

Studying the tensor-polarized deuteron system in the 22 GeV era

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The deuteron is a spin-1 system, and its tensor properties continue to be elusive in experimental measurements due to the complexity of the polarized target. Recently, there has been an increase in interest in the physics of the tensor components of this system due to advances in target technology. This talk will discuss the implications of studying semi-inclusive deep inelastic scattering (SIDIS) reactions with a longitudinally polarized tensor target to investigate the transverse momentum-dependent distribution functions (TMDs) in order to understand the complex partonic correlations in multiple-nucleon light nuclei. We will also discuss the sensitivity to the S-wave by using tensor deuteron electro-disintegration, a unique measurement that is more interesting the larger the missing momentum of the nucleon. All of this discussion will be framed within the 22-GeV context.

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