MEASUREMENT OF OH PRESSURE BROADENING

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Measurement of atmospheric signatures of the hydroxyl radical using radiometric techniques require knowledge of the temperature dependent pressure broadening in air. Utilizing the Balloon OH instrument; a side-band spectrometer that operates in the same band-pass as the THz microwave limb sounder on the Aura spacecraft has been constructed. Embedded in an all-vacuum apparatus including a 2.2 meter absorption cell and filtering optics the system allows spectroscopic measurements in the 2.5-2.54 THz, 225-300 K range. New measurements of the hydroxyl radical lineshapes at 2.509 and 2.514 THz are presented.