

Abstract Submitted  
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**Measuring the Effect of Heterogeneous Mix on Thermonuclear Burn in the Marble Campaign Using an Argon/Tritium Fill Gas<sup>1</sup>** T. J. MURPHY, B. J. ALBRIGHT, M. R. DOUGLAS, T. CARDENAS, J. H. COOLEY, T. H. DAY, C. DI STEFANO, R. A. GORE, M. A. GUNDERSON, J. R. HAACK, B. M. HAINES, C. E. HAMILTON, Y. KIM, M. N. LEE, J. A. OERTEL, R. E. OLSON, R. B. RANDOLPH, J. M. SMIDT, L. YIN, Los Alamos National Laboratory, R. C. SHAH, University of Rochester Laboratory for Laser Energetics — The Marble<sup>2</sup> campaign on NIF quantifies the effect of heterogeneous mix on thermonuclear burn for comparison to a probability distribution function (PDF) burn model.<sup>3</sup> MARBLE utilizes plastic capsules filled with deuterated plastic foam and tritium-containing gas. Recent experiments, which utilized an argon-tritium gas mixture, show the expected decrease in DT/DD yield ratio with non-uniform initial foam morphology, while previous experiments with a hydrogen-tritium gas mixture did not.<sup>4</sup>

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<sup>2</sup>T J Murphy *et al*, J Phys:Conf Series **717**, 012072 (2016).

<sup>3</sup>J R Fincke, unpublished; J R Ristorcelli, Phys Fluids 29, 020705 (2017).

<sup>4</sup>T J Murphy *et al* submitted to High Energy. Dens. Phys.

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