Magnetics Overview

Session overview:
Invited Talks 1  
Tuesday, Sep 2, 2003 10:00-11:00
Invited Talks 2  
Thursday, Sep 4, 2003 9:00-10:00
Session M 1: Lithospheric Fields & Geological Interpretation  
Tuesday, Sep 2, 2003 11:30-13:00
Session M 2: Main Field and Secular Variation  
Tuesday, Sep 2, 2003 14:00-15:30
Session M 3: Induced Fields, Ocean Currents & Poster Summaries M1-M6  
Tuesday, Sep 2, 2003 16:00-17:30
Session M 4: External Fields & High-latitude Ionosphere  
Thursday, Sep 4, 2003 11:30-13:00
Session M 5: Ionospheric Effects & Low-latitude Currents  
Thursday, Sep 4, 2003 14:00-15:30
Session M 6: Mission-related Topics & Session Summaries  
Thursday, Sep 4, 2003 16:00-17:30
Poster session  
Wednesday, Sep 3, 2003 14:00-17:30

Invited talks  
Tuesday, Sep 2, 2003, 10:00-11:00
Chair: Stefan Maus
Nils Olsen  
Temporal Variations of the Geomagnetic Field
Colin Reeves & Sally Barritt  
A magnetic view of the African crust and lithosphere

Invited talks  
Thursday, Sep 4, 2003, 9:00-10:00
Chair: Hermann Lühr
Steven Constable & Catherine Constable  
Global Electrical Conductivity and Magnetic Satellite Induction Studies
Matthias Förster  
Ionospheric plasma effects for geomagnetic LEO missions at mid- and low-latitudes

Session M 1: Lithospheric Fields & Geological Interpretation  
Tuesday, Sep 2, 2003, 11:30-13:00
Chair: Ingo Wardinski
Hermann Lühr  
Introduction: Two years of CHAMP magnetic field mission
S. Maus et al.  
Crustal field modelling from CHAMP scalar and vector magnetic data
T.J. Sabaka and N. Olsen  
The lithospheric field from the latest comprehensive model
Kumar Hemant et al.  
Interpretation of CHAMP crustal field anomaly maps using a Geographical Information System (GIS) technique
Katherine A Nazarova  
Magnetic Petrology Database for Interpretation Lithospheric Magnetic Anomalies
Posters (in alphabetical order)

Benoit Langlais et al. Polar lithospheric field from multiple satellite observations
C. Fox Maule et al. Magnetic crustal thicknesses in Greenland from CHAMP and Ørsted data
Hyung Rae Kim et al. CHAMP magnetic anomalies of the Antarctic lithosphere
K. Nazarova et al. Balloon Geomagnetic Survey at Stratospheric Altitudes
Valentin Pogrebnoy & Tamara Sabitova Manifestation of Tibetan plume structure and seismicity of High Asia in regional geophysical fields
M. Purucker & K. Whaler Merging satellite and aeromagnetic data over Europe, the North Atlantic and Arctic
P. T. Taylor et al. Effect of varying crustal thickness on CHAMP geopotential data
Ralph R.B. von Frese et al. Reliability of CHAMP anomaly continuations

Session M 2: Main Field and Secular Variation
Tuesday, Sep 2, 2003, 14:00-15:30

Chair: Kumar Hemant

R. Holme Influence of non-potential fields on calibration of vector data
S. Maus et al. Introducing POMME, the Potsdam Magnetic Model of the Earth
Aude Chambodut et al. Satellite data and wavelets frames. A New view of the Earth’s magnetic field
Lesur, V. et al. Alternative parameterisation of the external magnetic field and its induced counterpart for 2001 and 2002 using Ørsted, CHAMP and observatory data
Ingo Wardinski & Richard Holme New insights into the secular variation between Magsat and CHAMP/ØRSTED

Posters (in alphabetical order)

Ludwig Ballani et al. Time structure of the 1991 magnetic jerk in the core-mantle-boundary zone by inverting global magnetic data supported by satellite measurements
Gaya-Piqué L.R. et al. Use of CHAMP magnetic data to improve the Antarctic geomagnetic reference model
V.P. Golovkov et al. Secular variation of the geomagnetic field from satellite data
Richard Holme & Nils Olsen The spectrum of the magnetic secular variation
Wigor A. Webers Problems and advantages in using ground-based and satellite magnetic field data

Session M 3: Induced Fields, Ocean Currents & Poster Summaries M 1 – M 6
Tuesday, Sep 2, 2003, 16:00-17:30

Chair: George Balasis

H. McCreadie & Z. Martinec Geomagnetic induction modelling based on CHAMP magnetic vector data
Jakub Velimsky & Mark E. Everett Electromagnetic induction by Sq ionospheric currents in a heterogeneous Earth: Modeling using ground-based and satellite measurements
**Posters** *(in alphabetical order)*

G. Balasis et al. Identification, classification and separation of F-region currents, orbit errors and instrument noise in CHAMP FGM data using a wavelet technique

Alexei Kuvshinov & Nils Olsen Modelling the coast effect of geomagnetic storms at ground and satellite altitude

Alexei Kuvshinov & Nils Olsen 3-D modelling of the magnetic field due to oceanic tides

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**Session M 4: External Fields and High-latitude Ionosphere**

*Thursday, Sep 4, 2003, 11:30-13:00*

**Chair: Judith Schwarte**

Peter Stauning et al. Comparison of different methods and models to detect field-aligned currents from magnetic observations by polar orbiting satellites

Freddy Christiansen & Torsten Neubert Small-scale, field-aligned currents at the top-side ionosphere

Patricia Ritter et al. Characterisation of high-latitude ionospheric current systems during very quiet times

Eigil Friis-Christensen et al. Impact of geomagnetic activity on thermospheric density

J. Watermann et al. The low-altitude cusp seen from various perspectives: Multi-instrument observations during the February 2002 SIRCUS campaign

**Posters** *(in alphabetical order)*

Freddy Christiansen & Vladimir Papitashvili Modelling of high-latitude geomagnetic field disturbances at satellite altitudes for various IMF conditions

J. Schwarte et al. Modelling the Earth magnetic field of magnetoospheric origin from CHAMP data

Peter Stauning et al. Detection of intense fine-scale field-aligned current structures in the cusp region from the Ørsted satellite and from ground

H. Vanhamäki et al. One-dimensional upward continuation of the ground magnetic field using spherical elementary current systems

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**Session M 5: Ionospheric Effects and Low-latitude Currents**

*Thursday, Sep 4, 2003, 14:00-15:30*

**Chair: Heather McCreadie**

Hermann Lühr et al. The diamagnetic effect of enhanced plasma pressure regions in the ionosphere and its effect on magnetic field modelling

Yu. M. Mikhailov et al. Peculiarity of equatorial ionosphere anomaly in seismoactive period according to Champ Langmuir probe data

Carsten Mayer & Thorsten Maier Wavelet modelling of low-latitude ionospheric currents and the induced magnetic field

Peter R Sutcliffe & Hermann Lühr A Comparative Study of Geomagnetic Pi2 Pulsations Observed by CHAMP and on the Ground

M. Vellante et al. ULF wave magnetic measurements by CHAMP satellite and SEGMA ground magnetometer array: case study of July 6, 2002
Posters (in alphabetical order)

Hermann Lühr et al. The Noon-Time Equatorial Electrojet: Its Spatial Features as Determined from CHAMP Satellite Observations

Thorsten Maier & Carsten Mayer Wavelet-parametrizations of the MIE-representation – Applications to ionospheric geomagnetic data

Heather McCreadie Classes of Electrojet Signals

Valentine Pogrebnoy Space-time peculiarities of annual variation of geomagnetic field level and its possible source

Valentine Pogrebnoy & Timur Malosiev The E-layer electric fields above magnetic equator

Session M 6: Mission-related Topics & Session Summaries
Thursday, Sep 4, 2003, 16:00-17:30

Chair: Martin Rother

Nils Olsen et al. The swarm constellation: Mission concept and closed-loop system simulation

V. Sgrigna et al. The ESPERIA space project: a mission for monitoring preseismic electromagnetic emissions and anthropogenic effects in the near-Earth space, and for defining the near-Earth magnetic environment

Reporters' Review:

Monika Korte Main Field and Secular Variation

Stefan Maus Lithospheric Fields

Patricia Ritter High-latitude Ionosphere

Hermann Lühr Ionospheric Effects at Low Latitude

Poster

Martin Rother et al. The CHAMP ME Data Processing and Status of Level 2 Products