



## **Comparison of interplanetary and magnetospheric conditions for CIR-induced and ICME-induced magnetic storms**

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As well known, about 2/3 magnetic storms on the Earth are generated by 2 large-scale interplanetary phenomena - interplanetary coronal mass ejection (ICME) and corotating interaction region (CIR). We present a brief review on comparison of conditions in the geomagnetosphere and in the interplanetary space during CIR-induced and ICME-induced magnetic storms. ICMEs (or magnetic clouds) are sources of stronger magnetic storms. We take into account that 2 parts of ICME may be geoeffective - compressed region between shock and leading edge of ICME (Sheath) and the body of ICME. Behavior of plasma and magnetic field parameters in CIR and Sheath is close to one in ordinary solar wind while in ICME it may significantly differ. For example, in ICME the dependences of proton temperature, total ion density, minor ion abundance on the solar wind velocity differ from the dependences in CIR and Sheath. Obtained results are important for modeling CME and CIR formation on the Sun and their dynamics in the heliosphere as well as for forecasting the Space Weather conditions near the Earth. Paper is support in part by Physical Department of Russian Academy of Sciences, Program N 18, and RFBR, grant 04-02-16131-a.