

Abstract Submitted
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Experimental techniques to use the (d,n) reaction for spectroscopy of low-lying proton-resonances SEAN KUVIN, Florida State University — Studies of rp-process nucleosynthesis in stellar explosions show that establishing the lowest $l = 0$ and $l = 1$ resonances is the most important step to determine reaction rates in the astrophysical rp-process path. At the RESOLUT facility, we have used the (d, n) reaction to populate the lowest p-resonances in ^{26}Si , and demonstrated the usefulness of this approach to populate the resonances of astrophysical interest [1]. In order to establish the (d, n) reaction as a standard technique for the spectroscopy of astrophysical resonances, we have developed a compact setup of low-energy Neutron-detectors, ResoNEUT and tested it with the stable beam reaction $^{12}\text{C}(d, n)^{13}\text{N}$ in inverse kinematics. Performance data from this test-experiment and future plans for this setup will be presented.

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