

A study of Saturn's 3-micron window from ISO observations

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The infrared spectrum of Jupiter and Saturn displays a 3-micron window, extending from 2.6 to 3.2 micron, and limited on both sides by strong absorption from CH₄ (and in Jupiter's case by absorption from NH₃ ice). High S/N observations of this region were obtained in 1996 by the Short-Wavelength Spectrometer of ISO at a spectral resolution of about 1500. In addition to numerous CH₄ lines, the Saturn spectrum shows several absorption bands due to PH₃, notably at 2.92 and 3.02 micron, for which molecular parameters have recently become available. We will present an analysis of this spectrum, hoping to get information on the PH₃ abundance and vertical profile, and searching for the signatures of other gases and of ammonia ice.