



## **The Geomagnetic Storm of May 27, 2017: Magnetospheric and Ionospheric Response**

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The Solar Wind-Magnetosphere-Ionosphere coupling constitutes an important subject of scientific interest, in particular in the Space Weather context. Briefly, in this process, the energy is transferred from the solar wind to the magnetosphere by means of both the magnetic reconnection at the dayside magnetopause and the viscous-like interaction generated by micro or macro instabilities. On the other hand, the magnetosphere and the ionosphere, strictly connected through the magnetic field lines, can exchange energy and momentum, basically, through three main processes: (1) the transmission of electric fields, (2) the flows of electric charges by means of Field Aligned Current (FAC) and (3) the precipitation and/or outflow of particles. Additional and relevant features arise during geomagnetic storms when the injection, transport and loss of charged particles of the ring current play a major role in the dynamics of the circumterrestrial environment. In this work, we study some aspects of the interaction of the interplanetary coronal mass ejection (ICME) of May 27, 2017 with the magnetosphere-ionosphere system. In particular, we analyze the response of the magnetosphere to the impact of the interplanetary shock preceding the ICME, the magnetopause motion, and the processes triggered in the plasmasphere-ionosphere system during the related geomagnetic storm.