

UTCr-Bulletin N° 3

BIPM Time Department

07 December 2012

A first official report of the results obtained in the framework of UTCr pilot experiment has been submitted to the CCTF in September 2012. The CCTF approved a Recommendation on the “*Regular calculation and publication of rapid UTC (UTCr)*” that can be found in the following part of this document (Recommendation CCTF 3(2012)).

Starting from 11 October 2012 files listing [UTCr-UTC(k)] for each laboratory are published at <ftp://tai.bipm.org/UTCr/> in addition to the weekly table.

Starting from MJD 56236 the algorithm used for the calculation of UTCr has been changed. In order to improve the consistency between UTCr and UTC a quadratic prediction for describing the clock behavior has been implemented also in the algorithm for UTCr.

On week 1245 we started introducing TWSTFT links in UTCr calculation for two laboratories (INRIM and NIST). We plan to gradually introduce TWSTFT links for other laboratories.

BIPM Time Department

RECOMMENDATION CCTF 3 (2012):

Regular calculation and publication of rapid UTC (UTCr)

The Consultative Committee for Time and Frequency (CCTF),

considering that

- the International Bureau of Weights and Measures (BIPM) has been successfully conducting a pilot experiment for producing a rapid Coordinated Universal Time (UTC) solution (rapid UTC or UTCr) on a weekly basis since January 2012,
- a large number of laboratories that contribute to the computation of UTC also contribute data to UTCr,
- the UTC contributing laboratories want UTCr to become a permanent product from the BIPM, respecting a regular weekly publication schedule,

noting that

- by contributing to UTCr, time laboratories can better steer their respective $UTC(k)$ to the reference UTC,
- the staff of the BIPM Time Department must continue to assure the monthly publication of BIPM *Circular T*, which is the only way of making local realizations $UTC(k)$ traceable to UTC,
- the timely and regular production and publication of UTCr imposes real time constraints on the staff of the BIPM Time Department and requires a reliable means of dissemination,

recommends to the BIPM that

- the evaluation of UTCr as a pilot project continues and that a report is sent to the CCTF Working Group on TAI¹ (WGTAI) in 2013 to discuss the possibility of transforming UTCr into a routine operational product,
- the dissemination of UTCr is pursued by ensuring timely availability of the results in a suitable and definitive format, so that widespread use of UTCr is supported and encouraged,

¹ International Atomic Time (TAI)

further recommends to the International Committee for Weights and Measures (CIPM) that

- efforts be made to improve the equipment at the BIPM involved in data exchange, calculation and distribution of results,
- the human resources necessary for assuring the regular computation and publication of UTCr be maintained.