Abstract Submitted
for the APR21 Meeting of
The American Physical Society

The AT result from PREX-II/CREX WEIBIN ZHANG, Stony Brook University, PREX/CREX COLLABORATION — The Transverse Asymmetry (AT), also known as the beam-normal single-spin asymmetry, as measured by PREX-II and CREX is defined as the asymmetry of electron scattering cross section between opposite transverse polarities against an unpolarized target. It arises from the higher order EM interaction (the interference between One Photon Exchange (OPE) and Two Photon Exchange (TPE)), giving it a small magnitude. The PREX-II and CREX experiments provide us an opportunity to investigate the underlying physics of TPE. Moreover, the measurements in PREX-II and CREX bring precision beyond HAPPEX and PREX-I, leading to possible new understanding of relationship between AT and A/Z-scaling of different nuclei. Lastly, AT itself is a systematic uncertainty in the PREX-II/CREX data; by measuring it precisely, we will improve the PREX-II and CREX results. In this presentation, I will report the analysis and result of the new AT data collected during 2019-2020 operation of PREX-II/CREX and their implications.

weibin zhang
Stony Brook University

Date submitted: 07 Jan 2021 Electronic form version 1.4