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A double-Regge exchange model for high-energy $\eta^{(\prime)}\pi$ photoproduction

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The study of $\eta^{(\prime)}\pi$ photoproduction is particularly interesting for the search for the lowest lying hybrid meson with exotic quantum numbers, the $\pi_1(1600)$, at the GlueX experiment at Jefferson Lab. In this talk, I will present a model based on the double-Regge exchange of vector trajectories for photoproduction at high energies. The model successfully describes CLAS data at large $\eta^{(\prime)}\pi$ invariant mass and predicts a sizable forward-backward angular asymmetry at GlueX energies, larger in $\eta'\pi$ than in $\eta\pi$, indicating the presence of strong exotic partial waves also in the resonance region, particularly in the $\eta'\pi$ channel.

Collaboration

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