

ISSI Workshop on “Earth’s Magnetic Field: Understanding sources from the Earth’s interior and its environment”

18-22 May 2015

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Schedule

MONDAY, May 18, 2015

Notice: Overview presentations: 30-45 min, Session talks: 20-30 min

08:45-09:00 Registration and coffee at ISSI
Hallerstrasse 6, 1st floor

09:00-12:30 **Morning Session** **Chairman:** Art Richmond

09:00-09:30 Welcome and Introduction to ISSI and Workshop ISSI

09:30-09:45 Where internal and external geomagnetic sources meet Claudia Stolle, Nils Olsen

Session 0 **Overview talks:** Sources, processes, challenges

Challenges in modelling the Earth magnetic field of internal sources Ingrid Cnossen

Challenges in modelling the Earth magnetic field of external sources Vincent Lesur

Importance of separating internal and external source signatures for mantle induction studies Alexey Kuvshinov

12:30-13:30 *Lunch*

13:30-16:30 **Afternoon session** **Chairman:** Nils Olsen

Observations of the Earth’s magnetic field Arnaud Chulliat

Physical models of the near-Earth space environment and their present capability to predict magnetic signatures Michael Hesse

Session 1 **Reference Frames**

Magnetic coordinate systems Karl-Magnus Laundal

17:00 *Welcome reception at ISSI*

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TUESDAY, May 19, 2015

09:00-12:00

Morning Session

Chairman: Hermann Opgenoorth

Session 2

Magnetosphere and global magnetic field modeling: Magnetic contributions from the magnetosphere and magnetospheric currents

Near-Earth magnetic signatures of the magnetospheric ring current and tail currents

Hermann Lühr

Modeling the magnetic effects of a substorm expansion and recovery

Robert McPherron

OpenGCM estimates of magnetic perturbations at SWARM from magnetospheric, field-aligned, and ionospheric currents for different levels of geomagnetic activity

Joachim Raeder

12:00-13:00 *Lunch*

13:00-17:00

Afternoon session

Chairman: Claudia Stolle

Session 3

E-region dynamo: Processes of the E-region dynamo at mid- and low latitudes

Geomagnetic solar quiet (Sq) variation and its day-to-day variability

Yosuke Yamazaki

Influence of non-dipole geomagnetic field on ionospheric electric fields and current

Zhipeng Ren

Session 4

F-region dynamo: Processes of the F-region dynamo at mid- and low latitudes

Modelling the ionospheric gravity and diamagnetic current systems

Patrick Alken

Simulating the F-region dynamo and gravity and plasma pressure gradient driven current

Astrid Maute

19:00

Conference Dinner

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WEDNESDAY May 20, 2015

09:00-
12:00

Morning Session

Chairman: TBD

Session 4 *cont.*

Polarization electric field and plasma instability in the ionosphere

Tatsuhiko Yokoyama

Session 5 *Post-storm effects: Post-storm effects at mid- and low latitudes*

Post-Storm Middle and Low Latitude Ionospheric Electric Field Effects

Bela Fejer

Session 6 *Polar cap currents: Variations with strength and direction of the interplanetary magnetic field*

Currents in the polar cap during quiet conditions: A review of observations and the connection to the configuration of the magnetosphere

Eigil Friis-Christensen

Polar cap currents: Perspectives from internal field modelling and Swarm data

Chris Finlay

Free Afternoon

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THURSDAY May 21, 2015

09:00-12:00

Morning Session

Chairman: TBD

Session 6 *cont.*

Structure and Dynamics of Polar Cap Currents in Global Magnetosphere-Ionosphere Models

Michael Wiltberger

Session 7

Auroral field-aligned currents, polar electrojet, convection and reconnection driven currents

Regional ionospheric field models and equivalent ionospheric currents in polar areas

Erwan Thébault

Assimilative Mapping of Ionospheric Electrodynamics (AMIE)

Gang Lu

12:00-13:00 Lunch

13:00-17:00

Afternoon session

Chairman: TBD

Probing auroral electrojets and substorms with ground- and space-based magnetometers

Kirsti Kauristie

Session 8

Instrument facilities supporting observations in the magnetic field

Radar mapping of the ionospheric convection pattern and the link to magnetospheric currents

Steve Milan

Optical measurements and ionospheric currents

Eric Donovan

Session 9

Quantifying magnetic disturbance levels; classifying geomagnetic activity

Use of magnetic indices and coordinates for organizing data

Art Richmond

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FRIDAY May 22, 2015

09:00-
13:00

Morning Session

Chairman: Claudia Stolle

Session 10 *ISSI Book*

Final panel and book discussion
(authors, book plans, schedule)

13:00 End of Workshop