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Cosmic ray variations in 21-23 solar cycles

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Time series of solar and galactic cosmic ray proton fluxes compiled from the measurements by satellites, balloons and neutron monitors have been considered. Frequency analysis of the time series of fluxes and fluences of protons of various energies has been made. Their major harmonic components have been found. Data on cosmic ray proton fluxes, fluences and energy spectra variations and peculiarities of their dependency on time and particle energy are being discussed. Comparison of cosmic ray variations and solar activity is being made. Using these data approximation functions have been constructed and a forecast of total solar and galactic proton fluxes and sunspot numbers has been made. For the year 2005 we expect the year average flux of protons of energies higher than 30 MeV of 0.35 ś 0.5 1/(cmˆ2 s sr) and the year average sunspot number of 31.7 ś 1. For the year 2006 the values of 0.54 ś 0.07 1/(cmˆ2 s sr) and 16.3 ś 1.3 correspondingly are expected.