Two Photon Exchange (TPE) Experiment at CLAS

MEGH NIROULA, Old Dominion University, CLAS COLLABORATION TEAM — The ratio of the Electric ($G_E$) and magnetic ($G_M$) form factors of the proton measured by Rosenbluth Separation and Polarization Transfer methods differ by a factor of three at $Q^2$ of 5.6 GeV$^2$. The real part of the Two Photon Exchange (TPE) amplitude in lepton-proton elastic scattering is expected to explain this discrepancy. The ratio of elastic positron-proton to electron-proton cross sections is the only way to measure this real part. We will measure this cross section ratio using a mixed electron-positron beam in CLAS at Jefferson Lab. In this talk I will present how the electron-positron beam is produced, the backgrounds that limit our luminosity and the simulations used to reduce those backgrounds.