

SCIENTIFIC PROGRAMME

Sunday 6th of September

- 16:00 – 18:00** **Registration**
- 19:00** **Welcome cocktail in Iaki restaurant (on the terrace if weather allows)**

Monday 7th of September, Vienna Hall in Iaki Conference Center

Morning Session – convener Marius Echim

- 09:00 – 09:05** **Opening**
- 09:05 – 10:35** **Plasma turbulence (Tutorial)**
Eckart Marsch (U Kiel)
- 10:35 – 11:00** **Coffee break**
- 11:00 – 12:30** **Observations of the microstructure of the solar wind and their geomagnetic effects (Tutorial)**
Bruce Tsurutani (JPL), A. J. Mannucci (JPL), O. P. Verkhoglyadova (JPL), G. S. Lakhina (IIG), A. Sen (IPR), P. K. Kaw (IPR), R. Hajra (INPE), E. Echer (INPE)
- 12:30** **End of morning session**
- 13:00** **Lunch in Iaki restaurant**

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Afternoon Session – convener Zoltan Voeroes

- 15:00 – 15:30** **Revisiting Taylor's frozen-in flow hypothesis and anisotropy in space plasma turbulence (Invited)**
Yasuhito Narita (IFW Graz and TU Braunschweig)
- 15:30 – 16:00** **Space plasma turbulence in the terrestrial magnetosheath (Invited)**
Emiliya Yordanova (IRF Uppsala)
- 16:00 – 16:20** **Plasma turbulence, intermittency and wave coupling in the polar cap based on the ICI-2 sounding rocket experiment**
Andres Spicher (U Oslo), Wojciech Jacek Miloch (U Oslo), Lasse Boy Novok Clausen (U Oslo), Jøran Idar Moen (U Oslo)
- 16:20 – 16:30** **Discussion**
- 16:30 – 17:00** **Coffee Break**
- 17:00 – 17:30** **Spatial and temporal monitoring of the intermittent dynamics in the terrestrial foreshock (Invited)**
Peter Kovacs (MFGI Budapest), G. Vadasz (MFGI), A. Koppan (MFGI)
- 17:30 – 18:00** **Properties of Jupiter's magnetospheric turbulence observed by the Galileo spacecraft (Invited)**
Chihiro Tao (IRAP/LPP), F. Sahraoui (LPP), D. Fontaine (LPP), J. de Patoul (LPP/Exeter U), T. Chust (LPP), S. Kasahara (ISAS-JAXA), A. Retinò (LPP)
- 18:00** **End of Monday sessions**

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Tuesday 8th of September, Vienna Hall in Iaki Conference Center

Morning Session – convener Giuseppe Consolini

09:00 – 10:30 **Introduction to space plasma complexity (Tutorial)**

Tom Chang (MIT)

10:30 – 11:00 **Coffee break**

11:00 – 12:30 **Waves in space plasmas (Tutorial)**

Jay Johnson (U Princeton)

12:30 **End of morning session**

13:00 **Lunch in Iaki restaurant**

Afternoon Session – convener Yasuhito Narita

15:00 – 15:30 **Intermittency analysis and spatial dependence of magnetic field disturbances in the fast solar wind (Invited)**

Sunny W. Y. Tam (National Cheng Kung U Taiwan), Ya-Hui Yang (ISS, NCU Taiwan)

15:30 – 16:00 **Nonlinear, intermittent Farley-Buneman turbulence (Invited)**

Abdelhaq M. Hamza (U New Brunswick)

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- 16:00 – 16:20** **On the dynamics of a space charge structure in a plasma similar to an ionosphere plasma**
Sorin Talaşman (UAIC Iaşi Romania)
- 16:20 – 16:40** **Test-kinetic and particle-in-cell simulations of localized plasma and field structures and their interactions**
Gabriel Voitcu (ISS Romania), M. Echim (ISS & BIRA-IASB)
- 16:40 – 17:00** **Multifractal and Intermittent turbulence in space environment**
Wieslaw M. Macek (SRC-PAS), A. Wawrzaszek (SRC-PAS)
- 17:00 – 18:30** **Poster Session**

Posters on display

- **On flare productivity of active regions**

Revati Mandage (IIS Pune India, presenter), R. T. James McAteer (U New Mexico)

- **Plasma fluctuations in the Earth's magnetosheath with frequencies up to 10 Hz**

Liudmila Rakhmanova (IKI-RAS, presenter), M. Riazantseva (IKI-RAS/LM State U), G. Zastenker (IKI-RAS)

- **Magnetic reconnection in the Euler potentials formalism**

Przemysław Figura (SRC-PAS), W. M. Macek (CSW U Warsaw/SRC-PAS, presenter)

- **Suprathermal ion acceleration in quasiparallel shocks**

Andreas Johlander (IRF Uppsala, presenter), A. Vaivads (IRF), Y. Khotyaintsev (IRF), A. Retinò (LPP), E. Yordanova (IRF), I. Dandouras (CNRS/IRAP)

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- **Investigations by means of shadowgraphy of a filamentary atmospheric plasma jet**

Maximilian Teodorescu (INFLPR Romania, presenter), E. R. Ionita (INFLPR), G. Dinescu (INFLPR)

- **Graphene based devices for solar investigation**

Alexei Zubarev (INFLPR Romania, presenter)

- **Lie group reduction method applied for the reduced magnetohydrodynamic (RMHD) equation**

Afrodita Liliana Boldea (IFIN-HH Romania, presenter)

- **Long-term evolution of solar wind turbulence observed by Cluster**

Pauli Väisänen (U Oulu, presenter), I. Virtanen (U Oulu), M. Echim (ISS & BIRA-IASB), C. Munteanu (ISS & U Oulu), K. Mursula (U Oulu)

- **Coherent structures and intermittent turbulence in the solar wind plasma**

Deepak Kumar Sondhiya (SSL Barkatullah U, presenter), A. K. Gwal (SSL Barkatullah U)

- **Scaling properties of ionospheric, solar, and geomagnetic data**

Zbysek Mosna (IAP Prague, presenter)

- **Statistical study of foreshock processes observed by THEMIS**

Jaroslav Urbar (Charles U Prague, presenter), Z. Nemecek (Charles U), J. Safrankova (Charles U), L. Prech (Charles U)

- **Solar wind variability and effects on terrestrial cloud cover at low altitudes: a review**

Mirela Voiculescu (U Galati Romania, presenter)

18:30

End of Tuesday sessions

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Wednesday 9th of September

Full Day Excursion to the Danube Delta

We will take the bus from Iaki to Tulcea – the entry gate town to the Danube Delta. From Tulcea we take a boat to explore some of the Danube's channels. The Danube Delta is a vast and complex natural system, one needs weeks to explore it in detail. We will visit some of the main channels: Tulcea – Mila 35 – Sontea – the birds reservation “Lac Nebunu” – Sireasa de Nord – Mila 35 – then back to Tulcea. The boat makes a stop in front of the lake “Lac Nebunu” where a fishermen lunch will be served. The boat trip lasts about 5–6 hours. The bus takes us back from Tulcea to Iaki.

Thursday 10th of September, Vienna Hall in Iaki Conference Center

Morning Session – convener *Emiliya Yordanova*

09:00 – 10:30 **Observing MHD turbulence phenomenology in 3D heliosphere (Tutorial)**

Roberto Bruno (INAF-IAPS)

10:30 – 11:00 **Coffee break**

11:00 – 11:30 **Intermittency beyond the ecliptic plane (Invited)**

Anna Wawrzaszek (SRC-PAS), *M. Echim* (ISS & BIRA-IASB), *W. M. Macek* (SRC-PAS/CSW U Warsaw), *R. Bruno* (INAF-IAPS)

11:30 – 11:50 **On the effect of data gaps on the spectral analysis**

Cătălin Negrea (U Colorado & ISS Romania), *C. Munteanu* (ISS Romania & U Oulu)

11:50 – 12:20 **Flux tubes, magnetic reconnection and turbulence in the solar wind (Invited)**

Zoltan Voeroes (IFW Graz)

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- 12:20 – 12:30** **Discussion**
- 12:30** **End of morning session**
- 13:00** **Lunch in Iaki restaurant**

Afternoon Session – conveners Peter Kovacs and Costel Munteanu

- 15:00 – 16:00** **Data analysis techniques for turbulence and intermittency (Tutorial)**
- Marius Echim (ISS & BIRA-IASB), Peter Kovacs (MFGI), C. Munteanu (ISS Romania & U Oulu)*
- 16:00 – 16:30** **Coffee break**
- 16:30 – 18:00** **Hands-on session with the Interactive Nonlinear Analysis (INA) toolbox**

Participants will be offered a functional version of the Interactive Nonlinear Analysis (INA) toolbox, a graphical user interface library written in Matlab. The participants do not have to hold a Matlab licence, we distribute an executable version of INA that can be installed on Windows, Linux and Mac operating systems. Please take your laptop with you. The organisers can provide only a (very) limited number of working stations. The session will demonstrate the main capabilities of INA:

- Generate and work with synthetic signals
- Read and preprocess satellite data (Ulysses, Cluster, Venus Express)
- Compute Power Spectral Densities for synthetic and/or satellite data
- Compute Probability Distribution Functions and their moments (flatness ...) for synthetic and/or satellite data
- Compute wavelet based representations (scalograms) and the Local Intermittency Measure for synthetic and/or satellite data
- Compute structure functions for synthetic and/or satellite data
- Compute Rank Ordered Multifractal Spectra for synthetic and/or satellite data

- 18:00** **End of Thursday sessions**

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Friday 11th of September, Vienna Hall in Iaki Conference Center

Morning Session – convener Roberto Bruno

- 09:00 – 10:30** **Large scale structure of the solar wind (Tutorial)**
Kalevi Mursula (U Oulu)
- 10:30 – 11:00** **Coffee break**
- 11:00 – 12:30** **Introduction to fractals, chaos, intermittency, and multifractal turbulence (Tutorial)**
Wieslaw Macek (SRC-PAS/CSW U Warsaw)
- 12:30** **End of morning session**
- 13:00** **Lunch in Iaki restaurant**

Afternoon Session – convener Marius Echim

15:00 – 17:30 **FP7 STORM Annual Meeting**

A meeting of the members of the FP7 project STORM and the STORM Advisory Board. This is the occasion to discuss the progress of STORM, the activities that still remain to be completed, plans for the future, meet with the members of the Advisory Board and discuss the achievements of STORM. The list of topics is open, including issues related to the final reporting due at the end of 2015.

19:00 **Conference Dinner in Iaki Casino**

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Saturday 12th of September, Vienna Hall in Iaki Conference Center

Morning Session – convener Kalevi Mursula

09:00 – 10:30 **Multi-facet of magnetospheric phenomena (Tutorial)**

Anthony Lui (JHU-APL)

10:30 – 11:00 **Coffee break**

11:00 – 12:30 **Intermittency, complexity and criticality in Earth's magnetospheric dynamics (Tutorial)**

Giuseppe Consolini (INAF-IAPS)

12:30 **End of morning session**

13:00 **Lunch in Iaki restaurant**

Afternoon Session – convener Anthony Lui

15:00 – 15:30 **Generation of turbulence in Earth's magnetosphere (Invited)**

Hiroshi Hasegawa (ISAS-JAXA), T. Nakamura (IFW), M. Hoshino (U Tokyo), I. Shinohara (ISAS-JAXA), T. Nagai (TIT)

15:30 – 16:00 **Postmidnight trough in summer and link to solar wind: how, when and why? (Invited)**

Mirela Voiculescu (U Galati Romania)

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16:00 – 16:20	Signatures of solar event along the Europe – African GPS-chain cross the north crest equatorial anomaly <i>Amira Shimeis</i> (NRIAG/Helwan U Egypt), C. Amory-Mazaudier (Helwan Univ), R.Fleury (LPP), A.M. Mahrous (NRIAG)
16:20 – 17:00	Coffee break
17:00 – 17:20	Dependence of multifractal features of auroral electrojet index on solar cycle <i>Fabio Giannattasio</i> (INAF-IAPS), G. Consolini (INAF-IAPS), M. Echim (BIRA-IASB), M. F. Marcucci (INAF-IAPS)
17:20 – 17:40	Solar system turbulence, intermittency and multifractals from in-situ observations at the minimum and maximum of the solar cycle <i>Marius Echim</i> (ISS & BIRA-IASB) and the STORM team
17:40 – 18:00	Concluding Remarks
18:00	End of Workshop