

Photon strength functions in light nuclei from forward-angle proton scattering

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Inelastic proton scattering at several hundred MeV and extreme forward angles has been established as a versatile tool to study photon strength functions in heavy nuclei from low to high excitation energies. I will report on recent extensions of the method to lighter nuclei. While the approach becomes more model-dependent because of the less favorable ratio of Coulomb to nuclear cross sections, such an analysis seems valuable in view of the notoriously scarce and often conflicting total photoabsorption data in light nuclei. Results for ^{58}Ni , $^{40,48}\text{Ca}$ and a series of sd-shell nuclei will be discussed. The latter are confronted with large scale shell-model calculations and data-driven artificial neural network predictions.

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