



Mars- Solar wind interaction: 3D GCM-Ionosphere model to describe the Martian ionospheric dynamics and its coupling with neutral atmosphere.

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Recent observations and simulations showed the importance of the upper atmosphere/ionosphere in the escape processes at Mars. The solar wind interacts with the Martian ionosphere leading to an ionospheric outflow into the Martian induced magnetosphere. In the frame of the HELIOSARES project (PI F. Leblanc), we will present the 3D dynamical ionospheric core implemented in the Martian GCM model developed at LMD. This core solves the ions and electrons dynamics equations including the interaction with the neutral atmosphere and taking into account the effect of polarization electric field due to electronic pressure. The numerical approach used to solve the dynamics equations and the first results of this model will be presented as well as the future improvements.