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**Modern computer algebra. 2nd ed.** (English) Zbl 1055.68168

Cambridge: Cambridge University Press (ISBN 0-521-82646-2/hbk). xiii, 785 p. (2003).

For a review of the first edition see [Zbl 0936.11069](#).

Publisher's description: Computer algebra systems are gaining importance in all areas of science and engineering. This textbook gives a thorough introduction to the algorithmic basis of the mathematical engine in computer algebra systems. It is designed to accompany one- or two-semester courses for advanced undergraduate or graduate students in computer science or mathematics. Its comprehensiveness and authority also make it an essential reference for professionals in the area. Special features include: detailed study of algorithms including time analysis; implementation reports on several topics; complete proofs of the mathematical underpinnings; a wide variety of applications (among others, in chemistry, coding theory, cryptography, computational logic, and the design of calendars and musical scales). Some of this material has never appeared before in book form. For the new edition, errors have been corrected, the text has been smoothed and updated, and new sections on greatest common divisors and symbolic integration have been added.

**MSC:**

[68W30](#) Symbolic computation and algebraic computation

[68-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to computer science

[11Yxx](#) Computational number theory

[12Y05](#) Computational aspects of field theory and polynomials (MSC2010)

[13P05](#) Polynomials, factorization in commutative rings

Cited in <b>1</b> Review Cited in <b>171</b> Documents
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