# <<Some tapas of comput>>

### 图书基本信息

书名: <<Some tapas of computer algebra.计算机代数一些Tapas>>

13位ISBN编号: 9783540634805

10位ISBN编号: 3540634800

出版时间:1998-12

出版时间:广东教育出版社

作者: Sterk, Hans; Cohen, Arjeh M.; Cohen, H.

页数:352

版权说明:本站所提供下载的PDF图书仅提供预览和简介,请支持正版图书。

更多资源请访问:http://www.tushu007.com

## <<Some tapas of comput>>

#### 内容概要

This book arose from a series of courses on computer algebra which were given at Eindhoven Technical University. Its chapters present a variety of topics in computer algebra at an accessible (upper undergraduate/graduate) level with a view towards recent developments. For those wanting to acquaint themselves somewhat further with the material, the book also contains seven 'projects', which could serve as practical sessions related to one or more chapters. The contributions focus on topics like Grö bner bases, real algebraic geometry, Lie algebras, factorisation of polynomials, integer programming, permutation groups, differential equations, coding theory, automatic theorem proving, and polyhedral geometry. This book is a must-read for everybody interested in computer algebra.

## <<Some tapas of comput>>

### 书籍目录

Chapter 1. GrSbner Bases, an Introduction Arjeh M. Cohen 1. Introduction 2. Monomials 3. The Buchberger Algorithm 4. Standard Monomials 5. Solving Polynomial Equations 6. Effectiveness of Polynomial RingsChapter 2. Symbolic Recipes for Polynomial System Solving Laureano Gonzalez-Vega, Fabrice Rouillier, and Marie-Frangoise Roy 1. Introduction 2. General Systems of Equations 2.1 Algebraic Preliminaries 2.2 First Recipes for Polynomial System Solving 3. Linear Algebra, Traces, and Polynomial Systems 3.1 Eigenvalues and Polynomial Systems 3.2 Counting Solutions and Removing Multiplicities 3.3 Rational Univariate Representation 4. As Many Equations as Variables 4.1 Generalities on Complete Intersection Polynomial Systems 4.2 Recipes for Polynomial System Solving When the Number of Equations Equals the Number of Unknowns 5. GrSbner Bases and Numerical Approximations Chapter 3. Lattice Reduction Frits Beukers 1. Introduction 2. Lattices 3. Lattice Reduction in Dimension 2 4. Lattice Reduction in Any Dimension 5. Implementations of the LLL-Algorithm 6. Small Linear FormsChapter 4. Factorisation of Polynomials Frits Beukers 1. Introduction 2. Berlekamp's Algorithm 3. Additional Algorithms 4. Polynomials with Integer Coefficients 5. Factorisation of Polynomials with Integer Coefficients, I 6. Factorisation of Polynomials with Integer Coefficients, II 7. Factorisation in K[X], K Algebraic Number FieldChapter 5. Computations in Associative and Lie Algebras Ggbor Ivanyos and Lajos Rdnyai 1. Introduction 2. Basic Definitions and Structure Theorems 3. Computing the Radical 4. Applications to Lie Algebras 5. Finding the Simple Components of Semisimple Algebras 6. Zero Divisors in Finite Algebras Chapter 6. Symbolic Recipes for Real Solutions Laureano Gonzalez-Vega, Fabrice Rouillier, Marie-Frangoise Roy, and Guadalupe Trujillo 1. Introduction 2. Real Root Counting: The Univariate Case. 2.1 Computing the Number of Real Roots 2.2 Sylvester Sequence 2.3 Sylvester-Habicht Sequence 2.4 Some Recipes for Counting Real Roots 3. Real Root Counting: The Multivariate Case 4. Tile Sign Determination Scheme 5. Real Algebraic Numbers and Thorn Codes 6. Quantifier Elimination 7. Appendix: Properties of the Polynomials in the 7.1 Definition and the Structure Theorem Sylvester-Habicht Sequence 7.2 Proof of the Structure 7.3 Sylvester-Habicht Sequences and Cauchy IndexChapter 7. GrSbner Bases and Integer Programming Giinter M. Ziegler 1. Introduction 2. What is Integer Programming? 3. A Buchberger Algorithm for Integer Programming ......Chapter 8. Working with Finite GroupsChapter 9. Symbolic Analysis of Differential EquationsChapter 10. Grobner Bases for CodesChapter 11. Grobner Bases for DecodingProject 1. Automatic Geometry Theorem ProvingProject 2. The Birkhoff INterpolation ProblemProject 3. The Inverse Kinematics Problem in RoboticsProject 4. Quaternion AlgebrasProject 5. Explorations with the Icosahedral GroupProject 6. The Small Mathieu GroupsProject 7. The Golay CodesIndex

# <<Some tapas of comput>>

### 版权说明

本站所提供下载的PDF图书仅提供预览和简介,请支持正版图书。

更多资源请访问:http://www.tushu007.com