Searching for the $D_s$ in STAR’s d-Au Collisions

STEPHEN BAUMGART, Yale University, STAR COLLABORATION — By studying the production of charm quarks at Relativistic Heavy Ion Collider we should be able to better understand the hard QCD processes which occur in high energy collisions. The STAR detector at RHIC has the potential to measure several different species of charmed hadrons. STAR has successfully measured $D^0$ spectra in d-Au and Au-Au collisions. Weak signals from the $D^\pm$ and $D^*$ were also observed. A measurement of the $D_s$ meson together with the measurements of the other observed charmed mesons would enable a more precise calculation of the total charm production cross-section. Simulations have shown that it may be possible to reconstruct the $D_s$ via its hadronic decay channels in the STAR data. We report on those simulations and the progress of this search in d-Au collisions at $\sqrt{s_{NN}} = 200$ GeV.

Stephen Baumgart
Yale University

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