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Second-order Coulomb excitation effects from the GDR

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Abstract content
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A new empirical formula for the (-2) moment of the photo-absorption cross section, σ_{-2} , has been determined from the 1988 compilation of Dietrich and Berman. A new fit to the data yields a new empirical formula which is in better agreement with Migdal's original calculation, and approximately yields a 30% decrease in the polarization potential generated by virtual electric-dipole excitations of states around the giant dipole resonance. The effect of a mass-dependent symmetry energy provides an explanation for deviations from the hydrodynamic model.

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