PROGRAM

SUNDAY, MAY 15

15:00   Registration
17:00   Ice Breaker
18:00   Program Committee Meeting

MONDAY, MAY 16

9:00    Opening Ceremony
9:30    Invited Keynote Talk:
        GOCE and its challenging gravimetric sensor system
        Reiner Rummel (Technical University Munich)

10:00 – 10:30   COFFEE BREAK

Session 1:   Science Session (10:30 – 12:30 / 14:00 – 14:30)
        Session Chairs: G. Appleby, P. Bianco

10:30    LARETS Laser Relativity Satellite

10:45    Benefits of SLR in epoch reference frames
        Mathis Bloßfeld, Horst Müller, Detlef Angermann

11:00    The SLR monitoring crustal movement in South America
        Yin Zhiqiang, Han Yanben, R. Podesta, Liu Weidong, A. Pacheco, A. Ester

11:15    Assessment on the non gravitational forces acting on the
        Lageos satellites
        Florent Deleflie, Jean-Michel Lemoine, Gilles Metris, and François Barlier

11:30    Constraining spacetime torsion with Lunar Laser Ranging, Mercury Radar Ranging, LAGEOS, next lunar surface missions and BepiColombo
        R. March, G. Bellettini, R. Tauraso, S. Dell’Agnello

11:45    On the Calibration of TanDEM-X Precise Baselines via SLR
        R. Koenig, Y. Moon, L. Grunwaldt

12:00    The Global Geodetic Observing System:
        Space Geodesy Networks for the Future
        Michael Pearlman, Erricos Pavlis, Zuheir Altamini, and Carey Noll

        - LUNCH -
        12:30 – 14:00

14:00    The Vector Approach to the Problem of Physical Libration of the Moon: the Linearized Problem
        Kondratyev Boris Petrovich
14:15  New version of EPM–ERA Lunar theory  
Krasinsky G.A., Prokhorenko S.O., Yagudina E.I.

**Session 2:**  Operations: Spatial and Temporal Coverage (14:30 – 15:30)  
*Session Chairs: M. Pearlman, H. Müller*

14:30  Introduction: Where do we stand and what do we need?  
*Michael Pearlman*  
Statistical Analysis of SLR tracking in 20xx  
*Horst Mueller*

14:45  The Contribution of Korean Side to the International Laser Ranging Service  
*Jong Uk Park, Hyung-Chul Lim, Sungki Cho and Jae-Cheol Yoon*

15:00  Current situation and future of cooperative San Juan SLR station between Chinese-Argentinean  
*Liu Weidong et al.*

15:15  Hazards and Risk @ SLR Network, A Preliminary Overview  
*del Pino, Jorge*

15:30 – 15:45  **COFFEE BREAK**

**Session 3:**  Atmospheric Refraction Correction: Hardware and Modeling (15:45 – 17:00)  
*Session Chairs: Stefan Riepl, F. Koidl*

*E.Pavlis, S.Riepl*

16:00  Atmospheric range correction for two-frequency SLR measurements  
*Dudy D. Wijaya and Fritz K. Brunner*

16:15  Atmospheric Refraction Correction Using Multiple Wavelength Laser Ranging  
*Ben Greene, Craig Smith, Jizhang Sang and Nasr A. Al-Sahhat*

16:30  The Photoconductive Antenna - A new device for Spacegeodetic Applications  
*S.Riepl, Christian Plötz, Reinhard Zeitlhöfler, Axel Nothnagel*

16:45  Multi Color Activities at 7405  
*M. Häfner*

**Session 4:**  SLR Techniques (17:00 – 18:15)  
*Session Chairs: U. Schreiber, K. Arsov, J. Garate*

17:00  Co-optical Path KHz SLR  
*Li Zhulian, Fu Honglin, Zheng Xiangming, He Shaohui, Xiong Yaoheng, Li Rongwang*

17:15  Experimental Laser System for Monitoring of GLONASS Time/Frequency Synchronization  
*V.L. Moshkov, M.A. Sadovnikov, A.A. Fedotov and V.D. Shargorodsky*

17:30  Graz 10 kHz SLR  
*Georg Kirchner, Franz Koidl, Farhat Iqbal*

17:45  High-energy picosecond laser systems between 10 Hz and 2 kHz for next-generation laser ranging  
*M. Schmidt, N. Graf, H. Huber, R. Kelnberger, J. Aus der Au*

18:00  New KHz-capable SLR software in Metsähovi  
*Arsov K.***

18:15 – 19:15  **Data Formats & Procedures Working Group Meeting**  
*Chair: R. Ricklefs*
Tuesday May, 17

Session 6: Modeling and Bias issues (9:00 – 11:30)
Session Chairs: T. Otsubo, D. Thaller, C. Luceri

9:00 Introduction: Introduction to Modeling and Bias Issues
   Toshi Otsubo

9:15 Improvements in Understanding Systematic Effects in Laser Ranging Observations
   Graham Appleby, Vincenza Luceri and Toshimichi Otsubo

9:30 Improving ILRS products after an in-depth characterization of station biases
   V. Luceri, G. Bianco, C. Sciarretta

9:45 GNSS satellites as co-locations for a combined GNSS and SLR analysis
   D. Thaller, K. Sosnica, R. Dach, A. Jäggi, G. Beutler, M. Mareyen, B. Richter

10:00 Spin of Ajisai: influence of Solar Irradiation on the spin period and precession of the spin
   axis measured by the Graz 2kHz SLR system
   Daniel Kucharski, Georg Kirchner, Toshimichi Otsubo, Franz Koidl, Mihoko Kobayashi

10:15 – 10:45 Coffee Break

10:45 A New Approach for the Spin Axis Determination of LAGEOS
   D. G. Currie

11:05 BLITS: spin parameters and its optical response measured by the Graz 2 kHz SLR system
   Daniel Kucharski, Georg Kirchner, Hyung-Chul Lim, Franz Koidl

Session 7: Improving Ranging Accuracy, Calibration and Local Ties I. (11:30 – 12:30)
Session Chairs: I. Prochazka, Y. Artyukh, L. Grunwaldt

11:30 Introduction: Improving Ranging Accuracy and Calibration
   I. Prochazka

11:45 ILRS Standardization of Hardware, Software, and Procedures
   Randall L. Ricklefs

12:00 Event Timer A033-ET: Current State and Typical Performance Characteristics
   Vedin Vadim, co-authors: Artyukh Yu., Bespal’ko V., Boole E.

12:15 Main Directions of Riga Event Timer Development and Current Results
   Boole Eugene, co-authors: Artyukh Yu., Bespal’ko V., Stepin V., Stepin D., Vedin V.

12:30 – 14:00 WPLTN - Meeting
   - Lunch -
   12:30 – 14:00

Session 8: Improving Ranging Accuracy, Calibration and Local Ties II. (14:00 – 15:30)
Session Chairs: I. Prochazka, Y. Artyukh, L. Grunwaldt

14:00 New technologies for sub – millimeter laser ranging
   Ivan Prochazka, Jan Kodet, Josef Blazej, Petr Panek

14:20 Statistical studies of the calibration of the Helwan-SLR
   Makram Ibrahim

14:40 Local Ties at the Geodetic Observatory Wettzell
   Thomas Kluegel, Swetlana Maehler, Christian Schade

15:00 Ground survey at Space Geodesy site (tentative title)
   Sten Bergstrand
Session 9: Introduction to the Observatory Excursion (15:30 – 16:00)
Coordinator: U. Schreiber

15:30 Recent Progress in Sagnac Interferometry
Robert Hurst (Univ. of Canterbury, Christchurch, NZ)

15:45 Introduction to the VLBI 2010 TWIN Telescopes
Gerhard Kronschnabl (Bundesamt fuer Kartographie und Geodaesie)

16:00 – 17:00 COFFEE BREAK

17:00 Transfer to Wettzell by bus
Self guided tour around the observatory, Wettzell-Poster, Discussions + Buffet

≈ 21:00 Transfer to hotels by bus

WEDNESDAY MAY, 18

Session 10: Improving support for GNSS and other challenging missions (9:00 - 11:30)
Session Chairs: G. Kirchner, M. Wilkinson, Zhang Zhongping

9:00 Introduction: Beam Divergence: Introduction, results of measurements
M. Davis

Tracking many GNSS targets: Introduction for GNSS problems
M. Wilkinson

9:15 Measuring sub-mm range differences caused by polarization effects
Georg Kirchner, Franz Koidl

9:30 The achievements of the dedicated Compass SLR system with 1m aperture telescope:
GEO satellite daylight tracking and laser time transfer (LTT)
Zhang Zhongping, Yang Fumin, Zhang Haifeng, Meng Wendong, Chen Juping, Chen Wenzhen, Wu Zhibo

9:45 Comparative verification of return rate on GNSS LRA
Shinichi Nakamura, Ryo Nakamura, Takahiro Inoue, Hiroyuki Noda, and Motohisa Kishimoto

10:00 – 10:30 COFFEE BREAK

10:30 Improvements at NASA’s NGSLR in support of GNSS ranging
Jan McGarry, Thomas Zagwodzki

10:50 Direction of the Light Deviation Vector during Satellite Laser Ranging
Yuriy V. Ignatenko, Vladimir M. Tryapitsyn, Andriy A. Makeyev, Igor Yu. Ignatenko

11:10 Polarisation at SGF, Herstmonceux
Matthew Wilkinson, Toby Shoobridge

Session 11: Satellite Subsystems: Retroreflector Arrays (11:30 – 15:15)
Session Chairs: R. Neubert, S. Wetzel, T. Otsubo

11:30 Introduction: Retroreflector and its Array
Toshimichi Otsubo

11:45 Design of LRA for Compass GEO and IGSO satellites and observations
Chen Wenzhen, Yang Fumin, Zhang Zhongping, Wang Yuanming, Li Pu

12:00 GNSS array performance prediction using ZEMAX
Mark Davis
12:15 Considerations for the next GNSS Array
Scott Wetzel, Ed Aaron

- LUNCH -
12:30 – 14:00

14:00 ETRUSCO-2: an ASI-INFN Project of Development and SCF-Test of GNSS Retroreflector Arrays (GRA) for Galileo and the GPS-3

14:15 SCF-Test of the NASA-GSFC “LAGEOS Sector” and of a Hollow Retroreflector

14:30 Far-field diffraction pattern analysis of cube corner reflectors
A.L.Sokolov, M.A.Sadovnikov, V.D.Shargorodsky, V.P.Vasiliev

14:45 Single Open Reflector for MEO/GNSS Type Satellites. A Status Report
Reinhart Neubert, Ludwig Gronwaldt, Christian Schopf, Engelbert Hofbauer, Jost Munder, Mark Herding, Rolf Sand

15:00 BLITS: The first autonomous zero-signature satellite in orbit
V.P. Vasiliev, V.D. Shargorodskiy, N.N. Parkhomenko

15:15 – 15:45 COFFEE BREAK

15:15 – 18:00 Poster Session

17:15 – 18:00 Missions Working Group Meeting
Chair: G. Appleby

18:30 – 20:00 Governing Board Meeting

THURSDAY MAY, 19

Session 12: Interaction between Data-User and Stations (9:00 - 10:00)
Session Chairs: M. Torrance, K. Arsov, L. Combrinck, S. Schillak

9:00 Introduction: "Setting the Stage"
Ludwig Combrinck

9:15 The estimation of the SLR data by analysis centers and possibility of closely cooperation between stations and analysts
Stanislaw Schillak

9:30 New performance assessment for laser ranging stations
Toshimichi Otsubo, Mihoko Kobayashi

9:45 Measures of Network Performance
P. Dunn, M. Torrence

10:00 A Second Look at Engineering Data Files
K. Salminsh

10:15 – 10:45 COFFEE BREAK

Session 13: New Laser Ranging Technologies and Capabilities that must be developed to support future missions (10:45 – 12:30)
Session Chairs: J. Degnan, U. Schreiber
Introduction to Two-Way Transponder Technique for Ranging and Time Transfer
J. Degnan

Introduction to One-Way Ranging Technique (confirmation pending)
E. Samain

The first ILRS transponder laser ranging mission: LR to NASA’s Lunar Reconnaissance Orbiter (LRO)
J. McGarry

10:45  Introduction:
11:15  Laser Ranging Experiment on Lunar Reconnaissance Orbiter: Timing Determination and Orbit Constraints
Dandan Mao, David D. Rowlands, Jan F. McGarry, Maria T. Zuber, David E. Smith, Mark H. Torrence, Gregory A. Neumann, Erwan M. Mazarico, James Golder, Xiaoli Sun, Thomas W. Zagwodzki, John F. Cavanaugh

11:15  Laser Ranging Experiment on Lunar Reconnaissance Orbiter: Timing Determination and Orbit Constraints
Dandan Mao, David D. Rowlands, Jan F. McGarry, Maria T. Zuber, David E. Smith, Mark H. Torrence, Gregory A. Neumann, Erwan M. Mazarico, James Golder, Xiaoli Sun, Thomas W. Zagwodzki, John F. Cavanaugh

11:45  GETEMME – An ESA Mission Proposal to Explore the Martian Satellites and the Fundamentals of Solar System Physics
J. Oberst et al.

12:00  The European Laser Timing Experiment (ELT) and Data Centre (ELT-DC)
Schlicht A., Schreiber U., Prochazka I.

12:15  Simulation of optical response for next-generation single-reflector LLR targets
Toshimichi Otsubo, Hiroo Kunimori, Hirotomo Noda, Hideo Hanada, Hiroshi Araki

- LUNCH -
12:30 – 13:30

Session 14:  Lunar Laser Ranging (13:30 – 15:00)
Session Chairs: J. Müller, E. Samain

13:30  Introduction:  LLR – Challenges and Achievements
J. Müller

13:45  Recent progress at APOLLO (tentative title)
T. Murphy (presented by U. Schreiber)

14:00  Lunar Laser Ranging Retroreflector for the 21st Century
D. G. Currie, S. Dell’Agnello & G. O. Delle Monache

14:15  Development of pulse detection IC for LIDAR on planetary lander
Takahide Mizuno, Hirokazu Ikeda, Kousuke Kawahara

14:30  Ground Stations for the Next Generation Lunar Retroreflectors
D. G. Currie

14:45  Lunar Laser Ranging: Two Tools for assisting observers
Sebastian Bouquillon et al.

15:00 – 15:30  COFFEE BREAK

Session 15:  In-Sky-Laser-safety (15:30 – 17:00)
Session Chairs: H. Donovan, G. Appleby, F. Pierron

15:30  Introduction:  What are stations doing and what should we be doing?
H. Donovan, G. Appleby, F. Pierron
15:45  Ranging Jason2 from Paris Observatory for Time transfer experiment in summer 2010, operations and security achievements
  F. Pierron

16:00  Implementation of the LASER Traffic Control System at the Haleakala Observatories
  D. O’Gara, E. Kiernan-Olson, C. Giebink, D. Summers

16:15  Skyguide and Flarm - 2 in-sky-laser-safety systems used at Zimmerwald
  Martin Ploner, Adrian Jaeggi, Johannes Utzinger

16:30  Aircraft transponder paper
  M. Ettl, J. Eckl, …

16:45  Air traffic patterns near SLR site Riga and In-Sky laser safety
  K. Salminsh

17:00 – 18:00  Transponder WG Meeting
  Chair: J. Degnan, U. Schreiber

19:30 – 22:30  Banquet (Haus des Gastes)

FRIDAY MAY 20

Session 16:  System Automation (9:00 – 10:15)
  Session Chairs:  A. Neidhardt, C. Moore, M. Ploner

9:00  Introduction:  title pending
  A. Neidhardt, …?
  SLR Station Automation - Factors to Consider
  Chris Moore

9:15  Automated Data Management of SLR Data and Products at the EUROLAS Data Center (EDC)
  C. Schwatke

9:30  Controlling Laser Ranging with RTAI-based Real-Time Linux
  Evan Hoffman, R. Rickleffs

9:45  SLR Automation for the New Space Geodesy Multi-Technique Sites
  J. McGarry et al.

10:00  SLR-2.0: An overview about the new SLR/LLR Control software from Wettzell
  Martin Ettl, Alexander Neidhardt, Pierre Lauber, Johann Eckl, Martin Riederer, Lea Schreiber, Andreas Leidig, Reiner Dassing

10:15 – 10:45  COFFEE BREAK

10:45 – 11:30  Workshop Summary

11:30 – 13:00  General Assembly

13:00  Adjourn

14:00 – 16:00  Analysis Working Group
  Chair: Cinzia Luceri