

CMEs impact Venus and Mars

ionospheres of Venus and Mars to strong solar wind disturbances.

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Abstract

Most of Mars Express and Venus Express observations at Mars and Venus were carried out during the extended epoch of solar minimum. Ascending solar cycle 24 has already provided us with the intervals of the increased solar activity characterized by solar flares and coronal mass ejections. In several cases these strong solar disturbances have impacted both planets. The ASPERA-3, ASPERA-4 and MAG instruments onboard MEX and VEX complemented by the measurements on ACE and STEREO were used not only to monitor the propagation of solar disturbances at Venus and Mars positions but also to detect changes which occurred in the plasma and field environment near these planets. Simultaneous measurements by the Mars Advanced Radar for Subsurface and Ionosphere Sounding (MARSIS) instrument onboard Mars Express gives us also information about the variations which occurred in the upper and lower Martian ionosphere. We incorporate these data for several events on June 2011 and February 2012 and March 2012 to infer responses of the induced magnetospheres and