

Joint CHAMP/GRACE Science Meeting, GFZ, July 5-8, 2004

Solid Earth (SE)

Session Overview

	Talks		Posters	
SE 1: Geopotential Satellite Missions	1 - 4	Tue, Jul 6, 9:00-10:00		
SE 2: Geopotential Models: Interpretation and Application	Part I	5 - 6 Tue, Jul 6, 10:00-10:30	P 1 – P 10	Tue, Jul 6, 17:00-19:00
	Part II	7 - 14 Tue, Jul 6, 11:00-13:00		
	Part III	15 - 18 Tue, Jul 6, 14:00-15:00		
SE 3: Global Gravity Field Recovery	Solutions, Part I	19 - 20 Tue, Jul 6, 15:00-15:30	P 11 – P 24	
	Solutions, Part II	21 - 24 Tue, Jul 6, 16:00-17:00		
	Validation	25 - 29 Wed, Jul 7, 9:00-10:15		

SE Splinter Meetings: CHAMP and GRACE Geopotential: Data Processing, Product Validation and Data Management

	Talks		Posters	
Splinter 1: LEO Orbit Determination and Analysis	S 1 - S 5	Thur, Jul 8, 9:00-10:15	P 25 – P 34	Thur, Jul 8, 15:45-17:00
Splinter 2: Geopotential Field Recovery and Validation	S 6 – S 12	Thur, Jul 8, 10:45-12:45		
Splinter 3: Mission Data Processing and Data Management and Dissemination	S 13 – S 18	Thur, Jul 8, 14:00-15:45		

SE 1: Geopotential Satellite Missions		Tue, Jul 6, 9:00-10:00
<u>Session Chair:</u> Mike Watkins		
1.	CHAMP: Mission Status & Development	Christoph Reigber, Peter Schwintzer, Hermann Lühr and Jens Wickert
2.	Status and Early Results from the GRACE Mission	<u>Byron Tapley</u> & Christoph Reigber
3.	ESA's First Earth Explorer Mission GOCE	<u>Reiner Rummel</u> , Thomas Gruber and Jakob Flury
4.	Swarm	<u>Roger Haagmans</u> , Eigil Friis-Christensen, Herman Lühr and Gauthier Hulot
SE 2: Geopotential Models: Interpretation and Application, Part I		Tue, Jul 6, 10:00-10:30
<u>Session Chair:</u> Mike Watkins		
5.	A New Isostatic Model of the Lithosphere of Antarctica Based on CHAMP/GRACE Gravity Data	Kaban, M.K., Schwintzer, P. and Reigber Ch.
6.	Dynamic Circum-Antarctic Ocean and the Search for a Crustal Rebound Signal in Satellite Gravity Change Data	Erik R. Ivins, Richard S. Gross, Mirko Scheinert, Reinhard Dietrich, Eric Rignot, Xiaoping Wu and Thomas S. James
SE 2: Geopotential Models: Interpretation and Application, Part II		Tue, Jul 6, 11:00-13:00
<u>Session Chair:</u> C.K. Shum		
7.	GRACE-Based Arctic Ocean Geoids for Oceanographic and Sea Ice Investigations	David McAdoo, Sinead Farrell, Seymour Laxon, Carl Wagner, Vicki Childers
8.	Regional-Residual Gravity Field Separation using GRACE and CHAMP Geopotential Models	R. I. Hackney, I. Koulakov, W. E. Featherstone
9.	Main and Crustal field models from CHAMP magnetic field measurements	S. Maus, M. Rother, S. Choi and H. Lühr
10.	Interpretation of CHAMP magnetic anomaly maps using a global GIS crustal model with induced and remanent magnetisation	Kumar Hemant and Stefan Maus
11.	Towards an Imminent Geomagnetic Field Polarity Change?	Angelo De Santis, Roberta Tozzi and Johannes Wicht
12.	Local time effects in CHAMP estimates of electromagnetic induction transfer functions	Georgios Balasis, Gary D. Egbert and Stefan Maus
13.	On a possible approach for improving the accuracy of the general relativistic Lense-Thirring tests in the Earth gravitational field	Lorenzo Iorio and Erricos C. Pavlis
14.	Can we monitor tectonic processes using time varying gravity satellite data?	V. Mikhailov, M. Diament, S. Tikhotsky, I. Panet, V. Ballu
SE 2: Geopotential Models: Interpretation and Application, Part III		Tue, Jul 6, 14:00-15:00
<u>Session Chair:</u> Peter Schwintzer		
15.	Study of Slow Deformation Detection Using GRACE	C.K. Shum, Alexander Braun, Shin-chan Han, Chung-yun Kuo
16.	Low Degree Gravitational Changes from GRACE, Earth Rotation, and Geophysical Models	J.L. Chen, C.R. Wilson, and B.D. Tapley

17.	Comparison of Annual Gravity Field Variations from SLR/DORIS and GRACE	C.M. Cox, F.G. Lemoine, S.B. Luthcke, D.D. Rowlands, B.F. Chao
18.	Surface Mass Variations from GRACE and GPS –Validation and Combination	X. “Frank” Wu, Michael B. Heflin, and Erik R. Ivins
Geopotential Models: Interpretation and Application – posters		Tue, Jul 6, 17:00-19:00
P 1	Excess LOD compared with CMB fluid velocity inferred from satellite-supported global magnetic field data	I. Wardinski, D. Stromeier, H. Greiner-Mai, L. Ballani
P 2	On possibility a new jerk in 2002 year obtained from the CHAMP mission data	Golovkov V.P., Bondar T.N., Zvereva T.I., Chernova T.A.
P 3	Near-surface magnetic anomaly predictions using CHAMP magnetometer data over Antarctica	Hyung Rae Kim, Ralph R. B. von Frese, Alexander V. Golynsky, Patrick T. Taylor, L. R. Gaya-Pique
P 4	Correlation of gravity and magnetic features from CHAMP and GRACE data in the spherical harmonic degree 16 to 90 range	D. Ravat, S. Maus, P. Schwintzer, M. Kaban, M. Purucker
P 5	What Can Rotational Measurements Teach Us About Earthquake Rupture Histories?	Alain Cochard and Heiner Igel
P 6	A reanalysis and reinterpretation of tide-gauge, GPS, gravimetric and geomorphologic evidence of glacial-isostatic adjustment in the Churchill region, Canada	Detlef Wolf, Volker Klemann, Johann Wunsch, Fei-Peng Zhang
P 7	Geoid, its temporal variation and dynamic topography as constraints in global geodynamics	K. Niehuus, H. Schmeling
P 8	CHAMP Geopotential data over selected tectonic regions	Patrick T. Taylor, Torsten Mayer-Guerr, Károly I. Kis, Ralph von Frese, Juha Korhonen, Hyung Rae Kim, Laramie Potts and Géza Wittmann
P 9	Benefits from the New GRACE+CHAMP Gravity Field Measurements for Studies in Atmosphere and Fundamental Physics	Vespe Francesco
P 10	Satellite gravity drilling the Earth	R.R.B. von Frese, L.V. Potts, T.E. Leftwich, H.R. Kim, S-H. Han, and P.T. Taylor
SE 3: Global Gravity Field Recovery – Solutions, Part I		Tue, Jul 6, 15:00-15:30
<u>Session Chair:</u> Peter Schwintzer		
19.	CHAMP gravity field processing applying the Energy Integral Approach	T. Badura, R. Klostius, Ch. Gruber, Ch. Sakulin
20.	Gravity Field modelling from CHAMP kinematic orbits using the energy balance approach	Wermuth M., Földváry L., Svehla D., Gerlach Ch., Gruber T., Frommknecht B., Peters T., Rothacher M., Rothacher M., Rummel R., Steigenberger P.
SE 3: Global Gravity Field Recovery – Solutions, Part II		Tue, Jul 6, 16:00-17:00
<u>Session Chair:</u> Karl Heinz Ilk		
21.	DEOS_CHAMP-01C_70: a new model of the Earth's gravity field derived from the CHAMP satellite data by means of the acceleration approach	P. Ditmar, V. Kuznetsov, A. A. van Eck van der Sluijs, E. Schrama, and R. Klees
22.	The GRACE baseline error model revisited	C. Gerlach, J. Flury, B. Frommknecht, T. Peters

23.	Assessment of low degree harmonics in GRACE monthly solutions	John Ries & CSR Level-2 Team
24.	A High Resolution Global Gravity Field Model Combining CHAMP and GRACE Satellite Mission and Surface Gravity Data	Ch. Reigber, P. Schwintzer, R. Stubenvoll, R. Schmidt, F. Flechtner, U. Meyer, R. König, H. Neumayer, Ch. Förste, F. Barthelmes, S.Y. Zhu, G. Balmino, R. Biancale, J.-M. Lemoine, H. Meixner, J.C. Raimondo
SE 3: Global Gravity Field Recovery – Validation		Wed, Jul 7, 9:00-10:15
<u>Session Chair:</u> Karl Heinz Ilk		
25.	Validation of static GRACE models by airborne gravimetry and GPS-levelling	R. Forsberg, A. V. Olesen
26.	GPS-Leveling and CHAMP & GRACE Geoid Models	J. Huang and M. Véronneau
27.	On the validation of CHAMP- and GRACE-type EGMs and the construction of a combined model	Georgios S. Vergos, Ilias N. Tziavos and Michael G. Sideris
28.	Verification of GRACE Gravity Solutions	Dah-Ning Yuan, Da Kuang, and Michael Watkins
29.	Comparison of Superconducting Gravimeter and GRACE Satellite Derived Temporal Gravity Variations	J. Neumeyer, P. Schwintzer, Ch. Reigber, F. Barthelmes, O. Dierks, F. Flechtner, J. Hinderer, Y. Imanishi, C. Kroner, B. Meurers, S. Petrovic, R. Schmidt, H.-P. Sun, H. Virtanen, M. & G. Harnisch
Global Gravity Field Recovery – posters		Tue, Jul 6, 17:00-19:00
P 11	A parallel iterative algorithm for large-scale problems of type potential field recovery from satellite data	O. Baur, G. Austen
P 12	ITG-Champ02: An Improved Gravity Field Model from a Two-Year Observation Period	T. Mayer-Gürr, K.H. Ilk, A. Eicker, M. Feuchtinger
P 13	CHAMP Gravity Field Recovery	Peng Bibo, Wu Bin, Zhou Xuhua, Li Jun, Xu Houze
P 14	CHAMP normal equation analyses for assessing sensitivities and parameter correlations	Martin Wiehl, Reinhard Dietrich, Franz Barthelmes, Christoph Förste, Peter Schwintzer
P 15	The Regional Refinement of Global Gravity Field Models Derived from Kinematical Orbits	K.H. Ilk, T. Mayer-Gürr, A. Eicker, M. Feuchtinger
P 16	Global and Regional Gravity Field Solutions from GRACE Observations	T. Mayer-Gürr, K.H. Ilk, M. Feuchtinger, A. Eicker
P 17	Global gravity field modelling using GRACE observables	P. Novák, E.W. Grafarend
P 18	High-Resolution Regional Gravity Field Recovery from GRACE	S.-C. Han, C.K. Shum, K. Snow, C. Jekeli
P 19	Dealising for Fast Ocean Motions	V. Zlotnicki, A. H. Ali Reda, and R. Gross
P 20	Unique approaches to analysis of time-variable gravity from GRACE	F. G. Lemoine, S. B. Luthcke, D. D. Rowlands, C. M. Cox, S. M. Klosko and D. S. Chinn
P 21	Validation of Marine Gravity Data Using GRACE Gravity Field Models	Wolfgang Bosch
P 22	Observing Fennoscandian Geoid Change for GRACE Validation	L. Timmen, J. Müller, O. Gitlein, J. Mäkinen, H. Wilmes,

		B.R. Pettersen, O.C.D. Omang, J.G.G. Svendsen, O. Övstedal, H.-G. Scherneck
P 23	Gravitational field recovery from GRACE data of type High-Low and Low-Low SST	G. Austen, E.W. Grafarend
P 24	Development of an Interferometric Laser Ranging System for a Follow-On Gravity Mission to GRACE	R. S. Nerem, P. Bender, B. Loomis, M. M. Watkins, W. Folkner, M. Stephens, T. Delker, J. Leitch, R. Pierce

Solid Earth Splinter Meetings

Champ and Grace Geopotential: Data Processing, Product Validation and Data Management

Solid Earth Splinter Meeting 1 - Leo Orbit Determination and Analysis

Thur, Jul 8, 9:00-10:15

Session Chair: Rolf König

S 1	CHAMP kinematic orbit processing for use in gravity field determination	C. Gruber, D. Tsoulis, N. Sneeuw
S 2	CHAMP and GRACE in Tandem: POD with GPS and K-band Measurements	Drazen Svehla and Markus Rothacher
S 3	Champ's Triple Passage through 31st-order Orbit Resonance	R.H. Gooding, C.A. Wagner, J. Klokočník, J. Kostelecký
S 4	Improvements of the quality of altimetry satellite orbits using new CHAMP-GRACE geopotential models	Sergei Rudenko, Tilo Schoene, Christoph Reigber, Jean-Claude Raimondo
S 5	Scale difference between GRACE orbits computed at GFZ and those of JPL	S. Zhu, C. Shi, H. Neumayer, F-H. Massmann, F. Flechtner, R. Schmidt, U. Meyer, Ch. Reigber

Solid Earth Splinter Meeting 2 - Geopotential Field Recovery and Validation

Thur, Jul 8, 10:45-12:45

Session Chair: Srinivas Bettadpur

S 6	A new CHAMP gravity field model based on the GIS acceleration approach and two years of kinematic CHAMP data	T. Reubelt, M. Goetzmann, E.W. Grafarend
S 7	On different physical content of the geomagnetic field models for the Earth's surface and for satellite altitudes	Wigor Webers
S 8	Validation of Gravity Models from CHAMP/GRACE Gravity Missions Using the GPS/leveling Data from the US Continent	Yan M Wang and Daniel R. Roman
S 9	Analytical models of the Earth's gravity field for the European part of Russia and their comparison with CHAMP and GRACE models	Uwe Schäfer, Gleb V. Demianov
S 10	What is the Problem with the Degree 2 Harmonics Quality of CHAMP/GRACE Solutions?	Rolf König, Christoph Reigber, Sheng-Yuan Zhu
S 11	Satellite and airborne gravimetry: Possibilities in evaluation and combination	Uwe Meyer
S 12a	First monthly gravity field determinations at CNES	S. Bruinsma, R. Biancale, S. Loyer, J.-C. Marty, F. Perosanz, J.-M. Lemoine and G. Balmino
S 12b	A global CHAMP gravity field model by merging of regional refinement patches	Annette Eicker & Karl Heinz Ilk

Solid Earth Splinter Meeting 3 - Mission Data Processing and Data Management and Dissemination		Thur, Jul 8, 14:00-15:45
Session Chair: Roland Schmidt		
S 13	GRACE Level-1 Processing Status and Product Improvement (30 min)	Gerhard Kruizinga, Willy Bertiger, Larry Romans, Michael Watkins and Sien Wu
S 14	Performance assessment of SuperSTAR accelerometers	S. Bettadpur, R. Eanes, D. Hudson, Z. Kang, G. Kruizinga, P. Nagel
S 15	Status and Prospect of the GRACE Atmosphere and Ocean De-aliasing Product	Frank Flechtner
S 16	Integrated Sensor Analysis GRACE	Björn Frommknecht
S 17	Preview of next generation improvements to GRACE gravity models	Srinivas Bettadpur
S 18	ISDC for CHAMP and GRACE	Bernd Ritschel, K. Behrends, S. Freiberg, R. Kopischke, H. Palm, A. Schmidt
Splinter Meetings: CHAMP and GRACE Geopotential: Data Processing, Product Validation & Data Management - posters		Thur, Jul 8, 15:45-17:00
P 25	The Synergy of CHAMP and GRACE Products with Traditional Satellite Tracking Data	Erricos C. Pavlis
P 26	Combined Processing of GPS, SLR and DORIS Data from CHAMP, GRACE, JASON and Ground Stations	C. Shi, J.C. Raimondo, U. Meyer, F.H. Massmann, Ch. Reigber, S.Y. Zhu
P 27	CHAMP and GRACE Accelerometers Evaluation	F. Perosanz, S. Loyer, S. Bruinsma, R. Biancale, G. Balmino, N. Vales
P 28	Synthesis on the radial problem of the STAR accelerometer on CHAMP	Richard Biancale, Pierre Touboul
P 29	Relationship Between Earth Gravity Field and SST by Numerical Simulation	Jia Luo, Jinsheng Ning
P 30	Combined Determination of Orbit and Accelerometer Calibration Parameters from GPS SST Data and Accelerometer Data	A. Jaeggi, G. Beutler, U. Hugentobler
P 31	Design and Implementation of an ISDC-Portal	Thomas Busch and Bernd Ritschel
P 32	GRACE Data Processing and Distribution at JPL PO.DAAC	Kelley Case and Chris Finch
P 33	Application of Persistent Identifiers to CHAMP- and GRACE-Products	Patrick Domann and Bernd Ritschel
P 34	Science for Kids – Kids for Science	Students of the Weinberg-Gymnasium Kleinmachnow, Bernd Ritschel