

Experimental status on spin polarization in heavy ion collisions at RHIC

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1 In non-central collisions, large angular momentum can be manifested in the form
2 of vorticity in the medium. Due to the spin-orbit coupling, spin directions of par-
3 ticles are aligned with the orbital angular momentum of the system. The global
4 polarization of hyperons has been measured at various collision energies indicating
5 the role of large angular momentum perpendicular to the reaction plane. In addi-
6 tion, the anisotropic flow of the medium can induce a local vorticity. It leads to
7 spin polarization along the beam direction and might have different sensitivity to
8 the relaxation time of the vorticity. The global spin alignment of vector meson can
9 also offer information on the spin-orbit interactions of the QCD medium. In this
10 talk, we will present recent measurements of the spin polarization of hyperons and
11 spin alignment of vector mesons in heavy-ion collisions at RHIC.