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

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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 $\nu_3$ 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.

[a] M. Fukushima and T. Ishiwata, *60th International Symposium on Molecular Spectroscopy*, TC02 (2005).