

Abstract Submitted  
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**A reactor-scale point design of cone-guided implosion for Fast Ignition**<sup>1</sup> HIDEO NAGATOMO, Osaka University, ILE, TOMOYUKI JOHZAKI, ATSUSHI SUNAHARA, Institute for Laser Technology, HITOSHI SAKAGAMI, National Institute for Fusion Science — The formation of high-areal-density core plasma in cone-guided non-spherical implosion is required for Fast Ignition. Although many experiments have been conducted successfully at ILE and LLE using existing lasers facilities, difficulties are inherent in designing larger scale size implosion for reactors, where energy of implosion lasers will be about a MJ. One of the significant problems is high pressure at hot-spot region, if implosion is scaled up simply in similarity rule. This high pressure leads fatal break at the tip of the cone which should be located near the center of the implosion. In this work, optimization of low isentrope and high areal density implosion [1] is attempted using 2-D radiation hydrodynamic code.

[1] R. Betti et al. Phys. Plasmas, 12, 110702 (2005)

[2] H. Nagatomo, et. al, Phys. Plasmas, 14 056303 (2007).

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