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Uncertainties in production of stellar 26Al[1] RONALDO ORTEZ, University of Washington (Seattle), CHRISTOPHER WREDE, MICHEAL BENNET, MARCO SANTIA, ALICE BOWE, Michigan State University — While most of ^{26}Al content is believed to be produced in supernovae, as much as 20% may come from novae whose favorable energies enable the precise study of the production mechanism of ^{26}Al in novae. This study achieves greater importance because ^{26}Al is one of the critical isotopes that governs the path by which nucleosynthesis takes to heavier species and would also indirectly constrain the ^{26}Al content produced by supernovae thereby impacting the ratio of stellar ^{26}Al/^{60}Fe, an important benchmark in supernovae nucleosynthesis. Despite significant progress on the subject there remains large uncertainties in one of the competing ^{26}Al production channels which relies on the ^{25}Al(p,γ)^{26}Si transition. This uncertainty is primarily characterized by the undetermined energy of the excited 3^+ ^{26}Si state which decays to the ground state of ^{25}Al+p. To determine the resonance strength and energy of this transition an experiment is planned at the NSCL, which populates ^{26}Si through the beta decay of ^{26}P. Using an array of Ge clover detectors to measure the energies of the beta-delayed photons and their intensities, one could then determine Γ_γ, which then allows the calculation of the resonance strength (since Γ_p is known), completing the decay scheme of the ^{25}Al(p,γ)^{26}Si transition.

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