

Igor Shestopalov

Education:

Physics Faculty of M.V. Lomonosov Moscow State University, (1966).

Foreign languages:

English.

Degrees:

Ph.D. in physics and mathematics, Research Institute of Nuclear Physics, MSU (1979).

Main scientific results:

Solar Physics

- Development of new methods of solar flares prediction (1972-1993);
- Study of the processes on the Sun during flares and in the quiet period the nature of variations of charged particles registered in interplanetary space (1972-1993);
- Put forward a new hypothesis about the origin of sunspots (2006-2014).

Solar-Terrestrial Physics

- Study of the relationship of endogenous activity of the Earth (earthquakes and volcanism) with solar and geomagnetic activity (1996-2014);
- In the “Sun-Earth” system, based on statistics over a long period he found a common secular cycle that has its own characteristics, both on the Sun and Earth (2006-2014);
- Relationship of microbiological processes with solar activity and Earth's seismic energy (1996-2005).

Geophysics

- Hypothesized neutron terrestrial origin, which might be caused by earthquakes (1993-1998);
- As a result of ground-based measurements of : a) the flows of thermal and fast neutrons, held at the Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation RAS (Troitsk), b) thermal neutron fluxes by the Kamchatka branch of the Geophysical Service RAS near Petropavlovsk-Kamchatsky in 2010-2012, registered the neutron fluxes related to the February 27 earthquake in Chile, $M_w = 8,8$; the Eyyafyalayokul volcanic eruption in Iceland in March-April 2010; the 11 March 2011 earthquake in Japan with magnitude $M = 9$; the 11 April 2012 earthquake in Indonesia, $M = 8.6$ (2009-2012);
- Concluded that the primary mechanism of the generation of neutrons was associated with nuclear reactions in the interior of the Earth when rock modifies into the activated - ionized state (2011-2014).

Scientific management and organization of the collection, processing and storage of scientific information on the ionosphere and cosmic rays

- Formation of data archives and creation of databases for the Internet on these subjects, information support, data dissemination, querying users;

Participation in projects and programs

- Project “Information support of geophysical studies during IPY” in the Basic Research Program of the Department of Earth Sciences, Russian Academy of Sciences № 14. "The history of the Arctic Ocean and the mode of modern natural processes in the Arctic during the International Polar Year 2007 - 2008", 2006-2008;
- State contract # 9 / E-08 on November 6, 2008 with the Office of the Federal Service for Hydrometeorology and Environmental Monitoring, “to develop technology collection, compilation and exchange of geophysical information for use in large-scale research programs”, 2008;
- State contract # 18/2009 on August 3, 2009 with the State Institution “All-Russian Research Institute of Hydrometeorological Information - World Data Center”, “to develop the technology for collection, storage and exchange of geophysical information, to ensure the formation of the thematic section information collection of IPY”;
- RFBR project № 09-01-90435-Ukr_f_a “Developing World Data Center Network for the study of the fundamentals of the global modeling of complex natural and anthropogenic systems”;
- RFBR project 12-01-90418- Ukr _a “Development of a common approach and methods of system data harmonization of different nature in the infrastructure of distributed multidisciplinary databases of the Russian-Ukrainian segment of World Data System to address the fundamental problems of interdisciplinary interaction of processes in the system of interacting geospheres”;
- Participation in the program “Deployment of the Russian segment of the INTERMAGNET global network for the study of extreme natural phenomena and the geospheres’ interaction” (RFBR grant 12-05-00583-a).

International activity

Took part in the World University Rankings in 2015-2016 of the “Times Higher Education” magazine. The invitation to take part in the rankings came from Elsevier Ltd., The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB.

Publications:

Author of 91 articles, 2 monographs, 3 patents.