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Photoproduction of exotic states

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The experimental investigation of hadrons is an unique way to understand how QCD behaves at the low-energy non-perturbative scale, where the bulk of the Universe visible mass exists. The search for “exotic” states, in particular, could permit to access further degrees of freedom of the theory that are characteristics of these particles, behind those of the Constituent Quark Model that well describes “conventional” hadrons.

In the past, these studies have been performed with different experimental techniques, such as peripheral production with high-energy pion or kaon beams. Today, the availability of high-energy, high-intensity photon beams permitted to start a new experimental program based on this probe, made of different efforts.

In the talk, after briefly presenting the physical motivations of hadron spectroscopy and discussing the main properties of photo-production, I’ll first present few results from past experiments, such as LEPS and CLAS. Then, I’ll discuss plans for exotic hadron searches in two “modern” photo-production experiments at Jefferson Lab: “Meson-Ex” in Hall B and “GlueX” in Hall D.

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Session Classification: Tuesday Afternoon (20min talks + 10min discussions)