

AAPT concerned about FDA laser-safety rules

The Food and Drug Administration's Proposed Performance Standard for Laser Products has aroused considerable concern in the American Association of Physics Teachers.

The standard would require manufacturers to include specified safety interlocks, emission indicators, beam attenuators and warning labels on all lasers of above 0.4 microwatt power output, and would forbid suppliers to advertise lasers in the visible region of above 1 milliwatt power output for demonstration purposes. It also states: "While the proposed performance standard cannot regulate the manner in which laser products are actually used, it establishes a basis for adoption of uniform use controls by State and Federal agencies."

The AAPT Apparatus Committee became concerned that the standard would unnecessarily restrict the use of lasers in the classroom, and that the requirements for additional safety devices would raise the cost of lasers prohibitively. AAPT Executive Officer Arnold A. Strassenburg noted that the regulations could also encourage educational organizations to misrepresent their intentions when purchasing lasers, thus causing suppliers to violate the law unwittingly.

The AAPT challenged the proposed regulations in a letter from President Sherwood Haynes to the FDA Hearing Clerk. While acknowledging the need for safety, the AAPT questioned the justification and reasonableness of restrictions placed on the use of low-power lasers with visible output; the AAPT considers these an important educational resource. Specifically questioned was the exclusion of 1 to 4.5 mW lasers from classroom use. The objections were based on an analysis of retinal injuries by Robert Tinker of Amherst College (*The Physics Teacher*, November 1973, page 455); he reports that when the type of laser in question is properly used the probability of injuries is negligible. The FDA answered questions pertaining strictly to research data but ignored those probing the basis for the standard, making no attempt to refute Tinker's findings.

Later Haynes discovered in the enabling legislation a clause permitting the Secretary of Health, Education and Welfare to exempt from restrictions any electronic product used for training or demonstrations. He wrote to Senator Philip Hart asking Hart to re-

quest that HEW Secretary Casper Weinberger exempt visible-range teaching lasers of less than 5-mW power output from the new restrictions; a copy was sent to Weinberger. Recently, John Villforth, Director of the Bureau of Radiological Health, replied to Haynes, explaining that the standard applies only to advertising and therefore will not eliminate laser use for educational purposes. Villforth did not discuss the statement, included in the standard itself, that it establishes a basis for controlling the way lasers are used.

The AAPT feels that visible-range lasers of up to 5-mW power output are safe and valuable educational tools whose classroom use must be assured by their specific exemption from the proposed restrictions. —DG

AIP publishes data on graduate students

The 1972-73 survey of graduate students, conducted by the American Institute of Physics, supplies information on the distribution of all graduate students in physics, their sources of support, duration of study, and employment and salaries of degree recipients. Also included is information on minority-group physics students.

The majority (84%) of the 6770 respondents are full-time students; most support themselves initially by teaching assistantships and later, when working toward doctorates, by research assistantships.

Oriental students are by far the most numerous among the minority groups—687 Orientals completed questionnaires for inclusion in the survey. Other minority contributors of data were 281 Asian Indians, 123 Spanish speaking, 106 Blacks and 10 American Indians. The survey report includes a table of characteristics of these minority-group respondents, including sex, citizenship, 1972-73 degree recipients, physics subfields and others.

Information gathered during the summer of 1973 indicates that the percentage of master's recipients without job offers declined 6% from the preceding year's 24%, but that the percentage of doctorate recipients with no job offers remained constant at 14%. Six months later a follow-up survey on those degree recipients seeking employment showed that only 4% of the new masters still sought jobs, and that unemployment among new PhD's had dropped to less than 3%. There were equal numbers of postdoctoral and per-

manent positions taken; most of the postdoctoral positions were accepted by necessity and were of two-year duration.

Starting salaries have increased only slightly over 1972 levels, with the average for master's recipients at \$980 per month and that for PhD's (excluding postdoctorals) at \$1140 per month.

Free copies of this survey are available from Susanne Ellis, Manpower Statistics, American Institute of Physics, 335 East 45th Street, New York, N.Y., 10017.

Shapley fund will help AAS "visitors" program

The American Astronomical Society is developing an endowment fund to be called the "Harlow Shapley-AAS Visiting Lectureships" in honor of the late astronomer Harlow Shapley, who was one of the originators of the Visiting Professors Program of the AAS.

The program brings astronomy lecturers to interested colleges with limited or no astronomy programs of their own. Only those expenses incurred by each professor during his two-day visiting lectureship will be covered by the fund.

Contributions to the Harlow Shapley Visiting Lectureship Fund should be sent to: F. K. Edmondson, Astronomy Department, 319 Swain Hall West, Indiana University, Bloomington, Indiana 47401.

in brief

Free copies of the 1972-73 AIP survey of enrollments and degrees in physics and astronomy in the US are available from Susanne Ellis, Manpower Statistics, American Institute of Physics, 335 East 45th Street, New York, N.Y., 10017.

Charles N. Caughlan, head of the chemistry department at Montana State University, has been elected treasurer of the American Crystallographic Association.

The Council of the Institute of Physics announces the formation of the Particle-Nuclei Interaction Group. Problems relating to both nuclear and high-energy physics will be emphasized over those in either area alone. Information about the group's activities can be obtained from J. S. C. McKee, Dept. of Physics, Univ. of Birmingham, PO Box 363, Birmingham, B15 2TT, UK.