



Currents in Geospace and Beyond

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DEDICATION

Sadly, Olaf Amm, our fellow convener, passed away (far too early) on December 16, 2014. He was a very well respected and accomplished scientist, especially in the fields of ionospheric electrodynamics and magnetosphere-ionosphere coupling processes. He developed several new innovative approaches for creating regional maps of ionospheric currents, conductances and fields with adjustable space resolution from the basis of ground- or space-based magnetic and electric field measurements. The methods that Olaf developed are widely used by other scientists, and without any doubts, results will be shown at this Chapman conference.

Olaf was very enthusiastic about this conference. He was involved in preparing it and would have continued to contribute significantly to its success. We dedicate this conference to the memory of Olaf.



PROGRAM COMMITTEE

Conveners

Andreas Keiling, University of California Berkeley, USA
Octav Marghitu, Institute for Space Sciences, Romania
Michael Wheatland, University of Sydney, Australia
Olaf Amm (1967-2014), Finnish Meteorological Institute, Finland

Program Committee

Chris Arridge, Lancaster University, U.K.
Fran Bagenal, University of Colorado, Boulder
Iannis Dandouras, IRAP, Toulouse, France
Eduard Dubinin, Max-Planck-Institute, Germany
Malcolm Dunlop, Rutherford Appleton Laboratory, U.K.
Catherine Johnson, University of British Columbia, Canada
Kanya Kusano, STELab, Nagoya University, Japan
Michael Liemohn, University of Michigan, USA
Hermann Lühr, Deutsches GeoForschungsZentr., Germany
Brigitte Schmieder, Observatoire de Paris/Meudon, France
Igor Veselovsky, Moscow State University, Russia
Masatoshi Yamauchi, Swedish Inst. of Space Physics, Sweden
Akimasa Yoshikawa, Kyushu University, Japan

Local Organizing Committee

Beverly Smith-Keiling, Chair, SI-CRF, USA
Andreas Keiling, University of California Berkeley, USA
Octav Marghitu, Institute for Space Sciences, Romania
Michael Wheatland, University of Sydney, Australia

THANK YOU TO OUR SPONSORS

The organizers of this Chapman Conference wish to acknowledge the generous support of the following:



Mid-Conference Field Trip: Wednesday, 25 May

This afternoon's field trip will allow participants to see Dubrovnik from two new angles, while capturing amazing images and socializing with fellow attendees. First, for the angle above, we will take a cable car to the top of the nearby hill which offers superb aerial views of Dubrovnik and surroundings. At the top is a former fortress, built by Napoleon's soldiers, which today houses a war museum illustrating the most recent local war conflicts. There will also be time to visit the museum. Then, after returning to the old harbor below, guests will board the Karaka ship, a replica of a traditional carrack of the Dubrovnik Republic, for a shoreline view. The ride will be along the city walls of Dubrovnik and around Lokrum Island. On the way back to the old harbor, be prepared for a wonderful

sunset. While food and drinks will be served onboard, guests can walk directly from the old harbor into the old town for dinner. Alternatively, a bus will be standing by to bring you back to the Rixos Hotel.

Itinerary

- 2:30 pm** – depart from Rixos Hotel by bus
- 2:45 pm** – take cable car to top of Mt. Srdj
- 3:00 – 4:45 pm** - visit museum, hike, and/or enjoy views
- 5:15 – 8:00 pm** – board ship and sail; food and drinks served
- 8:00 pm** – go into old town or take bus back to hotel



Banquet Dinner: Thursday, 26 May

The banquet dinner is scheduled for Thursday evening (7–9 pm) and will take place at the Klarisa Restaurant, located in the former monastery of St. Claire which dates back to the 13th century. The restaurant offers an exceptional experience in the heart of the old town, next to the Great Onofrio Fountain. Live Klapa music will enhance the ambience. Klapa is a “group of male friends” singing a capella and is part of the cultural heritage of Croatia.

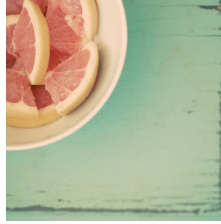


Meeting Point(s):

We meet in the hotel lobby (Rixos) at 6:45 pm. Then, take the bus to the Klarisa Restaurant. If you have time and interest, you can also walk to the restaurant and meet us in front of it at 7 pm. The walk from the hotel to the restaurant is about 20 min (or less). It is a nice walk along the cliff part of the way. If you need more directions, please ask LOC Beverly.



Banquet Dinner Menu Options: Thursday, 26 May



Vegetarian

- Vegetable terrine
- Broccoli cream soup
- Cannelloni filled with spinach and cheese
- Black truffles pasta
- Warm chocolate square with vanilla ice cream

Fish

- Tuna tartar served with lime sauce
- Creamy lobster soup
- Scallop risotto
- Salmon filet with garlic sauce served with sweet potato and onion compote
- White chocolate parfait served with forest fruit

Meat

- Roast beef with horseradish sauce served with roasted peppers
- Porcini mushroom soup
- Veal knuckle croquettes served with soy sprouts
- Lamb medallions with rosemary sauce served with potato torte
- Fig strudel served with vanilla ice cream

MEETING AT A GLANCE

(all scientific sessions are held in Mistral Conference Hall)

SUNDAY, 22 MAY

2:00 pm – 4:00 pm Guided Old City Tour
(Lobby)
5:00 pm – 7:00 pm Welcome Reception
(Agora Terrace)

MONDAY, 23 MAY

8:30 am – 8:40 pm Welcome
8:40 am – 10:15 am Introductory Lectures I
10:15 am – 10:45 am Morning Break
10:45 am – 11:15 am Introductory Lectures II
11:15 am – 12:30 pm Ring Currents I
12:30 pm – 2:00 pm Lunch (on-site)
(Mozaik Restaurant)
2:00 pm – 3:45 pm Posters I
(Exhibition Area)
3:45 pm – 4:00 pm Afternoon Break
4:00 pm – 5:30 pm Field-aligned Currents I

TUESDAY, 24 MAY

8:30 am – 10:15 am Field-aligned Currents II
10:15 am – 10:45 am Morning Break
10:45 am – 12:30 pm General Session
12:30 pm – 2:00 pm Lunch (on-site)
(Mozaik Restaurant)
2:00 pm – 3:45 pm Current Sheets I
3:45 pm – 4:00 pm Afternoon Break
4:00 pm – 5:15 pm Ring Currents II
6:00 pm – 7:00 pm Inclusive Science Event

WEDNESDAY, 25 MAY

8:30 am – 9:45 am Measuring & Analysis
Techniques
9:45 am – 10:15 am Pioneers & Next Generation I
10:15 am – 10:35 am Morning Break
10:35 am – 12:10 pm Pioneers & Next Generation II
12:10 pm – 12:30 pm Plenary Discussion
12:30 pm – 2:00 pm Lunch (on-site)
(Mozaik Restaurant)
2:30 pm – 8:00 pm Field Trip (Lobby)

THURSDAY, 26 MAY

8:30 am – 10:15 am Modeling & Simulation
Techniques
10:15 am – 10:45 am Morning Break
10:45 am – 12:30 pm Current Sheets II
12:30 pm – 2:00 pm Lunch (on-site)
(Mozaik Restaurant)
2:00 pm – 3:45 pm Posters II
(Exhibition Area)
3:45 pm – 4:00 pm Afternoon Break
4:00 pm – 5:30 pm Small-scale & Filamentary
Currents
7:00 pm – 9:00 pm Banquet
(Klarisa Restaurant in
Old Town)

FRIDAY, 27 MAY

8:30 am – 10:15 am Energetics of Currents
10:15 am – 10:45 am Morning Break
10:45 am – 12:20 pm Field-aligned Currents III
12:20 pm – 12:30 pm Closing

SATURDAY, 28 MAY

7:30 am – 6:00 pm Montenegro
(Lobby)
8:00 am – 6:30 pm Bosnia (Mostar)
(Lobby)

SCIENTIFIC PROGRAM

SUNDAY, 22 MAY

2:00 p.m.– 4:00 p.m. **Guided Old City Tour**

Lobby

5:00 p.m.– 7:00 p.m. **Welcome Reception**

Agora Terrace

MONDAY, 23 MAY

8:30 a.m.– 8:40 a.m. **Welcome**

Conveners: Andreas Keiling, Octav Marghitu, Michael Wheatland

Mistral Conference Hall

8:40 a.m.– 10:15 a.m. **Introductory Lectures I**

Presiding: Michael Wheatland

8:40 a.m. –9:10 a.m. **Gang Lu** | Ionospheric Currents and Their Coupling to the Magnetosphere (*Invited*)

9:10 a.m. –9:40 a.m. **Krishan K Khurana** | Currents in Planetary Magnetospheres (*Invited*)

9:40 a.m. –10:10 a.m. **Gregory D Fleishman** | Electric Currents in the Solar Atmosphere (*Invited*)

10:15 a.m.– 10:45 a.m. **Morning Break**

- 10:45 a.m.– 11:15 a.m. **Introductory Lectures II**
 Presiding: Octav Marghitu
Edward J Smith | The Heliospheric Current Sheet: A Review
(Invited)
- 11:15 a.m.– 12:30 p.m. **Ring Currents I**
 Presiding: Iannis Dandouras
- 11:15 a.m. –11:35 a.m. **Nick Sergis** | Ring Currents in Planetary Magnetospheres
(Invited)
- 11:35 a.m. –11:55 a.m. **Walter Gonzalez** | Solar Activity and the Terrestrial Ring
 Current *(Invited)*
- 11:55 a.m. –12:10 a.m. **Raluca Ilie** | The impact of the geocorona dynamics on the ring
 current formation and decay
- 12:10 p.m. –12:25 p.m. **Reinhard H Friedel** | Partial to full ring current evolution and
 energization during geomagnetic storms
- 12:30 p.m.– 2:00 p.m. **Lunch (on-site)**
 Mozaik Restaurant
- 2:00 p.m.– 3:45 p.m. **Posters I**
 Presiding: Edward Dubinin
 Exhibition Area
- M-001 **Anita Kullen** | Characteristics of high-latitude auroral arcs
- M-002 **Tomas Karlsson** | Temporal Stability of Field-Aligned
 Currents and Electric Fields in the Auroral Oval
- M-003 **Frederic Pitout** | Coordinated Swarm and EISCAT Svalbard
 Radar observations of the cusp ionosphere

- M-004 **Viacheslav Pilipenko** | Field-Aligned Plasma Transport Induced by Alfvén Wave as a Mechanism of TEC Modulation by Pc5 Pulsations
- M-005 **Raluca Ilie** | Ring current modeling: Uncommon Assumptions and Common Misconceptions
- M-006 **Xi Bai** | Field-aligned current density determination with Swarm for finite and non-planar current sheets
- M-007 **Karl Laundal** | The Relationship Between the Ionospheric Current System and Magnetic Field Perturbations on Ground and in Space
- M-008 **Erin Joshua Rigler** | Predicting Ground Magnetic Disturbance Using Realistic Geospace Electric Currents
- M-009 **Anastasia Lukashenko** | Simple Electric Currents with Tangled Magnetic Fields
- M-010 **Ivan Pakhotin** | Resolving Spatio-Temporal Ambiguity in Field-Aligned Current Dynamics Using Swarm Multi-Spacecraft Observations
- M-011 **Maosheng He** | Local time resolved dynamics of field-aligned currents and their response to solar wind variability
- M-012 **Licia C Ray** | Earth's Auroral Acceleration Region: Comparison of Cluster data and Vlasov model results
- M-014 **Ian Robert Mann** | Role of High Frequency (0.1-5Hz) ULF Waves in Magnetosphere-Ionosphere Coupling: Coordinated Swarm and CARISMA Ground-based Observations
- M-015 **Bea Gallardo-Lacourt** | Influence of auroral streamers on rapid evolution of SAPS flows
- M-016 **Yan Song** | Theory of the Generation of Field-Aligned Currents and Displacement Currents
- M-017 **Maria Hamrin** | Statistical investigation of ionospheric density depletions at the boundary of auroral precipitation: EISCAT observations

- M-018 **Laurianne Palin** | Modulation of the Substorm Current Wedge by Bursty Bulk Flows: September 8, 2002 - Revisited
- M-019 **Christopher Stephen Arridge** | Induced Currents in Subsurface Oceans at the Uranian Satellites Oberon and Titania
- M-020 **Galina Ivanovna Korotova** | Multi-satellite Observations of Long-lasting Poloidal Pc 4 Pulsations in the Dayside Magnetosphere
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- 3:45 p.m.– 4:00 p.m. **Afternoon Break**
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- 4:00 p.m.– 5:30 p.m. **Field-aligned Currents I**
 Presiding: Akimasa Yoshikawa
- 4:00 p.m. –4:15 p.m. **Robert L Lysak** | Magnetosphere-Ionosphere Coupling and the Evolution of Field-Aligned Currents
- 4:15 p.m. –4:35 p.m. **Licia C Ray** | Magnetosphere-Ionosphere Coupling at Earth, Jupiter, and Saturn (*Invited*)
- 4:35 p.m. –4:50 p.m. **Hermann J Opgenoorth** | Intense Localised Currents during the St. Patricks Day Magnetic Storm, March 17, 2015
- 4:50 p.m. –5:05 p.m. **Steve E. Milan** | Principal Component Analysis of Birkeland Currents Determined by the Active Magnetosphere and Planetary Electrodynamics Response Experiment
- 5:05 p.m. –5:25 p.m. **David J Knudsen** | Swarm Observations of Field-Aligned Currents Associated with Pulsating Auroras and Multiple Auroral Arcs (*Invited*)

TUESDAY, 24 MAY

- 8:30 a.m.– 10:15 a.m. **Field-aligned Currents II**
Presiding: Malcolm Dunlop
- 8:30 a.m. –8:45 a.m. **Hermann Lühr** | Field-aligned current distribution at high latitude: Results from the Swarm satellite constellation
- 8:45 a.m. –9:00 a.m. **Anita Taina Aikio** | SWARM Satellite and EISCAT Radar Observations of Auroral Arcs and Field-Aligned Currents
- 9:00 a.m. –9:20 a.m. **Nikolai Østgaard** | Asymmetric field aligned currents into the conjugate hemispheres (*Invited*)
- 9:20 a.m. –9:35 a.m. **Gregory James Hunt** | Field-aligned currents in Saturn’s magnetosphere: Relationship between Subcorotation and Planetary Period Oscillation Currents
- 9:35 a.m. –9:55 a.m. **Gerhard Haerendel** | Commonalities between Auroral Arcs and Solar Flares. (*Invited*)
- 9:55 a.m. –10:10 a.m. **Brigitte Schmieder** | Vertical Photospheric Currents: Footprints of Eruptive Flux Ropes in the Corona.
- 10:15 a.m.– 10:45 a.m. **Morning Break**
- 10:45 a.m.– 12:30 p.m. **General Session**
Presiding: Christopher Arridge
- 10:45 a.m. –11:05 a.m. **Frank J Crary** | Planetary induction currents and their effects on magnetospheres (*Invited*)
- 11:05 a.m. –11:20 a.m. **Ramon E Lopez** | The Bow Shock Current System
- 11:20 a.m. –11:40 a.m. **Manolis K Georgoulis** | Electric Currents in the Solar Atmosphere: Diagnostics, Properties, and Possible Role in Pre-Eruption Dynamics (*Invited*)

- 11:40 a.m. –11:55 a.m. **Edward Dubinin** | Magnetic Fields and Currents at Mars and Venus.
- 11:55 a.m. –12:15 a.m. **Joachim Saur** | Pickup processes: Related currents and magnetic fields from mass and momentum loading (*Invited*)
- 12:15 p.m. –12:30 p.m. **Matthew O. Fillingim** | Observations of Horizontal Ionospheric Currents at Mars and Their Electrodynamic Effects
- 12:30 p.m.– 2:00 p.m. **Lunch (on-site)**
Mozaik Restaurant
- 2:00 p.m.– 3:45 p.m. **Current Sheets I**
Presiding: Edward Dubinin
- 2:00 p.m. –2:20 p.m. **Elena Semenovna Belenkaya** | Planetary Current Sheets (*Invited*)
- 2:20 p.m. –2:35 p.m. **Christopher Stephen Arridge** | Variability of Jupiter's Magnetospheric Current Sheet Associated with Time-Dependent Mass-Loading, Transport and Chemistry in the Io Plasma Porus
- 2:35 p.m. –2:50 p.m. **Michael Warren Liemohn** | The Mars Magnetotail Current Sheet: ionospheric control of its systematic variation
- 2:50 p.m. –3:05 p.m. **Roman Anatolevich Kislov** | The heliospheric plasma sheet: analytical modeling and observations
- 3:05 p.m. –3:20 p.m. **Benoit Lavraud** | Local and global impacts of magnetic reconnection at coronal and heliospheric current sheets
- 3:20 p.m. –3:35 p.m. **Alexander S Potapov** | Current and High-Beta Plasma Sheets in the CIR Shear Zones
- 3:45 p.m.– 4:00 p.m. **Afternoon Break**

- 4:00 p.m.– 5:15 p.m. **Ring Currents II**
Presiding: Igor Veselovsky
- 4:00 p.m. –4:20 p.m. **Pontus C. Brandt** | Pressure-Driven Current Systems in the Solar System (*Invited*)
- 4:20 p.m. –4:35 p.m. **Iannis S Dandouras** | Terrestrial Ring Current: a Review of Some Cluster Results Based on the Curlometer Technique
- 4:35 p.m. –4:55 p.m. **Jesper W Gjerloev** | SuperMAG geomagnetic indices: Do more stations provide better monitoring of the M-I current system? (*Invited*)
- 4:55 p.m. –5:10 p.m. **Xiaoqing Pi** | Middle-Latitude Ionospheric Irregularities and Ring Current Expansion during Geomagnetic Storms
- 6:00 p.m.– 7:00 p.m. **Inclusive Science Event**
Location: TBA

WEDNESDAY, 25 MAY

- 8:30 a.m.– 9:45 a.m. **Measuring & Analysis Techniques**
Presiding: Brigitte Schmieder
- 8:30 a.m. –8:50 a.m. **Heikki Vanhamäki** | A review of selected data-analysis techniques for determining ionospheric electrodynamic parameters on mesoscales (*Invited*)
- 8:50 a.m. –9:10 a.m. **Graham Barnes** | Measuring currents in the solar atmosphere (*Invited*)
- 9:10 a.m. –9:30 a.m. **Malcolm Wray Dunlop** | Multi-point Analysis of Current Structures and Applications (*Invited*)
- 9:30 a.m. –9:45 a.m. **Maosheng He** | EMVIM: An empirical model for the magnetic field configuration near Venus

- 9:45 a.m.– 10:15 a.m. **Pioneers & Next Generation I**
 Presiding: Andreas Keiling
- 9:45 a.m. –10:15 a.m. **Asgeir Brekke | Pioneers of Electric Currents in Geospace**
(Invited)
- 10:15 a.m.– 10:35 a.m. **Morning Break**
- 10:35 a.m.– 12:10 p.m. **Pioneers & Next Generation II**
 Presiding: Hermann Lühr
- 10:35 a.m. –11:05 a.m. **Goran Tage Marklund | Electric Fields and Field-Aligned**
Currents Associated with Aurora. The Heritage of Hannes
Alfvén *(Invited)*
- 11:05 a.m. –11:25 a.m. **Pontus C. Brandt | Jupiter’s Magnetospheric Current System:**
Implications for Juno and JUICE *(Invited)*
- 11:25 a.m. –11:45 a.m. **Rune Floberghagen | Swarm - the European Space Agency's**
constellation mission: Mapping Earth's external field *(Invited)*
- 11:45 a.m. –12:05 a.m. **Madhulika Guhathakurta | Explorations of Solar Activity and**
the Heliophysical Environment to Interplanetary Space Weather
(Invited)
- 12:10 p.m.– 12:30 p.m. **Plenary Discussion**
 Presiding: Igor Veselovsky, Octav Marghitu
- 12:30 p.m.– 2:00 p.m. **Lunch (on-site)**
 Mozaik Restaurant
- 2:30 p.m.– 8:00 p.m. **Field Trip**
 Lobby

THURSDAY, 26 MAY

- 8:30 a.m.– 10:15 a.m. **Modeling & Simulation Techniques**
Presiding: Iannis Dandouras
- 8:30 a.m. –8:50 a.m. **Carol S Paty** | Modeling Magnetospheric Current Systems
(*Invited*)
- 8:50 a.m. –9:10 a.m. **Mats Holmstrom** | Current Systems at Moons (*Invited*)
- 9:10 a.m. –9:30 a.m. **Frank Toffoletto** | Ring Current Modeling with the Rice
Convection Model (*Invited*)
- 9:30 a.m. –9:45 a.m. **Astrid I Maute** | Simulating the three-dimensional ionospheric
current system
- 9:45 a.m. –10:00 a.m. **Michael Scott Wheatland** | Nonlinear force-free modeling
using the minimum current method
- 10:00 a.m. –10:15 a.m. **Joerg Buechner** | Current and Current Sheets in the Solar
Corona and their Relation to Solar Eruptions
- 10:15 a.m.– 10:45 a.m. **Morning Break**
- 10:45 a.m.– 12:30 p.m. **Current Sheets II**
Presiding: Brigitte Schmieder
- 10:45 a.m. –11:05 a.m. **Clare E Parnell** | On the nature of 3D current layers in the solar
atmosphere (*Invited*)
- 11:05 a.m. –11:25 a.m. **Jun Lin** | The CME-Flare Current Sheet Predicted by the
Catastrophe Model of the Solar Eruption and Detected in CME-
Flare Events (*Invited*)
- 11:25 a.m. –11:40 a.m. **Olga Khabarova** | Evidence for the occurrence of a cylindrical
current sheet over the South Pole of the Sun
- 11:40 a.m. –12:00 a.m. **Anthony Lui** | Review on the Characteristics of the
Plasma/Current Sheet of the Earth’s Magnetotail (*Invited*)

- 12:00 p.m. –12:15 p.m. **Ensang Lee** | Dynamics of the current sheet in Earth's magnetotail by the impact of an interplanetary shock
- 12:15 p.m. –12:30 p.m. **Martin Volwerk** | Current Sheets in Comet 67P/Churyumov-Gerasimenko's Coma
- 12:30 p.m.– 2:00 p.m. **Lunch (on-site)**
Mozaik Restaurant
- 2:00 p.m.– 3:45 p.m. **Posters II**
Presiding: Christopher Arridge
Exhibition Area
- R-022 **Varvara A. Andreeva** | Direct Reconstruction of the Magnetospheric Magnetic Field and Electric Currents from Spacecraft Data
- R-023 **Igor S. Veselovsky** | Electric Currents and Twisted Plasma Jets in the Fermi Bubbles
- R-024 **Daniel Schmid** | Evolution of Bz-dips and current systems around dipolarization fronts observed by MMS
- R-025 **Anthony Lui** | Magnetic Flux For The Substorm Current System And Dipolarization Fronts
- R-027 **Jeffrey P Morgenthaler** | Bucking the Current: Connecting Mass Loss Down Jupiter's Magnetotail to the Dawn-Dusk Electric Field at the Io Plasma Torus
- R-028 **Jone Peter Reistad** | Dynamic effects of restoring footpoint symmetry on closed magnetic field-lines: Asymmetric Birkeland currents
- R-029 **Oliver Allanson** | Vlasov equilibria for the Force-Free Harris Sheet with any plasma beta

- R-030 **Chigomezzyo Mudala Ngwira** | Analysis of Geoelectric Field Drivers using THEMIS and Van Allen Probes Observations
- R-031 **Fiona Wilson** | Particle-in-Cell Simulations of Collisionless Magnetic Reconnection With a Non-Uniform Guide Field
- R-032 **Licia C Ray** | In situ spatio-temporal measurements of the detailed azimuthal substructure of the substorm current wedge
- R-033 **Banafsheh Ferdousi** | Mapping Bursty Bulk Flows Current to the Ionosphere using OpenGGCM---CTIM Model
- R-034 **Jiang Liu** | THEMIS Observations of Plasma Sheet Region 1 and 2 Birkeland Currents in Quiet and Substorm Times
- R-035 **Benoit Lavraud** | Currents and associated electron scattering and bouncing near the diffusion region at Earth's magnetopause
- R-036 **Istvan Lempenger** | Effect of ionospheric current system geometry on local surface EM observation - a theoretical model
- R-037 **Stavros Dimitrakoudis** | Multi-satellite and Conjugate Ground-based Studies of Magnetosphere-Ionosphere Coupling at Substorm Expansion Phase Onset
- R-038 **Raluca Ilie** | Assessment of inductive electric fields contribution to the overall particle energization in the terrestrial magnetosphere
- R-039 **Boris E. Prokhorov** | The Simulation of the Ionospheric Current System and Its Impact on the Earth's Magnetic Field
- R-040 **Helmi V Malova** | About a quasi-adiabatic motion of charged particles in heliospheric current sheet
- R-041 **Andreas Keiling** | Statistical Analysis of Vortex-driven Field-aligned Currents

3:45 p.m.– 4:00 p.m.

Afternoon Break

- 4:00 p.m.– 5:30 p.m. **Small-scale & Filamentary Currents**
Presiding: Hermann Lühr
- 4:00 p.m. –4:20 p.m. **Melvyn L. Goldstein** | Turbulence, small-scale structures, and
dissipation in the solar wind (*Invited*)
- 4:20 p.m. –4:40 p.m. **Michael Hesse** | Current systems in the Core of Magnetic
Reconnection (*Invited*)
- 4:40 p.m. –5:00 p.m. **Jaeheung Park** | Small-scale magnetic field fluctuations in the
low-/mid-latitude nighttime ionosphere (*Invited*)
- 5:00 p.m. –5:15 p.m. **Laila Andersson** | Spatially Small Scale Ionospheric Currents
at Mars.
- 5:15 p.m. –5:30 p.m. **Tomas Karlsson** | The $j \times B$ Forces Associated With Fast Flows
in Earth's Magnetosphere and Magnetosheath
- 7:00 p.m.– 9:00 p.m. **Banquet**
Klarisa Restaurant (Old Town)

FRIDAY, 27 MAY

- 8:30 a.m.– 10:15 a.m. **Energetics of Currents**
Presiding: Michael Wheatland
- 8:30 a.m. –8:50 a.m. **Donald B Melrose** | Current-driven flare and CME models
(*Invited*)
- 8:50 a.m. –9:05 a.m. **Olga P Verkhoglyadova** | Heliosphere-Ionosphere-
Thermosphere Coupling and Energy Budget in Geomagnetic
Storms.
- 9:05 a.m. –9:25 a.m. **Lucie Green** | Magnetic helicity and energy storage in the solar
corona (*Invited*)

- 9:25 a.m. –9:45 a.m. **Maria Hamrin** | Generator and load regions in the magnetotail
(Invited)
- 9:45 a.m. –10:00 a.m. **Philippe A Bourdin** | Currents and their dissipation mechanism in a solar coronal MHD model
- 10:00 a.m. –10:15 a.m. **Ilan Roth** | Intricacies of the Evolution of Heliospheric Magnetized Plasma
- 10:15 a.m.– 10:45 a.m. **Morning Break**
- 10:45 a.m.– 12:20 p.m. **Field-aligned Currents III**
Presiding: Andreas Keiling
- 10:45 a.m. –11:00 a.m. **Stephen B Mende** | Closure of the Auroral Current Loop.
- 11:00 a.m. –11:15 a.m. **John Coxon** | The Morphology of the Birkeland Current System During Substorms
- 11:15 a.m. –11:30 a.m. **Jiang Liu** | Substorm Current Wedge Composition by Wedgelets, Small Pieces of FACs supported by Dipolarization Fronts
- 11:30 a.m. –11:50 a.m. **Ryoichi Fujii** | Substorm currents and Cowling channels
(Invited)
- 11:50 a.m. –12:05 a.m. **Akimasa Yoshikawa** | How much curl-free Hall current flows out to the magnetosphere as field-aligned current from Cowling channel?
- 12:05 p.m. –12:20 p.m. **Octav Marghitu** | On the Ionospheric Closure of Field-Aligned Currents and its M-I Coupling Implications
- 12:20 p.m.– 12:30 p.m. **Closing**