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 $cm^{-1}$ 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.