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## Global spin alignment of $\phi$ and $K^{*0}$ vector mesons in Au+Au collisions from RHIC BES-II program

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Global spin alignment is a preferential alignment of a particle's spin along the orbital angular momentum produced in heavy-ion collisions. The global spin alignment of vector mesons ( $J^P = 1^-$ )  $\phi$  and  $K^{*0}$  may be sensitive to the vorticity and hadronization mechanism in the medium. The second phase of RHIC Beam Energy Scan (BES-II) program provides new and higher statistics data sets for Au+Au collisions at  $\sqrt{s_{NN}} = 7.7-19.6$  GeV. From this data, we can make high precision measurements of  $\phi$  and  $K^{*0}$  global spin alignment, allowing for more differential studies not possible with the BES-I data. We can also compare global spin alignment between  $\phi$  and  $K^{*0}$ , where the lifetime of  $\phi$  is roughly ten times larger than that of  $K^{*0}$  and the latter is more sensitive to hadronic re-scattering. In this talk, we report high precision measurements for the global spin alignment of  $\phi$  and  $K^{*0}$  at  $\sqrt{s_{NN}} = 14.6$  and 19.6 GeV from BES-II.

### Present via

Offline

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