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**Transverse Spin Structure of the Proton Studied by HERMES**

TOSHI-AKI SHIBATA, Tokyo Institute of Technology, HERMES COLLABORATION — HERMES is a deep inelastic scattering experiment at DESY-HERA. It uses the polarized electron/positron beam of 27.5 GeV and polarized gas targets such as hydrogen and deuterium, along with unpolarized high density gas targets. One of the major aims of HERMES is to explore the spin structure of the nucleon. The “Proton spin problem” was initiated by the discovery of EMC that quark spin contribution to the proton spin is small. The spin of the nucleon, which is  $1/2$ , may consist of contributions of quark spin and gluon spin, and also of orbital angular momenta of quarks and gluons. One way to look into the spin structure of the nucleon is helicity distributions of the partons in the nucleon. The other way, which is developing rapidly, is to study transverse spin structure of the nucleon using a transversely polarized nucleon target. Sivers and Collins asymmetries from azimuthal angular dependence are typical examples. In this talk, the update of transverse spin structure of the nucleon at HERMES is presented.

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