

**Solar Extreme Events: Fundamental Science and Applied Aspects
(SEE-2005)
International Symposium
Nor Amberd, Armenia
26-30 September 2005**

The first circular

Date and Location

26-30 September, 2005,
Nor Amberd International Conference Centre
of Alikhanyan Physics Institute
Byurakan, Aragatzotn District Armenia
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Sponsoring Organizations and Individual Sponsors

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Deadline for Abstracts: August 1, 2005

Abstract submission: electronic submission, MS WORD, 1 page

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Deadlines:

Abstracts: August 1, 2005

Registration (electronic): August 15, 2005

Registration Fee

250 Euro for International participants (except from Russia)

1000 roubles for participants from Russia

15,000 drams for participants from Armenia.

To be paid at registration

The registration fee for Russian and Armenian participants consists of two parts: first one the participant pays at registration, and the second one is the contributing payment of the corresponding Institutes.

Publications

We hope to publish the reports from this conference in a special issue of the Advances in Space Research journal.

Detailed information will be provided in the 3rd circular.

Hotels & Accommodation

From the list of hotels we recommend the Olympia hotel, 60-70 USD, for single room, breakfast included; transportation to Conference site will take 40 minutes and will be provided by organizers; Hotel near the Conference Center will be available; 30- 40 USD with full pension.

Conference Mailing Address:

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Cosmic Ray Division of Alikhanyan Physics Institute,
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Visas

Armenian tourist visas can be obtained from the Armenian embassies or at Zvartnoz airport at arrival for 25 USD. Please, use the [application form](#) from the conference site.

Scientific Rationale

Investigation of the Solar Extreme Events (SEE) is important for several reasons: It provides us with unique information about violent processes in the solar corona, including the mechanisms of particle acceleration and Coronal Mass Ejection (CME); The study of the propagation of huge amounts of solar plasma in the interplanetary space can shed light on the interactions with the Interplanetary Magnetic Field (IMF) and ambient population of the Galactic Cosmic Rays (GCR); Interplanetary shocks and CMEs, along with solar particle and electromagnetic emissions trigger various dynamic processes in the Earth's magnetosphere, causing global geo-effective effects, including e.g. geomagnetic storms, heating of the upper atmosphere, changing of the electrodynamic properties of the ionosphere, and creation of the geomagnetically induced surface currents. All these constitute conditions of Space Weather (SW), changing dramatically with SEE development. Space Weather can influence the performance and reliability of space-borne and ground-based technology systems and can endanger human health and life. It is of major importance to establish accurate methods for monitoring and forecasting the strength of SW disturbances and to identify the mechanisms of the various SW effects.

The Moscow symposium SEE-2004 (Moscow, July 2004) was focused on comprehensive discussions of solar/heliospheric and magnetospheric aspects of solar extreme events of October-November, 2003, known as the Halloween events. The data obtained onboard numerous satellites and from ground-based observatories were presented, discussed and interpreted both from experimental and theoretical points of view. Reports presented to the COSPAR congress (Paris, July, 2004) and the European Cosmic Ray Symposium (Florence, September, 2004) demonstrated

the big interest and the continuing activity of the community to understand in detail the 2003 Halloween events. New attempts to incorporate in the analysis data from space-born and surface instruments open new perspectives in the understanding and forecasting of the consequences of SEEs.

In 2004 several extreme events from the end of July to mid November provided us with new examples of the severe Geospace Storms and Forbush decreases. Analysis of these events is under way and will provide extremely interesting basis for the understanding of SEE's and their effects.

The aim of the Symposium is twofold:

- 1) to have a wide forum for the discussion of recent Solar Extreme Events and their impact on technological systems and human environment, and
- 2) to discuss directions for future research, and to promote co-operation between groups with different research interests from different countries.

The following topics will be covered:

- Energetic processes on the Sun during the extreme events
- Propagation of the solar energetic particles and Interplanetary CMEs
- Magnetospheric response to the solar extreme events
- Methodologies of forecasting of Space Weather conditions
- Effects of Space Weather on technology infrastructure and human environment

Scientific program

- Energetic processes on the Sun during the extreme events
- Coronal mass ejections and solar flares
- Neutron, gamma-ray, and X-ray emissions
- Solar energetic particles

- Propagation of the solar energetic particles and Interplanetary CMEs
- Solar wind and interplanetary magnetic field
- Galactic cosmic ray modulation effects
- Diffusion of the solar particles on their way to the Earth
- Propagation of a CMEs and their interaction with energetic particles

- Magnetospheric response to the solar extreme events
- Magnetic field and plasma dynamics in the disturbed magnetosphere
- Energetic particle dynamics in the inner magnetosphere and radiation belts
- Sources and losses of magnetospheric particles
- Magnetosphere-ionosphere interaction
- Geospace storms

- Effects of Space Weather on technology infrastructure and human environment
- Terrestrial impact of geospace storms
- Geospace storm impact on technological systems in space
- Energetic particles impact on technology infrastructure and human environment

Methodologies of forecasting of Space Weather conditions
Space Weather monitoring
Methodologies of geospace storms forecasting
Methodologies of energetic particles forecasting
International research initiatives in Space Weather
Multi detector, multi bandwidth approach for Space Weather forecasting
Worldwide network of Space Weather monitoring and forecasting

Social Program

Excursions on September 26, 27
Armenian Capital Yerevan, Cathedral in Echmiadzin,
Garni-Gegard, Sevan lake,
Aragats research station of Alikhanyan Physics Institute, 3200 m. above sea level.
September 29: Conference dinner

Invited Lecturers

The information will be provided in the second circular