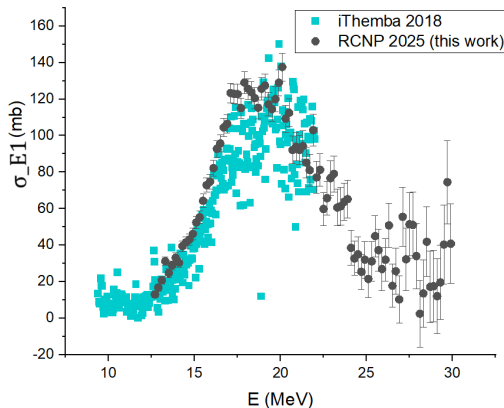


^{56}Fe electromagnetic response: preliminary results

392 MeV (p, p') ■ natural Fe ■ finite acceptance around 0° ■ RCNP / Grand Raiden



Corrected double-differential cross sections; equivalent photo-absorption and E1 strength inferred using the virtual photon method.

IVGDR peak ≈ 18.7 MeV

Centroid and cross-section magnitude consistent with normalized iThemba data.

Sigmoid-extrapolated estimates

Integrated strength ≈ 1090 MeV mb

TRK enhancement $\approx 30.5\%$

Polarizability $\alpha_D \approx 2.31$ fm³

α_D likely overestimated (residual non-E1 strength).

Normalized iThemba data: Jingo et al. (2018).

Limits: estimated quasi-free-scattering subtraction; assumed E1 dominance; no completed multipole decomposition. Error bars are statistical; model-dependent systematics under evaluation. Non-zero-angle data not yet analysed.