

Underlying event studies in d+Au collisions at $\sqrt{s_N N}=200$ GeV from STAR

Description of heavy-ion collisions, where modifications of the fragmentation functions due to interaction of partons with the hot and dense medium are expected, is a challenging task and requires a detailed understanding of small collision systems such as p+p and d+Au. Comparison of measurements in p+p and d+Au collisions can be further used to disentangle initial state effects from cold nuclear matter effects.

Particles produced in p+p and d+Au collisions originate not only from hard scatterings, but soft and semi-hard multiple parton interactions and initial- and final-state radiation combine to produce particles at mid-rapidity which constitute the so called underlying event. The STAR collaboration at RHIC recently presented first results on underlying event properties in p+p collisions at $\sqrt{s_N N}=200$ GeV. We extend these studies and investigate in detail properties of underlying event in d+Au collisions at $\sqrt{s_N N}=200$ GeV. The analysis is based on the large d+Au data sample collected by the STAR experiment in year 2008. The extracted underlying event properties are compared to those from p+p collisions. The obtained results will serve as input to Monte Carlo models.

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