

PHENIX Highlights

Wednesday, October 14, 2020 9:00 AM (35 minutes)

The primary goal of the PHENIX experiment at RHIC is the experimental study of the quark-gluon plasma (QGP) using relativistic heavy ion collisions. In recent years, the unique set of small collision systems has provided evidence for collective flow in such systems that is driven by the initial state geometry. Hydrodynamical models, which include the formation of a short-lived QGP droplet, provide a simultaneous description of these measurements. Thermal photon measurements also indicate that the temperature achieved in the central collisions of small systems is high enough to form QGP. The scaling behavior of direct photon production in the large systems is verified by the new measurement of thermal photons using the Au+Au data set collected by PHENIX in 2014. From these measurements, multiplicities at which QGP effects turn on could be indicated. The study of particle collectivity and hard probes from large to small systems, in order to understand the bulk and fine structure of the QGP, will be discussed.

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