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V.P. TANANA. — **Methods for solution of nonlinear operator equations.** — Inverse and ill-posed problems series. — Un vol. relié, 17×25, de 241 p. — ISBN 90-6764-272-X. — Prix: DM 189.00. — VSP, Utrecht, 1997.

Although there a large number of works devoted to nonlinear theory of ill-posed problems, there are few applications of this theory. In this monograph the author tries to solve this problem by considering the widest class of nonlinear equations and systems which play an important role in applications. For this class of equations the general regularization theory is constructed, and the problem of finite-dimensional approximations of regularized solutions is solved.

V.P. TANANA. — **Methods for solving operator equations.** — Inverse and ill-posed problems series. — Un vol. relié, 16,5×24,5, de 223 p. — ISBN 90-6764-237-1. — Prix: DM 205.00. — VSP, Utrecht, 1997.

This monograph thoroughly investigates the methods for solving linear operator equations from the viewpoint of their stability relative to disturbance of the initial information. It focuses the operator equations: $Au=f$, where u, f are desired and given elements of certain metric spaces (U and F respectively), and A is given operator acting from U onto F . The concept of an optimum to a method for solving the equation $Au=f$ with an approximately given operator is introduced and an analysis of the methods from the viewpoint of their optimums is pursued. Problems of regularizing operator equations with a disturbance in the operator are considered. General schemes for finite-dimensional approximation of regularized solutions are also formulated and investigated.

G. WINTHER ALTHAUS and E. SPEDICATO. — **Algorithms for large scale linear algebraic systems: applications in science and engineering.** — NATO ASI series, Series C: Mathematical and physical sciences, vol. 508. — Un vol. relié, 16,5×24,5, de vi, 407 p. — ISBN 0-7923-4975-X. — Prix: Dfl. 335.00. — Kluwer Academic Publishers, Dordrecht, 1998.

An overview of the most successful algorithms and techniques for solving large, sparse systems of equations and some algorithms and strategies for solving optimization problems. The most important topics dealt with concern iterative methods, especially Krylov methods, ordering techniques, and some iterative optimization tools.

Informatique

Kevin R. COOMBES, Brian R. HUNT, Ronald L. LIPSMAN, John E. OSBORN, Garrett J. STUCK. — **The *Mathematica*® primer.** — Un vol. broché, 19,5×23, de xvii, 214 p. — ISBN 0-521-63715-5. — Prix: £16.95 (relié: £50.00). — Cambridge University Press, Cambridge, 1998.

This book is a short, focused introduction to *Mathematica*®. Written for the beginning user, this engaging book contains an explanation of essential *Mathematica*® commands and interface. *Mathematica*® can be used to graph functions, solve equations, perform statistical tests, etc. In addition, it incorporates word processing and desktop publishing features for combining mathematical computations with text and graphics. You can even use it to create documents and graphics for the Web. Written for Version 3 of the program, this book can be used with earlier versions of *Mathematica*®.