



Ground-based Observations of Large Solar Flares Precursors

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The importance problem of Solar-terrestrial physics is regular forecasting of solar activity phenomena, which negatively influence the human's health, operating safety, communication, radar sets and others. The opportunity of development of short-term forecasting technique of geoeffective solar flares is presented in this study. This technique is based on the effect of growth of pulsations of horizontal component of geomagnetic field before the solar proton flares. The long-period (30-60 minutes) pulsations of H-component of geomagnetic field are detected for the events of different intensity on March 22, 1991, November 4, 2001, and November 17, 2001 using the method of wavelet-analysis. Amplitudes of fluctuations of horizontal component of geomagnetic field with the 30-60 minute's periods grow at the most of tested stations during 0.5-3.5 days before the solar flares. The particularities of spectral component are studied for the stations situated on different latitudes. The assumptions about the reason of such precursors-fluctuations appearance are made.