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## Alexander Trofimov

*International Scientific Research Institute of Cosmic Anthropoecology, Russia*

### Helio-protective water for the biosphere and humanity at geomagnetic deprivation

**Aim:** To develop and test the means of non-medicinal prevention of excess heliomagnetotropic human reactions on the basis of drinking water exposed to a weakened geomagnetic field.

**Study design:** Small installations of the “TRODR” type weakening the GMF more than 100 times, used to expose therein drinking water in order to give it heliomagnetoprotective properties broadcasted to a man (patent of RF № 2342149 from 27.12.2008), were created and tested. Volunteers of the same age (n=24) were investigated in the mode of their testing: in the period of solar eclipse on July 22, 2009, when there was a redistribution of the flows of solar and galactic protons reaching the Earth's environs. Hemodynamic parameters of the subjects were measured twice: before and after taking in the various phases of the eclipse 150 ml of heliomagnetoprotective drinking water, prepared in a portable installation “TRODR”, which, subsequently, became the prototype for a new generation of screening devices of ISRICA, intended for industrial production of helioeroprotective water-concentrate and water-based beverages “Altin- Suu” and “HelioStar-Anti”.

**Results and discussion:** Drinking water treated in the weakened geomagnetic field, proved capable to protect the water structures of the human body, and, consequently, all its functional systems in the periods of solar-magnetospheric disturbances. The first tests of helioprotective water were conducted in the period of extreme heliogeophysical situation - during one of the solar eclipses in 2009, under which generally component of galactic cosmic rays increases and solar proton flow, reflected by the Moon decreases. Corpuscular flows, redistributed by the Moon subsequently reach the magnetosphere-ionosphere layer of the protective shell of our planet, where, usually, their energy is significantly reduced. It was shown that a significant ( $P<0.05$ ) direct dependence of human vascular tone, estimated by the diastolic blood pressure value on the flow of electrons and protons of different energy occurring in the period after the eclipse, when receiving a small amount of helioprotective drinking water already in 20-30 minutes positively transformed. In volunteers, who consumed the water, mainly significant ( $P<0.05$  for protons with energies above 100 meV) sufficiently quickly inverse correlation of diastolic blood pressure with corpuscular flows of sufficiently high energies is revealed. Recent studies conducted in the Far North in regime of testing of healthy subjects and volunteers with hypertension who expressed their consent to pass (by double “blind” method) 2-3 - week courses with the use of control and geomagnetically-deprived drinking water, confirmed our first observations. Helio-protective water, which is from June 2013 produced in Russia, in Novosibirsk under the name of a drink “AquaHelios”, and from February 2014 in Republic Altai under the name “Altin -Suu” can provide a long-term and effective helioeroprotection of the functional systems of human body in the periods of solar-magnetospheric disturbances.

### Biography

Alexander Trofimov has completed his MD (Doctor of Medicine) in 1998 from Siberian Branch of Russian Academy of Medical Sciences. During many years he was (until 2010) Chief of laboratory of Helio-climatopathology of Scientific Center of Clinical and Experimental Medicine (SB RAMS, Novosibirsk). From 1994 and now he is the Director of International Scientific-Research Institute of Cosmic Anthropoecology (Russia, Novosibirsk). He has 7 patents, published 6 monographs and more than 60 papers in reputed journals such as Arctic Medicine, Journal of Circumpolar Health, Journal of Earth Science and Climatic Change, Journal of US-China Medical Science, Clinical Medicine Research, Open Access Scientific Reports and many others. His biography was published by “WHO is WHO” in Russia at 2013 year.

[isrica2@rambler.ru](mailto:isrica2@rambler.ru)