### CALENDAR

teeting announcements intended for inclusion in the calendar should be ibmitted at least eight weeks before meetings are to take place. Send otices to Physics Today, 335 East 45th Street, New York 17, N.Y.

new announcement

· change from previous listing

### 1ay 1965

- Internal Conversion Process (Vanderbilt U.) spons'd by Atomic Energy Commission, Nat'l Science Foundation, Internat'l Union of Pure and Applied Physics: J. H. Hamilton, Physics Dept., Vanderbilt U., Nashville, Tenn. (See Mar. PT, p. 115) 1-13
- Instrumentation for High-Energy Physics (Purdue U.): L. Kowar-ski, Purdue U., Lafayette, Ind. 2-14
- Theoretical Physics (Ohio State U.): R. L. Mills, Dept. of Physics, Ohio State U., Columbus, Ohio 4-15
- Mass Spectrometry and Allied Topics (St. Louis, Mo.): H. M. Rosenstock, Nat'l Bureau of Stand-6-21 ards, Washington, D.C.
  - Semiconductor Technology (San Francisco) spons'd by American Inst. of Chemical Engrs: A. S. Grove, Solid-State Physics Dept., Fairchild Semiconductor, 4001 Jun-ipero Serra Blvd., Palo Alto, Calif.
- Application of Computing Methods to Reactor Problems (Argonne Nat'l Lab) spons'd by Mathematics and Computing Div. of American Nuclear Soc., Argonne Nat'l Lab, European Nuclear Energy Agency: B. J. Toppel, Reactor Physics Div., ANL, 9700 S. Cass Ave., Argonne, III. 17-19
- 21-22 Surface Physics (Washington State U.): E. E. Donaldson, Physics Dept., Washington State U., Pullman,
- Exchange Reactions (Brookhaven Nat'l Lab) spons'd by the Internat'l Atomic Energy Agency: J. H. Kane, Internat'l Confs. Branch, Div. of Special Projects, Atomic Energy Commission, Washington, D.C. 31-4

### June 1965

- Acoustical Society of America (Washington, D.C.): G. J. Franz, David Taylor Model Basin, Washington, D.C.
- Environment-Sensitive Mechanical Behavior of Materials (Baltimore) spons'd by Army Research Office-Durham, Physical Metallurgy Committee of American Inst. of Metallurgical Engrs., Martin Co.: A. R. C. Westwood, 7212 Bellona Ave., Baltimore, Md.
- Rheology (Washington, D.C.) spons'd by American Soc. of Mechanical Engrs: A. W. Marris, School of Engrg. Mechanics, Georgia Inst. of Technology, Atlanta, Ga. (See Mar. PT, p. 115)
- Communications (Boulder, Colo.) spons'd by Inst. of Electrical and Electronics Engrs: W. R. Hinchman, IEEE Communications Convention, National Bureau of Standards, Boulder, Colo.

- Electron and Photon Interaction at 8-12 High Energies (Hamburg) soons'd by German Physical Soc: P. Stichel, c/o Deutsches Elektronen-Synchro-tron (DESY), 2 Hamburg-Gross Flottbek 1, Notkestieg 1, Germany
- Heat Flow Below 100 K and Its Technological Applications (Grenoble) spons'd by Internat'l Inst. of Refrigeration Commission I, Societé Air Liquide: Centre de Recherches sur les très basves Températures, BP 319, Grenoble, France (See Feb. PT, p. 91)
- 10-12 Canadian Association of Physicists (Vancouver): G. M. Volkoff, Dept. of Physics, U. of Britis': Columbia, Vancouver 8, B.C., Canada (See Apr. PT, p. 107)
- 11-12 Resonant Particles (Ohio U.):

  B. A. Munir, Dept. of Physics,
  Ohio U., Athens, Ohio (See Apr.
  PT, p. 107)
- Geophysical Theory and Computers (Rehovoth) spons'd by the Internat'l Union of Geodesy and Geophysics: C. L. Pekeris. Applied Mathematics Dept.. Weizmann Inst., Rehovoth, Israel
- (through September 3) Gordon Research Conferences (New Hampshire): W. G. Parks, U. of Rhode Island, Kingston, R.I.
- Health Physics Society (Los Angeles): W. L. Fisher, Healt's and Safety Lab, Atomics Internat'l, 8900 DeSoto Ave., Canoga Park, Calif. 14-17
- Molecular Structure and Spectroscopy (Ohio State U.): K. Narahari Rao, Dept. of Physics, Ohio State U., 174 W. 18th Ave., Columbus, Ohio (See Feb. PT, p. 91)
- American Association of Physics Teachers (U. of Tennessee): Melha Phillips, Ryerson Physical Lab, U. of Chicago, Chicago 37, Ill.
- (through July 30) Particle Symmetries and Field Theory (Waltham, Mass.), Brandeis Summer Institute in Theoretical Physics: Mrs. N. Goldstein, Physics Summer Institute, Brandeis U., Waltham, Mass.
- Polymer Science (Ottawa) spons'd by Canadian Nat'l Research Coun-cil, Chemical Inst; send abstracts by May 31 to H. Daoust, Chemistry Dept., U. de Montréal, PO Box 6128, Montreal, Quebec: D. M. Wiles, Applied Chemistry Div., Nat'l Research Council, Ottawa, Ont., Canada (See Mar. PT, p. 117)
  - Physics of X-Ray Spectra (Cornell U.); abstracts deadline June 1: H. W. Schnopper, Lab of Atomic and Solid State Physics, Rockefeller Hall, Cornell U., Ithaca, N.Y.

- American Physical Society (New York City): K. K. Darrow, The American Physical Soc., Columbia U., 538 West 120th St., New York 27, N.Y.
- Small-Angle X-Ray Scattering (Syracuse U.): H. Brumberger, Dept. of Chemistry, Syracuse U., Syracuse, 24-26
- American Crystallographic Association (Gatlinburg, Tenn.): W. L. Kehl, Secretary, Gulf Research and Development Co., PO Box 2038, Pittsburgh, Pa. 27-2
- Physics of Quantum Electronics (San Juan, P.R.) spons'd by Office of Naval Research: P. L. Kelley, Secretary, Physics of Quantum Electronics Conf., MIT Lincoln Lab, Lexington, Mass. (See Jan. PT, p. 160) 28 - 30
  - Electromagnetic Scattering (U. of Massachusetts) spons'd by Air Force Cambridge Research Labs: R. L. Rowell, Dept. of Chemistry, U. of Massachusetts, Amherst, Mass. (See Mar. PT, p. 115)
- Vacuum (Stuttgart) spons'd by Internat'l Union for Vacuum Science, Techniques, and Applications: H. Adam, Scientific Committee, Internat'l Vacuum Congress, Postfach 195, Köln-Bayenthal, Germany (See Apr. PT, p. 108)

#### July 1965

- (through Aug. 25) High-Energy Physics (Les Houches, France), U. of Grenoble Summer School for Theoretical Physics: Cécile De-Witt, Physics Dept., U. of N. Caro-lina, Chapel Hill, N.C.
- 1-10 General Relativity and Gravitation (London) spons'd by Internat'l Union of Pure and Applied Physics: H. Bondi, Mathematics Dept., Kings' College, London WC 2, England
- Molecular Relaxation Processes (Aberystwyth, Wales): General Sec-retary, The Chemical Soc., Burling-ton House, London W 1, England (See Jan. PT, p. 160)
- Spectroscopy (U. of Exeter) spons'd by British Spectroscopists Coordi-nating Committee, Inst. of Physics and Physical Soc: C. E. Arregger, 1 Lowther Gardens, Prince Con-sort Rd., London SW 7, England (See May '64 PT, p. 115)
- Pure and Applied Chemistry (Moscow) spons'd by Academy of Sciences of the USSR, Internat'l Union of Pure and Applied Chemistry: Secretary-General, 20th Congress, Inst. of Chemical Physics, USSR Academy of Sciences, Vorobyevskove chaussée 2-b, Moscow V-334, USSR. 12-18 USSR.
- Education of Professional Physicists (London) spons'd by Education Commission of Internat'l Union of Pure and Applied Physics: Patricia N. Boston, Inst. of Physics and Physical Soc., 47 Belgrave Sq., London SW 1, England (See May '64 PT, p. 115)
- Properties and Applications of Plasmas (Moscow, USSR) spons'd by Internat'l Union of Pure and Applied Chemistry: E. S. Stark-man, College of Engineering, U. of California, Berkeley, Calif. (See Jan. PT, p. 162)

### Scientific Liaison Europe

Unusual opportunity for Ph.D. Physicist or Physical Chemist with broad scientific interests. Fluent speaking knowledge of German and/or French essential.

Major U.S. Company has an important position involving liaison between European research institutions and its scientific laboratory. Understanding and transmission of scientific problems and advances at Ph.D. research level required.

Emphasis will be on the solid state but close cooperation with liaison colleagues in electrical engineering and chemistry is expected.

Period of assignment is 3 to 5 years.

PHYSICS TODAY, Box 565C 335 E. 45th St., New York, N. Y. 10017

An Equal Opportunity Employer



- 19-23 Nuclear Structure with Neutrons (Antwerp) spons'd by Internat'l Union of Pure and Applied Physics, European-American Nuclear Data Committee: M. Nève, Neutron Physics Dept., Centre d'Etudes Nucléaires, Mol, Belgium (See Apr. PT, p. 108)
- 27-29 Positron Annihilation (Wayne State U., Detroit) spons'd by Wayne State Fund, U. of North Carolina, Advanced Research Projects Agency, National Science Foundation; abstracts deadline June 18: A. T. Stewart, Physics Dept., U. of North Carolina, Chapel Hill, N.C.

### August 1965

High Pressure (Le Creusot, France): Prof. B. Vodar, CNRS, BP 30, Bellevue, Seine-et-Oise, France (See Jan. PT, p. 162) 2-6

Physics of Electronic and Atomic Collisions (Laval U., Quebec) spons'd by Internat'l Union of Pure and Applied Physics: W. L. Fite, Dept. of Physics, U. of Pittsburgh, Pittsburgh 13, Pa.

- American Astronomical Society (Ann Arbor): G. C. McVittie, U. of Illinois Observatory, Urbana, Ill. 4-6
- 9-10 Photoelectric and Secondary Electron Emission (U. of Minn.) spons'd by Advisory Group on Electron Devices, U. of Minn.: W.
  T. Peria, Dept. of Electrical Engrs., U. of Minnesota, Minneapolis, Minn.
- 9-13 Meteor Orbits and Dust (Smith-sonian Astrophysical Observatory) by invitation: G. S. Hawkins, SAO, 60 Garden St., Cambridge, Mass.

Photonuclear Reactions (Tilton, N.H.): W. G. Parks, Dept. of Chemistry, U. of Rhode Island, Kingston, R.I.

- Phonons in Perfect Lattices and in Lattices with Point Imperfections (U. of Aberdeen): T. Smith, Dept. of Natural Philosophy, U. of Aber-deen, Aberdeen, Scotland
- 10-11 Atomic Physics (Goddard Space Flight Space) Acoustics and Space Administration: A. Temkin, GSFC, Greenbelt, Md.
- Molecular Spectroscopy (Copenhagen) spons'd by European Molecular Spectroscopy Group, Internat'l Union of Pure and Applied Chemistry, Oersted Inst. of U. of Copenhagen Dept. of Chemical Physics.

  B. Bak, U. of Copenhagen, Dept. of Chemical Physics, Oersted Inst., 5 Universitetsparken, Copenhagen Dept. Openmark 14-20 Ø. Denmark
- Liquid Crystals (Kent, Ohio): G. H. Brown, Dept. of Chemistry, Kent State U., Kent, Ohio 16-20
- Electron Diffraction and Crystal Defects (Melbourne) spons'd by Australian Academy of Science, Internat'l Union of Crystallography, Internat'l Union of Pure and Applied Physics: R. I. Garrod, Aeronautical Research Lab, Box 4331, GPO, Melbourne, Victoria, Australia (See May '64 PT, p. 115) 16-21

- Radiation Trapped in the Earth's Magnetic Field (Bergen, Norway): B. M. McCormac, IIT Research Inst., 10 W. 35 St., Chicago, Ill. 16-3
- Phenomena in Ionized Gases (Belgrade) spons'd by Yugoslav Union of Mathematical, Physical, and Astronomical Socs., Internat'l Union of Pure and Applied Physics: Secretariat, PO Box 699, Studentski trg 16/C/IV, Belgrade, Yugoslavia (See Sept. '64 PT, p. 108)
- The Exploration of Mars and Venus (Virginia Polytechnic Inst.) spons'd by Nat'l Aeronautics and Space Administration, Air Force Cambridge Research Labs: M. L. Collier, Jr., VPI, Blacksburg, Va.
- International Congress of the History of Science (Warsaw): B. Suchodolski, Polish Academy of Sciences, Palace of Culture and Sciences, Warsaw, Poland 24-26
- Gas Dynamics (Northwestern U.): American Inst. of Aeronautics and Astronautics, 1290 Sixth Ave., New York 19, N.Y.
  - Applications of X-Ray Analysis (Denver) spons'd by Metallurgy Div., Denver Research Inst.: W. M. Mueller, U. of Denver, Colo.
- Electron Microscopy Society of America (Statler-Hilton Hotel, New York City): L. L. Ross, Dept. of Anatomy, Cornell U. Medical Col-lege, 1300 York Ave., New York 21, N.Y. (See Apr. PT, p. 108) 25-28
- International Congress of the History of Science (Kraków): B. Suchodolski, Polish Academy of Sciences, Palace of Culture and Sciences, Warsaw, Poland
- Electron Microscopy (Kyoto): Chairman, Sixth Internat'l Con-gress for Electron Microscopy, Inst. for Virus Research, Kyoto U., Kyoto, Japan

一年 等

- Past and Future of Science (Kra-ków): B. Suchodolski, Polish Acad-emy of Sciences, Palace of Culture and Sciences, Warsaw, Poland 30-31
- Rare-Earth Research (Iowa State U.) spons'd by Iowa State U. Inst. for Atomic Research, Air Force Office of Scientific Research: S. Legvold, Dept. of Physics, Iowa State U., Ames (See Jan. PT, p. 162)

Antennas and Propagation (Washington, D.C.) spons'd by Inst. of Electrical and Electronics Engrs: R. J. Adams, Code 5330, Naval Research Lab, Washington, D.C. (See Feb. PT, p. 91)

#### September 1965

- American Physical Society (U. of Hawaii Physics Dept.); abstracts deadline May 28: K. K. Darrow, The American Physical Soc., Co-lumbia U., 538 W. 120th St., New York 27, N.Y.
- Luminescence (Munich) spons'd by the Internat'l Union of Pure and Applied Physics: N. Riehl, 8 Mun-ich, Arcisstr. 21, Republic of Germany
- 6-9 Opto-Electronic Components and Devices (Paris) spons'd by Advisory Group for Aeronautical Research and Development (NATO): Lt. Col. E. F. Dukes, Executive, Avianies Panel, AGARD, 64 rue de Varenne, Paris 7, France

### PROJECT ENGINEERS

to lead and conduct new and expanding programs in

## PHOTOTUBE DEVELOPMENT

ITT Industrial Laboratories Division is growing. So is the role being played by our special-purpose phototubes in the nation's space research programs.

For example, in a recent space experiment two ITTIL-developed special light-measuring tubes performed the critical tasks of precision telescope direction orientation and measurements of infrared radiation from the upper atmosphere of Venus. Resultant data established the existence of water vapor, lending new support to conjectures about life forms on Venus.

And space research is only one of many applications for the special-purpose tubes and sensors under development here. Product applications are also across industrial and commercial fields. As we enter this new growth phase, we welcome inquiries from engineers experienced in electron optics, high vacuum technology, photocathodes, multipliers, charge storage techniques, and secondary emission.

Immediate openings are on new project teams and special groups to design and develop advanced electron devices, including multiplier phototubes and dissector camera tubes. Assignments may involve supervision and management, project leadership, and/or staff engineering technical contribution. As a project engineer at ITTIL, you will deal directly with research and development persons recognized as competent leaders in their fields.

To apply, or learn more, write fully in confidence to Mr. R. E. Finderson, Manager Professional Placement.

## ITT

### Industrial Laboratories

A Division of International Telephone and Telegraph Corporation

3700 East Pontiac Street Fort Wayne, Indiana 46803

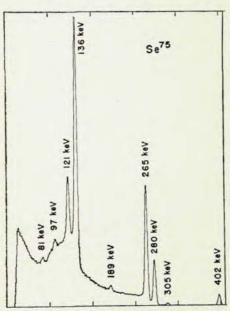
An Equal Opportunity Employer

## REFRACTOR PLATE TIME-SAMPLES SHORT WAVELENGTH INTERVALS Mount: 3/4-meter Czerny-Turner Speed: f/6.8 Range: from the far infrared to 1850A in a N2 flushed atmosphere **Boastworthy Data:** High resolution shown in this oscilloscope trace of a Hollow Cathode Fe source scanned by the 1626-II Refractor Plate. This 1/10 sec. scan recorded Fe 3737A, 3735A, 3733A (L to R). For versatility sake, in addition to the Refractor Plate accessory several other gadgets have been devised:

- A mechanical shutter permitting ordinary photographic exposures
- · Straight-through Optics
- · Photomultiplier housings, cryogenic or not
- Scanning Attachment, continuously variable from 0.25 to 500A/min.
- Trappings for assorted cameras, including Polaroid
- Appropriate sources and detectors
   For investigations in the region from 10 to 1800A perhaps you prefer to join the star and laser-gazers who enthuse over our evacuable Czerny-Turner and grazing incidence spectrometers. We'll gladly share the know-how we have acquired in this area with all who offer us the opportunity.

# LITHIUM-DRIFTED GERMANIUM Nuclear Detectors

Princeton Gamma-Tech announces a new line of lithium-drifted germanium nuclear detectors. These p-n junction detectors utilize the high Z-value of Ge and deep depletion layers to produce large photofractions and high gamma ray energy resolution useful for many nuclear and radio-chemistry applications.



Gamma Ray Spectrum of Se<sup>75</sup> Using 7 cm<sup>2</sup>
Detector with 6 mm Depletion Layer. Resolution is ~5 KeV.

In addition to standard sizes and packaging, our Customer Relations Dept. is available for consultation and assistance in providing other sizes and special packaging to suit the user's needs.

Current Delivery is 60-90 days. For additional information write or call Area Code 609; 924-7310.

PRINCETON GAMMA-TECH INC. Box 641

Princeton, N. J.

### PHYSICISTS-SCIENTISTS

KEY PERSONNEL is a National organization devoted exclusively to the selective search for competent careerists among the technical disciplines.

Working closely with clients Coast to Coast, it is our policy to provide a professional service to scientists and engineers, that is ethical, knowledgeable and confidential. Our service is designed to provide YOU with a convenient focal point from which to explore, easily and efficiently, the numerous career opportunities existing anywhere in the U.S.

Our service to you—the individual scientist or engineer—is WITHOUT COST since our search fees are assumed by our organizational clients, who are Industrial, Defense and non-profit organizations engaged in the advancement of the state-of-the-art.

We are currently searching to fill a broad spectrum of positions from semi-junior to General Manager across the entire continent.

If you would like to explore for yourself, our unique approach, write for our confidential summary form or forward a copy of your current résumé as soon as possible:

John F. Wallace Executive Vice President



### KEY PERSONNEL CORP.

218 Tower Bldg.

Baltimore 2, Md



## PHYSICISTS AND ENGINEERS

PHYSICS INTERNATIONAL COMPANY has openings for physicists and engineers with theoretical or experimental research experience in high pressure, explosive, shock tube, and shock wave phenomena. Three years experience and/or an advanced degree are desirable. Typical areas of research included:

- Properties of solids under shock wave loading such as equation-of-state, wave propagation, solid state phenomena, and metallurgical effects
- Design and use of high performance shock tubes
- Detonation phenomena
- High amplitude shock waves in gases
- Hypervelocity acceleration and impact
- Hydrodynamic code development and application

Openings also exist in the areas of electronics, plasma physics, radiation effects, high pulsed power electrical systems, and vulnerability studies.

Interested persons please submit resumes to:

### **Physics International Company**

2700 Merced Street San Leandro, California

- Nuclear Fusion Research (England) spons'd by Internat'l Atomic Energy Agency: J. H. Kane, Internat'l Confs. Branch, Div. of Special Projects, Atomic Energy Commission, Washington, D.C. (See Mar. PT, p. 115)
- 5-11 Polarization Phenomena of Nucleons (Karlsruhe) spons'd by the Internat'l Union of Pure and Applied Physics: H. Schopper, Inst. jür Experimentall Kernphysik, Kernforschungszentrum Karlsruhe, 75 Karlsruhe, Postfach 947, Republic of Germany (See Apr. PT, p. 110)

Electromagnetic Wave Theory (Delft) spons'd by Internat'l Scientific Radio Union: R. Timman, Technological U., Julianalaan 132, Delft, Netherlands

Zeeman Centennial (Amsterdam) spons'd by Dutch Physical Soc., Internat'l Union of Pure and Applied Physics: Th. A. M. van Kleef, Zeeman Laboratorium, der Universiteit van Amsterdam, Plantage Muidergracht 4, Amsterdam, Netherlands (See Apr. PT, p. 108)

- Cosmic Rays (London) spons'd by Internat'l Union of Pure and Applied Physics: J. G. Wilson, Physics Dept., Leeds U., Leeds, England
- 7-9 Internal Friction in Solids (U. of Manchester) spons'd by Inst. of Physics and Physical Soc: G. M. Leak, Dept. of Metallurgy, U. of Manchester, Manchester 13, England
- 7-14 International Congress on Acoustics (Liège): Secrétariat, 33, Rue Saint-Gilles, Liège, Belgium (See Feb. PT, p. 91)
- Medical Physics (Harrogate, Yorkshire) spons'd by Internat'l Organization for Medical Physics, Hospital Physicists' Assoc: W. V. Mayneord, Director, Inst. of Cancer Research, Royal Cancer Hospital, Clifton Ave., Belmont, Sutton, Surrey, England

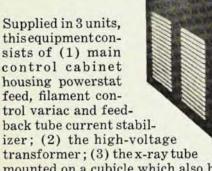
Magnet Technology (Stanford U.), spons'd by Lawrence Radiation Lab, Stanford Linear Accelerator Center: R. H. Moulton, Jr., SLAC, PO Box 4349, Stanford, Calif. (See Feb. PT, p. 92)

- 9-16 High-Energy Accelerators (Frascati): L. Mezzetti, Laboratori Nazionali di Frascati, Casella postale 70, Frascati, Rome, Italy
- 2-18 XVIth International Astronautical Congress (Athens) spons'd by the Internat'l Astronautical Federation:

  1AF, 250 rue Saint-Jacques, Paris 5, France
- 13-16 Optical Properties and Electronic Structure of Metals and Alloys (Paris) spons'd by Air Force Office of Scientific Research, Direction des Recherches et Moyens d'Essais, Institut d'Optique: F. Abelès, Institut d'Optique, 3 boulevard Pasteur, Paris 15, France (See Feb. PT, p. 92)
- 5-17 Nuclear and Particle Physics (U. of Liverpool) spons'd by Inst. of Physics and Physical Soc; send abstracts by June 30 to I. G. Main, Chadwick Lab, U. of Liverpool, Liverpool 3: Administration Assistant, IPPS, 47 Belgrave Sq., London SW 1. England (See Apr. PT, p. 111)

## New design rotating-anode tube gives Westinghouse X-Ray Generator up to 20 times more

power, up to 25 times more speed



mounted on a cubicle which also houses mechanical and oil diffusion pumps with water flow relays.

The electrical system uses a completely new type of transistorized AC regulator to stabilize tube current. The tube provides a source 15 to 20 times as powerful as conventional sealed-off tubes. It is designed for x-ray crystallographic studies where long exposure and steady output are needed.

### Specifications

- Focal spot size: 1 mm x 10.0 mm, adjustable mechanically and with bias
- Current: 250-275 milliamps
- Voltage: 30 KV (50 KV max)
- Full Wave 6-solid state diode rectified DC 7½ KVA power rating
- 4 Beryllium windows, 30/1000 inch thick
  Water consumption 2 gallons per minute
- Anode diameter 5", Rotation 1780 rpm

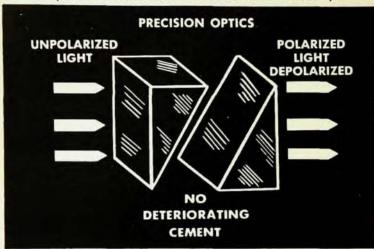
For full details, call or write A. G. Muller, Westinghouse Scientific Equipment Dept., Box 8606, Pittsburgh, Pa. 15221. Phone: 412 391-2800. Ext. 652.

You can be sure if it's Westinghouse



## Are You Using Polarizing Optics... With Deteriorating Cement In Your Laser Program?

Optical Grade Calcite Available from Inventory.



Glan Prisms
Double Glan Prisms
Glan Thompson Prisms (mounted
in precision divided circle)

Calcite Cylinder (up to 175 mm long)
Wollaston Prisms (from calcite & quartz)
Mica & Quartz Wave Plates
Rochon Prisms

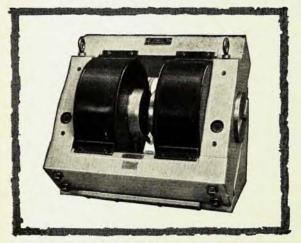
Of course you're not (or shouldn't bell Laser research programs in radar, communications, gyro guidance, IR, ultraviolet or computing demand the highest quality optical components. Any inherent deficiencies appear quickly in undesirable results. Quality, flawless components are the rigid and only rigid requirements to conduct research with a product from a undisputably reliable source. Listed below are some of the products available, and, in sufficient quantity, so results can be repeatable in other laboratory, or even production locations. Call, write, or wire for further information about your optical needs, including your optical problems.

## OPTICAL SPECIALISTS TO HELP SOLVE YOUR OPTICAL PROBLEMS

Karl Lambrecht, Owner Crystal Optics

3959 North Lincoln Avenue, Chicago 13, III. Area Code: 312 - Tel.: GR 2-5442-3-4

### LABORATORY ELECTROMAGNETS



### 7 in. Electromagnet Type E

A closed-yoke, adjustable-gap magnet designed for 3 cm ESR work but used for many other purposes.

Please write for further details

Also available

1½ in. Electromagnet Type C 4 in. Electromagnet Type A Slow Sweep Unit Type A Calibrating Solenoid Mk II Magnetometer Type G (0-500 G) Magnetometer Type H (0-20 kG) Magnetometer Type P (2-15 kG) Magnetometer Type J (0-150 kG)



### NEWPORT INSTRUMENTS LIMITED

Newport Pagnell, Buckinghamshire, England
U.S. Distributors—Cryotronics, Inc.
West Main St., High Bridge, N.J.

## PHYSICIST or CHEMIST

OPPORTUNITY IN
HEALTH PHYSICS
AT PRINCETON UNIV.

Princeton is now extensively engaged in research activities involving radiation. The University's Health Physics Group provides radiation protection services to these activities including the recently commissioned high current 3 GEV proton accelerator. A recent science college graduate is being sought as an addition to our Health Physics Staff.

POSITION: A general knowledge of health physics and radiation safety practices is preferred with some knowledge of radiation surveys, smear tests, air and water sampling analysis, film badges and related administrative work.

Work in suburban Princeton area. Unusual benefits include 4 weeks vacation, tuition loan program with loan forgiving feature and generous retirement plan.

Write to: A. C. Allen

P. O. Box 682, Princeton, N. J.

An Equal Opportunity Employer

- 19-25 Elementary Particles (Oxford) spons'd by Rutherford Lab; R. C. Pepperell, Scientific Conference Secretariat, Rutherford High Energy Laboratory, Chilton, Didcot, Berkshire, England (See Apr. PT, p. 111)
- Organic Solid State (Franklin Inst.):
   M. M. Labes, Franklin Inst. Research Labs, Philadelphia 3, Pa.
- 21-23 Plasma Electromagnetics of Hypersonic Flight (Boston, Mass.) spons'd by Air Force Cambridge Research Labs, Office of Aerospace Research, Hanscom Field: A. Cahill, CRD, Symp. Secretary, AFCRL, L. G. Hanscom Field, Bedford, Mass. (See Apr. PT, p. 110)

Megagauss Magnetic Field Generation by Explosives and Related Experiments (Rome) spons'd by the Italian Physical Society, Laboratorio Gas Ionizzati: "Megagauss." Laboratorio Gas Ionizzati, CP 65, Frascati (Rome), Italy (See Mar. PT, p. 115)

- 21-25 Radio Wave Propagation Factors in Space Communications (Rome) spons'd by North Atlantic Treaty Organization: Lt. Colonel E. F. Dukes, Executive, Avionics Panel, AGARD, 64 rue de Varenne, Paris 7, France (See Mar. PT, p. 117)
- 23-24 Nonmetallic Thin Films (London) spons'd by Inst. of Physics and Physical Soc.: send abstracts by June 15 to A. K. Jonscher, Physics Dept., Chelsea College of Science and Technology, London, SW 3: Meetings Officer, IPPS, 47 Belgrave Sq., London, SW 1, England
- 27-30 Optics in Space (U. of Southampton) spons'd by Inst. of Physics and Physical Soc.; send abstracts by June 30 to H. G. Jerrard, Dept. of Physics, U. of Southampton, Hampshire: Meetings Officer, IPPS, 47 Belgrave Sq., London SW 1, England
  - 7-2 Semimetal Compounds (Paris) spons'd by Faculté des Sciences de Paris: A. Michel, Centre d'Orsay, Faculté des Sciences de Paris, Orsay, France

Hyperpure Materials in Science and Technology (Dresden): Inst. for Applied Physics of Hyperpure Materials, Dresden A 20, Winterbergstr. 28, East Germany (See Dec. '64 PT, p. 86)

- 29-1 American Vacuum Society Symposium and Exhibition (New York City); send abstracts by July 5 to Dr. R. L. Jepsen, Varian Associates, 611 Hansen Way, Palo Alto, Calif.: H. W. Schleuning, Polytechnic Inst. of Brooklyn, 333 Jay St., Brooklyn, N.Y.
- 30-1 Spectroscopic Studies of Vibrational Modes (Harwell) spons'd by Inst. of Physics and Physical Soc.; send abstracts by June 30 to L. Bovey, Atomic Energy Research Establishment, Harwell, Berks: Meetings Officer, IPPS, 47 Belgrave Sq., London SW 1, England

### October 1965

6-8 Optical Society of America (Philadelphia): Mary E. Warga, 1155
16th St., NW, Washington 6, D. C.



Interpretation by William Thonson

### PROBLEM:

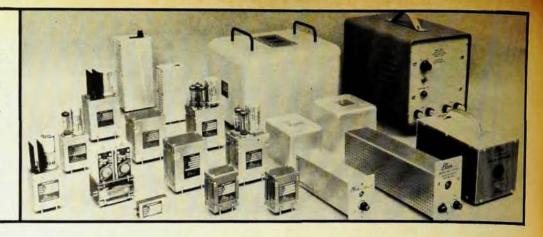
RF Structures for Proton Acceleration To design and develop high power electromagnetic slow wave systems capable of accelerating protons from 4% of light velocity up to selected speeds as high as 85% of the velocity of light. These systems are the heart of a new facility being designed to provide meson beams of unprecedented intensity.

Qualified applicants interested in working on this or similarly challenging problems at Los Alamos are invited to send resumes to: Director of Personnel, Division 65-59



An equal opportunity employer, United States citizenship required.

It takes ALL 7\*
basic parameters
to define Isolated
Power. Be sure
you get ALL 7.



### Specify ELCOR for Isolated Power...

### **ISOPLY**®

Regulated & Isolated D.C. Power

### **ISOREX**®

Isolated D.C., Unfiltered & Unregulated

### ISOFORMER®

Isolated A.C. Power

### ISOLATED POWER MODULES

Isolated Power comes in many forms to solve decoupling problems at system, instrument or circuit design levels. If you have been designing without the advantages of Isolated Power consider the Elcor approach to fully defined isolation. Elcor Isolated Power Modules provide ALL 7 isolation parameters ready to work for you to reduce common mode noise, substantially eliminate ground loops or zero errors and to solve many other sophisticated problems. The Elcor Model BCS-416A Bridge Signal Conditioner offers an excellent example of the application of ALL 7 isolation parameters to transducer circuit noise reduction.

Elcor maintains a large stock of A.C. and D.C. power modules, single and multiple output. Special problems are handled rapidly.

If you want to know what fully-defined Isolation can do for you, contact ELCOR!

\*Request Elcor bulletin 56-264 for a definition of ALL 7.



Dept. PT5

2431 Linden Lane, Silver Spring, Md. 20910

Phone: (301) 589-6614

Represented in principal cities /A division of Halliburton Co.



## CAN YOU ASSUME A MORE RESPONSIBLE POSITION

Our clients, leading national scientific organizations, are seeking scientists of proven ability to assume research and management positions. As these are extremely responsible positions, interested scientists must be able to demonstrate significant scientific accomplishment in one of the following areas:

infrared ... nuclear physics ... thermodynamics ... radar systems ... communications theory ... plasma physics ... semi-conductor research ... magnetics ... thin films ... inorganics ... satellite systems ... acoustics ... optics ... cryogenics ... or thermionics.

Fees and relocation expenses paid by client companies.

If you qualify for these positions offering remuneration up to \$30,000, you are invited to direct your resume in confidence to:

Mr. Vincent A. Nickerson Dept. PT-5



"EMPLOYMENT SPECIALISTS"

150 Tremont Street Boston, Massachusetts 02111 HAncock 6-8400

- 9 AAPT New England Section (Orono, Me.): J. G. Stipe, Boston U., Boston, Mass.
- 11-13 Color Centers in the Alkali Halides
  (U. of Illinois) spons'd by Advanced Research Projects Agency,
  Nat'l Science Foundation, Atomic
  Energy Commission, Harshaw
  Chemical Co.; abstracts deadline
  June 1: W. D. Compton, Dept. of
  Physics, U. of Illinois, Urbana, Ill.
- 13-15 Detonation (Silver Spring, Md.)
  spons'd by Naval Ordnance Lab,
  Office of Naval Research: S. J.
  Jacobs, Naval Ordnance Lab, White
  Oak, Silver Spring, Md.
- 18-20 Nuclear Science (San Francisco) spons'd by Inst. of Electrical and Electronics Engrs; send abstracts by July 1 to J. M. Harrer, Argonne Nat'l Lab, Argonne, Ill.: J. J. Kennedy, General Electric Co., Missile and Space Div., Valley Forge Space Technology Center, PO Box 8555, Philadelphia, Pa.
- 19-21 Radio Astronomical and Satellite Studies of the Atmosphere (Boston) spons'd by Air Force Cambridge Research Labs: G. A. Cushman, Wentworth Inst., 550 Huntington Ave., Boston, Mass.

Cloud Physics and Severe Storms (Reno) spons'd by American Meteorological Soc., U. of Nevada; abstracts deadline May 15: W. A. Mordy, Desert Research Inst., U. of Nevada, Reno, Nev.

- 20-22 Gaseous Electronics (Minneapolis), APS Topical Conf., spons'd by U. of Minn., Honeywell, Inc.; abstracts deadline Sept. 3: L. M. Chanin, Honeywell Research Center, 500 Washington Ave. S., Hopkins, Minn.
- 25-27 Society of Rheology (Cleveland, Ohio): S. Prager, Dept. of Chemistry, U. of Minnesota, Minneapolis, Minn.
- 28-30 American Physical Society (Chicago); abstracts deadline Sept. 15; R. G. Sachs, Regional Secretary, PO Box 344, Argonne, Ill.

#### November 1965

- 3-5 Society of Engineering Science, Inc. (U. of California); send abstracts by July 1 to A. C. Eringen, School of Aeronautics, Astronautics, and Engrg. Sciences, Purdue U., Lafayette, Ind.: E. Teller, Dept. of Applied Science, U. of California, Davis, Calif.
- 3-6 Acoustical Society of America (St. Louis); abstracts deadline Aug. 4: I. J. Hirsh, Chairman, Central Institute for the Deaf, 818 S. Kingshighway, St. Louis, Mo.
- 11-13 Bases for Nuclear Spin-Parity Assignments (Gatlinburg), APS Topical Conf.; send abstracts by Oct. 1 to F. K. McGowan, Oak Ridge Nat'l Lab, PO Box X, Oak Ridge, Tenn.: Tom Woods, Mountain View Hotel, Gatlinburg, Tenn.
- 16-18 Physics of Failure in Electronics (Chicago) spons'd by Rome Air Development Center, IIT Research Inst., abstracts deadline June 25: M. Goldberg, IIT Research Inst., 10 W. 35th St., Chicago, Ill.



### CRYOGENIC PROBLEM-SOLVERS

Our complete line of cryogenic research systems and components can help you

- conduct ultra-low temperature research anywhere between 0.3 and 4.2°K
   with our Helium-3 Refrigerators
- prepare for general or specific experiments at liquid helium temperatures with sturdy, non-magnetic stainless steel Dewar systems
- control vapor pressure over a liquid cryogen, hence control bath temperature with our Vapor Pressure Regulators
- control sample environmental temperature anywhere between 1 to 300°K with Variable Temperature Test Chambers, full range, full control
- instrument your experiment
   with our new line of linear and very reproducible temperature sensors

Other Cryonetics Corporation equipment includes: solid state temperature controllers; liquid level sensors and controllers; liquid cryogen transfer equipment; and flow controls.

We've solved hundreds and hundreds of cryogenic research problems. Whatever your problem, the solution may be right here in our files . . . or within "thinking distance" of our staff of cryogenic experts. For information, write or call: CRYONETICS CORPORATION, 2 Northwest Industrial Park, Burlington Massachusetts 01804. Telephone: (617) 272-4250.

