

# Computational Methods in Commutative Algebra and Algebraic Geometry



Filesize: 5.14 MB

## ***Reviews***

*This ebook will never be straightforward to get started on looking at but really fun to read. It is amongst the most incredible publication i have got read through. I realized this pdf from my i and dad encouraged this publication to learn.*


***(Mrs. Anya Kautzer)***

## COMPUTATIONAL METHODS IN COMMUTATIVE ALGEBRA AND ALGEBRAIC GEOMETRY



To get **Computational Methods in Commutative Algebra and Algebraic Geometry** eBook, please refer to the web link under and save the document or have access to other information which might be related to COMPUTATIONAL METHODS IN COMMUTATIVE ALGEBRA AND ALGEBRAIC GEOMETRY book.

Book Condition: New. Publisher/Verlag: Springer, Berlin | This ACM volume in computational algebra deals with methods and techniques to tackle problems that can be represented by data structures which are essentially matrices with polynomial entries, mediated by the disciplines of commutative algebra and algebraic geometry. It relates discoveries by a growing, interdisciplinary, group of researchers in the past decade. It highlights the use of advanced techniques to bring down the cost of computation. The book includes concrete algorithms written in MACAULAY. It is intended for advanced students and researchers with interests both in algebra and computation. Many parts of it can be read by anyone with a basic abstract algebra course. | 1 Fundamental Algorithms.- 1.1 Gröbner Basics.- 1.2 Division Algorithms.- 1.3 Computation of Syzygies.- 1.4 Hilbert Functions.- 1.5 Computer Algebra Systems.- 2 Toolkit.- 2.1 Elimination Techniques.- 2.2 Rings of Endomorphisms.- 2.3 Noether Normalization.- 2.4 Fitting Ideals.- 2.5 Finite and Quasi-Finite Morphisms.- 2.6 Flat Morphisms.- 2.7 Cohen-Macaulay Algebras.- 3 Principles of Primary Decomposition.- 3.1 Associated Primes and Irreducible Decomposition.- 3.2 Equidimensional Decomposition of an Ideal.- 3.3 Equidimensional Decomposition Without Exts.- 3.4 Mixed Primary Decomposition.- 3.5 Elements of Factorizers.- 4 Computing in Artin Algebras.- 4.1 Structure of Artin Algebras.- 4.2 Zero-Dimensional Ideals.- 4.3 Idempotents versus Primary Decomposition.- 4.4 Decomposition via Sampling.- 4.5 Root Finders.- 5 Nullstellensätze.- 5.1 Radicals via Elimination.- 5.2 Modules of Differentials and Jacobian Ideals.- 5.3 Generic Socles.- 5.4 Explicit Nullstellensätze.- 5.5 Finding Regular Sequences.- 5.6 Top Radical and Upper Jacobians.- 6 Integral Closure.- 6.1 Integrally Closed Rings.- 6.2 Multiplication Rings.- 6.3 S2-ification of an Affine Ring.- 6.4 Desingularization in Codimension One.- 6.5 Discriminants and Multipliers.- 6.6 Integral Closure of an Ideal.- 6.7 Integral Closure of a Morphism.- 7 Ideal Transforms and Rings of Invariants.- 7.1 Divisorial Properties of Ideal Transforms.- 7.2 Equations of Blowup Algebras.- 7.3 Subrings.- 7.4...

 [Read Computational Methods in Commutative Algebra and Algebraic Geometry Online](#)

 [Download PDF Computational Methods in Commutative Algebra and Algebraic Geometry](#)

## See Also



---

**[PDF] Read Write Inc. Phonics: Set 7 Non-Fiction 3 the Ice and Snow Book (Paperback)**

Access the web link below to read "Read Write Inc. Phonics: Set 7 Non-Fiction 3 the Ice and Snow Book (Paperback)" PDF document.

[Read ePub »](#)



---

**[PDF] Kindergarten Culture in the Family and Kindergarten; A Complete Sketch of Froebel s System of Early Education, Adapted to American Institutions. for the Use of Mothers and Teachers (Paperback)**

Access the web link below to read "Kindergarten Culture in the Family and Kindergarten; A Complete Sketch of Froebel s System of Early Education, Adapted to American Institutions. for the Use of Mothers and Teachers (Paperback)" PDF document.

[Read ePub »](#)



---

**[PDF] Hands Free Mama: A Guide to Putting Down the Phone, Burning the To-Do List, and Letting Go of Perfection to Grasp What Really Matters! (Paperback)**

Access the web link below to read "Hands Free Mama: A Guide to Putting Down the Phone, Burning the To-Do List, and Letting Go of Perfection to Grasp What Really Matters! (Paperback)" PDF document.

[Read ePub »](#)



---

**[PDF] Would It Kill You to Stop Doing That?**

Access the web link below to read "Would It Kill You to Stop Doing That?" PDF document.

[Read ePub »](#)



---

**[PDF] Houdini's Gift**

Access the web link below to read "Houdini's Gift" PDF document.

[Read ePub »](#)



---

**[PDF] Violet Rose and the Surprise Party**

Access the web link below to read "Violet Rose and the Surprise Party" PDF document.

[Read ePub »](#)