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Features of the 27-day variation of galactic cosmic rays anisotropy

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The changes of the amplitude of the 27–day variation of galactic cosmic rays (GCR) anisotropy have been studied based on the numerical solution of the Parker's transport equation and neutron monitors experimental data for the opposite A>0 and A< 0 polarities of the solar magnetic cycle. In the theoretical modeling the change of the solar wind velocity is considered as a general source of the 27-day variations of the GCR intensity and anisotropy. Both the theoretical and experimental calculations show that the amplitudes of the 27–day variation of GCR anisotropy (in the energy range of 5-50 GeV, to which neutron monitors respond) are greater for the period of the A>0 than for the period of the A<0. These results are in good correlation with the changes of the 27-day variation of the GCR intensity in different the A>0 and the A<0 polarities of solar magnetic cycle.