Atom-Field Entanglement in a Cavity QED System[1] PERRY RICE,
JAMES CLEMENS, Miami University, NICK CUMMINGS, LUIS OROZCO, University of Maryland — We consider the entanglement in a cavity QED system as a
function of driving field strength via the entanglement of formation and the logarithmic negativity. There is an optimal field strength for generating entanglement,
around the saturation intensity. When the atoms become saturated, the system
tends towards a product state where the field is in a coherent state. We also consider
conditioned homodyne and conditioned photo as entanglement witnesses. Further
we consider the time development of entanglement, and the amount of information
about entanglement contained in time dependent cross correlation functions.

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