



IRTF-SpeX observations of Saturn in support of Cassini-VIMS data

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Recently, a new calibration pipeline of Cassini/VIMS (Visual and Infrared Mapping Spectrometer) data have been released, which includes a rigid shift of the wavelengths values assigned to the instrumental spectral bins and the consequent refinements of the instrumental transfer function [1]. The amount of shift has been found to change almost linearly during the time of the mission. In order to check the effect of this re-calibration on Saturn's atmosphere studies, we acquired two spectral data sets from the Infrared Telescope Facility (IRTF-NASA) at the Hawaii, using the SpeX spectrometer [2]. A first data set, obtained in 2015, March, is limited to the 3.4-4.2 micron spectral range [3], whereas the second one, obtained in 2015, May, better matches the whole VIMS-IR range (1-5 micron). Spectral resolution in both cases is much higher than VIMS (more than 10 times).

Our analysis aims to help disentangling the effect of the spectral shift from eventual true seasonal changes of Saturn's atmosphere in the whole VIMS dataset. This can be done by taking advantage of SpeX resolution to study how the spectral shape of methane absorption changes with changing the spectral registration.

We will report here about progresses in the comparison between SpeX and VIMS Saturn data, and in their interpretation by means of radiative transfer modeling.

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