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The CLAS Two Photon Exchange Experiment: Experimental Methods[1] DASUNI ADIKARAM, ROBERT BENNETT, LARRY WEINSTEIN, Old Dominion University, CLAS COLLABORATION — There is a large discrepancy between the proton electric form factor ($G_E{}^p$) measured using the Rosenbluth separation and polarization transfer methods. The most likely explanation is two-photon exchange (TPE). A precise measurement of the ratio of the cross sections of electron-proton and positron-proton elastic scattering is a model-independent way to measure the TPE amplitude. The TPE experiment recently took data at Jefferson Lab Hall B. The primary electron beam is used to create an intense bremsstrahlung photon beam. Some of the photons are then converted to a mixed identical e^+/e^- beam which then interacts with the liquid hydrogen target. The e^+p and e^-p events are detected by the CLAS. This talk will present the experimental techniques for producing the mixed identical e^+/e^- beam and the methods for controlling systematic uncertainties.

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