Relative Calibration :

P1 (local) – P1 (ref)

P2 (local) – P2 (ref)

But what If (P1-P2)(ref) is biased?

→ getting UTC(k)-GPST with P1 or P2 would be different and

→ P3 would be affected too

We try to validate de results of calibration for P1-P2.

By the same way we look at its stability

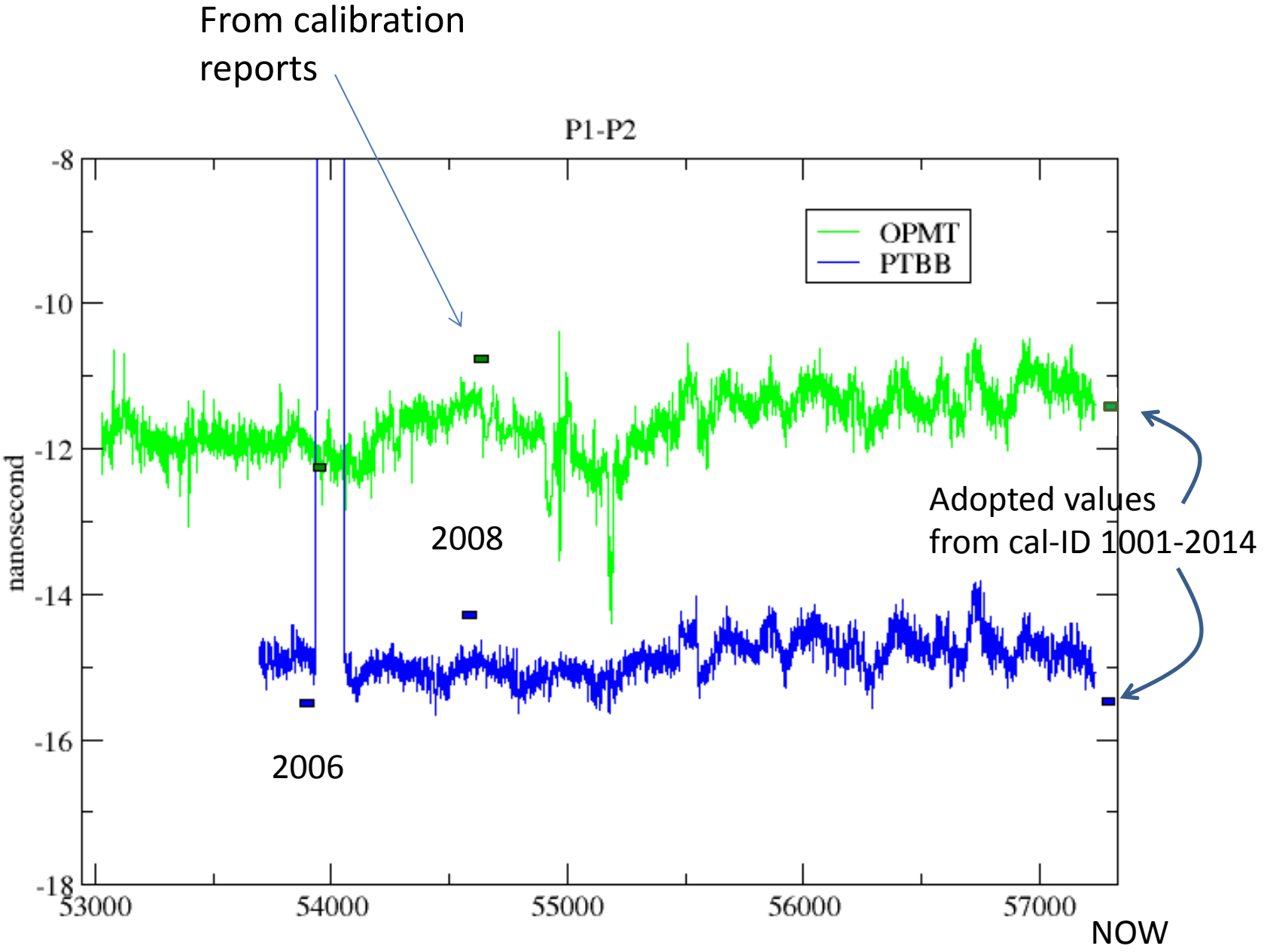
$$P_{1,2} = \rho_{1,2} - c\Delta t_{rec} + c(\Delta t_{sat} - \delta_{1,2}^{sat}) + I_{1,2} + Tr + \delta_{1,2}^{rec} + \varepsilon_{1,2}^{P}$$

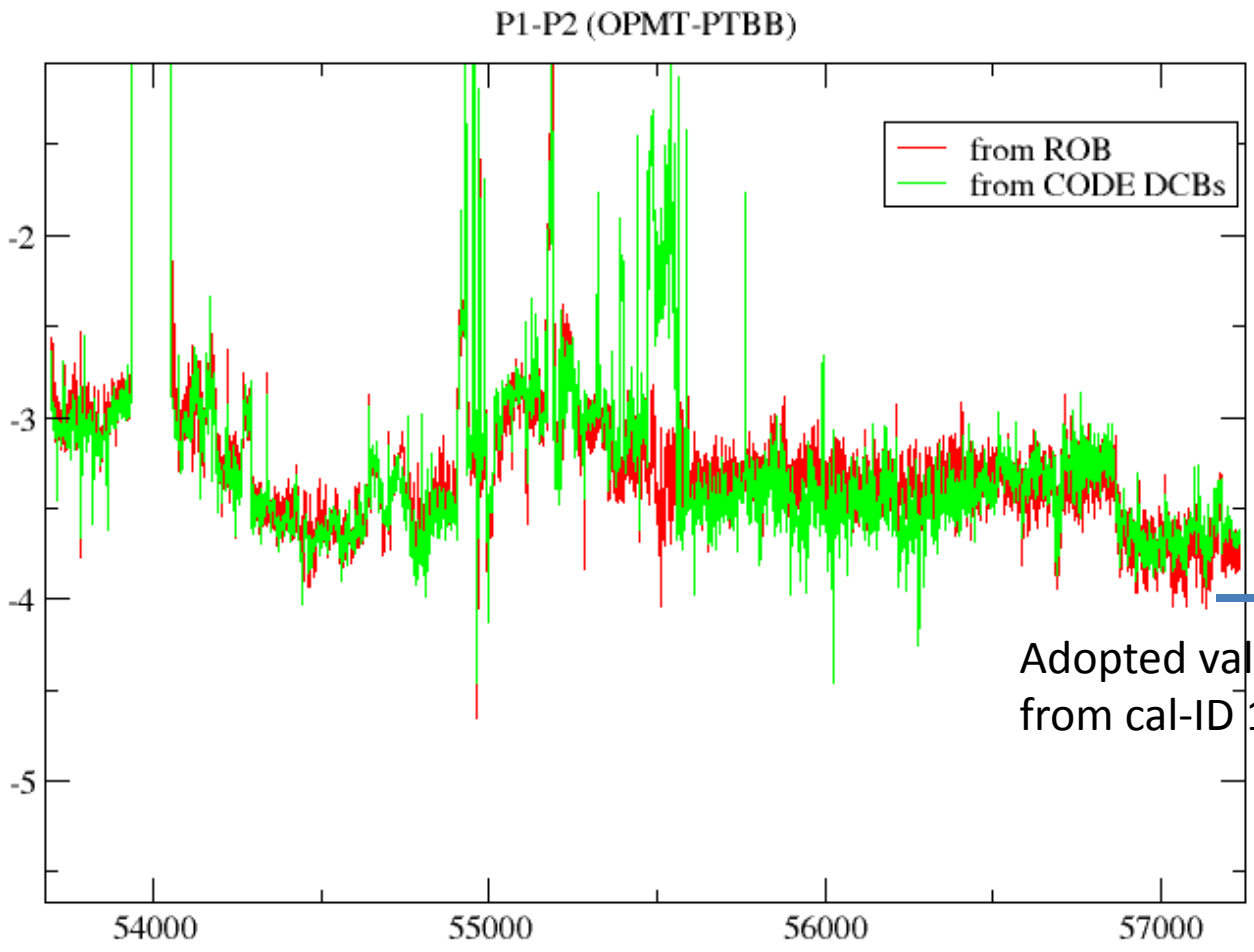
$$(\delta_1^{rec} - \delta_2^{rec}) = P_1 - P_2 - (\rho_1 - \rho_2) + (\delta_1^{sat} - \delta_2^{sat}) - (I_1 - I_2) + \varepsilon_{1,2}^{P}$$

$$= (1 - \frac{f_1^2}{f_2^2}).TGD$$

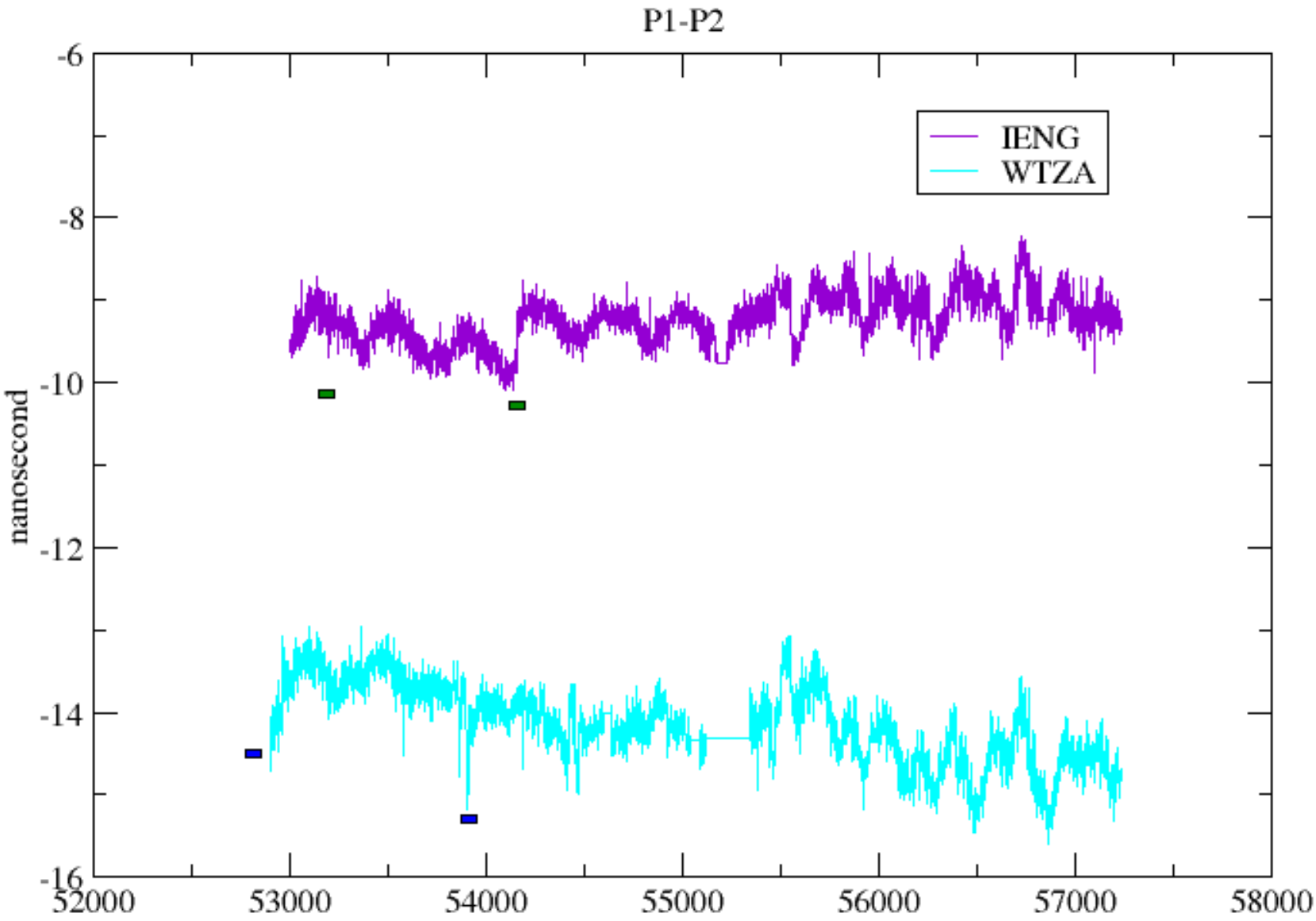
$$= 40.3 \frac{f_1^2 - f_2^2}{f_1^2 f_2^2}.10^{16}.TEC.mapping$$

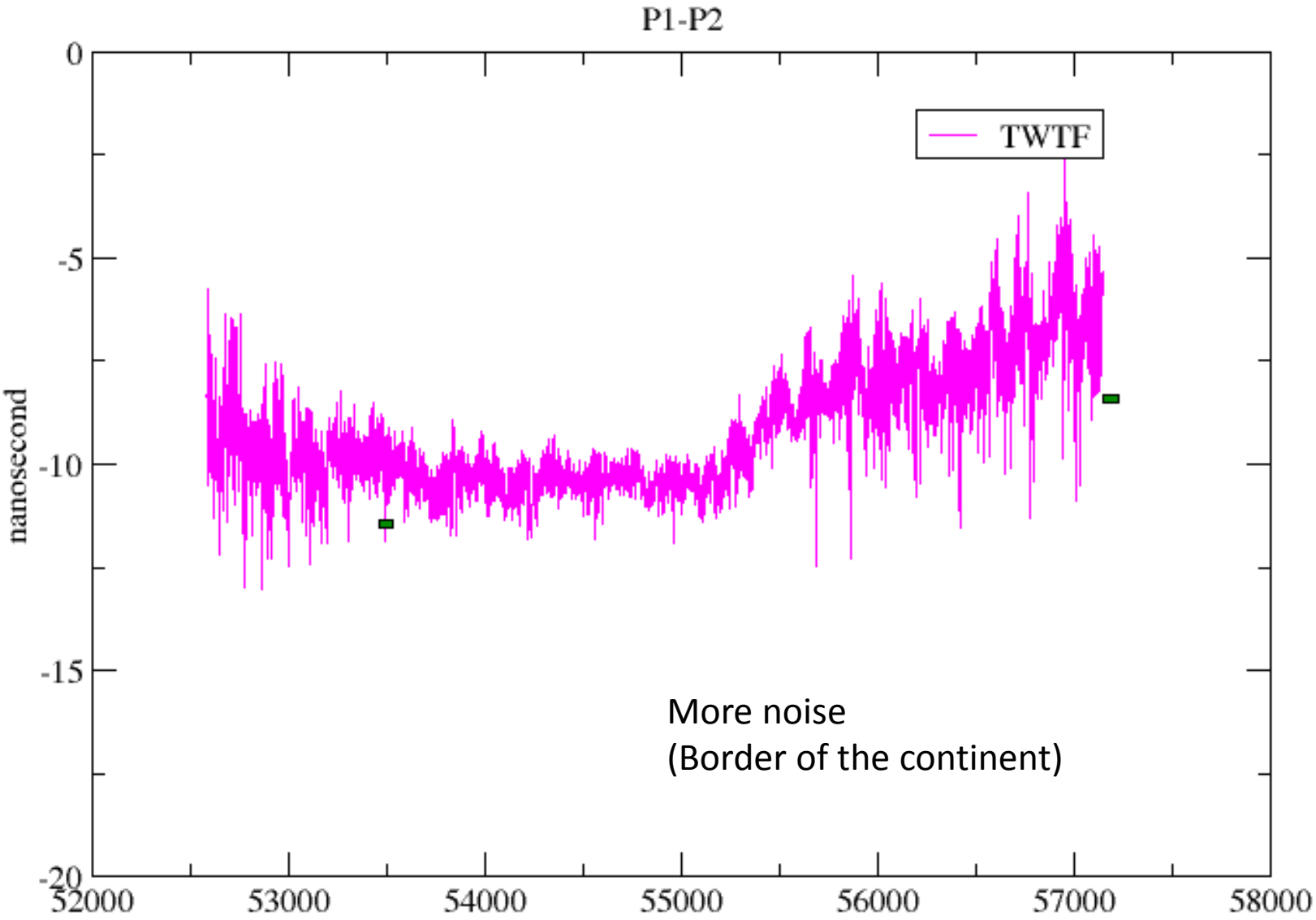
1 TECU error → 300 ps for a sat at the zenith.

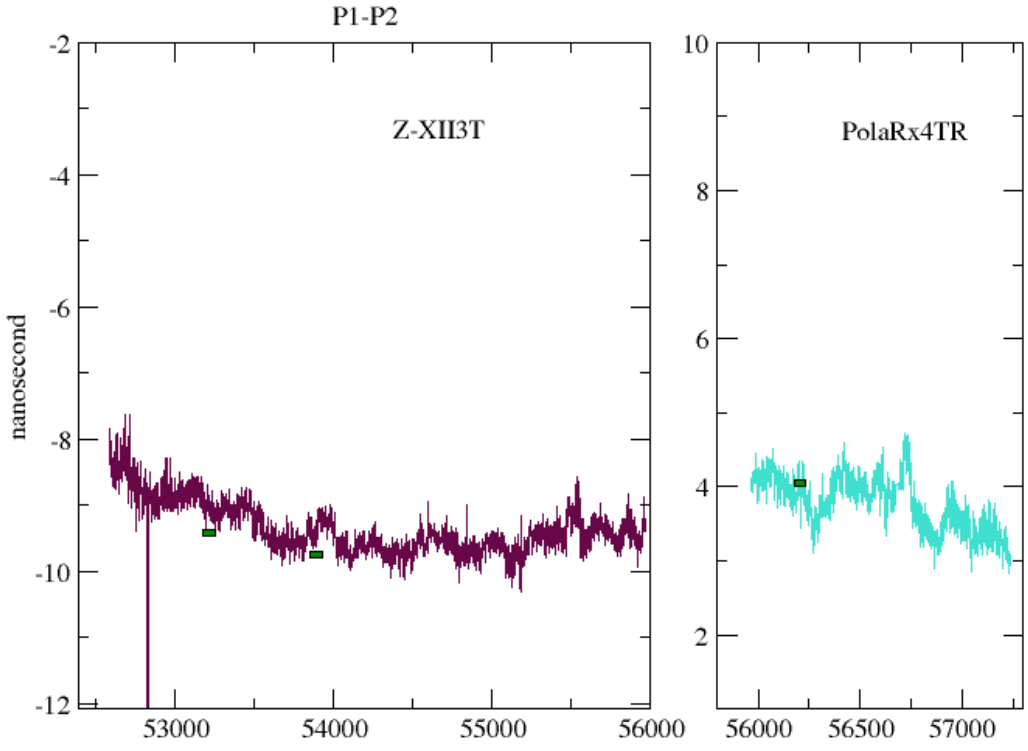

From calibration reports
P1-P2
OPMT
PTBB
nanosecond
-8
-10
-12
-14
-16
-18
53000
54000
55000
56000
57000
2008
2006
Adopted values from cal-ID 1001-2014
NOW

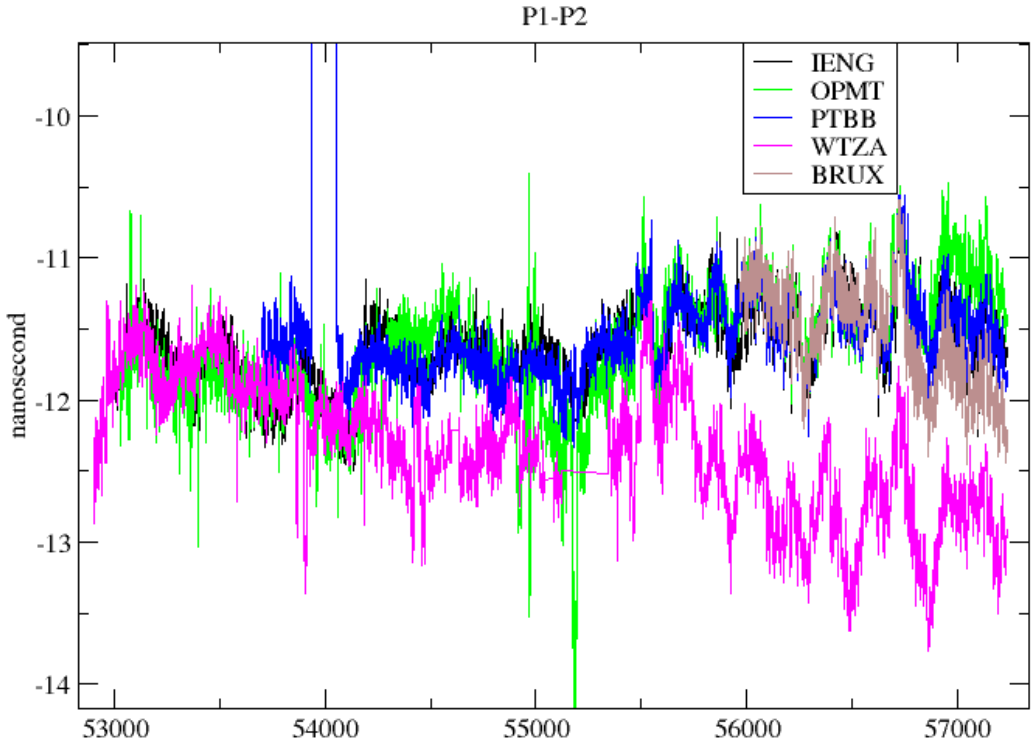


Adopted value
from cal-ID 1001-2014


P1-P2
IENG
WTZA
nanosecond
-6
-8
-10
-12
-14
-16
52000
53000
54000
55000
56000
57000
58000


P1-P2
TWTF
nanosecond
0
-5
-10
-15
-20
52000
53000
54000
55000
56000
57000
58000
More noise
(Border of the continent)


P1-P2
Z-XII3T
PolaRx4TR
nanosecond
-2
-4
-6
-8
-10
-12
10
8
6
4
2
53000
54000
55000
56000
56000
56500
57000


P1-P2
IENG
OPMT
PTBB
WTZA
BRUX
nanosecond
-10
-11
-12
-13
-14
53000
54000
55000
56000
57000