

Preliminary Programme

V8

(12/11/2014)

Day 1, Tuesday 25 November 2014					
09:00	10:30	Registration			
10:30		Opening Session	Chairs:	R. Floberghagen, J. Benveniste	
10:30	10:35	Welcome Address by UNESCO	W.	Watson-Wright	IOC/UNESCO
10:35	10:50	Welcome Address by ESA	V.	Liebig	European Space Agency
10:50	10:55	Workshop Objectives	J.	Benveniste	European Space Agency
10:55		Session 1: Mission accomplished – exploitation continues	Chairs:	R. Floberghagen, J. Benveniste	
10:55	11:15	GOCE: 1700 days of flight operations - and science for a lifetime	R.	Floberghagen	European Space Agency
11:15	11:35	Keynote Oceanography I: The 'OC' in 'GOCE': an overview	M.-H.	Rio	ISAC-CNR
11:35	11:55	Keynote Solid Earth: Imaging Earth's interior dynamics from GOCE - and beyond	I.	Panet	IGN
11:55	12:15	Keynote Geodesy: GOCE & Antarctica	R.	Forsberg	National Space Institute
12:15	12:35	Keynote Aeronomy: GOCE's contribution to upper atmospheric research	E.	Doornbos	Delft University of Technology
12:35	12:55	Keynote Oceanography II: Beyond Currents – The Next Phase in GOCE Oceanographic Research	R.	Bingham	Bristol University
13:00	14:00	Lunch			
14:00		Session 2: The new GOCE science products, gravity field models and gravity gradient data	Chairs:	H. Sünkel, P. Visser	
14:00	14:10	Session Introduction and Seed Questions	by	Chairs	
14:10	14:30	Release 5 of the direct approach gravity field model based on all GOCE data	S.	Bruinsma	CNES
14:30	14:50	A gravity field model from the entire GOCE mission: EGM_TIM_RL05	J.M.	Brockmann	University of Bonn
14:50	15:10	GOCE Contributions to the GGM05 Suite of Mean Earth Gravity Models	S.	Bettadpur	The University of Texas at Austin
15:10	15:30	Evaluation of the Release-3, 4 and 5 GOCE-based Global Geopotential Models in North America	M.	Sideris	University of Calgary
15:30	15:50	GOCE gravity field models – overview and performance analysis	T.	Gruber	Technische Universität München
15:50	16:20	Coffee Break			
16:20	16:40	EIGEN-6C4 – The latest combined global gravity field model including GOCE data up to degree and order 2190 of GFZ Potsdam and GRGS Toulouse	C.	Förste	GFZ Potsdam
16:40	17:00	Space-wise grids of gravity gradients from GOCE data at nominal satellite altitude	A.	Gatti	Politecnico di Milano
17:00	17:20	High-resolution grids of GOCE-only gravitational gradients for geophysics	J.	Sebera	University of West Bohemia
17:20	17:40	A mascon adjustment of the Earth's gravity field using GOCE gradiometer data	E.	Mysen	Norwegian Mapping Authority
17:40	18:00	Contribution of GOCE RL05 models to height system unification in North America	B.	Amjadiparvar	University of Calgary
18:00	18:20	GOCE Precise Science Orbits for the Entire Mission	A.	Jäggi	University of Bern
18:20	18:50	Discussion			
19:00	21:00	Ice breaker cocktail			

Day 2, Wednesday 26 November 2014					
09:00	Session 3: Oceanography			Chairs:	M.-H. Rio, P. Knudsen
09:00	09:10	Session Introduction and Seed Questions	by	Chairs	
09:10	09:30	An oceanographic assessment of the GOCE geoid models accuracy	S.	Mulet	CLS
09:30	09:50	GOCE geoids and derived Mean Dynamic Topography in the Arctic Ocean	O.	Andersen	DTU Space
09:50	10:10	Uncertainties of MDT and geostrophic currents estimated from GOCE and satellite altimetry: A case study in China's Marginal Seas	J.	Shuanggen	Shanghai Astronomical Observatory, Chinese Academy of Sciences
10:10	10:30	The MEGG-C project: mean dynamic topography in the Mediterranean Sea based on GOCE data and Wiener filters	M.	Gilardoni	Politecnico di Milano
10:30	11:00	Coffee Break			
11:00	11:20	Assessing GOCE Gravity Models using Altimetry and In-situ Ocean Current Observation	P.	Knudsen	DTU Space
11:20	11:40	Nonlinear diffusion filtering of the GOCE-based satellite-only mean dynamic topography	R.	Cunderlik	Slovak University of Technology
11:40	12:00	Determination of the Mean Dynamic Topography at the Coast using the Geodetic and Ocean Approaches and Consequences for the Worldwide Height System Unification	P.	Woodworth	National Oceanography Centre
12:00	12:20	Discussion			
12:20	14:00	Lunch			
14:00	Session 4: Solid Earth			Chairs:	M. van der Meijde, J. Ebbing
14:00	14:10	Session Introduction and Seed Questions	by	Chairs	
14:10	14:30	Gravity gradient grids at satellite altitude for lithospheric modelling	J.	Ebbing	Kiel University
14:30	14:50	GOCE Gradient Tensor Characterization of the Coupled Paraná (South America) and Etendeka (Africa) Magmatic Provinces	P.	Mariani	University of Trieste
14:50	15:10	Moho depth inversion from gravity and gravity gradient data	Z.	Ye	Institute of Geodesy
15:10	15:30	Estimates of the elastic thickness of the continents from GOCE gravity models	R.	Rummel	Technische Universität München
15:30	15:50	High resolution crustal thickness map of Botswana using satellite gravity and receiver function	I.	Fadel	University of Twente
15:50	16:20	Coffee Break			
16:20	16:40	Error analysis of GOCE data for solid Earth applications	M.	van der Meijde	University of Twente - ITC
16:40	17:00	Utilization of high-resolution GOCE gravity data for mapping the structures of the Western offshore, India	T. J.	Majumdar	SAC (ISRO)
17:00	17:20	Western Balkans Moho depth and crustal structure exploiting GOCE data	D.	Sampietro	Politecnico di Milano
17:20	17:40	Modelling the lithospheric structure of the Arabian peninsula with satellite gravity gradients	N.	Holzrichter	University Kiel
17:40	18:00	Use of topography in the context of the GOCE satellite mission - some examples	C.	Hirt	Curtin University
18:00	18:20	Geological implications from complete Gondwana reconstructions of GOCE-products	C.	Braitenberg	University of Trieste
18:20	18:50	Discussion			
18:50	20:00	POSTER SESSION (and cocktail)			

Day 3, Thursday 27 November 2014			
09:00	Session 5: Geodesy		Chairs: G. Balmino, F. Sansò
09:00	09:10	Session Introduction and Seed Questions	by Chairs
09:10	09:30	Quality analysis of the GOCE gravity gradients from the low orbit operation campaign	W.-D. Schuh University of Bonn
09:30	09:50	Goce gravity gradients for a new Austrian geoid solution	D. Rieser TU Graz
09:50	10:10	Upward continuation of Dome-C airborne gravity and comparison to GOCE gradients at orbit altitude in Antarctica	H. Yildiz General Command of Mapping
10:10	10:30	GOCE and airborne gravity – a perfect match for geoid determination	R. Forsberg National Space Institute
10:30	10:50	Scientific roadmap towards height system unification with GOCE	T. Gruber Technische Universität München
10:50	11:20	Coffee Break	
11:20	11:40	The use of absolute gravity data for validation of GOCE-based GGMs - A case study of Central Europe	W. Godah Institute of Geodesy and Cartography, Warsaw
11:40	12:00	GOCE/GRACE GGM evaluation over Greece with GPS/Leveling and gravity data	G. Vergos Aristotle University of Thessaloniki
12:00	12:20	On the combination of terrestrial data and GOCE based models in Earth's gravity field studies compatibility and spectral weighted optimization	P. Holota Research Institute of Geodesy, Topography and Cartography
12:20	12:50	Discussion	
12:50	14:00	Lunch	
14:00	Session 6: Aeronomy / Novel applications		Chairs: S. Bruinsma, M. Kern
14:00	14:10	Session Introduction and Seed Questions	by Chairs
14:10	14:30	The contribution of GOCE densities to the semi-empirical thermosphere model DTM	S. Bruinsma CNES
14:30	14:50	Thermosphere density and wind data resulting from the GOCE+ Theme 3 project	E. Doornbos Delft University of Technology
14:50	15:10	Thermospheric density variations due to space weather	T. Laitinen Finnish Meteorological Institute
15:10	15:30	Wave Coupling between the Lower and Middle Thermosphere from TIMED and GOCE	F. Gasperini University of Colorado
15:30	15:50	Test of GOCE EGG Data for Spacecraft Positioning	X. Sun Beihang University
15:50	16:10	Combining GOCE and GRACE Data Towards Improved Temporal Gravity Solutions	C.K. Shum Ohio State University
16:10	16:40	Coffee Break	
16:40	Session 7: Science and engineering lessons from the de-orbiting and re-entry phase		Chairs: C. Pardini, H. Krag
16:40	16:50	Session Introduction and Seed Questions	by Chairs
16:40	17:00	The Deorbiting of GOCE – a Spacecraft Operations Perspective	C. Steiger ESA/ESOC
17:00	17:20	GOCE re-entry campaign	B. Bastida Virgili IMS Space Consultancy
17:20	17:40	Precise Orbit Determination of the GOCE re-entry phase	F. Gini ESA/ESOC
17:40	18:00	GOCE Reentry Predictions for the Italian Civil Protection Authorities	C. Pardini ISTI/CNR
18:00	18:20	Calibration of radar based re-entry predictions	S. Lemmens IMS Space Consultancy
18:20	18:50	Discussion	
20:00	Dinner (No Host)		

Day 4, Friday 28 November 2014			
09:00	Session 8: Future gravity field missions		Chairs: N. Sneeuw, R. Haagmans
09:00	09:10	Session Introduction and Seed Questions	by Chairs
09:00	09:20	Consolidated science requirements for a next generation gravity field mission	R. Pail TU München
09:20	09:40	Next generation satellite gravimetry mission study (NGGM-D)	M. Murböck Technische Universität München
09:40	10:00	From GOCE to Next Generation Gravity Mission	S. Cesare Thales Alenia Space Italia
10:00	10:20	Search strategy for optimal double pair scenarios for future gravity satellite missions – experience from the ESA SC4MGV project	S. Iran Pour University of Stuttgart
10:20	10:40	Measuring the Earth's gravity field with cold atom interferometers	O. Carraz European Space Agency
10:40	11:00	ESA's Studies of Next Generation Gravity Mission Concepts for Monitoring Mass Transport in the Earth System	L. Massotti RHEA for European Space Agency
11:00	11:20	Observing Mass Distribution and Transport in the Earth System from an ESA Perspective	R. Haagmans European Space Agency
11:20	11:50	Coffee Break	
11:50	Closing Session		Chairs: R. Floberghagen, J. Benveniste
11:50	12:50	Discussion	
12:50	13:10	Summary and Recommendations	
13:10		Workshop Closure	

Poster Session – Scheduled on Day 2, Wednesday 26 November 2014 – Time 18:50 – 20:00

The new GOCE science products, gravity field models and gravity gradient data			
		Chairs:	H. Sünkel, P. Visser
Preliminary results of a Moho depth model for the Central Asian Orogenic Belt from GOCE satellite gravity data	A.	Guy	Czech Geological Survey, Centre for Lithospheric Research
Mean dynamic topography at Norwegian tide gauge stations using coastal altimetry products and new GOCE-based regional geoid models	V.	Ophaug	Norwegian University of Life Sciences
Analysis of GOCE gravity gradient residuals with respect to global gravity field models	C.	Gerlach	Bavarian Academy of Sciences and Humanities
GOCE User Toolbox and Tutorial	P.	Knudsen	DTU Space
GOCE Payload Data Ground Segment Status and Outlook	B.	Frommknecht	ESA
GOCE gradient downward continuation for local/regional gravity field recovery	G.	Vergos	Aristotle University of Thessaloniki
The IfE global gravity field model recovered from GOCE orbit and gradiometer data	H.	Wu	Leibniz Universität Hannover
Integrated analysis of the upper mantle structure of the North Atlantic and Arctic oceans, based on GOCE satellite gravity data, bathymetry, and crustal structure	O.	Barantseva	University of Copenhagen
Use invariants of the gravitational tensor to determine earth gravity field model by least square method	B.	Lu	School of Geodesy and Geomatics, Wuhan University

Calibration/Validation and Data Quality

Chairs: H. Sünkel, P. Visser

Validation of individual GOCE accelerometers by precise orbit determination	P.	Visser	Delft University of Technology
Regional Validation of Fifth Generation GOCE Gravity Field Models	C.	Voigt	Leibniz Universitaet Hannover
GOCE Gravity Gradient Performance: Evolution during Mission Lifetime	C.	Siemes	RHEA for ESA - European Space Agency
Validation of GOCE global gravitational field models in Norway	M.	Sprlak	University of West Bohemia, Faculty of Applied Sciences
GOCE L1b data quality outlook during mission lifetime	M.	Meloni	SERCO Spa
Investigations into the characteristics of the GOCE gravity gradients during the low orbit phase	P.	Schack	Technische Universität München
Effects of the Magnetic Field on the GOCE Level 1b Gradiometer Data Over Magnetic Poles	S.	Ince	York University

Oceanography

Chairs: M.-H. Rio, P. Knudsen

Nonlinear diffusion filtering of the GOCE-based satellite-only mean dynamic topography	R.	Cunderlik	Slovak University of Technology
The MEGG-C project: mean dynamic topography in the Mediterranean Sea based on GOCE data and Wiener filters	M.	Gilardoni	Politecnico di Milano
Assessing GOCE Gravity Models using Altimetry and In-situ Ocean Current Observation	P.	Knudsen	DTU Space
GOCE geoids and derived Mean Dynamic Topography in the Arctic Ocean	O.	Andersen	DTU Space
Combining GOCE data with Sea-level anomaly and Sea Surface Temperature to observe the Ierapetra Gyre, south of Crete island, in the Eastern Mediterranean	E.	Oikonomou	Technological Institute of Athens
Contribution of GOCE mission to the computation of the new CNES-CLS MDT	S.	Mulet	CLS
GOCE - Gravity field and eddy-state ocean circulation explorer	M.	Fuchs	DGFI
Use of GOCE L2 Gravity Gradients for full resolution Geoid	M.	Herceg	University of Copenhagen
Multi-Satellite Altimetry and GOCE Geoid Based Surface and Subsurface Currents in the Mediterranean Sea	J.	Martinez-Benjamin	Technical University of Catalonia
Use of GOCE MDT and error information in NEMOVAR, a variational data assimilation scheme for NEMO	D.	Lea	Met Office
Beyond GOCE data for the ocean circulation estimate through the synergetic use of altimetry, gravimetry, Argo floats and drifting buoys	M.-H.	Rio	ISAC-CNR

Solid Earth

Chairs: M. van der Meijde, J. Ebbing

Sensitivities of gravity gradient components to crustal and upper mantle anomalies: Case study from North America	W.	Szwillus	Kiel University
Using the static gravity field in Glacial Isostatic Adjustment studies	B.	Root	TU Delft
Joint analysis of the GOCE gravity gradients data with seismological and geodynamic observations	M.	Greff-Lefftz	IPGP
Linking mantle heterogeneity to regional tectonics: An application of GOCE satellite gravity to mantle density structure in Siberia, North America and Europe	M.	Herceg	University of Copenhagen
Directional mantle flows under the oceans: a joint analysis of seismic, gravity and bathymetry data	M.	Greff	IPGP
Accurate numerical calculation of the gravitational field of the earth from global geological models	C.	Roussel	CNAM
High resolution crustal thickness map of Botswana using satellite gravity and receiver function	I.	Fadel	University of Twente

Geodesy		Chairs:	G. Balmino, F. Sansò
Impact of GOCE gravity field solutions on the SONMICAT-BCN gravity field modelling	A.	Termens	ICGC - Institut Cartogràfic i Geològic de Catalunya
Evaluation of the latest GOCE gravity field models by using GNSS/leveling data in Australia, Brazil, and Germany	T.	Grombein	Karlsruhe Institute of Technology (KIT)
Gravity Field Recovery from GOCE Precise Science Orbit Positions	A.	Jäggi	University of Bern
Gravity field solutions derived from recent GOCE-based geopotential models and insitu gravity observations over Saudi Arabia	A.	Alothman	KACST, Saudi Arabia
Determination of disturbing gravitational potential from inversion of satellite gradiometry data	M.	Sprlak	University of West Bohemia, Faculty of Applied Sciences
Resolvability of Gravity Field Parameters in Variable Ground Track Density Environment: a Degree/Order Limit	J.	Klokocnik	Astronom. Inst. Czech Acad. Sci.
Mass trends in Antarctica from global gravity fields with dedicated filtering using full covariance information	A.	Horvath	Technische Universität München
Influence of GOCE to combined global gravity field modeling	T.	Fecher	TU München
Computing of a new gravimetric geoid for the north west part of morocco based on goce ggm, srtm3 and land gravity data	E.H.	EL Brirchi	Hassania School for Public Works engineering (EHTP)
Determination of sub-crustal stress using GOCE gradiometric data	M.	Eshagh	University West
Updated Hungarian gravity field solution based on fifth generation GOCE gravity field models	G.	Tóth	Budapest University of Technology and Economics
Contribution of the GOCE gradiometer components to regionally-derived gravity field solutions	M.	Naeimi	Institute of geodesy
Improvement of latvian geoid model using gnss/levelling, goce data and vertical deflection measurements	I	Janpaule	University of Latvia
An evaluation of recent GOCE geopotential models in Brazil	A.C.	Oliveira Cancoro de Matos	University of São Paulo
Aeronomy / Novel applications		Chairs:	J. Forbes, M. Kern
GOCE Observations of the Topside Ionosphere	I.	Zakharenkova	IPGP
GOCE GPS TEC measurement for ionospheric irregularities investigations	I>	Cherniak	University of Warmia and Mazury
Goce ssti tracking stability and accuracy	P.	Niemann	CGI IT UK Ltd
Support to Science Element Programme Studies for GOCE	R.	Haagmans	European Space Agency
Precise Orbit Determination for GOCE Using Single-Frequency GPS Measurements	X.	Sun	Beihang University
Future gravity field missions		Chairs:	N. Sneeuw, R. Haagmans
Updating ESA's Earth System Model for Gravity Mission Simulation Studies	H.	Dobslaw	GFZ Potsdam
The contribution of multi-orbits satellite gravimetry constellation of GRACE-like for improving the monthly recovery of regional water storage	B.	Elsaka	King Abdulaziz City for Science and Technology (KACST)
Science and engineering lessons from the de-orbiting and re-entry phase		Chairs:	C. Pardini, H. Krag
The characteristics of the GOCE orbit in the re-entry phase	J.	Hamm	Institut für Erdmessung (IfE)
Goce re-entry as a test scenario for assessing quality of orbital parameter estimates	A.	Herzog	ESA
GOCE SSTI de-orbiting and re-entry phase assessment	A.	Zin	Thales Alenia Space Italia