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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 / Boulrier, 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.

## 2. Record Nr.

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## Titolo

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## Nota di contenuto

""Design And Analysis Of Integrated Manufacturing Systems"";  
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Systems: An Overview"; "REFERENCES"; "Manufacturing Systems: Meeting the Competitive Challenge"; "REFERENCES"; "Design and Analysis of Integrated Electronics Manufacturing Systems"; "INTRODUCTION"; "A LEARNING EXPERIENCE"; "Do Not Accept Process Performance As It Is"; "Do Not Do the Wrong Thing a Bit Faster"; "Surviving a Model Change"; "Avoid Suboptimal Use of Computing Technology"; "The Culture Phenomenon"; "DIRECTIONS"; "A Corporate Focus"; "A Manufacturing Technology Board"; "A Corporate Manufacturing Officer"; "A Manufacturing and Distribution Council"; "Internal Manufacturing R&D Capabilities"; "High-Visibility Projects"; "Methodology"; "PROGRAM IMPLEMENTATION"; "SUCCESES"; "CONCLUSION"; "NEEDS AND OPPORTUNITIES"; "REFERENCES"; "APPENDIX"; "Engineering"; "Capacity"; "Simulation Models"; "Design"; "Operations"; "Data Analysis and Monitoring"; "Quality"; "Reliability"; "Scheduling"; "Flexible Machining in an Integrated System"; "INTRODUCTION"; "PLANNING THE SYSTEM"; "The Factory Automation Life Cycle"; "Candidate System"; "System Specification"; "Cost/Benefit Analysis"; "Development System"; "Cost/Benefit Verification"; "Implementing the System"; "Cost/Benefit Tracking"; "OPERATIONAL EXPERIENCE WITH A FLEXIBLE MACHINING CELL"; "A SECOND-GENERATION FLEXIBLE MACHINING SYSTEM"; "FUTURE OPPORTUNITIES"; "REFERENCES"; "Material Handling in Integrated Manufacturing Systems"; "INTRODUCTION"; "WHAT ARE INTEGRATED SYSTEMS?"; "THE BARRIERS TO CREATING INTEGRATED SYSTEMS"; "DESIGNING INTEGRATED SYSTEMS"; "SELLING INTEGRATED SYSTEMS"; "SPECIFYING INTEGRATED SYSTEMS"; "IMPLEMENTING INTEGRATED SYSTEMS"; "AUTOMATION'S REPORT CARD"; "INTELLIGENT MATERIAL HANDLING"; "Less Material Movement"; "Less Material Storage"; "Less Material Control"; "MATERIAL HANDLING: ANALYSIS AND DEVELOPMENT"; "The Status of Material Handling Analysis"; "Material Handling Development Needs"; "Systems Design Needs"; "Interface Needs"; "Hardware and Software Needs"; "A RECOMMENDED APPROACH"; "REFERENCES"; "Designing an Information System for Integrated Manufacturing Systems"; "INTRODUCTION"; "SYSTEM INTEGRATION"; "Integration Criteria"; "Subsystem Needs"; "Data Consistency"; "System Planning"; "ARCHITECTURAL FRAMEWORK FOR CIM TECHNOLOGIES"; "Distributed Systems"; "Architecture for Distributed Open Heterogeneous Systems"; "CONCLUSION"; "REFERENCES"; "Integration and Flexibility of Software for Integrated Manufacturing Systems"; "INTRODUCTION"; "SYSTEMS OF INTEREST"; "A PERCEPTION OF CURRENT PRACTICE"; "THE APPROACH TO SOFTWARE COMPONENTS AND THEIR ASSEMBLAGES"; "EUCLIDEAN AND LOGICAL VIEWS"; "Distributed Language Environment"; "Formal Semantic Models"

## Sommario/riassunto

Design and Analysis of Integrated Manufacturing Systems is a fresh look at manufacturing from a systems point of view. This collection of papers from a symposium sponsored by the National Academy of Engineering explores the need for new technologies, the more effective use of new tools of analysis, and the improved integration of all elements of manufacturing operations, including machines, information, and humans. It is one of the few volumes to include detailed proposals for research that match the needs of industry.