

## Section 3

# NATIONAL LASER USERS FACILITY NEWS

NLUF activity during the third quarter of FY92 included experiments conducted by the University of Florida and the University of Maryland on the OMEGA target chamber. These experiments will continue throughout the remainder of OMEGA's shot schedule.

**C. Hooper** from the University of Florida is working with LLE scientists to study x-ray spectroscopy from laser-imploded targets. The goal of this experiment is to use atomic spectroscopy from the core of imploded targets to measure the temperature and density of the core. Current targets in use are either filled with pure Ar or with an Ar/D<sub>2</sub> mixture. Two time-resolved x-ray spectrographs are used to measure the x-ray spectrum during the target implosion. The experimental data are taken to the University of Florida and analyzed with codes developed to understand line emission from hot dense matter.

**H. Griem** and **J. Moreno** from the University of Maryland are working with **P. Jaanimagi** from LLE to measure the time-dependent emission of x rays from Ne-filled targets. The group at the University of Maryland has developed a theory of *k*-shell emission from dense matter. This experiment uses targets with both Ne and D<sub>2</sub>/Ne fills. A flat-field grating is used as the input to a streak camera to measure the Ne *k*-shell emission during the target implosion. The data are analyzed at both the University of Maryland and LLE.

GDL is now undergoing a refurbishment. This is to continue into the first quarter of FY93 and it should be ready for target experiments during FY93. The

current OMEGA target chamber will become the new GDL target chamber and will be available for single-beam 1054-nm and 351-nm experiments. The system will come up without a probe beam. This is to be added after the completion of the OMEGA Upgrade.

Remaining FY92 experiments by Syracuse University, the University of California at Davis, and the Naval Research Laboratory are being scheduled. They will get system time during the final OMEGA operating period.

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