Report to the 18th CCTF, June 4 2009

Working Group on International Atomic Time

Patrizia Tavella

INRIM Italy

8th Meeting of representatives of laboratories contributing to TAI

BIPM, 3 June 2009

75 participants

35 countries

Rapresentatives of Scientific Unions

CCTF Chairman

BIPM staff

About 10 “new” laboratories

Associated or next to be associated countries

8th Meeting of representatives of laboratories contributing to T

BIPM, 3 June 2009

1. Welcome and adoption of the agenda (P. Tavella)
2. Status report from BIPM: TAI, UTC, Terrestrial Time, primary frequency s
3. Being a TAI laboratory: current status and future challenges (P. Tavella) wi
   - time scale steering (D. Matsakis, USNO)
   - redundancy and robustness (M. Hosokawa, NICT)
   - GNSS time transfer (P. Defraigne, ORB)
   - Calibrating a GNSS receiver (J. Levine, NIST)
4. Improvement in the computation of TAI and in contributing laboratories
   - Future plans to improve clock comparison:
     - Precise Point Positioning; results of the pilot experiment (G. P
     - Use of GLONASS for TAI time links (W. Lewandowski, BIP
   - Comparison between time transfer techniques and methods (Z. Jiang, B
   - Report of calibration of time links for TAI (W. Lewandowski and G. P
   - Improving the clock frequency prediction in TAI algorithm (G. Panfilc
   - Data collection and checking (A. Harmegnies, BIPM
5. Report of the sub-group on Algorithms (P. Tavella)
6. Report from the ITU-R discussion on leap second, CCTF le
7. Reports from other CCTF Working Groups
   - WG CGGTTS (J. Levine, NIST)
   - WG TWSTFT (W. Klepczynski, USNO)
   - WG MRA (F. Cordara, INRIM)
   - WG PFS (T. Parker, NIST)

Education on time scale realisation, laboratory practice and algorithm is

Clock and equipment failures difficult to be

Characterisation of relative delay of GNSS receivers still very important. The challenge is reducing the uncertainty

New receiver manufacturers should be informed on the

ITRF should be used either with GPS or GLONASS data

The work on TAI algorithm improvement in progress is appreciated and encouraged

More frequent labor collection allows the control and speed up UTC computation

Laboratories should get information from IERS on leap seconds

8th Meeting of representatives of laboratories contributing to TAI

Main issues:

Education on time scale realisation, laboratory practice and algorithm is requested

Clock and equipment failures difficult to be completely foreseen and controlled

Characterisation of relative delay of GNSS receivers still very important.

The challenge is reducing the uncertainty

New and future GNSS receiver manufacturers should be informed on the necessity of external timing input option

ITRF should be used either with GPS or GLONASS data

Multiple time transfer and delay measurement data available on the BIPM web

A protocol for RMO characterisation of relative delay of GNSS receivers is to be

endorsed by BIPM. Subsequent delay compensation common practice to be drafted by BIPM

The work on TAI algorithm improvement in progress is appreciated and encouraged

More frequent laboratory data collection allows the BIPM to improve control and speed up UTC computation

Laboratories should get information from IERS on leap seconds

Fifth International Symposium on Time Scale Algorithms

April 28-30, 2008 at
Real Observatorio de la Armada
San Fernando, Spain

Organized by the CCTF sub-WG on Algorithms
chaired by Patrizia Tavella INRIM,
in collaboration with Felicitas Arias BIPM, Juan Palacio ROA,
and Demetrios Matsakis USNO

Contacts: tavella@inrim.it, jpalacio@roa.es
http://roasf.roa.es/.VITSAS/

V International Time Scale Algorithm Symposium, 2008

70 participants

CHINA 9, FINLAND 1, FRANCE 8, GERMANY 4, JAPAN 1, INDIA 3, BIPM 6

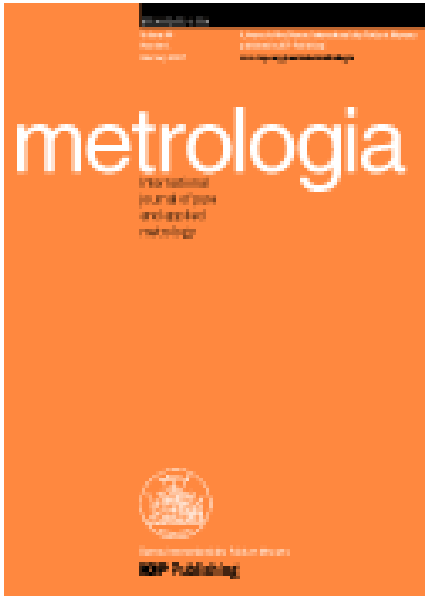
ITALY 9, KENIA 1, LATVIA 1. LITHUANIA 1, MEXICO 2, POLAND 1

CZECH REP 1, RUSSIA 3, SPAIN 12, SWITZERLAND 2, USA 5

About 50% from NMI
50% from industries, navigation, telecom...

METROLOGIA special issue

Volume 45, Number 6, December 2008



24 accepted papers, 192 pages

http://www.iop.org/EJ/toc/met/45/6