

Correlation of the cosmic radiation N-S asymmetry with the sectoral structure of the interplanetary magnetic field

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Abstract. On the basis of experimental data of the cosmic radiation muon, neutron and general ionized components registration for the period from 1965 up to 1998 years the dependence of the N-S asymmetry and radial gradients of the cosmic radiation density on the sectoral structure of the interplanetary magnetic field was investigated.

It was obtained, that in the region of low energies (stratosperical data) the difference in the N-S asymmetry for the sector with opposite (contrary) polarity is within limits of the error, but in the separature (individual) periods it is essential. In the region of the middle energies (neutron monitor data) the separation of the N-S asymmetry into sectors is pronounced. In the sectors with the negative polarity of the interplanetary magnetic field the N-S asymmetry is mainly positive but in

the sectors with positive polarity it is negative.

In the region of the high energies (muon telescope data) the the sparation of the N-S asymmetry for sector with the opposite polarity is even more obvious. In the positive and negative polarity sectors the change of the N-S asymmetry duiring the time takes place in the antifase. It is also obtained, that N-S asymmetry with increasing of the energy is observed.

Radial gradients of the cosmic radiation density were calculated and their dependence on energy in the different periods of solar activity was investigated. The intepretation of the obtained results is given.

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