

Abstract Submitted
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Dopant Distribution in NIF Beryllium Ablator Capsules¹ H. HUANG, H.W. XU, K.P. YOUNGBLOOD, D.R. WALL, R.B. STEPHENS, K.A. MORENO, A. NIKROO, General Atomics, J.D. SALMONSON, S.W. HAAN, K.J. WU, Y.M. WANG, A.V. HAMZA, Lawrence Livermore National Laboratory — Good implosion performance requires capsule ablator material with spherically uniform x-ray opacity, which is controlled by one of several dopants (Cu, Si, Al, etc.) in the Be shell. During production, the dopant concentration is radially stepped. However, the various Be-dopant interactions result in vastly different dopant distribution patterns, some quite inhomogeneous. We have characterized these structures and established the phenomenological basis and the magnitudes of the inhomogeneity both in spatial length scales and in atomic percent. We will discuss the case of inhomogeneous Cu diffusion in detail, followed by discussions of other dopants and the estimate of the impact of these structures on target implosion.

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