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Direct measurement of resonances in $^{7}Be(\alpha,\gamma)^{11}C$ with DRAGON

Nucleosynthesis of the *p*-nuclei is one of the remaining unsolved puzzles in nuclear astrophysics. One possible mechanism for production of *p*-nuclei is the *nu;p*-process, which is thought to occur in the ejecta of core-collapse supernovae. A recent study found that the p-p chain breakout reaction ⁷Be(alpha;,gamma;)< significantly influences nuclear flow in the nu;p-process. However, the ⁷Be(alpha;,gamma;)<sup>11 reaction rate is poorly known over the temperature range of interest ($T = 1.5 - 3$ GK). In this temperature range, the astrophysical reaction rate is dominated by resonant capture to states in ¹¹C within the Gamow window, three of which have unknown resonance strengths. A new direct measurement of ⁷Be(alpha;,gamma;)¹¹C was performed at TRIUMF's DRAGON recoil separator in order to measure the strengths and energies of these resonances. Experimental methods and preliminary results will be discussed.

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