



Dependence of the durations of main and recovery phases of magnetic storms on the interplanetary driver type

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One of the main space weather phenomena is the magnetic storm. In this paper the durations of main and recovery phases of magnetic storms induced by different types of large-scale solar-wind streams (Sheath, magnetic cloud (MC), Ejecta and CIR) are studied on the basis of OMNI data base during 1976-2000. Though the main phase depends on external sources, and the recovery phase depends on internal processes, both durations depend on types of interplanetary drivers. On the average, duration of main phase of storms induced by compressed regions (CIR and Sheath) is shorter than by MC and Ejecta while duration of recovery phase of CIR- and Sheath-induced storms is longer. Analysis of durations of individual storms shows that durations of main and recovery phases anti-correlate for CIR- and Sheath-induced storms and there is not dependence between them for (MC+Ejecta)-induced storms. This work was supported by the Russian Foundation for Basic Research, project 13-02-00158, and by Program 22 of Presidium of the Russian Academy of Sciences.