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Soggetti	Applied mathematics Engineering mathematics Algebra Computers Coding theory Information theory Computer science—Mathematics Combinatorics Applications of Mathematics Theory of Computation Coding and Information Theory Symbolic and Algebraic Manipulation
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Nota di contenuto	Covering radius and writing on memories -- Geometric problems solvable in single exponential time -- A description of the [16,7,6] codes -- Periodic sequences for absolute type shaft encoders -- Error-coded algorithms for on-line arithmetic -- Constructions of codes correcting burst asymmetric errors -- A construction method for m-ary unidirectional error control codes -- Feasible calculation of the generator for combined LFSR sequences -- Substitution of characters in q-ary m-sequences -- Pseudo-polyphase orthogonal sequence sets with good cross-correlation property -- Real-valued bent function and

its application to the design of balanced quadriphase sequences with optimal correlation properties -- Coded modulation with generalized multiple concatenation of block codes -- Trellis coded modulation based on time-varying mapping and encoders for utilizing a channel intersymbol interference -- Use of the algebraic coding theory in nuclear electronics -- Some ideas about fault-tolerant Chinese Remaindering -- On a categorial isomorphism between a class of Completely Regular Codes and a class of Distance Regular Graphs -- Single exponential path finding in semialgebraic sets Part I: The case of a regular bounded hypersurface -- On the complexity of algebraic power series -- Local decomposition algorithms -- An asymptotically fast probabilistic algorithm for computing polynomial GCD's over an algebraic number field -- Some algebra with formal matrices -- Implicitization of rational parametric curves and surfaces -- An inequality about irreducible factors of integer polynomials (II) -- The symplectic trilinear mappings; an algorithmic approach of the classification; case of the field GF(3) -- A Gröbner basis and a minimal polynomial set of a finite nD array -- Bounds for degrees and number of elements in Gröbner bases -- Standard bases of differential ideals -- Complexity of standard bases in projective dimension zero II -- Systolic architectures for multiplication over finite field GF(2m) -- PARSAC-2: A parallel SAC-2 based on threads -- Exponentiation in finite fields using dual basis multiplier -- Applications of Cayley graphs -- Duality between two cryptographic primitives.

Sommario/riassunto

The AAECC conferences focus on the algebraic aspects of modern computer science, which include the most up-to-date and advanced topics. The topic of error-correcting codes is one where theory and implementation are unified into a subject both of mathematical beauty and of practical importance. Algebraic algorithms are not only interesting theoretically but also important in computer and communication engineering and many other fields. This volume contains the proceedings of the 8th AAECC conference, held in Tokyo in August 1990. Researchers from Europe, America, Japan and other regions of the world presented papers at the conference. The papers present new results of recent theoretical and application-oriented research on applied algebra, algebraic algorithms and error-correcting codes.