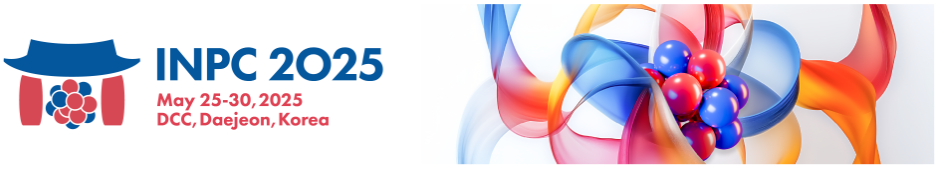

Contribution ID: **526** Type: **Invited Talk for Parallel Sessions (Invitation Only)**

NUCLEAR STRUCTURE FOR ELECTROWEAK PROCESSES

Monday, 26 May 2025 16:30 (25 minutes)

Atomic nuclei are central to electroweak processes, driving the synthesis of chemical elements, serving as laboratories for testing fundamental interactions, and offering critical insights into the Standard Model of particle physics. Advances in many-body theory and high-performance computing now enable unified calculations of nuclear structure and reactions for increasingly complex systems, along with robust estimates of theoretical uncertainties. In this talk, I will highlight recent breakthroughs in ab initio approaches, showcasing their role in addressing contemporary challenges such as neutron skins in nuclei, giant dipole resonances, and lepton-nucleus cross sections.

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