

MOLECULAR CONSTANTS OF C₂ IN THE $c^3\Sigma_u^+$ STATE

MASAKAZU NAKAJIMA and YASUKI ENDO, *Department of Basic Science, The University of Tokyo, Tokyo 153-8902, Japan.*

The $d^3\Pi_g - c^3\Sigma_u^+$ band system of C₂ was observed in a discharge flow cell by laser induced fluorescence spectroscopy. Although the observation of the band system has been reported for the jet-cooled C₂ molecule, ^a transitions involving higher rotational levels were observed in the present study. Improved molecular constants for several vibrational levels of the $c^3\Sigma_u^+$ state will be presented. Furthermore, the bands with $v'' = 5, 6, 7$ were newly observed in a discharged supersonic jet, of which molecular constants were determined for the first time.

^aJ. A. Joester *et al.*, J. Chem. Phys. 127, 214303 (2007).