

Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

ϕ Meson production at forward rapidity in Au + Au collisions at $\sqrt{s_{NN}} = 200$ GeV UTTAM ACHARYA, Georgia State University, PHENIX COLLABORATION — A major objective in the field of high-energy nuclear physics is to quantify and characterize the quark-gluon plasma formed in relativistic heavy-ion collisions. The ϕ meson is an excellent probe for studying this hot and dense state of nuclear matter because of its very short lifetime, and the absence of strong interactions between its associated decay muons and the surrounding hot hadronic matter makes the $\phi \rightarrow \mu^+ \mu^-$ decay channel particularly interesting. Since ϕ meson is composed of a strange and anti-strange quark, its nuclear modification in heavy-ion collisions may provide insight on strangeness enhancement in-medium. PHENIX has measured ϕ meson cold nuclear modification in a variety of small systems, and the same measurement in Au + Au collisions may provide insights on the hot nuclear matter effects. In this talk, we present the analysis status of ϕ meson production at forward rapidity in Au + Au collisions at $\sqrt{s_{NN}} = 200$ GeV.

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Date submitted: 26 Jun 2020

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