

Abstract Submitted
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One-Dimensional Imager of Neutrons (ODIN) Simulation and Experimentation for Neutron Response at Sandia Z Facility JEREMY VAUGHAN, University of New Mexico, CARLOS RUIZ, Sandia National Laboratories, DAVID FITTINGHOFF, MARK MAY, JACK SILANO, Lawrence Livermore National Laboratory, DAVID AMPLEFORD, Sandia National Laboratories, BRANDON LAHMANN, Massachusetts Institute of Technology, GARY COOPER, University of New Mexico, GORDON CHANDLER, MICHAEL MANGAN, Sandia National Laboratories, JEDEDIAH STYRON, University of New Mexico, BRUCE MCWATTERS, JOSE TORRES, CLARK HIGHSTRETE, Sandia National Laboratories — The one-dimensional imager of neutrons (ODIN) at the Sandia Z facility was designed to determine the size, shape, and location of the neutron producing region in Sandia’s baseline ICF concept, namely magnetized liner inertial fusion (MagLIF). MCNP modeling efforts continue to advance the neutron imager and have built on the previous simplified-geometry point spread model. The MCNP point spread study of the entire diagnostic configuration will be shown with potential redesigns of ODIN 1.5 to reduce scattering environment and explore imaging the source in other dimension. Finally, the MCNP response functions were used with a weighted x-ray source image to forward calculate a composite neutron image and compared to an experimental neutron image. SNL is managed and operated by NTESS under DOE NNSA contract DE-NA0003525.

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