Abstract Submitted
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Carbon isotopes viewed from ab initio structure and elastic scattering[1] GABRIELA POPA, CHARLOTTE ELSTER, Ohio University, MATTHEW BURROWS, Louisiana State University, ROBERT BAKER, Ohio University, PIETER MARIS, Iowa State University, STEPHEN WEPPNER, Eckerd College, KRISTINA LAUNEY, Louisiana State University — h $-abstract-$\pard We study elastic proton scattering off the Carbon isotopes with 4, 6, 8, and 10 neutrons within the framework of an ab initio implementation of the leading order term of the spectator expansion of multiple scattering approach at 100 MeV projectile energy.\pardAs the number of neutrons increases, the carbon isotopes allow us to study open and closed shell nuclei in the neutron space. The nonlocal one-body densities and nucleon-nucleon (NN) amplitudes needed to construct the effective nucleon-nucleus (NA) interaction are based on the NNLO_opt chiral NN potential. The one-body densities employed are obtained from the no-core shell model (NCSM).study the spin structure of the ground state of the different carbon isotopes as well as its influence on elastic scattering observables (cross sections and spin observables) from those even-even isotopes.\pard\pard-/abstract-\

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