

## HIGH-RESOLUTION LASER SPECTROSCOPY OF $^{14}\text{NO}_3$ RADICAL: VIBRATIONALLY EXCITED STATES OF THE $B^2E'$ STATE

KOHEI TADA, *Graduate School of Science, Kobe University, Kobe, Japan*; SHUNJI KASAHARA, *Molecular Photoscience Research Center, Kobe University, Kobe, Japan*; TAKASHI ISHIWATA, *Information Sciences, Hiroshima City University, Hiroshima, Japan*; EIZI HIROTA, *The Central Office, The Graduate University for Advanced Studies, Hayama, Kanagawa, Japan*.

High-resolution fluorescence excitation spectra of  $^{14}\text{NO}_3$  radical were intermittently recorded in the region  $15860\text{ cm}^{-1}$  to  $16050\text{ cm}^{-1}$  corresponding to the transitions to the vibrationally excited states of the  $B^2E'$  state. Well-separated rotational lines were found to disappear as the vibrational energy increases. The  $16050\text{ cm}^{-1}$  region is almost unstructured even in the high-resolution measurement, and its rotational analysis is almost impossible. The rotational assignment of the  $15870\text{ cm}^{-1}$  region is possible and it has been undertaken by the ground state combination differences and the Zeeman effect observation.