Measurements of the Angular Cross-Sections of the Decay Products of Proton Capture by Lithium-6

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We have studied the nuclear reaction Li-6 + p => He-3 + He-4 using protons from the 200-keV linear accelerator located in the Manning Nuclear Physics Laboratory in the Neils Science Center. We have measured the angular distribution and energy of the resulting He-3 and He-4 nuclei. Measurements were made using a Si surface barrier detector. The incident proton energy was 125 keV, and the angular measurements were made between 150 and 120 degrees downstream of the beam. Results and highlights are presented.

Information about the Author:
Benjamin Barber is a senior physics and mathematics major. He has spent the summer of 2011 and 2009 working on projects related to the STAR Endcap ElectroMagnetic Calorimeter. He spent the summer of 2010 working at the National Institute for Standards and Technology, and will spend the summer of 2012 working at Los Alamos National Laboratory. He currently plans on attending the University of Chicago next year for graduate school, focusing on beam physics.

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