Abstract Submitted
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Study of η_c decays with the STARLIGHT Monte-Carlo at LHC Run 2 energies[1] JORDAN ROTH, Creighton University — An introduction to ultra-peripheral collisions and the STARLIGHT Monte-Carlo event generator is provided. STARLIGHT is used, in conjunction with PYTHIA 8, to compute the invariant mass spectrum of the η_c via its decay channels $\eta_c \to K^0_S K^+\pi^- \to \pi^+\pi^- K^+\pi^-$ and $\eta_c \to K^*(892)^0 K^+\pi^- \to K^+\pi^- K^-\pi^+$. Charge conjugate- and background processes are also studied. Simulations are made for photon-photon production in a pseudorapidity range between -1 and 1 at center-of-mass collision energies of $\sqrt{s}_{NN} = 5.12$ TeV in Pb-Pb collisions. The potential for observing these decays in recent LHC heavy-ion data will be discussed.

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