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A comparison of interplanetary parameters and geomagnetic indices during intense and super intense magnetic storms

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Geomagnetic storms are great disturbances on the magnetic field of the Earth, which are conventionally measured by the Dst geomagnetic index. Of great importance to space weather environment is the development of intense (-250 $<$ Dst $<$ -100 nT) and very intense magnetic storms (Dst $<$ -250 nT). One point of current research is the study of the interplanetary causes and consequent magnetospheric response during these two classes of storm. For each storm class, it have been determined the interplanetary parameters such as Ey, Bz, and the solar wind ram pressure, PSW, and geomagnetic indices, Dst/Sym, Asy, AE, and Kp. The main goal of this study is to distinguish the interplanetary causes and the magnetospheric responses of intense and very intense magnetic storms. Besides, a criterion which characterizes the space weather phenomena during different disturbed levels is suggested.