

Millimeter Wave Spectroscopy of Ne–CO

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The pure rotational *b*-type spectrum of the van der Waals complex Ne–CO has been measured using a pulsed jet, intracavity millimeter wave spectrometer. The millimeter wave generation is based on the OROTRON principle. The high sensitivity of the spectrometer allowed measurements of $R(J)$, $K = 1 \leftarrow 0$ transitions between 108 and 150 GHz of the Ne isotopomers ²⁰Ne–CO and ²²Ne–CO. This new millimeter wave data set together with the microwave data in the literature, i.e. *a*-type microwave transitions, yield in a fit to an asymmetric rotor a reliable set of ground state constants. These are for ²⁰Ne–CO: $A = 107127.021(14)$ MHz, $B = 3479.6597(95)$ MHz, and $C = 3039.5387(93)$ MHz. For both ²⁰Ne–CO and ²²Ne–CO, a global fit to a near-symmetric rotor was performed, taking into account the infrared and microwave transition frequencies from the literature and the millimeter wave measurements of the present work.

Key words: Van der Waals Complexes; Spectroscopy; Ne–Co; OROTRON.