

RECOMMENDATION ITU-R TF.536-2

Time-scale notations

(Question 101/7)

(1978-1998-2003)

The ITU Radiocommunication Assembly,

considering

- a) that language independent time-scale notations have been introduced;
- b) that the 14th General Conference of Weights and Measures (CGPM) in 1971 defined the International Atomic Time, using the designation TAI;
- c) that the 15th CGPM in 1975 recommended the use of Coordinated Universal Time, using the designation UTC;
- d) that the Consultative Committee for Time and Frequency (CCTF) provides in Recommendation CCTF 3 (2001) clarification of the meaning of the designation “k” in UTC(k) and TAI(k);
- e) that Recommendation CCTF 3 (2001) requests ITU-R consideration of the adoption of nomenclature TAI(k),

recommends

1 that for all forms of atomic time, the following notations consistent with TAI be used in all languages:

- TAI: International Atomic Time, as formed by the Bureau international des poids et mesures (BIPM);
- TA: Atomic Time; a time variable which may be realized on the basis of an atomic or molecular transition;
- TA(k): Atomic Time-scale, as realized by the institute “k”;
- TAI(k): Time-scale realized by the institute “k” and defined by the relation $TAI(k) = UTC(k) + DTAI$, where DTAI is the number of integral seconds specified by the International Earth Rotation Service (IERS) as being the difference between UTC and TAI;

2 that for all forms of Universal Time, the following notations consistent with UTC be used in all languages:

- UT: Universal Time;
- UTC: Coordinated Universal Time; this time-scale is maintained by the BIPM and the IERS, according to Recommendation ITU-R TF.460;
- UTC(k): Time-scale realized by institute “k” and kept in close agreement with UTC, with the goal to be within ± 100 ns, according to Recommendation S5 (1993) of the Consultative Committee for the Definition of the Second.

NOTE 1 – TAI and UTC are evaluated in arrears and are only accessible by means of corrections (published by the BIPM) to existing (realized) time-scales such as TA(k) or UTC(k) including extrapolation.

NOTE 2 – The references for notation of time instants and time scale differences can be found in the International Standardization Organization (ISO) Standard 8601:1988.

NOTE 3 – The institute “k” refers to those institutes that participate with the BIPM in the formation of TAI. These are national metrology institutes and designated laboratories participating in the Comité international des poids et mesures (CIPM) Mutual Recognition Arrangement and other institutes and observatories of the member states of the Metre Convention and Associates of the CGPM officially nominated to keep time-scales for scientific, navigational, or astronomical purposes.
