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**Alpha Deposition in Magnetoinertial Fusion Targets** SETH THOMPSON, PRC UAH, NILESH DEHOTE, UAH, JASON CASSIBRY, PRC UAH, RONALD KIRKPATRICK, CHARLES KNAPP, LANL, S.T. WU, CSPAR UAH, PROPULSION RESEARCH CENTER COLLABORATION, LOS ALAMOS NATIONAL LABS COLLABORATION — We performed a Monte Carlo simulation for plasmas with closed field line topology to quantify alpha deposition in magnetoinertial fusion (MIF) targets. It was assumed that the born-on position and initial velocity vector of an alpha particle is isotropic. The total energy deposited via scattering collisions is determined for a single alpha particle. This process is then repeated to achieve a statistical average. This quantity is volume averaged to get the fractional energy deposited in a target with a given set of conditions. Results were obtained for purely azimuthal, uniform and extended to field reversed configurations. Lindl-Widner diagrams were generated to identify fusion ignition regions in the MIF parameter space.

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