

SCIENTIFIC PROGRAM

September 22, 2003: 9^h40^m – 14^h30^m

OPENING OF THE JOURNÉES 2003: V. Brumberg (Russia), N. Capitaine (France)

SESSION I: CELESTIAL AND TERRESTRIAL REFERENCE FRAMES: TECHNIQUES, DEFINITIONS AND LINKS

Chair: V. Brumberg, N. Capitaine

- V. Gubanov (Russia): *Project of global analysis of the 1979-2003 VLBI data*
D. D. McCarthy (USA), G. Petit (France): *IERS Conventions 2000*
N. Capitaine (France): *Microarcsecond models for the celestial motions of the CIP and CEO*
Z. Malkin (Russia): *Comparison of IAU2000 precession–nutration model with observations*
A. Finkelstein, A. Ipatov, S. Smolentsev, V. Gratchev, I. Rahimov, Z. Malkin, E. Skurikhina (Russia): *The first results of VLBI observations at the Svetloe observatory in the framework of the IVS programs*
Ya. Yatskiv, A. Kur'yanova, S. Bolotin (Ukraine): *Consistency check of ICRF–Ext.1 by comparing it with catalogues of GAOUA type*
O. Titov (Australia): *Comparison of the individual ICRF solutions*
A. Rodin, Yu. Ilyasov (Russia): *Pulsar astrometry: status and prospects*
G. Gontcharov (Russia): *Statistics of double stars for ICRS optic realizations*
Yu. Kolesnik (Russia): *A new approach to representation of the catalogue systematic differences*
V. Vityazev (Russia): *Does Precession derived from FK5–HIPPARCOS agree with the VLBI?*
S. Bolotin (Ukraine): *Estimation of the Celestial Intermediate Pole motion in the Terrestrial and Celestial reference frames from VLBI observations on the interval 1979–2003*

September 22, 2003: 16^h00^m – 18^h00^m

SESSION VI: HIGHLIGHTS OF THE 25TH IAU GENERAL ASSEMBLY ON REFERENCE SYSTEMS AND FUNDAMENTAL ASTRONOMY

Chair: M. Soffel

- N. Capitaine (France): *Highlights of the scientific meetings of Division I*
D. D. McCarthy (USA): *Highlights of the Joint Discussion on the International Celestial Reference System*
K. Seidelmann (USA): *Thoughts about the implementation of the IAU 2000 Resolutions*
T. Fukushima (Japan): *Summary of Division I and IAU EC discussion on the Future organization of Division I*

Panel discussion

September 23, 2003: 9^h00^m – 14^h45^m

SESSION II:
ROTATION OF THE EARTH AND OTHER PLANETS:
OBSERVATIONS AND MODELS (A. Ya. Orlov's session)

Chair: A. Finkelstein, Z. Malkin

- A. Brzeziński, W. Kosek (Poland): *Free core nutation: stochastic modelling versus predictability*
- G. Krasinsky (Russia): *Body tides in the Earth–Moon system and the Earth's rotation*
- D. Gambis (France): *State of the art in the Earth Rotation monitoring*
- T. Fukushima (Japan): *New formulation of precession and GST–UT1 relation*
- A. Korsun' (Ukraine): *The history of the Orlov's sessions*
- M. Sōma, K. Tanikawa, K. Kawabata (Japan): *Earth's rate of rotation between 700 BC and 1000 AD derived from ancient solar eclipses*
- S. Débarbat, M. -P. Lerner (France): *The rotation of the Moon from Antiquity to Cassini*
- G. Eroshkin, V. Pashkevich (Russia): *High-precision numerical analysis of the rigid Earth rotation problem using a high performance computer*
- C. Ron, J. Vondrák (Czech Republic): *Earth Orientation Parameters in 1899–1992 based on the new Earth Orientation Catalogue*
- B. Kolaczek, J. Nastula (Poland): *Impact of the addition of the ocean to the atmospheric excitation of polar motion on variability of spectra and correlation with polar motion*
- A. Escapa, J. Getino, J. Ferrandiz (Spain): *Influence of the redistribution tidal potential on the rotation of the non-rigid Earth*
- C. Bizouard (France): *Interactive Earth rotation parameters through the Web*
- W. Wooden, T. Johnson, M. Carter, A. Myers (USA): *Near Real-time IERS Products*
- W. Kosek (Poland), D. D. McCarthy (USA), T. Johnson (USA), M. Kalarus: *Comparison of polar motion prediction results supplied by the IERS Sub-bureau for Rapid Service and Predictions and results of other prediction methods*
- Yu. Rusinov (Russia): *Averaging of individual EOP series by least-squares collocation*
- S. Pasynok (Russia): *IAU2000: Comparison with the VLBI observations and other nutation theories*
- N. Shuygina (Russia): *Determination of EOP from combination of SLR and VLBI data at the observational level*
- S. Kuzin, N. Sorokin, S. Tatevian (Russia): *On the use of DORIS data for determination of the EOP and geocenter motion*
- I. Gayazov (Russia): *Variation of C_{21} , S_{21} geopotential coefficients from SLR data of Lageos satellites*

September 23, 2003: 16^h00^m – 18^h00^m

SESSION III:
PLATE TECTONICS, CRUSTAL DEFORMATIONS
AND GEOPHYSICAL FLUIDS

Chair: A. Brzeziński

- H. Schuh, G. Estermann (Austria): *Atmospheric, non-tidal oceanic and hydrological loading investigated by VLBI*

N. Sidorenkov (Russia): *Influence of the atmospheric and oceanic circulation on the plate tectonics*

O. Titov (Australia): *Post-seismic motion of the Gilcreek VLBI site after the 03-Nov-2002 earthquake by VLBI*

V. Zharov (Russia): *New models for reduction of the VLBI data*

Review of posters for the Sessions I and III

September 24, 2003: 9^h00^m – 18^h00^m

VISIT TO THE OBSERVATORY SVETLOE

September 25, 2003: 9^h00^m – 10^h50^m

SESSION IV:

SOLAR SYSTEM DYNAMICS

Chair: Ya. Yatskiv

E. Pitjeva (Russia): *Numerical ephemerides of planets and the Moon — EPM and improvement of some astronomical constants*

S. Kudryavtsev (Russia): *Improved Harmonic Development of the Earth Tide Generating Potential*

V. Mioc, M. Stavinschi (Romania): *Stability of equatorial satellite orbits*

A. Fienga, J.-L. Simon (France): *Future of the IMCCE planetary ephemerides*

J. Souchay (France): *Characteristics of the rotation of asteroid EROS 433*

I. Izmailov, M. Khovritchev, E. Khrutskaya, T. Kiseleva (Russia): *CCD-observations of Galilean satellites of Jupiter during their mutual occultations eclipses in 2003 at Pulkovo Observatory*

J.-E. Arlot (France), G. Gorel, L. Hudkova, A. Ivantsov, Eu. Kozyrev (Ukraine): *Photometric observations of the mutual events of the Galilean satellites of Jupiter made at Nikolaev Astronomical Observatory in 2002–2003*

September 25, 2003: 11^h30^m – 14^h45^m

SESSION V:

RELATIVITY AND TIME

Chair: D.D. McCarthy

M. Soffel, S. Klioner (Germany): *The BCRS and the large scale structure of the universe*

V. Brumberg (Russia), J.-L. Simon (France): *Relativistic indirect third-body perturbation in the SMART Earth's rotation theory and their effect on the ITRS/GCRS relationship*

G. Petit (France): *A new realization of Terrestrial Time*

M. Sekido, T. Fukushima (Japan): *Relativistic VLBI model for Finite distance Radio Source*

P. Teyssandier, C. Le Poncin-Lafitte (France): *Relativistic theory of light deflection and time transfer up to the order G^2/c^4 using the world function*

M. Soffel (Germany): *The BCRS, GCRS and the classical astronomical reference system*

Review of posters for the Sessions II, IV, and V

CLOSING OF THE JOURNÉES 2003: N. Capitaine (France), V. Brumberg (Russia)

LIST OF POSTERS

SESSION I:

- A. Bagrov, Yu. Kolesnik (Russia):** *Scientific objectives of a small size catalogue based on the space-born optical interferometric mission*
- V. Bobylev (Russia):** *Kinematical test of the ICRS inertiality*
- A. Kharin (Ukraine):** *All-wave astrometry. Basic problems*
- M. Khovritchev, E. Khrutskaya, N. Bronnikova (Russia):** *The positions and proper motions of 58483 stars in the Pulkovo fields with galaxies on the Tycho-2 system (Pul-3)*
- M. Khovritchev, E. Khrutskaya (Russia):** *Comparisons USNO-B1.0 catalogue with Pul-3 and UCAC1 in selected fields*
- I. Kumkova, M. Stepashkin (Russia):** *Transformation between ICRS and ITRS under IAU(2000) resolutions*
- K. Kurzynska (Poland):** *Optical realization of ICRF with Liquid Mirror Telescope*
- J. Lopez, F. Marco, M. Martinez (Spain):** *A numerical method for the analysis of the systematic errors in reference systems from non-regular samples*
- F. Marco (Spain):** *Compatibility among dynamical and kinematical correction models*
- V. Ogrizovic (Serbia):** *A motorized system for rapid deflection of vertical determination*
- A. Shlyapnikova, V. Vityazev (Russia):** *FK5-HIPPARCOS: systematic differences without assumption of rigid mutual rotation*
- E. Skurikhina, N. Panafidina, J. Sokolova (Russia):** *Comparison station position time series from VLBI and GPS*
- J. Sokolova (Russia):** *The distribution of post-fit residuals from the VLBI observational data*
- A. Tsvetkov, A. Popov (Russia):** *Tycho-2 and Hipparcos: intercomparison of the catalogues*
- I. Verestchagina (Russia):** *Processing of VLBI-data: application of different estimation methods*
- E. Yagudina (Russia):** *Problems of the dynamical reference frames construction at the modern stage*
- Z. Zhu (China):** *NPM2 and Hipparcos proper motions*

SESSION II:

- J. Ferrandiz, Yu. Barkin (Spain):** *New approach to development of Moon rotation theory*
- Yu. Barkin, J. Ferrandiz (Spain):** *Mercury resonant translatory-rotary motion as "core-mantle" system*
- G. Bourda, N. Capitaine (France):** *Modelisation of Earth rotation using temporal variations of the Earth's gravity field*
- M. Folgueira (Spain), J. Souchay (France):** *A new formulation of the damping effect in the Earth's and Mars' free polar motion*
- V. Gubanov, C. Shabun (Russia):** *Three-angle parametrisation of the Earth's orientation in VLBI data analysis*
- T. Ivanova, N. Shuygina (Russia):** *Geopotential coefficient J_2 from the analysis of the Etalon 1 & 2 SLR observations*

- L. Akulenko, S. Kumakshev, Yu. Markov (Russia):** *Motion of the Earth's pole*
S. Lambert (France): *Coupling effects between nutation and zonal variations in Earth's rotation*
M. Lubkov (Ukraine): *The definition of the forced nutations of rotating elastic Earth by finite element method*
L. Zotov (Russia): *High frequency variations in the Earth rotation*

SESSION III:

- A. Gozhy (Ukraine):** *On the expediency of creation of the network of the same type points of joint astronomical, geodetic and geophysical determinations of their position changes in Eurasia*
V. Gorshkov, N. Shcherbakova, N. Miller, E. Prudnikova (Russia): *Earth tidal variations from local astrometric EOP sets (1904–2002) recomputed in IERS Convention 2000*

SESSION IV:

- N. Bronnikova, T. Vasil'eva:** *Astrometric observations of Uranus in 2002 with normal astrophotograph*
H. Zhang (China): *Internal structure models of Mars*
A. Ivantsov (Ukraine): *Comparison analysis of measured coordinates at CCD*
L. Kazantseva, V. Kislyuk (Ukraine): *Comparative analysis of Kyiv database of lunar occultations*
K. Kholoshevnikov, E. Kuznetsov (Russia): *Evolution of a two-planetary regular system on a cosmogonic time scale*
T. Kiseleva, O. Kalinitchenko, M. Mozhaev (Russia): *The determination of coordinates of Saturn by the observations of their satellites with 26-inch Refractor at Pulkovo Observatory*
M. Kočer, J. Tichá, M. Tichý (Czech Republic): *KLENOT — practical use of solar system dynamics in follow-up astrometry observations of small solar system bodies*
V. Protitch-Benishek, V. Benishek (Serbia): *Transits of Mercury: observations and analysis from Belgrade Astronomical Observatory*
V. Protitch-Benishek (Serbia): *Newcomb's data on ancient eclipses revisited: conclusions*
M. Sôma, T. Hayamizu, T. Setoguchi, T. Hirose (Japan): *Precise position of Saturn obtained from a stellar occultation by Tethys*

SESSION V:

- B. Coll, A. Tarantola (France):** *A Galactic Positioning System*
S. Pireaux, J. -P. Barriot, G. Balmino (France): *Basis for a native relativistic software integrating the motion of satellites*