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#### **Education Information**

Doctorate, Ihsan Dogramaci Bilkent University, Faculty Of Science, Department Of Mathematics, Turkey 1995 - 1997 Postgraduate, Ihsan Dogramaci Bilkent University, Faculty Of Science, Department Of Mathematics, Turkey 1993 - 1995 Undergraduate, Ihsan Dogramaci Bilkent University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, Turkey 1988 - 1993

# Foreign Languages

English, C1 Advanced

# **Dissertations**

Doctorate, Character sums, algebraic function fields, curves with many rational points and geometric Goppa codes, Bilkent Üniversitesi, Fen Fakültesi, Matematik Bölümü, 1997

Postgraduate, On lower brounds of character sums, Bilkent Üniversitesi, Fen Fakültesi, Matematik Bölümü, 1995

## **Research Areas**

Mathematics, Algebraic Geometry, Field Theory and Polynomials, General Algebraic Systems, Combinatorics, Number Theory, Natural Sciences

# Academic and Administrative Experience

Middle East Technical University, Institute of Applied Mathematics, Cryptography, 2007 - Continues

# **Advising Theses**

ÖZBUDAK F., Studies on almost perfect nonlinear functions, Postgraduate, G.BATMAZ(Student), 2022 ÖZBUDAK F., Some studies on CCZ-equivalence of the inverse function, Postgraduate, M.FİDAN(Student), 2021 ÖZBUDAK F., Studies on implementation of some mrd codes, Postgraduate, R.ÖZKERİM(Student), 2021

ÖZBUDAK F., Some studies on c-differential uniformity of the swappedinverse function, Postgraduate,

B.ÜNVER(Student), 2021

ÖZBUDAK F., Correlation of sequences and quadratic forms, Postgraduate, C.Genişel(Student), 2017

ÖZBUDAK F., On obtaining regular, weakly regular and non-weakly regular bent functions over finite fields and ring of integers modulo Pm, Doctorate, D.Çelik(Student), 2014

ÖZBUDAK F., Generalized bent functions with perfect nonlinear functions on arbitrary groups, Postgraduate,

E.Sercan(Student), 2012

ÖZBUDAK F., Drinfeld modular curves with many rational points over finite fields, Doctorate, V.Cam(Student), 2011

ÖZBUDAK F., On the expected value of the linear complexity of periodic sequences, Postgraduate, Ç.Özakın(Student), 2004

# Published journal articles indexed by SCI, SSCI, and AHCI

I. On subfield subcodes obtained from restricted evaluation codes

Güneri C., ÖZBUDAK F., Sayıcı S.

Designs, Codes, and Cryptography, vol.92, no.3, pp.667-680, 2024 (SCI-Expanded)

II. Further constructions and characterizations of generalized almost perfect nonlinear functions Sălăgean A., ÖZBUDAK F.

Cryptography and Communications, vol.15, no.6, pp.1117-1127, 2023 (SCI-Expanded)

III. Quasi-Cyclic Perfect Codes in Doob Graphs and Special Partitions of Galois Rings

Shi M., Li X., Krotov D. S., ÖZBUDAK F.

IEEE Transactions on Information Theory, vol.69, no.9, pp.5597-5603, 2023 (SCI-Expanded)

IV. Complete characterization of some permutation polynomials of the form xr(1+axs1(q-1)+bxs2(q-1)) over Fq2

ÖZBUDAK F., Temür B. G.

Cryptography and Communications, vol.15, no.4, pp.775-793, 2023 (SCI-Expanded)

V. Optimal Binary Linear Complementary Pairs of Codes

Choi W., GÜNERİ C., Kim J., ÖZBUDAK F.

CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.15, no.2, pp.469-486, 2023 (SCI-Expanded)

VI. Classification of some quadrinomials over finite fields of odd characteristic

Özbudak F., Gulmez Temur B. o. T.

FINITE FIELDS AND THEIR APPLICATIONS, vol.87, pp.102158, 2023 (SCI-Expanded)

VII. On diamond products ensuring irreducibility of the associated composed product

İrimağzi C., ÖZBUDAK F.

Communications in Algebra, vol.51, no.7, pp.3134-3142, 2023 (SCI-Expanded)

VIII. EUCLIDEAN POLYNOMIALS FOR CERTAIN ARITHMETIC PROGRESSIONS AND THE MULTIPLICATIVE GROUP OF F-p2

Berktav K. I., ÖZBUDAK F.

QUAESTIONES MATHEMATICAE, vol.46, no.7, pp.1283-1292, 2023 (SCI-Expanded)

IX. Boomerang uniformity of power permutations and algebraic curves over F2n

Mesnager S., ÖZBUDAK F.

Advances in Geometry, vol.23, no.1, pp.107-134, 2023 (SCI-Expanded)

X. The c-differential uniformity of the perturbed inverse function via a trace function Tr(x2x+1) KAYTANCI K., ÖZBUDAK F.

Periodica Mathematica Hungarica, 2023 (SCI-Expanded)

XI. Imprimitive symmetric association schemes of classes 5 and 6 arising from ternary non-weakly regular bent functions

ÖZBUDAK F., Pelen R. M.

JOURNAL OF ALGEBRAIC COMBINATORICS, vol.56, no.3, pp.635-658, 2022 (SCI-Expanded)

#### XII. Additive cyclic complementary dual codes over F4

Shi M., Liu N., ÖZBUDAK F., Solé P.

Finite Fields and their Applications, vol.83, 2022 (SCI-Expanded)

# XIII. Classification of permutation polynomials of the form x3g(xq-1) of Fq2 where g(x) = x3 + bx + c and $b,c \in Fq*$

ÖZBUDAK F., Gülmez Temür B.

Designs, Codes, and Cryptography, vol.90, no.7, pp.1537-1556, 2022 (SCI-Expanded)

### XIV. Construction of self dual codes from graphs

Fellah N., Guenda K., ÖZBUDAK F., Seneviratne P.

APPLICABLE ALGEBRA IN ENGINEERING COMMUNICATION AND COMPUTING, 2022 (SCI-Expanded)

# XV. Factorization of some polynomials over finite local commutative rings and applications to certain self-dual and LCD codes

Koese S., ÖZBUDAK F.

CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.14, no.4, pp.933-948, 2022 (SCI-Expanded)

### XVI. Covering Radius of Melas Codes

Shi M., Helleseth T., Özbudak F., Sole P.

IEEE Transactions on Information Theory, vol.68, no.7, pp.4354-4364, 2022 (SCI-Expanded)

# XVII. Two or Three Weight Linear Codes from Non-Weakly Regular Bent Functions

Özbudak F., Pelen R. M.

IEEE Transactions on Information Theory, vol.68, no.5, pp.3014-3027, 2022 (SCI-Expanded)

### XVIII. Complete b-symbol weight distribution of some irreducible cyclic codes

Zhu H., Shi M., ÖZBUDAK F.

DESIGNS CODES AND CRYPTOGRAPHY, vol.90, no.5, pp.1113-1125, 2022 (SCI-Expanded)

#### XIX. New constructions of entanglement-assisted quantum codes

Allahmadi A., AlKenani A., Hijazi R., Muthana N., ÖZBUDAK F., Solé P.

Cryptography and Communications, vol.14, no.1, pp.15-37, 2022 (SCI-Expanded)

### XX. LCD codes from tridiagonal Toeplitz matrices

Shi M., ÖZBUDAK F., Xu L., Solé P.

Finite Fields and their Applications, vol.75, 2021 (SCI-Expanded)

# XXI. CORRELATION DISTRIBUTION OF A SEQUENCE FAMILY GENERALIZING SOME SEQUENCES OF TRACHTENBERG

ÖZBUDAK F., Tekin E.

ADVANCES IN MATHEMATICS OF COMMUNICATIONS, vol.15, no.4, pp.647-662, 2021 (SCI-Expanded)

#### XXII. Geometric Approach to b-Symbol Hamming Weights of Cyclic Codes

Shi M., Özbudak F., Sole P.

IEEE Transactions on Information Theory, vol.67, no.6, pp.3735-3751, 2021 (SCI-Expanded)

### XXIII. New generalized almost perfect nonlinear functions

ÖZBUDAK F., Salagean A.

FINITE FIELDS AND THEIR APPLICATIONS, vol.70, 2021 (SCI-Expanded)

#### XXIV. On the Parity of Power Permutations

Comak P., ÖZBUDAK F.

IEEE Access, vol.9, pp.106806-106812, 2021 (SCI-Expanded)

#### XXV. Hermitian Rank Metric Codes and Duality

La Cruz J. D., Evilla J. R., ÖZBUDAK F.

IEEE ACCESS, vol.9, pp.38479-38487, 2021 (SCI-Expanded)

#### XXVI. Secondary constructions of (non)weakly regular plateaued functions over finite fields

Mesnager S., ÖZBUDAK F., Sinak A.

TURKISH JOURNAL OF MATHEMATICS, vol.45, pp.2295-2306, 2021 (SCI-Expanded)

#### XXVII. Counting Boolean functions with faster points

Salagean A., ÖZBUDAK F.

DESIGNS CODES AND CRYPTOGRAPHY, vol.88, no.9, pp.1867-1883, 2020 (SCI-Expanded)

XXVIII. Subspace packings: constructions and bounds

Etzion T., Kurz S., Otal K., ÖZBUDAK F.

DESIGNS CODES AND CRYPTOGRAPHY, vol.88, no.9, pp.1781-1810, 2020 (SCI-Expanded)

XXIX. Duals of non-weakly regular bent functions are not weakly regular and generalization to plateaued functions

ÖZBUDAK F., PELEN R. M.

FINITE FIELDS AND THEIR APPLICATIONS, vol.64, 2020 (SCI-Expanded)

XXX. Strongly regular graphs arising from non-weakly regular bent functions

ÖZBUDAK F., PELEN R. M.

CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.11, no.6, pp.1297-1306, 2019 (SCI-Expanded)

XXXI. A concatenated construction of linear complementary pair of codes

GÜNERİ C., ÖZBUDAK F., Sacikara E.

CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.11, no.5, pp.1103-1114, 2019 (SCI-Expanded)

XXXII. On q-ary plateaued functions over F-q and their explicit characterizations

Mesnager S., ÖZBUDAK F., Sinak A., Cohen G.

EUROPEAN JOURNAL OF COMBINATORICS, vol.80, pp.71-81, 2019 (SCI-Expanded)

XXXIII. Constructing sequences with high nonlinear complexity using the Weierstrass semigroup of a pair of distinct points of a Hermitian curve

Geil O., Ozbudak F., Ruano D.

SEMIGROUP FORUM, vol.98, no.3, pp.543-555, 2019 (SCI-Expanded)

XXXIV. On affine variety codes from the Klein quartic

Geil O., ÖZBUDAK F.

CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.11, no.2, pp.237-257, 2019 (SCI-Expanded)

XXXV. Linear codes from weakly regular plateaued functions and their secret sharing schemes

Mesnager S., ÖZBUDAK F., Sinak A.

DESIGNS CODES AND CRYPTOGRAPHY, vol.87, pp.463-480, 2019 (SCI-Expanded)

XXXVI. CYLOTOMIC FUNCTION FIELDS OVER FINITE FIELDS WITH CLASS NUMBER THREE

Bilhan M., Buyruk D., ÖZBUDAK F.

JOURNAL OF THE KOREAN MATHEMATICAL SOCIETY, vol.56, no.2, pp.559-578, 2019 (SCI-Expanded)

XXXVII. SELF-DUALITY OF GENERALIZED TWISTED GABIDULIN CODES

Otal K., ÖZBUDAK F., Willems W.

ADVANCES IN MATHEMATICS OF COMMUNICATIONS, vol.12, no.4, pp.707-721, 2018 (SCI-Expanded)

XXXVIII. On Linear Complementary Pairs of Codes

CARLET C., Guneri C., ÖZBUDAK F., Ozkaya B., SOLE P.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.64, no.10, pp.6583-6589, 2018 (SCI-Expanded)

XXXIX. New cubic self-dual codes of length 54, 60 and 66

Comak P., Kim J. L., Ozbudak F.

APPLICABLE ALGEBRA IN ENGINEERING COMMUNICATION AND COMPUTING, vol.29, no.4, pp.303-312, 2018 (SCI-Expanded)

XL. On the p-ary (cubic) bent and plateaued (vectorial) functions

MESNAGER S., ÖZBUDAK F., Sinak A.

DESIGNS CODES AND CRYPTOGRAPHY, vol.86, no.8, pp.1865-1892, 2018 (SCI-Expanded)

XLI. Additive cyclic codes over finite commutative chain rings

Martinez-Moro E., Otal K., ÖZBUDAK F.

DISCRETE MATHEMATICS, vol.341, no.7, pp.1873-1884, 2018 (SCI-Expanded)

XLII. Generalized nonbinary sequences with perfect autocorrelation, flexible alphabets and new periods

BOZTAŞ S., ÖZBUDAK F., TEKİN E.

CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.10, no.3, pp.509-517, 2018 (SCI-Expanded)

# XLIII. Explicit Full Correlation Distribution of Sequence Families Using Plateaued Functions

BOZTAŞ S., ÖZBUDAK F., TEKİN E.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.64, no.4, pp.2858-2875, 2018 (SCI-Expanded)

#### XLIV. Some new non-additive maximum rank distance codes

Otal K., Ozbudak F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.50, pp.293-303, 2018 (SCI-Expanded)

### XLV. A new concatenated type construction for LCD codes and isometry codes

CARLET C., Guneri C., ÖZBUDAK F., SOLÉ P.

DISCRETE MATHEMATICS, vol.341, no.3, pp.830-835, 2018 (SCI-Expanded)

# XLVI. A SUPER-SET OF PATTERSON-WIEDEMANN FUNCTIONS: UPPER BOUNDS AND POSSIBLE NONLINEARITIES

Kavut S., MAİTRA S., ÖZBUDAK F.

SIAM JOURNAL ON DISCRETE MATHEMATICS, vol.32, no.1, pp.106-122, 2018 (SCI-Expanded)

#### XLVII. Cyclic subspace codes via subspace polynomials

Otal K., ÖZBUDAK F.

DESIGNS CODES AND CRYPTOGRAPHY, vol.85, no.2, pp.191-204, 2017 (SCI-Expanded)

# XLVIII. Structure and performance of generalized quasi-cyclic codes

Guneri C., ÖZBUDAK F., Ozkaya B., Sacikara E., SEPASDAR Z., SOLÉ P.

FINITE FIELDS AND THEIR APPLICATIONS, vol.47, pp.183-202, 2017 (SCI-Expanded)

### XLIX. ON COMPLEMENTARY DUAL ADDITIVE CYCLIC CODES

GÜNERİ C., ÖZBUDAK F., Ozdemir F.

ADVANCES IN MATHEMATICS OF COMMUNICATIONS, vol.11, no.2, pp.353-357, 2017 (SCI-Expanded)

#### L. Hasse-Weil bound for additive cyclic codes

Guneri C., ÖZBUDAK F., Ozdemir F.

DESIGNS CODES AND CRYPTOGRAPHY, vol.82, pp.249-263, 2017 (SCI-Expanded)

### LI. Additive Rank Metric Codes

Otal K., ÖZBUDAK F.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.63, no.1, pp.164-168, 2017 (SCI-Expanded)

# LII. Explicit maximal and minimal curves over finite fields of odd characteristics

ÖZBUDAK F., Saygi Z.

FINITE FIELDS AND THEIR APPLICATIONS, vol.42, pp.81-92, 2016 (SCI-Expanded)

### LIII. A minimum distance bound for quasi-nD-cyclic codes

ÖZBUDAK F., Ozkaya B.

FINITE FIELDS AND THEIR APPLICATIONS, vol.41, pp.193-222, 2016 (SCI-Expanded)

### LIV. Switchings of semifield multiplications

Hou X., ÖZBUDAK F., ZHOU Y.

DESIGNS CODES AND CRYPTOGRAPHY, vol.80, no.2, pp.217-239, 2016 (SCI-Expanded)

# LV. EXPLICIT CONSTRUCTIONS OF SOME NON-GABIDULIN LINEAR MAXIMUM RANK DISTANCE CODES Otal K., Ozbudak F.

ADVANCES IN MATHEMATICS OF COMMUNICATIONS, vol.10, no.3, pp.589-600, 2016 (SCI-Expanded)

# LVI. Further results on rational points of the curve y(qn) - y = gamma xqh+1 - alpha over F-qm Cosgun A., ÖZBUDAK F., SAYGI Z.

DESIGNS CODES AND CRYPTOGRAPHY, vol.79, no.3, pp.423-441, 2016 (SCI-Expanded)

# LVII. FURTHER RESULTS ON FIBRE PRODUCTS OF KUMMER COVERS AND CURVES WITH MANY POINTS OVER FINITE FIELDS

ÖZBUDAK F., Temur B. G., YAYLA O.

ADVANCES IN MATHEMATICS OF COMMUNICATIONS, vol.10, no.1, pp.151-162, 2016 (SCI-Expanded)

#### LVIII. Classification of function fields with class number three

BİLHAN M., Buyruk D., ÖZBUDAK F.

JOURNAL OF PURE AND APPLIED ALGEBRA, vol.219, no.11, pp.5097-5116, 2015 (SCI-Expanded)

LIX. A construction of weakly and non-weakly regular bent functions over the ring of integers modulo CELİK D., ÖZBUDAK F.

APPLICABLE ALGEBRA IN ENGINEERING COMMUNICATION AND COMPUTING, vol.26, no.6, pp.543-554, 2015 (SCI-Expanded)

LX. On some bounds on the minimum distance of cyclic codes over finite fields

ÖZBUDAK F., TUTDERE S., YAYLA O.

Designs, Codes, and Cryptography, vol.76, no.2, pp.173-178, 2015 (SCI-Expanded)

LXI. On the exact number of solutions of certain linearized equations

ÖZBUDAK F., SAYGI Z.

DESIGNS CODES AND CRYPTOGRAPHY, vol.73, no.2, pp.457-468, 2014 (SCI-Expanded)

LXII. ON THE NUMBER OF QUADRATIC FORMS HAVING CODIMENSION 2 RADICALS IN CHARACTERISTIC 2
GIVING MAXIMAL/MINIMAL CURVES

ÖZBUDAK F., SAYGI Z.

COMMUNICATIONS IN ALGEBRA, vol.42, no.9, pp.3795-3810, 2014 (SCI-Expanded)

LXIII. Uniqueness of F-q-quadratic perfect nonlinear maps from F-q3 to F-q(2)

Oezbudak F., POTT A.

FINITE FIELDS AND THEIR APPLICATIONS, vol.29, pp.49-88, 2014 (SCI-Expanded)

LXIV. Hybrid classes of balanced Boolean functions with good cryptographic properties Khan M. A., ÖZBUDAK F.

INFORMATION SCIENCES, vol.273, pp.319-328, 2014 (SCI-Expanded)

LXV. On the arithmetic operations over finite fields of characteristic three with low complexity AKLEYLEK S., ÖZBUDAK F., ÖZEL C. S.

JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.259, pp.546-554, 2014 (SCI-Expanded)

LXVI. Finite number of fibre products of Kummer covers and curves with many points over finite fields ÖZBUDAK F., GÜLMEZ TEMÜR B.

DESIGNS CODES AND CRYPTOGRAPHY, vol.70, no.3, pp.385-404, 2014 (SCI-Expanded)

LXVII. Improved probabilistic decoding of interleaved Reed-Solomon codes and folded Hermitian codes ÖZBUDAK F., Yayla O.

THEORETICAL COMPUTER SCIENCE, vol.520, pp.111-123, 2014 (SCI-Expanded)

LXVIII. A New Representation of Elements of Binary Fields with Subquadratic Space Complexity Multiplication of Polynomials

ÖZBUDAK F., AKLEYLEK S., Cenk M.

IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS COMMUNICATIONS AND COMPUTER SCIENCES, no.10, pp.2016-2024, 2013 (SCI-Expanded)

LXIX. On the generalisation of special moduli for faster interleaved montgomery modular multiplication AKLEYLEK S., CENK M., ÖZBUDAK F.

IET INFORMATION SECURITY, vol.7, no.3, pp.165-171, 2013 (SCI-Expanded)

LXX. The Concatenated Structure of Quasi-Cyclic Codes and an Improvement of Jensen's Bound Guneri C., ÖZBUDAK F.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.59, no.2, pp.979-985, 2013 (SCI-Expanded)

LXXI. An exhaustive computer search for finding new curves with many points among fibre products of two Kummer covers over F-5 and F-7

ÖZBUDAK F., GÜLMEZ TEMÜR B., Yayla O.

TURKISH JOURNAL OF MATHEMATICS, vol.37, no.6, pp.908-913, 2013 (SCI-Expanded)

LXXII. Polycyclic codes over Galois rings with applications to repeated-root constacyclic codes
Lopez-Permouth S. R., Ozadam H., ÖZBUDAK F., SZABO S.
FINITE FIELDS AND THEIR APPLICATIONS, vol.19, no.1, pp.16-38, 2013 (SCI-Expanded)

LXXIII. Planarity of products of two linearized polynomials KYUREGHYAN G., ÖZBUDAK F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.18, no.6, pp.1076-1088, 2012 (SCI-Expanded)

LXXIV. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics): Preface

ÖZBUDAK F., Rodríguez-Henríquez F.

Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2012 (SCI-Expanded)

LXXV. On the Polynomial Multiplication in Chebyshev Form

Akleylek S., Cenk M., ÖZBUDAK F.

IEEE TRANSACTIONS ON COMPUTERS, vol.61, no.4, pp.584-587, 2012 (SCI-Expanded)

LXXVI. Quadratic forms of codimension 2 over finite fields containing F-4 and Artin-Schreier type curves ÖZBUDAK F., SAYGI E., Saygi Z.

FINITE FIELDS AND THEIR APPLICATIONS, vol.18, no.2, pp.396-433, 2012 (SCI-Expanded)

LXXVII. Modified Redundant Representation for Designing Arithmetic Circuits with Small Complexity AKLEYLEK S., ÖZBUDAK F.

IEEE TRANSACTIONS ON COMPUTERS, vol.61, no.3, pp.427-432, 2012 (SCI-Expanded)

LXXVIII. A new class of quaternary LCZ sequence sets

ÖZBUDAK F., SAYGI E., SAYGI Z.

DESIGNS CODES AND CRYPTOGRAPHY, vol.62, no.2, pp.189-198, 2012 (SCI-Expanded)

LXXIX. A BOUND ON THE MINIMUM DISTANCE OF QUASI-CYCLIC CODES

Gueneri C., Oezbudak F.

SIAM JOURNAL ON DISCRETE MATHEMATICS, vol.26, no.4, pp.1781-1796, 2012 (SCI-Expanded)

LXXX. A relation between quasi-cyclic codes and 2-D cyclic codes

Guneri C., ÖZBUDAK F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.18, no.1, pp.123-132, 2012 (SCI-Expanded)

LXXXI. Quadratic forms of codimension 2 over certain finite fields of even characteristic

ÖZBUDAK F., SAYGI E., Saygi Z.

CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.3, no.4, pp.241-257, 2011 (SCI-Expanded)

LXXXII. Efficient multiplications in F(5)5n and F(7)7n

CENK M., ÖZBUDAK F.

JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.236, no.2, pp.177-183, 2011 (SCI-Expanded)

LXXXIII. Multiplication of polynomials modulo x(n)

CENK M., ÖZBUDAK F.

THEORETICAL COMPUTER SCIENCE, vol.412, no.29, pp.3451-3462, 2011 (SCI-Expanded)

LXXXIV. APPROXIMATION OF BOUNDS ON MIXED-LEVEL ORTHOGONAL ARRAYS

SEZER A. D., ÖZBUDAK F.

ADVANCES IN APPLIED PROBABILITY, vol.43, no.2, pp.399-421, 2011 (SCI-Expanded)

LXXXV. A class of authentication codes with secrecy

OZBUDAK E. K., ÖZBUDAK F., SAYGI Z.

DESIGNS CODES AND CRYPTOGRAPHY, vol.59, pp.287-318, 2011 (SCI-Expanded)

LXXXVI. Probabilities for absolute irreducibility of multivariate polynomials by the polytope method

Koyuncu F., ÖZBUDAK F.

TURKISH JOURNAL OF MATHEMATICS, vol.35, no.3, pp.367-373, 2011 (SCI-Expanded)

LXXXVII. On Feedback Functions of Maximum Length Nonlinear Feedback Shift Registers

CALIK C., Turan M. S., ÖZBUDAK F.

IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS COMMUNICATIONS AND COMPUTER SCIENCES, no.6, pp.1226-1231, 2010 (SCI-Expanded)

LXXXVIII. On multiplication in finite fields

Cenk M., ÖZBUDAK F.

JOURNAL OF COMPLEXITY, vol.26, no.2, pp.172-186, 2010 (SCI-Expanded)

LXXXIX. A NOTE ON NEGACYCLIC AND CYCLIC CODES OF LENGTH p(s) OVER A FINITE FIELD OF

#### CHARACTERISTIC p

ÖZADAM H., Ozbudak F.

ADVANCES IN MATHEMATICS OF COMMUNICATIONS, vol.3, no.3, pp.265-271, 2009 (SCI-Expanded)

XC. Joint linear complexity of arbitrary multisequences consisting of linear recurring sequences Fu F., Niederreiter H., ÖZBUDAK F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.15, no.4, pp.475-496, 2009 (SCI-Expanded)

XCI. Improved Polynomial Multiplication Formulas over F-2 Using Chinese Remainder Theorem Cenk M., Oezbudak F.

IEEE TRANSACTIONS ON COMPUTERS, vol.58, no.4, pp.572-576, 2009 (SCI-Expanded)

XCII. Joint linear complexity of multisequences consisting of linear recurring sequences

Fu F., Niederreiter H., Ozbudak F.

CRYPTOGRAPHY AND COMMUNICATIONS-DISCRETE-STRUCTURES BOOLEAN FUNCTIONS AND SEQUENCES, vol.1, no.1, pp.3-29, 2009 (SCI-Expanded)

XCIII. Linear complexity over F-q and over F-qm for linear recurring sequences

MEİDL W., ÖZBUDAK F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.15, no.1, pp.110-124, 2009 (SCI-Expanded)

XCIV. Integral and homothetic indecomposability with applications to irreducibility of polynomials Koyuncu F., ÖZBUDAK F.

TURKISH JOURNAL OF MATHEMATICS, vol.33, no.3, pp.283-294, 2009 (SCI-Expanded)

XCV. Weil-Serre Type Bounds for Cyclic Codes

GÜNERİ C., ÖZBUDAK F.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.54, no.12, pp.5381-5395, 2008 (SCI-Expanded)

XCVI. Systematic authentication codes using additive polynomials

ÖZBUDAK F., Saygi Z.

DESIGNS CODES AND CRYPTOGRAPHY, vol.49, pp.61-77, 2008 (SCI-Expanded)

XCVII. Some constructions of (t, m, s)-nets with improved parameters

Ling S., Ozbudak F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.14, no.3, pp.658-675, 2008 (SCI-Expanded)

XCVIII. Multidimensional cyclic codes and Artin-Schreier type hypersurfaces over finite fields Guneri C., Ozbudak F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.14, no.1, pp.44-58, 2008 (SCI-Expanded)

XCIX. Curves related to Coulter's maximal curves

ÇAKÇAK E., ÖZBUDAK F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.14, no.1, pp.209-220, 2008 (SCI-Expanded)

C. Constructions and bounds on linear error-block codes

LİNG S., Ozbudak F.

DESIGNS CODES AND CRYPTOGRAPHY, vol.45, no.3, pp.297-316, 2007 (SCI-Expanded)

CI. Fibre products of Kummer covers and curves with many points

Oebudak F., Temur B. G.

Applicable Algebra in Engineering, Communications and Computing, vol.18, no.5, pp.433-443, 2007 (SCI-Expanded)

CII. Further improvements on asymptotic bounds for codes using distinguished divisors

Niederreiter H., Ozbudak F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.13, no.3, pp.423-443, 2007 (SCI-Expanded)

CIII. Some Artin-Schreier type function fields over finite fields with prescribed genus and number of rational places

ÇAKÇAK E., Ozbudak F.

JOURNAL OF PURE AND APPLIED ALGEBRA, vol.210, no.1, pp.113-135, 2007 (SCI-Expanded)

CIV. Cyclic codes and reducible additive equations

Guneri C., Ozbudak F.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.53, no.2, pp.848-853, 2007 (SCI-Expanded)

CV. Gilbert Varshamov type bounds for linear codes over finite chain rings

ÖZBUDAK F., SOLE P.

Advances In Mathematics Of Communications, vol.1, pp.99-109, 2007 (SCI-Expanded)

CVI. Some maximal function fields and additive polynomials

GARCÍA A., ÖZBUDAK F.

COMMUNICATIONS IN ALGEBRA, vol.35, no.5, pp.1553-1566, 2007 (SCI-Expanded)

CVII. Low-discrepancy sequences using duality and global function fields

Niederreiter H., Ozbudak F.

ACTA ARITHMETICA, vol.130, no.1, pp.79-97, 2007 (SCI-Expanded)

CVIII. Improved asymptotic bounds for codes using distinguished divisors of global function fields

Niederreiter H., ÖZBUDAK F.

SIAM JOURNAL ON DISCRETE MATHEMATICS, vol.21, no.4, pp.865-899, 2007 (SCI-Expanded)

CIX. Some constructions of systematic authentication codes using Galois rings

Oezbudak F., Saygi Z.

DESIGNS CODES AND CRYPTOGRAPHY, vol.41, no.3, pp.343-357, 2006 (SCI-Expanded)

CX. Aperiodic and odd correlations of some p-ary sequences from Galois rings

Ling S., Ozbudak F.

IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS COMMUNICATIONS AND COMPUTER SCIENCES, no.9, pp.2258-2263, 2006 (SCI-Expanded)

CXI. Improvements on generalized hamming weights of some trace codes

GÜNERİ C., Ozbudak F.

DESIGNS CODES AND CRYPTOGRAPHY, vol.39, no.2, pp.215-231, 2006 (SCI-Expanded)

CXII. An explicit class of codes with good parameters and their duals

LİNG S., XİNG C., Ozbudak F.

DISCRETE APPLIED MATHEMATICS, vol.154, no.2, pp.346-356, 2006 (SCI-Expanded)

CXIII. Improved bounds on Weil sums over Galois rings and homogeneous weights

Ling S., Ozbudak F.

CODING AND CRYPTOGRAPHY, vol.3969, pp.412-426, 2006 (SCI-Expanded)

CXIV. Improved p-ary codes and sequence families from Galois rings of characteristic p(2)

LİNG S., Ozbudak F.

SIAM JOURNAL ON DISCRETE MATHEMATICS, vol.19, no.4, pp.1011-1028, 2006 (SCI-Expanded)

CXV. Number of rational places of subfields of the function field of the Deligne-Lusztig curve of Ree type Cakcak E., Ozbudak F.

ACTA ARITHMETICA, vol.120, no.1, pp.79-106, 2005 (SCI-Expanded)

CXVI. Elements of prescribed order, prescribed traces and systems of rational functions over finite fields

Ozbudak F.

DESIGNS CODES AND CRYPTOGRAPHY, vol.34, no.1, pp.35-54, 2005 (SCI-Expanded)

CXVII. Improved p-ary codes and sequence families from Galois rings

Ling S., Ozbudak F.

SEQUENCES AND THEIR APPLICATIONS - SETA 2004, vol.3486, pp.236-242, 2005 (SCI-Expanded)

CXVIII. An improvement on the bounds of Weil exponential sums over Gallois rings with some applications

Ling S., Ozbudak F.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.50, no.10, pp.2529-2539, 2004 (SCI-Expanded)

CXIX. Matrix-product constructions of digital nets

Niederreiter H., Ozbudak F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.10, no.3, pp.464-479, 2004 (SCI-Expanded)

CXX. Subfields of the function field of the Deligne-Lusztig curve of Ree type

ÇAKÇAK E., Ozbudak F.

ACTA ARITHMETICA, vol.115, no.2, pp.133-180, 2004 (SCI-Expanded)

CXXI. Constructing linear unequal error protection codes from algebraic curves

Ozbudak F., STICHTENOTH H.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.49, no.6, pp.1523-1527, 2003 (SCI-Expanded)

CXXII. A note on divisor class groups of degree zero of algebraic function fields over finite fields Ozbudak F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.9, no.1, pp.129-133, 2003 (SCI-Expanded)

CXXIII. Note on Niederreiter-Xing's propagation rule for linear codes

Ozbudak F., STİCHTENOTH H.

APPLICABLE ALGEBRA IN ENGINEERING COMMUNICATION AND COMPUTING, vol.13, no.1, pp.53-56, 2002 (SCI-Expanded)

CXXIV. Constructions of digital nets using global function fields

Niederreiter H., Ozbudak F.

ACTA ARITHMETICA, vol.105, no.3, pp.279-302, 2002 (SCI-Expanded)

CXXV. On maximal curves and linearized permutation polynomials over finite fields ÖZBUDAK F.

Journal of Pure and Applied Algebra, vol.162, no.1, pp.87-102, 2001 (SCI-Expanded)

CXXVI. Additive polynomials and primitive roots over finite fields

Ozbudak F.

COMMUNICATIONS IN ALGEBRA, vol.29, no.3, pp.987-991, 2001 (SCI-Expanded)

CXXVII. Constructing codes from algebraic curves

Ozbudak F., STICHTENOTH H.

IEEE TRANSACTIONS ON INFORMATION THEORY, vol.45, no.7, pp.2502-2505, 1999 (SCI-Expanded)

CXXVIII. Curves with many points and configurations of hyperplanes over finite fields

Ozbudak F., Stichtenoth H.

FINITE FIELDS AND THEIR APPLICATIONS, vol.5, no.4, pp.436-449, 1999 (SCI-Expanded)

CXXIX. Codes on fibre products of some Kummer coverings

Ozbudak F.

FINITE FIELDS AND THEIR APPLICATIONS, vol.5, no.2, pp.188-205, 1999 (SCI-Expanded)

CXXX. Codes on superelliptic curves

ÖZBUDAK F., Glukhov G.

Turkish Journal of Mathematics, vol.22, no.2, pp.223-234, 1998 (SCI-Expanded)

CXXXI. A note on towers of function fields over finite fields

Ozbudak F., Thomas M.

COMMUNICATIONS IN ALGEBRA, vol.26, no.11, pp.3737-3741, 1998 (SCI-Expanded)

CXXXII. On lower bounds for incomplete character sums over finite fields

Özbudak F.

Finite Fields and their Applications, vol.2, no.2, pp.173-191, 1996 (SCI-Expanded)

# Articles Published in Other Journals

I. On a class of repeated root monomial like abelian codes

Martinez Moro E., Özadam H., ÖZBUDAK F., szabo s.

Journal of Algebra Combinatorics Discrete Structures and Applications, vol.2, pp.75-84, 2015 (Scopus)

II. On Verification of Restricted Extended Affine Equivalence of Vectorial Boolean Functions ÖZBUDAK F., SINAK A., YAYLA O.

Lecture Notes in Computer Science, vol.9061, pp.137-154, 2015 (Peer-Reviewed Journal)

III. Classes of weak Dembowski-Ostrom polynomials for multivariate quadratic cryptosystems ALAM B., ÖZBUDAK F., YAYLA O.

Journal of Mathematical Cryptology, vol.9, no.1, pp.11-22, 2015 (Scopus)

IV. Characterisation and enumeration of a class of semi bent quadratic Boolean functions KOÇAK N., KOÇAK O., ÖZBUDAK F., SAYGI Z.

International Journal of Information and Coding Theory, vol.3, pp.39-57, 2015 (Peer-Reviewed Journal)

V. Fibre products of hyperelliptic curves and geometric Goppa codes

Stepanov S., Özbudak F.

Discrete Mathematics and Applications, vol.7, no.3, pp.223-229, 1997 (Scopus)

### **Books & Book Chapters**

I. On two applications of polynomials x^k-cx-d over finite fields and more

İRİMAĞZI C., ÖZBUDAK F.

in: Arithmetic of Finite Fields, Mesnager Sihem, Zhou Zhengchun, Editor, Springer, Cham, pp.14-32, 2023

 $II. \quad \textbf{Constructions of Cyclic Subspace Codes and Maximum Rank Distance Codes}$ 

Özbudak F.

in: Network Coding and Subspace Designs, Marcus Greferath, Mario Osvin Pavčević, Natalia Silberstein, María Ángeles Vázquez-Castro, Editor, Springer, London/Berlin, Zürich, pp.43-66, 2018

III. Constructive Asymptotic Codes with an Improvement on the Tsfasman-Vlăduţ-Zink and Xing Bounds NİEDERREİTER H., ÖZBUDAK F.

in: Coding Cryptography and Combinatorics, Keqin Feng, Harald Niederreiter, Chaoping Xing, Editor, Birkhäuser Basel, pp.259-275, 2004

## Refereed Congress / Symposium Publications in Proceedings

I. On Two Applications of Polynomials xk- cx- d over Finite Fields and More

İrimağzı C., ÖZBUDAK F.

9th International Workshop on the Arithmetic of Finite Fields, WAIFI 2022, Chengdu, China, 29 August - 02 September 2022, vol.13638 LNCS, pp.14-32

II. New Correlations of m-sequences over the finite field F4 compatible with a new bijection to Z4

Boztas S., ÖZBUDAK F., Tekin E.

10th International Workshop on Signal Design and Its Applications in Communications, IWSDA 2022, Colchester, England, 1-05 August 2022

III. Counting Boolean Functions with Faster Points

Salagean A., ÖZBUDAK F.

WCC 2019: The EleventhInternational Workshop on Codingand Cryptography, 31 March - 05 April 2019

IV. Subspace Packings

etzion t., kurz s., OTAL K., ÖZBUDAK F.

WCC 2019: The EleventhInternational Workshop on Codingand Cryptography, 31 March - 05 April 2019

V. On plateaued functions, linear structures and permutation polynomials

Mesnager S., KAYTANCI K., ÖZBUDAK F.

3rd International Conference on Codes, Cryptology and Information Security, C2SI 2019, Rabat, Morocco, 22 - 24 April 2019, pp.217-235

VI. Bounding the Minimum Distance of Affine Variety Codes Using Symbolic Computations of Footprints GEİL O., ÖZBUDAK F.

International Castle Meeting on Coding Theory and Applications, ICMCTA 2017, 28 - 31 August 2017, pp.128-138

VII. A correction and improvements of some recent results on walsh transforms of gold type and Kasami-Welch type functions

Coşgun A., ÖZBUDAK F.

6th International Workshop on Arithmetic of Finite Fields, WAIFI 2016, Ghent, Belgium, 13 - 15 July 2016, pp.243-257

VIII. A super set of Patterson Wiedemann functions upper bounds and possible nonlinearities KAVUT S., Maitra S., ÖZBUDAK F.

International Workshop on the Arithmetic of Finite Fields WAIFI 2016, 13 - 15 July 2016

# IX. Results on algebraic curves over finite fields with applications incoding theory and cryptography ÖZBUDAK F.

Combinatorics 2016, 29 May - 04 June 2016

### X. Results on characterizations of plateaued functions in arbitrary characteristic

Mesnager S., ÖZBUDAK F., Sınak A.

2nd International Conference on Cryptography and Information Security in the Balkans, BalkanCryptSec 2015, Koper, Slovenia, 3 - 04 September 2015, vol.9540, pp.17-30

#### XI. Improvement in non-linearity of carlet-feng infinite class of boolean functions

Khan M. A., ÖZBUDAK F.

11th International Conference on Cryptology and Network Security, CANS 2012, Darmstadt, Germany, 12 - 14 December 2012, pp.280-295

#### XII. Probabilistic Decoding of RS Codes with Extended BKY Algorithm

YAYLA O., ÖZBUDAK F.

International Conference on Applied and Computational Mathematics, Ankara, Turkey, 3 - 06 October 2012

#### XIII. Nested multipartite secret sharing

Kaskaloglu K., ÖZBUDAK F.

2011 IEEE International Conference on Computer Science and Automation Engineering, CSAE 2011, Shanghai, China, 10 - 12 June 2011, vol.4, pp.66-73

#### XIV. On Hierarchical Threshold Access Structures

KAŞKALOĞLU K., ÖZBUDAK F.

Information Assurance and Cyber Defence (Assurance de l'information et cyberdefense), 22 - 23 November 2010

#### XV. Improved bounds on weil sums over galois rings and homogeneous weights

Ling S., ÖZBUDAK F.

International Workshop on Coding and Cryptography, WCC 2005, Bergen, Norway, 14 - 18 March 2005, pp.412-426

#### XVI. Improved p-ary codes and sequence families from Galois rings

Ling S., ÖZBUDAK F.

Third International Conference on Sequences and Their Applications - SETA 2004, Seoul, South Korea, 24 - 28 October 2004, vol.3486, pp.236-242

## XVII. Fibre products of superelliptic curves and codes therefrom

Stepanov S. A., Ozbudak F.

Proceedings of the 1997 IEEE International Symposium on Information Theory, Ulm, Germany, 29 June - 04 July 1997, pp.413

## **Supported Projects**

ÖZBUDAK F., KIRCALI M., KAYTANCI K., Project Supported by Higher Education Institutions, Dizayn teori kriptografi ve kodlama teorisi konusunda araştırma ve uygulama, 2021 - 2022

ÖZBUDAK F., ÇOMAK P., SINAK A., AYBAK L., OTAL K., Project Supported by Higher Education Institutions, ARC İNŞAALARI VE WEİERSTASS NOKTALARININ KODLAMA TEORİSİNE VE KRİPTOGRAFİYE UYGULAMALARI, 2017 - 2017 ÖZBUDAK F., Muş K., Koçak O., Project Supported by Higher Education Institutions, Algebraic And Combinatorial Methods İn Finite Fields, Coding Theory And Cryptography, 2012 - 2013

ÖZBUDAK F., Project Supported by Higher Education Institutions, Algebraic And Combinatorial Methods İn Finiter Fields, Coding Theory And Cryptography, 2011 - 2011

# Activities in Scientific Journals

Advances In Mathematics Of Communications, Committee Member, 2015 - Continues

### **Metrics**

Publication: 205 Citation (WoS): 717 Citation (Scopus): 783 H-Index (WoS): 13 H-Index (Scopus): 13

# Non Academic Experience

METU Institute of Applied Mathematics
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