

Plenarvortrag

PV II Mo 12:00 Audimax

Demystifying the Quark-Gluon Plasma — ● ANTE BILANDZIC —
Physik-Department, Technische Universität München, James-Frank-
Str. 1, 85748 Garching bei München, Germany

The primary objective of heavy-ion program at ultrarelativistic colliders is to explore the properties of a new state of matter, the Quark-Gluon Plasma (QGP), in which quarks and gluons move freely over distances that are large in comparison to the typical size of a hadron. Anisotropic flow, which measures the momentum anisotropy of final-state particles, is sensitive on the one hand to the initial density and to the initial geometry fluctuations of the overlap region, and on the

other hand to the transport properties of the QGP.

In this talk an overview of anisotropic flow results so far in heavy-ion physics at Large Hadron Collider (both in Run 1 and Run 2) will be presented. Results in small collision systems (proton-proton and proton-lead) at various collision energies will be discussed as well in order to determine the onset of QGP formation, as a function of system size and energy. The technical aspects and foreseen improvements of multiparticle correlations, which are at the moment the primary analysis techniques used in anisotropic flow measurements, will be outlined. Discussion on other environments in which QGP can be produced, like for instance the core of neutron stars, will conclude the talk.