

20[65-06, 65N30].—J. R. WHITEMAN (Editor), *The Mathematics of Finite Elements and Applications*. VII, *MAFELAP 1990*, Academic Press, London, 1991, xvi+637 pp., 23½ cm. Price \$65.00.

This volume contains the text of the invited and contributed papers (44) and abstracts of lectures in parallel and poster sessions (29) from the seventh MAFELAP conference, held at Brunel University in April 1990. As usual, they range over a very broad span of topics in finite element analysis.

L. B. W.

21[65-06].—GARY COHEN, LAURENCE HALPERN & PATRICK JOLY (Editors), *Mathematical and Numerical Aspects of Wave Propagation Phenomena*, SIAM Proceedings Series, SIAM, Philadelphia, PA, 1991, xiv+794 pp., 25½ cm. Price: Softcover \$68.00.

This volume is the proceedings of the First International Conference on Mathematical and Numerical Aspects of Wave Propagation Phenomena, held in Strasbourg, April 23–26, 1991. It consists of eleven parts containing seventy-two papers (and, a twelfth part of twenty-three poster sessions). Part 1, Numerical Methods, contains sixteen papers. The other parts are “Modelling”, “Boundary Conditions and Control”, “Scattering Problems”, “Surface Waves/Hydrodynamics”, “Inverse Scattering Problems”, “Nonlinear Waves”, “Wave Propagation in Random Media”, “Resonances, Guide Waves and Layered Media”, “Homogenization/Asymptotic Analysis”. Many papers in those sections contain simulations and some have a strong numerical methods content.

L. B. W.

22[42C15, 41A30, 78A40].—CHARLES K. CHUI, *An Introduction to Wavelets, Wavelet Analysis and Its Applications*, Vol. 1, Academic Press, Boston, 1992, x+264 pp., 23½ cm. Price \$49.95.

The appearance of this book is certainly welcome, as it is probably the first textbook in English on the subject of wavelets. It also inaugurates a series called “Wavelet Analysis and Its Applications” undertaken by Academic Press and edited by Charles Chui. The series will contain monographs and edited collections of papers. The chapter titles of the book under review are: 1. An Overview, 2. Fourier Analysis, 3. Wavelet Transforms and Time-Frequency Analysis, 4. Cardinal Spline Analysis, 5. Scaling Functions and Wavelets, 6. Cardinal Spline-Wavelets, and 7. Orthogonal Wavelets and Wavelet Packets. There is a five-page section of historical notes and a five-page list of references, most of which date from 1984 onward. Chui’s book would furnish an excellent backbone for a course on wavelets; it is nicely organized and contains proofs of all results—exactly as one would expect from this very active and influential mathematician.

E. W. C.