

## Selected recent HERMES results on parton distribution and fragmentation functions

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The HERMES experiment at HERA has performed a new determination of the strange quark distribution  $s(x)$  from multiplicities of charged kaons in semi-inclusive deep-inelastic scattering (SIDIS) of 27.6 GeV electrons/positrons from deuterium. The extracted distribution function (DF) is much softer than that previously derived from dimuon events in neutrino/antineutrino scattering and those currently used in global PDF fits. Azimuthal asymmetries of identified hadrons in SIDIS from a transversely polarized hydrogen target and from unpolarized hydrogen and deuterium targets were measured. The former are caused by a convolution of the chiral-odd Collins fragmentation function (FF) and quark transversity (DF) or the convolution of the unpolarized FF and the naive time-reversal odd Sivers DF which can be related to orbital angular momenta of quarks in a polarized nucleon. The latter allow to access flavour dependent information about quark intrinsic transverse momenta and spin-orbit correlations. Examples are the Cahn effect, generated by the non-zero transverse motion of quarks and the Boer-Mulders effect, originating from a coupling between quark transverse momentum and transverse spin.

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