

## HIGH RESOLUTION SPECTROSCOPY OF THE $\tilde{B}^2A_1 - \tilde{X}^2A_1$ TRANSITION OF $\text{CaCH}_3$ and $\text{SrCH}_3$

P. M. SHERIDAN, *Department of Chemistry, University of Waterloo, 200 University Ave. West, Waterloo, ON, N2L 3G1 Canada*; M. J. DICK, *Department of Physics, University of Waterloo, 200 University Ave. West, Waterloo, ON, N2L 3G1 Canada*; J. G. WANG and P. F. BERNATH, *Department of Chemistry, University of Waterloo, 200 University Ave. West, Waterloo, ON, N2L 3G1 Canada*.

The  $\tilde{B}^2A_1 - \tilde{X}^2A_1$  ( $0_0^0$ ) bands of  $\text{CaCH}_3$  and  $\text{SrCH}_3$  have been observed at high resolution using laser excitation spectroscopy. The molecules were synthesized in a laser ablation/supersonic expansion spectrometer by the reaction of the ablated metal atoms with a 1% mixture of  $(\text{CH}_3)_4\text{Sn}$  seeded in argon. The spectra for each molecule exhibit a symmetric top structure, with low J lines of multiple K components present. A rotational analysis is currently in progress, and a comparison of the spectroscopic and structural parameters for both molecules will be presented.