



## **Passive Microwave Sounding of Jupiter's Atmosphere from a Spacecraft**

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Passive microwave remote sounding from a spacecraft flying by or in orbit around Jupiter offers possibilities for retrieving important and presently poorly understood properties of its atmosphere. We show that precise measurements of relative brightness temperature at multiple wavelengths as a function of off-nadir emission angles, combined with absolute brightness temperature measurements, allows one to determine the global abundances of water and ammonia, deep in the atmosphere to depths greater than 30 bars. Off-nadir measurements of the brightness temperature provide important constraints on the temperature structure and distribution of opacity in the atmosphere.