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Study of nuclear effects of charged hadron production at forward and backward rapidity in $p+\text{Al}$, $p+\text{Au}$, and $^3\text{He}+\text{Au}$ collisions at $\sqrt{s_{NN}}=200\text{ GeV}$

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Study of hadron production in $p+A$ collisions is useful to study of nuclear effects of intrinsic nucleus with minimized hot nuclear matter effects. Early results in central $d+\text{Au}$ collisions showed that both light and heavy hadron production is suppressed at forward rapidity (d -direction), whereas an enhancement is observed at backward rapidity (Au -direction). Thanks to the flexibility of RHIC, we can do a comprehensive study such as dependencies on size of projectile ($p/d/^3\text{He}+\text{Au}$) or target ($p+\text{Au}/\text{Al}$). PHENIX muon arm ($1.2 < |\eta| < 2.4$) has a capability to measure unidentified charged hadrons (mostly pion and kaon), and FVTX can provide precise measurements of p_T and η before particles suffering from multiple scatterings inside absorber material as well as reject secondary particles produced inside the absorber. In this presentation, we will present results of nuclear modification of charged hadron production at forward and backward rapidity in various centrality bins of $p+\text{Al}$, $p+\text{Au}$, and $^3\text{He}+\text{Au}$ collisions at $\sqrt{s_{NN}}=200\text{ GeV}$.

Content type

Experiment

Collaboration

PHENIX

Centralised submission by Collaboration

Presenter name already specified

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