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Recent progress of cryogenic target fabrication technique for FIREX project MITSUO NAKAI, TAKESHI FUJIMURA, Institute of Laser Engineering, Osaka University, TAKAYOSHI NORIMATSU[1], National Institute for Fusion Science, YASUSHI FUJIMOTO, TAKAHISA JITSUNO, SHINJI MACHI, HIROYUKI SHIRAGA, HIROSHI AZECHI, Institute of Laser Engineering, Osaka University, AKIFUMI IWAMOTO, HITOSHI SAKAGAMI, National Institute for Fusion Science — Unique design of the cryogenic target with a gold conical guide and a fuel feeding capillary has been developed for the Fast Ignition Realization Experiment (FIREX) project at the Institute of Laser Engineering (ILE), Osaka University. In the scheme, the deuterium gas is to be fed in a foam layer of the shell and solidified. In the case of a foam shell filled with solid fuel, it is worried that bubble-like void may remain in the cell after the liquid-solid transition. We investigated the filling fraction of solid fuel in the Resolcinol-Formalehyde foam of a surrogate target. It was shown that the optimization of cooling speed and temperature gradient was quite promising to make a uniform solid layer with a low void fraction. In the presentation, interference measurement of the fuel- filled foam layer is focused and recent progress of the shell fabrication is also briefly reported.
[1] A. Iwamoto, et al., "Study on possible fuel layering sequence for FIREX target," Journal of Physics: Conference Series, Vol. 244 (2010), 032039.

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