


Welcoming for NMDB@Athens conference

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Abstract

Prof. H. Mavromichalaki on behalf of the organizing committee welcomes everyone to the 'NMDB@Athens' conference. The obituaries for Dr. Evgenia Eroshenko and Prof. Lev Dorman who recently passed away are following.

1. The welcome talk

Dear Colleagues and Friends, dear Students,

On behalf of the NKUA and the Athens Cosmic Ray Group I would like to personally welcome you to the Virtual NMDB Symposium on Cosmic Ray Studies with Neutron Monitor Detectors. Our initial intent was to host this symposium in Athens and greet you in person, as we have done many times in past. However, since this was not feasible, I am pleased to organize an online symposium and provide once more the opportunity to meet you again.

From the NMDB installation meeting, lots of others have been realized here in Athens. This is the 2nd virtual Symposium organized in the frame of the NMDB consortium and is focused on researches on cosmic rays using data from the ground-based neutron detectors, the neutron detectors themselves, and the handling and distribution of these data.

A number of 95 registered participants from 33 institutes and universities of 19 countries will attend this meeting. The topics that will be addressed are organized into the following six sessions: Cosmic rays in the heliosphere, GLE analysis and space weather research and services, Cosmic rays and the atmosphere, Neutron detector instrumentation and stability, Neutron detector response functions and finally Data bases and catalogues. A series of 43 tutorials and contributed talks of some of the most significant scientists of the NM community will be provided with all the latest information on Cosmic Rays Studies and Neutron Monitors.

At this point I would like to thank you all not only for participating in this symposium but also for your continuous presence over the years in all the NMDB meetings and conferences. With our common efforts

and support, NMDB has become a useful tool for scientists all around the world and with our enduring collaboration NM community can progress even more in the future.

Last but not least, I would like to take a moment of your time and honor the memory of two of our esteemed colleagues and dear friends that have recently passed away, Prof. Lev Dorman and Dr. Eugenia Eroshenko. These two distinguished scientists have served Physics and Cosmic Rays in particular, with great zeal and determination and are irreplaceable for the scientific community. Their work will help keep their memory alive. Their knowledge and research will serve as a legacy and guideline for younger scientists. The cosmic ray and NM community mourns for the loss of these two great scientists and beloved friends.

2. Dr. Evgenia Alexandrovna Eroshenko (13/06/1940–03/06/2021)



Fig.1: Dr. Evgenia Eroshenko.

2.1 Obituary by Athens Cosmic Ray Group

Dr. Evgenia Alexandrovna Eroshenko was a member of the Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation (IZMIRAN) of the Russian Academy of Sciences from 1967 until 2021 and one of the founding members of the NMDB consortium.

She started her career as a Junior Scientist (1967-1981) in IZMIRAN and she was promoted to Senior Scientist (1981-2001) and finally Lead Scientist from 2001 on. Her research work addressed several issues of cosmic rays physics. Cosmic ray anisotropy, associated with transients in the interplanetary space and with the structure of the heliosphere, solar-terrestrial relations, Ground Level Enhancements, solar protons spectra during powerful solar events and Forbush effects and the search of precursors preceding these events are some of the subjects presented in her numerous publications and studies. Moreover, she was engaged in data processing (comparison and quality estimation of data from the worldwide neutron monitor network and collecting and preparing data for different tasks and databases) and investigated space weather prognosis using data from satellites and ground-based detectors.

In her long lasting career, Dr. Evgenia Alexandrovna Eroshenko collaborated with scientists from international Institutes and Universities (University of Kiel, Bartol Research Institute, University of Athens and other organizations). She participated in many international projects: Space ship Earth, NMDB (where she ensured the participation of a wide network of neutron monitors from Russia and Asia), SCOSTEP VarSITI, Interplanetary Research Virtual Laboratory disturbances and helped promote cosmic rays physics and neutron monitors through her constant and reliable presence in the NM community.

Dr. Evgenia Alexandrovna Eroshenko was an enthusiastic and dedicated scientist, a generous and patient teacher who eagerly shared her knowledge with younger scientists, a fair and diligent colleague, a conscientious, responsible and delightful person with a particular talent in painting. Her paintings and handicrafts are yet another way to keep her memory alive. Not only was she an esteemed colleague but mostly a precious friend that will be greatly missed.

2.2 Obituary by IZMIRAN Cosmic Ray Team

Eroshenko Evgenia Aleksandrovna graduated from the Orenburg Pedagogical Institute in 1962. In 1967, after post-graduate studies, she started to work at IZMIRAN. Evgenia Aleksandrovna was actively engaged in the study of cosmic ray anisotropy associated with interplanetary space transients and with the heliosphere structure, as well as in the search for precursors in the cosmic rays behavior before strong geomagnetic disturbances. She took part in the study of ground level enhancements of solar cosmic rays and in the development of methods for predicting solar proton events on Earth.

Eroshenko E.A. participated in many international projects (Spaceship Earth, NMDB, SCOSTEP VarSITI, Virtual Laboratory for Forbush Effects and Interplanetary Disturbances Analysis). For many years, she supervised the creation of modern databases for the network of cosmic ray stations in Russia and the CIS. Evgenia Aleksandrovna actively cooperated with the Japanese and American data centers, the University of Kiel, the Bartol Research Institute, the University of Athens and others.

Eroshenko E.A. was an energetic, purposeful, widely erudite person, capable of making decisions and completing the work begun, without violating the concepts of honor and conscience. Evgenia Aleksandrovna was a very sociable and charming person. She was distinguished by diligence, initiative, and a highly developed sense of duty and responsibility. We will always remember her love of life, sociability and kindness. Eroshenko E.A. was also fond of drawing art and her paintings will also remain a memory of her.

We, her colleagues and friends, express our deep condolences to her family, to everyone who knew and remembers Evgenia Aleksandrovna. We will forever keep a good memory of this bright person.

3. Prof. Lev Isaakovich Dorman (01/05/1929–27/07/2022)

3.1 Obituary by Athens Cosmic Ray Group

Dr. Lev Isaacovich Dorman was a Professor and Head of the Israel Cosmic Ray and Space Weather Centre at Tel Aviv University (TAU), Israel from 1991 until 2022 and an Honored Scientist of the Russian Federation (1989).

He held many esteemed positions over his long lasting career, including Researcher (1951-1957) and Head department (1965-1992) at IZMIRAN, Moscow, Head department at Magnetic Lab (1957-1962) and Kurchatov Institute of Atomic Energy (1962-1965), Moscow, Professor at Moscow State University (1965-1992), Director of



Fig. 2: Prof. Lev Dorman.

the Cosmic Ray Center, Tel Aviv (since 1992), President of the International Cosmic Ray Meteor Commission (1958-1987) and Cosmic Rays and Radiation Belts secretary (1981-1992), Moscow, amongst others.

He was a dedicated physicist with great contribution in the evolution of cosmic rays physics. His interests spread through a variety of topics (cosmic rays variations, precursors, space weather, etc). With over 900 publications and almost 4000 citations he was a scientist whose work and research inspired his peers and students and will continue to guide the scientific community even in his absence. As an author he published a great number of books, which were repeatedly published over the years and are considered to be valuable asset for academic libraries worldwide. His most widely acknowledged works are: Cosmic ray history (2014), Plasmas and energetic processes in the geomagnetosphere (2016/2017), Cosmic ray interactions, propagation, and acceleration in space plasmas (2006), Solar neutrons and related phenomena (2010), Cosmic rays in magnetospheres of the Earth and other planets (2009), Cosmic rays: variations and space explorations (1974), Cosmic rays in the earth's atmosphere and underground (2004) and Solar cosmic rays (1970).

Dr. Lev Isaacovich Dorman was a beloved and kind hearted person, sociable and active. He was present during conferences and meetings of our NM community at all times, always inspiring us with his knowledge, spirit and love of nature. He was a distinguished colleague and a dear friend that will be missed.

3.2 Obituary by IZMIRAN Cosmic Ray Team

Lev Isaakovich Dorman was a bright and strong man, a remarkable scientist and organizer, a truly legendary personality. His activity seemed inexhaustible, but the years do not spare even such people. Lev Isaakovich died at the age of 94.

L. I. Dorman is an outstanding scientist in the field of geophysical aspects of cosmic rays and space physics. About 70 years ago Lev Isaakovich laid the foundation for research cosmic ray variations of different origin: atmospheric, magnetospheric, and extraterrestrial. He developed theories and methods that formed the basis of a new science direction. The main results of the early period can be summarized as follows:

- discovery (with the help of cosmic ray variations) of two types of solar plasma flows: i) having relatively weak frozen-in magnetic fields with an intensity approximately constant during the solar cycle; ii) having magnetic fields approximately an order of magnitude higher and with intensity is proportional to the level of solar activity (causing strong magnetic storms on Earth and Forbush decreases in cosmic rays). Later the first type of flows was matched with the ambient solar wind, and the second – with coronal mass ejections and interplanetary shock waves (1955-1957);
- detection of the diffusion nature of solar cosmic ray propagation in interplanetary space (1957);
- discovery of resonant scattering of cosmic ray particles during propagation in cosmic plasma (1959);
- finding of the acceleration of the cosmic ray drift by shock waves (1959);
- evaluation of the heliosphere size on the basis of cosmic ray variations as about 100 AU for many years before direct space measurements (1967).

These discoveries were based on pioneering outstanding theoretical and experimental studies of cosmic ray variations, begun in 1954 (theory of meteorological effects of cosmic rays, method of coupling functions, spectrographic method). They all formed a new field of cosmic ray physics.

Lev Isaakovich Dorman took an active part in almost all International Conferences on Cosmic Rays since 1955 and COSPAR Congresses and did invited lecturing. He published many hundreds of original scientific papers and over 30 monographs.

L.I. Dorman, sparing neither effort nor time, provided scientific and organizational support to cosmic ray research in Russia. It is thanks to his efforts these studies have won international recognition and are deservedly well-known. His numerous students successfully work in many countries through the world.

We – colleagues, friends, students – express our deep condolences to relatives and friends, to every-one who knew and remembers Lev Isaakovich. We will forever keep a good memory of this outstanding man.

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