

Abstract Submitted
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Gluon Generalized Parton Distributions and the Angular Momentum Sum Rule¹ EMMA YEATS, SIMONETTA LIUTI, BRANDON KRISTEN, PHILIP VELIE, FERNANDA YEPEZ-LOPEZ, Univ of Virginia, SIWIF TEAM² — Understanding how the proton spin is carried by its constituents, the quarks and gluons, represents one of the main challenges in particle physics. In particular, the generalized parton distributions, $H_{q,g}$, $E_{q,g}$, which are found in the matrix elements for the deeply virtual Compton scattering process, allow us to measure the total angular momentum carried by the quarks and gluons, J_q and J_g , respectively. The latter are obtained as the second moment of the generalized parton distributions in the x variable. The nucleon helicity-flip distributions \bar{E}_q and \bar{E}_g , are lesser known than their counterparts H_q and H_g , because their forward limit values cannot be obtained from inclusive processes. Here we present a model calculation of \bar{E}_g in the reggeized diquark model, using recent lattice QCD calculations to take into account its normalization. Based on our model calculation, we study the impact of \bar{E}_g on the proton angular momentum sum rule.

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