Fast Ignition Target Requirements*

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The current concept for a direct drive fast ignition target uses a reentrant cone to isolate one sector over the compressed shell from its own blowoff. The cone substantially complicates the implosion dynamics compared to a spherical target. We are examining the collapse of such structures in experiments at Omega. The implosions have been characterized with x-ray framing cameras, in both backlit and emission configuration, and the results compared to a Lasnex model. The images show good collapse symmetry, but surprisingly strong heating of the tip of the gold cone. The consequences of these observations for design of a cryo-ignition target will be discussed.

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