Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

Magnetic moments for $A \leq 3$ nuclei from chiral effective field theory[1] SOHAM PAL, SHIPLU SARKER, PIETER MARIS, JAMES P. VARY, Iowa State University, PATRICK J. FASANO, MARK A. CAPRIO, University of Notre Dame — We present recent no-core shell model (NCSM) calculations of magnetic moments in $A \leq 3$ nuclei with chiral-EFT improved M1 operator and LENPIC interactions. We have derived the M1 operator from chiral-EFT electromagnetic currents up to N2LO in power counting, including two-body pion-exchange terms. We focus the discussion on the corrections that arise from the two-body pion-exchange terms, the convergence with respect to the NCSM basis space parameters, and the impact of coordinate space regulators.

[1]Supported by US DOE under Award Nos. DE-FG02-87ER40371, DE-FG02-95ER-40934, and DE-SC0018223 (SciDAC-4/NUCLEI). Computational resources provided by NERSC (US DOE Contract No. DE-AC02-05CH11231).

Soham Pal
Iowa State University

Date submitted: 26 Jun 2020 Electronic form version 1.4