

Abstract Submitted
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Measurement of two-photon exchange effects in CLAS¹ DIPAK RIMAL, BRIAN RAUE, Florida International University, DASUNI ADIKARAM, LAWRENCE WEINSTEIN, Old Dominion University, CLAS COLLABORATION — There is a significant discrepancy between the Rosenbluth and the polarization transfer measurements of the proton's electric to magnetic form factor ratio $\frac{G_E^p}{G_M^p}$. One possible explanation of this discrepancy is the contribution from two-photon exchange (TPE) effects, which are not typically accounted for in standard radiative corrections. The ratio of positron-proton to electron-proton elastic scattering cross sections, $R = \frac{\sigma(e^+p)}{\sigma(e^-p)}$, provides a model independent measurement of the TPE contribution to elastic electron-proton scattering. We measured this ratio at Jefferson Lab using a mixed electron-positron beam. Both electrons and positrons were elastically scattered from a liquid hydrogen target. The resulting scattered particles were detected in CLAS. The experimental details and results will be discussed.

¹U.S. Dept. of Energy

Brian Raue
Florida International University

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