THE CCN ($\tilde{X}^2\Pi_{1/2}$) RADICAL REVISITED: NEW FOURIER TRANSFORM MICROWAVE MEASUREMENTS

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The CCN ($\tilde{X}^2\Pi_{1/2}$) radical was first studied by Ohshima & Endo in 1995, who measured the lowest rotational transition, J = 3/2 → 1/2, in the Ω = 1/2 ladder near 35 GHz. No subsequent work has been performed for this species to date. Here we present measurements of the J = 5/2 → 3/2 rotational transition of CCN (Ω = 1/2) near 59 GHz, recorded using Fourier transform microwave (FTMW) spectroscopy. CCN was synthesized in a supersonic expansion from a dilute mixture of $(CN)_2$ and CH_4 in argon, in the presence of a DC discharge. Both lambda-doublets were recorded, each consisting of three hyperfine components. These measurements, combined with past data, have been analyzed and refined spectroscopic constants have been established. Studies of additional rotational transitions are currently being conducted.