ANALYSIS OF PHOSPHINE IN THE 3 μm REGION FOR PLANETARY APPLICATIONS.

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Progress on the analysis of the high resolution spectrum of PH_3 in the 3 μm region between 3100 to 3600 cm^{-1} is reported. The objective is to provide line parameters for remote sensing of Saturn. For this, laboratory spectra have been recorded at a resolution of 0.012 cm^{-1} using the Fourier transform spectrometer located at the Kitt Peak Observatory. Using ground state combination differences, several hundred transitions have been assigned in ν_1+ν_2, ν_3+ν_4, ν_1+ν_4 and ν_2+2ν_4 centered around 3307, 3425, 3432 and 3215 cm^{-1} respectively. Analysis and preliminary modeling of the interacting energy states will be presented. [a]

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