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Disciplina	005.72
Soggetti	Coding theory Information theory Cryptography Data encryption (Computer science) Computer science—Mathematics Discrete mathematics Data structures (Computer science) Algorithms Coding and Information Theory Cryptology Discrete Mathematics in Computer Science Symbolic and Algebraic Manipulation Data Structures and Information Theory
Lingua di pubblicazione	Inglese
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Note generali	Includes index.
Nota di contenuto	Codes -- The Order Bound for Toric Codes -- An Extension of the Order Bound for AG Codes -- Sparse Numerical Semigroups -- From

the Euclidean Algorithm for Solving a Key Equation for Dual Reed–Solomon Codes to the Berlekamp–Massey Algorithm -- Rank for Some Families of Quaternary Reed-Muller Codes -- Optimal Bipartite Ramanujan Graphs from Balanced Incomplete Block Designs: Their Characterizations and Applications to Expander/LDPC Codes -- Simulation of the Sum-Product Algorithm Using Stratified Sampling -- A Systems Theory Approach to Periodically Time-Varying Convolutional Codes by Means of Their Invariant Equivalent -- On Elliptic Convolutional Goppa Codes -- The Minimum Hamming Distance of Cyclic Codes of Length $2^p s$ -- There Are Not Non-obvious Cyclic Affine-invariant Codes -- On Self-dual Codes over \mathbb{Z}_{16} -- Cryptography -- A Non-abelian Group Based on Block Upper Triangular Matrices with Cryptographic Applications -- Word Oriented Cascade Jump ??LFSR -- On Some Sequences of the Secret Pseudo-random Index j in RC4 Key Scheduling -- Very-Efficient Anonymous Password-Authenticated Key Exchange and Its Extensions -- Efficient Constructions of Deterministic Encryption from Hybrid Encryption and Code-Based PKE -- Algebra -- Noisy Interpolation of Multivariate Sparse Polynomials in Finite Fields -- New Commutative Semifields and Their Nuclei -- Spreads in Projective Hjelmslev Geometries -- On the Distribution of Nonlinear Congruential Pseudorandom Numbers of Higher Orders in Residue Rings -- Rooted Trees Searching for Cocyclic Hadamard Matrices over \mathbb{D}_{4t} -- Extended Abstracts -- Interesting Examples on Maximal Irreducible Goppa Codes -- Repeated Root Cyclic and Negacyclic Codes over Galois Rings -- Construction of Additive Reed-Muller Codes -- Gröbner Representations of Binary Matroids -- A Generalization of the Zig-Zag Graph Product by Means of the Sandwich Product -- Novel Efficient Certificateless Aggregate Signatures -- Bounds on the Number of Users for Random 2-Secure Codes.

Sommario/riassunto

This book constitutes the refereed proceedings of the 18th International Symposium on Applied Algebra, Algebraic Algorithms and Error-Correcting Codes, AAecc-18, held in Tarragona, Spain, in June 2009. The 22 revised full papers presented together with 7 extended abstracts were carefully reviewed and selected from 50 submissions. Among the subjects addressed are block codes, including list-decoding algorithms; algebra and codes: rings, fields, algebraic geometry codes; algebra: rings and fields, polynomials, permutations, lattices; cryptography: cryptanalysis and complexity; computational algebra: algebraic algorithms and transforms; sequences and boolean functions.
