

51st CGSIC Meeting Timing Subcommittee Report

Chair: Włodzimierz Lewandowski, BIPM

Co-Chair: Victor Zhang, NIST



Portland, Oregon, 20 September 2011



AREAS BEING SERVED

- **Coordinated Universal Time (UTC)**
- **International Timing Centers**
- **Global Navigation Satellite Systems**
- **Telecommunications Industries**
- **NASA/JPL Deep Space Network**
- **NIST Global Time Service**
- **Power Grids and other Industries**
- **As Research and Comparison Tool**
- **Other**

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14:00 Introduction – *Włodzimierz Lewandowski, BIPM*

14:20 Report from NIST – *Victor Zhang, NIST*

14:40 Report from USNO – *Demetrios Matsakis, USNO*

15:00 Current activities of ITU-R WP7A – *Ron Beard, NRL*

15:20 Break

15:40 Impact of Light Squared signal to timing applications – *Jeffry Prillaman, USNO*

16:00 Leap Second in digital networks – *Judah Levine, NIST*

16:20 Metrologia Special Edition on Modern Time Scales– *Felicitas Arias and Włodzimierz Lewandowski, BIPM*

16:40 Time and Navigation Exhibition at the Smithsonian: Coming Soon – *Carlene E. Stephens, National Museum of American History*

17:00 Discussion

17:30 Session End

Yesterday meeting issues

- ✓ Update information on time transfer technology
- ✓ Lightsquared USNO tests showing worrying results
- ✓ News on improvements of UTC
- ✓ Planned redefinition of UTC, Special Issue of Metrologia
- ✓ Project of rapid UTC (weekly)
- ✓ Role of International Telecommunication Union (ITU)
- ✓ Role of International Committee on GNSS (ICG)

Meetings (past and future)

- ✓ Workshop « Development of advanced time and frequency transfer techniques » (CCTF WG), BIPM, June 2011
 - ✓ About 50 participants from most laboratories
 - ✓ Optical fibre is very promising
 - ✓ Excellent results (Poland – AOS. GUM, Germany – PTB,)
 - ✓ Projects proposed (France - LNE-SYRTE, Italy – INRIM UK – NPL)
 - ✓ VLBI possible, need to develop
 - ✓ TW phase

- ✓ **International Committee on GNSS (ICG),
5-9 September 2011, Tokyo**
 - ✓ GPS, GLONASS, Galileo, BeiDou, IRNSS, QZSS

- ✓ **ITU-R Working Party 7A, 26-30 September 2011, Geneva**
 - ✓ ITU questionnaire on UTC

Meetings (past and future)

- ✓ Royal Society Discussion « UTC for the 21st century », 3-4 November 2011
 - ✓ 12 invited lecturers, about 40 invited participants
 - ✓ time metrologists, astronomers, national administrations, ITU, IAU, BIPM, GPS, GLONASS, Galileo, BeiDou, IRNSS, QZSS

- ✓ PTTI 2011 and EFTF 2012
 - ✓ CCTF WG meetings

- ✓ 19th meeting of the CCTF 10 – 14 September 2012
 - ✓ CCL/CCTF Frequency Standards Working Group
 - ✓ TAI WG Meeting of Contributing Laboratories
 - ✓ Other WGs to be defined

Planned activities

- ✓ Continuing watch of Lightsquared interference
- ✓ Timing GNSSs interoperability
- ✓ Study of the impact of GPS constellation evolution on timing activities (L2C, L5, L1C)



[TAI - Time scale (i)]

