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Notations

As presented in [Petit et al., 2001] for the Z12-T, the calibration of a geodetic system is divided in (up to) 6 different parts (Figure 1)

- X_P = Delay of the 1PPS-in with respect to the laboratory reference
- X_O = Delay of the “internal reference” with respect to the 1PPS-in

$(X_P + X_O) = \text{REFDLY.}$

- X_C = antenna cable delay
- $[X_D = \text{short cable} + \text{splitter delay}]$

$(X_C + X_D) = \text{CABDLY.}$ In practice, X_D is generally not used.

- X_R = receiver internal delay, measured from the “internal reference”
- X_S = antenna delay

$(X_R + X_S) = \text{INTDLY.}$

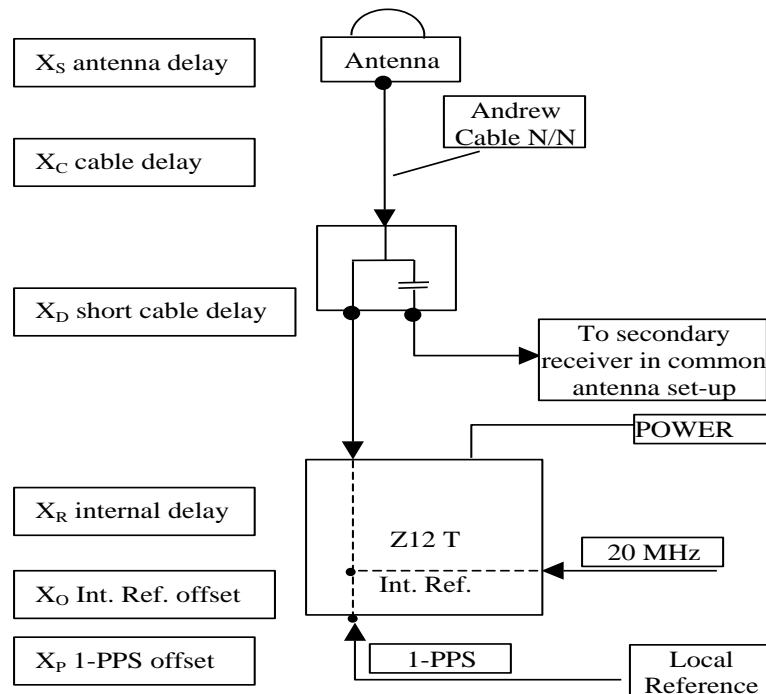


Figure 1: Definition of the different delays used in the most general set-up of a geodetic system (here shown for a Z12-T) from [Petit et al, 2001].

1/ phase 1

Laboratories: BIPM, TL, NICT, NIM, NTSC

1.1/ BIPM (16048)Period

MJD 57435 to 57439

Delays

BP0R:

$X_O = 226.1$ ns	(266.1-48.7+8.7)
$X_P = 42.7$ ns	(BP1R+C139+BP1S+C72)
REFDLY = 268.81 ns	
CABDLY = 133.4 ns	(C113)

BP1J:

$X_O = 132.5$ ns	(186.3-53.8)
$X_P = 47.6$ ns	(BP1R+C139+BP1S+C172)
REFDLY = 180.1 ns	
CABDLY = 128.7 ns	(C138)

BP1X:

REFDLY = 42.6 ns	(BP1R+C139+BP1S+C126)
CABDLY = 129.7 ns	(C178)

BP0U:

REFDLY = 52.6 ns	(BP1R+C166+BP1I+C153)
CABDLY = 181.7 ns	(C134)

BP1C:

$X_O = 203.4$ ns	(218.8-15.4)
$X_P = 52.6$ ns	(BP1R+C166+BP1I+C157)
REFDLY = 256.0 ns	
CABDLY = 235.7 ns	(C131)

Setup at the BIPM**Annex A - Information Sheet**

(to be repeated for each calibrated system)

Laboratory:	BIPM	
Date and hour of the beginning of measurements:	MJD 57435	
Date and hour of the end of measurements:	MJD 57439	
Information on the system		
	Local:	Travelling:
4-character BIPM code	BP0R	BP1C
• Receiver maker and type: Receiver serial number:	Septentrio PolaRx2e 3113	Septentrio PolaRx3eTR S9000169176
1 PPS trigger level /V:		
• Antenna cable maker and type: Phase stabilised cable (Y/N):		
Length outside the building /m:	~ 15 m	~ 15 m
• Antenna maker and type: Antenna serial number:	Ashtech Chokering 701945-2 CR6200539014	Ashtech Chokering 701945-2 CR62000323008
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	42.7 ns	52.6 ns
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	226.1 ns	203.4 ns
• Antenna cable delay:	133.4 ns	235.7 ns
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		
• INT DLY (GLONASS) /ns:		
• CAB DLY /ns:		
• REF DLY /ns:		
• Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
• Rise time of the local UTC pulse:		
• Is the laboratory air conditioned:		
Set temperature value and uncertainty:		21 ± 1°C
Set humidity value and uncertainty:		

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	BIPM	
Date and hour of the beginning of measurements:	MJD 57435	
Date and hour of the end of measurements:	MJD 57439	
Information on the system		
	Local:	Travelling:
4-character BIPM code	BP1J	BP0U
• Receiver maker and type: Receiver serial number:	Septentrio PolaRx4proTR 27	Dicom GTR50 0801068
1 PPS trigger level /V:		1 V
• Antenna cable maker and type: Phase stabilised cable (Y/N):		
Length outside the building /m:	~ 15 m	~ 15 m
• Antenna maker and type: Antenna serial number:	Septentrio Sepchoke_MC 5131	Novatel 702-GG NAE10190011
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	47.6 ns	52.6
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	132.5 ns	
• Antenna cable delay:	128.7 ns	181.7
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		
• INT DLY (GLONASS) /ns:		
• CAB DLY /ns:		
• REF DLY /ns:		
• Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
• Rise time of the local UTC pulse:		
• Is the laboratory air conditioned:		
Set temperature value and uncertainty:		21 ± 1°C
Set humidity value and uncertainty:		

1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

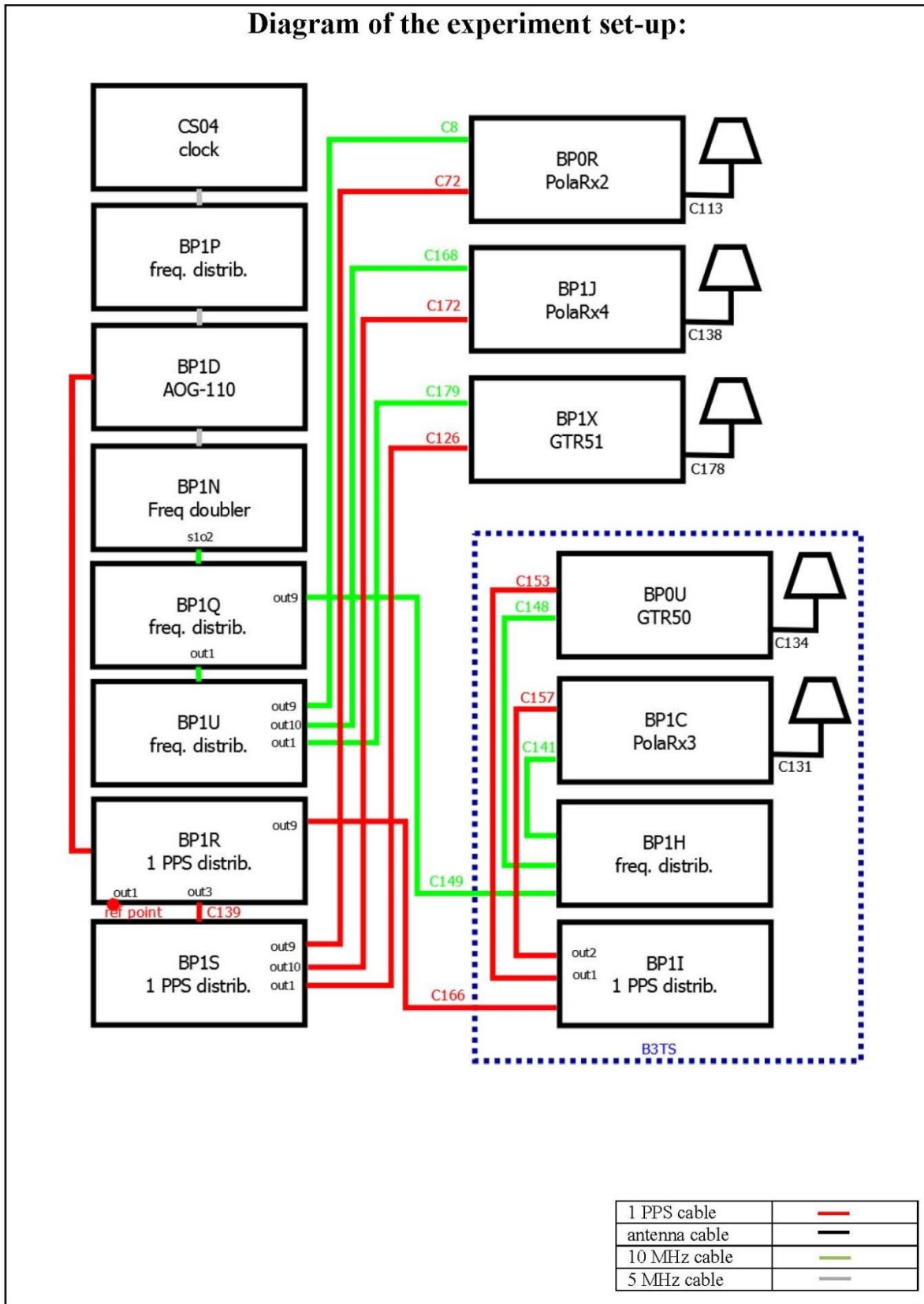
Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	BIPM	
Date and hour of the beginning of measurements:	MJD 57435	
Date and hour of the end of measurements:	MJD 57439	
Information on the system		
	Local:	Travelling:
4-character BIPM code	BPIX	
• Receiver maker and type: Receiver serial number:	Dicom GTR51 1306001	
1 PPS trigger level /V:	1 V	
• Antenna cable maker and type: Phase stabilised cable (Y/N):		
Length outside the building /m:	~15 m	
• Antenna maker and type: Antenna serial number:	Novatel 703-GG NEG13160018	
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	42.6 ns	
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>		
• Antenna cable delay:	129.7 ns	(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		
• INT DLY (GLONASS) /ns:		
• CAB DLY /ns:		
• REF DLY /ns:		
• Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
• Rise time of the local UTC pulse:		
• Is the laboratory air conditioned:		
Set temperature value and uncertainty:		21 ± 1°C
Set humidity value and uncertainty:		

1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Diagram of the experiment set-up:



Log of Events / Additional Information :

All measurements at BIPM carried out by L. Tisserand.

Equipment used to measure delays are two time interval counter (TIC), model SR620, maker Stanford Research Systems, with measurement uncertainty typically less than 0.5 ns (using external reference frequency as timebase).

TIC serial number 4680 used for local receivers.

TIC serial number 5482 used for traveling receivers.

BP0U-BP0R

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 63494
 Computed code bias (P1/P2)/m = -28.221 -27.106
 Computed baseline (X,Y,Z)/m = -5.310 -0.784 4.264
 RMS of residuals /m = 0.696

Number of phase differences to fit baseline = 54102
 A priori baseline (X,Y,Z)/m = -5.310 -0.784 4.264
 12970 clock jitters computed out of 13273 intervals
 AVE jitter /ps = -0.7 RMS jitter /ps = 42.2

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = 0.127 0.004 0.219
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = 0.133 0.048 0.225
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -5.183 -0.780 4.483
 Final baseline L2 (X,Y,Z)/m = -5.177 -0.736 4.490

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 63710

Global average of individual differences

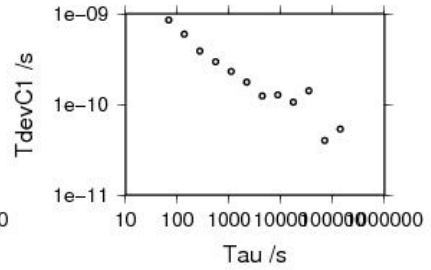
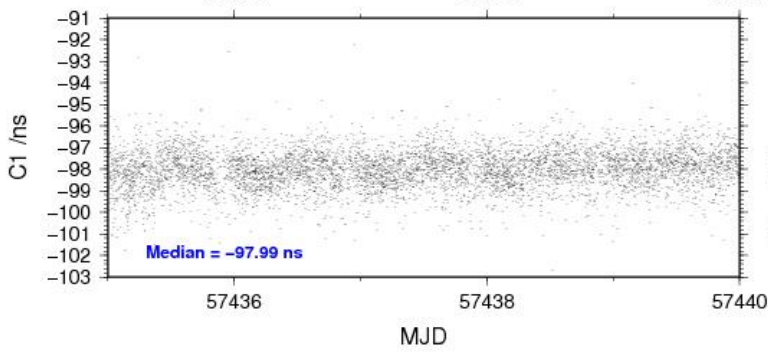
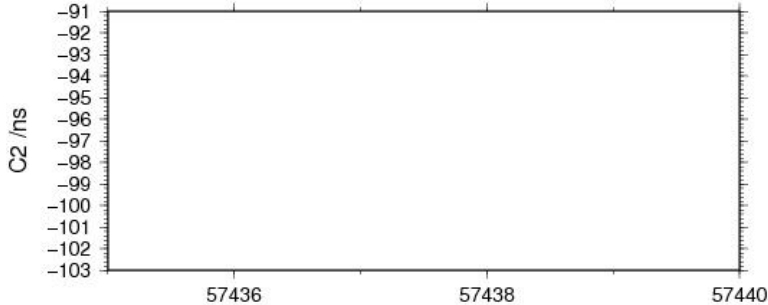
Code #pts, ave/ns, rms/ns
 C1: 63634 -98.007 1.528
 C2: 0 NaN NaN
 P1: 63455 -94.748 2.415
 P2: 63456 -91.073 2.671

Number of 300s epochs in out file = 1440

Code #pts, median/ns, ave/ns, rms/ns
 C1: 6332 -97.987 -98.013 0.868
 C2: 0 0.000 NaN NaN
 P1: 6319 -94.833 -94.784 1.201
 P2: 6319 -91.011 -91.054 1.504

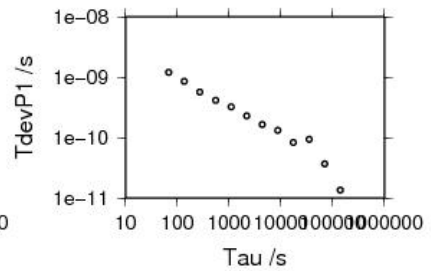
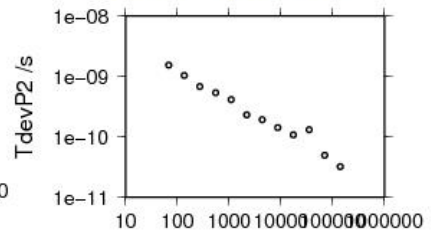
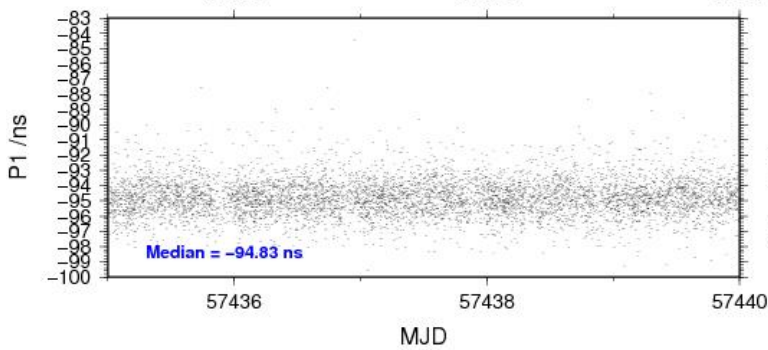
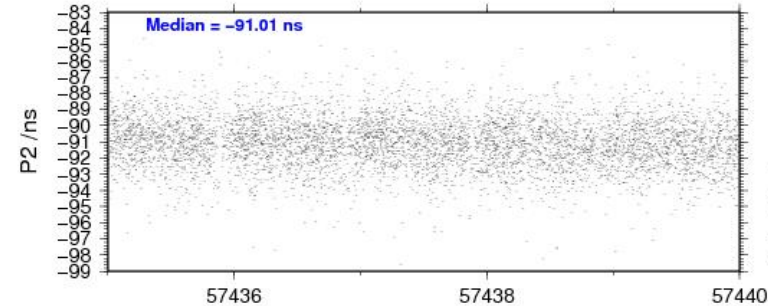
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- 139650 s: C1= 53 ps
- 69825 s: C1= 40 ps
- 34912 s: C1= 141 ps
- 17456 s: C1= 106 ps
- 8728 s: C1= 128 ps
- 4364 s: C1= 124 ps
- 2182 s: C1= 176 ps
- 1091 s: C1= 232 ps
- 546 s: C1= 296 ps
- 273 s: C1= 386 ps
- 136 s: C1= 597 ps
- 68 s: C1= 856 ps



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- | | |
|---------------------|---------------------|
| 139937 s: P1= 14 ps | 139937 s: P2= 32 ps |
| 69968 s: P1= 37 ps | 69968 s: P2= 50 ps |
| 34984 s: P1= 94 ps | 34984 s: P2= 131 ps |
| 17492 s: P1= 83 ps | 17492 s: P2= 108 ps |
| 8746 s: P1= 131 ps | 8746 s: P2= 142 ps |
| 4373 s: P1= 164 ps | 4373 s: P2= 193 ps |
| 2187 s: P1= 228 ps | 2187 s: P2= 233 ps |
| 1093 s: P1= 324 ps | 1093 s: P2= 412 ps |
| 547 s: P1= 414 ps | 547 s: P2= 536 ps |
| 273 s: P1= 570 ps | 273 s: P2= 685 ps |
| 137 s: P1= 856 ps | 137 s: P2= 1036 ps |
| 68 s: P1= 1202 ps | 68 s: P2= 1539 ps |



BP1C-BP0R

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 93117
 Computed code bias (P1/P2)/m = -17.335 -16.305
 Computed baseline (X,Y,Z)/m = -4.722 -0.976 3.330
 RMS of residuals /m = 0.701

Number of phase differences to fit baseline = 88801
 A priori baseline (X,Y,Z)/m = -4.722 -0.976 3.330
 13992 clock jitters computed out of 13999 intervals
 AVE jitter /ps = 0.8 RMS jitter /ps = 6.1

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 4
 Computed baseline L1 (X,Y,Z)/m = 0.275 0.196 0.462
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.259 0.255 0.456
 RMS of residuals L2 /m = 0.005

Iter 2 Large residuals L1= 0
 Iter 2 Large residuals L2= 4
 Computed baseline L1 (X,Y,Z)/m = 0.275 0.196 0.462
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.259 0.255 0.456
 RMS of residuals L2 /m = 0.005

Final baseline L1 (X,Y,Z)/m = -4.446 -0.780 3.792
 Final baseline L2 (X,Y,Z)/m = -4.463 -0.721 3.786

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 95862

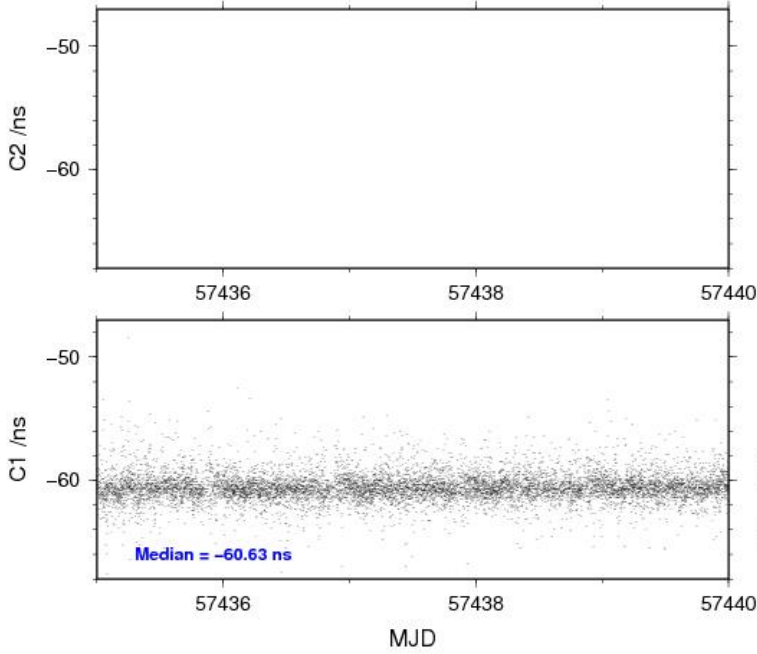
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 95156 -60.555 2.164
 C2: 0 NaN NaN
 P1: 92837 -59.215 2.637
 P2: 92764 -55.779 3.024

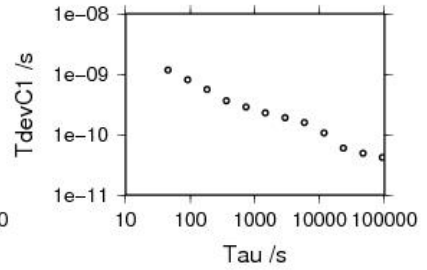
Number of 300s epochs in out file = 1440

Code #pts, median/ns, ave/ns, rms/ns
 C1: 9524 -60.633 -60.569 1.160
 C2: 0 0.000 NaN NaN
 P1: 9319 -59.318 -59.251 1.403
 P2: 9310 -55.780 -55.791 1.723

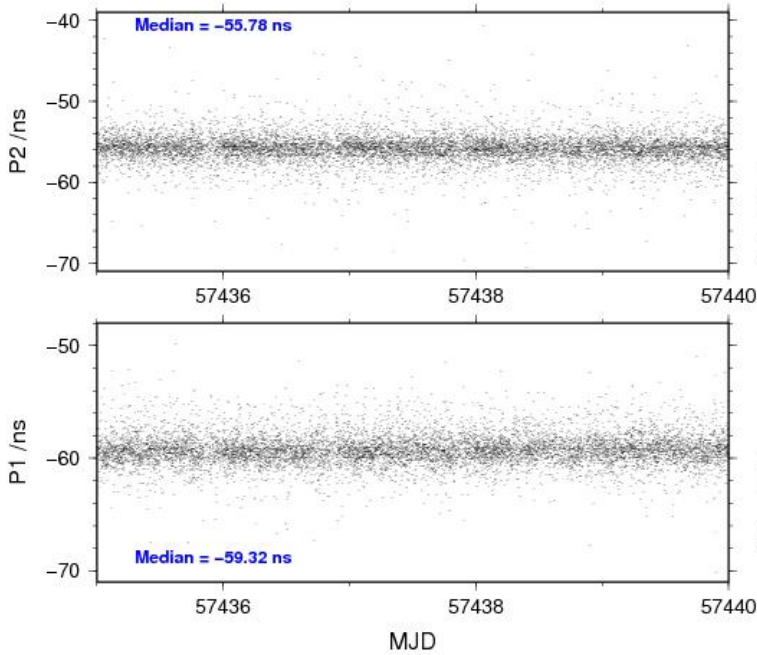
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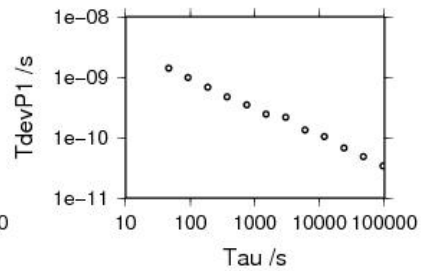
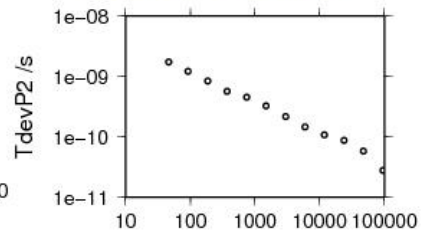
- 92841 s: C1= 42 ps
- 46420 s: C1= 49 ps
- 23210 s: C1= 60 ps
- 11605 s: C1= 106 ps
- 5803 s: C1= 158 ps
- 2901 s: C1= 191 ps
- 1451 s: C1= 228 ps
- 725 s: C1= 287 ps
- 363 s: C1= 364 ps
- 181 s: C1= 557 ps
- 91 s: C1= 807 ps
- 45 s: C1= 1177 ps



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- 94883 s: P1= 34 ps
- 47442 s: P1= 48 ps
- 23721 s: P1= 67 ps
- 11860 s: P1= 104 ps
- 5930 s: P1= 133 ps
- 2965 s: P1= 216 ps
- 1483 s: P1= 244 ps
- 741 s: P1= 348 ps
- 371 s: P1= 470 ps
- 185 s: P1= 687 ps
- 93 s: P1= 987 ps
- 46 s: P1= 1417 ps
- 94975 s: P2= 28 ps
- 47487 s: P2= 58 ps
- 23744 s: P2= 87 ps
- 11872 s: P2= 109 ps
- 5936 s: P2= 146 ps
- 2968 s: P2= 218 ps
- 1484 s: P2= 329 ps
- 742 s: P2= 451 ps
- 371 s: P2= 571 ps
- 186 s: P2= 845 ps
- 93 s: P2= 1218 ps
- 46 s: P2= 1737 ps



BP0U-BP1J

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 64142
 Computed code bias (P1/P2)/m = -2.728 -0.856
 Computed baseline (X,Y,Z)/m = -2.374 -0.335 1.826
 RMS of residuals /m = 0.619

Number of phase differences to fit baseline = 56329
 A priori baseline (X,Y,Z)/m = -2.374 -0.335 1.826
 13391 clock jitters computed out of 13657 intervals
 AVE jitter /ps = -1.0 RMS jitter /ps = 42.2

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = 0.174 0.029 0.147
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = 0.181 0.027 0.144
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -2.199 -0.306 1.973
 Final baseline L2 (X,Y,Z)/m = -2.193 -0.308 1.970

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 64178

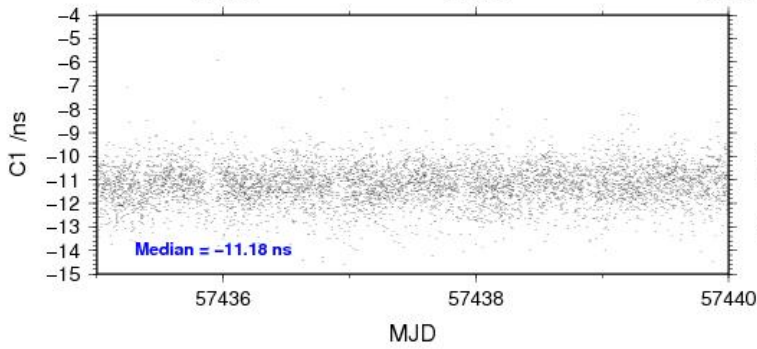
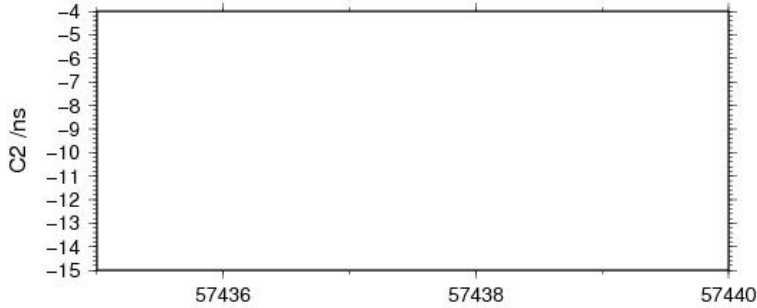
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 64143 -11.200 1.390
 C2: 0 NaN NaN
 P1: 64105 -9.679 1.884
 P2: 64106 -3.441 2.466

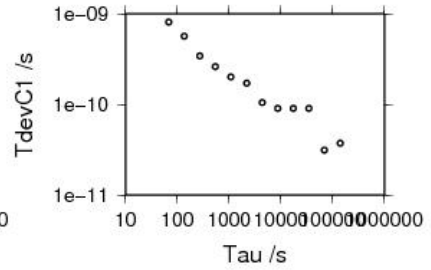
Number of 300s epochs in out file = 1440

Code #pts, median/ns, ave/ns, rms/ns
 C1: 6350 -11.176 -11.197 0.795
 C2: 0 0.000 NaN NaN
 P1: 6349 -9.706 -9.704 1.005
 P2: 6349 -3.381 -3.415 1.420

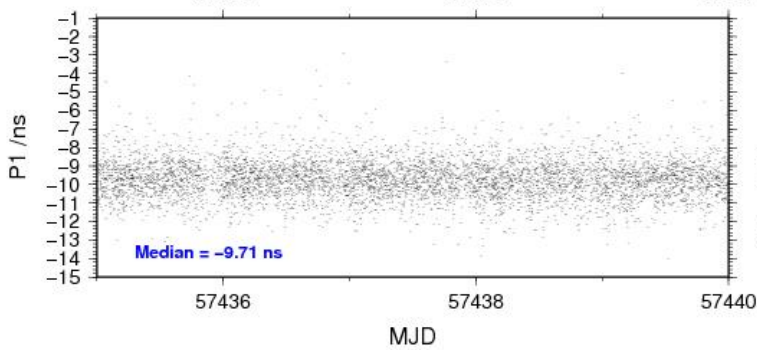
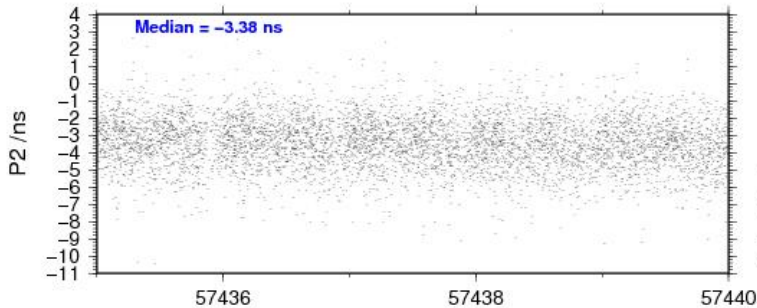
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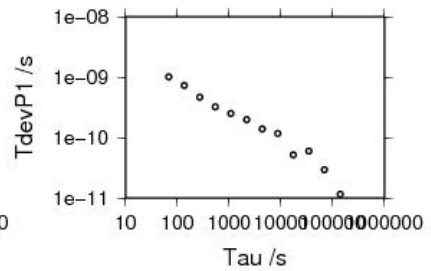
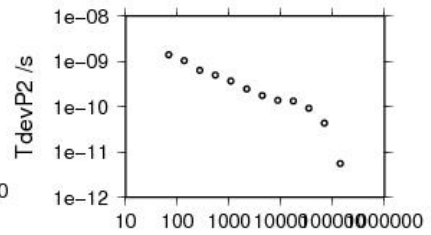
- 139254 s: C1= 37 ps
- 69627 s: C1= 31 ps
- 34813 s: C1= 90 ps
- 17407 s: C1= 90 ps
- 8703 s: C1= 90 ps
- 4352 s: C1= 105 ps
- 2176 s: C1= 171 ps
- 1088 s: C1= 201 ps
- 544 s: C1= 262 ps
- 272 s: C1= 344 ps
- 136 s: C1= 564 ps
- 68 s: C1= 811 ps



09/19/16 bp0ubp1j16048_5



- | | |
|---------------------|---------------------|
| 139276 s: P1= 12 ps | 139276 s: P2= 6 ps |
| 69638 s: P1= 29 ps | 69638 s: P2= 43 ps |
| 34819 s: P1= 59 ps | 34819 s: P2= 93 ps |
| 17409 s: P1= 52 ps | 17409 s: P2= 133 ps |
| 8705 s: P1= 117 ps | 8705 s: P2= 138 ps |
| 4352 s: P1= 140 ps | 4352 s: P2= 177 ps |
| 2176 s: P1= 199 ps | 2176 s: P2= 248 ps |
| 1088 s: P1= 253 ps | 1088 s: P2= 369 ps |
| 544 s: P1= 324 ps | 544 s: P2= 499 ps |
| 272 s: P1= 464 ps | 272 s: P2= 635 ps |
| 136 s: P1= 732 ps | 136 s: P2= 1037 ps |
| 68 s: P1= 1012 ps | 68 s: P2= 1410 ps |



BP1C-BP1J

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 92751
 Computed code bias (P1/P2)/m = 7.565 9.351
 Computed baseline (X,Y,Z)/m = -1.396 -0.154 1.469
 RMS of residuals /m = 0.589

Number of phase differences to fit baseline = 90816
 A priori baseline (X,Y,Z)/m = -1.396 -0.154 1.469
 14396 clock jitters computed out of 14396 intervals
 AVE jitter /ps = -0.0 RMS jitter /ps = 5.1

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 2
 Computed baseline L1 (X,Y,Z)/m = -0.092 -0.058 -0.164
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.084 -0.063 -0.163
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 0
 Iter 2 Large residuals L2= 2
 Computed baseline L1 (X,Y,Z)/m = -0.092 -0.058 -0.164
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.084 -0.063 -0.163
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -1.488 -0.211 1.304
 Final baseline L2 (X,Y,Z)/m = -1.480 -0.217 1.306

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 94233

Global average of individual differences

Code #pts, ave/ns, rms/ns

C1: 93186 26.220 1.829

C2: 53924 31.597 1.912

P1: 92345 25.745 1.903

P2: 92259 31.725 2.709

Number of 300s epochs in out file = 1440

Code #pts, median/ns, ave/ns, rms/ns

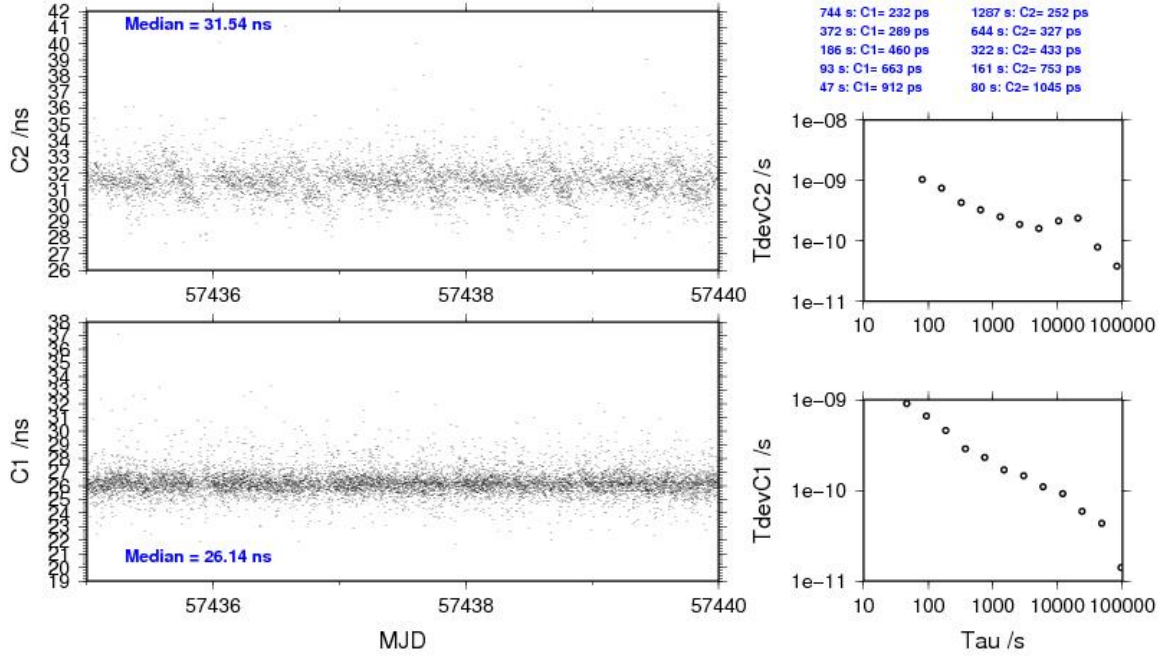
C1: 9282 26.144 26.207 0.923

C2: 5367 31.540 31.594 1.047

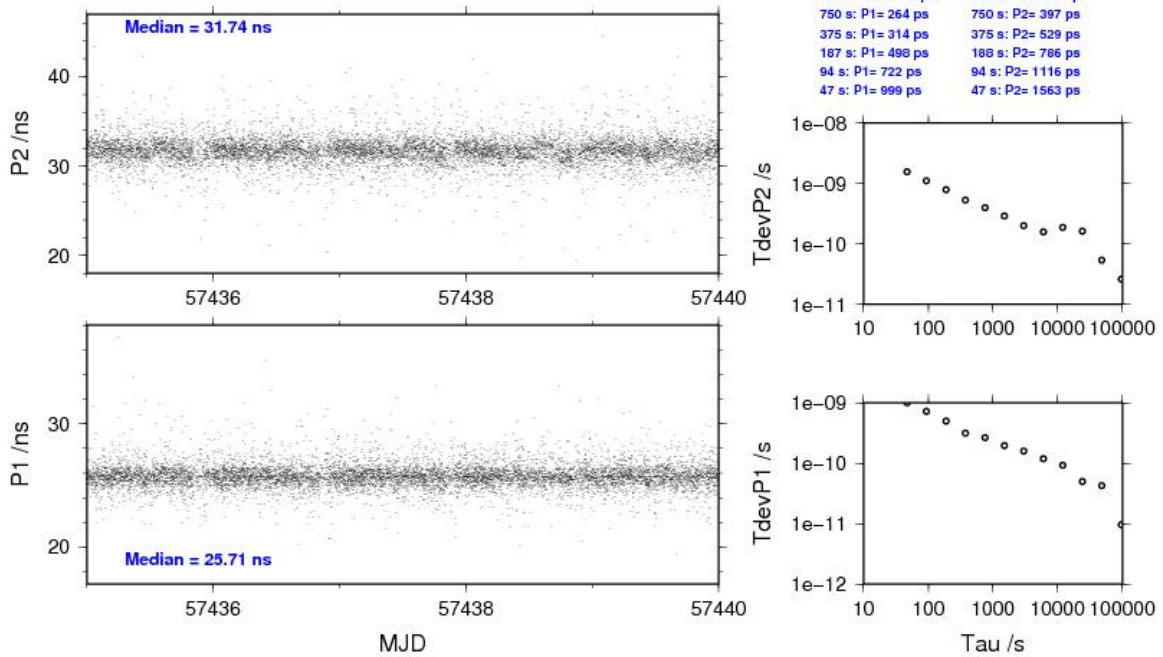
P1: 9211 25.707 25.747 1.008

P2: 9207 31.742 31.728 1.581

09/19/16 bp1cbp1j16048_5



09/19/16 bp1cbp1j16048_5



BP0U-BP1X

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 64073
 Computed code bias (P1/P2)/m = -16.819 -14.636
 Computed baseline (X,Y,Z)/m = -3.196 -0.526 2.300
 RMS of residuals /m = 0.704

Number of phase differences to fit baseline = 55950
 A priori baseline (X,Y,Z)/m = -3.196 -0.526 2.300
 13371 clock jitters computed out of 13687 intervals
 AVE jitter /ps = -0.8 RMS jitter /ps = 42.2

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = 0.245 0.066 0.289
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = 0.248 0.065 0.288
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -2.951 -0.460 2.589
 Final baseline L2 (X,Y,Z)/m = -2.948 -0.460 2.588

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 64105

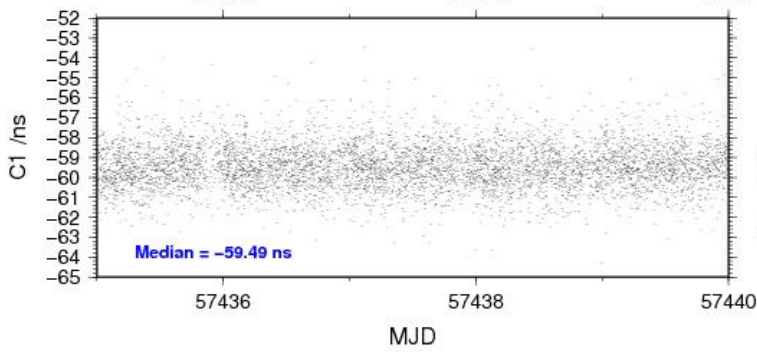
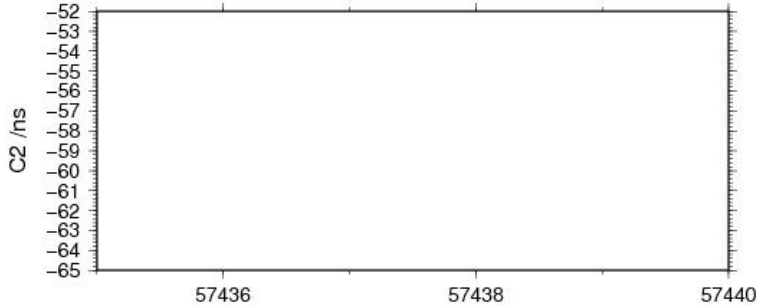
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 64073 -59.411 1.938
 C2: 0 NaN NaN
 P1: 64032 -57.098 2.487
 P2: 64029 -49.820 2.921

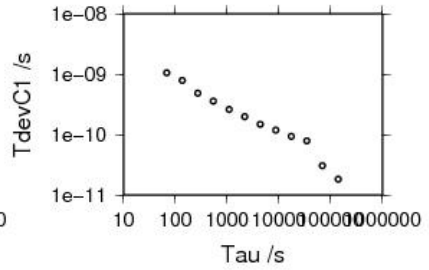
Number of 300s epochs in out file = 1440

Code #pts, median/ns, ave/ns, rms/ns
 C1: 6348 -59.487 -59.441 1.067
 C2: 0 0.000 NaN NaN
 P1: 6345 -57.214 -57.149 1.308
 P2: 6345 -49.823 -49.821 1.712

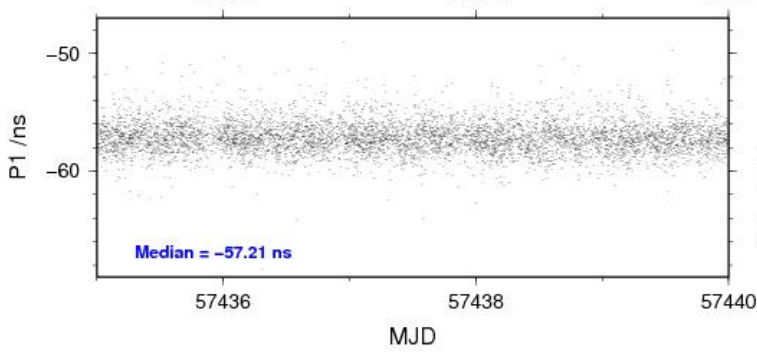
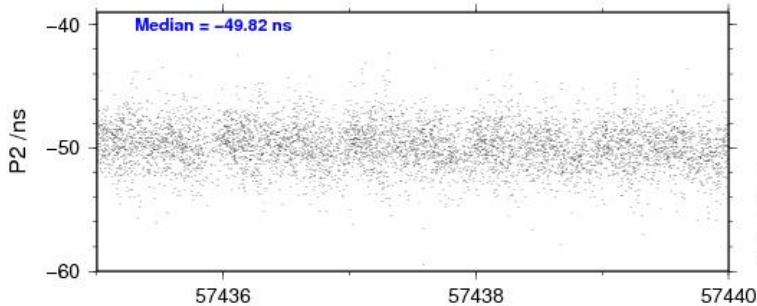
09/19/16 bp0ubp1x16048_5



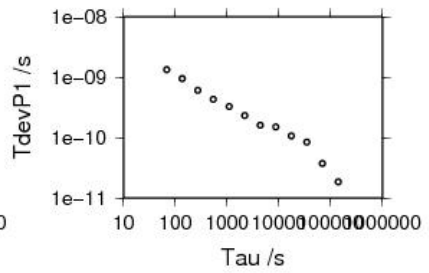
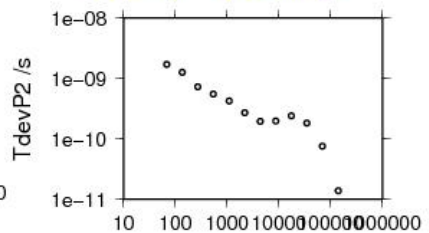
- 139298 s: C1= 18 ps
- 69649 s: C1= 30 ps
- 34824 s: C1= 79 ps
- 17412 s: C1= 94 ps
- 8706 s: C1= 119 ps
- 4353 s: C1= 148 ps
- 2177 s: C1= 199 ps
- 1088 s: C1= 260 ps
- 544 s: C1= 358 ps
- 272 s: C1= 486 ps
- 136 s: C1= 789 ps
- 68 s: C1= 1060 ps



09/19/16 bp0ubp1x16048_5



- | | |
|---------------------|---------------------|
| 139363 s: P1= 19 ps | 139363 s: P2= 14 ps |
| 69682 s: P1= 37 ps | 69682 s: P2= 75 ps |
| 34841 s: P1= 84 ps | 34841 s: P2= 183 ps |
| 17420 s: P1= 107 ps | 17420 s: P2= 243 ps |
| 8710 s: P1= 150 ps | 8710 s: P2= 199 ps |
| 4355 s: P1= 160 ps | 4355 s: P2= 196 ps |
| 2178 s: P1= 231 ps | 2178 s: P2= 273 ps |
| 1089 s: P1= 326 ps | 1089 s: P2= 424 ps |
| 544 s: P1= 428 ps | 544 s: P2= 553 ps |
| 272 s: P1= 604 ps | 272 s: P2= 730 ps |
| 136 s: P1= 945 ps | 136 s: P2= 1263 ps |
| 68 s: P1= 1334 ps | 68 s: P2= 1717 ps |



BP1C-BP1X

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 90945
 Computed code bias (P1/P2)/m = -6.150 -4.035
 Computed baseline (X,Y,Z)/m = -2.535 -0.560 1.623
 RMS of residuals /m = 0.716

Number of phase differences to fit baseline = 89027
 A priori baseline (X,Y,Z)/m = -2.535 -0.560 1.623
 14393 clock jitters computed out of 14396 intervals
 AVE jitter /ps = 0.5 RMS jitter /ps = 5.8

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = 0.303 0.166 0.285
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.294 0.173 0.282
 RMS of residuals L2 /m = 0.005

Final baseline L1 (X,Y,Z)/m = -2.232 -0.394 1.908
 Final baseline L2 (X,Y,Z)/m = -2.241 -0.387 1.905

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 91869

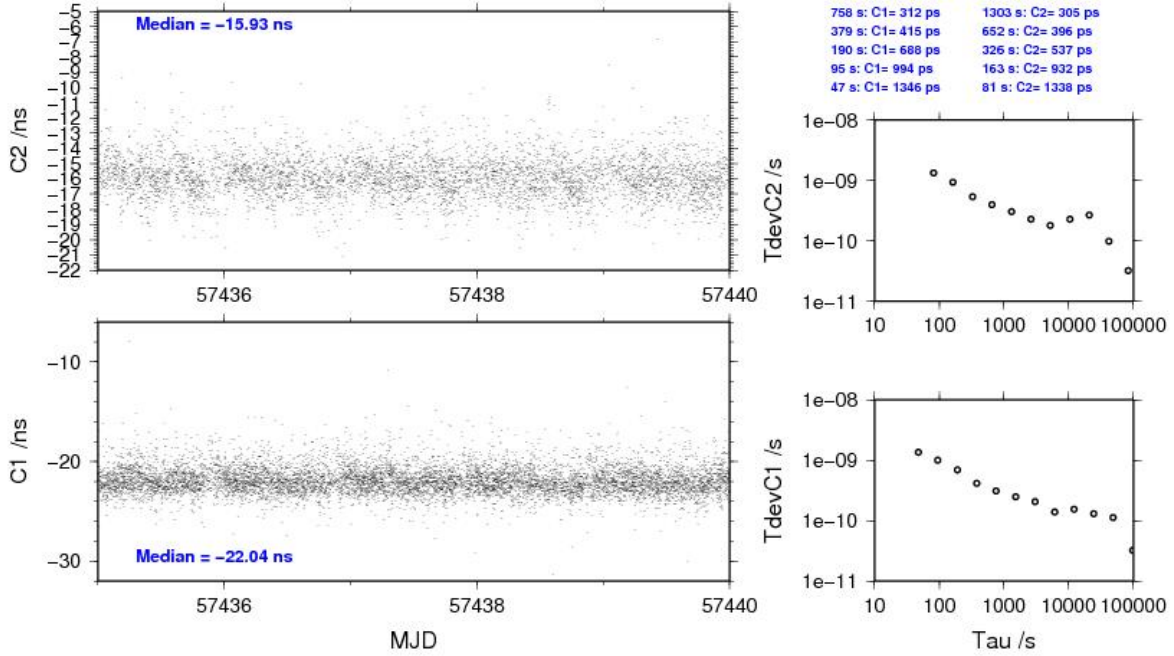
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 91427 -21.871 2.564
 C2: 53226 -15.839 2.513
 P1: 90787 -21.525 3.173
 P2: 90666 -14.466 3.650

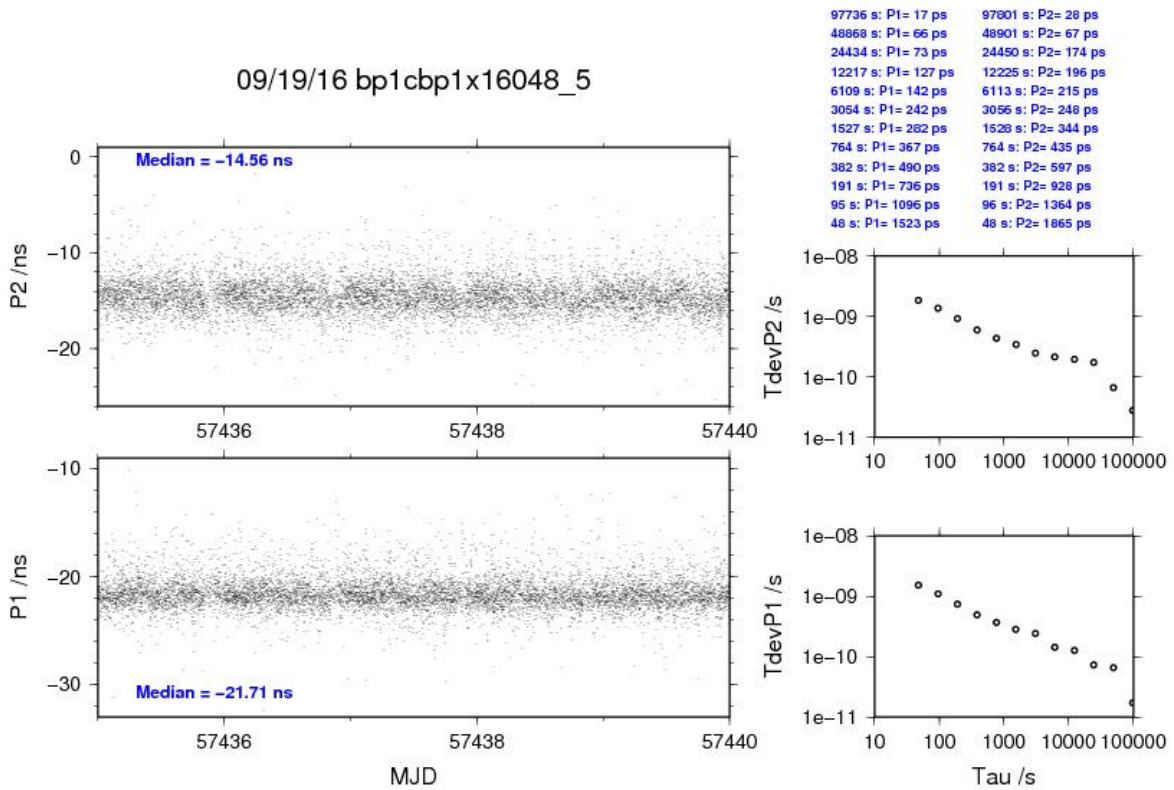
Number of 300s epochs in out file = 1440

Code #pts, median/ns, ave/ns, rms/ns
 C1: 9112 -22.041 -21.910 1.373
 C2: 5300 -15.926 -15.879 1.302
 P1: 9047 -21.713 -21.557 1.523
 P2: 9041 -14.561 -14.484 1.885

09/19/16 bp1cbp1x16048_5



09/19/16 bp1cbp1x16048_5



1.2/ TL (16081)Period

MJD 57468 to 57489

Delays

BP0U:

REFDLY = 52.6 = 52.6 ns (0 + 52.6 (cf page 3 & 22))
 CABDLY = 181.7 ns (C134 (cf page 3))

BP1C:

$X_O = 205.94$ ns (221.35-15.41 (email de Dr Lin du 24/03/16))
 $X_P = 52.6 = 52.6$ ns (0 + 52.6 (cf page 3 & 22))
 REFDLY = 258.54 ns
 CABDLY = $X_C = 235.7$ ns (C131 (cf page 3))

TLT1: (CGGTTS values page 22)

REFDLY = 0.0 ns
 CABDLY = 0.0 ns
 INTDLY : C1 = 421.7 ns, P1 = 420.6 ns, P2 = 433.4 ns

TLT2: (CGGTTS values page 25)

REFDLY = 24.46 ns
 CABDLY = 140.32 ns
 INTDLY : C1 = -26.26 ns, P1 = -35.8 ns, P2 = -37.01 ns

TLT3: (CGGTTS values page 27)

REFDLY = 25.5 ns
 CABDLY = 143.6 ns
 INTDLY : P1 = -30.0 ns, P2 = -22.4 ns

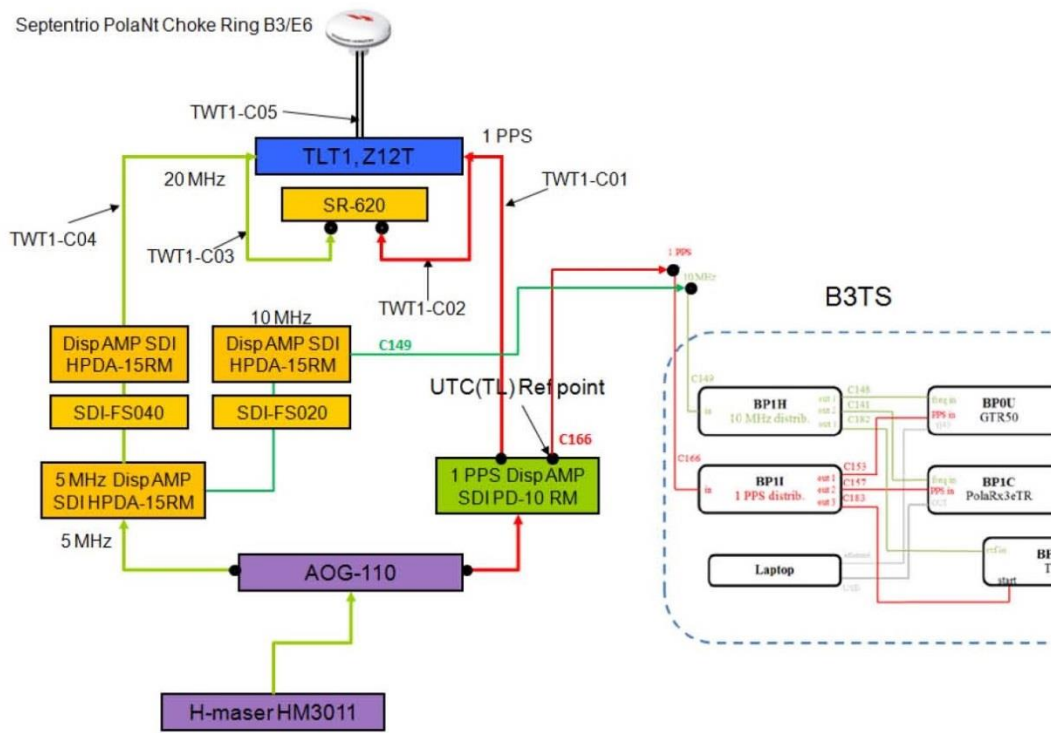
Setup at the TL**Annex A - Information Sheet**

Laboratory: TL		
Date and hour of the beginning of measurements:	2016-03-21 00:00:00 UTC	
Date and hour of the end of measurements:	2016-04-11 23:59:00 UTC	
Information on the system		
	Local:	Travelling:
4-character BIPM code	TLT1	BP0U/BPIC
● Receiver maker and type: Receiver serial number:	Ashtech Z-XII3T Metronome RT919994504	-
1 PPS trigger level /V:	1 V	1 V
● Antenna cable maker and type: Phase stabilised cable (Y/N):	Andrew FSJ, Yes	-
Length outside the building /m:	~ 30	~5
● Antenna maker and type: Antenna serial number:	SEPCHOKE B3E6 SPKE 5006	-
Temperature (if stabilised) /°C	23	23
Measured delays/ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
● Delay from local UTC to receiver 1 PPS-in:	¹ 18.47	0
Delay from 1 PPS-in to internal Reference (if different):	-	-
● Antenna cable delay:	-	(1)
Splitter delay (if any):	Null	(1)
Additional cable delay (if any):	Null	(1)
Data used for the generation of CGGTTS files		
● INT DLY (GPS)/ns:	C1: 421.7, P1: 420.6, P2: 433.4	
● INT DLY (GLONASS)/ns:	No measurement	
● CAB DLY /ns:	included in INT DLY	
● REF DLY /ns:	included in INT DLY	
● Coordinates reference frame:		
Latitude or X /m:	-2994425.48	
Longitude or Y /m:	4951311.89	
Height or Z /m:	2674498.36	
General information		
● Rise time of the local UTC pulse:	3 ns	
● Is the laboratory air conditioned:	Yes	
Set temperature value and uncertainty:	23 ± 1 °C	
Set humidity value and uncertainty:	No humidity control	

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

¹ See Additional information

Diagram of the experiment set-up:



Antennae setup of BP0U/BP1C



Log of Events / Additional Information:

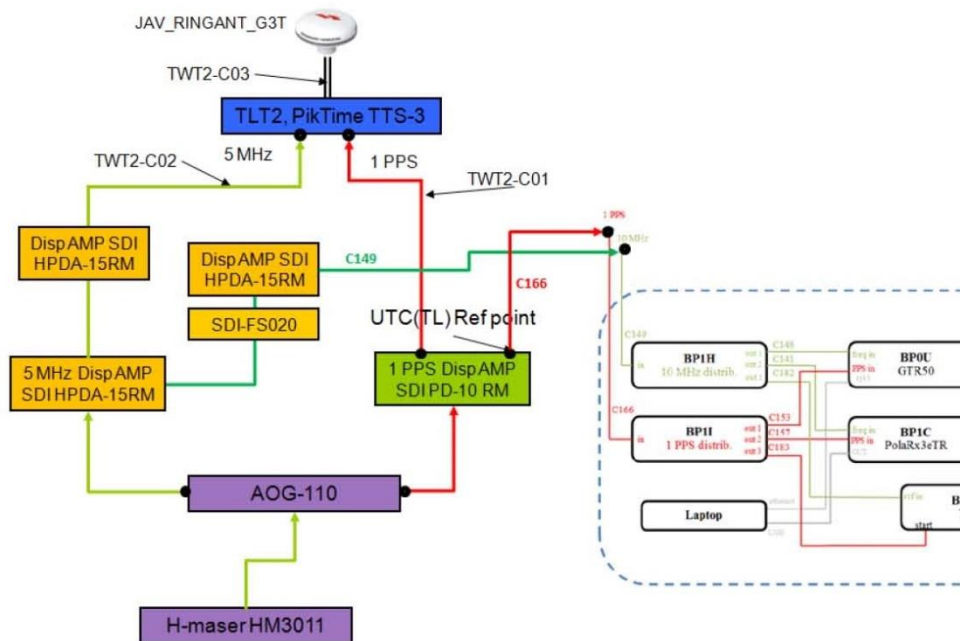
- The latch points of the TLT1 are re-defined from its external 20 MHz frequency input to be the external 1 PPS reference. The time difference between its external reference 1 PPS and 20 MHz frequency inputs were measured by a time interval counter (SR-620) and compensated into the pseudorange measurement of the RINEX files of TLT1. (reference paper: Shinn-Yan Lin et al, "A Modification of Z12T Metronome Time Transfer System", 2014 EFTF)

Annex A - Information Sheet

Laboratory: TL		
Date and hour of the beginning of measurements:	2016-03-21 00:00:00 UTC	
Date and hour of the end of measurements:	2016-04-11 23:59:00 UTC	
Information on the system		
	Local:	Travelling:
4-character BIPM code	TLT2	BP0U/BPIC
● Receiver maker and type: Receiver serial number:	PikTime TTS-4 134	-
1 PPS trigger level /V:	1 V	1 V
● Antenna cable maker and type: Phase stabilised cable (Y/N):	Andrew FSJ, yes	-
Length outside the building /m:	~ 30	~5
● Antenna maker and type: Antenna serial number:	JAV_RINGANT_G3T 01-570800-01	-
Temperature (if stabilised) /°C	23	23
Measured delays/ns (if needed fill box "Additional Information" below)		
	Local:	Travelling:
● Delay from local UTC to receiver 1 PPS-in:	24.46	0
Delay from 1 PPS-in to internal Reference (if different):	-	-
● Antenna cable delay:	140.32	(1)
Splitter delay (if any):	Null	(1)
Additional cable delay (if any):	Null	(1)
Data used for the generation of CGGTTS files		
● INT DLY (GPS) /ns:	C1: -26.26, P1: -35.80, P2: -37.01	
● INT DLY (GLONASS) /ns:	C1: -224.40	
● CAB DLY /ns:	140.32	
● REF DLY /ns:	24.46	
● Coordinates reference frame:		
Latitude or X /m:	-2994425.57	
Longitude or Y /m:	4951312.62	
Height or Z /m:	2674497.35	
General information		
● Rise time of the local UTC pulse:	3 ns	
● Is the laboratory air conditioned:	Yes	
Set temperature value and uncertainty:	23 ± 1 °C	
Set humidity value and uncertainty:	No humidity control	

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Diagram of the experiment set-up:



Antennae setup of BP0U/BP1C

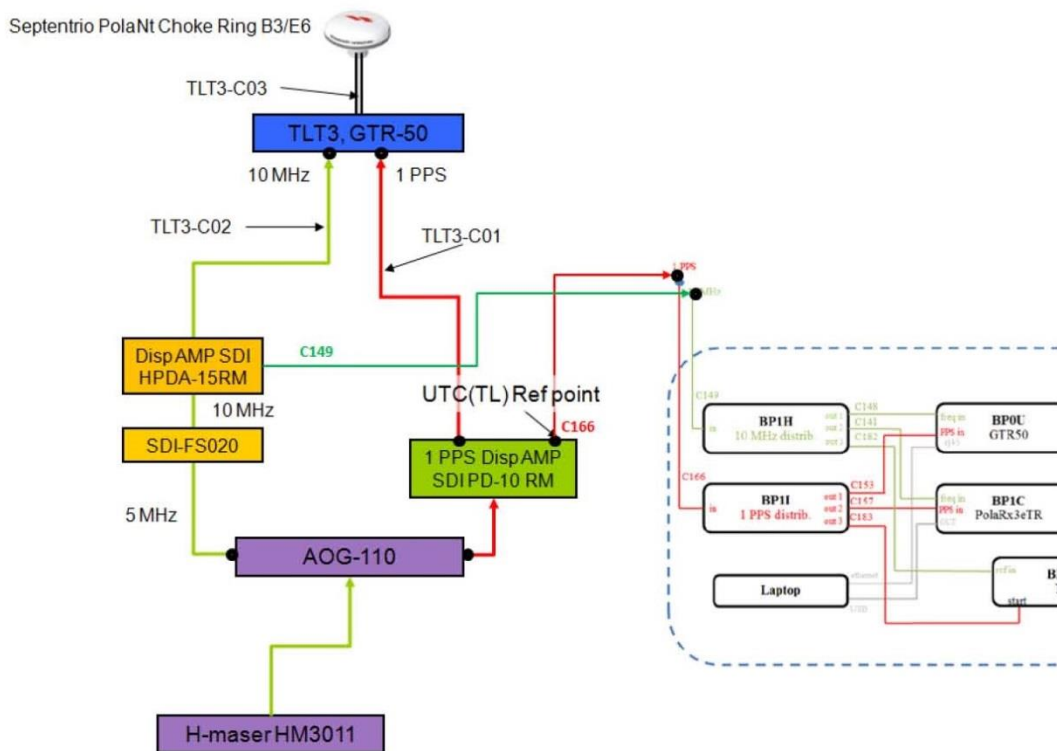


Annex A - Information Sheet

Laboratory: TL		
Date and hour of the beginning of measurements:		2016-03-21 00:00:00 UTC
Date and hour of the end of measurements:		2016-04-11 23:59:00 UTC
Information on the system		
	Local:	Travelling:
4-character BIPM code	TLT3	BP0U/BP1C
● Receiver maker and type: Receiver serial number:	Dicom GTR-50 1403002	-
1 PPS trigger level /V:	1 V	1 V
● Antenna cable maker and type: Phase stabilised cable (Y/N):	Andrew FSJ, yes	-
Length outside the building /m:	~ 30	~5
● Antenna maker and type: Antenna serial number:	SEPCHOKE_B3E6 SPKE 5024	-
Temperature (if stabilised) /°C	23	23
Measured delays/ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
● Delay from local UTC to receiver 1 PPS-in:	25.5	0
Delay from 1 PPS-in to internal Reference (if different):	-	-
● Antenna cable delay:	143.6	(1)
Splitter delay (if any):	Null	(1)
Additional cable delay (if any):	Null	(1)
Data used for the generation of CGGTTS files		
● INT DLY (GPS)/ns:		P1:, -30.0, P2: -22.4
● INT DLY (GLONASS)/ns:		No measurement
● CAB DLY /ns:		143.6
● REF DLY /ns:		25.5
● Coordinates reference frame:		
Latitude or X /m:		-2994424.32
Longitude or Y /m:		4951312.93
Height or Z /m:		2674496.86
General information		
● Rise time of the local UTC pulse:		3 ns
● Is the laboratory air conditioned:		Yes
Set temperature value and uncertainty:		23 ± 1 °C
Set humidity value and uncertainty:		No humidity control

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Diagram of the experiment set-up:



Antennae setup of BP0U/BPIC



BP0U-TLT1

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 322235
 Computed code bias (P1/P2)/m = -126.621 -127.717
 Computed baseline (X,Y,Z)/m = 12.460 9.422 3.490
 RMS of residuals /m = 0.528

Number of phase differences to fit baseline = 129279
 A priori baseline (X,Y,Z)/m = 12.460 9.422 3.490
 25475 clock jitters computed out of 28311 intervals
 AVE jitter /ps = 0.2 RMS jitter /ps = 78.6

Iter 1 Large residuals L1= 6011
 Iter 1 Large residuals L2= 6010
 Computed baseline L1 (X,Y,Z)/m = -0.032 0.079 0.103
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = -0.032 0.086 0.110
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 6011
 Iter 2 Large residuals L2= 6010
 Computed baseline L1 (X,Y,Z)/m = -0.035 0.085 0.108
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = -0.034 0.089 0.113
 RMS of residuals L2 /m = 0.005

Final baseline L1 (X,Y,Z)/m = 12.426 9.507 3.598
 Final baseline L2 (X,Y,Z)/m = 12.426 9.511 3.603

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 323371

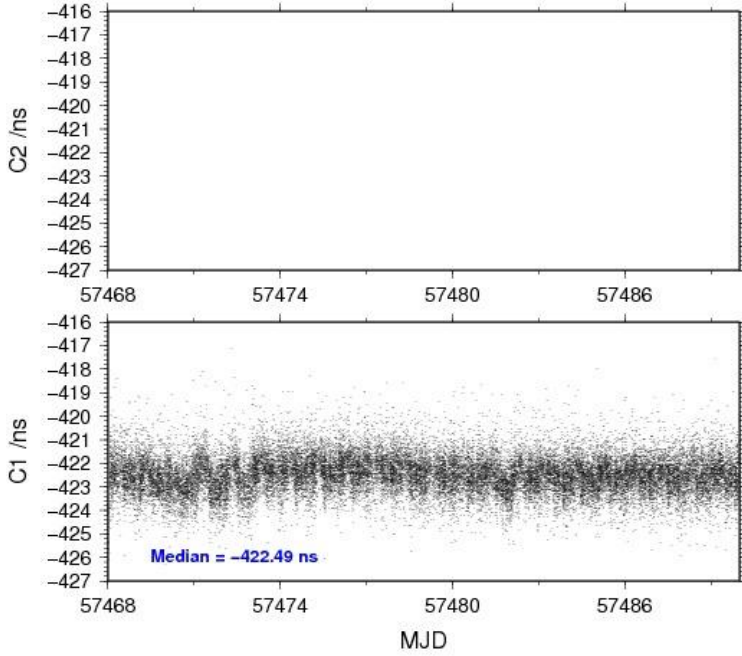
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 323171 -422.487 1.534
 C2: 0 NaN NaN
 P1: 322189 -422.681 1.704
 P2: 320889 -426.147 1.980

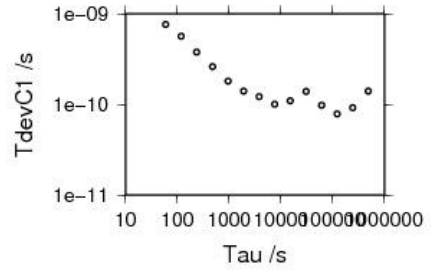
Number of 300s epochs in out file = 6291

Code #pts, median/ns, ave/ns, rms/ns
 C1: 31963 -422.493 -422.489 0.806
 C2: 0 0.000 NaN NaN
 P1: 31948 -422.744 -422.712 0.887
 P2: 31821 -426.090 -426.140 1.115

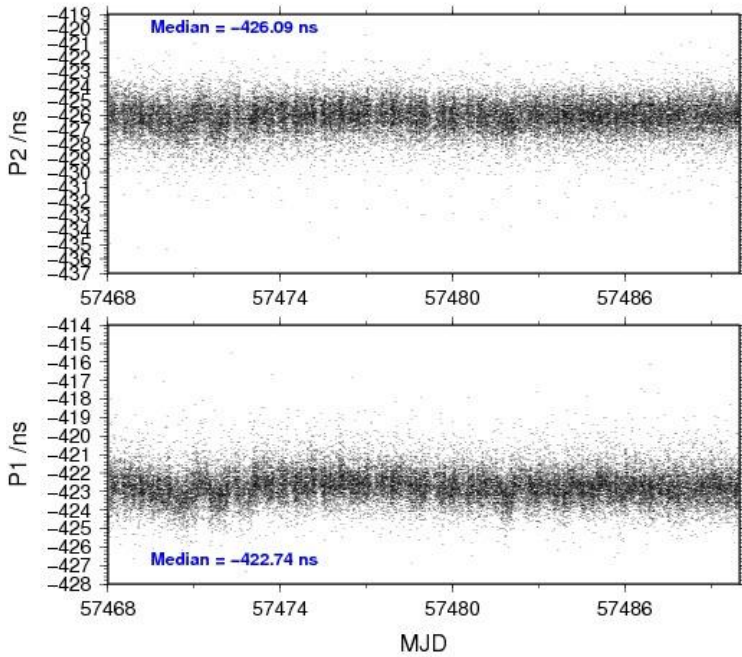
05/26/16 bpOutlt116081_22



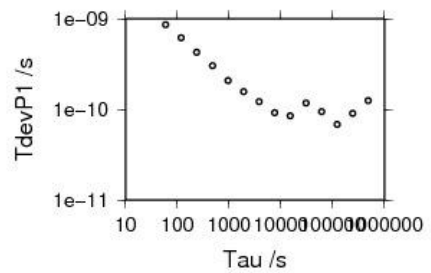
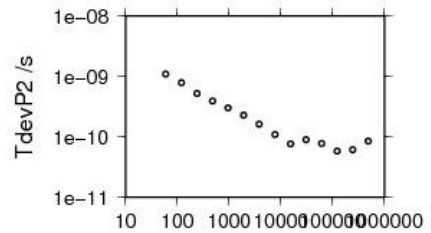
- 487106 s: C1= 140 ps
- 243553 s: C1= 92 ps
- 121777 s: C1= 79 ps
- 60888 s: C1= 98 ps
- 30444 s: C1= 139 ps
- 15222 s: C1= 110 ps
- 7611 s: C1= 100 ps
- 3806 s: C1= 122 ps
- 1903 s: C1= 140 ps
- 951 s: C1= 180 ps
- 476 s: C1= 261 ps
- 238 s: C1= 376 ps
- 119 s: C1= 565 ps
- 59 s: C1= 761 ps



05/26/16 bpOutlt116081_22



- | | |
|----------------------|---------------------|
| 487335 s: P1= 125 ps | 489290 s: P2= 86 ps |
| 243668 s: P1= 91 ps | 244640 s: P2= 62 ps |
| 121834 s: P1= 68 ps | 122320 s: P2= 58 ps |
| 60917 s: P1= 94 ps | 61160 s: P2= 78 ps |
| 30458 s: P1= 118 ps | 30580 s: P2= 91 ps |
| 15229 s: P1= 85 ps | 15290 s: P2= 77 ps |
| 7615 s: P1= 92 ps | 7645 s: P2= 109 ps |
| 3807 s: P1= 121 ps | 3822 s: P2= 162 ps |
| 1904 s: P1= 157 ps | 1911 s: P2= 229 ps |
| 952 s: P1= 208 ps | 956 s: P2= 301 ps |
| 476 s: P1= 303 ps | 478 s: P2= 393 ps |
| 238 s: P1= 428 ps | 239 s: P2= 523 ps |
| 119 s: P1= 615 ps | 119 s: P2= 788 ps |
| 59 s: P1= 860 ps | 60 s: P2= 1093 ps |



BP1C-TLT1

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 516297
 Computed code bias (P1/P2)/m = -116.582 -117.690
 Computed baseline (X,Y,Z)/m = 13.951 10.030 3.323
 RMS of residuals /m = 0.575

Number of phase differences to fit baseline = 514616
 A priori baseline (X,Y,Z)/m = 13.951 10.030 3.323
 63262 clock jitters computed out of 63273 intervals
 AVE jitter /ps = -0.3 RMS jitter /ps = 7.0

Iter 1 Large residuals L1= 296
 Iter 1 Large residuals L2= 297
 Computed baseline L1 (X,Y,Z)/m = -0.108 0.304 0.209
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.105 0.304 0.207
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 296
 Iter 2 Large residuals L2= 297
 Computed baseline L1 (X,Y,Z)/m = -0.108 0.304 0.209
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.105 0.304 0.207
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = 13.843 10.333 3.532
 Final baseline L2 (X,Y,Z)/m = 13.846 10.334 3.531

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 527013

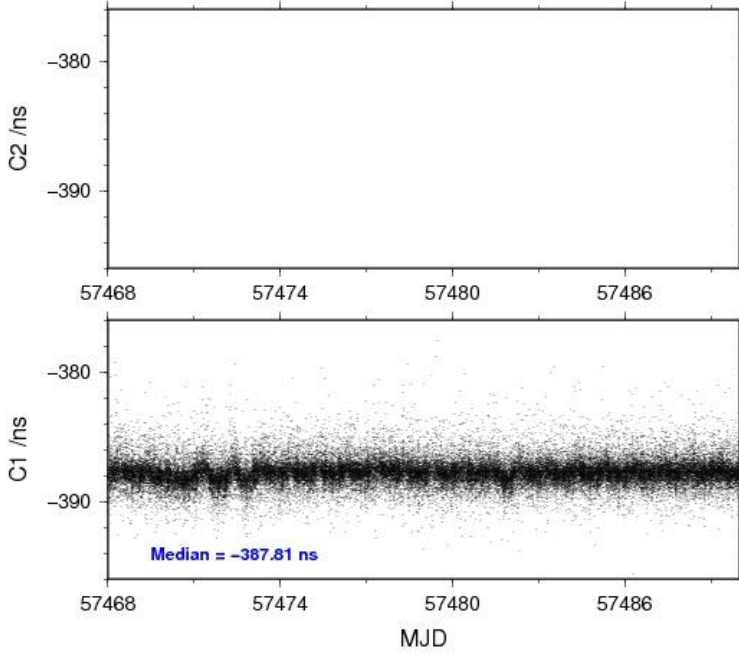
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 520925 -387.753 2.216
 C2: 0 NaN NaN
 P1: 516055 -389.710 2.010
 P2: 514717 -393.223 2.560

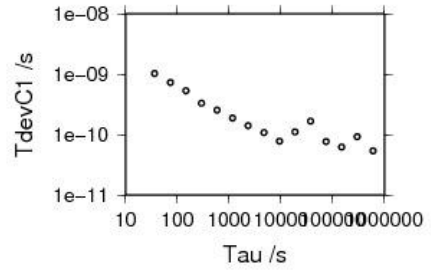
Number of 300s epochs in out file = 6329

Code #pts, median/ns, ave/ns, rms/ns
 C1: 51967 -387.811 -387.777 1.046
 C2: 0 0.000 NaN NaN
 P1: 51642 -389.778 -389.723 1.014
 P2: 51496 -393.245 -393.230 1.404

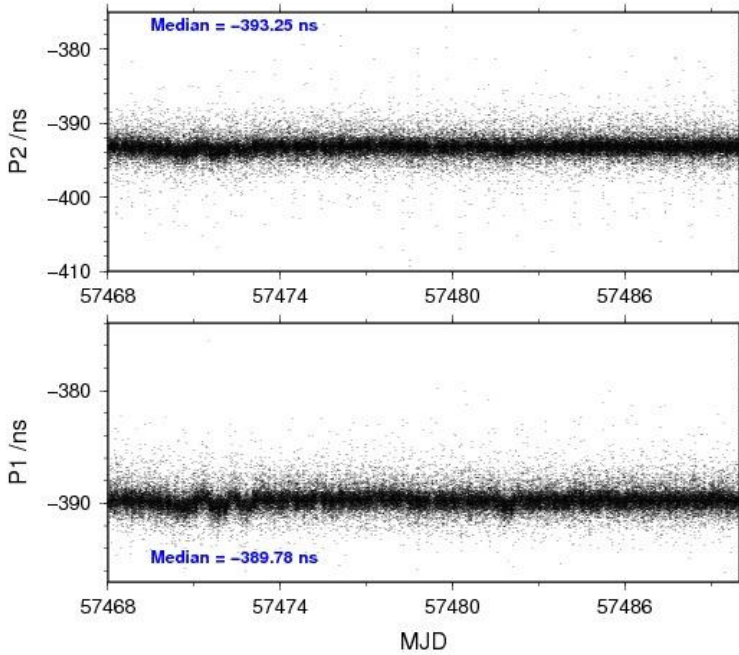
05/26/16 bp1ctl116081_22



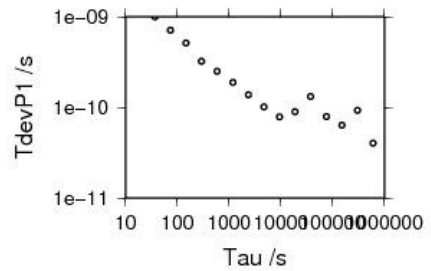
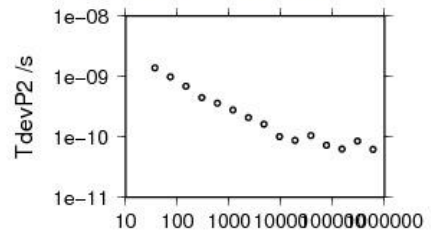
299598 s: C1= 92 ps
 149799 s: C1= 62 ps
 74899 s: C1= 77 ps
 37450 s: C1= 166 ps
 18725 s: C1= 110 ps
 9362 s: C1= 77 ps
 4681 s: C1= 108 ps
 2341 s: C1= 140 ps
 1170 s: C1= 187 ps
 585 s: C1= 253 ps
 293 s: C1= 330 ps
 146 s: C1= 532 ps
 73 s: C1= 728 ps
 37 s: C1= 1022 ps



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301483 s: P1= 93 ps 302338 s: P2= 85 ps
 150742 s: P1= 63 ps 151169 s: P2= 63 ps
 75371 s: P1= 79 ps 75584 s: P2= 73 ps
 37685 s: P1= 132 ps 37792 s: P2= 105 ps
 18843 s: P1= 90 ps 18896 s: P2= 87 ps
 9421 s: P1= 78 ps 9448 s: P2= 101 ps
 4711 s: P1= 102 ps 4724 s: P2= 162 ps
 2355 s: P1= 138 ps 2362 s: P2= 210 ps
 1178 s: P1= 189 ps 1181 s: P2= 279 ps
 589 s: P1= 250 ps 590 s: P2= 362 ps
 294 s: P1= 322 ps 295 s: P2= 447 ps
 147 s: P1= 511 ps 148 s: P2= 691 ps
 74 s: P1= 710 ps 74 s: P2= 985 ps
 37 s: P1= 996 ps 37 s: P2= 1394 ps



BP0U-TLT2

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 316173
 Computed code bias (P1/P2)/m = -26.253 -24.261
 Computed baseline (X,Y,Z)/m = 12.140 9.815 2.265
 RMS of residuals /m = 0.526

Number of phase differences to fit baseline = 126467
 A priori baseline (X,Y,Z)/m = 12.140 9.815 2.265
 24994 clock jitters computed out of 27831 intervals
 AVE jitter /ps = 0.4 RMS jitter /ps = 78.6

Iter 1 Large residuals L1= 5526
 Iter 1 Large residuals L2= 5511
 Computed baseline L1 (X,Y,Z)/m = -0.156 0.209 0.127
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = -0.145 0.206 0.135
 RMS of residuals L2 /m = 0.005

Iter 2 Large residuals L1= 5525
 Iter 2 Large residuals L2= 5510
 Computed baseline L1 (X,Y,Z)/m = -0.159 0.215 0.130
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = -0.148 0.212 0.139
 RMS of residuals L2 /m = 0.005

Iter 3 Large residuals L1= 5525
 Iter 3 Large residuals L2= 5510
 Computed baseline L1 (X,Y,Z)/m = -0.159 0.215 0.130
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = -0.149 0.212 0.139
 RMS of residuals L2 /m = 0.005

Final baseline L1 (X,Y,Z)/m = 11.980 10.030 2.396
 Final baseline L2 (X,Y,Z)/m = 11.991 10.027 2.404

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 316189

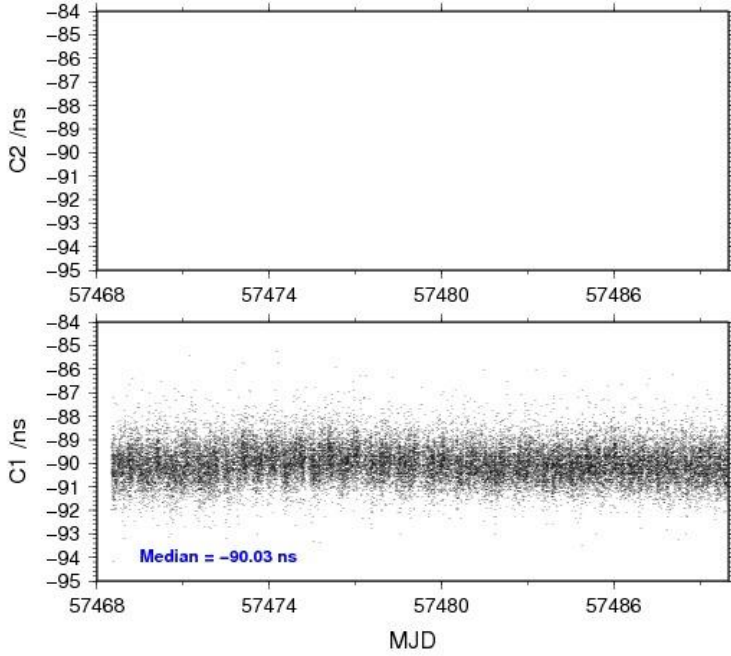
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 316151 -89.990 1.364
 C2: 0 NaN NaN
 P1: 316135 -88.267 1.724
 P2: 316135 -81.620 2.010

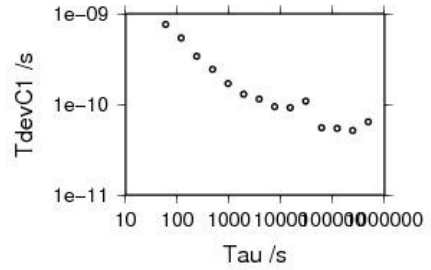
Number of 300s epochs in out file = 6156

Code #pts, median/ns, ave/ns, rms/ns
 C1: 31267 -90.027 -89.998 0.761
 C2: 0 0.000 NaN NaN
 P1: 31267 -88.362 -88.301 0.921
 P2: 31267 -81.599 -81.609 1.123

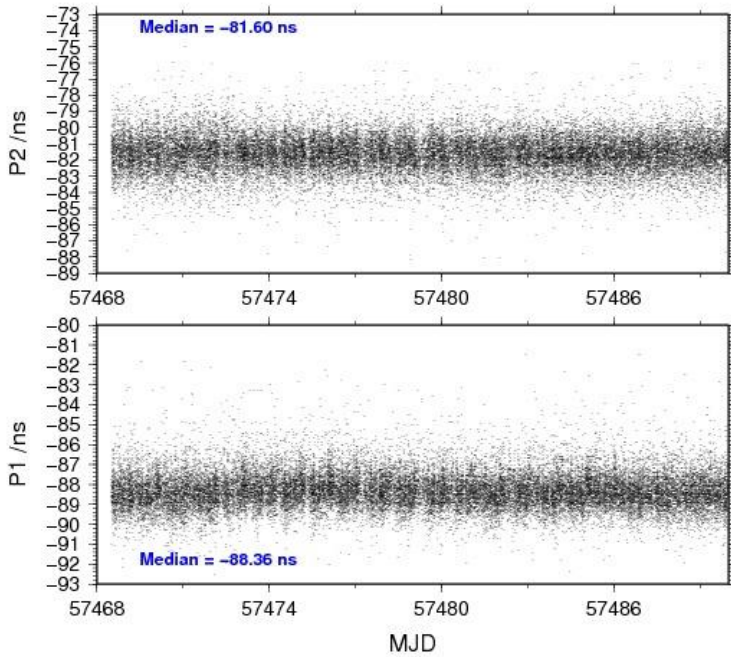
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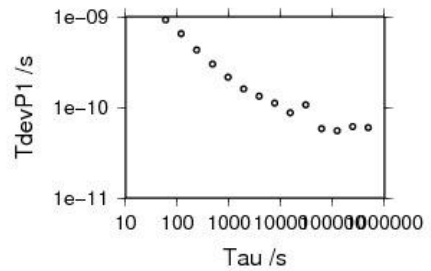
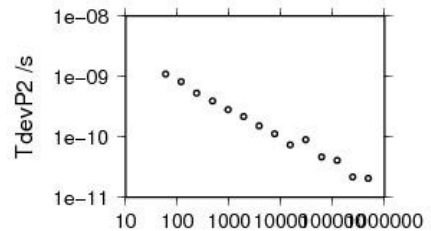
- 486631 s: C1= 64 ps
- 243315 s: C1= 51 ps
- 121658 s: C1= 55 ps
- 60829 s: C1= 55 ps
- 30414 s: C1= 109 ps
- 15207 s: C1= 92 ps
- 7604 s: C1= 94 ps
- 3802 s: C1= 115 ps
- 1901 s: C1= 129 ps
- 950 s: C1= 170 ps
- 475 s: C1= 243 ps
- 238 s: C1= 340 ps
- 119 s: C1= 543 ps
- 59 s: C1= 763 ps



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- | | |
|---------------------|---------------------|
| 486631 s: P1= 60 ps | 486631 s: P2= 21 ps |
| 243315 s: P1= 62 ps | 243315 s: P2= 22 ps |
| 121658 s: P1= 55 ps | 121658 s: P2= 41 ps |
| 60829 s: P1= 58 ps | 60829 s: P2= 46 ps |
| 30414 s: P1= 107 ps | 30414 s: P2= 90 ps |
| 15207 s: P1= 88 ps | 15207 s: P2= 74 ps |
| 7604 s: P1= 112 ps | 7604 s: P2= 113 ps |
| 3802 s: P1= 133 ps | 3802 s: P2= 153 ps |
| 1901 s: P1= 161 ps | 1901 s: P2= 218 ps |
| 950 s: P1= 216 ps | 950 s: P2= 284 ps |
| 475 s: P1= 300 ps | 475 s: P2= 392 ps |
| 238 s: P1= 432 ps | 238 s: P2= 531 ps |
| 119 s: P1= 651 ps | 119 s: P2= 823 ps |
| 59 s: P1= 925 ps | 59 s: P2= 1099 ps |



BP1C-TLT2

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 452746
 Computed code bias (P1/P2)/m = -16.504 -14.550
 Computed baseline (X,Y,Z)/m = 13.488 10.789 2.261
 RMS of residuals /m = 0.532

Number of phase differences to fit baseline = 449877
 A priori baseline (X,Y,Z)/m = 13.488 10.789 2.261
 61916 clock jitters computed out of 61916 intervals
 AVE jitter /ps = 0.2 RMS jitter /ps = 6.8

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 1
 Computed baseline L1 (X,Y,Z)/m = -0.092 0.099 0.086
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.075 0.088 0.084
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 0
 Iter 2 Large residuals L2= 1
 Computed baseline L1 (X,Y,Z)/m = -0.092 0.099 0.086
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.075 0.088 0.084
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = 13.396 10.888 2.346
 Final baseline L2 (X,Y,Z)/m = 13.413 10.877 2.344

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 454905

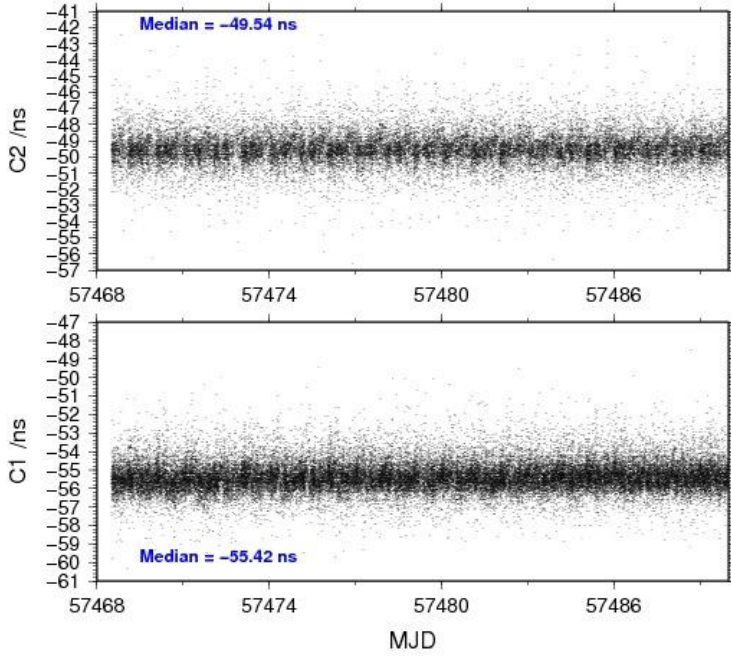
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 454104 -55.350 1.573
 C2: 278212 -49.499 1.925
 P1: 452701 -55.377 1.920
 P2: 452650 -48.826 2.441

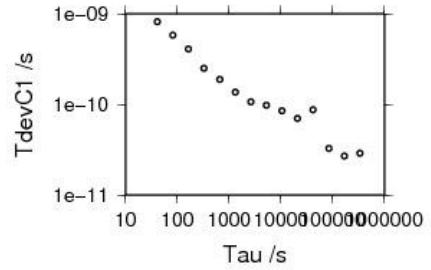
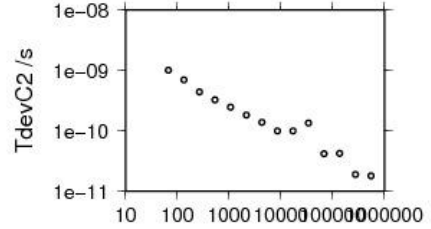
Number of 300s epochs in out file = 6192

Code #pts, median/ns, ave/ns, rms/ns
 C1: 45300 -55.419 -55.360 0.816
 C2: 27782 -49.538 -49.509 0.990
 P1: 45177 -55.464 -55.384 0.918
 P2: 45173 -48.848 -48.827 1.232

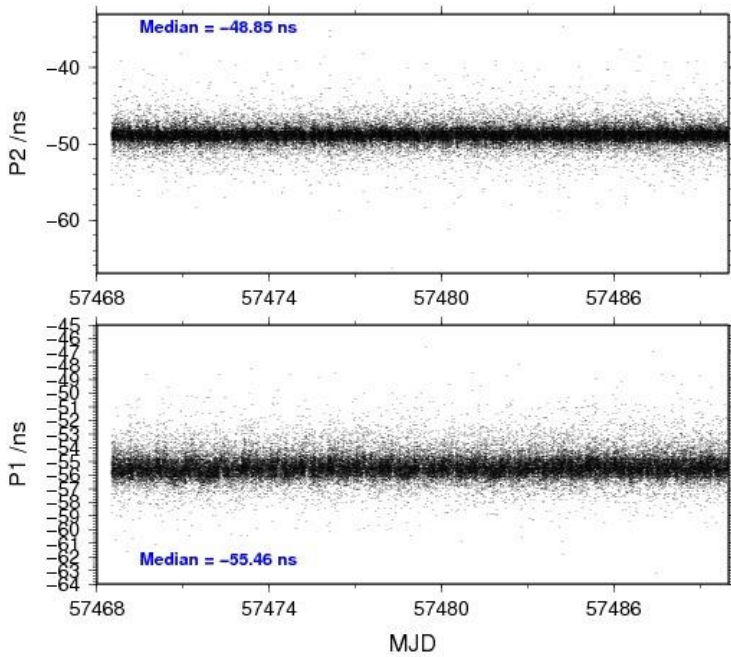
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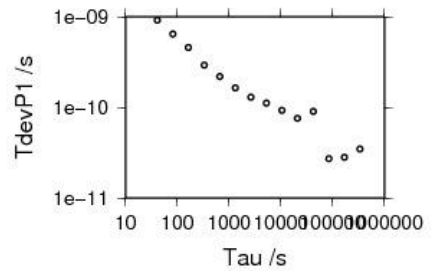
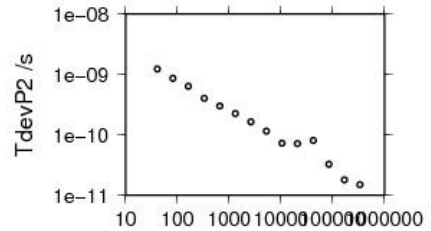
335879 s: C1= 29 ps	547677 s: C2= 18 ps
167940 s: C1= 27 ps	273838 s: C2= 19 ps
83970 s: C1= 33 ps	136919 s: C2= 42 ps
41985 s: C1= 88 ps	68460 s: C2= 42 ps
20992 s: C1= 70 ps	34230 s: C2= 135 ps
10496 s: C1= 85 ps	17115 s: C2= 100 ps
5248 s: C1= 98 ps	8557 s: C2= 100 ps
2624 s: C1= 106 ps	4279 s: C2= 139 ps
1312 s: C1= 137 ps	2139 s: C2= 184 ps
656 s: C1= 189 ps	1070 s: C2= 249 ps
328 s: C1= 251 ps	535 s: C2= 326 ps
164 s: C1= 410 ps	267 s: C2= 441 ps
82 s: C1= 579 ps	134 s: C2= 701 ps
41 s: C1= 815 ps	67 s: C2= 1013 ps



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336794 s: P1= 35 ps	336824 s: P2= 15 ps
166397 s: P1= 28 ps	168412 s: P2= 18 ps
84198 s: P1= 27 ps	84206 s: P2= 33 ps
42099 s: P1= 90 ps	42103 s: P2= 81 ps
21050 s: P1= 76 ps	21051 s: P2= 72 ps
10525 s: P1= 93 ps	10526 s: P2= 73 ps
5262 s: P1= 112 ps	5263 s: P2= 116 ps
2631 s: P1= 129 ps	2631 s: P2= 164 ps
1316 s: P1= 165 ps	1316 s: P2= 227 ps
658 s: P1= 219 ps	658 s: P2= 303 ps
329 s: P1= 293 ps	329 s: P2= 405 ps
164 s: P1= 460 ps	164 s: P2= 637 ps
82 s: P1= 643 ps	82 s: P2= 866 ps
41 s: P1= 920 ps	41 s: P2= 1228 ps



BP0U-TLT3

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 323499
 Computed code bias (P1/P2)/m = -0.509 2.364
 Computed baseline (X,Y,Z)/m = 13.590 10.476 2.066
 RMS of residuals /m = 0.495

Number of phase differences to fit baseline = 300409
 A priori baseline (X,Y,Z)/m = 13.590 10.476 2.066
 61258 clock jitters computed out of 61518 intervals
 AVE jitter /ps = -0.2 RMS jitter /ps = 37.0

Iter 1 Large residuals L1= 20
 Iter 1 Large residuals L2= 20
 Computed baseline L1 (X,Y,Z)/m = -0.057 0.113 0.057
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.059 0.112 0.064
 RMS of residuals L2 /m = 0.002

Iter 2 Large residuals L1= 20
 Iter 2 Large residuals L2= 20
 Computed baseline L1 (X,Y,Z)/m = -0.057 0.113 0.057
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.059 0.112 0.064
 RMS of residuals L2 /m = 0.002

Final baseline L1 (X,Y,Z)/m = 13.533 10.589 2.123
 Final baseline L2 (X,Y,Z)/m = 13.532 10.588 2.131

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 323506

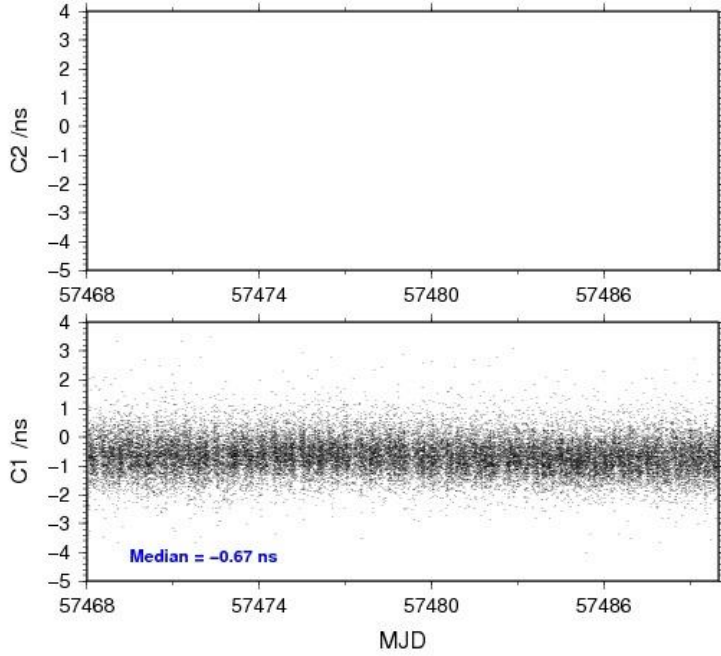
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 323460 -0.651 1.121
 C2: 0 NaN NaN
 P1: 323453 -2.025 1.573
 P2: 323452 7.550 1.857

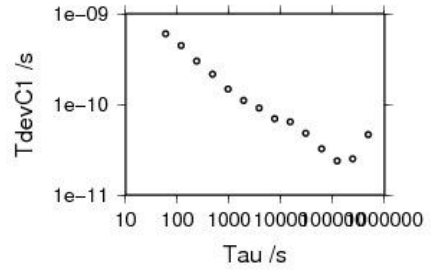
Number of 300s epochs in out file = 6291

Code #pts, median/ns, ave/ns, rms/ns
 C1: 31986 -0.667 -0.651 0.621
 C2: 0 0.000 NaN NaN
 P1: 31986 -2.098 -2.056 0.836
 P2: 31986 7.616 7.564 1.076

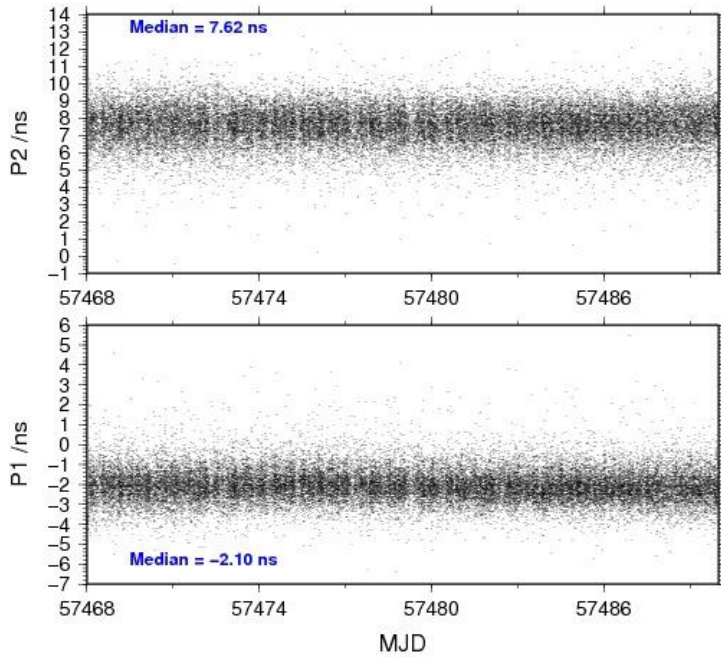
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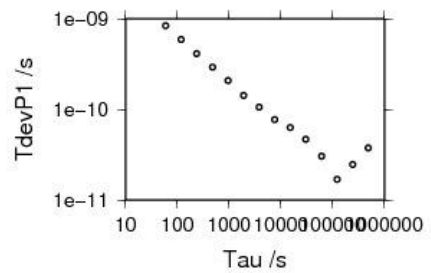
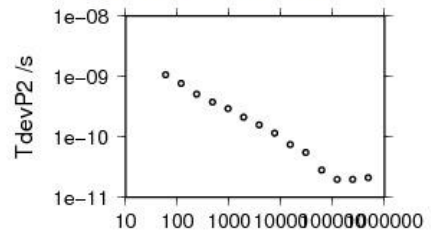
- 486756 s: C1= 46 ps
- 243378 s: C1= 25 ps
- 121689 s: C1= 24 ps
- 60845 s: C1= 32 ps
- 30422 s: C1= 48 ps
- 15211 s: C1= 64 ps
- 7606 s: C1= 70 ps
- 3803 s: C1= 91 ps
- 1901 s: C1= 110 ps
- 951 s: C1= 148 ps
- 475 s: C1= 216 ps
- 238 s: C1= 300 ps
- 119 s: C1= 446 ps
- 59 s: C1= 602 ps



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- | | |
|---------------------|---------------------|
| 486756 s: P1= 38 ps | 486756 s: P2= 21 ps |
| 243378 s: P1= 25 ps | 243378 s: P2= 20 ps |
| 121689 s: P1= 17 ps | 121689 s: P2= 20 ps |
| 60845 s: P1= 31 ps | 60845 s: P2= 28 ps |
| 30422 s: P1= 47 ps | 30422 s: P2= 55 ps |
| 15211 s: P1= 63 ps | 15211 s: P2= 75 ps |
| 7606 s: P1= 77 ps | 7606 s: P2= 116 ps |
| 3803 s: P1= 106 ps | 3803 s: P2= 158 ps |
| 1901 s: P1= 142 ps | 1901 s: P2= 213 ps |
| 951 s: P1= 208 ps | 951 s: P2= 293 ps |
| 475 s: P1= 292 ps | 475 s: P2= 375 ps |
| 238 s: P1= 411 ps | 238 s: P2= 514 ps |
| 119 s: P1= 589 ps | 119 s: P2= 765 ps |
| 59 s: P1= 836 ps | 59 s: P2= 1063 ps |



BP1C-TLT3

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 516998
 Computed code bias (P1/P2)/m = 9.255 12.114
 Computed baseline (X,Y,Z)/m = 14.933 11.429 2.027
 RMS of residuals /m = 0.536

Number of phase differences to fit baseline = 213564
 A priori baseline (X,Y,Z)/m = 14.933 11.429 2.027
 26896 clock jitters computed out of 29849 intervals
 AVE jitter /ps = -0.3 RMS jitter /ps = 78.7

Iter 1 Large residuals L1= 6001
 Iter 1 Large residuals L2= 6003
 Computed baseline L1 (X,Y,Z)/m = 0.028 0.006 0.036
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.030 0.010 0.040
 RMS of residuals L2 /m = 0.005

Iter 2 Large residuals L1= 6001
 Iter 2 Large residuals L2= 6003
 Computed baseline L1 (X,Y,Z)/m = 0.028 0.006 0.036
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.030 0.010 0.040
 RMS of residuals L2 /m = 0.005

Final baseline L1 (X,Y,Z)/m = 14.961 11.436 2.063
 Final baseline L2 (X,Y,Z)/m = 14.963 11.439 2.067

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 525050

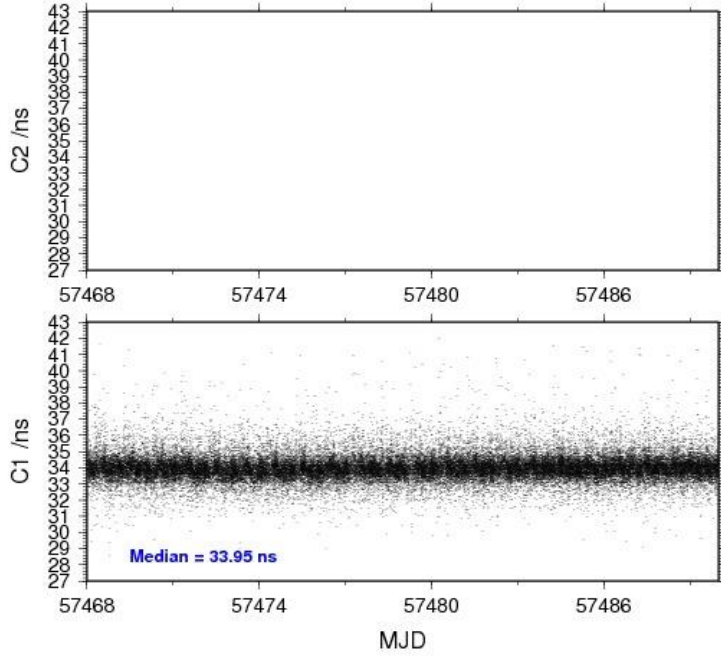
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 524046 34.006 1.489
 C2: 0 NaN NaN
 P1: 516824 30.856 1.829
 P2: 516792 40.386 2.444

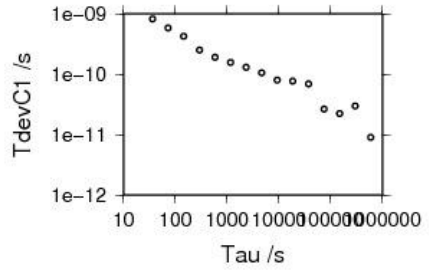
Number of 300s epochs in out file = 6329

Code #pts, median/ns, ave/ns, rms/ns
 C1: 52292 33.953 33.994 0.829
 C2: 0 0.000 NaN NaN
 P1: 51559 30.814 30.844 0.987
 P2: 51557 40.397 40.388 1.394

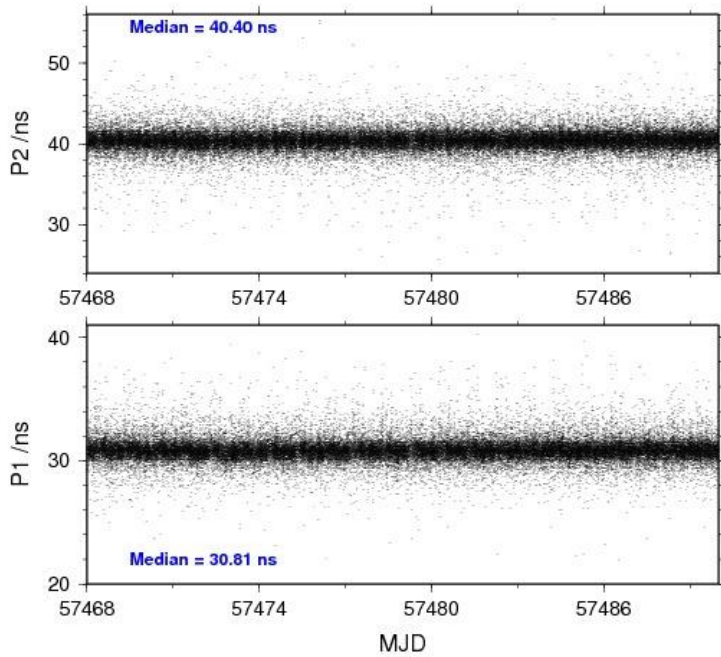
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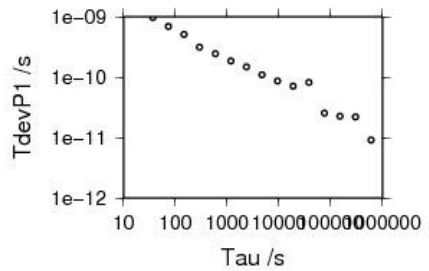
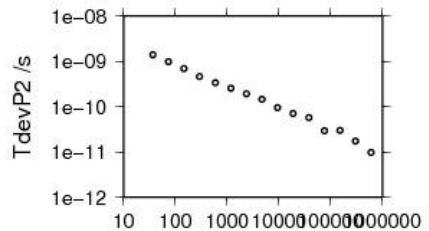
- 297736 s: C1= 30 ps
- 148868 s: C1= 22 ps
- 74434 s: C1= 27 ps
- 37217 s: C1= 69 ps
- 18608 s: C1= 77 ps
- 9304 s: C1= 80 ps
- 4652 s: C1= 105 ps
- 2326 s: C1= 130 ps
- 1163 s: C1= 157 ps
- 582 s: C1= 191 ps
- 291 s: C1= 253 ps
- 145 s: C1= 427 ps
- 73 s: C1= 581 ps
- 36 s: C1= 824 ps



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- | | |
|---------------------|---------------------|
| 301969 s: P1= 22 ps | 301960 s: P2= 18 ps |
| 150984 s: P1= 23 ps | 150990 s: P2= 30 ps |
| 75492 s: P1= 26 ps | 75495 s: P2= 29 ps |
| 37746 s: P1= 82 ps | 37748 s: P2= 57 ps |
| 18673 s: P1= 71 ps | 18674 s: P2= 71 ps |
| 9437 s: P1= 87 ps | 9437 s: P2= 96 ps |
| 4718 s: P1= 109 ps | 4718 s: P2= 145 ps |
| 2359 s: P1= 149 ps | 2359 s: P2= 194 ps |
| 1180 s: P1= 186 ps | 1180 s: P2= 254 ps |
| 590 s: P1= 243 ps | 590 s: P2= 340 ps |
| 295 s: P1= 314 ps | 295 s: P2= 464 ps |
| 147 s: P1= 508 ps | 147 s: P2= 701 ps |
| 74 s: P1= 691 ps | 74 s: P2= 991 ps |
| 37 s: P1= 978 ps | 37 s: P2= 1392 ps |



1.3/ NICT (16113)Period

MJD 57500 to 57523

Delays

BP0U:

REFDLY = $449.1 + 52.6 = 501.7$ ns (CLB Pk + 52.6 (cf page 3 & 48))

CABDLY = 181.7 ns (C134 (cf page 3))

BP1C:

 $X_O = 185.7$ ns (201.1-15.4 (email de Dr Gotoh du 28/04/16)) $X_P = 449.1 + 52.6 = 501.7$ ns (CLB Pk + 52.6 (cf page 3 & 48))

REFDLY = 687.4 ns

CABDLY = 235.7 ns (C131 (cf page 3))

NC01:

REFDLY = $8.7 + ((399 + 398.8) / 2) = 407.6$ ns (8.7 + mean of NC01 output (cf page 48))

CABDLY = 213.4 ns (from CGGTTS file gznc0157.500)

INT DLY : P1 = 217.4 ns, P2 = 222.3 ns (from CGGTTS file gznc0157.500)

NC5G:

REFDLY = $(169.2 + 170.2) / 2 = 169.7$ ns (mean of NC5G input (cf page 48))

CABDLY = 305.7 ns (CGGTTS value page 43)

INT DLY : P1 = -36.9 ns, P2 = 31.9 ns (CGGTTS value page 43)

NC4S:

REFDLY = $(313.9 + 314.8) / 2 = 314.35$ ns (mean of NC4S output (cf page 48))

NC4C:

REFDLY = $(600.1 + 599.8) / 2 = 599.95$ ns (mean of NC4C output (cf page 48))

Setup at the NICT

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	National Institute of Information and Communications Technology	
Date and hour of the beginning of measurements:	22/04/2016 0 h UTC	
Date and hour of the end of measurements:	15/05/2016 0 h UTC	
Information on the system		
	Local:	Travelling:
4-character BIPM code	NC01	BP1C
<input checked="" type="checkbox"/> Receiver maker and type:	Septentrio PolaRx2 TR	
Receiver serial number:	S/N: 1354 Rev A	
1 PPS trigger level /V:		
<input checked="" type="checkbox"/> Antenna cable maker and type:	FUJIKURA 8D-SFA-LITE	
Phase stabilised cable (Y/N):	Phase stabilised: No	
Length outside the building /m:		
<input checked="" type="checkbox"/> Antenna maker and type:	ASHTECH 701933-02 Rev A	
Antenna serial number:	CRN21999080101	
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
<input checked="" type="checkbox"/> Delay from local UTC to receiver 1 PPS-in:	164.1 ns	502.7 ns
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	399.0 ns + 8.7 ns = 407.4 ns	688.4 ns
<input checked="" type="checkbox"/> Antenna cable delay:		(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
<input checked="" type="checkbox"/> INT DLY (GPS) /ns:		
<input checked="" type="checkbox"/> INT DLY (GLONASS) /ns:		
<input checked="" type="checkbox"/> CAB DLY /ns:		
<input checked="" type="checkbox"/> REF DLY /ns:		
<input checked="" type="checkbox"/> Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
<input checked="" type="checkbox"/> Rise time of the local UTC pulse:		
<input checked="" type="checkbox"/> Is the laboratory air conditioned:	Yes	
Set temperature value and uncertainty:	24 degC	
Set humidity value and uncertainty:	40 %	

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	National Institute of Information and Communications Technology	
Date and hour of the beginning of measurements:	22/04/2016 0 h UTC	
Date and hour of the end of measurements:	15/05/2016 0 h UTC	
Information on the system		
	Local:	Travelling:
4-character BIPM code	NC5G	
<input checked="" type="checkbox"/> Receiver maker and type: Receiver serial number:	DICOM GTR50 S/N: 0801404	
1 PPS trigger level /V:		
<input checked="" type="checkbox"/> Antenna cable maker and type: Phase stabilised cable (Y/N):	Andrew Heliac FSJ4-50B Phase stabilised: No	
Length outside the building /m:		
<input checked="" type="checkbox"/> Antenna maker and type: Antenna serial number:	Novatel GPS-702-GG P/N: 01017577	
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
<input checked="" type="checkbox"/> Delay from local UTC to receiver 1 PPS-in:	169.2 ns	
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>		
<input checked="" type="checkbox"/> Antenna cable delay:		(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
<input checked="" type="checkbox"/> INT DLY (GPS) /ns:	-36.9 ns (P1), -31.9 ns (P2)	
<input checked="" type="checkbox"/> INT DLY (GLONASS) /ns:		
<input checked="" type="checkbox"/> CAB DLY /ns:	305.7 ns	
<input checked="" type="checkbox"/> REF DLY /ns:	209.8 ns	
<input checked="" type="checkbox"/> Coordinates reference frame:		
Latitude or X /m:	-3942088.21 m	
Longitude or Y /m:	+3368252.34 m	
Height or Z /m:	+3702001.40 m	
General information		
<input checked="" type="checkbox"/> Rise time of the local UTC pulse:		
<input checked="" type="checkbox"/> Is the laboratory air conditioned:		
Set temperature value and uncertainty:		
Set humidity value and uncertainty:		

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	National Institute of Information and Communications Technology	
Date and hour of the beginning of measurements:	22/04/2016 0 h UTC	
Date and hour of the end of measurements:	15/05/2016 0 h UTC	
Information on the system		
	Local:	Travelling:
4-character BIPM code	NC4S	
<input checked="" type="checkbox"/> Receiver maker and type: Receiver serial number:	Septentrio PolaRx4 TR Pro S/N: 3102252	
1 PPS trigger level /V:		
<input checked="" type="checkbox"/> Antenna cable maker and type: Phase stabilised cable (Y/N):	FUJIKURA 8D-SFA-LITE Phase stabilised: No	
Length outside the building /m:		
<input checked="" type="checkbox"/> Antenna maker and type: Antenna serial number:	AeroAntenna AT1675-120SW S/N: 5441	
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
<input checked="" type="checkbox"/> Delay from local UTC to receiver 1 PPS-in:	165.4 ns	
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	313.9 ns	
<input checked="" type="checkbox"/> Antenna cable delay:		(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
<input checked="" type="checkbox"/> INT DLY (GPS) /ns:		
<input checked="" type="checkbox"/> INT DLY (GLONASS) /ns:		
<input checked="" type="checkbox"/> CAB DLY /ns:		
<input checked="" type="checkbox"/> REF DLY /ns:		
<input checked="" type="checkbox"/> Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
<input checked="" type="checkbox"/> Rise time of the local UTC pulse:		
<input checked="" type="checkbox"/> Is the laboratory air conditioned:	Yes	
Set temperature value and uncertainty:	24 degC	
Set humidity value and uncertainty:	40 %	

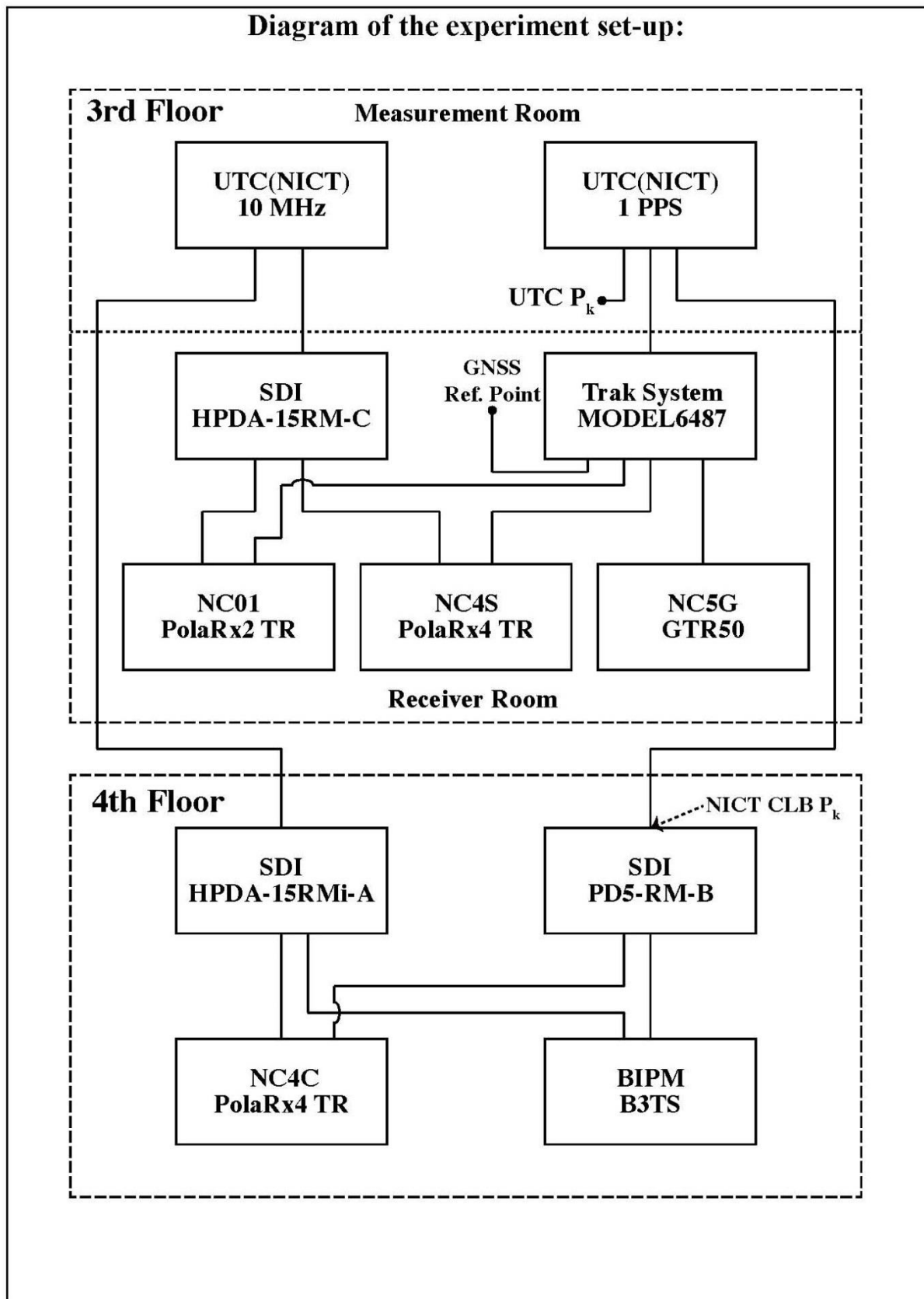
(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	National Institute of Information and Communications Technology	
Date and hour of the beginning of measurements:	22/04/2016 0 h UTC	
Date and hour of the end of measurements:	15/05/2016 0 h UTC	
Information on the system		
	Local:	Travelling:
4-character BIPM code	NC4C	
<input checked="" type="checkbox"/> Receiver maker and type: Receiver serial number:	Septentrio PolaRx4 TR Pro S/N: 3102270	
1 PPS trigger level /V:		
<input checked="" type="checkbox"/> Antenna cable maker and type: Phase stabilised cable (Y/N):	FUJIKURA 5D-SFA-LITE Phase stabilised: No	
Length outside the building /m:		
<input checked="" type="checkbox"/> Antenna maker and type: Antenna serial number:	Novatel GPS-703-GGG S/N: 01018146	
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
<input checked="" type="checkbox"/> Delay from local UTC to receiver 1 PPS-in:	464.3 ns	
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	600.1 ns	
<input checked="" type="checkbox"/> Antenna cable delay:		(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
<input checked="" type="checkbox"/> INT DLY (GPS) /ns:		
<input checked="" type="checkbox"/> INT DLY (GLONASS) /ns:		
<input checked="" type="checkbox"/> CAB DLY /ns:		
<input checked="" type="checkbox"/> REF DLY /ns:		
<input checked="" type="checkbox"/> Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
<input checked="" type="checkbox"/> Rise time of the local UTC pulse:		
<input checked="" type="checkbox"/> Is the laboratory air conditioned:	Yes	
Set temperature value and uncertainty:	23 degC	
Set humidity value and uncertainty:	40 %	

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.



Log of Events / Additional Information :

Delay Measurement, 20/04/2016

1 PPS input of the B3TS (CLB Pk): 449.0 ns

1 PPS input of the two-way SATRE (NICT05): 477.6 ns

BIPM Link Calibration, UTC(NICT) reference delay measurements

	Apr. 20	May 16
GNSS Ref. Point	162.2 ns	162.9 ns
NC5G input	169.2 ns	170.2 ns (22.6 ns*)
NC01 input	164.1 ns	165.2 ns (17.5 ns*)
NC01 output	399.0 ns	398.8 ns (251.9 ns*)
NC4S input	165.4 ns	166.3 ns (18.8 ns*)
NC4S output	313.9 ns	314.8 ns (167.2 ns*)
NICT CLB Pk	427.6 ns	426.6 ns
NC4C input	464.3 ns	464.3 ns (52.5 ns*)
NC4C output	600. 1 ns	599.8 ns (188.3 ns*)
METHOD CLB Pk	449.0 ns	449.2 ns
BP0U input	N/M	503.1 ns
BP1C input	502.7 ns (15.4 ns)	503.4 ns (15.4 ns)
BP1C output	688.4 ns (201.1 ns)	688.9 ns (201.1 ns)
TW Ref. Point	409.6 ns	N/M
NICT05 input	477.6 ns	N/M

Note: values with “*” in parenthesis show the delays from each reference point in room with 15.2 ns (3 m) cable (2016/05/26).

BP0U-NC01

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 278008
 Computed code bias (P1/P2)/m = -143.823 -143.335
 Computed baseline (X,Y,Z)/m = -6.712 1.227 -4.930
 RMS of residuals /m = 0.609

Number of phase differences to fit baseline = 195484
 A priori baseline (X,Y,Z)/m = -6.712 1.227 -4.930
 39078 clock jitters computed out of 40277 intervals
 AVE jitter /ps = -2.3 RMS jitter /ps = 58.2

Iter 1 Large residuals L1= 447
 Iter 1 Large residuals L2= 444
 Computed baseline L1 (X,Y,Z)/m = -0.248 0.242 0.240
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.251 0.242 0.249
 RMS of residuals L2 /m = 0.003

Iter 2 Large residuals L1= 447
 Iter 2 Large residuals L2= 444
 Computed baseline L1 (X,Y,Z)/m = -0.248 0.244 0.241
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.251 0.243 0.250
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -6.961 1.471 -4.689
 Final baseline L2 (X,Y,Z)/m = -6.964 1.470 -4.680

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 278118

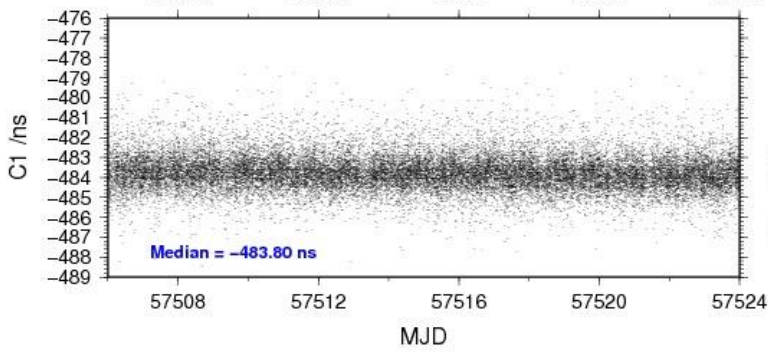
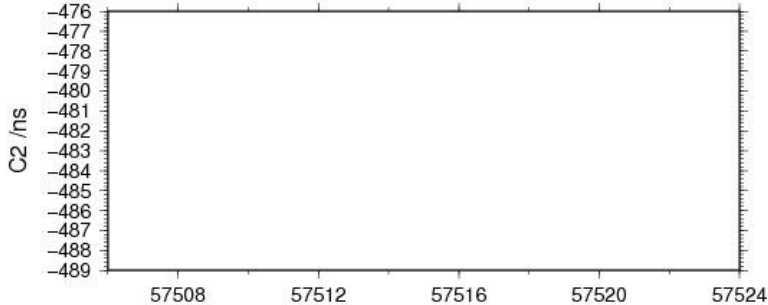
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 278048 -483.750 1.377
 C2: 0 NaN NaN
 P1: 277937 -480.744 2.036
 P2: 277937 -479.137 2.351

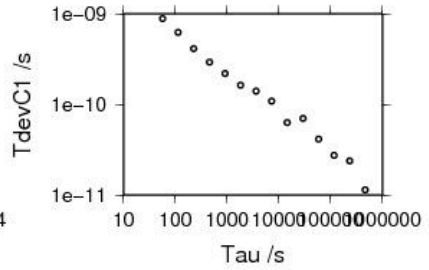
Number of 300s epochs in out file = 5182

Code #pts, median/ns, ave/ns, rms/ns
 C1: 27368 -483.801 -483.758 0.881
 C2: 0 0.000 NaN NaN
 P1: 27368 -480.855 -480.785 1.256
 P2: 27368 -479.087 -479.123 1.593

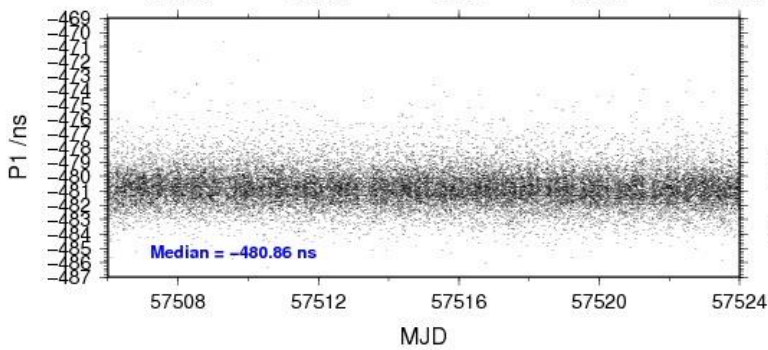
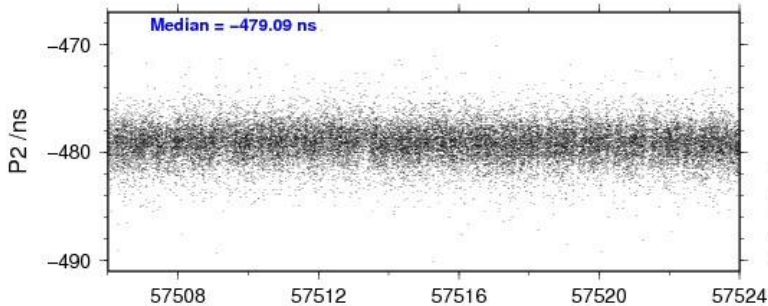
05/20/16 bp0unc0116119_18



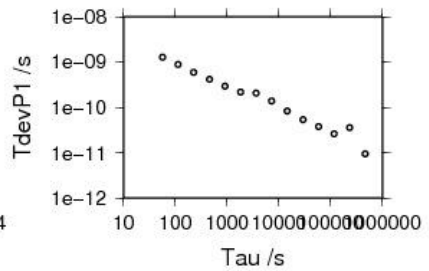
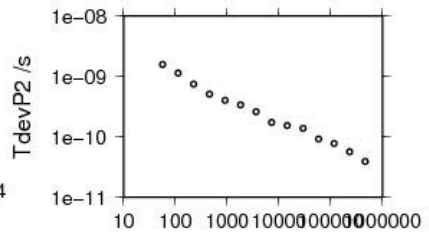
- 465442 s: C1= 11 ps
- 232721 s: C1= 24 ps
- 116360 s: C1= 27 ps
- 58180 s: C1= 41 ps
- 29090 s: C1= 70 ps
- 14545 s: C1= 63 ps
- 7273 s: C1= 108 ps
- 3636 s: C1= 140 ps
- 1818 s: C1= 162 ps
- 909 s: C1= 218 ps
- 455 s: C1= 292 ps
- 227 s: C1= 414 ps
- 114 s: C1= 622 ps
- 57 s: C1= 885 ps



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- | | |
|---------------------|---------------------|
| 465442 s: P1= 9 ps | 465442 s: P2= 39 ps |
| 232721 s: P1= 36 ps | 232721 s: P2= 56 ps |
| 116360 s: P1= 26 ps | 116360 s: P2= 78 ps |
| 58180 s: P1= 38 ps | 58180 s: P2= 92 ps |
| 29090 s: P1= 53 ps | 29090 s: P2= 139 ps |
| 14545 s: P1= 83 ps | 14545 s: P2= 154 ps |
| 7273 s: P1= 139 ps | 7273 s: P2= 174 ps |
| 3636 s: P1= 206 ps | 3636 s: P2= 262 ps |
| 1818 s: P1= 217 ps | 1818 s: P2= 340 ps |
| 909 s: P1= 295 ps | 909 s: P2= 402 ps |
| 455 s: P1= 418 ps | 455 s: P2= 513 ps |
| 227 s: P1= 595 ps | 227 s: P2= 744 ps |
| 114 s: P1= 885 ps | 114 s: P2= 1137 ps |
| 57 s: P1= 1283 ps | 57 s: P2= 1584 ps |



BP1C-NC01

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 565412
 Computed code bias (P1/P2)/m = -128.186 -127.719
 Computed baseline (X,Y,Z)/m = -8.243 0.084 -5.077
 RMS of residuals /m = 0.559

Number of phase differences to fit baseline = 560778
 A priori baseline (X,Y,Z)/m = -8.243 0.084 -5.077
 66208 clock jitters computed out of 66208 intervals
 AVE jitter /ps = 0.1 RMS jitter /ps = 4.3

Iter 1 Large residuals L1= 1
 Iter 1 Large residuals L2= 3
 Computed baseline L1 (X,Y,Z)/m = -0.096 0.031 0.133
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.097 0.035 0.137
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 1
 Iter 2 Large residuals L2= 3
 Computed baseline L1 (X,Y,Z)/m = -0.096 0.031 0.133
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.097 0.035 0.137
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -8.338 0.115 -4.944
 Final baseline L2 (X,Y,Z)/m = -8.340 0.119 -4.940

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 569856

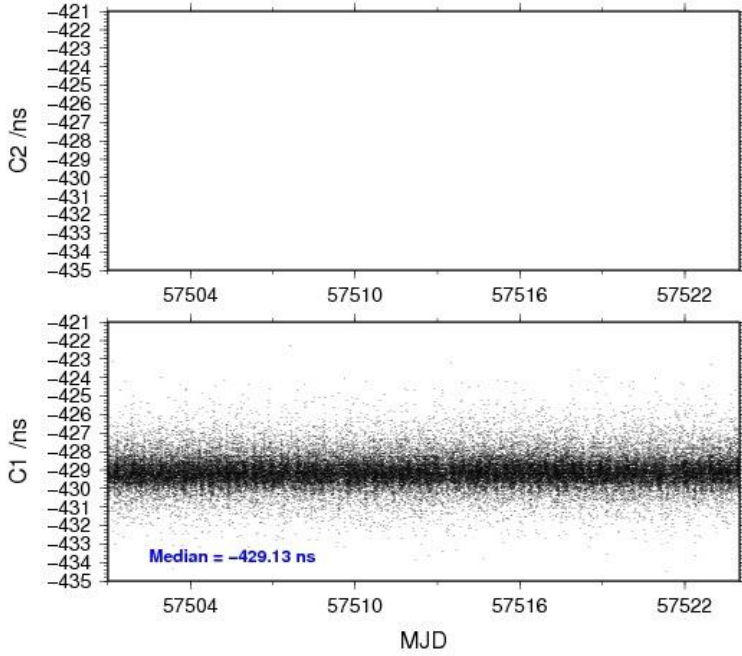
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 568736 -429.075 1.538
 C2: 0 NaN NaN
 P1: 565236 -427.940 1.822
 P2: 565018 -426.390 2.271

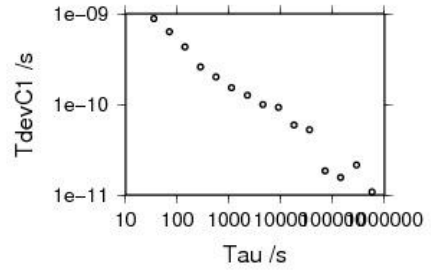
Number of 300s epochs in out file = 6624

Code #pts, median/ns, ave/ns, rms/ns
 C1: 56740 -429.129 -429.078 0.877
 C2: 0 0.000 NaN NaN
 P1: 56427 -427.978 -427.950 1.070
 P2: 56401 -426.356 -426.385 1.606

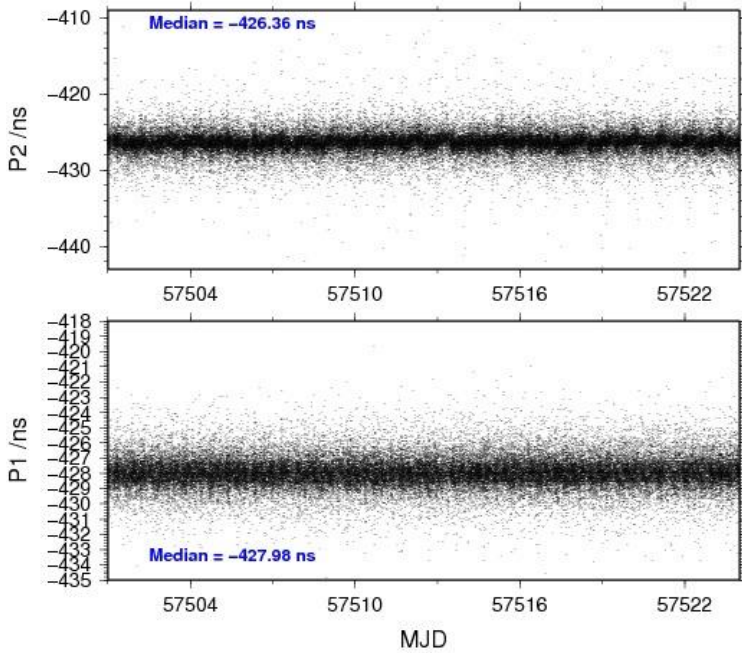
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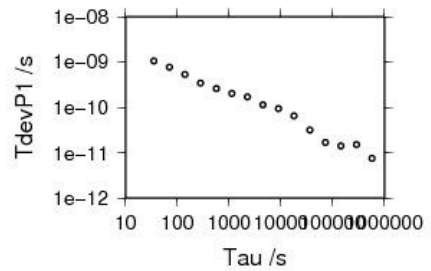
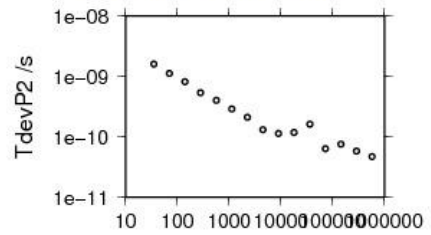
- 286869 s: C1= 21 ps
- 143435 s: C1= 16 ps
- 71717 s: C1= 19 ps
- 35859 s: C1= 52 ps
- 17929 s: C1= 59 ps
- 8965 s: C1= 93 ps
- 4482 s: C1= 100 ps
- 2241 s: C1= 126 ps
- 1121 s: C1= 153 ps
- 560 s: C1= 201 ps
- 280 s: C1= 260 ps
- 140 s: C1= 432 ps
- 70 s: C1= 632 ps
- 35 s: C1= 887 ps



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- 288461 s: P1= 15 ps
- 144230 s: P1= 14 ps
- 72115 s: P1= 17 ps
- 36058 s: P1= 32 ps
- 18029 s: P1= 65 ps
- 9014 s: P1= 95 ps
- 4507 s: P1= 114 ps
- 2254 s: P1= 170 ps
- 1127 s: P1= 203 ps
- 563 s: P1= 259 ps
- 282 s: P1= 344 ps
- 141 s: P1= 532 ps
- 70 s: P1= 766 ps
- 35 s: P1= 1065 ps
- 288594 s: P2= 58 ps
- 144297 s: P2= 76 ps
- 72148 s: P2= 64 ps
- 36074 s: P2= 162 ps
- 18037 s: P2= 118 ps
- 9019 s: P2= 114 ps
- 4509 s: P2= 132 ps
- 2255 s: P2= 213 ps
- 1127 s: P2= 290 ps
- 564 s: P2= 401 ps
- 282 s: P2= 542 ps
- 141 s: P2= 820 ps
- 70 s: P2= 1122 ps
- 35 s: P2= 1599 ps



BP0U-NC5G

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 278546
 Computed code bias (P1/P2)/m = -139.419 -139.767
 Computed baseline (X,Y,Z)/m = -3.639 -5.149 0.346
 RMS of residuals /m = 0.665

Number of phase differences to fit baseline = 229073
 A priori baseline (X,Y,Z)/m = -3.639 -5.149 0.346
 45796 clock jitters computed out of 46658 intervals
 AVE jitter /ps = -0.5 RMS jitter /ps = 49.6

Iter 1 Large residuals L1= 1
 Iter 1 Large residuals L2= 1
 Computed baseline L1 (X,Y,Z)/m = -0.144 0.178 0.147
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.125 0.164 0.142
 RMS of residuals L2 /m = 0.003

Iter 2 Large residuals L1= 1
 Iter 2 Large residuals L2= 1
 Computed baseline L1 (X,Y,Z)/m = -0.144 0.178 0.147
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.125 0.164 0.142
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -3.784 -4.971 0.493
 Final baseline L2 (X,Y,Z)/m = -3.764 -4.985 0.488

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 278631

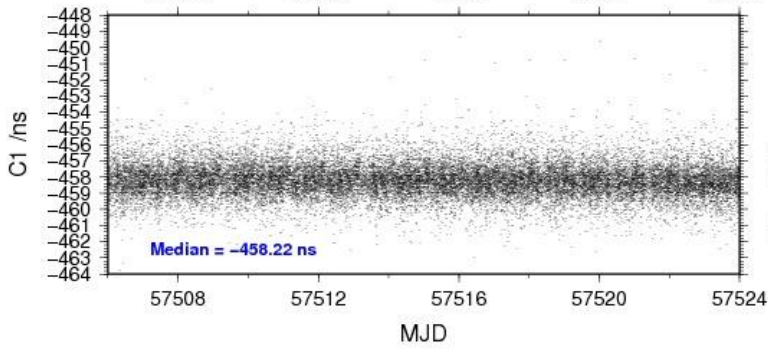
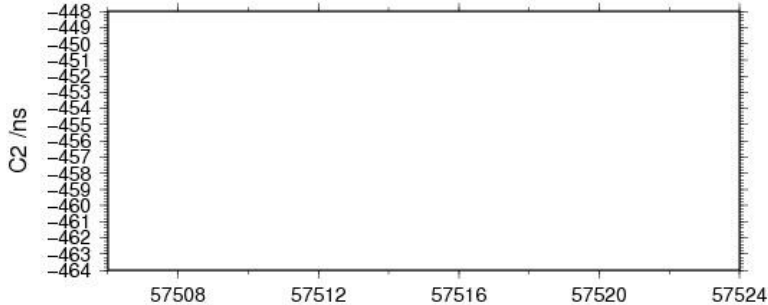
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 278561 -458.184 1.564
 C2: 0 NaN NaN
 P1: 278476 -465.685 2.214
 P2: 278474 -466.792 2.725

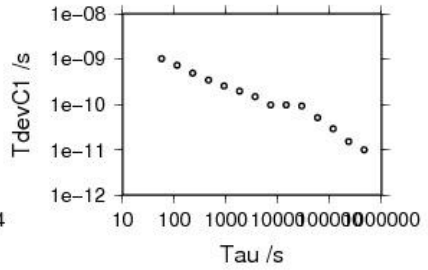
Number of 300s epochs in out file = 5182

Code #pts, median/ns, ave/ns, rms/ns
 C1: 27421 -458.223 -458.196 1.027
 C2: 0 0.000 NaN NaN
 P1: 27415 -465.805 -465.723 1.434
 P2: 27415 -466.772 -466.781 1.913

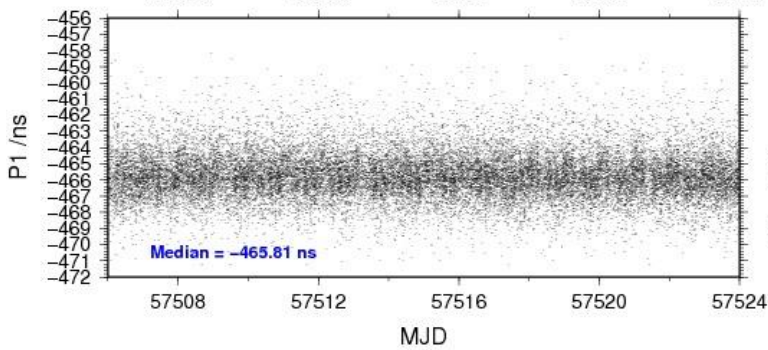
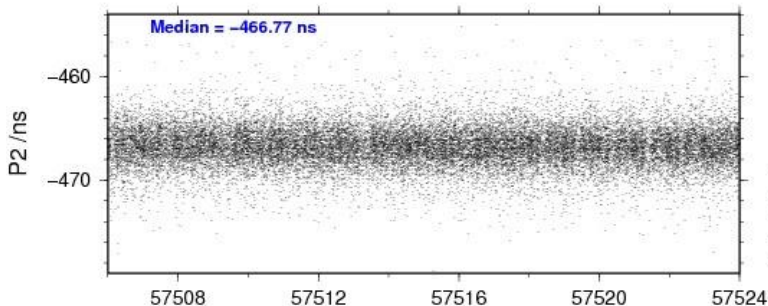
05/20/16 bp0unc5g16119_18



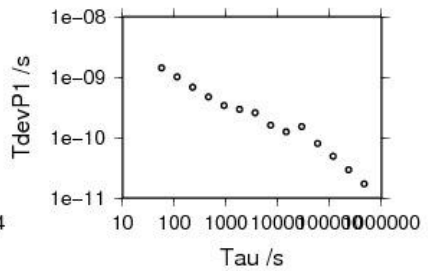
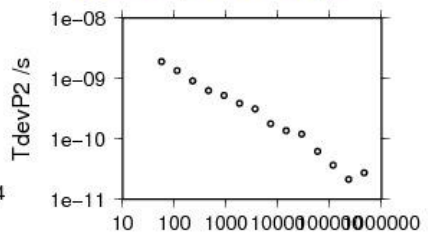
- 464542 s: C1= 10 ps
- 232271 s: C1= 15 ps
- 116135 s: C1= 29 ps
- 58068 s: C1= 51 ps
- 29034 s: C1= 93 ps
- 14517 s: C1= 97 ps
- 7258 s: C1= 97 ps
- 3629 s: C1= 148 ps
- 1815 s: C1= 195 ps
- 907 s: C1= 258 ps
- 454 s: C1= 342 ps
- 227 s: C1= 483 ps
- 113 s: C1= 726 ps
- 57 s: C1= 1028 ps



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- | | |
|---------------------|---------------------|
| 464644 s: P1= 17 ps | 464644 s: P2= 27 ps |
| 232322 s: P1= 29 ps | 232322 s: P2= 21 ps |
| 116161 s: P1= 49 ps | 116161 s: P2= 37 ps |
| 58080 s: P1= 80 ps | 58080 s: P2= 62 ps |
| 29040 s: P1= 152 ps | 29040 s: P2= 121 ps |
| 14520 s: P1= 125 ps | 14520 s: P2= 136 ps |
| 7260 s: P1= 162 ps | 7260 s: P2= 178 ps |
| 3630 s: P1= 256 ps | 3630 s: P2= 314 ps |
| 1815 s: P1= 293 ps | 1815 s: P2= 387 ps |
| 908 s: P1= 341 ps | 908 s: P2= 522 ps |
| 454 s: P1= 473 ps | 454 s: P2= 635 ps |
| 227 s: P1= 683 ps | 227 s: P2= 912 ps |
| 113 s: P1= 1010 ps | 113 s: P2= 1357 ps |
| 57 s: P1= 1430 ps | 57 s: P2= 1905 ps |



BP1C-NC5G

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 508635
 Computed code bias (P1/P2)/m = -123.666 -124.004
 Computed baseline (X,Y,Z)/m = -5.105 -6.509 0.185
 RMS of residuals /m = 0.643

Number of phase differences to fit baseline = 396076
 A priori baseline (X,Y,Z)/m = -5.105 -6.509 0.185
 53838 clock jitters computed out of 55195 intervals
 AVE jitter /ps = 3.5 RMS jitter /ps = 52.6

Iter 1 Large residuals L1= 286
 Iter 1 Large residuals L2= 287
 Computed baseline L1 (X,Y,Z)/m = -0.053 0.133 0.039
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.041 0.127 0.032
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 286
 Iter 2 Large residuals L2= 287
 Computed baseline L1 (X,Y,Z)/m = -0.053 0.134 0.039
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.041 0.127 0.032
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -5.158 -6.375 0.224
 Final baseline L2 (X,Y,Z)/m = -5.146 -6.382 0.217

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 510254

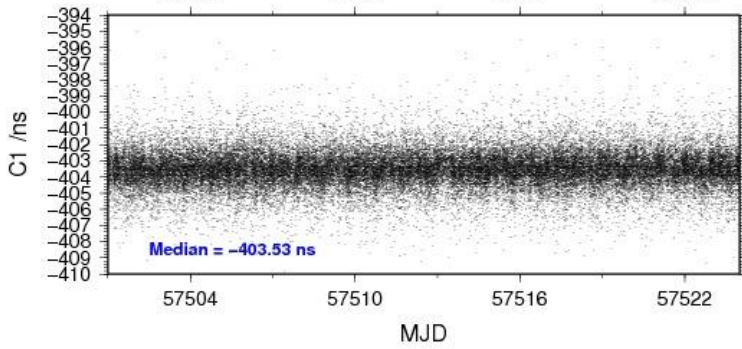
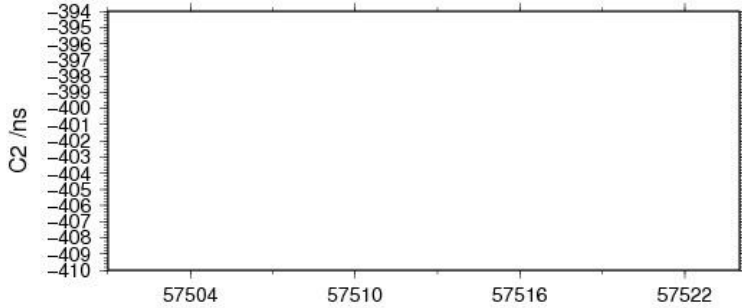
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 509960 -403.518 1.687
 C2: 0 NaN NaN
 P1: 508432 -412.868 2.164
 P2: 508384 -413.965 2.612

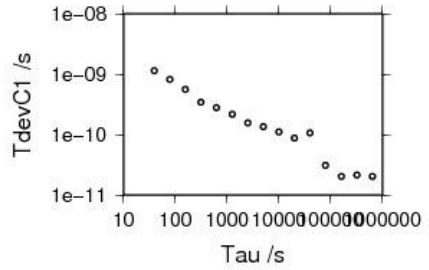
Number of 300s epochs in out file = 6624

Code #pts, median/ns, ave/ns, rms/ns
 C1: 50892 -403.533 -403.526 1.139
 C2: 0 0.000 NaN NaN
 P1: 50765 -412.902 -412.888 1.460
 P2: 50757 -413.961 -413.978 1.822

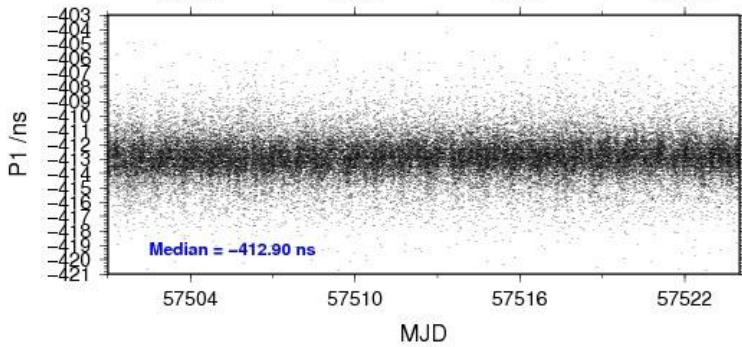
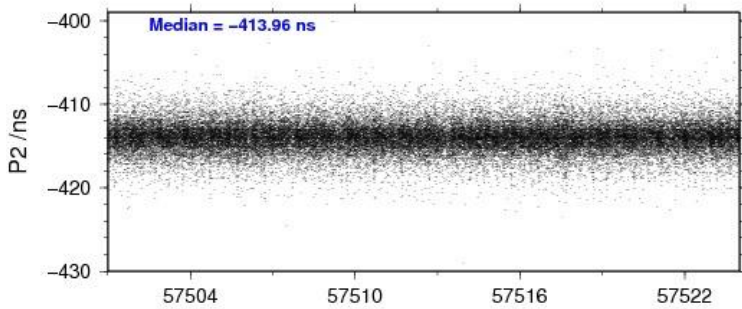
05/20/16 bp1cnc5g16113_24



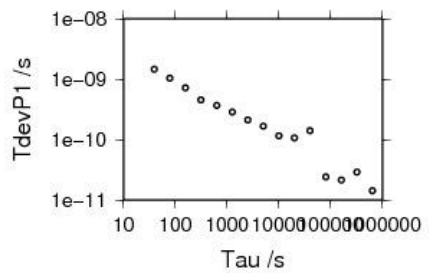
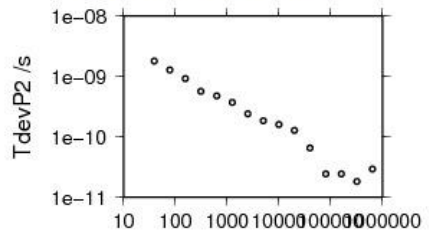
- 319834 s: C1= 22 ps
- 159917 s: C1= 20 ps
- 79959 s: C1= 31 ps
- 39979 s: C1= 107 ps
- 19990 s: C1= 87 ps
- 9995 s: C1= 111 ps
- 4997 s: C1= 135 ps
- 2499 s: C1= 157 ps
- 1249 s: C1= 216 ps
- 625 s: C1= 280 ps
- 312 s: C1= 343 ps
- 156 s: C1= 561 ps
- 78 s: C1= 823 ps
- 39 s: C1= 1133 ps



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- 320634 s: P1= 29 ps
- 160317 s: P1= 21 ps
- 80159 s: P1= 24 ps
- 40079 s: P1= 141 ps
- 20040 s: P1= 106 ps
- 10020 s: P1= 115 ps
- 5010 s: P1= 166 ps
- 2505 s: P1= 210 ps
- 1252 s: P1= 285 ps
- 626 s: P1= 369 ps
- 313 s: P1= 453 ps
- 157 s: P1= 721 ps
- 78 s: P1= 1035 ps
- 39 s: P1= 1463 ps
- 320685 s: P2= 18 ps
- 160342 s: P2= 25 ps
- 80171 s: P2= 25 ps
- 40086 s: P2= 65 ps
- 20043 s: P2= 129 ps
- 10021 s: P2= 161 ps
- 5011 s: P2= 184 ps
- 2505 s: P2= 242 ps
- 1253 s: P2= 373 ps
- 626 s: P2= 481 ps
- 313 s: P2= 567 ps
- 157 s: P2= 927 ps
- 78 s: P2= 1288 ps
- 39 s: P2= 1814 ps



BP0U-NC4S

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 276382
 Computed code bias (P1/P2)/m = -125.386 -123.569
 Computed baseline (X,Y,Z)/m = -6.630 4.538 -7.753
 RMS of residuals /m = 0.578

Number of phase differences to fit baseline = 194175
 A priori baseline (X,Y,Z)/m = -6.630 4.538 -7.753
 39033 clock jitters computed out of 40201 intervals
 AVE jitter /ps = -2.0 RMS jitter /ps = 58.2

Iter 1 Large residuals L1= 441
 Iter 1 Large residuals L2= 443
 Computed baseline L1 (X,Y,Z)/m = -0.245 0.203 0.197
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.238 0.199 0.199
 RMS of residuals L2 /m = 0.003

Iter 2 Large residuals L1= 442
 Iter 2 Large residuals L2= 443
 Computed baseline L1 (X,Y,Z)/m = -0.246 0.204 0.198
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.238 0.199 0.199
 RMS of residuals L2 /m = 0.003

Iter 3 Large residuals L1= 442
 Iter 3 Large residuals L2= 443
 Computed baseline L1 (X,Y,Z)/m = -0.246 0.204 0.198
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.238 0.199 0.199
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -6.876 4.742 -7.554
 Final baseline L2 (X,Y,Z)/m = -6.868 4.738 -7.553

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 276634

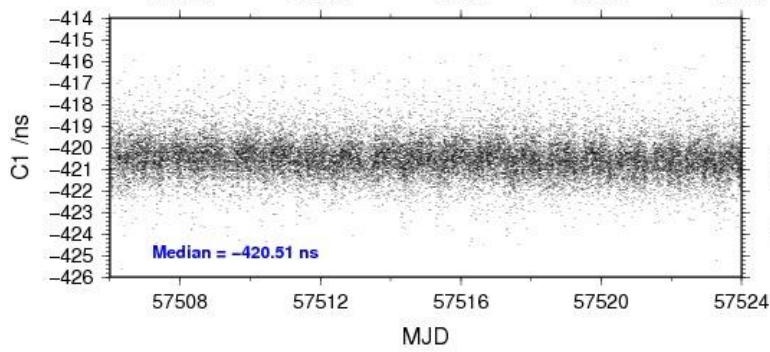
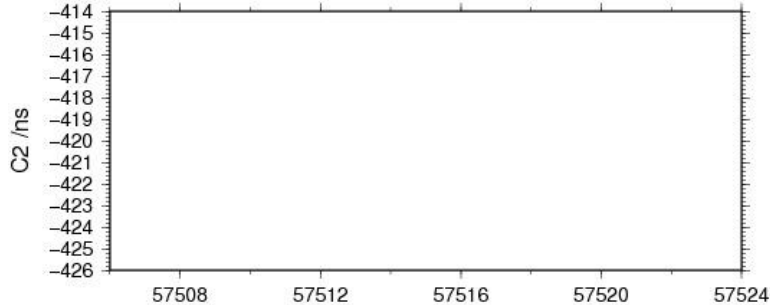
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 276380 -420.470 1.367
 C2: 0 NaN NaN
 P1: 276312 -419.128 1.863
 P2: 276312 -413.052 2.269

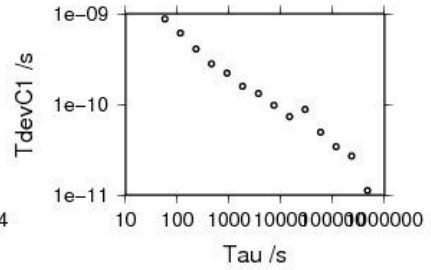
Number of 300s epochs in out file = 5182

Code #pts, median/ns, ave/ns, rms/ns
 C1: 27190 -420.506 -420.477 0.870
 C2: 0 0.000 NaN NaN
 P1: 27188 -419.238 -419.160 1.168
 P2: 27188 -412.990 -413.035 1.567

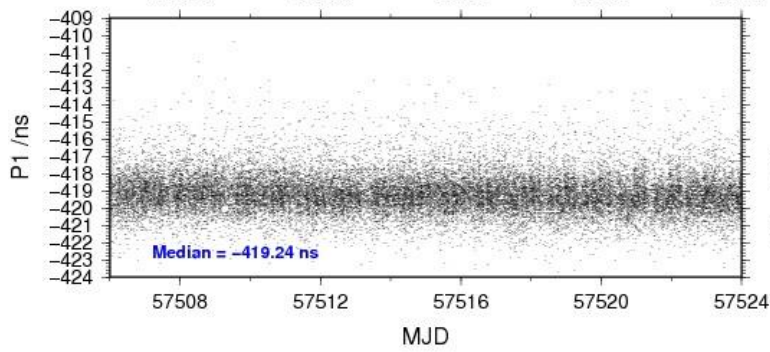
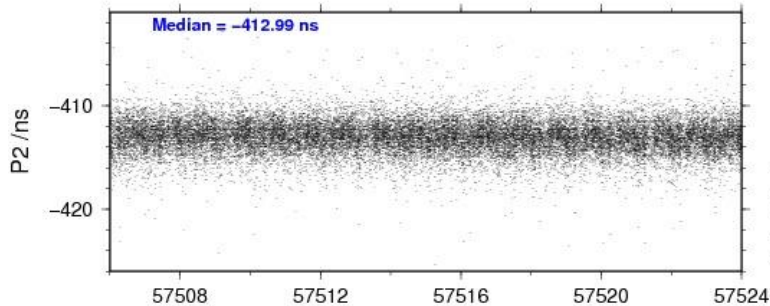
05/20/16 bp0unc4s16119_18



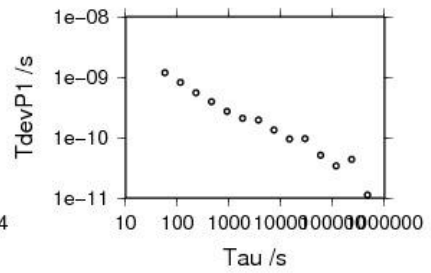
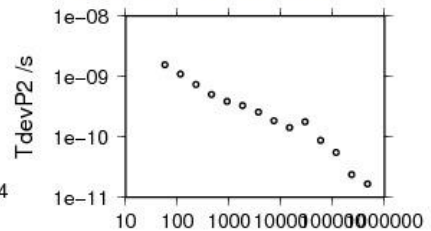
- 468489 s: C1= 11 ps
- 234244 s: C1= 27 ps
- 117122 s: C1= 34 ps
- 58561 s: C1= 49 ps
- 29281 s: C1= 88 ps
- 14640 s: C1= 73 ps
- 7320 s: C1= 98 ps
- 3660 s: C1= 132 ps
- 1830 s: C1= 159 ps
- 915 s: C1= 221 ps
- 458 s: C1= 281 ps
- 229 s: C1= 407 ps
- 114 s: C1= 612 ps
- 57 s: C1= 876 ps



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- | | |
|---------------------|---------------------|
| 468523 s: P1= 11 ps | 468523 s: P2= 17 ps |
| 234262 s: P1= 44 ps | 234262 s: P2= 24 ps |
| 117131 s: P1= 34 ps | 117131 s: P2= 56 ps |
| 58565 s: P1= 51 ps | 58565 s: P2= 87 ps |
| 29283 s: P1= 95 ps | 29283 s: P2= 179 ps |
| 14641 s: P1= 95 ps | 14641 s: P2= 143 ps |
| 7321 s: P1= 134 ps | 7321 s: P2= 185 ps |
| 3660 s: P1= 195 ps | 3660 s: P2= 257 ps |
| 1830 s: P1= 208 ps | 1830 s: P2= 330 ps |
| 915 s: P1= 273 ps | 915 s: P2= 387 ps |
| 458 s: P1= 393 ps | 458 s: P2= 501 ps |
| 229 s: P1= 551 ps | 229 s: P2= 737 ps |
| 114 s: P1= 818 ps | 114 s: P2= 1099 ps |
| 57 s: P1= 1182 ps | 57 s: P2= 1570 ps |



BP1C-NC4S

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 560771
 Computed code bias (P1/P2)/m = -109.793 -107.996
 Computed baseline (X,Y,Z)/m = -8.200 3.392 -7.830
 RMS of residuals /m = 0.506

Number of phase differences to fit baseline = 555889
 A priori baseline (X,Y,Z)/m = -8.200 3.392 -7.830
 66234 clock jitters computed out of 66234 intervals
 AVE jitter /ps = 0.1 RMS jitter /ps = 4.3

Iter 1 Large residuals L1= 1
 Iter 1 Large residuals L2= 2
 Computed baseline L1 (X,Y,Z)/m = -0.049 -0.023 0.013
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.048 -0.021 0.014
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 1
 Iter 2 Large residuals L2= 2
 Computed baseline L1 (X,Y,Z)/m = -0.049 -0.023 0.013
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.048 -0.021 0.014
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -8.248 3.369 -7.817
 Final baseline L2 (X,Y,Z)/m = -8.247 3.371 -7.816

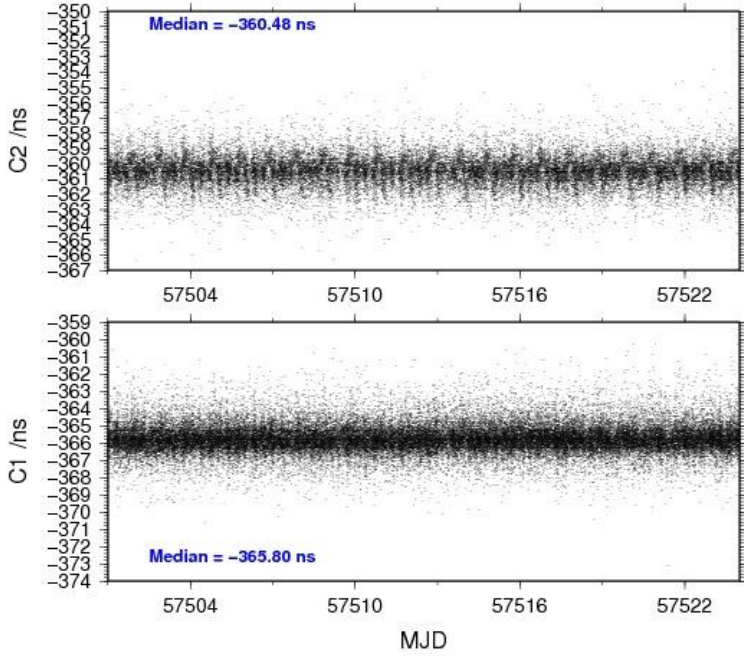
COMPUTATION OF CODE DIFFERENCES

Number of code differences = 566670

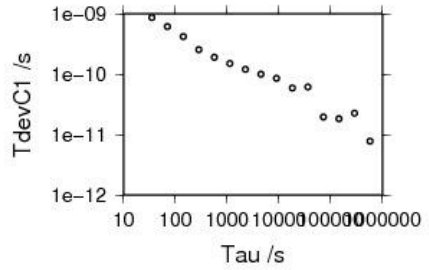
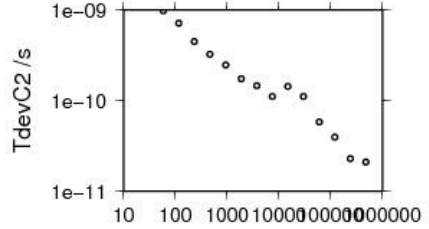
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 563380 -365.754 1.556
 C2: 340583 -360.502 1.718
 P1: 560670 -366.287 1.615
 P2: 560448 -360.292 2.063

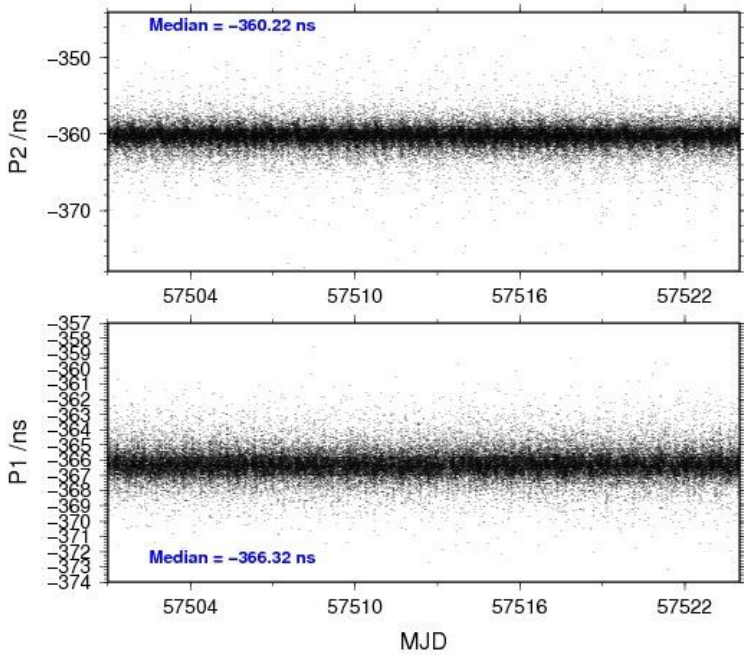
05/20/16 bp1cnc4s16113_24



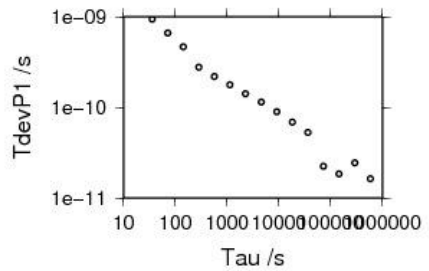
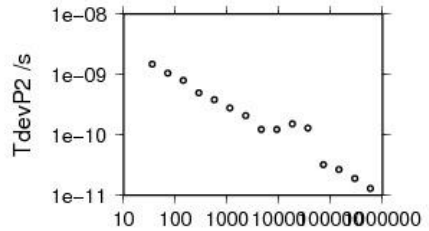
289580 s: C1= 22 ps	478937 s: C2= 21 ps
144790 s: C1= 18 ps	239469 s: C2= 23 ps
72395 s: C1= 20 ps	119734 s: C2= 40 ps
36197 s: C1= 61 ps	59867 s: C2= 58 ps
18099 s: C1= 59 ps	29934 s: C2= 111 ps
9049 s: C1= 85 ps	14967 s: C2= 145 ps
4525 s: C1= 100 ps	7483 s: C2= 112 ps
2262 s: C1= 120 ps	3742 s: C2= 146 ps
1131 s: C1= 151 ps	1871 s: C2= 174 ps
566 s: C1= 191 ps	935 s: C2= 248 ps
283 s: C1= 254 ps	468 s: C2= 327 ps
141 s: C1= 420 ps	234 s: C2= 450 ps
71 s: C1= 617 ps	117 s: C2= 719 ps
35 s: C1= 870 ps	58 s: C2= 978 ps



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290904 s: P1= 24 ps	291050 s: P2= 19 ps
145452 s: P1= 18 ps	145525 s: P2= 27 ps
72726 s: P1= 22 ps	72763 s: P2= 32 ps
36363 s: P1= 53 ps	36381 s: P2= 130 ps
18182 s: P1= 69 ps	18191 s: P2= 152 ps
9091 s: P1= 90 ps	9095 s: P2= 124 ps
4545 s: P1= 114 ps	4548 s: P2= 123 ps
2273 s: P1= 142 ps	2274 s: P2= 210 ps
1136 s: P1= 178 ps	1137 s: P2= 278 ps
568 s: P1= 219 ps	568 s: P2= 384 ps
284 s: P1= 278 ps	284 s: P2= 496 ps
142 s: P1= 468 ps	142 s: P2= 797 ps
71 s: P1= 661 ps	71 s: P2= 1060 ps
36 s: P1= 937 ps	36 s: P2= 1491 ps



BP0U-NC4C

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 274642
 Computed code bias (P1/P2)/m = -20.513 -18.360
 Computed baseline (X,Y,Z)/m = -5.400 2.624 -4.614
 RMS of residuals /m = 0.613

Number of phase differences to fit baseline = 192871
 A priori baseline (X,Y,Z)/m = -5.400 2.624 -4.614
 38966 clock jitters computed out of 40249 intervals
 AVE jitter /ps = -2.6 RMS jitter /ps = 58.1

Iter 1 Large residuals L1= 446
 Iter 1 Large residuals L2= 446
 Computed baseline L1 (X,Y,Z)/m = -0.168 0.203 0.153
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.150 0.184 0.144
 RMS of residuals L2 /m = 0.003

Iter 2 Large residuals L1= 446
 Iter 2 Large residuals L2= 446
 Computed baseline L1 (X,Y,Z)/m = -0.168 0.204 0.154
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.150 0.185 0.144
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -5.568 2.828 -4.460
 Final baseline L2 (X,Y,Z)/m = -5.551 2.808 -4.470

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 274796

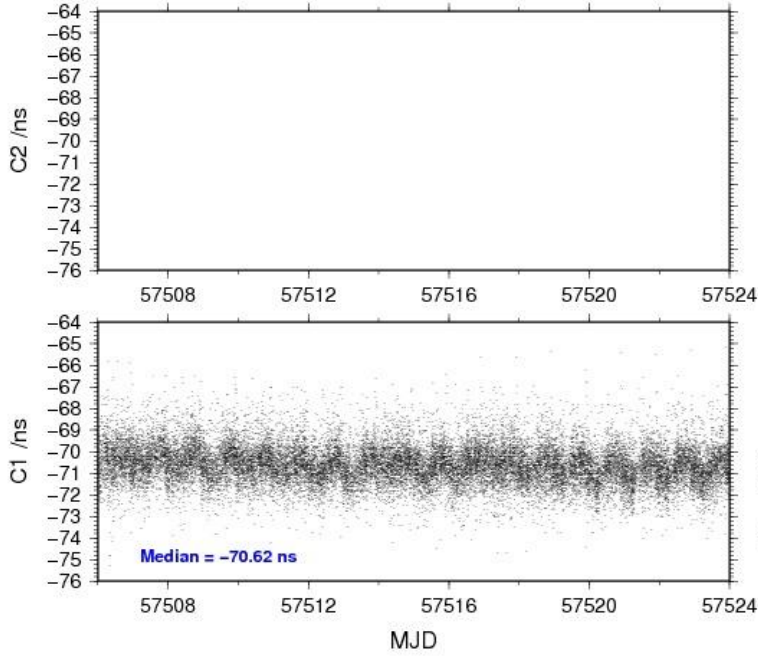
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 274660 -70.599 1.408
 C2: 0 NaN NaN
 P1: 274572 -69.135 1.884
 P2: 274571 -61.889 2.487

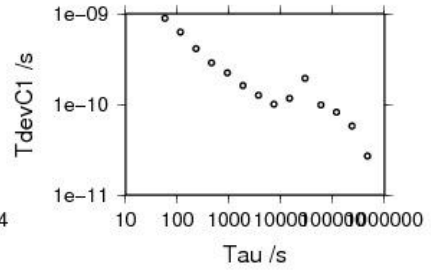
Number of 300s epochs in out file = 5182

Code #pts, median/ns, ave/ns, rms/ns
 C1: 27034 -70.625 -70.603 0.912
 C2: 0 0.000 NaN NaN
 P1: 27034 -69.232 -69.156 1.192
 P2: 27034 -61.827 -61.865 1.708

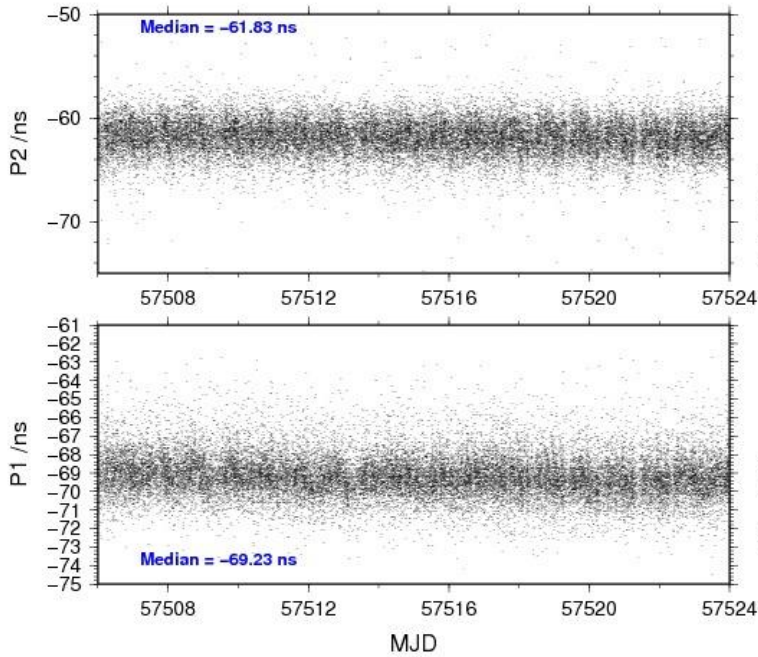
05/20/16 bp0unc4c16119_18



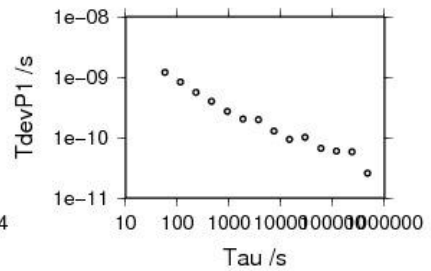
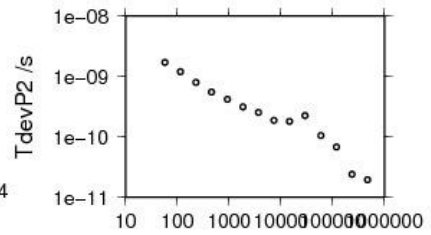
- 471192 s: C1= 27 ps
- 235596 s: C1= 58 ps
- 117798 s: C1= 82 ps
- 58899 s: C1= 98 ps
- 29450 s: C1= 194 ps
- 14725 s: C1= 116 ps
- 7362 s: C1= 100 ps
- 3681 s: C1= 126 ps
- 1841 s: C1= 161 ps
- 920 s: C1= 222 ps
- 460 s: C1= 287 ps
- 230 s: C1= 412 ps
- 115 s: C1= 629 ps
- 58 s: C1= 891 ps



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- | | |
|---------------------|---------------------|
| 471192 s: P1= 26 ps | 471192 s: P2= 19 ps |
| 235596 s: P1= 58 ps | 235596 s: P2= 24 ps |
| 117798 s: P1= 60 ps | 117798 s: P2= 69 ps |
| 58899 s: P1= 67 ps | 58899 s: P2= 106 ps |
| 29450 s: P1= 101 ps | 29450 s: P2= 225 ps |
| 14725 s: P1= 93 ps | 14725 s: P2= 181 ps |
| 7362 s: P1= 128 ps | 7362 s: P2= 188 ps |
| 3681 s: P1= 199 ps | 3681 s: P2= 253 ps |
| 1841 s: P1= 203 ps | 1841 s: P2= 316 ps |
| 920 s: P1= 272 ps | 920 s: P2= 419 ps |
| 460 s: P1= 397 ps | 460 s: P2= 552 ps |
| 230 s: P1= 558 ps | 230 s: P2= 801 ps |
| 115 s: P1= 836 ps | 115 s: P2= 1204 ps |
| 58 s: P1= 1200 ps | 58 s: P2= 1713 ps |



BP1C-NC4C

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 555261
 Computed code bias (P1/P2)/m = -4.937 -2.813
 Computed baseline (X,Y,Z)/m = -6.979 1.494 -4.662
 RMS of residuals /m = 0.542

Number of phase differences to fit baseline = 550734
 A priori baseline (X,Y,Z)/m = -6.979 1.494 -4.662
 66234 clock jitters computed out of 66234 intervals
 AVE jitter /ps = -0.2 RMS jitter /ps = 4.7

Iter 1 Large residuals L1= 1
 Iter 1 Large residuals L2= 3
 Computed baseline L1 (X,Y,Z)/m = 0.060 -0.025 -0.069
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.075 -0.035 -0.081
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 1
 Iter 2 Large residuals L2= 3
 Computed baseline L1 (X,Y,Z)/m = 0.060 -0.025 -0.069
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.075 -0.035 -0.081
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -6.919 1.469 -4.730
 Final baseline L2 (X,Y,Z)/m = -6.904 1.459 -4.743

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 559753

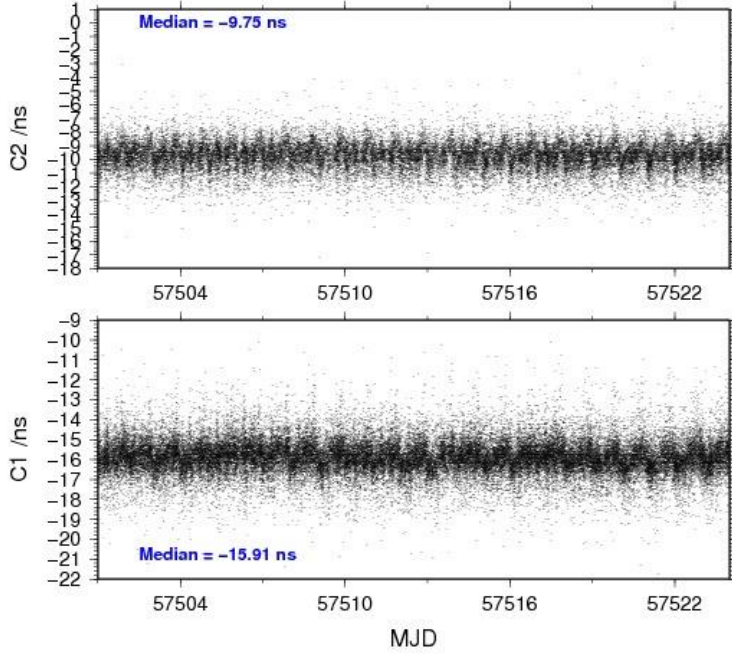
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 557888 -15.900 1.509
 C2: 335408 -9.804 1.757
 P1: 555180 -16.300 1.571
 P2: 555000 -9.174 2.332

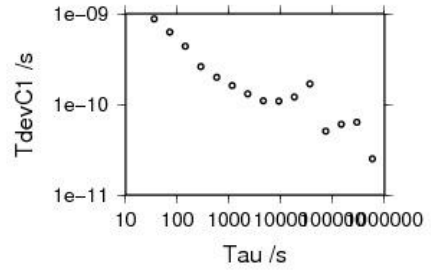
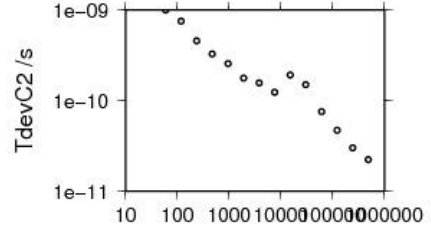
Number of 300s epochs in out file = 6624

Code #pts, median/ns, ave/ns, rms/ns
 C1: 55633 -15.906 -15.895 0.893
 C2: 33467 -9.748 -9.792 1.030
 P1: 55393 -16.295 -16.295 0.963
 P2: 55370 -9.113 -9.172 1.678

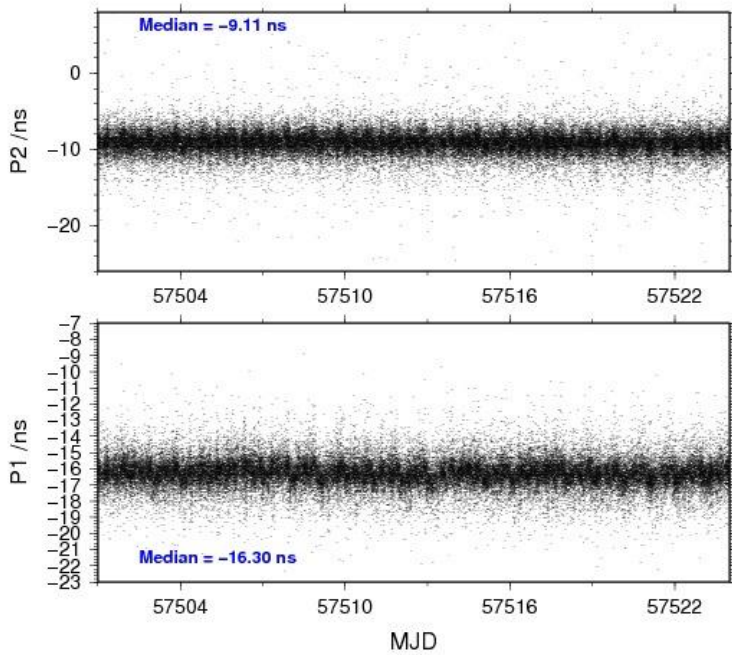
05/20/16 bp1cnc4c16113_24



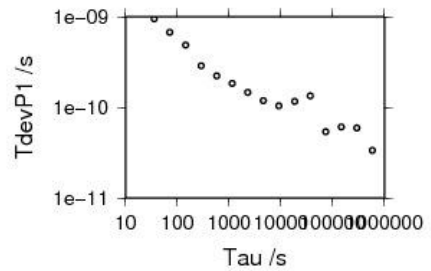
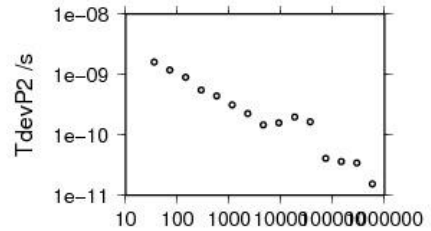
292578 s: C1= 63 ps	486365 s: C2= 22 ps
146289 s: C1= 60 ps	243182 s: C2= 30 ps
73144 s: C1= 51 ps	121591 s: C2= 47 ps
36572 s: C1= 168 ps	60796 s: C2= 76 ps
18286 s: C1= 121 ps	30398 s: C2= 150 ps
9143 s: C1= 108 ps	15199 s: C2= 192 ps
4572 s: C1= 109 ps	7599 s: C2= 124 ps
2286 s: C1= 131 ps	3800 s: C2= 157 ps
1143 s: C1= 162 ps	1900 s: C2= 178 ps
571 s: C1= 198 ps	950 s: C2= 257 ps
286 s: C1= 261 ps	475 s: C2= 328 ps
143 s: C1= 439 ps	237 s: C2= 459 ps
71 s: C1= 627 ps	119 s: C2= 758 ps
36 s: C1= 880 ps	59 s: C2= 997 ps



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293845 s: P1= 59 ps	293967 s: P2= 34 ps
146923 s: P1= 61 ps	146984 s: P2= 37 ps
73461 s: P1= 54 ps	73492 s: P2= 41 ps
36731 s: P1= 134 ps	36746 s: P2= 166 ps
18365 s: P1= 117 ps	18373 s: P2= 198 ps
9183 s: P1= 104 ps	9186 s: P2= 158 ps
4591 s: P1= 118 ps	4593 s: P2= 146 ps
2296 s: P1= 146 ps	2297 s: P2= 227 ps
1148 s: P1= 184 ps	1148 s: P2= 315 ps
574 s: P1= 224 ps	574 s: P2= 442 ps
287 s: P1= 288 ps	287 s: P2= 550 ps
143 s: P1= 486 ps	144 s: P2= 902 ps
72 s: P1= 673 ps	72 s: P2= 1188 ps
36 s: P1= 950 ps	36 s: P2= 1604 ps



1.4/ NIM (16189)Period

MJD 57576 to 57582

Delays

BP0U:

REFDLY = $110.2+52.6 = 162.8$ ns (CLB Pk + 52.6 (cf page 3 & 66))

CABDLY = 181.7 ns (C134 (cf page 3))

BP1C:

 $X_O = 178.65$ ns (cf page 66) $X_P = 110.2+52.6 = 162.8$ ns (CLB Pk + 52.6 (cf page 3 & 66))

REFDLY = 341.45 ns

CABDLY = 235.7 ns (C131 (cf page 3))

IMEJ (IM06):

REFDLY = 122.2 ns (cf page 66)

CABDLY = 248.7 ns (cf page 67)

INT DLY : P1 = -32.0 ns, P2 = -18.8 ns (cf page 67)

IMEU (IM03):

REFDLY = 112.8 ns (cf page 66)

CABDLY = 250.3 ns (cf page 67)

INT DLY : P3 = -45.8 ns (cf page 67)

BJNM (IM05):

REFDLY = 320.0 ns (cf page 66)

CABDLY = 125.0 ns (cf page 67)

INT DLY : P1 = 74.0 ns, P2 = 81.7 ns (cf page 67)

Setup at the NIM**Annex A - Information Sheet**

(to be repeated for each calibrated system)

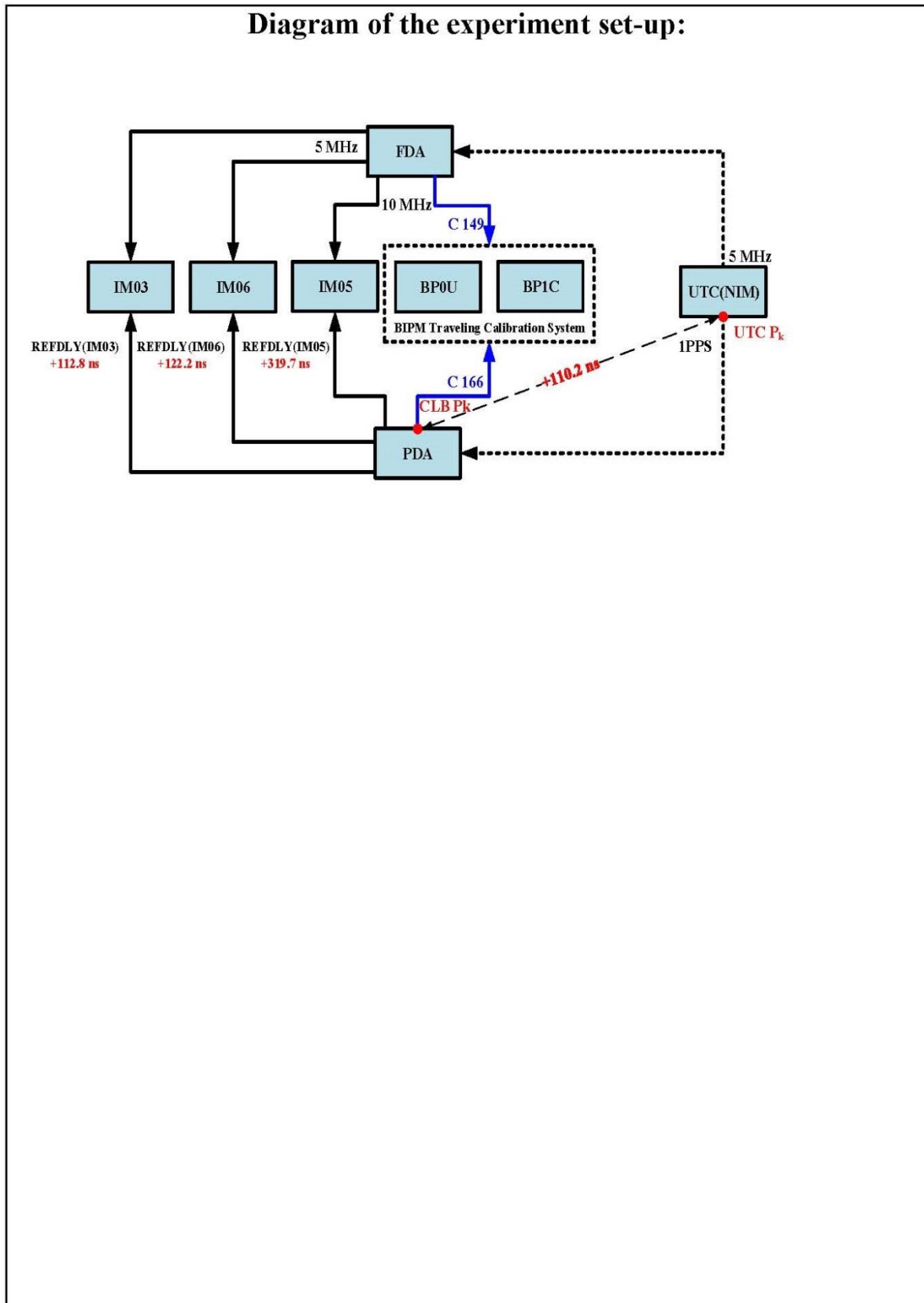
Laboratory:	NIM	
Date and hour of the beginning of measurements:	MJD 57575	
Date and hour of the end of measurements:	MJD 57583	
Information on the system		
	Local:	Travelling:
4-character BIPM code	(1)IM03 (2)IM05 (3)IM06	(1)BP0U (2)BP1C
Receiver maker and type: Receiver serial number:	(1)NIM ,NIMTFGNSS-1; SN:20071107003213/001 (2)Septentrio ,PolarX3eTR; SN:2001087 (3)Dicom ,GTR50 SN:1007011	(1)Dicom ,GTR50; SN:0801068 (2)Septentrio ,PolarX3eTR; SN:2000785
1 PPS trigger level /V:	1	1
Antenna cable maker and type: Phase stabilised cable (Y/N):	(1)JiangXi Linktrend Cable Tech Co., Ltd., 5DFB (2) unknown (3) unknown	
Length outside the building /m:	(1) 10m (2) 10m (3) 10m	(1) 7m (2) 7m
Antenna maker and type: Antenna serial number:	(1)Javad ,JNSMARANT_GGD; SN:0155 (2)NovAtel ,NOV702GG; SN: NAE09190046 (3)NovAtel ,NOV702; SN: NAE10220060	(1)NovAtel ,NOV702; SN:NAE07460010 (2)Ashtech ,ASH701945E_M; SN: cr6200323008
Temperature (if stabilised) /°C		
Measured delays /ns		
	Local:	Travelling:
Delay from local UTC to receiver 1 PPS-in:	(1)120.4 (2)124.2 (3)122.2	110.2
Delay from 1 PPS-in to internal Reference (if different):	(1)-7.6 (2)195.5	(2)178.6(before calibration) /178.7(after calibration)

Antenna cable delay:	(1)250.3 (2)125.0 (3)248.7	
Splitter delay (if any):		
Additional cable delay (if any):		
Data used for the generation of CGGTTS files (IM03)		
INT DLY (GPS) /ns:	-45.8	
INT DLY (GLONASS) /ns:		
CAB DLY /ns:	250.3	
REF DLY /ns:	112.8	
Coordinates reference frame:	ITRF Dx = 0.0 m, Dy = 0.0 m, Dz = 0.0 m, ds = 0.0, Rx = 0.0, Ry = 0.0, Rz = 0.000000	
Latitude or X /m:	-2154288.619	
Longitude or Y /m:	+4373441.259	
Height or Z /m:	+4098883.749	
Data used for the generation of CGGTTS files (IM05)		
INT DLY (GPS) /ns:	74.0 (GPS P1), 81.7 (GPS P2)	
INT DLY (GLONASS) /ns:		
CAB DLY /ns:	125.0	
REF DLY /ns:	320.0	
Coordinates reference frame:	ITRF Dx = 0.0 m, Dy = 0.0 m, Dz = 0.0 m, ds = 0.0, Rx = 0.0, Ry = 0.0, Rz = 0.000000	
Latitude or X /m:	-2154287.41	
Longitude or Y /m:	+4373440.05	
Height or Z /m:	+4098885.63	
Data used for the generation of CGGTTS files (IM06)		
INT DLY (GPS) /ns:	-32.0 ns (GPS P1), -18.8 ns (GPS P2)	
INT DLY (GLONASS) /ns:		
CAB DLY /ns:	248.7	
REF DLY /ns:	122.2	
Coordinates reference frame:	ITRF Dx = 0.0 m, Dy = 0.0 m, Dz = 0.0 m, ds = 0.0, Rx = 0.0, Ry = 0.0, Rz = 0.000000	
Latitude or X /m:	-2154288.06	
Longitude or Y /m:	+4373440.56	
Height or Z /m:	+4098884.94	
Data used for the generation of CGGTTS files (BP0U)		
INT DLY (GPS) /ns:	0.0	
INT DLY (GLONASS) /ns:		

CAB DLY /ns:	0.0
REF DLY /ns:	0.0
Coordinates reference frame:	ITRF Dx = 0.0 m, Dy = 0.0 m, Dz = 0.0 m, ds = 0.0, Rx = 0.0, Ry = 0.0, Rz = 0.000000
Latitude or X /m:	-2154285.59
Longitude or Y /m:	+4373441.39
Height or Z /m:	+4098885.38
Data used for the generation of CGGTTS files (BP1C)	
INT DLY (GPS) /ns:	0.0
INT DLY (GLONASS) /ns:	
CAB DLY /ns:	0.0
REF DLY /ns:	0.0
Coordinates reference frame:	ITRF Dx = 0.0 m, Dy = 0.0 m, Dz = 0.0 m, ds = 0.0, Rx = 0.0, Ry = 0.0, Rz = 0.000000
Latitude or X /m:	-2154285.12
Longitude or Y /m:	+4373441.55
Height or Z /m:	+4098885.27
General information	
Rise time of the local UTC pulse	4.5ns
Is the laboratory air conditioned	Yes
Set temperature value and uncertainty:	23.5°C ± 0.5°C
Set humidity value and uncertainty:	45% ± 2%

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Diagram of the experiment set-up:



BPOU-IEMJ

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 107392
 Computed code bias (P1/P2)/m = -35.398 -33.792
 Computed baseline (X,Y,Z)/m = -2.506 -0.941 -0.543
 RMS of residuals /m = 0.493

Number of phase differences to fit baseline = 100191
 A priori baseline (X,Y,Z)/m = -2.506 -0.941 -0.543
 19771 clock jitters computed out of 19870 intervals
 AVE jitter /ps = -0.0 RMS jitter /ps = 37.3

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = -0.051 0.125 0.094
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.043 0.109 0.078
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -2.556 -0.816 -0.448
 Final baseline L2 (X,Y,Z)/m = -2.548 -0.832 -0.464

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 107408

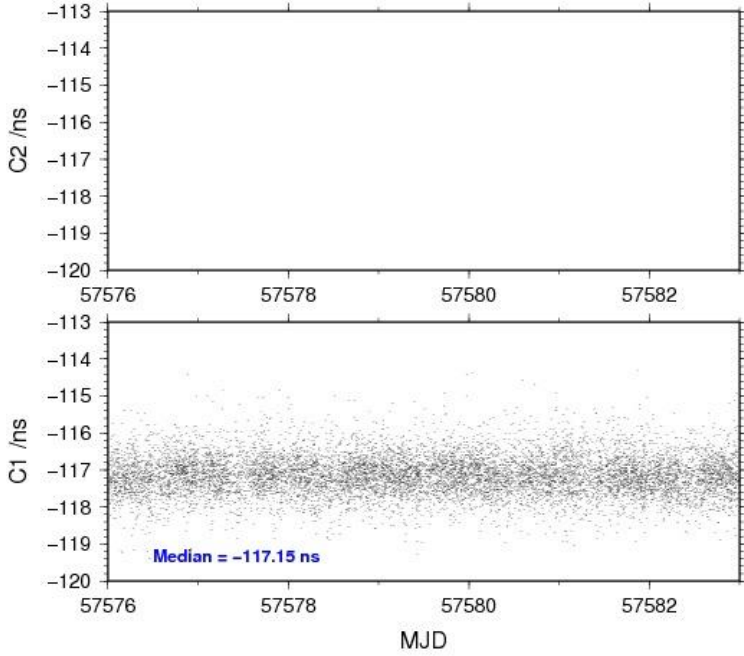
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 107367 -117.137 1.092
 C2: 0 NaN NaN
 P1: 107351 -118.464 1.547
 P2: 107351 -113.051 1.886

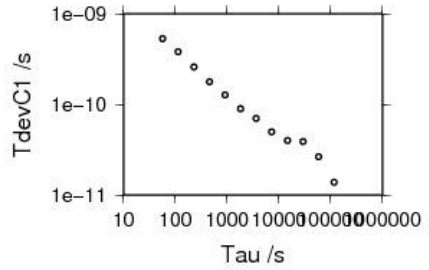
Number of 300s epochs in out file = 2016

Code #pts, median/ns, ave/ns, rms/ns
 C1: 10625 -117.152 -117.140 0.530
 C2: 0 0.000 NaN NaN
 P1: 10622 -118.504 -118.482 0.740
 P2: 10622 -113.077 -113.058 0.990

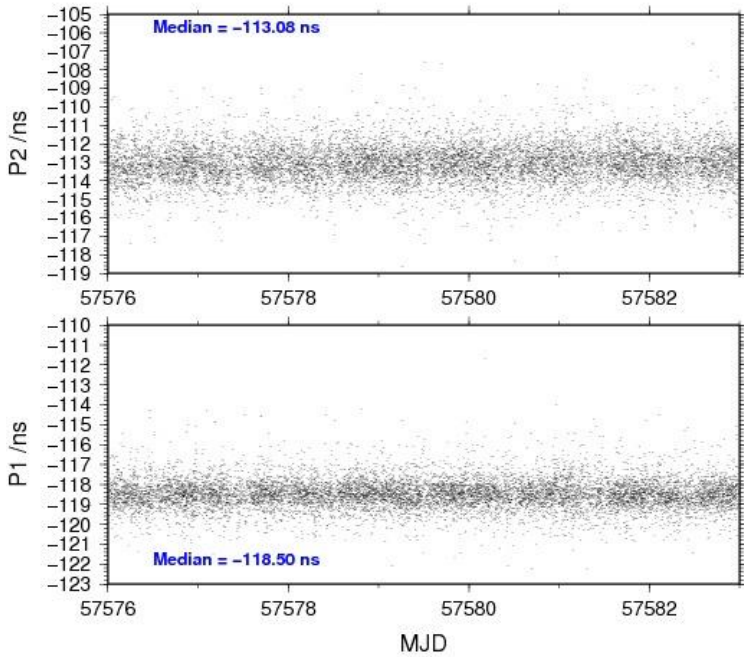
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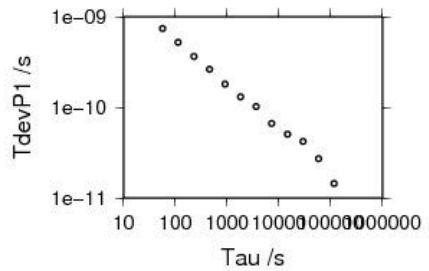
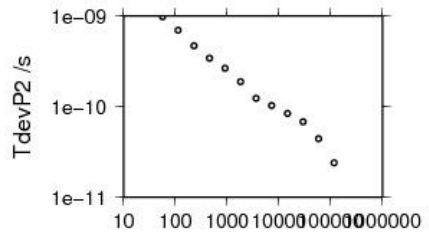
- 116530 s: C1= 14 ps
- 58265 s: C1= 27 ps
- 29133 s: C1= 39 ps
- 14566 s: C1= 40 ps
- 7283 s: C1= 50 ps
- 3642 s: C1= 70 ps
- 1821 s: C1= 90 ps
- 910 s: C1= 127 ps
- 455 s: C1= 177 ps
- 228 s: C1= 260 ps
- 114 s: C1= 380 ps
- 57 s: C1= 530 ps



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|---------------------|---------------------|
| 116563 s: P1= 14 ps | 116563 s: P2= 24 ps |
| 58282 s: P1= 27 ps | 58282 s: P2= 45 ps |
| 29141 s: P1= 42 ps | 29141 s: P2= 68 ps |
| 14570 s: P1= 51 ps | 14570 s: P2= 84 ps |
| 7285 s: P1= 66 ps | 7285 s: P2= 103 ps |
| 3643 s: P1= 102 ps | 3643 s: P2= 125 ps |
| 1821 s: P1= 131 ps | 1821 s: P2= 189 ps |
| 911 s: P1= 181 ps | 911 s: P2= 267 ps |
| 455 s: P1= 264 ps | 455 s: P2= 343 ps |
| 228 s: P1= 366 ps | 228 s: P2= 469 ps |
| 114 s: P1= 521 ps | 114 s: P2= 699 ps |
| 57 s: P1= 741 ps | 57 s: P2= 986 ps |



BP1C-IEMJ

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 147393
 Computed code bias (P1/P2)/m = -17.581 -15.963
 Computed baseline (X,Y,Z)/m = -3.001 -0.984 -0.416
 RMS of residuals /m = 0.495

Number of phase differences to fit baseline = 145710
 A priori baseline (X,Y,Z)/m = -3.001 -0.984 -0.416
 20100 clock jitters computed out of 20111 intervals
 AVE jitter /ps = 0.0 RMS jitter /ps = 29.9

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = 0.028 -0.075 0.004
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.039 -0.093 -0.011
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -2.974 -1.058 -0.412
 Final baseline L2 (X,Y,Z)/m = -2.963 -1.076 -0.426

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 148127

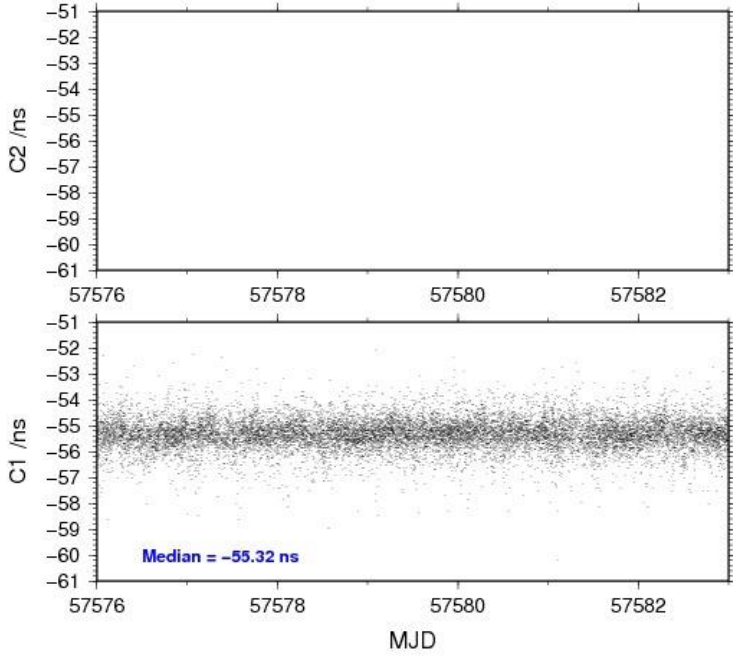
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 148046 -55.314 1.167
 C2: 0 NaN NaN
 P1: 147291 -58.539 1.564
 P2: 147290 -53.087 1.912

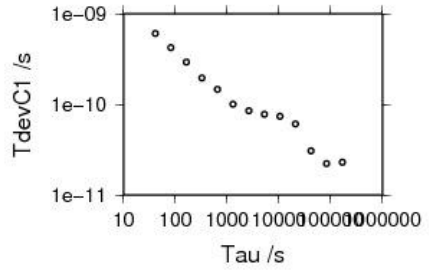
Number of 300s epochs in out file = 2016

Code #pts, median/ns, ave/ns, rms/ns
 C1: 14799 -55.317 -55.321 0.601
 C2: 0 0.000 NaN NaN
 P1: 14723 -58.539 -58.557 0.764
 P2: 14723 -53.049 -53.101 1.060

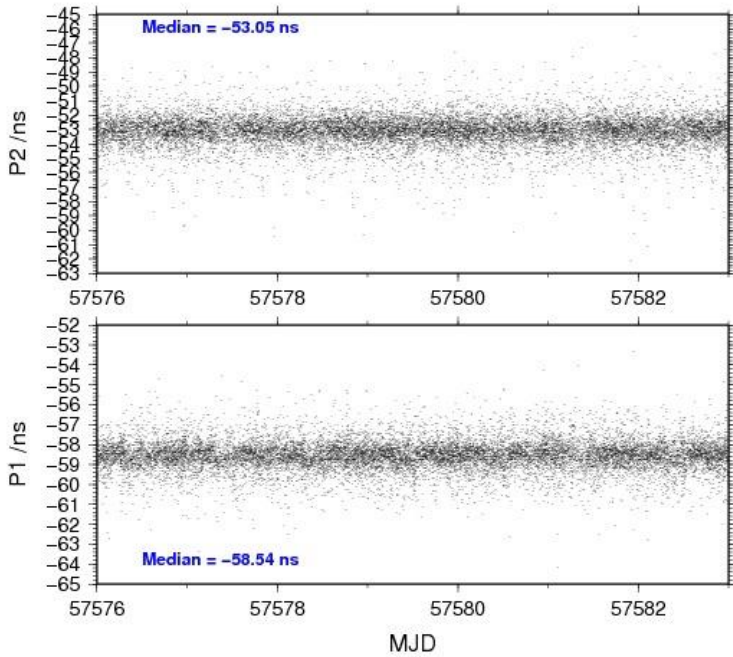
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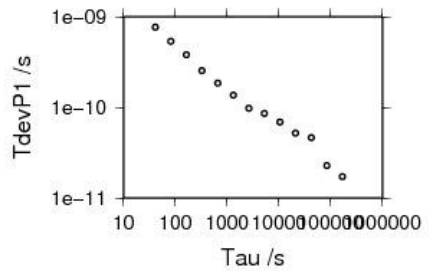
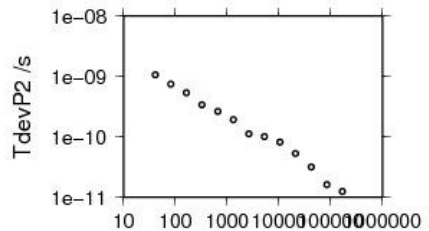
- 167322 s: C1= 23 ps
- 83661 s: C1= 22 ps
- 41831 s: C1= 31 ps
- 20915 s: C1= 61 ps
- 10458 s: C1= 74 ps
- 5229 s: C1= 78 ps
- 2614 s: C1= 85 ps
- 1307 s: C1= 100 ps
- 654 s: C1= 147 ps
- 327 s: C1= 195 ps
- 163 s: C1= 293 ps
- 82 s: C1= 422 ps
- 41 s: C1= 604 ps



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|---------------------|---------------------|
| 168186 s: P1= 17 ps | 168186 s: P2= 13 ps |
| 84093 s: P1= 23 ps | 84093 s: P2= 16 ps |
| 42046 s: P1= 47 ps | 42046 s: P2= 32 ps |
| 21023 s: P1= 52 ps | 21023 s: P2= 53 ps |
| 10512 s: P1= 69 ps | 10512 s: P2= 82 ps |
| 5256 s: P1= 86 ps | 5256 s: P2= 101 ps |
| 2628 s: P1= 97 ps | 2628 s: P2= 113 ps |
| 1314 s: P1= 137 ps | 1314 s: P2= 193 ps |
| 657 s: P1= 186 ps | 657 s: P2= 266 ps |
| 328 s: P1= 255 ps | 328 s: P2= 341 ps |
| 164 s: P1= 381 ps | 164 s: P2= 539 ps |
| 82 s: P1= 538 ps | 82 s: P2= 751 ps |
| 41 s: P1= 768 ps | 41 s: P2= 1068 ps |



BPOU-IEMU

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 97195
 Computed code bias (P1/P2)/m = -68.259 -70.465
 Computed baseline (X,Y,Z)/m = -3.162 -0.131 -1.546
 RMS of residuals /m = 0.535

Number of phase differences to fit baseline = 92408
 A priori baseline (X,Y,Z)/m = -3.162 -0.131 -1.546
 17953 clock jitters computed out of 17970 intervals
 AVE jitter /ps = -0.3 RMS jitter /ps = 31.9

Iter 1 Large residuals L1= 1
 Iter 1 Large residuals L2= 1
 Computed baseline L1 (X,Y,Z)/m = -0.016 0.082 0.004
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.010 0.064 -0.013
 RMS of residuals L2 /m = 0.002

Iter 2 Large residuals L1= 1
 Iter 2 Large residuals L2= 1
 Computed baseline L1 (X,Y,Z)/m = -0.016 0.082 0.004
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.010 0.064 -0.013
 RMS of residuals L2 /m = 0.002

Final baseline L1 (X,Y,Z)/m = -3.178 -0.049 -1.542
 Final baseline L2 (X,Y,Z)/m = -3.172 -0.067 -1.559

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 97207

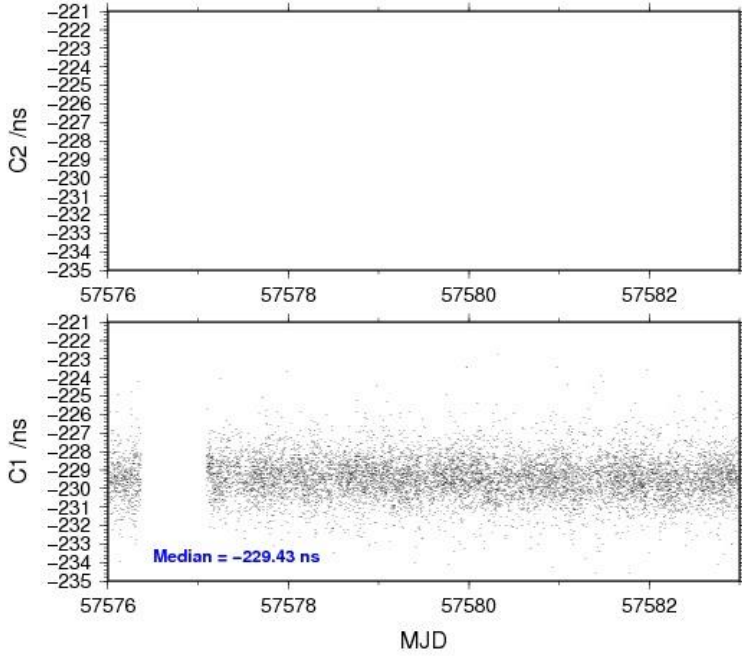
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 97166 -229.394 2.284
 C2: 0 NaN NaN
 P1: 97154 -227.835 1.766
 P2: 97154 -235.132 1.973

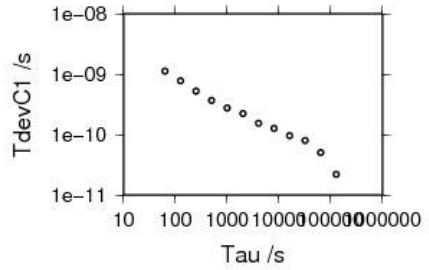
Number of 300s epochs in out file = 1808

Code #pts, median/ns, ave/ns, rms/ns
 C1: 9621 -229.426 -229.424 1.110
 C2: 0 0.000 NaN NaN
 P1: 9618 -227.888 -227.860 0.947
 P2: 9618 -235.142 -235.138 1.179

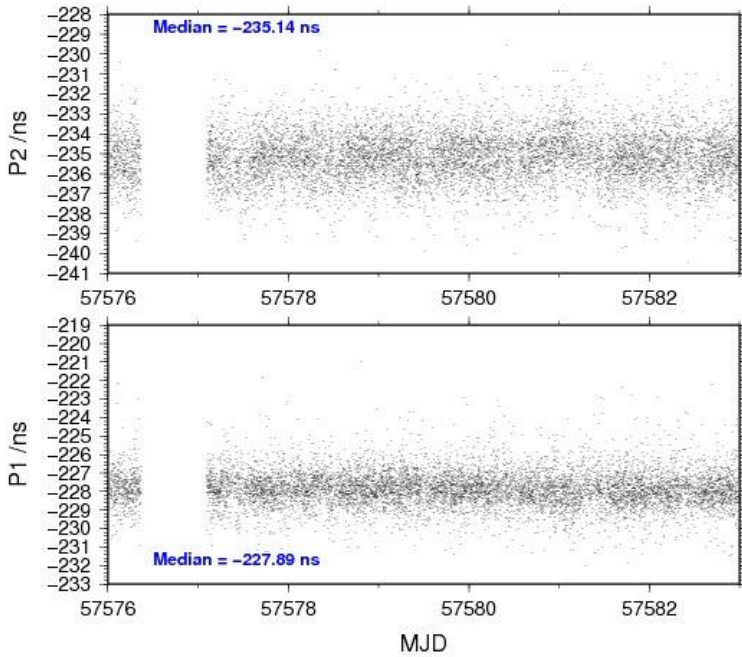
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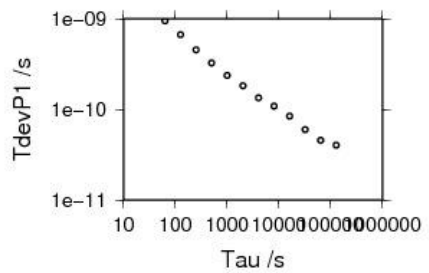
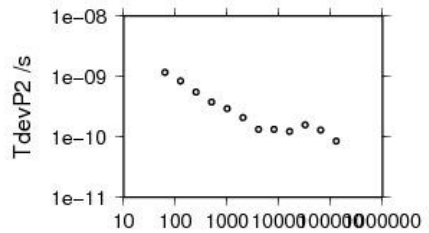
- 128692 s: C1= 22 ps
- 64346 s: C1= 50 ps
- 32173 s: C1= 80 ps
- 16086 s: C1= 96 ps
- 8043 s: C1= 127 ps
- 4022 s: C1= 154 ps
- 2011 s: C1= 223 ps
- 1005 s: C1= 275 ps
- 503 s: C1= 369 ps
- 251 s: C1= 524 ps
- 126 s: C1= 778 ps
- 63 s: C1= 1127 ps



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|---------------------|---------------------|
| 128732 s: P1= 40 ps | 128732 s: P2= 86 ps |
| 64366 s: P1= 45 ps | 64366 s: P2= 131 ps |
| 32183 s: P1= 60 ps | 32183 s: P2= 159 ps |
| 16092 s: P1= 84 ps | 16092 s: P2= 124 ps |
| 8046 s: P1= 109 ps | 8046 s: P2= 133 ps |
| 4023 s: P1= 134 ps | 4023 s: P2= 134 ps |
| 2011 s: P1= 183 ps | 2011 s: P2= 208 ps |
| 1006 s: P1= 237 ps | 1006 s: P2= 295 ps |
| 503 s: P1= 325 ps | 503 s: P2= 379 ps |
| 251 s: P1= 454 ps | 251 s: P2= 550 ps |
| 126 s: P1= 668 ps | 126 s: P2= 844 ps |
| 63 s: P1= 947 ps | 63 s: P2= 1174 ps |



BP1C-IEMU

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 123747
 Computed code bias (P1/P2)/m = -50.397 -52.603
 Computed baseline (X,Y,Z)/m = -3.651 -0.202 -1.463
 RMS of residuals /m = 0.494

Number of phase differences to fit baseline = 123202
 A priori baseline (X,Y,Z)/m = -3.651 -0.202 -1.463
 18056 clock jitters computed out of 18056 intervals
 AVE jitter /ps = -0.1 RMS jitter /ps = 5.2

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = 0.063 -0.087 -0.043
 RMS of residuals L1 /m = 0.002
 Computed baseline L2 (X,Y,Z)/m = 0.068 -0.105 -0.060
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -3.589 -0.288 -1.506
 Final baseline L2 (X,Y,Z)/m = -3.584 -0.307 -1.523

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 123873

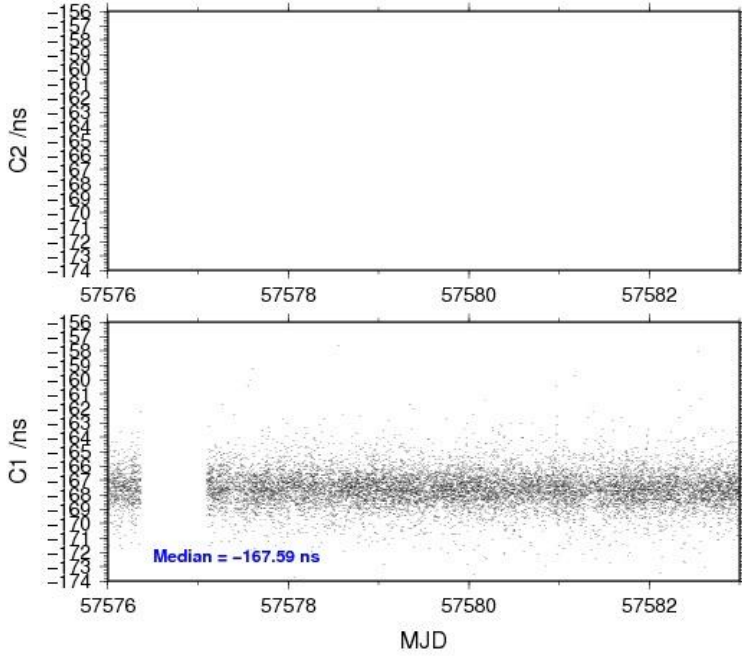
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 123794 -167.545 2.441
 C2: 0 NaN NaN
 P1: 123656 -167.895 1.681
 P2: 123655 -175.197 1.771

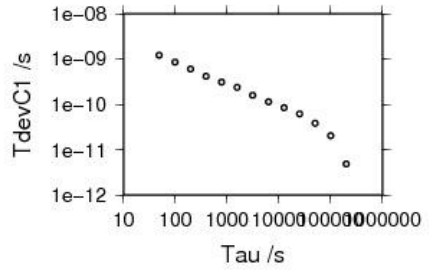
Number of 300s epochs in out file = 1808

Code #pts, median/ns, ave/ns, rms/ns
 C1: 12357 -167.590 -167.578 1.221
 C2: 0 0.000 NaN NaN
 P1: 12347 -167.919 -167.917 0.968
 P2: 12346 -175.137 -175.206 1.087

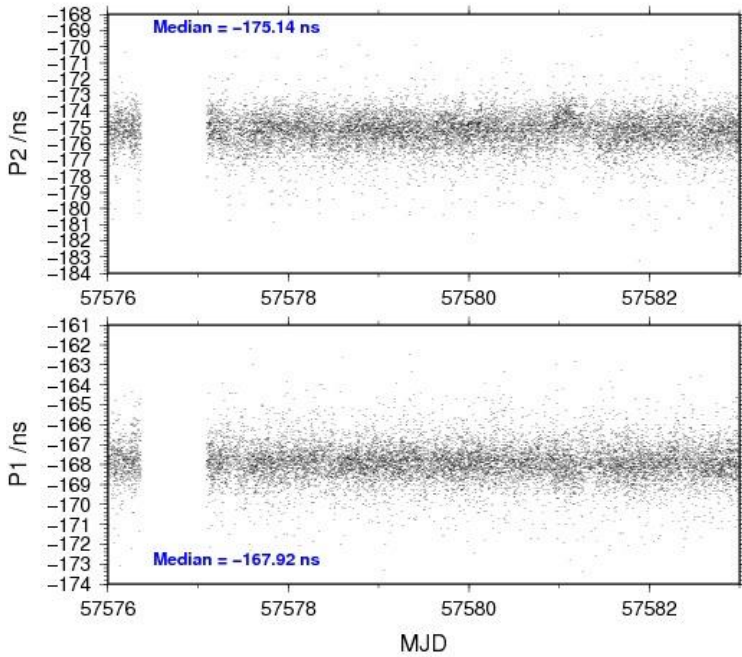
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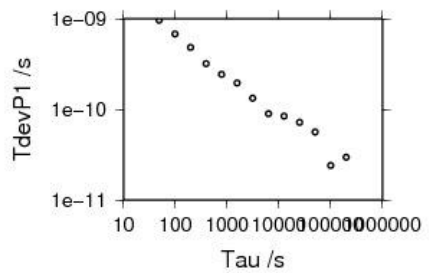
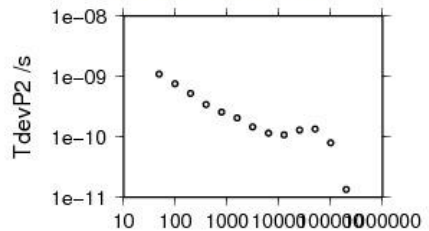
- 200391 s: C1= 5 ps
- 100196 s: C1= 20 ps
- 50098 s: C1= 39 ps
- 25049 s: C1= 62 ps
- 12524 s: C1= 85 ps
- 6262 s: C1= 115 ps
- 3131 s: C1= 159 ps
- 1566 s: C1= 238 ps
- 783 s: C1= 309 ps
- 391 s: C1= 416 ps
- 196 s: C1= 607 ps
- 98 s: C1= 861 ps
- 49 s: C1= 1222 ps



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- 200553 s: P1= 30 ps
- 100277 s: P1= 24 ps
- 50138 s: P1= 56 ps
- 25069 s: P1= 72 ps
- 12535 s: P1= 85 ps
- 6267 s: P1= 90 ps
- 3134 s: P1= 133 ps
- 1567 s: P1= 196 ps
- 783 s: P1= 244 ps
- 392 s: P1= 319 ps
- 196 s: P1= 484 ps
- 98 s: P1= 679 ps
- 49 s: P1= 968 ps
- 200570 s: P2= 14 ps
- 100285 s: P2= 79 ps
- 50142 s: P2= 135 ps
- 25071 s: P2= 130 ps
- 12536 s: P2= 108 ps
- 6268 s: P2= 116 ps
- 3134 s: P2= 146 ps
- 1567 s: P2= 206 ps
- 783 s: P2= 259 ps
- 392 s: P2= 345 ps
- 196 s: P2= 525 ps
- 98 s: P2= 763 ps
- 49 s: P2= 1093 ps



BP0U-BJNM

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 106473
 Computed code bias (P1/P2)/m = 0.550 -0.052
 Computed baseline (X,Y,Z)/m = -2.114 -1.402 0.276
 RMS of residuals /m = 0.471

Number of phase differences to fit baseline = 101084
 A priori baseline (X,Y,Z)/m = -2.114 -1.402 0.276
 20013 clock jitters computed out of 20038 intervals
 AVE jitter /ps = -0.2 RMS jitter /ps = 31.6

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = -0.020 0.082 0.041
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.011 0.069 0.025
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -2.134 -1.320 0.317
 Final baseline L2 (X,Y,Z)/m = -2.125 -1.333 0.302

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 106485

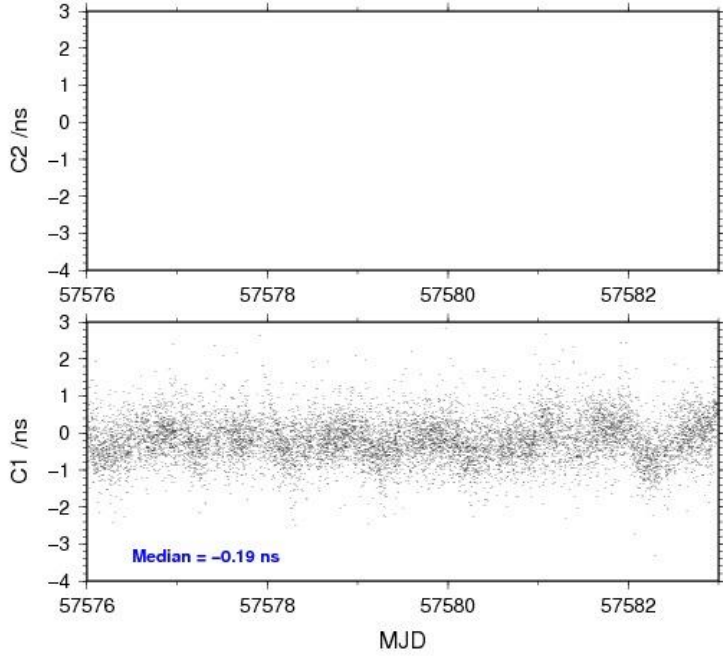
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 106444 -0.175 1.135
 C2: 0 NaN NaN
 P1: 106432 1.628 1.394
 P2: 106432 -0.326 1.816

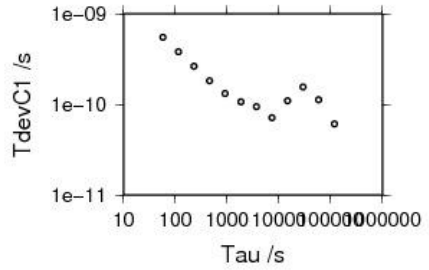
Number of 300s epochs in out file = 2016

Code #pts, median/ns, ave/ns, rms/ns
 C1: 10537 -0.192 -0.179 0.583
 C2: 0 0.000 NaN NaN
 P1: 10534 1.597 1.621 0.668
 P2: 10534 -0.329 -0.332 0.958

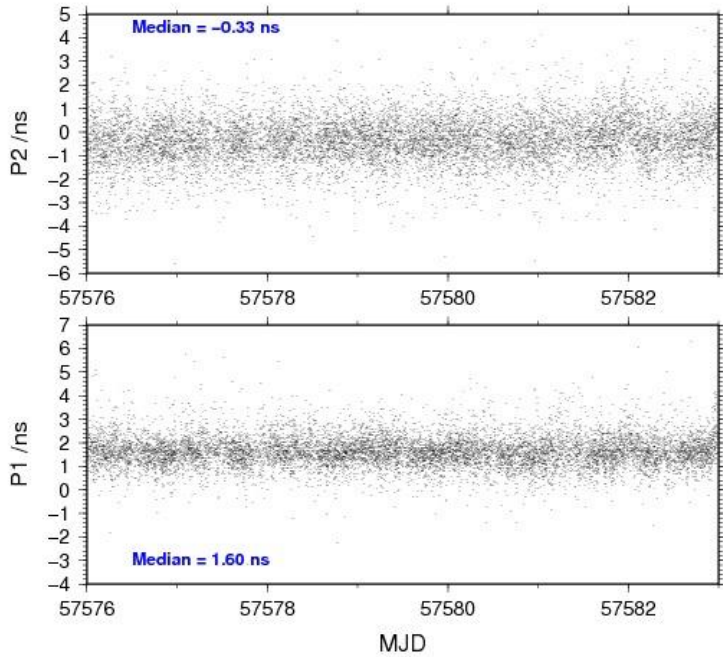
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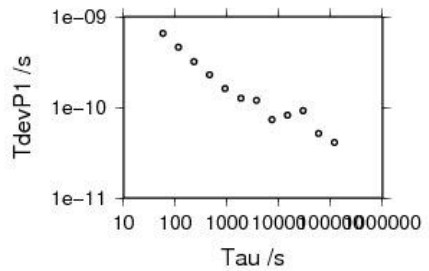
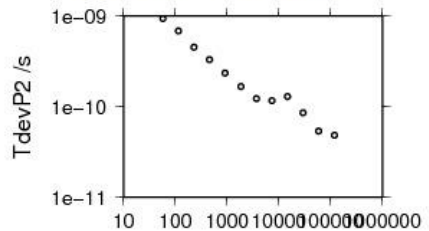
- 117503 s: C1= 61 ps
- 58752 s: C1= 113 ps
- 29376 s: C1= 155 ps
- 14688 s: C1= 109 ps
- 7344 s: C1= 71 ps
- 3672 s: C1= 94 ps
- 1836 s: C1= 107 ps
- 918 s: C1= 132 ps
- 459 s: C1= 182 ps
- 230 s: C1= 263 ps
- 115 s: C1= 380 ps
- 57 s: C1= 553 ps



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|---------------------|---------------------|
| 117537 s: P1= 41 ps | 117537 s: P2= 49 ps |
| 58768 s: P1= 52 ps | 58768 s: P2= 54 ps |
| 29384 s: P1= 92 ps | 29384 s: P2= 86 ps |
| 14692 s: P1= 62 ps | 14692 s: P2= 130 ps |
| 7346 s: P1= 73 ps | 7346 s: P2= 117 ps |
| 3673 s: P1= 120 ps | 3673 s: P2= 123 ps |
| 1837 s: P1= 126 ps | 1837 s: P2= 167 ps |
| 918 s: P1= 162 ps | 918 s: P2= 234 ps |
| 459 s: P1= 229 ps | 459 s: P2= 331 ps |
| 230 s: P1= 319 ps | 230 s: P2= 453 ps |
| 115 s: P1= 461 ps | 115 s: P2= 683 ps |
| 57 s: P1= 658 ps | 57 s: P2= 939 ps |



BP1C-BJNM

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 165366
 Computed code bias (P1/P2)/m = 18.393 17.802
 Computed baseline (X,Y,Z)/m = -2.569 -1.485 0.419
 RMS of residuals /m = 0.454

Number of phase differences to fit baseline = 163883
 A priori baseline (X,Y,Z)/m = -2.569 -1.485 0.419
 20118 clock jitters computed out of 20118 intervals
 AVE jitter /ps = 0.0 RMS jitter /ps = 5.0

Iter 1 Large residuals L1= 1
 Iter 1 Large residuals L2= 2
 Computed baseline L1 (X,Y,Z)/m = 0.030 -0.078 -0.066
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.039 -0.095 -0.080
 RMS of residuals L2 /m = 0.005

Iter 2 Large residuals L1= 1
 Iter 2 Large residuals L2= 2
 Computed baseline L1 (X,Y,Z)/m = 0.030 -0.078 -0.066
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.039 -0.095 -0.080
 RMS of residuals L2 /m = 0.005

Final baseline L1 (X,Y,Z)/m = -2.539 -1.563 0.353
 Final baseline L2 (X,Y,Z)/m = -2.530 -1.580 0.339

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 166108

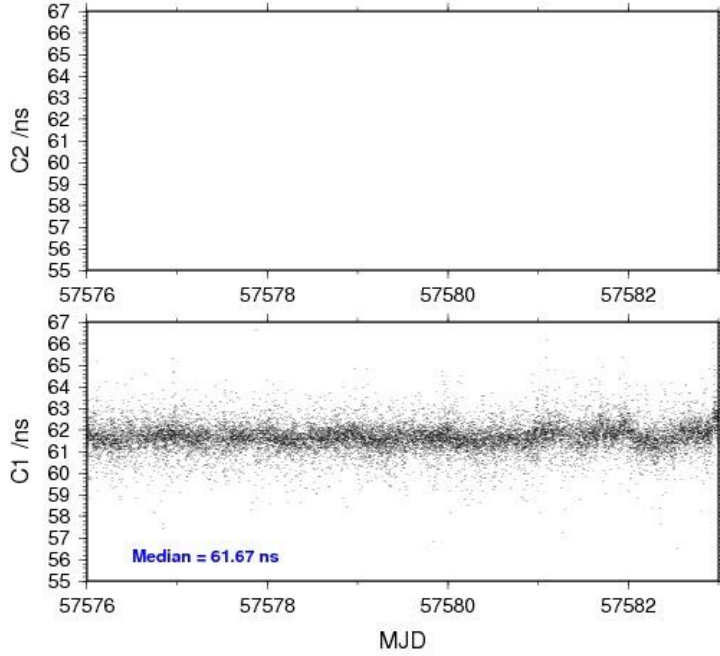
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 166012 61.665 1.357
 C2: 0 NaN NaN
 P1: 165220 61.577 1.397
 P2: 165137 59.645 1.870

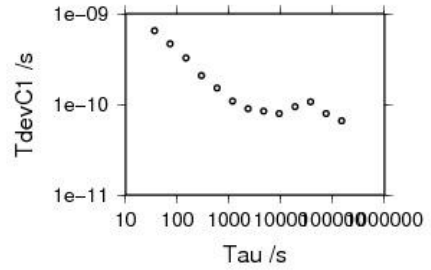
Number of 300s epochs in out file = 2016

Code #pts, median/ns, ave/ns, rms/ns
 C1: 16593 61.666 61.660 0.670
 C2: 0 0.000 NaN NaN
 P1: 16519 61.575 61.574 0.717
 P2: 16511 59.691 59.637 1.354

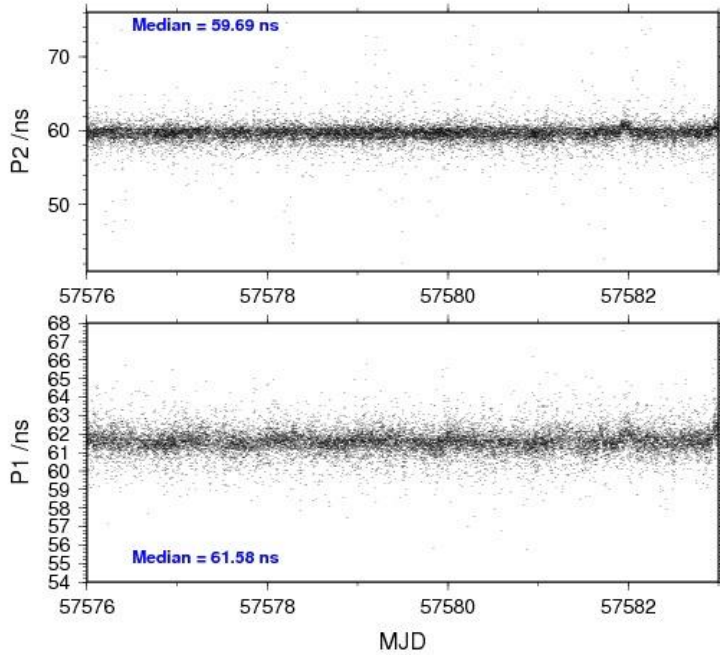
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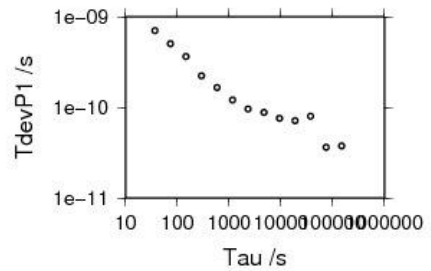
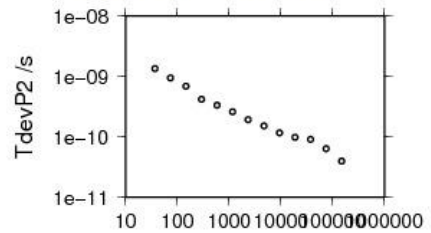
- 149230 s: C1= 66 ps
- 74615 s: C1= 79 ps
- 37308 s: C1= 107 ps
- 18654 s: C1= 95 ps
- 9327 s: C1= 80 ps
- 4663 s: C1= 84 ps
- 2332 s: C1= 90 ps
- 1166 s: C1= 109 ps
- 583 s: C1= 152 ps
- 291 s: C1= 207 ps
- 146 s: C1= 326 ps
- 73 s: C1= 465 ps
- 36 s: C1= 648 ps



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- | | |
|---------------------|---------------------|
| 149899 s: P1= 38 ps | 149972 s: P2= 40 ps |
| 74950 s: P1= 36 ps | 74966 s: P2= 64 ps |
| 37475 s: P1= 80 ps | 37493 s: P2= 91 ps |
| 18737 s: P1= 72 ps | 18746 s: P2= 99 ps |
| 9369 s: P1= 76 ps | 9373 s: P2= 117 ps |
| 4684 s: P1= 88 ps | 4687 s: P2= 152 ps |
| 2342 s: P1= 96 ps | 2343 s: P2= 193 ps |
| 1171 s: P1= 120 ps | 1172 s: P2= 262 ps |
| 586 s: P1= 166 ps | 586 s: P2= 336 ps |
| 293 s: P1= 223 ps | 293 s: P2= 418 ps |
| 146 s: P1= 364 ps | 146 s: P2= 690 ps |
| 73 s: P1= 505 ps | 73 s: P2= 954 ps |
| 37 s: P1= 706 ps | 37 s: P2= 1347 ps |



1.5/ NTSC (16202)Period

MJD 57589 to 57600

Delays

BP0U:

REFDLY = $43.9+52.6 = 96.5$ ns (CLB Pk + 52.6 (cf page 3 & 83))
 CABDLY = 181.7 ns (C134 (cf page 3))

BP1C:

$X_O = 206.7$ ns (cf page 84)
 $X_P = 43.9+52.6 = 96.5$ ns (CLB Pk + 52.6 (cf page 3 & 84))
 REFDLY = 303.2 ns
 CABDLY = 235.7 ns (C131 (cf page 3))

NTP1:

REFDLY = $224.5+149.3 = 373.8$ ns (from "Measured delays" page 83)
 CABDLY = 209.0 ns (from "Measured delays" page 83)
 INT DLY : P1 = -132.9 ns, P2 = -132.9 ns (from "CGGTTS" page 83)

NTP2:

REFDLY = $234.4+143.6 = 378.0$ ns (from "Measured delays" page 85)
 CABDLY = 221.0 ns (from "Measured delays" page 85)
 INT DLY : P1 = -123.2 ns, P2 = -123.2 ns (from "CGGTTS" page 85)

NTP3:

REFDLY = $57.9+134.7 = 192.6$ ns (from "Measured delays" page 86)
 CABDLY = 198.0 ns (from "Measured delays" page 86)
 INT DLY : P1 = 0.0 ns, P2 = 0.0 ns (from "CGGTTS" page 86)

Setup at the NTSC

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	NTSC	
Date and hour of the beginning of measurements:	20 July 2016 (MJD=57589).	
Date and hour of the end of measurements:		
Information on the system		
	Local:	Travelling:
4-character BIPM code	NTP1	BP0U
• Receiver maker and type:	SEPT POLARX4TR	GTR50
Receiver serial number:	3002043	0801068
1 PPS trigger level /V:	1	1
• Antenna cable maker and type:	-	-
Phase stabilised cable (Y/N):	-	-
Length outside the building /m:	About 20m	About 20m
• Antenna maker and type:	SEPCHOKE_MC	Novatel GPS-702
Antenna serial number:	5312	NAE07460010
Temperature (if stabilised) /°C	23 ± 0.5°C	23 ± 0.5°C
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	224.5	43.9(UTC P _k to CLB P _k)
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	149.3	-
• Antenna cable delay:	209	(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:	-132.9(before calibration)	
• INT DLY (GLONASS) /ns:	-	
• CAB DLY /ns:	209.4(before calibration)	
• REF DLY /ns:	208.5(before calibration)	
• Coordinates reference frame:	ITRF 2008	
Latitude or X /m:	-1735233.40	
Longitude or Y /m:	+4976844.43	
Height or Z /m:	+3580530.51	
General information		
• Rise time of the local UTC pulse:	3.2ns	
• Is the laboratory air conditioned:	yes	
Set temperature value and uncertainty:	23 ± 0.5°C	
Set humidity value and uncertainty:	55% ± 3%	

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	NTSC	
Date and hour of the beginning of measurements:	20 July 2016 (MJD=57589).	
Date and hour of the end of measurements:		
Information on the system		
	Local:	Travelling:
4-character BIPM code	NTP1	BP1C
• Receiver maker and type:	SEPT POLARX4TR	SEPT POLARX3ETR
Receiver serial number:	3002043	2000785
1 PPS trigger level /V:	1	1
• Antenna cable maker and type:	-	-
Phase stabilised cable (Y/N):	-	-
Length outside the building /m:	About 20m	About 20m
• Antenna maker and type:	SEPCHOKE_MC	ASH701945E_M
Antenna serial number:	5312	cr6200323008
Temperature (if stabilised) /°C	23 ± 0.5°C	23 ± 0.5°C
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	224.5	43.9ns (UTC P _k to CLB P _k)
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	149.3	206.7
• Antenna cable delay:	209	(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:	-132.9(before calibration)	
• INT DLY (GLONASS) /ns:	-	
• CAB DLY /ns:	209.4(before calibration)	
• REF DLY /ns:	208.5(before calibration)	
• Coordinates reference frame:	ITRF 2008	
Latitude or X /m:	-1735233.40	
Longitude or Y /m:	+4976844.43	
Height or Z /m:	+3580530.51	
General information		
• Rise time of the local UTC pulse:	3.2ns	
• Is the laboratory air conditioned:	yes	
Set temperature value and uncertainty:	23 ± 0.5°C	
Set humidity value and uncertainty:	55% ± 3%	

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	NTSC	
Date and hour of the beginning of measurements:	20 July 2016 (MJD=57589).	
Date and hour of the end of measurements:		
Information on the system		
	Local:	Travelling:
4-character BIPM code	NTP2	BP1C
• Receiver maker and type:	SEPT POLARX4TR	SEPT POLARX3ETR
Receiver serial number:	3002046	2000785
1 PPS trigger level /V:	1	1
• Antenna cable maker and type:	-	-
Phase stabilised cable (Y/N):	-	-
Length outside the building /m:	About 20m	About 20m
• Antenna maker and type:	SEPCHOKE_MC	ASH701945E_M
Antenna serial number:	5312	cr6200323008
Temperature (if stabilised) /°C	23 ± 0.5°C	23 ± 0.5°C
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	234.4	43.9(UTC P _k to CLB P _k)
Delay from 1 PPS-in to internal Reference (if different): (see section 2 for details)	143.6	206.7
• Antenna cable delay:	221	(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS)/ns:	-123.2 (before calibration)	
• INT DLY (GLONASS)/ns:	-	
• CAB DLY /ns:	217.0 (before calibration)	
• REF DLY /ns:	207.8 (before calibration)	
• Coordinates reference frame:	ITRF 2008	
Latitude or X /m:	-1735233.40	
Longitude or Y /m:	+4976844.43	
Height or Z /m:	+3580530.51	
General information		
• Rise time of the local UTC pulse:	3.2ns	
• Is the laboratory air conditioned:	yes	
Set temperature value and uncertainty:	23 ± 0.5°C	
Set humidity value and uncertainty:	55% ± 3%	

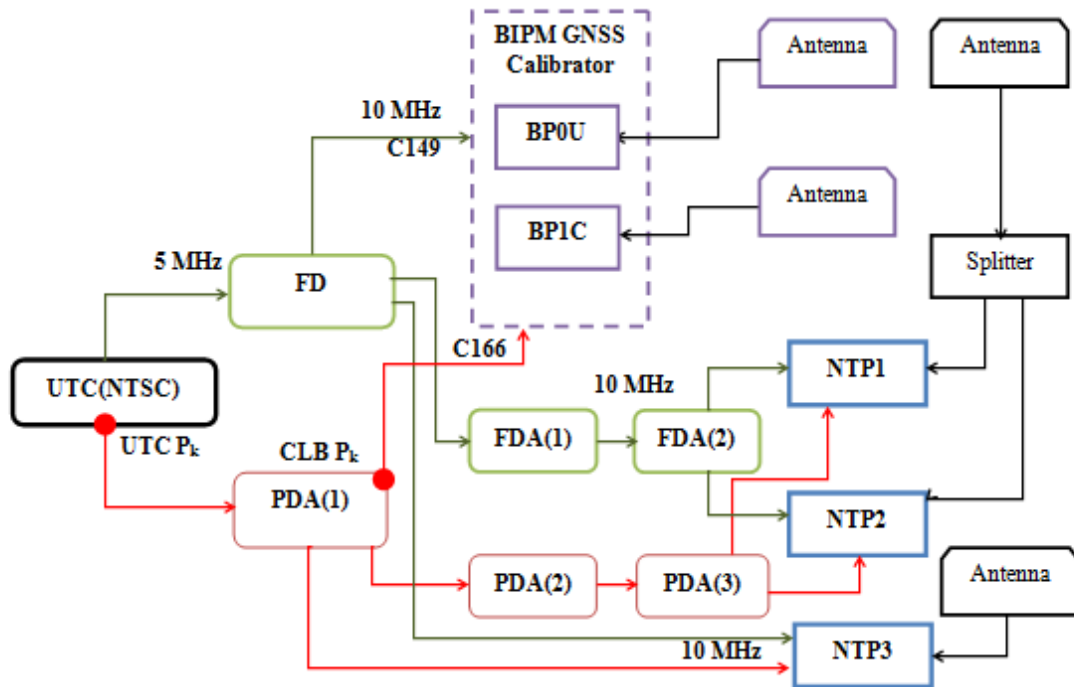
(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	NTSC	
Date and hour of the beginning of measurements:	20 July 2016 (MJD=57589).	
Date and hour of the end of measurements:		
Information on the system		
	Local:	Travelling:
4-character BIPM code	NTP3	BP1C
• Receiver maker and type:	SEPT POLARX4TR	SEPT POLARX3ETR
Receiver serial number:	3102140	2000785
1 PPS trigger level /V:	1	1
• Antenna cable maker and type:	-	-
Phase stabilised cable (Y/N):	-	-
Length outside the building /m:	About 20m	About 20m
• Antenna maker and type:	SEPCHOKE_MC	ASH701945E_M
Antenna serial number:	5392	cr6200323008
Temperature (if stabilised) /°C	23 ± 0.5°C	23 ± 0.5°C
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	57.9	43.9ns (UTC P _k to CLB P _k)
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	134.7	206.7
• Antenna cable delay:	198	(1)
Splitter delay (if any):	-	(1)
Additional cable delay (if any):	-	(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:	-	
• INT DLY (GLONASS) /ns:	-	
• CAB DLY /ns:	198	
• REF DLY /ns:	192.6	
• Coordinates reference frame:	ITRF 2008	
Latitude or X /m:	-1735229.95	
Longitude or Y /m:	+4976843.70	
Height or Z /m:	+3580533.43	
General information		
• Rise time of the local UTC pulse:	3.2ns	
• Is the laboratory air conditioned:	yes	
Set temperature value and uncertainty:	23 ± 0.5°C	
Set humidity value and uncertainty:	55% ± 3%	

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Diagram of the experiment set-up:

UTC P_k is the UTC(NTSC) reference point (which is defined in the HROG output point).

CLB P_k is the Calibration point. The delay is 43.9ns between UTC P_k and CLB P_k.

FD is the frequency doubler. PDA is the pulse distribution amplifier; FDA is the frequency distribution amplifier.

BP0U-NTP1

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 115434
 Computed code bias (P1/P2)/m = 17.420 19.206
 Computed baseline (X,Y,Z)/m = 0.851 -1.378 2.017
 RMS of residuals /m = 0.465

Number of phase differences to fit baseline = 109812
 A priori baseline (X,Y,Z)/m = 0.851 -1.378 2.017
 22093 clock jitters computed out of 22118 intervals
 AVE jitter /ps = 0.1 RMS jitter /ps = 31.6

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = -0.017 0.016 0.059
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.019 0.021 0.064
 RMS of residuals L2 /m = 0.002

Final baseline L1 (X,Y,Z)/m = 0.834 -1.362 2.075
 Final baseline L2 (X,Y,Z)/m = 0.832 -1.357 2.080

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 115455

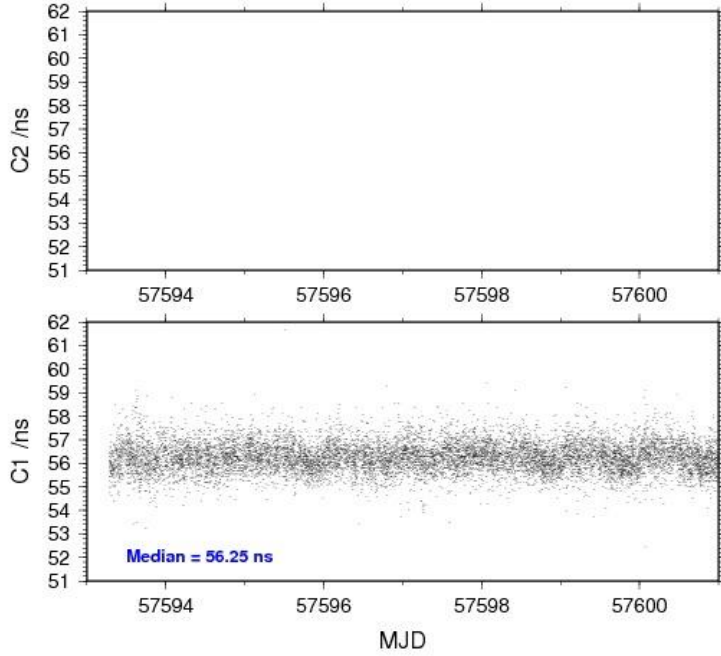
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 115387 56.260 1.324
 C2: 0 NaN NaN
 P1: 115366 57.983 1.507
 P2: 115368 63.922 1.653

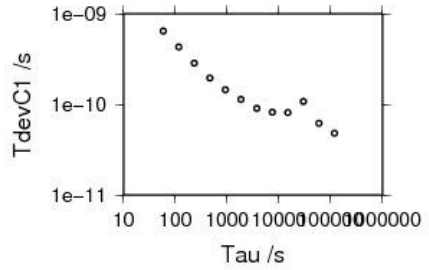
Number of 300s epochs in out file = 2223

Code #pts, median/ns, ave/ns, rms/ns
 C1: 11478 56.247 56.261 0.629
 C2: 0 0.000 NaN NaN
 P1: 11478 57.950 57.969 0.775
 P2: 11478 63.937 63.928 1.076

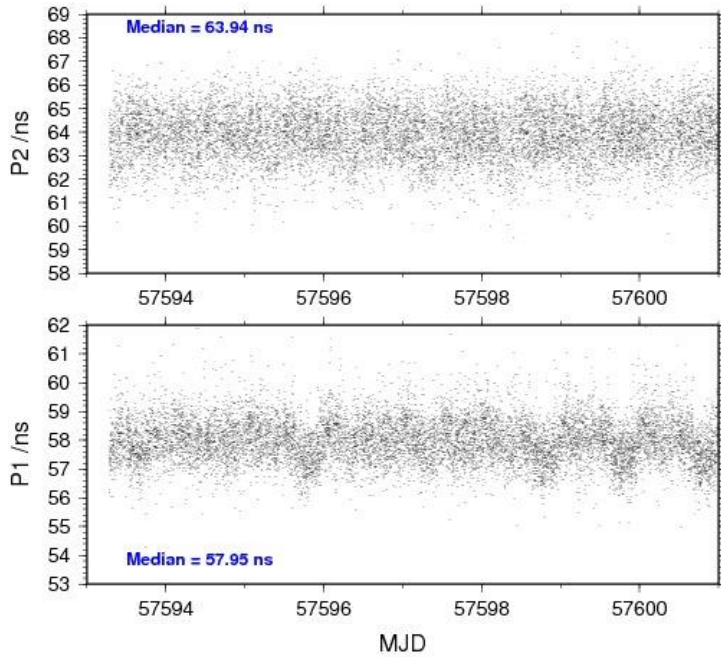
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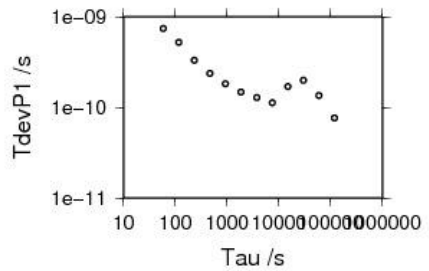
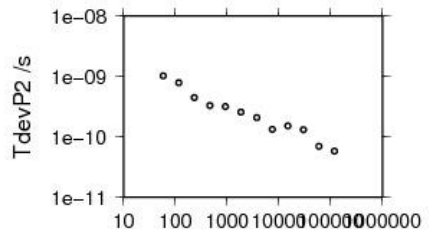
- 118951 s: C1= 48 ps
- 59475 s: C1= 62 ps
- 29738 s: C1= 108 ps
- 14869 s: C1= 81 ps
- 7434 s: C1= 82 ps
- 3717 s: C1= 90 ps
- 1859 s: C1= 113 ps
- 929 s: C1= 146 ps
- 465 s: C1= 196 ps
- 232 s: C1= 285 ps
- 116 s: C1= 432 ps
- 58 s: C1= 643 ps



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- | | |
|---------------------|---------------------|
| 118951 s: P1= 77 ps | 118951 s: P2= 58 ps |
| 59475 s: P1= 135 ps | 59475 s: P2= 70 ps |
| 29738 s: P1= 199 ps | 29738 s: P2= 132 ps |
| 14869 s: P1= 170 ps | 14869 s: P2= 152 ps |
| 7434 s: P1= 112 ps | 7434 s: P2= 134 ps |
| 3717 s: P1= 129 ps | 3717 s: P2= 210 ps |
| 1859 s: P1= 148 ps | 1859 s: P2= 260 ps |
| 929 s: P1= 182 ps | 929 s: P2= 319 ps |
| 465 s: P1= 237 ps | 465 s: P2= 331 ps |
| 232 s: P1= 331 ps | 232 s: P2= 449 ps |
| 116 s: P1= 523 ps | 116 s: P2= 794 ps |
| 58 s: P1= 745 ps | 58 s: P2= 1028 ps |



BP1C-NTP1

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 277986
 Computed code bias (P1/P2)/m = 26.580 28.521
 Computed baseline (X,Y,Z)/m = 1.129 -0.584 1.487
 RMS of residuals /m = 0.422

Number of phase differences to fit baseline = 241351
 A priori baseline (X,Y,Z)/m = 1.129 -0.584 1.487
 33766 clock jitters computed out of 33766 intervals
 AVE jitter /ps = 0.1 RMS jitter /ps = 5.0

Iter 1 Large residuals L1= 7
 Iter 1 Large residuals L2= 7
 Computed baseline L1 (X,Y,Z)/m = 0.055 -0.171 -0.104
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.055 -0.180 -0.111
 RMS of residuals L2 /m = 0.003

Iter 2 Large residuals L1= 7
 Iter 2 Large residuals L2= 7
 Computed baseline L1 (X,Y,Z)/m = 0.055 -0.171 -0.104
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.055 -0.180 -0.111
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = 1.184 -0.755 1.383
 Final baseline L2 (X,Y,Z)/m = 1.184 -0.764 1.376

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 280241

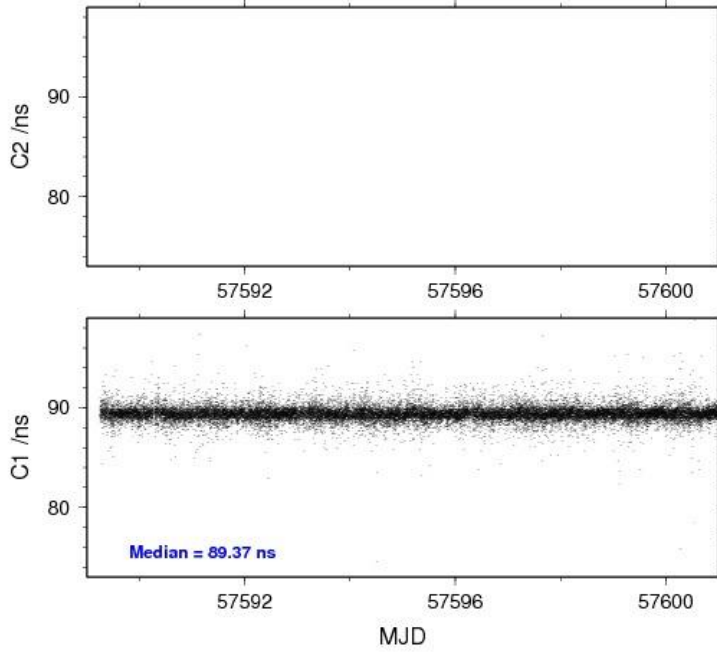
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 279424 89.381 1.816
 C2: 0 NaN NaN
 P1: 277519 89.134 1.828
 P2: 277672 95.634 1.369

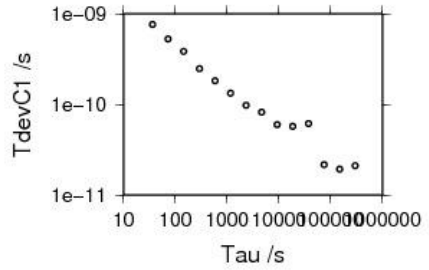
Number of 300s epochs in out file = 3381

Code #pts, median/ns, ave/ns, rms/ns
 C1: 27947 89.367 89.376 0.756
 C2: 0 0.000 NaN NaN
 P1: 27750 89.118 89.127 0.802
 P2: 27754 95.693 95.633 1.025

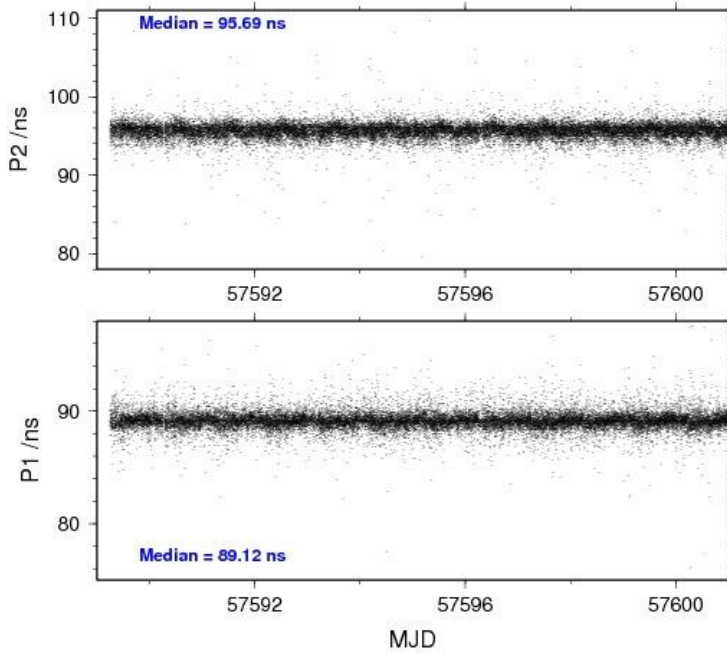
08/02/16 bp1cntp116202_12



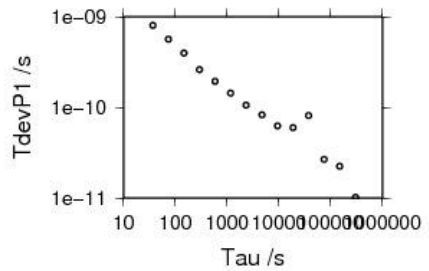
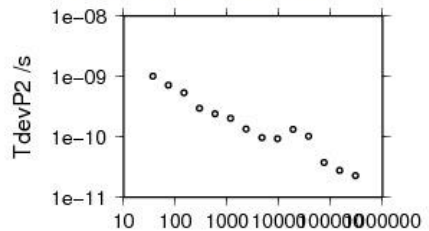
- 297680 s: C1= 21 ps
- 148840 s: C1= 19 ps
- 74420 s: C1= 22 ps
- 37210 s: C1= 62 ps
- 18605 s: C1= 57 ps
- 9303 s: C1= 60 ps
- 4651 s: C1= 82 ps
- 2326 s: C1= 98 ps
- 1163 s: C1= 133 ps
- 581 s: C1= 182 ps
- 291 s: C1= 249 ps
- 145 s: C1= 384 ps
- 73 s: C1= 528 ps
- 36 s: C1= 760 ps



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- 299794 s: P1= 10 ps
- 149897 s: P1= 22 ps
- 74948 s: P1= 27 ps
- 37474 s: P1= 81 ps
- 18737 s: P1= 60 ps
- 9369 s: P1= 63 ps
- 4684 s: P1= 83 ps
- 2342 s: P1= 106 ps
- 1171 s: P1= 144 ps
- 586 s: P1= 194 ps
- 293 s: P1= 260 ps
- 146 s: P1= 400 ps
- 73 s: P1= 567 ps
- 37 s: P1= 805 ps
- 299751 s: P2= 23 ps
- 149875 s: P2= 28 ps
- 74938 s: P2= 38 ps
- 37469 s: P2= 103 ps
- 18734 s: P2= 134 ps
- 9367 s: P2= 94 ps
- 4684 s: P2= 98 ps
- 2342 s: P2= 136 ps
- 1171 s: P2= 204 ps
- 585 s: P2= 242 ps
- 293 s: P2= 298 ps
- 146 s: P2= 539 ps
- 73 s: P2= 720 ps
- 37 s: P2= 1018 ps



BP0U-NTP2

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 115449
 Computed code bias (P1/P2)/m = 15.119 17.132
 Computed baseline (X,Y,Z)/m = 0.849 -1.372 2.020
 RMS of residuals /m = 0.464

Number of phase differences to fit baseline = 109835
 A priori baseline (X,Y,Z)/m = 0.849 -1.372 2.020
 22105 clock jitters computed out of 22126 intervals
 AVE jitter /ps = 0.2 RMS jitter /ps = 31.6

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = -0.016 0.011 0.055
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.018 0.015 0.060
 RMS of residuals L2 /m = 0.002

Final baseline L1 (X,Y,Z)/m = 0.833 -1.361 2.075
 Final baseline L2 (X,Y,Z)/m = 0.831 -1.357 2.080

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 115470

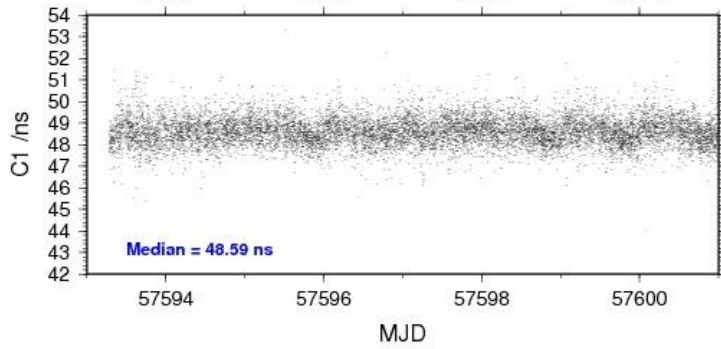
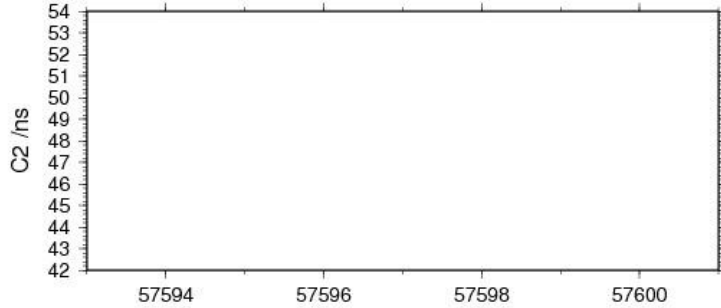
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 115402 48.597 1.323
 C2: 0 NaN NaN
 P1: 115380 50.326 1.509
 P2: 115383 57.023 1.651

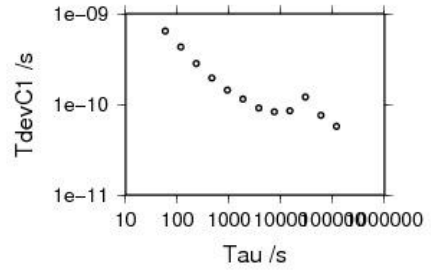
Number of 300s epochs in out file = 2223

Code #pts, median/ns, ave/ns, rms/ns
 C1: 11478 48.587 48.601 0.631
 C2: 0 0.000 NaN NaN
 P1: 11478 50.290 50.312 0.776
 P2: 11478 57.040 57.029 1.075

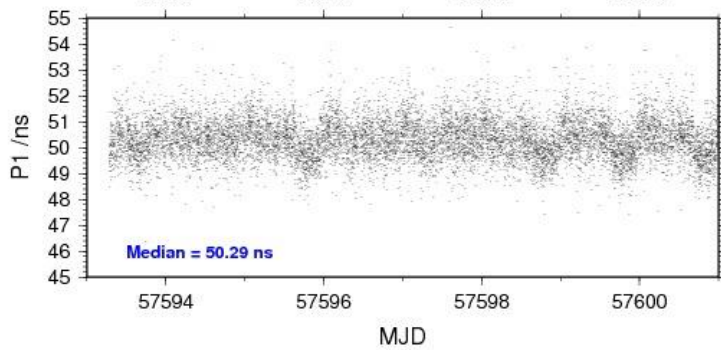
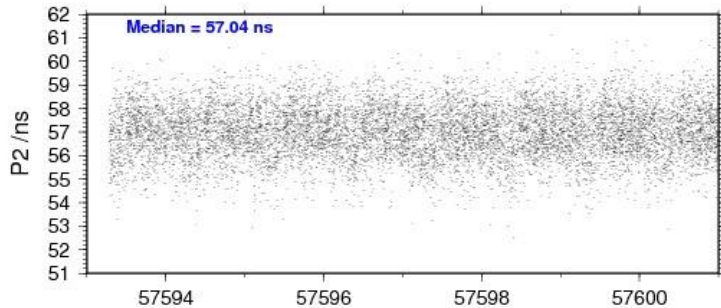
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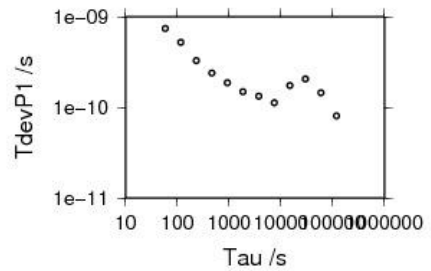
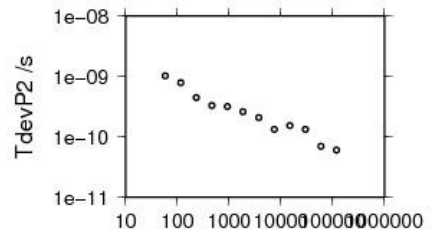
- 118951 s: C1= 57 ps
- 59475 s: C1= 76 ps
- 29738 s: C1= 121 ps
- 14869 s: C1= 85 ps
- 7434 s: C1= 83 ps
- 3717 s: C1= 91 ps
- 1859 s: C1= 115 ps
- 929 s: C1= 144 ps
- 465 s: C1= 196 ps
- 232 s: C1= 283 ps
- 116 s: C1= 431 ps
- 58 s: C1= 645 ps



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- | | |
|---------------------|---------------------|
| 118951 s: P1= 81 ps | 118951 s: P2= 60 ps |
| 59475 s: P1= 145 ps | 59475 s: P2= 70 ps |
| 29738 s: P1= 206 ps | 29738 s: P2= 134 ps |
| 14869 s: P1= 174 ps | 14869 s: P2= 154 ps |
| 7434 s: P1= 113 ps | 7434 s: P2= 134 ps |
| 3717 s: P1= 133 ps | 3717 s: P2= 209 ps |
| 1859 s: P1= 149 ps | 1859 s: P2= 260 ps |
| 929 s: P1= 187 ps | 929 s: P2= 318 ps |
| 465 s: P1= 239 ps | 465 s: P2= 332 ps |
| 232 s: P1= 327 ps | 232 s: P2= 448 ps |
| 116 s: P1= 521 ps | 116 s: P2= 792 ps |
| 58 s: P1= 742 ps | 58 s: P2= 1029 ps |



BP1C-NTP2

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 278141
 Computed code bias (P1/P2)/m = 24.280 26.448
 Computed baseline (X,Y,Z)/m = 1.129 -0.577 1.490
 RMS of residuals /m = 0.421

Number of phase differences to fit baseline = 241450
 A priori baseline (X,Y,Z)/m = 1.129 -0.577 1.490
 33778 clock jitters computed out of 33778 intervals
 AVE jitter /ps = 0.1 RMS jitter /ps = 4.8

Iter 1 Large residuals L1= 10
 Iter 1 Large residuals L2= 10
 Computed baseline L1 (X,Y,Z)/m = 0.057 -0.177 -0.107
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.058 -0.187 -0.113
 RMS of residuals L2 /m = 0.003

Iter 2 Large residuals L1= 10
 Iter 2 Large residuals L2= 10
 Computed baseline L1 (X,Y,Z)/m = 0.057 -0.177 -0.107
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = 0.058 -0.187 -0.113
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = 1.186 -0.754 1.383
 Final baseline L2 (X,Y,Z)/m = 1.186 -0.764 1.376

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 280289

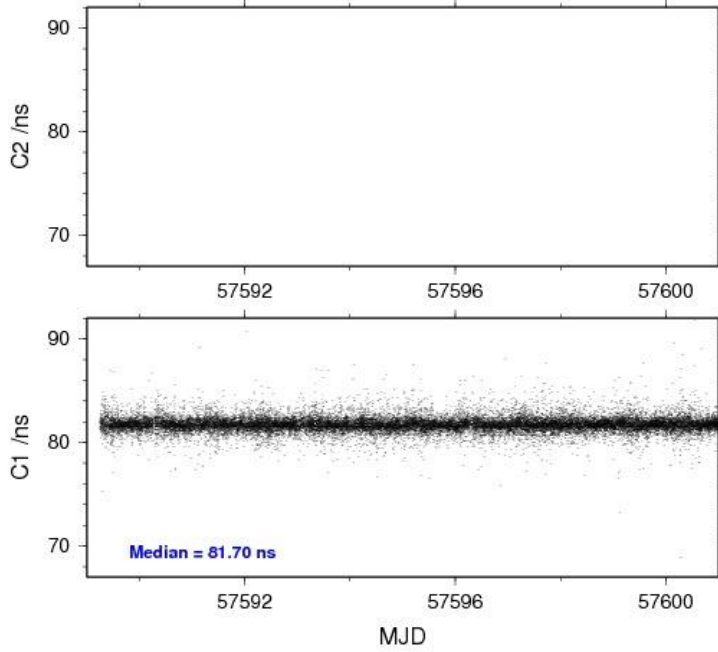
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 279484 81.716 1.814
 C2: 0 NaN NaN
 P1: 277654 81.475 1.824
 P2: 277809 88.738 1.377

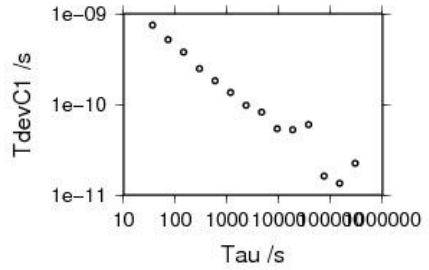
Number of 300s epochs in out file = 3381

Code #pts, median/ns, ave/ns, rms/ns
 C1: 27946 81.700 81.713 0.745
 C2: 0 0.000 NaN NaN
 P1: 27756 81.459 81.472 0.787
 P2: 27762 88.803 88.740 1.046

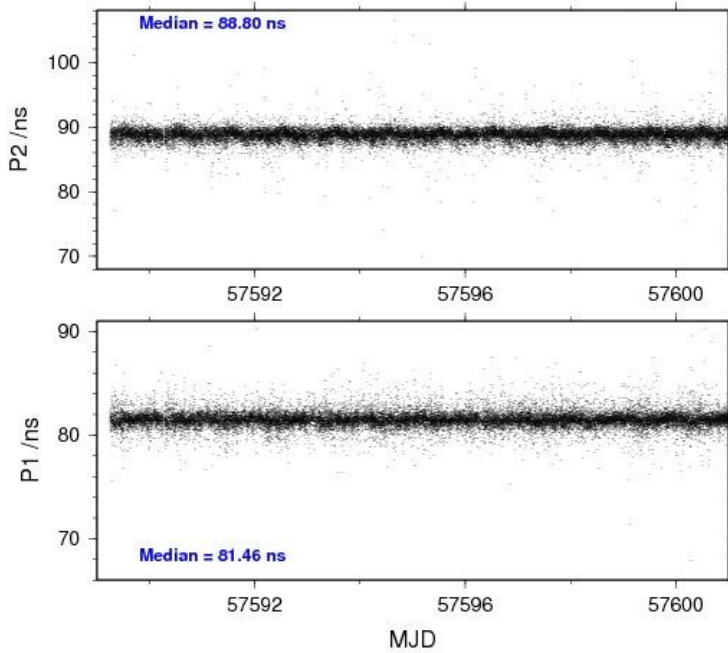
08/02/16 bp1cntp216202_12



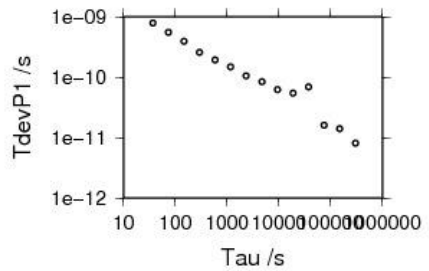
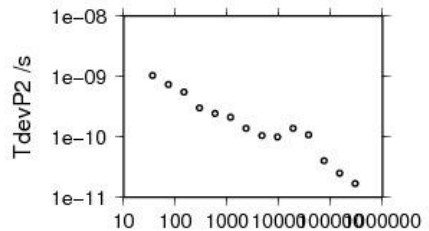
- 297691 s: C1= 22 ps
- 148846 s: C1= 14 ps
- 74423 s: C1= 16 ps
- 37211 s: C1= 60 ps
- 18606 s: C1= 52 ps
- 9303 s: C1= 54 ps
- 4651 s: C1= 82 ps
- 2326 s: C1= 98 ps
- 1163 s: C1= 136 ps
- 581 s: C1= 183 ps
- 291 s: C1= 249 ps
- 145 s: C1= 378 ps
- 73 s: C1= 516 ps
- 36 s: C1= 751 ps



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- 299729 s: P1= 8 ps
- 149864 s: P1= 14 ps
- 74932 s: P1= 16 ps
- 37466 s: P1= 69 ps
- 18733 s: P1= 55 ps
- 9367 s: P1= 63 ps
- 4683 s: P1= 85 ps
- 2342 s: P1= 105 ps
- 1171 s: P1= 148 ps
- 585 s: P1= 193 ps
- 293 s: P1= 257 ps
- 146 s: P1= 393 ps
- 73 s: P1= 553 ps
- 37 s: P1= 790 ps
- 299664 s: P2= 17 ps
- 149832 s: P2= 25 ps
- 74916 s: P2= 40 ps
- 37458 s: P2= 108 ps
- 18729 s: P2= 139 ps
- 9364 s: P2= 100 ps
- 4682 s: P2= 105 ps
- 2341 s: P2= 139 ps
- 1171 s: P2= 213 ps
- 585 s: P2= 245 ps
- 293 s: P2= 300 ps
- 146 s: P2= 551 ps
- 73 s: P2= 735 ps
- 37 s: P2= 1037 ps



BP0U-NTP3

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 115449
 Computed code bias (P1/P2)/m = -32.827 -30.944
 Computed baseline (X,Y,Z)/m = 4.410 -2.136 4.987
 RMS of residuals /m = 0.460

Number of phase differences to fit baseline = 109854
 A priori baseline (X,Y,Z)/m = 4.410 -2.136 4.987
 22100 clock jitters computed out of 22125 intervals
 AVE jitter /ps = -0.1 RMS jitter /ps = 31.6

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = -0.009 0.048 0.047
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.011 0.052 0.051
 RMS of residuals L2 /m = 0.002

Final baseline L1 (X,Y,Z)/m = 4.401 -2.088 5.034
 Final baseline L2 (X,Y,Z)/m = 4.399 -2.084 5.038

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 115470

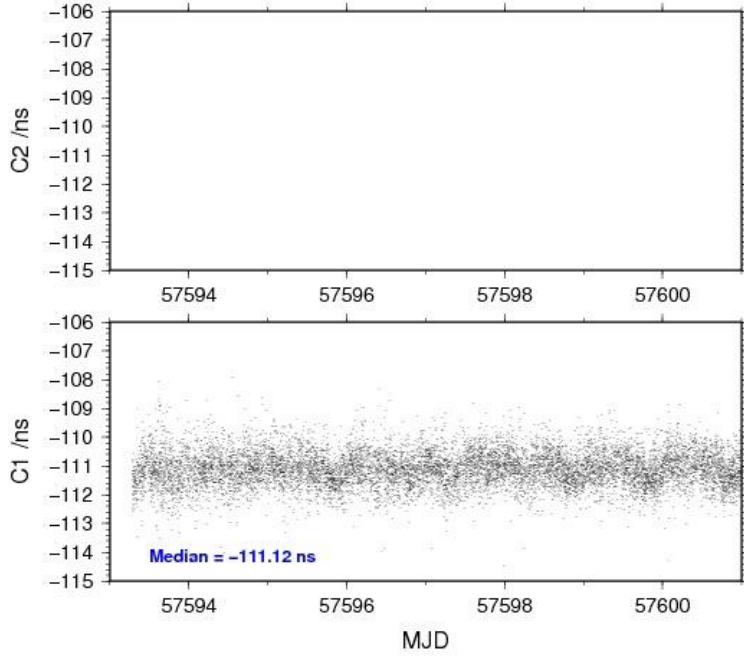
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 115403 -111.115 1.274
 C2: 0 NaN NaN
 P1: 115380 -109.662 1.468
 P2: 115383 -103.392 1.646

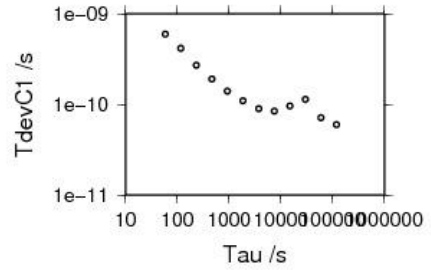
Number of 300s epochs in out file = 2223

Code #pts, median/ns, ave/ns, rms/ns
 C1: 11478 -111.121 -111.114 0.600
 C2: 0 0.000 NaN NaN
 P1: 11478 -109.696 -109.675 0.749
 P2: 11478 -103.367 -103.388 1.062

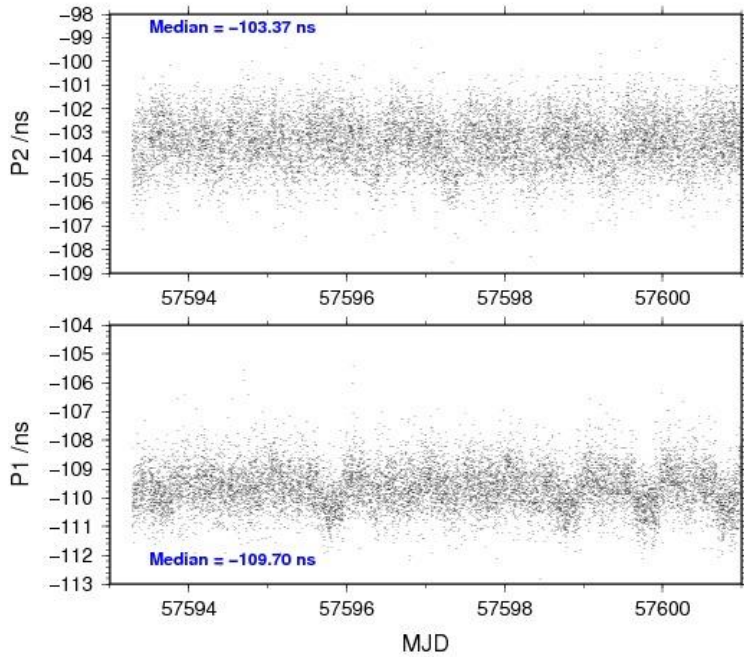
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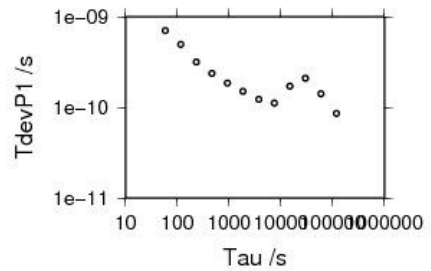
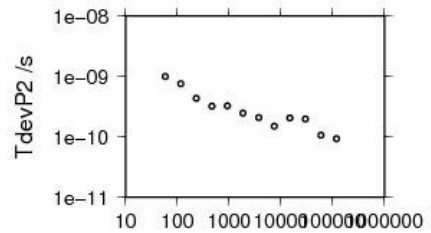
- 118951 s: C1= 60 ps
- 59475 s: C1= 71 ps
- 29738 s: C1= 113 ps
- 14869 s: C1= 96 ps
- 7434 s: C1= 84 ps
- 3717 s: C1= 90 ps
- 1859 s: C1= 110 ps
- 929 s: C1= 140 ps
- 465 s: C1= 191 ps
- 232 s: C1= 271 ps
- 116 s: C1= 415 ps
- 58 s: C1= 596 ps



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|---------------------|---------------------|
| 118951 s: P1= 86 ps | 118951 s: P2= 93 ps |
| 59475 s: P1= 141 ps | 59475 s: P2= 107 ps |
| 29738 s: P1= 209 ps | 29738 s: P2= 198 ps |
| 14869 s: P1= 171 ps | 14869 s: P2= 207 ps |
| 7434 s: P1= 111 ps | 7434 s: P2= 150 ps |
| 3717 s: P1= 122 ps | 3717 s: P2= 208 ps |
| 1859 s: P1= 151 ps | 1859 s: P2= 249 ps |
| 929 s: P1= 186 ps | 929 s: P2= 325 ps |
| 465 s: P1= 238 ps | 465 s: P2= 323 ps |
| 232 s: P1= 318 ps | 232 s: P2= 436 ps |
| 116 s: P1= 495 ps | 116 s: P2= 756 ps |
| 58 s: P1= 706 ps | 58 s: P2= 1001 ps |



BP1C-NTP3

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 261504
 Computed code bias (P1/P2)/m = -23.527 -21.485
 Computed baseline (X,Y,Z)/m = 4.788 -1.488 4.369
 RMS of residuals /m = 0.417

Number of phase differences to fit baseline = 225585
 A priori baseline (X,Y,Z)/m = 4.788 -1.488 4.369
 31701 clock jitters computed out of 31701 intervals
 AVE jitter /ps = 0.1 RMS jitter /ps = 4.6

Iter 1 Large residuals L1= 9
 Iter 1 Large residuals L2= 10
 Computed baseline L1 (X,Y,Z)/m = -0.010 0.009 -0.028
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.008 -0.001 -0.036
 RMS of residuals L2 /m = 0.003

Iter 2 Large residuals L1= 9
 Iter 2 Large residuals L2= 10
 Computed baseline L1 (X,Y,Z)/m = -0.010 0.009 -0.028
 RMS of residuals L1 /m = 0.003
 Computed baseline L2 (X,Y,Z)/m = -0.008 -0.001 -0.036
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = 4.778 -1.479 4.340
 Final baseline L2 (X,Y,Z)/m = 4.780 -1.489 4.333

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 263357

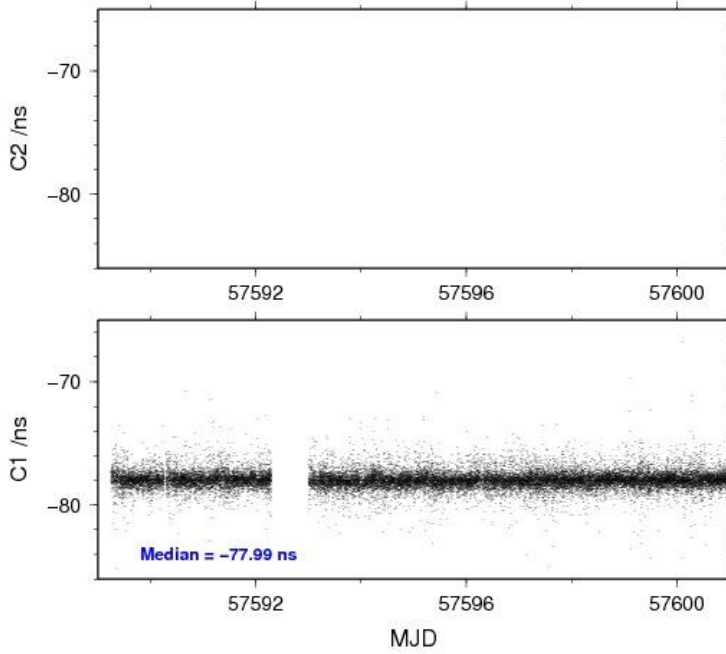
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 262467 -77.967 1.747
 C2: 0 NaN NaN
 P1: 261215 -78.477 1.778
 P2: 261335 -71.640 1.388

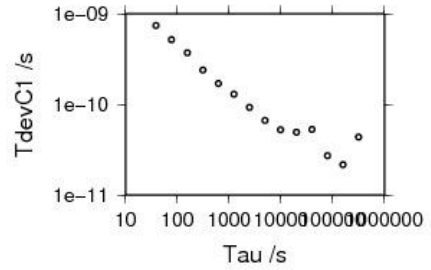
Number of 300s epochs in out file = 3174

Code #pts, median/ns, ave/ns, rms/ns
 C1: 26224 -77.986 -77.969 0.737
 C2: 0 0.000 NaN NaN
 P1: 26103 -78.505 -78.478 0.800
 P2: 26106 -71.584 -71.643 1.059

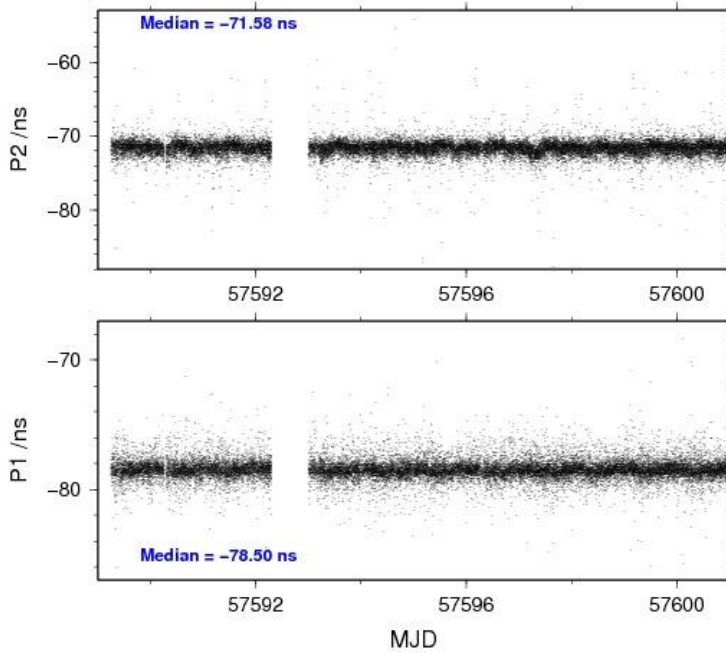
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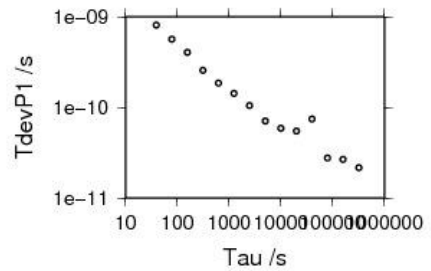
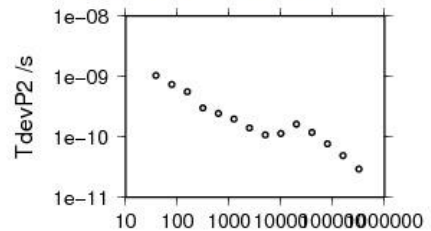
- 317240 s: C1= 44 ps
- 158620 s: C1= 22 ps
- 79310 s: C1= 27 ps
- 39655 s: C1= 53 ps
- 19827 s: C1= 49 ps
- 9914 s: C1= 52 ps
- 4957 s: C1= 67 ps
- 2478 s: C1= 93 ps
- 1239 s: C1= 129 ps
- 620 s: C1= 169 ps
- 310 s: C1= 239 ps
- 155 s: C1= 372 ps
- 77 s: C1= 520 ps
- 39 s: C1= 745 ps



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|---------------------|---------------------|
| 318710 s: P1= 22 ps | 318674 s: P2= 29 ps |
| 159355 s: P1= 27 ps | 159337 s: P2= 49 ps |
| 79678 s: P1= 28 ps | 79668 s: P2= 76 ps |
| 39839 s: P1= 75 ps | 39834 s: P2= 119 ps |
| 19919 s: P1= 55 ps | 19917 s: P2= 162 ps |
| 9960 s: P1= 59 ps | 9959 s: P2= 114 ps |
| 4980 s: P1= 71 ps | 4979 s: P2= 109 ps |
| 2490 s: P1= 105 ps | 2490 s: P2= 140 ps |
| 1245 s: P1= 143 ps | 1245 s: P2= 199 ps |
| 622 s: P1= 186 ps | 622 s: P2= 244 ps |
| 311 s: P1= 257 ps | 311 s: P2= 301 ps |
| 156 s: P1= 405 ps | 156 s: P2= 564 ps |
| 78 s: P1= 564 ps | 78 s: P2= 742 ps |
| 39 s: P1= 807 ps | 39 s: P2= 1045 ps |



1.6/ BIPM (16259)Period

MJD 57646 to

Delays

BP0R:

$X_O = 226.2$ ns (266.2-48.7+8.7)
 $X_P = 42.7$ ns (BP1R+C139+BP1S+C72)
 REFDLY = 268.9 ns
 CABDLY = 133.4 ns (C113)

BP1J:

$X_O = 132.4$ ns (186.4-53.8)
 $X_P = 47.6$ ns (BP1R+C139+BP1S+C172)
 REFDLY = 180.0 ns
 CABDLY = 128.7 ns (C138)

BP1X:

REFDLY = 42.6 ns (BP1R+C139+BP1S+C126)
 CABDLY = 129.7 ns (C178)
 INT DLY = -27.5 ns (GPS C1)
 -33.5 ns (GPS P1)
 -37.4 ns (GPS P2)

BP0U:

REFDLY = 52.6 ns (BP1R+C166+BP1I+C153)
 CABDLY = 181.7 ns (C134)

BP1C:

$X_O = 203.8$ ns (219.2-15.4)
 $X_P = 52.6$ ns (BP1R+C166+BP1I+C157)
 REFDLY = 256.4 ns
 CABDLY = 235.7 ns (C131)

Setup at the BIPM**Annex A - Information Sheet**

(to be repeated for each calibrated system)

Laboratory:	BIPM	
Date and hour of the beginning of measurements:	MJD 57646	
Date and hour of the end of measurements:	MJD 57657	
Information on the system		
	Local:	Travelling:
4-character BIPM code	BP0R	BP1C
• Receiver maker and type: Receiver serial number:	Septentrio PolaRx2e 3113	Septentrio PolaRx3eTR S9000169176
1 PPS trigger level /V:		
• Antenna cable maker and type: Phase stabilised cable (Y/N):		
Length outside the building /m:	~ 15 m	~ 15 m
• Antenna maker and type: Antenna serial number:	Ashtech Chokering 701945-2 CR6200539014	Ashtech Chokering 701945-2 CR62000323008
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	42.7 ns	52.6 ns
Delay from 1 PPS-in to internal Reference (if different): (see section 2 for details)	226.2 ns	203.8 ns
• Antenna cable delay:	133.4 ns	235.7 ns
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		
• INT DLY (GLONASS) /ns:		
• CAB DLY /ns:		
• REF DLY /ns:		
• Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
• Rise time of the local UTC pulse:		
• Is the laboratory air conditioned:		
Set temperature value and uncertainty:		21 ± 1°C
Set humidity value and uncertainty:		

(1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	BIPM	
Date and hour of the beginning of measurements:	MJD 57646	
Date and hour of the end of measurements:	MJD 57657	
Information on the system		
	Local:	Travelling:
4-character BIPM code	BP1J	BP0U
• Receiver maker and type:	Septentrio PolaRx4proTR	Dicom GTR50
Receiver serial number:	27	0801068
1 PPS trigger level /V:		1 V
• Antenna cable maker and type:		
Phase stabilised cable (Y/N):		
Length outside the building /m:	~ 15 m	~ 15 m
• Antenna maker and type:	Septentrio Sepchoke_MC	Novatel 702-GG
Antenna serial number:	5131	NAE10190011
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	47.6 ns	52.6
Delay from 1 PPS-in to internal Reference (if different): (see section 2 for details)	132.4 ns	
• Antenna cable delay:	128.7 ns	181.7
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		
• INT DLY (GLONASS) /ns:		
• CAB DLY /ns:		
• REF DLY /ns:		
• Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
• Rise time of the local UTC pulse:		
• Is the laboratory air conditioned:		
Set temperature value and uncertainty:		21 ± 1°C
Set humidity value and uncertainty:		

1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

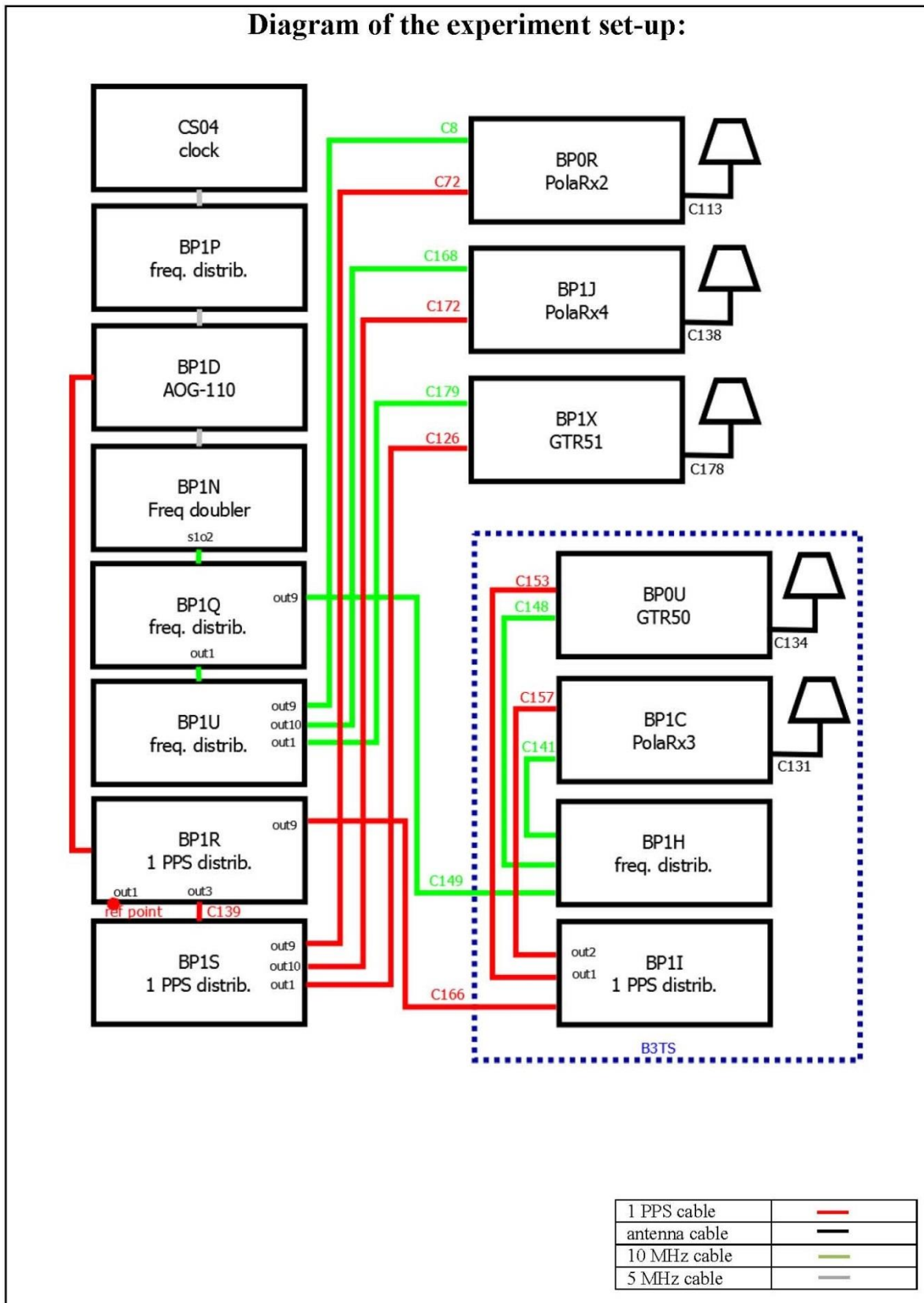
Annex A - Information Sheet

(to be repeated for each calibrated system)

Laboratory:	BIPM	
Date and hour of the beginning of measurements:	MJD 57646	
Date and hour of the end of measurements:	MJD 57657	
Information on the system		
	Local:	Travelling:
4-character BIPM code	BP1X	
• Receiver maker and type: Receiver serial number:	Dicom GTR51 1306001	
1 PPS trigger level /V:	1 V	
• Antenna cable maker and type: Phase stabilised cable (Y/N):		
Length outside the building /m:	~15 m	
• Antenna maker and type: Antenna serial number:	Novatel 703-GG NEG13160018	
Temperature (if stabilised) /°C		
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	42.6 ns	
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>		
• Antenna cable delay:	129.7 ns	(1)
Splitter delay (if any):		(1)
Additional cable delay (if any):		(1)
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:	-27.5 ns (GPS C1), -33.5 ns (GPS P1), -37.4 ns (GPS P2)	
• INT DLY (GLONASS) /ns:		
• CAB DLY /ns:		
• REF DLY /ns:		
• Coordinates reference frame:		
Latitude or X /m:		
Longitude or Y /m:		
Height or Z /m:		
General information		
• Rise time of the local UTC pulse:		
• Is the laboratory air conditioned:		
Set temperature value and uncertainty:	21 ± 1°C	
Set humidity value and uncertainty:		

1) For a trip with closure, not needed if the traveling equipment is used in the same set-up throughout.

Diagram of the experiment set-up:



Log of Events / Additional Information :

All measurements at BIPM carried out by L. Tisserand.

Equipment used to measure delays are two time interval counter (TIC), model SR620, maker Stanford Research Systems, with measurement uncertainty typically less than 0.5 ns (using external reference frequency as timebase).

TIC serial number 4680 used for local receivers.

TIC serial number 5482 used for traveling receivers.

On April 26th 2016:

- Firmware and software upgrade of BP1X receiver
- Introduction of all delays inside BP1X receiver web interface

BP0U-BP0R

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 77132
 Computed code bias (P1/P2)/m = -28.321 -27.132
 Computed baseline (X,Y,Z)/m = -5.281 -0.779 4.287
 RMS of residuals /m = 0.701

Number of phase differences to fit baseline = 53472
 A priori baseline (X,Y,Z)/m = -5.281 -0.779 4.287
 13322 clock jitters computed out of 13604 intervals
 AVE jitter /ps = 2.9 RMS jitter /ps = 41.9

Iter 1 Large residuals L1= 0
 Iter 1 Large residuals L2= 0
 Computed baseline L1 (X,Y,Z)/m = 0.199 -0.222 0.223
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.058 0.246 0.189
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -5.083 -1.001 4.510
 Final baseline L2 (X,Y,Z)/m = -5.223 -0.533 4.476

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 78500

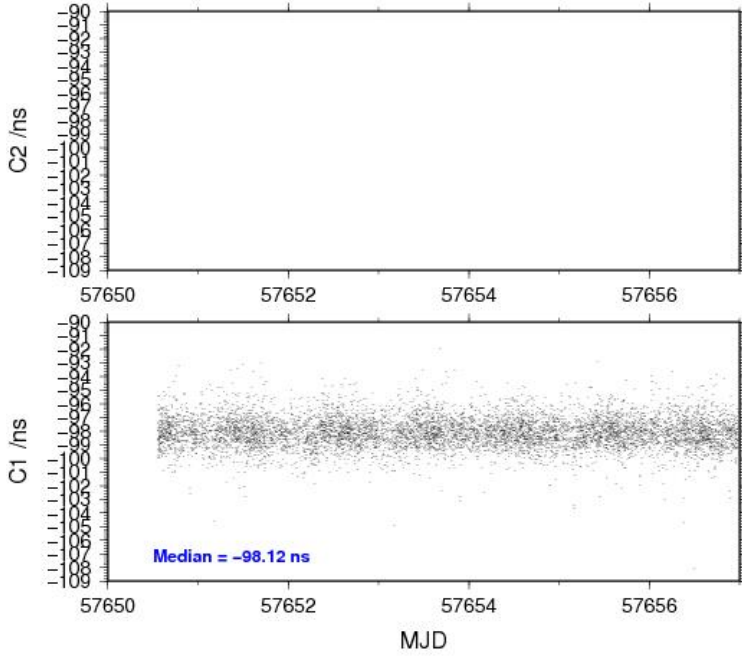
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 77814 -98.067 1.790
 C2: 0 NaN NaN
 P1: 77050 -95.067 2.518
 P2: 77037 -91.136 2.682

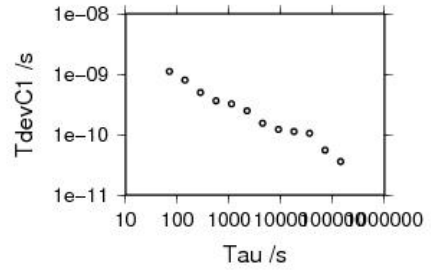
Number of 300s epochs in out file = 1858

Code #pts, median/ns, ave/ns, rms/ns
 C1: 7992 -98.116 -98.093 1.115
 C2: 0 0.000 NaN NaN
 P1: 7926 -95.194 -95.121 1.328
 P2: 7924 -91.091 -91.132 1.479

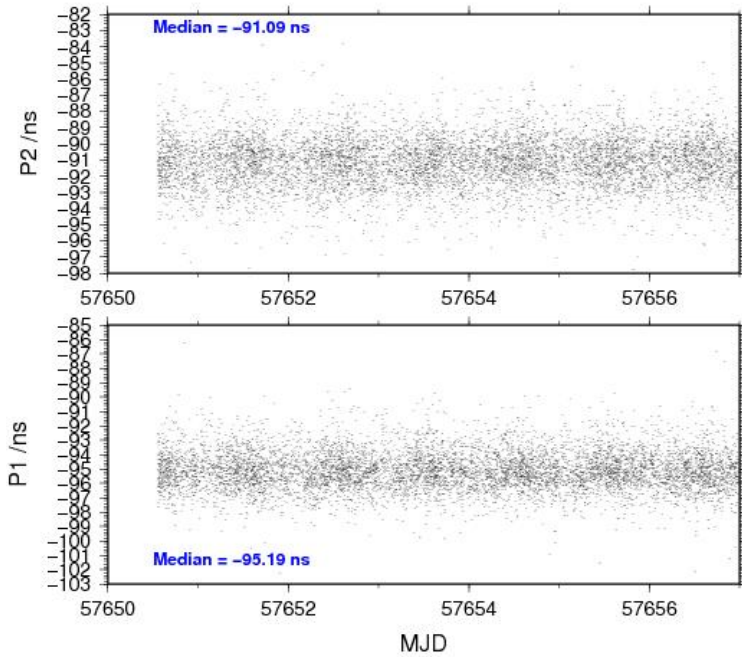
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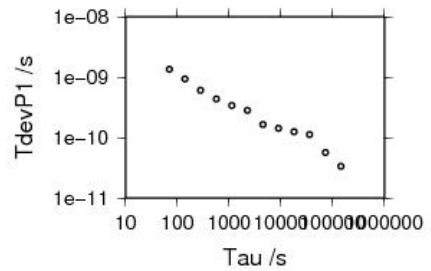
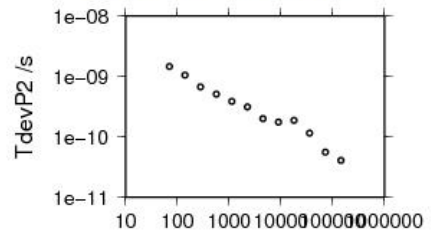
- 142778 s: C1= 36 ps
- 71389 s: C1= 56 ps
- 35695 s: C1= 106 ps
- 17847 s: C1= 112 ps
- 8924 s: C1= 121 ps
- 4462 s: C1= 155 ps
- 2231 s: C1= 249 ps
- 1115 s: C1= 323 ps
- 558 s: C1= 364 ps
- 279 s: C1= 495 ps
- 139 s: C1= 799 ps
- 70 s: C1= 1110 ps



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|---------------------|---------------------|
| 143967 s: P1= 34 ps | 144004 s: P2= 41 ps |
| 71984 s: P1= 56 ps | 72002 s: P2= 56 ps |
| 35992 s: P1= 113 ps | 36001 s: P2= 115 ps |
| 17996 s: P1= 124 ps | 18000 s: P2= 168 ps |
| 8998 s: P1= 143 ps | 9000 s: P2= 177 ps |
| 4499 s: P1= 164 ps | 4500 s: P2= 200 ps |
| 2249 s: P1= 282 ps | 2250 s: P2= 314 ps |
| 1125 s: P1= 340 ps | 1125 s: P2= 387 ps |
| 562 s: P1= 435 ps | 563 s: P2= 513 ps |
| 281 s: P1= 606 ps | 281 s: P2= 671 ps |
| 141 s: P1= 942 ps | 141 s: P2= 1056 ps |
| 70 s: P1= 1351 ps | 70 s: P2= 1466 ps |



BP1C-BP0R

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 170683
 Computed code bias (P1/P2)/m = -17.173 -16.093
 Computed baseline (X,Y,Z)/m = -4.934 -1.161 3.249
 RMS of residuals /m = 0.717

Number of phase differences to fit baseline = 132025
 A priori baseline (X,Y,Z)/m = -4.934 -1.161 3.249
 23196 clock jitters computed out of 23322 intervals
 AVE jitter /ps = 2.8 RMS jitter /ps = 7.8

Iter 1 Large residuals L1= 2
 Iter 1 Large residuals L2= 8
 Computed baseline L1 (X,Y,Z)/m = 0.557 0.131 0.545
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.361 0.588 0.493
 RMS of residuals L2 /m = 0.005

Iter 2 Large residuals L1= 2
 Iter 2 Large residuals L2= 8
 Computed baseline L1 (X,Y,Z)/m = 0.557 0.131 0.545
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.361 0.588 0.493
 RMS of residuals L2 /m = 0.005

Final baseline L1 (X,Y,Z)/m = -4.378 -1.029 3.795
 Final baseline L2 (X,Y,Z)/m = -4.574 -0.572 3.742

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 180378

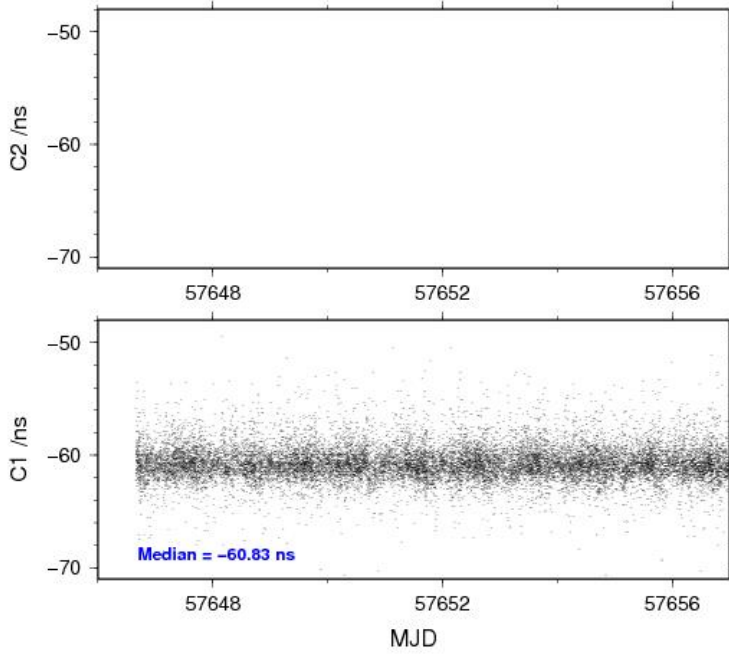
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 177849 -60.732 2.561
 C2: 0 NaN NaN
 P1: 169931 -59.273 2.767
 P2: 169749 -55.668 3.051

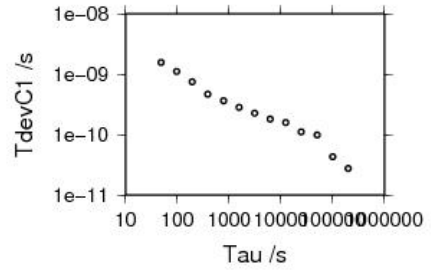
Number of 300s epochs in out file = 2979

Code #pts, median/ns, ave/ns, rms/ns
 C1: 18393 -60.827 -60.715 1.547
 C2: 0 0.000 NaN NaN
 P1: 17832 -59.443 -59.297 1.562
 P2: 17811 -55.611 -55.683 1.741

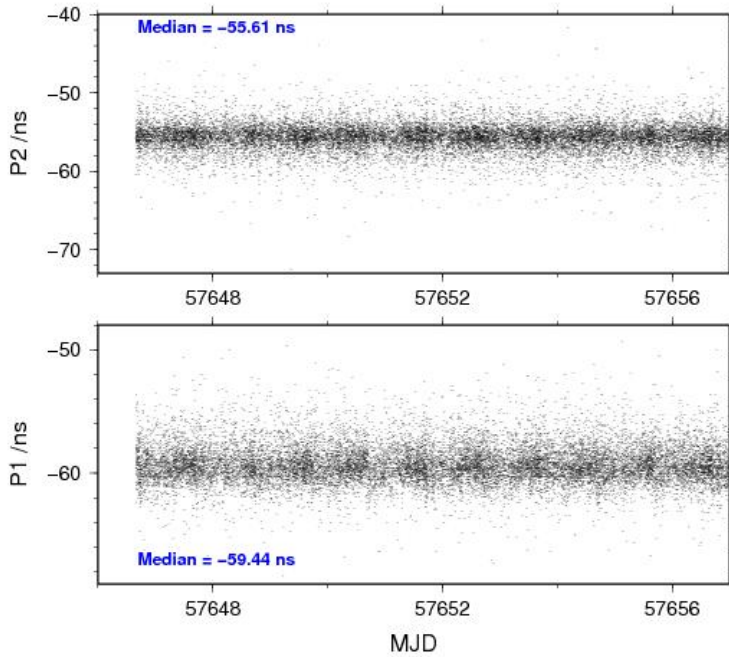
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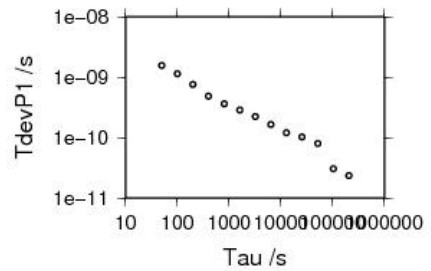
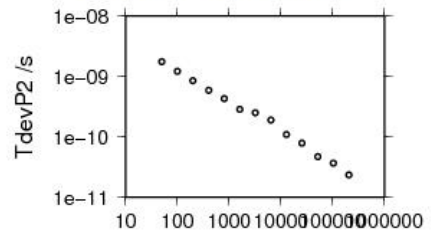
- 198955 s: C1= 27 ps
- 99483 s: C1= 43 ps
- 49741 s: C1= 98 ps
- 24871 s: C1= 111 ps
- 12435 s: C1= 159 ps
- 6218 s: C1= 181 ps
- 3109 s: C1= 225 ps
- 1554 s: C1= 284 ps
- 777 s: C1= 361 ps
- 389 s: C1= 464 ps
- 194 s: C1= 746 ps
- 97 s: C1= 1117 ps
- 49 s: C1= 1559 ps



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|---------------------|---------------------|
| 205225 s: P1= 24 ps | 205467 s: P2= 24 ps |
| 102612 s: P1= 31 ps | 102733 s: P2= 37 ps |
| 51306 s: P1= 80 ps | 51367 s: P2= 47 ps |
| 25653 s: P1= 103 ps | 25683 s: P2= 78 ps |
| 12827 s: P1= 120 ps | 12842 s: P2= 109 ps |
| 6413 s: P1= 164 ps | 6421 s: P2= 190 ps |
| 3207 s: P1= 222 ps | 3210 s: P2= 251 ps |
| 1603 s: P1= 287 ps | 1605 s: P2= 287 ps |
| 802 s: P1= 363 ps | 803 s: P2= 430 ps |
| 401 s: P1= 484 ps | 401 s: P2= 593 ps |
| 200 s: P1= 760 ps | 201 s: P2= 853 ps |
| 100 s: P1= 1135 ps | 100 s: P2= 1225 ps |
| 50 s: P1= 1568 ps | 50 s: P2= 1766 ps |



BP0U-BP1J

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 82055
 Computed code bias (P1/P2)/m = -2.899 -1.008
 Computed baseline (X,Y,Z)/m = -2.307 -0.326 1.895
 RMS of residuals /m = 0.619

Number of phase differences to fit baseline = 73394
 A priori baseline (X,Y,Z)/m = -2.307 -0.326 1.895
 17621 clock jitters computed out of 17821 intervals
 AVE jitter /ps = -0.7 RMS jitter /ps = 41.6

Iter 1 Large residuals L1= 5
 Iter 1 Large residuals L2= 5
 Computed baseline L1 (X,Y,Z)/m = 0.128 0.021 0.095
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = 0.133 0.007 0.091
 RMS of residuals L2 /m = 0.003

Iter 2 Large residuals L1= 5
 Iter 2 Large residuals L2= 5
 Computed baseline L1 (X,Y,Z)/m = 0.128 0.021 0.095
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = 0.133 0.007 0.091
 RMS of residuals L2 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -2.180 -0.305 1.989
 Final baseline L2 (X,Y,Z)/m = -2.175 -0.318 1.986

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 82216

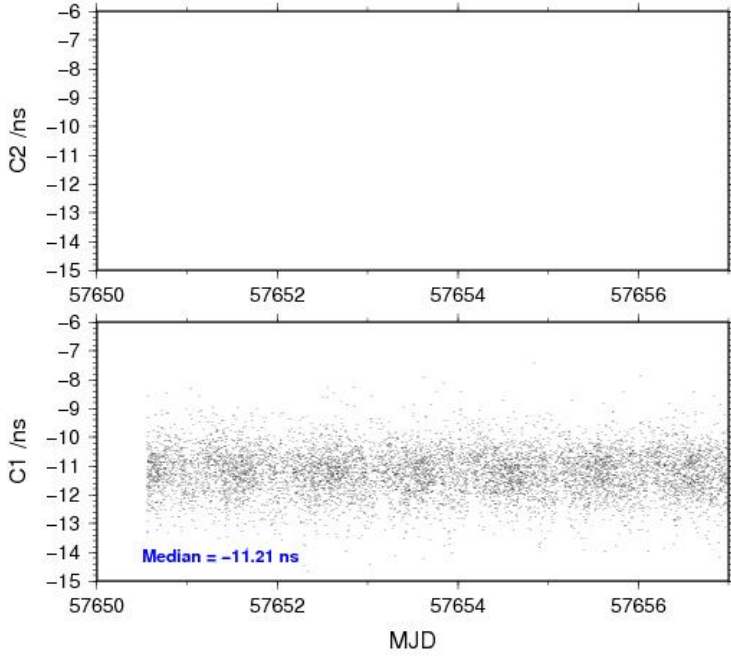
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 82072 -11.223 1.387
 C2: 0 NaN NaN
 P1: 81963 -10.074 1.932
 P2: 81963 -3.762 2.419

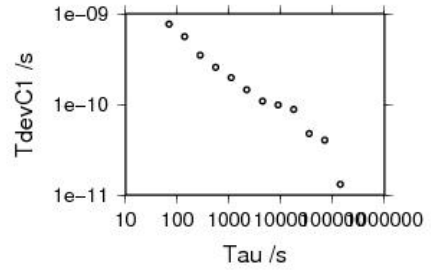
Number of 300s epochs in out file = 1858

Code #pts, median/ns, ave/ns, rms/ns
 C1: 8094 -11.205 -11.222 0.773
 C2: 0 0.000 NaN NaN
 P1: 8086 -10.071 -10.091 1.019
 P2: 8087 -3.744 -3.745 1.396

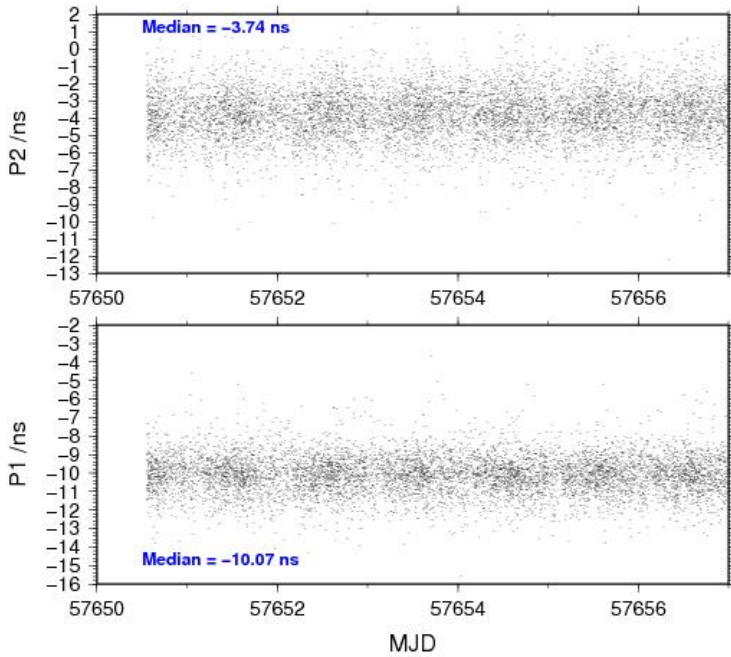
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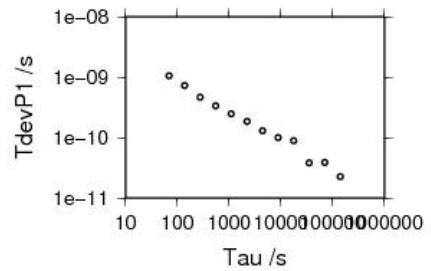
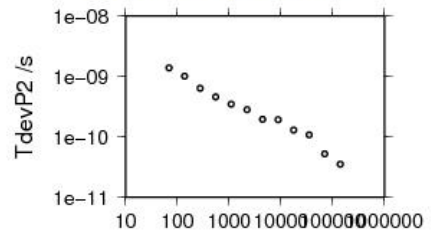
- 140979 s: C1= 13 ps
- 70489 s: C1= 40 ps
- 35245 s: C1= 47 ps
- 17622 s: C1= 88 ps
- 8811 s: C1= 99 ps
- 4406 s: C1= 109 ps
- 2203 s: C1= 146 ps
- 1101 s: C1= 197 ps
- 551 s: C1= 258 ps
- 275 s: C1= 350 ps
- 138 s: C1= 563 ps
- 69 s: C1= 771 ps



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|---------------------|---------------------|
| 141118 s: P1= 23 ps | 141101 s: P2= 35 ps |
| 70559 s: P1= 39 ps | 70550 s: P2= 52 ps |
| 35280 s: P1= 38 ps | 35275 s: P2= 108 ps |
| 17640 s: P1= 89 ps | 17638 s: P2= 130 ps |
| 8820 s: P1= 100 ps | 8819 s: P2= 193 ps |
| 4410 s: P1= 130 ps | 4409 s: P2= 194 ps |
| 2205 s: P1= 185 ps | 2205 s: P2= 281 ps |
| 1102 s: P1= 247 ps | 1102 s: P2= 349 ps |
| 551 s: P1= 337 ps | 551 s: P2= 461 ps |
| 276 s: P1= 465 ps | 276 s: P2= 642 ps |
| 138 s: P1= 729 ps | 138 s: P2= 1008 ps |
| 69 s: P1= 1049 ps | 69 s: P2= 1392 ps |



BP1C-BP1J

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 183334
 Computed code bias (P1/P2)/m = 7.518 9.272
 Computed baseline (X,Y,Z)/m = -1.450 -0.193 1.517
 RMS of residuals /m = 0.585

Number of phase differences to fit baseline = 178543
 A priori baseline (X,Y,Z)/m = -1.450 -0.193 1.517
 29780 clock jitters computed out of 29780 intervals
 AVE jitter /ps = 0.0 RMS jitter /ps = 5.1

Iter 1 Large residuals L1= 1
 Iter 1 Large residuals L2= 15
 Computed baseline L1 (X,Y,Z)/m = -0.039 -0.032 -0.206
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.026 -0.034 -0.205
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 1
 Iter 2 Large residuals L2= 15
 Computed baseline L1 (X,Y,Z)/m = -0.039 -0.032 -0.206
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = -0.026 -0.034 -0.205
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -1.489 -0.225 1.311
 Final baseline L2 (X,Y,Z)/m = -1.476 -0.227 1.312

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 187104

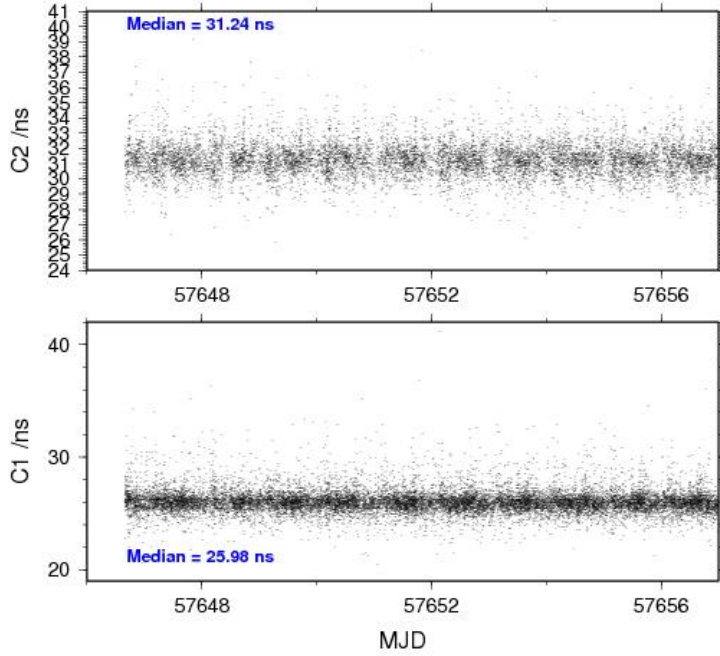
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 184739 26.049 1.904
 C2: 108180 31.256 1.904
 P1: 182570 25.553 1.982
 P2: 182272 31.428 2.665

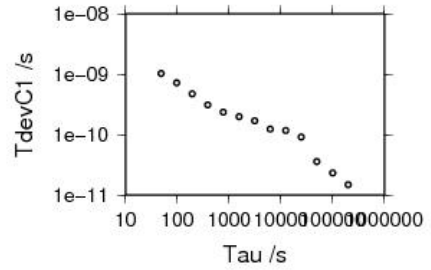
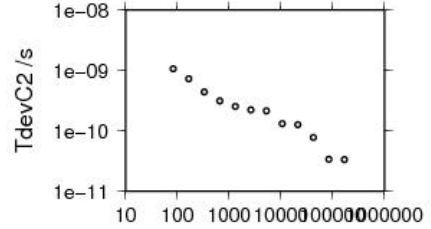
Number of 300s epochs in out file = 2979

Code #pts, median/ns, ave/ns, rms/ns
 C1: 18429 25.977 26.041 1.016
 C2: 10814 31.239 31.265 1.036
 P1: 18208 25.517 25.553 1.119
 P2: 18188 31.440 31.424 1.612

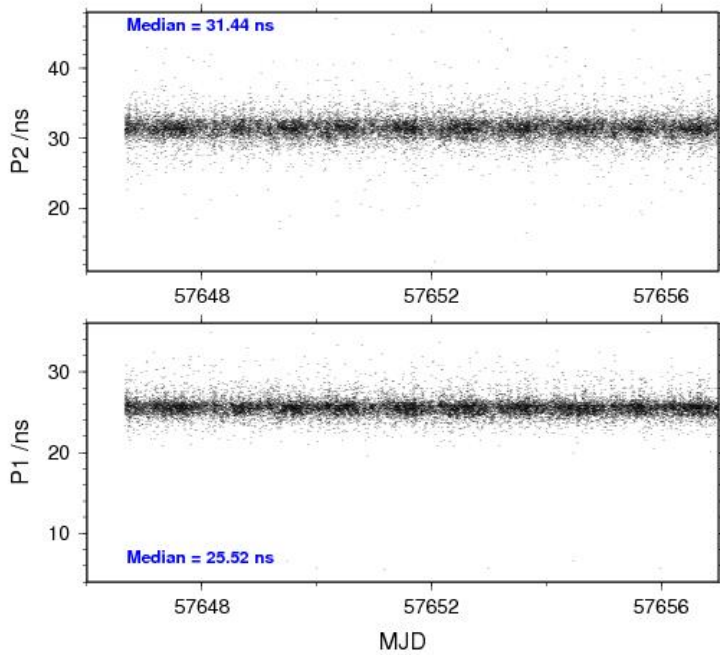
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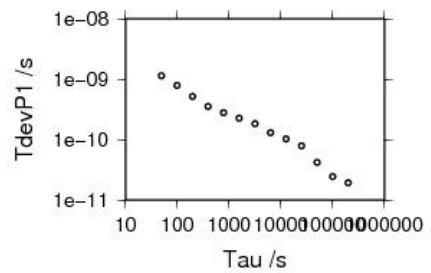
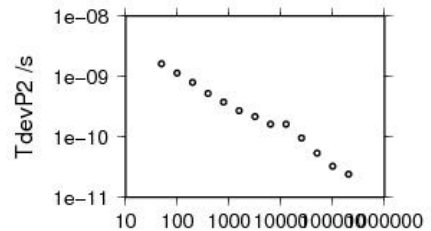
198576 s: C1= 15 ps	169211 s: C2= 34 ps
99288 s: C1= 23 ps	84606 s: C2= 34 ps
49644 s: C1= 36 ps	42303 s: C2= 78 ps
24822 s: C1= 92 ps	21151 s: C2= 127 ps
12411 s: C1= 117 ps	10576 s: C2= 132 ps
6206 s: C1= 123 ps	5288 s: C2= 215 ps
3103 s: C1= 169 ps	2644 s: C2= 223 ps
1551 s: C1= 199 ps	1322 s: C2= 253 ps
776 s: C1= 235 ps	661 s: C2= 315 ps
388 s: C1= 309 ps	330 s: C2= 442 ps
194 s: C1= 474 ps	165 s: C2= 733 ps
97 s: C1= 722 ps	83 s: C2= 1063 ps
48 s: C1= 1033 ps	



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200987 s: P1= 19 ps	201208 s: P2= 24 ps
100493 s: P1= 24 ps	100604 s: P2= 33 ps
50247 s: P1= 42 ps	50302 s: P2= 54 ps
25123 s: P1= 79 ps	25151 s: P2= 96 ps
12562 s: P1= 102 ps	12575 s: P2= 162 ps
6281 s: P1= 130 ps	6288 s: P2= 164 ps
3140 s: P1= 183 ps	3144 s: P2= 219 ps
1570 s: P1= 227 ps	1572 s: P2= 270 ps
785 s: P1= 278 ps	786 s: P2= 375 ps
393 s: P1= 354 ps	393 s: P2= 527 ps
196 s: P1= 519 ps	196 s: P2= 801 ps
98 s: P1= 788 ps	98 s: P2= 1144 ps
49 s: P1= 1141 ps	49 s: P2= 1634 ps



BP0U-BP1X

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 81733
 Computed code bias (P1/P2)/m = -0.988 0.084
 Computed baseline (X,Y,Z)/m = -3.166 -0.519 2.329
 RMS of residuals /m = 0.653

Number of phase differences to fit baseline = 72636
 A priori baseline (X,Y,Z)/m = -3.166 -0.519 2.329
 17604 clock jitters computed out of 17837 intervals
 AVE jitter /ps = -0.4 RMS jitter /ps = 41.5

Iter 1 Large residuals L1= 5
 Iter 1 Large residuals L2= 6
 Computed baseline L1 (X,Y,Z)/m = 0.247 0.072 0.275
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = 0.241 0.070 0.269
 RMS of residuals L2 /m = 0.004

Iter 2 Large residuals L1= 5
 Iter 2 Large residuals L2= 6
 Computed baseline L1 (X,Y,Z)/m = 0.247 0.072 0.275
 RMS of residuals L1 /m = 0.004
 Computed baseline L2 (X,Y,Z)/m = 0.242 0.070 0.269
 RMS of residuals L2 /m = 0.004

Final baseline L1 (X,Y,Z)/m = -2.918 -0.447 2.604
 Final baseline L2 (X,Y,Z)/m = -2.924 -0.449 2.598

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 81840

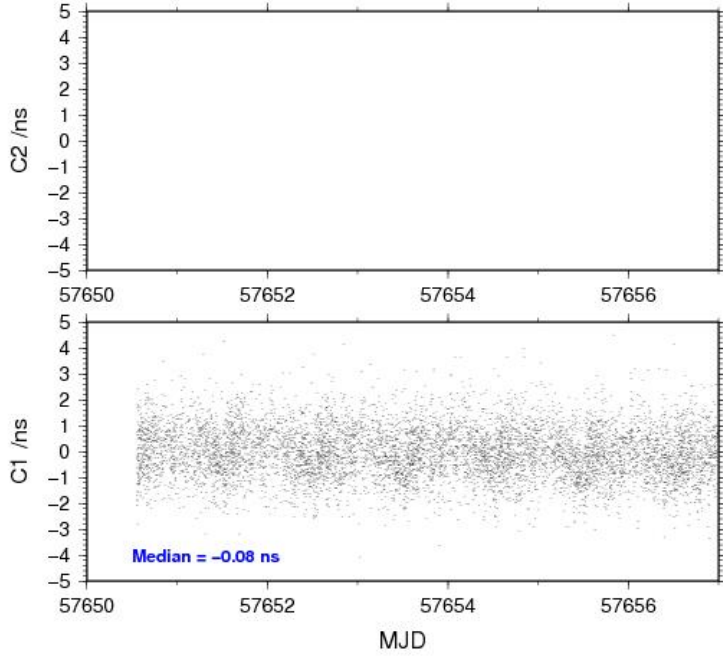
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 81750 -0.035 1.541
 C2: 0 NaN NaN
 P1: 81642 -4.271 2.156
 P2: 81630 -0.669 2.558

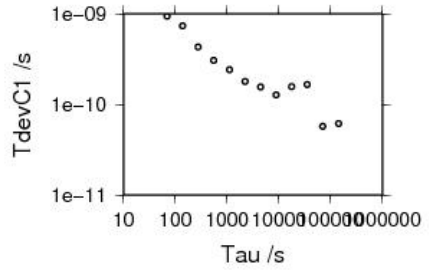
Number of 300s epochs in out file = 1858

Code #pts, median/ns, ave/ns, rms/ns
 C1: 8064 -0.077 -0.043 0.980
 C2: 0 0.000 NaN NaN
 P1: 8054 -4.357 -4.306 1.190
 P2: 8052 -0.679 -0.660 1.610

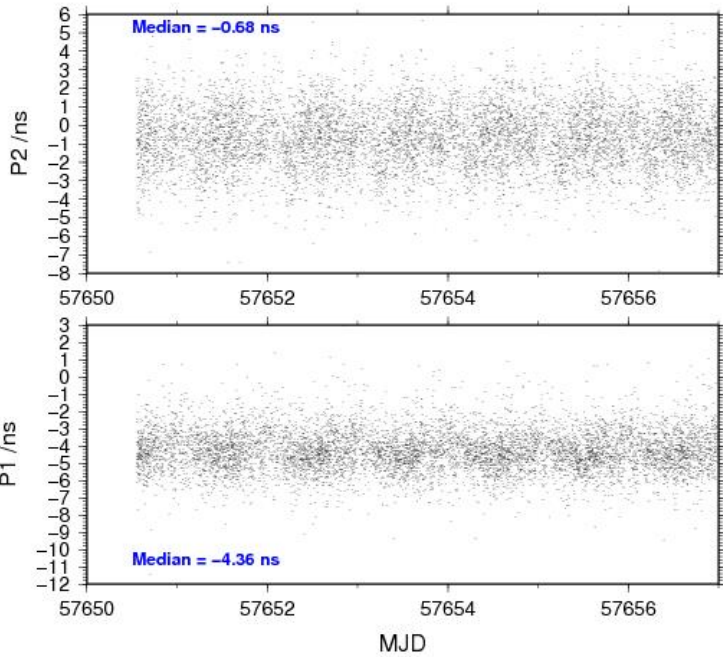
09/28/16 bp0ubp1x16263_7



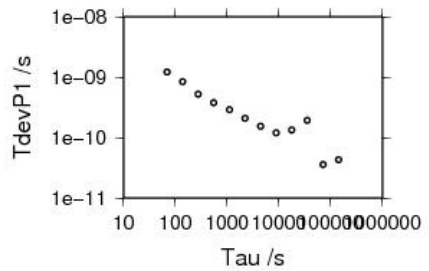
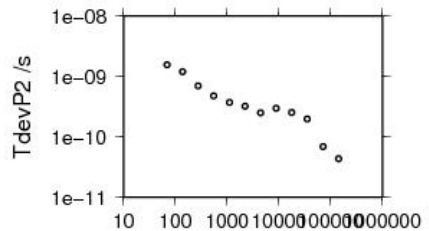
- 141503 s: C1= 61 ps
- 70752 s: C1= 57 ps
- 35376 s: C1= 166 ps
- 17688 s: C1= 157 ps
- 8844 s: C1= 128 ps
- 4422 s: C1= 156 ps
- 2211 s: C1= 179 ps
- 1105 s: C1= 242 ps
- 553 s: C1= 307 ps
- 276 s: C1= 431 ps
- 138 s: C1= 734 ps
- 69 s: C1= 939 ps



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|---------------------|---------------------|
| 141679 s: P1= 43 ps | 141714 s: P2= 44 ps |
| 70839 s: P1= 36 ps | 70857 s: P2= 69 ps |
| 35420 s: P1= 193 ps | 35429 s: P2= 198 ps |
| 17710 s: P1= 133 ps | 17714 s: P2= 254 ps |
| 8855 s: P1= 120 ps | 8857 s: P2= 296 ps |
| 4427 s: P1= 154 ps | 4429 s: P2= 251 ps |
| 2214 s: P1= 210 ps | 2214 s: P2= 324 ps |
| 1107 s: P1= 291 ps | 1107 s: P2= 374 ps |
| 553 s: P1= 378 ps | 554 s: P2= 480 ps |
| 277 s: P1= 525 ps | 277 s: P2= 702 ps |
| 138 s: P1= 845 ps | 138 s: P2= 1210 ps |
| 69 s: P1= 1225 ps | 69 s: P2= 1562 ps |



BP1C-BP1X

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 179353
 Computed code bias (P1/P2)/m = 9.709 10.655
 Computed baseline (X,Y,Z)/m = -2.516 -0.562 1.706
 RMS of residuals /m = 0.628

Number of phase differences to fit baseline = 174161
 A priori baseline (X,Y,Z)/m = -2.516 -0.562 1.706
 29780 clock jitters computed out of 29780 intervals
 AVE jitter /ps = 0.4 RMS jitter /ps = 5.9

Iter 1 Large residuals L1= 4
 Iter 1 Large residuals L2= 8
 Computed baseline L1 (X,Y,Z)/m = 0.295 0.167 0.198
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.275 0.169 0.193
 RMS of residuals L2 /m = 0.005

Iter 2 Large residuals L1= 4
 Iter 2 Large residuals L2= 8
 Computed baseline L1 (X,Y,Z)/m = 0.295 0.167 0.198
 RMS of residuals L1 /m = 0.005
 Computed baseline L2 (X,Y,Z)/m = 0.276 0.170 0.193
 RMS of residuals L2 /m = 0.005

Final baseline L1 (X,Y,Z)/m = -2.221 -0.395 1.904
 Final baseline L2 (X,Y,Z)/m = -2.240 -0.393 1.899

COMPUTATION OF CODE DIFFERENCES

Number of code differences = 181752

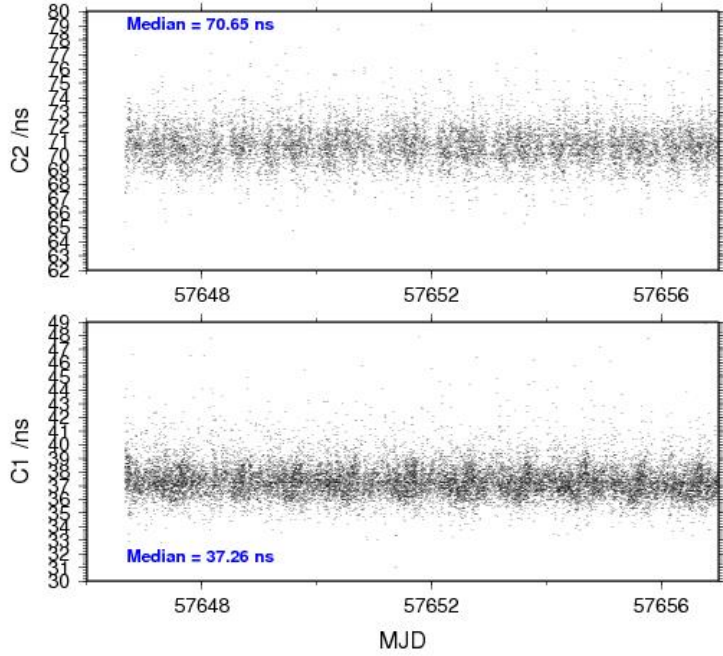
Global average of individual differences

Code #pts, ave/ns, rms/ns
 C1: 180707 37.403 1.986
 C2: 106872 70.708 2.030
 P1: 179001 31.550 2.343
 P2: 178792 34.738 2.936

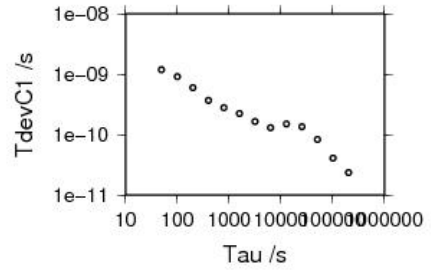
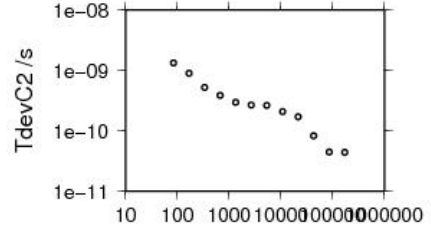
Number of 300s epochs in out file = 2979

Code #pts, median/ns, ave/ns, rms/ns
 C1: 18004 37.262 37.370 1.225
 C2: 10660 70.649 70.700 1.278
 P1: 17846 31.379 31.521 1.348
 P2: 17810 34.647 34.713 1.779

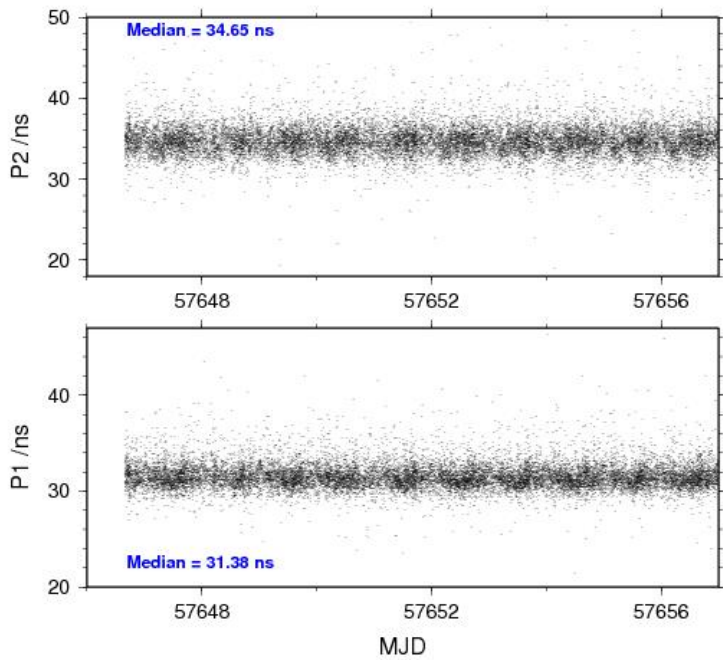
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203264 s: C1= 24 ps	171656 s: C2= 44 ps
101632 s: C1= 41 ps	85628 s: C2= 45 ps
50816 s: C1= 83 ps	42914 s: C2= 83 ps
25408 s: C1= 136 ps	21457 s: C2= 171 ps
12704 s: C1= 150 ps	10729 s: C2= 209 ps
6352 s: C1= 130 ps	5364 s: C2= 266 ps
3176 s: C1= 165 ps	2662 s: C2= 267 ps
1588 s: C1= 223 ps	1341 s: C2= 296 ps
794 s: C1= 280 ps	671 s: C2= 386 ps
397 s: C1= 369 ps	335 s: C2= 522 ps
198 s: C1= 601 ps	168 s: C2= 896 ps
99 s: C1= 907 ps	84 s: C2= 1332 ps
50 s: C1= 1190 ps	



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205064 s: P1= 49 ps	205478 s: P2= 22 ps
102532 s: P1= 30 ps	102739 s: P2= 40 ps
51266 s: P1= 111 ps	51370 s: P2= 74 ps
25633 s: P1= 148 ps	25685 s: P2= 145 ps
12816 s: P1= 116 ps	12842 s: P2= 197 ps
6408 s: P1= 125 ps	6421 s: P2= 213 ps
3204 s: P1= 174 ps	3211 s: P2= 246 ps
1602 s: P1= 252 ps	1605 s: P2= 297 ps
801 s: P1= 313 ps	803 s: P2= 385 ps
401 s: P1= 418 ps	401 s: P2= 552 ps
200 s: P1= 632 ps	201 s: P2= 899 ps
100 s: P1= 985 ps	100 s: P2= 1280 ps
50 s: P1= 1353 ps	50 s: P2= 1783 ps

