

Some aspects of the solar-terrestrial physics

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Electromagnetic and corpuscular solar radiation determine the energetic states of the Earth, its magnetic field and atmosphere. Various changes of the intensities of these parameters in different spectral regions have been reflected in the behavior of the states of the terrestrial atmosphere at all its heights. Qualitatively different processes are the causes of the disturbances in the troposphere, middle and upper atmospheric regions. Nevertheless, not all kinds of influence and their mechanisms have been revealed and investigated. It is concerned as well the long-term changes, namely a few years, decades, hundreds and thousand of years, as the short-time variations, namely some days. This is concerned the nature of the different periods of the solar activity variations and their reflection in the terrestrial phenomena at different heights of the atmosphere. This is the problem of the long-term trend of the climate, its local peculiarities at various heights. The studies of the similar variations with other periods (7-15 years) of the stars of the spectral classes from F to M will promote the solution of the problem of the solar-terrestrial physics.