

## TT(BIPM) on ftp

Updated 24 January 2013 (see **major changes in red**)

Updated 3 February 2015 for the list of standards

Updated 18 February 2016 **to add one file for each standard (changes in green)**

Updated 1 February 2018 for the list of standards

Updated 29 January 2019 for the list of standards

Updated 23 January 2020 for the list of standards

Updated 9 February 2021 for the list of standards

Updated 19 February 2022 for the list of standards

Updated 3 March 2023 for the list of standards

Updated 15 March 2023 for the list of standards and

deposit link

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This is the Read Me file of the ftp site on the TT results calculated by the BIPM Time Section. The results since 1992 are published on <https://webtai.bipm.org/ftp/pub/tai/ttbipm/>

TT(BIPM) is a realization of Terrestrial Time as defined by Recommendation IV of Resolution A4 of the International Astronomical Union, adopted at its XXIst General Assembly (1991), and updated by Resolution B1.9 at its XXIVth General Assembly (2000). The scale unit of TT(BIPM) thus agrees with the SI second on the rotating geoid and its origin is defined by the following relation to TAI:

$TT(BIPM) = TAI + 32.184 \text{ s on 1977 January 1st, 0 h TAI.}$

Each computation is identified by the string YY where 19YY or 20YY is the last year of data included. The file TT(BIPM).YY contains the result of the computation.

Starting with TT(BIPM08), information on each evaluation of each standard is reported in the file TT\_PFS.YY (see a description of this file further below). **Starting with TT(BIPM13), this file is named TT\_PSFS.YY.** Starting with TT(BIPM15), the same information is provided in one file for each standard, under the name TT\_cccccc where cccccc is the 7-character code of the standard (see list below). This file relates to the most recent version of TT(BIPM). These files, as well as some associated plots, are placed in the subdirectory newTT.

From TT(BIPM09) until TT(BIPM12), an extrapolation for the current year of the latest realization TT(BIPMY) is provided in the file TT(BIPMY).ext. It has the same format as the file TT(BIPM).YY and is updated each month after the TAI computation.

**Starting with TT(BIPM13), the extrapolation of TT(BIPMY) to the current year with a specific file is discontinued. A formula to extend TT(BIPMY) until the next realization is provided in the header of the file TT(BIPM).YY.**

The format for these files follows:

- The differences TT(BIPMY)-EAL and TT(BIPMY)-TAI are reported in TT(BIPM).YY.

1st column : MJD at 0 h UTC

2nd " : TT(BIPMY) - EAL - 32.184 s, unit is one microsecond

3rd " : TT(BIPMY) - TAI - 32.184 s, unit is one microsecond

- The rate differences  $y(EAL - PFS/SFS)$  and  $y(PFS/SFS - TT)$  are reported in TT\_PSFS.YY for all evaluations of primary and secondary frequency standards.

In addition the data for each standard with code cccccc are reported in TT\_cccccc. The first line of these file is a comment line. It also indicates the year of the CIPM resolution providing the values of the transition frequencies used for the TT computation.

Next lines are data lines with the following format:

1st column : MJD in the middle of the evaluation interval

2nd column : PFS/SFS codes:

1880201: NIST-Yb1

1881101: IT-Yb1

1885001: NMIJ-Yb1

1885601: KRISS-Yb1

1890801: SYRTE-SrB

1890802: SYRTE-Sr2  
 1892001: NICT-Sr1  
 1891701: NPL-Sr1  
 1920001: PTB-CS1  
 1920002: PTB-CS2  
 1920003: PTB-CS3  
 1920201: NIST-F1  
 1920202: NIST-F2  
 1920299: NIST7  
 1920301: NRC-FCs2  
 1920501: PTB-CSF1  
 1920502: PTB-CSF2  
 1920801: SYRTE-JPO  
 1920802: SYRTE-FO1  
 1920803: SYRTE-FO2  
 1920804: SYRTE-FOM  
 1920899: LPTF-FO  
 1921101: IT-CSF1  
 1921102: IT-CSF2  
 1921701: NPL-CsF1  
 1921702: NPL-CsF2  
 1922001: NICT-CsF1  
 1922099: NICTO1  
 1923802: SU-FO2  
 1923899: SUCS102  
 1924801: NIM5  
 1925001: NMIJ-F1  
 1925099: NRLM4  
 1925201: NPLI-CsF1  
 1925601: KRISS-1  
 1925701: METAS-FOC2  
 1930803: SYRTE-FO2 (Rb)  
 1925002: NMIJ-F2

3rd column :  $y(\text{EAL} - \text{PFS/SFS})$ , in  $10^{-14}$

4th column :  $y(\text{PFS/SFS} - \text{TT})$ , in  $10^{-14}$

5th column : Type A uncertainty of  $y(\text{EAL}-\text{PFS/SFS})$ , in  $10^{-14}$ , including the uncertainty in the link to EAL

6th column : Type B uncertainty of the PFS/SFS evaluation, in  $10^{-14}$

**7th column : For SFS, the year of the CIPM resolution which value of the transition frequency was used to report the SFS evaluation**

8th column : For SFS, the frequency difference between the transition frequency used to report the evaluation and the transition frequency used in the TT computation, in  $10^{-14}$

9th column : For SFS, the uncertainty of the transition frequency used in the TT computation, in  $10^{-14}$

Note:

In the file TT\_PFS.08, only the global uncertainty of the PFS evaluation is reported in column 5.