NEW OPTICAL CONSTANTS FOR AMMONIA AND AMMONIUM HYDROSULPHIDE ICE FOR USE IN JOVIAN RADIATIVE TRANSFER MODELS

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Ammonia and ammonium hydrosulphide ice clouds have been predicted by a number of thermoequilibrium models to be present in the Jovian atmosphere. In order to model the absorption and scattering effect of these clouds the optical constants are required in conditions consistent with those expected at Jupiter. The results from this study provide the first complete set of optical constants for these ices, in Jovian conditions, in the near-infrared region. Furthermore, initial results of the effect these new optical constants have upon the predicted cloud reflectivity, by radiative transfer models, analysing Galileo NIMS data, is also presented.