

Abstract Submitted
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Present and future measurements on hadronization in strongly interacting partonic matter at RHIC and RHIC-II. HELEN CAINES, Yale University, R2D EXPLORATORY WORKING GROUP TEAM¹ — The recent RHIC results establish the necessity for a detailed investigation of the matter formed in heavy-ion collisions at 200 A GeV. In particular, di-jet and gamma-jet measurements with particle identification (PID) out to large momenta are required in order to study experimentally the hadronization process from partonic degrees of freedom and to continue the search for possible evidence of the restoration of chiral symmetry. We will show recent particle identified single particle and two particle correlation measurements at intermediate transverse momentum in pp, da, and AA collisions from the RHIC experiments and compare to fragmentation and recombination models. We then propose a set of hadronic measurements for a future large acceptance ($-3 < \eta < 3$, $\Delta\phi = 2\pi$) experiment at RHIC-II with hadron, muon and gamma PID capabilities out to 20-30 GeV/c, tracking detectors, and EM and hadronic calorimetry in a large solenoidal magnetic field (1.5 T).

¹P. Steinberg et al., nucl-ex/0503002.

Helen Caines
Yale University

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