it an invaluable source of convincing industrial and business applications of fuzzy set theory.

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5[41-06, 65-06, 42-06, 46-06]—*Advances in computational mathematics: New Delhi, India*, H. P. Dikshit and C. A. Micchelli (Editors), Series in Approximations and Decompositions, Vol. 4, World Scientific, Singapore, 1994, xvi + 319 pp., $22\frac{1}{2}$ cm, $75.00

Twenty years ago, relatively little was known about the approximation, representation and analysis of functions of several variables. Since then the theoretical aspects, and more recently the computational development, have evolved quite nicely. In particular, the representation of curves, surfaces and functions has been enhanced by subdivision algorithms, neural network theory and radial basis functions, the analysis of functions by wavelet theory and the numerical solution of equations by multigrid techniques. Many of these computational developments are highlighted in the Proceedings volume under review. It includes 20 articles by many leaders of their fields. For the reader's convenience, the book is subdivided into four main areas: Finite element methods for PDE's, Geometric modeling for curves and surfaces, Wavelets, and Approximation.

The first section contains three papers which report on current numerical approaches to solving certain partial differential and integral equations. Both multigrid and multiscale techniques are utilized in these articles. The next section contains four papers. These articles illustrate the importance of rational splines for geometric modeling of curves and surfaces. Section 3 contains five papers related to wavelets and frames. The articles also include applications of wavelets to compressed representation and reconstruction of curves and images. The final section deals with the representation and approximation of functions of several variables with applications to Neural Networks.

In summary, I believe that the main contribution of this book is that it gives the reader a good feel for several directions of progress made in computational mathematics over the last 15 or 20 years.

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6[01A70, 65-06, 65F10, 65T20, 76W05, 83-06, 83C05, 85-06]—*Proceedings of the Cornelius Lanczos international centenary conference*, J. David Brown, Moody T. Chu, Donald C. Ellison, and Robert J. Plemmons (Editors), SIAM Proceedings Series, Society for Industrial and Applied Mathematics, Philadelphia, PA, 1994, 1xvi + 644 pp., $25\frac{1}{2}$ cm, softcover, $78.50

The conference was held during December 12–17, 1993 at North Carolina State University and had about 600 attendees. This scholarly volume describes Lanczos'