A. N. Frumkin, Ed. Translated from the Russian edition (Moscow, 1962) by A. Tybulewicz. Consultants Bureau, New York, 1964. 179 pp. Illus. Paper, \$22.50. Symmetry Principles at High Energy. The Coral Gables Conference (University of Miami, Miami, Fla.), January 1964. Behram Kursunoğlu and Arnold Perlmutter, Eds. Freeman, San Francisco, Calif., 1964. 179 pp. Illus. \$4.75.

Symplectic Geometry. Carl Ludwig Siegel. Academic Press, New York, 1964. 92 pp. Illus. \$6.

Synthesis of Organosilicon Monomers. A. D. Petrov, B. F. Mironov, V. A. Ponomarenko, and E. A. Chernyshev. Translated from the Russian edition (Moscow, 1961) by C. Nigel Turton and Tatiana I. Turton. Consultants Bureau, New York, 1964. 504 pp. Illus. \$22.50.

Tensors in Mechanics and Elasticity. Leon Brillouin. Translated from the French edition (Paris, 1938) by Robert O. Brennan. Academic Press, New York, 1964. 496 pp. Illus. \$12.50.

Tenth Colloquium Spectroscopicum Internationale, Proceedings. A symposium (College Park, Md.), June 1962. Ellis R. Lippincott and Marvin Margoshes, Eds. Spartan Books, Baltimore, 1964. 816 pp. Illus. \$20.

The Theory of Matrices in Numerical Analysis. Alston S. Householder. Blaisdell, New York, 1964. 271 pp. Illus. \$8.50.

Theory of Partial Coherence. Mark J. Beran and George B. Parrent, Jr. Prentice-Hall, Englewood Cliffs, N.J., 1964. 207 pp. Illus. \$12.

The Theory of the Electronic Spectra of Organic Molecules. J. N. Murrell. Methuen, London; Wiley, New York, 1964. 342 pp. Illus. \$10.

Tidal Computations in Rivers and Coastal Waters. J. J. Dronkers. North-Holland, Amsterdam; Interscience (Wiley), New York, 1964. 530 pp. Illus. \$17.50.

Titrimetric Organic Analysis. pt. 1, Direct Methods. M. R. F. Ashworth. Interscience (Wiley), New York, 1964. 521 pp. Illus. \$17.50.

Topics in Higher Analysis. Harold K Crowder and S. W. McCuskey. Macmillan, New York, 1964. 559 pp. Illus. \$10.

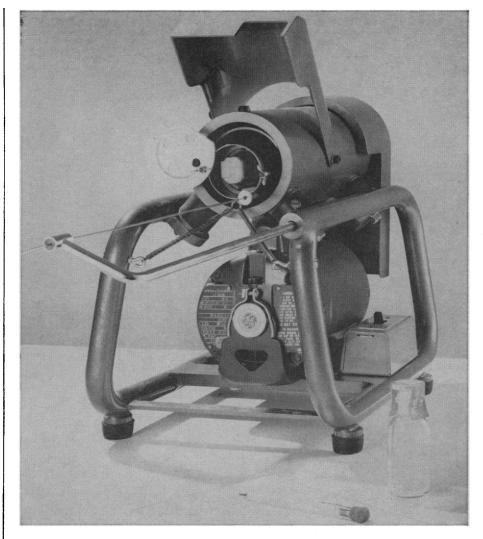
Transient Phenomena in Electrical Power Systems. V. A. Venikov. Abridged translation from the Russian edition (Moscow, 1958) by Bernard Adkins and Daniel Rutenberg. Pergamon, London; Macmillan, New York, 1964. 197 pp. Illus. \$10.

Variational Methods for the Study of Nonlinear Operators. M. M. Vainberg. With a chapter on Newton's method by L. V. Kantorovich and G. P. Akilov. Translated from the Russian edition (Moscow, 1956) by Amiel Feinstein. Holden-Day, San Francisco, Calif., 1964. 333 pp. Illus. \$12.95.

Wave Mechanics and Its Applications. N. F. Mott and I. N. Sneddon. Dover, New York, 1963. 405 pp. Illus. Paper, \$2.25. Reprint of the volume published by Oxford Univ. Press, 1948.

Whittaker's Dyeing with Coal-Tar Dyestuffs. C. C. Wilcock and J. L. Ashworth. Van Nostrand, New York, ed. 6, 1964. 435 pp. Illus. \$10.50.

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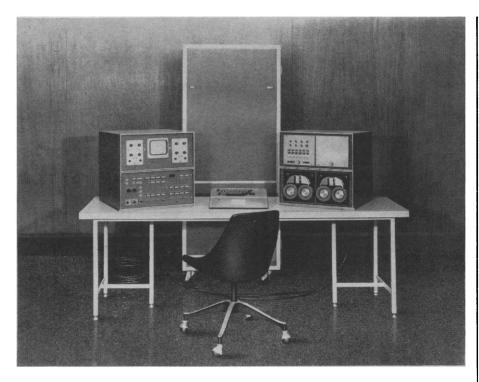
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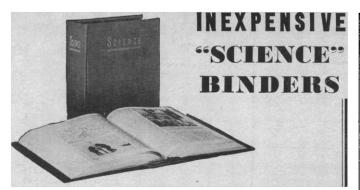


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1. J. Biol. Chem. 210:923, (1954).

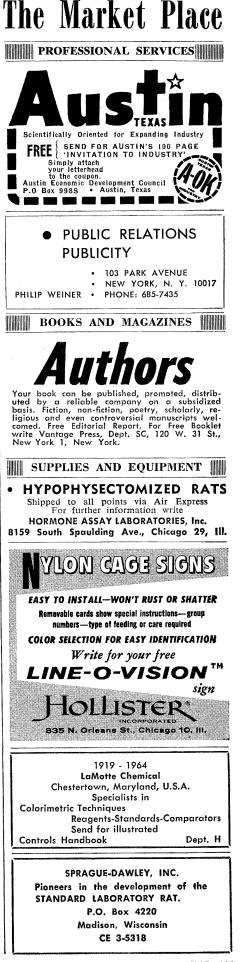


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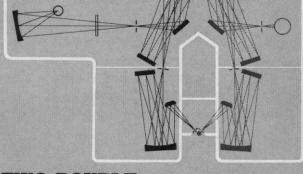
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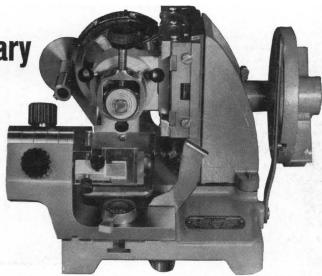
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