Elliptic and triangular collective flow of identified charged hadrons in Au+Au at $\sqrt{s_{NN}} = 200$ GeV

Petr Parfenov (for the STAR Collaboration)
National Research Nuclear University MEPhI

Abstract

A central goal of current experiments at RHIC and LHC is to study the properties of the hot and dense QCD matter produced in energetic heavy-ion collisions. Such studies can give insight into the QCD phase diagram, as well as the transport coefficients of the strongly-coupled Quark-Gluon Plasma (sQGP). Anisotropic flow measurements of identified particles play an essential role in such studies. We report on the measurements of elliptic (v_2) and triangular (v_3) flow of identified charged hadrons in Au+Au collisions at 200 GeV per nucleon pair center of mass energy measured with the STAR detector at RHIC. The results will be presented as a function of transverse momentum (p_T) and collision centrality for different particle species and compared with recent ALICE measurements in Pb+Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV.