

## A Systematic Study of Neutral Pion Production in Small and Asymmetric Systems at PHENIX

The suppression of neutral pion production in high-energy heavy-ion collisions was one piece of evidence of parton energy loss in the hot medium produced at RHIC and thus a convincing signature for the Quark-Gluon Plasma (QGP). The p(d)+A system had previously been considered as a baseline to study the cold nuclear matter effects that are also present in A+A collisions but are difficult to disentangle from the effects of the QGP. Recently, measurements from p(d)+A have indicated that there may be effects from a strongly interacting medium even in these systems. In further study of these interesting systems, RHIC collided  $^3\text{He}+\text{Au}$  in 2014 and p+Au in 2015. A comparison of the  $p_T$  and centrality dependent yields, as well as  $R_{AA}$ , will contribute to the systematic study of these systems. In this poster, we report the  $\pi^0$  yields and  $R_{AA}$  in  $^3\text{He}+\text{Au}$ , d+Au, and p+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV at PHENIX.

### Preferred Track

Jets and High  $p_T$  Hadrons

### Collaboration

PHENIX

**Primary author:** APADULA, Nicole

**Presenter:** APADULA, Nicole

**Session Classification:** Poster Session