

Features of long period geomagnetic pulsations caused by the inclined front of the solar wind discontinuity

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We study long-period geomagnetic pulsations caused by the solar wind discontinuity impact during the July 14, 2012 magnetic storm onset from data of satellite observations in the solar wind and magnetosphere, as well as of ground stations located at low, middle and high latitudes. The character of pulsations propagation is shown to correspond to their excitation mechanism by the discontinuity front at the magnetopause. Location relative to the noon of the sector, from which the waves propagate to both magnetosphere flanks, is determined by the front azimuthal angle inclination. We discuss a change of polarization both by longitude and latitude directions. The frequency of spectral maximum of the pulsations does not coincide with one of the solar wind oscillations.

Keywords: geomagnetic pulsations, ULF waves, solar wind discontinuity, wave propagation