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Highlights from two years of remote sensing at Mars with MAVEN's Imaging Ultraviolet Spectrograph

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The Mars Atmosphere and Volatile EvolutioN (MAVEN) mission's Imaging Ultraviolet Spectrograph (IUVS) observes Mars in the far and mid ultraviolet (110-340 nm), investigating lower and upper atmospheric structure and indirectly probing neutral atmospheric escape. After two Earth years in orbit (one Mars year), IUVS has assembled a large quantity of data and made many discoveries, some of which we report here. Among the key results obtained by IUVS are: (1) discovery of the widespread occurrence of a diffuse proton aurora, representing a newly discovered means of energy deposition into the atmospheres of unmagnetized planets; (2) continued investigation of time-variability in H and O escape, which have dessicated the planet over its history; and (3) synoptic characterization of thermospheric variability and response to solar input. We will present an overview of these results and a discussion of their implications for the state of the atmosphere and its evolution.