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Measurement of D-meson triggered correlations in p+p collisions at RHIC

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Heavy-flavor triggered correlations offer a unique sensitivity to study QCD and the QCD medium created in high energy nucleus collisions. Measurement of heavy quark production in p+p collisions allows us to test perturbative QCD calculations and provides a reference for similar studies in heavy-ion collisions. Analysis of heavy-flavor triggered azimuthal correlations and comparisons to light hadron results can also provide insight into the differences in hadronization and interactions with the medium between heavy quarks and light quarks in these collisions.

Preliminary results of azimuthal correlations between D mesons and charged hadrons (D-h) measured by the STAR experiment in p+p collisions will be presented. Comparisons are made to light-hadron triggered correlations (h-h) and PYTHIA simulations. We will also present the measurement of azimuthal correlations between D and anti-D mesons (D-D) in p+p collisions. Furthermore, the prospects of heavy-flavor triggered correlation measurements in heavy-ion collisions will be discussed.

Summary

Presentation type

Oral

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