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Nota di contenuto	Symbolics and Numerics of Differential Equations -- Notes on Triangular Sets and Triangulation-Decomposition Algorithms I: Polynomial Systems -- Notes on Triangular Sets and Triangulation-Decomposition Algorithms II: Differential Systems -- Passive Complete Orthonomic Systems of PDEs and Involutive Bases of Polynomial Modules -- Symmetries of Second- and Third-Order Ordinary Differential Equations -- Symbolic Methods for the Equivalence Problem for Systems of Implicit Ordinary Differential Equations -- On the Numerical Analysis of Overdetermined Linear Partial Differential Systems -- Dynamical Aspects of Involutive Bases Computations --

Symbolics and Numerics in Algebra and Geometry -- Congestion and Almost Invariant Sets in Dynamical Systems -- Datagraphs in Algebraic Geometry and K3 Surfaces -- Resultants and Neighborhoods of a Polynomial -- Multi-variate Polynomials and Newton-Puiseux Expansions -- Wavelets with Scale Dependent Properties -- Accurate Numerical Fourier Transform in d-Dimensions -- Exact Real Computation in Computer Algebra -- Symbolic Methods for the Element Preconditioning Technique -- Applications in Physics and Engineering -- Solving Symbolic and Numerical Problems in the Theory of Shells with Mathematica® -- A Symbolic Procedure for the Diagonalization of Linear PDEs in Accelerated Computational Engineering -- Generation of the Quasi-solitons in the Lasers: Computer Algebra Approach to an Analysis -- Nonlinear Periodic Waves in Shallow Water.

Sommario/riassunto

This book constitutes the thoroughly refereed post-proceedings of the Second International Conference on Symbolic and Numerical Scientific Computation, SNSC 2001, held in Hagenberg, Austria, in September 2001. The 19 revised full papers presented were carefully selected during two rounds of reviewing and improvement. The papers are organized in topical sections on symbolics and numerics of differential equations, symbolics and numerics in algebra and geometry, and applications in physics and engineering.
