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The Effect of the J-pi Population Mismatch on the Surrogate Method BETHANY LYLES, University of California, Berkeley, LEE BERNSTEIN, JASON BURKE, Lawrence Livermore National Laboratory, LARRY PHAIR, JULIEN GIBELIN, DARREN BLEUEL, MATHIS WIEDEKING, RODERICK CLARK, AUGUSTO MACCHIAVELLI, PEGGY MCMAHAN, Lawrence Berkeley National Laboratory, CORNELIUS BEAUSANG, SHELLY LESHER, University of Richmond, CYBELE JEWETT, Lawrence Berkeley National Laboratory, ERIC NORMAN, Lawrence Livermore National Laboratory — The surrogate method is an indirect means for determining neutron-induced reaction cross sections on unstable nuclei. This is accomplished by measuring the relevant decay probabilities of the composite nucleus of interest produced via a light-ion induced surrogate reaction using a stable target and beam. To properly characterize the surrogate method, the effect of differences in angular momentum populations between the surrogate light-ion and desired neutron-induced reactions must be determined. To this end, the following experiment was performed at the 88" Cyclotron at Lawrence Berkeley National Laboratory: 235U(3He,af) and 238U(3He,af) as surrogates for 233U(n,f) and 236U(n,f), respectively. The extracted cross sections were compared to known values and the implication on the J-pi population mismatch will be discussed.

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