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 2024 for the list of standards and
deposit link
Updated 30 January 2025 for the list of standards
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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 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 TTBIPM.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_ccccccc where
ccccccc 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(BIPMYY) is provided in the file TTBIPMYY.ext. It has the same format as
the file TTBIPM.YY and is updated each month after the TAI computation.

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

The format for these files follows:

- The differences TT(BIPMYY)-EAL and TT(BIPMYY)-TAI are reported in TTBIPM.YY.

  1st column : MJD at 0 h UTC
  2nd   "   : TT(BIPMYY) - EAL - 32.184 s, unit is one microsecond
  3rd   "   : TT(BIPMYY) - 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 ccccccc are reported in TT_ccccccc.
  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

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                    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
                    1924902: NTSC-CSF2
                    1925001: NMIJ-F1
                    1925099: NRLM4
                    1925201: NPLI-CsF1
                    1925601: KRISS-1
                    1925701: METAS-FOC2
                    1930803: SYRTE-FO2(Rb)
                    1925002: NMIJ-F2
    3rd column : y(EAL – PFS/SFS), in 10^-14
    4th column : y(PFS/SFS - TT), in 10^-14
    5th column : Type A uncertainty of y(EAL-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.
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