EXTENDING THE ROTATIONAL SPECTRUM OF ACETALDOXIME TO MILLIMETER/SUB-MILLIMETER WAVELENGTHS

CATHERINE E. WALKER, COLTON MOORE, *Department of Chemistry, University of Wisconsin-Madison, Madison, WI, USA*; SUSANNA L. WIDICUS WEAVER, *Chemistry and Astronomy, University of Wisconsin-Madison, Madison, WI, USA*.

Acetaldoxime (acetaldehyde oxime, C_2H_5NO, $CH_3CH{=}NOH$) is a small molecule potentially relevant to prebiotic chemistry in the ISM. The rotational spectra of its two conformers and multiple isotopologues have been previously reported in the region 8-40 GHz by Rogowski and Schwendeman[a] and Hosoi et al.[b] With the goal of enabling broader astronomical searches, we have extended the rotational spectrum of acetaldoxime over the region 70-700 GHz using a 2 m direct absorption flow cell at room temperature. Here we present the spectrum of acetaldoxime and the results of the ongoing analysis.

---

[a]Rogowski, R. S.; Schwendeman, R. H. *J. Chem. Phys.* **1969**, *50*, 397–403

[b]Hosoi, K.; et al. *J. Mol. Struct.* **2005**, *735-736*, 325–334