JOURNÉES 2001 SYSTÈMES DE RÉFÉRENCE SPATIO-TEMPORELFS
« Influence of geophysics, time and space reference frames on Earth rotation studies »

Scientific Organizing Committee: V. Dehant (Chair), A. Brzezinski, N. Capitaine, M. Soffel, J. Vondrak, Y. Yatski

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SCIENTIFIC PROGRAMME

Monday 24 September

Session 1. Influence of geophysical and other effects on Earth's orientation; sensitivity of the observing systems.

C. Ma: The effect of reference frames on EOP estimates from VLBI.
J. Vondrak, C. Ron, D. Gambis, C. Bizouard and R. Weber: Combined celestial pole offsets from VLBI and GPS.
Fukushima, T. Shirai: Geophysical parameters estimated from VLBI nutation analysis.
Ch. Huang, V. Dehant: Effect of differential rotation on nutation and displacement fields of the Earth interior.
P. M. Mathews and P. Bretagnon: High frequency nutation.
M. Feissel, M. Yseboodt, V. Dehant, O. de Viron and C. Bizouard: How much can we cheat the non-rigid Earth nutation theory to make it match VLBI results?
Ph. Yaya: Combination of several geodetic techniques to determine earth orientation parameters.
A. Brzezinski, N. Capitaine: Lunisolar perturbations in Earth rotation due to the triaxial figure of the Earth: geophysical aspects.
J. Nastula: Atmospheric signals in polar motion excitation.
C. Bizouard, S. Lambert: Atmospheric and oceanic forcing in polar motion and length of day.
N. Sidorenkov: Chandler Wobble of the pole as part of the inter-annual oscillation of the atmosphere-ocean-Earth system.
O. Kudlay: Atmospheric angular momentum irregularity effect on the Earth rotational eigenmodes.
Session 2: Geodesy and rotation of the other planets

J.P. Barriot: Netlander ionosphere and geodesy experiment on the planet Mars.
M.Stavinski, V.Mioc: Earth effects of Mars' rotation on orbiter dynamics.
O.de Viron, E.Van Den Acker, T.Van Hoolst, P.Defraigne, V.Dehant: Comparison between the atmospheric forcing on Earth and Mars.
T.van Hoolst, V.Dehant: Tides of the planets Mars and Mercury.
S.Bouquillon: Mercury libration: first stage.
G.Carpentier and F.Roosbeek: Analytical developments of rigid Mercury nutation series.
V.Pletser: How astronauts would conduct a seismic experiment on the planet Mars.

Tuesday 25 September

Session 3: Time and time transfer

G.Petit: The new IAU conventions for coordinate times and time transformations.
B.Coll: Physical relativistic frames.
P.Teyssandier: Relativistic theory of time and frequency transfer using the Synge’s world-function.
P.M.Mathews: Time based on Earth rotation.
N.Dimarcq: Ultra stable clocks on board the international space station: the ACES project.
P.Defraigne: Time transfer with geodetic receivers.
J.Nawrocki: Polish atomic time scale, organization and results.

Session 4: Local, regional and global terrestrial frames, station positions and their interpretation; influence of the geophysical fluids, tidal, ocean and atmospheric effects

J.Hefty: Tidal variations of station coordinates observed in regional GPS permanent network.
V.Suberlak: Presentation of new SLR station "Golosiiv-Kiev".
M.Greff-Lefftz: LICODY: the dynamics of the fluid core from gravity signals.

Poster presentation

Session 1:

H.Shuh, P.Varga, T.Seitz, J.Böhm, R.Weber, G.Mentes, Z.Zavoti: Sub-semidiurnal variations of the EOP observed by space geodesy compared with other geophysical phenomena.
S.Uras, A.Poma: ERP and climate.
M.Kudryashova: Analysis of sub diurnal EOP variations.
Session 2:

M. Yseboodt: *A simplified analytical formulation of the NEIGE orbiter/lander geodesy observable.*

V. Dehant: *Comparison between the nutations of the planet Mars and the nutations of the Earth.*

V. Dehant: *Free and forced response of a non-rigid Mars with an inner-core. I. Analytical approach.*

Session 3:

V. Zalutsky, V. Akulov, L. Kurisheva, N. Maksimovich: *About activity of the Russian Time-Frequency Service Siberian Metrological Center in the field of time metrology with the aid of GPS and GLONASS.*

Session 4:

Ch. Boualem: *Le projet: Système de référence de l’Afrique du nord "NAFREF".*

G. Damljanovic, M.S. De Biasi: *Classical astrometry longitude and latitude determination by using CCD technique.*


Session 5:


M. J. Martinez Uso: *Comparison of analytical and geometrical methods of astrometric corrections in modern catalogues.*

**Wednesday 26 September**

*Session 5: Ephemeris and dynamical reference systems*

M. Soffel: *The new IAU resolutions concerning relativity: questions and answers.*

S. Klioner: *The Earth’s rotation in the framework of GRT: rigid (multipole) models.*


V. Pashkevich and G. Eroshkin: *High-Precision Numerical Theory of the Earth rotation: Main Principles of Construction and Results.*

N. Capitaine: *Theoretical considerations on precession and nutation referred to the GCRS.*

J. Chapront: *Contribution of Lunar Laser Ranging to metrology.*

P. Bretagnon: *Analytical solution of the Mars motion.*

S. Kudryavtsev: *Compact representation of spherical functions of Sun/Moon.*