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Rigidity spectrum of the galactic cosmic ray intensity variations during Sun' rotation period

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The noticeable 27-day variation of the galactic cosmic ray intensity (>1.5-2 %) measured by neutron monitors at the Earth is generally sporadic phenomena related with the appearance of the recurrent active zones on the Sun living about 4-5 rotation periods for the maxima epoch of solar activity. We show that the background 27-day variation of the galactic cosmic ray intensity (<0.5 %) exist almost always and it is recognizable near minima and minima epoch of solar activity, especially for the positive (A>0) polarity period of solar magnetic cycle. We found the temporal changes of the rigidity spectrum of the galactic cosmic ray intensity variations during the Sun's one rotation period is related with the changes of the structure of the interplanetary magnetic field turbulence for the moderate level of solar activity. We assume that the modeling and experimental study of the temporal changes of the rigidity spectrum of the galactic cosmic ray intensity quasi-periodic variation lasting about the Sun's rotation period gives a possibility to separate the recurrent Forbush effect and the 27-day variations of the galactic cosmic ray intensity.