

LASER INDUCED FLUORESCENCE SPECTROSCOPY SiCN : ROTATIONAL ANALYSIS OF THE $\tilde{A}^2\Delta - \tilde{X}^2\Pi$ 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. We have measured rotationally resolved LIF excitation spectra of the three vibronic bands. Combining with rotational reported transitions^a, the rovibronic transitions of the three vibronic bands were analyzed simultaneously, and the spin-orbit constant of the $\tilde{X}^2\Pi$ state has been determined with precision of the rotational spectroscopy.

^aA. J. Apponi, M. C. McCarthy, C. A. Gottlieb, and P. Thaddeus, *Astrophys. J.* 536, L55 (2000).