

## Scientific Programme

### International Symposium on Solar Extreme Events of 2003: Fundamental Science and Applied Aspects

Monday, 12 July 2004

09:00 - 10:00      **Registration**  
10:00 - 10:20      **Opening**

#### Morning session B: Solar and Heliospheric Activity

##### Oral presentations

10:20 - 11:00      **Solar Extreme Events -2003 - Some Consequences**  
Panasyuk M.I., Veselovsky I.S., Lazutin L.L.

11:00 - 12:00      **Coffee Break and Poster Session B**

12:00 - 12:15      **A Series of Short Duration (~ 1 – 3 Hours) Energetic Ion Bursts Observed by Ace (~ 1 AU) and Ulysses (~ 5.25 AU) on Days 25-27, November 2003.**  
Anagnostopoulos G., Louri I., Marhavidas P., Sarris E.

12:15 - 12:30      **Cosmic Ray Variations During Two Greatest Bursts of Solar Activity in the 23-rd Solar Cycle.**  
Belov A.V., Eroshenko E.A., Oleneva V.A., Yanke V.G., Mavromichalaki H., Plainaki Ch., Mariatos G.

12:30 - 12:45      **HEO and Coronas-F Electron and Proton Radiation Belt Data Comparison**  
Crosby N.B., Kuznetsov S.N., Fennell J.F., Heynderickx D., Myagkova I.N., Yushkov B. Yu.

12:45 - 13:00      **Solar Extreme Flare Events: History, Origin, Occurrence**  
Ishkov V.N.

13:00 - 14:30      **Lunch**

## **Afternoon session B: Solar and Heliospheric Activity**

### **Oral presentations**

- 14:30 - 15:10**      **Observations and Forecasts of Extreme Solar Activity**  
Lawrence G.
- 15:10 - 15:25**      **Variations of Magnetic Field Structure and Solar Flare Occurrence**  
Bilenko I.A.
- 15:25 - 15:40**      **Solar Events of October-November 2003 by IZMIRAN Radio Observations**  
Chertok I.M., Fomichev V.V, Gnezdilov A.A., Gorgutsa R.V., Markeev A.K., Sobolev D.E.
- 15:40 - 15:55**      **Comparison Between Measured and Simulated HEO Radiation Belt Dose Observations: Solar Cycle Dependence**  
Crosby N.B., Foullon C., Heynderickx D., Fennell J.F.
- 15:55 - 16:10**      **Solar Energetic Particle Events of October-November 2003: View From Ulysses**  
Heber B., Struminsky A., Kallerode M.-B., Muller-Mellin R., Klassen A., Kunow H.
- 16:10 - 16:25**      **Evolution and Flare Productivity of Active Regions in X - XI 2003**  
Ishkov V.N.
- 17:00**                **Boat Excursion and Icebreaker**

**Monday, 12 July 2004,**

**11:00 - 12:00**

**Poster presentations B**

- Poster B1**            **October 2003 Solar-Terrestrial Storms: Solar Sources and Near Earth Interplanetary Disturbances**  
Ivanov K.G., Kharshiladze A.F., Romashets E.P.
- Poster B2**            **Results of Detecting Ionospheric Response of Solar Extreme Events of 2003 on GPS Data**  
Smirnov V. M., Smirnova E.V.
- Poster B3**            **Analysis of Fine Structure of GLE on 28, 29 October 2003**  
Martirosyan H., Martirosyan H.
- Poster B4**            **A New Look at the Sun in the Light of the Theory of Creation**  
Pavlov V.
- Poster B5**            **Analysis of the October-November 2003 Solar Eruptive Events by SOHO/EIT Data**  
Chertok I.M., Grechnev V.V.
- Poster B6**            **Flares of Solar Energetic Particles With  $E > 1$  Gev in October-November 2003**  
Filippov A.T., Timofeev V.E.
- Poster B7**            **October-November 2003 Events by Yakutsk Muon Apparatus Complex Data**  
Grigoryev V.G., Starodubtsev S.A., Timofeev V.E., Krivoshapkin P.A., Chuprova V.P.
- Poster B8**            **The Peculiarities of the Solar Proton Events in October 2003**  
Pereyaslova N.K., Nazarova M.N., Petrenko I.E.
- Poster B9**            **Influence of Solar Wind Turbulence on the Low-Energy Cosmic Ray Frequency Spectrum in October-November 2003 Events From ACE Spacecraft Data**  
Starodubtsev S.A., Grigoryev A.V., Timofeev V.E.

**Poster B10**

**Earth Tropospheric Circulation Over the Period of Extreme Events  
on the Sun.**

Val'chuk T.E., Kononova N.K.

**Tuesday, 13 July 2004**

**Morning session B: Solar and Heliospheric Activity**

**Oral presentations**

- 09:00 - 09:15**      **Coronas-F/SPIRIT Observations of Solar Eruptive Events on 23 October - 4 November 2003**  
Kuzin S.V., Chertok I.M., Grechnev V.V., Slemzin V.A., Ignat'ev A.P., Pertsov A.A., Zhitnik I.A., Delaboudiniere J.-P.
- 09:15 - 09:30**      **Solar Energetic Particles in October - November, 2003.**  
Kuznetsov S.N., Kudela K., Kurt V.G., Myagkova I.N., Podorolsky A.N, Yushkov B. Yu.
- 09:30 - 09:45**      **High Energy Neutral Emissions of Large Solar Flares in the End of October, 2003.**  
Kuznetsov S.N., Kurt V.G., Myagkova I.N., Yushkov B. Yu., Kudela K.
- 09:45 - 10:00**      **Energy Storage in the Corona for Solar Flares and CME**  
Podgorny A.I., Podgorny I.M.
- 10:00 - 10:15**      **Physics of Heliospheric Current Sheet**  
Podgorny I.M., Podgorny A.I.
- 10:15 - 10:30**      **Coronas-F/SPIRIT Observations of Solar Eruptive Events on 17 and 18 November, 2003**  
Slemzin V.A., Chertok I.M., Grechnev V.V., Kuzin S.V., Ignat'ev A.P., Pertsov A.A., Zhitnik I.A., J.-P. Delaboudiniere

- 10:30 - 10:45**      **Extreme Solar Activity Events in August 1972.**  
Vaisberg O.
- 10:45 - 11:00**      **Polarization of Hard X-Rays Observed in Solar Extreme Events in October-November, 2003**  
Zhitnik I.A., Logachev Yu.I., Bogomolov A.V., Denisov Yu.I., Morozov O.V., Myagkova I.N., Svertilov S.I., Ignat'ev A.P., Oparin S.N., Pertsov A.A.
- 11:00 - 12:00**      **Coffee Break and Poster Session C**

## **Morning session C: Magnetic Storms**

### **Oral presentations**

- 12:00 - 12:40**      **Comparison of Magnetospheric Conditions During Three Superstorms Driven by Extreme Solar Events in Late 2003**  
Kozyra J., Anderson B., Brandt P., Cattell C., Clauer C.R., Crowley G., DeZeeuw D., Evans D., Fang X., Frahm R., Gombosi T., Greer S., Hairston M., Heelis R., Huang C., Korth A., Korth H., Liemohn M., Mannucci A., Mitchell D., Moore T., Paxton L., Pollock C., Ridley A., Sharber J., Thomsen M., Tsurutani B., Winningham D., Zhang Y., Zurbuchen T.
- 12:40 - 13:00**      **Polar Cap and Auroral Oval Dynamics in the Course of Severe Magnetic Storm. Model Results and Case Study: October 2003 Storm.**  
Alexeev I.I., Belenkaya E.S., Bobrovnikov S.Yu., Kalegaev V.V.
- 13:00 - 14:30**      **Lunch**

**Tuesday, 13 July 2004**

**Afternoon session C: Magnetic Storms**

**Oral presentations**

- 14:30 - 14:45**      **Magnetospheric Effects in Cosmic Rays During the Unique Magnetic Storm in November 2003**  
Belov A.V., Eroshenko E.A., Yanke V.G., Pchelkin V.V., Mavromichalaki H.
- 14:45 - 15:00**      **Substorm Associated Pi2-3 Geomagnetic Pulsations on the Main Phase of the October 30, 2003 Superstorm**  
Kleimenova N. G., Kozyreva O. V.
- 15:00 - 15:15**      **Condition of an Ionosphere and Geomagnetic Field Above Tomsk Last Decade October, 2003.**  
Kostjuevich S.
- 15:15 - 15:30**      **Daytime Pc5 Geomagnetic Pulsations During October 2003 Magnetic Storms**  
Kozyreva O. V., Kleimenova N. G.
- 15:30 - 15:45**      **Analysis of the Solar Wind Driving of the Magnetosphere During October-November 2003 Superstorms**  
Petrukovich A.A.
- 15:45 - 16:00**      **Global Ring Current Precipitation Patterns Based on ENA Imaging in October and November 2003**  
Pollock C., Isaksson A., Mitchell D., Moore T.
- 16:00 - 16:15**      **The Storms of October-November 2003 as Recorded by Ground-Based Observations**  
Shirochkov A.V., Makarova L.N., Sokolov S.N.
- 16:15 - 16:30**      **Dynamics of the Magnetosphere During Extreme Solar Events of 2003, as is From the Meteor-3M and Express-A2 Data: the Radiation Belts, the Solar Proton Penetration Boundary, and the Regions of Auroral Precipitation**  
Tverskaya L.V., Avdyushin S.I., Feigin V.M., Ginzburg E.A., Ivanova T.A., Marjin B.V., Pavlov N.N., Sosnovets E.N., Svidsky P.M., Teltsov M.V.

- 16:30 - 17:00**      **Coffee Break**
- 17:00 - 17:15**      **Dynamics of the Earth's Magnetosphere During October-November 2003 Magnetic Storms**  
Kalegaev V.V., Alexeev I.I., Belenkaya E.S., Bobrovnikov S.Yu.
- 17:15 - 17:30**      **Particle Trapping in the Outer Magnetosphere and its Variation Associated With Nonadiabatic Effects**  
Antonova A.E., Kropotkin A.P.
- 17:30 - 17:45**      **Magnetospheric Turbulence and Storm-Substorm Relationship**  
Antonova E.E.
- 17:45 - 18:00**      **Fast Energy Releases in the Geomagnetic Tail: Fundamental Role of Thin Current Sheets**  
Kropotkin A.P., Domrin V.I.
- 18:30**                **Conference Dinner**



**Tuesday, 13 July 2004,**

**11:00 - 12:00**

**Poster presentations C**

- Poster C1**            **The Extreme Solar Events in October-November 2003 and Their Possible Influence on Functional State of the Human Brain**  
Babaev E.S., Allahverdiyeva A.A.
- Poster C2**            **Dynamics of the Earth's Radiation Belts During October - November, 2003**  
Kuznetsov S.N., Kudela K., Slivka M., Lazutin L.L., Murav'eva E.A., Myagkova I.N., Yushkov B.Yu.
- Poster C3**            **Magnetospheric Configuration and its Changes During Severe Magnetic Storms in October 2003 Based on Energetic Particle Characteristics**  
Bagautdinova G. R., Sergeev V. A., Lvova E. A., Evans D., Fritz T. A., Newell P. T.
- Poster C4**            **Field-Aligned Currents Dependent on the Northward IMF in the Transition Current System at the Beginning of Severe Magnetic Storm**  
Belenkaya E.S., Alexeev I.I., Clauer C.R.Jr.
- Poster C5**            **Unusual High Geomagnetic Activity in 2003.**  
Belov A.V., Gaidash S.P., Ivanov K.G., Kanonidi Kh.D.
- Poster C6**            **Polar Mesosphere Winter Echoes by ESRAD and EISCAT During 29/30 October 2003.**  
Belova E., Ekeberg J., Haggstrom I., Kirkwood S., Nilsson H., Osepian A.
- Poster C7**            **VHF Radio Response of the Earth Magnetosphere During Solar Activity Growth in October 2003**  
Dudnik O.V.
- Poster C8**            **Experimental Investigations of Variations in the Electron Density in the Middle Latitude Ionospheric D-Region During Magnetic Storms**  
Gokov A.M., Tyrnov O.F.

- Poster C9**            **Analysis of Geomagnetic Activity During October-November, 2003, Based on Magnetospheric Current Systems Models**  
Gromova L.I., Dremukhina L.A., Levitin A.E., Feldstein Ya.I.
- Poster C10**          **Predictions of the Magnetospheric Electric Currents During Superstorms**  
Maltsev Y.P., Ostapenko A.A., Pchelkin V.V.
- Poster C11**          **Joint Using TEC and IRI for Studing Ionospheric Responses on Geomagnetic Disturbances**  
Maltseva O.A., Poltavsky O.S., Shloopkin A.S.
- Poster C12**          **Extreme Midlatitude Auroras During the Geomagnetic Storms on October 29-31 and November 20-21, 2003**  
Mikhalev A.V., Beletsky A.B., Kostyleva N.V., Chernigovskaya M.A.
- Poster C13**          **Electrodynamic Parameters of Substorms of the Period of Extreme Events of November 20, 2003. 1. Timing.**  
Mishin V.M., Foerster M., Golovkov V.P., Saifudinova T.I., Bazarzhapov A.D., Karavaev Yu.A., Stauning P., Watermann J.
- Poster C14**          **Electrodynamic Parameters of Substorms of the Period of Extreme Events of November 20, 2003. 2. Variations of the Polar Cap Potential Drop**  
Mishin V.M., Foerster M., Golovkov V.P., Saifudinova T.I., Bazarzhapov A.D., Karavaev Yu.A., Stauning P., Watermann J.
- Poster C15**          **Electrodynamic Parameters of Substorms of the Period of Extreme Events of November 20, 2003. 3. Dynamics of Systems of Field-Aligned Currents and Convection Systems.**  
Mishin V.M., Foerster M., Golovkov V.P., Saifudinova T.I., Bazarzhapov A.D., Karavaev Yu.A., Stauning P., Watermann J.
- Poster C16**          **Mid-Latitude Atmosphere Electric Field ( $E_z$ ) Variations During the Main Phase of the 30 October Magnetic Storm**  
Nikiforova N. N., Kozyreva O. V., Kleimenova N. G., Kubicki M., Michnowski S.
- Poster C17**          **Change of the Atmosphere and Ionosphere Structure During Solar Proton Events on October 2003.**  
Osepian A., Shumilov O., Kasatkina E., Belova E., Ekeberg J., Kirkwood S., Nilsson H., Haggstrom I.

- Poster C18**            **Superstorms in Various Geomagnetic Indices**  
Ponyavin D.I., Terekhin S.N.
- Poster C19**            **Long-Period Pulsation Activity During the Autumn 2003 Series of Magnetic Disturbances**  
Potapov A., Guglielmi A., Tsegmed B., Kultima J.
- Poster C20**            **The Major Geomagnetic Storm of 29th of October 2003: High Latitude Observations of the Large Substorm on October 30**  
Rosenqvist L., Buchert S.
- Poster C21**            **Amplitude Modulation of the VLF-Emissions and Cosmic Noise Absorption by Pc5 Geomagnetic Pulsations During Geomagnetic Storms of October 30-31, 2003**  
Solovyev S.I., Mullayarov V.A., Baishev D.G., Barkova E.S., Samsonov S.N.
- Poster C22**            **Manifestations of a Sudden Onset of the Severe Magnetic Storm on November 20, 2003 in the Generation of SC Impulse, Psc Pulsations and in the Spatial Modulation of Auroral Brightness**  
Solovyev S.I., Baishev D.G., Borisov G.V., Velichko V.A., Yumoto K.
- Poster C23**            **Sources of Excitation and Damping of Pc5 Geomagnetic Pulsations During the Magnetic Storms of October 29-31, 2003. Influence of the Solar Wind and Auroral Electrojets**  
Solovyev S.I., Moiseyev A.V., Du A., Engebretson M., Newitt L.R.
- Poster C24**            **Global Geomagnetic Response to the Sharp Magnetosphere Compression and IMF Variations on October 29, 2003**  
Solovyev S.I., Moiseyev A.V., Mullayarov V.A., Du A., Engebretson M., Newitt L.R.
- Poster C25**            **Formation of the New Radiation Belt During October-November Storms 2003**  
Shprits Yu.
- Poster C26**            **Features of the Substorm Current Systems of October and November 2003**  
Vagina L.I.
- Poster C27**            **Rayed Midlatitude Aurora in 2001 and 2003**  
Evtushevsky A.M.

**Wednesday, 14 July 2004**

**Morning session D: Space Weather**

**Oral presentations**

- 09:00 - 09:40**      **Radiation Belt Responses to the Solar Storms of October-November 2003 and the Effects on Satellite Operations**  
Baker D.N., Kanekal S.G., Blake J.B., Allen J.H.
- 09:40 - 09:55**      **Giant X-Ray Bursts on Oct.28 and Nov.4, 2003 Observed by Cluster**  
Fritz T. A., Zong Q.-G.
- 09:55 - 10:10**      **Comparison of Methods and Results on Magnetic Storm Geoeffectiveness of Solar and Interplanetary Events: A Review**  
Yermolaev Y.I., Yermolaev M.Y., Zastenker G.N., Zelenyi L.M., Petrukovich A.A., Sauvaud J.-A.
- 10:10 - 10:25**      **Correlated Measurements of the Secondary Cosmic Ray Fluxes by the Aragats Space-Environmental Center Monitors**  
Chilingarian A., Babayan V., Bostanjyan N., Karapetyan G., Zazyan M.
- 10:25 - 10:40**      **Manifestations of Solar Extreme Events of October-November 2003 in the Ionosphere Over Europe Imaged by Radio Tomography**  
Kunitsyn V.E., Tereshchenko E.D., Andreeva E.S., Kozharin M.A., Kozlova M.O., Melnitchenko Yu.A., Nesterov I.A., Khudukon B.Z.
- 10:40 - 10:55**      **Forecast of Extreme Solar Events of 2003 by Prognostic Expert System "Forshock"**  
Markov V.V., Kozlov V.I., Kozlov V.V., Turpanov A.A., Yakovlev D.V.
- 10:55 - 12:00**      **Coffee Break and Poster Session D**

- 10:55 - 12:00**      **Coffee Break and Poster Session D**
- 12:00 - 12:15**      **Jaxa's Efforts in Assessing Recent Spacecraft Anomalies**  
Goka T., Matsumoto H., Kiyokazu K.
- 12:15 - 12:30**      **The X-Ray Pulse From Solar Flare as Source for Active Experiment  
in the Ionosphere**  
Ruzhin Yu., Sinelnikov V., Kanonidi Kh.D., Shagimuratov I., Kanonidi  
K.
- 12:30 - 12:45**      **Radio Pulsations and Zebra Pattern in the Broad Frequency Range**  
Chernov G.P., Yan Y., Fu Q., Tan Ch.
- 12:45 - 13:00**      **Space Weather Studies in Azerbaijan: Influence on Technological,  
Ecological and Biological Systems**  
Babaev E.S.
- 13:00 - 14:30**      **Lunch**

**Wednesday, 14 July 2004**

**Afternoon session: Space Weather and Discussion**

**Oral presentations**

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| <b>14:30 - 15:10</b> | <b>Retrospective of Solar Extreme Events of October - November, 2003: Similarity And Diversity</b><br>Veselovsky I.S. |
| <b>15:10 - 16:30</b> | <b>Discussion ("Round Table") E</b>   |
| <b>16:30 - 17:00</b> | <b>Coffee Break</b>   |
| <b>17:00 - 17:30</b> | <b>Discussion ("Round Table") E</b>   |
| <b>17:30 - 18:00</b> | <b>Closing of the conference</b>  |

**Wednesday, 14 July 2004,**

**10:55 - 12:00**

**Poster presentations D**

- Poster D1**            **Special Features of Sporadic Solar Radio Emission During 2-Hour Interval of CMEs Formation and Initial Propagation (According to the Data of the World Service of the Solar Radio Emission in 2003)**  
Durasova M.S., Tikhomirov Yu.V., Fridman V.M., Sheiner O.A.
- Poster D2**            **Ionization of the Earth's Atmosphere by Solar Protons During the End of October, 2003 and Related Changes in the Earth's Ozonosphere**  
Krivolutsky A. A., Kuminov A.A., V'yushkova T. Yu., Kuznetsov S.N., Myagkova I.N.
- Poster D3**            **Deformation of the Ionosphere During the Space Weather Events on October-November 2003**  
Stanislawska I., Gulyaeva T.
- Poster D4**            **Space Weather Forecast Based on Solar Geoeffective Events**  
Ishkov V.N.
- Poster D5**            **Dynamics of SEP Penetration Boundaries During Magnetic Storms on October 29-30, 2003**  
Kuznetsov S.N., Kudela K., Myagkova I.N., Yushkov B. Yu.
- Poster D6**            **Geomagnetic Effects of X-Flare 4.11.2003**  
Parkhomov V.A, Moldavanov A.
- Poster D7**            **Anomalies in the Motion of Satellite During the Geomagnetic Disturbances in October-November 2003**  
Prokudina V.S., Lissov I. A.
- Poster D8**            **Emergency Conditions at the Power Line Due to the Sudden Commencement of the 29 October 2003 Storm**  
Sakharov Y.A., Yahnin A.G., Danilin A.N., Barannik M.B.
- Poster D9**            **Geosynchronous Magnetopause Crossings and Solar Wind Conditions on October 29-31, 2003**  
Suvorova A., Thomsen M., Skoug R., Dmitriev A., Chao J.-K.