Abstracts

The Millimeter Wave Atmospheric Sounder (MAS): A Shuttle-Based Remote Sensing Experiment

C.L. Croskey, N. Kampfer, R.M. Belivacqua, G.K. Hartmann, K.F. Kunzi, P.R. Schwartz, J.J. Olivero, S.E. Puliafito, C. Aellig, G. Umlauft, W.B. Waltman and W. Degenhardt. "The Millimeter Wave Atmospheric Sounder (MAS): A Shuttle-Based Remote Sensing Experiment." 1992 Transactions on Microwave Theory and Techniques 40.6 (Jun. 1992 [T-MTT] (Special Issue on Microwaves in Space)): 1090-1100.

The Millimeter Wave Atmospheric Sounder (MAS) will be launched by the Space Shuttle in the spring of 1992 as part of the ATLAS 1 (ATmospheric Laboratory for Application and Science) mission. Using passive limb-scanning millimeter wave radiometry, it will sense the thermal emission produced by ozone at 184 GHz, water vapor at 183 GHz, chlorine monoxide at 204 GHz, and oxygen (for retrieval of temperature and pressure) at 60 GHz. From these observations, concentration profiles of these gases throughout the middle atmosphere will be made. This paper describes the fundamentals of the measurements, the design of the radiometers, and the approaches used for the data analysis.

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