Definitions

XP: From external reference to 1PPS in
XO: From 1PPS in to internal reference (definition depending on receiver)
XC, XD: Cables etc... from antenna to receiver (typically XC is long cable, XD is short cable(s) + splitter if needed)
XR: receiver internal delay; XS antenna delay
Reference values for BP0U (provisional 15/09/2008): XR1+XS1 = -3.0 ns XR2+XS2 = -3.0 ns

Set-up at SG March 2010

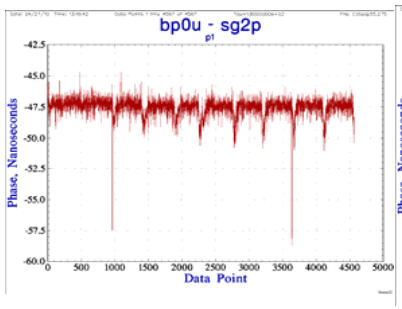
	x	y	z	**Ref - PPSin / ns**	Meas 3.1 (3.3) / ns	Meas 3.2 / ns	Ant. Cable / ns
BP0U (GTR50)				15.2	N/A		XC = 341.2 ns
				XP = 15.2 ns	Int ref - 1PPSin (XO) = N/A ns		XC+XD = 341.2 ns
INT_DLY0 = -99.07 ns					REF DLY = 15.2 ns		CAB DLY = 128.5 ns
SG2P (PolaRx2 S/N 3364)				10.0 ns	220.9 / 220.8 (before/after)		XC = 272.0 ns
				XP = 10.0 ns	Int ref - 1PPSin (XO) = 229.5 ns		Short baseline: XC+XD = 272.0 ns
SG02 (PolaRx2 S/N 3613)				7.5	221.7 / 221.5 (before/after)		XC = 413.0 ns
				XP = 7.5 ns	Int ref - 1PPSin (XO) = 230.3 ns		Short baseline: XC+XD = 413.0 ns

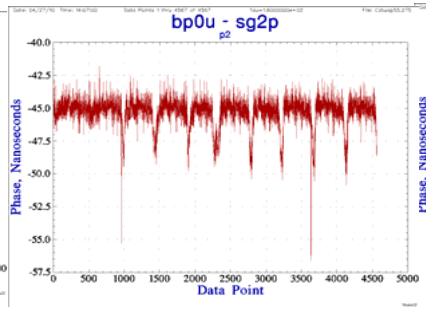
Observations

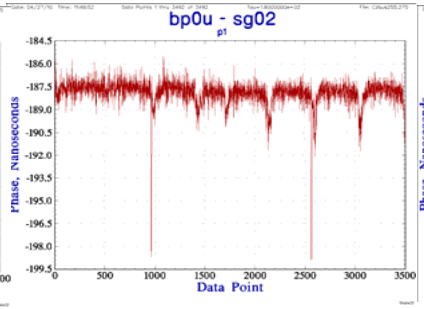
Short baseline: 55274-55285, doy 78-89 (19-30 March 2010). Bad data removed: 55279 (BP0U), 55280 (SG02)

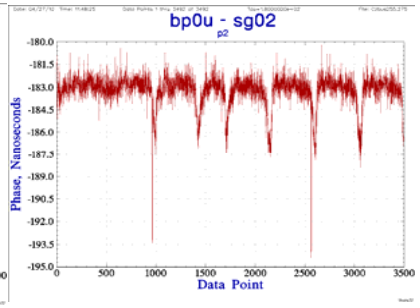
Measurement results

27/04/2010 (L. Tisserand)









SG2P Short baseline:
Delta (-XP-XO+XR1+XC+XD+XS1) (SG2P - BP0U) = 47.4 ns
Delta (-XP-XO+XR2+XC+XD+XS2) (SG2P - BP0U) = 45.1 ns

SG02 Short baseline:
Delta (-XP-XO+XR1+XC+XD+XS1) (SG02 - BP0U) = 187.8 ns
Delta (-XP-XO+XR2+XC+XD+XS2) (IMPR - BP0U) = 183.0 ns

Calibration results

27/04/2010 (G. Petit)

BP0U: -XP-XO+XR1+XC+XD+XS1 = 209.7 ns
BP0U: -XP-XO+XR2+XC+XD+XS2 = 209.7 ns

For BP0U, XC+XD-XP-XO is the difference between the actual value (326.0 ns) and the value entered in the receiver (128.5-15.2 = 113.3 ns)

SG2P: -XP-XO+XC+XD = 32.5 ns

SG02: -XP-XO+XC+XD = 175.1 ns

Therefore

SG2P: XR1+XS1 = 224.6 ns
SG2P: XR2+XS2 = 222.3 ns

SG02: XR1+XS1 = 222.3 ns
SG02: XR2+XS2 = 217.5 ns