

Overview of Recent Results from the PHENIX Experiment at RHIC

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The PHENIX experiment at the Relativistic Heavy Ion Collider (RHIC) has established a comprehensive physics program to search for the quark–gluon plasma (QGP) and study its properties via rare penetrating probes. The PHENIX Collaboration has demonstrated that the QGP behaves as a nearly perfect fluid and that non-photonically electrons are substantially suppressed which has led to the use of heavy quarks as probes of the medium. Furthermore, RHIC experiments are investigating the phase diagram of QCD matter at different baryochemical potentials and temperatures by varying the collision energy and system size.

This talk summarizes the latest PHENIX experiments' observations obtained from colliding small and large systems concerning collectivity, flow, hadronic production, and heavy quark measurements, and their interpretation with respect to the current theoretical understanding.

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