

UV Emission Cross Sections by Electron Impact for the Jovian Planetary System

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In the upper atmospheres and torus regions of the Jovian planetary system a dominant mechanism for energy transfer occurs through electron collision processes with neutral species leading to UV radiation. In response to the need for accurate collision cross sections to model spectroscopic observations of the Jovian planetary systems aurorae at Jupiter, Io, Europa and Ganymede, JPL has measured in the laboratory absolute emission cross sections of H<sub>2</sub>, SO<sub>2</sub>, O and O<sub>2</sub> in the UV/visible from 50-500 nm. This study is expected to yield important results for the data analysis phases of the Jovian system by the UV spectrometers and imaging systems on board Galileo, Cassini and Hubble Space Telescope. Contributed (poster)