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
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 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)