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Gamow-Teller strength calculations in various RPA scenarios

The Gamow-Teller response is astrophysically important for a number of nuclides, particularly around iron. The random phase approximation (RPA) is an efficient way to generate strength distributions. In order to better understand both theoretical systematics and uncertainties, I present and compare the Gamow-Teller strength distributions for a suite of nuclides and for a suite of interactions, including semi-realistic interactions in the 1p-0f space with the RPA and a separable multi-shell interaction in the quasi-particle RPA. The calculations are also compared with experimental results wherever available.

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