

CCTF Working Group on Two-Way Satellite Time and Frequency Transfer (TWSTFT)

4 September 2012

a) Terms of Reference

- to perform coordination activities related to TWSTFT between participating and prospective institutes,
- to act as a point of contact for BIPM on TWSTFT matters,
- to organize the operation of TWSTFT links to support the production of TAI,
- to perform calibration campaigns to reduce the time link uncertainties between participating institutes,
- to observe and review the needs for remote frequency and time comparisons of frequency standards and atomic time scales,
- to establish and maintain dedicated TWSTFT links to support remote clock comparisons,
- to identify future needs of remote clock comparisons,
- to undertake research for the improvement of TWSTFT and related techniques,
- to follow and assess other techniques, including GNSS, optical fibers, optical satellite links which could be used for remote (optical) clock comparisons, and
- together with BIPM, to foster the spread of information on technical achievements by suitable means, e.g. via BIPM webpage.

b) Membership

The members of the working group are representatives and especially experts of the participating institutes as well as representatives of prospective participating institutes. Representatives of institutes interested in this field are encouraged to follow the activities as observers.

Chair

Dirk PIESTER (PTB)

Fernanda SARAIVA (IPQ)

Sung-Hoon YANG (KRISS)

Chang-Bok LEE (KRISS)

Secretary

Wlodek LEWANDOWSKI (BIPM)

Christian SCHLUNEGGER (METAS)

Jaques MOREL (METAS)

Miho FUJIEDA (NICT)

Working Group Members

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Hideo MAENO (NICT)

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Bruce WARRINGTON (AUS)

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Stefania ROMISCH (NIST)
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 Peter WHIBBERLEY (NPL)
 Setnam SHEMAR (NPL)
 P BANERJEE (NPLI)
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 Daniele ROVERA (OP)
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 Yan Ying LIU (SPRING)
 Yueyan SHAN (SPRING)
 Hock Ann CHUA (SPRING)
 Kenneth JALDEHAG (SP)
 Carsten RIECK (SP)
 Wolfgang SCHAEFFER (TimeTech)

Arvind BALU (TimeTech)
 Wen-Hung TSENG (TL)
 Huang-Tien LIN (TL)
 Chia-shu LIAO (TL)
 Shinn-Yan LIN (TL)
 Otto KOUDELKA (TUGRAZ)
 Bernd BLANZANO (Joanneum)
 Demetrios MATSAKIS (USNO)
 Angela MCKINLEY (USNO)
 Jonathan HIRSCHAUER (USNO)
 Nicholas KOSHELYAEVSKY (VNIIFTRI)
 Vitaly PALCHIKOV (VNIIFTRI)
 Eric DIERIKX (VSL)

Observers

Alexander MUDRAK (ESA)
 Pier Luigi DESIMONE (ESA)
 Stefano BINDA (ESA)
 Cathya SCHOESER (Thales Alenia Space)
 Pierre-Louis PUECH (Thales Alenia Space)
 Stefan BEDRICH (Kayser Threde)
 Ulrich GRUNERT (DLR)

c) Meetings

Annual Meetings

- 17th Meeting, 20th and 21st October 2009, Poznań, Poland,
- 18th Meeting, 16th and 17th September 2010 NIM, Beijing, PR China
- 19th Meeting, 12th and 13th September 2011, NMIJ, Tsukuba, Japan
- 20th Meeting, 6th and 7th September 2012, BIPM, Sèvres, France

Participating Stations Meetings at Conferences

- 41st Annual Precise Time and Time Interval (PTTI) Systems and Applications Meeting, 16-19 Nov 2009, Santa Ana Pueblo, New Mexico, USA
- 24th European Frequency and Time Forum, 13-16 April 2010, Noordwijk, The Netherlands
- 42nd Annual Precise Time and Time Interval (PTTI) Systems and Applications Meeting, 15-18 Nov 2010, Reston, Virginia, USA
- 43rd Annual Precise Time and Time Interval (PTTI) Systems and Applications Meeting, 14-17 Nov 2011, Long Beach, CA, USA
- 25th European Frequency and Time Forum, 24-26 April 2012, Gothenburg, Sweden

d) Outcome

The outcome of this WG is documented in the Report on the CCTF WG on TWSTFT activities to the 19th Session of the CCTF, September 2012.

e) Number of key and supplementary comparisons

f) Etc.