

Abstract Submitted
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***J/ψ* Production in p+p and Au+Au collisions from the PHENIX Experiment** ABIGAIL BICKLEY, University of Colorado, PHENIX COLLABORATION — Quarkonia provide a sensitive probe of the properties of the hot dense medium created in high energy heavy ion collisions. Hard scattering processes result in the production of heavy quark pairs that interact with the final state medium as it evolves. These in-medium interactions convey information the fundamental properties of the medium itself and can be used to examine the modification of the QCD confining potential in the collision environment. Baseline measurements from p+p and d+Au collision systems are used to distinguish cold nuclear matter effects while measurements from heavy ion collision systems are used to quantify in-medium effects. The PHENIX experiment has the capability of detecting heavy quarkonia at forward rapidity ($1.2 < |y| < 2.2$) via the $\mu^+\mu^-$ decay channel and at mid-rapidity ($|y| < 0.35$) via the e^+e^- decay channel. Recent runs have resulted in the collection of high statistics data sets that allow for further critical evaluation of heavy quarkonia production mechanisms. The latest PHENIX results for the production of the *J/ψ* in p+p and Au+Au collisions will be presented and the implications of these results on theoretical models will be examined.

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