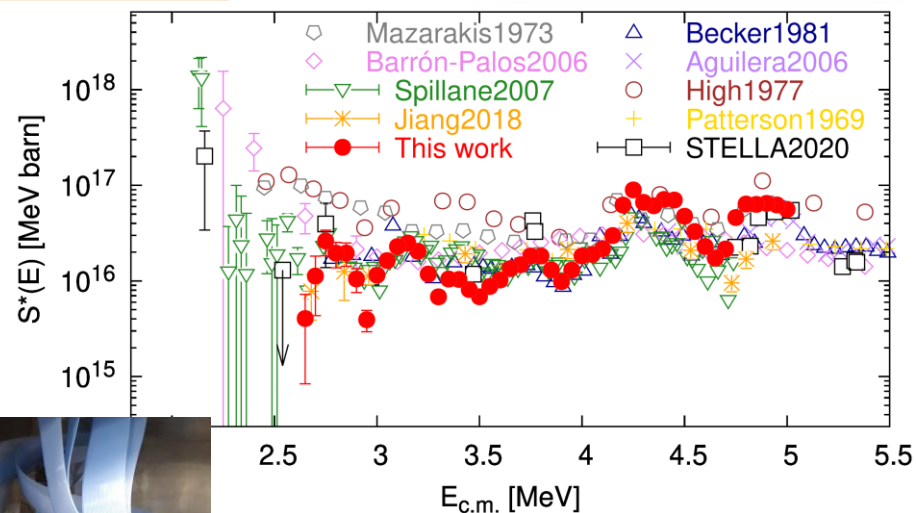
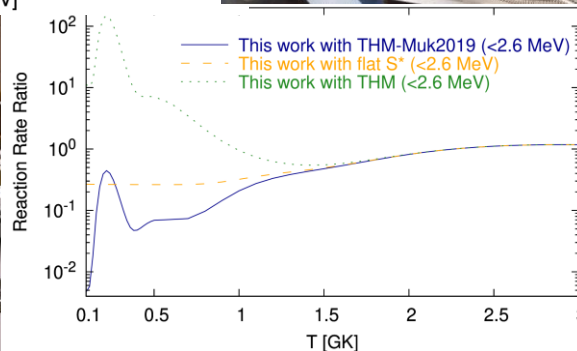
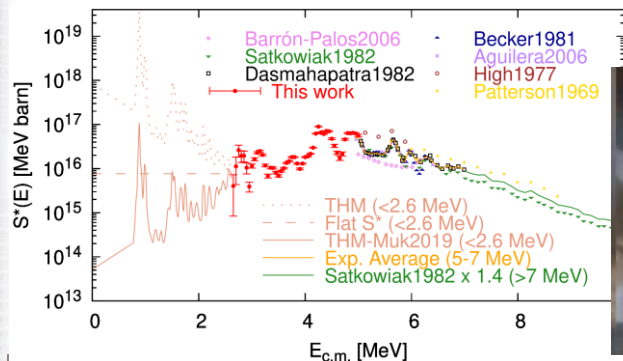


Coincident Measurement of the $^{12}\text{C} + ^{12}\text{C}$ Fusion Cross Section via the Differential Thick Target Technique



$^{12}\text{C} + ^{12}\text{C}$ fusion is the critical reaction for understanding the late phases of stellar evolution as well as the ignition and nucleosynthesis in cataclysmic binary systems such as type Ia supernovae and x-ray superbursts.



Continuing on from our prior work (published in PRL 2020), another campaign of $^{12}\text{C} + ^{12}\text{C}$ measurement was performed at Notre Dame using particle- γ coincidence and differential thick target techniques, with a better energy coverage, more proton channel results, and an improved α_1 analysis. More reliable reaction rate results are presented and discussed.

W.P. Tan et al., [Phys. Rev. C 110, 035808 \(2024\)](#)

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