

Abstract Submitted
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Hydrodynamics of foam cryogenic-deuterium target. HIROYUKI SHIRAGA, MITSUO NAKAI, TATSUHIRO SAKAIYA, HIROSHI AZECHI, KAZUTO OHTANI, MYONGDOK LEE, KAZUO TAKEDA, ATSUSHI SUNAHARA, HIDEO NAGATOMO, KEIJI NAGAI, TAKAYASU NORIMATSU, Institute of Laser Engineering, Osaka University, AKIFUMI IWAMOTO, TOSHIYUKI MITO, National Institute for Fusion Science — Hydrodynamic performance such as shock generation, compression, and target acceleration as well as energy transport including preheating of rear surface were investigated at Gekko-HIPER laser-irradiation system at ILE, Osaka. Cryogenic liquid deuterium target contained in a low-density plastic foam plane was irradiated with a 527-nm foot pulse and a 527-nm main-drive pulse. Hydrodynamics were well in good agreement with 1D simulations with Fokker-Planck electron transport. Rear surface temperature was found to be not significantly but slightly higher than the code prediction, indicating a possibility of target preheating due to energy transport that is not included in the code.

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