

Nuclear Structure of ^{32}Cl and ^{26}Si for Novae and X-ray Bursts

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The structure of certain proton-rich nuclei significantly influences stellar explosions like novae and X-ray bursts. We studied the structure of ^{32}Cl using Gammasphere and determined resonance energies for the $^{31}\text{S}(p,\gamma)^{32}\text{Cl}$ reaction that are important for understanding sulfur enrichments observed in some nova ejecta. Also, $^{25}\text{Al} + p$ elastic scattering was measured in inverse kinematics to study the level structure of the compound nucleus ^{26}Si , which is important for understanding the $^{22}\text{Mg}(\alpha,p)^{26}\text{Si}$ reaction in X-ray bursts. The experimental approach and results will be presented.

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4:00 P.M.

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