

DISPERSED FLUORESCENCE SPECTROSCOPY OF THE $\tilde{B}^2E' - \tilde{X}^2A'_2$ TRANSITION OF NO_3

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We have generated NO_3 in supersonic free jet expansions and observed laser induced fluorescence (LIF) of the $\tilde{B}^2E' - \tilde{X}^2A'_2$ transition. We have measured LIF excitation spectrum and dispersed fluorescence (DF) spectra from the single vibronic levels (SVL) of the \tilde{B}^2E' state. Comparing with the vibrational structures of the DF spectra, vibrational structure of the $\tilde{X}^2A'_2$ state has been analyzed. It is especially concluded that the $1,492\text{ cm}^{-1}$ level in the $\tilde{X}^2A'_2$ state has no contribution of the $\nu_4 (e')$ mode, though there are two opinions in which the level is attributed to the $\nu_3 (e')$ fundamental or the $\nu_3 + \nu_4$ combination level.