

Abstract Submitted
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K^{*0} photoproduction off the proton at CLAS¹ ISHAQ HLEIQAWI, KEN HICKS, Ohio University, CLAS COLLABORATION — The photoproduction of vector mesons has previously focused on the nonstrange sector, with ρ , ω or ϕ mesons in the final state. The lightest vector meson with nonzero strangeness is the K^{*} of which little is known for photoproduction. The large acceptance of the CLAS detector makes it possible to capture both K^{*} decay products, the pion and the kaon. In this talk we will show differential cross sections for the K^{*0} Σ^+ final state over photon energies ranging from about 1.8 to 3.0 GeV. These data are compared with a theoretical model by Zhao *et al.* using a quark-model for the K^{*}-baryon couplings. Our data show that the forward-angle data are well described by the t-channel, hence providing constraints for the K^{*} Σ N coupling constant. At larger angles, the s-channel is well described by the model of Zhao *et al.* over a range of angles and photon energies. The K^{*} couplings determined from our data will more tightly constrain calculations for scalar kaon production, where K^{*} exchange occurs as a virtual particle in the t-channel.

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