

G. ISAC AND V. POSTOLICĂ, *The Best Approximation and Optimization in Locally Convex Spaces*, Approximation & Optimization, Vol. 2, Verlag Peter Lang, 1993, 136 pp.

The authors study the problems of best simultaneous approximation and best vectorial approximation in the context of locally convex spaces. The two aims of the book, as stated in the preface, are to extend the best approximation problem from normed linear spaces to locally convex spaces and to show the importance of duality in the sense of vectorial optimization.

Let  $X$  be a locally convex space with its topology induced by a family of seminorms  $\mathcal{P}$ . Let  $G$  be a nonempty subset of  $X$ ,  $x \in X$ , and  $g_0 \in G$ . Then  $g_0$  is called a *best simultaneous approximation* to  $x$  from  $G$  if  $p(x - g_0) \leq p(x - g)$  for all  $g \in G$  and all  $p \in \mathcal{P}$ , and  $g_0$  is a *best vectorial approximation* to  $x$  from  $G$  if there exists no  $g \in G$  such that  $p(x - g) \leq p(x - g_0)$  for all  $p \in \mathcal{P}$ , with strict inequality holding for some  $p$ .

The book consists of four chapters titled: (1) "Simultaneous Approximation in Locally Convex Spaces"; (2) "Vectorial Approximation in Locally Convex Spaces"; (3) "Strict Convexity and Best Approximation"; and (4) "Duality in Vectorial Optimization Programs with Multifunctions." Each chapter is approximately 30 pages long, and the bibliography contains 131 references.

### Proceedings

S. P. SINGH, Ed., WITH ASSISTANCE OF A. CARBONE, R. CHARRON, AND B. WATSON, *Approximation Theory, Spline Functions and Applications*, NATO Advanced Study Institute, Series C, Vol. 356, Kluwer Academic, 1992, xvi + 479 pp.

This book presents the proceedings of the NATO Advanced Study Institute which was held in Maratea, Italy from April 28 until May 9, 1991. The book contains 34 papers.

D. BRAESS, AND L. L. SCHUMAKER, Eds., *Numerical Methods in Approximation Theory*, Vol. 9, International Series of Numerical Mathematics, Vol. 105, Birkhäuser Verlag, 1992, 357 pp.

This book presents the edited proceedings of the conference of the same name held at Oberwolfach, Germany, in November 1991. It includes 21 refereed full length research papers on a variety of topics of current research interest in approximation theory. The book is dedicated to the memory of Professor Dr. Lothar Collatz.

E. W. CHENEY, C. K. CHUI, AND L. L. SCHUMAKER, Eds., *Approximation Theory VII*, Academic Press, 1993, xix + 249 pp.

In the past, Academic Press has published the proceedings of the International Symposia on Approximation Theory, which were held in Texas, and they are continuing this tradition. This book contains the nine survey lectures from the Seventh International Symposium on Approximation Theory, which was held in Austin, Texas, during the week of January 3-7, 1992. The nine surveys are *Approximation Order without Quasi-Interpolants* (Carl de Boor), *Wavelets and Signal Analysis* (Charles K. Chui), *Wavelet Bases, Approximation Theory, and Subdivision Schemes* (Albert Cohen), *Approximation with Convex Rational Functions* (Bo Gao, Donald J. Newman, and Vasil Popov), *Block Structure and Recursiveness in Rational Interpolation* (Martin Gutknecht), *Multivariate Approximation from the Cardinal Interpolation Point of View* (Kurt Jetter), *Ridge Functions, Sigmoidal Functions, and Neural Networks* (Will Light), *Knot Removal for Spline Curves and Surfaces* (Tom Lyche), and *Approximation by Algebraic Polynomials* (Vilmos Totik). Particularly worth mentioning is the extensive list of references provided by Charles K. Chui (370 references) and by Kurt Jetter (142 references).