

Abstract Submitted
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Pion Electroproduction in the OLYMPUS Experiment¹ LAUREN ICE, Arizona State University, OLYMPUS COLLABORATION — The OLYMPUS experiment, currently underway at the DESY laboratory, measures the positron-proton to electron-proton scattering cross section ratio to determine the effect of multiple photon exchange on electron-proton elastic scattering. The motivation for this experiment is the discrepancy between measurements of the electric and magnetic form factors of the proton, as found with the Rosenbluth separation technique and polarization transfer methods. The expected culprit of this discrepancy is the two-photon exchange contribution to electron-proton elastic scattering. One of the sources of background for this experiment will be electroproduction processes, which will primarily be pion production from the first resonance of the proton. The study of the pion backgrounds for the OLYMPUS experiment will be presented. The pion backgrounds are being modeled using a pion electroproduction simulation based off of the MAID2007 databases. This is used with a GEANT4 Monte Carlo simulation in order to discriminate between elastic and inelastic electron-proton scattering events during the experiment.

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Ricardo Alarcon
Arizona State University

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