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A Polar Discrete Ordinate Radiation Transport Method for 2D ALE Meshes in HYDRA* BRITTON CHANG, MARTY MARINAK, CHRIS WEBER, LUC PETERSON, Lawrence Livermore Natl Lab — The Polar Discrete Ordinate Radiation Transport Method in HYDRA has been extended to handle general 2D r-z meshes. Previously the method was only for orthogonal 2D meshes. The new method can be employed with the ALE methodology for managing mesh motion that is used to simulate Rayleigh-Taylor and Richtmyer-Meshkov instabilities on NIF capsule implosions. The results of an examination of this kind will be compared to those obtained by the corresponding diffusion method. *This work was performed under the auspices of the Lawrence Livermore National Security, LLC, (LLNS) under Contract No. DE-AC52-07NA27344.

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