ence is that the four space-time coordinates are *now* given equal rights: points go into events in space-time with world-lines drawn into the future, waves (two-dimensional surfaces) go into wave-histories (three-dimensional surfaces), etc. By chapters the book comprises: I, Introduction; II, General Theory of Rays and Waves in Space-Time; III, Geometrical Mechanics for a Particle, Free or in a Given Field; IV, Primitive Quantization; V, Generalization. In addition to the considerable interest of the main thesis of this work, it is doubtless of value as a unique study of Hamilton's optical method (in full relativistic form) and perhaps peculiarly timely in connection with the methodological approach to quantum mechanics recently expounded by Feynman. (167 pp. Cambridge University Press, New York, 1954; $4.75.)

Celestial Magnetism

Le Magnétisme des Corps Célestes is the title of a recent series of books by A. Dauvillier dealing with magnetic phenomena of astronomical interest on an intermediate level. Volume I (171 pp.; Hermann and C^{ie}, Paris, 1954; paperbound, 1600 francs) begins with a discussion of electron motion and the Störmer Theory and goes on to cover solar and stellar magnetism, the solar corona, and zodiacal light. Volume II (161 pp.; paperbound, 1500 francs) deals with geomagnetism and its variations, the effect of the earth's magnetism on cosmic rays, lunar and planetary magnetism, and electromagnetic phenomena in comets. The two volumes have no precise counterpart in English and will probably be most useful to those desiring a general survey of the field. The language barrier is fairly easily surmounted in this case since M. Dauvillier writes clearly and succinctly. A third volume, to be devoted to the aurora and the light of the night sky, is being prepared.

Molecular Spectroscopy

Elementary Introduction to Molecular Spectra, by Børge Bak (125 pp.; Interscience, New York, 1954; $2.90), is a very brief introductory survey of principal techniques, problems, and results of molecular spectroscopy. An introductory chapter treats: spectroscopic equipment; the spectrograph; dependence of spectra on pressure, temperature, and state of aggregation; and interpretation of molecular spectra. A chapter treats a number of topics in theoretical spectroscopy, among them: the two-body problem, the particle in a box, the hydrogen atom, the diatomic molecule, and selection rules. The remaining three chapters are devoted to microwave spectra, infrared spectra, and spectra of the visible ultraviolet region.

Books Received

Astronomy. A Textbook (Fifth Edition). By John Charles Duncan. 500 pp. Harper & Brothers, New York, 1955. $5.50.

The Sources of Eddington's Philosophy. By Herbert Dingle. 64 pp. Cambridge University Press, New York, 1954. Paperbound $.75.

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The Atmospheric Lunar Tides (Volume 2, Number 3 of Meteorological Papers). By Ryukichi Sawada. 31 pp. New York University Press, New York, 1954. Paperbound $1.50.

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Behavior of Metals Under Impulsive Loads. By John S. Rinehart and John Pearson. 256 pp. American Society for Metals, Cleveland, Ohio, 1954.

Abhandlungen aus dem Fritz-Haber-Institut. Volume 30. 262 pp. Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin-Dahlem, Germany, 1954. Paperbound.

Jenaer Jahrbuch, 1954. Part I. 304 pp. Published by VEB Carl Zeiss. VEB Gustav Fischer Verlag, Jena, Germany, 1954. DM 20.00.

Annual Review of Nuclear Science. Volume 4. James G. Beckerley, editor, and Martin D. Kamen and Leonard I. Schiff, associate editors. 483 pp. Annual Reviews, Inc., Stanford, California, 1954. $7.00.

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Physics for our Times. By Walter G. Marburger and Charles W. Hoffman. 570 pp. McGraw-Hill Book Company, Inc., New York, 1955. $4.48.

Sonics. Techniques for the Use of Sound and Ultrasound in Engineering and Science. By Theodor F. Hueter and Richard H. Bolt. 456 pp. John Wiley & Sons, Inc., New York, 1955. $10.00.

The Gyroscope Applied. By K. I. T. Richardson. 384 pp. The Philosophical Library, New York, 1954. $15.00.

Luminescence (with Particular Reference to Solid Inorganic Phosphors). Supplement No. 4 of the British *Journal of Applied Physics*. 120 pp. The Institute of Physics, London, England, 1955. 25s.

A Check List of the E. DeGolyer Collection in the History of Science and Technology. Compiled by Arthur McAnally and Duane H. D. Roller. 127 pp. University of Oklahoma Press, Norman, Oklahoma, 1955. $3.00.

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Magnetic Amplifiers. By H. F. Storm. 545 pp. John Wiley & Sons, Inc., New York, 1955. $13.50.

Advances in Electronics and Electron Physics. Volume VI. Edited by L. Marton. 538 pp. Academic Press Inc., New York, 1954. $11.80.

Storage Batteries. A General Treatise on the Physics and Chemistry of Secondary Batteries and their Engineering Applications (Fourth Revised Edition). By George Wood Vinal. 446 pp. John Wiley & Sons, Inc., New York, 1955. $10.00.