

Pilot experiment on estimation of human organism response to geomagnetic disturbances at Spitsbergen

S.Chernouss, V. Grigoriev, O.Antonenko (*Polar Geophysical Institute of Kola Science Centre RAS*)

Preliminary results of pilot experiment on monitoring of Heart Rate Variability (HRV) parameters of volunteers at PGI observatory in Barentsburg are under discussion. Time series of HRV spectral parameters were compared with local K-indices time series. The comparison results that in some cases good correlation of both data time series is take place, but in other cases correlation is poor. Level and direction of HRV reaction on geomagnetic disturbances are rather individual and depend on current status of testing organism. It is find out that this individuality is varied not only in value, but in direction too. Key role of Autonomic Nervous System in opposite reaction of different volunteers on the same level of geomagnetic field is under consideration. The enhancement of geomagnetic activity causes the violation of balance between sympathetic and parasympathetic influences due to decreasing of the effectiveness of heart rhythm regulation. Comparison of data obtained at Kola peninsula and at Spitsbergen shows similar results but experiment at Barentsburg give us better possibility to carry out studies of impact of geomagnetic disturbances on human health because of more wide dynamic range of geomagnetic field fluctuations in there. The Barentsburg experiment results as well as previous data clear demonstrate absurdity of idea to estimate influence of geomagnetic activity for “average human being” but permit to select so called Auroral Disturbances Sensitive People (ADSP) in winterers community.