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## Physics opportunities with tagged deep inelastic scattering on polarized light nuclei at EIC

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Unpolarized and polarized deep inelastic lepton scattering off light nuclei (deuterium, He-3) with detection of spectator nucleon(s) at EIC offers unique opportunities to address fundamental open questions of QCD such as the spin structure of the neutron, the effect of nuclear binding on quark and gluon distributions, and the onset of coherent nuclear effects in high-energy processes. We present an overview of the physics of “tagged DIS” on polarized light ions, the key processes and observables, emphasizing the advantages of forward nucleon tagging in collider kinematics. We report about results of recent R&D simulating the extraction of the unpolarized and polarized neutron structure functions from tagged DIS off deuterium and demonstrating the feasibility of such measurements with EIC, and outline future directions in this effort.

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