

TEL-AVIV UNIVERSITY

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Date and place of birth: October 3rd, 1957, Khar'kov, USSR;

Marital status: married ; **No. of children:** 1;

SUMMARY:

- Expert in methods of reliable transmission and storage of information;
- Full **Professor** since 2001;
- Held long-time visiting positions at Bell Laboratories (Murray Hill, NJ), Shannon Laboratories of AT&T (Morristown, NJ), ENST (Paris), and others;
- Author of **two monographs**, hundred forty papers, three patents, and two chapters in "Handbook of Coding Theory" - a basic reference book in coding theory, editor of three books;
- Member of editorial boards of two leading profile journals;
- Member of organizing and program committees of most prestigious international profile conferences. Chairman of Program Committee of ISIT 2010 - the main annual conference in information theory with more than two thousand participants;
- Four accomplished Ph.D. theses and more than 30 M.Sc. theses supervised;
- Author of **X4 technology** for increasing density of flash memory (awarded "Innovation of the Year 2005" Prize);
- Chief Scientist of Future Technologies in Sandisk;
- **Engineering Fellow** of Sandisk since 2007 (the company's highest technical position, only three scientists have been awarded this title).

A. Education:

1974-1979 Perm Polytechnical Institute, Perm, USSR;
Subject: Automatic Control and Communications;
Degree: **M.Sc.** (summa cum lauda) in electrical
engineering,
(June, 1979);

1979-1982 Leningrad Electrotechnical Institute, Leningrad, USSR;
Subject: Information Theory and Technical Cybernetics;
Degree: **Ph.D.** in engineering (information theory)
(November, 1982);

Title of Master's thesis: Decoding algorithms for products of codes
(Supervisor: E. Kon).

Title of Doctoral dissertation: Constructions and decoding algorithms for
products of codes (Supervisor: O. Shekhovtsov).

B. Further Studies: None

C. Academic and Professional Experience:

since **1991** Tel-Aviv University, Tel-Aviv, Israel;
Department of Electrical Engineering-Systems;
Associate Professor (96'), Full Professor (01');
1983-1991 Perm Polytechnical Institute, Perm, USSR;
Faculty of Electrical Engineering; Lecturer;
Senior Lecturer;

Visiting Positions:

1986 Institute for Problems of Information Transmission, Moscow; visiting researcher;

1989, 1991, 1993, 1994, 1995, 1996, 1998, 1999 Ecole Nationale Supérieure des Télécommunications, Paris, France; visiting researcher;

1989, 1997 University Puerto-Rico; visiting researcher;

1990, 1992, 1993, 1994, 1995, 1998 Turku University, Finland; visiting researcher;

1990 Eindhoven Technological University, the Netherlands; research fellow;

1992 University Sophia Antipolis, Nice, France; visiting professor;

1996, 2000 Bordeaux University, France; visiting professor;

1998-1999 DIMACS, Center for Discrete Mathematics and Computer Science, Rutgers University, NJ, USA, research fellow;

1998-1999 ATT Shannon Laboratories, Florham Park, NJ, USA; visiting researcher.

1998-1999 Bell Laboratories, Lucent Technologies, Murray Hill, NJ, USA, visiting researcher;

1999 INRIA, Paris, France, visiting researcher.

Editorial Work:

2000-2003 Associate Editor for Coding Theory, IEEE Transactions on Information Theory

2006- Editor, Advances in Mathematics of Communications

D. Active Participation in Scientific Meetings:

International Conferences on Algebraic and Combinatorial Coding Theory (Tashkent, 1984; Granna, 1985; Sochi, 1987; Eger, 1987; Varna, 1988; Yerevan, 1988; Gotland, 1989; Paris, 1989; San-Diego, 1990; Leningrad, 1990; Moscow, 1991; Positano, 1991; Budapest, 1992; Marseille, 1992; San-Antonio, 1993; Lancaster, 1993; Paris, 1993; Trondheim, 1994; Ambleside, 1995; Paris, 1995; Whistler, 1995; Oberwolfach, 1996; Palma, 1996; Marseille 1996; Waterloo, 1997; Allerton, 1997; Allerton, 1998; Chicago, 1998; Boston, 1998; Turku, 1999; Nice, 1999; New Jersey, 1999; Sorrento, 2000; Paris, 2001; Princeton, 2001; Washington, 2001; Paris, 2003; Oberwolfach, 2003; New Jersey, 2003; Parma, 2004; Adelaide, 2005; Munich, 2006; Seattle, 2006; Allerton, 2006; Tel Aviv, 2007).

Invited speaker at conferences

- 1989 "Exponential Sums and Error Correcting Codes" Puerto Rico;
- 1990 IEEE Workshop in Information Theory, Veldhoven, the Netherlands;
- 1991 "Algebraic Coding" Paris, France;
- 1991 "Applied Algebra and Error Correcting Codes" New Orleans, USA;
- 1992 "Quadratic Forms and Lattices", Luminy, France;
- 1993 "Jerusalem Combinatorics" Jerusalem, Israel;
- 1993 "Communication Theory and Applications" Lancaster, England;
- 1993 "Algebraic Coding" Paris, France;
- 1994 AMS Meeting, Richmond, Virginia, USA;
- 1995 "Applied Algebra and Error Correcting Codes", Paris, France;
- 1996 "Coding and Information Theory", Oberwolfach, Germany;
- 1996 "Quadratic Forms and Lattices", Luminy, France;
- 1998 "Exponential Sums", Jerusalem, Israel;
- 1999 "Numbers, Information and Complexity", Bielefeld, Germany;
- 1999 "7th Nordic Combinatorial Conference", Turku, Finland;
- 1999 "Quantum Computing", Nice, France;
- 2001 "Asymptotic and Computational Problems in Coding Theory", Princeton, USA.

Member of Conferences' Organizing Committees:

- 1991 "Algebraic Coding" Paris, France;
- 1993 "Jerusalem Combinatorics" (session on Coding Theory);
- 1993 1st French-Israeli Conference on Algebraic Coding, Paris, France;
- 1994 1st Mediterranean Workshop on Coding and Information Integrity, Tel-Aviv, Israel;
- 1996 2nd Mediterranean Workshop on Coding and Information Integrity, Palma de Mallorca, Spain.
- 1997 3rd Mediterranean Workshop on Coding and Information Integrity, Ein Boqeq, Israel;
- 1999 International Workshop "Coding and Cryptography: WCC99", Paris, France;
- 1999 DIMACS Workshop "Codes and Association Schemes", New Jersey, the USA;
- 2000 21st IEEE Israel Workshop, Tel Aviv, Israel (Chair of the Program Committee);

2001 International Symposium on Information Theory, Washington, DC, USA (Member of the Program Committee);

2001 AAECC Conference, Australia (Member of the Program Committee);

2004 International Symposium on Information Theory, Chicago, USA (Member of the Program Committee);

2006 International Symposium on Information Theory, Seattle, USA (Member of the Program Committee);

2008 IEEE Information Theory Workshop, Porto, Portugal (Member of the Program Committee);

2008 International Symposium on Information Theory, Toronto, Canada (Member of the Program Committee);

2010 International Symposium on Information Theory, St-Petersburg, Russia (Chairman of the Program Committee).

E. Academic and Professional Awards:

1992-1994 Guastallo Fellowship, Israeli Academy of Sciences.

2006 x4 NAND flash technology was recognized as the "Most Innovative Flash Memory Technology" of the year at the Flash Memory Summit.

2007 Sandisk Engineering Fellow (only three scientists in the company hold the title).

Grants:

1991-1994 Grant from the Ministry of Science and Technology, Israel: "Error Protection in Computer Systems";

1992-1993 Binational Grant (French-Israeli) under the project "Cooperation Grandes Ecoles - Universites Israeliennes": "Sequences for Coding under Various Constraints";

1994-1997 Binational Grant (French-Israeli) under the project "Keshet": "Sequences with special properties".

2000-2002 Binational Science Foundation under the project "Polynomial Method and its Applications in Coding, Information and Extremal Set Theory".

2000-2003 Israeli Science Foundation under the project "Study of performance of efficient codes in wireless communication systems".

2000- Consortium "Software Radio", "Magnet" program of the Israeli Ministry of Trade and Industry. Project: "Efficient coding methods in wireless systems".

2001-2005 Consortium "LSRT", "Magnet" program of the Israeli Ministry of Trade and Industry. Project: "Low-density parity-check codes".

2001-2002 Binational Grant (French-Israeli) under the project "Keshet": "Combinatorial approaches in watermarking problems".

2002-2004 "Magnet" program of the Israeli Ministry of Trade and Industry. Project: "Coding methods for protection of flash memory" with company "M-Systems".

2003-2006 Israeli Science Foundation under the project "Methods of PAPR control in OFDM systems".

2005- Consortium "ISRC", "Magnet" program of the Israeli Ministry of Trade and Industry. Project: "Efficient methods of iterative decoding".

2006- Consortium "Remon", "Magnet" program of the Israeli Ministry of Trade and Industry. Project: "Methods of PAPR control in OFDM systems".

2007-2009 Israeli Science Foundation under the project "Methods of harmonic analysis in problems of information theory, coding and communications".

2007 Binational Grant (French-Israeli): "Combinatorial approaches in problems of communications and cryptography".

2008- Consortium "Rescue", "Magnet" program of the Israeli Ministry of Trade and Industry. Project: "Low-rate codes".

F. Membership in Professional Societies:

1989-1994 American Mathematical Society;
since **1994** IEEE Information Theory Society.
since **1997** URSI

Reviewer:

IEEE Transactions on Information Theory;
IEEE Transactions on Communications;
Information Sciences;
Discrete Mathematics;
Applicable Algebra in Engineering, Communications and Computing;
Designs, Codes and Cryptography;
Journal of Combinatorial Theory;
SIAM J. of Discrete Mathematics;
European J. of Combinatorics;
Finite Fields and Applications;
Graphs and Combinatorics;
International Journal of Mathematical Algorithms;
Discrete and Computational Geometry;
Information Sciences
Mathematical Reviews.

G. Students Supervised:

G1. Postdoctoral students in Tel-Aviv University:

1994-1995 F. Levy-dit-Vehel (INRIA, France).

Ph.D. students in Tel-Aviv University:

1994-1999 O. Keren, Thesis "Algebraic Coding for Computer Systems."

1995-2002 U. Blass, Thesis "Bounds on Covering Codes."

2003-2008 E. Sharon, Thesis "Topics in Analysis and Design of LDPC Coding Systems."

2004-2008 Y. Ben-Haim, Thesis "Bounds on Parameters of Codes."

Participation in committees for doctoral theses

1994 P. Ostergard, Helsinki University of Technology, Finland, official reader;

1995 S. Bitan, Technion, Israel, member of the committee;

1995 S. Qiu, ENST, France, member of the jury;

1995 Y. Kaipainen, Turku University, Finland, official opponent.

2004 M.Schwartz, Technion, Israel, member of the committee.

G2. M.Sc. students in Tel-Aviv University:

1992 Y.Sofer "Error Probability of the Truncated Algorithm for Search of the Maximal Spectrum Element";

1993 Y.Kaufmann "Finding the Maximal Spectrum Element Using an Algorithm with Reduced Complexity";

1994 R.Shkedi "Comparison of approaches to the problem of robustness of hypercube architecture";

1994 D.Moshe "Analysis of decoding error probabilities";

1994 Y.Knobel "Perfect multiple coverings and zeros of Krawtchouk polynomials";

1995 I.Reingold "Algorithms for constructing covering codes of constant weight";

1995 E.Bar-Nir "Methods of constructing sets for exhaustive testing of logical circuits";

1996 E.Algranati "Cryptographic tools in computer communications";

1996 Z.Arnon "Bounds for multiple coverings of Hamming spaces";

1997 T. Flatau "An implementation of elliptic curve cryptography over $(GF_2)^8$ ";

1998 O.Paz "Study of the CD structure and techniques for providing security against copying";

1998 Sh.Shohat "Performance study of turbo-coding in practical FM channels";

2000 Y.Wainshal "A simulation tool for construction and analysis of low-density parity check codes";

2000 V.Gofman "Bounds on the undetected error probability";

2000 I.Alrod "Optimization of RS coding in broadband copper based communication channels";

2000 S.Zur "Distance distribution and covering radius of Goppa codes".

2001 Z. Golan "Simulation and performance analysis of Gallager codes".

2001 Y. Moshe "List decoding of turbo codes".

2001 D. Markus, N.Turgeman "Efficient error correction scheme for a wireless communication system".

2001 N.Price "Different aspects in constructions of Gallager codes".

2001 A.Shtern "Equalization in the frequency domain".

2002 E.Ridel "Improved algorithms for decoding concatenated codes".

2002 Y.Gottfried "Non-coherent iterative demodulation and decoding of serially concatenated continuous phase modulation".

2002 Y.Binder "Linear time encoding of LDPC codes".

2002 A.Levental "Constructions of non-linear codes and bounds on their size".

2002 N.Eilon "MAP decoder vs Pyndiah decoder for turbo-product codes"

2003 S.Issakov "Extended Hamming code MAP decoder implementation"

2003 T.Kronfeld, "Recursive decoding of Reed-Muller codes"

2004 Y.Aviv, "Combining coding, modulation, and phase synchronization"

2004 Y.Nana, "Coded modulation using LDPC codes for memoryless channels"

- 2004** D. Rapoport, "LDPC codes for channels with errors and erasures"
- 2004** Y. Ben-Kuzari, "An analytical bound for PAPR in OFDM systems"
- 2004** A. Bdolah, "Channelizer"
- 2006** O. Dukan, "Performance comparison of three types of "turbo-like" channel coding schemes"
- 2006** M. Solomon, "Novel localization algorithm for GPS systems"
- 2006** E. Dekel, "WLAN range extension using CRC and retransmission mechanism"
- 2006** D. Levin, "Reduced complexity LDPC decoding"
- 2007** Z. Nagola, "Serial scheduling in decoding of turbo-codes"
- 2007** Y. Amizur, "LDPC over discrete multitone modulation (VDSL2)"
- 2008** E. Reshef, "Peak-to-Average Power Reduction for WiMAX".
- 2008** G. Green, "Decoding schemes for short LDPC codes"
- 2008** D. Lipshitz, "Codes with low peak-to-average power ratio for multi-code CDMA"

Publications

Monographs:

G.Cohen, I.Honkala, **S. Litsyn**, A.Lobstein **Covering Codes**, Elsevier, **1997**, 564 pp.

S. Litsyn **Peak Power Control in Multicarrier Communications**, Cambridge University Press, **2007**, 300 pp.

Chapters in books:

S. Litsyn *An Updated Table of the Best Binary Codes Known*, Chapter in **Handbook of Coding Theory**, Pless, Huffman and Brualdi, Eds., Elsevier, **1998**, pp.463–498.

R.Brualdi, **S. Litsyn**, V.Pless *Covering Radius*, Chapter in **Handbook of Coding Theory**, Pless, Huffman and Brualdi, Eds., Elsevier, **1998**, pp.755–826.

Editor of books:

Algebraic Coding, *Lecture Notes in Computer Science*, v.573, Springer-Verlag, **1992**, 158 pp.

Algebraic Coding, *Lecture Notes in Computer Science*, v.781, Springer-Verlag, **1994**, 320 pp.

Codes and Association Schemes, A. Barg and S. Litsyn (Editors), DIMACS Series in Discrete Mathematics and Theoretical Computer Science, vol.56, Providence, AMS, 2001, 303 pp.

Articles

1. V.Zinoviev, **S. Litsyn** Lengthening of codes *Problems of Information Transmission*, v.18, 4, **1982**, pp.244-254.
2. **S. Litsyn**, O.Shekhovtsov Fast decoding algorithm for first order Reed-Muller codes *Problems of Information Transmission*, v.19, 2, **1983**, pp.87-91.

3. V.Zinoviev, **S. Litsyn** Shortening of codes *Problems of Information Transmission*, v.20, 1, **1984**, pp.1-7.
4. **S. Litsyn** New non-linear codes with the minimal distance of 3 *Problems of Control and Information Theory*, v.13, 1, **1984**, pp.13-15.
5. V.Zinoviev, **S. Litsyn** On a general method of increasing the length of codes *Problems of Control and Information Theory*, v.13, 2, **1984**, 79-87.
6. A.Dudkin, **S. Litsyn**, O.Shekhovtsov, A.Shitov Decoding of BCH-codes up to $t + 1$ errors *Problems of Radioelectronics*, v.13, **1984**, pp.83-85. (Rus.)
7. V.Zinoviev, **S. Litsyn** On codes exceeding the Gilbert bound *Problems of Information Transmission*, v.21, 1, **1985**, pp.109-111. (Rus.)
8. **S. Litsyn**, M.Tsfasman Algebro-geometric and number-theoretic sphere-packings in \mathbf{R}^n *Russian Mathematical Surveys*, v.40, 2, **1985**, pp.185-186.
9. **S. Litsyn**, E.Nemirovsky, O.Shekhovtsov, L.Mikhailovskaya Fast decoding of first order Reed-Muller codes in the Gaussian channel *Problems of Control and Information Theory*, v.14, 3, **1985**, pp.189-201.
10. **S. Litsyn**, O.Shekhovtsov Fast decoding of first order Reed-Muller codes in the channel with erasures *Priborostryeniye*, v.28, 9, **1985**, pp.27-31. (Rus.)
11. **S. Litsyn**, A.Yuzhakov Sample encoding in cyclic discretization in an information-measuring system *Priborostryeniye*, v.29, 7, **1986**, pp.10-15. (Rus.)
12. **S. Litsyn**, M.Tsfasman A note on the lower bounds *IEEE Transactions on Information Theory*, IT 32, 5, **1986**, pp.705-706.
13. G.Katsman, **S. Litsyn** Double reliable separating systems *Automatika and Telemekhanika*, v.11, **1986**, pp.114-117.
14. V.Zinoviev, **S. Litsyn** On the dual distance of BCH-codes *Problems of Information Transmission*, v.22, 4, **1986**, pp.272-277.
15. V.Zinoviev, **S. Litsyn** On the general construction of codes' shortening *Problems of Information Transmission*, v.23, 2, **1987**, pp.111-116.

16. **S. Litsyn**, M.Tsfasman Constructive high-dimensional sphere-packings *Duke Mathematical Journal*, v.54, 1, **1987**, pp.147-161.
17. V.Zinoviev, **S. Litsyn** Lower bounds on the overall rational trigonometric sums *Russian Mathematical Surveys*, v.43, 1(259), **1988**, pp.199-200.
18. **S. Litsyn**, E.Nemirovsky Simplification of the maximum likelihood decoding of block codes using the Viterbi algorithm *Transactions of Radio Institute*, Moscow, 2, **1988**, pp.18-27. (Rus.)
19. A.Ashikhmin, **S. Litsyn** Analysis of quasioptimal algorithms for decoding of biorthogonal codes *Radioelectronica*, v.31, 11, **1988**, pp.30-34. (Rus.) English translation: in *Radio Electronics and Communication Systems*, v.31, n.11, pp.26-30, **1988**.
20. **S. Litsyn**, S.Makarenko Estimates on the minimal disbalance in multilevel balance codes. *Communication devices*, 4, **1988**, pp.39-42. (Rus.)
21. L.Bassalygo, V.Zinoviev, **S. Litsyn** Lower estimates for overall trigonometric sums via multiple sums *Doklady of the USSR Academy of Sciences*, v.300, 5, **1988**, pp.1033-1036.
22. V.Zinoviev, **S. Litsyn**, S.Portnoy Cascade codes in Euclidean space *Problems of Information Transmission*, v.25, 3, **1989**, pp.62-75.
23. L.Bassalygo, V.Zinoviev, **S. Litsyn** Lower bound for overall exponential sum for polynomials $f(x^d)$ *Periodica Mathematica Hungarica*, v.20, 4, **1989**, pp.279-287.
24. A.Ashikhmin, **S. Litsyn** A list algorithm for locating the maximal element in the Walsh spectrum *Radioelectronica*, v.32, 3, **1990**, pp.15-22. (Rus.) English translation: in *Radio Electronics and Communication Systems*, v.32, n.11, pp.37-41, **1990**.
25. A.Botvinnik, A.Bartulli, **S. Litsyn** Error-correcting coding in the PCM-30 system *Communication devices*, 1, **1990**, pp.16-18. (Rus.)
26. A.Barg, **S. Litsyn** What is fortune, or how not to loose in football pool? *Quantum*, 9, **1990**, pp.8-16. (Rus.)

27. G. van Wee, G.Cohen, **S. Litsyn** A note on perfect multiple coverings of the Hamming space *IEEE Transactions on Information Theory*, v.37, 3, part 1, **1991**, pp.678-682.
28. A.Barg, **S. Litsyn** DC-constrained codes from Hadamard matrices *IEEE Transactions on Information Theory*, v.37, 3, part 2, **1991**, pp.801-808.
29. G.Cohen, **S. Litsyn** Codes with small running digital sum *IEEE Transactions on Information Theory* v.37, 3, part 2, **1991**, pp.949-955.
30. G.Cohen, **S. Litsyn** On the covering radius of Reed-Muller codes *Discrete Mathematics*, v. 106-107, **1992**, pp.147-155.
31. M.Blaum, V.Buskens, **S. Litsyn**, H.C.A. van Tilborg Error-correcting codes with bounded running digital sum *IEEE Transactions on Information Theory*, v.39, 1, **1993**, pp.216-228.
32. H.Hämäläinen, I.Honkala, M.Kaikkonen, **S. Litsyn** Bounds for binary multiple covering codes *Designs, Codes and Cryptography*, v.3, **1993**, pp.251-275.
33. **S. Litsyn**, A.Tietäväinen Character sum constructions of constrained error-correcting codes *Applicable Algebra in Engineering, Communication and Computing*, v.5, 1, **1994**, pp.45-51.
34. **S. Litsyn**, C.J.Moreno, O.Moreno Divisibility properties and new bounds for cyclic codes and exponential sums in one and several variables *Applicable Algebra in Engineering, Communication and Computing*, v.5, 2, **1994**, pp.105-116.
35. **S. Litsyn**, A.Vardy The uniqueness of the Best code *IEEE Transactions on Information Theory*, v.40, 5, **1994**, pp.1693-1699.
36. G.Cohen, **S. Litsyn**, G.Zémor Upper bounds on generalized distances *IEEE Transactions on Information Theory*, v.40, 6, **1994**, pp.2090-2092.
37. I.Krasikov, **S. Litsyn** On spectra of BCH codes *IEEE Transactions on Information Theory*, v.41, 3, **1995**, pp.786-788.

38. I.Krasikov, **S. Litsyn** On the accuracy of the binomial approximation to the distance distribution of codes *IEEE Transactions on Information Theory*, v.41, 5, **1995**, pp.1472–1474.
39. H.Hämäläinen, I.Honkala, **S. Litsyn** Bounds for binary codes that are multiple coverings of the farthest off points *SIAM Journal of Discrete Mathematics*, vol.8, 2, **1995**, pp.196–207.
40. Y.Klein, **S. Litsyn**, A.Vardy Two new bounds on the size of binary codes with a minimum distance of three *Designs, Codes and Cryptography*, vol.6, No.3, **1995**, pp.219–227.
41. H.Hämäläinen, I.Honkala, **S. Litsyn**, P.Ostergard Football pools - a game for mathematicians *The American Mathematical Monthly*, vol.102, No.7, **1995**, pp.579–588.
42. G.Cohen, I.Honkala, **S. Litsyn**, H.F.Mattson, Jr. Weighted coverings and packings *IEEE Transactions on Information Theory*, v.41, No.6, Part II, **1995**, pp.1856–1867.
43. A.Ashikhmin, **S. Litsyn** Fast decoding algorithms for first order Reed-Muller and related codes *Designs, Codes and Cryptography*, vol.7, No.3, **1996**, pp.187–214.
44. I.Krasikov, **S. Litsyn** On integral zeros of Krawtchouk polynomials *Journal of Combinatorial Theory, Ser.A*, v.150, **1996**, pp.441–447.
45. **S. Litsyn**, A.Tietäväinen Upper bounds on the covering radius of a code with a given dual distance *European Journal of Combinatorics*, v.17, **1996**, pp.265–270.
46. F. Levy-dit-Vehel, **S. Litsyn** More on the covering radius of BCH codes *IEEE Transactions on Information Theory*, v.42, No.3, **1996**, pp.1023–1028.
47. I.Honkala, **S. Litsyn** Generalizations of the covering radius problem in coding theory *Bulletin of the ICA*, v.17, **1996**, pp.39–46.
48. A.Ashikhmin, **S. Litsyn** Fast decoding of nonbinary orthogonal codes *Applicable Algebra in Engineering, Communication and Computing*, v.7, No.4, **1996**, pp.299–308.

49. G.Cohen, **S. Litsyn**, A.Vardy, G.Zémor Tilings of binary spaces *SIAM J. of Discrete Mathematics*, v.9, No.3, **1996**, pp.393–412.
50. G.Cohen, **S. Litsyn**, G.Zémor On the traveling salesman problem in Hamming spaces *IEEE Transactions on Information Theory*, v.42, No.4, **1996**, pp.1274–1276.
51. G.Cohen, **S. Litsyn**, G.Zémor On greedy algorithms in coding theory *IEEE Transactions on Information Theory*, v.42, No.6, **1996**, pp.2053–2057.
52. G.Cohen, **S. Litsyn**, A.Lobstein, H.F.Mattson, Jr. Covering radius 1985–1994 *Applicable Algebra in Engineering, Communication and Computing* (special issue), vol. 8, **1997**, pp. 173–240.
53. I.Krasikov, **S. Litsyn** Estimates for the range of binomiality in codes' spectra *IEEE Transactions on Information Theory*, vol.43, 3, **1997**, pp.987–991.
54. I.Krasikov, **S. Litsyn** Linear programming bounds for doubly-even self-dual codes *IEEE Transactions on Information Theory*, vol.43, 4, **1997**, pp.1238–1244.
55. I. Honkala, T. Laihonen, **S. Litsyn** On covering radius and discrete Chebyshev polynomials *Applicable Algebra in Engineering, Communication and Computing*, vol. 8, **1997**, pp. 395–401.
56. G.Cohen, I.Honkala, **S. Litsyn**, P.Solé Long packing and covering codes *IEEE Transactions on Information Theory*, vol. 43, 5, **1997**, pp. 1617–1619.
57. I.Krasikov and **S. Litsyn** Linear programming bounds for codes of small size, *European J. of Combinatorics*, vol. 18, **1997**, pp.647–656.
58. H. D. L. Hollmann, J. Körner and **S. Litsyn** Tiling Hamming space with few spheres, *J. Combinatorial Th.*, Ser. A, vol. 80, **1997**, pp. 388–393.
59. O.Keren and **S. Litsyn** A class of array codes correcting multiple column erasures, *IEEE Trans. on Information Theory*, vol.43, 6, **1997**, pp.1843–1851.

60. F. Levy-dit-Vehel, **S. Litsyn** Parameters of Goppa codes revisited *IEEE Transactions on Information Theory*, vol.43, 6, **1997**, pp.1811–1819.
61. O.Keren and **S. Litsyn** Codes correcting phased burst errors *IEEE Transactions on Information Theory*, vol.44, 1, **1998**, pp.416–420.
62. I.Krasikov and **S. Litsyn** Bounds on spectra of codes with known dual distance *Designs, Codes and Cryptography*, vol.13, 3, **1998**, pp.285–298.
63. T.Laihonen and **S. Litsyn** On upper bounds for minimum distance and covering radius of non-binary codes *Designs, Codes and Cryptography*, vol.14, 1, **1998**, pp.71–80.
64. **S. Litsyn**, P. Solé and R. Struik On the covering radius of an unrestricted code as a function of the rate and dual distance, *Discrete Applied Mathematics*, vol. 82, **1998**, pp. 177–192.
65. U.Blass and **S. Litsyn** Several new lower bounds on the size of codes with covering radius one, *IEEE Transactions on Information Theory*, vol.44, 5, **1998**, pp.1998–2002.
66. U.Blass, **S. Litsyn** Several new lower bounds for football pool systems *Ars Combinatoria*, vol.50, **1998**, pp.297–302.
67. I.Krasikov and **S. Litsyn** On the distance distribution of duals of BCH codes, *IEEE Transactions on Information Theory*, vol.45, 1, **1999**, pp.247–250.
68. O. Keren and **S. Litsyn** More on the distance distribution of BCH codes, *IEEE Transactions on Information Theory*, vol.45, 1, **1999**, pp.251–255.
69. **S. Litsyn** New upper bounds on error exponents, *IEEE Transactions on Information Theory*, vol.45, 2, **1999**, pp.385–398.
70. A. Ashikhmin and **S. Litsyn** Upper bounds on the size of quantum codes, *IEEE Trans. Information Theory*, vol.45, 4, **1999**, pp.1206–1215.
71. A. Ashikhmin, A. Barg, and **S. Litsyn** New upper bounds on generalized weights, *IEEE Transactions on Information Theory*, vol.45, 4, **1999**, pp.1258–1263.

72. T. Laihonen and **S. Litsyn** New bounds on covering radius as a function of dual distance. *SIAM J. Discrete Math.*, vol.12, 4, **1999**, pp.243–251.
73. U.Blass and **S. Litsyn** The smallest covering code of length 8 and radius 2 has 12 words, *Ars Combinatoria*, vol. LII, May, **1999**, pp.309–318.
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