

# 1 Measurements of Global and Local Polarization of Hyperons in 2 200 GeV Isobar Collisions from STAR

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4 In heavy-ion collisions, the observation of the global and local polarization of hyperons has revealed the  
5 existence of large vorticities perpendicular to reaction plane due to systems's orbital angular momentum  
6 and along beam direction due to collective velocity field, respectively. With the high-statistics data from  
7 isobar collisions of Ru+Ru and Zr+Zr at  $\sqrt{s_{NN}} = 200$  GeV collected by the STAR experiment, we present  
8 differential measurements of global polarization for  $\Lambda/\bar{\Lambda}$  and  $\Xi^\pm$  as a function of centrality,  $p_T$ , and  $\eta$ .  
9 These measurements allow us to study the possible magnetic field driven effects through the polarization  
10 difference between Ru+Ru and Zr+Zr, owing to a larger magnetic field in the former. Furthermore, the  
11 first measurements of  $\Lambda$  hyperon local polarization along beam direction relative to the third order event  
12 plane as well as the second order event plane will be presented. A comparison on results from isobar  
13 and Au+Au collisions provides important new insights into the collision system size dependence of the  
14 vorticities in heavy-ion collisions.