

23[41–06, 46–06].—CHARLES K. CHUI (Editor), *Approximation Theory and Functional Analysis*, Academic Press, Boston, 1991, x+247 pp., 23½ cm. Price \$49.95.

This book contains a collection of papers written to honor Professor George G. Lorentz on the occasion of his eightieth birthday, which was marked by a two-day conference on *Approximation Theory and Functional Analysis* held at Texas A&M University in February, 1990. The two topics of the conference constitute the main research interests of Professor Lorentz, and are represented in the book by eleven invited papers of which eight are in Approximation Theory and three are in Functional Analysis.

The approximation papers deal with Bernstein-Durrmeyer polynomials (Berens and Xu), wavelets (Chui), Birkhoff interpolation (R. Lorentz), restricted derivative approximation (Makovoz), orthogonal polynomials on the unit circle (Pan and Saff), box splines (Riemenschneider and Shen), fair curves (Roulier, Rando and Piper), and rational approximation (Varga and Ruttan). The functional analysis papers deal with weak inequalities in Orlicz and Lorentz spaces (Edgar and Sucheston), subspace structure of infinite-dimensional Banach spaces (Rosenthal), and projections on 2-dimensional spaces (Tomczak and Jaegermann).

The book also includes an autobiography of Lorentz, lists of his publications and doctoral students, and a survey of Lorentz' work in the period 1975–1990 prepared by P. Nevai (his earlier work having been summarized in an article in *Journal of Approximation Theory* **13** (1975)). Several photos taken at the conference are also included.

L. L. S.

24[14Qxx, 65–06, 65D17].—PIERRE-JEAN LAURENT, ALAIN LE MÉHAUTÉ & LARRY L. SCHUMAKER (Editors), *Curves and Surfaces*, Academic Press, Boston, 1991, xviii + 514 pp., 23½ cm. Price \$49.95.

This volume records 77 of the 124 talks given at the International Conference on Curves and Surfaces held in beautiful Chamonix-Mont-Blanc in France during the week of June 21–27, 1990.

Here, as an indication of the scope of the conference, is the list of the six of the ten invited survey lectures which appear in this volume:

- M. Attéa, *Spline manifolds*;
- W. Dahmen, *Convexity and Bernstein-Bézier polynomials*;
- R. Q. Jia and C. A. Micchelli, *Using the refinement equations for the construction of pre-wavelets II: Powers of two*;
- F. Natterer, *2D sampling in tomography*;
- F. I. Utreras, *The variational approach to shape preservation*;
- G. Wahba, *Multivariate model building with additive interaction and tensor product thin plate splines*.

Some of the shorter research contributions in this volume formed part of minisymposia, on Geometric Continuity, Optimal Recovery and Information Based Complexity, Data Storage and Reduction, Quasi-interpolants, and Radial Functions.

The volume reflects the diversity of background, motivation, goals, and methods of those presently engaged in this active research area.

The editors are to be congratulated for having succeeded in persuading the contributors to use a unified T_EX format, producing so handsome a book that one is even tempted to look for an index.

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25[65–06].—S. GÓMEZ, J. P. HENNART & R. A. TAPIA (Editors), *Advances in Numerical Partial Differential Equations and Optimization*, SIAM Proceedings Series, SIAM, Philadelphia, PA, 1991, xii + 365 pp., 25½ cm. Price: Softcover \$47.50.

These are the proceedings of the Fifth Mexico-United States Workshop on Numerical Analysis held January 26, 1989, in Merida, Yucatan, Mexico. Like the preceding workshops, it was mainly concerned with current research on the numerical aspects of optimization, linear algebra, and partial differential equations. The present volume contains 22 contributions.

W. G.