

An international conference on *Nonlinear numerical methods and rational approximation* was held at the University of Antwerp (Belgium), September 5–11, 1993. This book contains 33 papers which were fully refereed. The conference and these proceedings focus on five fields of numerical analysis, each with a main speaker and a number of contributed talks. These five fields are *Orthogonal Polynomials* (D. S. Lubinsky and eight contributions), *Rational Interpolation* (M. Gutknecht and two contributions), *Rational Approximation* (E. B. Saff and three contributions), *Padé Approximation* (ten contributions, but unfortunately not the contribution of A. A. Gonchar who was the main speaker), and *Continued Fractions* (W. B. Jones and six contributions).

CH. FEFFERMAN, R. FEFFERMAN, AND S. WAINGER, Eds., *Essays on Fourier Analysis in Honor of Elias M. Stein*, Princeton Mathematical Series 42, Princeton University Press, 1995, vii + 384 pp.

This book contains the lectures presented at a conference held at Princeton University (May 1991) in honor of Elias M. Stein's sixtieth birthday. There are fifteen lectures, including a survey article of Charles Fefferman on the scope and originality of Eli Stein's contributions to analysis. Other topics treated are: conformally invariant inequalities (W. Beckner), oscillatory integrals (J. Bourgain and C. E. Kenig), analytic hypoellipticity (M. Christ), wavelets (R. R. Coifman, Y. Meyer, and V. Wickerhauser), elliptic partial differential equations (R. A. Fefferman), nodal sets of eigenfunctions (D. Jerison), removable sets for Sobolev spaces in the plane (P. W. Jones), nonlinear dispersive equations (C. E. Kenig), bilinear operators and renormalization (R. R. Coifman, S. Dobyinsky, and Y. Meyer), holomorphic functions on wedges (A. Boggess and A. Nagel), singular Radon (and related) transforms (D. H. Phong), Hilbert transforms (A. Carbery, J. Vance, S. Wainger, and D. Watson), Besov and other function spaces (Y. Han and G. Weiss), and counterexamples with harmonic gradients in \mathbb{R}^3 (T. H. Wolff).

J. D. BROWN, M. T. CHU, D. C. ELLISON, AND R. J. PLEMMONS, Eds., *Proceedings of the Cornelius Lanczos International Centenary Conference*, SIAM, Philadelphia, PA, 1994, lxxv + 644 pp.

The North Carolina State University at Raleigh, North Carolina, held an international conference (December 12–17, 1993) in honor of Cornelius Lanczos (1893–1974), reflecting the wide range of interests of Lanczos in (computational) mathematics and (theoretical) physics and astrophysics. These proceedings contain a collection of plenary talks and minisymposium papers. For mathematics there are 11 plenary presentations dealing with the fast Fourier transform, the Lanczos algorithm for matrix eigenvalue problems, and the tau method for the numerical solution of differential equations. In addition there are 12 mathematics minisymposia on eigenvalue computations, moments in numerical mathematics, iterative methods for linear systems, least squares, the tau method, Chebyshev polynomials, the fast Fourier transform, and wavelets. Of special interest is a section about the life and works of Cornelius Lanczos (65 pages). This section contains a photographic essay, a list of published papers and books of Lanczos, and contributions of Barbara Gellai, Peter D. Lax, George Marx, and John Todd regarding the life of Cornelius Lanczos.