

2nd International Gravity Field Symposium
Fairbanks, Alaska
20-22 September 2010

SCIENTIFIC PROGRAM

MONDAY, SEPTEMBER 20

07:30 Registration and Coffee will be available at the Westmark Gold Room

Welcome and Opening

Gold Room, 08:45 – 09:00

A brief welcome to the meeting from the Local Organizing Committee.

GOCE and GRACE – Latest Results I

Gold Room, 09:00 – 10:40

Presiding: Rene Forsberg (DTU-Space)

09:00 – 09:30 **Rune Floberghagen**, Michael Fehringer, Daniel Lamarre, Björn
invited Frommknecht, Roger Haagmans, Reiner Rummel, Thomas Gruber,
Alberto Bigazzi, Marco Meloni

GOCE: mission status and initial gravity field

09:30 – 10:00 **Srinivas Bettadpur**, Byron Tapley, Frank Flechtner, Michael Watkins
invited

GRACE Mission Status and Future Plans

10:00 – 10:20 **Richard Biancale**, J.M. Lemoine, S. Bruinsma, S. Bourgogne, P. Gégout,
G. Ramillien, L. Seoane, W. Zerhouni

Time variable GRGS-EIGEN gravity field models: present modelling and
future plans

10:20 – 10:40 **Christoph Foerste**, Christoph Dahle, Frank Flechtner, Christian Gruber,
Karl-Hans Neumayer, Rolf Koenig, F. Barthelmes

The new GFZ EIGEN-GRACE06S Gravity Field Time Series

10:40 – 11:00 BREAK, POSTER SETUP TIME

GOCE and GRACE – Latest Results II

Gold Room, 11:00 – 12:20

Presiding: Steve Kenyon (NGA)

11:00 – 11:20 **Pieter N.A.M. Visser**

Assessment of bandwidth limitation of GOCE gravity gradient observations

11:20 – 11:40 **Srinivas Bettadpur**, GRACE Level-2 Team at CSR and Level-1 at JPL

Experiences with quick-look gravity field determination from GRACE

11:40 – 12:00 **Roger Haagmans**, Christian Siemes, Michael Kern, Gernot Plank, Rune Floberghagen

Determination and Monitoring of GOCE Gradiometer Calibration Parameters and the Link to Science Data Quality

12:00 – 12:20 **Ulrich Meyer**, A. Jaeggi, G. Beutler

GRACE and GOCE gravity field determination with the Celestial Mechanics Approach at AIUB

Lunch

Gold Room, 12:20 – 13:40

12:20 – 13:40 LUNCH

Time Varying Gravity Field: Hydrology, Cryosphere, GIA I

Gold Room, 13:40 – 15:40

Presiding: Corinna Kroner (Uni-Jena)

13:40 – 14:00 **Roger Haagmans**, P. Silvestrin, M. Aguirre, L. Massotti, M. Kern, G. Plank

Studies of Future Gravity Mission Concepts for Monitoring Mass Transport in the Earth System

14:00 – 14:20 **Srinivas Bettadpur**, Matthew Rodell

Summary of GRACE Hydrology Product Definition Workshop

14:40 – 15:00 **Svetozar Petrovic**, Franz Barthelmes

Detecting arbitrary periods and trends in surface mass variability from GRACE observations

15:20 – 15:40 **Oliver Baur**, M. Kuhn, W.E. Featherstone

Global assessment of GRACE mass-change estimates

15:40 – 16:00 BREAK, POSTER SETUP

Time Varying Gravity Field: Hydrology, Cryosphere, GIA II

Gold Room, 16:00 – 17:20

Presiding: Srinivas Bettadpur (UT-Austin)

16:00 – 16:20 **Xiaoping Wu**

Global Estimation of Present-Day Surface Mass Trend and GIA Using Multi-Satellite Data Combination with Results on Alaskan Glaciers

16:20 – 16:40 **Rene Forsberg**, Louise Sandberg Sørensen

Mass loss of Greenland and Antarctica from GRACE

16:40 – 17:00 S. Miura, **Tadahiro Sato**, Y. Ohta, H. Fujimoto, W. Sun, T. Sugano, C.F. Larsen, A.M. Kaufman, R.J. Motyka, J.T. Freymueller

Study of GIA process in SE-AK based on the geodetic measurements on the ground

17:00 – 17:20 **Oliver Baur**, Nico Sneeuw

Assessing Greenland ice mass loss by means of point-mass modeling: Methodology and results

Poster Viewing or Free Time

Gold Room, 17:20 – 18:30

Posters will be available for viewing prior to the Ice Breaker reception. There will be additional dedicated poster viewing time on Tuesday.

Ice Breaker Reception

Gold Room, 18:30 – 20:00

Join your colleagues for a relaxing reception!

TUESDAY, SEPTEMBER 21

08:30 Coffee will be available at the Westmark Gold Room

Arctic and Alaska Gravity Field

Gold Room, 09:00 – 10:20

Presiding: Bernie Coakley (UAF)

09:00 – 09:20 **Rene Forsberg**, A. V. Olesen, H. Skourup

Gravity Field of the Arctic Ocean from surface, airborne and satellite

09:20 – 09:40 **Dave McAdoo**, S. W. Laxon, S. Farrell, A. Ridout, J. Zwally, D. Yi

Satellite Altimetric Mappings of Arctic Gravity and Sea
Surface Topography from Envisat RA-2 and ICESat Data and More

09:40 – 10:00 **Jeff Freymueller**

Predicted Geoid Change Rates in Southern Alaska

10:00 – 10:20 **Bernie Coakley**, Steve Kenyon

Arctic Ocean gravity anomalies measured from the icebreaker USCGC
Healy: Issues and Opportunities

Poster Advertisements and Poster Session

Gold Room, 10:20– 12:00

Presiding: Jeff Freymueller (UAF)

Franz Barthelmes, ICGEM - The International Centre for Global Earth Models

Anthony Mémin, Effects of glaciers topography on geodetic consequences of past and
present ice melting: the case of Svalbard, Norway

Anthony Arendt, Modeling Elastic Uplift Associated with GRACE Hydrology Solutions for Southeast Alaska

Thomas Jacob, Estimating geoid changes and over North America: past, present and future.

Holger Steffen, Determination of the Earth's structure in Fennoscandia from GRACE and implications on the optimal post-processing of GRACE data

Jan Krynski, The choice of data from GRACE as well as filtering method for the analysis of time variations of the gravity field over Europe

Christian Gerlach, Low-low satellite-to-satellite-tracking revisited

Anthony Mémin, Ice Loss in Svalbard, Norway, from Secular Gravity Variation Analysis of Ground Observations (SG and AG) and GRACE Data

Michael Kuhn, Monitoring mass transport in the Murray-Darling basin, Australia using GRACE time-variable gravity, TRMM precipitation and river level/flow observations

Xiaopeng Li, A Detailed Gravimetric Geoid for Alaska

Lunch

Gold Room, 12:00 – 13:00

12:00 – 13:00 LUNCH

The IAG Study Group 2.2 on High-Resolution Forward Gravity Modeling will meet together during this time.

Satellite Altimetry for Global Change and Gravity Field

Gold Room, 13:00 – 15:10

Presiding: Bernie Coakley (UAF)

13:00 – 13:30 **Roger Haagmans**, Richard Francis, Robert Cullen, Mark Drinkwater
invited

CryoSat-2 Status: Measuring fluctuations of land and marine ice fields from Space

13:30 – 13:50 **Ole Andersen**

The DTU10 Global Gravity field and Mean Sea Surface - improvements in the Arctic Ocean.

13:50 – 14:10 **Philippa A. M. Berry** and R. G. Smith

The new Global Digital Elevation Model ACE2

14:10 – 14:30 **Georges Balmino**, N. Vales, S. Bonvalot, A. Briais

A worldwide Bouguer anomaly map derived from EGM 2008 and ETOPO1 spherical harmonic analysis.

14:30 – 14:50 **Philippa A. M. Berry**

Global Inland Water Monitoring using Satellite Radar Altimetry

14:50 – 15:10 **Ole B. Andersen**, Lars Steenseng

Recovery of coastal short wavelength geophysical signals from Delay-Doppler altimeters – Preliminary results with CRYOSAT II

15:10 – 15:30 BREAK, POSTER SETUP TIME

Poster Advertisements and Poster Session

Gold Room, 15:30 – 17:30

Presiding: Jeff Freymueller (UAF)

Shiang-Hung Wei, Height changes of ice cap of Mt. Tanggula and Lake Chibuzhang in Tibet using retracked satellite altimetry

Ole Andersen, Interannual Arctic sea level variability from ICESAT and ENVISAT

Michael Bevis, Relative Gravity Surveys in Bolivia

Heiner Denker, Astrogeodetic Vertical Deflections in Germany for GOCE Validation and Combination

Chi-Hsun Huang, Data processing for near-shore marine gravity survey with small vessels

Cheinway Hwang, Results of superconducting, absolute, airborne/shipborne, and relative gravimetry research in Taiwan: geodetic, geophysical and oceanographic applications

Nicolas Le Moigne, Geodetic and hydrogeophysic long-term observations in the Durzon karstic aquifer (Larzac, France)

Mirko Scheinert, Geoscientific Research with the New German “High Altitude and Long Range Research Aircraft” (HALO)

Viliam Vatrť, A Global Vertical Reference Frame

Dimitrios Tsoulis, Spectral analysis and interpretation of current satellite-only Earth gravity models by incorporating global terrain and crustal data

Sinem Ince, Analyzing the precision of geoid model in Great Lakes area

Michael Kuhn, High-resolution point-mass fit for gravity field modeling

Rebekka Steffen, High resolution three-dimensional gravimetric model of the seismically active region of Almaty (Kazakhstan)

Michael Kuhn, Gravity inside the topographic masses over Australia

R. J. Warburton, First results with the new GWR iGrav superconducting gravimeter

WEDNESDAY, SEPTEMBER 22

08:30 Coffee will be available at the Westmark Gold Room

Gravimetry – Airborne, Absolute, and Superconducting I

Gold Room, 09:00 – 10:40

Presiding: Corinna Kroner (Uni-Jena)

09:00 – 09:20 **Stephen Ferguson**, Stefan Elieff, Robin Bell, Michael Studinger

Measuring the Gravity Vector with an Airborne Gravimeter

09:20 – 09:40 **Arne Vestergaard Olesen** and Rene Forsberg

Regional airborne gravimetry for geodesy and geophysics

9:40 – 10:00 **Tom Richter**, D. Young, D. Blankenship, S. Kempf, and J. Greenbaum

Project ICECAP Airborne Gravimetry over East Antarctica

10.00 – 10:20 **Herbert Wilmes**, H. Wziontek, J. Ihde, R. Falk, S. Bonvalot , R.

Forsberg, S. Kenyon, L. Vitushkin

Preparation of a New Global Absolute Gravity Reference System

10:20 – 10:40 BREAK, POSTER SETUP TIME

Gravimetry – Airborne, Absolute, and Superconducting II

Gold Room, 10:40 – 12:00

Presiding: Rene Forsberg (DTU-Space)

- 10:40 – 11:00 **Larry Hothem**, N. Le Moigne, Y. Rogister, A. Mémin, J. Hinderer
Absolute Gravity Measurements at McMurdo, Scott Base and Mario Zucchelli Stations, Antarctica in November 2009
- 11:00 – 11:20 **Corinna Kroner**, David Crossley, Jacques Hinderer
Studies on mass redistributions underpinned by observations with superconducting gravimeters within the Global Geodynamics Project
- 11:20 – 11:40 **Yoichi Fukuda**, Hiroshi Ikeda, Hideaki Hayakawa, Satoshi Yoshii, Yoshiaki Tamura, Parluhutan Manurung
Superconducting Gravimeter Observation in Cibinong, Indonesia
- 11:40 – 12:00 **Rebekka Steffen**, Patrick Wu, Thomas Jahr, Corinna Kroner, Jeong Woo Kim, Jürgen Neumeyer
Earthquake monitoring with Superconducting Gravimeters and Seismometer – Looking for Rayleigh waves

Lunch

Gold Room, 12:00 – 13:00

12:00 – 13:00 LUNCH

Global Vertical Datum, Continental and Regional Geoids

Gold Room, 13:00 – 14:40

Presiding: Jeff Freymueller (UAF)

- 13:00 – 13:20 **Riccardo Barzagli**, Daniela Carrion, Andrea Gatti, Fernando Sansó
GOCE and the height datum problem
- 13:20 – 13:40 **Denizar Blitzkow**, Ana Cristina Oliveira Cancoro de Matos, Gabriel do Nascimento Guimaraes, Maria Cristina Barboza Lobianco, Sonia Maria Alves Costa
A new version of the geoid model for South America
- 13:40 – 14:00 **Dru Smith**, Mark Eckl, Dan Roman, Kendall Fancher, Stu Kuper, Curt Smith, Yan Wang, David Schmerge, Daniel Winester, Christian Hirt, Beat Bürki, Sébastien Guillaume

A Proposed Geoid Slope Validation Survey in the United States

14:00 – 14:20 **Jisun Lee**, Young Min Keum, Jay Hyoun Kwon

The Issues and Status in the Development of Korean Precision Geoid

14:20 – 14:40 **Hung-Jui Hsu**, Cheinway Hwang, Yuande Yang

Optimal combination of space-borne, airborne, shipborne and land-based gravity data for geoid modeling in Taiwan

14:40 – 15:00 BREAK

Gravity Field Modelling – Methodology and mass sources

Gold Room, 15:00 – 17:20

Presiding: Steve Kenyon (NGA)

15:00 – 15:20 **Jianliang Huang**, Marc Véronneau

Methods of Using the Satellite-Based Global Gravity Models to Model the Geoid in Western Canada and Alaska

15:20 – 15:40 **Daniel Roman**, Yan Ming Wang, Jarir Saleh, Simon Holmes, Xiaopeng Li

Development of Forward Gravity Field Model from Multiple Sources

15:40 – 16:00 **Yan Ming Wang**, H. Denker, J. Saleh, X. Li, D. Roman, D. Smith

A comparison of different geoid computation procedures in the US Rocky Mountains

16:00 – 16:20 **Corinna Kroner**, H. Kämpf, J. Mrlina, H. Matthes, Th. Jahr

Potential field methods – well suited for hunting up and dissecting remnants of maar-diatreme volcanoes

16:20 – 16:40 **Rebekka Steffen**, Holger Steffen, Gerhard Jentzsch

A 3D Moho depth model for the Tien Shan from EGM2008 gravity data

16:40 – 17:00 **Mikhail Kaban**, M. Tesauro, M., S. Cloetingh

A new high-resolution map of the isostatic anomalies (case study: Europe).

17:00 – 17:20 V. N. Grigoriadis, **Ilias Tziavos**

The use of high-resolution gravity data bases to geoid and Moho topography modelling

Closing

Gold Room, 17:20 – 17:40

17:20 Final comments by Rene Forsberg, Steve Kenyon

17:40 ADJOURN

Farewell Banquet

Gold Room, 19:30 – 21:30

Join your colleagues for a final banquet!