

KEY EXPERIMENTAL FEATURES OF QUARK-GLUON PLASMA IN HEAVY-ION COLLISIONS

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ABSTRACT

Experiments at the Large Hadron Collider (LHC) and Relativistic Heavy-ion collider (RHIC) are designed to detect, track, and identify particles in proton-proton, proton-ion, and ion-ion collisions up to the largest particle multiplicities. The core of heavy-ion collisions physics program is to study the hot and dense medium formed in heavy-ion collisions, the quark-gluon plasma (QGP), through several observables. In addition, these studies can also provide crucial input to the study of quantum chromodynamics and of the strong interaction even outside of the deconfinement regime. In this talk, the measurement of a key set of global observables mostly in the soft sector and their physics implications are discussed. Observables related to the thermal particle production and collectively expanding medium will be highlighted [1-4].

Keywords: heavy-ion collisions, quark-gluon plasma, strong interactions

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