

REVIEWS AND DESCRIPTIONS OF TABLES AND BOOKS

The numbers in brackets are assigned according to the American Mathematical Society classification scheme. The 1980 Mathematics Subject Classification (1985 Revision) can be found in the December index volumes of *Mathematical Reviews*.

1[65-01, 65N30].—H. R. SCHWARZ, *Finite Element Methods*, Computational Mathematics and Applications (translated from the German by Caroline M. Whiteman), Academic Press, London, 1988, x+386 pp., 23 cm. Price \$16.50 paperback.

This is an English translation of a book originally published in German in 1984. It is a descriptive introduction to finite element methods, starting with mathematical foundations, going through various elements, how to formulate the global equations, and how to solve them. Eigenvalue problems are then taken up, and the book ends with applications. Theory is given very little treatment. To quote from the Introduction: "It is intended for mathematicians, physicists, engineers and natural scientists who are interested in an elementary presentation of the methods of finite elements that has both an introductory character and gives some practical hints for efficient implementation on a computer".

Within its aims, the book succeeds admirably. The writing is both careful and lucid. The choice of material is standard but, in contrast to many other introductory books, pleasantly up to date; material from the seventies is included (and even some references to the eighties).

The book is recommended for its purpose.

L. B. W.

2[34-01, 34C35, 65L05, 65L07].—THOMAS S. PARKER & LEON O. CHUA, *Practical Numerical Algorithms For Chaotic Systems*, Springer, 1989, xiv + 348 pp., 24 cm. Price \$49.50.

This is an unusual book: it combines components from the theory of dynamical systems, from numerical analysis, and from software engineering to achieve its purpose, which is "to present robust, reliable algorithms for simulating nonlinear dynamics". In none of the above areas, the reader is assumed to have