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Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 1255
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Soggetti	Computers Algebra Applied mathematics Engineering mathematics Coding theory Information theory Computer science—Mathematics Numerical analysis Theory of Computation Applications of Mathematics Coding and Information Theory Symbolic and Algebraic Manipulation Numeric Computing
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Nota di contenuto	Minimun distance decoding algorithms for linear codes -- Efficient multivariate factorization over finite fields -- On maximal codes in polynomial metric spaces -- Yet another ideal decomposition algorithm -- A resultant theory for ordinary algebraic differential equations -- The symmetry group of q^n in the Lee space and the q^n -linear codes -- On repeated-root cyclic codes and the two-way chain condition -- Exponentiation in finite fields: Theory and practice --

Computing minimum-link path in a homotopy class amidst semi-algebraic obstacles in the plane -- Certain self-dual codes over \mathbb{F}_4 and the odd Leech lattice -- Order functions and evaluation codes -- Codes from cocycles -- A brief tour of split linear programming -- Elementary approximation of exponentials of Lie polynomials -- On the q -ary image of cyclic codes -- The split weight (w_L, w_R) enumeration of Reed-Muller codes for $w_L + w_R \leq d_{\min}$ -- Optimal linear codes of dimension 4 over $\text{GF}(5)$ -- Characterisations of lexicographic sets and simply-connected Hilbert schemes -- An iterative probabilistic decoding algorithm for binary linear block codes beyond the half minimum distance -- Security examination of a cellular automata based pseudorandom bit generator using an algebraic replica approach -- Formal duality of linearly presentable codes over a Galois field -- Trace-function on a Galois ring in coding theory -- A vector version of the BMS algorithm for implementing fast erasure-and-error decoding of one-point AG codes -- On generalized Hamming weights of codes constructed on affine algebraic sets -- Some results on regular mappings -- Extension theorems for linear codes over finite rings -- Nonperiodic cyclic equivalence classes of cyclic codes and algebraic constructions of cyclically permutable codes.

Sommario/riassunto

This book constitutes the strictly refereed proceedings of the 12th International Symposium on Applied Algebra, Algebraic Algorithms and Error-Correcting Codes, AAEECC-12, held in Toulouse, France, June 1997. The 27 revised full papers presented were carefully selected by the program committee for inclusion in the volume. The papers address a broad range of current issues in coding theory and computer algebra spanning polynomials, factorization, commutative algebra, real geometry, group theory, etc. on the mathematical side as well as software systems, telecommunication, complexity theory, compression, signal processing, etc. on the computer science and engineering side.
