Abstract Submitted
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The Marble Experiment: Overview and Simulations[1] M.R. DOUGLAS, T.J. MURPHY, J.A. COBBLE, J.R. FINCKE, B.M. HAINES, C.E. HAMILTON, M.N. LEE, J.A. OERTEL, R.E. OLSON, R.B. RANDOLPH, D.W. SCHMIDT, R.C. SHAH, J.M. SMIDT, I.L. TREGILLIS, Los Alamos National Laboratory — The Marble ICF platform has recently been launched on both OMEGA and NIF with the goal to investigate the influence of heterogeneous mix on fusion burn. The unique separated reactant capsule design consists of an "engineered" CH capsule filled with deuterated plastic foam that contains pores or voids that are filled with tritium gas. Initially the deuterium and tritium are separated, but as the implosion proceeds, the D and T mix, producing a DT signature. The results of these experiments will be used to inform a probability density function (PDF) burn modelling approach for un-resolved cell morphology. Initial targets for platform development have consisted of either fine-pore foams or gas mixtures, with the goal to field the engineered foams in 2016. An overview of the Marble experimental campaign will be presented and simulations will be discussed.

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