Cassini CIRS Measurements of Jovian Ring

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The Cassini Composite Infrared Spectrometer obtained data on the Jovian ring during the Jupiter flyby in December, 2001. CIRS spectra of the main ring were obtained with focal plane 3 (FP3) between 600 and 1100 cm-1 (9 to 16 microns) at a variety of phase angles. No previous Earth-based or spacecraft detections of the Jovian ring have been made in this wavelength range. These observations were joint measurements with the Visual and Infrared Mapping Spectrometer (VIMS) and the Cassini Imaging Science Subsystem (ISS). Approximately 24 hours of ring data were successfully acquired. Spacecraft and deep space network (DSN) problems resulted in a loss of about 45% of the planned CIRS ring data. Additionally, 6 of the 24 hours of acquired data were on thrusters, which produced a considerable amount of spacecraft limit cycle motion during that time. The goal of these observations was to constrain ring particle composition. We will provide upper limits on Jovian ring detection from the CIRS data.