

TABLE V: Lorentzian-fit parameters for the low-energy component of ISGDR strength distributions in the Sn isotopes, as extracted from MDA. The results from TAMU work, where available, are provided for comparison [19, 21].

Target	$E_{LE-ISGDR}$ (MeV)	Γ (MeV)	Reference
^{112}Sn	15.4 ± 0.1	4.9 ± 0.5	This work
	$14.92^{+0.15}_{-0.14}$	$8.82^{+0.26}_{-0.29}$	TAMU
^{114}Sn	15.0 ± 0.1	5.6 ± 0.5	This work
^{116}Sn	14.9 ± 0.1	5.9 ± 0.5	This work
	14.38 ± 0.25	5.84 ± 0.30	TAMU
^{118}Sn	14.8 ± 0.1	6.1 ± 0.3	This work
^{120}Sn	14.7 ± 0.1	5.9 ± 0.3	This work
^{122}Sn	14.4 ± 0.1	6.7 ± 0.3	This work
^{124}Sn	14.3 ± 0.1	6.6 ± 0.3	This work
	$13.31^{+0.15}_{-0.15}$	$6.60^{+0.15}_{-0.13}$	TAMU

with neutron excess predicted by this hybrid model might be unrealistic. They also suggest that the failure of the FSUGold to reproduce the ISGMR energies might be due to missing physics unrelated to the incompressibility of neutron-rich nuclear matter; as an example of such missing physics, they mention the superfluid character of the Sn isotopes resulting from their open-shell structure.

Calculations have also become available recently from the RMF approach with the DD-ME2 interaction [75], and these reproduce the centroids of the ISGMR in the Sn isotopes rather well [68]. It is also seen that the DD-ME2 interaction falls within the constraints imposed by the experimental K_∞ and K_τ values (see discussion below). Some concern has been expressed, however, that this agreement of the centroid energies might be just a coincidence since the ISGMR strength distributions for the Sn isotopes from this work appear to be not significantly different from those obtained from, for example, the FSUGold [76].

In calculations using the T5 Skyrme interaction within the quasiparticle time blocking approximation (QTBA) approach, Tselyaev *et al.* [69] have obtained the ISGMR strength distributions in all the Sn isotopes in good agreement with the experimental data, including the resonance widths. However, T5 has the associated K_∞ value of only 202 MeV, which is