

The problems of study of geoefficiency of the solar wind and CME events

L. N. Makarova and A. V. Shirochkov

Arctic and Antarctic Research Institute Saint-Petersburg 199397 Russia

(shirmak@aari.nw.ru/Phone:+7-812-3520601)

The data of the satellite and ground – based observations accumulated in the epoch of satellite explorations revealed a definite periodicity in the coronal mass ejection (CME) events appearance. The number of these events increased during periods of low flare activity on the Sun due to diminishing of the solar magnetic fields. On the contrary, the CME events appearances become lower during periods of high solar flare activity. On the other hand, it is possible to suggest close connections of the solar wind activity and the CME events appearances.

Geoefficiency of the CME events evaluated by the satellite and ground – based observations turned out to be depended on the energy of the solar wind. One of the main products of the CME events are the electric field system, which is observed in ionosphere, middle atmosphere and on the ground surface. Therefore one can made a conclusion that the CME impact on the Earth could be traced on the whole planet, i.e. at the polar, middle - and low latitude regions. However, the effects of the CME events vary with altitude. In this paper we discuss the problems connected with further studies of the CME events geoefficiency. Amidst them one can indicate the following questions: how the electric fields are generated in the magnetosphere during CME events, how these electric fields interact with the Earth ionosphere and stratosphere, how they are distributed along the ground surface, etc.