

## High Energy Physics - Phenomenology

# Higher order forward spin polarizability

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As a guideline for future experiments to extract the four (leading) spin polarizabilities of the nucleon, we have constructed the forward amplitude for polarized Compton scattering by dispersion integrals. These integrals have been saturated by recently measured helicity-dependent photoabsorption cross sections as well as predictions for pion photoproduction multipoles from several phenomenological descriptions and chiral perturbation theory. The comparison of these results corroborates the strategy to extract the spin polarizabilities by fitting them to polarized Compton data and fixing all higher order spin effects by dispersion relations based on pion photoproduction multipoles.

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