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Implosion Dynamics of an Advanced Cone-guided Target for Fast Ignition HIDEO NAGATOMO, TOMOYUKI JOHZAKI, ILE Osaka University, ATSUSHI SUNAHARA, Institute for Laser Technology, HITOSHI SAKAGAMI, National Institute for Fusion Science, KUNIOKI MIMA, ILE Osaka University — We have been studied the formation of high-density and high-areal-density core plasma in cone-guided non-spherical implosion for Fast Ignition. Recently, we have proposed an advanced cone-guided target for fast ignition. In the target, the tip of the cone consists of low Z material in order to reduce the scattering hot electrons which are produced inside the cone. We have performed 2-D radiation hydrodynamics simulations, and the results suggest that inner surface of the cone is irradiated by the radiation and gold plasma expand into the cone, if the tip of cone consists of low Z material. This ablated gold plasma may interfere with the heating short pulse laser. To avoid the effect, we have proposed to coat the inner surface of the cone, as well as the outer surface coating [1]. Taking account of the modification, we have designed an advance cone-guided target for FIREX-I experiment which is carried on at ILE Osaka Univ. [1] H. Nagatomo, et. al, Phys. Plasmas, 14 056303 (2007). This work is supported by MEXT, Grant-in Aid for Creative Scientific Research (15GS0214).

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