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A Study of Nuclear effects in Drell-Yan and Charmonia Productions in p-A collisions at Fermilab E906/SeaQuest Experiment

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Strong suppressions of charmonia have been observed in heavy ion collisions at RHIC and LHC. The suppressions exhibit strong nucleus A and also kinematic dependences, especially with Feynman- x (or rapidity) and transverse momentum p_T . Such suppression in heavy ion collisions is predicted to be an important signature for the formation of quark-gluon plasma (QGP) due to color screening, however, there are also other non-QGP effects, such as initial state parton energy loss, parton shadowing and final state breakup, that affect the formation of charmonia. It is important to quantify the contributions from the cold nuclear matter, and it could be achieved through studying charmonia and Drell-Yan productions in proton-nucleus collisions where no significant QGP is expected. E906/SeaQuest is a fixed-target dimuon experiment at Fermilab using the 120 GeV proton beam from the Main Injector. E906 has been taking high statistic data samples of p+p, p+d, p+C, p+Fe and p+W collisions since 2014 and will continue data taking until the summer of 2016. E906 measures J/Psi, Psi' and Drell-Yan productions in the dimuon channel in p+p and p+A collisions over a wide range of kinematic coverage, that is optimal for the study of the cold nuclear matter effects. Recently, we released the first preliminary measurements of Drell-Yan production in p+A collisions from the 2014 Run-II data. Analyses of J/Psi and Psi' productions are underway. In this talk, the latest status of the analyses and preliminary results will be presented.

On behalf of collaboration:

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