

MICROWAVE SPECTRA AND STRUCTURE OF N₂ CO₂

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We present here the FTMW spectra of the various isotopologues of the weakly-bound complex of carbon dioxide with the most abundant molecule in the atmosphere, nitrogen. The structure of the complex along with the inversion of the N₂ (or lack of it) will be discussed. The molecule is T-shaped, with the OCO forming the cross of the T, a structure deduced from a previous rotationally-resolved infrared experiment.^a A significant wide-amplitude bending motion of the N₂ is deduced from the values of the (nearly identical) nuclear quadrupole coupling constants of the nitrogen nuclei. The spectroscopic results will be compared with ab-initio calculations. We will examine the consequences of N₂-CO₂ formation upon atmospheric opacity.

^aM. A. Walsh, T. R. Dyke, B. J. Howard, *J. Mol. Struct.* **189**, 111-120 (1988)