

DISPERSED FLUORESCENCE SPECTROSCOPY OF THE SiCN $\tilde{A}^2\Delta - \tilde{X}^2\Pi$ TRANSITION

MASARU FUKUSHIMA and TAKASHI ISHIWATA, *Faculty of Information Sciences, Hiroshima City University, Asa-Minami, Hiroshima 731-3194, Japan.*

We have generated SiCN in supersonic free jet expansions, and observed the laser induced fluorescence (LIF) of the $\tilde{A}^2\Delta - \tilde{X}^2\Pi$ transition. The LIF excitation and dispersed spectra have been reported previously^a. On this work, the LIF dispersed spectra from single vibronic levels were measured in higher resolution, and the vibrational structure of the $\tilde{X}^2\Pi$ state of SiCN was analyzed. Fermi resonances on the Si-CN stretching ν_3 mode, $n_3 = 2$ and 3, only at the $\Omega = \frac{3}{2}$ level have been observed. The Renner-Teller bending structure has been also analyzed.

^aM. Fukushima and T. Ishiwata, *60th International Symposium on Molecular Spectroscopy*, TC02 (2005).