

Centrality Determination for p+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV at the STAR Experiment

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Abstract

In heavy-ion collisions, properties of the created QCD matter strongly depend on the collision geometry or “centrality”. In A+A collisions, centrality is related to the size of the overlap region determined by the impact parameter. In p+A collisions, the term “centrality” is not strictly related to the geometric impact parameter, but it is rather taken as a classification of the amount of activity in the collision, which in turn is closely related to the number of nucleon-nucleon collisions (N_{coll}) in a Glauber-like picture. This poster presents a study on centrality determination in p+Au collisions at $\sqrt{s_{NN}} = 200$ GeV using data taken in 2015 by the STAR experiment . Comparisons between the data and simulations based on HIJING and GEANT models are shown. Different measures of the event activity, one at forward rapidity and one at mid rapidity, are discussed and compared.