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# Surrogate Reactions for Nuclear Astrophysics

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Neutron-induced reactions on unstable nuclei play an important role in nuclear astrophysics and for applications of nuclear technology. However, due to the radioactive nature of the nuclei involved, these reactions are extremely difficult or impossible to directly measure. The importance of these reactions has motivated the development of several indirect methods for constraining their properties, one of which is the Surrogate Reactions Method (SRM). In the SRM, a different reaction, which forms the “same” compound nucleus as the (intractable) desired reaction, is measured. Observations of the decay of the compound are then used to constrain calculations of the desired reaction.

I will describe this approach, show results from benchmarking measurements, discuss other applications, and share possible future applications relevant to nuclear astrophysics.

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