

Abstract Submitted  
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**Actinide Studies with Ultracold Neutrons<sup>1</sup>** LEAH BROUSSARD,  
Los Alamos National Laboratory — Understanding the effects of sputtering due to nuclear fission is crucial to the nuclear industry and has wide-reaching applications, including nuclear energy, space science, and national defense. A new program at the Los Alamos Neutron Science Center uses ultracold neutrons (UCN) to induce fission in actinides such as uranium and plutonium. UCN are an ideal tool for finely controlling induced fission as a function of depth in an actinide sample. The mechanism for fission-induced surface damage is not well understood, especially regarding the effect of a surface oxide layer. We will discuss our experimental strategy for studies of UCN-induced fission and the ejected material, and present preliminary data from enriched and depleted uranium.

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