

Study of Jupiter's cloud structure based on visible-IR observations

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Analysis of the reflected sunlight from Jupiter, by solving the radiative transfer equation with the effect of multiple light scattering included, gives us useful information regarding the optical property and the distribution of aerosol particles.

Limb-darkening analysis is used to reproduce the spatial variations of the intensity, while spectral-line analysis is used for the spectra. Although the scattering phase function for aerosol particles is still uncertain, near-IR data are primarily dominated by strong absorption due to methane and hydrogen and therefore useful to deduce the vertical structure of the atmosphere.

Since the Galileo Probe descended into an extraordinary dry region in Jupiter's atmosphere, the structure for "normal" regions remains to be studied.