

# Using beta-decay to study properties of $^{12}\text{C}$

Dr. Martin Alcorta  
Argonne National Laboratory

Monday, August 26 ♦ 4 P.M.  
Room 124 Nieuwland Science Hall

In this seminar I will discuss recent work using the beta-decay of  $^{12}\text{B}$  to study the nuclear structure of  $^{12}\text{C}$ . The talk will focus on a recent experiment using the Gammasphere array at ATLAS to measure the beta-branching ratio of  $^{12}\text{B}$  to the Hoyle state in  $^{12}\text{C}$ . This work is motivated by recent results from R-matrix calculations on the  $^{12}\text{C}$  spectrum which indicate a beta-branch about half that of the literature value, the goal of which is to search for a  $2+$  state above the triple-alpha threshold. A discussion on the results from the beta-decay measurements in light of recent evidence for the  $2+$  will be discussed. In addition, I will discuss future plans on measuring the radiative branching ratio of the Hoyle state using Gammasphere with the same technique discussed above.