

TOWARDS AN UNDERSTANDING OF THE ORIGIN OF THE P-NUCLEI

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Wednesday, February 20 ❖ 4:00 P.M. ❖ 118 NSH

Refreshments at 3:30 P.M. in 202 NSH

During the last six decades, significant progress has been made in understanding the processes of stellar nucleosynthesis. However, there are many unknown factors in the production of the stable proton rich isotopes, the so-called 'p-nuclei'. Unlike most nuclei more massive than iron, these 35 stable isotopes cannot be produced via neutron capture processes (s- and r-process). The p-process, a scenario for the synthesis of these nuclei, can only be described by network calculations comprised of thousands of reactions. Current models do not agree with experimental results and overestimate reaction rates by as much as a factor of three resulting in extreme uncertainties when determining p-nuclei abundances. In my talk, I will discuss my contribution to reducing these uncertainties, by measuring the rates for the p-process relevant reactions. I will propose plans for determining which reactions are crucial to the p-process, and how to measure them using both stable and radioactive beams.