

Abstract Submitted  
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**Studying reactions important to classical nova nucleosynthesis  
with the Super Enge Split-Pole Spectrograph at Florida State University<sup>1</sup>**

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Florida State University — First science runs at the Super Enge Split-Pole Spectrograph (SE-SPS) at Florida State University utilizing the Silicon Array for Branching Ratio Experiments (SABRE) have been conducted to study excited states corresponding to resonances of interest to nuclear reactions in proton-rich nuclei. These reactions are of importance for classical nova nucleosynthesis. SABRE was used in conjunction with the SPS and its gas-filled focal plane detector to determine states populated in the nuclei of interest and their decay branching ratios, which are needed for the calculation of nuclear reaction rates. I will discuss measurements for the  $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$  reaction via a study of  $^{40}\text{Ca}(^3\text{He},\alpha)^{39}\text{Ca}^*(p)^{38}\text{K}$ , among other results.

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