

Collisions

Russia's Academy of Sciences will sponsor the 5th international conference on the physics of electronic and atomic collisions, to be held 17-23 July 1967 at the A. F. Ioffe Physico-Technical Institute in Leningrad.

Processes resulting from collisions between electrons, photons, ions, atoms and the simplest molecules will be discussed, with emphasis on interactions of electrons and photons with atomic particles and atomic collisions at low, medium and high energies. Collisions with surfaces, collective phenomena and nuclear collisions will be outside the meeting's scope. Abstracts of 250 to 1500 words, in Russian or English, are due by 1 Feb.

Since the conference will coincide with the peak of the tourist season, the sponsors recommend the purchase of "tours" from the Soviet travel agency Intourist, which guarantees hotel reservations in Leningrad.

Correspondence should be addressed to Fifth International Conference on Physics of Electronic and Atomic Collisions, Organizing Committee, A. F. Ioffe Physico-Technical Institute, Leningrad K-21, USSR.

Accelerators

A broad conference on accelerator science and technology will be held 1-3 March at the Shoreham Hotel in Washington, D.C., under the auspices of the Institute of Electrical and Electronics Engineers and the National Bureau of Standards. A partial list of anticipated topics includes new concepts, rf sources and systems, structures and resonators, ion sources and preaccelerators, superconducting magnets and superconducting accelerators, dc accelerators and high-voltage technology, magnets and related devices, beam dynamics (especially beam-cavity interactions and beam-induced instabilities), injection and extraction systems, data handling and con-

trol, beam sensing and monitoring, handling and targeting of high-power beams, radiation damage and induced radioactivity, remote maintenance techniques, vacuum technology and special engineering problems.

Since the meeting will be a topical conference of the American Physical Society, contributed papers will require an abstract (200 words) conforming to standards listed in the *APS Bulletin*. Presentation time is limited to ten minutes.

Abstracts must be sent by 15 Nov. to John A. Martin, Oak Ridge National Laboratory, PO Box X, Oak Ridge, Tenn. 37830. Other correspondence should be directed to E. H. Eisenhower, National Bureau of Standards, Washington, D.C. 20234.

Triplet state

The American University of Beirut in Lebanon will hold an international symposium on the triplet state 14-19 Feb. A provisional program includes EPR and spectroscopic study of the triplet state, spin-orbit coupling, intersystem crossing, radiationless transitions, triplet excitons, and the biological role of the triplet state.

Publisher of the symposium's proceedings, Cambridge University Press, England, has set 10 Sept. as deadline for papers. Contributions received by 15 Nov. may be presented at the meeting but only title and abstract will appear in the proceedings.

For further information write to A. B. Zahlan, Physics Department, American University, Beirut, Lebanon.

Current Listings

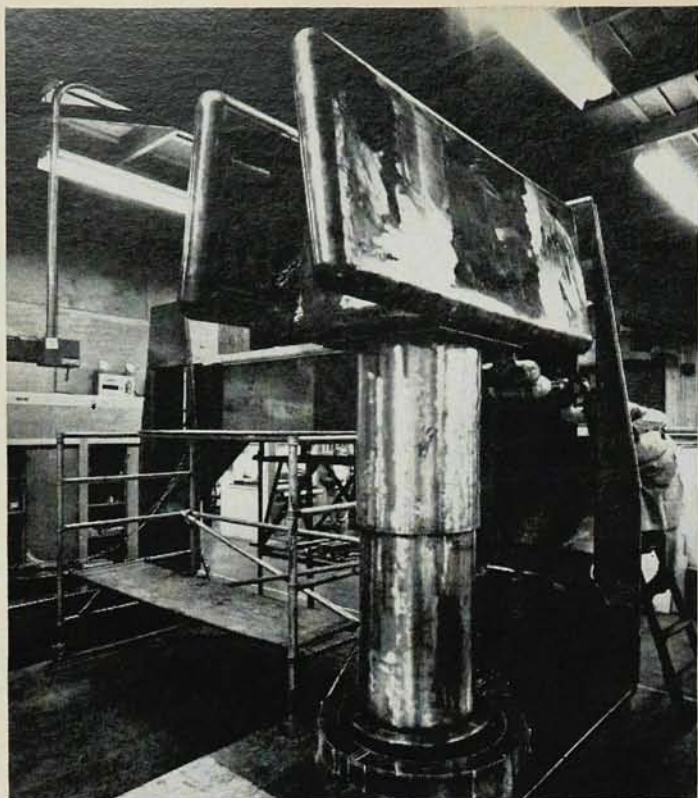
- new announcement
- ♦ change from previous listing

September 1966

- 5-23 Nonlinear Effects in Plasmas (U. of Paris), NATO Advanced Research

Program: G. Kalman, Joint Inst. for Laboratory Astrophysics, U. of Colorado, Boulder, Colo. (See June PT, p. 123)

- 6-10 Molecular Structure and Spectroscopy (Ohio State U.): K. Narahari Rao, *Molecular Spectroscopy Symp.*, Physics Dept., Ohio State U., 174 W. 18th Ave., Columbus, Ohio (See Mar. PT, p. 116)
- 7-9 American Geophysical Union (U. of California, Los Angeles): Conf. Coordinator, 310 De Neve Circle, U. of California, Los Angeles, Calif.
- 8-13 Physics of Semiconductors (Tokyo) spons'd by Physical Soc. of Japan, Internat'l Union of Pure and Applied Physics: G. M. Hotoyama, *PSJ*, Hongo, PO Box 28, Tokyo, Japan
- 9, 10 High Energy Physics Instrumentation (Stanford): W. K. H. Panofsky, *Stanford Linear Accelerator Center*, Stanford U., Stanford, Calif.
- 12-14 Applications of Generalized Functions to System Theory (State U. of New York, Stony Brook) spons'd by Soc. for Industrial and Applied Mathematics: A. H. Zemanian, Dept. of Applied Analysis, State U. of New York, Stony Brook, N.Y. (See Feb. PT, p. 104)
- 12-14 Physics of Free Atoms (Berkeley) spons'd by APS Div. of Electron and Atomic Physics: V. W. Cohen, Physics Dept., Brookhaven Nat'l Lab, Upton, Long Island, N.Y. (See May PT, p. 139)
- 12-14 Optical Properties of Transition-Metal and Rare-Earth Ions in Solids (Johns Hopkins U.) spons'd by Office of Naval Research: H. W. Moos, Physics Dept., Johns Hopkins U., Baltimore, Md. (See July PT, p. 139)
- 12-16 Measurement of Nuclear Radiations (Berkeley, England) spons'd by Berkeley Nuclear Labs, Inst. of Physics and Physical Soc: *Meetings Officer*, IPPS, 47 Belgrave Sq., London SW 1, England (See Mar. PT, p. 113)
- 12-17 Nuclear Physics (Gatlinburg, Tenn.) spons'd by Oak Ridge Nat'l Lab, Atomic Energy Commission, Internat'l Union of Pure and Applied Physics: A. Zucker, *Internat'l Conf. on Nuclear Physics*, ORNL, PO Box X, Oak Ridge, Tenn. (See Feb. PT, p. 104)
- 19-21 Instrumental Optics and Optical Design (Chelsea College of Science and Technology) spons'd by Inst. of Physics and Physical Soc.: *Meetings Officer*, IPPS, 47 Belgrave Sq., London SW 1, England
- 19-23 Liquid Metals (Brookhaven Nat'l Lab) spons'd by Atomic Energy Commission, Internat'l Union of Pure and Applied Physics; send abstracts to A. Paskin, Metallurgy and Materials Science Div., BNL: J. R. Weeks, *Metallurgy and Ma-*



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terials Science Div., BNL., Upton, Long Island, N.Y. (See Feb. PT, p. 104)

19-24 Boundary Layers and Turbulence, Including Geophysical Applications (Kyoto) spons'd by Internat'l Union of Geodesy and Geophysics, Internat'l Union of Theoretical and Applied Mechanics: *I. Tani, Inst. of Space and Aeronautical Sciences, U. of Tokyo, Komaba, Meguro-ku, Tokyo, Japan*

21-23 Nuclear and Particle Physics (U. of Glasgow) spons'd by Inst. of Physics and Physical Soc.: *Meetings Officer, IPPS, 47 Belgrave Sq., London SW 1, England* (See Mar. PT, p. 114)

21-23 Physics of Semiconducting Compounds (U. of Wales) spons'd by Inst. of Physics and Physical Soc.: *Meetings Officer, IPPS, 47 Belgrave Sq., London SW 1, England* (See Jan. PT, p. 160)

21-23 Origin and Distribution of the Elements (Paris) spons'd by Internat'l Association of Geochemistry and Cosmochemistry: *E. Ingerson, Geology Dept., U. of Texas, Austin, Tex.* (See May PT, p. 139)

27-29 Analytical Chemistry (Gatlinburg, Tenn.) spons'd by Oak Ridge Nat'l Lab: *L. J. Brady, ORNL, PO Box X, Oak Ridge, Tenn.*

28-30 Physical Basis of Yield and Fracture (U. of Oxford) spons'd by Inst. of Physics and Physical Soc.: *Meetings Officer, IPPS 47 Belgrave Sq., London SW 1, England*

28-30 Energy Beams and Their Uses (U. of York) spons'd by Inst. of Physics and Physical Society: *Meetings Officer, IPPS, 47 Belgrave Sq., London SW 1, England*

October 1966

1 Midwest Solid-State Conference (Iowa State U.): *G. C. Danielson, Physics Dept., Iowa State U., Ames, Iowa*

2-8 Fluid Dynamics of Continuous Heterogeneous Media with Several Phases (Naples), by invitation, spons'd by Internat'l Academy of Astronautics: *L. G. Napolitano Inst. of Aerodynamics, U. of Naples, Viale C. Augusto, Naples, Italy*

3,4 Reactor Chemistry (Jülich, West Germany) spons'd by Nuclear, Radio and Radiation Group of German Chemical Soc.: *Gesellschaft Deutscher Chemiker, 6 Frankfurt/Main, Postfach 9075, West Germany*

3-5 Solar Astronomy (Boulder) spons'd by American Astronomical Society: *J. W. Fidor, High Altitude Observatory, Boulder, Colo.* (See May PT, p. 141)

3-5 Electrical Insulation (Pocono Manor, Pa.) spons'd by Nat'l Academy of Sciences-Natl Research Council: *D. W. Thornhill, Conf. on Electrical Insulation, NAS, 2101 Constitution Ave., NW, Washington, D.C.*

3-7 Trace Characterization—Chemical and Physical (Gaithersburg, Md.) spons'd by Nat'l Bureau of Standards: *R. C. Bates, Inst. for Materials Research, NBS, Washington, D.C.* (See Mar. PT, p. 113)

4 Energy Transfer Processes in Crystals (U. of N. Carolina): *R. C. Janargin, Chemistry Dept., U. of N. Carolina, Chapel Hill, N.C.* (See Mar. PT, p. 116)

7,8 Physics of New Materials (Rensselaer Polytechnic Inst.), **APS New York State Section Fall Meeting:** *K. H. Moore, Rowland Lab, RPI, Troy, N.Y.*

9-15 XVIIth International Astronautical Congress (Madrid) spons'd by International Astronautical Federation: *IAF, 250 rue Saint-Jacques, Paris 6, France* (See Jan. PT, p. 160)

10-13 Fast Reactors (Argonne, Ill.) spons'd by Argonne Nat'l Lab, Atomic Energy Commission: *W. C. Redman, ANL, Argonne, Ill.* (See Mar. PT, p. 116)

10-14 Standardization of Radionuclides (Vienna) spons'd by Internat'l Atomic Energy Agency: *J. H. Kane, Chief, Conferences Branch, Div. of Technical Information, Atomic Energy Commission, Washington, D.C.* (See July PT, p. 141)

12-14 Gaseous Electronics (Atlanta), **APS Topical Conf.;** abstracts deadline 26 Aug.: *J. W. Hooper, Electrical Engineering Dept., Georgia Inst. of Technology, Atlanta, Ga.* (See July PT, p. 139)

12-15 Ultrasonics (Cleveland) spons'd by Inst. of Electrical and Electronics Engineers: *N. S. Shiren, IBM Watson Research Center, PO Box 218, Yorktown Heights, N.Y.*

17-21 • Electron-Nuclear Hyperfine Interactions in Spectroscopy (Wellington, New Zealand): *S. F. Duncan, Royal Soc. of New Zealand, Chemistry Division, DSIR, Private Bag, Petone, Wellington, New Zealand*

17-21 Nuclear Data—Microscopic Cross Sections and Other Data Basic for Reactors (Paris) spons'd by Internat'l Atomic Energy Agency: *J. H. Kane, Chief, Internat'l Confs. Branch, Div. of Technical Information, US Atomic Energy Agency, Washington, D.C.* (See Feb. PT, p. 104)

17-22 German Physical Society (Munich): *K. H. Riewe, Postfach 169, (Heraeus), 645 Hanau, Germany*

18, 19 Liquid Scintillation Counting (National Physical Lab, England) spons'd by Inst. of Physics and Physical Soc.: *Meetings Officer, IPPS, 47 Belgrave Sq., London, SW 1, England* (See July PT, p. 139)

19-21 Nuclear Science (Boston) spons'd by Inst. of Electrical and Electronics Engineers' Nuclear Science Group: *L. Costrell, NBS, Washington, D.C.*

19-21 Optical Society of America (San Francisco): *Mary E. Wurga, 1155 16th St., NW, Washington, D.C.* (See June PT, p. 123)

26-28 American Vacuum Society (San Francisco): *E. E. Donaldson, Physics Dept., Washington State U., Pullman, Wash.*

31 Defects in Semiconductors (Chicago) spons'd by American Inst. of Mechanical Engrs.: *I. Cadoff, Metallurgy and Materials Sciences Dept., New York U., New York, N.Y.*

31-2 Society of Engineering Science (North Carolina State U.): *A. C. Eringen, School of Aeronautics, Astronautics, and Engineering Science, Purdue U., Lafayette, Ind.*

31-2 • **Society of Rheology** (Atlantic City): *J. G. Brodymann, Rohn and Haas, Springhouse, Pa.*

November 1966

2-5 **APS Division of Plasma Physics** (Boston); abstracts deadline 30 Sept.: *D. J. Rose, Rm. 24-207, Massachusetts Inst. of Technology, Cambridge, Mass.*

2-5 **Acoustical Society of America** (Statler Hilton, Los Angeles): *I. Rudnick, U. of California, Los Angeles, Calif.*

8-10 Dynamic Structure of the Free Atmosphere (El Paso) spons'd by American Meteorological Soc.: *AMS Program Committee, PO Box 4003, Sunrise Station, El Paso, Tex.* (See July PT, p. 141)

9-11 Pittsburgh Diffraction Conference (Mellon Inst.); abstracts deadline 12 Sept.: *P. R. Swann, US Steel Corp., Fundamental Research Lab, Monroeville, Pa.*

14 Organic Solid State (Franklin Inst. Research Labs): *M. M. Labes FIRC, Philadelphia, Pa.* (See May PT, p. 139)

14-16 Belfer Science Conference (New York City): *A. Gelbart, Dean, Belfer Graduate School of Science, Yeshiva U., Amsterdam Ave. & 186th St., New York 33, N.Y.*

15-17 Physics of Failure in Electronics (Battelle Memorial Inst.) spons'd by BMI Columbus Labs, Rome Air Development Center: *T. S. Shilliday, Columbus Labs, BMI, 505 King Ave., Columbus, Ohio* (See April PT, p. 134)

15-18 Magnetism and Magnetic Materials (Sheraton Park Hotel, Washington, D.C.) spons'd by **American Inst. of Physics**, Inst. of Electrical and Electronics Engineers: *V. J. Folen, Code 6452, US Naval Research Lab, Washington, D.C.* (See April PT, p. 134)

16-18 Characterization of Materials (Pennsylvania State U.): *R. Roy, Materials Research Lab, Pennsylvania State U., University Park, Pa.* (See April PT, p. 134)

17-18 Small-Angle Scattering of Electrons and X Rays (London) spons'd by Inst. of Physics and Physical Soc.: *Meetings Officer, IPPS, 47 Belgrave Sq., London SW 1, England*

21-23 **APS Division of Fluid Dynamics** (Stanford U.): abstracts deadline 15 Oct.: *R. Emrich, Physics Dept., Lehigh University, Bethlehem, Pa.*

December 1966

1-3 **American Physical Society** (Nashville); abstracts deadline 26 Sept.: *R. G. Sachs, PO Box 344, Argonne, Ill.*

5 (through 21 Jan.) Quantum Chemistry, Solid-State Physics and Quantum Biology (U. of Florida) spons'd by U. of Florida, Swedish U. of Uppsala: *P.-O. Löwdin, Quantum Theory Project, Nuclear*



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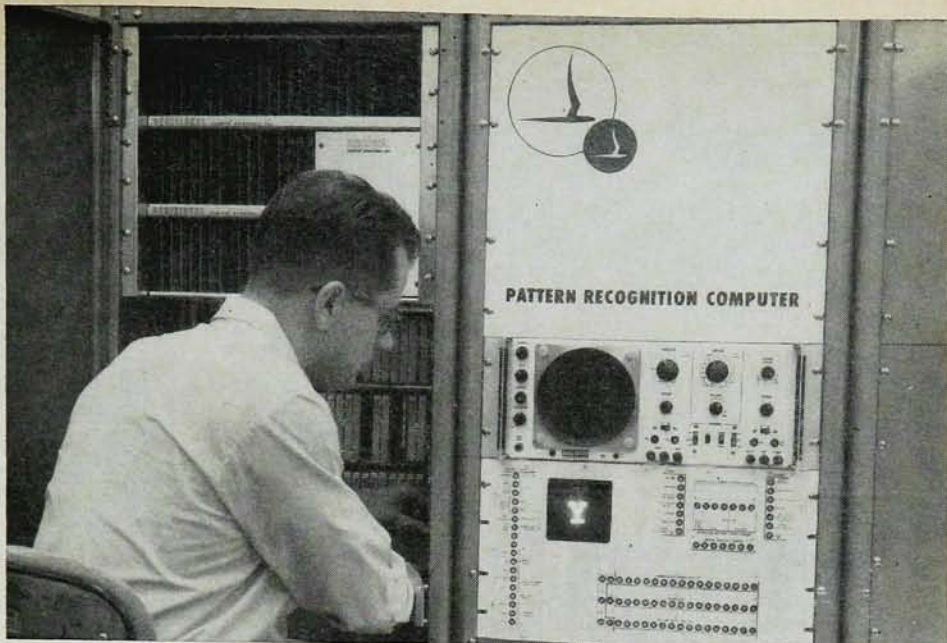
- 5-8 Polarized Targets and Ion Sources (Saclay), by invitation: *A. Abraham, Direction de la Physique, Centre d'Etudes Nucléaires de Saclay, PB 2, Gif-sur-Yvette (Essone), France* (See July PT, p. 141)
- 7-9 URSI-IEEE Fall Meeting (Palo Alto) spons'd by Internat'l Scientific Radio Union, Institute of Electrical and Electronics Engineers: *J. Hannaum, Nat'l Academy of Sciences, 2101 Constitution Ave., Washington, D.C.*
- 14-16 Gas-Surface Interactions (San Diego) spons'd by Air Force Office of Scientific Research, General Atomic: *H. Saltsburg, General Dynamics/General Atomic, PO Box 608, San Diego, Calif.* (See Mar. PT, p. 116)
- 26-31 American Association for the Advancement of Science (Washington, D.C.): *R. L. Taylor, AAAS, 1515 Massachusetts Ave., NW, Washington, D.C.*
- 28-30 American Physical Society (Stanford); abstracts deadline 21 Oct.: *W. Whaling, California Inst. of Technology, 1201 E. California St., Pasadena, Calif.*

January 1967

- 4-7 Solid-State Physics (U. of Manchester) spons'd by Inst. of Physics and Physical Soc.; send abstracts by 28 Oct. to *S. F. Edwards, Physics Dept., The University, Manchester 13: Meetings Officer, IPPS, 47 Belgrave Sq., London SW 1, England*
- 9-18 Spectroscopy (Bombay) spons'd by Indian Dept. of Atomic Energy, Internat'l Astronomical Union, Internat'l Union of Pure and Applied Physics, Internat'l Union of Pure and Applied Chemistry; abstracts deadline 1 Sept.: *Secretary, Internat'l Conference on Spectroscopy, Atomic Energy Establishment Trombay, 414A Cadell Rd., Bombay, India* (See July PT, p. 139)
- 30-2 American Physical Society (New York City): *K. K. Darrow, The American Physical Soc., 538 W. 120th St., New York 27, N.Y.*
- 30-2 American Association of Physics Teachers (New York City): *A. B. Arons, Physics Dept., Amherst College, Amherst, Mass.*

February 1967

- 5-8 • Society of Rheology (Santa Barbara, Calif.): *J. L. White, Research Lab, US Rubber Co., Wayne, N.J.*
- 14-19 • Triplet State (Beirut) spons'd by the American University of Beirut; abstracts deadline 15 Nov.: *A. B. Zahlan, Physics Dept., American University, Beirut, Lebanon*
- 15-17 • Solid-State Circuits (Philadelphia) spons'd by Inst. of Electrical and Electronics Engineers, U. of Pennsylvania; send abstracts by 17 Oct. to *V. I. Johannes, Rm. 3E-323, Bell Telephone Labs, Holmdel, N.J.: W. T. Higgins, Sanders Associates, Microwave Division, Ledge St., Nashua, N.H.*
- 13-25 American Physical Society (Austin, Tex.): *W. Whaling, California Inst.*



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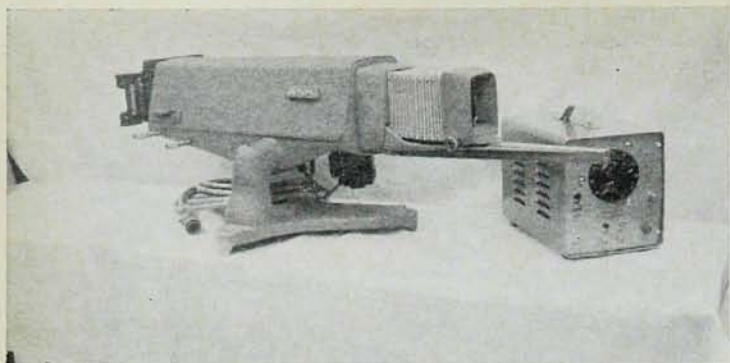
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- 27-3 • High-Energy Physics and Nuclear Structure (Weizmann Inst.), by invitation, spons'd by CERN, Weizmann Inst.: G. Alexander, Weizmann Inst., PO Box 26, Rehovoth, Israel

March 1967

- 1-3 • Accelerator Engineering and Technology (Washington, D.C.); send abstracts by 15 Nov. to J. Martin, Oak Ridge Nat'l Lab, PO Box X, Oak Ridge, Tenn.: E. H. Eisenhower, Nat'l Bureau of Standards, Washington, D.C.
- 6, 7 • Rheology of Solids (Boston); abstracts deadline 15 Oct.: R. H. Supnik, Plas-Tech Equipment Corp., 4 Mercer Rd., Natick, Mass.
- 17-21 • National Science Teachers Association (Detroit); abstracts deadline 15 Oct.: Executive Secretary, NSTA, 1201 Sixteenth St., NW, Washington, D.C.
- 20-22 • Physical Processes in the Lower Atmosphere (Ann Arbor) spons'd by U. of Michigan, American Meteorological Soc.; abstracts deadline 1 Nov.: A. C. Wiin-Nielsen, Meteorology and Oceanography Dept., U. of Michigan, 2038 East Engineering Bldg., Ann Arbor, Mich.
- 27-30 • American Physical Society (Chicago): R. G. Sachs, PO Box 344, Argonne, Ill.
- 28-30 • Modern Optics (New York City): J. Fox, Polytechnic Inst. of Brooklyn, 333 Jay St., Brooklyn, N.Y.

April 1967

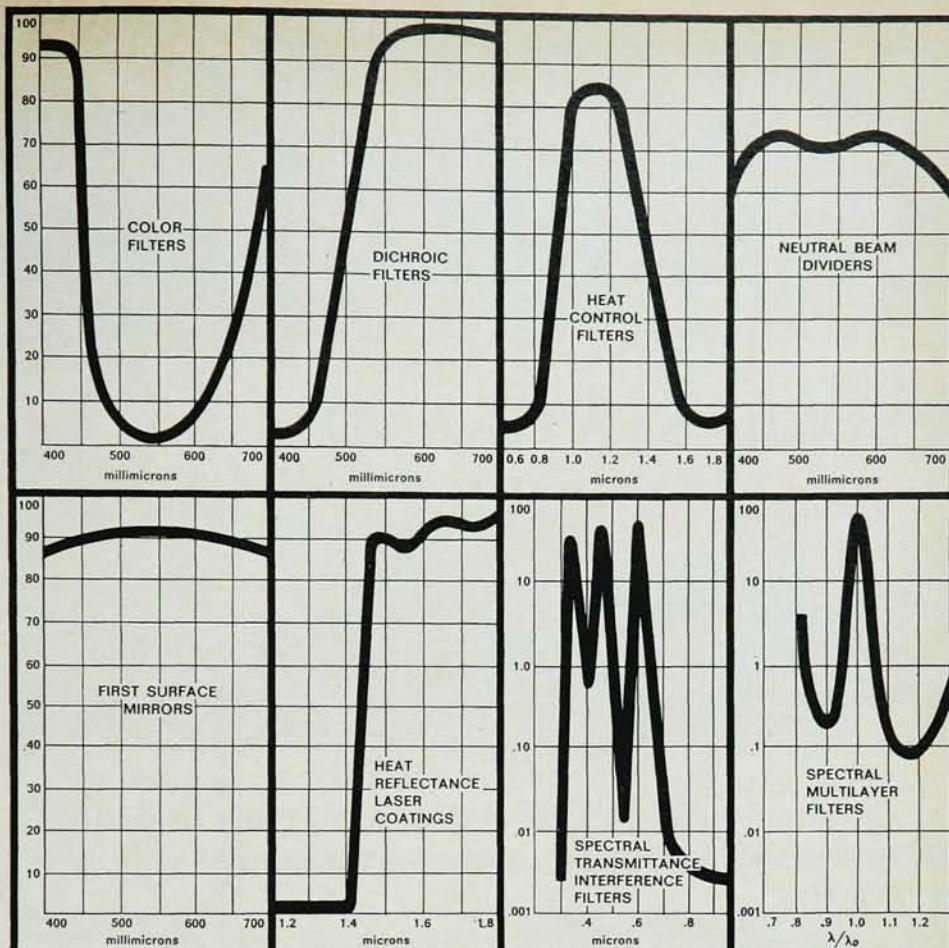
- 5-7 • Nonlinear Magnetics (Washington, D.C.) spons'd by Inst. of Electrical and Electronics Engineers: IEEE, Box A, Lenox Hill Station, New York, N.Y.
- 17-19 • Thermal Balance of Spacecraft (New Orleans) spons'd by American Inst. of Aeronautics and Astronautics, Nat'l Bureau of Standards, Air Force; abstracts deadline 15 Sept.: Y. S. Touloukian, Thermophysical Properties Research Center, Purdue U., 2595 Yeager Rd., Lafayette, Ind.
- 19-22 • Acoustical Society of America (New York City): J. Zwilocki, Special Education Bldg., Syracuse U., 805 S. Crouse Ave., Syracuse 10, N.Y.
- 24-27 • American Physical Society (Washington, D.C.): K. K. Darrow, The American Physical Society, 538 W. 120th St., New York 27, N.Y.

May 1967

- 3-6 • Rare Earths (Gatlinburg) spons'd by Oak Ridge Nat'l Lab, Air Force Office of Scientific Research; abstracts deadline 1 Dec.: W. C. Koehler, ORNL, Oak Ridge, Tenn.

June 1967

- 12-13 • Inter-Society Color Council (New York City): R. M. Evans, Eastman Kodak Co., Rochester, N. Y.



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We are seeking people to participate on our research program involving *silicon nitride devices* and *integrated circuits*, emphasizing *nitride insulated gate transistors*. Background and experience in integrated circuit technology; semiconductor devices; circuit design planar device and integrated circuit processing. Ph.D. or M.S. EE, Physics or Physical Chemistry.

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Scientists and engineers who have an interest in such areas as *optical systems*, *acoustics*, *piezo-electric pulse transducers*, *polarizers*, *diffraction lenses*, instrumentation and measurements relating to high power pulse technology will find many stimulating challenges at our laboratory. Candidates should be research oriented.

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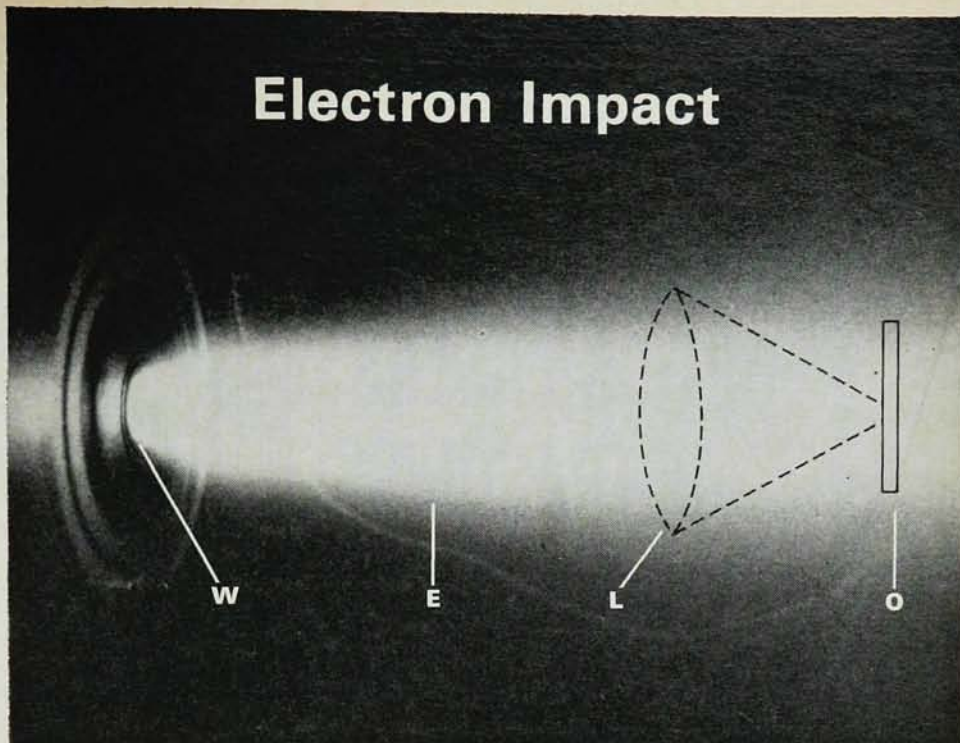
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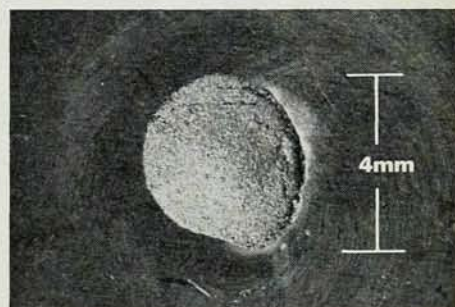
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Electron Impact



Transient phenomena are excited in 30 nanosecs at beam power densities of 6×10^{10} watts/cm²

The crater at right was formed in stainless steel by a single 30-nanosecond pulse of electrons delivered by a Febetron 705 2 Mv Pulsed Radiation System. Energy densities were approximately 70 calories/cm² and 200 calories/gram.



Phenomena such as evaporation, shock waves, spalling and chemical action can now be studied in the laboratory with a source which is convenient (avoids explosives), economical and precise: timing to ± 10 nanoseconds; energy to 3% rms pulse-to-pulse; reproducible wave shape and spectrum.

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13-16 Conjugate-Point Phenomena (Boulder) spons'd by Nat'l Center for Atmospheric Research, Environmental Science Services Administration: *Aeronomy Laboratory, (540.03) ESSA-ITSA, Boulder, Colo.* (See Mar. PT, p. 113)

19-23 Colloquium Spectroscopicum Internationale (Carleton U., Ottawa) spons'd by Canadian Assoc. for Applied Spectroscopy; abstracts deadline 1 Oct.: *Secretary, XIII Colloquium Spectroscopicum Internationale, Nat'l Research Council, Ottawa 7, Canada*

21-23 American Physical Society (Toronto): *K. K. Darrow, The American Physical Society, 538 W. 120th St., New York 27, N.Y.*

July 1967

4 (through 25 Aug.) Many-Body Physics (Les Houches, France): *C. DeWitt, Physics Dept., U. of North Carolina, Chapel Hill, N.C.*

17-23 • Physics of Electronic and Atomic Collisions (Leningrad) spons'd by USSR Academy of Sciences; abstracts deadline 1 Feb.: *Fifth Internat'l Conf. on the Physics of Electronic and Atomic Collisions, A. F. Ioffe Physico-Technical Institute, Leningrad K-21, USSR*

August 1967

31-2 American Physical Society (Seattle): *W. Whaling, California Inst. of Technology, 1201 E. California St., Pasadena, Calif.*

September 1967

7-13 • Nuclear Structure (Tokyo) spons'd by Internat'l Union of Pure and Applied Physics: *I. Nonaka, Inst. for Nuclear Study, U. of Tokyo, Kitatama-Gun, Tanashi-Machi, Tokyo, Japan*

10-16 • Magnetism, (Cambridge, England): *L. F. Bates, Physics Dept., The University, Nottingham, England*

11-15 High-Energy Accelerators (Cambridge), by invitation, spons'd by Cambridge Electron Accelerator: *W. A. Shurcliff, CEA, Harvard U., 42 Oxford St., Cambridge 38, Mass.*

October 1967

11-13 Optical Society of America (Detroit): *Mary E. Warga, 1155 16th St., NW, Washington 6, D.C.*

November 1967

8-11 Acoustical Society of America (Miami): *J. C. Steinberg, Marine Lab, 1 Rickenbacker Causeway, Virginia Key, Miami 49, Fla.*

16-18 American Physical Society (New York City): *K. K. Darrow, The American Physical Society, 538 W. 120th St., New York 27, N.Y.*

December 1967

18-20 American Physical Society (Pasadena): *W. Whaling, California Inst. of Technology, 1201 E. California St., Pasadena, Calif.* □