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Determining Neutron-Induced Reaction Cross Sections on Pt CATHLEEN FRY, AARON COUTURE, Los Alamos National Laboratory, INGRID KNAPOVA, Charles University, KELLY KNICKERBOCKER, SHEA MOSBY, CHRIS PROKOP, JOHN ULLMANN, Los Alamos National Laboratory — For many stable isotopes, neutron capture has been studied in detail. However, the stable platinum isotopes have only been investigated in a few measurements, all of which provide no information below 1 keV, and no resolved resonance information. Photon strength functions in Pt isotopes have exhibited surprising behavior, and neutron capture data across the Pt isotopic chain will allow more detailed study of these effects. To address this at LANSCE, DANCE has been used to measure neutron-capture reaction cross sections on ^{192,194,195,196,198}Pt, all stable isotopes of Pt with abundance >0.1% at the Lujan Center. DANCE is a highly segmented BaF_2 detector array with approximately 3.6π solid angle coverage for calorimetric measurements of prompt γ-ray emission following neutron capture. Data have been collected and the status of ongoing analysis will be presented. Experimental determination of the capture cross sections and resonance properties on Pt isotopes will reduce uncertainties in existing nuclear data evaluations and improve confidence in simulations using these evaluations. This will provide improved nuclear data to validate models in this mass region.

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