



Mars Upper Atmosphere Network

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Abstract

Studies of the upper atmosphere, ionosphere, and space environment of Mars are currently flourishing. The Mars Upper Atmosphere Network was created to provide a forum for discussions and interactions that enable scientific study of this topic.

1. Introduction

Mars Express and other spacecraft obtain a wide range of measurements of the complex upper atmosphere, ionosphere, and space environment of Mars. The ionosphere and space environment of Mars form a unique plasma laboratory due to Mars's intense, small-scale crustal magnetic fields. This region of Mars is involved in many atmospheric loss processes. Collaborations that bring together instrument teams, modellers and others are powerful mechanisms for studying Mars with a broad range of tools, enabling discoveries that cannot be made by isolated groups. Consequently, the Mars Upper Atmosphere Network was created as a self-sustaining scientific enterprise in early 2009.

This presentation will provide an overview on the composition and activities of this Network, including a focused observing campaign on the upper atmosphere, ionosphere, and space environment of Mars conducted by Mars Express in March 2010. At this time, Earth and Mars were on the same arm of the solar wind's Parker spiral, which permits extensive comparisons of upstream solar wind data at Earth to observations from Mars.