



Jupiter's polar clouds and dynamics from HST and Cassini imaging: 1994-2000

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We have used high resolution images of Jupiter obtained by the Cassini ISS camera in December 2000 to measure the motions of cloud features between latitudes 50 to 80 degrees in both hemispheres. Maps of the poles have been constructed to identify and track cloud features in successive image frames. Two techniques have been used, cloud tracking and automated two-dimensional autocorrelation of pairs of images. We present measurements of the mean zonal wind profile and its fluctuations, and study the properties and motions of different cloud features. Images obtained in the methane band characterize the upper hazes and the wavy structure of their outer limits. The structure of the polar hazes are investigated in time using previous observations with the Hubble Space Telescope that allow us to characterize the most conspicuous system of waves at the south polar region for the period 1994-2000. We compare the structure of the polar waves and the mean cloud wind at these latitudes for this period.