THE BROADBAND ROTATIONAL SPECTRUM AND GEOMETRY OF $N_2 \cdots ICF_3$

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The rotational spectra of two isotopologues of $N_2 \cdots ICF_3$ have been measured between 7 and 18.5 GHz by chirped-pulse Fourier transform microwave spectroscopy. The rotational constant, B_0, the centrifugal distortion constants, D_J and D_{JK}, and the nuclear quadrupole coupling constant of ^{127}I are precisely determined for isotopologues containing $^{14}N_2$ and $^{15}N_2$ respectively. The complex is a symmetric top and contains a linear arrangement of C, I, N(1) and N(2) atoms. The length of the halogen bond between N(1) and I will be presented. Experiments which exploit a Balle-Flygare FTMW spectrometer are currently in progress to determine the nuclear quadrupole coupling constants of the ^{14}N nuclei.