

IN BRIEF

This edition of the LLE Review contains articles which summarize progress in various uniformity experiments on OMEGA, progress in aspects of target fabrication directly related to uniformity and transport studies, and a summary of recent user experiments performed on GDL. Some highlights of the work described in this issue are:

- Achievement of 5 % RMS uniformity of irradiation in long-pulse OMEGA target experiments.
- Direct measurement of final core ρR of $2.5 \times 10^{-3} \text{ g/cm}^2$ in Ar-DT targets.
- Improvement of OMEGA beam profile uniformity resulting from a systematic study of stress-induced birefringence in LHG-8 laser rods.
- Successful deployment of ultra low-mass stalks for support of glass microballoon targets in OMEGA experiments.
- The use of biased magnetron sputtering to improve the uniformity of metal coatings applied to glass microballoons.
- The study of the interaction of high-intensity, $0.351\text{-}\mu\text{m}$ radiation with long-scalelength, completely underdense plasmas by measurement of light produced by stimulated Raman scattering.

CONTENTS

	<i>Page</i>
IN BRIEF	iii
CONTENTS	v
Section 1 LASER SYSTEM REPORT	1
1.A GDL Facility Report	1
1.B OMEGA Facility Report	1
Section 2 PROGRESS IN LASER FUSION	5
2.A Uniformity Requirements for Direct-Drive Laser Fusion	5
2.B 24-Beam Implosion of Large-Aspect-Ratio Ar-DT Targets	12
2.C Induced Stress Birefringence in the Nearly Athermal Glass LHG-8	19
Section 3 DEVELOPMENTS IN MICROFABRICATION	28
3.A Inertial Fusion Target Mounting-Methods: New Fabrication Procedures Reduce the Mounting Support Perturbation	28
3.B Magnetron Sputtering of ICF Target Pusher Layers	37
Section 4 NATIONAL LASER USERS FACILITY NEWS	42
PUBLICATIONS AND CONFERENCE PRESENTATIONS	46



OMEGA technician, Dusty Quick, loads the multiple target carousel on the OMEGA vacuum chamber. As many as 16 targets may be selected and positioned without breaking vacuum.