

Abstract Submitted
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Studies of Fission-Induced Surface Damage in Actinides Using Ultracold Neutrons¹ LEAH BROUSSARD, Los Alamos National Laboratory — We report on a new program at the Los Alamos Neutron Science Center to use ultracold neutrons (UCNs) to study fission in actinides such as uranium and plutonium. The fission cross section increases inversely with the neutron velocity, but has never been measured at UCN energies (<300 neV). Questions remain about the mechanism for fission-induced surface damage, especially regarding the effect of the presence of an oxide layer on the surface. Ultracold neutrons are an ideal tool for finely controlling fission as a function of depth in the material. We will present plans for preliminary experiments to study UCN-induced fission and the ejected material and early results.

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