

On the Heliosphere's asymmetry relative to Apex and its role in the formation of annual variation of galactic cosmic rays

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From our investigations of the annual variations of galactic CR intensity we came to conclusion that the possible deformation of the Heliosphere during its moving relative to interstellar medium leads to the asymmetrical form of Heliosphere and this may be one of main mechanisms of galactic CR annual variation. We found also statistically that when the Earth moves near the Apex during its voyage around the Sun, the mean number of sunspots little increases and galactic CR intensity decreases. In this paper we assume that the increasing of the number of sunspots near the Apex induces an amplification of the global magnetic field of the Sun in this direction, additional change of the inhomogeneities structures, and increasing of galactic CR modulation (but the CR diffusion in transfer directions partly compensate this effect of asymmetry). We discuss here the model of the asymmetrical Heliosphere with amplified magnetic field and increasing of galactic CR modulation in the Apex direction.