

31[65F10, 65N20].—A. HADJIDIMOS (Editor), *Iterative Methods for the Solution of Linear Systems*, North-Holland, Amsterdam, 1988, 291 pp., 27 cm. Price \$78.00/Dfl. 160.00.

This is a reissue in book form of *Journal of Computational and Applied Mathematics*, v. 24, 1988, nos. 1 & 2. It provides a useful cross section of current work in the area of the title, including topics such as convergence theory, parameter selection, preconditioning, rectangular and infinite systems, implementation on machines with parallel architectures, and software packages.

W. G.

32[65-06, 68-06].—JAMES MCKENNA & ROGER TEMAM (Editors), *ICIAM '87: Proceedings of the First International Conference on Industrial and Applied Mathematics*, SIAM, Philadelphia, 1988, xx+376 pp., 26 cm. Price \$56.50.

The conference in the title of these proceedings, co-organized by four sister societies of applied mathematics, GAMM, IMA, SIAM and SMAI from Germany, England, the United States and France, was held in Paris on June 29—July 3, 1987. Part I contains the welcoming and opening addresses. Sixteen invited papers make up Part II. The authors and their titles are: Wolfgang Alt, Modelling of motility in biological systems; Karl Johan Åström, Stochastic control theory; Michael Atiyah, Topology and differential equations; Robert Azencott, Image analysis and Markov fields; Philippe G. Ciarlet, Modeling and numerical analysis of junctions between elastic structures; D. G. Crighton, Aeronautical acoustics: mathematics applied to a major industrial problem; Carl de Boor, What is a multivariate spline?; Yves Genin, On a duality relation in the theory of orthogonal polynomials and its application in signal processing; W. Hackbusch, A new approach to robust multi-grid solvers; John Hopcroft, Model driven simulation systems; Peter D. Lax, Mathematics and computing; L. Lovász, Geometry of numbers: an algorithmic view; Andrew Majda, Vortex dynamics: numerical analysis, scientific computing, and mathematical theory; F. Natterer, Mathematics and tomography; P. Perrier, Numerical flow simulation in aerospace industry; M. J. D. Powell, A review of algorithms for nonlinear equations and unconstrained optimization. A similar variety of topics is treated in 69 minisymposia whose abstracts appear in Part III. A list of contributed papers in Part IV, and an author index, conclude the volume. Full-length versions of 29 contributions by Dutch authors have previously been published in [1].

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1. A. H. P. VAN DER BURGH & R. M. M. MATTHEIJ (Editors), *Proceedings of the First International Conference on Industrial and Applied Mathematics (ICIAM 87): Contributions from the Netherlands*, CWI Tract, Vol. 36, Centre for Mathematics and Computer Science, Amsterdam, 1987. [Review 21, *Math. Comp.*, v. 50, 1988, p. 649.]