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Features of behavior of high-energy magnetospheric electrons in 1987-2007

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The daily fluence of electrons was selected as the main characteristic of the behavior of electrons with energy > 2 MeV measured by GOES satellites at geostationary orbit, since it is closely related to malfunctions of satellite electronics. It is shown that the increases of high-energy magnetospheric electrons begin during major interplanetary and magnetospheric disturbances, but the beginning of the electron increases lags behind them for 1-3 days. Significantly increased solar wind speed is observed for 3 days before to the beginning of the electron increase, reaching a maximum by the beginning of the increase. It is shown that the electron fluence was weakly linked to the level of geomagnetic activity on the same day, but was correlated with Ap-index of geomagnetic activity observed 2-3 days before. Fluence of high-energy magnetospheric electrons is closely connected with the solar wind speed, especially measured 2 days earlier.

Summary

Poster presentation

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