Abstract Submitted
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Development, Fabrication, and Characterization of NIF MARBLE[1] THOMAS DAY, BLAINE RANDOLPH, TANA CARDENAS, CHRISTOPHER HAMILTON, STEPHANIE EDWARDS, BRIAN PATTERSON, LYNNE GOODWIN, LINDSEY KUETTNER, KYLE CLUFF, JOHN OERTEL, NIKOLAUS CORDES, THOMAS MURPHY, JOSEPH COWAN, Los Alamos National Laboratory, MARBLE TEAM — The NIF MARBLE platform, designed to study the effects of Mix and Burn morphology, has pushed the boundaries of target fabrication by generating a demand for foam filled gas tight capsules with controlled dimensional porosity. This platform requires several unconventional but highly effective fabrication and assembly techniques. In order to understand how these relatively new techniques affect the dimensional form and composition of the capsule, six characterization methods are used. Techniques include BET specific surface area analysis, confocal micro X-ray fluorescence, scanning electron microscopy, quantitative nuclear magnetic resonance, gravimetric density analysis, and computed tomography. A chronological overview of the fabrication of NIF MARBLE capsules and foam followed by a discussion of the characterization strategies used to define the capsule and foam will be presented.

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