

**2012 International GNSS Workshop**

**July 23-27, 2012**

**University of Warmia and Mazury in Olsztyn (UWM)**

**Poland**

Agenda

**All posters on display Monday-Friday.**

**Monday, July 23, 2012– Morning**

**7:30-8:30**   **Check-in and Badge Pickup**

**8:30-10:00**   **Opening Plenary Session**   **R. Neilan**

### Plenary Room

8:30

UWM Welcome and Logistics

A. Krankowski

8:35

Official Welcome from UWM Rector

Prof. J. Gorniewicz

8:40

Welcome from Olsztyn President

Dr. P. Grzymowicz

8:45

IGS Welcome, Goals, Strategies, Objectives

U. Hugentobler

9:05

The International GNSS Service (IGS): The Secrets of a Success and the Challenges of the Future

G. Beutler

9:25

IGS Classic Products, Status and Towards the Future

J. Griffiths

9:45

IGS Products for GNSS Applications

T. Springer

**10:00-10:30 ☐☐☐☐☐☐☐☐ Break**

10:30-12:00 **MGEX Campaign**  
R. Weber

Plenary Room

10:30

The IGS Multi-GNSS-Signals Tracking Campaign - MGEX - Planning, Status, Perspectives

R. Weber

10:45

Challenges for Data Centers Supporting the Multi-GNSS Experiment

H. Habrich

11:00

MGEX Data Analysis at CODE - First Experiences

L. Prange

11:15

GNSS Bias Analysis at Shanghai Astronomical Observatory

J. Chen

11:30

Real-Time Stream Conversion to RTCM-3 MSM and RINEX-3 in IGS/MGEX Context

G. Weber

11:45

Discussion

R. Weber

**12:00-1:30 Lunch (Mathematics and Computer Sciences building)**



### Monday, July 23, 2012 - Afternoon

**1:30-3:00 Network Infrastructure and Real-Time C. Rizos**

## Plenary Room

1:30

The Real-Time Pilot Project and Transitioning to a New IGS Real-Time Service

M. Caissy

1:45

Data Flow and Format Issues to Support a Variety of Real-Time Services/Applications

G. Weber

2:00

Current State of the IGS Network

R. Khachikyan

2:15

Availability and Completeness of IGS Tracking Data

S. Lutz

2:30

IGS Network Challenges: Data Issues, Stations, Network, and Multi-GNSS

I. Romero

2:45

Discussion

C. Rizos

**3:00-3:30** Break

**3:30-5:00** GNSS Working Group Splinter Session R. Weber

**Location : Splinter Room 1**

**3:30-5:00** **Space Vehicle Orbit Dynamics Working** **M. Ziebart**

**Group Splinter Session**

**Location: Splinter Room 2**

**3:30-5:00** Ionosphere Working Group Splinter Session A. Krankowski

**Location: Splinter Room 3**

**7:00** Ice Breaker Reception

**Hotel Park**

**Tuesday, July 24, 2012 - Morning**

**8:30-10:00 IGS and the Geodetic and Wider Community U. Hugentobler**

**Plenary Room**

8:30

The IGS: An IAG Service that Delivers

C. Rizos

8:48

The Interactions Between IGS and GGOS

M. Rothacher

9:06

What does FIG Surveyors Expect in Collaborative Partnership with IGS?

L. Hothem



9:24

Multi-GNSS Service Provision: The Role of the International Committee on GNSS and Possible Contr

D. Turner

9:42

The IGS Membership in the International Council of Science's World Data System

R. Neilan

**10:00-10:30** Break

**10:30-12:00** Multi-GNSS R. Dach

Plenary Room

10:30

The International GNSS Service's Plans to Transition from RINEX 2.1X to 3.0X: Timeline, Procedures &

K. MacLeod

10:45

Results from IGS Workshop on GNSS Biases, 18–19 January 2012 in Bern

S. Schaer

11:00

WHU's Developments for the GPS Ultra-Rapid Products and the COMPASS Precise Products

C. Shi

11:15

Development of a New Combination Software

E. Schönemann

11:30

Experience from Multi-GNSS Network Processing

A. Hauschild

11:45

Discussion

R. Dach

**12:00-1:30 ☐ Lunch (Mathematics and Computer Sciences building)**

**Tuesday, July 24, 2012 - Afternoon**

**1:30-3:00 ☐ ☐ ☐ Poster Session**

**Location: Poster Area at Mathematics and Computer Sciences Building.**

**Presenters on attendance for following poster sessions..**

Session P1: The IGS Multi-GNSS Experiment (MGEX)

Session P2: Space Vehicle Orbit Dynamics and Attitude

Session P3: Ionosphere Observations and Modeling

Session P4: Infrastructure and Data Centers

**3:00-3:30** Break

**3:30-5:00** Infrastructure Committee Splinter Session I I. Romero

**Location: Splinter Room 1**

**3:30-5:00 Bias and Calibration Working Group S. Schaer**

**Splinter Session**

**Location: Splinter Room 2**

**3:30-5:00 Troposphere Working Group Splinter C. Hackman**



**Session**

**Location: Splinter Room 3**

**5:30□□□□□□□□□□□□□□□□ Tour of Astronomy Observatory and Planetarium**

**More information provided on first day of workshop.**

**Wednesday, July 25, 2012 - Morning**

**8:30-10:00 □ Modeling Observations and Station Motion □ J. Ray/T. van Dam**

**Plenary Room**

**8:30**

Mitigation of Unmodeled Non-Tidal Atmospheric Pressure Loading into Parameters of a Global GNSS

R. Dach

8:50

Summary of the 2012 Global Geophysical Center Workshop

T. van Dam

9:10

Analysis Effects in IGS Station Motion Time Series

P. Rebischung

9:30

Investigation of Non-Tectonic Signals at GPS Stations

C. Meertens

9:50

Discussion

J. Ray

10:00-10:30 Break

10:30-12:00 Atmospheric Delay Modeling and A. Krankowski/

Applications C. Hackman

Plenary Room

10:30

GNSS Data and the Real-Time International Reference Ionosphere

D. Bilitza

10:45

Validation of GPS Signals During Geomagnetic and Ionospheric Disturbances

H. Rothkaehl

11:00

Recent JPL Advances in Ionospheric Specifications and Potential New Applications Using Ground on

A. Komjathy

11:15

Modeling the Neutral Atmosphere Propagation Delay at UNB: Past, Present, and Future

M. Santos

11:30

Global Near-Real Time, Multi-GNSS and Ultra-Fast Troposphere Estimation at Geodetic Observatory F

J. Dousa

11:45

GPS Meteorology With Single Frequency Receivers

Z. Deng

**12:00-1:30 ☐ Lunch (Mathematics and Computer Sciences building)**

**Wednesday, July 25, 2012 - Afternoon**

**1:30-3:00 ☐ ☐ ☐ Poster Session**

**Location: Poster Area at Mathematics and Computer Sciences Building**



**Presenters on attendance for following poster sessions.**

Session P5: Biases and Calibrations

Session P6: Estimation and Application of GNSS-Based Troposphere Delay

Session P7: Real-Time Services and Applications

Session P8: Antenna Calibrations

**3:00-3:30** ☐☐☐ **Break**

**3:30-5:00** ☐☐☐ **Real-Time Working Group Splinter Session**☐☐ **M. Caissy**

**Location: Splinter Room 1**

**3:30-5:00** ☐☐☐ **Antenna Working Group Splinter Session**☐☐☐☐ **R. Schmid**

**Location: Splinter Room 2**

**3:30-5:00** Data Center Working Group Splinter C. Noll

**Session**

**Location: Splinter Room 3**

**7:00** Workshop Dinner

**Hotel Park**

**Thursday, July 26, 2012 - Morning**

**8:30-10:00** Space Vehicle Dynamics and Attitude, Clock M. Ziebart

## **Modeling and Time Scale Realizations**

### **Plenary Room**

8:30

Rotational Errors in IGS Orbit and ERP Products

J. Ray

8:50

GNSS Satellite Attitude Characteristics During Eclipse Season

F. Dilssner

9:10

Current Status of Non-Conservative Force Modeling and its Interface to REPRO2

M. Ziebart

9:30

GPS Timescale and Definition of IGS Timescale

K. Senior

9:50

Discussion

M. Ziebart

10:00-10:30 ☐☐☐☐☐☐☐☐☐ Break

10:30-12:00 ☐☐☐☐☐☐☐☐☐ Antenna Calibration Modeling and Errors ☐☐☐☐ R. Schmid

Plenary Room

10:30

Three-Method Absolute Antenna Calibration Comparison

A. Bilich

10:45

Modeling and Correction of Carrier Phase Multipath Effects

C. Rost

11:00



Extension of the GPS Satellite Antenna Patterns to Nadir Angles Beyond  $14^\circ$

R. Dach

11:15

Estimation of Azimuthal Satellite Antenna Phase Center Variations

F. Dilssner

11:30

The Geodetic Reference Antenna in Space (GRASP) – A Mission to Enhance the Terrestrial Reference

Y. Bar-Sever

11:45

Discussion

R. Schmid

**12:00-1:30 ☐ Lunch (Mathematics and Computer Sciences building)**

**Thursday, July 26, 2012 - Afternoon**

**1:30-3:00 □ □ □ Poster Session**

**Location: Poster Area at Mathematics and Computer Sciences Building**

**Presenters on attendance for following poster sessions.**

Session P10: Analysis Combination Center and Reference Frame

Session P11: Tide Gauge Benchmark Monitoring

Session P12: General Geodetic and Geophysical Applications of IGS Products

**3:00-3:30** ☐☐☐☐ **Break**

**3:30-5:00** ☐☐☐☐ **Analysis Center Coordinator and Reference J. Griffiths**

**Frame Working Group Splinter Session**

Location: Splinter Room 1

3:30-5:00 Clock Product Working Group Splinter K. Senior

Session

Location: Splinter Room 2

**3:30-5:00** Tide Gauge Working Group Splinter T. Schoene

**Session**

**Location: Splinter Room 3**

**3:30-5:00** Infrastructure Committee Splinter Session II I. Romero

**Location: Splinter Room 4**

**5:30** ██████████ **Tour of Olsztyn**

**More information provided on first day of workshop.**

**Friday, July 27, 2012**

8:30-10:00 Geodetic Applications of IGS Products G. Blewitt

Plenary Room

8:30

GNSS Analysis for Weather Applications Based on IGS Products



R. Pacione

8:48

Low-Latency Earthquake Displacement Fields for Tsunami Early Warning and Rapid Response Supp

G. Blewitt

9:06

Strengths and weaknesses of the IGS contribution to the ITRF

Z. Altamimi

9:24

The Effects of Using Inconsistent Correction Models for PPP Users with IGS Products

T. van Dam

9:42

UNAVCO's Community Planning for Real-Time GPS in Earthscope's Plate Boundary Observatory Us

C. Meertens

10:00-10:30 Break

**10:30-12:00** Splinter Working Group Reports  
U. Hugentobler

and Recommendations

Plenary Room

10:30

Infrastructure Committee

I. Romero

10:37

Data Center Working Group

C. Noll

10:44

Real-Time Working Group

M. Caissy

10:51

GNSS Working Group

R. Weber

10:58

Bias and Calibration Working Group

S. Schaer

11:05

Ionosphere Working Group

A. Krankowski

11:12

Troposphere Working Group

C. Hackman

11:19

Antenna Working Group

R. Schmid

11:26

Clock Product Working Group

K. Senior

11:33

Space Vehicle Orbit Dynamics Working Group

M. Ziebart

11:40

Analysis Center Coordinator and Reference Frame Working Group

J. Griffiths

11:47

Tide Gauge Working Group

T. Schoene

11:54

Discussion and Closing Remarks

U. Hugentobler

**12:00-1:30 ☐ Lunch (Mathematics and Computer Sciences building)**

**1:30-5:00 ☐☐☐ Governing Board Meeting**



### **Conference Room, Hotel Park**

### **Governing Board Members Only**

### **Poster Sessions**

Authors are requested to display posters by 8:30 am on Monday, July 23, and remove by 12:00 pm on Friday July 27. All posters should be on display for entire workshop. Authors requested to be available at their posters during assigned sessions.

**Session P1: The IGS Multi-GNSS Experiment**

**Chair: R. Weber**

**Tuesday, July 24, 2012, 1:30-3:00 pm (Presenting authors available at poster)**

P01-02

Performance Analysis of Compass Orbit and Clock Determination and Compass-only PPP

P. Steigenberger

P01-03

A COMPASS for Asia: First Experience with the BeiDou-2 Regional Navigation System

O. Montenbruck

P01-04

GFZ's Global Multi-GNSS Network And First Data Processing Results

M. Uhlemann

P01-05

A Single-Channel Validation Technique for All Available GNSS Observation Types

A. El-Mowafy

P01-06

Curtin and Delft Multi-GNSS M-GEX Stations: Infrastructure and Analysis Tools

N. Raziq

P01-07

A Data Center for Operation of Multi-GNSS Data

H. Habrich

P01-08

Precise Point Positioning for Characterization of GPS L5 biases Using M-GEX Data

J. Tegeedor

P01-09

Combined System Integrity Performance Analysis of Multi-Constellation Navigation

Xiaojun Duan

P01-12

GALILEO IOV Orbit Determination and Validation

S. Hackel

P01-13

MGEX Data Processing at CNES-CLS AC

S. Loyer

P01-15

MGEX Galileo Measurements Characterisations

F. Mercier

P01-16

Joint Reprocessing of GPS, GLONASS and SLR Observations - First Results

M.Fritsche

**Session P2: Space Vehicle Orbit Dynamics and Attitude**

**Chair: M. Ziebart**

**Tuesday, July 24, 2012, 1:30-3:00 pm (Presenting authors available at poster)**

P02-01

GPS-based Orbit Determination for LEO Satellites Using Double-Differenced Carrier-Phases

Z. Kang

P02-02

GNSS Orbit Validation Using SLR Observations at CODE

D. Thaller

P02-03

Analysis of the Usefulness of GRACE, NOAA and WGHM Models for the Flood Risk Assessment

M. Birylo

P02-04

Performance of the Selected Geopotential Models with the Empirical Accelerations in the Aspect of GO

A. Bobojć

P02-05

Measuring the Extent of Error Gravity Anomalies Calculated from GRACE Data Within the Area of

Poland

M. Birylo

P02-06

Orbit and Baseline Determination for Formation Flying Satellites Using Spaceborne Dual-frequency GF

D. Gu

P02-07

Modeling and Characterization of the GPS Block II/IIA Attitude

J. Weiss

P02-08

Geocenter Coordinates and Polar Motion Estimated from a Combined Multi-GNSS Data Analysis

M. Meindl

P02-09

Adjustable Box-Wing Model for GNSS Satellites: Impact on Geodetic Parameters

C. Rodriguez-Solano



## Session P3: Ionosphere Observations and Modeling

Chair: A. Krankowski

Tuesday, July 24, 2012, 1:30-3:00 pm (Presenting authors available at poster)

P03-01

On Traveling Ionospheric Disturbances Induced by Underground Nuclear Explosions and Earthquakes

J. Park

P03-02

Generation of Hourly Global Maps of the Ionospheric Peak Electron Density and

Peak Height from GPS\_TEC Maps

T.L. Gulyaeva

P03-03

GNSS-Based Near-Real Time Ionospheric Monitoring over Europe Available On-Line

J.-M. Chevalier

P03-04

3-D ray Tracing of GPS Radio Occultation Paths

R. Norman

P03-05

Investigating the Quality of a New Regional Model of the Ionospheric Electron Content

N. Magnet

P03-06

The Occurrence of the TEC Fluctuations at High Latitudes During Very Low Solar Activity.

R. Sieradzki

P03-07

GPS and Ionosonde Measurements at the Puhonice Observatory

Z. Mosna

P03-08

Optimum Algorithms for Real-Time Ionospheric Scintillation Monitoring System

G. Nykiel

P03-09

Using of GPS TEC Observations and Radio Occultation Measurements for the Ionosphere's Monitoring

I. Zakharenkova

P03-10

Statistical Plasma Properties in Relation to Geomagnetic Activity Derived from Demeter Data

D. Przepiórka

P03-11

Ionospheric Drifts Estimated Using GPS Scintillation Data During Magnetic Storm on 5-6'th of April 201

M. Grzesiak

## **Session P4: Infrastructure and Data Centers**

**Chair: I. Romero and C. Noll**

**Tuesday, July 24, 2012, 1:30-3:00 pm (Presenting authors available at poster)**

P04-01

Improvement of the IGS station coverage in Latin America

L.	Sánchez
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P04-02

BRUX: A New EPN and IGS Reference Station in Brussels

C. Bruyninx
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P04-03

CORSnet-NSW Adjustable Antenna Mount (CAAM) for GNSS CORS

R. Commins
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P04-04

Availability and Completeness of IGS Tracking Data

S. Schaer

P04-05

Status and Plans for the NASA Global GNSS Network (GGN)

D. Maggert

P04-06

UNAVCO Development and Testing Activities in Support of the IGS GNSS Mission

F. Blume

P04-07

NASA's Next Generation Space Geodesy Network

S. Desai

P04-08

An Update on the CDDIS

C. Noll

P04-09

The ESA/ESOC GNSS Network Progress, Improvements and Planned Upgrades in the Station Network

M. van Kints

P04-10

The IGS Campaign to Measure Position Corrections for Un-calibrated IGSRadome Stations

I. Romero

P04-11

The Canary GNSS Center; An Effort to Promote Space Geodetic Data and Techniques for Africa

I. Romero

P04-12

GPS Data on CDAWeb

D. Bilitza

**Session P5: Biases and Calibrations**

**Chair: S. Schaer**

**Wednesday, July 25, 2012, 1:30-3:00 pm (Presenting authors available at poster)**



P05-01

GLONASS Inter-Frequency Code Biases and PPP Carrier-Phase Ambiguity Resolution

N. Reussner

P05-02

Monitoring of GPS-Galileo Inter-System/Signal Biases

D. Odijk

P05-03

Mitigation of Standing Multipath Based on Time-Frequency Analysis and Adaptive Filtering

J. Liu

P05-04

Wide-lane Bias and Fractional Phase-Bias Estimation for GIOVE and Galileo IOV Satellites

A. Hauschild

P05-05

Which IGS Products for PPP With Integer Ambiguity Fixing ?

F. Mercier

P05-06

Biases and Clock Modelling in the Frame of Ambiguity Resolution

E. Orliac

## Session P6: Estimation and Application of GNSS-Based Troposphere Delay

Chair: C. Hackman

Wednesday, July 25, 2012, 1:30-3:00 pm (Presenting authors available at poster)

P06-01

Computation of the IGS Final Troposphere Product by the USNO

S. Byram

P06-02

Computation of Zenith Total Delay Residual Fields using Ground-Based GNSS estimates

B. Pace

P06-03

SUADA: Sofia University Atmospheric Data Archive

G. Guerova

P06-04

GNSS Research and Services at ROB to Support Meteorology and Nowcasting Applications

E. Pottiaux

P06-05

On the Use of the IGS REPRO1 Product for Climate Change Analysis: An IWV Inter-technique Comparison

E. Pottiaux

P06-06

An Evaluation of Real-Time, Near Real-Time and Post-Processed Zenith Total Delay Estimates

F. Ahmed

P06-07

Atmospheric Profiling using GPS Radio Occultation and Radiosonde Observations in the Australian Region

R. Norman

P06-08

Inter-Comparison and Cross-Validation of Tomography Models – Aims, Scope and Methodology

W. Rohm

P06-09

IGS Tropospheric Products - Quality Verification and Assessment of Usefulness in Climatology

M. Kruczyk

P06-10

The High Resolution Troposphere on the Area of GBAS System

J. Bosy

P06-11

Evaluation of Pressure Extracted from NCEP and CMC Global Numerical Weather Prediction Models

M. MacAdam

P06-12

Tropospheric Products for Real-Time and Near Real-Time Applications

G. Moeller

P06-13

Fast-Static GPS Positioning with External Tropospheric Corrections Derived in Near Real-Time

J. Paziewski

P06-14

Advanced GNSS Tropospheric Products for the Monitoring of Severe Weather Events and Climate (GNSS)

J. Jones

**Session P7: Real Time Services and Applications**

**Chair: M. Caissy**

**Wednesday, July 25, 2012, 1:30-3:00 pm (Presenting authors available at poster)**

P07-01

Technology of Reliable Rapid Static GNSS Surveying in Urban Area

M. Bakula

P07-02

The CNES Real Time Integer PPP Demonstrator

D. Laurichesse

P07-03

On the Estimability and Reliability of Correction Models from CORS Networks

N. Lindenthal

P07-04

Generating UPD for IGS Combined Products for Ambiguity-Fixing of Real-Time PPP

M. Ge

P07-05



Real-Time GNSS Data Processing at the Technical University Vienna- Current Status and Upcoming

F. Hinterberger

P07-06

BKG Ntrip Client (BNC) Version 2.6 – Recent Developments and Results

W. Söhne

P07-07

Control Methods of Real-Time Services of ASG-EUPOS

G. Nykiel

P07-08

Troposphere Model for PPP-RTK

J. Kaplon

P07-09

G-Nut Software Library for Implementing Various GNSS Applications

P. Vaclavovic

P07-10

Real-Time Operations at Natural Resources Canada, Geodetic Survey Division

M. Caissy

P07-11

Assessment of First Real-Time IGS Global VTEC Maps

M. Hernandez-Pajares

P07-12

Real Time Analysis Centre and AC Coordination Activities at ESOC

L. Agrotis

**Session P8: Antenna Calibrations**

**Chair: R. Schmid**

**Wednesday, July 25, 2012, 1:30-3:00 pm (Presenting authors available at poster)**

P08-01

Evaluation of Individual Antenna Calibrations Used in the EPN

Q. Baire

P08-02

Ray-Tracing Approach for Multipath Characterization Including Multiple Rays

M. Smyrnaio

P08-03

Current Research Activities at the IfE Antenna Calibration Facility

T. Kersten

P08-04

Absolute Antenna Calibration at the US National Geodetic Survey

A. Bilich

P08-05

Antenna Phase Center Calibration Effects on Sub-Daily and Daily Position Estimates

D. Sidorov

P08-06

Characterizing the GPS Satellite Antenna Phase- and Group-Delay Variations Using Data from Low-Earth Orbit

B. Haines

## **Session P10: Analysis Combination Center and Reference Frame**

**Chair: J. Griffiths**

**Thursday, July 26, 2012, 1:30-3:00 pm (Presenting authors available at poster)**

P10-01

First Combination of GNSS Solutions Submitted to IAG WG “Integration of Dense Velocity Fields in the

J. Legrand

P10-02

GNSS-Based Processing at the USNO: Incorporation of GLONASS Observations

S. Byram

P10-03

IAG Dancer: Global Solutions for all Receivers in the World

H. Boomkamp

P10-04

Time Series Analysis of GNSS-SLR Co-located Stations

K. Sośnica

P10-05

Application of Wavelet Semblance Function to Comparison of Centre of Mass Time Series Determined

W. Kosek

P10-06

Activities at the CODE Analysis Center

R. Dach

P10-07

USNO Analysis Center Progress 2010-2012

C. Hackman

P10-08

The Stability and Dynamic Analysis of Chinese CGCS2000 CORS

Y. Dang

P10-09

Impact of Short Period Atmospheric Loading Signals

T. Herring

P10-10

Can We Decorrelate Geocenter Motion from Empirical Accelerations?

P. Rebischung

P10-11

Impact of Inconsistent Use of IERS Conventions on PPP results



H. Bock

P10-12

Current Status and Future Plans at the Natural

Resources Canada (NRCan) Analysis Centre

B. Donahue

P10-13

GOP EUREF Permanent Network Reprocessing Using IGS05 and IGS08 Models

J. Dousa

P10-15

The JPL IGS Analysis Center: Status and Plans

S. Desai

P10-16

Incorporating Seasonal Variations Based on GRACE Measurements in Global and Regional TRF Models

R. Zou

P10-17

The ESA/ESOC Analysis Center Progress, Improvements and Planned Upgrades in the GNSS Data Processing

T. Springer

## **Session P11: Tide Gauge Benchmark Monitoring**

**Chair: T. Schoene**

**Thursday, July 26, 2012, 1:30-3:00 pm (Presenting authors available at poster)**

P11-01

Towards a Vertical Datum Standardisation Based on a Joint Analysis of TIGA, Satellite Altimetry and G

L. Sánchez

P11-02

The BLT IGS TIGA Analysis Center

F. Teferle

P11-03

An Evaluation of a Monte Carlo Markov Chain Method for the Statistical Analysis of GPS Time Series

G. Olivares

P11-04

The Potential of Persistent Scatterer Interferometry for Complementing GPS

Installations at Tide Gauges – Experiences from the United Kingdom

L. Adamska

P11-05

The TIGA Data Assembly Centre SONEL:

Recent Developments and Perspectives

M. Gravelle

P11-06

GPS Estimates of Vertical Land Motion for Altimeter Calibration

A. Santamaría-Gómez

P11-07

TIGA Network Coordination: Monitoring Data Fluxes and Providing Metadata

E. Prouteau

P11-08

Processing of a Regional EPN Sub-Network with Global IGS Sites at WUT EPN LAC: Experiences and

T. Liwosz

P11-09

North Shields Tide Gauge: Local Ties Lessons

K. Palamartchouk

**Session P12: General Geodetic and Geophysical Applications of IGS Products**

**Chair: G. Blewitt**

**Thursday, July 26, 2012, 1:30-3:00 pm (Presenting authors available at poster)**

P12-01

Using IGS Products for Near Real-Time Comparison of UTC(k)'s

P. Defraigne

P12-02

A Focus on Estimated Coseismic Displacements using IGS Weekly Station Positions

D. Lercier

P12-03

Processing LEO Data and Gravity Field Determination at AIUB: A Status Report

U. Meyer

P12-04

Assessment of Single Epoch Integer Precise Point Positioning Performances

F. Fund

P12-05

Some Aspects of GBAS Application to Geodynamical Studies

J. Bogusz

P12-06

IGS Products in GNSS Time Transfer Using TTS-4 Receivers

A. Foks-Ryznar

P12-07

Atmospheric Loading Detection Using Regional GNSS Network: Case Study of Polish GBAS System

M. Rajner

P12-08

First Investigations on Using Galileo E5AltBOC for Time Transfer

M. C. Martinez-Belda