Abstract Submitted for the International Conference on Inertial Fusion Science and Applications September 13–17, 1999, Bordeaux, France

Category Number and Subject:

[ ] Theory [**x**] Experiment

Capsule Development and Production for Inertial Confinement Fusion Experiments,* A. Nikroo, D.G. Czechowicz, F.H. Elsner, S.E. Grant, A.L. Greenwood, M.L. Hoppe, B.W. McQuillan, W.J. Miller, J.M. Pontelandolfo, D.A. Steinman, R.B. Stephens, K.R. Schultz, *General Atomics*, M. Takagi, *Lawrence Livermore National Laboratory* — General Atomics supplies a wide variety of targets and target components for the U.S. Inertial Confinement Fusion (ICF) program. Glass capsules 200 to 1500 μm in diameter are normally produced in a long drop tower. However, some other techniques have recently been developed for making glass shells. Plastic capsules are mainly fabricated by coating decomposable poly(α-methylstyrene) (PAMS) mandrels with plasma polymer (PP) and removing the PAMS mandrels by pyrolysis. High quality PP capsules are routinely fabricated in the 400 to 1000 μm diameter range. These capsules may be undoped, doped, or deuterated. They may also contain various doped layers at virtually any position in the capsule wall. A number of techniques are used for characterizing these ICF capsules. With the rapid progress in the construction of the National Ignition Facility (NIF), production of NIF size targets is becoming important. NIF target development at General Atomics involves scaling our current plastic capsule production capabilities up to ≈ 2 mm in diameter. This includes production of high quality NIF size PAMS mandrels, smooth plasma polymer coating and successful pyrolysis of these larger and heavier mandrels.

*Work supported by U.S. Department of Energy under Contracts DE-AC03-95SF20732 and W-7405-ENG-48.

[ ] Prefer Poster Session
[**x**] Prefer Oral Session

A. Nikroo
Abbas.Nikroo@gat.com

General Atomics
P.O. Box 85608
San Diego, CA 92186-5608

(619)455-2931/(619)455-2399
Phone/Fax