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Big Questions from a Small System: Recent d+Au Results from RHIC

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d+Au collisions were originally done at RHIC as a control measurement for understanding the effects of hot nuclear matter seen in collisions of two heavy nuclei. However, recent measurements from d+Au collisions have been some of the most interesting to come out of the most interesting to come out of the Relativistic Heavy Ion Collider (RHIC). Correlation measurements over a wide range in pseudorapidity have shown suppression of back-to-back correlations. Hadron correlations measurements have long range in pseudorapidity correlations, similar to observations in heavy ion collisions which are now understood to be the result of the geometry of the initial state followed by a hydrodynamic evolution of the system. Whether this is also the case for d+Au collisions is currently an open question and Color Glass Condensate effects are another proposed explanation. The spectra of hadrons are also modified from p+p collisions, with an increase in the proton to pion ratio, similar to what is seen in Au+Au collisions. Observation of this phenomena in d+Au collisions is very intriguing since in Au+Au collisions the excess protons are commonly understood to be from recombination of partons into final state hadrons. In this talk we will discuss the current measurements and how they impact our understanding of heavy ion collisions. Future measurements, exploiting the versatility of RHIC, which will discriminate between effects sensitive to the geometry of the initial state by changing the small nucleus (p, d, ^3He) and saturation physics by varying the size of the large nuclei will also be discussed.