

FIRST OBSERVATION OF THE N<sub>2</sub>O-OC VAN DER WAALS COMPLEX AND NEW SET OF EXPERIMENTAL MEASUREMENTS ON THE N<sub>2</sub>O-CO COMPLEX.

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Jet cooled infrared spectrum of the N<sub>2</sub>O-CO van der Waals complex was observed in the region of the  $\nu_1$  fundamental band of the N<sub>2</sub>O monomer (2224 cm<sup>-1</sup>) and in the CO stretch region (2143 cm<sup>-1</sup>). These new measurements allowed the predicted less stable isomer, N<sub>2</sub>O-OC, to be observed for the first time in both spectral regions. In addition, four combination bands were observed in the CO region. Two of these were assigned to N<sub>2</sub>O-CO and the other two to N<sub>2</sub>O-OC. Finally, a combination band in the N<sub>2</sub>O region was assigned to the most stable isomer. In this talk I will discuss our results for the intermolecular vibrational frequencies and compare these to the recently published experimental values on similar systems CO<sub>2</sub>-CO and CO<sub>2</sub>-OC <sup>a</sup> and to ab initio predictions on this complex <sup>b</sup>.

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<sup>a</sup>S. Sheybani-Deloui, A. J. Barclay, K. H. Michaelian, A. R. W. McKellar, and N. Moazzen-Ahmadi, J. Chem. Phys 143, 121101 (2015).

<sup>b</sup>M. Venayagamoorthy, T. A. Ford, THEOCHEM 717,111 (2005)