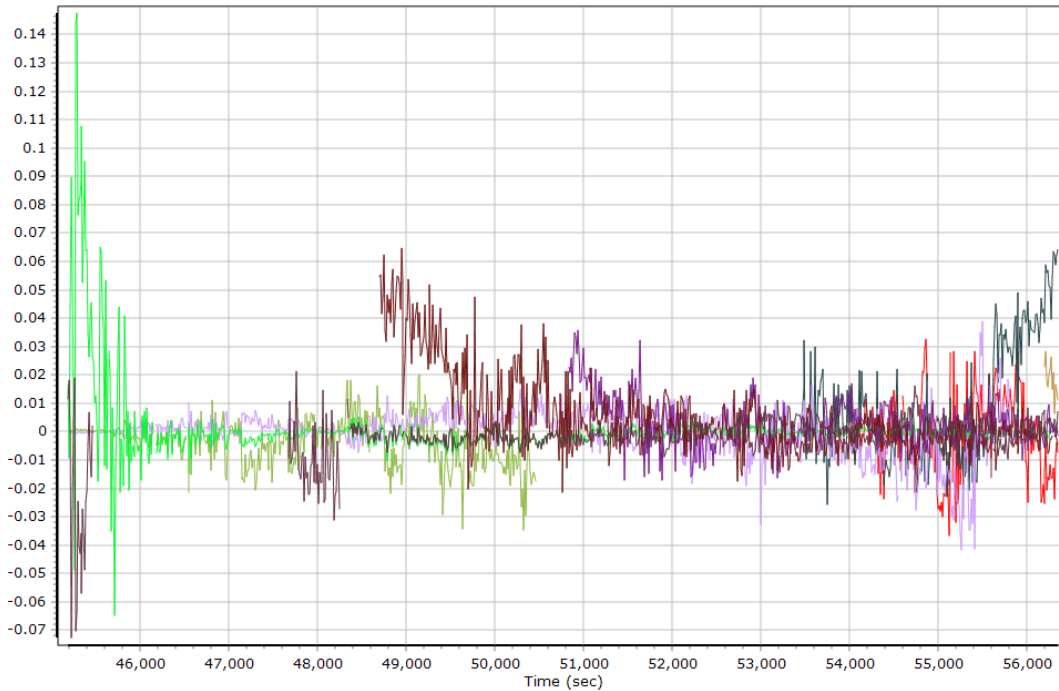
Estimated Position Accuracy



GPS Residuals

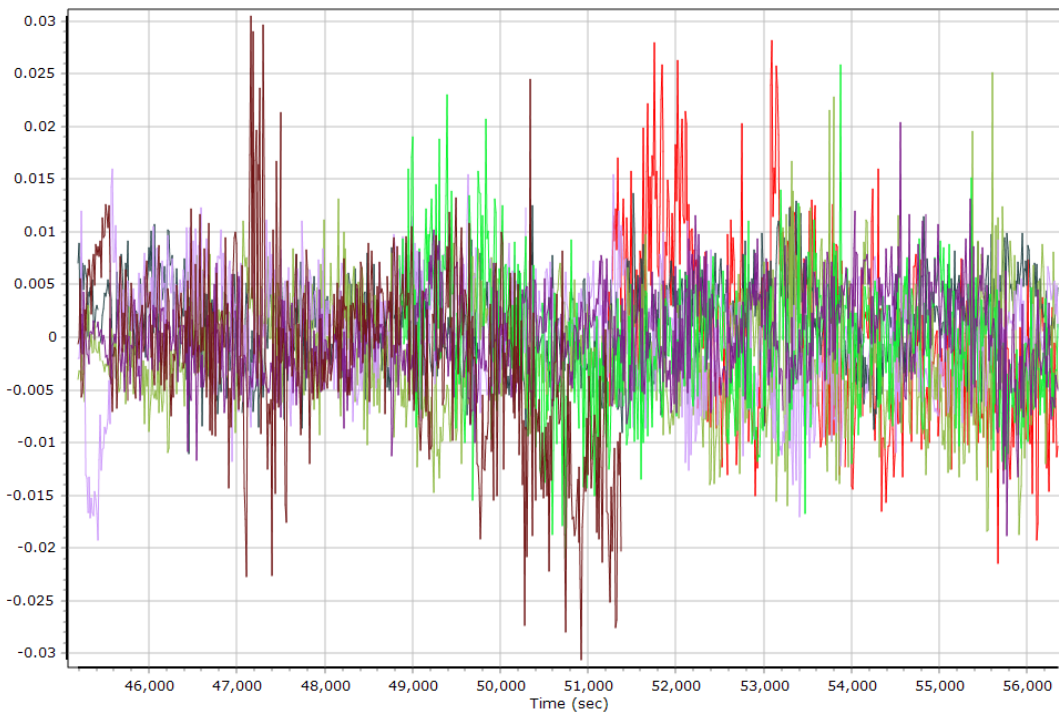


GLONASS Residuals



- | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GLONASS 01 Residual (m) | GLONASS 08 Residual (m) | GLONASS 12 Residual (m) | GLONASS 13 Residual (m) |
| GLONASS 14 Residual (m) | GLONASS 15 Residual (m) | GLONASS 17 Residual (m) | GLONASS 18 Residual (m) |
| GLONASS 23 Residual (m) | GLONASS 24 Residual (m) | | |

GALILEO Residuals



- | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| GALILEO 01 Residual (m) | GALILEO 13 Residual (m) | GALILEO 15 Residual (m) | GALILEO 21 Residual (m) |
| GALILEO 26 Residual (m) | GALILEO 27 Residual (m) | GALILEO 30 Residual (m) | |

GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	44929.000 (07/31/2022 12:28:49)		
Processing end time	56377.000 (07/31/2022 15:39:37)		
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)	0.357	-0.425	-1.088
Reference to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

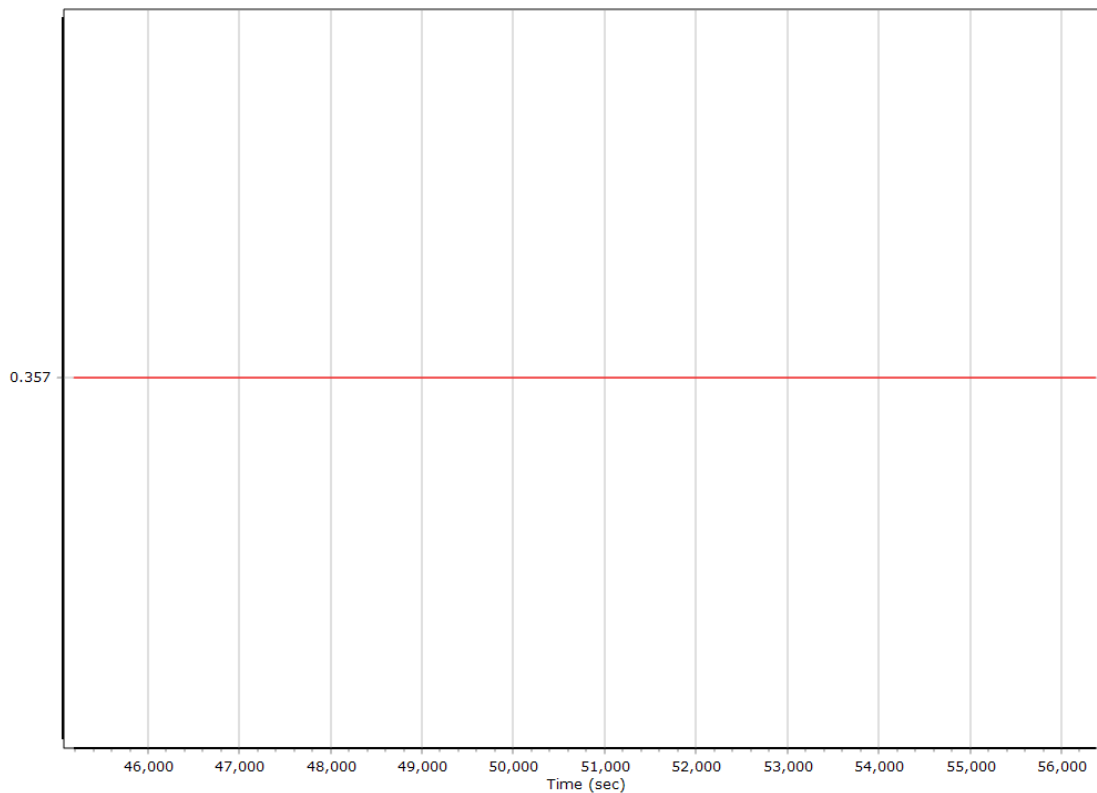
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

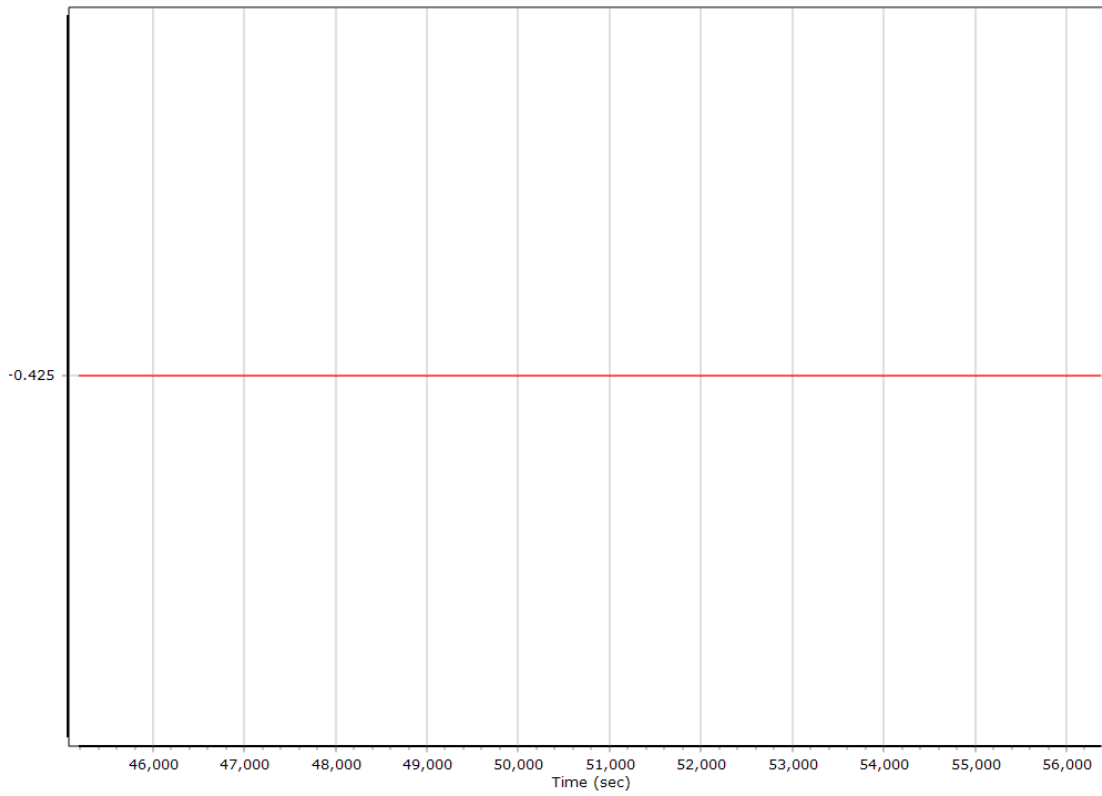
Reference-Primary GNSS Lever Arm Automatic Calibration Results

Original Reference to Primary GNSS lever arm (m)	0.361	-0.429	-0.945
Iteration 1 Reference to Primary GNSS lever arm (m)	0.356	-0.424	-1.086
Iteration 2 Reference to Primary GNSS lever arm (m)	0.357	-0.425	-1.088
Primary GNSS Lever Arm In use	Iteration 2		

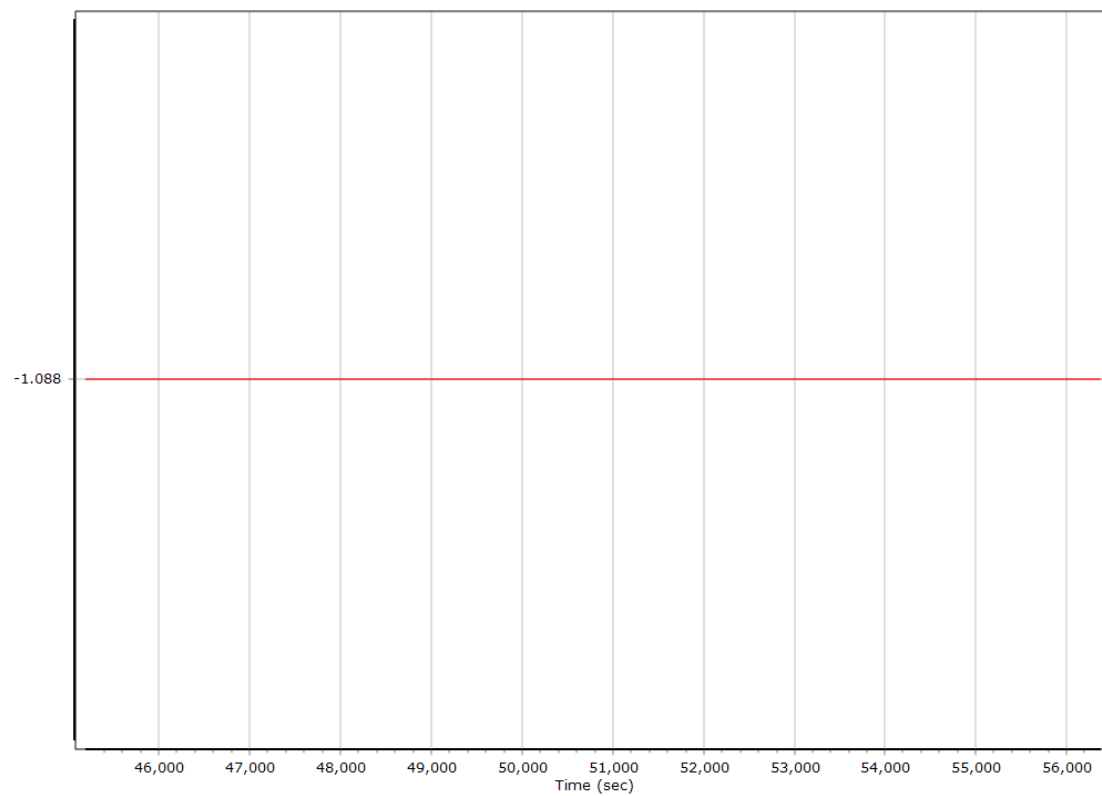
X Reference-Primary GNSS Lever Arm (m)



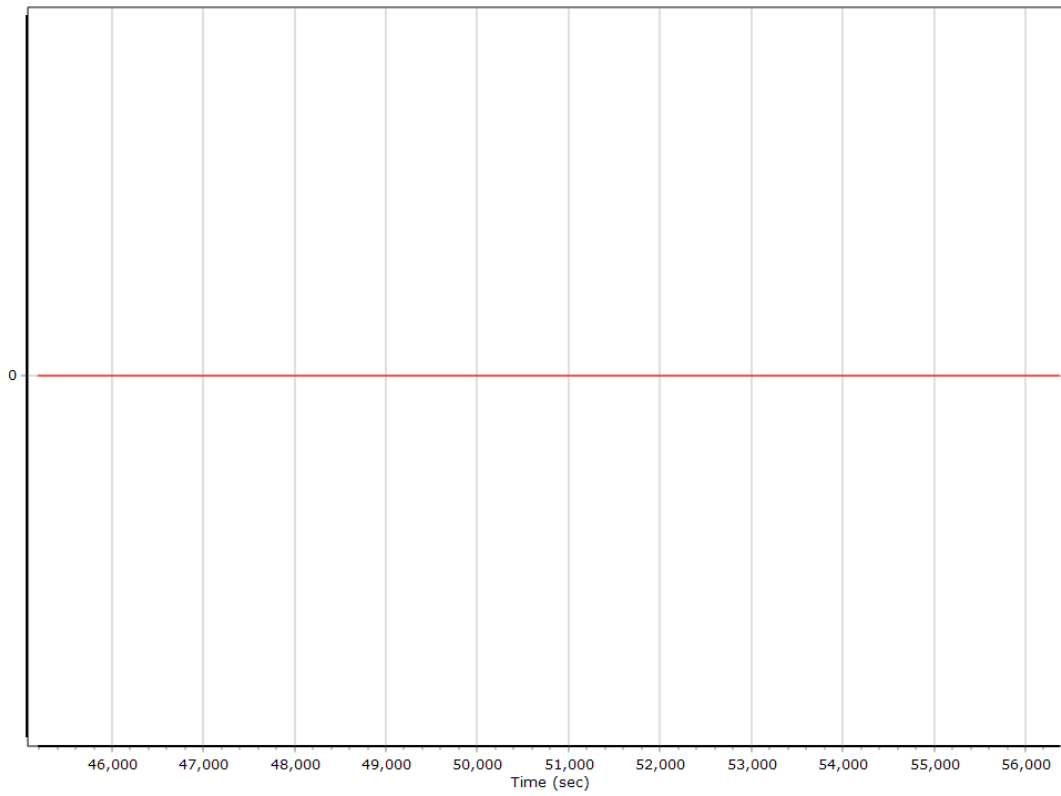
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



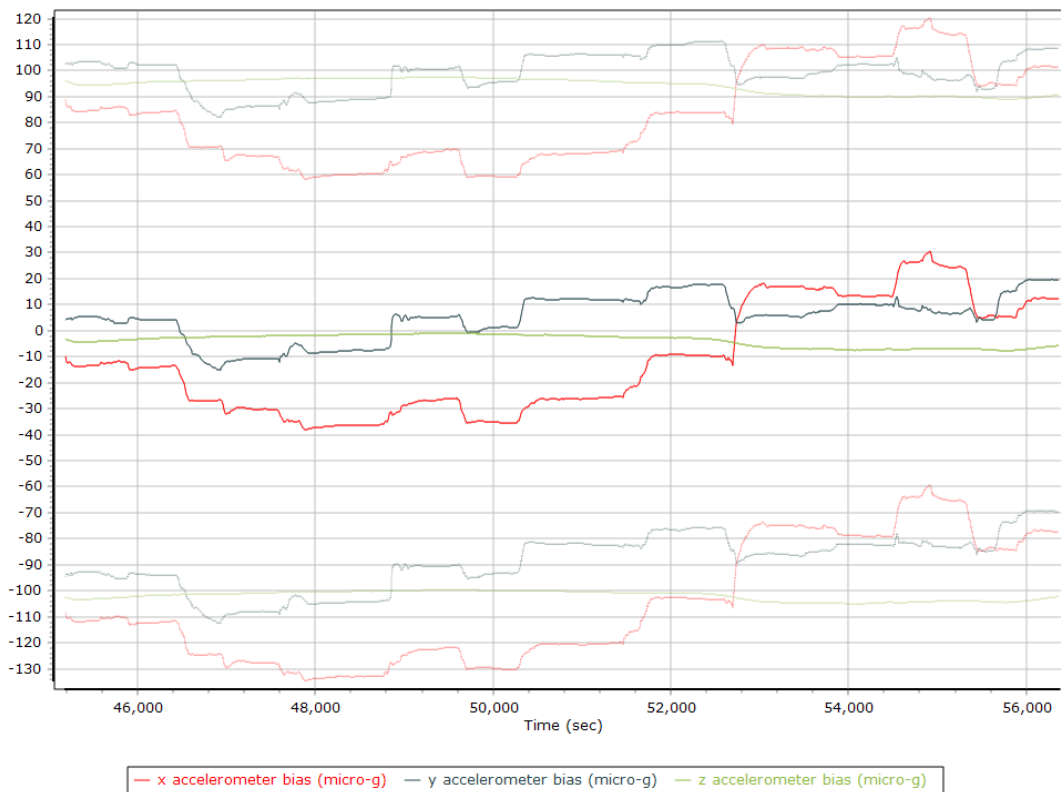
Reference-Primary GNSS Lever Arm Figure of Merit



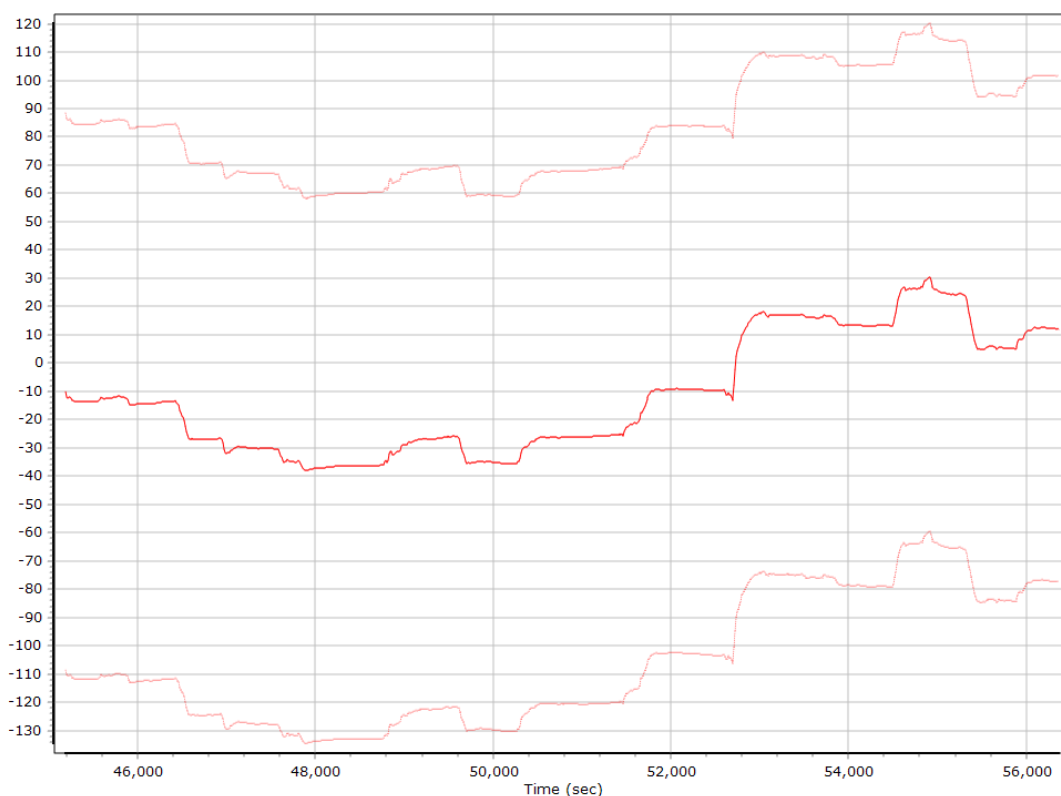
IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

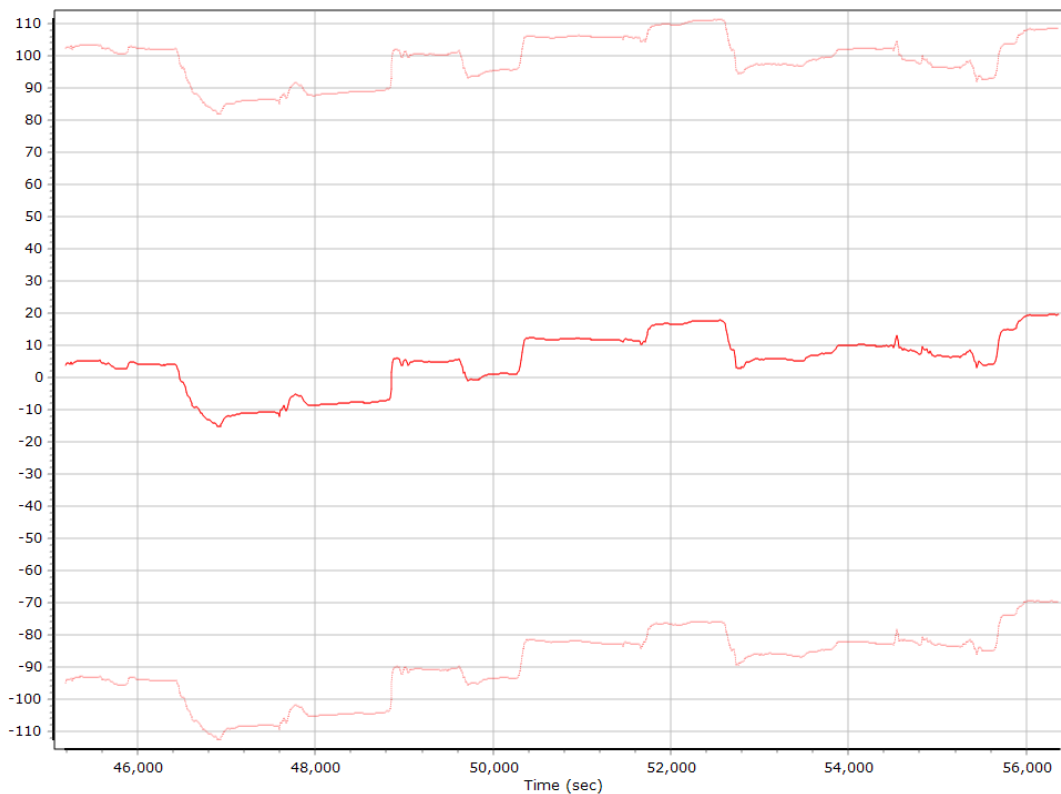
Accelerometer Bias (micro-g)



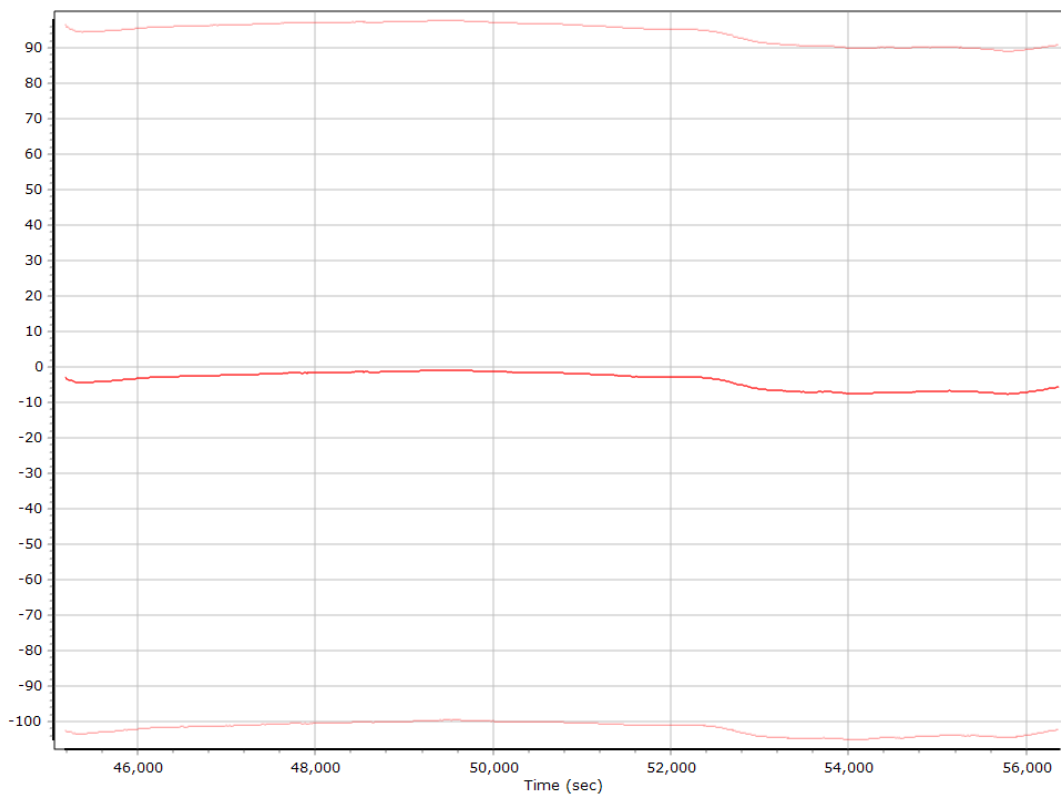
X Accelerometer Bias (micro-g)



Y Accelerometer Bias (micro-g)



Z Accelerometer Bias (micro-g)



Accelerometer Scale Error (ppm)



X Accelerometer Scale Error (ppm)



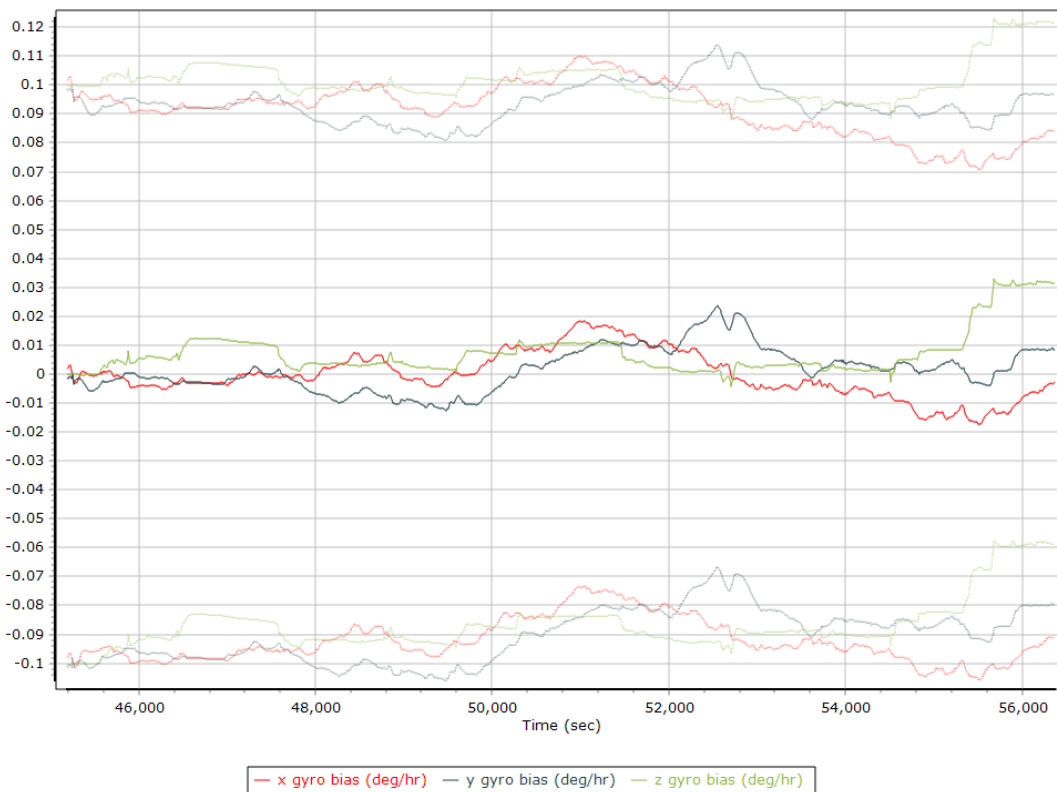
Y Accelerometer Scale Error (ppm)



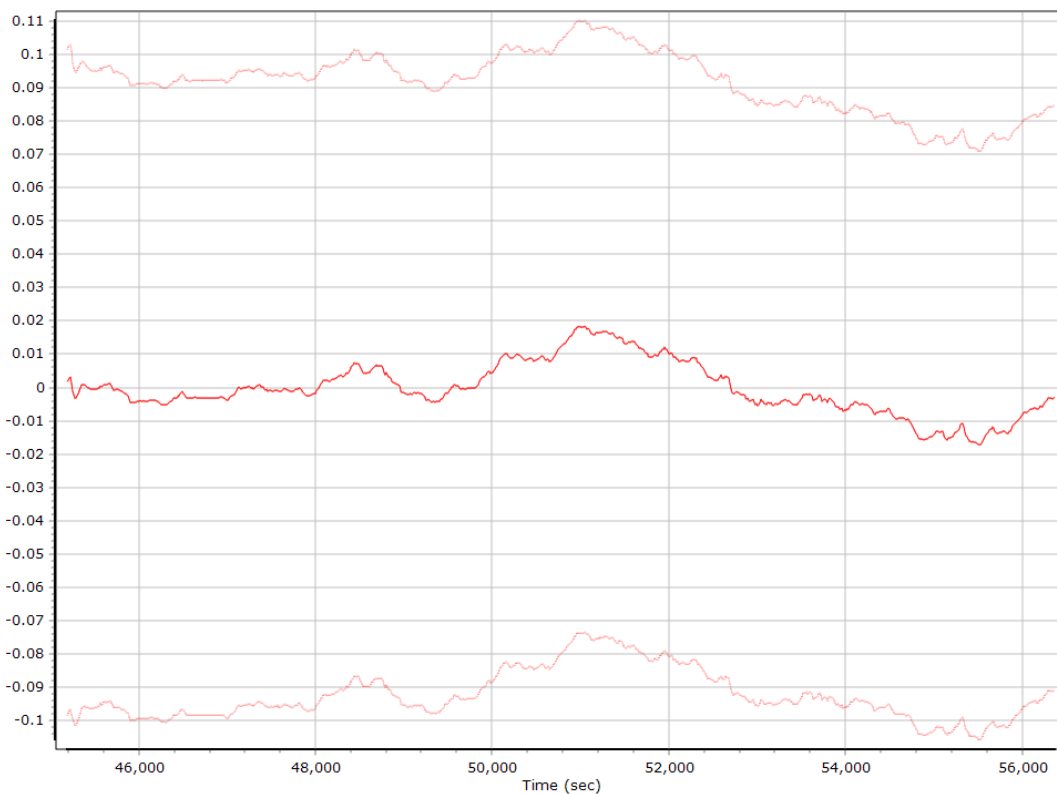
Z Accelerometer Scale Error (ppm)



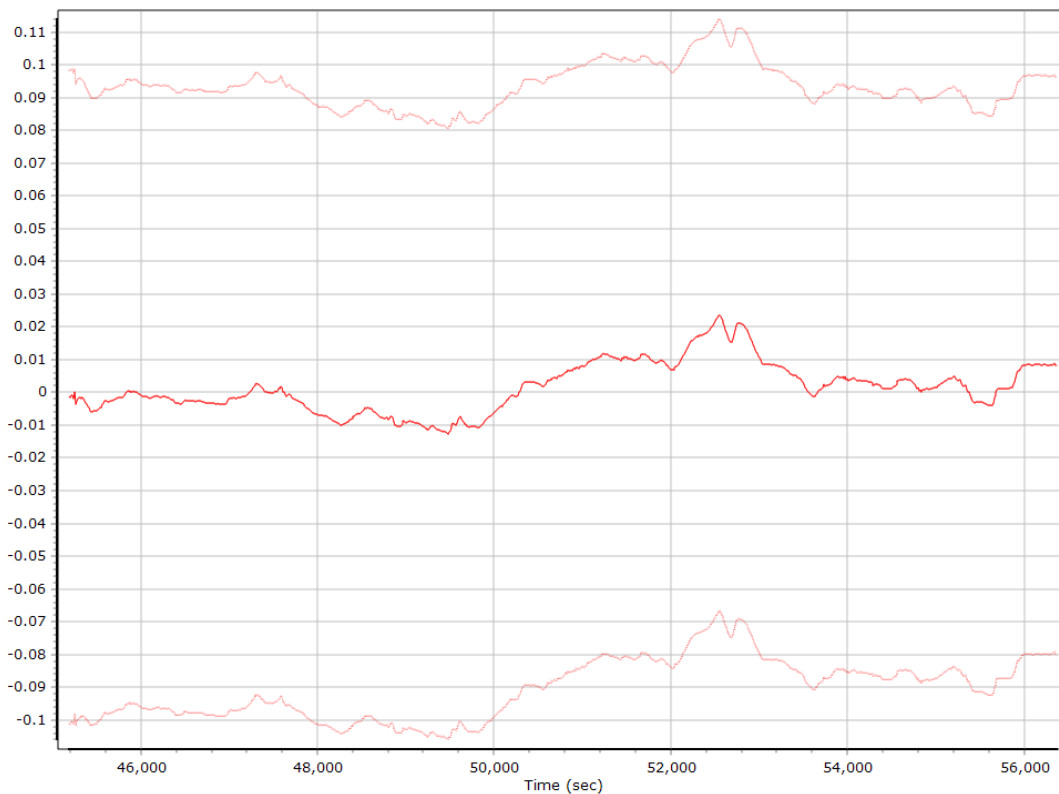
Gyro Bias (deg/h)



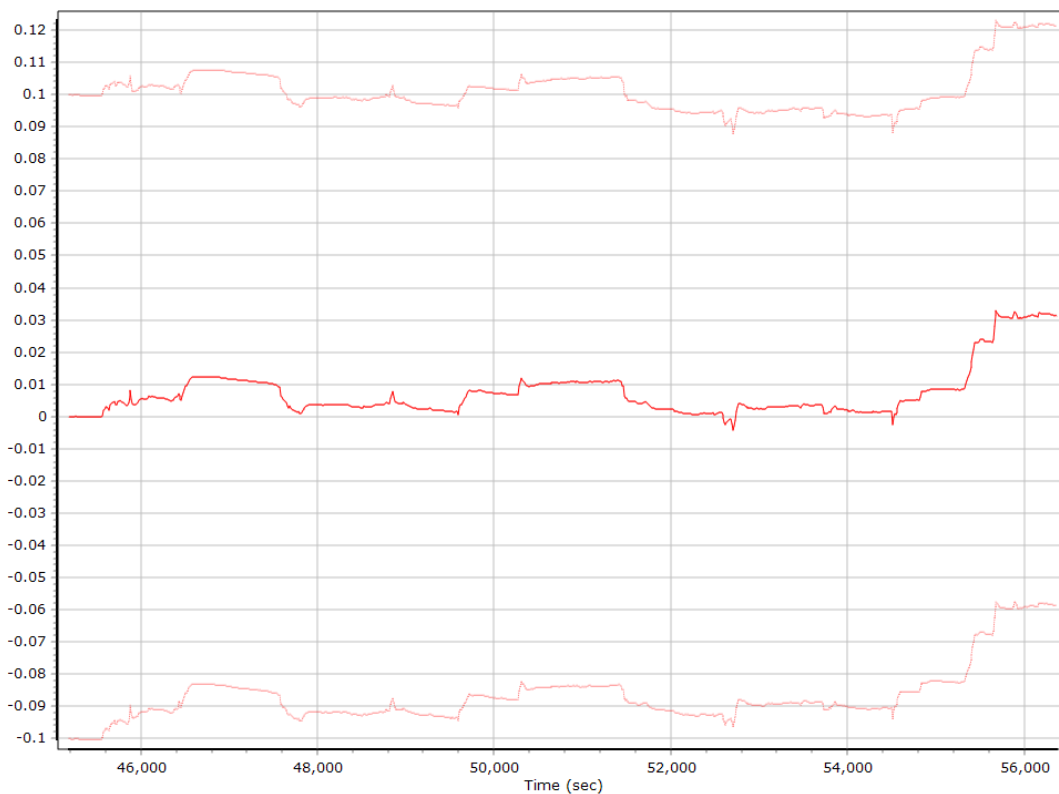
X Gyro Bias (deg/h)



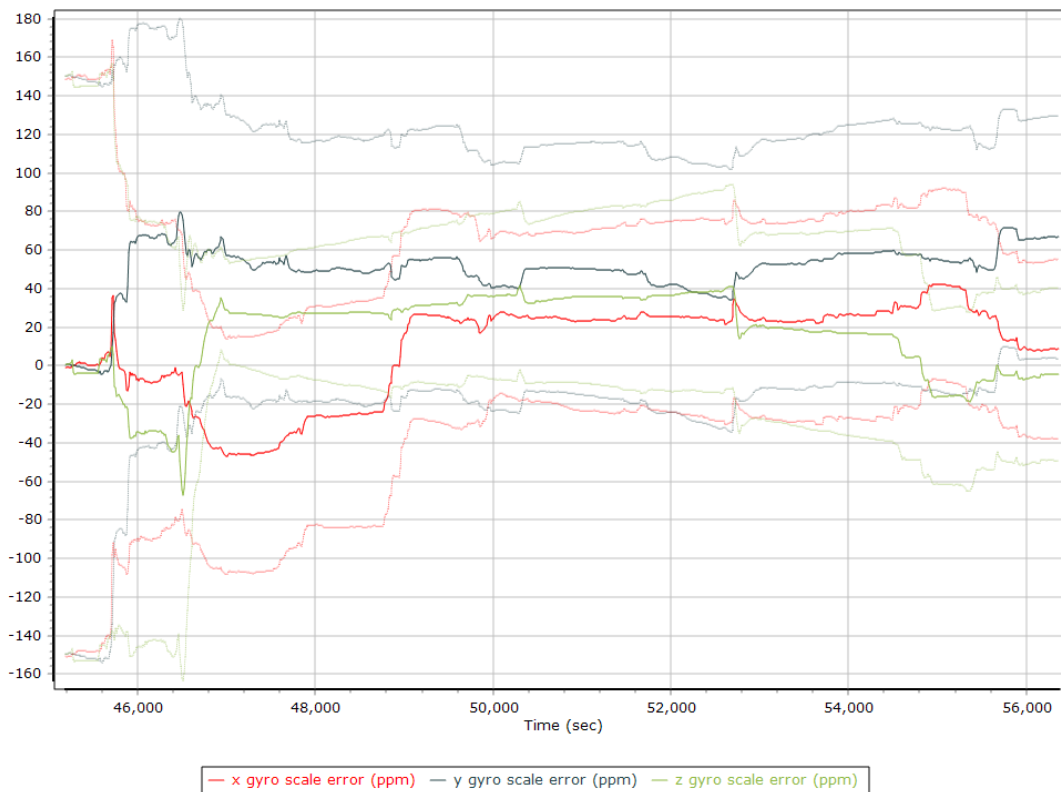
Y Gyro Bias (deg/h)



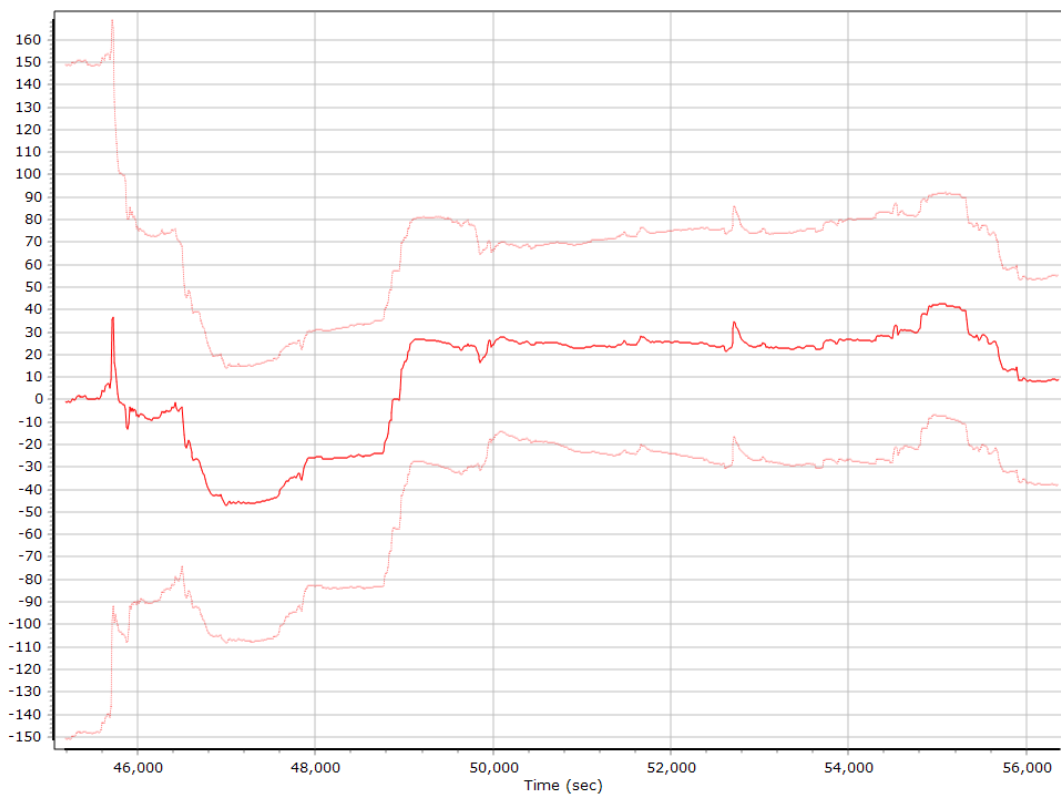
Z Gyro Bias (deg/h)



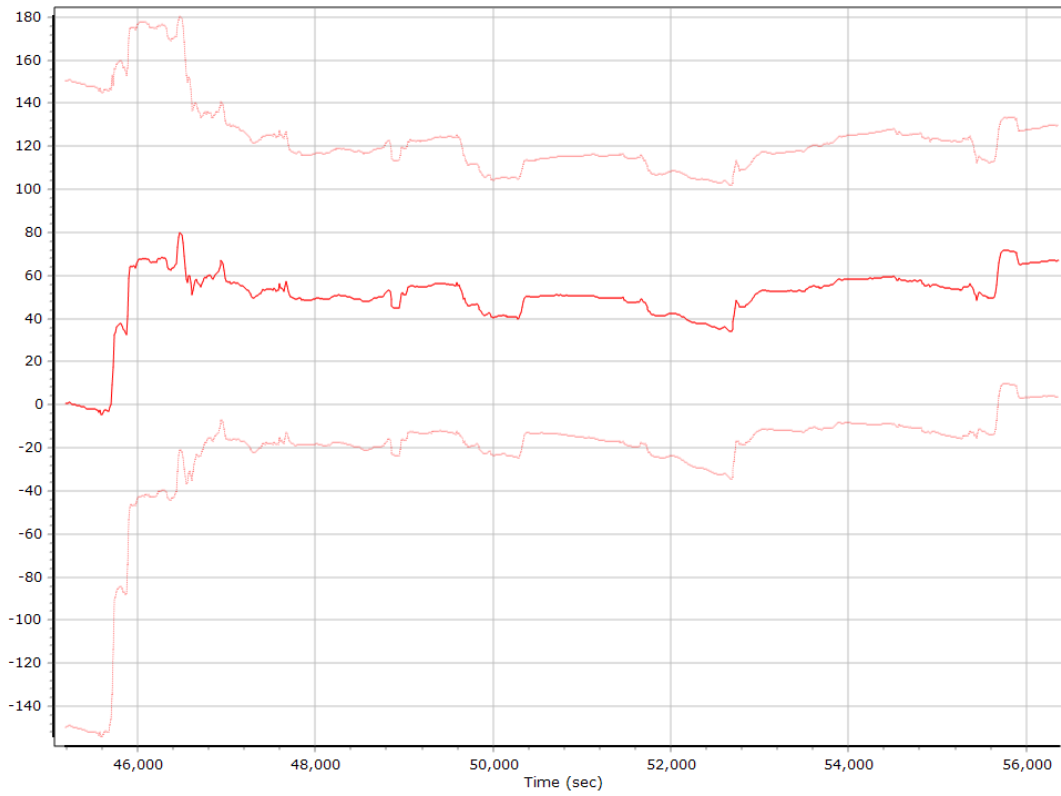
Gyro Scale Error (ppm)



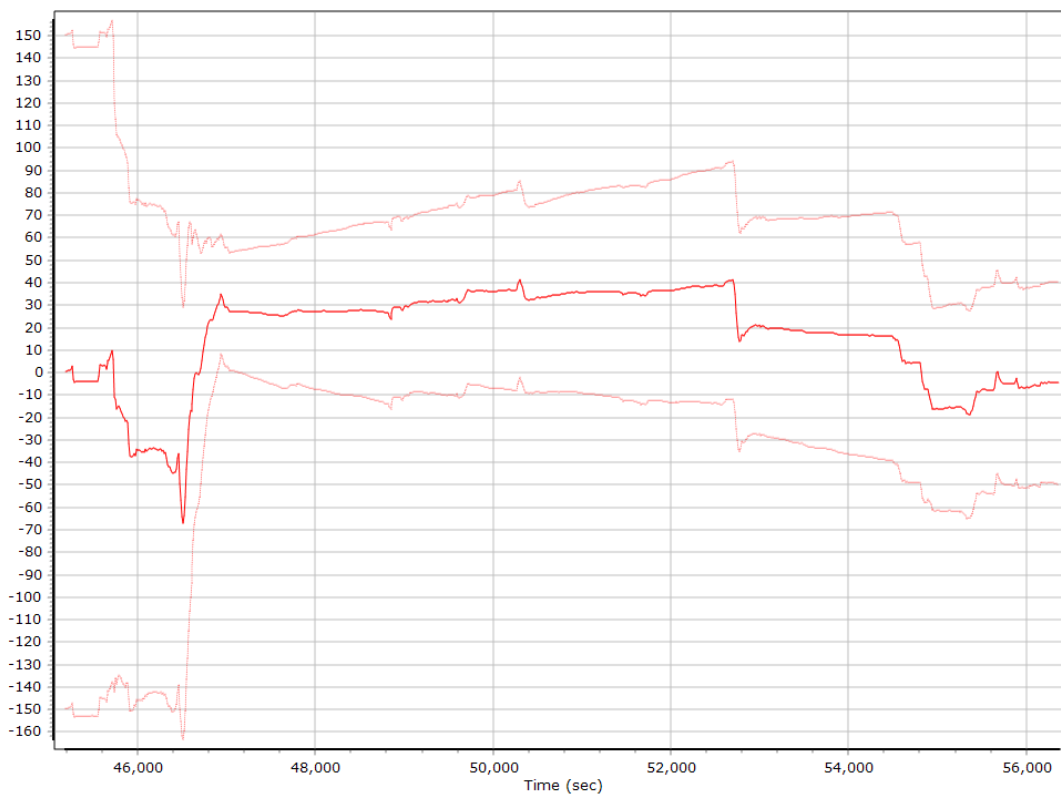
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

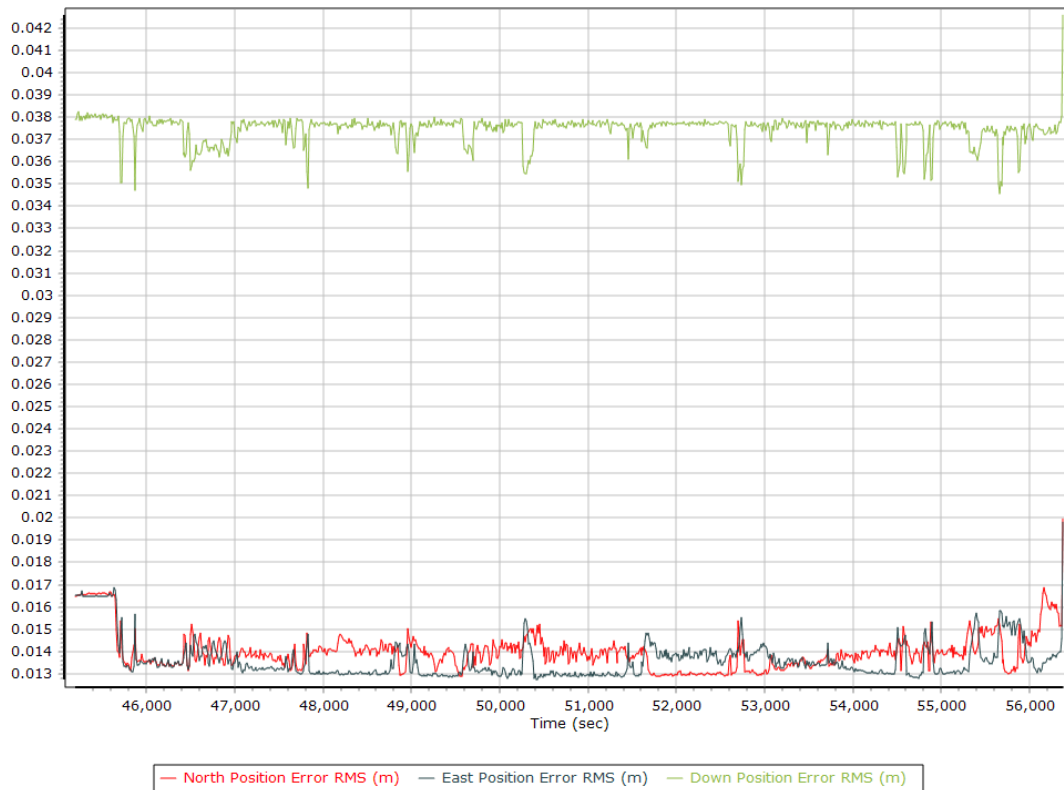


Z Gyro Scale Error (ppm)

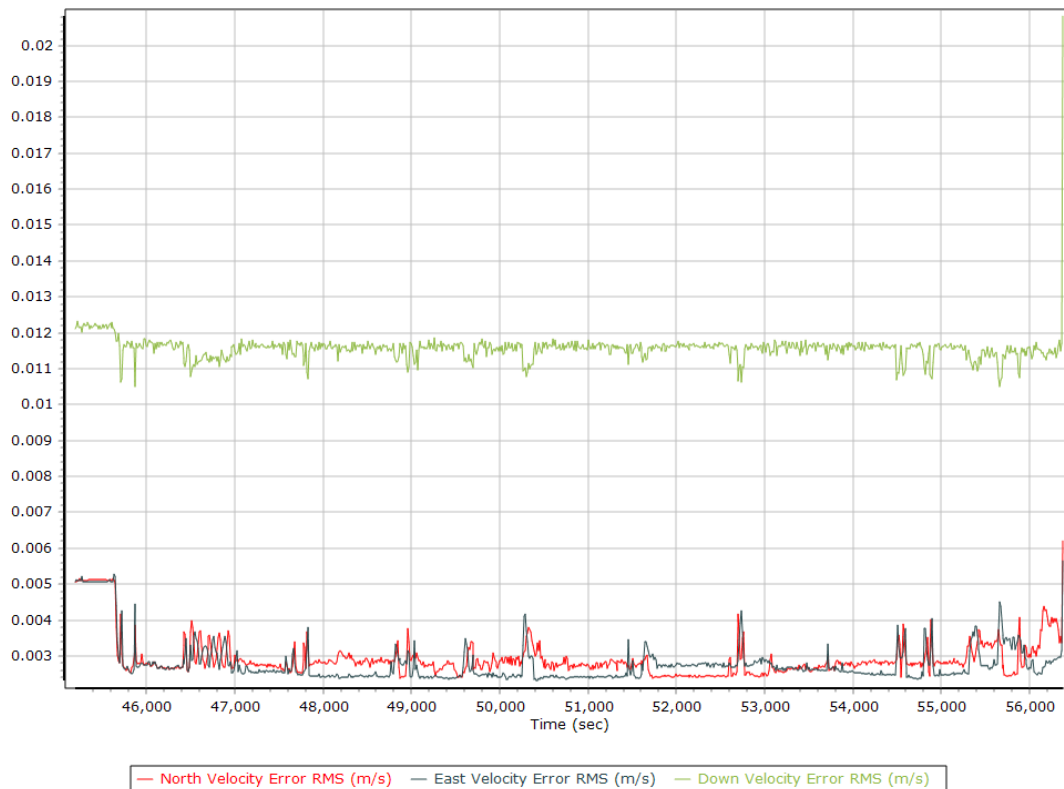


Smoothed Performance Metrics

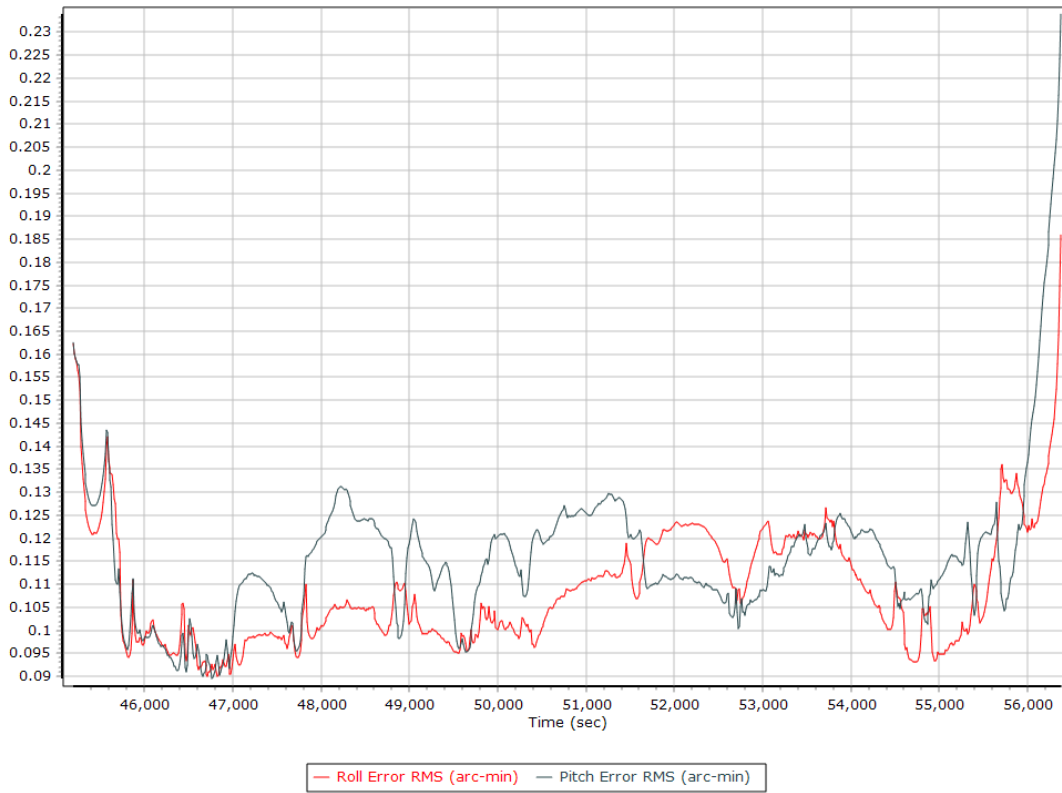
Position Error RMS (m)



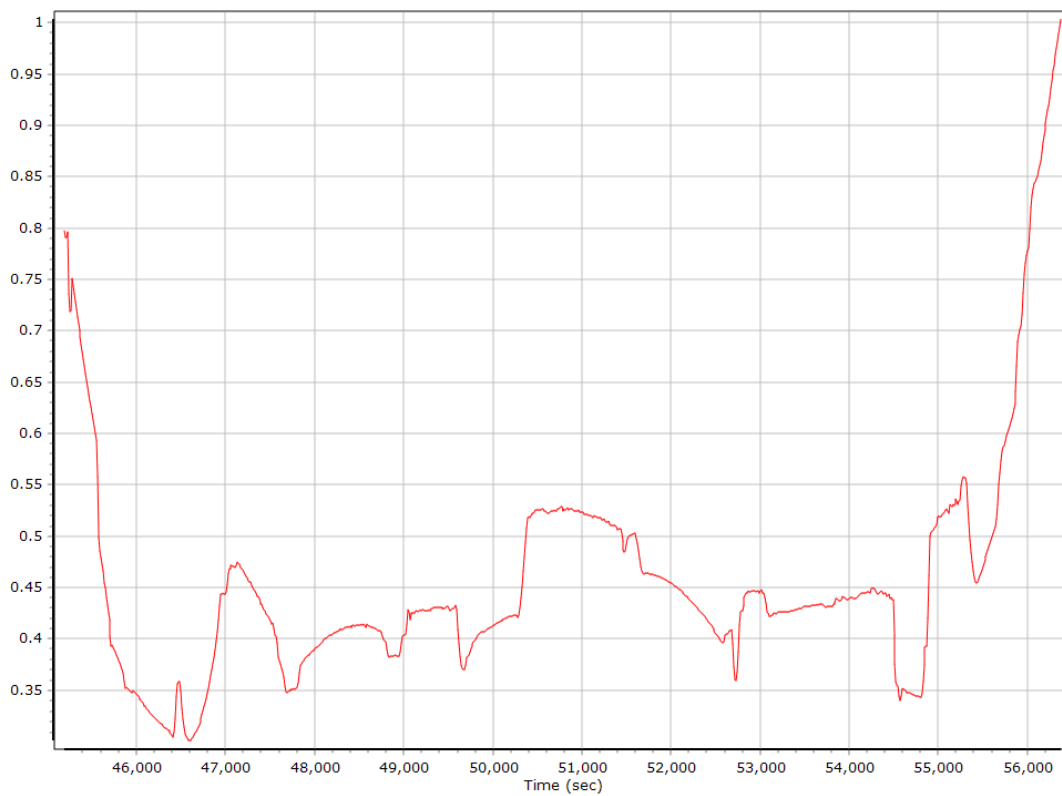
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

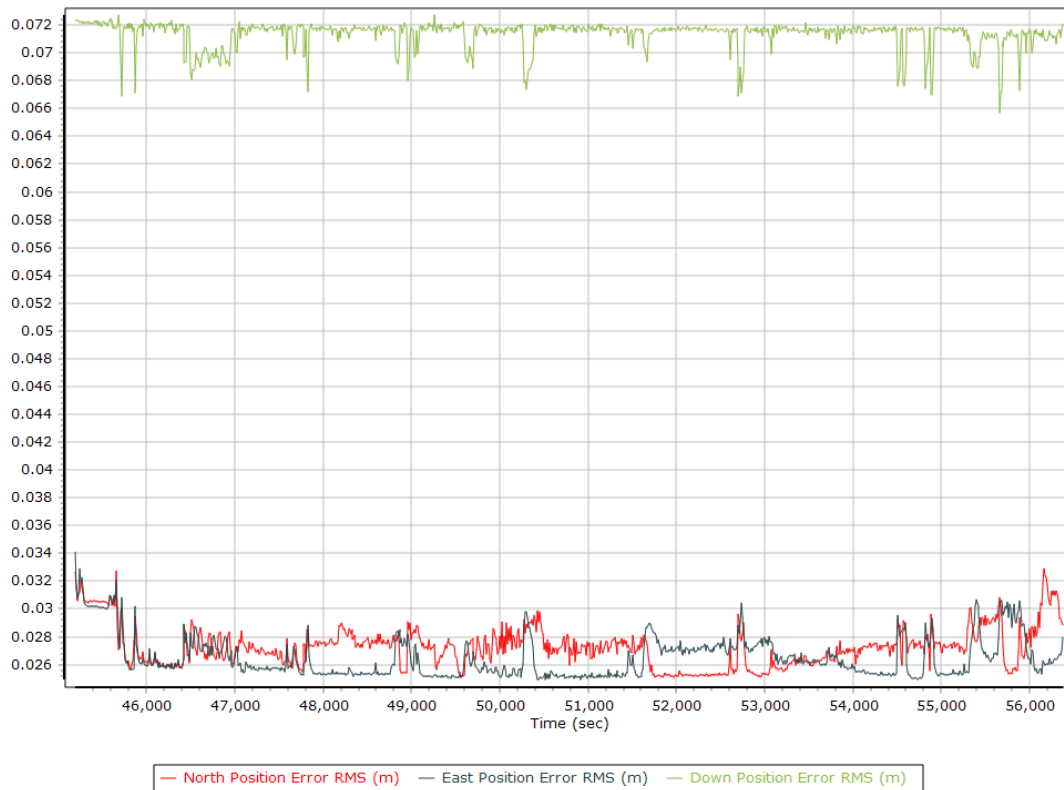


Heading Error RMS (arc-min)

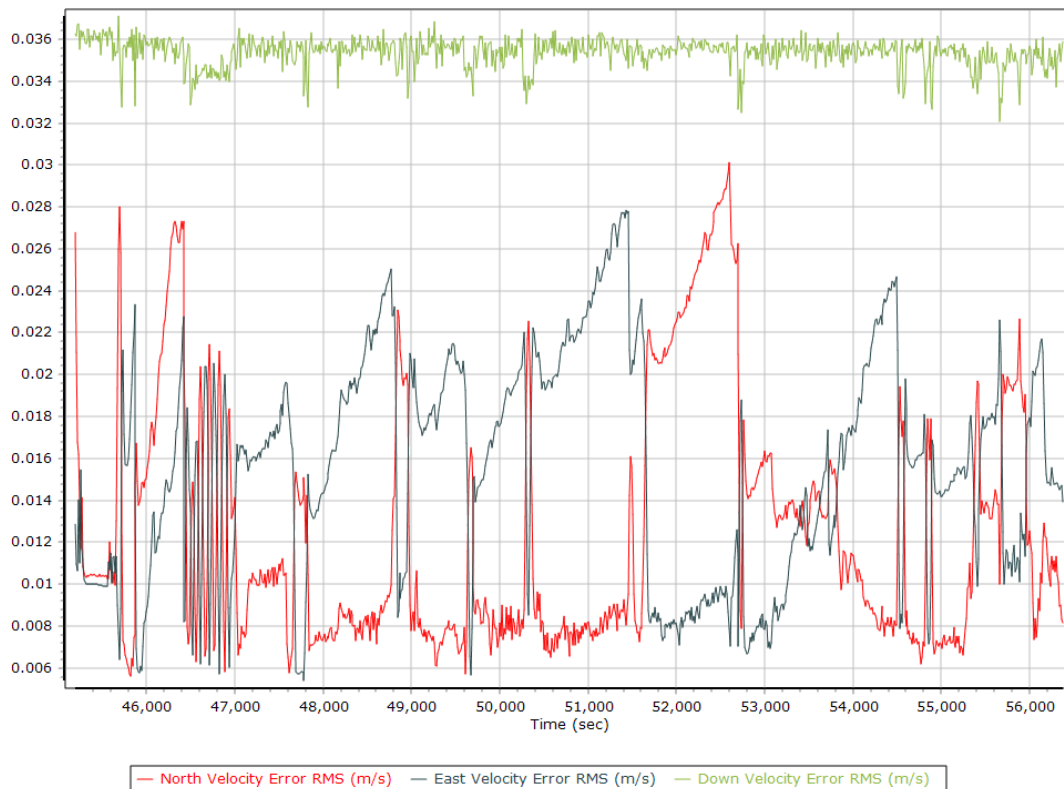


Forward Processed Performance Metrics

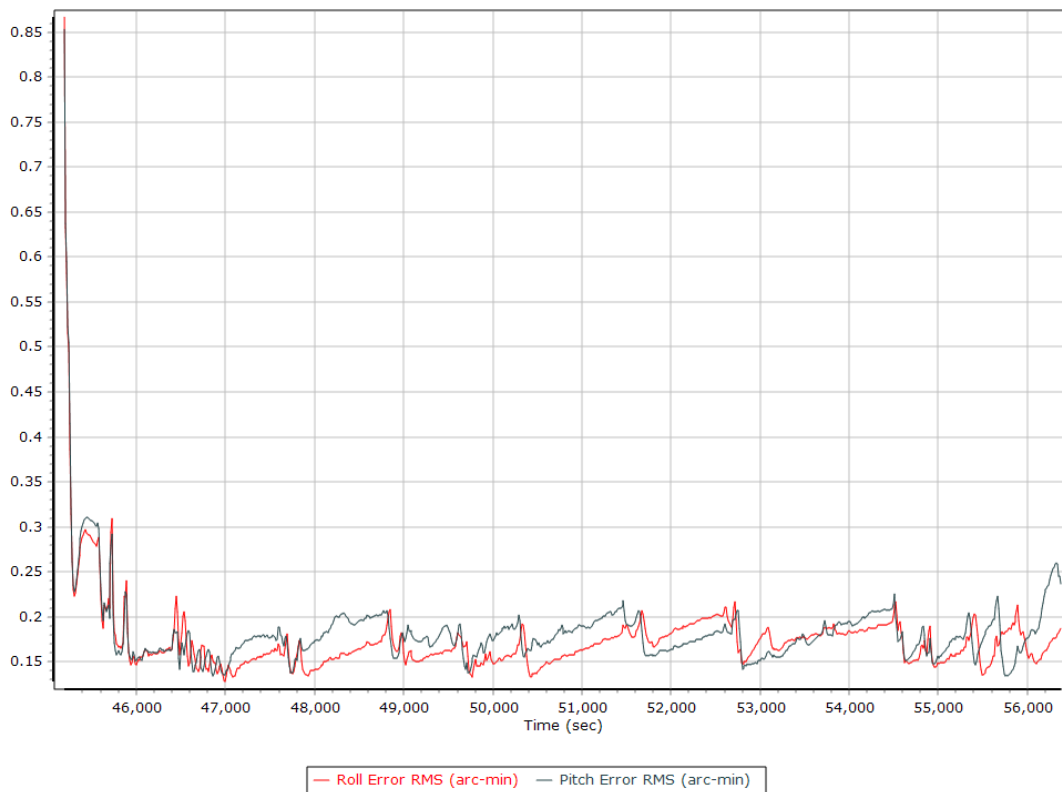
Position Error RMS (m)



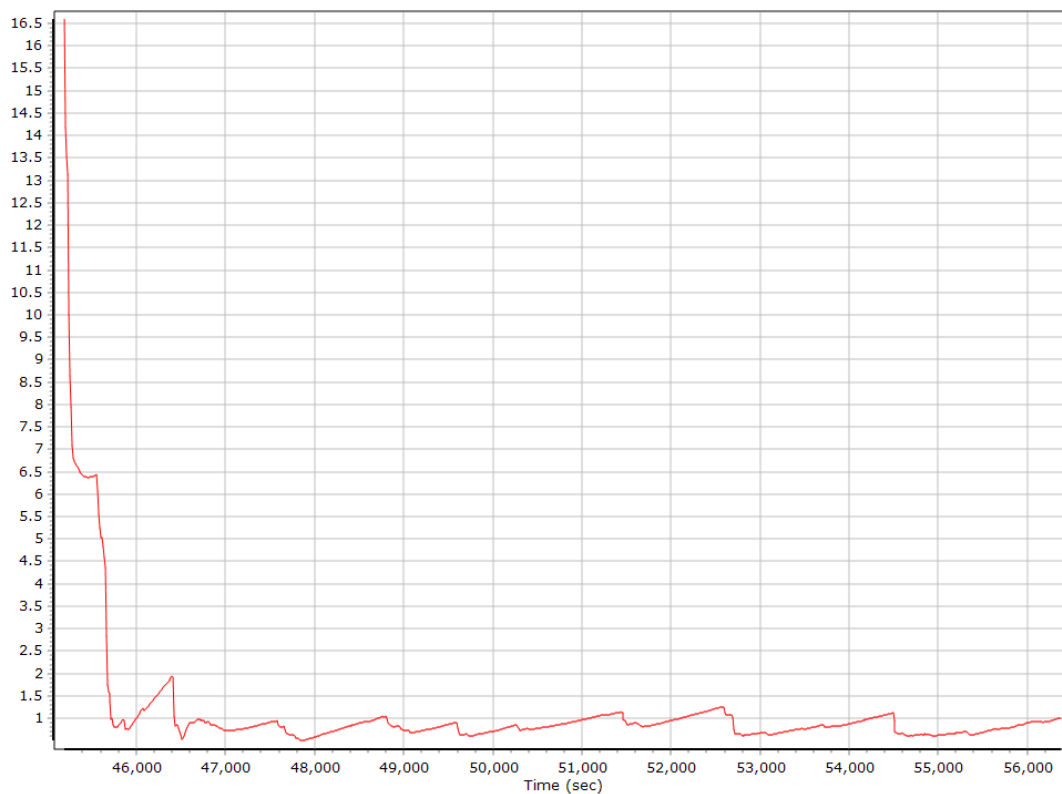
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

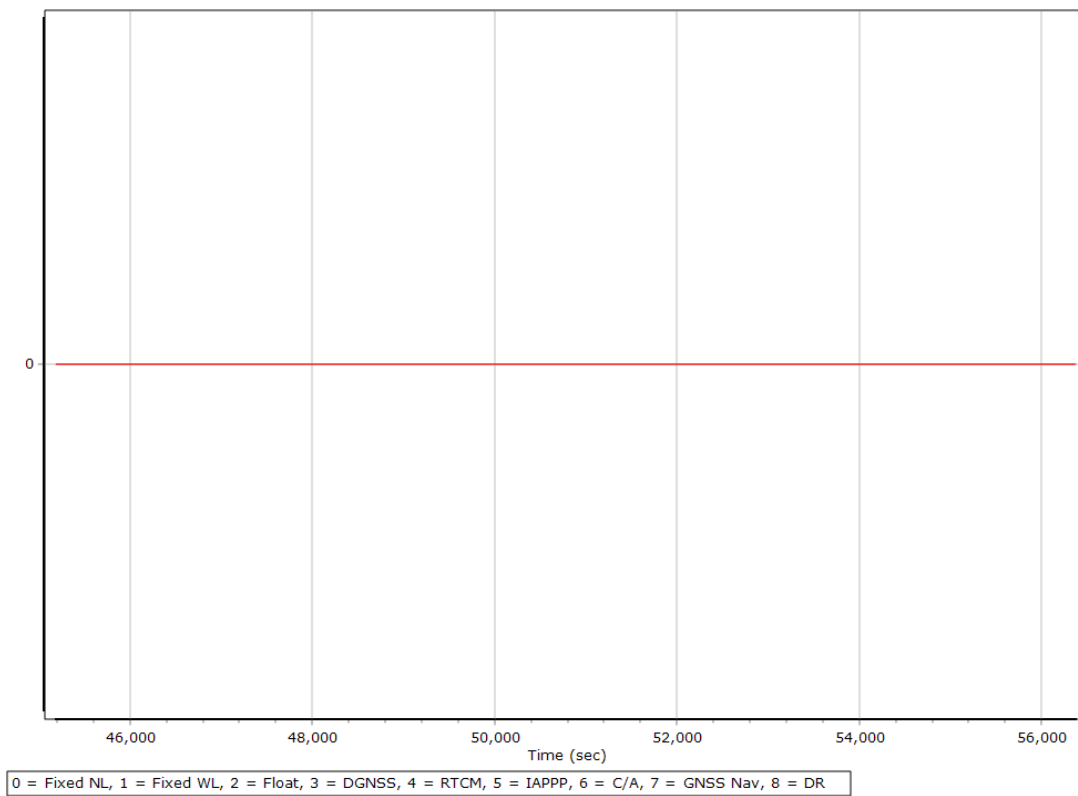


Heading Error RMS (arc-min)

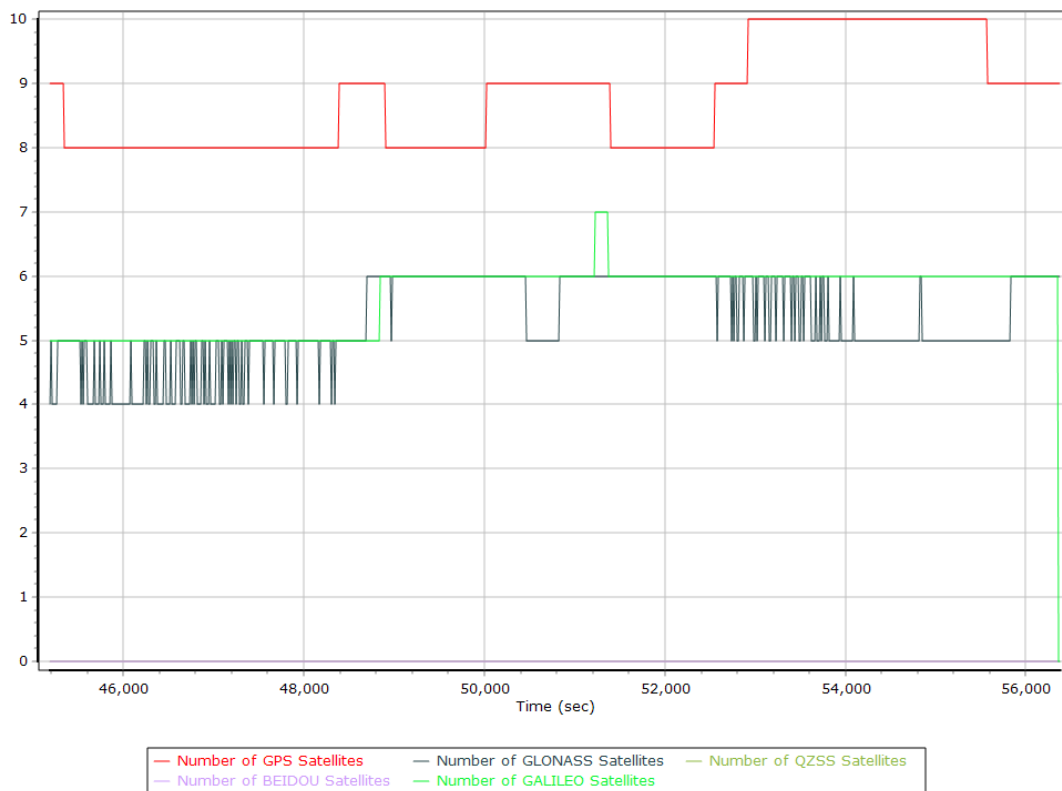


Forward Processed Solution Status

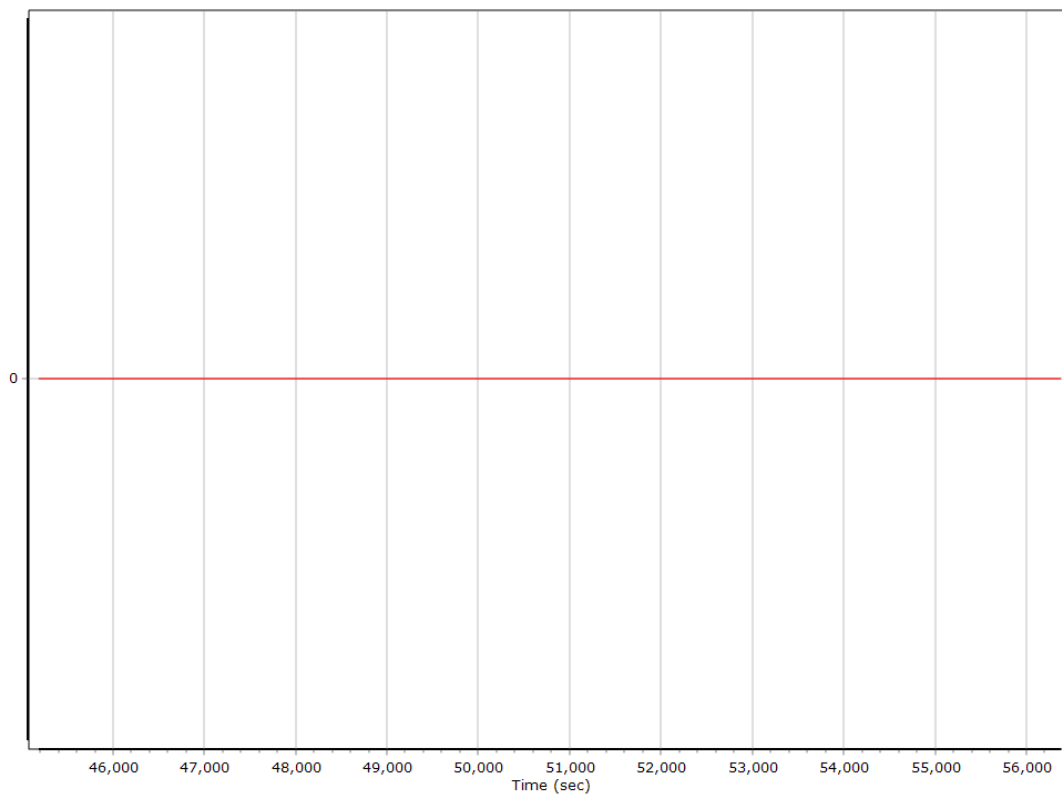
Processing Mode



Number of Satellites



Baseline Length



Export Summary

Export file	sbet_220731_A_5060492_nad2011_FINAL.shp		
Export format	Shapefile		
Solution in use	Post-processed		
Output rate	Specified Distance Interval		
Distance Interval (m)	10.000		
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	45132.001 (07/31/2022 12:32:12)		
Export end time	56377.000 (07/31/2022 15:39:37)		
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	2022.578082		