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Nota di contenuto	Front matter -- Preface / Rosenkranz, Markus / Wang, Dongming -- Contents -- Gröbner Bases in Algebraic Analysis: New Perspectives for Applications / Pommaret, Jean-François -- Solving Systems of Linear Partial Difference and Differential Equations with Constant Coefficients Using Gröbner Bases / Oberst, Ulrich / Pauer, Franz -- Computation of the Strength of Systems of Difference Equations via Generalized Gröbner Bases / Levin, Alexander -- Editors' Note in Memory of Giuseppa Carrà Ferro -- A Survey on Differential Gröbner Bases / Ferro, Giuseppa Carrà -- Differential Elimination and Biological Modelling / Boulier, François -- Janet Bases and Applications / Robertz, Daniel -- Spencer Cohomology, Differential Equations, and Pommaret Bases / Seiler, Werner M. -- Differential Invariants for Lie Pseudo-groups / Olver, Peter / Pohjanpelto, Juha -- Invariant Theory and Differential Operators / Traves, William N. -- Compatibility Complexes for Overdetermined Boundary Problems / Krupchyk, Katsiaryna / Tuomela,

Jukka -- On Initial Value Problems for Ordinary Differential-Algebraic Equations / Pritchard, F. Leon / Sit, William Y. -- Index

Sommario/riassunto

This volume contains survey articles and original research papers, presenting the state of the art on applying the symbolic approach of Grobner bases and related methods to differential and difference equations. The contributions are based on talks delivered at the Special Semester on Grobner Bases and Related Methods hosted by the Johann Radon Institute of Computational and Applied Mathematics, Linz, Austria, in May 2006.
