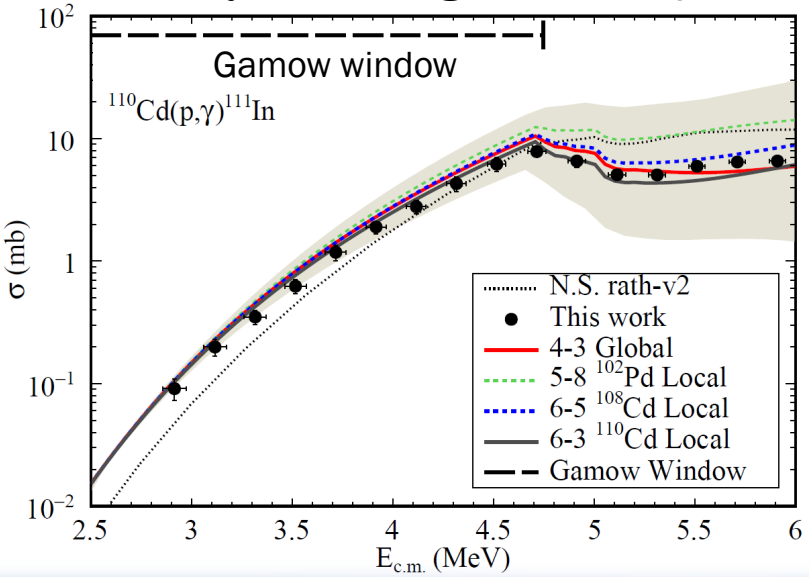
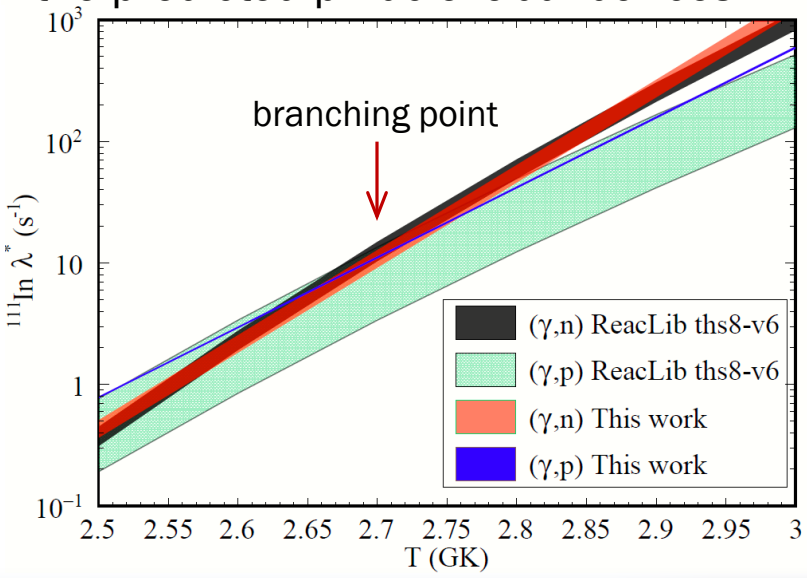
Constraints on the 111In(γ, p)/(γ, n) branching point relevant to the γ process

^{111}In had a poorly-constrained temperature of the (γ,p)/(γ,n) branching point at which the (γ,p) becomes dominant over the (γ,n) reaction. This impacts the γ process model predictions of the p-nuclei abundances. The goal of this work was to measure the cross-section for ^{102}Pd(p,γ)^{103}Ag,^{108}Cd(p,γ)^{109}In, and ^{110}Cd(p,γ)^{111}In reactions using HECTOR and the γ-summing technique to better understand the γ process flow in the A~100 mass region. Our measurements and resulting analysis constrained the ^{111}In (γ,p)/(γ,n) branching point to **2.71 ± 0.05 GK**. This may have a significant impact on the predicted p-nuclei abundances.





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