

Abstract Submitted  
for the APR21 Meeting of  
The American Physical Society

**Measurement of  $^3\text{He}$  Diffractive Minimum with Polarization Observables**<sup>1</sup> MICHAEL NYCZ, Temple University, E12-06-121 COLLABORATION — Elastic double-polarization asymmetries, made using a polarized electron beam and a polarized  $^3\text{He}$  target, are proportional to the product of  $^3\text{He}$ 's electric and magnetic form factors. Unlike a Rosenbluth separation, this asymmetry measurement is sensitive to the sign of the form factors and the zero crossing of the asymmetry correspond to the location of the diffractive minima. By measuring this asymmetry as a function of  $Q^2$ , we will further constrain the location of the diffractive minima and improve our knowledge of the three-body system and help determine the source of the current discrepancies between experiment and theory. These new measurements from experiment E12-06-121A, were performed in Hall C at Jefferson Lab using the CEBAF longitudinally polarized electron beam and a custom polarized  $^3\text{He}$  gas target. Elastically scattered electrons were detected in both the High Momentum and Super High Momentum Spectrometers over a series of  $Q^2$  values. The current analysis status will be presented.

<sup>1</sup>This work is supported by the U.S. Department of Energy, Office of Science, Office of Nuclear Physics, under Contracts No DE-FG02-94ER4084 and DE-SC0016577

Michael Nycz  
Temple University

Date submitted: 08 Jan 2021

Electronic form version 1.4