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# J/psi: JLab22, SoLID, EIC

*Wednesday, 11 December 2024 09:00 (20 minutes)*

The charmonium photo/electro-production close to threshold can be used, under certain assumptions, to study the the gluon properties of the nucleon such as gluon form factors, mass radius of the proton, and the anomalous contribution to the proton mass. I will present analysis of the existing JLab J/psi data discussing the possibility of extracting gluon form factors based on some general theoretical assumptions. At the same time such analysis demonstrates the need for more precise data including also threshold production of higher-mass charmonium states. The CEBAF energy upgrade offers unique opportunities for such comprehensive studies. For the GlueX experiment we estimate significant increase in the Figure of Merit allowing not only precise cross-section but also polarization measurements. The future SoLID experiment with its high luminosity would complement such studies including also electro-production.

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**Session Classification:** Spatial Structure, Mechanical Properties, and Emergent Hadron Mass