Intensity auto- and cross-correlations for a driven two-mode cavity coupled to a three-level atom\textsuperscript{1} PATRICK HEMPHILL, JAMES CLEMENS, Miami University — We calculate two-time intensity auto- and cross-correlations for light transmitted through a weakly driven optical cavity with two degenerate modes of orthogonal linear polarization coupled to a single three-level atom in the Λ configuration. We compare the resulting autocorrelations with the two-level atom coupled to a single optical cavity mode and identify a transition from photon bunching to photon antibunching as a function of the coupling to the third atomic level.

\textsuperscript{1}Supported by Research Corporation under award number CC6822/6875