

Abstract Submitted
for the APR08 Meeting of
The American Physical Society

Proton Compton Scattering in the Wide-angle Regime DAVID HAMILTON, University of Glasgow, RON GILMAN, Rutgers University, ALAN NATHAN, University of Illinois, BOGDAN WOJTSEKHOWSKI, Thomas Jefferson National Accelerator Facility, THE JEFFERSON LAB HALL A COLLABORATION — Compton scattering on the proton in the wide-angle regime (WACS), in which the kinematic variables s , $-t$ and $-u$ are large on the hadronic scale, is a powerful and, until quite recently, under-utilized probe of nucleon structure. Results from recent Jefferson Lab measurements on both the spin-averaged cross section over a broad kinematic range and polarization observables at a single kinematic point will be presented. These results confirm the powerful role of WACS in determining dominant reaction mechanisms in exclusive hard reactions in the few GeV domain. Unambiguous disagreement with predictions based on perturbative QCD approaches and agreement with predictions based on the handbag mechanism has been established. The results also provide access to non-perturbative proton structure information. The overall WACS program at Jlab will be presented, including plans to extend measurements into a higher kinematic regime following the 12 GeV upgrade.

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Date submitted: 14 Jan 2008

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