

Section 4

LASER SYSTEM REPORT

4.A GDL Facility Report

The refurbishment of the GDL laser facility, coordinated by **J. Kelly**, began during the fourth quarter of FY92 and is expected to be completed in late FY93.

The laser room, control room, and experimental target room are being modernized, and space has been made in the laser room to accommodate the 15-cm and 20-cm disk amplifiers currently being tested on the OMEGA laser.

The current OMEGA target chamber and its attendant diagnostics will serve as the new GDL target chamber and will be available to future GDL experimenters.

4.B OMEGA Facility Report

The OMEGA system fired 531 shots during the fourth quarter of FY92, including shots used for laser testing, long-scale-length plasma experiments, damage testing of coatings for the OMEGA Upgrade, stimulated rotational Raman scattering (SRRS) experiments, and the installation of a new pulse shaper in the OMEGA driver line. The new pulse shaper will be used for a series of target experiments studying the effect of fast-rising pulse shapes on implosions of both glass and CH targets.

Four primary experimental programs were conducted simultaneously during these shots. The testing of the 15-cm and 20-cm disk amplifiers used one of the 24 beamlines, damage testing of large optics used a second beamline, the remaining beamlines were used for long-scale-length plasma experiments, and SRRS experiments used the output of the 15-cm and 20-cm amplifiers when it was available. After the completion of these experiments, the new pulse-shaper installation was started in the driver line.

The shot summary for the OMEGA laser this quarter is as follows:

Driver line	173
Laser development	117
Target	211
Software test	<u>30</u>
TOTAL	531

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