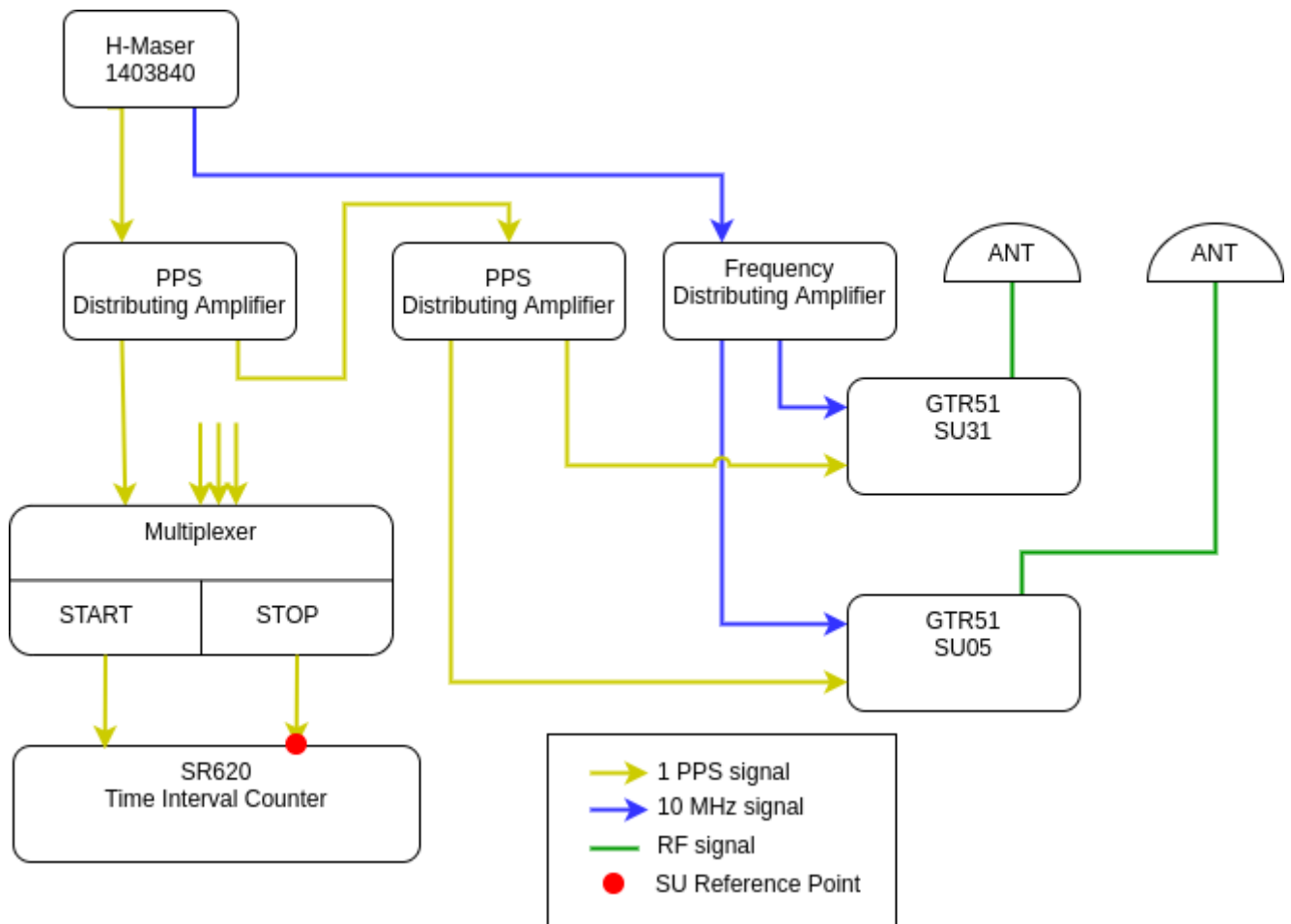


1. Laboratory: SU

Information Sheet

Laboratory:	SU	
Date and hour of the beginning of measurements:	2021-09-18 00:00:00 UTC (MJD 59475)	
Date and hour of the end of measurements:	2021-09-22 12:28:00 UTC (MJD 59479)	
Information on the system		
	Local:	Travelling:
4-character BIPM code	SU31	SU05
• Receiver maker and type:	DICOM (MESIT) GTR51	DICOM (MESIT) GTR51
Receiver serial number:	1604031	1907005
1 PPS trigger level /V:	1.0 V	1.0 V
• Antenna cable maker and type:	Andrew FSJ-1	Andrew FSJ-1
Phase stabilised cable (Y/N):	Y	Y
Length outside the building /m:	Approx. 15 m	Approx. 15 m
• Antenna maker and type:	Leica Geosystems LEIAR25.R4 LEIT	NovAtel NOV850 NONE
Antenna serial number:	726435	NMLK19250012J
Temperature (if stabilised) /°C	45.0 °C	45.0 °C
Measured delays /ns (if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	193.8 ns	193.8 ns
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	-	-
• Antenna cable delay:	143.2 ns	98.6 ns
Splitter delay (if any):	-	-
Additional cable delay (if any):	-	-
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		-
• INT DLY (Galileo) /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:		2 ns
• Is the laboratory air conditioned:		Y
Set temperature value and uncertainty:		19.5 °C ± 0.5 °C
Set humidity value and uncertainty:		-

Diagram of the experiment setup



SU05 – SU31

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 115574
Compute baseline with sin(elev) between 0.05 and 0.90
Apriori codes biases from 14602 high elev obs : -17.449 -19.362
Iteration 0: Obs used = 202935; Huge residuals = 7; Large residuals = 255
Iteration 1: Obs used = 202935; Huge residuals = 0; Large residuals = 248
Computed code bias (P1/P2)/m = -18.105 -20.049
Computed baseline (X,Y,Z)/m = 6.390 3.449 -5.302
RMS of residuals /m = 0.381

Number of phase differences to fit baseline
L1/L2 = 114365
L5 = 55856
A priori baseline (X,Y,Z)/m = 6.390 3.449 -5.302
12723 clock jitters computed out of 12723 intervals
AVE jitter /ps = -0.2 RMS jitter /ps = 9.8

Iter 1 Large residuals L1= 2
Iter 1 Large residuals L2= 1
Iter 1 Large residuals L5= 3
Computed baseline L1 (X,Y,Z)/m = 0.320 0.235 0.714
RMS of residuals L1 /m = 0.004
Computed baseline L2 (X,Y,Z)/m = 0.327 0.237 0.722
RMS of residuals L2 /m = 0.004
Computed baseline L5 (X,Y,Z)/m = 0.327 0.232 0.714
RMS of residuals L5 /m = 0.004

Iter 2 Large residuals L1= 2
Iter 2 Large residuals L2= 1
Iter 2 Large residuals L5= 3
Computed baseline L1 (X,Y,Z)/m = 0.320 0.235 0.714
RMS of residuals L1 /m = 0.004
Computed baseline L2 (X,Y,Z)/m = 0.327 0.237 0.722
RMS of residuals L2 /m = 0.004
Computed baseline L5 (X,Y,Z)/m = 0.327 0.232 0.714
RMS of residuals L5 /m = 0.004

New iteration of baseline
New apriori baseline (X,Y,Z)/m = 6.713 3.685 -4.584
12723 clock jitters computed out of 12723 intervals
AVE jitter /ps = 0.1 RMS jitter /ps = 1.3

Iter 3 Large residuals L1= 2
Iter 3 Large residuals L2= 1
Iter 3 Large residuals L5= 3
Computed baseline L1 (X,Y,Z)/m = 0.012 0.009 0.021
RMS of residuals L1 /m = 0.004
Computed baseline L2 (X,Y,Z)/m = 0.019 0.012 0.028
RMS of residuals L2 /m = 0.004
Computed baseline L5 (X,Y,Z)/m = 0.021 0.006 0.025
RMS of residuals L5 /m = 0.004

Final baseline L1 (X,Y,Z)/m = 6.725 3.695 -4.563
Final baseline L2 (X,Y,Z)/m = 6.732 3.697 -4.556
Final baseline L5 (X,Y,Z)/m = 6.734 3.691 -4.559

COMPUTATION OF CODE DIFFERENCES

Total number of code differences = 116015

Global average of individual differences

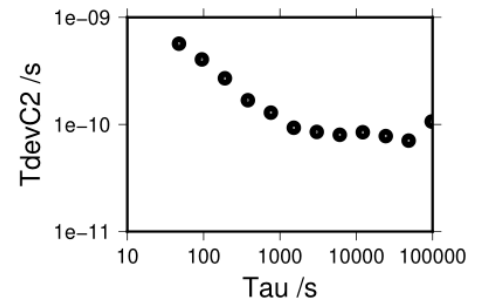
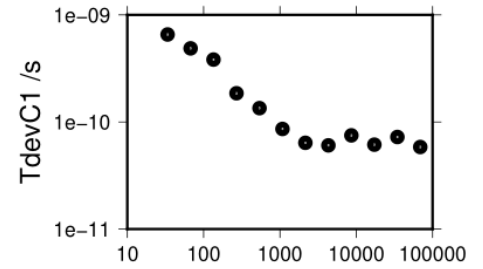
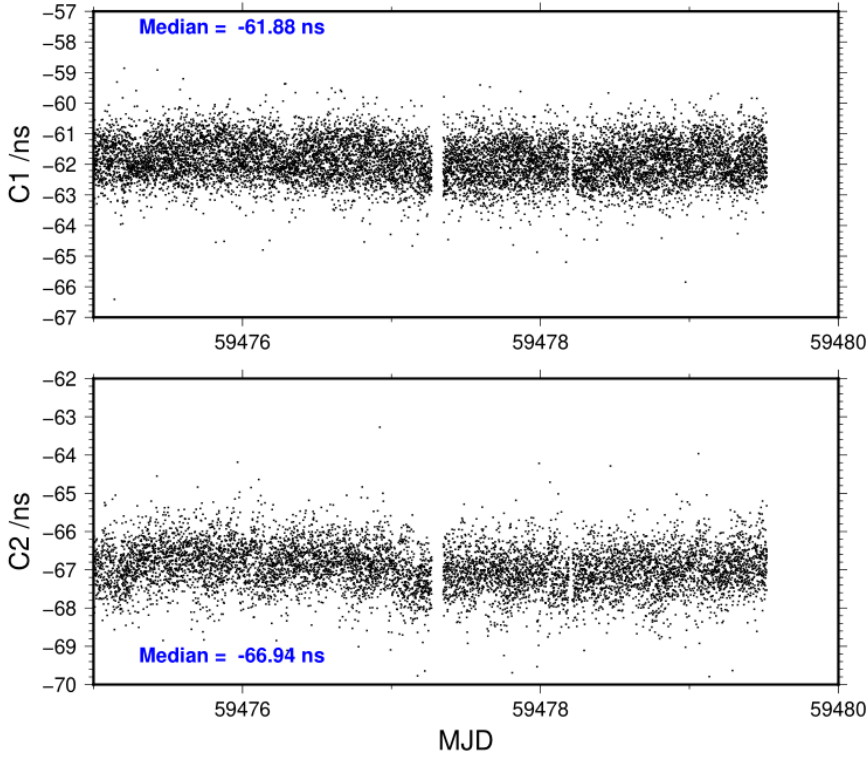
Code #pts, ave/ns, rms/ns
C1: 115820 -61.862 1.029
C2: 82189 -66.938 1.016
P1: 115491 -62.082 1.137
P2: 115482 -68.582 1.086

Number of 300s epochs in out file = 1277

Code	#pts	median/ns	ave/ns	rms/ns
C1:	11580	-61.876	-61.862	0.679
C2:	8216	-66.938	-66.941	0.585
P1:	11537	-62.103	-62.085	0.728
P2:	11537	-68.596	-68.588	0.608

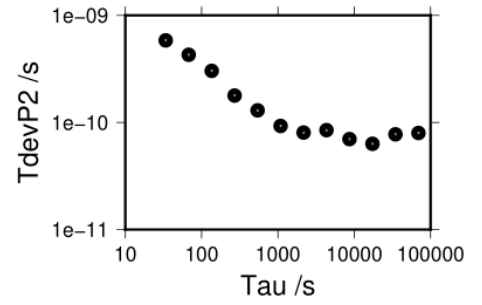
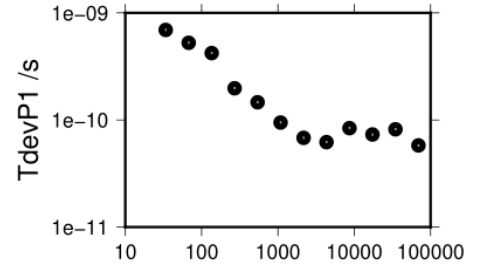
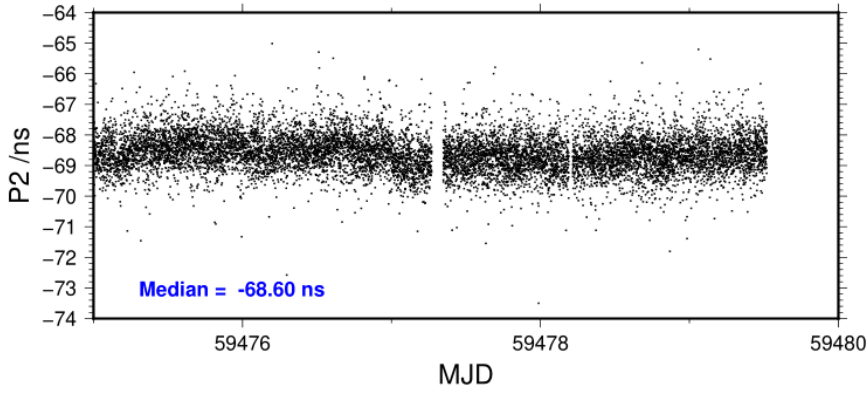
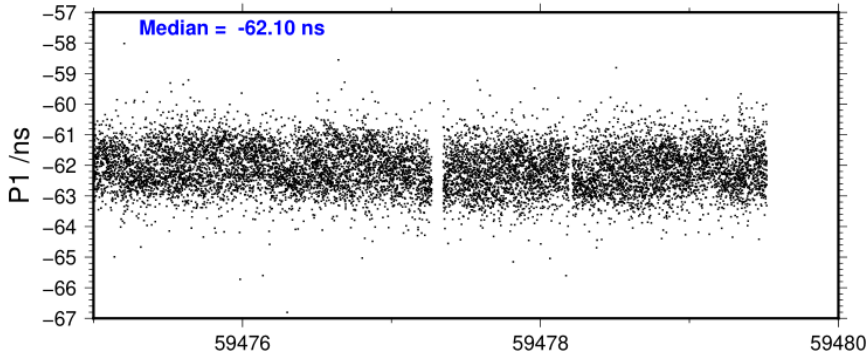
69033 s: C1= 58 ps	97302 s: C2= 107 ps
34517 s: C1= 72 ps	48651 s: C2= 71 ps
17258 s: C1= 61 ps	24325 s: C2= 78 ps
8629 s: C1= 75 ps	12163 s: C2= 85 ps
4315 s: C1= 61 ps	6081 s: C2= 80 ps
2157 s: C1= 64 ps	3041 s: C2= 85 ps
1079 s: C1= 86 ps	1520 s: C2= 93 ps
539 s: C1= 135 ps	760 s: C2= 129 ps
270 s: C1= 185 ps	380 s: C2= 168 ps
135 s: C1= 383 ps	190 s: C2= 270 ps
67 s: C1= 487 ps	95 s: C2= 405 ps
34 s: C1= 657 ps	48 s: C2= 568 ps

2021-10-22 su05su3121261_5



2021-10-22 su05su3121261_5

69290 s: P1= 58 ps	69290 s: P2= 80 ps
34645 s: P1= 82 ps	34645 s: P2= 77 ps
17323 s: P1= 73 ps	17323 s: P2= 63 ps
8661 s: P1= 84 ps	8661 s: P2= 70 ps
4331 s: P1= 62 ps	4331 s: P2= 85 ps
2165 s: P1= 68 ps	2165 s: P2= 81 ps
1083 s: P1= 95 ps	1083 s: P2= 93 ps
541 s: P1= 146 ps	541 s: P2= 130 ps
271 s: P1= 198 ps	271 s: P2= 179 ps
135 s: P1= 422 ps	135 s: P2= 303 ps
68 s: P1= 525 ps	68 s: P2= 429 ps
34 s: P1= 693 ps	34 s: P2= 584 ps

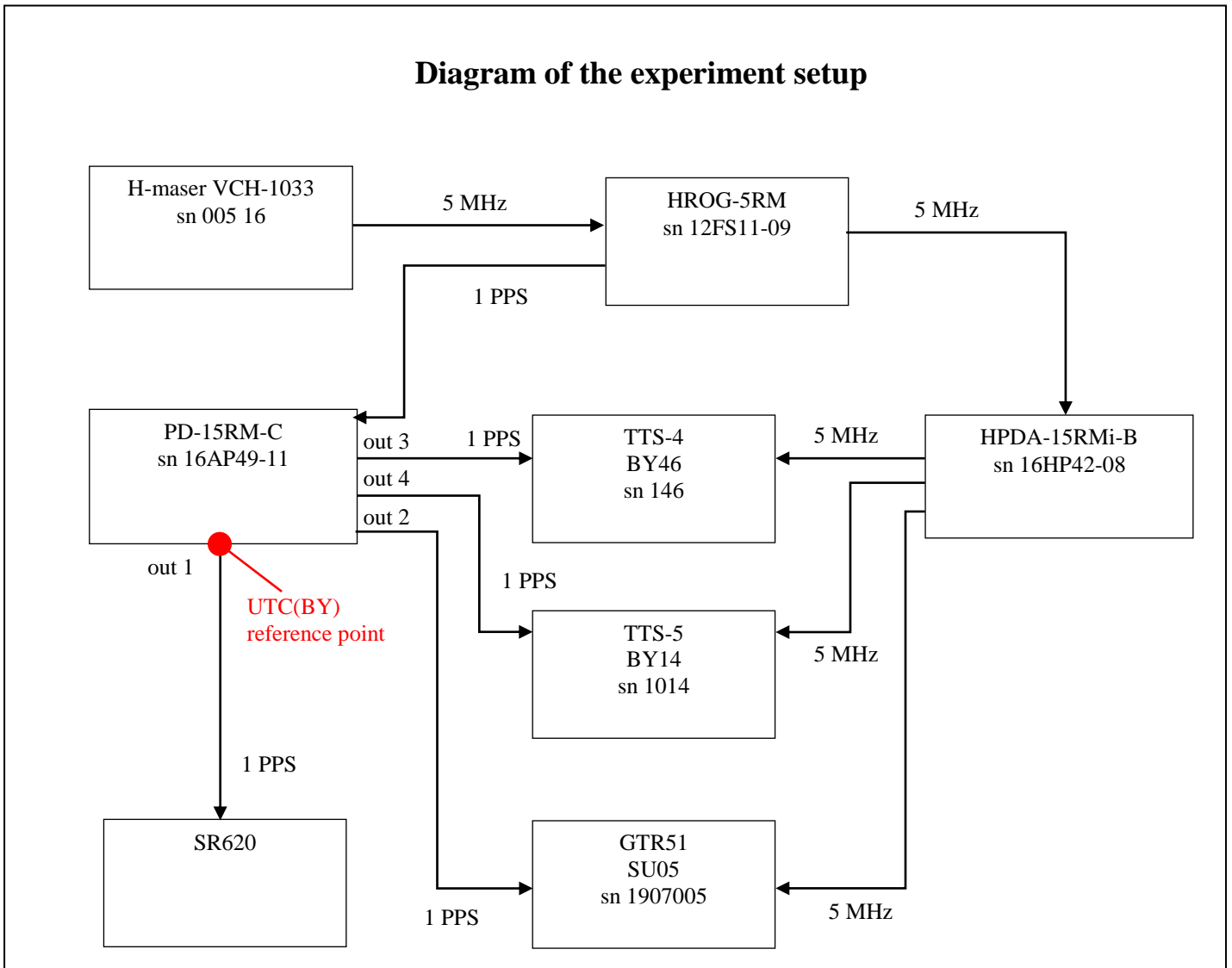


2. Laboratory BY

Information Sheet (BY46)

Laboratory:	BY	
Date and hour of the beginning of measurements:	2021-09-24 11:23:00 UTC (MJD 59481)	
Date and hour of the end of measurements:	2021-09-28 13:23:00 UTC (MJD 59485)	
Information on the system		
	Local:	Travelling:
4-character BIPM code	BY46	SU05
• Receiver maker and type:	Piktime TTS-4	DICOM (MESIT) GTR51
Receiver serial number:	0146	1907005
1 PPS trigger level /V:	1.0 V	1.0 V
• Antenna cable maker and type:	Andrew FSJ-1	Andrew FSJ-1
Phase stabilised cable (Y/N):	Y	Y
Length outside the building /m:	Approx. 5 m	Approx. 25 m
• Antenna maker and type:	Javad GNSS JAV_RINGANT_G3T JAVC	NovAtel NOV850 NONE
Antenna serial number:	00646	NMLK19250012J
Temperature (if stabilised) /°C	-	45.0 °C
Measured delays /ns (if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	51.48 ns	193.8 ns
Delay from 1 PPS-in to internal Reference (if different):	minus 10.76 ns	-
• Antenna cable delay:	144.14 ns	98.6 ns
Splitter delay (if any):	-	-
Additional cable delay (if any):	-	-
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		-
• INT DLY (Galileo) /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:		1 ns
• Is the laboratory air conditioned:		Y
Set temperature value and uncertainty:		20 °C ± 3 °C
Set humidity value and uncertainty:		-

Diagram of the experiment setup



Set-up at BY was changed after the arrival of VNIIFTRI staff. Current set-up is presented on the figure above.

All delay measurements were carried out using TIC Keysight 52230A with typical measurement uncertainty of 0.5 ns (when connected to external reference frequency source). TTS-4 (BY46) and TTS-5 (BY14) delays were measured with the full accordance to BIPM recommendations (Annex C of Operational procedures for a visit of the traveling equipment).

RF cable delay was taken from manufacturer certificate.

BY46 delays:

Delay type	Value, ns	
	MJD 59481	MJD 59485
Between laboratory reference source UTC(BY) and the 1 PPS input connector of the receiver	51.48	51.49
Between the 1 PPS input connector and the 10 MHz input connector	76.74	76.82
1 PPS – frequency correction (after measured delays being input into TTS)	-10.76	-10.68
Total reference delay (REF)	40.72	40.81

Mean REF = 40.77

BY46 – SU05

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 101467
Compute baseline with sin(elev) between 0.05 and 0.90
Apriori codes biases from 14447 high elev obs : 2.364 5.172
Iteration 0: Obs used = 172761; Huge residuals = 48; Large residuals = 2279
Iteration 1: Obs used = 172769; Huge residuals = 0; Large residuals = 2207
Computed code bias (P1/P2)/m = 4.447 5.614
Computed baseline (X,Y,Z)/m = -2.709 -5.466 2.327
RMS of residuals /m = 0.626

Number of phase differences to fit baseline
L1/L2 = 100387
L5 = 49610
A priori baseline (X,Y,Z)/m = -2.709 -5.466 2.327
11736 clock jitters computed out of 11739 intervals
AVE jitter /ps = 0.3 RMS jitter /ps = 4.8

Iter 1 Large residuals L1= 0
Iter 1 Large residuals L2= 0
Iter 1 Large residuals L5= 0
Computed baseline L1 (X,Y,Z)/m = -1.032 -0.506 -1.959
RMS of residuals L1 /m = 0.004
Computed baseline L2 (X,Y,Z)/m = -1.033 -0.504 -1.963
RMS of residuals L2 /m = 0.004
Computed baseline L5 (X,Y,Z)/m = -1.054 -0.504 -1.941
RMS of residuals L5 /m = 0.003

New iteration of baseline
New apriori baseline (X,Y,Z)/m = -3.741 -5.971 0.366
11736 clock jitters computed out of 11739 intervals
AVE jitter /ps = -0.2 RMS jitter /ps = 3.2

Iter 2 Large residuals L1= 0
Iter 2 Large residuals L2= 0
Iter 2 Large residuals L5= 0
Computed baseline L1 (X,Y,Z)/m = -0.041 -0.010 -0.051
RMS of residuals L1 /m = 0.003
Computed baseline L2 (X,Y,Z)/m = -0.043 -0.009 -0.055
RMS of residuals L2 /m = 0.004
Computed baseline L5 (X,Y,Z)/m = -0.046 -0.007 -0.056
RMS of residuals L5 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -3.782 -5.981 0.316
Final baseline L2 (X,Y,Z)/m = -3.783 -5.979 0.312
Final baseline L5 (X,Y,Z)/m = -3.787 -5.978 0.310

COMPUTATION OF CODE DIFFERENCES

Total number of code differences = 103031

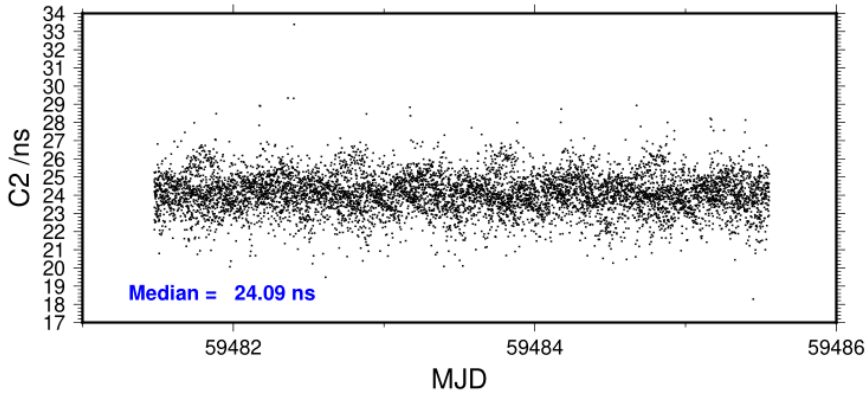
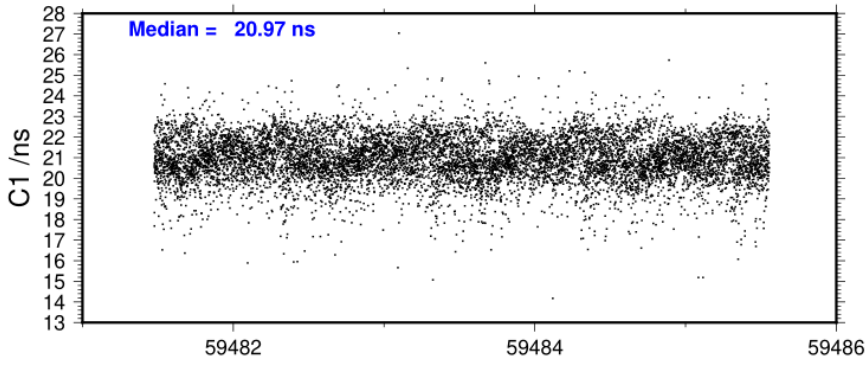
Global average of individual differences

Code #pts, ave/ns, rms/ns
C1: 102898 20.970 1.687
C2: 73208 24.082 1.803
P1: 100331 19.683 1.588
P2: 94521 22.871 1.733

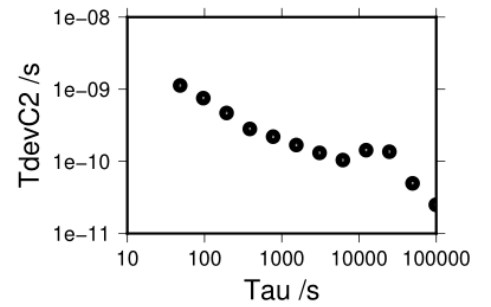
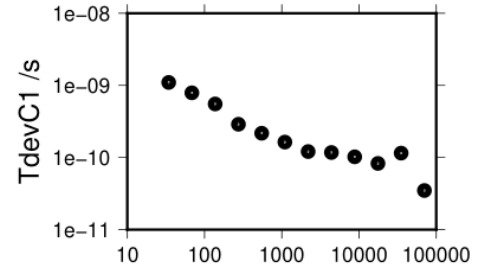
Number of 300s epochs in out file = 1176

Code #pts, median/ns, ave/ns, rms/ns
C1: 10273 20.971 20.973 1.079
C2: 7307 24.095 24.094 1.062
P1: 10031 19.777 19.685 1.039
P2: 9441 22.932 22.881 1.042

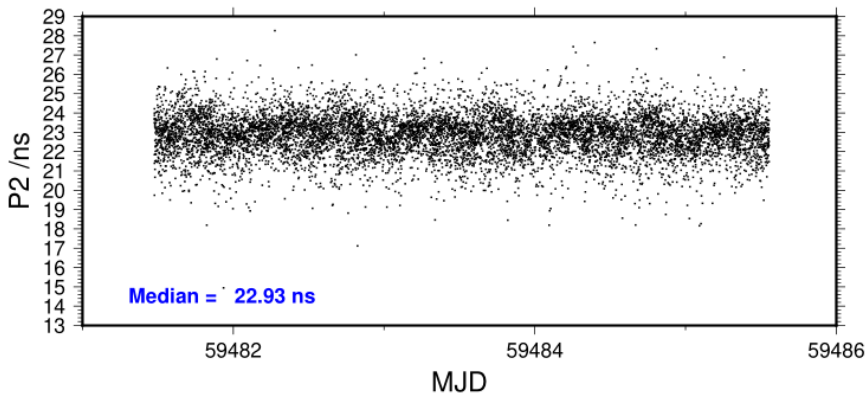
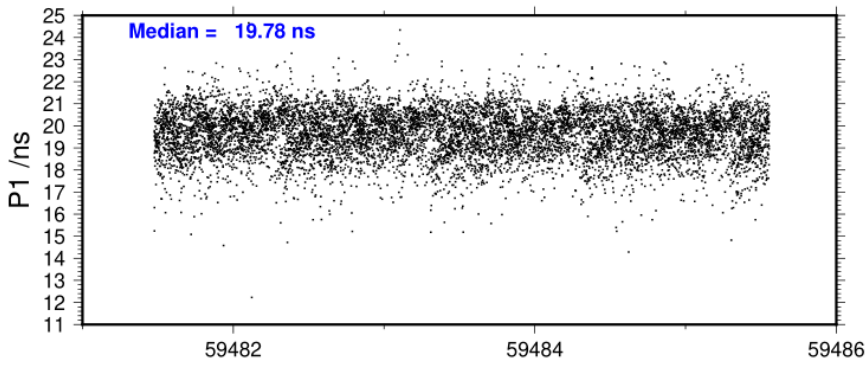
2021-10-22 by46su0521267_5



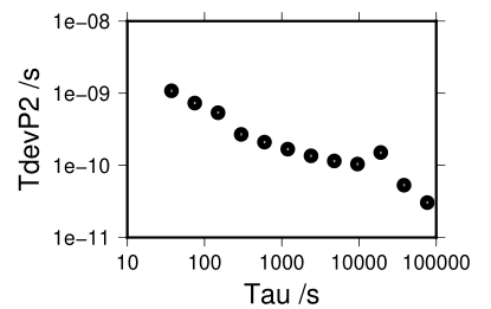
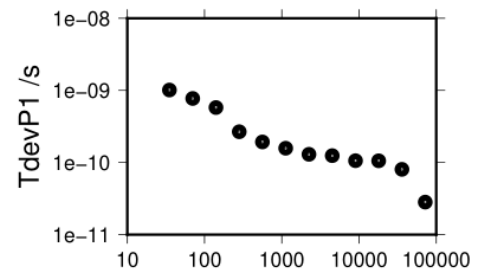
70280 s: C1= 35 ps	98812 s: C2= 25 ps
35140 s: C1= 115 ps	49406 s: C2= 50 ps
17570 s: C1= 83 ps	24703 s: C2= 136 ps
8785 s: C1= 102 ps	12351 s: C2= 143 ps
4393 s: C1= 118 ps	6176 s: C2= 104 ps
2196 s: C1= 121 ps	3088 s: C2= 131 ps
1098 s: C1= 164 ps	1544 s: C2= 169 ps
549 s: C1= 218 ps	772 s: C2= 220 ps
275 s: C1= 289 ps	386 s: C2= 282 ps
137 s: C1= 554 ps	193 s: C2= 469 ps
69 s: C1= 790 ps	96 s: C2= 754 ps
34 s: C1= 1101 ps	48 s: C2= 1130 ps



2021-10-22 by46su0521267_5



71976 s: P1= 28 ps	76475 s: P2= 31 ps
35988 s: P1= 80 ps	38237 s: P2= 53 ps
17994 s: P1= 106 ps	19119 s: P2= 151 ps
8997 s: P1= 106 ps	9559 s: P2= 104 ps
4498 s: P1= 125 ps	4780 s: P2= 115 ps
2249 s: P1= 130 ps	2390 s: P2= 136 ps
1125 s: P1= 158 ps	1195 s: P2= 168 ps
562 s: P1= 193 ps	597 s: P2= 211 ps
281 s: P1= 268 ps	299 s: P2= 269 ps
141 s: P1= 580 ps	149 s: P2= 537 ps
70 s: P1= 773 ps	75 s: P2= 733 ps
35 s: P1= 1013 ps	37 s: P2= 1081 ps



Information Sheet (BY14)

Laboratory:	BY	
Date and hour of the beginning of measurements:	2021-09-24 11:23:00 UTC (MJD 59481)	
Date and hour of the end of measurements:	2021-09-28 13:23:00 UTC (MJD 59485)	
Information on the system		
	Local:	Travelling:
4-character BIPM code	BY14	SU05
• Receiver maker and type:	Piktime TTS-5	DICOM (MESIT) GTR51
Receiver serial number:	1014	1907005
1 PPS trigger level /V:	1.0 V	1.0 V
• Antenna cable maker and type:	Andrew FSJ-1	Andrew FSJ-1
Phase stabilised cable (Y/N):	Y	Y
Length outside the building /m:	Approx. 5 m	Approx. 25 m
• Antenna maker and type:	Leica Geosystems LEIAR25.R4 LEIT	NovAtel NOV850 NONE
Antenna serial number:	726819	NMLK19250012J
Temperature (if stabilised) /°C	-	45.0 °C
Measured delays /ns (if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	43.22 ns	193.8 ns
Delay from 1 PPS-in to internal Reference (if different):	minus 2.98 ns	-
• Antenna cable delay:	140.59 ns	98.6 ns
Splitter delay (if any):	-	-
Additional cable delay (if any):	-	-
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		-
• INT DLY (Galileo) /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:		1 ns
• Is the laboratory air conditioned:		Y
Set temperature value and uncertainty:		20 °C ± 3 °C
Set humidity value and uncertainty:		-

COMMENTS

All delay measurements were carried out using TIC Keysight 52230A with typical measurement uncertainty of 0.5 ns (when connected to external reference frequency source).

TTS-4 (BY46) and TTS-5 (BY14) delays were measured with the full accordance to BIPM recommendations (Annex C of Operational procedures for a visit of the traveling equipment).

RF cable delay was taken from manufacturer certificate.

BY14 delays:

Delay type	Value, ns	
	MJD 59481	MJD 59485
Between laboratory reference source UTC(BY) and the 1 PPS input connector of the receiver	43.22	43.25
Between the 1 PPS input connector and the 10 MHz input connector	84.52	84.62
1 PPS – frequency correction (after measured delays being input into TTS)	-2.98	-2.88
Total reference delay (REF)	40.24	40.37

Mean REF = 40.31

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 102074
Compute baseline with sin(elev) between 0.05 and 0.90
Apriori codes biases from 14547 high elev obs : 7.408 7.501
Iteration 0: Obs used = 174853; Huge residuals = 0; Large residuals = 1213
Iteration 1: Obs used = 174853; Huge residuals = 0; Large residuals = 1213
Computed code bias (P1/P2)/m = 9.341 9.548
Computed baseline (X,Y,Z)/m = -3.950 -4.129 3.132
RMS of residuals /m = 0.673

Number of phase differences to fit baseline
L1/L2 = 101310
L5 = 49868
A priori baseline (X,Y,Z)/m = -3.950 -4.129 3.132
11730 clock jitters computed out of 11730 intervals
AVE jitter /ps = 0.3 RMS jitter /ps = 4.9

Iter 1 Large residuals L1= 0
Iter 1 Large residuals L2= 0
Iter 1 Large residuals L5= 0
Computed baseline L1 (X,Y,Z)/m = -1.143 -0.574 -2.429
RMS of residuals L1 /m = 0.003
Computed baseline L2 (X,Y,Z)/m = -1.152 -0.577 -2.440
RMS of residuals L2 /m = 0.003
Computed baseline L5 (X,Y,Z)/m = -1.166 -0.578 -2.408
RMS of residuals L5 /m = 0.003

New iteration of baseline
New apriori baseline (X,Y,Z)/m = -5.097 -4.704 0.697
11730 clock jitters computed out of 11730 intervals
AVE jitter /ps = -0.3 RMS jitter /ps = 3.8

Iter 2 Large residuals L1= 0
Iter 2 Large residuals L2= 0
Iter 2 Large residuals L5= 0
Computed baseline L1 (X,Y,Z)/m = -0.041 -0.008 -0.058
RMS of residuals L1 /m = 0.003
Computed baseline L2 (X,Y,Z)/m = -0.050 -0.011 -0.068
RMS of residuals L2 /m = 0.003
Computed baseline L5 (X,Y,Z)/m = -0.049 -0.010 -0.065
RMS of residuals L5 /m = 0.003

Final baseline L1 (X,Y,Z)/m = -5.139 -4.713 0.640
Final baseline L2 (X,Y,Z)/m = -5.147 -4.716 0.629
Final baseline L5 (X,Y,Z)/m = -5.146 -4.715 0.632

COMPUTATION OF CODE DIFFERENCES

Total number of code differences = 103024

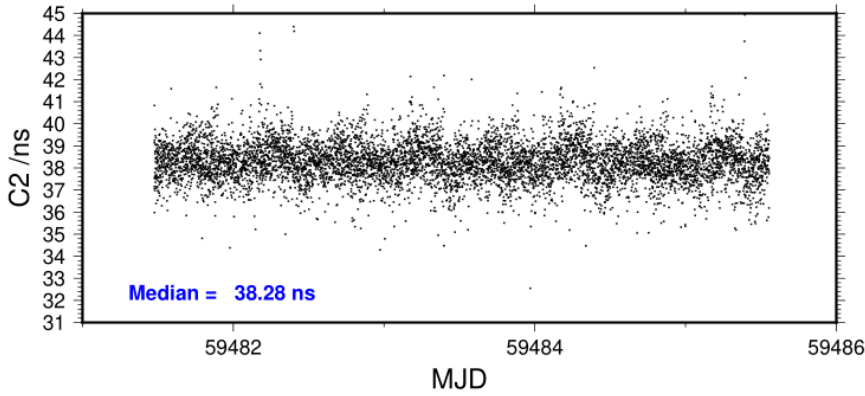
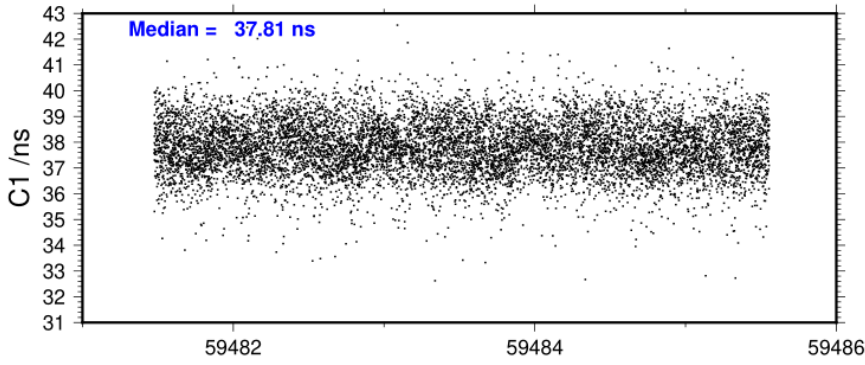
Global average of individual differences

Code #pts, ave/ns, rms/ns
C1: 102902 37.827 1.622
C2: 73198 38.288 1.497
P1: 101950 36.809 1.346
P2: 101946 37.524 1.136

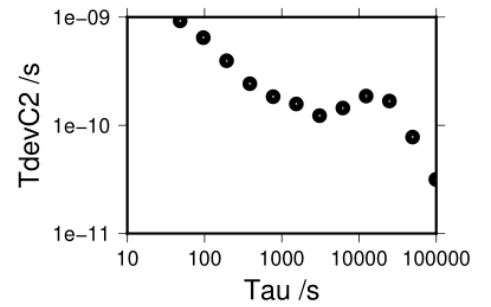
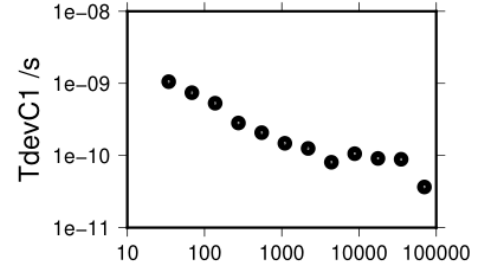
Number of 300s epochs in out file = 1176

Code #pts, median/ns, ave/ns, rms/ns
C1: 10274 37.812 37.832 1.029
C2: 7307 38.285 38.299 0.909
P1: 10186 36.809 36.814 0.907
P2: 10186 37.553 37.527 0.677

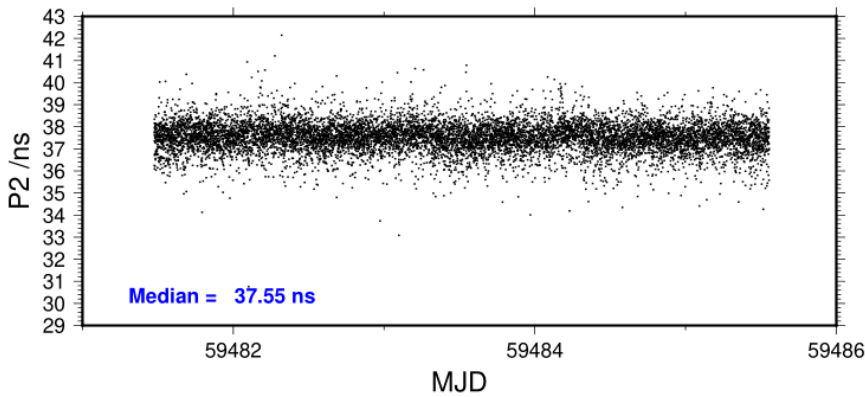
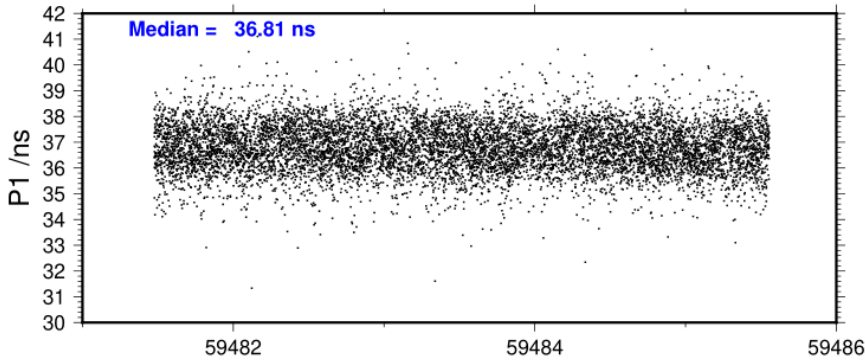
2021-10-22 by14su0521267_5



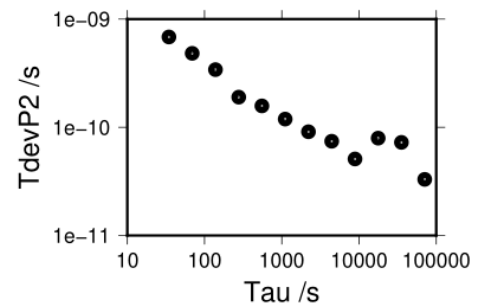
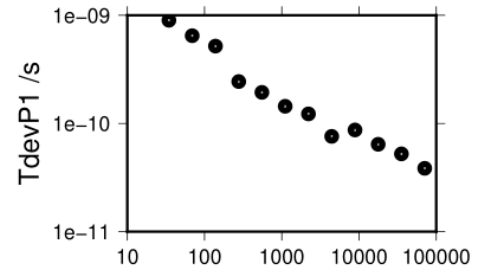
70274 s: C1= 37 ps	98812 s: C2= 32 ps
35137 s: C1= 89 ps	49406 s: C2= 78 ps
17568 s: C1= 91 ps	24703 s: C2= 168 ps
8784 s: C1= 106 ps	12351 s: C2= 186 ps
4392 s: C1= 81 ps	6176 s: C2= 145 ps
2196 s: C1= 126 ps	3088 s: C2= 123 ps
1098 s: C1= 148 ps	1544 s: C2= 158 ps
549 s: C1= 208 ps	772 s: C2= 184 ps
275 s: C1= 282 ps	386 s: C2= 242 ps
137 s: C1= 532 ps	193 s: C2= 396 ps
69 s: C1= 743 ps	96 s: C2= 646 ps
34 s: C1= 1059 ps	48 s: C2= 925 ps



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70881 s: P1= 39 ps	70881 s: P2= 33 ps
35440 s: P1= 52 ps	35440 s: P2= 73 ps
17720 s: P1= 64 ps	17720 s: P2= 79 ps
8860 s: P1= 87 ps	8860 s: P2= 51 ps
4430 s: P1= 76 ps	4430 s: P2= 74 ps
2215 s: P1= 123 ps	2215 s: P2= 91 ps
1108 s: P1= 144 ps	1108 s: P2= 119 ps
554 s: P1= 194 ps	554 s: P2= 158 ps
277 s: P1= 244 ps	277 s: P2= 190 ps
138 s: P1= 519 ps	138 s: P2= 341 ps
69 s: P1= 648 ps	69 s: P2= 483 ps
35 s: P1= 899 ps	35 s: P2= 685 ps



3. Laboratory: SU

Information Sheet

Laboratory:	SU	
Date and hour of the beginning of measurements:	2021-09-29 12:02:00 UTC (MJD 59486)	
Date and hour of the end of measurements:	2021-10-03 23:59:30 UTC (MJD 59490)	
Information on the system		
	Local:	Travelling:
4-character BIPM code	SU31	SU05
• Receiver maker and type:	DICOM (MESIT) GTR51	DICOM (MESIT) GTR51
Receiver serial number:	1604031	1907005
1 PPS trigger level /V:	1.0 V	1.0 V
• Antenna cable maker and type:	Andrew FSJ-1	Andrew FSJ-1
Phase stabilised cable (Y/N):	Y	Y
Length outside the building /m:	Approx. 15 m	Approx. 15 m
• Antenna maker and type:	Leica Geosystems LEIAR25.R4 LEIT	NovAtel NOV850 NONE
Antenna serial number:	726435	NMLK19250012J
Temperature (if stabilised) /°C	45.0 °C	45.0 °C
Measured delays /ns		
(if needed fill box "Additional Information" below)		
	Local:	Travelling:
• Delay from local UTC to receiver 1 PPS-in:	193.8 ns	193.8 ns
Delay from 1 PPS-in to internal Reference (if different): <small>(see section 2 for details)</small>	-	-
• Antenna cable delay:	143.2 ns	98.6 ns
Splitter delay (if any):	-	-
Additional cable delay (if any):	-	-
Data used for the generation of CGGTTS files		
• INT DLY (GPS) /ns:		-
• INT DLY (Galileo) /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:		2 ns
• Is the laboratory air conditioned:		Y
Set temperature value and uncertainty:		19.5 °C ± 0.5 °C
Set humidity value and uncertainty:		-

COMPUTATION OF BASELINE

Number of codes to fit baseline and biases = 121023
Compute baseline with sin(elev) between 0.05 and 0.90
Apriori codes biases from 15277 high elev obs : -17.469 -19.357
Iteration 0: Obs used = 212477; Huge residuals = 12; Large residuals = 291
Iteration 1: Obs used = 212479; Huge residuals = 0; Large residuals = 277
Computed code bias (P1/P2)/m = -18.108 -20.044
Computed baseline (X,Y,Z)/m = 6.400 3.453 -5.293
RMS of residuals /m = 0.385

Number of phase differences to fit baseline

L1/L2 = 119903

L5 = 57375

A priori baseline (X,Y,Z)/m = 6.400 3.453 -5.293

12955 clock jitters computed out of 12955 intervals

AVE jitter /ps = -0.1 RMS jitter /ps = 3.9

Iter 1 Large residuals L1= 3
Iter 1 Large residuals L2= 3
Iter 1 Large residuals L5= 1
Computed baseline L1 (X,Y,Z)/m = 0.312 0.226 0.710
RMS of residuals L1 /m = 0.004
Computed baseline L2 (X,Y,Z)/m = 0.323 0.226 0.715
RMS of residuals L2 /m = 0.004
Computed baseline L5 (X,Y,Z)/m = 0.323 0.223 0.703
RMS of residuals L5 /m = 0.004

Iter 2 Large residuals L1= 3
Iter 2 Large residuals L2= 3
Iter 2 Large residuals L5= 1
Computed baseline L1 (X,Y,Z)/m = 0.312 0.226 0.710
RMS of residuals L1 /m = 0.004
Computed baseline L2 (X,Y,Z)/m = 0.323 0.226 0.715
RMS of residuals L2 /m = 0.004
Computed baseline L5 (X,Y,Z)/m = 0.323 0.223 0.703
RMS of residuals L5 /m = 0.004

New iteration of baseline

New apriori baseline (X,Y,Z)/m = 6.718 3.679 -4.580

12955 clock jitters computed out of 12955 intervals

AVE jitter /ps = 0.1 RMS jitter /ps = 1.2

Iter 3 Large residuals L1= 3
Iter 3 Large residuals L2= 3
Iter 3 Large residuals L5= 1
Computed baseline L1 (X,Y,Z)/m = 0.008 0.011 0.020
RMS of residuals L1 /m = 0.004
Computed baseline L2 (X,Y,Z)/m = 0.019 0.012 0.025
RMS of residuals L2 /m = 0.004
Computed baseline L5 (X,Y,Z)/m = 0.019 0.005 0.021
RMS of residuals L5 /m = 0.004

Final baseline L1 (X,Y,Z)/m = 6.726 3.691 -4.560
Final baseline L2 (X,Y,Z)/m = 6.737 3.691 -4.555
Final baseline L5 (X,Y,Z)/m = 6.737 3.685 -4.559

COMPUTATION OF CODE DIFFERENCES

Total number of code differences = 121367

Global average of individual differences

Code #pts, ave/ns, rms/ns

C1: 121258 -61.818 1.034

C2: 84172 -66.907 1.036

P1: 120943 -62.056 1.158

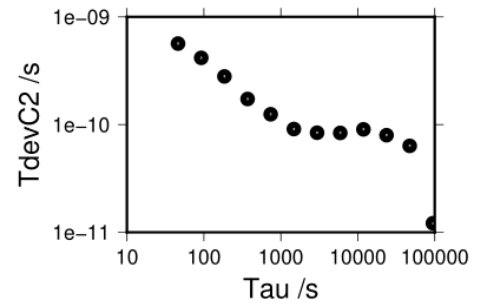
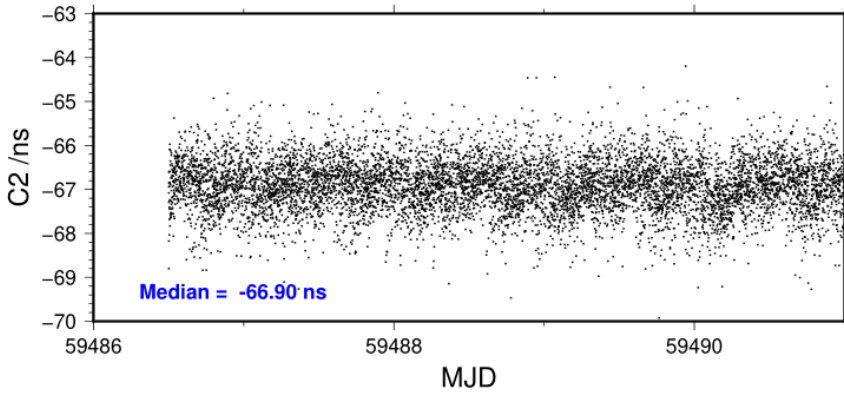
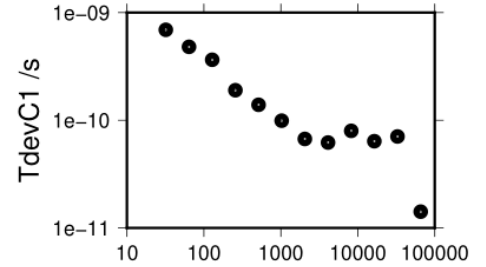
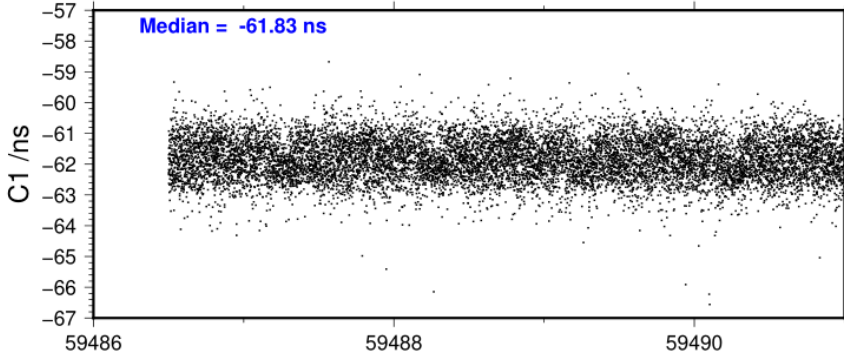
P2: 120938 -68.528 1.105

Number of 300s epochs in out file = 1296

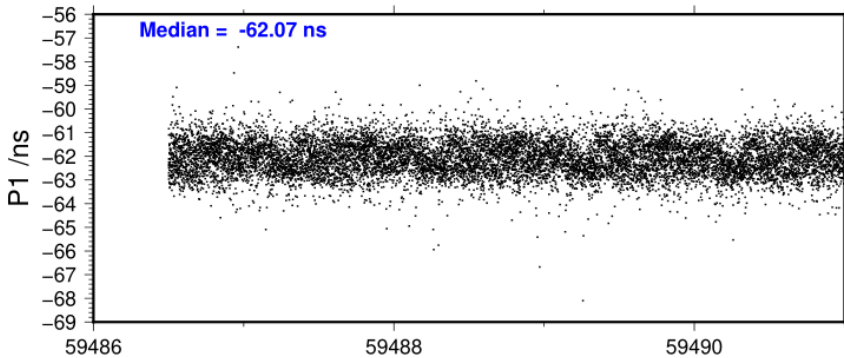
Code	#pts	median/ns	ave/ns	rms/ns
C1:	12118	-61.833	-61.820	0.681
C2:	8414	-66.896	-66.910	0.577
P1:	12086	-62.069	-62.062	0.734
P2:	12085	-68.549	-68.534	0.609

65664 s: C1= 14 ps	94574 s: C2= 12 ps
32832 s: C1= 71 ps	47287 s: C2= 63 ps
16416 s: C1= 64 ps	23643 s: C2= 80 ps
8208 s: C1= 80 ps	11822 s: C2= 90 ps
4104 s: C1= 62 ps	5911 s: C2= 84 ps
2052 s: C1= 67 ps	2955 s: C2= 84 ps
1026 s: C1= 99 ps	1478 s: C2= 91 ps
513 s: C1= 139 ps	739 s: C2= 125 ps
256 s: C1= 190 ps	369 s: C2= 173 ps
128 s: C1= 365 ps	185 s: C2= 280 ps
64 s: C1= 481 ps	92 s: C2= 417 ps
32 s: C1= 692 ps	46 s: C2= 566 ps

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2021-10-22 su05su3121272_5



65838 s: P1= 24 ps	65843 s: P2= 24 ps
32919 s: P1= 89 ps	32922 s: P2= 79 ps
16459 s: P1= 84 ps	16461 s: P2= 66 ps
8230 s: P1= 90 ps	8230 s: P2= 70 ps
4115 s: P1= 64 ps	4115 s: P2= 84 ps
2057 s: P1= 67 ps	2058 s: P2= 76 ps
1029 s: P1= 108 ps	1029 s: P2= 102 ps
514 s: P1= 146 ps	514 s: P2= 134 ps
257 s: P1= 205 ps	257 s: P2= 185 ps
129 s: P1= 404 ps	129 s: P2= 304 ps
64 s: P1= 517 ps	64 s: P2= 439 ps
32 s: P1= 738 ps	32 s: P2= 603 ps

