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Gamma-Coincidence Modeling with MCNPX JENNA DEAVEN, ANNE EMERSON, JAMIE LEITER, SHARON STEPHENSON[1], KRISTEN TOSKES, Gettysburg College — Tertiary neutrons produced in self-sustaining Inertial Confinement Fusion reactions can activate a carbon target through n + ^{12}C $\rightarrow$ ^{11}C + β^+. The subsequent positron-electron annihilations lead to .511-MeV coincidence gammas, and therefore the tertiary neutron yield can be determined by a gamma-coincidence detection experiment. Monte Carlo N-Particle eXtended transport code (MCNPX) is used to model the ^{12}C experiment, and through a comparison with real data, the geometry for the detector system can be determined. MCNPX is also used to model the non-uniform neutron activation of the ^{12}C. Results will be presented.

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