

For High Energy in an Excimer Laser

...it's the look from Tachisto. We've improved not only our appearance but also our equipment performance. Our 100XR Excimer Laser offers many updated features.

Tachisto

Pulsed Laser Systems

Tachisto Incorporated
13 Highland Circle,
Needham, MA 02194
Telephone: (617) 444-9360
Telex TWX 710-325-1308

- High Energy
- Good Reproducibility
- High Peak Power
- Highly Uniform Beam
- Superior EMI Shielding

See us at CLEOS, booth 704.

Compare and see for yourself:

Lasing Medium	ArF	KrF	XeF
Energy @ .5 Hz (mJ)	275	375	150
Reproducibility @ .5 Hz (%)	±2	±1	±1
Approx. peak power @ .5 Hz (MW)	15	17	3.8

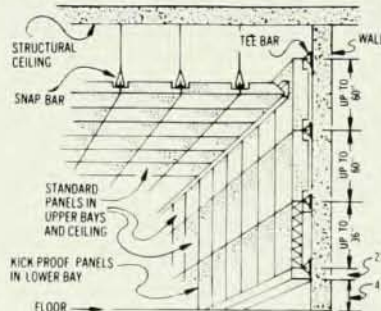
The above results were made using a typical 100XR laser & Tachisto's Gas Mixing Circulator/Cooler. Rep. rate: 0-3 pps.

Circle No. 53 on Reader Service Card

ACOUSTICAL

ALUMINUM FLUSH PANELS FOR WALLS AND CEILINGS

- Removeable panel for easy accessibility.
- Flush wall surfaces do not pick up dirt easily.
- Lower wall surfaces resistant to abuse.
- Entire areas washable. To clean, sponge or hose down.



SOUND ABSORPTION COEFFICIENTS (ASTM C423-77)

PAD		THICKNESS			MOUNTING	
Fiberglass Sealed in PVC		1½" - ¾ lb. density			7	
125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	N.R.C.
.96	.90	.76	.91	.78	.59	.85

Supplied in several finishes and colors as well as baked white enamel. Available directly from manufacturer.

SIMPLEX CEILING CORP.
50 HARRISON ST., HOBOKEN, N.J. 07030 • PHONE (212) 349-1890

Sales "Reps" needed—Write to Simplex for information

Circle No. 54 on Reader Service Card

BOOKS FOR 1980 . . .

- Eisenberg, J. M./Koltun, D. S. Theory of Meson Interaction with Nuclei
Elmer, W. B. Optical Design of Reflectors (Second Edition)
Golant, V. E. Fundamentals of Plasma Physics
Halliday, D./Resnick, R. Fundamentals of Physics (Second Edition)
Kane, J./Sternheim, M. Physics (SI version)
Lamb, G. L., Jr. Elements of Soliton Theory
Levi, L. Applied Optics, Vol. 2
Marion, J. Physics and the Physical Universe
Nayfeh, A. H. Introduction to Perturbation Techniques
Schuss, Z. Stochastic Differential Equations
Sproull, R., Phillips, A. Modern Physics (Third Edition)

new books

Particles, Nuclei and High-Energy Physics

Fundamentals of Quantum Mechanics. V. A. Fock. 367 pp. Mir, Moscow, 1978 (Imported Publications, Chicago, Ill.) (first Russian ed., 1932). \$7.50

Interacting Bosons in Nuclear Physics (Proc. of a seminar, Erice, Italy, June 1979). F. Iachello, ed. 201 pp. Plenum, New York, 1979. \$29.50

Pulsed Neutron Research (Proc. (Trudy) of the P. N. Lebedev Phys. Inst.) N. G. Basov, ed. 111 pp. Consultants Bureau (Plenum), New York, 1979. \$35.00

Neutron Capture Gamma-Ray Spectroscopy (Proc. of an int. symp., Stony Brook, N.Y., September 1978). R. E. Chrien, W. R. Kane, eds. 898 pp. Plenum, New York, 1979. \$69.50

Atomic, Molecular and Chemical Physics

The Electrochemistry of Lead (Papers presented at a symp., Salford, UK, 1974). A. T. Kuhn, ed. 484 pp. Academic, New York, 1979. \$59.00

Atomic and Molecular Collisions. Sir Harrie Massey. 327 pp. Halsted (Wiley), New York, 1979. \$34.95

Magnetic Resonance of Phase Transitions. F. J. Owens, C. P. Poole, Jr., H. A. Farach, eds. 399 pp. Academic, New York, 1979. \$44.00

X-Ray Analysis and the Structure of Organic Molecules. J. D. Dunitz. 514 pp. Cornell U., Ithaca, N.Y., 1979. \$55.00

Electron-Molecule and Photon-Molecule Collisions (Proc. of a conf., Pacific Grove, Cal., August 1978). T. Rescigno, V. McKoy, B. Schneider, eds. 365 pp. Plenum, New York, 1979. \$39.50

Scaling Concepts in Polymer Physics.

HANDBOOK OF OPTICAL HOLOGRAPHY

Edited by H. J. CAULFIELD

CONTENTS: E. N. Leith, INTRODUCTION. BACKGROUND. K. Dutta, Integral Transforms. B. J. Thompson, Interference and Diffraction. B. J. Thompson, Partially Coherent Light. F. T. S. Yu and A. Tai, Image Evaluation. J. B. DeVelis and G. O. Reynolds, Communication Theory. P. L. Bachman, Silver Halide Photography. W. T. Cathey, CLASSIFICATION OF HOLOGRAMS. Introduction. Recording Media and Use. Object-Wave Parameters Recorded. The Modulated Parameter. Configuration. Source Properties. Description of a Hologram. MAJOR HOLOGRAM TYPES. J. B. DeVelis and G. O. Reynolds, Fresnel Holography. B. J. Thompson, Fraunhofer Holograms. H. H. Arsenault and G. April, Fourier Holography. VARIATIONS. H. J. Caulfield, Reflection Holograms. W. T. Cathey, Multiplexed Holograms. W. T. Cathey, Color Holograms. W. T. Cathey, Polarization Holograms. H. J. Caulfield, Synthetic Holograms. W. T. Cathey, Local Reference Beam Holograms. J. Upatnieks, IMAGE FORMATION. Image Formation with Coherent Light. Image Formation with Semicoherent Light. Estimation of Image Brightness. H. H. Arsenault. CARDINAL POINTS AND PRINCIPAL RAYS FOR HOLOGRAPHY. Introduction. The Holographic Ray-

Tracing Equations. The Principal Points of Holograms. The Cardinal Points of Holograms. The Conjugate Equations. Application to Hologram Types. EQUIPMENT AND PROCEDURES. W. Koechner, Solid State Lasers. N. Balasubramanian, Gas Lasers. J. W. Gladden and R. D. Leighty, Recording Media. R. L. Kurtz et al., Holographic Systems. SPECIAL PROBLEMS. S. A. Benton, Photographic Handling. H. J. Caulfield, Speckle. W. T. Rhodes, Hologram Copying. APPLICATION AREAS. T. K. Gaylord, Digital Data Storage. B. R. Clay, Two-Dimensional Displays. M. Lehmann, Three-Dimensional Display. G. B. Brandt, Holographic Interferometry. D. Casasent, Pattern and Character Recognition. S. H. Lee, Image Processing. M. E. Cox, Microscopy. D. H. Close, Optically Recorded Holographic Optical Elements. H. J. Caulfield, Spectroscopy. J. R. Varner, Holographic Contouring Methods. H. J. Caulfield, Multiple Image Generation. B. J. Thompson, Particle Size Measurements. W. Koechner, Holographic Portraiture. N. Balasubramanian, Photogrammetry. Subject Index. References are included at the end of each chapter. 1979, 672 pp., \$55.00 ISBN: 0-12-165350-1

INFRARED AND SUBMILLIMETER WAVES

Volume 2/Instrumentation

Edited by KENNETH J. BUTTON

CONTENTS: N. C. Luhmann Jr., Instrumentation and Techniques for Plasma Diagnostics: An Overview. D. Veron, Submillimeter Interferometry of High-Density Plasmas. J. R. Birch and T. J. Parker, Dispersive Fourier Transform Spectroscopy. B. L. Bean and S. Perkowitz, Far Infrared

Submillimeter Spectroscopy with an Optically Pumped Laser. W. M. Manheimer, Electron Cyclotron Heating of Tokamaks. References.

1979, 384 pp., \$39.50 ISBN: 0-12-147702-9

APPLIED SOLID STATE SCIENCE

SUPPLEMENT 1/Magnetic Domain Walls in Bubble Materials

By A. P. MALOZEMOFF and J. A. SLONCZEWSKI

CONTENTS: INTRODUCTION. RESUME OF CLASSICAL MAGNETISM AND BUBBLE DOMAIN STATICS. Static Material Parameters. Domain Statics. Landau-Lifshitz Equation and Dynamic Material Parameters. EXPERIMENTAL TECHNIQUES. Techniques of Domain-Wall Observation. Dynamical Techniques with a Restoring Force. Gradient Propagation of Bubbles: The Case of Zero Restoring Force. DOMAIN-WALL STATICS. One-Dimensional Model. Bloch-Line Statics. Bloch Points, State Transitions, and Capping Layers. WALL DYNAMICS IN ONE DIMENSION. One-Dimensional Theory. Applications of the One-Dimensional Theory and Comparison to Experiment. WALL DYNAMICS IN THREE DIMENSIONS. General Domain Dynamics. LOW-VELOCITY DYNAMICS WITH VER-

TICAL BLOCH LINES. Hard-Wall Dynamics. Small Numbers of Vertical Bloch Lines. NONLINEAR WALL MOTION IN TWO DIMENSIONS. Bloch-Line Model. Comparison to Experiment. Advanced Topics in Two Dimensions. NONLINEAR BUBBLE TRANSLATION. Theory of Nonlinear Bubble Translation. Comparison to Experiment. Gradientless Propulsion or Automotion. Device Dynamics. WALL WAVES AND MICROWAVES EFFECTS. Wall-Wave Spectra Microwave Effects. References. List of Commonly Used Symbols. Author Index. Subject Index.

1979, 336 pp., \$33.50 ISBN: 0-12-002951-0

Library Edition \$43.50 ISBN: 0-12-002952-9

Microfiche Edition \$23.50 ISBN: 0-12-002953-7*

ADVANCES IN LIQUID CRYSTALS, Volume 4

Edited by GLENN H. BROWN

CONTENTS: F. M. Leslie, THEORY OF FLOW PHENOMENA IN LIQUID CRYSTALS. Introduction. Continuum Theory. Viscometry. Wave Propagation. Some Other Topics. S. Chandrasekhar and R. Shashidhar, HIGH-PRESSURE STUDIES OF LIQUID CRYSTALS. Introduction. Description of Experimental Techniques. Variation of Transition Temperature With Pressure. Pressure-Induced Mesomorphism. Change from Monotropic to Enantiotropic Mesomorphism. Bounded Phases. Pressure-Induced Smectic A-Smectic C Transition. Tricritical Behavior. "Reentrant" Nematic Phase. Specific Volume and Compressibility Studies. Order Parameter Determinations. Cholesteric Pitch

Under Pressure. Concluding Remarks. Appendix: List of Compounds Studied. E. T. Samulski and D. B. DuPré, POLYMERIC LIQUID CRYSTALS. Introduction. Thermotropic Phases. Lyotropic Phases. R. Schaetzling and J. D. Litster, LIGHT-SCATTERING STUDIES OF LIQUID CRYSTALS. Introduction. The Isotropic Phase. The Nematic Phase. The Smectic Phases.

References appear at the end of each chapter.

1979, 228 pp., \$25.00 ISBN: 0-12-025004-7

Library Edition: \$32.50 ISBN: 0-12-025080-2

Microfiche Edition: \$17.50 ISBN: 0-12-025081-0*

*A complete microfiche (4" x 6", 98 frames per fiche, 20x) is inserted in the back of each Library Edition. The Library Editions can be supplied on a continuation order basis, and the microfiche can be purchased separately. Continuation Orders authorize us to ship and bill each

volume in a series, or "Advances" type publication automatically, immediately upon publication. This order will remain in effect until cancelled. Specify the volume number or title with which your order is to begin.

Send payment with order and save postage and handling charge.

Prices are subject to change without notice.

ACADEMIC PRESS, INC.

A Subsidiary of Harcourt Brace Jovanovich, Publishers

111 FIFTH AVENUE, NEW YORK, N.Y. 10003

24-28 OVAL ROAD, LONDON NW1 7DX

Circle No. 55 on Reader Service Card

P.-G. de Gennes. 324 pp. Cornell U., Ithaca, N.Y., 1979. \$38.50

Condensed Matter and Materials Science

The Physics of Selenium and Tellurium (Proc. of an int. conf., Königstein, Fed. Rep. Germany, May 1979). E. Gerlach, P. Grosse, eds. 291 pp. Springer, New York, 1979. \$29.70

Excitons. K. Cho, ed. 286 pp. Springer, New York, 1979. \$35.80

Glass II. M. Tomozawa, R. H. Doremus, eds. 371 pp. Academic, New York, 1979. \$44.00

The Physics of Semiconductor Devices (Second Edition). D. A. Fraser. 148 pp. Clarendon (Oxford U.), New York, (first ed., 1977). \$22.50 clothbound, \$17.95 paperbound

Electrons and Phonons in Layered Crystal Structures. T. J. Wieting, M. Schluter, eds. 483 pp. Reidel, Hingham, Mass., 1979. \$78.95

Disorder in Crystals. N. G. Parsonage, L. A. K. Staveley. 954 pp. Clarendon (Oxford), New York, 1979. \$69.00

Electrons in Disordered Metals and at Metallic Surfaces (Lectures presented at NATO Adv. Study Inst., Ghent, Belgium, August-September 1978). P. Phariseau, B. L. Gyorffy, L. Scheire, eds. 581 pp. Plenum, New York, 1979. \$59.50

Festkörper Probleme XIX: Advances in Solid State Physics (Lectures presented at a DPG meeting, Munster, Fed. Rep. Germany, March 1979). J. Treusch, ed. 451 pp. Vieweg, Wiesbaden, Fed. Rep. Germany, 1979. DM 118,—

Electronic Processes in Non-Crystalline Materials (Second Edition). N. F. Mott, E. A. Davis. 600 pp. Oxford U., New York, 1979 (first ed., 1971). \$65.00

The Properties of Diamond. J. E. Field, ed. 688 pp. Academic, London, UK, 1979. \$67.25

Astronomy, Cosmology and Space Physics

Techniques and Methods of Radio-Astronomic Reception (Proc. (Trudy) of the P. N. Lebedev Phys. Inst.) N. G. Basov, ed. 159 pp. Consultants Bureau (Plenum), New York, 1979. \$37.50

The MMT and the Future of Ground-Based Astronomy (Proc. of a symp., Amado, Ariz., May 1979). T. C. Weekes, ed. 221 pp. Smithsonian Astrophysical Obs., Cambridge, Mass., 1979. On request from SAO

Project Icarus. MIT Student Project in Systems Engineering. 162 pp. MIT, Cambridge, Mass., 1979. \$4.95

The Messier Album: An Observer's Handbook. J. H. Mallas, E. Kreimer. 256 pp. Cambridge U., New York; Sky, Cambridge, Mass., 1979. \$11.95

Instrumentation and Techniques

Introduction to Analytical Electron Microscopy (Proc. of a wrkshp., San Antonio, Texas, August 1979). J. J. Hren, J. I. Goldstein, D. C. Joy, eds. 616 pp. Plenum, New York, 1979. \$35.00

Applied Optics and Optical Engineering, Vol. 7. R. R. Shannon, J. C. Wyant, eds. 356 pp. Academic, New York, 1979. \$36.00

Integrated Optics (Second Edition). T. Tamir, ed. 346 pp. Springer, New York, 1979 (first ed., 1975). DM 43,—

Electron and Positron Spectroscopies in Materials Science and Engineering. (Papers presented at a AIME meeting, Chicago, Ill., Fall, 1977). O. Buck, J. K. Tien, H. L. Marcus, eds. 355 pp. Academic, New York, 1979. \$36.00

Semiconductors and Semimetals, Vol. 14: Lasers, Junctions, Transport. R. K. Willardson, A. C. Beer, eds. 348 pp. Academic, New York, 1979. \$32.00

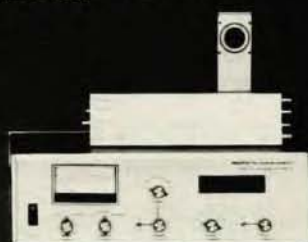
Miscellany

Science Year: The World Book Science Annual. A. G. Tressler. 432 pp. World Book-Childcraft, Chicago, Ill., 1979. (Price not stated)

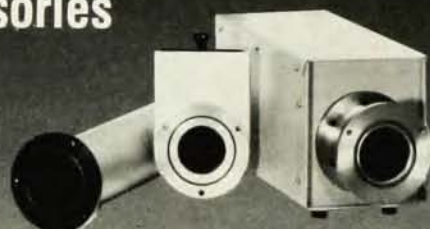
Nothing but Motion (Revised Edition) D. B. Larson. 308 pp. North Pacific, Portland, Ore., 1979 (first ed., 1959). \$9.50

Time, Space and Knowledge. T. Tulk. 307 pp. Dharma, Berkeley, Cal., 1979. \$8.95

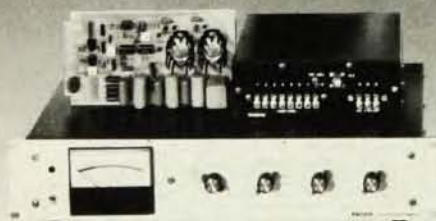
LOW LEVEL LIGHT PHOTON COUNTING and PMT CURRENT MEASURING Systems Components Accessories



Photometer Systems



PMT Housings and Electronics



PMT Housings and Electronics

PACIFIC PRECISION INSTRUMENTS

1040 Shary Court
Concord, California 94518
(415) 827-9010

A 36-page catalog of instruments for light measurement research is available on request.

Circle No. 46 on Reader Service Card