DIS 2015
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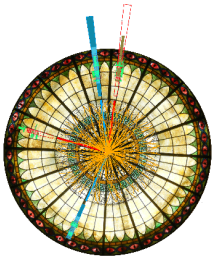

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Studies of Collins asymmetries with the BaBar detector

Tuesday 28 April 2015 11:10 (20 minutes)

Inclusive hadron production cross sections and angular distributions in
e+e- collisions shed light on fundamental questions of hadronization and
fragmentation processes. We present measurements of the so-called Collins azimuthal asymmetries in inclusive production of hadron pairs, in the e+e- -> h1 h2 X annihilation process, where the two hadrons (either kaon or pions) are produced in opposite hemispheres.
The data collected by the BaBar detector allows the determination of the Collins
fragmentation function as a function of hadron fractional energies and
transverse momenta, and can be combined with semi-inclusive deep-inelastic-scattering data to extract the transversity distribution function,
which is the least known leading-twist component of the QCD description
of the partonic structure of the nucleon.

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