Contribution ID: **94** Type: **Poster Presentation**

Experimental techniques to use the (d,n) reaction for spectroscopy of low-lying proton-resonances

Tuesday, 12 May 2015 17:01 (0 minutes)

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 26Si, 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 12C(d,n)13N in inverse kinematics. Most recently, the detectors were included in a study of the radioactive beam reaction 17F(d,n)18Ne in inverse kinematics. Performance data from these experiments will be presented. \\[4pt]{[1]} P.N. Peplowski {\it et al.} Phys.Rev.{\bf C 79}, 032801 (2009)

Primary author: Mr KUVIN, Sean (Florida State University)

Co-authors: Prof. GAY, Dennis (University of North Florida); Prof. WIEDENHOEVER, Ingo (Florida State University); Ms BAKER, Jessica (Florida State University); Dr BABY, Lagy (Florida State University)

Presenter: Mr KUVIN, Sean (Florida State University)

Session Classification: Poster Session B