

## Improved Instrumentation

**Chemical Infrared Fourier Transform Spectroscopy.** PETER R. GRIFFITHS. Wiley-Interscience, New York, 1975. xii, 340 pp., illus. \$24.95. Chemical Analysis, vol. 43.

In principle, at least, Fourier transform spectroscopy (FTS) provides two important advantages over conventional spectroscopic techniques. "Fellgett's advantage" refers to the fact that in FTS the light detector may obtain information concerning all frequencies of interest at all times. This is sometimes known as the multiplexing advantage. The higher throughput of light possible in FTS may be called "Jacquinot's advantage." These advantages may now be put to use to obtain better infrared spectra faster.

*Chemical Infrared Fourier Transform Spectroscopy* has two parts. The first part discusses the theory and instrumentation of FTS with particular reference to the commercial instruments available today. Included are a general discussion of the Michelson interferometer (the only type considered) and one of sampling and computing techniques. These discussions are sufficiently detailed to be of quantitative use to individuals working with FTS. Some specific optical systems and data systems are described. A very practical discussion of the signal-to-noise ratio is provided. The second part surveys applications of FTS in both the far-infrared and mid-infrared regions of the spectrum.

To my knowledge, this is a unique book. Much of the information presented either is not available elsewhere, or could be obtained only by much sifting through the literature. I would think this monograph would be essential for anyone working with FTS instrumentation or contemplating doing so. The book is quite readable and contains a great deal of information. Particularly useful are the many reproductions of spectra, which provide standards for comparison and which illustrate the effects of variations in the experimental configuration. The book would have been enhanced as a working reference by a more complete discussion of infrared detection. Such information is readily available elsewhere, however. The large number of figures is certainly welcome, although some of them are not terribly informative and the captions often do not provide a very satisfying explanation. (Nor, in some cases, does the text.) The figures are also marred by numerous errors of typography and layout.

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## Books Received

**Abnormal Psychology.** Amerigo Farina. Prentice-Hall, Englewood Cliffs, N.J., 1976. xvi, 208 pp. Paper, \$5.95. The Prentice-Hall Series in Personality.

**Adhesion Science and Technology.** Part A. Proceedings of a symposium, Philadelphia, Apr. 1975. Lieng-Huang Lee, Ed. Plenum, New York, 1975. xiv, 438 pp., illus. + index. \$37.50. Polymer Science and Technology, vol. 9A.

**Advances in Cancer Research.** Vol. 22. George Klein, Sidney Weinhouse, and Alexander Haddow, Eds. Academic Press, New York, 1975. x, 434 pp. \$35.

**Advances in Plasma Physics.** Vol. 6. P. K. Kaw, W. L. Kruer, C. S. Liu, and Kyoji Nishikawa, Eds. Interscience (Wiley), New York, 1976. viii, 600 pp., illus. \$35.

**Advances in Veterinary Science and Comparative Medicine.** Vol. 19. C. A. Brandy and Charles E. Cornelius, Eds. Academic Press, New York, 1975. xii, 316 pp., illus. \$34.50.

**After the Australopithecines.** Stratigraphy, Ecology, and Culture Change in the Middle Pleistocene. Papers from a symposium, Burg Wartenstein, Austria, July 1973. Karl W. Butzer, Glynn L. Isaac, Elizabeth Butzer, and Barbara Isaac, Eds. Mouton, The Hague, 1975 (U.S. distributor, Aldine, Chicago). xvi, 912 pp., illus. \$49. World Anthropology.

**The Agaricales in Modern Taxonomy.** Rolf Singer. Cramer (Gantner), Vaduz, Liechtenstein, 1975. vi, 912 pp. + plates. DM 250.

**L'Aggressivité Humaine.** Jacques Van Rillaer. Dessart et Mardaga, Bruxelles, Belgium, 1975. 272 pp. Paper, 320 BF. Psychologie et Sciences Humaines, 59.

**Algorithms + Data Structures = Programs.** Niklaus Wirth. Prentice-Hall, Englewood Cliffs, N.J., 1976. xviii, 366 pp., illus. \$14.95. Prentice-Hall Series in Automatic Computation.

**Analysis of Lipids and Lipoproteins.** Proceedings of two symposia, June 1973 and June 1974. Edward G. Perkins, Ed. American Oil Chemists' Society, Champaign, Ill., 1975. vi, 300 pp.; illus. Cloth, \$20; paper, \$15. To members: cloth, \$14; paper, \$9.95.

**Annual Review of Entomology.** Vol. 21. Ray F. Smith, Thomas E. Mittler, and Carroll N. Smith, Eds. Annual Reviews, Palo Alto, Calif., 1976. x, 452 pp., illus. \$15.

**Annual Review of Nuclear Science.** Vol. 25. Emilio Segrè, J. Robb Grover, and H. Pierre Noyes, Eds. Annual Reviews, Palo Alto, Calif., 1975. vi, 614 pp., illus. \$17.50.

**Apollo Expeditions to the Moon.** Edgar M. Cortright, Ed. National Aeronautics and Space Administration, Washington, D.C., 1975 (available from the Superintendent of Documents, Washington, D.C.). xii, 314 pp., illus. \$8.90. NASA SP-350.

**Applied Computation Theory.** Analysis. Design, Modeling. Raymond T. Yeh, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1976. xvi, 624 pp., illus. \$22.50. Prentice-Hall Series in Automatic Computation.

**Arnold Sommerfeld.** Lehrer und Forscher an der Schwelle zum Atomzeitalter, 1868-1951. Ulrich Benz. Wissenschaftliche Verlagsgesellschaft, Stuttgart, 1975. 216 pp., illus. DM 34.50. Grosse Naturforscher, Band 38.

**Avian Physiology.** Proceedings of a symposium, London, Nov. 1973. Malcolm Peaker, Ed. Published for the Zoological Society of London by Academic Press, New York, 1975. xx, 378 pp., illus. \$24.25.

**Basic Mechanisms of Ocular Motility and Their Clinical Implications.** Proceedings of a symposium, Stockholm, June 1974. Gunnar Lennerstrand, Paul Bach-y-Rita, Carter C. Collins, Arthur Jampolsky, and Alan B. Scott, Eds. Pergamon, New York, 1975. xvi, 584 pp., illus. \$60. Wenner-Gren Center International Symposium Series, vol. 24.

**The Benzodiazepines.** Patterns of Use. An Annotated Bibliography. C. E. Weise and S. F. Price, Eds. Addiction Research Foundation, Toronto, Canada, 1975. xiv, 198 pp. Paper, \$7. Addiction Research Foundation Bibliographic Series, No. 9.

**Bereavement.** Its Psychosocial Aspects. Bernard Schoenberg and five others, Eds. Columbia University Press, New York, 1975. xx, 380 pp. \$15.

**Biochimie.** Travaux Dirigés. Jean De-launay. Hermann, Paris, 1975. x, 294 pp., illus. Paper, 68 F. Collection Méthodes.

**BioGraffiti.** A Natural Selection. John M. Burns. Quadrangle (New York Times), New York, 1975. xvi, 112 pp., illus. \$6.95.

**Biology of Aging and Development.** Papers from a symposium. G. Jeanette Thorbecke, Ed. FASEB, Bethesda, Md., and Plenum, New York, 1975. viii, 344 pp., illus. \$25. FASEB Monographs, vol. 3. Reprinted from *Federation Proceedings*, vol. 34, Nos. 1 and 2.

**The Biology of the Sperm Cell.** B. Baccetti and B. A. Afzelius, Karger, Basel, 1976. vi, 254 pp., illus. Paper, \$51.50. Monographs in Developmental Biology, vol. 10.

**Biosocial Interrelations in Population Adaptation.** Papers from a conference, Detroit, Aug. 1973. Elizabeth S. Watts, Francis E. Johnston, and Gabriel W. Lasker, Eds. Mouton, The Hague, 1975 (U.S. distributor, Aldine, Chicago). xii, 412 pp. + plates. \$24.50. World Anthropology.

**Birds of the Antarctic and Sub-Antarctic.** George E. Watson in collaboration with J. Phillip Angle and Peter C. Harper. Illustrated by Bob Hines. American Geophysical Union, Washington, D.C., 1975. xviii, 350 pp. \$15.

**Black Holes in Space.** Patrick Moore and Iain Nicolson. Norton, New York, 1976. 126 pp., illus. \$7.95.

**Boom Town Growth Management.** A Case Study of Rock Springs-Green River, Wyoming. John S. Gilmore and Mary K. Duff. Westview Press, Boulder, Colo., 1975. xii, 178 pp., illus. \$15.

**Building Scientific Institutions in India.** Saha and Bhabha. Robert S. Anderson. McGill University Centre for Developing-Area Studies, Montreal, 1975. x, 124 pp. Paper, \$3.50. Occasional Paper Series, No. 11.

**The California Land.** Planning for People. The Report of the California Land-Use Task Force. Kaufmann, Los Altos, Calif., 1975. 96 pp., illus. Paper, \$4.50.

**Cancer.** A Comprehensive Treatise. Vol. 3. Biology of Tumors: Cellular Biology and Growth. Frederick F. Beckler, Ed. Plenum, New York, 1975. xviii, 474 pp., illus. \$37.50.

**Cancer Biology.** Vol. 1. Induction, Regulation, Immunology and Therapy. Papers from an institute, Aspen, Colo., July 1974. Robert R. Pascal, Fred Silva, and Donald West King, Eds. Stratton, New York, 1976. viii, 70 pp., illus. Paper, \$7.95. Advances in Pathobiology, 2.

**The Cardiac Sarcoplasm.** Proceedings of a meeting, Quebec, Canada, June 1974. Paul-Emile Roy and Peter Harris, Eds. University Park Press, Baltimore, 1975. xiv, 536 pp., illus. \$39.50.

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