

TABLE VI: Lorentzian-fit parameters for the high-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 | $E_{HE-ISGDR}$ (MeV) | Γ (MeV) | EWSR ^a | Reference |
|-------------------|-------------------------|-------------------------|------------------------|-----------|
| ¹¹² Sn | 26.2 ± 0.8 | 16.3 ± 4.0 | 1.02 ± 0.03 | This work |
| | $26.28^{+0.32}_{-0.23}$ | $10.82^{+0.39}_{-0.36}$ | $0.70^{+0.10}_{-0.10}$ | TAMU |
| ¹¹⁴ Sn | 26.1 ± 0.8 | 13.9 ± 3.4 | 1.23 ± 0.03 | This work |
| ¹¹⁶ Sn | 25.9 ± 0.6 | 13.1 ± 4.2 | 1.02 ± 0.03 | This work |
| | 25.50 ± 0.60 | 12.00 ± 0.60 | 0.88 ± 0.20 | TAMU |
| ¹¹⁸ Sn | 26.0 ± 0.3 | 13.1 ± 2.0 | 1.20 ± 0.03 | This work |
| ¹²⁰ Sn | 26.0 ± 0.4 | 13.1 ± 1.9 | 1.50 ± 0.03 | This work |
| ¹²² Sn | 26.3 ± 0.2 | 12.4 ± 1.1 | 1.47 ± 0.03 | This work |
| ¹²⁴ Sn | 25.7 ± 0.5 | 10.2 ± 1.6 | 1.29 ± 0.06 | This work |
| | $25.06^{+0.22}_{-0.21}$ | $13.87^{+0.28}_{-0.22}$ | $0.93^{+0.12}_{-0.13}$ | TAMU |

^aOnly statistical uncertainties are included; systematic errors, mostly from DWBA calculations and the contributions at the highest energies (see text), are $\sim 30\%$.

significantly lower than that extracted earlier from the ISGMR's in ²⁰⁸Pb and ⁹⁰Zr. While the agreement with the experimental data is impressive (and, indeed, reproduces the A-dependence rather well), it does leave the question of “softness” of the Sn nuclei unanswered. As the authors themselves state, the goal of their work has not been to solve the problem of the nuclear-matter incompressibility but to find under which conditions one can obtain reasonable description of the experimental data for the considered tin isotopes.

The “superfluid” character of the Sn isotopes, resulting from pairing correlations in open-shell nuclei, has been investigated by Li *et al.* [77]. In a self-consistent QRPA model that employs the canonical HFB basis and an energy-density functional with a Skyrme mean-field part and density-dependent pairing, they calculated the energy of the ISGMR for the Sn isotopes and looked at the effects of different kinds of pairing forces (volume, surface, and mixed). They find that, compared with the HF+RPA and HF-BCS-QRPA formalisms, the HFB+QRPA calculations lead to energies for the ISGMR in Sn isotopes