

## Participation of the CRD delegation in European Cosmic Ray Symposium

The 21<sup>st</sup> ECRS - European Cosmic Ray Symposium was held at the Technical University of Košice, in Košice, Slovakia, from Tuesday 9<sup>th</sup> September to Friday 12<sup>th</sup> September 2008. The scientific program includes oral and poster presentations covering following topics:

1. Relationship of cosmic rays to the environment.
2. Energetic particles and the magnetosphere of the Earth.
3. Energetic particles in the heliosphere.
4. Solar-terrestrial effects on different time scales.
5. Cosmic rays below the knee.
6. Cosmic rays above the knee.
7. High energy interactions.
8. GeV and TeV gamma ray astronomy.
9. European projects related to cosmic rays.

Approximately 150 scientists from 20 European countries present 76 and 120 poster presentations. The interest of symposium considerably changes from research of high energy galactic cosmic rays (knee-region physics, muons, strong interactions) to the solar terrestrial connections and solar physics and space weather.

The Armenian delegation (A.Chilingarian and G.Hovsepyan) presents 3 oral and 2 poster presentations:

### **A.Chilingarian;**

Surface Particle Detectors in Space Weather forecast;

Research of the Galactic Cosmic Rays from knee till cutoff ( $10^{16}$ - $10^{19}$ ) eV at Aragats Cosmic Ray Observatory;

### **G. Hovsepyan**

Size and Energy Spectra of incident cosmic radiation obtained by the MAKEWT ANI surface array on mountain Aragats.

Poster presentations:

Hybrid particle-detector network located at Middle-Low latitudes for Solar Physics and Space Weather research P2.12A; Parameters of the Aragats Space-environmental Center monitors as measured at start of 24-th Solar Cycle.

International board of symposium decided to hold the 2010 symposium in Turku, Finland.

As usual during symposium Armenian delegation participate in the European projects meetings, which participant CRD is:

At INTAS 8777 project meeting Armenian delegation reports new electronics commissioning for the large Aragats Multichannel Muon Monitor (AMMM) and calculations of the most probable

primary proton energies for the Aragats particle detectors. The next project meeting will be held in Izrael in February-March just before finishing of the project. The draft of the final project should be prepared in the end of 2008.

After conference one day meeting of the

“Real-Time database for high resolution Neutron Monitor measurements”

(NMDB - Grant Agreement Number 213007 was hold in Kosice technical university.

After listening all package leaders and discussing current status of project it were decided some important changes and rearrangement of project tasks. Next meeting was planned at Kiel, Germany 3-5 December 2008. Armenian delegation proposed to include in meeting scientific session with 2 topics:

Filtering algorithms for time series smoothing;

Space Weather alerts based on NM data.

Also meetings with Bulgarian and Croatian delegation concern installation of SEVAN particle detectors took place. Both groups already prepare PM and scintillator housings. Armenian experts will finalize the detector assembly late Autumn or Winter 2008.



**Figure 1 Gagik Hovsepyan reporting MAKET-ANI final results**



**Figure 2 At poster session. From left to right: I.Yashin, (MePhI, Moscow, Russia), A.Chilingarian (YerPhI, Armenia), P.Spillantini (scientific attaché of Italian Embassy in Moscow), D.Timashkov(MePhI, Moscow, Russia – declared best yang scientist of symposium).**



**Figure 3 INTAS collaboration meeting. From left to right: R.Butigover, E.Fluckiger (both Bern university, Swiss), A.Chilingarian (YerPhI, Armenia) and project coordinator R.Hippler (Greifswald univ., Germany).**



**Figure 4 A.Chilingarian and chair of the European symposiums board sir Arnold Wolfendale discussing fine structure of the “knee”.**



**Figure 5 Prof J.Stamenov (director of Institute of Nuclear Physics of Bulgarian Academy of science) explains the SEVAN detector status in Bulgaria.**



**Figure 6 NMDB meeting. From left to right: G.Hovsepian (YerPhI, Armenia), E.Vashenyk (Polar Institute, Apatiti, Russia, R.Butigover, E.Fluckiger (both Bern university, Swiss), A.Chilingarian (YerPhI, Armenia)**