Finite-Q^2 Corrections to Parity-Violating DIS TIMOTHY HOBBS,
The University of Chicago, WALLY MELNITCHOUK, TJNAF — Parity-violating
deep inelastic scattering (PVDIS) has been proposed as an important new tool to
extract the flavor and isospin dependence of parton distributions in the nucleon. We
discuss finite-Q^2 effects in PVDIS asymmetries arising from subleading kinematical
corrections and longitudinal contributions to the γZ interference. For the proton,
these need to be accounted for when extracting the d/u ratio at large x. For the
deuteron, the finite-Q^2 corrections can distort the effects of charge symmetry viola-
tion in parton distributions, or signals for physics beyond the standard model. We
further explore the dependence of PVDIS asymmetries for polarized targets on the
u and d helicity distributions at large x.

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