

Abstract Submitted
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Measurement of the ϕ meson production and azimuthal anisotropy in p+p and A+A collisions by STAR experiment at RHIC
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Enhanced strange particle production has been suggested as a diagnostic of hot and dense matter created in relativistic heavy ion collisions. Systematic measurements of strange particle yields and their azimuthal anisotropy as a function of transverse momentum, centrality, system size and collision energy provide a means for understanding the strangeness production in nucleon-nucleon and nuclei-nuclei collisions. Of particular interest have been the measurements of the ϕ meson, the lightest vector meson with net-strangeness zero and a mass similar to that of the proton and Λ . These unique features of the ϕ meson allow us to study many different aspects of the heavy ion collisions. This talk reviews the systematic measurements of ϕ meson production and azimuthal anisotropy in p+p, d+Au, Cu+Cu and Au+Au collisions at different energies performed at the STAR experiment, and discusses its implications.

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