DREB2022 - Direct Reactions with Exotic Beams



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Peeling off Neutrons: Using Fragmentation Reactions to Measure the Neutron Skin

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By studying the neutron skin thickness across the Sn isotopic chain, one can gain a rich insight into the slope of the density dependence of the symmetry energy. A novel method using the total neutron-removal cross section (\boxtimes N) has been shown to be highly sensitive to the slope, with a 1% change in \boxtimes N corresponding to a variation of L=±5 MeV. Experiments have been performed at GSI at 400<E/A (MeV/nuc)<900 with 120,124,128,132,134Sn projectiles on p and 12C targets.

Topic

Experiment

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