Contribution ID: **91** Type: **Oral Presentation**

Nuclear structure investigations via the (p,d) neutron removal reaction

Tuesday 8 July 2025 15:20 (20 minutes)

Nuclear structure studies are essential for unraveling the complex interactions between the nucleus and nuclear forces, as well as understanding how shell effects emerge throughout the nuclear chart. High-precision measurements of nuclear properties—including energy levels, spins, parities, and spectroscopic factors—offer valuable insights into the nucleus's internal structure and play a key role in testing and improving nuclear models. In this presentation a detailed investigation of the 36S(p,d)35S neutron-removal reaction using a 66 MeV proton beam will be presented, probing nuclear structure and the Fermi surface of sd nuclei. A strong j-dependence for l = 2 states will be revealed, providing refined insights into spin-orbit splitting and shell rigidity. The findings, including spectroscopic factors of states which includes isobaric analog state contributions, advance our understanding and offer benchmark data for theoretical models.

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None

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