

## Section 3

# NATIONAL LASER USERS FACILITY NEWS

During the fourth quarter of FY88 a great deal of time and effort went into supporting the experiments of **J. Apruseze**, **U. Feldman**, and **H. Griem**. All of these experiments used the line-focus geometry on OMEGA. The operations crew did an excellent job with laser pointing and target alignment.

J. Apruseze from NRL continued with his investigation of "hot-electron" pumping of neon-like ions. This experiment required OMEGA in line focus and GDL as ALPHA in line focus. X-ray and XUV spectra were taken for silver targets with two different irradiation intensities with and without ALPHA. There was some concern that the line-focus geometry did not have sufficient intensity to heat the plasma to the neon-like ionization state. Preliminary analysis of the 3-m grazing incidence spectrograph data and the Burkhalter crystal spectrograph data indicate that the plasma did not get hot enough to create neon-like ions. **P. Burkhalter** and **J. Seely** are analyzing the data to determine the distribution of ionization states in the silver plasma. With no neon-like silver present, it was impossible to see the effect of collisional pumping with the hot electrons created by the ALPHA beam when it irradiated the target.

H. Griem's experiment was conducted by **J. Moreno**. This experiment was to study the radiative cooling of a linear plasma by high-Z elements. Targets of Al and Au layers were irradiated with the OMEGA laser and x-ray and XUV spectra were recorded with the 3-m

grazing incidence spectrograph and SPEAXS. J. Moreno is analyzing this data at the University of Maryland.

U. Feldman from NRL has recorded XUV spectra from several targets irradiated with line-focused beams. Spectra were recorded both axially and radially with respect to the plasma cylinder. The axial spectra were recorded with the 3-m grazing incidence spectrograph and radial spectra were recorded with a NRL 1-m grazing incidence spectrograph. Very narrow XUV line radiation was recorded on the 3-m spectrograph. The plasma predominantly expands in the radial direction. Therefore, the doppler shift in the line energy was not present. J. Seely is continuing to analyze the data and is quite pleased with its quality.

The contract office of the DOE has been changed. From now on, all NLUF contracts will be handled by the San Francisco office instead of the Las Vegas office. The contact at the San Francisco office is **Dennis Neely**. All proposals for FY90 are due at DOE, San Francisco, on the 15 December 1988. This is a change from previous years when proposals were sent to the University of Rochester Laboratory for Laser Energetics.

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