

Astronautics Committee: "I don't think any significant group of Republicans have attempted to design a peculiarly party position on basic research. There is a tendency, however, for the Republicans to give more weight to economy, to be more hesitant to approve the full amounts asked for by the administration. The executive branch faces us in quite a monolithic way in asserting administration policy. In our minority role, we find ourselves espousing more vigorously cuts in appropriations. Now if we become the majority party, we might be put in a reverse position."

James Fulton (R-Pa.), ranking Republican on the committee: "Support of research is not a party issue. But I think if we win in 1968, we'll treat the NASA enterprise with less program-mindedness than the Democrats and with more room for research. I have pointed out time after time that 95% of NASA's money is not research, and I have insisted that its laboratories be left open for research and not put into a rigid military program. Research was always emphasized more under Eisenhower."

Congress Finds Little Time For Legislation on Science

Much significant legislation affecting science was still bottled up in committee as the first session of the 90th Congress drew to adjournment. Bills concerning the National Science Foundation, metric-system study, National Standard Reference Data System, geographic distribution of research funds and others drew scant attention from Congressman preoccupied with poverty programs, urban riots, Vietnam and new tax proposals. Status of some of the science bills follows.

National Science Foundation. Earlier this year the House passed HR 5404, to give NSF an expanded role and strengthen its operation. The bill is still pending before the Senate Labor Committee, but hearings are planned.

Metric system study. HR 3136 reported by the Science and Astronautics Committee in both the 89th and 90th Congresses is still pending in the House Rules Committee where it has pended longer than any other piece of legislation before the committee in this session.

Standard reference data. The National Standard Reference Data System bill, to put a congressional stamp of approval on the system and facilitate its funding, won House approval with two restrictive amendments: that annual authorization of funds must be obtained and that FY 68 spending be limited to the FY 67 amount. No Senate action on S 998 seems likely this year.

Education. HR 875 providing \$150 million for institutional support for science, introduced earlier in the year, is still pending before the House Science and Astronautics Committee with no action planned this session. HR 5465, to encourage out-of-school cooperation between students and the scientific community, is pending before the General Education Subcommittee; no action is planned. HR 1185, to establish a National Science Academy for training scientists and engineers for service in the federal government, is awaiting action in the Science and Astronautics Committee.

Patents and copyrights. Patent reform legislation, S 1042, providing for patent awards to the first to file, has received hearings in both House and Senate but no further action is planned this year. The copyright revision bill, S 597, won early approval in the House but is shackled in the Senate over jukebox royalty controversies.

Congressional reform. The Senate passed by an overwhelming vote the Congressional Reorganization Act of 1967 (S 355), one significant feature of which would enable the Library of Congress science-policy-research division to expand its services to Congress. The House Rules Committee now has the bill but has held only one day of hearings, with no further action planned within the remainder of the current session.

In Brief

Publications

Physics of the Earth and Planetary Interiors, a bimonthly journal begun by North-Holland Publishing Co., Box 103, Amsterdam, Holland.

International Journal of Mass Spectrometry will be issued bimonthly by Elsevier Publishing Co., Box 211, Amsterdam, Holland.

Journal of Molecular Structure, published bimonthly by Elsevier.

A Directory of Information Resources in the United States: Federal Government, containing over 1600 items of federal and federally sponsored information resources. Purchase from Superintendent of Documents, Government Printing Office, Washington, D. C. 20402 (\$2.75 per copy).

Systems for Measuring and Reporting the Resources and Activities of Colleges, issued by the National Science Foundation. Report presents the problem, rationale and main features that must be included in a data system as well as suggestions on specific items of data needed. Purchase from Superintendent of Documents, \$2.00 per copy.

Industry

Laser Industry Association has been formed by representatives of 31 manufacturers of laser beam-emitting products. Information from Arthur Lubin, Korad Corp., 2520 Colorado Ave., Santa Monica, Calif. 90406.

Stevens Institute of Technology will develop a new industrial research center, costing in excess of \$20 million, on a 12-acre waterfront tract adjoining the school campus at Hoboken, N. J.

Magnon has acquired Strand Labs, a manufacturer of electron paramagnetic resonance spectrometers and microwave equipment.

Varian Associates has newly acquired Mess- und Analysentechnik, a West German maker of research instruments, including mass spectrometers.

Berkeley Lab Materials Will Be Available Royalty-Free

McGraw-Hill Book Co. announces that the material in *Laboratory Physics: Berkeley Physics Laboratory*, Parts A, B and C-D, will be available on a royalty-free basis for authors and publishers on or after 1 July 1969. The materials were copyrighted by Education Development Center (formerly Educational Services Inc.) and published by McGraw-Hill in 1964, 1965 and 1966. Interested persons can ad-

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You are looking edgewise at a reel of a new type of film for the ultraviolet down to 50Å. The specks are polystyrene beads embedded to protrude from a raised strip of gelatin along each edge of the film. The apparent simplicity of the invention detracts nothing from our pride in it. The structure provides a reliable pair of 150μ-high rails to keep the photographically active surfaces from touching. Sensitivity below 2000Å forbids burying silver halide crystals in gelatin for the usual protection. Therefore density can result from mechanical contact instead of from radiant energy.

Over the years we have learned ways to endow these bare



crystals with far more uv sensitivity than when Victor Schumann first proposed sticking them out free of the uv-absorbing gelatin. A certain film imported from Kodak-Pathé in delicately packaged strips 35mm x 7 inches has represented the high mark in sensitivity. Still, its touch-me-not nature continued to impose awkward constraints on design of equipment. No more, provided enough interest can be

aroused in new domestic KODAK Special Film, Type 101-01.

Now Eastman Kodak Company, Industrial Photo Methods, Rochester, N.Y. 14650 awaits word on length, width, and perforation requirements from anybody who can afford the price.

Liquid crystals: breadth of choice now, purity later if needed

For some time now we have been busily adding more and more items to the list of mesomorphic compounds we offer, particularly those of cholesteric habit with its enormous optical rotation power and circular dichroism. Further possibilities are suggested by work reported in *Physical Review Letters* 18:393; it seems that the random alignments available in cholesteric "swarms" can simplify the generation of second harmonics from Q-switched lasers. Meanwhile, some who are less interested in basic optical principles use "liquid crystals" to depict slight but significant temperature anomalies in the skins of people or airframes. Those concerned

with the latter tell us we are doing a good job in making them what they want.

In serving the optical investigator with liquid crystals, the chemical talent we have invested might have been devoted to higher purity for fewer compounds. Instead, we reasoned that once his investigations establish a need for higher purity in a given compound and it happens that purification overtaxes his own chemical facilities, we would be happy to see what we can do for him.

To check on current offerings and prices in cholesteric, smectic, and nematic compounds, write Eastman Organic Chemicals Department, Distillation Products Industries, Rochester, N.Y. 14603 (Division of Eastman Kodak Company).

Other fish to fry

We are selling out our PbS and PbSe infrared detectors. If neither "state-of-the-art" performance characteristics nor continued availability nor conformance to Kodak standards of predictability matters for the 1-5μ application you have in mind, but cost does, and if you act while this page is still fresh from the press, you may be in luck. Action consists of sending for "Close-out Price List of Detectors" to Special Products Sales, Eastman Kodak Company, Rochester, N.Y. 14650. Therein a reader who has or can pick up a little grounding in infrared technology will find enough frank technical information to do better than merely reach into a grab bag. As these words were written, detectors were still available at prices from \$2.30 to \$110, f.o.b. Rochester, N.Y., minimum order \$25.

A successful, constantly growing business is constantly deciding in what directions to grow. Decisions represent judgments on where the particular set of talents that have been attracted into the fold can make their best contribution, as compared with the talents that other organizations have attracted. The men who could have kept us out front in development and manufacture of photoconductive detectors were needed in other work for which Kodak was uniquely well fitted. So the lead in the photoconductive art passed elsewhere. We pulled over, waved the new leaders past, and

leave it to you to discover their names and addresses.

Meanwhile, note on the bargain counter: D* from 10^8 to 8×10^{10} , time constants from a millisecond to 2μsec, resistance per square in range of 0.2 to 2 megohms, sensitive areas from 0.02 x 2.0mm to 20 x 10mm, room temperature or to be cooled, some resistant to heat and high humidity and some resistant to permanent high vacuum, plug-in mounted or just with leads from the low-sodium glass or KODAK IRTRAN 3 Optical Material substrate that passes infrared to 6μ.

D* is expressed in units of $\text{cm}/\text{watt-sec}^{1/2}$ by the equations $D^* = \frac{V(\Delta f)^{1/2}}{JNA^{1/2}} = \frac{(A\Delta f)^{1/2}}{[NEP]}$

where V = rms value of signal in volts
 Δf = frequency bandwidth in cycles/sec
 J = rms value of radiant energy flux density in watts/cm²
 N = rms noise in volts
 A = sensitive area of detector in cm²
 [NEP] = noise equivalent power, the rms value of minimum radiant energy flux in watts necessary to give signal-to-noise ratio of unity

Kodak

This vibrating reed electrometer has greater sensitivity than any device for measuring currents from high-impedance sources.



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Several built-in features enhance the 401's versatility: Critical damping gives fast response; remote switching between three input resistors and remote input

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dress inquiries to Managing Director, Education Development Center, 55 Chapel St., Newton, Mass., 02160.

AIP and US Steel Foundation Create Science-Writing Prize

To promote better public understanding of physics and astronomy, the American Institute of Physics, with United States Steel Foundation sponsorship, has established an AIP-US Steel Foundation \$1500 science-writing award. The prize will recognize the best article or program in physics or astronomy written or produced during 1967 by a journalist for any mass communications medium; it will be presented by the AIP director at the National Association of Science Writers luncheon during the April meeting of the American Physical Society in Washington, D. C. Candidates must be permanent residents of the US or Canada; send nominations by 15 Jan. to the AIP public relations division.

Western Michigan Builds 12-MeV Tandem Facility

Construction will soon start on an \$8 million physical science building at Western Michigan University in Kalamazoo. The structure will house a 12-MeV tandem Van de Graaff purchased from High Voltage Engineering Corp. This accelerator was removed from Argonne National Laboratory just before installation of Argonne's HVEC model FN machine was begun. Western Michigan will use its tandem primarily for neutron and charged-particle scattering and reaction studies to investigate nuclear structure. Experiments are expected to begin early in 1969. The building will also contain an IBM 360 model 50 computer that will be available to accelerator staff and science faculty.

IEEE Nuclear Group Joins AIP as Affiliated Society

The American Institute of Physics governing board recently elected the Nuclear Science Group of the Institute of Electrical and Electronics Engineers an AIP affiliated society. The 2288-member organization thus became the

19th AIP affiliate and the first affiliate that is also a group connected with an organization in another discipline.

The Nuclear Science Group engages in many activities of interest to both physicists and engineers. Headed by Robert G. Mills of the Princeton plasma-physics laboratory, the organization issues a bimonthly journal, *IEEE Transactions on Nuclear Science*. It also sponsors two series of conferences held in alternate years, the scintillation and semiconductor-counter symposia and the newer national particle-accelerator conferences. Other activities are its nuclear science symposia, an annual conference on radiation damage and an awards program. The group is also active in helping to generate standards for the nuclear-power industry.

AIP Information Program Sets up Seminar Series

The American Institute of Physics with National Science Foundation support has begun a series of seminars as part of its program to develop a national physics-information system. Organized by the AIP information staff, the series will feature lectures by information specialists followed by discussion with institute personnel and others working in the information area. Thus far the speakers have included: (18 Oct.) William T. Knox, former chairman of the Committee on Scientific and Technical Information (COSATI) and currently vice president for information systems at McGraw-Hill, and (2 Nov.) Kenneth Zabriskie of Bio Science Information Service. Persons interested in the information program and the specialists' talks can learn more about them by writing to Miles A. Libbey, AIP information planning program director.

Knox commenced the seminar series by reviewing some of the steps taken by the federal agencies in the information-systems field. As examples of changes in the past two years in document-oriented systems, Knox mentioned the AEC's increasing emphasis on microfiche, NASA's experience with SDI (selective dissemination of information) and DOD's change to a system whereby the contractor pays for the documents he orders. Experimentation, especially on large-scale sys-

tems, is needed. With respect to information oriented systems, the need is for user-controlled information systems with swift, direct and definite feedback loops from the user himself, not someone else representing him. The user himself can be expected to change, partly because of his education in use of information. This change, said Knox, is one of the factors that makes it hard to say what will be needed more than a few years from now and impossible for ten years from now. The private sector, especially commercial interests, may interact with the information systems more in the marketing of information than in its acquisition and processing.

Society of Nuclear Medicine Opens New York City Office

The Society of Nuclear Medicine is expanding its activities by opening a New York City office (211 East 43rd Street) manned with a four- to five-person staff. Heading the office with the title "administrator" is Margaret Beach Glos, an astronomer-physicist who was assistant editor of *Nucleonics* magazine for seven years and at its demise was assistant managing editor of *Scientific Research*. Her staff will include an administrative assistant and a production editor.

The society, which was founded in 1954, now has 3200 members, the majority of whom are medical doctors working in hospitals. To the members "nuclear medicine" means both research and clinical applications of radioactive isotopes in diagnosis—not therapy. The remainder of the membership is chemists, physicists and also technologists. The present dues of \$18 per year are about to go up to \$25; all members pay additional dues to belong to local chapters.

In the current expansion Mrs Glos becomes managing editor of the society's *Journal of Nuclear Medicine*, which has been redesigned and its size increased. The journal, which started in 1959, contains considerable physics. For example, the current issue is about 25% chemistry and physics, and 75% clinical material. According to present plans the journal will, in the future, be more heavily edited and carry regular departments; it also has advertising. □