

<i>1st BIPM TWSTT Monthly Report</i>
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<i>April 1999</i>
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To: TWSTT Participating Stations

Dear Colleagues,

According to an agreement reached during a working meeting of TWSTT Participating Stations at FCS/EFTF in Besançon on 14 April 1999, we enclose the first monthly report on the handling of TWSTT data at the BIPM.

### 1. TWSTT data collection at the BIPM

At present data from the following stations are received on an operational basis: NPL, NIST, PTB, TUG, USNO and VSL.

Operation of the DTAG TWSTT station was interrupted temporarily due to a hardware problem. The OCA Earth station is still undergoing testing. The IEN and ROA stations are approaching operational status.

Until recently data from the NPL and the VSL presented some small anomalies. VSL data from the beginning of May fulfil all requirements. NPL data are still slightly anomalous, most probably due to a transmission problem. We are now working on this with colleagues from NPL.

### 2. Introduction of TWSTT links into TAI

Following discussions at the 14th CCTF meeting, the Director of the BIPM and the BIPM Time Section agreed that the TUG/PTB TWSTT link will be introduced into the computation of TAI, starting with the *Circular T* issue covering July 1999.

The GPS link between these two laboratories will be computed as a check and kept as reserve data.

Further links may be introduced within some months.

### 3. Other TWSTT links

Some selected TWSTT links will be computed and compared to GPS at the moment of the computation of *Circular T* but will not yet be used for the construction of TAI. The results of these computations will be reported in our monthly reports.

4. TWSTT links computed at the BIPM for April 1999

The TWSTT time links were linearly interpolated to give the data for the TAI standard dates.

**Table 1.** TUG/PTB link

Date 1999 (MJD)	$[UTC(TUG) - UTC(PTB)] / ns$		
	TWSTT	Circular T (GPS)	TWSTT – Circular T
1 April (51269)	110	132	-22
6 April (51274)	112	133	-21
11 April (51279)	112	135	-23
16 April (51284)	129	148	-19
21 April (51289)	156	180	-24
26 April (51294)	173	197	-24

Note: The TUG/PTB TWSTT link was calibrated by the transportation of a TWSTT station. *Circular T* GPS data for TUG was calibrated by an outdated value and the last GPS differential calibration between TUG and PTB was not taken into account; this is the reason for the offset of about -22 ns between the two techniques. If the last differential GPS calibration results would have been applied, the difference between the two techniques would be within a few nanoseconds.

**Table 2.** PTB/NIST link

Date 1999 (MJD)	$[UTC(PTB) - UTC(NIST)] / ns$		
	TWSTT	Circular T (GPS)	TWSTT – Circular T
1 April (51269)	41	41	0
6 April (51274)	38	37	1
11 April (51279)	36	36	0
16 April (51284)	30	33	-3
21 April (51289)	19	16	3
26 April (51294)	10	12	-2

Note: The PTB/NIST TWSTT link was calibrated by *Circular T*.

Providing the NPL anomaly is resolved, in the next monthly report we will introduce two additional links USNO/NPL and VSL/NPL.

We will be pleased to receive your comments on this report.

With our best regards,

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