

Unraveling the properties of the quark-gluon plasma

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This poster will present studies of a new form of nuclear matter called the quark-gluon plasma (QGP). This medium is believed to be present during the early stages of the evolution of the Universe, just few microseconds after the Big Bang. Today, it can be recreated in ultrarelativistic heavy-ion collisions at RHIC at BNL, or at the LHC at CERN. One of the most suitable probes to study this medium is the anisotropic flow, which measures azimuthal correlations of final emitted particles with respect to a common symmetry plane. Using this observable, we can access the properties of the shortly-lived medium, such as the shear viscosity over entropy density η/s , which was found to be close to a universal lower bound for any liquid. Recently, signatures that were believed to originate from the QGP, were also observed in small collision systems, such as pp and p-A, which were not considered to be able to create such a medium. Studies of anisotropic flow can bring more information into this puzzle.

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