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Coherent ρ-meson photo production from CLAS[1] TAYA CHETRY, NICHOLAS COMPTON, KENNETH HICKS, Ohio University, CLAS COLLABORATION — Coherent ρ photoproduction from the deuteron has been studied at CLAS as a function of the photon energy and the 4-momentum transfer. Tagged photons with beam energies between 0.8 and 3.0 GeV were produced using the bremsstrahlung process at Hall B of Jefferson Lab, incident on a deuterium target, during the run period g10. The final state particles detected are an energetic deuteron and a pair of charged pions from the ρ^0 meson decay. These events were constrained to have zero missing mass, to ensure an exclusive reaction. Preliminary cross sections have been obtained from fits to the ρ peak in the invariant mass spectrum of the $\pi^+\pi^-$ pair for bins in the 4-momentum transfer t as a function of E_γ. These data are important to test models of hadronic scattering of ρ mesons from the nucleon, as it is not possible to produce beams of ρ mesons. In addition, this study is also important to understand the backgrounds in analyses of a possible d^* dibaryon resonance that has the same final state.

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