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Gamma-Coincidence Modeling with MCNPX JENNA DEAVEN, ANNE EMERSON, JAMIE LEITER, SHARON STEPHENSON, KRISTEN TOSKES, Gettysburg College — Tertiary neutrons produced in self-sustaining Inertial Confinement Fusion reactions can activate a carbon target through $n + {}^{12}\text{C} \rightarrow {}^{11}\text{C} + \beta^+$. 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 ${}^{12}\text{C}$ 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 ${}^{12}\text{C}$. Results will be presented.

Prefer Oral Session
 Prefer Poster Session

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