

Variation of the interplanetary magnetic field, cosmic radiation and solar activity

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Abstract. Interplanetary magnetic field (IMF) during the tree solar cycles have been searched for short and long-term variations with a view to correlating them with solar activity (green coronal lines intensities) and cosmic radiation.

The seasonal, 1 - year, 2, 5, 11 - and 22 - year IMF, solar activity and cosmic radiation variations were investigated on the basis of the experimental data of stratospheric sound, world network neutron monitor stations, interplanetary magnetic field tension up to 1 a.u. and green coronal lines inten-

sities for the period from 1957 until 2000 year.

The data of the forrush effects and flares were excluded for this period. The investigation confirmed the existence of above periodicities in the considered objects.

On the basis of the comparison results obtained for the IMF, solar activity and cosmic radiation and also theoretical calculations the possible mechanisms of the arising indicated variations are presented.