

PHASE SHIFT CAVITY RING DOWN MEASUREMENT OF VIBRATIONAL OVERTONE ABSORPTIONS

E. K. LEWIS, X. Li, and C. E. MANZANARES, *Department of Chemistry and Biochemistry, Baylor University, Waco, Texas 76798*; A. J. HERNANDEZ, and M. C. SALAZAR, *Department of Chemistry, Simon Bolivar University, Caracas 1080A, Venezuela*.

Phase-shift cavity ring down absorption spectroscopy with a continuous laser was used to measure the absorption coefficients and integrated cross sections for the fifth overtone of the C-H stretching vibration of ethylene, ethane, propane, n-butane, and n-pentane. The absorption spectrum is obtained by measuring the magnitude of the phase shift that an intensity modulated continuous laser beam experiences upon passing through an optical cavity. The detection sensitivity compares favorably with that of the pulsed laser 'standard' cavity ring down technique.