

Profile of M. Panasyuk for *Space Research Today (SRT)*

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Mikhail Panasyuk was born in 1945 in Moscow, USSR. In 1969 he graduated from the physics department of Lomonosov Moscow State University. His scientific activity began in Skobeltsyn Institute of Nuclear Physics (SINP) of MSU in 1969 during his postgraduate courses. His two dissertations (Candidate of sciences and Doctor of sciences) were devoted to Earth's ion radiation belts and ring current. In 1992 he was elected as a Director of this institute. Now he is Director of SINP, Head of the Space Science Department and Head of Space physics Chair in Physics Department of MSU.

Prof. Mikhail Panasyuk has obtained the most important scientific results in the field of cosmic rays and space radiation studies. During the 1970s and 1980s Mikhail Panasyuk carried out a series of experiments onboard the Soviet satellites "Molniya-1", "Molniya-2" and "Gorizont" aimed at the studies of the Earth's radiation belts and ion ring current. Currently M. Panasyuk coordinates large projects on the studies of cosmic rays of high and ultra-high energy: both on ground-based ones – EAS SINP, Tunka, and space ones - "Lomonosov", "KLYPVE-EUSO" (Ultra-High Energy Cosmic Rays – Extreme Universe Space Laboratory) onboard the International Space Station focused on the studies of the origin of cosmic rays particles, along with a number of the experiments onboard "Meteor", "Elektro", "Interheliozond" spacecrafts and ISS on the radiation studies in the near-Earth space. In 2014 a space project "Vernov" was started under his supervision, intended on the studies of the interrelation of the physical processes in the near-Earth space and in the upper layers of the Earth's atmosphere.

For the first time Prof. Mikhail Panasyuk has determined the efficiency of different mechanisms of generation of ion composition for high-energy particles in the trapped region (the roles of different diffusion and losses mechanisms) and the relative role of the sources of these particles – solar plasma, solar energetic particles along with Earth-based source (ionosphere) in the Earth's magnetosphere.

A mechanism of generation of anomalous cosmic rays from the interstellar neutrals was proved. For the first time a phenomenon of the capture of the anomalous cosmic rays – interstellar substance – into the geomagnetic trap was discovered. Important data on the basic problem in the field of identification of the particles acceleration mechanism in the supernovae remnants within the energy ranges of 10^{12} - 10^{15} eV and the origin of the electrons of ultra-high energy (up to 10^{12} eV), the chemical composition and energy spectra of cosmic rays nuclei was obtained.

Prof. Mikhail Panasyuk has also obtained unique results in the field of high-energy transient luminous (in the UV range) manifestation of electric discharges in the Earth's upper atmosphere, which indicate need for the development of the new models of their generation.