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Exploring the QCD phase diagram through relativistic heavy-ion collisions

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Quantum chromodynamics (QCD) phase diagram is usually plotted as temperature (**T**) versus the chemical potential associated with the conserved baryon number ($\boldsymbol{\mu_B}$). Two fundamental properties of QCD, related to confinement and chiral symmetry, allows for two corresponding phase transitions when **T** and $\boldsymbol{\mu_B}$ are varied. Theoretically the phase diagram is explored through non-perturbative QCD calculations on lattice. The energy scale for the phase diagram (Λ_{QCD} ~ 200 MeV) is such that it can be explored experimentally by colliding nuclei at varying beam energies in the laboratory. In this talk we review some aspects of the QCD phase structure as explored through the experimental studies using high-energy nuclear collisions. Specifically, we discuss observations related to the formation of a strongly coupled plasma of quarks and gluons in the collisions and experimental search for the QCD critical point on the phase diagram.