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Collins Asymmetries measurement in the inclusive production of hadron pairs at BaBar

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Transversity Distribution, which describes the quark transverse polarization inside a transversely polarized nucleon, is the last leading-twist missing piece of the QCD description of the partonic structure of the nucleon. Transversity can be extracted from semi-inclusive deep inelastic scattering data, where it couples to a new, unknown fragmentation function, called Collins function. We present a measurement of the azimuthal asymmetries in the process $e^+e^- \rightarrow \pi^+\pi^-X$ (inclusive hadron production), in which the two pions are produced in opposite hemispheres, based on the full BABAR data sample. The Collins function is extracted from the measured asymmetries.

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