MILLIMETER WAVE SPECTRA OF CHLORINE NITRATE

REBECCA A.H. BUTLER, *Department of Physics, The Ohio State University, 174 West 18th Avenue, Columbus, OH 43210*; PAUL HELMINGER, *Department of Physics and Chemistry, University of South Alabama, Mobile, AL 36688*; FRANK C. DE LUCIA, *Department of Physics, The Ohio State University, 174 West 18th Avenue, Columbus, OH 43210*.

Chlorine nitrate is a planar, slightly asymmetric molecule of atmospheric interest. It has a dense rotational spectrum due to its relatively small rotational constants and its several low-lying vibrational modes. We have recorded this spectrum with a FASSST spectrometer over a range of 128-350 GHz, and will report on our analysis of many of these lower vibrational states, including $2\nu_9$, $3\nu_9$, $4\nu_9$, $5\nu_9$, ν_7, $2\nu_7$, ν_7+ν_9, and ν_6, taking into account several perturbations between states.