

Status Report on the Active Temperature, Ozone and Moisture Microwave Spectrometer (ATOMMS)

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ATOMMS is a next generation radio occultation (RO) system operating at cm and mm wavelengths that represents a cross between GPS RO and the Microwave Limb sounder (MLS). By measuring both bending and absorption of signals propagating through the atmosphere, ATOMMS provides sufficient information to simultaneously profile temperature and moisture without relying on atmospheric models. It does so in both clear and cloudy air. As such, it promises to provide an unprecedented level of accuracy for monitoring and understanding climate and become a component in the global climate observing system. We have been performing ground testing of the ATOMMS instrument across campus and on mountaintops in Arizona. We will provide a status report on the ATOMMS project focusing in particular on ground testing to date measuring water vapor, spectroscopy and the impact of turbulence and plans for the aircraft to aircraft demonstration.