

calendar

SEPTEMBER 1978

- 7-8 • **Symp on Atomic and Molecular Science and Technology** [NBS] Gaithersburg, Md. (A. A. Dugan, A-537, Adm Building, NBS, Washington, D.C. 20234)
- 7-9 **Perspectives on Fundamental Physics** [Istituto di Fisica] Rome, Italy 5/78
- 10-13 **Symp on Surface Contamination: Genesis, Detection, Control** Wash., D.C. 7/78
- 10-17 **Int Commission for Optics—11th Meeting**, Madrid, Spain 9/77
- 11-13 **Symp on Variational Methods in Mechanics** [Int Union of Theoretical and Applied Mechanics] Evanston, Ill. 5/78
- 11-14 **Int Conf on Defects and Radiation Effects in Semiconductors** Nice, France 9/77
- 11-14 **Chemical and Physical Lifetime Limits of Macromolecular Materials—ACS Symp** Miami Beach, Fla. 3/78
- 11-14 **World Conf of Int Nuclear Target Development Soc** Garching, Fed. Rep. of Germany 7/78
- 11-15 **4th Int Thin Films Cong: Thin Film Properties in Relation to Structure** [IOP] Loughborough, UK 9/77
- 11-15 **Appl of High Magnetic Fields in Semiconductor Physics** Oxford, UK 1/78
- 11-15 **2nd Int Symp on Gas-flow and Chemical Lasers** Rhode-Saint-Genese, Belgium 3/78
- 11-15 **8th European Solid State Device Res Conf/3rd Symp on Solid State Device Technology** Montpellier, France 7/78
- 11-15 • **6th European Cosmic Ray Symp** Kiel, Fed. Rep. of Germany (W. Enge, Inst F Reine u Angewandte Kernphysik, Christian-Albrechts-Univ. Olshausenstr 40/60, Gebäude N 20a, D-2300 Kiel, Fed. Rep. of Germany)
- 11-16 **Integrative Conf on Group Theory and Math Physics—7th Int Colloq** [IUPAP; AMP] Austin, Tex 3/78
- 11-23 **Int Workshop on Use of Computers in Hydraulics and Water Resources** Delft, The Netherlands 3/78
- 12-14 **AAS High Energy Astrophysics Div Meeting** La Jolla, Cal. 9/77
- 12-14 **10th Annual Symp on Optical Materials for High Power Lasers** [NBS; ONR; DOE; ASTM; Defense Adv Res Projects Agency] Boulder, Colo. 7/78
- 12-15 **Computational Atomic and Molecular Physics Conf** [European Physical Soc] Nottingham, UK 11/77
- 12-15 **4th European Conf on Optical Communication** Genoa, Italy 7/78
- 18-20 **Int Conf on Solids and Plasmas in High**

Coding: date subject [Sponsor] Location (Contact) [abstract deadline] Physics Today reference • new listing □ new or revised information

Please Note: follow-up listings give italicized reference date specifying Physics Today issue in which further information can be found.

Abbreviations:

AAPM	American Association of Physicists in Medicine
AAPT	American Association of Physics Teachers
AAS	American Astronomical Society
ACA	American Crystallographic Association
APS	American Physical Society
ASA	Acoustical Society of America
AVS	American Vacuum Society
OSA	Optical Society of America
SPS	Society of Physics Students
S of R	Society of Rheology
AAAS	American Association for the Advancement of Science
AGU	American Geophysical Union
ANS	American Nuclear Society

ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
DOE	Department of Energy
EPS	European Physical Society
IAEA	International Atomic Energy Agency
IEEE	Institute of Electrical and Electronics Engineers
IOP	The Institute of Physics
IUPAP	International Union of Pure and Applied Physics
NAS	National Academy of Sciences
NBS	National Bureau of Standards
NRC	Nuclear Regulatory Commission
NSF	National Science Foundation
ORNL	Oak Ridge National Laboratory

This is a complete listing of physics-related meetings known to us. A complete calendar will appear in alternate months (no calendar in other months). Those wishing to submit items should send complete information at least three months before the notice should appear.

Hipotronics inc. HIGH VOLTAGE DC POWER SUPPLIES AND POWER PACKS

Standard supplies from
1 kW to 50 kW



1 kW supply
provides
120 kV @ 8 mA

Power Supplies

Complete range of unregulated high voltage dc supplies with voltage outputs from 1 kV to 1000 kV and current outputs from 10 mA to 50 Amps available in standard designs at economical prices. Fully instrumented and protected, these supplies are ideal for:

- Laboratory use
- Capacitor charging
- Laser supplies
- CRT supplies
- Marx generators
- Many more

5, 7.5 & 10 kV
@ 5 mA OEM
Power Packs



Power Packs

Miniaturized, oil-filled steel cans for OEM use. Voltages from 2.5 kV to 100 kV at 2, 5 & 10 mA. Low cost, high reliability.

Metered Power Packs

Same miniature power packs available with simplified or deluxe controls for rack-mounting. Short circuit current limit option makes these ideal for cap charging applications.

Write or call for complete details.

HIPOTRONICS
HIPOTRONICS, INC.

P.O. Drawer A, Brewster, NY 10509
(914) 279-8031 Twx 710-574-2420
Amex Symbol HIP

Circle No. 48 on Reader Service Card

- Magnetic Fields** Cambridge, Mass. 3/78
- 18-20 **4th Acoustic Emission Symp** [High Pressure Inst of Japan] Tokyo, Japan 3/78
- 18-21 • **Upper Atmosphere Studies by Optical Methods** Aberdeen, UK (M. Gadsden, *Natural Philos Dept, Univ of Aberdeen, Aberdeen AB9 2UE, UK*)
- 18-22 • **5th Int Seminar on High-resolution Infrared Spectroscopy** Liblice, Czech. (J. Heyrovsky, *Inst of Physical Chemistry, Czech. Acad of Sciences, Flemingova nam 2, CS-16000 Praha 6, Czech.*)
- 18-22 **3rd Int Symp on Neutron Capture Gamma-ray Spectroscopy and Related Topics** [ANS; DOE; APS; IUPAP] Upton, N.Y. 3/78
- 18-22 **10th Materials Res Symp: Characterization of High Temp Vapors and Gases** [NBS Inst for Materials Research] Gaithersburg, Md. 1/78
- 19-21 • **PETRA Topical Meeting on Heavy Quarks and Leptons** Hamburg, Fed. Rep. of Germany (H. Fritzsche, *Physics Dept, Univ of Wuppertal, D-5600 Wuppertal, Fed. Rep. of Germany*)
- 19-22 **Synthetic and Biological Macromolecules—Common Structural Aspects** (European Phys Soc Macromolecular Phys Div] Bristol, UK 1/78
- 20-22 **The Physics and Chemistry of Laser Induced Processes in Molecules** [European Phys Soc] Edinburgh, UK 1/78
- 20-22 • **Atomic Collision Processes** London, UK (A. C. H. Smith, *Physics and Astron Dept, Univ College, London WC1E 6BT, UK*)
- 20-22 • **4th Colloq on Solid Surface Physics and Chemistry** Antibes, France (J. Fauvet, *Soc Francaise du Vide, 19 rue du Renard, F-75004 Paris, France*)
- 20-23 **Optical Group, IOP—Biennial Conf** Bath, UK 3/78
- 25-28 **1978 Applied Superconductivity Conf** [APS; IEEE; DOE] Pittsburgh, Pa. 3/78
- 25-29 **Non-linear Behavior of Molecules, Atoms and Ions in Electric, Magnetic or Electromagnetic Fields** [Soc de Chimie Physique; Assoc Italiana di Chimica Fisica; Chemical Soc, Faraday Div; Deutsche Bunsengesellschaft für Physikalische Chemie] Fontevault, France 3/78
- 25-29 **4th Genl Conf of European Phys Soc** 9/77
- 26-28 **Aerosols in Science, Medicine and Technology** [Assoc for Aerosol Res] Vienna, Austria 5/78
- 26-29 **Environmental Aspects of Nonconventional Energy Resources—2nd Topical ANS Meeting** Denver, Colo. 3/78

SHORT COURSES AND SCHOOLS

9 SEPTEMBER–4 NOVEMBER 1978

Calibration and Troubleshooting of Temperature Control Systems [Contin Engineering Educ, George Washington Univ] Wash., D.C. (M. Augustin, *Contin Engineering Educ, George Washington Univ, Wash., D.C. 20052*)

9 SEPTEMBER–2 DECEMBER 1978

Fundamentals of Communication Satellite Systems [Contin Engineering Educ, George Washington Univ] Wash., D.C. (M. Augustin, *Contin Engineering Educ, George Washington Univ, Wash., D.C. 20052*)

11-12 SEPTEMBER 1978

Phase Locked Loops [Contin Engineering Educ, George Washington Univ] Wash., D.C. (Director, *Contin Engineering Educ, George Washington Univ, Wash., D.C. 20052*) To be repeated 12-13 February.

12 SEPTEMBER–24 OCTOBER 1978

Critical Path Method: Reliable Planning and Control of Projects [Contin Engineering Educ, George Washington Univ] Wash., D.C. (Director, *Contin Engineering Educ, George Washington Univ, Wash., D.C. 20052*)

16-21 SEPTEMBER 1978

ACS Course on Microprocessors and Minicomputers Blacksburg, Va. (ACS, 1155 Sixteenth St, NW, Wash., D. C. 20036)

18-22 SEPTEMBER 1978

Comparative Database Management Systems [Contin Engineering Educ, George Washington Univ] Wash., D.C. (M. Augustin, *Contin Engineering Educ, George*

Washington Univ, Wash., D.C. 20052)

20-22 SEPTEMBER 1978

Statistical Methods in Discrete Event Simulation [Contin Engineering Educ, George Washington Univ] Wash., D.C. (M. Augustin, *Contin Engineering Educ, George Washington Univ, Wash., D.C. 20052*)

20-22 SEPTEMBER 1978

Fluidized-Bed Combustion [Contin Engineering Educ, George Washington Univ] Wash., D.C. (M. Augustin, *Contin Engineering Educ, George Washington Univ, Wash., D.C. 20052*)

25-26 SEPTEMBER 1978

Minicomputer Technology [Contin Engineering Educ, George Washington Univ] Wash., D.C. (M. Augustin, *Contin Engineering Educ, George Washington Univ, Wash., D.C. 20052*) To be repeated 22-23 January 1979.

27-29 SEPTEMBER 1978

Design and Selection of Minicomputer Systems [Contin Engineering Educ, George Washington Univ] Wash., D.C. (M. Augustin, *Contin Engineering Educ, George Washington Univ, Wash., D.C. 20052*) To be repeated 24-26 January 1979.

6-10 NOVEMBER 1978

The 16th Annual Reliability Engineering and Management Inst [Univ of Ariz. College of Engineering; Honeywell Information Systems; Ariz. Computer Operations] Tucson, Ariz. (D. Kececioglu, *Aerospace and Mechanical Engineering Dept, Univ of Ariz, Bldg #16, Tucson, Ariz 85721*)

2-6 OCTOBER 1978

Fundamentals of Nondestructive Assay of Fissionable Material Using Portable Instrumentation [LASL; US DOE Safeguards Technology Training Program] Los Alamos, N.M. (K. Humphrey, *US DOE Safeguards Tech Trng Prog, LASL, Q-DO/SG MS 550, Los Alamos, N.M. 87545*) The course is geared toward DOE, NRC and contractor personnel and licensees.

21-22 OCTOBER 1978

Rheology of Dispersions [S of R] Houston, Tex. (M. Nightingale, *S of R, AIP, 335 E 45th St, N.Y., N.Y. 10017*)

27 NOVEMBER–1 DECEMBER

In-plant Nondestructive Assay Instrumentation [LASL; US DOE Safeguards Technology Training Program] Los Alamos, N.M. (K. Humphrey, *US DOE Safeguards Tech Trng Prog, LASL, Q-DO/SG MS 550, Los Alamos, N.M. 87545*) The course is geared toward DOE, NRC and contractor personnel and licensees.

28 NOVEMBER–1 DECEMBER 1978

AVS Surface Science, Thin Film, Vacuum Technology, Vacuum Metallurgy Short Courses San Francisco, Cal. (J. L. Provo, *Education Committee, AVS, P. O. Box 11508, St. Petersburg, Fla 33733*)

29 JANUARY–2 FEBRUARY 1979

Computed Tomography: Ultrasound and X-Ray [Univ of Cal. School of Medicine] San Francisco, Cal. (Extended Programs in Medical Education, Room 569-U, Univ of Cal., Third and Parnassus Avenue, San Francisco, Cal. 94943)

29-30 **Fall Meeting—New England Section APS** Williamstown, Mass. **Topic:** High-energy Astrophysics in Age of HEAO 7/78

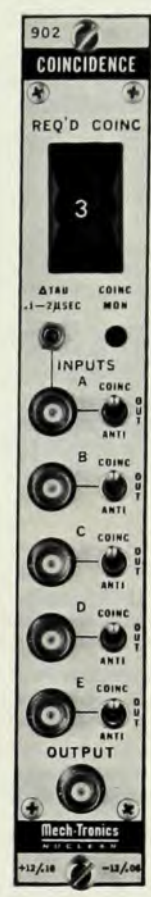
OCTOBER 1978

- 1-5 **Applied Electrostatics, Electrophotography and Electrostatic Precipitators** [IEEE Industrial Applications Group] Toronto, Ontario, Canada 3/78
- 1-8 **29th Int Astronautical Cong; 8th Student Conf; 21st Space Law Colloq** [Int Astronautical Federation] Dubrovnik, Yugoslavia 3/78
- 2-5 **38th National ASNT Fall Conf and Quality Testing Show** [American Society for Nondestructive Testing] Columbus, Oh. (*Registration Manager, ASNT Headquarters, 3200 Riverdale Dr., P. O. Box 5642, Columbus, Oh. 43221*)
- 2-6 **IAEA Int Symp on Nuclear Material Safeguards** Vienna, Austria [3/15/78] 11/77
- 2-7 **Recent Progress in Many-body Theories** Trieste, Italy (*Deputy Director, Int Ctr for Theoretical Physics, POB 586, I-34100 Trieste, Italy*)
- 3-4 **Color Measurement** [Materials and Testing Group and Optical Group, IOP] London, UK 5/78
- 3-7 **Hadron Structure '78** Modra-Harmonia, Czech. (*J. Pisut, Theor Physics Dept, Comenius Univ, Mlynska Dolina, CS-81631 Bratislava, Czech.*)
- 4-6 **Nat'l Conf of Standards Labs—Regulatory Impact on Metrology Mngt** Gaithersburg, Md. 7/78
- 6-7 **SPS Meeting—Zone 9** Minneapolis, Minn. 7/78
- 9-10 **Atmospheric Sensing With Lasers** [IOP Quantum Electronics Group] London, UK 7/78
- 9-10 **Conf on Problem Solving and Education: Issues in Teaching and Research** [Carnegie-Mellon Univ] Pittsburgh, Pa. (*D. T. Tuma, Chairman, Box 104, Carnegie-Mellon Univ, Pittsburgh, Pa. 15213*)
- 9-11 **6th Semiconductor Laser Conf** San Francisco, Cal. (*T. L. Paoli, Bell Labs, 600 Mountain Ave, Murray Hill, N. J. 07974*)
- 9-12 **Int Workshop on Electric Charges in Dielectrics** Kyoto, Japan [3/31/78] 1/78
- 9-13 **Chapman Conf on Magnetospheric Substorms and Related Plasma Processes** [Amer. Geophysical Union; Los Alamos Scientific Lab] Los Alamos, N. Mex. [5/23/78] 3/78
- 10-13 **4th European Electro-Optics Conf and Exhibition** Utrecht, The Netherlands (*D. H. Friloux, Arthur D. Little S. A., 90 ave des Champs Elysées, F-75008 Paris, France*)
- 11-13 **Amer. Ceramic Soc Joint Meeting—Glass Div/Ceramic-metal Systems** Div Bedford, Penn. 7/78
- 13-14 **N.Y. State Section APS—Fall Meeting** Yorktown Heights, N.Y. **Topic:** Frontiers of Physics of Solid-state Electronics 7/78
- 13-14 **AAPT III. Section** Chicago Heights, Ill. 7/78
- 13-14 **APS Sectional Meeting** [Ohio Sect]

Columbus, Ohio 9/77

- 15-20 **Fine Particles** [Electrothermics and Metallurgy Div of Electrochemical Soc] Pittsburg, Penn. [5/1/78] 5/78
- 15-20 **Pittsburgh Meeting—Electrochemical Soc** Pittsburgh, Pa. 3/78
- 16-19 **Int Meeting on Nuclear Power Reactor Safety** [ANS] Brussels, Belgium 3/78
- 16-20 **Int Symp on Behavior of Tritium in the Environment** [IAEA; NEA] San Francisco, Cal. 3/78
- 16-20 **Evolution of Planetary Atmospheres and Climatology of the Earth** Nice, France (*Ctr Nat'l d'Etudes Spatiales, Dépt des Affaires Universitaires, 18 ave Edouard-Berlin, F-31055 Toulouse, France*)
- 17-20 **APS Topical Conf—31st Annual Gaseous Electronics Conf** [APS Div of Electron and Atomic Physics; SUNY at Buffalo; Calspan Corp] Buffalo, N.Y. 7/78
- 18-19 **Superconducting Magnet Conf** Cambridge, Mass. (*A. M. Dawson, rm NW14-2524, Francis Bitter Nat'l Magnet Lab, 170 Albany St, Cambridge, Mass. 02139*)
- 18-20 **Symp on Nuclear Science, Scintillation and Semiconductors, Nuclear Power Systems** Wash., D.C. (*L. Costrell, US Dept of Commerce, NBS, Wash., D.C. 20234*)
- 21-26 **49th Annual Meeting—S of R** Houston, Tex. *To include a short course, Rheology of Dispersions, on 21-22.*
- 22-26 **2nd Int Meeting on Radiation Processing** [ACS; Assoc of Polymer Chemists of France; Japan Radiation Polymer Soc.; Japan Atomic Energy Res Inst; Plastics Inst of Amer., Inc; Soc of Plastics Engineers; Rubber and Plastics Assoc of Great Britain; IAEA] Miami, Fla. 5/78
- 23-24 **11th Annual Synchrotron Radiation Users Group Meeting** Stoughton, Wisc. 5/78
- 24-26 **Joint Lubrication Conf** [ASLE] Minneapolis, Minn. 7/78
- 25-28 **Amer. Ceramic Soc Nuclear Div and Pacific Coast Regional Meeting** San Diego, Cal. 7/78
- 25-28 **3rd Int Symp on High Energy Physics With Polarized Beams and Targets** Argonne, Ill. (*G. H. Thomas, HEP 362, Argonne Nat'l Lab, Argonne, Ill. 60439*) [9/30/78]
- 26-27 **5th Annual Stanford Synchrotron Radiation Lab Users Group Meeting** Stanford, Cal. 5/78
- 26-27 **36th Annual Pittsburgh Diffraction Conf** Pittsburgh, Pa. (*Pittsburgh Diffraction Conf, c/o Dept of Crystallography, 304 Thaw Hall, Univ of Pittsburgh, Pittsburgh, Penn. 15260*)
- 26-28 **APS Sectional Meeting** [SE Sect] Blacksburg, Va. 9/77
- 27 **SPS Regional Meeting** Blacksburg, Va. *To be held in conjunction with the APS-SES Meeting. 7/78*
- 27-28 **Symp to honor Robert Mulliken** [Univ of Chicago] Chicago, Ill. (*A. V. Crewe, 1118 E 58th St., Univ of Chicago, Chicago, Ill. 60637*)
- 27-28 **History of Science Society Annual Meeting** [Univ of Maryland] College Park, Md. (*S. G. Brush, Univ of Maryland, Inst for Physical Science and Technology, Space Sciences Building,*

UNIVERSAL COINCIDENCE



MODEL 902
\$350.00



- Variable Resolving Time
- Five d-c Coupled Inputs
- Selectable Coincidence Requirement
- Selectable Input Mode

Mech-Tronics

NUCLEAR

430A Kay Ave., Addison, Il. 60101

For more information
WRITE OR CALL COLLECT
(312) 543-9304

Circle No. 49 on Reader Service Card

- 28 **New England Section AAPT** Andover, Mass. 7/78
- 30-1 **Physico-Chemical Hydrodynamics—2nd Int Conf** West Lafayette, Ind. 7/78
- 30-1 **Fall Meeting of Soc for Industrial and Applied Math** Knoxville, Tenn. 3/78
- 30-1 **6th IEEE Int Semiconductor Laser Conf** San Francisco, Cal. [6/15/78] 5/78
- 30-2 **9th General Assembly of Int Union of Independent Labs/Symp on Safety and Industry** Bath, UK 3/78
- 30-3 **APS Div of Plasma Physics Meeting** Colorado Springs, Colo. 7/78
- 30-3 **OSA Nat'l Meeting** San Francisco, Cal. 7/78
- 30-3 **SPS Meeting—Zone 12** San Francisco, Cal. *To be held in conjunction with the OSA Meeting.* 7/78
- 30-3 **10th Annual Meeting—AAS Div of Planetary Sciences** Pasadena, Cal. [9/15/78] 7/78
- 30-3 **5th Annual Meeting—Federation of Analytical Chemistry and Spectroscopy Soc** Boston, Mass. 7/78

NOVEMBER 1978

- 1-2 **3rd IEEE Specialist Conf on Technology of Electroluminescent Diodes** San Francisco, Cal. [6/15/78] 5/78
- 1-3 • **APS Nuclear Physics Div Meeting** Asilomar, Cal. (W. W. Havens, Jr, APS, 335 E 45th St, N.Y., N.Y. 10017)
- 2-3 • **Nat'l Conf on Offshore Oil: Challenges and change** [House ad hoc Committee on The Outer Continental Shelf] Dallas, Tex. (R. W. Nash, Energy Bureau Inc, 101 Park Ave, N.Y., N.Y. 10017)
- 4 **AAPT N Cal. Section Meeting** Sacramento, Calif. 7/78
- 4 **Annual Fall Meeting—Iowa Section AAPT** Pella, Iowa 7/78
- 4-6 • **Annual Technical Meeting of the Electron Devices Society** Washington, D.C. (R. E. Thomas, 1978 IEDM Technical Program Chairman, Dept of Electronics, Carleton Univ, Colonel By Drive, Ottawa, Ontario, K1S 5B6, Canada)
- 5-9 **Engineering in Medicine and Biology [AEMB]** Atlanta, Ga. 7/78
- 6-8 **5th Conf on Use of Small Accelerators** Denton, Tex. 3/78
- 6-8 • **1978 Int Physicochemical Hydrodynamics Conf** [National Academy of Sciences] Washington, D.C. (D. B. Spalding, Conf Chairman, 1978 Physicochemical Hydrodynamics Conf, Suite A7, 3400 Blui Spring Rd, Huntsville, Al. 35810)
- 6-9 **Energy Technology Conf and Exhibition** Houston, Tex. 7/78
- 6-10 **Int Symp on Water Reactor Fuel Element Fabrication and Its Effect on Fuel Performance [IAEA]** Prague, Czech. 3/78
- 7-10 • **Workshop on Future Solar Optical Observations** Florence, Italy (O. Engvold, Inst of Theoretical Astrophysics, Univ of Oslo, POB 1029, Blindern, Oslo 3, Norway)
- 7-11 **Int Forum: An Acceptable Nuclear**

Energy Future of the World [Ctr for Theoretical Studies, Univ of Miami] Coral Gables, Fla. 7/78

- 8-9 • **Workshop on the AGS Fixed-target Research Program** [Brookhaven Nat'l Lab] Upton, N.Y. (H. Weisberg, Brookhaven Nat'l Lab, Upton, N.Y. 11973)
- 10-15 **ASME Winter Meeting** San Francisco, Cal. 7/78
- 12-17 **ANS Winter Meeting** Wash., D.C. 3/78
- 13-14 **12th LAMPF Users Group Meeting** [Los Alamos Scientific Lab] Los Alamos, N. Mex 3/78
- 13-17 **Int Symp on Decommissioning of Nuclear Facilities [IAEA; NEA]** Vienna, Austria 3/78
- 14-16 **Military Electronics Expo** Anaheim, Cal 3/78
- 14-16 **Government Microcircuit Applications Conf** [Dept of Defense; US Army, Navy, Air Force; NASA; Dept of Commerce; NBS; US Postal Service; Nat'l Security Agency; DOE; Defense Supply Agency] Monterey, Cal. 5/78
- 14-17 **24th Annual Conf on Magnetism and Magnetic Materials [AIP; Magnetic Soc, IEEE; APS; ONR; Metallurgical Soc; AIME; ASTM]** Cleveland, Ohio [7/12/78] 7/78
- 16-17 • **Discussion Meeting on Solar Physics** London, UK (Royal Society, 6 Carleton House, Terrace, London SW1Y 5AG, UK)
- 17-18 **SPS Meeting—Zones 6 and 10** Nacogdoches, Tex. *To be held in conjunction with the AAPT meeting.* 7/78
- 17-18 **Fall Meeting—Tex. Section AAPT** Nacogdoches, Tex. 7/78
- 20-22 **APS Fluid Dynamics Div Meeting** Los Angeles, Cal. 9/77
- 26-1 □ **ASA Fall Meeting** Honolulu, Hawaii 5/77
- 26-1 **64th Scientific Assembly and Annual Meeting—AAPM/RSNA** Chicago, Ill. 7/78
- 27-1 • **IAU Colloq on Variable Star Research** Hamilton, N. Zealand (F. M. Bateson, 18 Pooles Rd, Greerton, Tauranga, N. Zealand)
- 28-1 **Annual Meeting of AVS** San Francisco Cal. 1/78
- 29-1 **Annual Meeting of Materials Res Soc** Boston, Mass. 3/78
- 29-1 **APS Div of Electron and Atomic Physics** Madison, Wisc. 5/78

DECEMBER 1978

- 4-6 **Winter Simulation Conf** [NBS; US Dept of Commerce; Amer. Inst of Indust Engineers; Assoc for Computing Machinery; Systems, Man and Cybernetics Soc; IEEE; Operations Res Soc of Amer.; Inst for Mngmt Sci; Soc for Computer Simulation] Miami Beach Fla. 5/78
- 4-6 **Nat'l Telecommunications Conf [IEEE]** Birmingham, Ala. [6/15/78] 3/78
- 4-6 **Waste Heat Mngt and Utilization [ASME; NRC; EPA; DOE; EPRI; Univ of Miami; Fla. Power and Light Co]** Miami Beach, Fla. 7/78
- 4-6 • **Int Electron Devices Meeting** Wash., D.C. (Technical Activities

Board, IEEE, 345 E 47th St, N.Y., N.Y. 10017)

- 4-8 **Int Seminar and Autumn School on Magnetism** Gaussig, Dem. Rep. of Germany 3/78
- 5-8 • **Asian-South Pacific Regional Meeting in Astronomy** Wellington, N. Zealand (B. M. Lewis, P. O. Box 2909, Wellington, N. Zealand)
- 11-15 **Int Symp on Use of Isotopes and Radiation in Soil-plant Relationships [FAO; IAEA]** Colombo, Sri Lanka 3/78
- 14-19 • **9th Texas Symp on Relativistic Astrophysics** Munich, Fed. Rep. of Germany (J. Ehlers, Max-Planck-Inst, Föhringer Ring 6, D 8000 Muenchen 40, Fed. Rep. of Germany)
- 18-19 • **Pulsed Nuclear Magnetic Resonance in Solids** London, UK (Y. A. Fish, Faraday Div, Chemical Society, Burlington House, London W1V 0BN, UK)
- 18-19 **IOP Conf on Materials in a Marine Environment** London, UK 7/78
- 19-21 **NRC Conf on Technical Aspects of Nuclear Waste Mngt** Denver, Colo. 7/78
- 27-29 **Symp on Biomaterials in Dentistry and Medicine** Los Angeles, Cal. 3/78
- 27-29 • **APS General Meeting** Los Angeles, Cal. (W. W. Havens, Jr, APS, 335 E 45th St, N.Y., N.Y. 10017)
- 27-29 • **Int Conf on Collective Phenomena** Moscow, USSR (Y. Brailovsky, Vernadski Prospekt 99, korp 1, apt 128, Moscow 119285, USSR)

JANUARY 1978

- 3-5 **16th Annual Solid-state Physics Conf [IOP]** Coventry, UK 7/78
- 3-8 • **AAAS Annual Nat'l Meeting** Houston, Tex. (AAAS Meetings Office, 1776 Mass. Ave, NW, Wash., D.C. 20036)
- 4-5 **Laser Plasma Interactions [IOP Computational Physics, Plasma Physics, Quantum Electronics and Spectroscopy Groups]** Bangor, UK 7/78
- 15-18 • **2nd Int Colloq on Mars [Jet Propulsion Laboratory, Cal. Inst of Tech]** Pasadena, Cal. (C. W. Snyder, Jet Propulsion Laboratory, Cal. Inst of Tech, 4800 Oak Grove Dr, Pasadena, Cal. 91103)
- 29-31 **1st Topical Meeting on Fusion Reactor Materials [ANS; Ofc of Magnetic Fusion Energy of DOE; Electric Power Res Inst; Nuclear Metallurgy Committee of AIME; ASM]** Miami Beach, Fla. 3/78
- 29-1 **APS General Meeting** N.Y., N.Y. [11/10/78] 1/78
- 29-1 **Zone 2 SPS Meeting** New York, N.Y. *To be held in conjunction with the APS meeting.* 7/78
- 30-2 □ **6th Annual Conf on Physics of Compound Semiconductor Interfaces** Pacific Grove, Cal. [10/27/78] 7/78

FEBRUARY 1979

- 12-14 • **Adhesion Society Meeting** Savannah, Ga. (L. H. Peebles, Jr., ONR, Building 114-D, 666 Summer Street,

- 14-16 • **IEEE Int Solid-State Circuits Conf** [IEEE Solid-state Circuits Council; the Philadelphia Section, the Univ of Penn.] Philadelphia, Pa. (Lewis Winner, 301 Almeria Ave., P. O. Box 343788, Coral Gables, Fla. 33134)

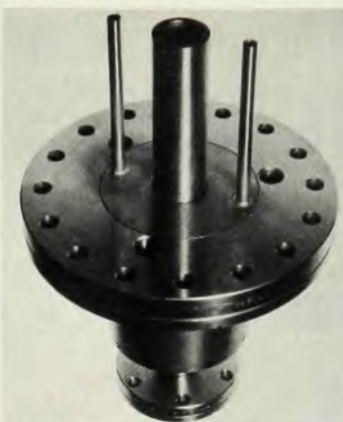
MARCH 1979

- 3-16 Apr • **Exhibition to Commemorate the 100th Anniv of the Birthdays of Albert Einstein, Otto Hahn, Lise Meitner and Max von Laue** [Max-Planck-Gesellschaft; Deutsche Physikalische Gesellschaft; Gesellschaft Deutscher Chemiker] West Berlin, Fed. Rep. of Germany
- 5-9 • **2nd Int Conf on Infrared Physics** [Infrared Physics Group] Zurich, Switzerland (F. Kneubuhl, Solid State Physics Laboratory, ETH Hoenggerberg, CH-8093 Zurich, Switzerland)
- 6-8 • **Topical Meeting on Optical Communication** [Laser and Electro-Optics Technical Group of the OSA; Quantum Electronics and Applications Society of the IEEE] Washington, D.C. (OSA, Optical Fiber Communication Meeting, 2000 L St., N. W., #620, Washington, D.C.)
- 12-14 • **1979 Particle Accelerator Conf** [IEEE; DOE; NSF; APS] San Francisco, Cal. 7/78
- 18-22 • **Zone 8 SPS Meeting** Chicago, Ill. 7/78
- 19-22 • **APS General Meeting** Chicago, Ill. [1/15/79] 1/78
- 22-25 • **Int Meeting on Modulated Structure** [ACA; US Nat'l, Japanese and Australian Committees on Crystallography] Kailua-Kona, Hawaii (C. N. Caughlan, Chemistry Dept, Montana State Univ, Bozeman, Montana 59717)
- 23-24 • **Zone 9 SPS Meeting** Atchison, Kansas 7/78
- 26-29 • **2nd European Conf on Surface Science/4th Interdisciplinary Surface Science Conf** Cambridge, UK 7/78
- 26-30 • **ACA Meeting** Honolulu, Hawaii (K. Seff, Chemistry Dept, Univ of Hawaii, Honolulu, Hawaii 96822)
- 28-30 • **Nuclear Structure and Elementary Particle Physics Conf** [IOP] Birmingham, UK 7/78
- 28-31 • **Symp on Archaeometry and Archaeological Prospection** [British Museum Res Lab, Inst of Archaeology, Univ of London] London, UK 7/78

APRIL 1979

- 2-6 • **Int Conf on Dynamical Critical Phenomena and Related Topics** Geneva, Switz. (Secretariat Central—CDC 79, Ecole de Physique, 24, quai Ernest-Ansermet, CH—1211 Geneva 4, Switzerland)
- 2-6 • **Symp on Manpower Requirements and Development for Nuclear Power** [IAEA] Saclay, France (J. H. Kane, Special Assistant for Conf, Technical Info, DOE, Washington, D.C. 20545)
- 4-6 • **Strength and Structure in Carbons and Graphites** [IOP Joint Carbon and Graphite Group] Bath, UK 7/78

Hard vacuum at 8,000 rpm?



Ferrometic® x-ray anode drive

New microlithography systems demand higher speeds, heavier targets, and water cooling. Reactive oxide targets operate at 10^{-8} torr with desired leakage below 10^{-11} std. cc/sec of helium at full speed.

Ferrometic® soft liquid O-rings eliminate rubbing friction for long life. They conform perfectly to provide zero leakage with 100% through-torque. Write for our latest catalog.

FERROFLUIDICS

The fluid solution

144 Middlesex Turnpike, Burlington, MA 01803 (617) 272-5206
TWX: 710-332-1474

Visit us at Semicon Europa Booth 763

Circle No. 50 on Reader Service Card

Measure Light Directly in Any Optical Unit!

... Radiometric, Photometric or Specialized Measurements



IL700

- UV, Visible & Infrared
- Sensitivities from 10^{-15} to over 1.0 W/cm^2
- Flash Measurement Capabilities

Call Collect for Application Assistance and/or Custom Systems



international light inc
Specialists in Light Measurement

DEXTER INDUSTRIAL GREEN, NEWBURYPORT, MASS. 01950
■ TEL. 617 465-5923 ■ TELEX 94-7135

INTERNATIONAL: Belgium 03131.06.27
England (STD-062.86.61931), France 950.65.78,
Japan (242) 1811, W. Germany (06151) 76051
For other countries contact U.S.A.

Circle No. 51 on Reader Service Card

APPLIED SCIENTISTS in Physical Acoustics/ Ultrasonics and Fluid Dynamics

Exxon Enterprises, Inc., the new business arm of Exxon Corporation, has expanded its Research & Development on new Information Systems using non-impact printing technology. A new division has been formed, which will be located near scenic Danbury, Connecticut, in the vicinity of New York City.

Openings are available for creative, self-motivated and results-oriented professionals and managers who are able to convert ideas into reality and who seek opportunities for career growth in a dynamic, young segment of a multi-billion dollar corporation. Current openings include the following technical specialties:

PHYSICAL ACOUSTICS/ULTRASONICS

Experience desired in design of piezoelectric transducer elements and drivers, ultrasonic energy transfer and focusing of ultrasonic power.

FLUID DYNAMICS

Experience desired in boundary layer flow, non-Newtonian flow and flow through nozzles.

MS or Ph.D. with 3-10 years experience preferred for both positions. Ideal candidates will be experimentalists with some theoretical background.

For immediate consideration, please send resume and salary history to

Dr. S. L. Hou, Director
Non-Impact Printing Research
Exxon Enterprises Inc.
264 Welsh Pool Road
Lionville, PA 19353

EXXON ENTERPRISES INC.

EXXON

An Equal Opportunity Employer M/F.
Minorities and females are encouraged to apply

- 6-7 **New England Section AAPT** Lowell, Mass. 7/78
- 9-11 • **Microscopy of Semiconducting Materials** [Royal Microscopical Society] Oxford UK (*The Administrator, Royal Microscopical Society, 37/38 St. Clements, Oxford OZ4 14JO, UK*)
- 9-12 **2nd Symp on Incoherent Light Sources** Enschede, The Netherlands 5/78
- 17-20 **Electrostatics '79** [IOP Static Electrification Group] Oxford, UK 11/77
- 21-25 • **ASA Spring Meeting** Atlanta, Ga. (B. H. Goodfriend, ASA, 335 E 45th St, N.Y., N.Y. 10017)
- 22-27 **Workshop on Solar-terrestrial Predictions** [NOAA Environmental Research Labs] Boulder, Colo. [11/1/78] 1/78
- 23-26 **APS Cosmic Physics Div/AAS HEAD Meeting** Wash., D.C. [2/2/79] 1/78
- 26-29 • **Phonon Scattering in Condensed Matter** [Brown Univ] Providence, R. I. (H. J. Maria, Brown Univ, Providence, R. I. 02912)
- 28 **Spring Meeting—N Cal. Section AAPT** San Jose, Cal. 7/78
- 28-3 **81st Annual Meeting and Expo of Amer. Ceramic Soc** Cincinnati, Ohio 7/78
- 30-3 • **11th Annual Offshore Technology Conf** Dallas, Tex. (M. E. Milling, Offshore Technology Conf, 6200 North Central Expressway, Dallas, Tex. 75206) [9/15/78] 7/78

MAY 1979

- 6-11 **European Nuclear Conf** Hamburg, Fed. Rep. of Germany 7/78

JUNE 1979

- 3-8 **ANS Annual Meeting** Atlanta, Ga. 7/78
- 11-15 **Symp on Accuracy in Powder Diffraction** Wash., D.C. 7/78
- 12-16 • **ASA Spring Meeting** Cambridge, Mass. (B. H. Goodfriend, ASA, 335 E 45th St, N.Y., N.Y. 10017)
- 19-20 • **AAAS 4th Colloq on R&D in Federal Budget** Wash., D. C. (AAAS Public Sector Programs, 1776 Mass. Ave, NW, Wash., D.C. 20036)

JULY 1979

- 1-6 • **21st Colloq Spectroscopicum Internationale/8th Int Conf on Atomic Spectroscopy** [Association of British Spectroscopists] Cambridge UK (Assoc of British Spectroscopists, P. O. Box 109, Cambridge, CV1 2HY, UK)
- 2-6 • **Symp on the Underground Disposal of Radioactive Wastes** [IAEA; OECD Nuclear Energy Agency] Otaniemi, Finland (J. H. Kane, Special Asst for Conferences, Technical Info, DOE, Washington, D.C. 20545)
- 17-20 **Joint Intermag—Magnetism and Magnetic Materials Conf** New York,

30-3

• **7th Int AIRAPT High Pressure Conf** [Assoc Int for Research and Advancement of High Pressure Technology] Chateau de la Verrerie, France (B. Vodar, Chairman of Conf, LIMHP-CNRS Villetaneuse 94340, France)

AUGUST 1979

12-17 **8th Int Conf on Atomic Collisions in Solids** Hamilton, Canada 7/78

12-17 • **ACA Meeting** Boston, Mass. (E. Klaas, Chemistry Dept, Boston Univ, 625 Commonwealth, Boston, Mass. 02215)

19-24 **12th Int Conf on Medical and Biological Engineering/5th Int Conf on Medical Physics** Jerusalem, Israel 7/78

19-25 **6th Sagamore Conf on Charge, Spin and Momentum Densities** Mont Tremblant, Canada 7/78

20-22 • **4th Int Conf on Ellipsometry** [Univ of Nebraska Medical Center] Omaha, Neb. (R. H. Muller, Materials and Molecular Research Division, Lawrence Berkeley Lab, Univ of Cal. Berkeley, Cal. 94720)

20-24 **7th Int Colloq on Gasdynamics of Explosions and Reactive Systems** Gottingen, Fed. Rep. of Germany [2/1/79] 5/78

27-31 **27th Congress of Int Union of Pure and Applied Chemistry** Helsinki, Finland 3/78

27-1 • **4th Int Symp on Plasma Chemistry** [IUPAC] Zurich, Switzerland (S. Veprek, Inst of Inorganic Chemistry, Univ of Zurich—Irchel, Winterthurerstrasse 190, CH-8057 Zurich)

27-8 **Workshop on Physics of Plasmas Close to Thermonuclear Conditions** [Int School of Plasma Physics] Varenna, Italy 7/78

28-31 **Int Symp on Mechanics of Sound Generation in Flow** [IUTAM; Int Commission on Acoustics; AIAA] Gottingen, Fed. Rep. of Germany 7/78

29-4 **11th Int Conf on Physics of Electronic and Atomic Collisions** [Science Council of Japan; Soc for Atomic Collision Res, Japan] Kyoto, Japan [4/20/79] 5/78

SEPTEMBER 1979

10-15 • **Int Symp on Nuclear Quadrupole Resonance Spectroscopy** Toulouse, France (G. Jugie, Laboratoire de Chimie de Coordination du CNRS, BP 4142, 31030 Toulouse Cedex, France)

11-14 • **Int Conf on Noise Control Engineering** [Int Inst of Noise Control Engineering] Warszawa, Poland (S. Czarnecki, General Chairman of Inter-Noise 79, Purdue Univ, W. Lafayette, Ind. 47907)

17-1 **3rd Europhysics Topical Conf on Lattice Defects in Ionic Crystals** Canterbury, UK 3/78

24-28 • **Symp on Fast Reactor Physics** [IAEA; OECD Nuclear Energy Agency] Aix-en-Provence, France (J. H. Kane, Special Asst for Conf, Technical Info, Washington, D.C. 20545)

OCTOBER 1979

27 **New England Section AAPT** Providence, R.I. 7/78

NOVEMBER 1979

8 **Fall Meeting—N and S Cal. Sections AAPT** Santa Clara, Cal. 7/78

16-17 • **18th Eastern Theoretical Physics Conf** College Park, Md. (Y. S. Kim, Dept of Physics and Astronomy, Univ of Maryland, College Park, Md. 20742)

26-30 • **ASA Fall Meeting** Salt Lake City, Utah (B. H. Goodfriend, ASA, 335 E 4th St, N.Y., N.Y. 10017)

DECEMBER 1979

10-15 **4th Int Conf on Submillimeter Waves** [IEEE; MTT; Int Union of Radio Science] Florida [8/1/79] 11/77

JANUARY 1980

3-8 • **AAAS Annual Nat'l Meeting** San Francisco, Cal. (AAAS Meetings Office, 1776 Mass. Ave, N W, Wash., D.C. 20036)

APRIL 1980

6-11 • **6th Int Conf and Exhibition on Liquefied Natural Gas** [Int Gas Union] Kyoto, Japan (Inst of Gas Technology, 3424 South State St, Chicago, Ill 60616)

7-11 • **Int Conf of Plasma Physics** Tokyo, Japan (K. Takayama, Chairman, Local Organizing Comm, Inst of Plasma Physics, Nagoya Univ, Nagoya, Japan)

17-23 • **14th Int Conf on Thermodynamics and Statistical Mechanics** [IUPAP] Edmonton, Canada (D. D. Betts, Statphys 14, Dept of Physics, Univ of Alberta, Edmonton T6G 2J1, Canada)

19-24 • **12th Int Conf on Medical and Biological Engineering/5th Int Conf on Medical Physics** [Israel Society for Medical and Biological Engineering; Israel Society for Medical Physics] Jerusalem, Israel (Conf Secretariat, P. O. Box 16271, Tel Aviv, Israel)

26 • **Spring Meeting—N Cal. Section AAPT** Chico, Cal. (P. T. McCormick, Physics Dept, Univ of Santa Clara, Santa Clara, Cal. 95053)

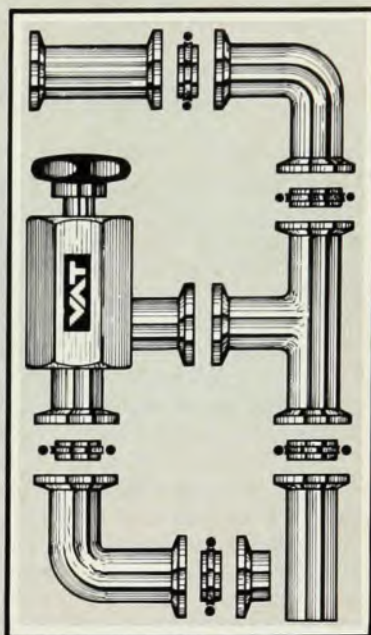
NOVEMBER 1980

17-21 • **ASA Fall Meeting** Los Angeles, Cal. (B. H. Goodfriend, ASA, 335 E 45th St, N. Y., N.Y. 10017)

OCTOBER 1979

28-2 • **50th Anniversary Meeting of S of R** Boston, Mass. (M. Nightingale, S of R, 335 E 45th St, N.Y., N.Y. 10017) □

TRY OUR SIMPLIFIED APPROACH TO VACUUM PLUMBING.....



HPS Corporation is now manufacturing a time saving building block system designed to facilitate vacuum system assembly

- large variety of standard components including valves.
- sexless ISO-KF flanges.
- rapid leak-free assembly without special skill.
- easy to modify in laboratory use and at the same time permanent.
- fittings will not become obsolete because flanging is international metric standard.
- individual flanges with weld stubs or braze sockets to fit inch tube sizes 3/4" to 2".
- cost savings through decreased assembly time, reliability, and reusable components.

REQUEST OUR NEW CATALOG!



HPS Corporation
1898 S. Flatiron Ct.
Boulder, CO. 80301
Phone (303) 449-9861

Circle No. 52 on Reader Service Card