

Abstract Submitted
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K^* vector meson photoproduction on a proton target at Jefferson Lab LEI GUO, Jefferson Lab, CLAS COLLABORATION — It has been pointed out that the K^*Y channels could provide some unique opportunities in searching for those missing resonances which couple to the KY and $N\pi$ channels weakly. Compared with the KY channels, the photoproduction of K^* vector meson has not been studied in as much details mainly due to the lack of data. The CLAS Collaboration at Jefferson Lab conducted a photoproduction experiment on a proton target using a tagged photon beam with an energy range of 1.6-3.8 GeV during May-July 2004. With an integrated luminosity of about 75 pb^{-1} , this experiment provides the largest data set for photon-proton reactions ever collected. The two reactions $\gamma p \rightarrow K^{*+}\Lambda \rightarrow K^+p\pi^-(\pi^0)$ and $\gamma p \rightarrow K^{*0}\Sigma^+ \rightarrow K^+\pi^-(\Sigma^+)$ have been investigated. The comparison of the two channels could provide insight into the contributions of the controversial κ meson. The preliminary results of the cross section measurement and angular distributions for the photon energy range of 2.0-3.8 GeV will be presented and compared with theoretical calculations.

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