

Section 4

NATIONAL LASER USERS FACILITY NEWS

This report covers the activities of the National Laser Users Facility (NLUF) during the quarter 1 April to 30 June 1984. During this period, four users conducted experiments on LLE facilities, and two users visited LLE to discuss their experiment. The visiting scientists who conducted experiments represented the Naval Research Laboratory and the University of Hawaii, and are listed below.

- **R. Elton, T.N. Lee, and J. Ford**
(Naval Research Laboratory)
- **P. Burkhalter, K. Hudson, W. Behring, and B. Dohne**
(Naval Research Laboratory)
- **U. Feldman, J. Seely, and W. Behring**
(Naval Research Laboratory)
- **B. Henke and P. Jaanimagi**
(University of Hawaii)

The two visiting users represented the Los Alamos National Laboratory and the University of California at Davis.

On April 20, 1984, the NLUF Steering Committee held 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 (DOE). 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.

Twenty-one proposals were submitted to the NLUF Steering Committee this year. The proposals were in a variety of areas including plasma physics, x-ray laser research, cryogenic targets, x-ray spectroscopy, instrumentation, nuclear fluorescence, and others. Ten of the twenty-one were approved. This year, three new user experiments were approved for facility time: **Carl Collins** (University of Texas at Dallas), **Dwight Duston** (Naval Research Laboratory), and **John DeGroot** (University of California at Davis). These new proposals represent 30% of the total approved number.

Ten of the proposals were approved for facility time. Individual funding levels for these experiments were recommended to DOE for their consideration. The committee noted the continued excellence of user experiments, that many of the proposals were from distinguished scientists, and that the top proposals were of high caliber.

The new approved proposals are listed below in alphabetical order.

1. **Philip G. Burkhalter** (Naval Research Laboratory)
"X-Ray Spectroscopy to Determine Line Coincidences in High-Z Elements."
2. **Carl B. Collins** (University of Texas at Dallas)
"Continuation of the Study of Nuclear Fluorescence Excited by Laser Plasma X-Rays."
3. **John S. DeGroot** (University of California at Davis)
"Measurements of Parametric Instabilities Near the Critical Density and the Resultant Electron Heating."
4. **Dwight Duston** (Naval Research Laboratory)
"Investigation of K-Shell Dielectronic Satellite Line Emission at Ultra-High Plasma Densities."
5. **Nizarali A. Ebrahim** (Yale University)
"Studies of Parametric Instabilities in Hot Long Scale Length Plasmas."
6. **Uri Feldman** (Naval Research Laboratory)
"A Proposal for Spectroscopic Studies Relevant to X-Ray Lasers Using the OMEGA Laser Facility."
7. **Hans R. Griem** (University of Maryland)
"A Proposal for Thermal Transport Studies Using Extreme Ultraviolet Spectroscopy."
8. **Burton L. Henke** (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)."
9. **C.F. Hooper, Jr.** (University of Florida)
"A Study of Plasma-Induced Continuum Lowering and Spectral Line Alterations: A Proposal to NLUF."
10. **Chan Joshi** (UCLA)
"Studies of the Two-Plasmon Decay and Stimulated-Raman-Scattering Instabilities in 0.35- μ m-Laser-Irradiated Plasmas."

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