

Seminar-Workshop in Issues of Further Development in Ukraine of Studies of Space Factors Influence on Biosphere and Technosphere

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On April 25, 2007, a seminar-workshop in issues of further development in Ukraine of studies of space factors influence on biosphere and technosphere held in Institute of Space Research (ISR) of NAS of Ukraine and National Space Agency (NSA) of Ukraine, (Kiev, Academician Glushkov Avenue 40). The seminar-workshop held within the framework of preparation to the VII International Conference “**Space and biosphere: space weather and biological processes**”, dedicated to 110th Anniversary of the founder of heliobiology A.L. Chizhevskiy planned for 1–6 October 2007 in Sudak, Crimea, by the Ukrainian Biophysical Society (UBFS).

At will and within the framework of time-limit of the seminar-workshop the participants were provided with opportunity to participate in discussion of state and prospects of development of research in the mentioned problem, and also to make a short information communication (5-10 min) on important and promising, in the lecturer opinion, directions of research.

The following researchers took part in the seminar-workshop: head of department of space research and programs of NSA of Ukraine, director of ISR of NAS of Ukraine, doctor in physics and mathematics O.P. Fedorov, deputy director of ISR of NAS of Ukraine and NSA of Ukraine, correspondent member of NAS of Ukraine V.F. Gubarev, head of department of ISR of NAS of Ukraine and NSA of Ukraine, doctor in physics and mathematics M.M. Lychak, leading researcher, doctor of engineering Ya.I. Zelyk, Scientific Secretary of UBFS, candidate of biology, associate professor of Kiev Taras Shevchenko

National University (KNU) V.S. Martynyuk, director of Lvov centre of ISR of NAN of Ukraine and NSA of Ukraine, candidate of engineering S.A. Soroka, leading researcher of International Research and Training Center of Information Technologies and Systems of NAS of Ukraine and of Ministry of Education and Science of Ukraine, doctor of biology P.V. Vasilik, leading researcher of Crimea Astrophysical Observatory (CrAO) of Ministry of Education and Science of Ukraine, doctor in physics and mathematics B.M. Vladimirskiy, head of department of Main Astronomical Observatory (MAS) of NAS of Ukraine, doctor in physics and mathematics A.P. Vidmachenko, principal researcher of MAS of NAS of Ukraine, doctor in physics and mathematics A.V. Morozhenko, head of department of A.A. Bogomolets Institute of Physiology of NAS of Ukraine, doctor of medicine V.A. Berezovskiy, head of department of human biology of National University of Physical Education and Sport, doctor of biology V.N. Illyin, head of laboratory of Institute of Microbiology and Virology (IMBV) of NAS of Ukraine, doctor of biology E.M. Gromozova, head of laboratory IMBV of NAS of Ukraine, candidate of biology N.V. Nesterova and others.

The following lectures were delivered:

1. **Vladimirskiy B.M.**, Influence of space weather on terrestrial processes: state-of-the-art of the problem.
2. **Martynyuk V.S.**, Promising directions of investigations of solar-biosphere interconnections in Ukraine.
3. **Lychak M.M.**, Study of solar activity and its influence on human.
4. **Soroka S.A.**, Acoustic channel of space influence on biosphere.
5. **Vasilik P.V.**, Problem of influence of the Moon, the natural satellite of the Earth, on flow of biosphere processes.
6. **Gromozova E.M.**, Reaction of metachromasy, as a possible key to explanation of some biological phenomena, associated with space weather.
7. **Berezovskiy V.A.**, Study of life support of astronaut in long-term flight.

At the end of the seminar-workshop, a discussion on the topic **“Prospects of interdisciplinary cooperation in Ukraine in problems of study of influence of space weather on biosphere-technosphere”** was organized. A resolution of the seminar-workshop by the outcomes of the discussion was approved.

Resolution of the seminar-workshop

on development in Ukraine of studies of space factors influence on biosphere and technosphere
(April 25, 2007, Institute of Space Research of NAS of Ukraine and NSA of Ukraine, Kiev)

Participants of the seminar-workshop point out, that development of changes in biosphere, climate and human environment on our planet occur under continuous influence of space factors, including those conditioned by space weather. Such influence was demonstrated as early as at the beginning of the twentieth century by A.L. Chizhevskiy, whose 110-th anniversary will be celebrated by scientific community this year. Recently such influence is beyond question. Studies in this direction are carried out in many countries. A scientific direction, studying dependence of climatic, geophysical, ecological and medic-biologic processes on space weather, has been formed.

Influence of factors of space weather on biosphere and technosphere is multichannel. That's why study of this process is an interdisciplinary problem, for solving which participation of specialists from different fields of knowledge is necessary.

Participants of the seminar-workshop:

- consider expedient expansion in Ukraine of studies of influence of space weather on biological and social processes, and also on engineering objects and technological systems;

- stress an important role of the International periodic conference “Space and biosphere”, which promotes overcoming interdisciplinary barriers and development of international cooperation in studies of space influence on processes on the Earth;

- address the governing body of the Ukrainian Biophysical Society with the request to organize, within the framework of activity of this public organization, a working interdisciplinary group “Space and biosphere”, whose main goal should be coordination of research in the mentioned field. It is necessary to invite for participation in the working group, among others, specialists of Institute of Space Research of NAS of Ukraine and NSA of Ukraine, National Academy of Sciences and National Space Agency of Ukraine; organizational issues concerning creation of such working group should be considered during the Conference “Space and biosphere” to be held in Sudak, (AR Crimea, Ukraine).

- invite for discussion of interdisciplinary problems the specialists of academic and educational institutions. Who are interested in joint research of influence of space weather on terrestrial processes within the framework of branch and national programs;

- address the governing body of Institute of Space Research of NAN of Ukraine and NSA of Ukraine with suggestion to play the role of principal coordinator of investigations of influence of space weather on biosphere-technosphere within the framework of activity of National Academy of Sciences of Ukraine and National Space Agency of Ukraine and to foresee research in this direction in future projects and programs in space subject area, including international ones;

- address the governing body of in P.G. Bogach Institute of Physiology of Kiev Taras Shevchenko National University and V.I. Vernadskiy Tavria National University with the suggestion to play the role of principal coordinator of investigations of influence of space weather on biosphere-technosphere within the framework of activity of Ministry of Education and Science of Ukraine.