

RESULTS AND PERSPECTIVES OF STUDIES OF SOLAR-BIOSPHERIC CONNECTIONS IN THE PERIODS OF SOLAR ECLIPSE

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Solar eclipses are specific periods in the solar-earth links; the events, having a direct or indirect response among different biospheric horizons. Solar eclipse may be considered as a periodic planetary-geophysical functional load for human homeostatic systems. It makes it possible for researchers to estimate the level of organism psychophysical dependence on ionospheric-magnetic fluctuations, which are initiated by eclipses and take place at different stages of individual development, including prenatal ontogenesis.

At studying biotropic effects of the solar eclipse on the 29th of March 2006 in Novosibirsk, it was shown, that correlations of haemodynamic, rheoencephalographic and other electrophysical parameters in volunteers- healthy persons (n=14) and patients with AH (n=15) with the intensity of proton-electron components of cosmic rays, radio-emanation of the Sun 220 mGc and value of regional K-index are reliably changed in the main phase of the event (Trofimov A.V. et al, 2007). The authors (V.Ya.Polyakov, E.V.Sevostyanova, A.G.Gorelkin, D.V.Devitsin, 2007) found individual variations in low-frequency field of cardiospectrum, levels of AH, REG amplitude, area and spectral density of gaze-charged visualization (GCV)-lighting of the blood samples. Electroconductivity changes in biologically active points (BAP) (μA) most significantly: before eclipse- $32,0\pm 2,8$; during the event - $21,0\pm 3,0$, after its end - $25,0\pm 3,1$.

It is supposed, that fixed dynamic of cosmo-biospheric conjugations may reflect ionospheric-magnetic, neutron and other heliogeophysical variations, that accompany solar eclipses (Ivanov V.P. et al, 2007; Antonova V.P. et al, 2006). According to our data the largest increase in arterial pressure was observed 30 minutes after the main phase of the eclipse in those patients with arterial hypertension, who had experienced the strongest fluctuations of geomagnetic field in the first month after birth. Continuation of the studies in that direction seems actual in the epoch of cosmo-planetary changes.

State SCCEM SB RAMS and ISRICA initiate synchronous, by astronomic time, investigation of the mechanisms of solar-biospheric links on different physic-chemical, biological and physiological models in the periods before, during and after the total solar eclipse on the 1st of August 2008, in stationary and expedition-field points, located on the trajectory of supersonic speed movement of moon shadow on the surface of the Earth, in Novosibirsk, Novosibirsk region, Altai Territory and the Gorno-Altai Republic.

The program of the new global experiment "Eclipse – 2008" and suggestions on its scientific-methodic provision will be presented to the participants of International conference "Cosmos and biosphere" with the perspective of their joint realization.

It is supposed to discuss preliminary results of interdisciplinary astronomic, helio-geophysical and medico-biological investigations at the 2nd International symposium "Heliogeophysical factors and human health" in Novosibirsk in Autumn 2008.