

Facilities, Measurements, and Experimental Verification of (α ,n) for Dark Matter

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For many of the deep underground experiments searching for dark matter some of the most concerning neutron backgrounds come from the (α ,n) process in the cavern or detector materials. Traditionally the focus of the dark matter community has been the calculation/simulation of the background based on (α ,n) reaction evaluations and U/Th material assays. Dark matter working groups have been considering supplementing the evaluations with direct measurements either performed in new facilities or those already performed by our nuclear physics colleagues. I will describe the nuclei that are the focus of our dark matter/neutrino sub-working group on (α ,n) and also how measurement facilities or other experimental verifications might be an enormous help on this problem.

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