#### **NOVEMBER 1986**

DECEMBER 1986

1 - 5

- 16–21 ANS Winter Mtg Washington, DC See issue: 5/86
- 17–19 IEEE Ultrasonics Symp Williamsburg, VA See issue: 9/86
- 17-21 31st Ann Conf on Magnetism and Magnetic Materials Baltimore, MD See issue: 7/86
- 17-21 9th Int Conf on Magnetohydrodynamic Electrical Power Generation Tsukuba, Ibaraki, Japan See issue: 3/86
- 18-20 4th Int Conf on Quantitative Surface Analysis Teddington, UK See issue: 11/85
- 20-22 Mtg APS Southeastern Sec Williamsburg, VA See issue: 1/86
- 23-25 Mtg APS Div of Fluid Dynamics Columbus, OH See issue: 1/86
- 27-28 14th Midwest Solid-State Theory Symp Naperville, IL See issue: 5/ 86
- 30-5 Gen Mtg AAPM and Radiological Soc N Am Chicago, IL See issue: 1/86

- 2-4 18th Ann Precise-Time and Time-Interval Applications and Planning Mtg Washington, DC See issue: 7/86
- 2-5 6th Eur Conf on Materials Sci Under Microgravity Bordeaux, France See issue: 1/86
- 8-10 Conf on Impacts of Phys on Frontiers of Med: Lasers Lake Buena Vista, FL See issue: 5/86
- 8-12 112th ASA Mtg Anaheim, CA See issue: 3/85
- 8-12 AGU Fall Mtg San Francisco, CA See issue: 1/86
- 9-10 Conf on Fluctuation Phenomena in Underwater Acoustics Weymouth, UK See issue: 5/86
- 12-13 Top Mtg on SS433 and Jets St. Louis, MO See issue: 7/86
- 14-19 13th Texas Symp on Relativistic Astrophys Chicago, IL See issue: 9/86
- 16–20 Int Conf on Metallic and Semiconducting Glasses Hyderabad, India See issue: 9/86
- 17-19 Ann Solid State Phys Conf 1986 London, UK See issue: 3/85

#### **JANUARY 1987**

MRS Fall Mtg Boston, MA See is- 4-8 169th Mtg AAS Pasadena, CA See issue: 1/86

sue: 1/86

Please note: Complete information is given only for new listings (marked →) or for newly revised listings (marked →). 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].

Conferences sponsored by AIP member societies are listed with dates in boldface.

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	IEEE	Institute of Electrical and Electronics
100000000000000000000000000000000000000	Advancement of Science		Engineers
AAPM	American Association of Physicists	IOP	Institute of Physics (London)
	in Medicine	IUPAC	International Union of Pure and Applied
AAPT	American Association of Physics		Chemistry
Office Co.	Teachers	IUPAP	International Union of Pure and Applied
AAS	American Astronomical Society		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	NAS	National Academy of Sciences
ASA	Acoustical Society of America	MRS	Materials Research Society
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
I Service Andrea	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	SPS	Society of Physics Students
EPAPER PROPERTY.			

- 5-8 → 1987 Winter Sch on High-Resolution Electron Microscopy Tempe, AZ [NSF] Contact: S. Holloway, HREM Facility, Ctr. for Solid State Sci., Arizona State Univ., Tempe, AZ 85287
- 5-8 17th Winter Colloq on Quantum Electronics Snowbird, UT See issue: 9/86
- 5-9 **5th Int Conf on Valence Fluctu- ations** Bangalore, India *See issue:*7/86
- 5–16 **→S Course on Optical Sci and Eng**Tucson, AZ *Contact:* P. N. Slater
  [*Tel.* 602-885-3798] Optical Systems and Eng. Short Courses Inc.,
  P.O. Box 18667, Tucson, AZ 85731
- 11–15**→ 1987 Winter Wksp on Chem Reactions and Electron Microscope**Tempe, AZ *Contact*: S. Holloway,
  HREM Facility, Ctr. for Solid State
  Sci., Arizona State Univ., Tempe,
  AZ 85287
- 11-17 Conf on Optoelectronics and Laser Applications in Sci and Eng Los Angeles, CA See issue: 7/85
- 14-16 Top Mtg on Picosecond and Optoelectronics Lake Tahoe, NV See issue: 1/86
- 14–17 → 1987 Ann Mtg APS Div Particles and Fields Salt Lake City, UT Contact: DPF Conf. Secty., 201 J. C. Fletcher Bldg., Phys. Dept., Univ. of Utah, Salt Lake City, UT 84112 [17 Nov. 86]
- 15–16→7th Top Mtg on Gradient-Index Optical Imaging Sys Reno, NV [OSA] Contact: OSA, 1816 Jefferson PI., NW, Washington, DC 20036
- 19-22 Conf on Optical-Fiber Communication, Int Conf on Integrated Optics and Optical-Fiber Communication Reno, NV See issue: 1/86
- 26-28 Top Mtgs on Laser Analytical Spectroscopy and Noninvasive Assessment of Visual System Lake Tahoe, NV See issue: 1/86
- 27-29 Phys and Chem of Semiconductor Interfaces Conf Salt Lake City, UT See issue: 7/86
- 28-30 Int Conf on Stability of Amorphous Silicon Alloy Materials and Devices Palo Alto, CA See issue: 9/86
- 28–30 34th Ann Conf Western Spectroscopy Assoc Pacific Grove, CA See issue: 11/85
- 28-31 Ann Joint Mtg AAPT and APS San Francisco, CA See issue: 9/86

#### FEBRUARY 1987

1-6 Int Symp on Pattern Recognition

#### **NOW AVAILABLE!**

# MATERIALS SCIENCE REPORTS

#### A REVIEW JOURNAL

This new review journal will serve the Materials Science community in two ways. It will provide a general background of materials science and present specialized reviews on current and significant developments in the field.

Invited review papers will cover a broad spectrum of materials science encompassing materials systems such as electronic and nuclear materials, ceramics, polymers and metals.

Emphasis will be placed on materials properties (e.g. physical, chemical, electrical and mechanical), methods of preparation, constituent interactions as well as techniques for characterization and modification. Both theoretical and experimental papers will be featured.

Coordinating Editors: S.S. Lau, San Diego, CA, USA; F.W. Saris, Amsterdam, The Netherlands.

Editorial Board: W. Bauer, Livermore, CA, USA; A.G. Cullis, Great Malvern, UK; S. Furukawa, Yokohama, Japan; E. Kaldis, Zürich, Switzerland; E. Kramer, Ithaca, NY, USA; J.W. Mayer, Ithaca, NY, USA; T. Tokuyama, Tokyo, Japan; K.N. Tu, Yorktown Heights, NY, USA.

The first issue contains the review:

NEW PERMANENT MAGNET MATERIALS by
K.H.J. Buschow

The following reviews will appear in future issues:

N.W. Cheung: Megavolt Ion Implantation in Semiconductors and their Interfaces; L. Csepregi: Micromechanics: Silicon Microfabrication Technology: P.J. Grunthaner, M.H. Hecht, F.J. Grunthaner: Photoemission Studies of the SiO2Si Interface; T.F. Kuech: Metal-Organic Vapor Phase Epitaxy of Compound Semiconductors; L.G. Meiners, H.H. Wieder: Semiconductor Passivation; G.L. Olson, J.A. Roth: Kinetics and Mechanisms of Solid Phase Crystallization in Amorphous Silicon; P.S. Peercy, M.O. Thompson: Measurement of Melt and Solidification Dynamics; K. Gamo, R. Shimizu, S. Namba: Ion Beam Lithography.

Subscription Information:

1987: Volume 2 in 8 issues. Dfl.275.00/US \$110.75 (Subscribers to volume 2 will automatically receive volume 1 free of charge, during 1987). Price includes postage and handling costs. The dutch guilder price is definitive. Customers in the Netherlands, please add 5% BTW.

#### **ASK FOR A FREE INSPECTION COPY!**

Please mail this coupon, or a photo-copy to:
North-Holland Physics Publishing, attn. Ms. A. Broekgaarden, P.O. Box 103, 1000 AC Amsterdam, The Netherlands
Customers in the USA and Canada, mail to: Elsevier Science Publishing Co., Inc., 52 Vanderbil Avenue, New York, N.Y. 10017
Please send me a free inspection copy of:

	SCIENCE REPORTS
Name:	
Address:	
Address	

Circle number 71 on Reader Service Card 0752 NH

- and Acoustical Imaging, Conf on Med Imaging Newport Beach, CA See issue: 9/86
- 2-6 8th Nuclear and Particle Phys Sum Sch Launceston, Tasmania, Australia See issue: 7/86
- 9-13 Southwest Conf on Optics Albuquerque, NM See issue: 1/86
- 14-19 Ann Mtg AAAS Chicago, IL See issue: 5/86
- 16-18 Top Mtg on Microphys of Surfaces, Beams and Adsorbates Santa Fe, NM See issue: 9/86
- 17-27 26th Schladming Winter Sch on Recent Developments in Math Phys Schladming, Austria See issue: 9/86
- 22-27 Int Mtg Adhesion Soc Williamsburg, VA See issue: 11/85
- 23-27 3rd Int Conf on Ultrastructure Processing of Ceramics, Glasses and Composites San Diego, CA See issue: 5/86
- 25-26 Mtg on Vibration Control in Optics and Metrology London, UK See issue: 9/86

#### **MARCH 1987**

- 5-7 Mtg Texas Secs AAPT and APS Abilene, TX See issue: 1/86
- 9–14 → Mtg on Solid-State Phys Münster, FRG [DPG Arbeitskreis Festkörperphysik, Austrian Phys. Soc.] Contact: DPG [Tel. 02224-71061] Hauptstrasse 5, D-5340 Bad Honnef, FRG [1 Dec. 86]
- 11-13 Top Mtg on Optical Data Storage Lake Tahoe, NV See issue: 1/86
- 12-14 Int Symp on Quantum Biol and Quantum Pharmacology Gainesville, FL See issue: 9/86
- 15-20 ACA Ann Mtg Austin, TX See issue: 7/86
- 15–20 Tech Symp Southeast on Optics and Optoelectronics Orlando, FL See issue: 11/85
- 16-18 Top Mtg on Optical Computing Lake Tahoe, NV See issue: 1/86
- 16–19 → Mtg on Surface Phys Innsbruck, Austria [DPG] Contact: A. Bradshaw, Fritz-Haber Inst., Faradayweg 4–6, D-1000 Berlin 33, FRG [1 Dec. 86]
- 16-19 1987 Particle Accelerator Conf Washington, DC Contact: S. Penner, NBS, Gaithersburg, MD 20899 note changed contact
- 16–20 → Mtg on Atomic, Molecular and Plasma Phys Göttingen, FRG [DPG] Contact: DPG [7el. 02224-71061] Hauptstrasse 5, D-5340 Bad Honnef, FRG [1 Dec. 86]
- 16-20 APS March Mtg New York, NY See issue: 1/86
- 16-21 Int Symp on Atomic, Molecular and Solid-State Theory, Scattering Problems, Many-Body Phenomena, and Computational Methods Gainesville, FL See issue:
- 17-27 NATO Adv Study Inst on Chem Crystallography with Pulsed Neutrons and Synchrotron Radiation Alvor, Algarve, Portugal See issue:

### NORTH-HOLLAND ANNUALES

NORTH-HOLLAND PHYSICS PUBLISHING, P.O. Box 103, 1000 AC Amsterdam - The Netherlands ELSEVIER SCIENCE PUBLISHING CO., Inc., 52 Vanderbilt Ave., New York, NY 10017

#### The Lesson of Quantum Theory

Proceedings of the Niels Bohr Centenary Symposium, Copenhagen, Denmark, October 3-7, 1985

edited by J. De Boer, E. Dal and O. Ulfbeck

1986 x + 383 pages Price: US \$38.00/Dfl. 95.00 ISBN 0-444-87012-1

The concepts of quantal states and complementarity introduced by Niels Bohr in an intuitive manner more than a century ago, have come to form cornerstones in our description of nature. This centenary symposium celebrating Niels Bohr pays tribute to his work which gave birth to contemporary physics and nourished related fields of knowledge.

The book is divided into three parts. Part one consists of two communications to the Royal Danish Academy of Sciences and Letters in memory of Niels Bohr.

Part two, containing the main theme of this volume, is divided into three sections. Section one, entitled The Lesson of Quantum Theory, explores the theory which for Bohr went beyond physics encompassing not only the natural sciences but all human conceptions.

Section two relates the progress in neighbouring disciplines in which Bohr took a particular interest. The last section is devoted to Bohr himself, his personality, his activities and his world of thought.

Part three contains speeches and anecdotes presented during a gathering at Ny Carlsberg Glyptoteket on Niels Bohr's hundredth birthday.

As befitting such an occasion all the contributors to this volume are prominent experts in their respective fields.

Contents: Part I. Niels Bohr. Communications delivered to the Royal Danish Academy of Sciences and Letters, October 3, 1985 (edited by E. Dal). Niels Bohr and Royal Danish Academy of Sciences and Letters (B. Strömgren). Considerations (H.B.G. Epistemological Casimir). Part II. The Lesson of Quantum Theory. Proceedings of the Niels Bohr Centenary Symposium, October 4-7, (edited by J. de Boer and O. Ulfbeck). The Lesson of Quantum Theory. Measurement in Quantum Theory and the Problem of Complex Systems (P.W. Anderson). Quantum Mechanics at the Macroscopic Level (A.J. Leggelt). Strange Quantum Numbers in Condensed Matter and Field Theory (J.R. Schrieffer). The Study of the Nucleus as a Theme in Contemporary Physics (B.R. Mottelson). "Complementarity" between Energy and Temperature (J. Lindhard). Radiation by Uniformly Moving Sources (V.L. Ginzburg). Does Elementary Particle Physics have a Future? (S.L. Glashow). Observability of Quarks (J.D. Björkén). The Transformation of Elementary Particle Physics into Many-Body Physics (L. van Hove). Physics in terms of Difference Equations (T.D. Lee). Some Lessons of Renormalization Theory (A.S. Wightman). Particles, Fields and now Strings (S. Weinberg). Collective and Planetary Motion in Atoms (R.S. Berry). Unity of Knowledge. The Origin and Evolution of Large-Scale Structure in the Universe (W.L.W. Sargent). Molecular Replication and the Origins of Life (L.E. Orgel). Physics, Biological Computation and Complementarity (J.J. Hopfield). Complementarity in Linguistic Observation, Description and Explanation (W.U. Dressler). Niels Bohr. Great Connections Come Alive: Bohr, Ehrenfest and Einstein (M.J. Klein). Niels Bohr and Nuclear Weapons (M. Gowing). Niels Bohr: The Man and his Legacy (J.A. Wheeler). Mellem Spog og Alvor: Personal Recollections about Niels Bohr (H.B.G. Casimir). Part III. Jest and Earnest. Addresses presented at the evening gathering in Ny Carlsberg Glypoteket, October 7, 1985. Parentesen (A. Aaboe). Truth and Clarity (R. Peierls). Niels Bohr, the Quantum and the World (V.F. Weisskopf).

#### Science and Technology of Advanced LMFBR Fuels

A Monograph on Solid Physics, Chemistry and Technology of Carbides, Nitrides and Carbonitrides of Uranium and Plutonium

by Hj. Matzke

1986 x + 750 pages Price: US \$156.00/Dfl. 390.00 ISBN 0-444-86997-2

This monograph describes the basic physics and chemistry of advanced fuels together with a review of the technological knowledge and possibilities available. The emphasis is put on a critical statement of recommendable data rather than on a complete listing of the extensive literature available. More specifically the basic physical and chemical properties, thermodynamics, fabrication and operating (irradiation) behaviour of carbides and nitrides of U and Pu, as well as of the mixed compounds s(U, Pu)C, (U Pu)N or (U, Pu)(CN) are described. The full range from basic research to technological application is covered. This includes a description of and theoretical reprocessing, safety modelling of thermal and irradiation behaviour.

Contents: Preface. Introduction. 1. Historical background of carbide and nitride research. 2. Crystal structures and phase diagrams, thermodynamic data. 3. Preparation, fabrication, determination of fuel structure, characterization. 4. Physical properties. 5. Defects and solid state reactions. 6. Porosity and restructuring. 7. Radiation damage. 8. Chemistry of fission, effect

of fission products on fuel properties. 9. Swelling and gas release. 10. In-pile performance and irradiation experiments. 11. Modelling. 12. Operational limits and safety experience. 13. Reprocessing, fuel cycle. Appendices. Author Index. Subject Index.

# Progress in Optics, Volume XXIII

edited by E. Wolf

1986 xvi + 276 pages Price: US \$59.25/Dfl. 160.00 ISBN 0-444-86982-4

"The arrival of a further volume in the series on a reviewer's desk provokes pleasurable anticipation. With an extremely high standard set by the previous volumes, the latest will surely continue the excellent tradition. One is not disappointed. The articles are well-written and authoritative, providing invaluable updating in fields of current interest."

Contemporary Physics

"This reviewer would like to thank Professor Wolf for his happy knack of selecting topics and authors that provide the optics community with a stream of timely and illuminating reviews... these books continue to be essential purchases for every laboratory where research in optics is in progress."

Optica Acta

PROGRESS IN OPTICS is a wellestablished series of volumes of review articles dealing with theoretical and applied optics and related subjects. Many of the articles appearing in these volumes have since been established as basic references in their respective fields.

Since the Series' inception in 1961, new volumes have been published almost every year. They have played a key role in keeping optical scientists and other physicists and engineers well informed of the numerous rapid developments since the renaissance of optics. The volumes already published include contributions by two Nobel Laureates and reflect the great advances that have been made in the past twenty years, both in traditional areas of optics and in areas opened by the development of the laser.

Contents: Contents of previous volumes. Preface. Analytical techniques for multiple scattering from rough surfaces (J.A. D∈Santo and G.S. Brown). Paraxial theory in optical design in terms of Gaussian brackets (K. Tanaka). Optical films produced by ion-based techniques (P.J. Martin and R.P. Netterfield). Electron holography (A. Tonomura). Principles of optical processing with partially coherent light (F.T.S. Yu). Author Index. Subject Index. Cumulative Index.

- 18–20 → Mtg on Particle Phys Zurich, Switzerland [DPG, Swiss Phys. Soc., Austrian Phys. Soc.] Contact: S. Brandt, Dept. of Phys., Univ. of Siegen, P.O. Box 10 12 40, D-5900 Siegen, FRG [1 Dec. 86]
- 18-20 Top Mtg on Photonic Switching Lake Tahoe, NV See issue: 9/86
- 18-20 Top Mtg on Machine Vision Lake Tahoe, NV See issue: 1/86
- 23-27 > Mtg on Nuclear Phys Groningen, The Netherlands [DPG] Contact: W. von Oertzen, Hahn-Meitner-Inst., Bereich Kernphysik, Glienicker Str. 100, D-1000 Berlin 39, FRG [1 Dec. 86]
- 23–27 → 14th Int Conf on Metallurgical Coatings San Diego, CA [AVS] Contact: W. D. Sproul [Tel. 312-827-3131] Borg-Warner Corp., Wolf and Algonquin Rds., Des Plaines, IL 60018
- 24–27 → Mtg on Acoustics Aachen, FRG [DPG] Contact: H. Kuttruff, Inst. für Technische Akustik der RWTH, Templergraben 55, D-5100 Aachen, FRG [1 Dec. 86]
- 29–9 → NATO Adv Study Inst on Time-Dependent Effects in Disordered Materials Geilo, Norway Contact: G. Jarrett, Inst. for Energy Tech., POB 40, N-2007 Kjeller, Norway
- 30–1 → Mtg on Crystallography Berlin, FRG [DPG] Contact: J. R. Schneider, Hahn-Meitner-Inst., Abteilung C 1, Glienicker Str. 100, D-1000 Berlin 39, FRG [1 Dec. 86]
- 30–3 → 51st Phys Convention Berlin, FRG [DPG] Contact: DPG [Tel. 02224-71061] Hauptstrasse 5, D-5340 Bad Honnef, FRG [1 Dec. 87]
- 30–4 4th Int Symp on Optical and Optoelectronic Applied Sci and Eng The Hague, The Netherlands See issue: 9/86
- 31–3 Schrödinger Centenary Conf London, UK See issue: 7/86

#### APRIL 1987

- 3-4 NYS Sec APS Symp on Phys of Thin Films Briarcliff Manor, NY See issue: 9/86
- 6-8 5th Oxford Conf on Microscopy of Semiconducting Materials Oxford, UK See issue: 9/86
- 7-10 7th General Conf EPS Condensed-Matter Div Pisa, Italy See issue: 7/86
- 8-9 23rd Ann Mtg Nat Council on Radiation Protection and Measurements Washington, DC See issue:
- 8-11 Electrostatics '87 Conf Oxford, UK See issue: 9/86
- 15-18 1st Yukawa Int Sem on Mesons and Quarks in Nuclei Kyoto, Japan See issue: 9/86
- 20–22 Int Symp on Magnetism of Intermetallic Compounds Kyoto, Japan See issue: 9/86
- 20-23 APS Spring Mtg Crystal City, VA See issue: 1/86
- 20-24 MRS Spring Mtg Anaheim, CA See issue: 1/86
- 20-24 11th Int Conf on Particles and Nuclei Kyoto, Japan See issue: 1/86

- 21–23 22nd Int Microbalance Techniques Conf Rabat, Morocco See issue: 9/86
- 23–25 Symp on Isaac Newton's Philosophia Naturalis Principia Mathematica College Park, MD, and Washington, DC See issue: 5/86
- 27-1 CLEO '87: Conf on Lasers and Electro-optics Baltimore, MD See issue: 3/86
- 27-1 IQEC '87: Int Quantum Electronics Conf Baltimore, MD See issue: 3/86

#### MAY 1987

- 3-7 5th Int Symp on Gaseous Dielectrics Knoxville, TN See issue: 1/86
- 4–7 Soc of Plastics Eng 45th ANTEC Mtg Los Angeles, CA See issue: 9/ 86
- 11–14 → 30th Mtg Acoustic Emission Working Group Norman, OK Contact: D. M. Egle [Tel. 405-325-5011] 865 Asp Ave., Rm. 212, Univ. of Oklahoma, Norman, OK 73019
- 11-15 113th ASA Mtg Indianapolis, IN See issue: 7/84
- 12-15 STIP Symp on Physical Interpretations of Solar Interplanetary and Cometary Intervals Huntsville, AL See issue: 5/86
- 13-15 Sci Computing and Automation Conf and Exhibit Amsterdam, The Netherlands See issue: 7/86
- 18-22 AGU Spring Mtg Baltimore, MD See issue: 9/86

#### **JUNE 1987**

- 9–11 → Int Conf on Cometary Plasma Phys Trieste, Italy Contact: B. Buti, ICTP, P.O. Box 586, Miramare, 34100 Trieste, Italy [15 Jan. 87]
- 11–25 4th Wksp on Nonlinear Evolution Eqs and Dynamical Sys Balarucles-Bains, Montpellier, France See issue: 9/86
- 14–18 ASME Symp on Flow of Thin Fluid Films Cincinnati, OH See issue: 7/86
- 14-18 170th Mtg AAS Vancouver, BC, Canada See issue: 1/86
- 15–17 → 2nd Nordic Conf on Surface Sci Linköping, Sweden Contact: L. I. Johansson, Dept. of Phys. and Meas. Tech., Linköping Univ., S-58183 Linköping, Sweden
- 15-29 Sum Inst on Disordered Processes Erice, Italy See issue: 9/86
- 21-25 5th Nat Synchrotron Radiation Instrumentation Conf Madison, WI See issue: 7/86
- 22-26 10th Information Processing in Med Imaging Conf Utrecht, The Netherlands See issue: 7/86
- 22-26 2nd Int Conf on Structure of Surfaces Amsterdam, The Netherlands See issue: 5/86
- 24-27 AAPT Sum Mtg Bozeman, MT See issue: 1/86

#### **JULY 1987**

12-17 1987 Conf on Dynamics of Mo-

- lecular Collisions Wheeling, WV See issue: 7/86
- 13-17 4th Int Conf on Multiphoton Processes Boulder, CO See issue: 9/
- 13-17 AAPM Sum Sch Ann Arbor, MI See issue: 1/86
- 19-23 29th Ann Mtg AAPM Detroit, MI See issue: 1/86
- 19-24 18th Biennial Conf on Carbon Worcester, MA See issue: 9/86
- 20–24 → Inter Amer Conf on Phys Educ
  Oaxtepec, Mexico [Min. of Public
  Educ. of Mexico, Autonomous Metropolitan University—Iztapalapa,
  Org. of Amer. States, IUPAP, ICTP,
  AAPT, APS] Contact: J. B. Weber,
  Depto. de Fisica, Universidad Autonoma Metropolitana—Iztapalapa,
  Apto. Postal 55-534, Av. Michoacan
  y Purisima, 09340 Mexico 13 D.F.
- 26-31 Am Conf on Theor Chem Gull Lake, MN See issue: 1/86
- 27–31 → 7th Int Conf on Electronic Properties of Two-Dimensional Sys Santa Fe, NM Contact: J. M. Worlock [Tel. 201-758-2846] Navesink Ctr., Rm. 3X-283, Bell Communications Res., Red Bank, NJ 07701-7020 [3 Apr. 86]
- 27–31 → Gordon Res Conf on Nonlinear Optics and Lasers Wolfeboro, NH [Brewster Acad.] Contact: H. Gibbs [Tel. 602-621-1941] Optical Sci. Ctr., Univ. of Arizona, Tucson, AZ 85721

#### **AUGUST 1987**

- 12–14→9th Univ Conf on Glass Sci: Stability of Glass Troy, NY Contact:
  Ctr. for Glass Sci. and Tech., Materials Res. Ctr., Rm. 107, Rensselaer Polytechnic Inst., Troy, NY 12180-3590 [30 Apr. 87]
- 12-20 Gen Assembly ACA, 14th Cong Int Union Crystallography Perth, Australia See issue: 1/86
- 17–19 ➤ Int Conf on Electronic Structure and Phase Stability in Adv Ceramics Argonne, IL Contact: D. J. Lam [Tel. 312-972-4966] Argonne Nat. Lab., 9700 S. Cass Ave., Argonne, IL 60439
- 17-21 10th Int Conf on Luminescence Beijing, China See issue: 9/86
- 20–22 Mtg on X-Ray Powder Diffractometry Perth, Western Australia See issue: 7/86
- 23-28 14th Gen Assembly Int Commission for Optics Quebec, Canada See issue: 1/86
- 24-28 Int Conf on Fourier and Computerized ir Spectroscopy Vienna, Austria See issue: 1/86
- 24–28 11th Int Symp on Nonlinear Acoustics Novosibirsk, USSR See issue: 1/86
- 27–30 6th Int Conf on Biomagnetism Tokyo, Japan See issue: 7/86
- 31-4 Int Symp on Capture Ray Spectroscopy and Related Topics
  Brussels, Belgium See issue: 7/86

#### SEPTEMBER 1987

1-11 S Course and Wksp on Phys of

# LIGHT YEARS AHEAD IN CHOPPER TECHNOLOGY

ITHACO 220 Series Light Beam Choppers use high and low speed chopper heads and 8 interchangeable, spring steel blades to give you these features:

■ .1 Hz to 6 kHz Chopping Frequency

■ Low Phase Jitter (±1° to 200 Hz, ±5° to 3 kHz with high speed head)

■ Digital Display of Chopping Frequency

2 or 4 Frequency Operation

■ Separate, compact chopper heads for easy mounting

■ Phase-locked "electrical shaft" operation of two heads to synchronize and phase adjust chopping at separate points in beam paths (Model 221)

■ Precise linear sweeping of chopping frequency (Model 222)

The new ITHACO Model 230

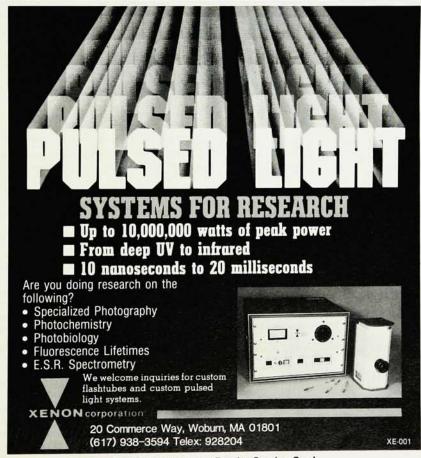
**Chopper** has a 5 Hz to 3000 Hz frequency range. Its small size and configuration allow it to fit easily on the optical bench. The Model 230 is the most economical chopper for many applications.

ITHACO

ITHACO, INC. ITH

. A MEASURABLE DIFFERENCE

Circle number 73 on Reader Service Card



# MAGNETIC ANALYSIS... AT YOUR FINGERTIPS





Quantum Design's
Magnetic Property Measurement
System (MPMS) provides the
materials investigator with precise measurements of magnetic
moment and susceptibility.
Integrating an ultrasensitive VHF
SQUID detection system with
a unique sample environment,
detailed analysis of experimental samples is available over a
broad range of temperatures
and magnetic fields.

- Fast, Stable Temperature Control 1.7K to 400K
- ± 5 Tesla Magnetic Field Range
- 200 MHz SQUID System
- Both Longitudinal and Transverse moments can be measured
- Measurement Sequences and Data Acquisition are completely automated



operation.

# about the MPMS QUANTUM

DESIGN

A Touch Screen II Computer\* puts total control of the MPMS at the

researcher's fingertips, providing

both data display and direct command over every aspect of system

\*Registered trademark of the Hewlett Packard Company.

Call us today for a brochure

11568 Sorrento Valley Rd. ■ Suite 15 San Diego, California 92121 Call us (619) 457-0248 Telex: 4943226

Circle number 75 on Reader Service Card

- Mirrors, Reversed-Field Pinches and Compact Tori Varenna, Italy See issue: 7/86
- 6-11 Mtg IOP Electron Microscopy and Analysis Group Manchester, UK See issue: 9/86
- 7-9 Conf on Nuclear Interactions and Structures Univ. of Sussex, UK See issue: 7/86
- 9-11 7th Gamm Conf on Numerical Methods in Fluid Mechanics Louvain-la-Neuve, Belgium See issue: 9/86
- 16-18 Optical Memory Symp Tokyo, Japan See issue: 7/86
- 22-25 Conf on New Materials Univ. of Warwick, UK See issue: 7/86
- 24–3 →Int Sch on Monte Carlo Transport of Electrons and Photons below 50 MeV Erice, Sicily Contact: D. W. O. Rogers [Tel. 613-993-2715] Phys., Nat. Res. Council, Ottawa K1A OR6, Canada

#### OCTOBER 1987

- 12-16 Chapman Conf on Plasma Waves and Instabilities Sendai, Japan See issue: 9/86
- 18–23 → 172nd Mtg Electrochem Soc, Symp on Low-Temp Electronics Honolulu, HI [Electrochem. Soc. of Japan, Japan. Soc. of Applied Phys.] Contact: S. I. Raider [Tel. 914-945-2203] IBM T. J. Watson Res. Ctr., P.O. Box 218, Yorktown Heights, NY 10598; H. Hayakawa, Dept. of Electronics, Nagoya Univ., Furo-Cho, Chikusa-ku, Nagoya 464, Japan
- 18–30 Cambridge Symp on Opt and Optoelectronics Cambridge, MA See issue: 7/86
- 19–23 OSA Ann Mtg Rochester, NY See issue: 7/86
- 30–31 → Michelson–Morley Centennial Symp Cleveland, OH Contact: A. Rocke, Dept. of History of Sci. and Tech., Case Western Univ., Cleveland, OH 44106
- 30-3 → Chapman Conf on Perovskite Bisbee, AZ Contact: B. Weaver [Tel. 202-462-6903] AGU, 2 Florida Ave. NW, Washington, DC 20009

#### **NOVEMBER 1987**

- 2-6 Mtg APS Div Plasma Phys San Diego, CA See issue: 7/86
- 2-6 34th AVS Nat Vacuum Symp Anaheim, CA See issue: 7/86
- 9–12 → 19th Yamada Conf on Ordering and Organization in Ionic Solutions Kyoto, Japan [Yamada Sci. Found.] Contact: N. Ise, Dept. of Polymer Chem., Kyoto Univ., Kyoto 606, Japan
- 16-20 114th ASA Mtg Miami, FL See issue: 7/84
- 29-4 Mtg AAPM and Radiol Soc N Am Chicago, IL See issue: 7/86
- 30-4 MRS Fall Mtg Boston, MA See issue: 7/86