

Abstract Submitted
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Reflectivity Measurements of Layering Spheres for Cryogenic ICF Targets¹ JOESPH KATZ, KEVIN O'CONNELL, KURTIS FLETCHER, EDWARD POGOZELSKI, SUNY Geneseo, WOLF SEKA, Laboratory for Laser energetics — Cryogenically frozen DT targets are used in ICF implosions at the Laboratory for Laser Energetics. To improve the uniformity of the ice layer, a DT target is placed in a spherical cavity called a layering sphere and is illuminated with infrared light, promoting ice sublimation. Areas of greater thickness sublime faster thereby depositing the material onto thinner sections. The cavity wall consists of a rough gold coating designed to create lambertian scattering which should uniformly illuminate the DT target with laser light. To improve this process, the reflectivity of the spherical cavity wall was measured to determine its uniformity. A DFB laser of wavelength 635 nm was used to illuminate the inner cavity. A fiber optic periscope with a right angle prism was used to measure the surface reflectivity of cylindrical slices. Irregularities in the data correspond primarily to bright spots and port windows.

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