

Abstract Submitted
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The Search for Missing Baryon Resonances in the Reaction $\gamma p \rightarrow p\pi^0\eta$ ¹ VOLKER CREDE, CB-TAPS COLLABORATION — The problem of so-called *missing* baryon resonances will be discussed on the basis of recent experimental results of the Crystal-Barrel experiment (CB-TAPS Collaboration) and discussion will be given on planned double-polarization experiments at the e^- accelerator ELSA in Bonn. The Crystal-Barrel detector is the ideal instrument to study various multi-photon final states over the full dynamical range due to its almost 4π coverage of the solid angle and its excellent energy resolution. Resonance production and even decay cascades of the type $\gamma p \rightarrow \Delta^* \rightarrow \Delta\eta \rightarrow p\pi^0\eta$ have been observed. Indications for at least one Δ resonance around $1900 \text{ MeV}/c^2$ have been seen. The latter is particularly interesting if it had negative parity because a confirmation of this state would be in contradiction with current constituent quark models. Constraints provided by polarization observables are important because analyses of unpolarized data often result in ambiguous solutions. For the upcoming data-taking, circularly- and linearly-polarized photons will be used incident on the Bonn frozen-spin butanol target providing longitudinal polarization. Studies of the sensitivity of polarization observables to baryon resonances will be discussed.

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