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**SoLID DVCS Measurement with Polarized Protons and Neutrons**

ZHENYU YE, University of Illinois Chicago, ZHIHONG YE, Tsinghua University, SOLID COLLABORATION — We propose to perform the asymmetry measurements of the deeply virtual Compton scattering (DVCS) off transversely and longitudinally polarized proton and neutron targets using the proposed solenoidal large acceptance device (SoLID) in Hall-A. The spin azimuthal dependence of the asymmetries,  $A_{UL,UT,LL,LT}^{p,n}$ , in a wide range of kinematic regions are essential to systematically extract distributions of different Compton form factors (CFFs) corresponding to the integrals of Generalized Parton Distributions (GPDs). The high luminosity and large acceptance features of the SoLID will allow precision measurement of both the proton and neutron CFFs in the same experimental setup which are important to extract the valance-quark GPDs via the flavor decomposition. In particular, the GPD  $E_n$  is barely measured and new data are urgently needed for the study of  $J_u$  and  $J_d$  in the Jis sum rule. We plan to run the experiment in parallel with the approved SIDIS experiments with a minimum modification of the trigger system to enable the detection of high energy photons from the DVCS events. We will also discuss the possibility of enhancing the detector performance to unlock the full power of DVCS measurement on SoLID.

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