THE PURE ROTATIONAL SPECTRUM OF CHLORINE NITRATE

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Chlorine nitrate is a molecule of intermediate size whose infrared spectrum is partially resolvable in the Doppler limit. Its Doppler-limited pure rotational spectrum in the microwave is correspondingly dense, not only because of its relatively small rotational constants, but also because it has a number of relatively low-lying vibrational modes. We have recorded this complex spectrum in the microwave spectral region with a FASSST spectrometer. We will report analysis of both ground and excited vibrational states in both the ^{35}Cl and ^{37}Cl species.