

Abstract Submitted
for the DNP13 Meeting of
The American Physical Society

Comparative study of nonperturbative heavy quarks in the nucleon¹ TIMOTHY HOBBS, Indiana University, PEDRO JIMENEZ-DELGADO, Jefferson Lab, JOHN LONDERGAN, Indiana University, WALLY MELNITCHOUK, Jefferson Lab — We perform an analysis of the role of nonperturbative (or intrinsic) charm in the nucleon. Charm is generated nonperturbatively through Fock state expansions of the nucleon wave function to include five-quark virtual states involving charmed mesons and baryons. We consider contributions from a variety of charmed meson-baryon states and find surprisingly dominant effects from the $\bar{D}^{*0} \Lambda_c^+$ configuration. Particular attention is paid to the existence and persistence of high- x structure for intrinsic charm, and the x dependence of the $c - \bar{c}$ asymmetry predicted in meson-baryon models. We also discuss efforts to constrain intrinsic charm via a forthcoming global QCD analysis, and the possibility of extracting intrinsic strangeness using a similar approach.

¹Research supported by NSF grant NSF-PHY-1205019 and DOE Office of Science grants DE-FG02-87ER40365, DE-AC05-06OR23177.

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Date submitted: 28 Jun 2013

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