Di-hadron production in proton-proton collisions and the universality of the transversity distribution

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The transversity distribution was recently extracted from deep-inelastic scattering processes producing hadron pairs in the final state because it is involved, together with a specific chiral-odd di-hadron fragmentation function, in the elementary mechanism that generates a transverse-spin asymmetry in the azimuthal distribution of the detected hadron pairs. The same elementary mechanism was predicted to generate an analogous asymmetry when the hadron pairs are produced in proton-proton collisions with one transversely polarized proton. Recently, the STAR Collaboration has observed this asymmetry. We analyze the impact of these data on our knowledge of transversity.

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