

## Section 3

# NATIONAL LASER USERS FACILITY NEWS

NLUF activity for the first quarter of FY92 was centered around experiments conducted on GDL. These were done by groups from the National Institute of Standards and Technology (NIST), the Naval Research Laboratory (NRL), and the University of Maryland.

**J. Reader** from NIST has set up a high-resolution XUV spectrograph to measure the line radiation from laser-produced plasmas. These spectral measurements are a continuation of measurements made during the last quarter. This instrument continues to provide some of the highest resolution measurements of line radiation from laser-produced plasmas to date. It is expected that there will be at least one more set of exposures taken before the instrument is returned to NIST.

**R. Whitlock** from NRL conducted a series of experiments with the GDL laser to study the effect of thermal shock waves on the lattice spacing of crystalline materials. X rays from a laser-plasma source were used to probe the lattice-spacing change of the crystal as the shock wave propagated from the front surface to the rear surface. These experiments were done in collaboration with **J. Wark** from the University of Oxford. These shots were sufficient to complete the data-acquisition phase of this NLUF experiment.

**J. Moreno** from the University of Maryland made use of the McPheerson grazing-incidence spectrograph to measure several high-resolution spectra from

carbon targets. **H. Griem's** group at the University of Maryland is studying line shapes of hot dense plasmas. These shots on GDL complement the data that has been collected off OMEGA with both imploding and non-imploding targets.

The American Physical Society's Division of Plasma Physics meeting was held in Tampa, Florida from 4 November through 8 November. Papers on work done as part of the NLUF program were presented by groups from the University of Maryland, the University of Florida, and the University of California at Davis. We would like to congratulate H. Griem from the University of Maryland for receiving the James Clark Maxwell Prize for Plasma Physics at this year's meeting. Prof. Griem was honored for his outstanding contributions to the measurement of x-ray spectra from plasmas.

#### ACKNOWLEDGMENT

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