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Experimental Overview of Heavy Ion Collisions

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Heavy ion collisions provide a unique laboratory for exploring the dynamics of the strong nuclear force, governed by Quantum Chromodynamics (QCD). These collisions probe strongly interacting matter across different regimes, from the partonic structure of nuclei to the quark-gluon plasma (QGP)—a deconfined state of quarks and gluons that existed in the early universe. Experiments spanning a range of beam energies and collision systems deepen our understanding of QGP properties, fundamental QCD interactions, and their interplay. In this talk, I will present an overview of recent experimental results, their implications for our understanding of these strongly interacting systems, and prospects for future studies.

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