

Abstract Submitted
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Extracting the Eta Signal for Comparisons in Au+Au and Cu+Cu Collisions KAREN KOOP, University of Muenster, Institute for Nuclear Physics — The Pioneering High Energy Nuclear Interaction Experiment (PHENIX) is an experiment collecting data from the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratories. The goal of PHENIX is to study the Quark-Gluon Plasma, a new state of matter formed in the high energy densities created by the RHIC. PHENIX collected data in Au+Au, Cu+Cu, d+Au and p+p collisions at various energies. An interesting observation from the experiment has been the suppression of neutral pions with high transverse momentum (p_T) in central Au+Au collisions relative to expectations from proton+proton results. By comparing eta particle production to neutral pion production, the suppression of particles can be evaluated for dependence on particle species. Comparisons of eta production can also be made between Au+Au and Cu+Cu reaction systems. In order to make these comparisons, the eta signal must be extracted. Techniques such as event mixing and background subtraction make this possible. As a participant in the Research Internships for Scientists and Engineers program, I had the opportunity to work with graduate students at the University of Münster, Germany in their analysis of data taken from the PHENIX experiment.

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