

SUBMILLIMETER WAVE ABSORPTION SPECTROSCOPY OF PSEUDOROTATIONAL TRANSITIONS IN TETRAHYDROFURAN

DMITRY G. MELNIK, SANDHYA GOPALAKRISHNAN, TERRY A. MILLER, *The Ohio State University, Dept. of Chemistry, Laser Spectroscopy Facility, 120 W. 18th Avenue, Columbus, Ohio 43210*; and FRANK C. DE LUCIA, *The Ohio State University, Dept. of Physics, Microwave Laboratory, 174 W. 18th Avenue, Columbus OH 43210*.

The *c*-type rotational structure belonging to the $n = 1 \rightarrow n = 2$ pseudorotational transition in tetrahydrofuran (THF) has been observed in the region of 185-326 GHz. The transitions have been observed using a pulsed jet fast scan absorption spectrometer^a. The apparatus incorporates a free running backward wave oscillator (BWO) and utilizes a technique which is an extension of FASSST spectroscopy to a pulsed jet environment. A suitable model to fit the available spectroscopic data along with the assignment of the observed pseudorotational transitions is discussed, and the analysis of the experimental data combined with data obtained previously^b is presented.

^aD.Melnik, S.Gopalakrishnan, T.A.Miller, and F.C.De Lucia, 54th International Symposium on Molecular Spectroscopy

^bR. Meyer, J. C. López, J. L. Alonso, S. Melandri, P. G. Favero, and W. Caminati, *J. Chem. Phys.* **111**, 7871, (1999)