

Abstract
References

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**Shadowing of deuteron spin structure functions**

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Abstract

The low x behavior of the twist-two structure functions $F_2^D(x)$, $g_1^D(x)$, $h_1^D(x)$ for the deuteron is examined in the framework of the LPS (Landschoff-Polkington-Shoet) model for deep inelastic scattering, combined with Glauber theory for quark-nucleon scattering. The quadrupole structure function $b_1^D(x, Q^2)$, which would otherwise vanish for a pure deuteron s -state, turns out to be non-zero once double scattering terms are included. We also observe that, because of nucleon spin correlations in the target, even the unpolarized nuclear structure function requires knowledge of the spin distribution of partons inside individual nucleons. Assuming a simple s -state only in the model of the deuteron, numerical estimates are presented for all twist-two structure functions.

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