EGU2020-12997
https://doi.org/10.5194/egusphere-egu2020-12997
EGU General Assembly 2020

Jupiter As Seen By The Juno Microwave Radiometer: A Progress Report

Steven Levin[1] and the Juno Microwave Radiometer Team[*]
[1]Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States of America
(steven.levin@jpl.nasa.gov)
[*]A full list of authors appears at the end of the abstract

Juno is a spin-stabilized, solar-powered spacecraft in a highly eccentric 53.5-day polar orbit about Jupiter, with perijoves at about 5000 km above the cloud tops. From this unique vantage point, the Juno Microwave Radiometer (MWR) measures the radio emission in 6 channels, at wavelengths ranging from 1.4 to 50 cm, with 100 mS sampling throughout each spin of the spacecraft. This data set covers the Jovian atmosphere over a wide range of latitudes, longitudes and emission angles, resulting in discoveries, puzzles, and fresh insights related to the distribution and concentration of ammonia and water, atmospheric dynamics, lightning, and other aspects of the atmosphere at depths as deep as 100 bars or more. We will present an overview of MWR results to date, incorporating data from 22 perijove passes.

Juno Microwave Radiometer Team: Steven Levin, Virgil Adumitroaie, Michael Allison, John Arballo, Sushil Atreya, Heidi Becker, Scott Bolton, Shannon Brown, J. E. P. Connerney, Tristan Guillot, Samuel Gulkis, Amoree Hodges, Andrew Ingersoll, Michael Janssen, Cheng Li, Liming Li, Jonathan Lunine, Sidharth Misra, Glenn Orton, Fabiano Oyafuso, Daniel Santos-Costa, Edwin Sarkissian, Paul Steffes, J. Hunter Waite, Jr., Zhimeng Zhang