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PDF Contributions and Parity Violation at High Bjorken x. TIM-OTHY HOBBS, University of Chicago — In recent decades, leptonic deep inelastic scattering (DIS) has been widely used to probe nucleon structure. Despite remarkable success, studies of parton contributions to nuclear structure and behavior have complicated t he original picture of a quark-dominated nucleon. Beyond issues of quark -parton contribution to nucleon spin, high precision data characterizing t he d-quark parton distribution function (PDF) at high values (i.e.  $\geq$ (0.7) of the Bjorken parameterization remain incomplete. Calculations of the d/ u PDF ratio contribution to parity-violating asymmetries in un/-polarized DIS are performed for a range of values of the square momentum transfer  $Q^2$ ; for completeness, calculations involve several PDF models and target /polarization schemes for the neutral/electromagnetic interference current. So far, calculations predictably demonstrate a significant dependence of beam asymmetries upon the d/u PDF ratio. These results for d/u are expa nded by similar findings for the dependence of the polarized, target asymmetry upon the spin-dependent PDF ratio  $\frac{\Delta d}{\Delta u}$ . This s evaluation of PDF effects through d/u and  $\frac{\Delta d}{\Delta u}$  co neurs with and expands earlier findings in nucleon structure, thereby driving further interest and tests of the Quark-Parton Model (QPM) and parity violation.

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