SPECTROSCOPY OF THE NO-Ar COMPLEX IN THE VICINITY OF THE $3p \leftarrow X^2\Pi$ TRANSITIONS IN NITRIC OXIDE

JOE P. HARRIS, TIMOTHY G. WRIGHT, ADRIAN M. GARDNER, ANNA ANDREJEVA, NICHOLAS A. BESLEY and OLGA V. ERSHOVA, *School of Chemistry, University Park, University of Nottingham, NG7 2RD, United Kingdom*; JACEK KLOS, *Department of Chemistry, University of Maryland, College Park, MD 20742*.

Spectra of the NO-Ar complex have been recorded using REMPI spectroscopy in the region corresponding to transitions to the $3p$ Rydberg states in uncomplexed NO. Additionally, spectra have been simulated using $ab\ initio$ techniques with the aim of better understanding this region, as previous favourable results have been obtained using a similar approach for the $3s$ Rydberg state[a]. Excellent agreement with the REMPI spectra is seen for the $3p\pi$ state simulation. Results on the $3p\sigma$ state will be discussed, along with extension to other NO-Rare Gas complexes.

[a] J. Klos, M. H. Alexander, R. Hernández-Lamoneda and T. G. Wright *J. Chem. Phys.*, **129**, 244303 (2008)