

Compton scattering off proton in the nucleon resonance region

Summary

The Compton scattering off proton in the third resonance region is analyzed for the first time, owing to the full combined analysis of pion- and photo-induced reactions in a coupled-channel effective Lagrangian model with K-matrix approximation. Two isospin 3/2 resonances D33(1700) and F35(1930) are found to be essential in the range of 1.6 - 1.8 GeV. The recent beam asymmetry data of Compton scattering from the GRAAL facility are used to determine the helicity couplings of these resonances, and strong constraint comes also from data of πN and $K\Sigma$ photoproduction. Possible role of new narrow resonances is discussed.

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