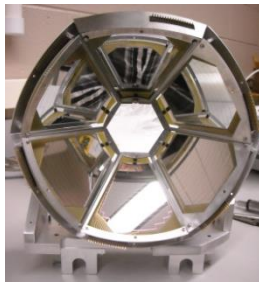


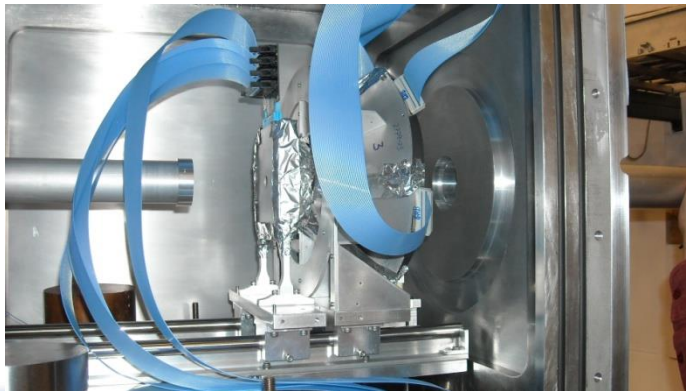
Measuring $^{12}\text{C}+^{16}\text{O}$ Fusion Cross Section with the St. ANA accelerator



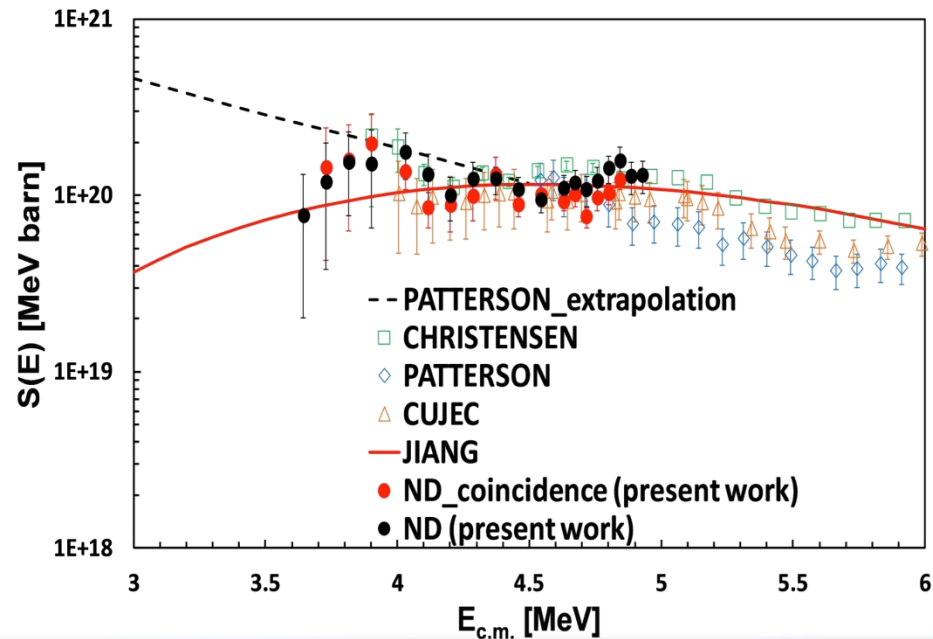
The total cross section of the $^{12}\text{C}+^{16}\text{O}$ fusion, crucial for late stellar evolution burning phases, has been measured with the high-intensity St. Ana 5MV accelerator at Notre Dame. Both protons and gamma-rays have been detected simultaneously in the center-of-mass energy range of 3.64 to 4.93 MeV. Statistical model calculations were employed to interpret the experimental results. This provided more reliable cross sections of the $^{12}\text{C}+^{16}\text{O}$ fusion reducing substantially the uncertainty for stellar model simulations.



ASIC electronics and SAND detector array



The $S(E)$ factor of $^{12}\text{C}+^{16}\text{O}$ fusion



X. Fang, W. P. Tan, M. Beard, R. de Souza, G. Gilardy, S. Hudan, H. Jung, Q. Liu, S. Lyons, D. Robertson, K. Setoodehnia, C. Seymour, E. Stech, X. D. Tang, E. Uberseder, B. Vande Kolk, M. Wiescher. , to be submitted.



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