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Relation of the equatorial component of the cosmic ray anisotropy to the parameters of interplanetary medium

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Variations of the cosmic ray vector anisotropy observed on Earth are closely related on the condition of near the Earth interplanetary medium. The hourly characteristics of vector anisotropy obtained by the global survey method from the data of world wide neutron monitor network during 1957-2013 allow us to investigate connection of the cosmic ray anisotropy with the solar wind parameters. In the offered work relation of the equatorial component Axy of the cosmic ray anisotropy (rigidity 10 GV) to the solar wind velocity and density, to intensity of the interplanetary magnetic field and to the changes of cosmic ray density in which the spatial gradient of CR is revealed in interplanetary space, is studied. Characteristics of CR anisotropy for various combinations of the interplanetary parameters corresponding to various conditions of the interplanetary medium are compared. Opportunity to judge on condition of a solar wind by cosmic ray anisotropy data is discussed.

Collaboration

– not specified –

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