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Need and prospects for new experiments in baryon spectroscopy using meson beams SADLER MICHAEL, Abilene Christian University — The masses, widths, pole positions, and inelasticities of N* and Δ* resonances, the excited states of the nucleon, are compiled by the Particle Data Group (PDG). These parameters have been determined almost exclusively from partial-wave analyses of πN total, elastic, and charge-exchange scattering data. The determinations come mostly from the Karlsruhe-Helsinki and Carnegie-Mellon-Berkeley analyses that incorporated data sets that are more than 30 years old. The frequently updated GWU analysis has supposedly been used by the PDG since 2006, but the tabulated values for these parameters have not changed. Relativistic quark models accommodate most of these states, but also predict many more. These so-called "missing states" supposedly couple weakly to the πN channel, giving rise to intense efforts at electron accelerators to study these resonances via photo- or electro-production. However, accurate πN analyses are still needed because the observed particles are the result of hadronic decay. The need for a rejuvenated program in πN and KN scattering will be presented and possible facilities for doing the experiments will be discussed.

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