



EPN Troposphere Report

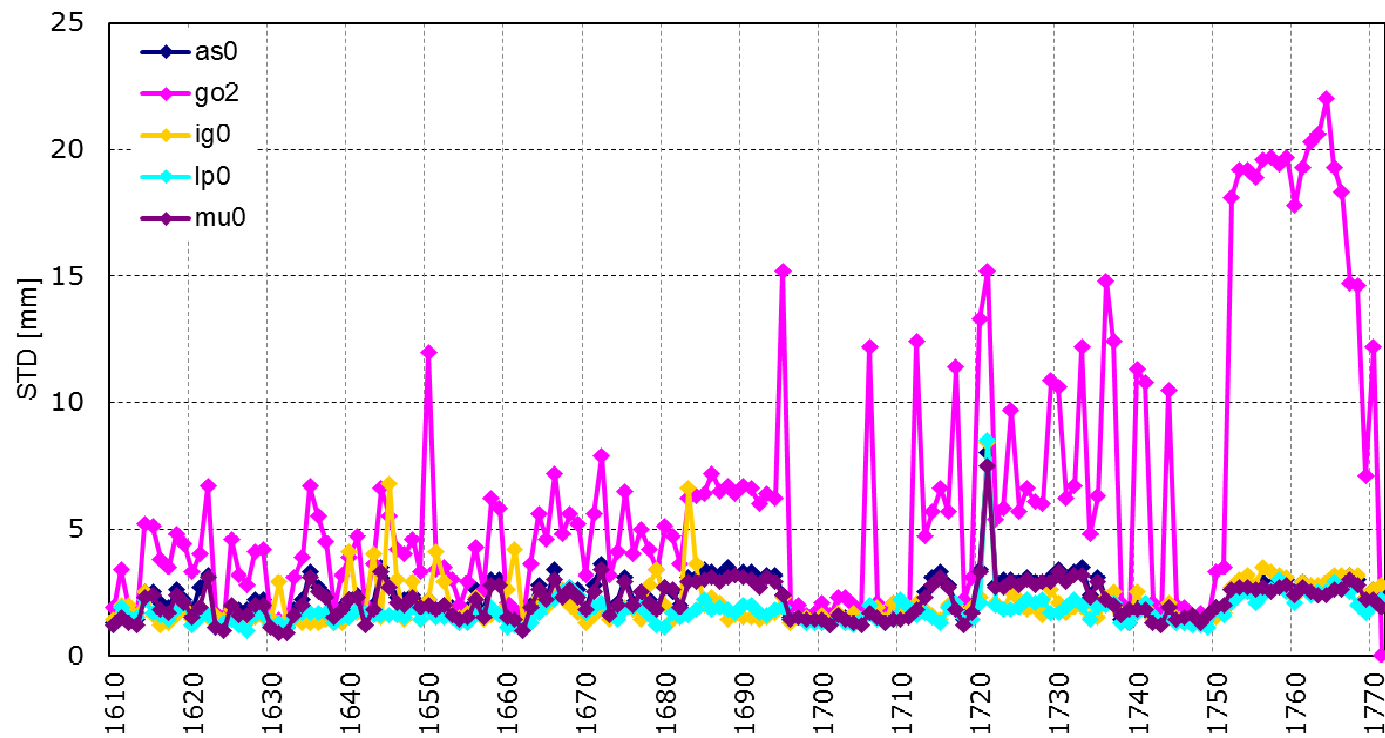
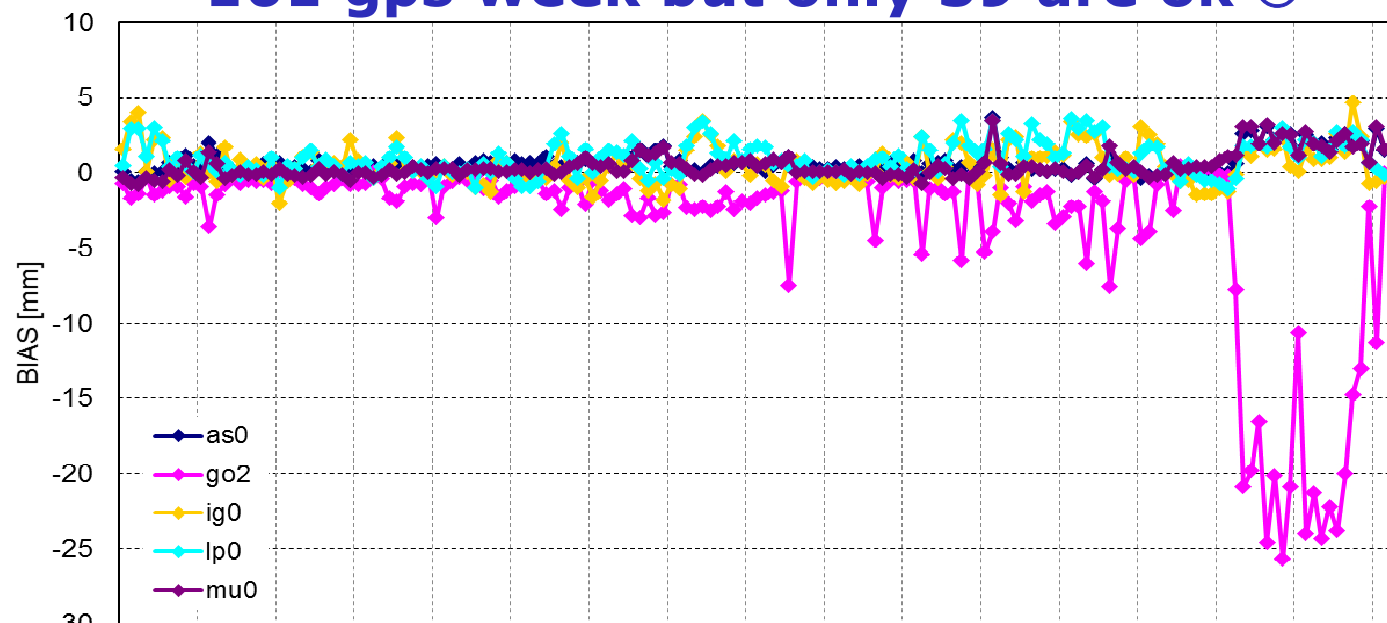
Rosa Pacione, e-geos ASI/CGS Matera, Italy

Repro2: AC Processing Strategy

	AS0	GO2	IG0	LP0	MU0
SW	GIPSY 6.2	BSW 5.2	BSW 5.2	BSW 5.2	GAMIT 10.5
GNSS	G	G	G + R	G + R	G
SOLUTION TYPE	PPP	NET	NET	NET	NET
STATIONS	ALL EPN+ IGS CORE	ALL EPN	PART EPN	PART EPN + IGS(8)	ALL EPN
ORBITS	JPL R2 (prelim.)	CODE R2	CODE R2	CODE R2	CODE R2
ANTENNAS	IGS08	IGS08 + IND.	IGS08 + IND.	IGS08	IGS08
IERS	2010	2010	2010	2010	2010
GRAVITY	EGM0	EGM08	EGM08	EGM08	EGM08
TROPOSPHERE Estimated Param	ZTD (5min)	ZTD (1h)	ZTD (1h)	ZTD (1h)	ZTD (1h)
	GRAD (5min)	GRAD (6h)	GRAD (6h)	GRAD (24h)	GRAD (12h)
MAPPING FUNCTION	VMF1	VMF1	GMF	GMF	VMF1
ZTD/GRAD time stamp	hh:30 24 estimates/day	hh:30 24 estimates/day	hh:30 24 estimates/day	hh:00 and hh:30 48 estimates/day	hh:30 24 estimates/day
IONOSPHERE	(HOI included)	CODE (HOI included)	CODE (HOI included)	CODE (HOI included)	CODE IONEX + IGRF11 (HOI included)
REF. FRAME	IGb08	IGb08	IGb08	IGb08	IGb08
OCEAN TIDES	FES2004	FES2004	FES2004	FES2004	FES2004
ATM. TID. LOAD.	NO	NO	YES	YES	YES
ATM. NONTID. LOAD.	NO	NO	NO	NO	YES
ELEV. CUTOFF	3	7	3	3	5
Delivered SNX/TRO Files	0835-1772	0836-1771	0835-1816	0835-1772	0835-1771
[from week to week]					

Repro2 AC bias w.r.t. Combined Solution

161 gps week but only 39 are ok ☹



Repro2: examples of weekly tsu files

```
+Center: | AS0 | GO2 | IG0 | LP0 | MU0 |
-----
.Mean    | 0.7 | 0.2 | -2.0 | -1.0 | 0.3 |
.Stddev  | 1.4 | 1.4 | 1.5  | 1.2  | 1.1 |
.#Delete | .   | .   | .    | .    | .   |
.#Sites  | 312 | 242 | 110  | 84   | 243 |
-----
```

GPS WEEK 1630 ☺

* number of sites used by 3 or more AC:242
* number of sites used by 2 AC:20
* number of sites used by 1 AC:75
* total:337

GPS WEEK 1770 ☹

```
+Center: | AS0 | GO2 | IG0 | LP0 | MU0 |
-----
.Mean    | 2.9 | -11.3 | -0.6 | 0.3 | 3.1 |
.Stddev  | 2.6 | 12.2  | 2.6  | 2.0 | 2.2 |
.#Delete | .   | .   | .    | .   | .   |
.#Sites  | 308 | 244  | 107  | 85  | 244 |
-----
```

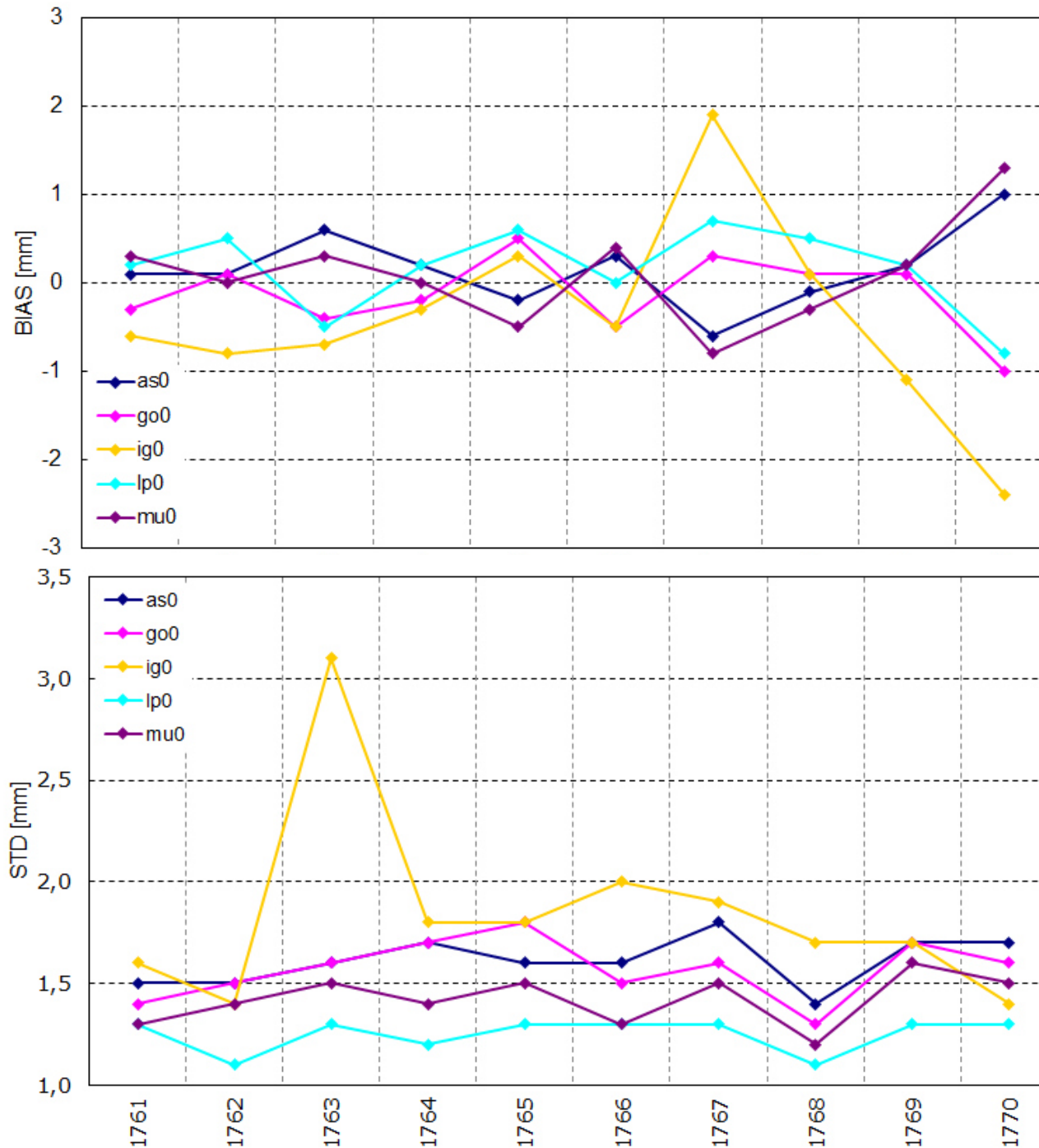
* number of sites used by 3 or more AC:244
* number of sites used by 2 AC:19
* number of sites used by 1 AC:74
* total:337

GPS WEEK 1770 ☺

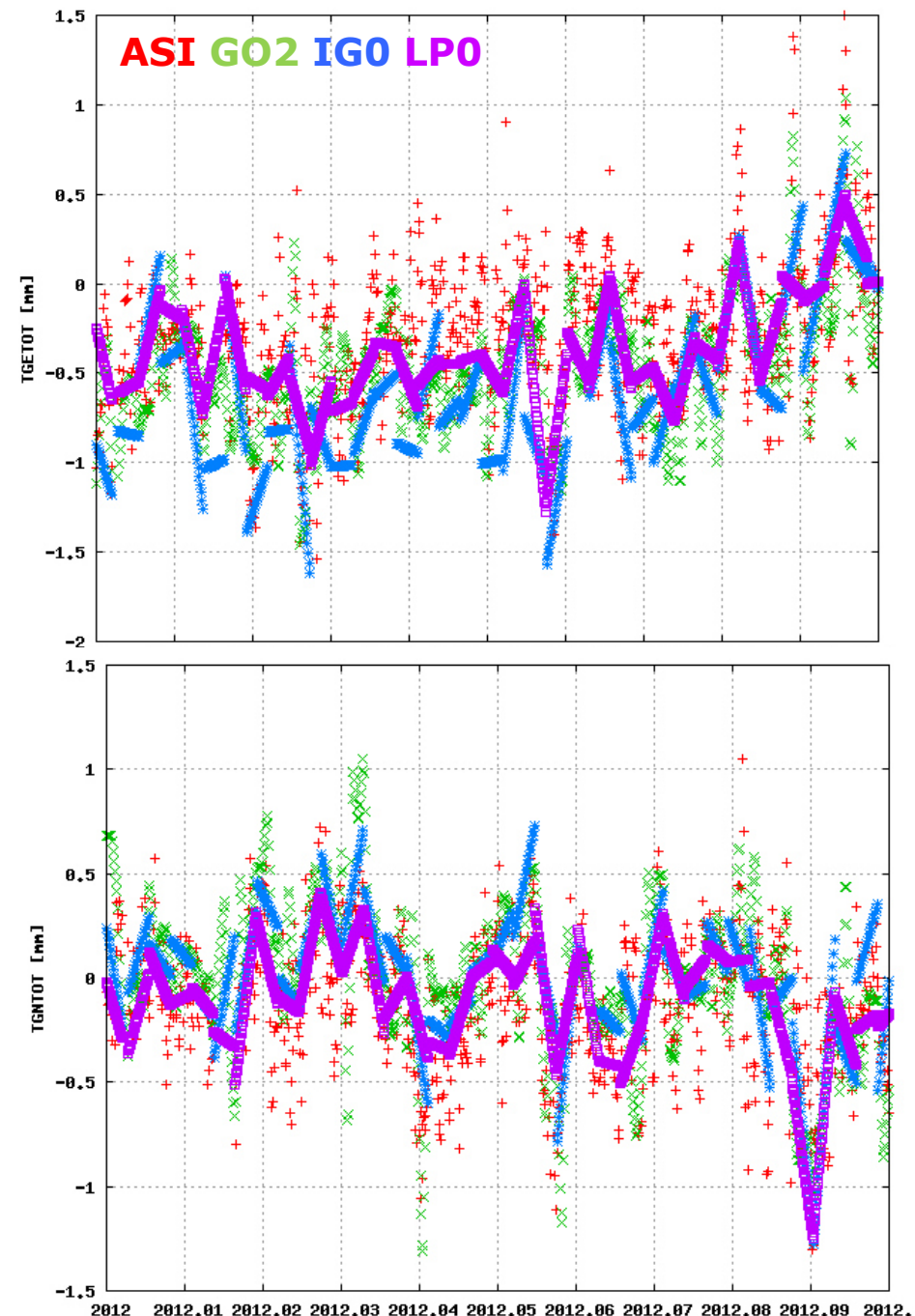
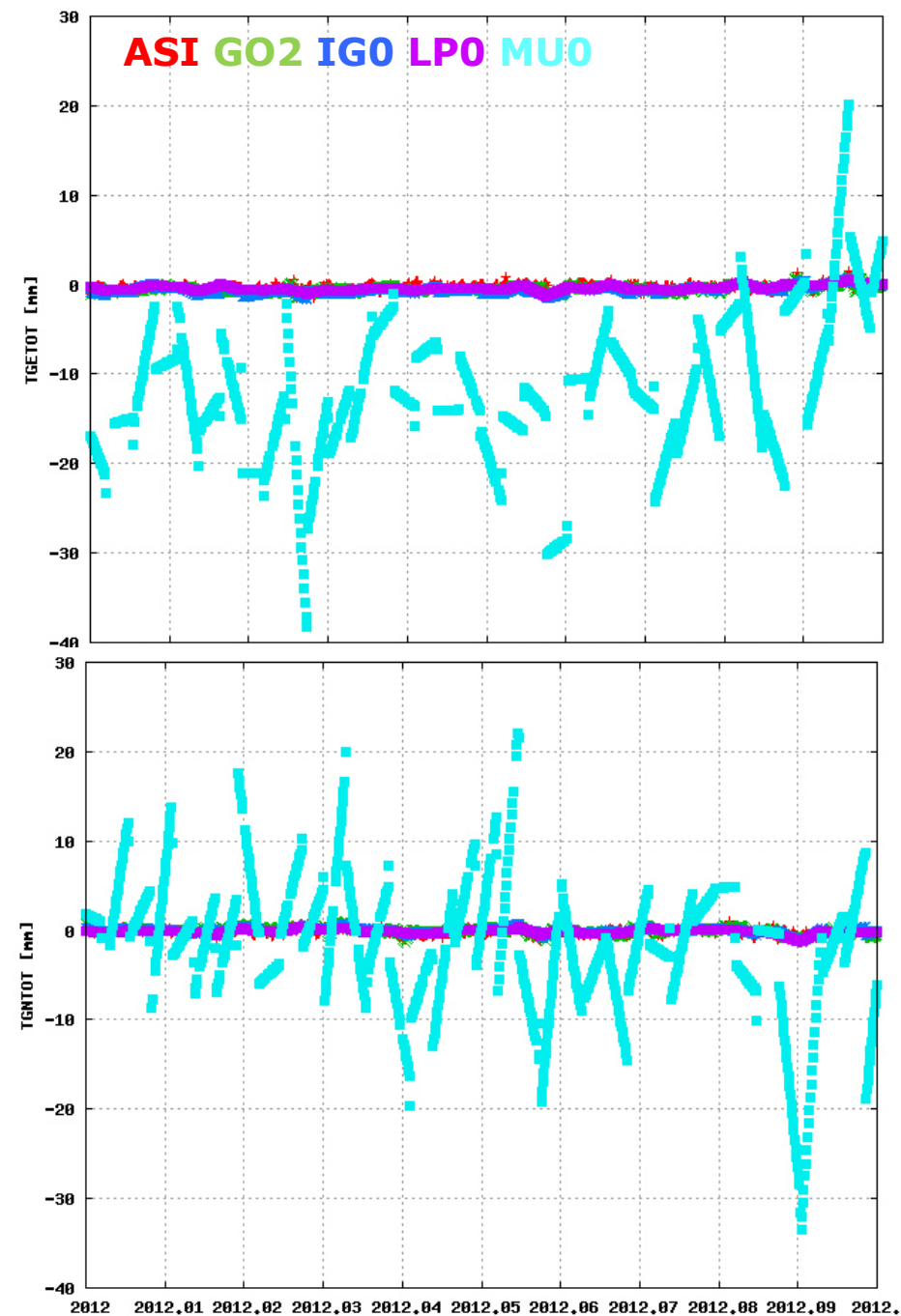
```
+Center: | AS0 | GO0 | IG0 | LP0 | MU0 |
-----
.Mean    | 1.0 | -1.0 | -2.4 | -0.8 | 1.3 |
.Stddev  | 1.7 | 1.6  | 1.4  | 1.3  | 1.5 |
.#Delete | .   | .   | .    | .   | .   |
.#Sites  | 308 | 244  | 107  | 85   | 244 |
-----
```

* number of sites used by 3 or more AC:245
* number of sites used by 2 AC:19
* number of sites used by 1 AC:74
* total:338
*

Repro2: test with G00

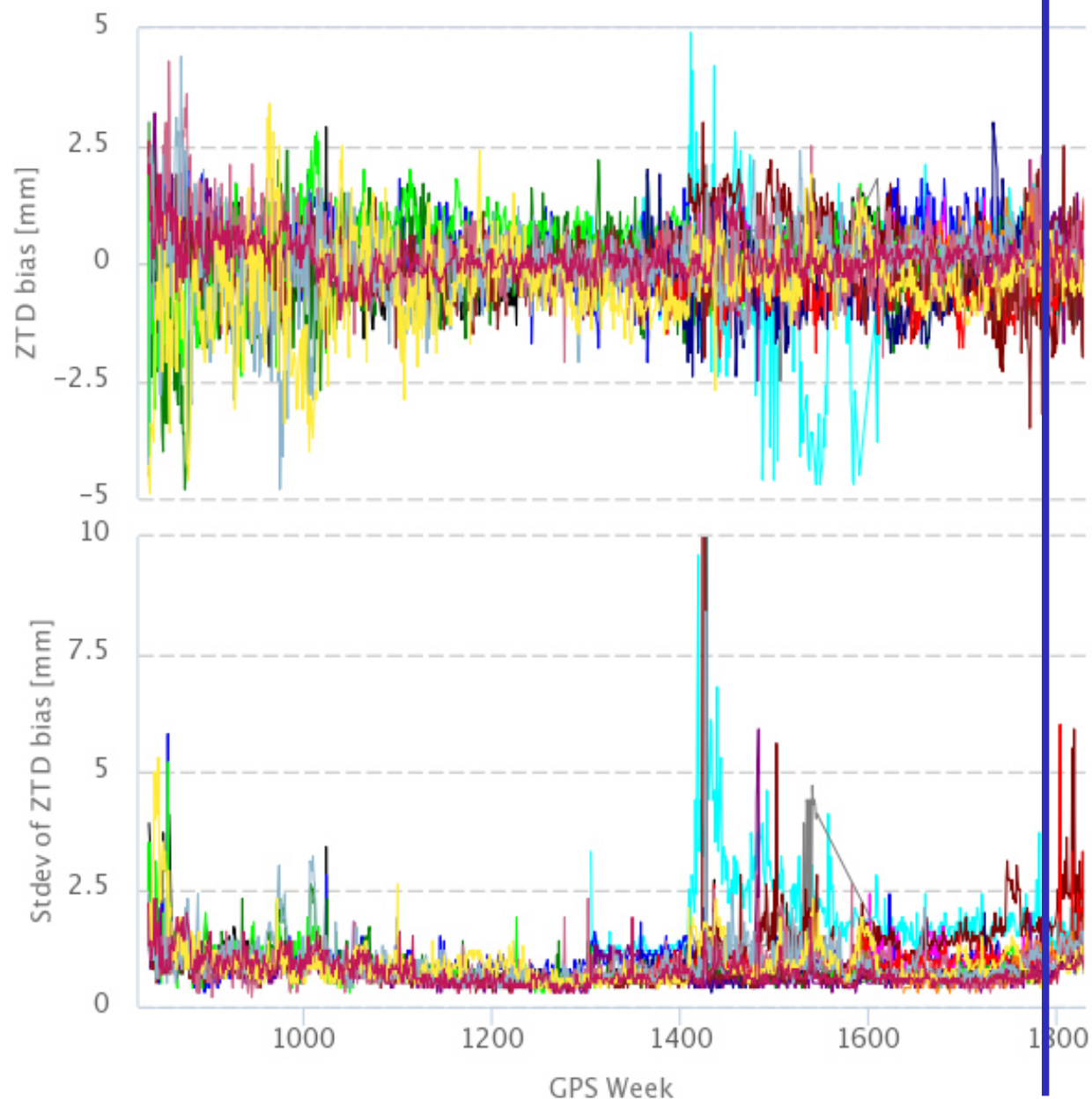


Repro2: AC gradients



Routine Combination

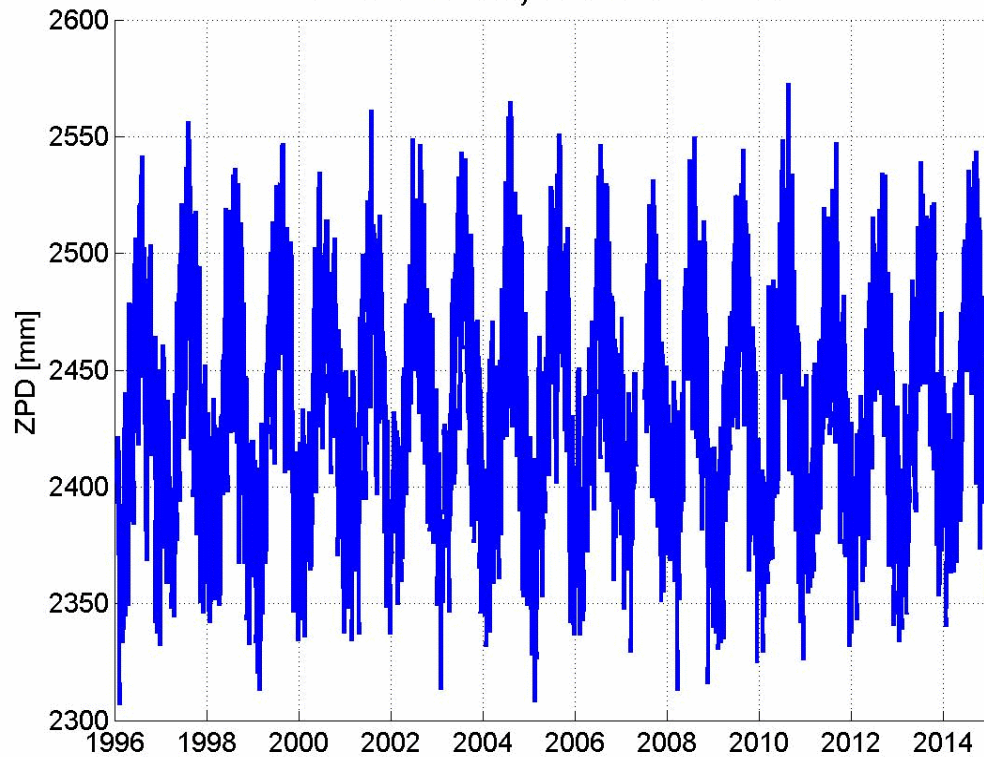
ASI	VMF1
BEK	WET_GMF
BKG	WET_GMF
COE	WET_GMF
IGE	WET_GMF
IGN	WET_GMF
LPT	WET_GMF
MUT	WET_GMF
NKG	WET_VMF
OLG	WET_VMF
RGA	WET_VMF
ROB	WET_GMF
SGO	WET_VMF
SUT	WET_NIELL
UPA	WET_GMF
WUT	WET_GMF



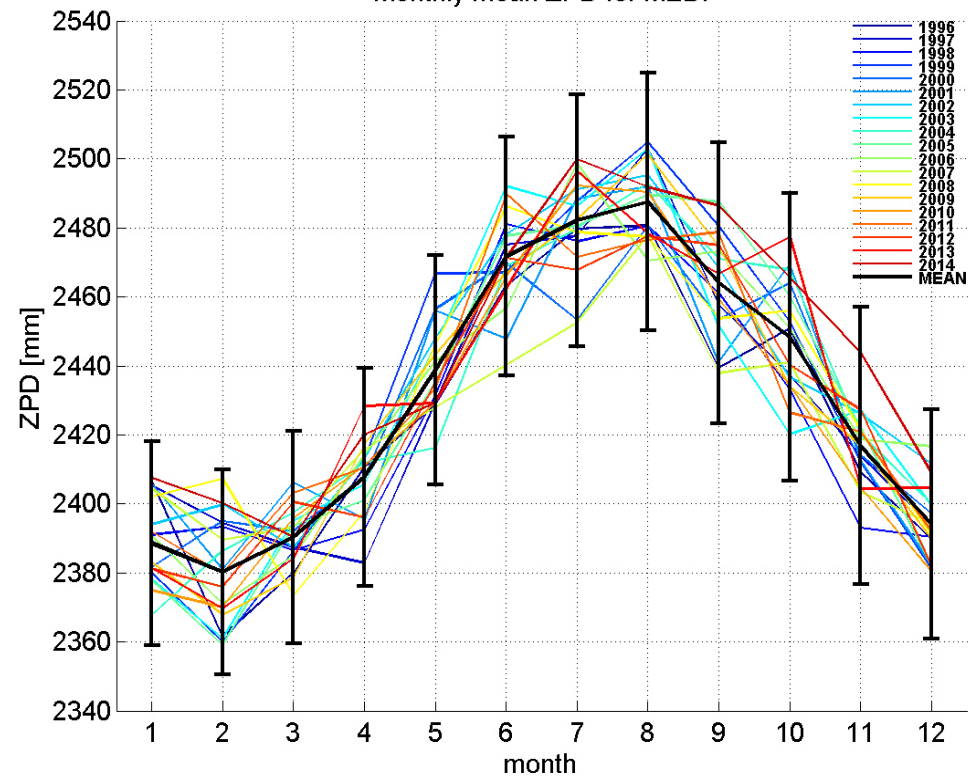
Analysis Centres (Click to hide)

— ASI — BEK — BKG — COE — DEO — GOP — IGE — IGN — LPT
 — MUT — NKG — OLG — RGA — ROB — SGO — SUT — UPA — WUT

Zenith Path Delay time series for MEDI



Monthly mean ZPD for MEDI

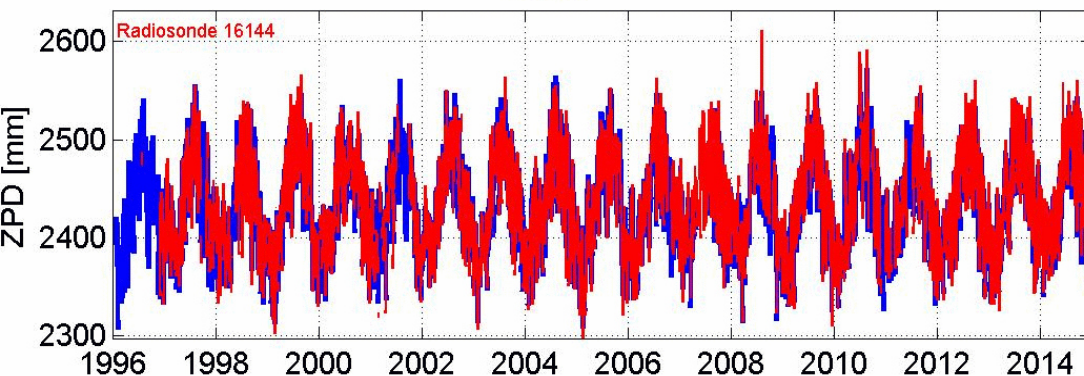


plots updated for all EPN stations

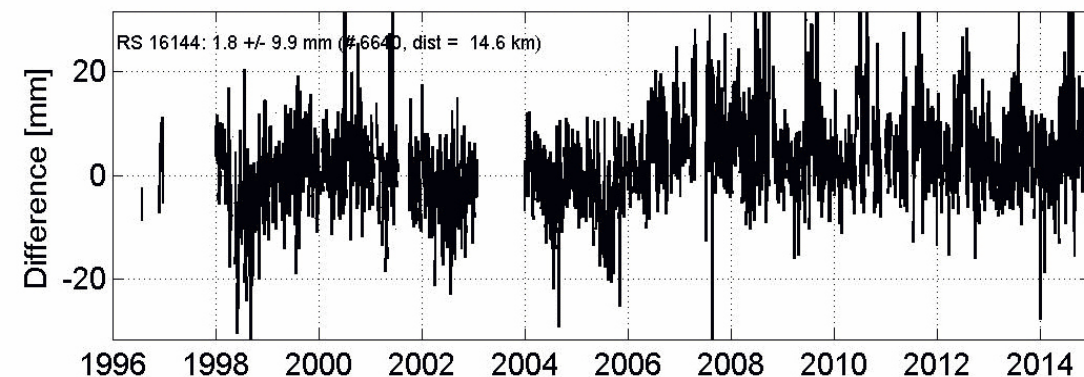
http://www.epncb.oma.be/_productsservices/sitezenithpathdelays/

Inter-comparison EUR vs Radiosonde and VLBI

Radiosonde and EUR ZPD time series for MEDI



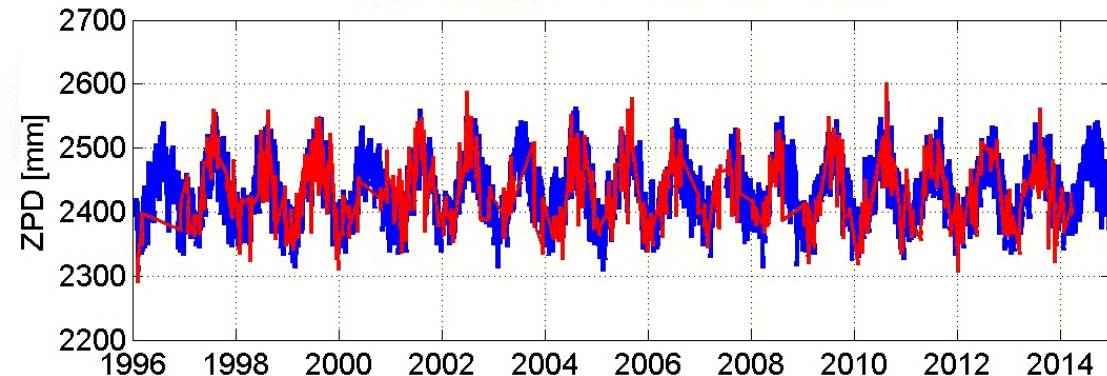
ZPD difference Radiosonde minus EUR for MEDI



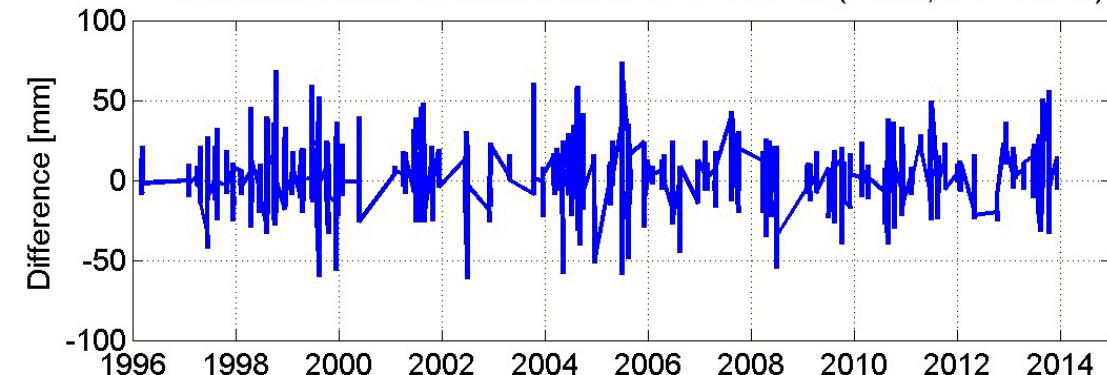
**Updated
181 stations**

**Stand-by
10 stations**

IVS and EUR ZPD time series for MEDI



ZPD difference IVS minus EUR for MEDI: 1.9 +/- 14.9 mm (# 3483, DH = 17.1 m)



GCOS REFERENCE UPPER-AIR NETWORK

International reference observing network, designed to meet climate requirements and to fill a major void in the current global observing system.

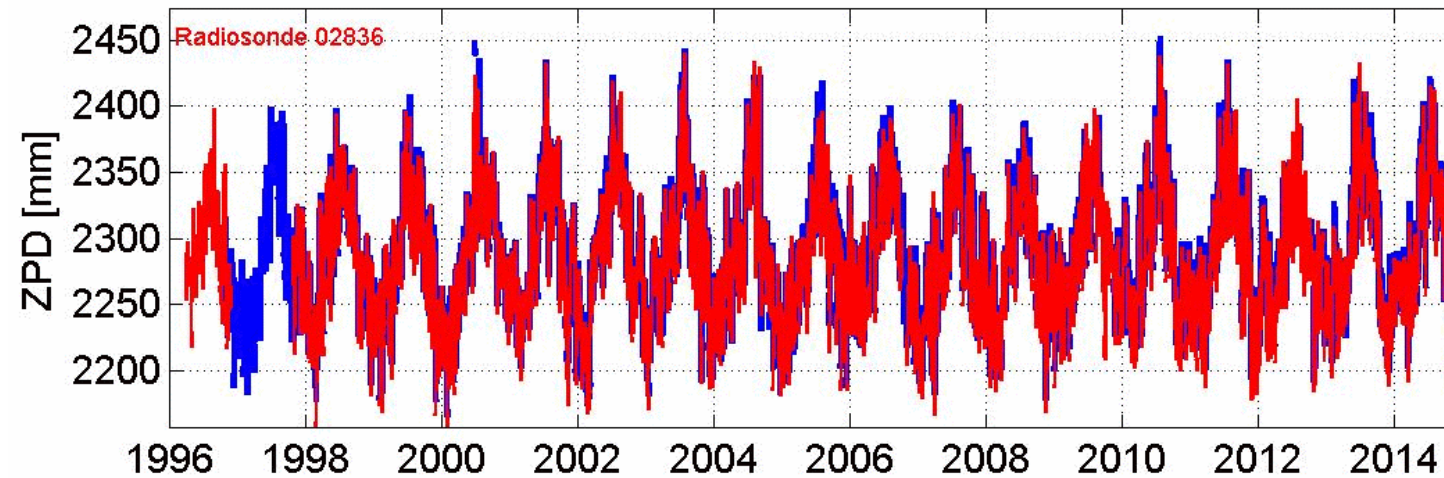


17 station 'Start Small but Start'

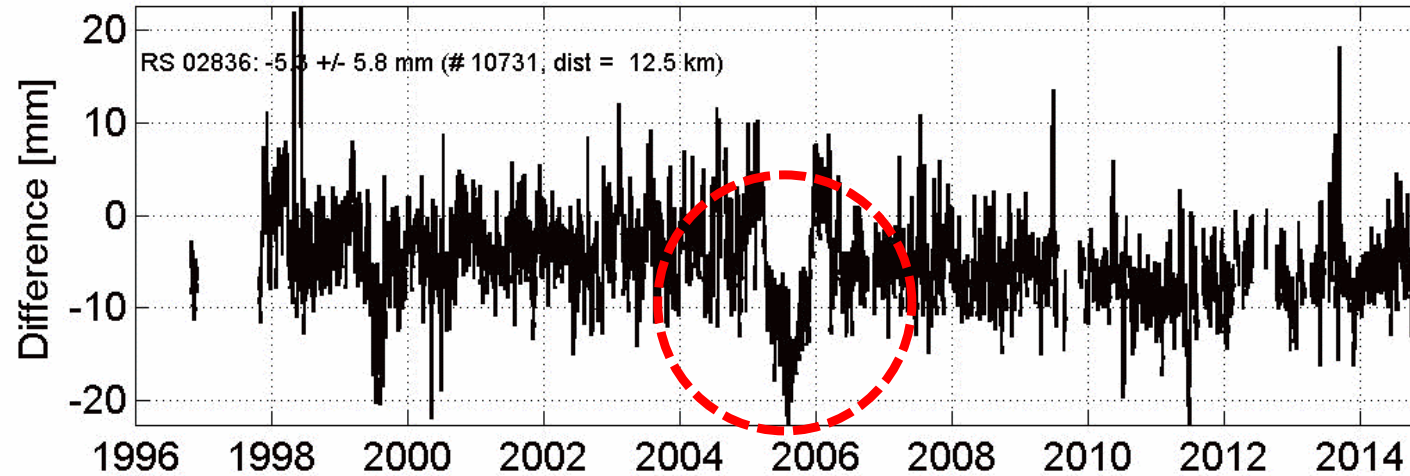
2 GRUAN sites are in EPN

EPN, GRUAN and GNSS4SWEAC collaboration

Radiosonde and EUR ZPD time series for SODA



ZPD difference Radiosonde minus EUR for SODA



RS90

RS80-15L

RS92

ASHTech Z-XII3/AOAD/M_T DUTD