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## Measurement of the ${}^7\text{Be}(\alpha, \gamma){}^{11}\text{C}$ reaction with DRAGON for neutrino-driven wind nucleosynthesis

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Nucleosynthesis in the neutrino-driven wind of core-collapse supernovae has gained in popularity in recent years and it is thought to produce light neutron-deficient nuclei with  $A \leq 110$  via the  $\nu p$ -process. However, this scenario exhibits uncertainties related to the explosion dynamics and the underlying nuclear physics input. The  ${}^7\text{Be}(\alpha, \gamma){}^{11}\text{C}$  reaction has been shown to affect the production of  $90 \leq A \leq 100$  nuclei, by changing the wind composition prior to the  $\nu p$ -processing onset. Nevertheless, there is a lack of experimental information about its rate in the relevant temperature range ( $T = 1.5\text{--}3$  GK). To improve the  ${}^7\text{Be}(\alpha, \gamma){}^{11}\text{C}$  reaction rate for the  $\nu p$ -process, the first direct measurement of resonances with unknown strength was recently performed at TRIUMF using an intense radioactive  ${}^7\text{Be}$  ( $t_{1/2} = 53.24$  d) beam and the DRAGON recoil separator. The experimental challenges, preliminary results and nucleosynthesis calculations to study the effect of the new rate will be discussed.

**Primary authors:** PSALTIS, Athanasios (McMaster University); Prof. CHEN, Alan (McMaster University)

**Co-authors:** Prof. BRUNE, Carl (Ohio University); DAVIDS, Barry (TRIUMF); FALLIS, Jennifer (TRIUMF); Dr GIRI, Rekam (Ohio University); Prof. GREIFE, Uwe (Colorado School of Mines); Dr HUTCHEON, Dave (TRIUMF); Mr KROLL, Liam (McMaster University); LENNARZ, Annika (TRIUMF); Dr LIANG, Johnson (McMaster University); Dr LOVELY, Matthew (Colorado School of Mines); Ms LUO, Monica (University of British Columbia); Dr MARSHALL, Caleb (TUNL); Dr PANERU, Som (Ohio University); RUIZ, Chris (TRIUMF); Prof. SCHOTTER, Alan (University of Edinburgh); WILLIAMS, Matthew (TRIUMF); Dr CONNOLLY, Devin (TRIUMF)

**Presenter:** PSALTIS, Athanasios (McMaster University)

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