

## Section 4

# NATIONAL LASER USERS FACILITY NEWS

This report covers the activities of the National Laser Users Facility (NLUF) during the quarter 1 January to 31 March 1984. During this period, one user conducted experiments on LLE facilities and another continued diagnostic development. Visiting scientists representing the Naval Research Laboratory (NRL) and the Goddard Space Flight Center (GSFC) performed experiments on the OMEGA facility, compiling a total of 17 shots. The University of Hawaii at Manoa initiated the installation of its spectrograph.

### User Experiments

The user experiment on the OMEGA system used 351-nm laser light focused onto copper, zinc, and gallium targets. The XUV spectra is used to identify transitions in the 100–200-Å wavelength region. The NRL-GSFC 3-m spectrograph, already in place at LLE, was used for the identification of transitions from neon-like and nearby ionization stages. The participating individuals of this experiment are

- **Uri Feldman, George Doschek, John Seely, and Brian Dohne** (Naval Research Laboratory), and **W. E. Behring** (Goddard Space Flight Center): "Measurement of the Spectra of Neon-Like Ions Relevant to X-Ray Lasers Using the OMEGA Laser Facility."

A new streak camera/photographic camera coupled with an elliptical analyzer, x-ray spectrograph system (SPEAXS) is currently being installed on the OMEGA target chamber by an on-site investigator — Paul Jaanimagi. With the SPEAXS system, time-resolved and

absolutely calibrated, time-integrated x-ray spectra will be obtained from the laser-produced plasma. The available analyzer crystals range from lead behenate (2d spacing = 120 Å) to lithium fluoride (2d spacing = 4.027 Å) and will allow investigation of the x-ray emission in the 100-10,000-eV region. The participating individuals of this experiment are

- **Burton L. Henke** and **Paul A. Jaanimagi** (University of Hawaii at Manoa): "Evaluation and Application of a Streak Camera and Photographic Camera Coupled Elliptical-Analyzer Spectrograph System for the Diagnostics of Laser-Produced X-Ray Sources (100-10,000-eV Region)."

Additional information on these experiments can be obtained from the scientists associated with the experiment.

### Steering Committee Meeting

On 20 April 1984, the NLUF Steering Committee will hold its fifth meeting to review and approve proposals, and to recommend funding of approved proposals in inertial fusion to the U.S. Department of Energy. This funding allocation is separate from LLE's operation contract and is designed to provide research funds to users in the inertial fusion field. Users in other fields may use the facility, but must provide their own research funds.

The committee membership consists of

**Brian J. Thompson**, Chairman

(Dean, College of Engineering & Applied Science,  
University of Rochester)

**Thomas C. Bristow**, non-voting Executive Secretary  
(NLUF Manager)

**John C. Browne**

(Los Alamos National Laboratory)

**Michael Campbell**

(Lawrence Livermore National Laboratory)

**Arthur H. Guenther**

(Air Force Weapons Laboratory)

**Wulf B. Kunkel**

(Department of Physics, University of California at Berkeley)

**Robert P. Madden**

(National Bureau of Standards)

**Barry H. Ripin**

(Naval Research Laboratory)

**Donald C. Slater**

(KMS Fusion, Inc.)

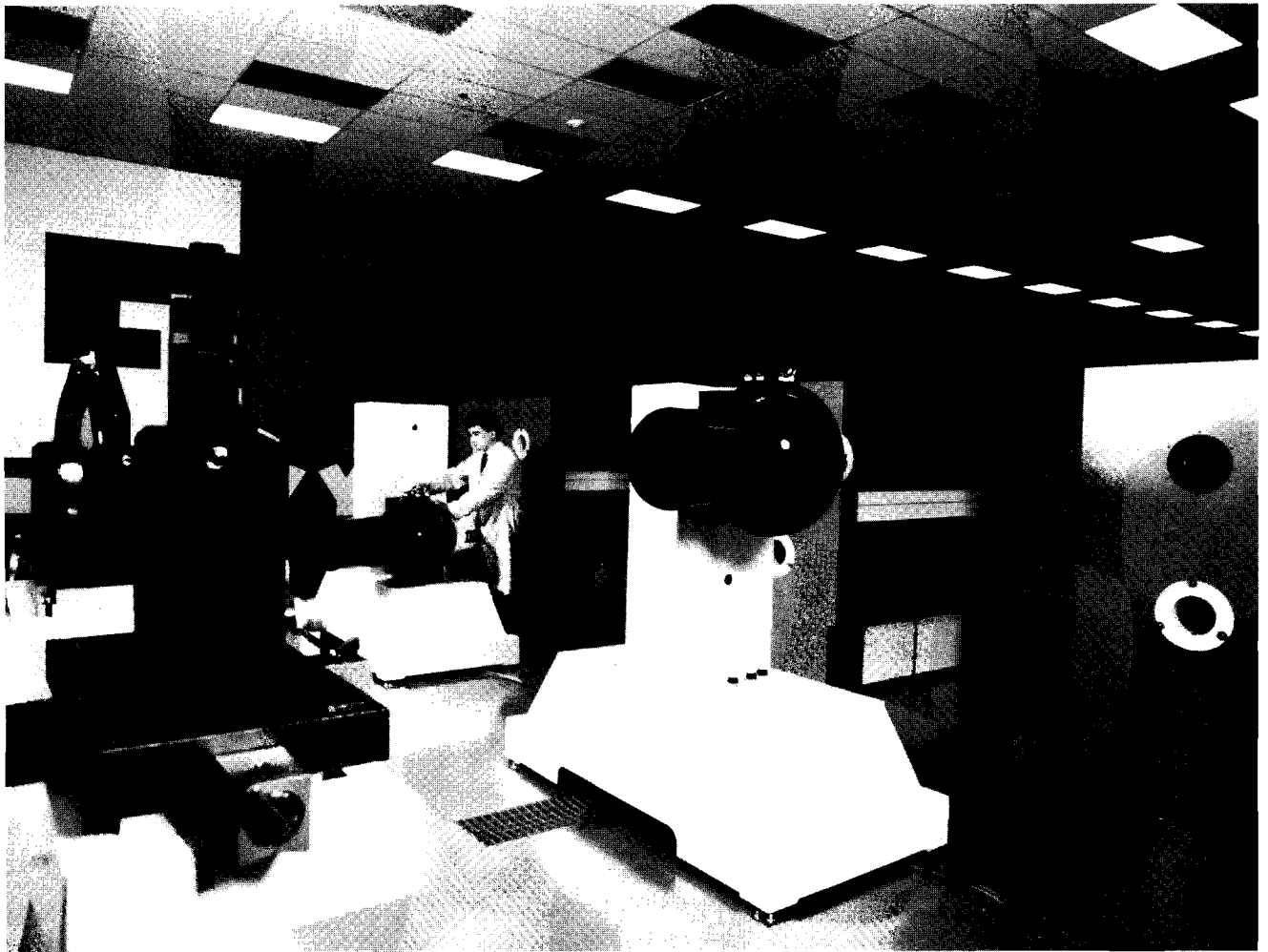
Last year the committee approved 11 of the 22 submitted proposals. The next issue of the LLE Review will list the approved proposals for this coming year.

### ACKNOWLEDGMENT

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Further information on the NLUF is available by writing to:

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*Gregory Pien, a technician in the OMEGA Operations Group, is shown aligning a multi-wavelength energy-sensing system (MESS) on one of the six OMEGA beams which have been converted to 351-nm operation. These devices measure the amount of energy at  $1\omega$ ,  $2\omega$ , and  $3\omega$  in each of the converted beams. See the article on OMEGA energy measurement in this volume for additional information on these devices.*