the theory for pure initial-value problems with constant coefficients by the general sufficient conditions for stability obtained by Buchanan and Kreiss, and (2) the rigorous stability theory for certain classes of problems with variable coefficients, of mixed initial-boundary-value problems, and of quasi-linear problems. Among the ideas that we believe should be of value to people engaged in the solution of practical problems are (1) the notion of dissipative difference schemes, (2) the Lax-Wendroff method for systems of conservation laws, (3) the alternating-direction methods for multidimensional parabolic problems, (4) practical stability criteria for cases in which stability as normally defined is inadequate, and the use of energy methods in the analysis of stability."

The authors have produced a remarkably clear and careful treatment under the chapter headings:

Part I—General Considerations
    1. Introduction, 2. Linear Operators, 3. Linear Difference Equations, 4. Pure Initial-Value Problems with Constant Coefficients, 5. Linear Problems with Variable Coefficients; Non-Linear Problems, 6. Mixed Initial-Boundary-Value Problems, 7. Multi-Level Difference Equations;
Part II—Applications
    8. Diffusion and Heat Flow, 9. The Transport Equation, 10. Sound Waves, 11. Elastic Vibrations, 12. Fluid Dynamics in One Space Variable, 13. Multi-Dimensional Fluid Dynamics; References.
    The bibliography (in References) should prove most useful.

<div align="right">E. I.</div>

52[7].—NBS Computation Laboratory, *Tables Relating to Mathieu Functions: Characteristic Values, Coefficients, and Joining Factors*, NBS Applied Mathematics Series, Vol. 59, National Bureau of Standards, Washington, D. C., 1967, xlvii + 311 pp., 27 cm. Price $3.25. (Obtainable from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

The first edition [1] of these definitive tables, published by Columbia University Press in 1951, has been out of print since early in 1965. To remedy this situation, the National Bureau of Standards has reissued this book, with additions, in August 1967 as Volume 59 in its Applied Mathematics Series.

The original tables, together with the elaborate introduction by Gertrude Blanch, have been reprinted, with the correction of a few misprints. On the other hand, the bibliography has now been increased to 35 items through the addition of the six most significant publications on Mathieu functions between 1951 and 1964.

An extensive article [2] by Dr. Blanch and Ida Rhodes, containing supplementary tables of characteristic values, is reproduced in its entirety and is appended to the main tables in this new edition.

A valuable service has been rendered researchers in applied mathematics through the publication of this updated, enlarged edition of these fundamental tables.

<div align="right">J. W. W.</div>

1. NBSCL, *Tables Relating to Mathieu Functions*, Columbia University Press, New York, 1951. (See *MTAC*, v. 6, 1952, pp. 29–30, RMT **952**.)
2. Gertrude Blanch & Ida Rhodes, "Tables of characteristic values of Mathieu's equation for large values of the parameter," *J. Washington Acad. Sci.*, v. 45, 1955, pp. 166–196.