

NOR AMBERD

International Conference Centre
of the Yerevan Physics Institute,
Byurakan, Aragatsotn Province,
Armenia



9-12 June, 2015

**PROGRAMME OF
WORKSHOP**

Lightning initiation, **E**lectron acceleration & **A**tmospheric **D**ischarges



PROGRAMME OF WORKSHOP LEAD, 9-12 June, 2015

Lightning Initiation, Electron Acceleration and Atmospheric Discharges

Sunday and Monday, June 7 and 8

Meeting of participants at Zvartnots airport, transport to the Nor Amberd International Conference Center, registration.

Tuesday, June 9

9:00 – 10:30 *Registration*

11:00 – 11:15 *Opening Ceremony*

Session 1: Chairperson – J. Knapp

11:15 – 12:15 A.Chilingarian, *Yerevan Physics Institute, Armenia*,
High-Energy Physics in the Atmosphere: Armenian
Contribution to the New Emerging Field

12:15 – 12:30 *Coffee Break*

12:30 – 13:30 T.Torii, *Japan Atomic Energy Agency (JAEA)*, Source
of Transient Energetic Radiation Generated by the
Thunderstorm Activity Measured by a Sounding Ballo-
on, an Airplane, and Ground Observation in Japan

14:00 – 15:00 *Lunch*

Session 2: Chairperson – R.Mirzoyan

16:00 – 16:30 T.Karapetyan, *Yerevan Physics Institute, Armenia*,
Aragats Expedition Program 2015



- 16:30 – 17:00** A. Reymers, *Yerevan Physics Institute, Armenia*.
Multivariate Visualization of ASEC Data: Enlarged
Options of Statistical Analysis and Physical Inference
- 17:00 – 17:30** ***Coffee Break***
- 20:00** ***Special Event: Icebreaker, Nor Amberd Conference
Center Restaurant***

Wednesday, June 10

- 09:00** ***Breakfast***

Session 3: Chairperson – *H.Gemmeke*

- 10:00 – 10:45** R.Mirzoyan, *MPI for Physics, Munich, Germany*,
Monitoring of the Atmosphere by the Cherenkov
Telescope: MAGIC
- 10:45-11:30** J.Knapp, *DESY, Berlin, Germany*, The Role of the
Atmosphere in air Shower Physics
- 11:30 – 12:00** T.Berghoefer, *DESY, Hamburg, Germany, Astroparticle
Physics European Consortium*
- 12:00 – 12:30** ***Coffee Break***
- 12:30 – 13:00** S.Sogomonyan, *Yerevan Physics Institute, Armenia*
Nanosecond-Scale Electric Field Pulses in the Early
Stage of Lightning Flash
- 13:00 – 13:30** G.Hovsepyan, *Yerevan Physics Institute, Armenia*
Calibration of the Particle Detectors Measuring
Secondary Cosmic Rays by the Gamma Ray Beams
from Thunderclouds
- 13:30 – 14:00** M.Hayashida, *Institute for Cosmic Ray Research
(ICRR), Univ. of Tokyo*, Stochastic Electron
Acceleration in Relativistic Jets Indicated by Recent
Fermi-LAT Observations on blazar 3C 279
- 14:00 – 15:00** ***Lunch***

Session 4, Chairperson – *T.Karapetyan*

15:00 - 15:40 A.Loabin, *Institute of Space technics and technologies, Alma-Ata, Kazakhstan*, Lightning Detection Network for Kazakhstan

15:40-16:20 G. Garipov, *Skobeltsyn Institute of Nuclear Physics, Moscow State University, Russia*, First Results of Observations of UV and IR Emissions from Lightning Discharges at Aragats

16:20 – 17:20 ***Coffee Break***

18:00 – 19:00 ***Discussion***

Investigation of Atmospheric Discharges: Do particle fluxes bring new evidence? Are we about to create a comprehensive physical model of lightning?

20:00 ***Supper***

Thursday, June 11

09:00 ***Breakfast***

Session 5: Chairperson – *S.Sogomonyan*

10:00 -10:40 L.Vanyan, *Yerevan Physics Institute, Armenia*, Energy Spectra of Gamma Rays from Thunderclouds in the Energy range 0.5 – 2 MeV

10:40 – 11:10 H.Dermenjyan, *Yerevan Physics Institute, Armenia*, First Results of the Optical Monitoring of Atmospheric Discharges on Aragats and in Burakan: Storage and On-Line Display of Multiple Photographs

11:10 – 11:30 A.Galumyan *Yerevan Physics Institute, Armenia*, Remote Observations of the Electric Field within Thundercloud: New Lidar-Based Techniques

- 11:30 – 12:00** D.Pokhsranyan, *Yerevan Physics Institute, Armenia*,
Microsecond Accuracy Electronics for Investigation of
Particle-Lightning Correlations at ASEC
- 12:00 – 12:30** *Lunch*
- 13:00 – 17:30** *Excursion to Aragats Cosmic Ray Research
Station; Introduction to Aragats Space Environ-
mental Center particle monitors, field meters and
radio-burst detectors*
- 18:00-19:00** *Discussion*
- Particle fluxes and lightnings - any causal relation?
- 20:00** *Conference Dinner*, Restaurant at Nor Amberd
International Conference Center

Friday, June 12

- 09:00** *Breakfast*
- 10:00 – 11:00** A.Reymers, H.Dermenjyan, *Yerevan Physics Institute,
Armenia*, How to Access the Cosmic Ray Division
Databases and how to Use the multivariate
Visualization Program ADEI
- 11:00-12:30** *Closing Ceremony: Collaboration of Armenia,
Kazakhstan and Japan in High Energy Atmospheric
Research: Future Plans and ISTC Projects*
- 13:30 – 14:00** *Lunch*

Saturday, June 13

- 4:00 – 24:00** *Transport participants to Zvartnots airport*

