Geomagnetic pulsations of a type Pc1 in a range 0.2 - 5.0 Hz: temporary characteristics and medical aspects

E.T. Matveyeva, , R.V. Shchepetnov
(1) Borok Geophysical Observatory of Schmidt Institute of Physics of the Earth of the Russian Academy of Science (emma@borok.adm.yar.ru)

The most of known fundamental interactions in the nature are electromagnetic ones. The frequency range (0.2 - 5.0 Hz) of a natural electromagnetic field of Earth is investigated. Pc1 pulsations are close by its frequency range to the basic biorhythms of the man. The latter suggests an opportunity of resonance manifestation, when the interaction between an external field and human organism can increase multiply. The report is based on a unique series of continuous observations of Pc1 pulsations, during the more than 3 solar cycles (July 1957 - December 1992). The main attention in the work is given to temporal characteristics of activity Pc1: daily, seasonal and cyclic variations, and also relationship of activity Pc1 with magnetic storms, sector structure of an interplanetary magnetic field (IMF) and parameters of a solar wind. The next increase of activity Pc1 is expected in 2006-2007. The results of our research may be used for estimation of bioefficiency of Pc1 and the opportunity of purposeful searches of effect of external field on the man and biosphere as a whole in the frequency range 0.2 - 5.0 Hz.