Abstract Submitted
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Quantum Monte Carlo calculations of electron scattering for $A \leq 12$ nuclei in the Short-Time-Approximation LORENZO ANDREOLI, SAORI PASTORE, MARIA PIARULLI, Washington University, St. Louis, JOSEPH CARLSON, STEFANO GANDOLFI, Los Alamos National Laboratory — I will present ab initio calculations for electron scattering off $A \leq 12$ nuclei. Using Quantum Monte Carlo techniques together with the Argonne v_18 and Urbana-IX realistic two- and three-body interactions and ensuing accurate nuclear wavefunctions, we evaluate short-time (high-energy) responses in nuclei. Our approach allows us to obtain response densities, in addition to longitudinal and transverse response functions, and consistently includes two-body physics both in the nucleon-nucleon interaction and electromagnetic currents. Relevant for experiments currently being conducted, e.g. at JLAB, our results provide insight into nucleons in back-to-back kinematics, for different combinations of n and p pairs.

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