

Abstract Submitted  
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**Probing the origins of  $^{19}\text{F}$  with the  $^{19}\text{F}(\text{t}, ^3\text{He})^{19}\text{O}$  charge exchange reaction**<sup>1</sup> AMANDA PRINKE, R.G.T. ZEGERS, SAM M. AUSTIN, D. BAZIN, J.M. DEAVIN, R. MEHARCHAND, K. MEIERBACHTOL, G. PERDIKAKIS, M. SASANO, L.L. VALDEZ, NSCL/MSU, A. COLE, Kalamazoo College, Y. FUJITA, M. NAGASHIMA, Osaka University, C.J. GUESS, UMass Lowell, G.W. HITT, KUSTAR, UAE, Y. SHIMBARA, Niigata University — Nuclear charge-exchange experiments are frequently used to extract Gamow-Teller strengths relevant to astrophysics. This talk will discuss one such recent measurement of the Gamow-Teller strength via the  $^{19}\text{F}(\text{t}, ^3\text{He})^{19}\text{O}^*$  reaction at 115 MeV/u. The experiment was performed at the National Superconducting Cyclotron Laboratory using a secondary triton beam, and the  $^3\text{He}$  ejectiles were momentum-analyzed in the S800 magnetic spectrometer. The extracted Gamow-Teller strength distribution from this experiment can be directly related to  $^{19}\text{O}^*$  beta decay to  $^{19}\text{F}$ . This weak interaction rate may contribute to the astrophysical abundance of  $^{19}\text{F}$ . Additionally, the experimental results will be compared to shell-model calculations in the sd-shell.

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