INFRARED SPECTRUM OF THE INTERACTION OF EXCITED NEON ATOMS WITH NO AND ITS MULTIMERS TRAPPED IN SOLID NEON

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When a Ne:NO sample is codeposited at approximately 5 K with a beam of excited neon atoms, the infrared spectrum of the resulting deposit includes absorptions which can be assigned to several ionic products. The close correspondence of transitions observed in the gas-phase photoelectron spectrum of $(NO)_2$ [a] with infrared absorptions previously assigned to trans-ONNO anion requires the reassignment of these absorptions to the cation. Results of detailed studies of the isotopic substitution pattern and photodestruction behavior of other absorptions which may be contributed by $(NO)_2$ anions will be presented. The possible presence of ionic species of composition $(NO)_3$ will also be considered.

[a] A. Strobel, N. Knoblauch, J. Agreiter, A. M. Smith, G. Niedner-Schatteburg, and V. E. Bondybey, J. Phys. Chem. 99, 872 (1995).