

A New Window into Nuclear Structure

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Whenever technological advancements provide access to a new degree of freedom, previously inaccessible quantities can be measured. Currently, we are seeing the beginning of a renaissance of experiments utilizing a tensor polarized target to probe the structure of the deuteron. This is due to two recent developments: the JLab 12 GeV upgrade, and a high-luminosity, high-tensor-polarized target. Experiments utilizing these new capabilities can explore aspects of the nature of matter that have so far proven elusive, some for decades: from 6-quark hidden-color effects in the DIS region to the short-range and high-momentum components of the deuteron wavefunction in the $x > 1$ SRC region, and beyond. This presentation will discuss the first two experiments already approved to measure the tensor b_1 and A_{zz} observables, recent advances in tensor target development, and future opportunities to better understand nuclear and nucleon structures that are only accessible through experiments utilizing tensor polarized targets.

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