Search for the Y(2175) in Photo-production at GlueX

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Quantum Chromodynamics is the theory that describes how hadrons are built from quarks and gluons via strong interaction. Many predictions have been observed, but many others are still pending and others under experimental investigation. Of particular interest is how gluonic excitations give rise to exotic states. One class of such states are hybrid mesons that are predicted by phenomenological models and Lattice Quantum Chromodynamics calculations. The $Y(2175)$, as observed in electron-positron experiments is discussed to be strangenoium partner of the $Y(4260)$, and thus a candidate for e.g. a hybrid meson or tetraquark state.

We present the status and plans to search for this state in photo-production at the GlueX experiment in Jefferson Lab's Hall D, which started physics data taking in 2016.

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