

Chapter IX contains a discussion of solutions of the scalar wave equation which vanish at infinity and have no singularities. Solutions of the Maxwell field equations are generated from these. It is shown that the space integral of the stress energy tensor for these solutions can be made to be proportional to a time-like vector with a finite proportionality factor. It is suggested that these solutions correspond to particles. Discontinuous electromagnetic fields called electromagnetic shock waves are also discussed.

Chapter X deals with electromagnetic fields due to moving singularities and also with Maxwell's equations in moving matter. The author uses very effectively the four dimensional formulation and geometric properties of Minkowski space to give a concise and clear treatment of a variety of topics on the behavior of fields and charges.

It is hoped that the faults pointed out above will be corrected in some future edition of the book. If this is done the book will be a valuable addition to the literature for it has many virtues and the basic idea behind it is a very sound one.

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#### BRIEF MENTION

*Convegno internazionale sulle equazioni lineari alle derivate parziali.*

Trieste, 25–28 Agosto 1954. Ed. by the Unione Matematica Italiana with the assistance of the Consiglio Nazionale delle Ricerche. Rome, Cremonese, 1955. 13+233 pp. 3000 lire.

This volume contains, besides an introduction by Sansone, papers by Agmon, Bers and Nirenberg, Cimmino, Courant, Diaz, Fichera, Miranda, Pleijel, Synge, Tautz, Tricomi, and Weinstein.

*Functional analysis.* By F. Riesz and B. Sz.-Nagy. Trans. by L. F.

Boron from the 2d French edition of *Leçons d'analyse fonctionnelle*. New York, Ungar, 1955. 12+468 pp. \$10.00.

For a review of the original edition, cf. this Bulletin, vol. 59, pp. 270–281.

*Spheroidal wave functions.* By J. A. Stratton, P. M. Morse, L. J.

Chu, J. D. C. Little, and F. J. Corbató. New York, The Technology Press of M. I. T. and John Wiley and Sons, 1956. 13+613 pp. \$12.50.

Tables of coefficients of the expansions of the radial and angular functions of the first kind in spherical Bessel functions and in associated Legendre functions, computed, tabulated, and printed automatically.

*The mathematics of physics and chemistry.* By H. Margenau and G. M. Murphy, 2d ed. Princeton, van Nostrand, 1956. 12+604 pp. \$7.95.

For a review of the first edition, cf. this Bulletin, vol. 51, pp. 508–509.

*The number system.* By H. A. Thurston. New York, Interscience, 1956. 8+134 pp. \$2.50.

This book is similar in purpose to Landau's *Grundlagen der Analysis*. It gives a detailed development of the real number system starting from the Peano axioms. It differs in the use of Cauchy sequences instead of cuts, in the explicit introduction of such algebraic notions as group, hemigroup, field and isomorphism, and in the inclusion of a great deal of informal explanation in addition to the formal development. It should prove useful in connection with a first rigorous course in analysis, in the same way as Landau's.

*The meaning of relativity.* By A. Einstein. 5th ed., including the relativistic theory of the non-symmetric field. Princeton, Princeton University Press, 1955. 169 pp. \$3.75.