

LASER EXCITATION SPECTROSCOPY OF THE $\tilde{B}^2A_1 - \tilde{X}^2A_1$ TRANSITION OF CaOCH_3

C. J. WHITHAM AND J. M. BROWN, *The Physical and Theoretical Chemistry Laboratory, South Parks Road, Oxford, OX1 3QZ, U.K.*; S. A. BEATON, *Department of Chemistry, The University of British Columbia, 2036 Main Mall, Vancouver, British Columbia, Canada V6T 1Z1* ; Y. ITO, *Department of Mechanical Engineering, Nagaoka University of Technology, 1603-1 Kamitomioka, Nagaoka, Niigata 940-21, Japan.*

The $\tilde{B}-\tilde{X}$ transition of CaOCH_3 has been observed at Doppler limited resolution and rotationally analysed. The molecule was generated using a laser ablation/molecular beam source in which a solid calcium rod was ablated and a mixture of argon seeded with a few percent of methanol was used as the carrier gas. The rotational analysis of the band is consistent with a linear Ca—O—C geometry in both electronic states and hence C_{3v} symmetry for the CaOCH_3 radical. The values of the spin-rotation parameters determined for the excited \tilde{B}^2A_1 state will be discussed.