$(1+1)$ REMPI SPECTROSCOPY OF NO COMPLEXES WITH N_2, CO AND CH_4 VIA THE Ã STATE

JEROME LOZEILLE, TIMOTHY G. WRIGHT, SOPHIA E. DAIRE and STUART D. GAMBLIN, *Spectroscopy of Complexes and Radicals (SOCAR) Group, School of Chemistry, Physics and Environmental Science, University of Sussex, Falmer, Brighton, BN1 9QJ, UK*.

The spectra of the $\tilde{A} \leftarrow \tilde{X}$ transition of the NO·X molecular complexes, where X = N_2, CO and CH_4, have been recorded using one-color $(1+1)$ REMPI spectroscopy. The spectra exhibit vibronic features, which are interpreted as hindered internal rotation and the underlying end-over-end rotational structure. Some insights into the structure of the spectra are gleaned from ab initio calculations.