

Search for Hybrid Mesons at GlueX

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Recent lattice QCD calculations predict the existence of hybrid mesons, which are mesons with gluonic degrees of freedom. By mapping out the hybrid meson spectrum, we can gain insight into how the gluon contributes to the properties of bound states in QCD. The $\pi_1(1600)$ is a candidate for the lightest hybrid meson. This state has exotic quantum numbers of $J^{PC} = 1^{-+}$, which are forbidden for conventional mesons. The GlueX experiment has collected high statistics photoproduction data, which we are using to search for the $\pi_1(1600)$. This talk will summarize the search strategy for the $\pi_1(1600)$ at GlueX, including the most recent results in the $\omega\pi\pi$, $\eta\pi$, and $\eta'\pi$ final states.

Parallel Session

Hadron Spectroscopy

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