

**VIIIth Hvar Astrophysical Colloquium**  
**DYNAMICAL PROCESSES IN THE SOLAR**  
**ATMOSPHERE**

**24 - 29 September 2006, Hvar, Croatia**

**FINAL ANNOUNCEMENT**

The VIII<sup>th</sup> Hvar Astrophysical Colloquium "Dynamical Processes in the Solar Atmosphere" is organized by Hvar Observatory, Faculty of Geodesy, University of Zagreb and is held under the auspices of the Croatian Astronomical Society and the Hvar town council. The Colloquium is sponsored by the Ministry of Science, Education and Sports, Republic of Croatia and by EOARD.

SCIENTIFIC ORGANIZING COMMITTEE:

Vladimir Ruždjak (chair)  
Arnold Hanslmeier (co-chair)  
Marian Karlický     Janusz Sylwester  
Aleš Kučera         Bojan Vršnak  
Andras Ludmány     Hubertus Wöhl  
Gottfried Mann      Paolo Zlobec

LOCAL ORGANIZING COMMITTEE:

Roman Brajša (chair)  
Domagoj Ruždjak  
Davor Sudar

SCIENTIFIC SESSIONS:

- \* Dynamics of the Photosphere
- \* Flares and Related Phenomena
- \* Coronal Dynamics and CMEs
- \* Space Weather and Space Climate
- \* Data Archives
- \* Observing Techniques and Data Analysis; New Journals

CONFERENCE MEETING PLACE: Town Loggia, Hvar, Croatia (The Town Loggia is located in front of the hotel "Palace")

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## TRAVEL AND ACCOMMODATION

Split on the mainland (served by an international airport) is connected with the island of Hvar by several local lines according to the time table given below.

### FERRY TIME TABLE TO THE ISLAND OF HVAR FOR THE SECOND HALF OF SEPTEMBER 2006

**Catamaran (no cars):**

Split – Hvar 11:30 and 15:00, every day  
Hvar – Split 13:00, every day  
Hvar – Split 6:30, every day except Sunday  
Hvar – Split 9:00, on Sunday  
the trip takes about 1 hour

**Car ferry:**

Split – Stari Grad 8:30, 14:00 and 20:30, every day  
Stari Grad – Split 5:30, 11:00 and 17:30, every day  
the trip takes about 2 hours  
from Stari Grad to Hvar there is a bus connection  
(approx. 20 km)

**Catamaran (no cars):**

Split – Bol – Jelsa 16:00, every day,  
the trip takes about 90 minutes. Jelsa is also on the island of Hvar and there is a bus  
connection to Hvar (approx. 30 km)

additional information can be found at the site: [www.jadrolinija.hr](http://www.jadrolinija.hr)

### ACCOMMODATION:

We strongly suggest that the participants contact their travel agencies as soon as possible and book the favourable one week arrangements including travel, or book their accommodation electronically at [www.adriatica.net/hotels](http://www.adriatica.net/hotels)

Additional information about the island of Hvar and accommodation possibilities in Hvar can be found under: [www.suncanihvar.hr](http://www.suncanihvar.hr) and [www.hvar.hr](http://www.hvar.hr)

# PROGRAMME

Monday, September 25, 2006

8:30 – 9:00	Registration
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***Dynamics of the Photosphere I* chairperson: A. Hanslmeier**

9:00 – 9:20	Opening Addresses
9:20 – 10:00	V.N. Ishkov: Physical Borders in Magnetic Structures on the Sun ( <i>Invited talk</i> )
10:00 – 10:30	M. Mulec, R. Brajša, H. Wöhl, A. Hanslmeier, B. Vršnak, V. Ruždjak, F. Clette, J.-F. Hochedez: Solar rotation velocity determined by coronal bright points - new data and analysis
10:30 – 10:35	J. Muraközy and A. Ludmány: Study of the impact of solar rotation on sunspot groups ( <i>Poster presentation</i> )
10:35 – 10:40	V. Chertoprud, B. Ioshpa, and V. Obridko: Fractal Properties of Magnetic Fields of Active and Quiet Solar Regions ( <i>Poster presentation</i> )
10:40 – 10:45	M. Druckmüller, M. Klvana, and Z. Druckmüllerová: Moment based method of solar spectra analysis ( <i>Poster presentation</i> )

10:45 – 11:15	coffee – break
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***Dynamics of the Photosphere II* chairperson: R. Brajša**

11:15 – 11:45	A. Kučera, H. Wöhl, J. Rybák: Spectral characteristics of a photosphere near a flare
11:45 – 12:15	H. J. Muthsam, A. Hanslmeier, M. Langer, P. Lenz, B. Löw-Baselli, Chr. Obertscheider: Numerical Studies of Solar Granulation
12:15 – 12:45	W. Pötzi, P. N. Brandt: Vortices in the solar Granulation

***Special Session* chairperson G. Mann**

16:00 – 16:30	Final evaluation of the German-Croatian project "Explosive Events in the Solar Atmosphere"
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***Round Table* convener: R. Brajša**

16:30 – 17:30	Coordination of activities in solar physics and discussion on new initiatives of European solar physics facilities (e.g., EAST - European Association for Solar Telescopes)
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***Flares and Related Phenomena I* chairperson: G. Mann**

17:30 – 18:00	M. Varady, M. Karlický, J. Kašparová: Importance of the return current effects in the energy deposit in flares
18:00 – 18:30	J. Kašparová and E.P. Kontar: Photospheric albedo and directivity as observed from RHESSI spectra
18:30 – 19:00	K. Radziszewski and P. Rudawy: Evolution of the Solar Flares H-alpha Line Profiles Investigated with Very High Temporal Resolution

Tuesday, September 26, 2006

***Flares and Related Phenomena II* chairperson: A. Kučera**

9:00 – 9:40	G. Mann, A. Warmuth, and H. Aurass: Electron Acceleration by the Reconnection Outflow Shock During Solar Flares ( <i>Invited talk</i> )
9:40 – 10:10	C. H. Miklenic, A. M. Veronig, B. Vršnak, and A. Hanslmeier: Reconnection and energy release rates in a two-ribbon flare
10:10 – 10:40	M. Temmer, B. Vršnak, A. Veronig, C. Miklenic: Energy release rates along H-alpha flare ribbons and the location of HXR sources

10:40 – 11:10	coffee – break
<b>Flares and Related Phenomena III</b> chairperson: <b>A. Özgüç</b>	
11:10 – 11:40	H. Aurass: The 28 Oct 2003 flare - solar sources of GLE particle streams
11:40 – 12:10	A. Warmuth: Constraining electron acceleration at a standing shock with HXR and radio observations
12:10 – 12:40	A. Veronig: RHESSI observations of coronal hard X-ray sources
<b>Working Group</b> chairperson: <b>A. Chilingarian</b>	
15:30 – 16:30	Space Weather and Cosmic Rays
<b>Flares and Related Phenomena IV</b> chairperson: <b>J. Sylwester</b>	
16:30 – 17:00	P. Preš and S. Kołomański: Observational scaling laws for soft X-ray loop-top flare kernels
17:00 – 17:30	U. Bał-Stęślička and J. Jakimiec: Problem of the determination of X-ray loop-top kernels density
17:30 – 18:00	T. Ciborski and M. Tomczak: Non-thermal electron beams as a diagnostic tool of magnetic convergence in solar flare loops
18:00 – 18:30	A. Hofmann and V. Ruždjak: Type III radio burst prolific magnetic field configurations

Wednesday, September 27, 2006

<b>Coronal Dynamics and CMEs I</b> chairperson: <b>A. Chilingarian</b>	
9:00 – 9:40	E.Ya. Zlotnik, T.I. Kaltman, O.A. Sheiner: Influence of coronal loops on radio sources associated with solar active regions ( <i>Invited talk</i> )
9:40 – 10:10	J. Magdalenić, B.Vršnak, P. Zlobec, H.Aurass, A. Warmuth, G. Mann: Millisecond sub-structures of the zebra pattern
10:10 – 10:40	S. Kołomański, M. Tomczak, P. Ronowicz, M. Karlický, H. Aurass: Flare-associated X-ray plasma ejections and radio drifting pulsation structures
10:40 – 10:45	M. Karlický, K. Jiříčka, H.S. Sawant, J.R. Cecatto, F.C.F. Fernandes, M.C. Andrade: The 1-2 GHz fiber bursts activity observed during the July 11, 2005 B4.0 flare ( <i>Poster presentation</i> )
10:45 – 11:15	coffee – break
<b>Coronal Dynamics and CMEs II</b> chairperson: <b>E. Zlotnik</b>	
11:15 – 11:45	M. Tomczak and P. Ronowicz: SXT diagnostics of flare-associated X-ray plasma ejections
11:45 – 12:15	T. Mrozek and J. Wolska: Chromospheric dynamics observed by RHESSI
12:15 – 12:45	M. Zapiór and P. Rudawy: 3-D Models of the Solar Prominences
12:45 – 12:50	B. Sylwester, J. Sylwester and S. Gburek: Characteristics of compact plasma kernels as determined from Yohkoh observations ( <i>Poster presentation</i> )
<b>Data Archives</b> chairperson: <b>H. Wöhl</b>	
16:00 – 16:30	W. Otruba: CESAR Grid
16:30 – 17:00	I. Kienreich, A. Hanslmeier, A., Sosa, A.: The Joint Information system - résumé after one year
<b>Round Table</b> convener: <b>H. Wöhl</b>	
17:00 – 18:00	Discussion on Solar Archives; Organizational issues in using solar data archives (e.g., JIS and CESAR)
<b>Coronal Dynamics and CMEs III</b> chairperson: <b>A. Veronig</b>	
18:00 – 18:30	J. Osarczuk and P. Rudawy: Bright Rim Statistics
18:30 – 19:00	R. Brajša, A. Benz, M. Temmer, R. Jurdana-Šepić, B. Šaina, H. Wöhl: On the visibility of coronal holes in microwaves

Thursday, September 28, 2006

**Coronal Dynamics and CMEs IV** chairperson: **H. Aurass**

9:00 – 9:40	N. Gopalswamy: Relation between Coronal and Interplanetary Shocks inferred from type II Radio Bursts ( <i>Invited talk</i> )
9:40 – 10:10	M. Karlický, M. Bárta, B. Vršnak: MHD waves and shocks generated during magnetic field reconnection
10:10 – 10:40	N. Nitta: Type II bursts and the CME-flare relationship
10:40 – 10:45	V. Slemzin: EUV observations of CME initiation features with the CORONAS/SPIRIT and SOHO/EIT instruments ( <i>Poster presentation</i> )
10:45 – 11:15	coffee – break

**Coronal Dynamics and CMEs V** chairperson: **B. Vršnak**

11:15 – 11:55	J. I. Khan, K.-L. Klein, and H. Aurass: Precursor Type II Emission and the Origins of Shock Waves on the Sun ( <i>Invited talk</i> )
11:55 – 12:25	J. Thalmann: Analysis of the flare waves associated with the 3B/X3.8 flare of January 17, 2005
12:25 – 12:55	R. Miteva and G. Mann: Electron Acceleration at Whistler Wave Packets Attached at Shock Waves

**Round Table** conveners: **N. Gopalswamy and K. Georgieva**

16:00 – 17:00	IHY - plans, actions, organization
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**Coronal Dynamics and CMEs VI** chairperson: **N. Gopalswamy**

17:00 – 17:30	B. Vršnak: Dynamics of Coronal and Interplanetary Mass Ejections
17:30 – 18:00	D. Maričić, B. Vršnak, A. Stanger, A. Veronig, M. Temmer, and D. Roša: Acceleration Phase of Coronal Mass Ejections and Synchronization with the Energy Release in the Associated Flare
18:00 – 18:30	T. Žic, B. Vršnak: Torus instability and Coronal Mass Ejections
18:30 – 19:00	J. Sylwester and B. Sylwester: Balance of forces in the corona
21:00 –	Wine and cheese in a Dalmatian konoba

Friday, September 29, 2006

**Space Weather and Space Climate** chairperson: **V. Ishkov**

9:00 – 9:40	A. Hanslmeier: Cosmic ray variability ( <i>Invited talk</i> )
9:40 – 10:10	A. Chilingarian: Solar Flares and CME as modulated agents of the Cosmic Ray flux incident on terrestrial atmosphere. What we can deduce from particle detector data
10:10 – 10:40	T. Ataç, A. Özgüç and J. Rybák: Periodicities in irradiance and in other solar activity indices during cycle 23
10:40 – 11:10	coffee – break
11:10 – 11:40	K. Georgieva and B. Kitov: About the violation of the hemispheric helicity rule
11:40 – 11:45	V.N. Ishkov: Properties of the Current 23rd Solar-Activity Cycle ( <i>Poster presentation</i> )

**Observing Techniques and Data Analysis; New Journals** chairperson: **A. Hofmann**

11:45 – 12:15	G. Mann: Monitoring the Solar Activity by LOFAR
12:15 – 12:45	D. Hržina, D. Roša, A. Hanslmeier, V. Ruždjak, R. Brajša: Sungrabber
12:45 – 12:50	D. Ruždjak: New Journal: "Central European Astrophysical Bulletin" ( <i>Poster presentation</i> )
12:50 – 12:55	K. Georgieva: New Journal: "Sun and Geosphere" ( <i>Poster presentation</i> )

## ADDITIONAL INFORMATION

For oral presentations an overhead projector and video beamer will be provided. The time for oral presentations is limited to 30 minutes (invited talks 40 min.), authors should reserve 5 minutes for discussion. Authors of posters can give a brief introduction (about 5 min) according to the schedule given in the Programme. All oral contributions will be published in a special volume of the Central European Astrophysical Bulletin.

**Venue and Climate:** The meeting will be held in the medieval town Hvar situated on the Mediterranean island Hvar. The weather in late September is usually fine and calm with average daytime temperatures between 20 and 25 C. The sea temperature is above 20 C.

## LIST OF REGISTERED PARTICIPANTS

Aurass Henry, Astrophysical Institute Potsdam  
Bał-Stęślicka Urszula, Astronomical Institute, University of Wrocław  
Brajša Roman, Hvar Observatory, Faculty of Geodesy, University of Zagreb  
Chilingarian Ashot, Alikhanyan Physics Institute, Yerevan  
Ciborski Tomasz, Astronomical Institute, University of Wrocław  
Georgieva Katya, Solar-Terrestrial Influences Laboratory, Bulgarian Academy of Sciences, Sofia  
Gopalswamy Nat, Solar System Exploration Division, Code 695, NASA Goddard Space Flight Center  
Hansmeier Arnold, Institute of Physics, IGAM, University of Graz  
Hofmann Axel, Astrophysical Institute Potsdam  
Hržina Damir, Zagreb Astronomical Observatory  
Ioshpa Boris, IZMIRAN, Troitsk Moscow region  
Ishkov Vitaly, IZMIRAN, Troitsk Moscow region  
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Khan Josef, Dept. of Physics & Astronomy, University of Glasgow  
Kienreich Ines, Institute of Physics, IGAM, University of Graz  
Klvaňa Miroslav, Astronomical Institute AS Czech Republic, Ondřejov  
Kołomański Sylwester, Astronomical Institute, University of Wrocław  
Kučera Aleš, Astronomical Institute of SAS, Tatranska Lomnica  
Magdalenic Jasmina, Hvar Observatory, Faculty of Geodesy, University of Zagreb  
Mann Gottfried, Astrophysical Institute Potsdam  
Maričić Darije, Zagreb Astronomical Observatory  
Miklenic Christiane, Institute of Physics, IGAM, University of Graz  
Miteva Rositsa, Astrophysical Institute Potsdam  
Moravec Zdeněk, University of J.E.Purkyne, Usti nad Labem  
Mrozek Tomasz, Astronomical Institute, University of Wrocław  
Mulec Miran, University of Graz  
Muraközy Judit, Heliophysical Observatory, Debrecen  
Muthsam Herbert J., Institute of Mathematics, University of Vienna

Nitta Nariaki, LMATC, B/252, Dept/ADBS, Palo Alto, CA  
Osarczuk Janusz, Astronomical Institute, University of Wroclaw  
Otruba Wolfgang, Kanzelhöhe Solar Observatory  
Özgüç Atila, Kandilli Observatory and E.R.I., Bogazici University, Cengelkoy, Istanbul  
Pötzi Werner, Kanzelhöhe Solar Observatory  
Preś Paweł, Astronomical Institute, University of Wroclaw  
Radziszewski Krzysztof, Astronomical Institute, University of Wroclaw  
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Sudar Davor, Hvar Observatory, Faculty of Geodesy, University of Zagreb  
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Sylwester Janusz, Astronomical Institute, University of Wroclaw  
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Tomczak Michał, Astronomical Institute, University of Wroclaw  
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York George W., European Office of Aerospace Research and Development, London  
Zapiór Maciej, Astronomical Institute, University of Wroclaw  
Zlotnik Elena, Institute of Applied Physics, Russian Academy of Sciences, Nizhny Novgorod  
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