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Photoproduction of omega with linearly polarized photons at CLAS LU CHENG, FRANZ KLEIN, Catholic University of America, CLAS COLLABORATION — The CLAS-g8 running period with linearly polarized photons allowed for the extraction of beam and parity asymmetry for the ωp channel at photon energies between threshold and 2.1 GeV. Although our analysis aims for providing tight constraints on baryon resonances decaying into ωN , a by-product is the separation of contributions of natural and unnatural parity-exchange mechanisms. Such a measurement is considered as an important step to parametrize the t-channel background for resonant production. The vector meson is identified in the decay mode $\omega \rightarrow \pi^+ \pi^- \pi^0$. The recoil proton was detected in coincidence with two charged pions and the missing π^0 identified via missing mass. The three-pion mass spectrum shows a strong ω signal that is enhanced in the forward direction as expected from diffractive and pion-exchange processes. The extracted spin density matrix elements confirm the dominating pion-exchange mechanism for the lower energy points. However, the (preliminary) cross section and asymmetries are not fully consistent with t-channel processes: the cross section enhancement at $\cos \theta_{cm} \simeq 90^\circ$ and the modulation of the angular distribution of the decay pions indicate the presence of resonant production.

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