

Title: Cassini RADAR Cruise Science and Calibration Results

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Abstract:

The Cassini spacecraft is currently cruising towards the Saturn system where it will arrive in July 2004. During the cruise phase, the RADAR instrument has operated several times to collect science and calibration data. Most of these data were collected in the radiometer mode and will be used to construct a calibration model for the radiometer. Some active mode data were collected during the Earth swing-by in August 1999. In the year 2000, the Cassini RADAR operated twice to perform radiometer scans of Jupiter and the Sun, and to perform other system characterization tests. In January 2001 during the close gravity-assist flyby, the radiometer mode was used to scan Jupiter and the nearby space for synchrotron radiation. Preliminary results show the presence of polarized radiation at Ku-band. The radiometer and spacecraft proved to be very stable during this observation. In 2001, additional observations of the Sun and Jupiter were used to further characterize system performance. This presentation will summarize these results to date, and discuss the performance characteristics of the radiometer mode.