

General Information

Mission Information

Project name	20211129_F1_Basestation
Processing date	2021-12-07 19:25:08
Mission date	2021-11-29 15:13:12
Mission duration	04:16:02.000
Processing mode	IN-Fusion Single Base
GPS Station	DHLG Durmid Hill

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
VQ1560.314	POS Data
VQ1560.315	POS Data
VQ1560.316	POS Data
VQ1560.317	POS Data
VQ1560.318	POS Data
VQ1560.319	POS Data
VQ1560.320	POS Data
VQ1560.321	POS Data
VQ1560.322	POS Data
VQ1560.323	POS Data
VQ1560.324	POS Data
VQ1560.325	POS Data
VQ1560.326	POS Data
VQ1560.327	POS Data
VQ1560.328	POS Data
VQ1560.329	POS Data
VQ1560.330	POS Data
VQ1560.331	POS Data
VQ1560.332	POS Data
VQ1560.333	POS Data
VQ1560.334	POS Data
VQ1560.335	POS Data
VQ1560.336	POS Data
VQ1560.337	POS Data
VQ1560.338	POS Data
VQ1560.339	POS Data
VQ1560.340	POS Data
VQ1560.341	POS Data
VQ1560.342	POS Data
VQ1560.343	POS Data
VQ1560.344	POS Data
VQ1560.345	POS Data
VQ1560.346	POS Data
VQ1560.347	POS Data
VQ1560.348	POS Data
VQ1560.349	POS Data

Input Files

File Name	File type
Ephm3330.21g	GLONASS Broadcast Ephemeris
Ephm3330.21n	GPS Broadcast Ephemeris
dhlg3330.21o	GNSS SingleBase

Output Files

Filename	File type
sbet_20211129_F1_Basestation.out	SBET Trajectory File
export_20211129_F1_Basestation_NAD83_2011.	Custom Smoothed BET Export Output

Rover Data Summary

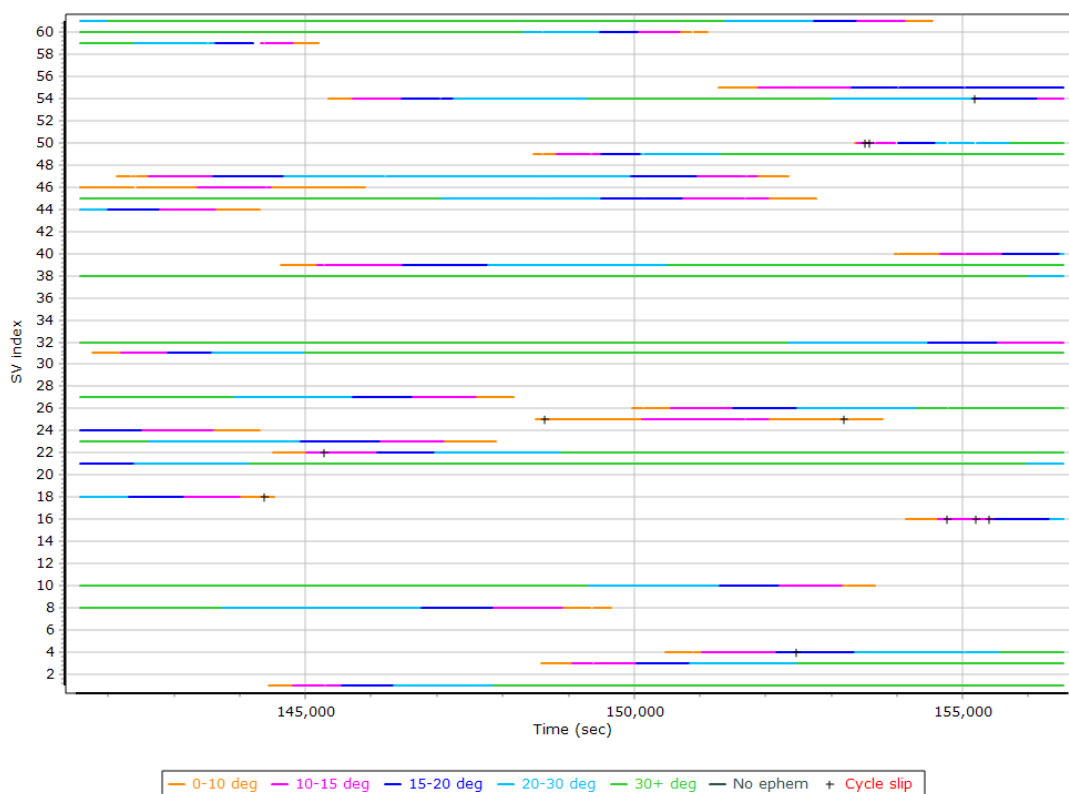
First raw data file	VQ1560.314		
Last raw data file	VQ1560.349		
Start GPS week	2186		
Start time	15.152 (11/28/2021 00:00:15)		
End time	156535.745 (11/29/2021 19:28:55)		
Start of fine alignment	141524.940 (11/29/2021 15:18:44)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction 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

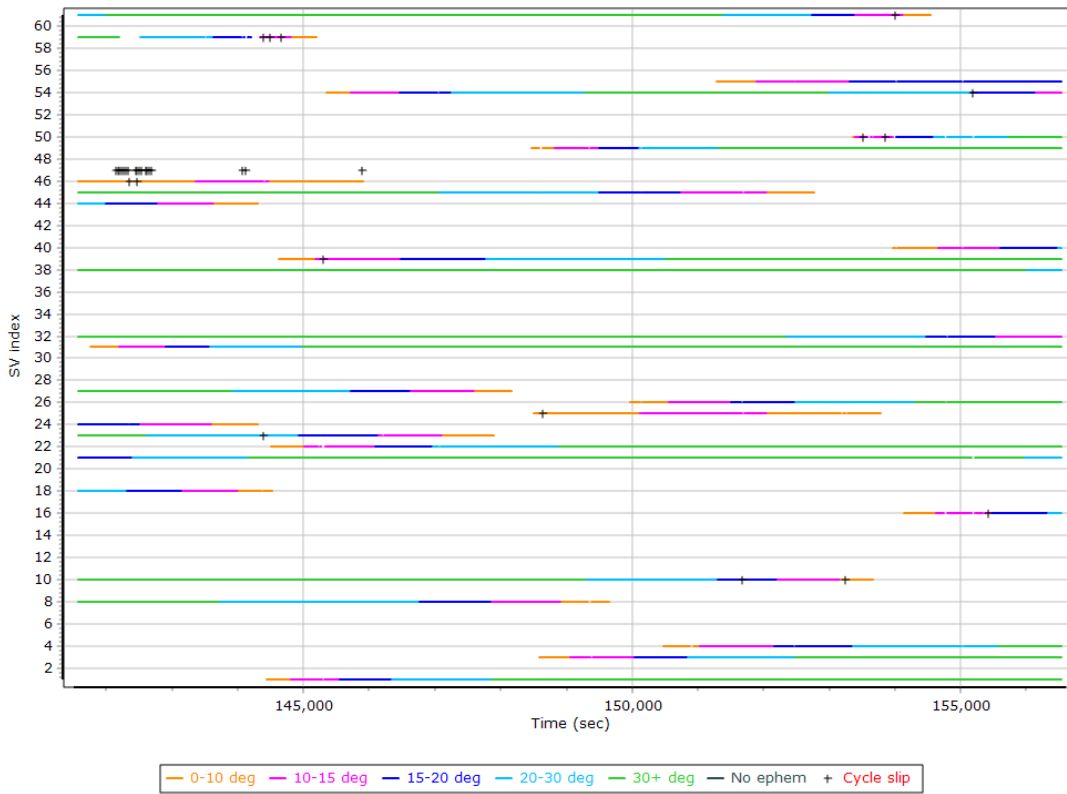
Raw IMU Import QC Summary

IMU data input file	imu_20211129_F1_Basestation.dat
IMU data check log file	imudt_20211129_F1_Basestation.log
IMU Records Processed	3071930
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
141188.819 : WARNING : Gap of 141172.8619 seconds in CHECKDT input data	

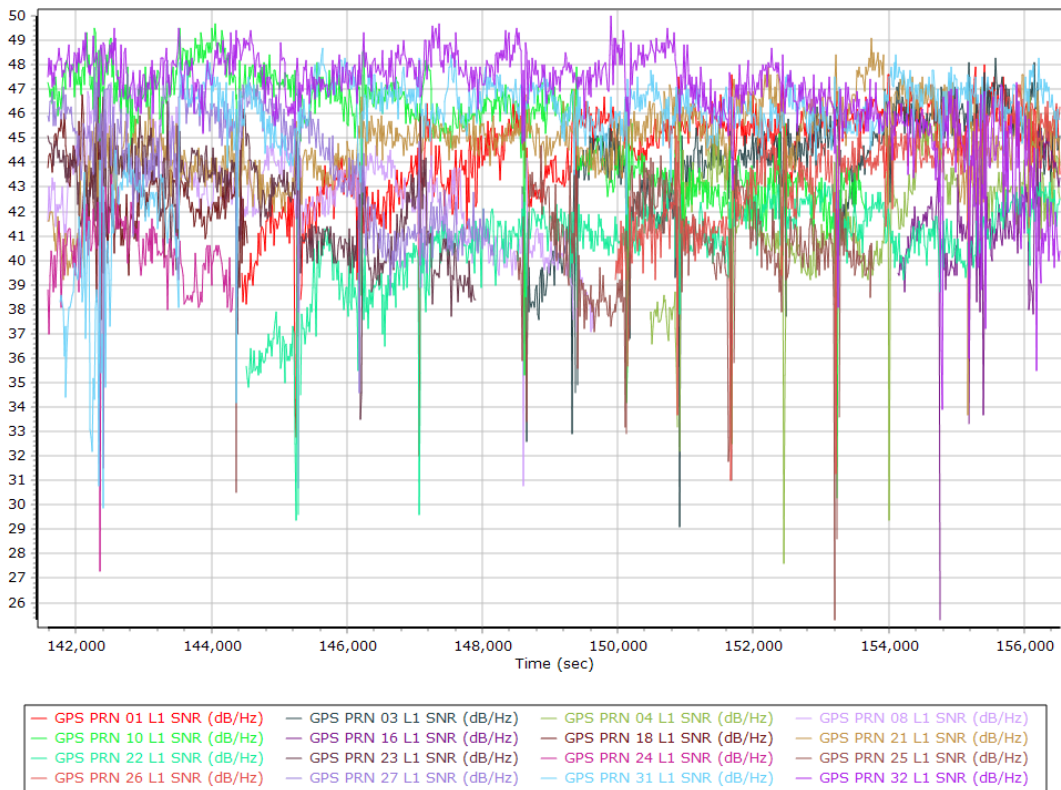
L1 Satellite Lock/Elevation



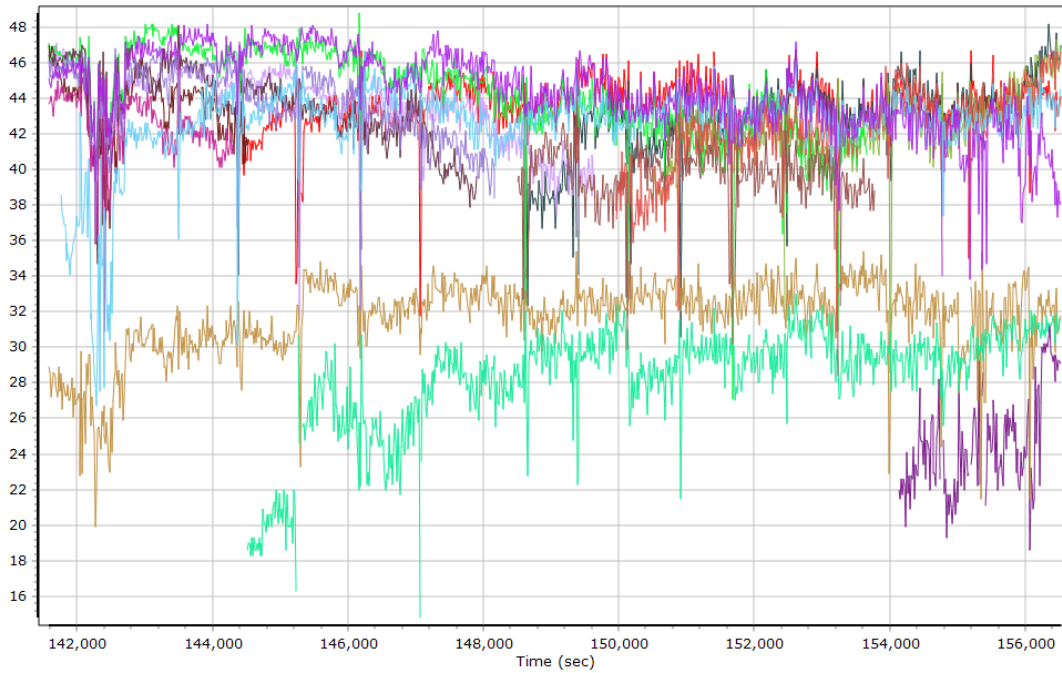
L2 Satellite Lock/Elevation



GPS L1 SNR

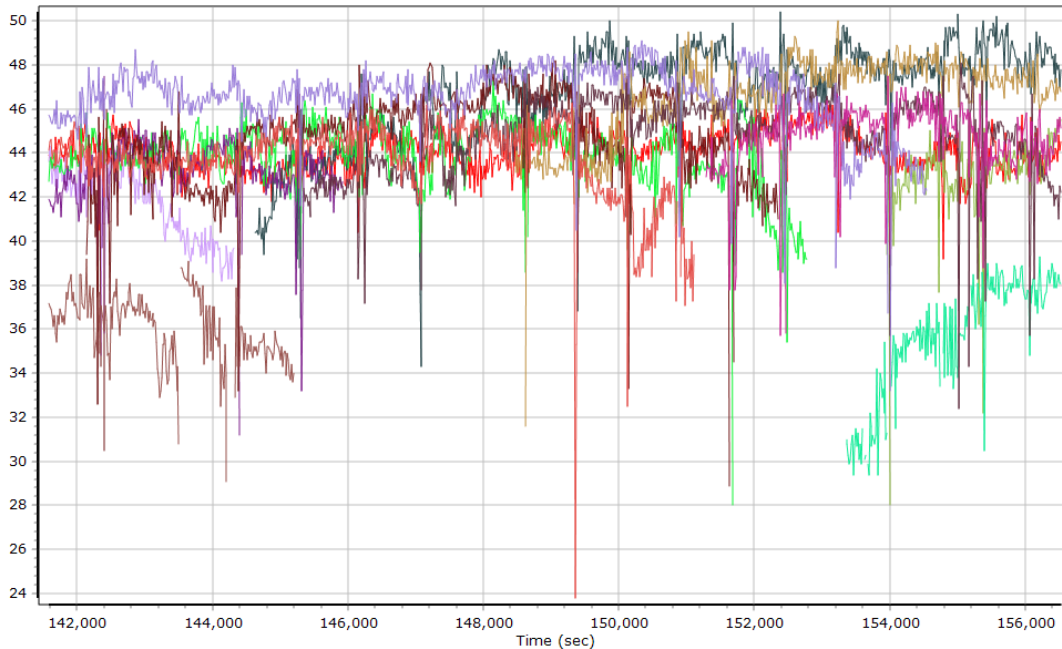


GPS L2 SNR



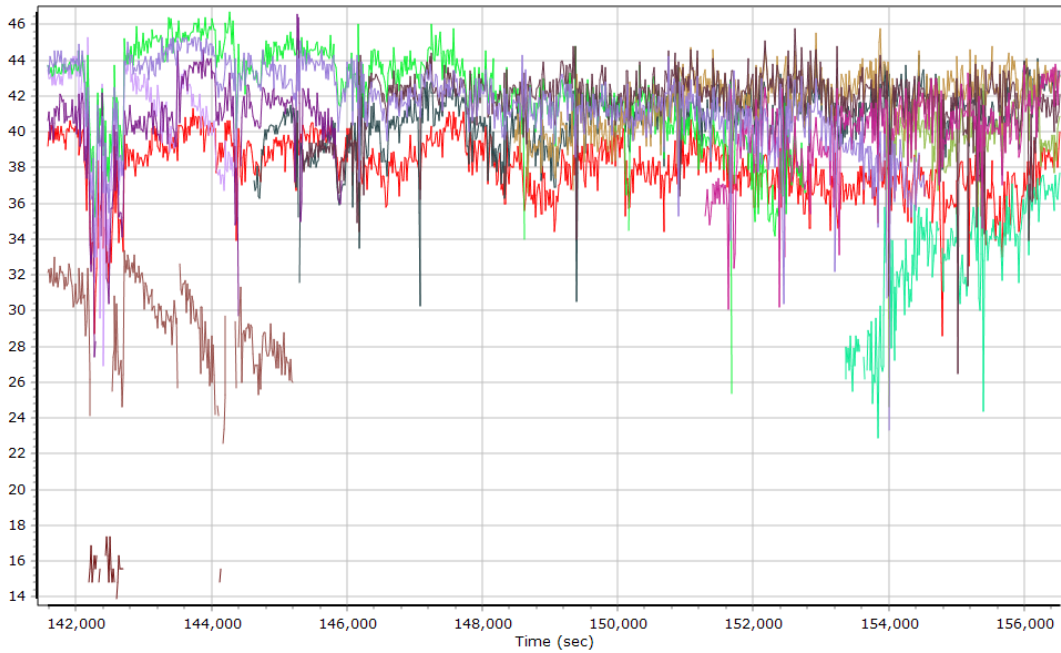
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 03 L2 SNR (dB/Hz) | GPS PRN 04 L2 SNR (dB/Hz) | GPS PRN 08 L2 SNR (dB/Hz) |
| GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 16 L2 SNR (dB/Hz) | GPS PRN 18 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) |
| GPS PRN 22 L2 SNR (dB/Hz) | GPS PRN 23 L2 SNR (dB/Hz) | GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) |
| GPS PRN 26 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) |

GLONASS L1 SNR



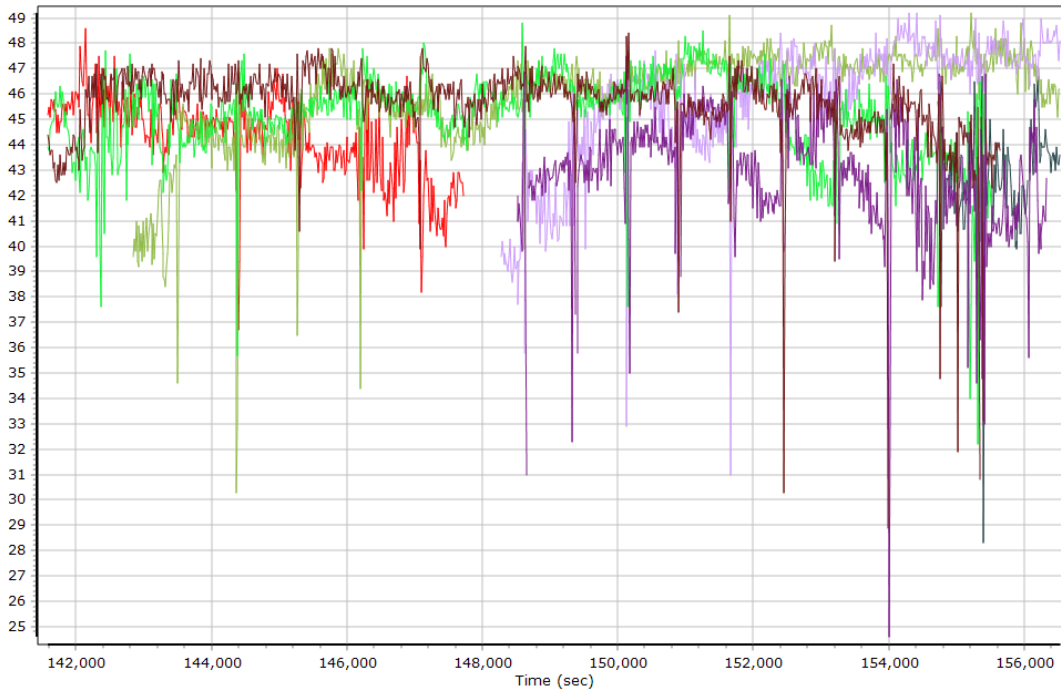
- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 03 L1 SNR (dB/Hz) |
| GLONASS 07 L1 SNR (dB/Hz) | GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) |
| GLONASS 10 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) | GLONASS 13 L1 SNR (dB/Hz) |
| GLONASS 17 L1 SNR (dB/Hz) | GLONASS 18 L1 SNR (dB/Hz) | GLONASS 22 L1 SNR (dB/Hz) |
| GLONASS 23 L1 SNR (dB/Hz) | GLONASS 24 L1 SNR (dB/Hz) | |

GLONASS L2 SNR



- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L2 SNR (dB/Hz) | GLONASS 02 L2 SNR (dB/Hz) | GLONASS 03 L2 SNR (dB/Hz) |
| GLONASS 07 L2 SNR (dB/Hz) | GLONASS 08 L2 SNR (dB/Hz) | GLONASS 09 L2 SNR (dB/Hz) |
| GLONASS 10 L2 SNR (dB/Hz) | GLONASS 12 L2 SNR (dB/Hz) | GLONASS 13 L2 SNR (dB/Hz) |
| GLONASS 17 L2 SNR (dB/Hz) | GLONASS 18 L2 SNR (dB/Hz) | GLONASS 22 L2 SNR (dB/Hz) |
| GLONASS 23 L2 SNR (dB/Hz) | GLONASS 24 L2 SNR (dB/Hz) | |

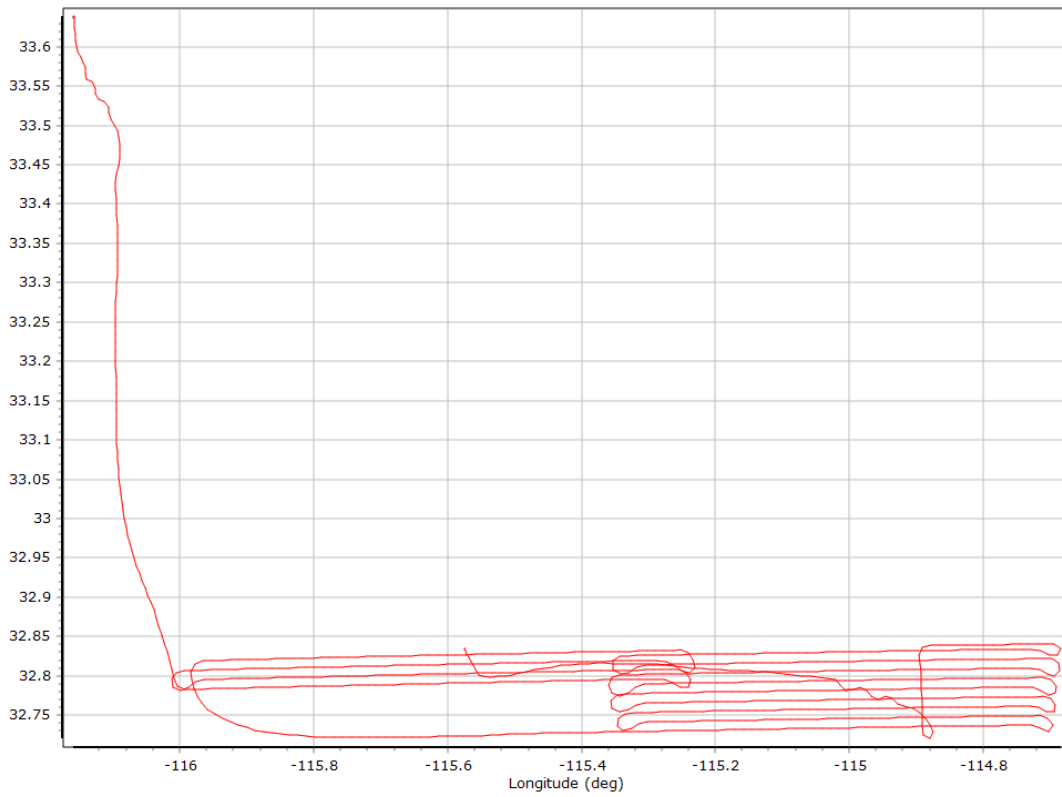
BEIDOU SNR



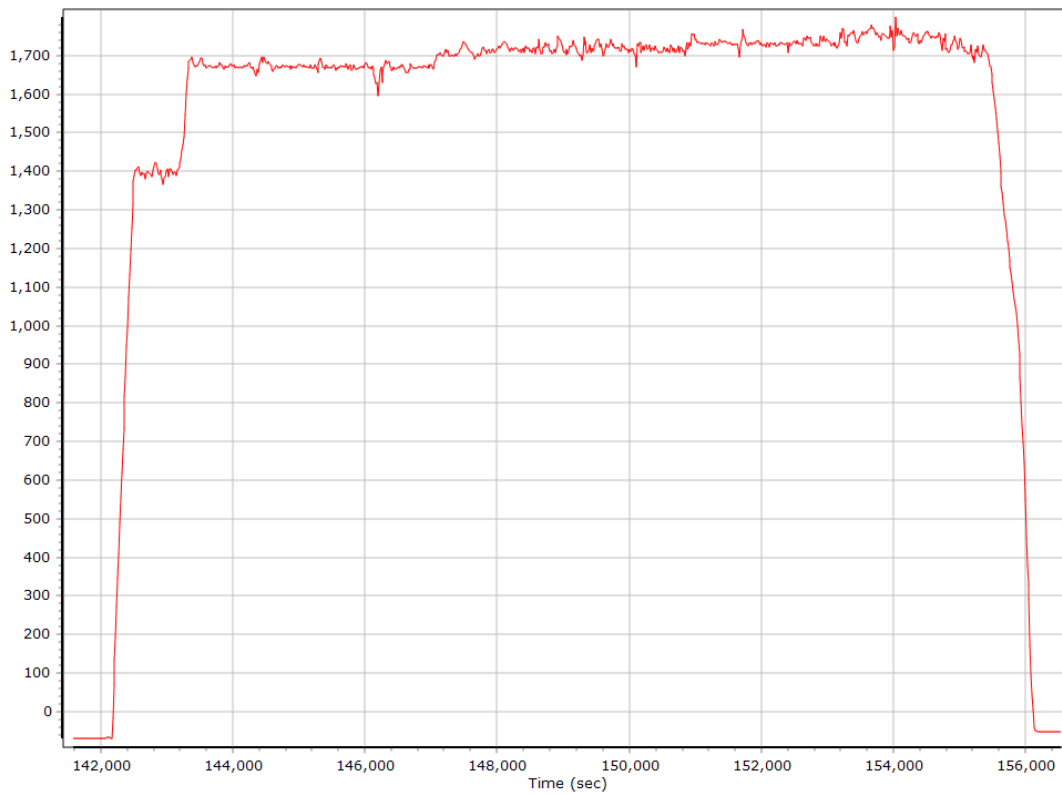
- | | | |
|-----------------------------|-----------------------------|-----------------------------|
| BEIDOU 21 B1 B1 SNR (dB/Hz) | BEIDOU 23 B1 B1 SNR (dB/Hz) | BEIDOU 24 B1 B1 SNR (dB/Hz) |
| BEIDOU 25 B1 B1 SNR (dB/Hz) | BEIDOU 26 B1 B1 SNR (dB/Hz) | BEIDOU 27 B1 B1 SNR (dB/Hz) |
| BEIDOU 28 B1 B1 SNR (dB/Hz) | | |

Trajectory Information

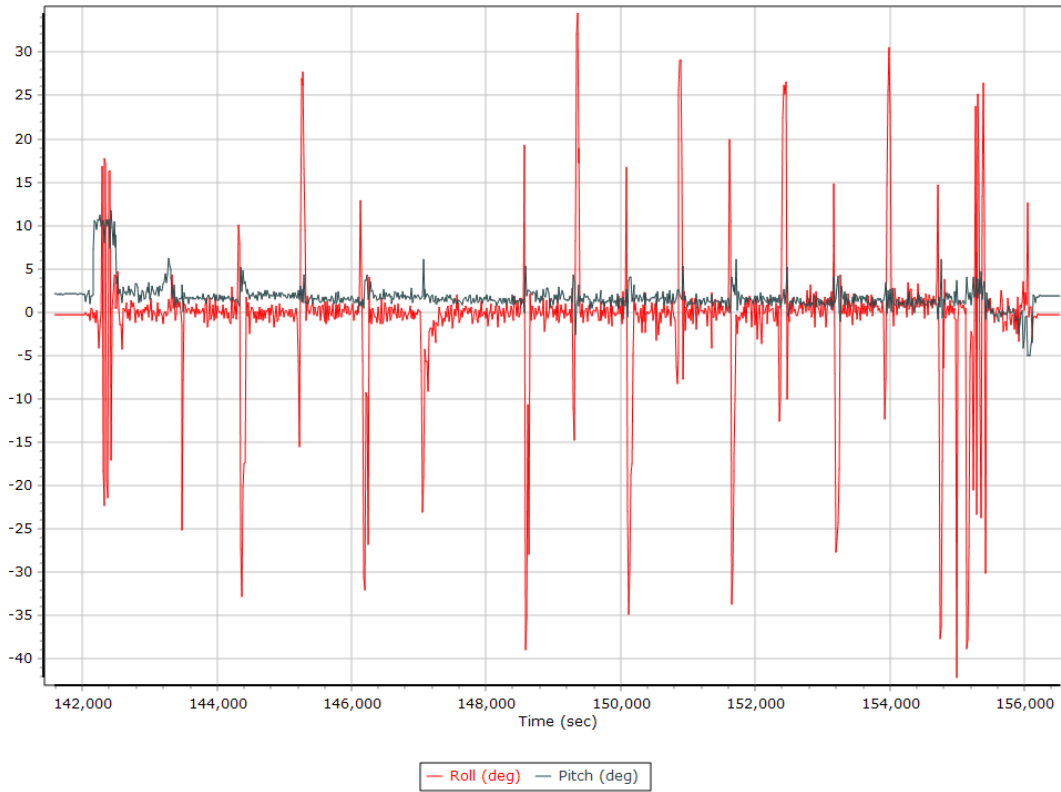
Top View



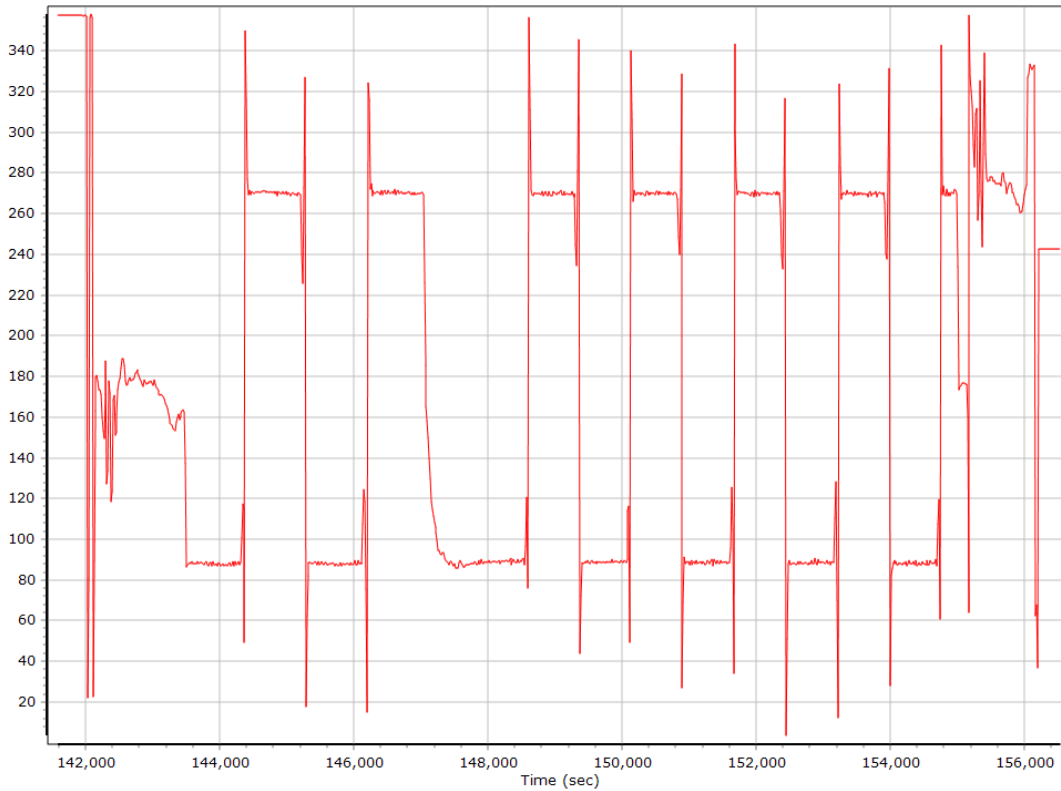
Altitude



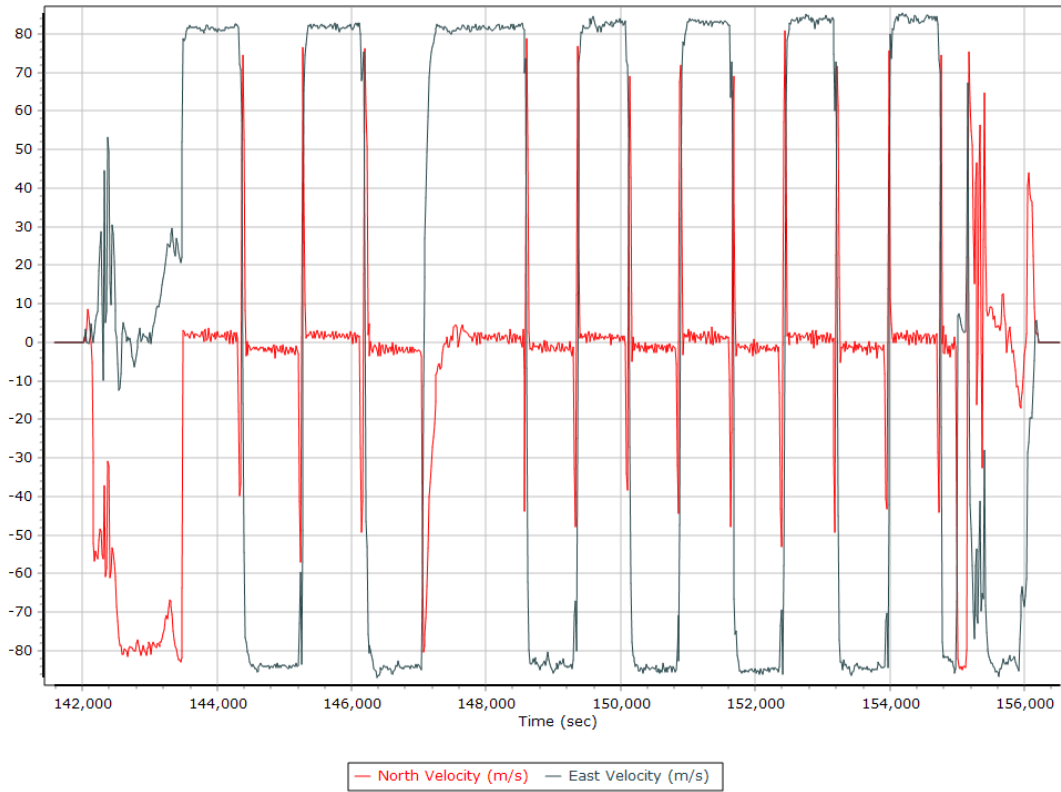
Roll/Pitch



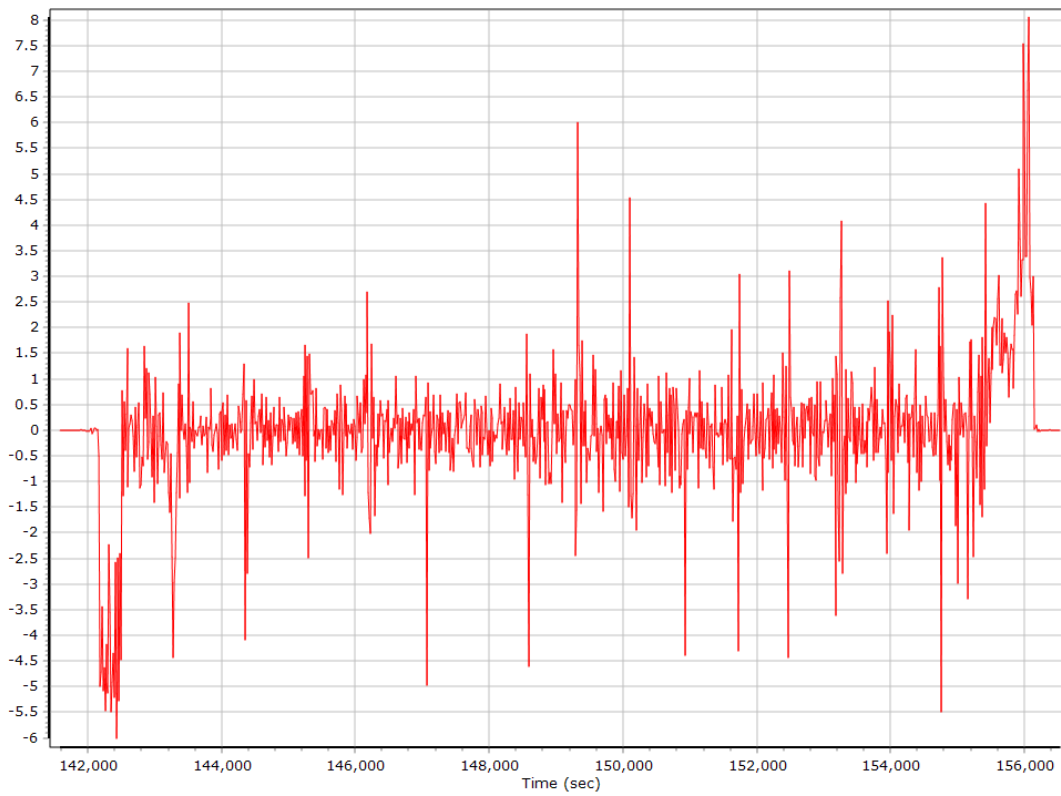
Heading



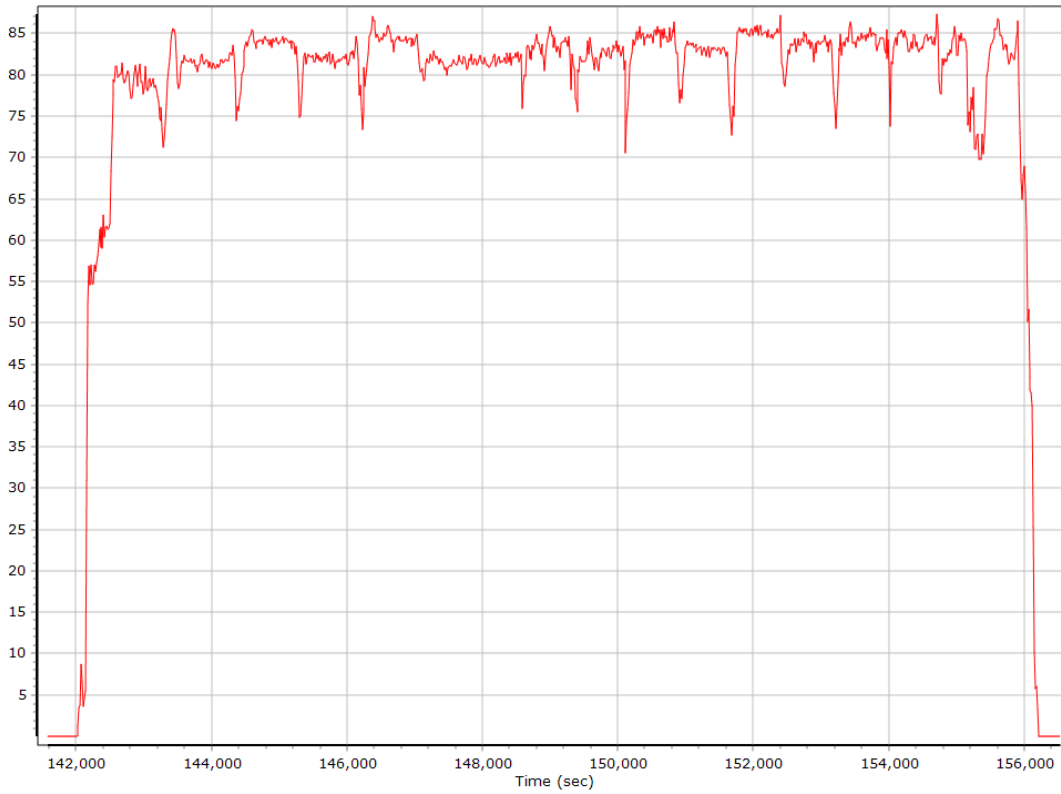
North/East Velocity



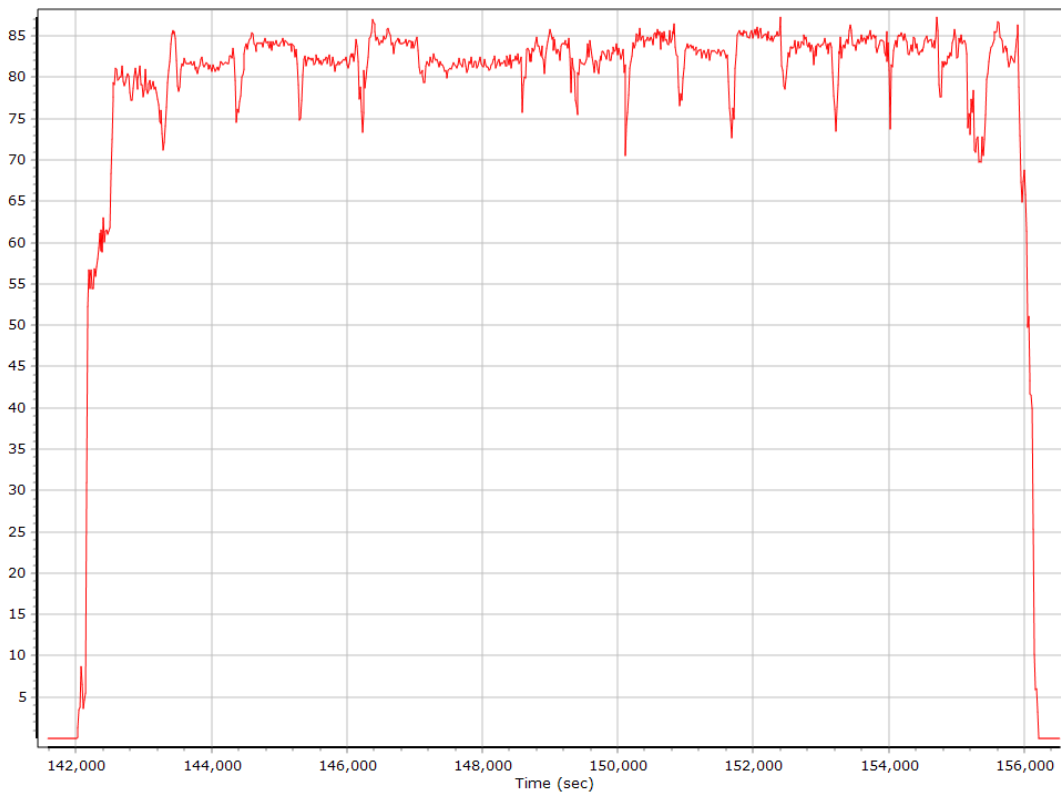
Down Velocity



Total Speed



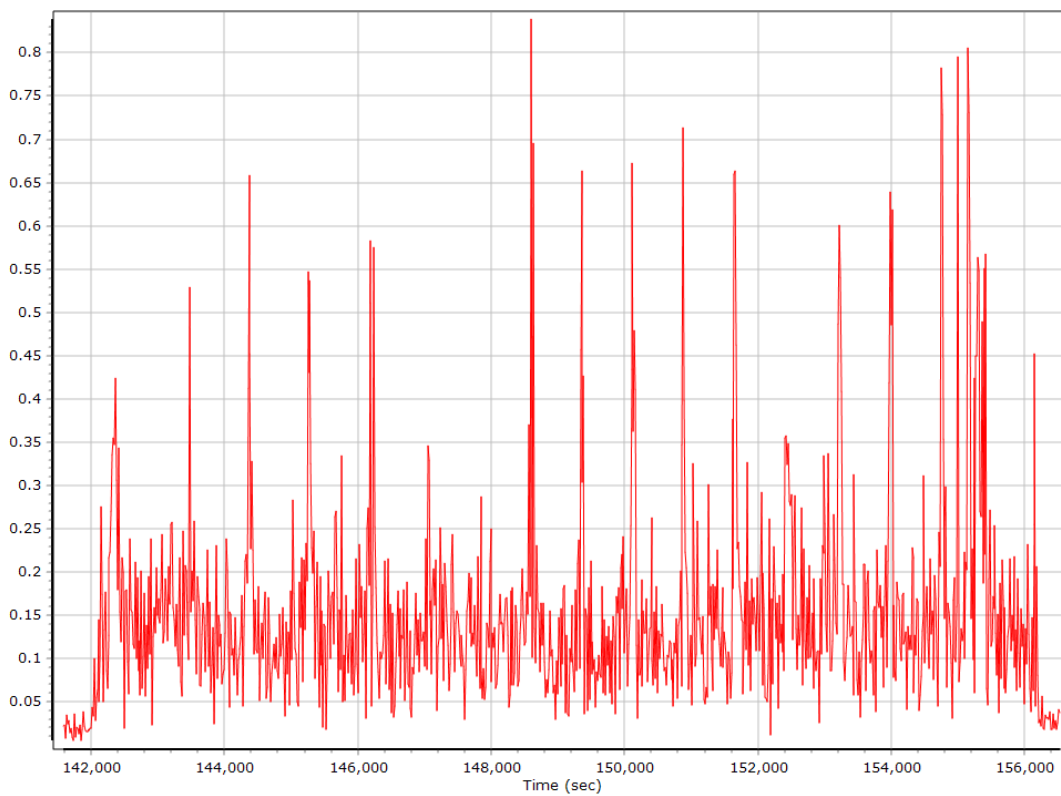
Ground Speed



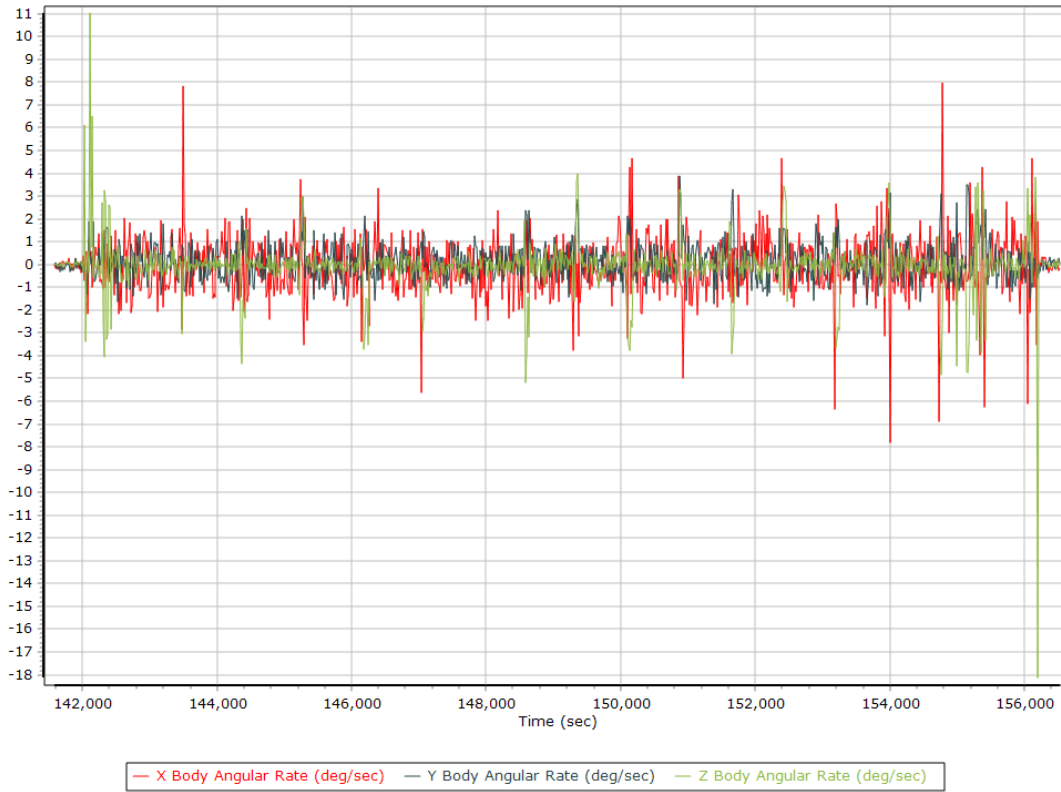
Body Acceleration



Total Body Acceleration



Body Angular Rate



Base Station Information

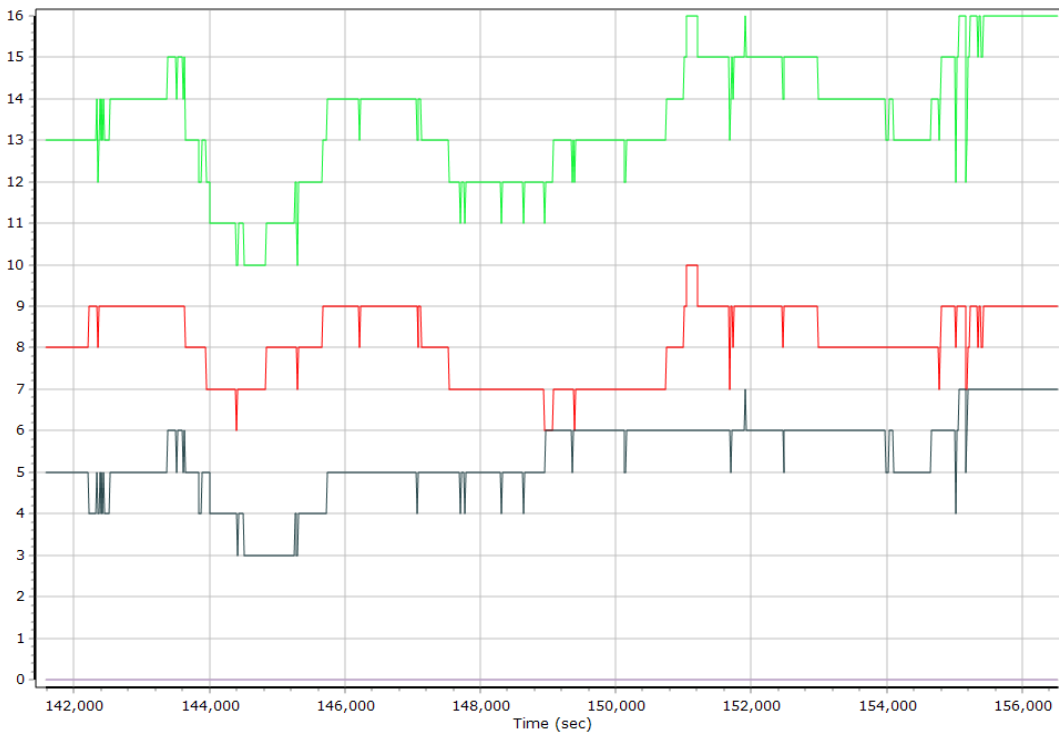
Station ID	DHLG Durmid Hill		
Filename	dhlg3330.21o		
Start date	11/29/2021 00:00:00		
End date	11/29/2021 23:59:59		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Topcon	NET-G3A	618-01037
Antenna manufacturer, model	Topcon	TPS CR.G3 w/SCIS	
Antenna height [m]	0.122		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC [m]	0.08417		
Latitude	N33°23'23.28790"		
Longitude	W115°47'16.85576"		
Ellipsoidal height [m]	-82.15100		
Frame	NAD83_2011		
Epoch	2010		
Ellipsoid	GRS_1980		
Velocity North [mm/y]	36.2		
Velocity East [mm/y]	-29.88		
Velocity Up [mm/y]	-1.08		

GNSS QC

GNSS QC Statistics

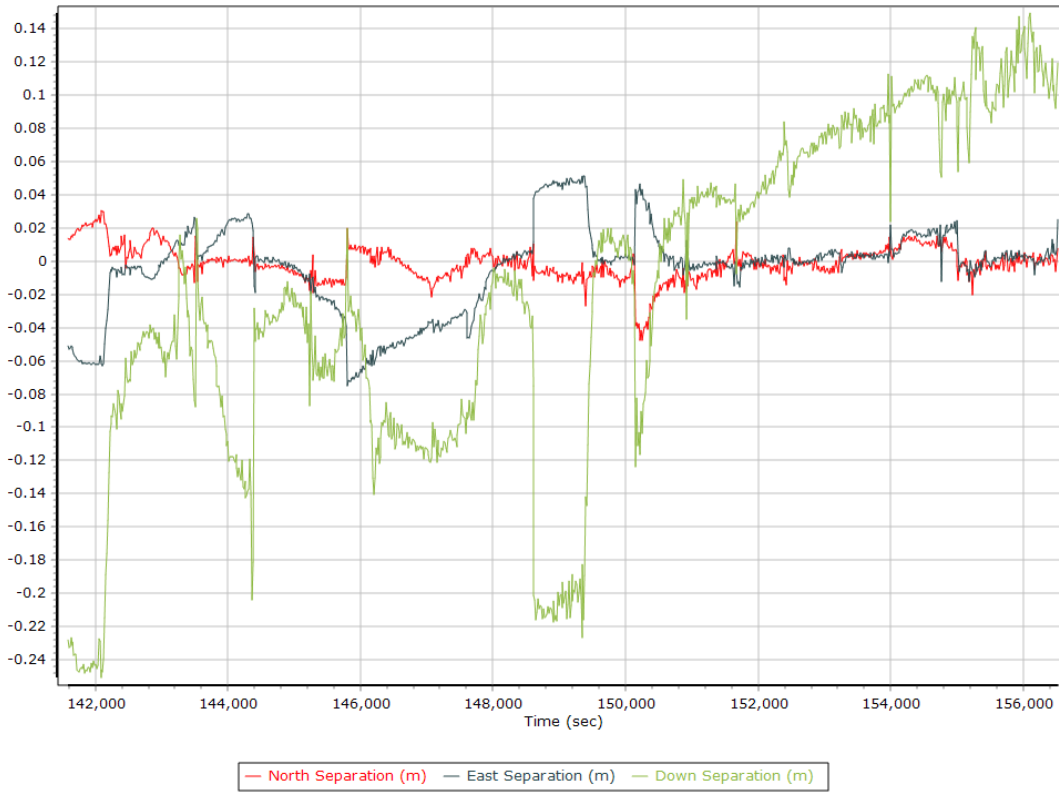
Statistics	Min	Max	Mean
Baseline length [km]	28.45	125.23	
Number of GPS SV	4	10	8
Number of GLONASS SV	3	7	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Total number of SV	7	16	14
PDOP	1.26	2.68	1.58
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (s)	15359.00	0.00	0.00
Percentage	100.00	0.00	0.00

Num SVs in solution

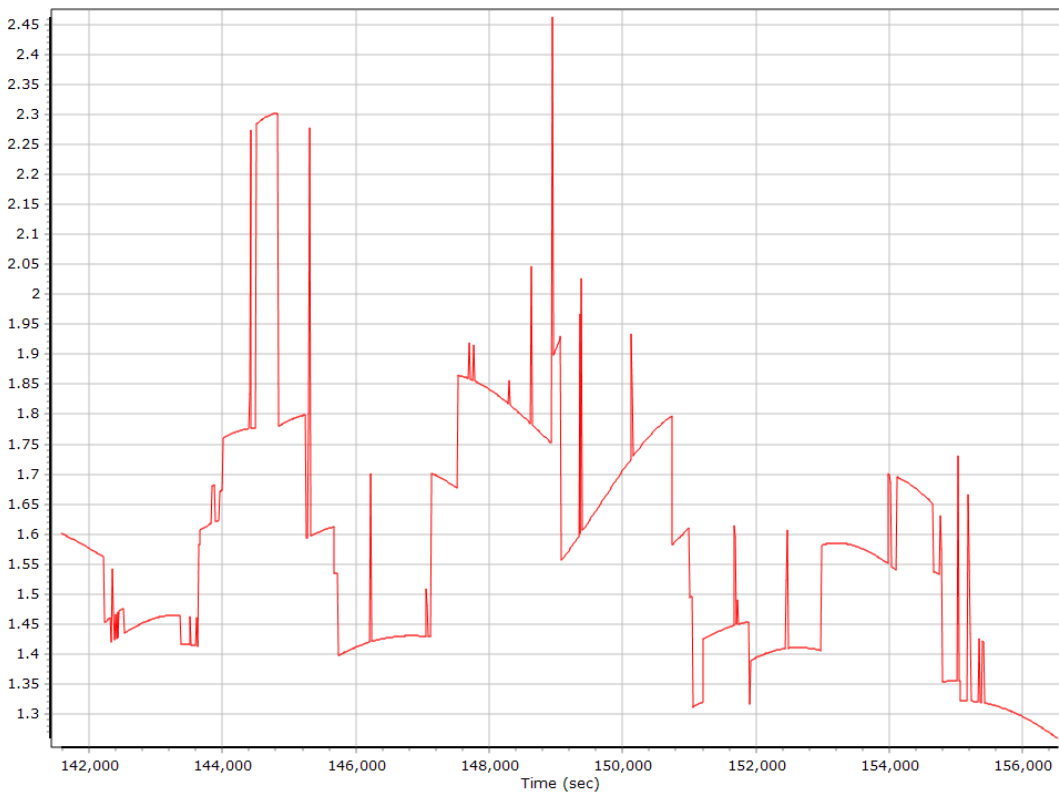


— Number of GPS — Number of GLONASS — Number of QZSS — Number of BEIDOU — Total Number

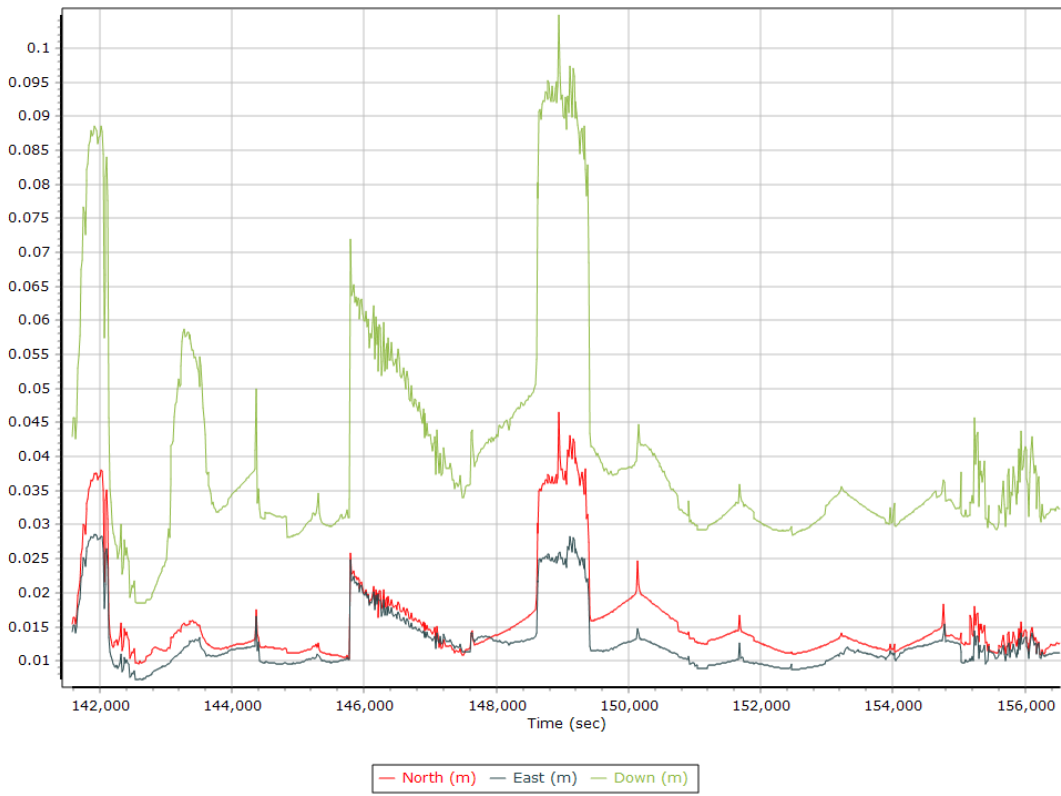
Forward/Reverse Separation



PDOP



Estimated Position Accuracy



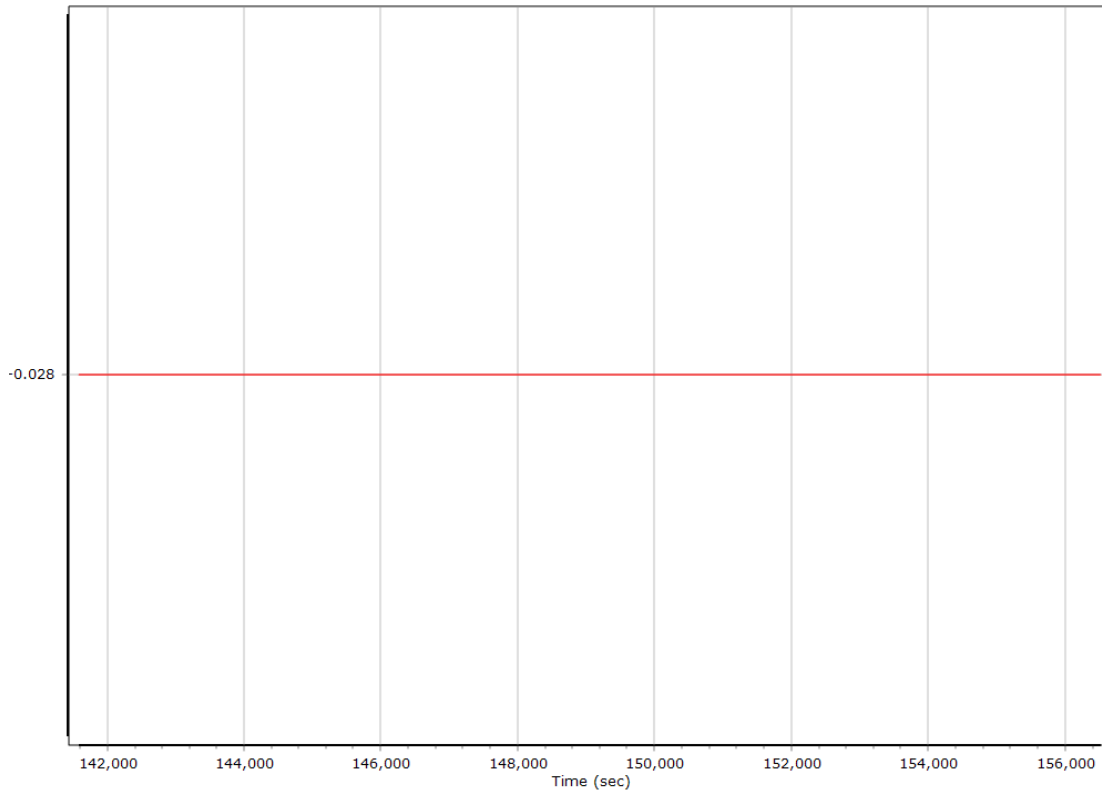
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion Single Base		
Stabilized mount	False		
Base station	DHLG Durmid Hill		
Processing start time	141174.000 (11/29/2021 15:12:54)		
Processing end time	156536.000 (11/29/2021 19:28:56)		
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

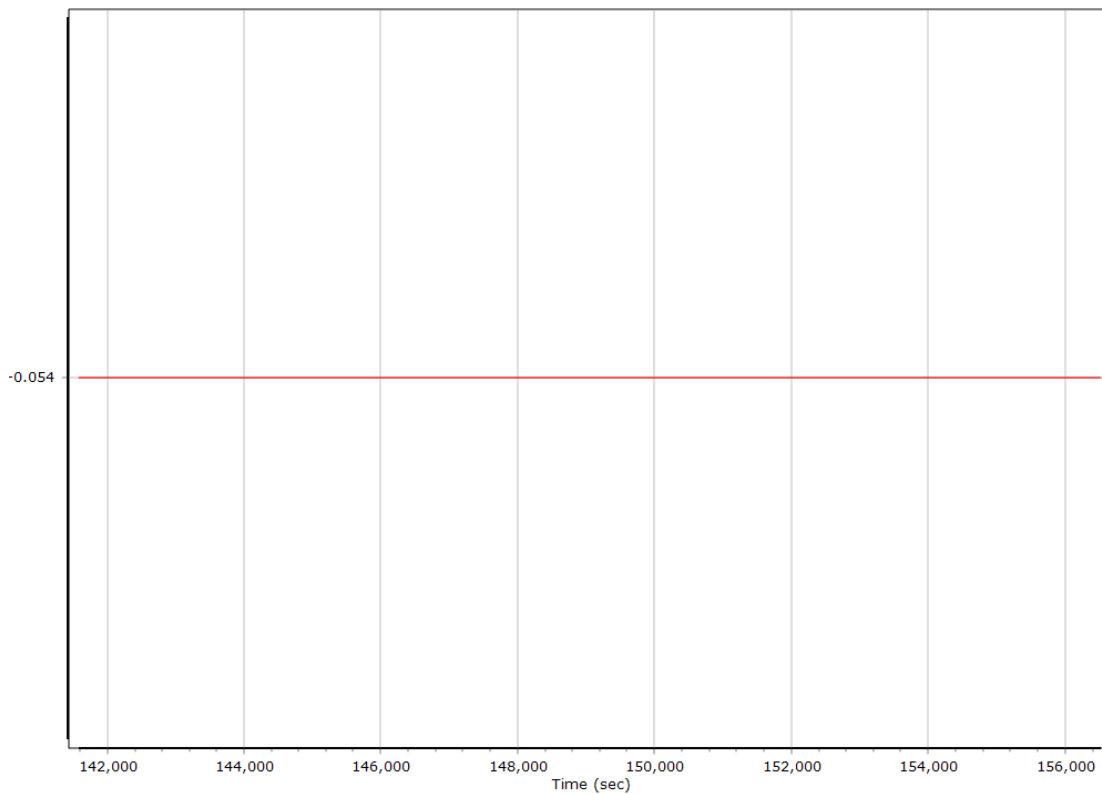
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm

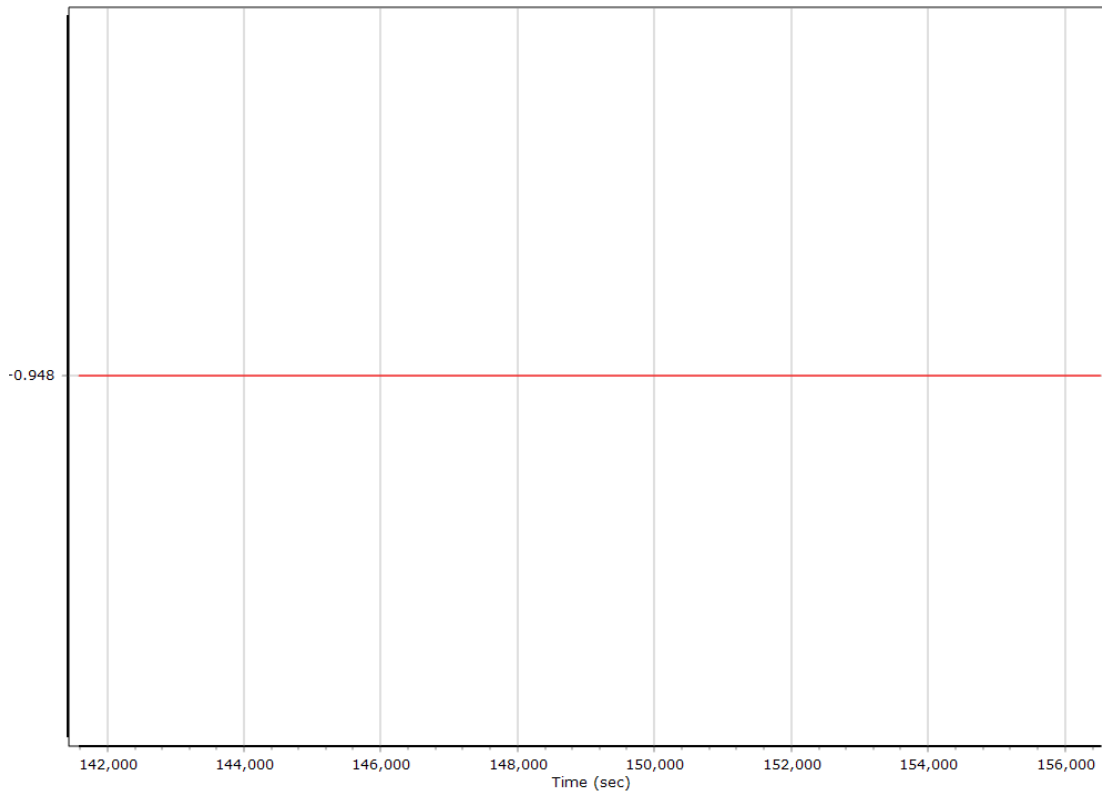
X Reference-Primary GNSS Lever Arm (m)



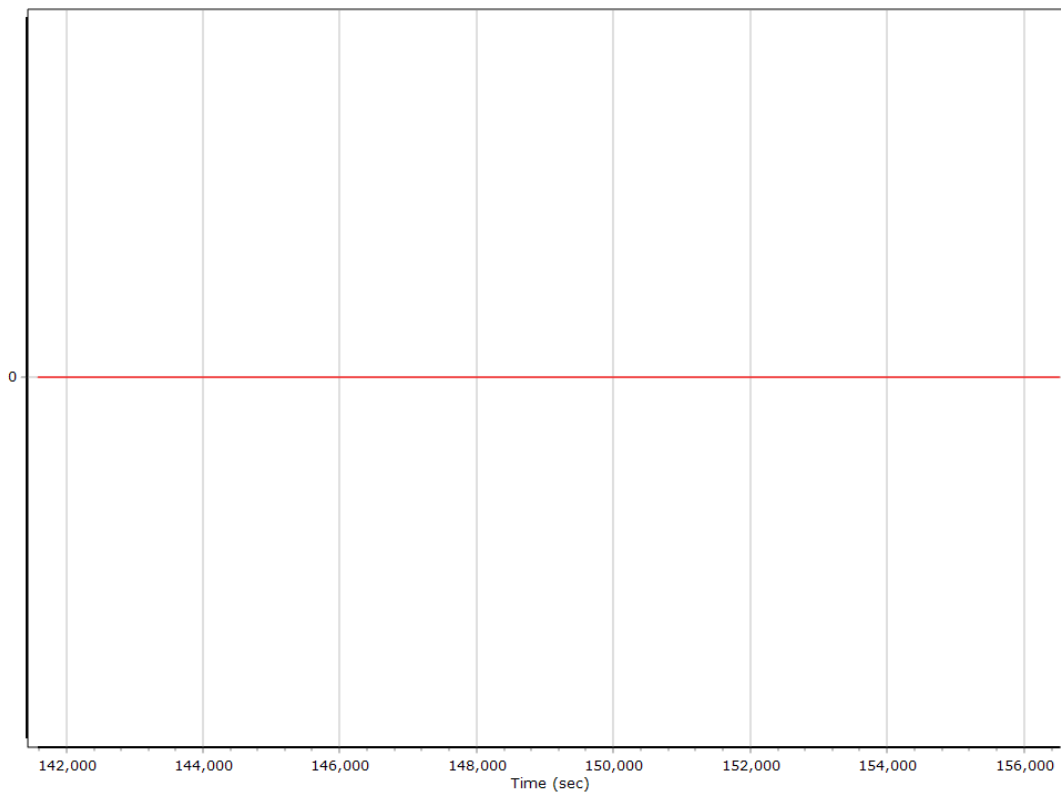
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



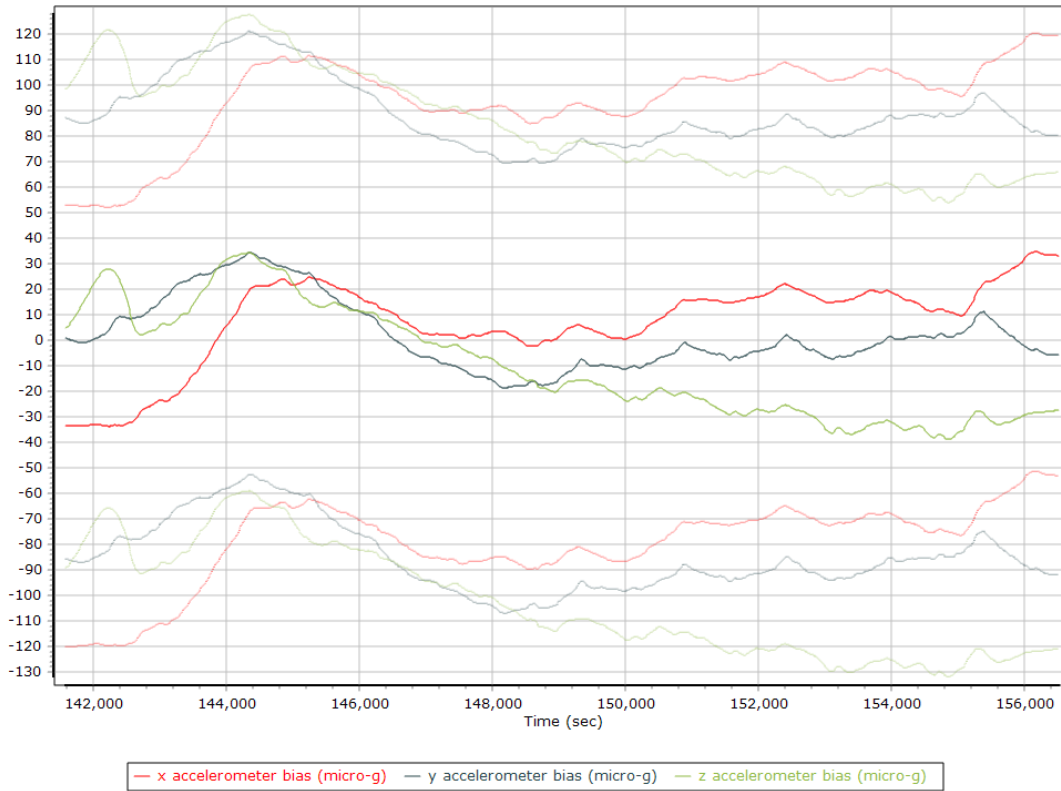
Reference-Primary GNSS Lever Arm Figure of Merit



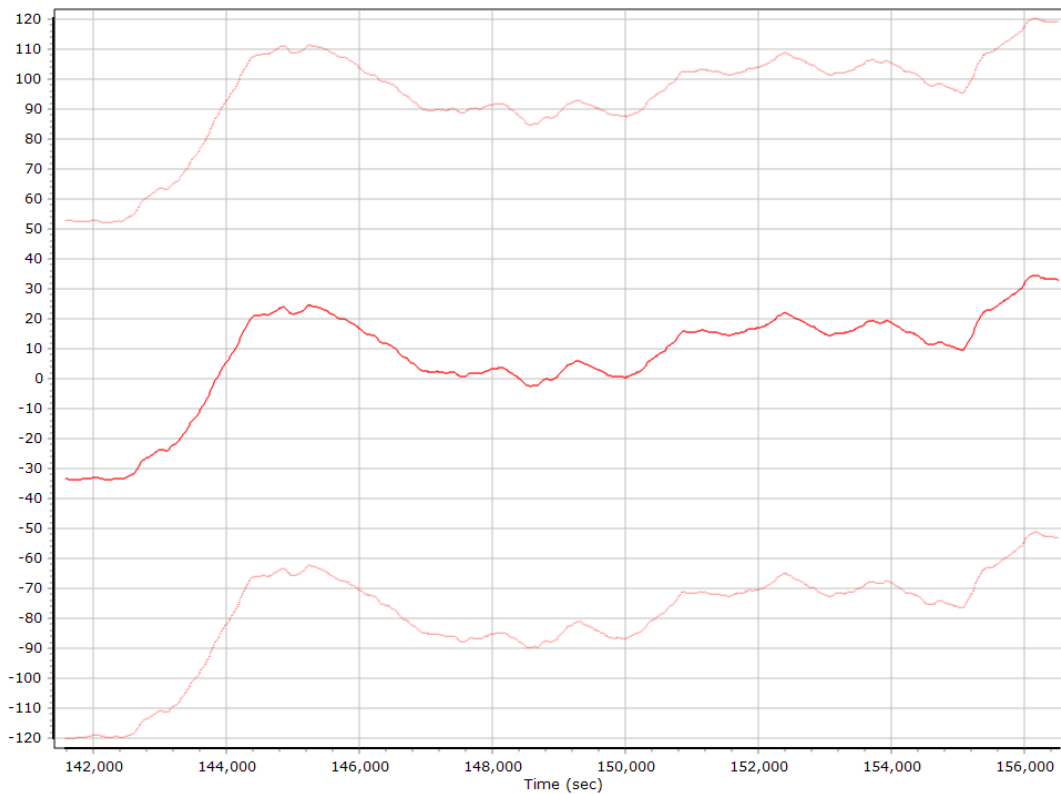
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

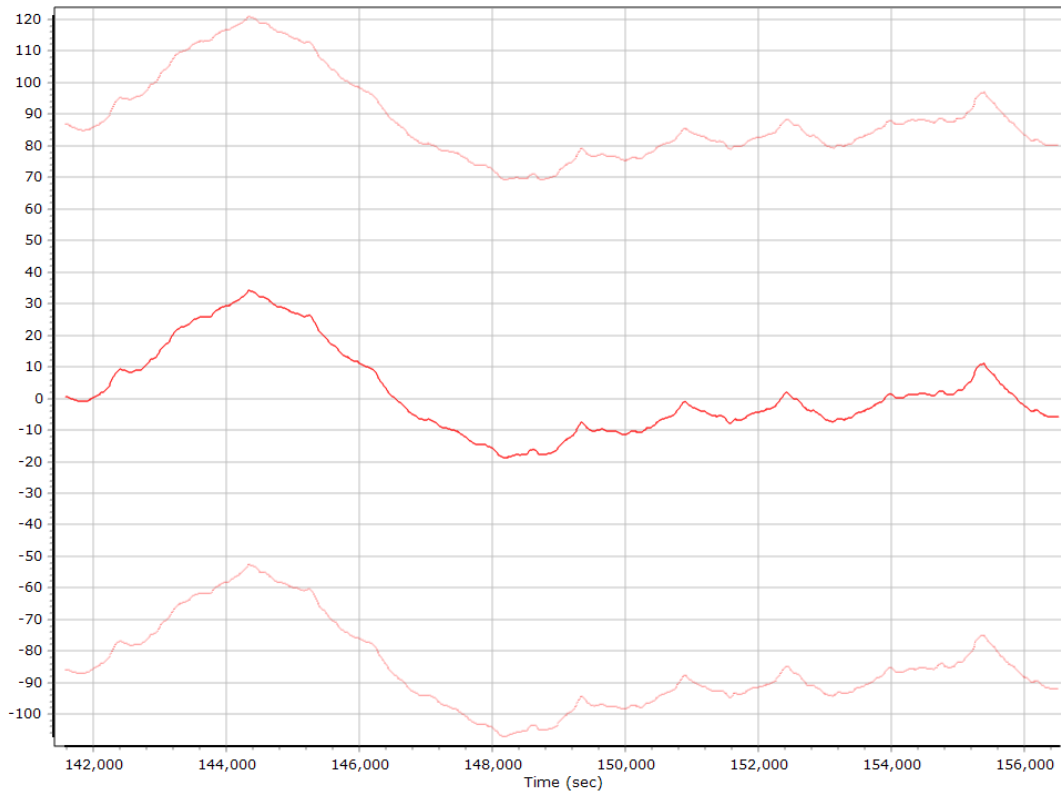
Accelerometer Bias (micro-g)



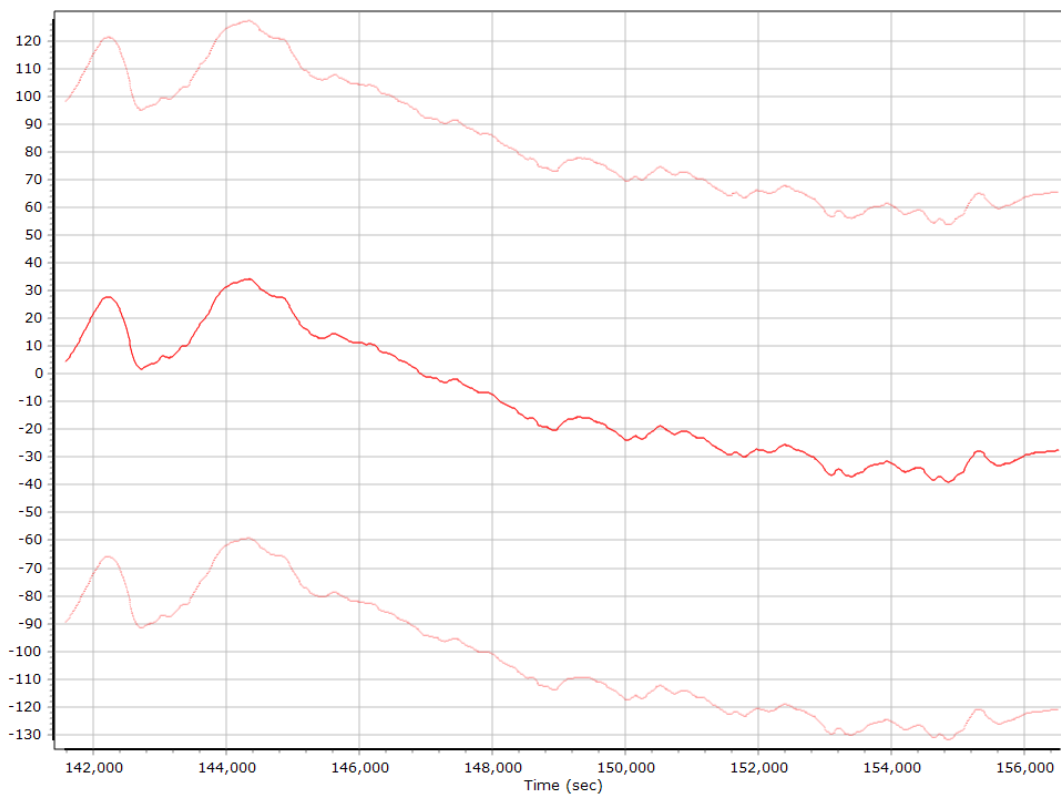
X Accelerometer Bias (micro-g)



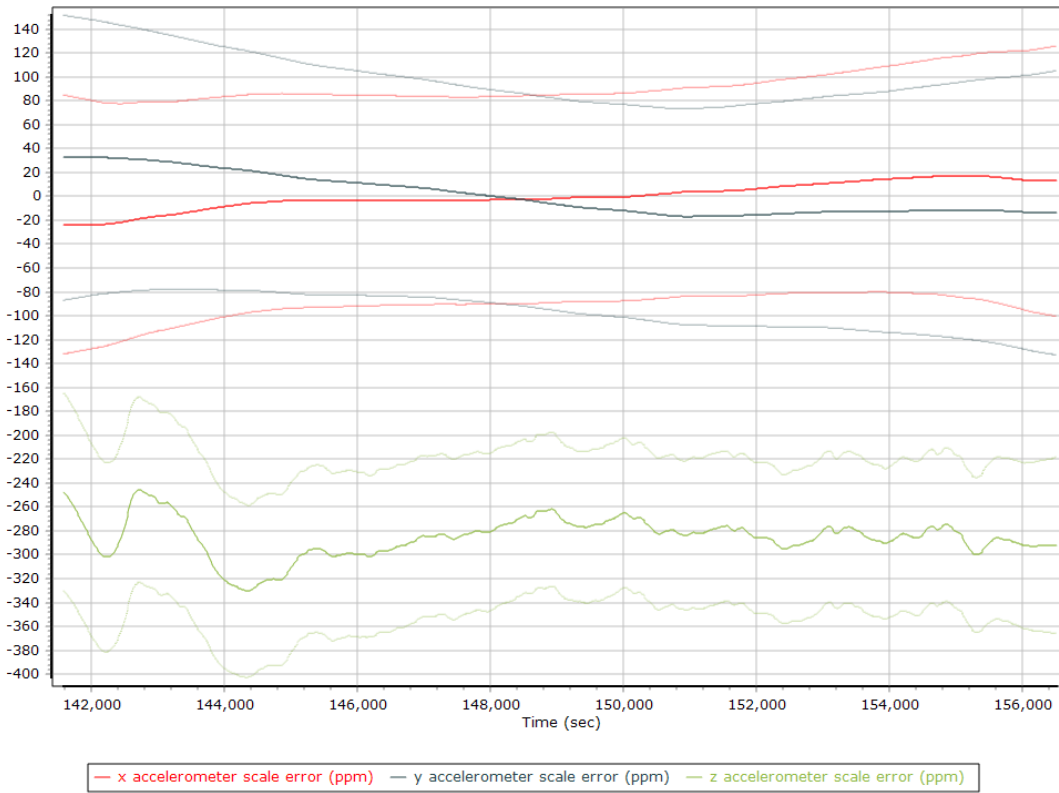
Y Accelerometer Bias (micro-g)



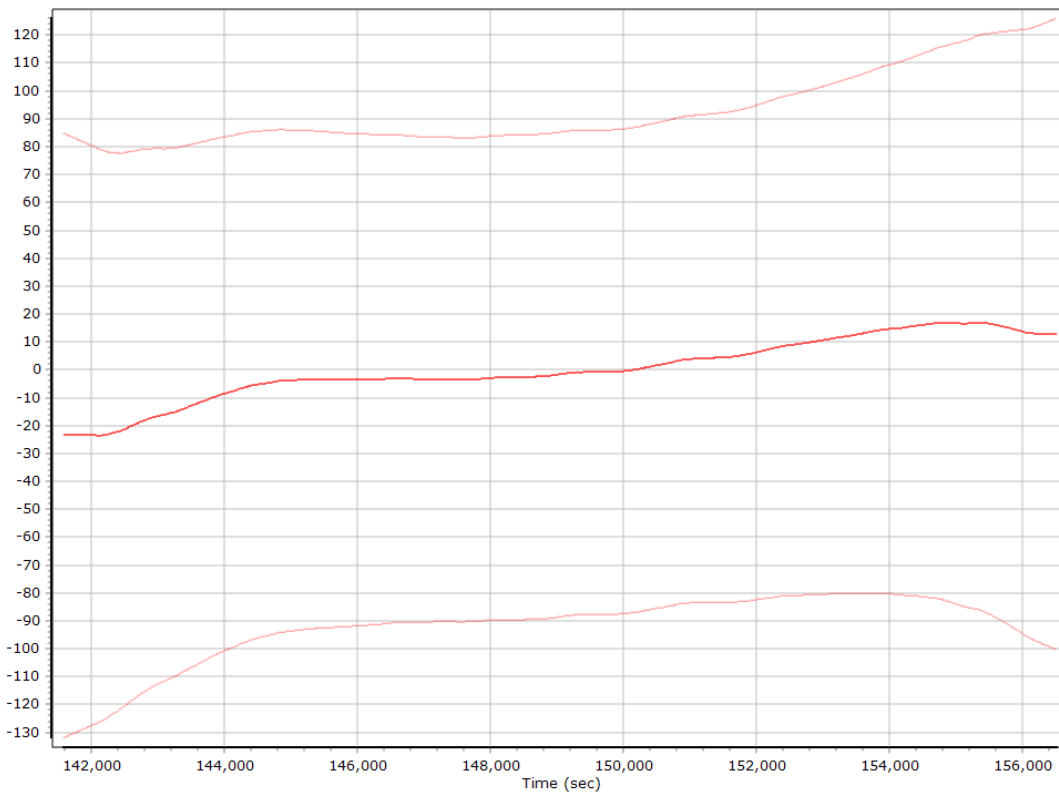
Z Accelerometer Bias (micro-g)



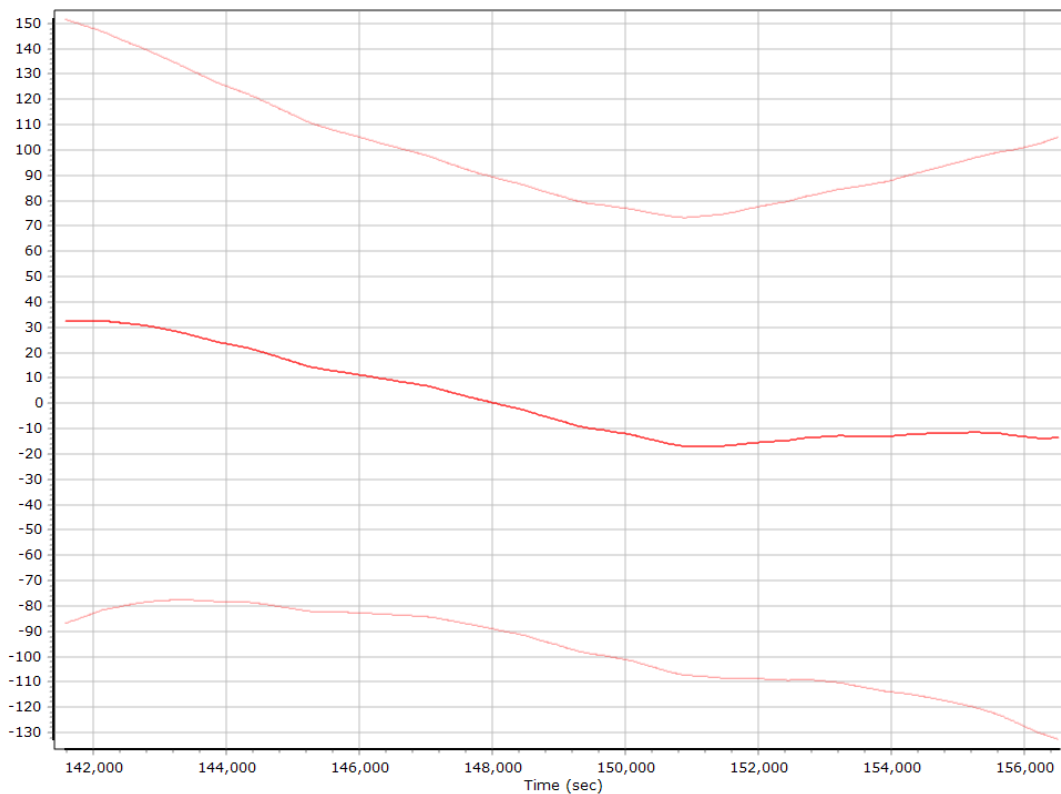
Accelerometer Scale Error (ppm)



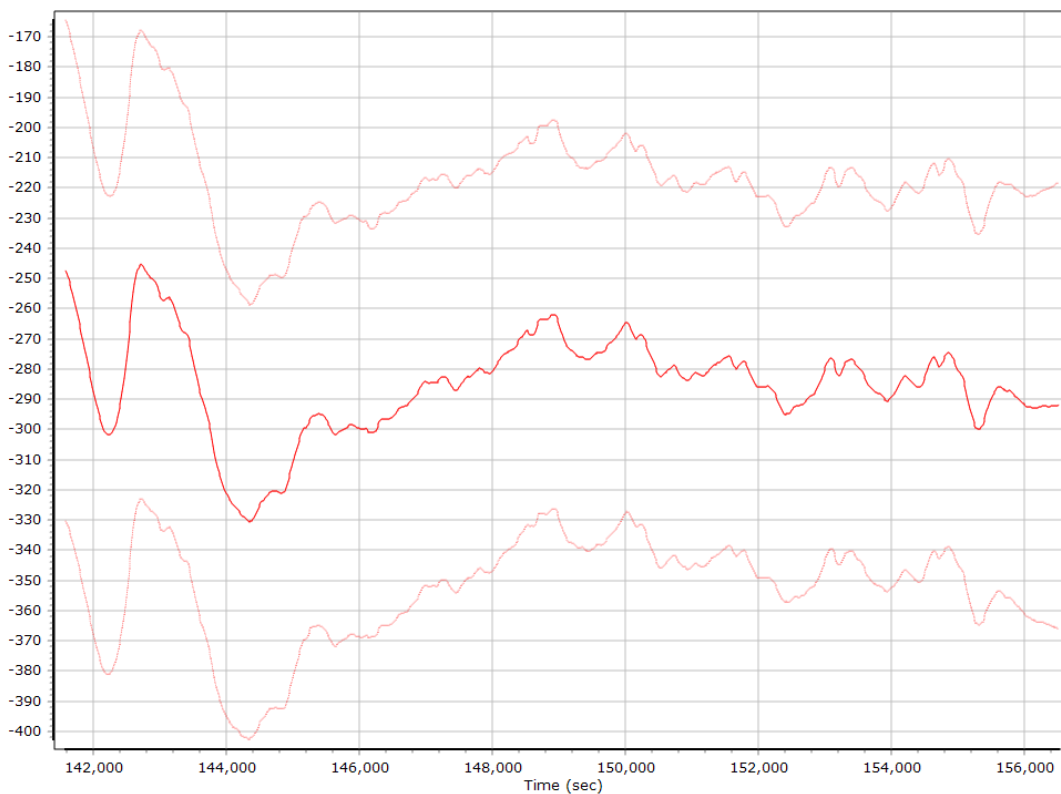
X Accelerometer Scale Error (ppm)



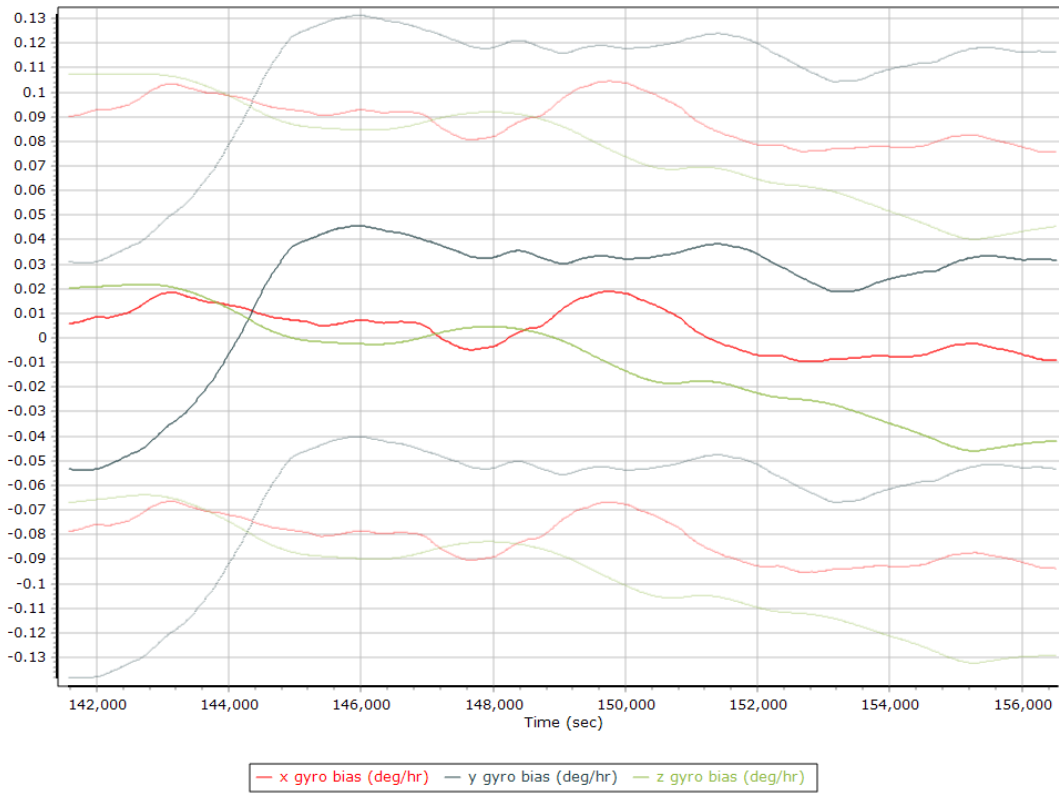
Y Accelerometer Scale Error (ppm)



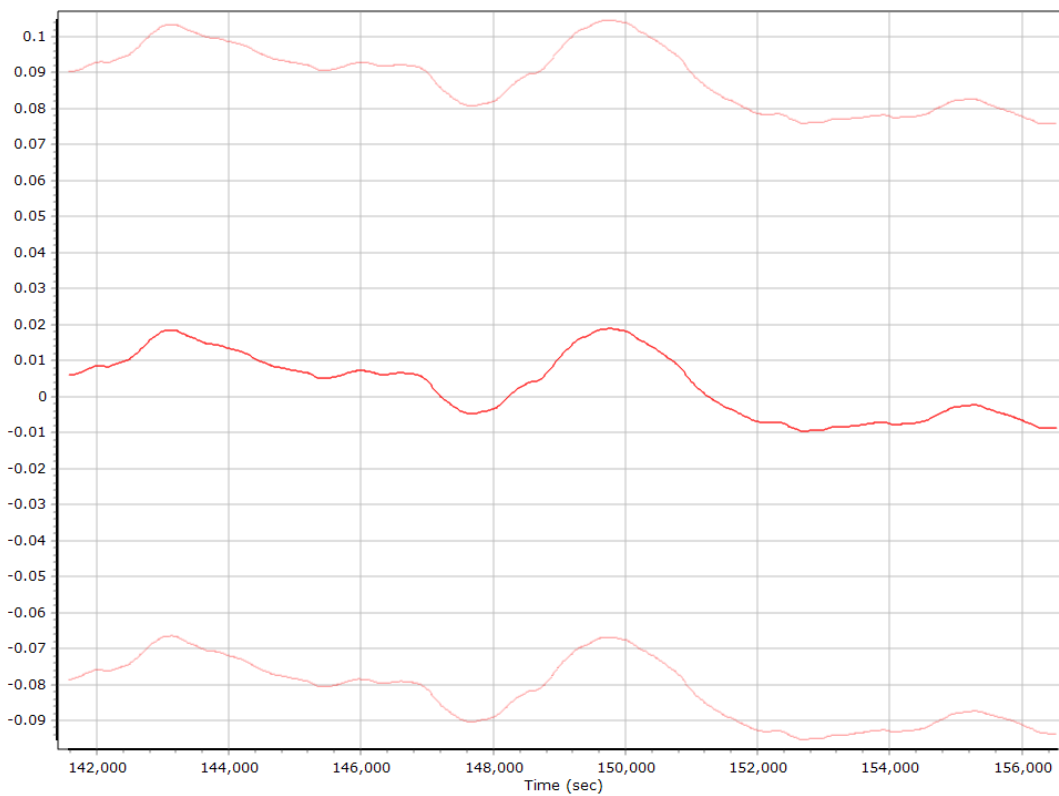
Z Accelerometer Scale Error (ppm)



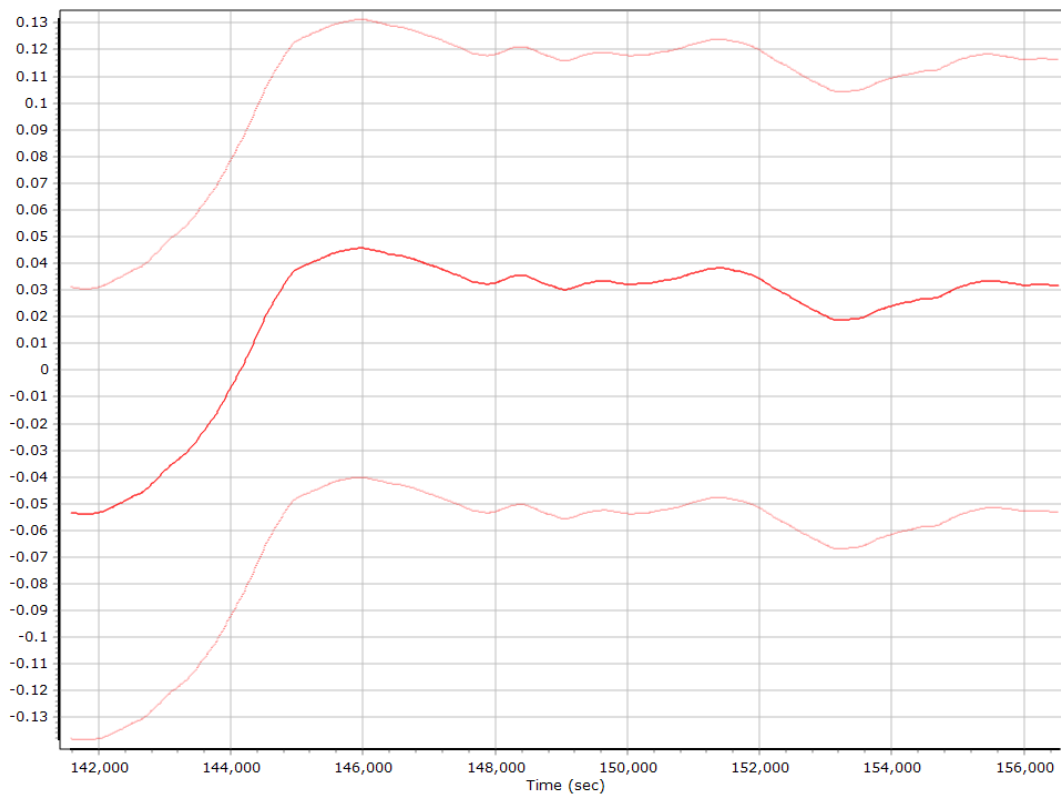
Gyro Bias (deg/h)



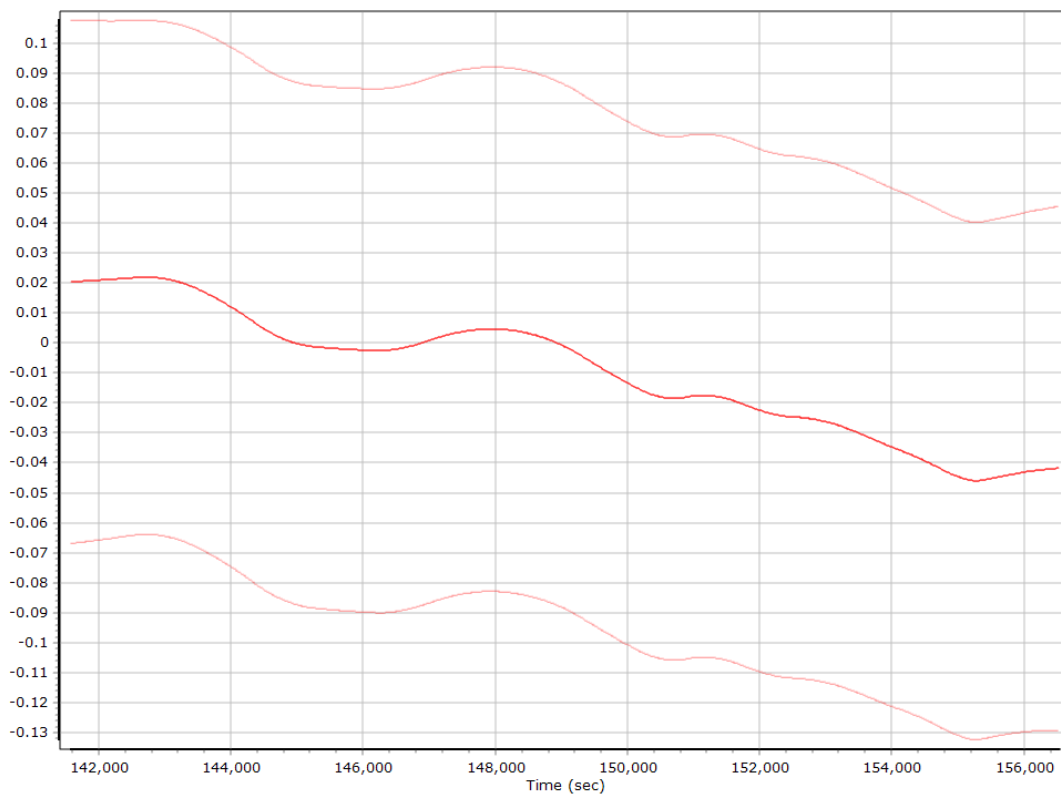
X Gyro Bias (deg/h)



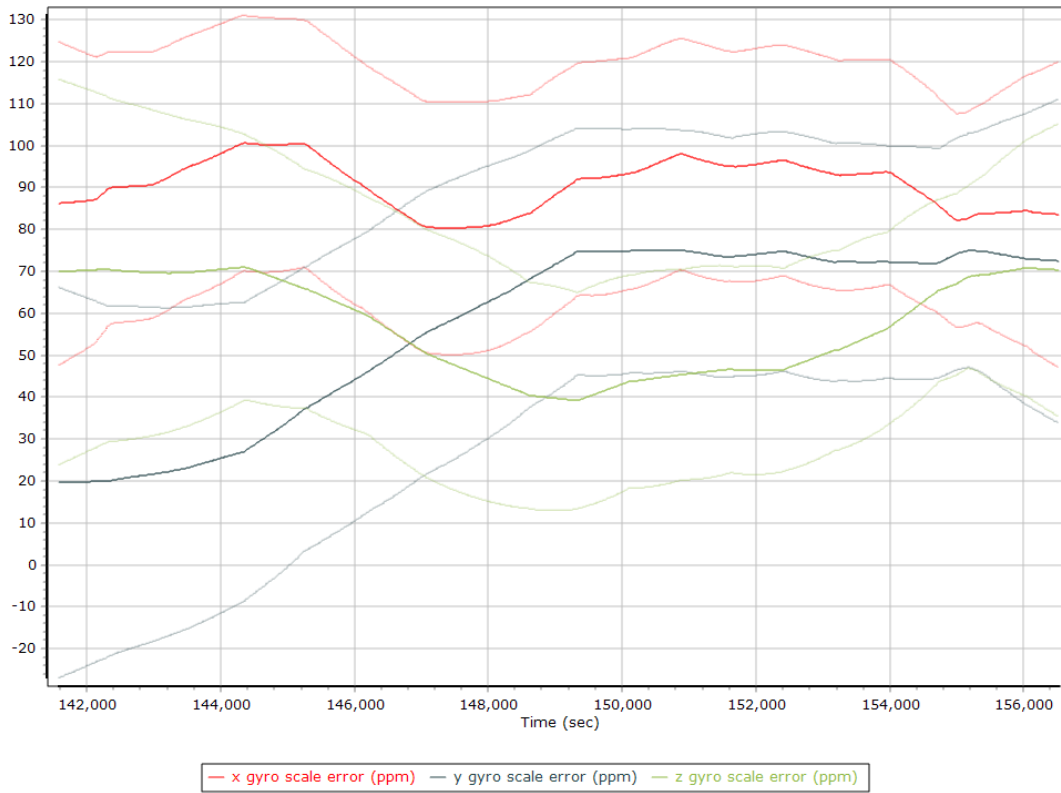
Y Gyro Bias (deg/h)



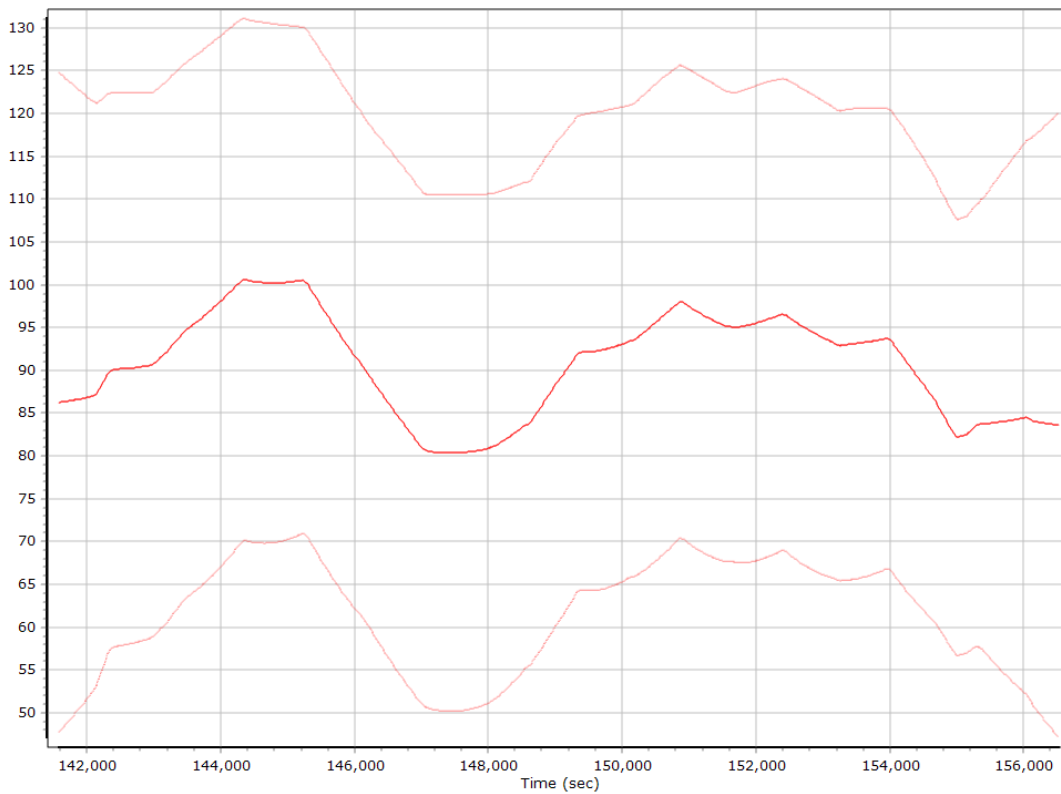
Z Gyro Bias (deg/h)



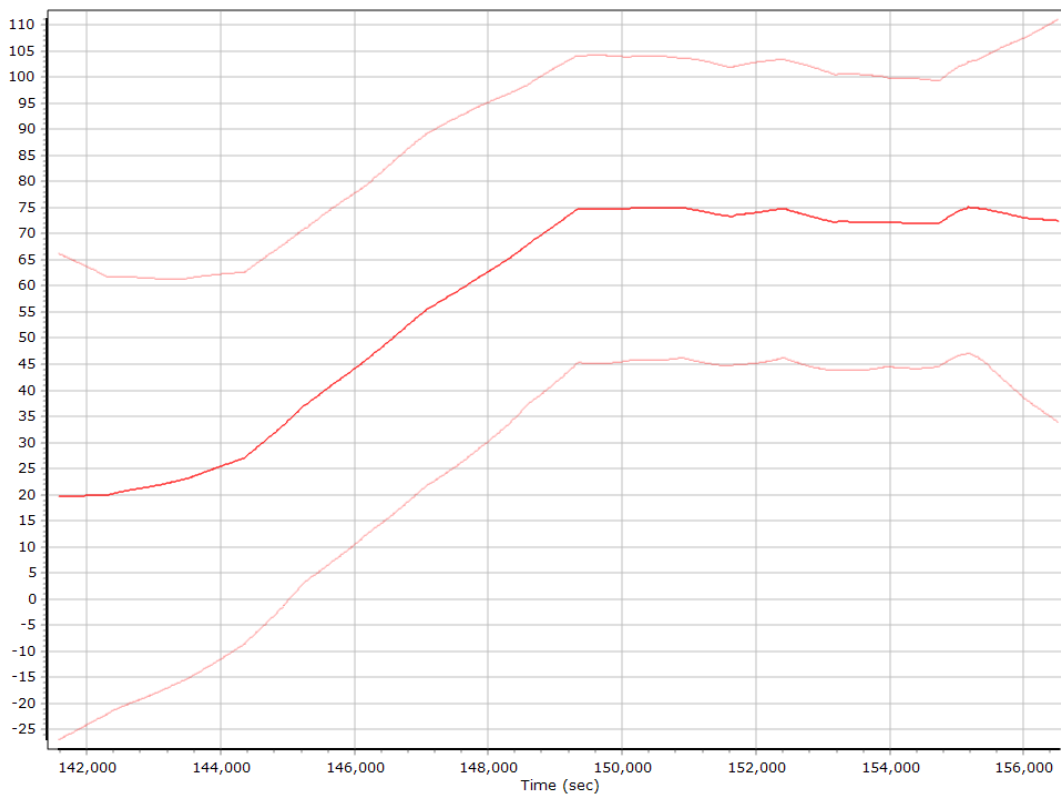
Gyro Scale Error (ppm)



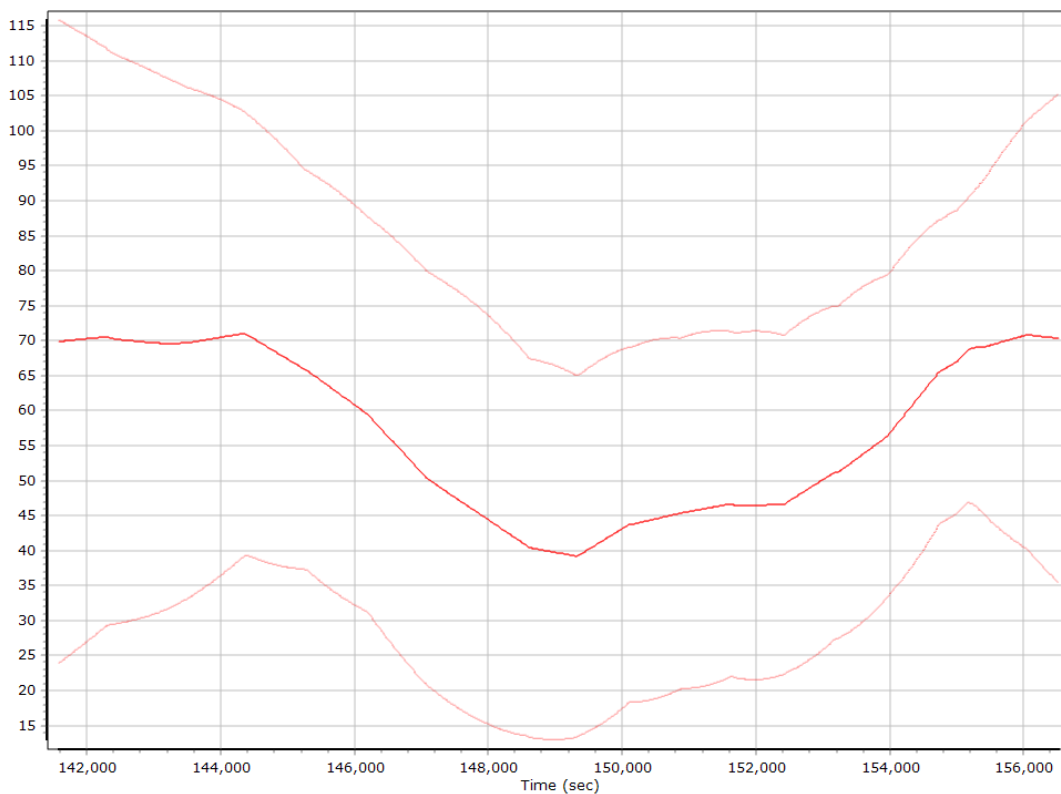
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

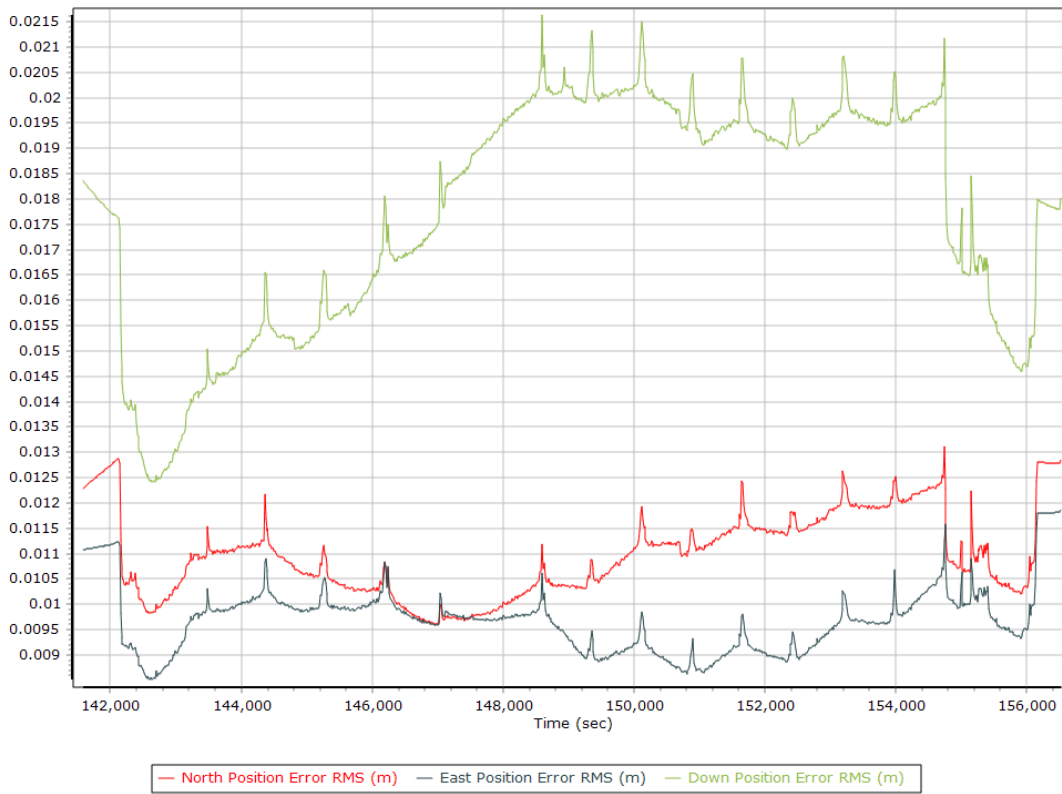


Z Gyro Scale Error (ppm)

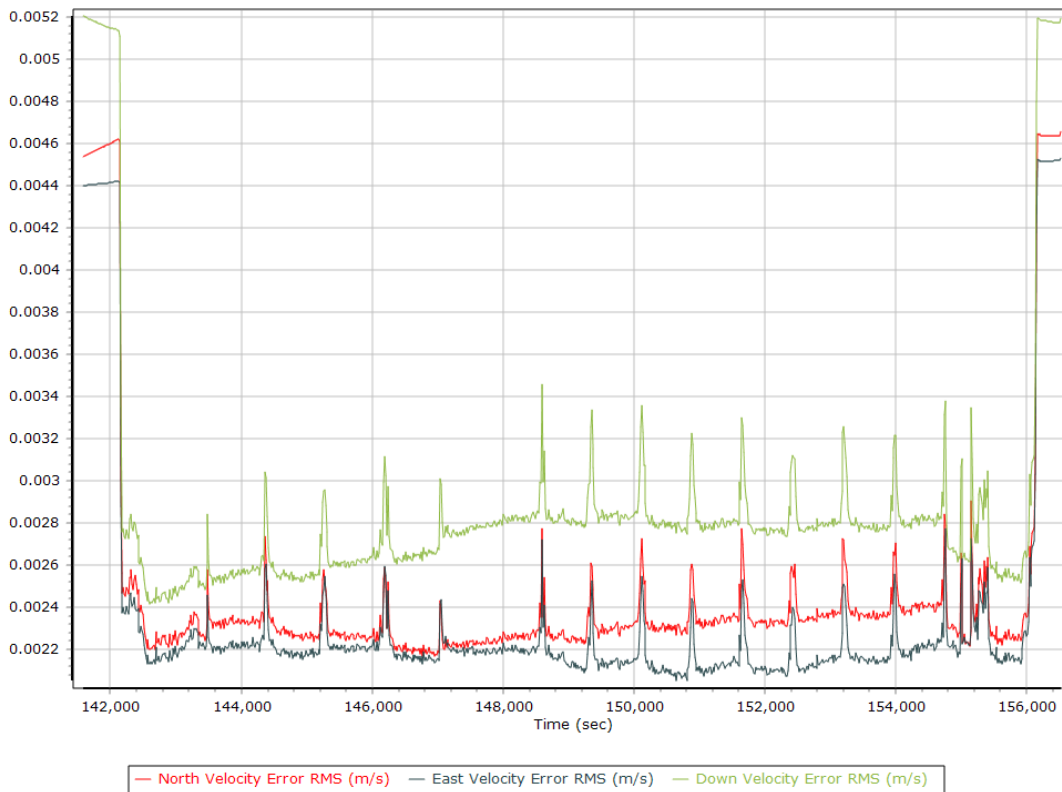


Smoothed Performance Metrics

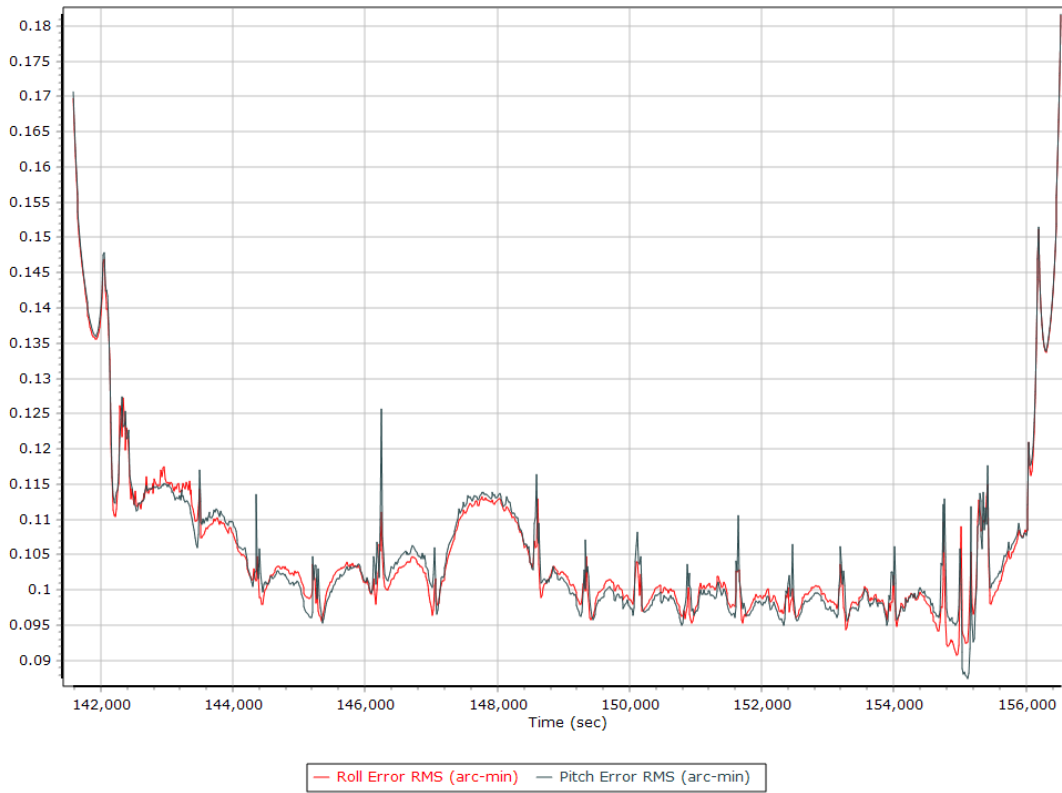
Position Error RMS (m)



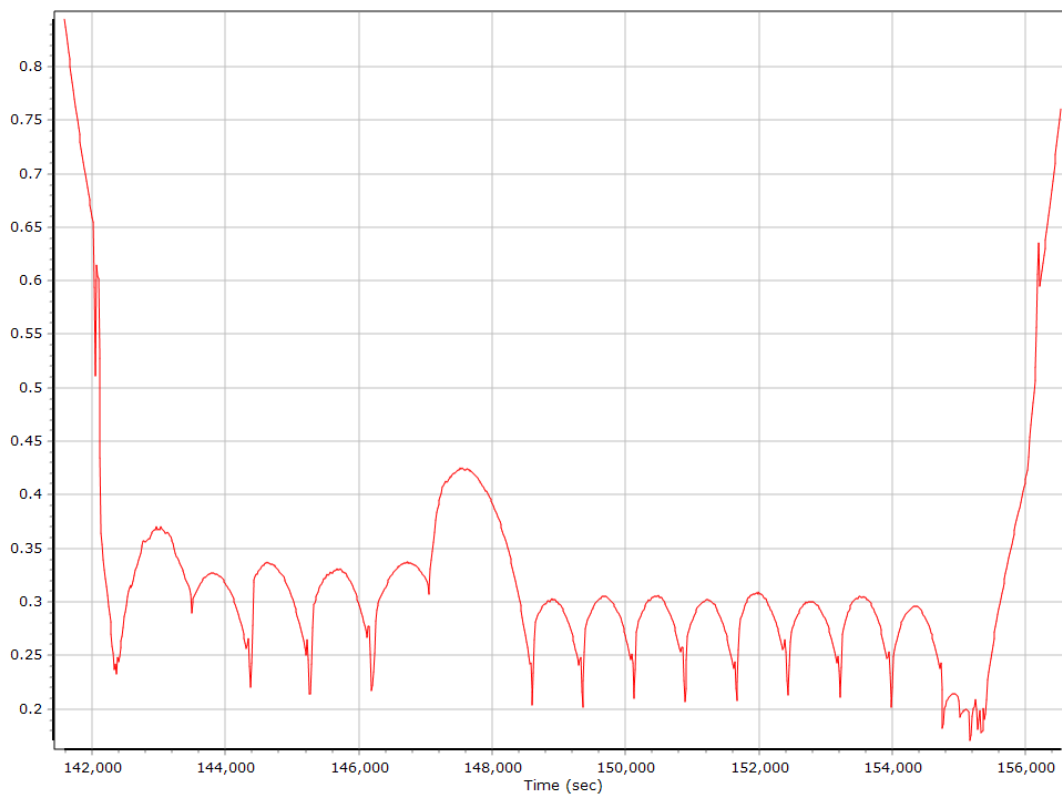
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

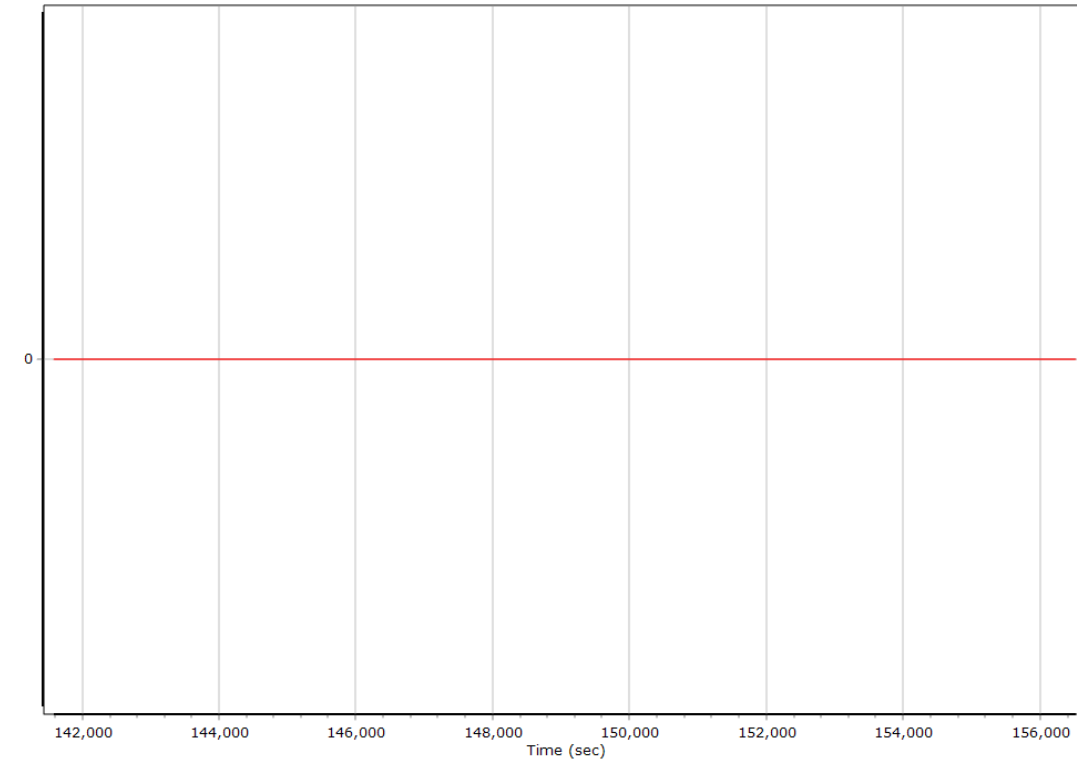


Heading Error RMS (arc-min)



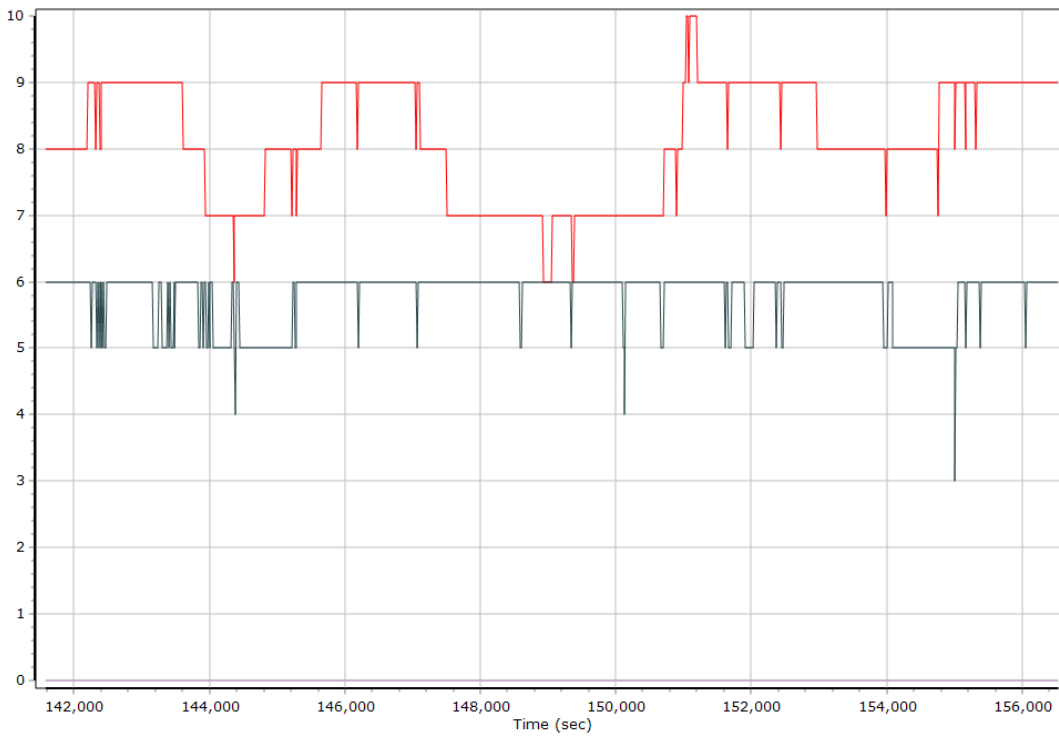
Smoothed Solution Status

Processing Mode



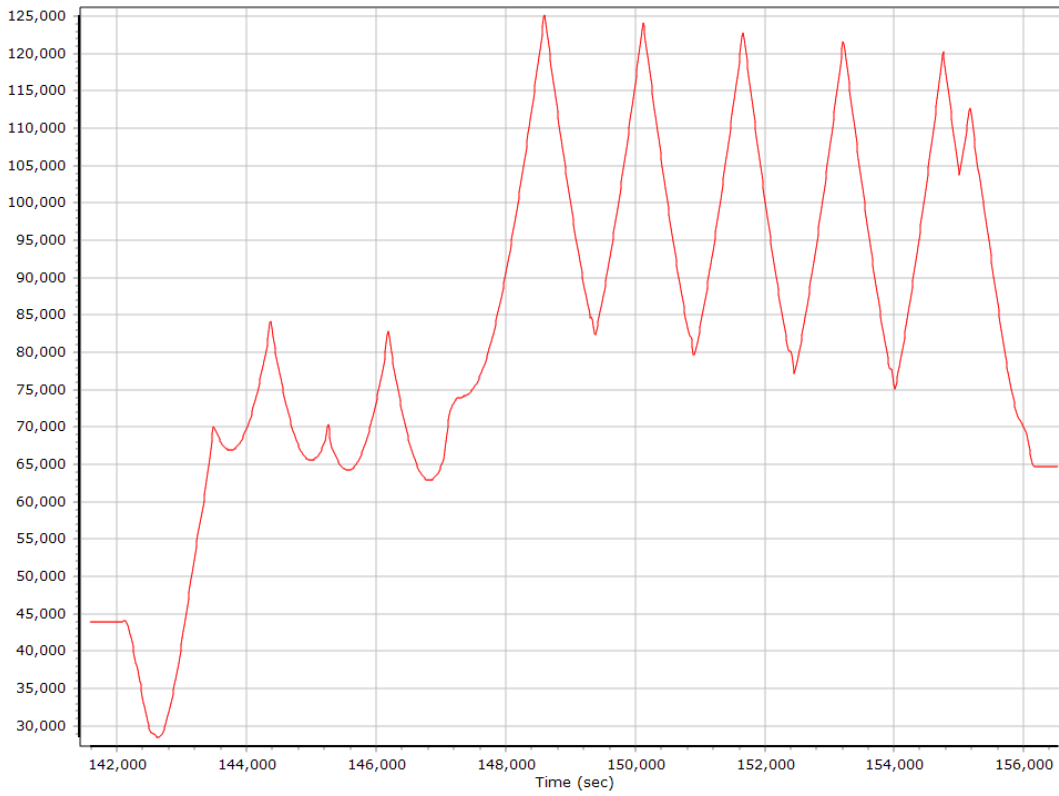
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites



— Number of GPS Satellites — Number of GLONASS Satellites — Number of QZSS Satellites — Number of BEIDOU Satellites

Baseline Length



SBET IAKAR Separation



Export Summary

Export file	export_20211129_F1_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	141526.001 (11/29/2021 15:18:46)		
Export end time	156536.000 (11/29/2021 19:28:56)		
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	141526.001 (11/29/2021 15:18:46)		
EO end time	156536.000 (11/29/2021 19:28:56)		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2021.909589		