

GSILIB解析例

ISB補正

※ISB (Inter System Bias)

異なる衛星系の信号を処理する際に受信機回路で発生するバイアス、ISBの大きさは受信機種によって異なる

→異機種受信機間における異なる衛星系間で位相差をとる解析で補正が必要

解析条件

- 観測時間：2014年9月13日0時30分～5時30分
- 観測点：
つくば長距離GNSS比較基線場（No.02, No.10）
- 受信機：No.02 - JAVAD TRE_G3T DELTA
No.10 - Trimble NetR9
- 測位方式：キネマティック
- 衛星系：GPS、Galileo
- No.02を既知点として、No.10を計算

手順

※isb_correction.zipをD:¥に展開と仮定

1. GSILIBのbin¥gsipost_gui.exeを起動
2. [Options...]を選択
3. [Load]をクリックし、D:¥isb_correction¥isb.confを選択
4. [OK]を選択
5. [RINEX OBS: Rover]にNo.10のoファイル(tr102561.14o)、
[RINEX OBS: Base Station]にNo.02のoファイル
(jv022561.14o)、[RINEX *NAV]にNo.02のnファイル
(jv022561.14n)、lファイル(jv022561.14l)を格納
6. [Execute]を選択し、解析実行
7. D:¥isb_correctionにposファイル(tr102561.pos)が作成
され、[Plot...]を選択すれば、グラフを描画する

データ設定画面

GSIPOST ver.1.0.0

☐ Time Start (GPST) ? ☐ Time End (GPST) ? ☐ Interval ☐ Unit

2000/01/01 00:00:00 2000/01/01 00:00:00 0 s 24 H

RINEX OBS: Rover ?

D:\%isb_correction%\tr102561.14o

RINEX OBS: Base Station

D:\%isb_correction%\jv022561.14o

RINEX *NAV/CLK, SP3, IONEX or SBS/EMS

D:\%isb_correction%\jv022561.14n

D:\%isb_correction%\jv022561.14l

Solution ☐ Dir

D:\%isb_correction%\tr102561.pos

☐ ☐ ?

Plot... View... To KML... Options... Execute Exit

Options – Setting1



Options

Setting1 Setting2 Setting3 Output Statistics Positions Files Misc

Positioning Mode Kinematic

Frequencies L1+L5

L2 Code Priority L2P(Y)

Solution Type Forward

Elevation Mask (°) / SNR Mask (dbHz) 15 ...

Rec Dynamics/Earth Tides Correction OFF OFF

Ionosphere Correction Broadcast

Troposphere Correction Saastamoinen

Time System Correction OFF

Satellite Ephemeris/Clock Broadcast

☐ Sat PCV ☐ Rec PCV ☐ PhWindup ☐ Reject Ed ☐ RAIM FDE

Excluded Satellite Galileoを選択

☒ GPS ☐ GLO ☒ Galileo ☐ QZSS ☐ SBAS ☐ Beidou

Glomass L1 Code Priority

Glomass L2 Code Priority

Options – Setting2

Options

Setting1 Setting2 Setting3 Output Statistics Positions Files Misc

Integer Ambiguity Resolution Method	LAMBDA	
Integer Ambiguity Resolution Strategy	Continuous	
GLONASS Ambiguity Resolution	ON	
PPP Ambiguity Resolution	OFF	
Min Ratio to Fix Ambiguity	3	
Min Confidence / Max FCB to Fix Amb	0.9999	0.2
Min Lock / Elevation (°) to Fix Ambiguity	0	0
Min Fix / Elevation (°) to Hold Ambiguity	10	0
Outage to Reset Amb/Slip Thres (m)	5	0.050
Phase Cycle Shift	OFF	
L2C-L2P Bias	OFF	
Max Age of Differential (s)	30.0	
Reject Threshold of GDOP/Innov (m)	30.0	30.0
Number of Filter Iteration	1	
<input type="checkbox"/> Baseline Length Constraint (m)	0.000	0.000
Inter System Bias	Table	
Analysys Method in Double Differencing	exc. glonass	

[Table]を選択することでISB補正。[OFF]は補正しない

Options – Setting3

Options

Setting1 Setting2 **Setting3** Output Statistics Positions Files Misc

Phase Cycle Shift, GLONASS IFB, Error Model

...

...

...

Multi Baseline Static

Estimate Satellite Clock/FCB OFF OFF

Semi-Dynamic Correction Parameter

...

Solution Directory

...

Est. Interval of ZTD (s)	7200		
Est. Interval of Trop. Gradient (s)	43200		
Trop. Process Noise Zen/EW/NS	1.00E-4	1.00E-4	1.00E-4
O-C Reject Phase/Code (sigma)	5.0	5.0	
Fixing Probability WL/NL	0.99990	0.99990	
Convergence Factor of Iteration	0.0010		

Options – Output

Options

Setting1 Setting2 Setting3 **Output** Statistics Positions Files Misc

Solution Format Lat/Lon/Height

Output Header/Processing Options ON ON

Time Format / # of Decimals hh:mm:ss GPST 3

Latitude / Longitude Format ddd.ddd

Field Separator

Datum/Height WGS84 Ellipsoid

Geoid Model Internal

Solution for Static Mode All

NMEA Interval (s) RMC/GGA, GSA/GSV 0 0

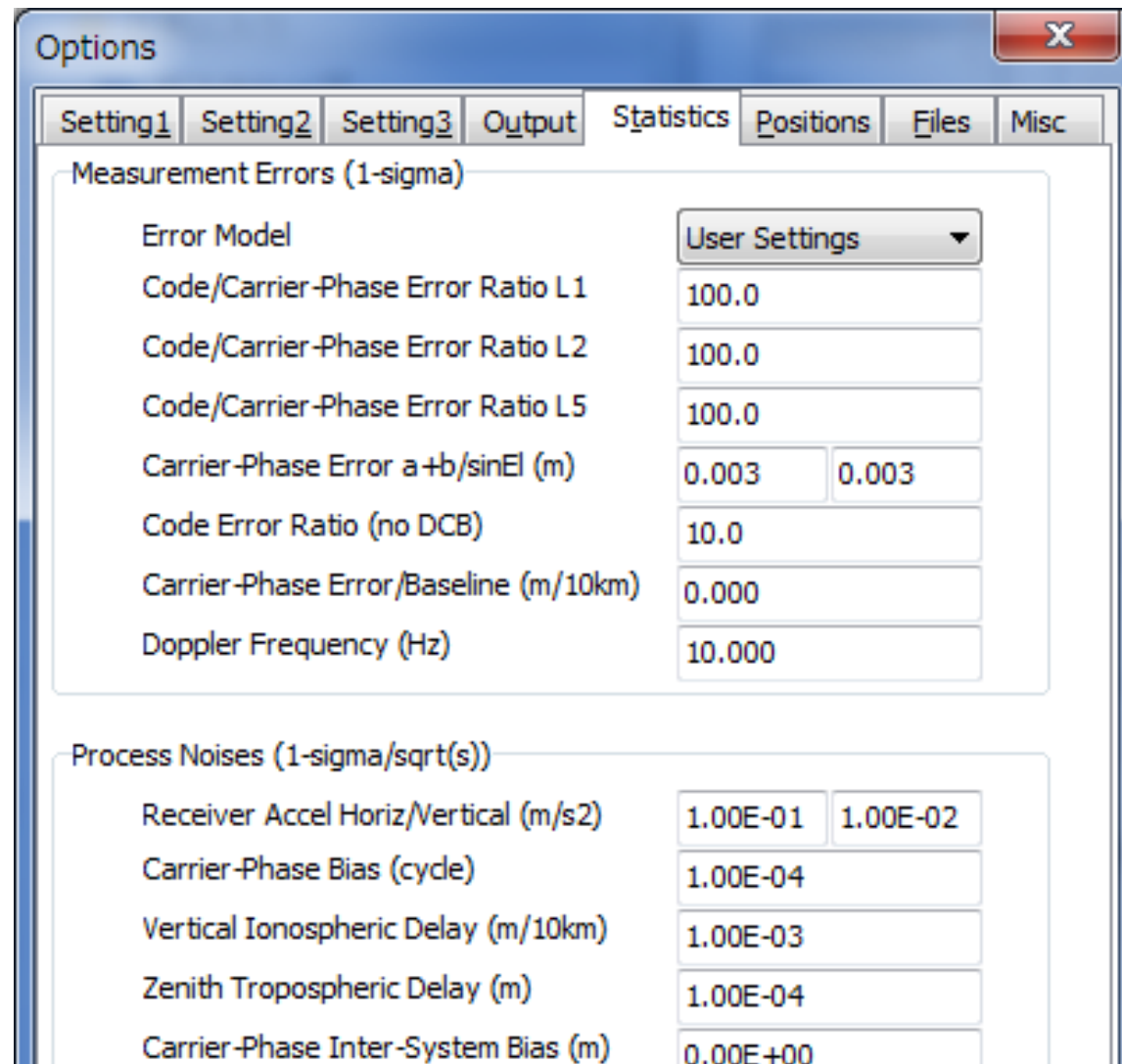
Output Solution Status / Debug Trace OFF OFF

Output ISB Data OFF

Output L2P-L2C Data OFF

Output Position in SINEX OFF

Options – Statistics



Options

Setting1 Setting2 Setting3 Output Statistics Positions Files Misc

Measurement Errors (1-sigma)

Error Model	User Settings ▼	
Code/Carrier-Phase Error Ratio L1	100.0	
Code/Carrier-Phase Error Ratio L2	100.0	
Code/Carrier-Phase Error Ratio L5	100.0	
Carrier-Phase Error a+b/sinE1 (m)	0.003	0.003
Code Error Ratio (no DCB)	10.0	
Carrier-Phase Error/Baseline (m/10km)	0.000	
Doppler Frequency (Hz)	10.000	

Process Noises (1-sigma/sqrt(s))

Receiver Accel Horiz/Vertical (m/s ²)	1.00E-01	1.00E-02
Carrier-Phase Bias (cycle)	1.00E-04	
Vertical Ionospheric Delay (m/10km)	1.00E-03	
Zenith Tropospheric Delay (m)	1.00E-04	
Carrier-Phase Inter-System Bias (m)	0.00E+00	

Options – Positions

Options

Setting1 Setting2 Setting3 Output Statistics Positions Files Misc

Rover

Lat/Lon/Height (deg/m) ...

90.000000000 0.000000000 -6335367.6285

☐ Antenna Type (*: Auto) Delta-E/N/U (m)

0.0000 0.0000 0.0000

Receiver Type Trimble NetR9

Base Station

RINEX Header Postion ...

36.127528817 140.142741174 42.4344

☐ Antenna Type (*: Auto) Delta-E/N/U (m)

0.0000 0.0000 0.0000

Receiver Type JAVAD TRE_G3T DELTA

Station Position File ...

ISBテーブルに記載された受信機名にする

Options – Files

Options

Setting1 Setting2 Setting3 Output Statistics Positions Files Misc

Satellite/Receiver Antenna PCV File ANTEX/NGS PCV

Geoid Data File

Ionosphere Data File

DCB Data File

ISB Data File

D:¥isb_correction¥isb.tbl

Google Earth Exe File

OTL BLQ File

Options – Setting2で[Table]を指定した場合、
ISBテーブルを選択
テーブルには、受信機種 of 組み合わせ毎の
ISB値を記載

Options – Misc

Options

Setting1 Setting2 Setting3 Output Statistics Positions Files Misc

Time Interpolation of Base Station Data OFF

DGPS/DGNSS Corrections SBAS

SBAS Satellite Selection (0: All) 0

RINEX Opt (Rover)

RINEX Opt (Base)

Station ID List

? : Keywords in File Path

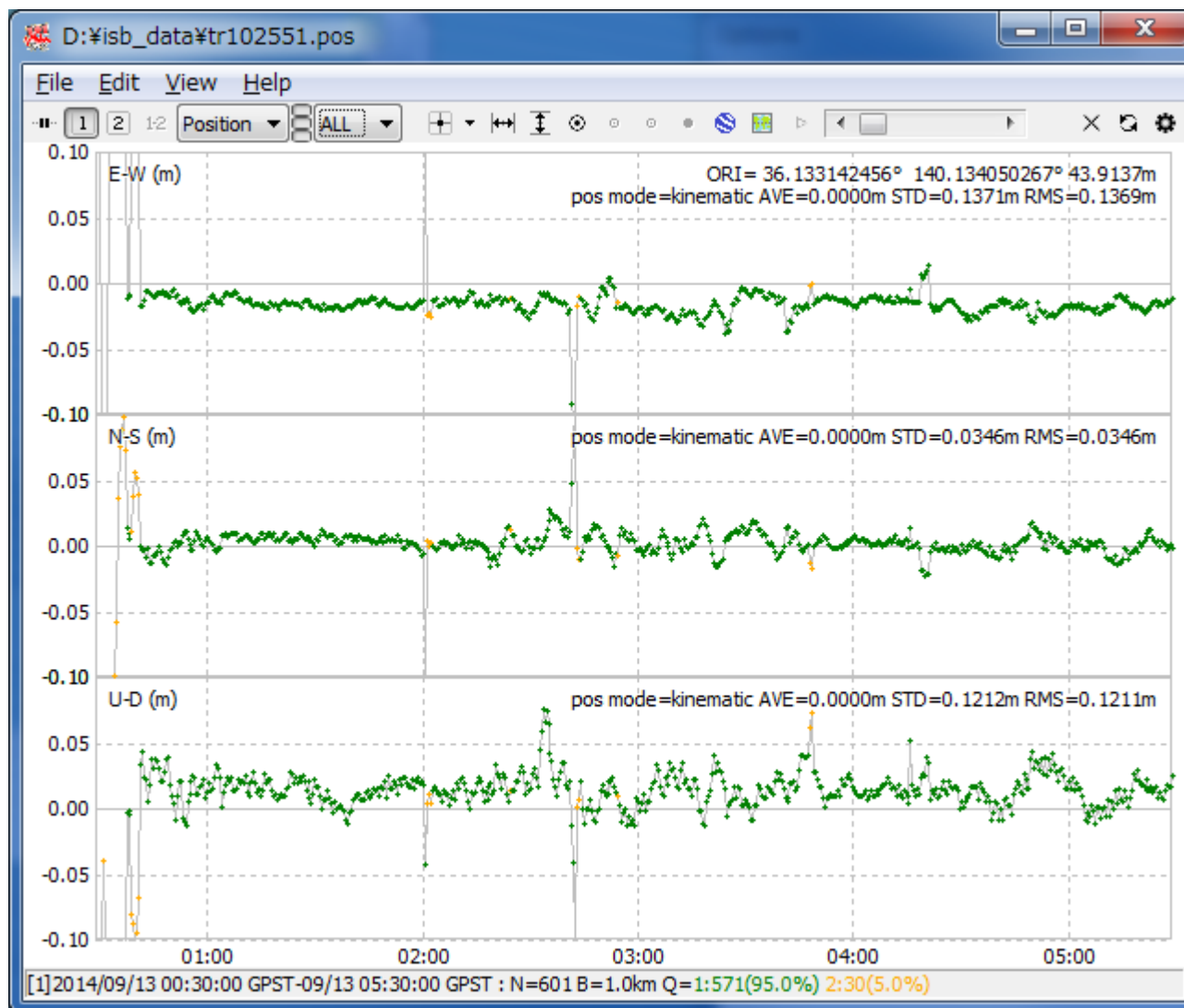
#...: Comment in List

Rovers

Base Stations

解析結果(ISB補正あり)

Options – Setting2 Inter System Bias で[Table] を選択



解析結果(ISB補正なし)

Options – Setting2 Inter System Biasで[OFF]を選択

