Electrodisintegration of few-nucleon systems using antisymmetrized molecular dynamics

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In this contribution we study electron-induced fragmentation of few-nucleon systems. In particular we investigate the proton knock-out from the ^{3}He and ^{4}He nuclei by relativistic electrons. We consider distortion effects, off-shell effects and final-state interaction. We use the antisymmetrized molecular dynamics (AMD) approach to construct wave functions of the systems [1] and employ the Glauber approximation describe scattering states [2]. The Glauber approximation takes in to account final-state interactions. We utilize non-relativistic nuclear one-body charge and current operators in calculating the nuclear transition amplitude. Differential scattering cross-sections for inclusive electron-nucleus scattering are calculated for selected kinematics and compared with some experimental data. We find that the AMD approach generates a very good approximation to experimental data for the processes. Contributions from distortion and off-shell effects are small while final-state interactions are significant at lower momentum transfers.

[1] G.J. Rampho, Few-Body Syst. **50**, 467 (2011).

[2] G.J. Rampho, S.A. Sofianos, S. Oryu, T. Watanabe, Few-Body Syst. **54**, 455 (2013).

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