Abstract Submitted
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Studying the ^{25}Al(p,gamma)^{26}Si reaction using the analogous single proton transfer reaction d(^{25}Al,^{26}Si)n.[1] PATRICK PEPLOWSKI, INGO WIEDENHOEVER, LAGY T. BABY, ALEXANDER ROJAS, ERIC DIFFENDERFER, Department of Physics, The Florida State University — A radioactive beam of ^{25}Al has successfully been created via the d(^{24}Mg,^{25}Al)n reaction using the RESOLUT radioactive beam facility located at Florida State University. This beam has been used in an experiment with the d(^{25}Al,^{26}Si)n single proton transfer reaction, which is analogous to the astrophysically interesting ^{25}Al(p,gamma)^{26}Si proton capture. The experiment aims to identify the astrophysically significant lowest 3^+ state above the proton threshold, which is expected to be the dominant contributor to ^{25}Al(p,gamma)^{26}Si. The proton-transfer reaction allows to identify the l=0 proton transfer to the resonances in question. Results from this experiment, will be presented. Details of ^{25}Al beam production and conditioning using the new RESOLUT facility will also be discussed.

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