

BIPM TAIPPP results on ftp

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Contact: tai@bipm.org

This is the Read Me file of the ftp site for the results of the TAIPPP pilot experiment. For each month starting 04/2008, the results are available in <ftp://ftp2.bipm.org/pub/tai/publication/timelinks/TAIPPP>. In addition, link comparisons results are also published in <ftp://ftp2.bipm.org/pub/tai/publication/timelinks/LkC> (see their description in the Read Me file in this directory).

Starting January 2010, the PPP computations have been integrated in the standard data analysis for TAI computation. The publication of results is therefore modified, as indicated in red below.

1. Monthly results

The monthly results are in TAIPPP/YYMM where YYMM corresponds to the year and month of the calculated Circular T, for example, 0804 is for 2008 April.

Each directory contains

One summary file, TAIPPP_YYMM.sum, listing the receivers concerned, the name of the corresponding time laboratory, the frequency reference of the receiver¹, possibly with some comments.

Starting January 2010, the summary file is not available any more.

For each receiver RRRR, data files containing time and troposphere results with 5-min time interval, starting on MJD mjsta, for duration dd days, and one plot for the time results:

- Time results (uncalibrated)¹ with respect to the clock driving the receiver in the file RRRRmjsta_dd.ppp containing

Time tag (GPS time), IGRT–Time reference (ns), standard uncertainty (ns), nSV; e.g.
55072.038194 563.131 0.030 8

Until August 2009, the number of satellites (nSV) was not provided.

Since January 2015, nSV may be accompanied by an explicit sign. A minus sign (e.g. -8) indicates a reset of all ambiguities between this epoch and the next one. A plus sign (e.g. +8) is a warning about a potential problem in ambiguity setting.

- Time results (calibrated)¹ with respect to UTC(Lab) in the file RRRRmjsta_dd.ppu containing

Time tag (GPS time), IGRT-UTC(Lab) (ns), standard uncertainty (ns); e.g.
54566.402778 278.604 0.029

Starting January 2010, the calibrated results are not available any more. Those that are used in the TAI computation may be found in the usual TAI data depository at ftp://62.161.69.5/pub/tai/data/2010/time_transfer/ppp.

¹ No calibration is applied to the raw PPP results which are found in the .ppp files and in the plot. Until December 2009, when information is available, a calibration correction is applied and the results referred to UTC(Lab) are found in the .ppu file. When the receiver is driven by UTC(Lab) and no calibration is available, the .ppp and .ppu files are identical.

- Plot of the (uncalibrated)¹ time results in RRRRMJSTM_DD.pdf where MJSTM is the MJD of the nominal start of the computation (2 days before the last standard date of the preceding month), and DD is the nominal duration of computation (35 or 40 days)². A mean slope is removed; its value is indicated in the plot title. If very large time steps are detected, they are removed and the number of steps is indicated in the title.

- Zenith tropospheric delay results in RRRRmjsta_dd.trp containing Time tag (GPS time), zenith tropospheric delay (m), standard uncertainty (m); e.g.
54552.000000 2.337 0.003

Starting June 2011, the content is the following:

Time tag (GPS time), zenith tropospheric delay (m), standard uncertainty (m), zenith wet delay (m); e.g.
55707.000000 2.3603 0.0016 0.0623

2. Header files

Starting August 2014, the directory TAIPPP/header contains the complete list of header files that provide the calibration information which is used to compute TAI links (see https://webtai.bipm.org/database/documents/ppp_for_tai_guidelines_v3.1.pdf for information on the header files). Header files are provided by laboratories. In their absence, a header file is built by the BIPM with default values, as indicated in a COMMENT line.

Reference

The TAIPPP computations are performed with the GPSPPP software from Natural Resources Canada:

J. Kouba, P. Héroux: Precise Point Positioning using IGS orbits and clock products, GPS Solutions, 5, pp.12-28, 2001.

² Note that mjsta_dd in the data file names, which correspond to the date when the data start, may differ from MJSTM_DD in the plot file name.