Wednesday 4 December 2013

08:30 Registration

Opening
Moderator: Guenter W Hein, European Space Agency

10:00 Welcome by the Host Representative of the Czech Department of Transportation
10:25 Opening and Welcome by the European Space Agency
Didier Faivre, Director of the Galileo Programme and Navigation related Activities, ESA
10:50 Welcome by the European GNSS Agency (GSA)
Carlos des Dorides, Executive Director of the GSA
11:15 Invited Keynote: The Science Program of the European Space Agency: pushing science and technology towards excellence
Prof. Alvaro Gimenez, Director of Science and Robotic Exploration, ESA
12:05 Remarks on the Organization
Bertram Arbesser-Rastburg

12:10 Lunch Break

Session 1A: Troposphere
Room 1

14:00 Ground-Based GNSS Meteorology: Case Studies for Bulgaria/Southeast Europe
Guerova, G.
Sofia University, (BULGARIA)
14:20 Exploitation of the new IGS Real-Time Products for GNSS Meteorology
Pacione, R. [1]; Soehne, W. [2]
[1]e-geos S.p.A. ASI/CGS, Matera, (ITALY); [2]Federal Agency for Cartography and Geodesy (BKG), Frankfurt, (GERMANY)
14:40 Atmosphere Humidity Profiles from GNSS Radio Occultation Observations
Vespe, F. ; Benedetto, C. ; Amoroso, M.
Agenzia Spaziale Italiana, (ITALY)

15:00 Coffee Break

15:30 GNSS Tomography of the Troposphere
Möller, G. [1]; Weber, R. [2]; Böhm, J. [2]
[1]TU-Vienna, (AUSTRIA); [2]Vienna University of Technology, (AUSTRIA)
15:50 Real-time ZTD Estimates Based on Precise Point Positioning and IGS Real-time Orbit and Clock Products
Douša, J. ; Václavovic, P.
Research Institute of Geodesy Topography and Cartography, (CZECH REPUBLIC)
16:10 Advanced Global Navigation Satellite Systems Tropospheric Products for Monitoring Severe Weather Events and Climate (GNSS4SWEC)
Guerova, G. [1]; Jones, J. [2]; Dousa, J. [3]; Dick, G. [4]; de Haan, S. [5]; Pottiaux, E. [6]; Bock, O. [7]; Pacione, R. [8]; Elgered, G. [9]; Vedel, H. [10]
[1]Sofia University, (BULGARIA); [2]Met Office, (UNITED KINGDOM); [3]Geodetic Observatory Pecny, (CZECH REPUBLIC); [4]GFZ, (GERMANY); [5]KNMI, (NETHERLANDS); [6]Royal Observatory of Belgium, (BELGIUM); [7]IGN, (FRANCE); [8]E-geos s.p.a ASI/CGS, (ITALY); [9]Chalmers Univ. of Technology, (SWEDEN); [10]DMI, (DENMARK)

Session 1B: Reference Frames & Orbits
Room 2

14:00 Realization and Applications Study of a New Generation Spatio-temporal Reference System based on Inter-satellites Links
Richard, E. ; Delva, P.
SYRTE / Paris Observatory, (FRANCE)

14:20 Stable Satellite Clocks for Orbit Model Validation
Hugentobler, U. ; Rodriguez-Solano, C.-J. ; Steigenberger, P.
Technische Universität München, (GERMANY)

14:40 Geodesy and Time Reference in Space (GETRIS) for Improved Orbit Determination and High Performance Time Transfer
Feldmann, T. [1]; Schäfer, W. [1]; Schlicht, A. [2]; Hugentobler, U. [2]; Heinze, M. [2]; Stetter, M. [2]; Nothnagel, A. [3]; Artz, T. [3]
[1]TimeTech GmbH, (GERMANY); [2]TU München, Institute of Astronomical and Physical Geodesy, (GERMANY); [3]University Bonn, Institute of Geodesy and Geoinformation, (GERMANY)

15:00 Coffee Break

Session 2B: Ionosphere 1
Room 2

15:30 Results of Galileo single-frequency ionospheric correction and positioning during The ONSET OF solar cycle 24 maximum
Orus-Perez, R. ;Prieto-Cerdeira, R.; Arbesser-Rastburg, B.
European Space Agency (Netherlands)

15:50 Impact of Higher Order Ionospheric Delay on Precise GNSS Computation
Hernandez-Pajas, M. [1]; Aragon-Angel, A. [1]; Sanz, J. [1]; Defraigne, P. [2]; Bergeot, N. [2]; Priero-Cerdeira, R. [3]
[1]UNIVERSITAT POLITECNICA DE CATALUNYA, (SPAIN); [2]ROYAL OBSERVATORY OF BELGIUM, (BELGIUM); [3]EUROPEAN SPACE AGENCY, (NETHERLANDS)

16:10 An Open-Loop Vector Receiver Architecture for Scintillation Monitoring
Curran, J.T. ; Bavaro, M. ; Fortuny, J.
Institute for the Protection and Security of the Citizen, Joint Research Centre, (ITALY)

16:30 Poster Opening

18:00 Icebreaker Reception at the Mayor´s Residence

Thursday 5 December 2013

Session 3A: Ionosphere 2
Room 1

09:30 Signal Frequency Correlation on Occurrence of Deep Fades on Trans - Ionospheric Links
Beniguel, Y. [1]; Prieto - Cerdeira, R. [2]
[1]IEEA, (FRANCE); [2]ESA/ESTEC, (NETHERLANDS)

09:50 Galileo Tracking Performance under Ionosphere Scintillation
Kassabian , N. [1]; Morton, J. [2]
[1]Politecnico di Torino, (ITALY); [2]Miami University, (UNITED STATES)

10:10 Ionospheric Scintillation: A Comparison between GPS and Galileo
Romero, R. ; Dovis, F.
Politecnico di Torino, (ITALY)

10:30 Coffee Break

11:00 Preparation of an Advanced TEC Forecast based on the Statistical Analysis of Historical Ionospheric Storms
Borries, C. [1]; Berdermann, J. [1]; Jakowski, N. [1]; Hoque, M. [1]; Bothmer, V. [2]
[1]German Aerospace Center, DLR, (GERMANY); [2]University Göttingen, (GERMANY)

11:20 MIDAS - Polar Ionospheric Imaging
Kinrade, J ; Mitchell, C N
University of Bath, (UNITED KINGDOM)

11:40 Characterization of the Equatorial Ionosphere during the Ascending Phase of Solar Cycle 24
Magdaleno, S. [1]; Cueto, M. [2]; Cezón, A. [2]; Sardón, E. [2]
[1](SPAIN); [2]GMV, (SPAIN)

Session 3B: Clocks & Time Transfer
Room 2

09:30 Time Transfer and Estimation of UTC and GGTO using a Calibrated GPS-Galileo Receiver
Defraigne, P. [1]; Cerretto, G. [2]; Aerts, W. [1]; Tavella, P. [2]; Cernigliaro, A. [2]; Signorile, G. [2]
[1]Royal Observatory of Belgium, (BELGIUM); [2]Istituto Nazionale di Ricerca Metrologica, (ITALY)

09:50 Rubiclock, a Cold-atom based Compact Clock: Short Term Performances and Long Term Perspectives
De Sarlo, L. [1]; Battelier, B. [2]; Castagna, N. [1]; Lours, M. [1]; Holleville, D. [1]; Desruelle, B. [3]; Dimarcq, N. [1]
[1]CNRS - Observatoire de Paris - LNE - UPMC, (FRANCE); [2]LP2N - Université de Bordeaux - IOGS and CNRS, (FRANCE); [3]Muquans, (FRANCE)

10:10 Photon Counting Time Transfer and its Possible Application in the Galileo Programme
Prochazka, I. [1]; Kodet, J. [1]; Blazej , J. [1]; Schreiber , U. [2]; Schaefer, W. [3]
[1]Czech Technical University in Prague, (CZECH REPUBLIC); [2]Technical University Munich, (GERMANY); [3]TimeTech GmbH, Stuttgart, (GERMANY)

10:30 Coffee Break

11:00 Frequency Stability Study of a Pulsed CPT Compact Clock
Danet, J.M. ; Yun, P. ; Guerandel, S. ; de Clercq, E.
LNE-SYRTE, Observatoire de Paris, UMR 8630, CNRS, UPMC, (FRANCE)

11:20 Integer Ambiguity Resolution in Precise Point Positioning for Time and Frequency Transfer
Martínez-Belda, M. C. [1]; Defraigne, P. [2]
[1]UNIVERSITY OF ALICANTE, (SPAIN); [2]ROYAL OBSERVATORY OF BELGIUM, (BELGIUM)

11:40 GNSS Link Calibrations Conducted by ROA
Esteban, H. ; Galindo, F. J. ; Palacio, J.
Real Instituto y Observatorio de la Armada (ROA), (SPAIN)

12:00 Time Transfer Combining Calibrated GPS and GLONASS Measurements
Defraigne, P. [1]; Aerts, W. [1]; Rovera, D. [2]; Uhrich, P. [2]
[1]Royal Observatory of Belgium, (BELGIUM); [2]LNE-SYRTE-Observatoire de Paris, (FRANCE)

12:20 Lunch Break

Session 4A: Navigation
Room 1

14:00 Estimation of Differential Inter-System Biases between the Overlapping Frequencies of GPS, Galileo, BeiDou and QZSS
Odijk, D. ; Teunissen, P.J.G.
Curtin University, (AUSTRALIA)

14:20 Analysis of Generalized Post-Detection Integration Techniques for the Acquisition with Pilot Signals in High Sensitivity-Galileo
Lohan, E.S. [1]; Lopez Salcedo, J. [2]; Seco Granados, G. [2]
[1]Tampere University of Technology, (FINLAND); [2]Universitat Autonoma de Barcelona, (SPAIN)

14:40 Analysis of Galileo E1 Receiver Performance with Power-Controlled Front-End
Zhang, J. [1]; Lohan, E. S. [1]; Bhuiyan, M. Z. H. [2]; Perez, E. [3]
[1]Tampere University of Technology, (FINLAND); [2]Finnish Geodetic Institute, (FINLAND); [3]ACORDE TECHNOLOGIES, (SPAIN)

15:00 Coffee Break

15:30 Galileo Receiver's Sensitivity Degradation due to Phase Noise of the Radio Front-end PLL
Thombre, S. ; Tchamov, N. N. ; Lohan, E. S. ; Valkama, M. ; Nurmi, J.
Tampere University of Technology, (FINLAND)

15:50 Spoofing Countermeasure for GNSS Receivers - a Review of Current and Future Research Trends
Jafarnia Jahromi, A. ; Daneshmand, S. ; Lachapelle, G.
University of Calgary, (CANADA)

16:10 Preliminary Investigation of Deeply-Coupled Galileo and Self-Contained Sensor Integration for Interference Mitigation
Ruotsalainen, L. ; Bhuiyan, M.Z.H. ; Kuusniemi, H.
Finnish Geodetic Institute, (FINLAND)

Session 4B: Relativistic Positioning
Room 2

14:00 An Autonomous Reference Frame for Relativistic GNSS
Kostic, U. [1]; Horvat, M. [1]; Gomboc, A. [1]; Carloni, S. [2]; Delva, P. [3]
[1]University of Ljubljana, (SLOVENIA); [2]Advanced Concepts Team, European Space Agency, (NETHERLANDS); [3]SYRTE, Paris Observatory, Pierre and Marie Curie University, (FRANCE)

14:20 System of Gravitationally Interacting Bodies in the post-Minkowskian Hamiltonian Description
Ledvinka, T.
Charles University in Prague, Faculty of Mathematics and Physics, (CZECH REPUBLIC)

14:40 Autonomous Spacecraft Navigation With Pulsars
Becker, W. ; Bernhardt, Mike, G.
Max-Planck Institute for extraterr. Physics, (GERMANY)

15:00 Coffee Break

15:30 Relativistic Positioning by Means of Proper Time Measurements
Tartaglia, A. ; Ruggiero, Matteo Luca
Politecnico di Torino and INFN, (ITALY)

15:50 Precise Orbit Determination of the STE-QUEST, fundamental physics and the Galileo Navigation Satellite System
Páramos, J. [1]; Bertolami, O. [2]; Hechenblaikner, G. [3]
[1]Instituto Superior Técnico, (PORTUGAL); [2]Faculdade de Ciências da Universidade do Porto, (PORTUGAL); [3]Astrium EADS, (GERMANY)

16:10 Lie Perturbative Analysis of the Restricted Two-body Problem in Post-Newtonian Gravitation
Carloni, S.
University of Prague (CZECH REPUBLIC)

19:00 Conference Dinner at The Strahov Monastic Brewery sponsored by First-TF

Friday 6 December 2013

Session 5A: Geodesy
Room 1

09:00 IGS-MGEX: Preparing the Ground for Multi-Constellation GNSS Science
Montenbruck, O. [1]; Steigenberger, P. [2]; Khachikyan, R. [3]; Weber, G. [4]; Langley, R.B. [5]; Mervart, L. [6]; Hugentobler, U. [2]
[1]DLR/GSOC, (GERMANY); [2]TUM/IAPG, (GERMANY); [3]JPL/IGS-CB, (UNITED STATES); [4]BKG, (GERMANY); [5]UNB, (CANADA); [6]TU Prague, (CZECH REPUBLIC)

09:20 A Unique Infrastructure to develop and SCF-Test Retroreflector Arrays for GNSS, EGNOS-V2 and inter-GNSS-satellite Laser Links
Dell'Agnello , S. [1]; Delle Monache, G. [1]; Vittori, R [2]; Cantone, C [1]; Boni, A [1]; Patrizi, G [1]; Tibuzzi, M [1]; Ciocci, E [1]; Lops, C [1]; Martini, M [1]; Salvatori, L [1]; Contessa, S [3]; Palandra, L [1]; Maiello, M [1]; Bianco, G [4]; Marra, M [1]; Piergentili, F [1]; Capotorto, G [1]; Intaglietta, Nicola [1]; Lobello, Marco [1]
[1]INFN-LNF, (ITALY); [2]INFN-LNF, ESA, Italian Air Force, ASI, (ITALY); [3]INFN-lNF, (ITALY); [4]ASI-CGS, (ITALY)

09:40 High-precision Nutation Determination by means of GNSS
Capitaine, N. [1]; Yao, K. [1]; Weber, R. [2]; Umnig, E. [2]
[1]SYRTE, Observatoire de Paris, CNRS, UPMC, (FRANCE); [2]Vienna Univ. of Techn., (AUSTRIA)

10:00 TBC

Session 8B: Remote Sensing
Room 2

09:00 GNSS-Reflectometry at Higher Frequencies: The X-band Case
Ribó, S. ; Arco, J.C. ; Cardellach, E. ; Oliveras, S. ; Rius, A.
Institut de Ciències de l'Espai (CSIC/IEEC), (SPAIN)

09:20 Potentials for Radio Occultations with Future Galileo Frequencies
Syndergaard, S. [1]; Benzon, H.-H. [1]; Bonnedal, M. [2]
[1]Danish Meteorological Institute, (DENMARK); [2]Ruag Space AB, (SWEDEN)

09:40 A new SDR GNSS Receiver Prototype for Reflectometry Applications: Ideas and Design
Troglia Gamba, M. [1]; Ugazio, S. [2]; Pei, Y. [2]; Lo Presti, L. [2]; Notarpietro, R. [2]; Pini, M. [1]; Savi, P. [2]
[1]Istituto Superiore Mario Boella, (ITALY); [2]Politecnico di Torino, (ITALY)

10:00 GEROS-ISS - GNSS Reflectometry, Radio Occultation and Scatterometry onboard the International Space Station
Wickert, J. [1]; Beyerle, G. [1]; Cardellach, E. [2]; Förste, C. [1]; Gruber, T. [3]; Helm, A. [4]; Hess, M.P. [4]; Hoeg, P. [5]; Jakowski, N. [6]; Kern, M. [7]; Montenbruck, O. [6]; Rius, A. [2]; Rothacher, M. [8]; Shum, C.K. [9]; Zuffada, C. [10]
[1]GFZ Potsdam, (GERMANY); [2]IEEC/ICE-CSIC, Institute of Space Sciences, (SPAIN); [3]Technical Univ. München, (GERMANY); [4]Astrium GmbH, (GERMANY); [5]Technical Univ. of Denmark, (DENMARK); [6]DLR, (GERMANY); [7]ESA, (GERMANY); [8]ETH Zürich, (SWITZERLAND); [9]Ohio State Univ., (UNITED STATES); [10]JPL, California Institute of Techn., (UNITED STATES)

10:20 Coffee Break

10:50 Round Table

12:30 Close Colloquium

Posters – Wednesday 4 December

01. A Multipath Test Bed For Displacement Synthetic Aperture GNSS Antennas
Ranner, H.-P. [1]; Stangl, G. [2]; Pany, T. [3]; Llorens del Rio, D. [4]; Denisenko, V.V. [5]
[1]Austrian Academy of Sciences, (AUSTRIA); [2]Federal Office of Metrology and Surveying, (AUSTRIA); [3]IFEN GmbH, (GERMANY); [4]JAST, (SWITZERLAND); [5]Russian Academy of Sciences, (RUSSIAN FEDERATION)

02. GOCE Fully Dynamic Precise Orbit Determination for Tidal Recovery Applications
Casotto, S. ; Panzetta, F. ; Gini, F. ; Bardella, M.
University of Padua, (ITALY)

03. Typhoon Remote Sensing with GNSS-R: the TIGRIS Experiment
Fabra, F [1]; Li, W [2]; Martin-Neira, M [3]; Rius, A [1]; Yang, D [2]
[1]IEEC/ICE-CSIC, (SPAIN); [2]SEI, Beihang University, (CHINA); [3]ESA-ESTEC, (NETHERLANDS)

04. Anubis – Tool for Quality Check of Multi-GNSS Observation and Navigation Data
Vaclavovic, P. ; Dousa, J.
Research Institute of Geodesy, Topography and Cartography, (CZECH REPUBLIC)

05. Galileo Precise Orbits and Clocks Determination at the CNES-CLS IGS Analysis Center
Loyer, S. [1]; Mercier, F. [2]; Capdeville, H. [3]; Andrianavonimiarina, J. M. [3]; Mezerette, A. [3]; Perosanz, F. [2]
[1]Collecte Localisation Satellites, (FRANCE); [2]CNES, (FRANCE); [3]CLS, (FRANCE)

06. Use of GNSS Radio Occultation Observations to Determine Fingerprints Relevant for Climate Investigations
Vespe, F. ; Amoroso, M. ; Benedetto, C.
Agenzia Spaziale Italiana, (ITALY)

07. Applicability of Galieo and GLONASS Multipath Analyses for Snow Depth Sensing
Hefty, J. ; Gerhatova, L.
Slovak University of Technology, (SLOVAKIA)

08.Assessment the Performance of Low Cost IMUs for Strapdown Airborne Gravimetry using UAVs
Bastos, L. ; Yan, W. ; Magalhães, A. ; Deurloo, R.
University of Porto, (PORTUGAL)

09.Global Empirical Background TEC Model Based on the CODE Data
Pancheva, D. [1]; Mukhtarov, P. [2]; Andonov, B. [2]; Pashova, L. [2]
[1]National Institute of Geophysics, Geodesy and Geography, BAS, (BULGARIA); [2]NIGGG, BAS, (BULGARIA)

10. Global Empirical Model of TEC Response to Geomagnetic Activity
Pancheva, D. [1]; Mukhtarov, P. [2]; Andonov, B. [2]
[1]National Institute of Geophysics, Geodesy and Geography, BAS, (BULGARIA); [2]NIGGG, BAS, (BULGARIA)

11. Autonomous Prediction of Galileo Satellite Orbits
Huttunen, V. ; Ala-Luhtala, J. ; Piché, R.
Tampere University of Technology, (FINLAND)

12. A Review of Selected Spatial Interpolation Techniques for Tropospheric Delay Problems
Eliaš, M. ; Douša, J.
Geodetic Observatory Pecný, (CZECH REPUBLIC)

13. THE ISIS PROJECT: Indication for Future Near-Earth Plasma Studies Though Future Galileo Satellites

Materassi, M.[1]*; Arbesser-Rastburg, B.*[2]*; Banfi, E.*[3]*; Ciraolo L.*[1] *; De Michelis P.*[4] *; Muscinelli, R.*[3] *; Ponzoni, C.*[3]*; Scacchetti, C.*[3] *; Spalla, P.*[1] *; Tozzi, R.*[4] *; Zin, A.*[3]

[1] ISC-CNR (Italy); [2] European Space Agency (The Netherlands) ; [3] Thales Alenia Space Italia (Italy), ; [4] INGV, (Italy)