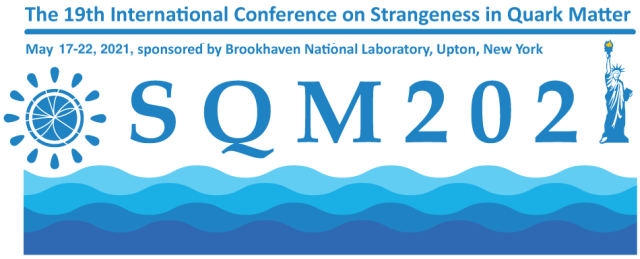

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Elliptic flow for ⊠-mesons measured by PHENIX

Tuesday, May 18, 2021 11:10 AM (20 minutes)

The systematic study of hadronic elliptic flow in various relativistic heavy ion collisions is important for the investigation of the initial geometry influence on the quark gluon plasma characteristics. The ⊠-meson consists of strange and antistrange quarks and has a small interaction cross section with non-strange hadrons. Therefore, ⊠-mesons are barely affected by late hadronic stage and reflect detailed information about hot and dense matter properties. Additionally, the comparison of elliptic flow for ⊠-mesons to those of charged hadrons will provide additional research of the flow flavor dependence. PHENIX has measured second order azimuthal anisotropy coefficients for ⊠-mesons in Cu+Au collisions at √s_{NN} = 200 GeV and in U+U collisions at √s_{NN} = 193 GeV at midrapidity (|y|<0.35). The obtained data suggest scaling of elliptic flow for ⊠-mesons with eccentricity of participant nucleons in Cu+Au, U+U, and Au+Au collisions. For a more detailed study, the comparison of current results to azimuthal anisotropy for charged hadrons and to hydrodynamic and transport model predictions will be presented.

Collaboration

PHENIX

Primary author: Mr MITRANKOV, Iurii (Peter the Great St.Petersburg Polytechnic University (SPbPU))

Co-authors: Mrs MITRANKOVA, Mariia (Peter the Great St.Petersburg Polytechnic University (SPbPU)); Prof. BERDNIKOV, Yaroslav (Peter the Great St.Petersburg Polytechnic University (SPbPU)); KOTOV, Dmitry (PNPI NRC KI & SPbPU); Mr BORISOV, Vladislav (Peter the Great St.Petersburg Polytechnic University (SPbPU)); Ms LARIONOVA, Daria (Peter the Great St.Petersburg Polytechnic University (SPbPU)); Mr BERDNIKOV, Alexander (Peter the Great St.Petersburg Polytechnic University (SPbPU))

Presenter: Mr MITRANKOV, Iurii (Peter the Great St.Petersburg Polytechnic University (SPbPU))

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