

Characteristics of solar wind drivers causing the deepest penetrations of energetic electrons at $L < 1.2$ during weak magnetic disturbances

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Energetic electrons are an important factor controlling the space radiation environment and conditions in the ionosphere affecting the radio wave propagation. Energetic electrons can penetrate from the radiation belt to the ionosphere near the equator. Solar wind and geomagnetic conditions of the electron penetrations are not well known. We investigated recurrent magnetic storms when energetic electron fluxes enhanced at $L < 1.2$. We determined the characteristics of solar wind drivers, which possibly cause the penetration of electrons deeply inside the magnetosphere under the inner radiation belt.

Keywords: energetic electrons, ionosphere, weak storms