Baryon spectroscopy: recent results and impact

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Collaboration

Abstract content

The nucleon excitation scheme has been under intensive investigation with meson photoproduction experiments during the last few years world wide. Currently, a lot of new experimental results are coming out from the CLAS experiment at Jlab, the Crystal Barrel experiment at the ELSA accelerator in Bonn and the Crystal Ball experiment at the MAMI accelerator in Mainz. These experiments focus on the investigation of single and double polarization observables for different meson production reactions using longitudinally and transversely polarized targets, linearly and circularly polarized photon beams as well as the polarization of the recoil protons. The new data sets provide stringent constraints for partial wave analyses of meson photoproduction off the nucleon and will lead to an unique determination of the contributing resonances. The new experimental results will be presented and the impact of the new results to the nucleon excitation spectrum will be discussed.

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