

## Measurement of transverse polarization of $\Lambda/\bar{\Lambda}$ inside jets in unpolarized $pp$ collisions at $\sqrt{s} = 200$ GeV

The fragmentation process has been proposed as a possible origin of the transverse  $\Lambda$  polarization, described by polarizing fragmentation functions (pFFs). In  $pp$  collisions, this mechanism can be studied by measuring the  $\Lambda$  polarization within jets. We present the first measurement of the transverse polarization of  $\Lambda/\bar{\Lambda}$  hyperons relative to the jet axis in unpolarized  $pp$  collisions at  $\sqrt{s} = 200$  GeV, using high-statistics data from the STAR experiment. The dependence of the  $\Lambda$  polarization on the jet transverse momentum ( $p_T^{\text{jet}}$ ) is observed. The polarization is also studied as a function of the jet momentum fraction ( $z$ ) carried by the  $\Lambda/\bar{\Lambda}$ , and the  $\Lambda/\bar{\Lambda}$  momentum transverse to the jet axis ( $j_T$ ). These results provide a critical test of the pFFs universality and new insights into the mechanisms behind the transverse  $\Lambda$  polarization.

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