#### CALENDAR

#### **MAY 1988**

- 16-20 AGU Spring Mtg Baltimore, MD See issue: 1/87
- 16-20 115th ASA Mtg Seattle, WA See issue: 7/84
- 23-27 Nat Aerospace and Eng Conf Dayton, Ohio See issue: 1/88
- 23-27 5th Gull Lake Int Conf on Phase Transitions in Nuclear Collisions Gull Lake, MI See issue: 11/87
- 23-17 2nd Wksp on Physical Climatology for Environmental Applications Trieste. Italy See issue: 11/87
- 24–28 Mtg Deutsche Gesellschaft für Angewandre Optik Eberbach, FRG Contact: R. Torge [Tel. 07364-202214] c/o C. Zeiss, Postfach 1369-1380, D-7082 Oberkochen, FRG
  - 24-28 Int Symp on Space-Time Symmetries College Park, MD See issue: 1/
  - 30-3 Int Conf on Nuclear Data for Sci and Technol Mito, Japan See issue: 7/87
- 30-24 Sum Sch on Liquids at Interfaces Les Houches, France See issue: 3/88
- 31–2 Top Mtg on Photon Correlation Techniques and Applications Washington, DC See issue: 3/88
- 31-3 Eur Phys Soc Int Conf on Phys of Transition Metals Kiev, USSR See issue: 3/
- 31-4 Chapman Conf on Seismic Anisotropy in Earth's Crust Berkeley, CA See issue: 1/87
- 31–10 28th Kraków Sch of Theor Phys Zakopane, Poland See issue: 1/88

#### **JUNE 1988**

- 1-5 Int Conf on Computational Phys Beijing, People's Republic of China See issue: 11/87
- 2–3 Conf on Wave Phenomena San Jose, CA Contact: H. Morris [Tel. 408-924-5136] Dept. Math. and Computer Sci. San Jose State Univ., San Jose, CA 95192
  - 2-7 Symp on Spontaneous Nuclear Ordering in Metals at Very Low Temperatures Helsinki, Finland See issue: 3/88
  - 5-8 48th Physical Electronics Conf Upton, NY See issue: 9/87
  - 5-9 172nd Mrg AAS Kansas City, MO See issue: 7/87
  - 5-11 13th Int Conf on Neutrino Phys and Astrophys Boston, MA See issue: 5/87
  - 6-10 Landau Memorial Conf on Frontiers of Phys Tel Aviv, Israel See issue: 9/
  - 6-11 3rd Int Conf on Nucleus-Nucleus Collisions Saint-Malo, France See issue: 7/
- 6-24 NATO Adv Study Inst on Methods in Field and String Theories Montreal, Canada See issue: 1/88
- 7-10 Int Conf on Cryogenic Materials Applications and Properties Shenyang People's Rep. of China See issue: 3/88

- 9-14 Int Conf on Contemporary Topics in Nuclear Structure Phys Cocoyoc, Mexico See issue: 11/87
- 12-16 Ann Mtg Amer Nuclear Soc San Diego, CA Contact: T. Page, San Diego Gas & Electric, 101 Ash St., San Diego, CA 92112
  - 13–16 11th Eur Conf on Thermophys Properties Univ. of Umea, Sweden See issue 3/88
- 13-17 Gordon Conf on Multiphoton Processes New London, NH Contact A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
- 13-17 Landau Birthday Symp at Copenhagen Copenhagen, Denmark [EPS, Niels Bohr Inst., NORDITA, Swedish Acad. Sci., USSR Acad. Sci.] *Conract*: A. Luther, NORDITA, Niels Bohr Inst., Copenhagen, Denmark
  - 13-17 Chapman Conf on Sediment Transport Processes in Estuaries Bahia Blanca, Argentina See issue: 1/87
  - 13-1 Astrophys Wksp on Large Scale Structure of the Universe Aspen, CO See issue: 3/88
  - 15-17 Top Mtg on Spatial Light Modulators and Applications So. Lake Tahoe, NV See issue: 3/88
  - 20-23 10th Symp on Thermophys Properries Gaithersburg, MD See issue: 1/87
- 20-24 Gordon Conf on Condensed Matter Phys Wolfeboro, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801

- 20–24 Gordon Conf on Tribology Plymouth, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ Rhode Island, Kingston, RI 02881-0801 20-24 Sum Mtg AAPT Ithaca, NY See issue: 7/87
  - 20-24 Int Wksp on Atomic Phys for Ion Driven Fusion Orsay, France See issue: 3/ 88
  - 20-24 Sum Wksp Continuous Electron Beam Accelerator Facility Newport News, VA See issue: 3/88
  - 20-24 5th Int Conf on Boundary and Interior Layers: Computational and Asymptotic Methods Shanghai, China See issue: 11/87
  - 20-1 Sum Program on Nuclear Weapons and Arms Control Cambridge, MA See issue: 3/88
  - 20-15 Sum Wksp in High Energy Phys and Cosmol Trieste, Italy Runs through 15 Aug. See issue: 11/87
  - 20-30 Res Wksp in Condensed Matter, Atomic and Molecular Phys Trieste, Italy Runs through 30 Sept. See issue: 3/88
  - 22-24 Wksp on Novel Applications of High-Temp Superconductors Cambridge, MA See issue: 3/88
  - 26-8 NATO Adv Study Inst on Superconducting Electronics II Ciocco, Italy See issue: 9/87
- 27–1 Gordon Conf on Chem and Phys of Isotopes Tilton, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801

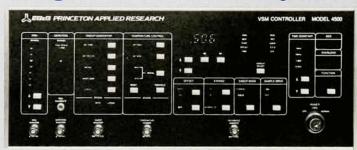
Please note: Complete information is given only for new listings (marked ●) or for newly revised listings (marked 1). All items previously listed indicate the issue of PHYSICS TODAY that carries the complete listing. The complete listings are coded as follows: date title location [sponsor] contact [abstract deadline]

§ indicates financial aid may be available for some to attend the meeting. This calendar appears in alternate (odd-numbered) months. Notices should be sent to: Calendar,

PHYSICS TODAY, 335 East 45th Street, New York NY 10017, at least three months in advance.

AAAS	American Association for the Advancement of Science	IEEE	Institute of Electrical and Electronics Engineers
AAPM	American Association of Physicists in Medicine	IOP IUPAC	Institute of Physics (London) International Union of Pure and
AAPT	American Association of Physics Teachers	IUPAP	, Applied Chemistry International Union of Pure and
AAS	American Astronomical Society	100000000000000000000000000000000000000	Applied Physics
ACA	American Crystallographic Association	LBL	Lawrence Berkeley Laboratory
AGU	American Geophysical Union	LLNL	Lawrence Livermore National
ANS	American Nuclear Society		Laboratory
APS	American Physical Society	MRS	Materials Research Society
ASA	Acoustical Society of America	NAS	National Academy of Sciences
AVS	American Vacuum Society	NBS	National Bureau of Standards
BNL	Brookhaven National Laboratory	NRC	Nuclear Regulatory Commission
CNRS	Centre National de la Recherche	NRL	Naval Research Laboratory
	Scientifique	NSF	National Science Foundation
DOE	Department of Energy	ORNL	Oak Ridge National Laboratory
DPG	Deutsche Physikalische Gesellschaft	OSA	Optical Society of America
EPS	European Physical Society	S of R	Society of Rheology
IAEA	International Atomic Energy Agency	SPIE	International Society for
IAU	International Astronomical Union		Optical Engineering
ICTP	International Centre for Theoretical Physics	SPS	Society of Physics Students

## **Magnetic Research System**



EG&G Princeton Applied Research introduces the completely automated version of the magnetic research industry standard: the new model 4500 Vibrating Sample Magnetometer System.

#### Features include:

- Fully integrated design including gaussmeter, temperature controller, PC, magnet, and power supply.
- 1.2K to 750 C temperature range
- Unsurpassed noise performance
- 10<sup>-3</sup> emu sensitivity
- 5 x 10<sup>-5</sup> emu noise floor
- Menu-driven IBM compatible system
- Auto hysteresis scan with 0 to 2T field range
- Automatic temperature slewing

#### Applications include:

- Meissner Effect
- Magnetic Susceptibility
- Magnetic Hysteresis with bipolar readout
- Magnetic tape and disk material characterization

Send for your FREE information packet today!



P.O. Box 2565 • Princeton, NJ 08543-2565 USA (609) 452-2111 • TELEX: 843409

LEV882

Circle number 63 on Reader Service Card



#### JANIS RESEARCH COMPANY, INC.

2 Jewel Drive, Wilmington, MA 01887 • Tel: (617)657-8750 Telex: 200079

Circle number 64 on Reader Service Card

- 27–1 Gordon Conf on Polymers New London, NH Conract: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
- 27-1 Gordon Conf on Res at High Pressures Meridan, NH Conract: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
- 27-2 17th Int Colloq on Group Theoretical Methods in Phys Quebec, Canada See issue: 3/88
- 27–3 1st Asia–Pacific Conf on Condensed Matter Phys in High-Temperature Superconductivity Singapore See issue: 3/88
- 27–8 Sum Sch for Graduate and Beginning Postdoctoral Students in Nuclear Phys Corvallis, OR See issue: 11/87
- 27–30 13th Int Symp on Discharges and Electrical Insulation in Vacuum Paris, France See issue: 3/88
- 27–1 ACA 1988 Mtg Philadelphia, PA See issue: 7/87
- 27–5 Sum Sch in High Energy Phys and Cosmology Trieste, Italy See issue: 3/88
- 28–30 Int Symp on Heavy-Ion Inertial Fusion Darmstadt, FRG Contact: R. Bock [Tel. 0049-6151-359760] P. O. Box 110552, GSI, D-6100 Darmstadt, FRG [15 May 88]
  - **28–30** Colloq on Uranus Pasadena, CA See issue: 9/87
  - 28–7 Sum Sch on Chem Phys of Atomic and Molecular Clusters Varenna, Italy See issue: 3/88
  - 28–5 Sum Sch on Fields, Strings and Critical Phenomena Les Houches, France Runs through 5 Aug. See issue: 3/88
  - 29–30 Conf on Organic Materials for Nonlinear Optics Oxford, UK *See issue*: 1/88
  - 29–1 Symp on Extragalactic Distance Scale Victoria, Canada See issue: 1/88

#### **JULY 1988**

- 4–8 Gordon Conf on Nuclear Phys Tilton, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
  - 4–8 11th Int Conf on Atomic Phys Paris, France See issue: 7/87
  - 6–7 Short Course on High-Temp Superconductors London, UK See issue: 3/88
  - 11–14 4th Int Symp on Applications of Laser Anemometry to Fluid Mech Lisbon, Portugal See issue: 7/87
- 11-15 Gordon Conf on Chem and Phys of Microstructure Fabrication Wolfeboro, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
- 11-15 Gordon Conf on Particle-Solid Interactions Plymouth, NH Contact: A. M. Cruickshonk [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
  - 11–15 Int Conf on Auroral Phys Cambridge, England See issue: 3/88
  - 12–15 Int Conf on Neutron Scattering Grenoble, France See issue: 3/88
- 12–15 4th Joint Magnetism and Magnetic Materials–Intermag Conf Vancouver, Canada See issue: 11/87

### Cambridge University Press

#### Elementary Particles and the Laws of Physics

The 1986 Dirac Memorial Lectures

Richard P. Feynman and Steven Weinberg

Contains transcriptions of the two lectures given in Cambridge, England, in 1986 by Nobel Laureates Richard P. Feynman and Steven Weinberg to commemorate the famous British physicist Paul Dirac.

1987 / 110 pp. / 34000-4 / Cloth \$12.95

#### In Darkness Born

The Story of Star Formation

Martin Cohen

A fascinating and illuminating survey of how stars are formed, synthesizing much recent research for the lay reader. It presents the basic physical and astronomical ideas, and develops from them a theoretical picture of how stars are born from giant clouds of gas

1988 / 220 pp. / 26270-4 / Cloth \$19.95

#### Particle Physics

A Los Alamos Primer

Edited by Necia Grant Cooper and Geoffrey B. West

This well-illustrated collection of articles written by a group of particle physicists at Los Alamos National Laboratory presents to the expert and non-expert alike a comprehensive overview of the major theoretical and experimental advances of the past twenty years. 1988 / 208 pp. / 34542-1 / Cloth \$49.50 / 34780-7 / Paper \$14.95

Now in paperback...

Aspects of Symmetry

Selected Erice Lectures of Sidney Coleman Sidney Coleman

... must surely be an invaluable supplement and resource for any advanced course in particle physics... Coleman's writing is elegant, lean, utterly authoritative - and a bit sly and tricky...this book is a

This collection of review lectures on topics in theoretical high energy physics has few rivals for clarity of exposition and depth of insight.

1988/416 pp./31827-0/Paper \$27.95

classic." - Physics Today

#### Functional Integrals and Collective Excitations V.N. Popou

Cambridge Monographs on Mathematical Physics

Written by a distinguished physicist and leading researcher, this volume describes the theory and selected applications of one of the most important mathematical tools used in the theoretical investigation of collective excitations in statistical physics. 1988 / 175 pp. / 30777-5 / Cloth \$49.50

Now in paperback...

#### Detectors for Particle Radiation K. Kleinknecht

... researchers using wire chambers or scintillators will find here an outstanding review of their specialty." - Nature

Based on a course taught for many years by the author, this text describes the physical principles used in devices for the detection of charged particles and gamma radiation, and the construction and performance of particle detectors.

1988 / 206 pp. / 35852-3 / Paper \$19.95

#### Physics at Surfaces

A. Zangwill

A unique graduate-level introduction to the physics and chemical physics of solid surfaces, and of atoms and molecules that interact with solid surfaces.

1988 | 454 pp. | 32147-6 | Cloth \$69.50 | 34752-1 | Paper \$27.95

#### Numerical Radiative Transfer

Edited by Wolfgang Kalkofen

Twelve researchers have contributed to this manual of modern numerical methods for solving radiative transfer problems. It contains several new numerical methods on operator perturbation as well as on polarized radiative transfer.

1988/392 pp./34100-0/Cloth \$49.50

#### Scattering from Black Holes

J.A.H. Futterman, F.A. Handler and R.A. Matzner Cambridge Monographs on Mathematical Physics

Provides a comprehensive treatment of the propagation of waves in the presence of black holes. While emphasizing intuitive physical thinking in their treatment of the techniques of analysis of scattering, the authors also include chapters on the rigorous mathematical development of the subject.

1988/230 pp./32986-8/Cloth \$44.50

#### Cambridge Science Classics Series

#### The Expanding Universe Arthur S. Eddington

Astrophysicists and historians of science will find that this reissue sheds fascinating light on one of Britain's greatest scientists. 1988 | 128 pp. | 34976-1 | Paper \$12.95

Reissued in paperback...

#### The Internal Constitution of the Stars Arthur S. Eddington With a preface by S. Chandrasekhar

This reissue contains a preface by S. Chandrasekhar giving a brief appraisal of the book, and placing it in historical and scientific context

1988 / 407 pp. / 33708-9 / Paper \$19.95

#### Numerical Recipes in C

William H. Press, Brian P. Flannery, Saul Teukolsky and William T. Vetterling

From the authors of the highly successful Numerical Recipes comes a new version of the book - Numerical Recipes in C. As in the previous FORTRAN/Pascal edition, this book fills a long-recognized need for a practical, comprehensive handbook of scientific computation, presenting over 200 of the most important numerical algorithms for scientific work. Numerical Recipes in C presents each of the algorithms in C, utilizing the full power of the operatorrich C language, including dynamic memory allocation, modularization, pointer references to matrices, structured programming, and more.

C Version FORTRAN / Pascal version: March 1988 / 733 pp. / 35465-X / Cloth \$44:50 1986 / 818 pp. / 30811-9 / Cloth \$44.50

Also available are accompanying example books and software for IBM PC/XT/AT and Apple Macintosh. Other formats (including UNIX and VAX/VMS) and license arrangements are available from Numerical Recipes Software, P.O. Box 243, Cambridge, MA 02238. For further information, please contact Clay Gordon at the address below

At bookstores or order from

#### CAMBRIDGE UNIVERSITY PRESS

32 East 57th Street, NY, NY 10022.

Cambridge toll-free numbers for orders only: 800-872-7423, outside NY State. 800-227-0247, NY State only. MasterCard and Visa accepted.

- 12–15 Top Mrg on Ultrafast Phenomena Mr. Hiei, Japan See issue: 7/87
- 14–25 NATO Adv Study Inst on Techniques and Concepts of High Energy Phys St. Croix, US Virgin Islands *See issue*: 11/87
- 17–27 11th Int Cong IAMP Swansea, Wales [IUPAP] Contact: A. Truman, Math. Dept., Univ. College of Swansea, Singleton Park, Swansea SA2 8PP, UK
  - 17–31 NATO Adv Study Inst on Random Fluctuations and Pattern Growth Cargèse, Corsica, France See issue: 11/87
  - 18–21 6th Int Conf on Crystal-Field Effects and Heavy-Fermion Phys Frankfurt, FRG See issue: 7/87
  - 18–22 IQEC '88: Int Quantum Electronics Conf Tokyo, Japan See issue: 7/87
- 18–22 Wksp on Nuclear and Particle Phys on the Light Cone Los Alamos, NM Contact: R. Marinuzzi [Tel. 505-667-6942] LANL, LAMPF Liaison Office, Mail Stop H831, Los Alamos, NM 87545
- 18–22 Sum Sch in Hadron Spectroscopy North Dartmouth, MA Contact: J. Dowd [Tel. 617-999-8354] Phys. Dept., Southeastern Massachusetts Univ., North Dartmouth, MA 02747
- 18–22 17th Ann Hands-On Holography Wksp. 3rd Int Symp and Exhibition on Display Holography Lake Forest. IL Contact: T. H. Jeong [Tel. 312-234-3100] Phys. Dept., Lake Forest College, Lake Forest, IL 60045
- 18–22 Gordon Conf on Polymer Phys Andover, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island. Kingston, RI 02881-0801
  - 18–28 12th Int Sch on Disarmament and Res on Conflicts Venice, Italy See issue: 7/87
- 18–29 Wksp and Conf on Submicron Particle Beam Dynamics and Plasma Acceleration Methods Santa Barbara, CA Conract: R. Schrieffer [Tel. 805-961-4111] Inst. of Theor. Phys., Univ. California, Santa Barbara, CA 93106
  - 18–29 16th Ann SLAC Sum Inst on Particle Phys Stanford, CA See issue: 3/88
  - 18–29 Gen Assembly Committee on Space Res Espoo, Finland See issue: 1/88
  - 20–23 2nd Int Symp on High Field Magnetism Leuven, Belgium See issue:
  - **25–27** Top Mtg on Laser Materials and Laser Spectroscopy Shanghai, China *See issue:* 7/87
- 25–29 Int IUPAP Conf on Magnetism Paris, France Contact: J. Friedel, Lab. de Physique des Solides, Bat, 510, Univ. Paris Sud, 91405 Orsay, France
  - 25–29 Mrg on the Galactic Center Los Angeles, CA See issue: 1/88
  - 25–29 9th Int Conf on Spectral Line Shapes Toruń. Poland See issue: 5/87
  - 25–29 5th Int Conf on Clustering Aspects in Nuclear and Subnuclear Sys Kyoro, Japan See issue: 5/87
  - 27–29 IAU Colloq on Evolution of Peculiar Red Giant Stars Bloomington, IN See issue: 11/87

- 27–30 IAU Colloq on Teaching of Astron: Past and Future Williamstown, MA See issue: 7/87
- 31–5 Review of Progress in Quantitative Nondestructive Evaluation La Jolla, CA [Ames Lab., Marerials Lab. of the Air Force, Wright Aeronautical Lab., DOE. ASNT] Contact: D. O. Thompson [Tel. 515-294-8152] Ames Lab., lowa State Univ., Ames, IA 50011

#### AUGUST 1988

- 1–4 Conf on Nuclear Methods in Magnetism Munich, FRG See issue: 3/88
- 1–5 Gordon Conf on Atomic and Molecular Interactions Plymouth, NH Contact:
   A. M. Cruickshank [Tel. 401-783-4011]
   Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
- 1–5 Gordon Conf on Chem and Phys of Coatings and Films Andover, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingsron, RI 02881-0801
  - 2–11 20th Gen Assembly IAU Baltimore, MD See issue: 7/87
- 4–10 24th Int JUPAP Conf on High Energy Phys (Rochester Conf) Munich, FRG Contact: G. Buschhorn, Max-Planck Inst. für Physik und Astrophysik, Fohringer Ring 6, 8000 Munich 40, FRG
- 6–13 World Cong of Med Phys and Bioeng San Antonio, TX See issue: 1/87
- 8–12 Short Course in Nonionizing Radiations Cambridge, MA Conract: Director of Summer Sessions, Rm. E19-356, MIT, Cambridge, MA 02139
- 8–12 5th Marcel Grossmann Mtg Perth, W. Australia [IUPAP] Contact: D. Blair, Phys. Dept., Univ. of Western Australia, 6009 Australia
- 8–12 Gordon Conf on Fractals Tilton, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
- 8–12 Gordon Conf on Photonuclear Phys Plymouth, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
  - 8–12 5th Trieste Semiconductor Symp and 4th Int Conf on Superlattices, Microstructures and Microdevices Trieste, Italy See issue: 11/87
  - 8–21 Int Sum Sch on New Aspects in Nuclear Dynamics Dronten, The Netherlands See issue: 11/87
  - **9–3** Sum Sch on Geophysical Tomography Les Houches, France See issue: 3/88
- 13-16 Colloq on Light Pollution, Radio Interference and Space Debris—The Increasing Environmental Impacts on Observational Astronomy Washington, DC See Issue: 3/88
- 14–18 Conf on New Horizons in Analytical Sci Nedlands, Australia See issue: 1/88
- 14–19 Sum Sch on Randomness Stockholm, Sweden Contact: G. Grimvall, Dept. of Theor. Phys., The Royal Inst. of Technology, S-100 44 Stockholm, Sweden
  - 14–19 32nd Ann Int Tech Symp on Optical and Optoelectronic Applied Sci and Eng San Francisco, CA See issue: 9/87

- 14–20 10th Int Cong on Rheology Sydney, Australia See issue: 7/87
- 14–26 34th Scottish Universities Sum Sch in Phys on Optical Computing Edinburgh, UK See issue: 11/87
- 15–18 Mtg APS Division of Particles and Fields Storrs, CT See issue: 3/88
- 15–19 Gordon Conf on Order and Disorder in Solids New London, NH Contact:
   A. M. Cruickshank [Tel. 401-783-4011]
   Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
- 15–19 Gordon Conf on Organic Geochem Plymouth, NH Contact: A. M. Cruickshank [Tel. 401-783-4011] Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
- 15–19 Gordon Conf on Solid State Studies in Ceramics Meridan, NH Contact:
   A. M. Cruickshank [Tel. 401-783-4011]
   Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801
  - 15-19 17th Int Conf on Differential Geometric Methods in Theoretical Phys Liverpool, England *See issue*: 3/88
  - 15–19 19th Int Conf on Phys of Semiconductors Warsaw, Poland See issue: 9/ 87
- 16–19 Int Conf on Critical Currents in High-Temp Superconductors Snowmass Village, CO Contact: J. R. Clem [Tel. 515-294-4223] A517 Physics, Iowa State Univ., Ames, IA 50011
- 16–23 Sum Sch and Wksp on Dynamical Sys Trieste, Italy Runs through 23 September. See issue: 11/87
- 18–26 Int Conf on Singular Behavior and Nonlinear Dynamics Samos, Greece Contact: 5. Pnevmatikos, Univ. of the Aegaen, 83200 Karlovassi, Samos, Greece
  - 21–25 Applied Superconductivity Conf San Francisco, CA See issue: 3/88
  - 21–26 9th Int Cong on Thermal Analysis Jerusalem, Israel See issue: 7/87
- 22–25 IAU Colloq No. 115: High-Resolution X-Ray Spectroscopy of Cosmic Plasmas Cambridge, MA Contact: M. Zombeck, Harvard-Smithsonian Ctr. for Astrophys., 60 Garden St., MS-3, Cambridge, MA 02138
  - 22–25 AU Colloq on High Resolution X-Ray Spectroscopy of Cosmic Plasma Cambridge, MA See issue: 1/88
  - 22–25 Top Mtg on Nonlinear Optical Properties of Materials Troy, NY See issue: 1/88
- 22–26 Conf on High Spatial Resolution Solar Observations Sunspor, NM [Nat. Solar Observ.] Contact: O. von der Lühe [Tel. 505-434-1390] Nat. Solar Observ., Sacramento Peak, Sunspor, NM 88349
  - 22–26 4th Wksp on Hadronic Mechanics and Nonpotential Interactions Skopje, Yugloslavia *See issue*; 3/88
  - 23–27 Wksp on Interface Phenomena—Adhesion and Friction: Microscopic Concepts Halifax, Nova Scotia *See issue*: 3/88
  - 23–31 Joint Oceanographic Assembly Acapulco, Mexico See issue: 9/87
  - 24–3 Joint Varenna–Abastumani Wksp on Plasma Astrophys Villa Monastero, Varenna, Italy *See issue:* 5/87
  - 26–1 Int Conf on Singular Behavior and Nonlinear Dynamics Crete, Greece See issue: 3/88

#### International research from the . . . **NATO ASI SERIES** Series B: Physics

Volume 164

#### TECHNIQUES AND CONCEPTS OF HIGH-ENERGY PHYSICS IV

edited by Thomas Ferbel

0-306-42688-9/proceedings/600 pp./ill./1987/\$115.00

Volume 165

#### RELATIVISTIC CHANNELING

edited by R. Carrigan and J. Ellison

0-306-42689-7/proceedings/538 pp./ill./1987/\$95.00

Volume 166

#### INCOMMENSURATE CRYSTALS. LIQUID CRYSTALS, AND QUASI-CRYSTALS

edited by J. F. Scott and N. A. Clark 0-306-42760-5/proceedings/378 pp./ill./1987/\$69.50

Volume 167

#### TIME-DEPENDENT EFFECTS IN DISORDERED MATERIALS

edited by Roger Pynn and Tormod Riste 0-306-42782-6/proceedings/516 pp./ill./1987/\$95.00

Volume 168

#### ORGANIC AND INORGANIC LOW-DIMENSIONAL CRYSTALLINE MATERIALS

edited by Pierre Delhaes and Marc Drillon 0-306-42783-4/proceedings/496 pp./ill./1988/\$95.00

Volume 170

#### PHYSICS AND APPLICATIONS OF **QUANTUM WELLS AND** SUPERLATTICES

edited by E. E. Mendez and K. von Klitzing 0-306-42823-7/proceedings/442 pp. + index/ill./1988/\$89.50

Volume 172

#### CHEMICAL PHYSICS OF INTERCALATION

edited by A. P. Legrand and S. Flandrois

0-306-42831-8/proceedings/518 pp. + index/ill./1988/\$95.00

#### Tutorial Sales

NATO ASI volumes are available for classroom use at a special price of \$25.00 per copy when an order of five or more copies of the same title is placed. For further information please contact:

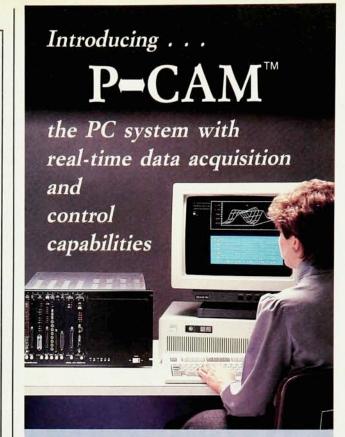
Circle number 66 on Reader Service Card

NATO-PCO, Publication Coordination Office, Elcerlyclaan 2, B-1900 Overijse, BELGIUM Telephone: Brussels 687.66.36

PLENUM PUBLISHING CORPORATION

233 Spring Street New York, NY 10013-1578 212-620-8000 1-800-221-9369





#### IBM PC ← CAMAC I/O ← ASYST software

Now you can combine a low-cost personal computer system with our reliable CAMAC I/O (IEEE-583) hardware and the field-proven ASYST scientific software for flexible data acquisition, analysis, and control of your experiments.

P-CAM, our standardized personal computer system, offers you all these advantages:

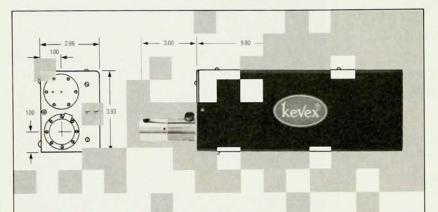
- \* Field-proven CAMAC I/O. Choose from an extensive array of analog, digital, and control modules to meet all your process interfacing needs.
- \* Flexibile Application Software. Utilize the ASYST scientific software package for easy programmability with powerful built-in command words.
- \* High-speed Data Transmission. Transfer data at rates up to 250 kilobytes per second.
- \* High Point Density. Interface up to 480 I/O points with a mini CAMAC crate or over 1000 points with a full size
- \* Real-time Distributed Control. Distribute up to eight remote CAMAC I/O crates on a 500-foot K-bus IM parallel highway.
- \* High-speed Transient Recording. Digitize transient signals at sample rates up to 1.3 gigahertz.

Start as small as you like and expand when and how you want. Perform digital I/O, digitize transient waveforms, generate analog waveforms, count time intervals, monitor analog parameters, and output precision voltages. P-CAM and CAMAC make it easy. Write or call us for more information describing this unique system.

#### KineticSystems Corporation

11 Maryknoll Drive, Lockport, Illinois 60441 (815) 838 0005

- 28–30 Symp on Many-Body Methods in Quantum Chem Tel Aviv, Israel Contact: U. Kaldor, School of Chem., Tel Aviv Univ., 69978 Tel Aviv, Israel
  - 29–1 11th IEEE Int Semiconductor Lasers Conf Boston, MA See issue: 7/87
- 29–2 2nd Int Conf on Electrical Transport and Optical Properties of Inhomogeneous Media Paris, France Contact: J. Lafair [Tel. 1-4336-2525-4353] Lab. d'Optique des Solides, Univ. Pierre and Marie Curie, 4 Place Jussieu, 75252 Paris Cedex 05, France
- 29–3 8th Int IUPAP Conf on Positron Annihilation Gent, Belgium Contact: Prof. Dorikens, Lab. Nuclear Phys., INW, Proefruinstraat 86, B-9000 Gent, Belgium
  - 29–4 Trends in Quantum Electronics Bucharest, Romania See issue: 11/87
  - 30–2 Classical Dynamics in Atomic and Molecular Phys Brioni, Yugoslavia See issue: 11/87
  - 30–2 Top Mtg on Optical Computing Toulon, France See issue: 11/87



# **RADIOGRAPHY**

Radiography is just one of the many applications possible with Kevex's patented portable x-ray source, the PXS.

The PXS can create new market opportunities for your products. The design eliminates the bulk associated with conventional x-ray systems allowing your products to be portable, lightweight and compact.

Some new products to date include:

- A portable real-time imaging system for detection of tampered products in the field
- A radically different altimeter for the next generation of aircraft
- An on-line thickness gauge used in 100°C environments
- · A compact x-ray fluorescence system
- · A tabletop double crystal diffractometer
- An airborne meteorological device for measuring particle distribution

All possible because of the self-contained compact x-ray energy source, the PXS.

Kevex integrated a miniature x-ray tube and a high voltage power supply into one compact, 5 lb. package. Operational from a 12 volt DC battery, this highly regulated, highly stable source has all the high voltage components molded internally. As a result there are no high voltage cables or connectors to work around.

Designed, manufactured, and sold only by Kevex. Call or write Kevex today for information on our complete line of portable sources including the 10 micron focal spot PXS.



**Kevex X-Ray Tube Division** 

P.O. Box 66860 Scotts Valley, CA 95066 408-438-5940

Circle number 68 on Reader Service Card

#### SEPTEMBER 1988

- 5–9 6th Fission Track Dating Wksp Besançon, France See issue: 9/87
- 2–9 20th Summer School on Nuclear Phys Mikolajki, Poland Contact: E. Gierlik, Inst. of Experimental Phys., Warsaw Univ., Höza 69, PL-00681 Warsaw, Poland
- 5–9 11th Int IUPAP Conf on Raman Spectrscopy London, UK Contact: J. F. Gibson, Sci. Secry., Royal Soc. Chem., Burlington House, London, W1V OBM, UK
  - 6–9 Int Symp and Exhibition on Fiber Optics, Optoelectronics and Laser Applications Boston, MA See issue: 3/88
  - 6–16 Course and Wksp on Inertial Controlled Fusion Varenna, Italy See issue: 5/87
- 12–16 JUPAP Conf on Teaching Modern Physics: Condensed Matter Munich, FRG Contact: K. Luchner, Sektion Phys. Univ., Schellingstrasse 4, D-8000 Munich 40, FRG
  - 12–16 18th Rare Earth Res Conf Lake Geneva WI See issue: 3/88
  - 12–16 Chapman Conf on Progress in the Determination of Earth's Gravity Field Fr. Lauderdale, FL See issue: 3/88
  - 12–16 Conf on Phys of Multiply Charged Ions and Wksp on Phys and Technology of ECR Ion Sources Grenoble, France See issue: 3/88
  - **12–7 College on Biophys** Trieste, Italy Runs through 7 Oct. See issue: 11/87
  - 14–17 19th Ann Mrg German Soc Med Phys Tübingen, FRG See issue: 3/88
- 18–21 1988 Int Reactor Phys Conf Jackson Hole, WY [Amer. Nuclear Soc.] Contact: M. Linberry [Tel. 208-526-7434] Argonne Nar. Lab., P. O. Box 2528, Idaho Falls, ID 83403
  - 18–24 Symp on Lasers, Fiber Optics and Integrated Optical Circuits in Sci and Network Communications Arlington, VA See issue: 9/87
- 19–23 Top Conf on Plasma Astrophys Santa Fe, NM [APS] Contact: S. Trujillo, Space Plasma Phys. Grp., Mail Stop D438, LANL, Los Alamos, NM 87545
  - 19–23 Chapman Conf on GPS Measurements for Geodynamics Fr. Lauderdale, FL See issue: 3/88
- 21–25 Conf on Origin of the Universe: Philosophic and Scientific Perspectives Ft. Collins, CO Contact: R. Kitchener [Tel. 303-491-6315] Philosophy Dept., Colorado State Univ., Ft. Collins, CO 80523
  - 25–29 Symp on Atomistic Modeling in Materials—Beyond Pair Potentials Chicago, IL See issue: 1/88
  - 26–30 Cong on Materials Processing in Space Chicago, IL See issue: 3/88
  - 26–30 20th Europhys Conf on Macromolecular Phys and 3rd Lausanne Polymer Mtg: Physical Mechanisms in Polymer Failure Lausanne, Switzerland See issue: 1/88
  - 26–30 20th IEEE Photovoltaic Specialists Conf Las Vegas, NV See issue: 11/87
  - 27–29 Top Mtg on Space Optics for Astrophys and Earth and Planetary Remote Sensing North Falmouth, MA See issue: 3/88

#### OCTOBER 1988

2–7 35th AVS Nat Vacuum Symp Atlanta, GA See issue: 5/87

Model 9600 Digital Temperature Controller

Operates in conjunction with silicon diode temperature sensors over a range of 1.5K to 450K. This cost effective Controller is designed to DIN Standards Operates in conjunction with silicon diode temperature sensors over

for 1/4 rack installation.

# Model 9600 Features

- RS232 Interface • PID Controller, Microprocessor-based • 25 Watt Heater Output
  - Three Key Operation

  - Resolution: 0.1 K • Repeatability: ± 0.2K
  - Accuracy: ± 0.5K (1.5K to 35K) ± 1.0K (35K to 300K) +2.5K (300K to 450K)



PRINCETON

RESEARCH

INSTRUMENTS

#### Scientific Instruments, Inc.

1101 25th Street • West Palm Beach, FL 33407 • Phone: 305/659-5885 • Telex: 51-3474

Circle number 69 on Reader Service Card

Princeton Research Instruments, Inc.

#### IN-VACUUM MOTION SYSTEMS



Unique in-vacuum stepper motors and accessories provide rotary or translational motion in high and ultra high vacuum without the use of the more traditional mechanical feedthroughs. Features include:

- Motor operation in vacuum as low as 4 X 10<sup>-10</sup> torr.
- Maximum bakeout and operational temperature of 150° C.
- · The motors can be placed anywhere, thus allowing compound motions that are otherwise impossible
- · The motors and motorized slides can be quickly and easily relocated to suit experimental needs
- The motor driver electronic package is specifically designed for in-vacuum motors.
- The system is ideal for control with a remote controller or computer.
- · All products are normally in stock for immediate
- Our engineers are glad to discuss your particular application.

(609) 924-0570

P.O. BOX 1174 PRINCETON, N.J. 08542

Circle number 70 on Reader Service Card

#### RAY TRACING

on your PC, XT, AT, PS/2 or compatible!

#### **BEAM TWO**

for coaxial systems:

- · lenses, mirrors, irises · flats, spheres, conic sections
  - exact 3-D monochromatic trace convenient built-in table editor • 2-D system and ray layouts
  - diagnostic plots
     Monte-Carlo spot diagrams
  - · least-squares optimizer · CGA, EGA, VGA, & Hercules

\$89 postpaid if prepaid, quantity 1-9 CA add 7% sales tax

#### **BEAM THREE**

for advanced work:

- all the above functions 3-D optics placement
  - · tilts and decenters · polynomials & torics
  - · diffraction gratings · refractive index tables · CGA, EGA, VGA, & Hercules
    - \$289 postpaid if prepaid, quantity 1-9

CA add 7% sales tax



#### STELLAR SOFTWARE

P.O. BOX 10183 BERKELEY, CA 94709

Circle number 71 on Reader Service Card

3–5 Wksp on Thermal Field Theories and Their Applications Cleveland, OH See issue: 3/88

3–7 4th Int Symp on Radiation Phys São Paulo, Brazil See issue: 1/88

3–7 19th Eur Conf on Laser Interaction with Matter Madrid, Spain See issue: 3/88

9–14 Ultrafast Phenomena and Nonlinear Optics Symp Chicago, IL See issue: 11/87

10–4 College and Int Conf on Medical Phys Triesre, Italy See issue: 11/87

• 30–4 OPTCON '88 Santa Clara, CA [OSA, Laser Assoc. Amer., Laser Inst. Amer., IEEE, SPIE] Conract: OSA [Tel. 202-223-8130] 1816 Jefferson Pl. NW, Washington, DC 20036

30–3 Mrg APS Div Plasma Phys Hollywood, FL See issue: 7/87

31–4 OSA Ann Mrg Santa Clara, CA See issue: 7/87

#### **NOVEMBER 1988**

 3–8 Joint Varenna–Lausanne Wksp on Theory of Fusion Plasmas Chexbres, Swirzerland *Contact*: J. Vaclavik [*Tel.* 021-47-34-82] Centre de Reserches en Physique des Plasmas, 21 Ave. des Bains, 1007 Lausanne, Switzerland

**7–2** College on Neurophysics Trieste, Italy Runs through 2 Dec. See issue: 11/87

9–11 Perspectives on the New Superconductivity Boston, MA See issue: 11/87

13–18 General Mtg AAPM and Radiol Soc N Amer Chicago, IL See issue: 5/87

14-18 116th Mtg ASA-2nd Joint Mtg with Acoustical Soc of Japan Honolulu, HI See issue: 7/87

15–16 Wksp on Earthquake Predictions Trieste, Italy Runs through 16 Dec. See issue: 11/87

21–16 College on Global Geometric and Topological Methods in Analysis Trieste, Italy See issue: 11/87

28–2 MRS Fall Mtg Boston, MA See issue: 5/87

#### DECEMBER 1988

5–9 AGU Fall Mrg San Francisco, CA See issue: 5/87

#### JANUARY 1989

**8–12 173rd Mtg AAS** Boston, MA *See issue*: 7/87

15–20 Combined APS–AAPT Joint Mtg and AAAS Ann Mtg San Francisco, CA See issue: 5/87

19–23 LEOS-IEEE-OSA Conf on Optical Fiber Communication Dallas, TX See issue: 7/87

#### FEBRUARY 1989

 12-15 60th Ann Mtg S of R Gainesville, FL Contact: S of R [Tel. 212-661-9404] 335 E. 45th St., New York, NY 10017 Note corrected dates

#### **MARCH 1989**

6–10 Conf on the Sun in Time Monterey, CA See issue: 3/88

13-17 6th Cong Int Assoc of Color Buenos Aires, Argentina Contact: Grupo Argentino del Color, División Optica, INTI, C. C. 157, 1650 San Martin (BA), Argentina [1 Sep. 88]

13–17 16th Eur Conf on Controlled Fusion and Plasma Phys Venice, Italy See issue: 1/88

20–24 APS March Mtg St. Louis, MO See issue: 5/87

#### **APRIL 1989**

24–28 CLEO '89: Conf on Lasers and Electro-optics Baltimore, MD See issue: 7/ 87

24-28 IQEC '89: Int Quantum Electronics Conf Baltimore, MD See issue: 7/87
24-28 MRS Spring Mtg San Diego, CA See issue: 7/87

 26–28 Conf on 50 Years with Nuclear Fission Gaithersburg, MD [NBS, APS, ANS, Amer. Chem. Soc.] Contact: J. W. Behrens [Tel. 301-975-5572] B109 Radiation Phys. Bldg., NBS, Gaithersburg, MD 20899

#### MAY 1989

1–4 APS Spring Mtg Baltimore, MD See issue: 7/87

# THE FIRST IN-VACUUM, LINEAR MOTOR POSITIONING SYSTEM.

#### Featuring Remote Control With No Mechanical Feedthroughs.

Precision positioning inside high vacuum chambers used to require bulky, expensive equipment. No more. For over fifteen years, Burleigh has offered a diverse line of sophisticated piezoelectric (PZT) actuators and motor systems, including our famous all-piezoelectric Inchworm® motor. Now Burleigh has completely redesigned the compact Inchworm motor and companion translation stage for in-vacuum

operation.

UHV compatible materials.

In-vacuum operation with remote controller.

 No mechanical feedthroughs or bellows.

 A small footprint makes it ideal for close quarters.

• True linear motion.

Bakeout temperatures to 150°C

Micron resolution

The Burleigh UHV Series represents an important advance. To receive a product brochure or discuss your application, call Burleigh and ask for the

UHV Applications Group.

Burleigh Instruments, Inc. Burleigh Park, Fishers, NY 14453 USA (716) 924-9355, Telex 97-8379



# burleigh

European Headquarters: Burleigh Instruments Pfungstadt, West Germany Tel. (06157) 3047; Telex (841) 4191728

United Kingdom: Burleigh Instruments, Ltd Tel. (0727) 41347, Telex (851) 94011348 Japanese Representative: Marubun Corp Tel. (03) 6399871, Telex (781) J22803

Inchworm is a registered trademark of Burleigh Instruments, Inc.

© Burleigh Instruments, 1988

Circle number 72 on Reader Service Card

# PLIABLE CERAMIC INSULATED WIRE FOR UHV APPLICATIONS

Are you tired of making power and signal leads for your UHV system by stringing fish-spine beads onto copper wire?

If so, use our

#### CERAMIC COATED WIRE

- UHV compatibility with 10<sup>-10</sup> torr range
- Breakdown voltage>400V DC
- · Copper wire (Al coated) for power leads
- · Aluminum wire for radiation resistance
- Withstands temperature cycling from (176 to 200°C)
- Wire diameters from 0.5mm to 2.0mm, length to 50 meters
- Minimum bending radius about 5mm



Fine ceramic whiskers, each about 10 microns long, are chemically bonded at one end to the conductor surface. The whiskers form a dense mat of interweaving hairs that allow the coated wire to be bent without insulation failure.

**800-245-1656** 800-242-0599 PA

800-848-5386 CA

800-544-3940 Canada

Kurt J. Lesker

1515 Worthington Ave., Clairton, PA 15025 412-233-4200

Circle number 73 on Reader Service Card

# NanoScope II

#### A NEW DIMENSION IN MICROSCOPY

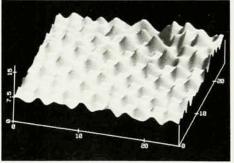
The NanoScope II is the most powerful scanning tunneling microscope made — nothing else comes close. An example of the NanoScope II's capabilities is shown in these top view and surface images of an electronic reconstruction near a defect made in the surface of graphite. The images were taken directly from the NanoScope II display and the scales are in angstroms. The defect was made by raising the voltage between the tip and sample above 3 volts and the area was then scanned with the same tip. The NanoScope II shows that around the defect there is a hexagonal reconstruction of the electron density, with a size  $\sqrt{3}$  times the basic graphite hexagon and rotated 30 degrees. The amplitude of the reconstruction decreases away from the defect.

The NanoScope II not only gives outstanding atomic resolution as seen here, but also can scan up to 8x8 microns for measuring the surface topography of optical disks, diffraction gratings, microcircuitry, etc., while maintaining vertical resolution in the angstrom range.

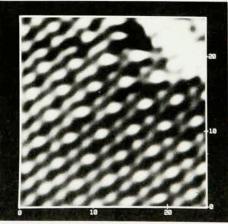
If you would like your lab to have this world-class capability, contact the leaders in scanning tunneling microscopes:

#### **Digital Instruments**

135 Nogal Drive • Santa Barbara, CA 93110 (805) 967-2309



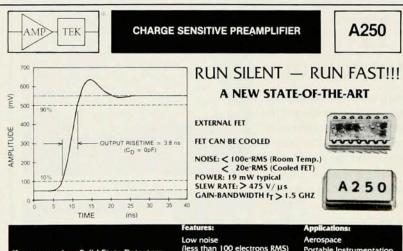
SURFACE



TOPVIEW



Circle number 75 on Reader Service Card



If you are using: Solid State Detectors, Proportional counters, Photodiodes, PM tubes, CEMS or MCPs and want the best performance, try an AMPTEK CHARGE SENSITIVE PREAMPLIFIER

Send for Complete Catalog

Low noise (less than 100 electrons RMS) Low power (5 milliwatts)

Small size (Hybrids) High Reliabilit (MIL-STD-883) Radiation hard (as high as 10' Rads) One year warranty

Portable Instrumentation Nuclear Plant **Imaging** 

Research Experiments Medical and Nuclear Electronics Electro-Optical Systems and others.



#### AMPTEK INC.

6 DE ANGELO DRIVE, BEDFORD, MA 01730 U.S.A. (617) 275-2242

Circle number 76 on Reader Service Card

8-12 AGU Spring Mtg Baltimore, MD See issue: 7/87

14-19 42nd Ann Conf Soc for Imaging Sci and Technology Boston, MA Contact: SPSE [Tel. 703-642-9090] 7003 Kilworth Lane, Springfield, VA 22151

15-19 Int Symp on Weak and Electromagnetic Interactions Montreal, Quebec, Canada See issue: 11/87

22-26 117th ASA Mtg Syracuse, NY See issue: 7/87

#### **JUNE 1989**

11-15 174th Mtg AAS Ann Arbor, MI See issue: 7/87

 28–30 Sum Mrg AAPT San Luis Obispo.
 CA Conract: AAPT [Tel. 301-345-4200]
 Sre. 101, 5110 Roanoke Pl., College Park, MD 20740

#### **JULY 1989**

- 10-14 Int Conf on Ion Sources Berkeley, CA [APS] Contact: I. Brown [Tel. 415-486-4174] Univ. California, Lawrence Berkeley Lab., Bldg. 53, Berkeley, CA 94720
- 11–14 6th Int Conf on Numerical Analysis of Semiconductor Devices and Integrated Circuits Dublin, Ireland Contact: J. J. H. Miller [*Tel*. 353-1-613749] NASE-CODE CONF., INCA, P. O. BOX 2, Dún Laoghaire, Ireland

23-27 Ann Mtg AAPM Memphis, TN See issue: 7/87

- 23–28 Ann Mtg ACA Seattle, WA Contact: D. Savage [Tel. 716-856-9600] ACA, Box 96, Ellicott Station, Buffalo, NY 14205
- 26-1 Int Conf on Phys of Electronic and Atomic Collisions New York, NY Contact: M. S. Lubell [*Tel.* 212-690-8312] Phys. Dept., City College of the City Univ. of New York, New York, NY 10031 [1 March 891
- 31-4 17th IUPAP Int Conf on Thermodynamics and Statistical Mechanics Rio de Janeiro, Brazil *Contact*: C. Tsallis [*Tel.* 55-21-541-0337 ext. 142] Centro Brasileiro de Pesquisas Físicas, Rua Xavier Siguad, 150, 22290 Rio de Janeiro, Brazil

#### SEPTEMBER 1989

● 6-15 Course and Wksp on Tritium and Advanced Fuels in Fusion Reactors Varenna, Italy Contact: E. Sindoni, Int. School of Plasma Phys., 16 Via Celoria, 20133 Milano, Italy [15 June 89]

12-15 6th Cambridge Wksp on Cool Stars, Stellar Sys and the Sun Seattle, WA See issue: 1/88

#### OCTOBER 1989

15-20 OSA Ann Mtg Orlando, FL See issue: 1/88

21-26 61st Ann Mtg S of R Montreal, Canada See issue: 1/88

◆ 23–27 36th AVS Nat Vacuum Symp Boston, MA Contact: M. Churchill [Tel. 212-661-9404] AVS, 335 E. 45th St., New York, NY 10017] Note changed location and dates

#### NOVEMBER 1989

6-10 118th Mtg ASA St. Louis, MO See issue: 1/88

130