

Abkürzungen

AAECC =

ACCT = International Workshop on Algebraic and Combinatorial Coding Theory

ACS =

ASIACRYPT = Advances in Cryptology Proceedings, Springer Lecture Notes in Computer Science

AUSCRYPT = Advances in Cryptology Proceedings, Springer Lecture Notes in Computer Science

CRYPTO = Advances in Cryptology Proceedings, Springer Lecture Notes in Computer Science

EUROCRYPT = Advances in Cryptology Proceedings, Springer Lecture Notes in Computer Science

FSE = Fast Software Encryption Proceedings, Springer Lecture Notes in Computer Science

ICC = International Conference on Combinatorics, Information Theory and Statistics

IEEE =

IEICE =

ISIT = IEEE International Symposium on Information Theory

LIENS = Laboratoire d'informatique de l'Ecole Normale Supérieure Paris

LMS = London Mathematical Society

SAC = Selected Areas on Cryptography

Literatur

- [1] C. Adams, S. Tavares: The structured design of cryptographically good S-boxes. *Journal of Cryptology* 3 (1990), 27–41.
- [2] Carlisle Adams: Designing DES-like ciphers with guaranteed resistance to differential and linear attacks. *SAC 95*.
- [3] K. G. Beauchamp: *Applications of Walsh and Related Functions*. Academic Press, London 1984.

- [4] T. Beth, C. Ding: On almost perfect nonlinear permutations. EUROCRYPT 93, 65–76.
- [5] Eli Biham, Adi Shamir: Differential cryptanalysis of DES-like cryptosystems. CRYPTO 90, 2–21.
- [6] Eli Biham, Adi Shamir: Differential cryptanalysis of DES-like cryptosystems. Journal of Cryptology 4 (1991), 3–72.
- [7] Eli Biham, Adi Shamir: Differential cryptanalysis of FEAL and N-Hash. EUROCRYPT 91, 1–16.
- [8] Eli Biham, Adi Shamir: Differential cryptanalysis of the full 16-round DES. CRYPTO 92, 487–496.
- [9] Eli Biham, Adi Shamir: *Differential cryptanalysis of the Data Encryption Standard*. Springer-Verlag 1993.
- [10] Eli Biham: On Matsui’s linear cryptanalysis. EUROCRYPT 94, 341–355.
- [11] Lawrence Brown, Matthew Kwan, Josef Pieprzyk, Jennifer Seberry: Improving resistance to differential cryptanalysis and the redesign of LOKI. Technical Report CS38/91, Dep.of Computer Science, Canberra.
- [12] P. Camion, A. Canteaut: Correlation-immune and resilient functions over a finite alphabet and their applications in cryptography. Designs, Codes, and Cryptography 16 (1999), 121–149.
- [13] P. Camion, C. Carlet, P. Charpin, N. Sendrier: On correlation immune functions. CRYPTO 91, 86–100.
- [14] Anne Canteaut: Differential cryptanalysis of Feistel ciphers and differentially δ -uniform mappings. SAC 97, 172–184.
- [15] Anne Canteaut: Cryptographic functions and design criteria for block ciphers. INDOCRYPT 2001, 1–16.
- [16] A. Canteaut, P. Charpin, H. Dobbertin: A new characterization of almost bent functions. FSE 99, 186–200.
- [17] A. Canteaut, C. Carlet, P. Charpin, C. Fontaine: Propagation characteristics and correlation-immunity of highly nonlinear Boolean functions. EUROCRYPT 2000, 507–522.
- [18] Anne Canteaut, Marion Videau: Degree of composition of highly nonlinear functions and applications to higher order differential cryptanalysis. EUROCRYPT 2002, 518–533.

- [19] C. Carlet: Partially-bent functions. CRYPTO 92, 280–291.
- [20] C. Carlet: Partially-bent functions. Designs, Codes, and Cryptography 3 (1993), 135–145.
- [21] C. Carlet: Two new classes of bent functions. EUROCRYPT 93, 77–101.
- [22] C. Carlet: Hyperbent functions. PRAGOCRYPT 96, 145–155.
- [23] C. Carlet: A construction of bent functions. In: *Finite Fields and their Applications*. LMS Lecture Series 233.
- [24] C. Carlet: A characterization of binary bent functions. ACCT-5/1996.
- [25] C. Carlet: Recent results on bent functions. ICC 97.
- [26] C. Carlet: More correlation immune und resilient functions over Galois fields and Galois rings. EUROCRYPT 97, 422–433.
- [27] C. Carlet: On cryptographic propagation criteria for Boolean functions. Information and Computation 151 (1999), 32–56.
- [28] C. Carlet, P. Charpin, V. Zinoviev: Codes, bent functions and permutations suitable for DES-like cryptosystems. Designs, Codes, and Cryptography 15 (1998), 125–156.
- [29] C. Carlet, P. Guillot: Une caractérisation des fonctions courbes. C. R. Acad. Sci. Paris (1995).
- [30] C. Carlet, P. Guillot: A characterization of binary bent functions. J. Combinatorial Theory A 76 (1996), 328–335.
- [31] C. Carlet, P. Guillot: A characterization of binary bent functions. ISIT 97, 451–.
- [32] C. Carlet, P. Guillot: An alternate characterization of the bentness of binary functions, with uniqueness. Designs, Codes, and Cryptography 14 (1998), 133–140.
- [33] C. Carlet, P. Guillot: A representation of Boolean functions. AAECC 13/1999.
- [34] Florent Chabaud, Serge Vaudenay: Links between differential and linear cryptanalysis. EUROCRYPT 94, 356–365.
- [35] David Chaum, Jan-Hendrik Evertse: Cryptanalysis of DES with a reduced number of rounds Sequences of linear factors in block ciphers. CRYPTO 85, 192–211.

- [36] Jung Hee Cheon: Nonlinear vector resilient functions. CRYPTO 2001, 458–469.
- [37] J. H. Cheon, S. Chee, C. Park: S-boxes with controllable nonlinearity. EUROCRYPT 99, 286–294.
- [38] Joan Daemen: *Cipher and hash function design strategies based on linear and differential cryptanalysis*. Dissertation, KU Leuven 1995.
- [39] Joan Daemen, Vincent Rijmen: *The Design of Rijndael*. Springer-Verlag, Berlin usw. 2002.
- [40] Donald W. Davies: Some regular properties of the DES. CRYPTO 81, 41–41.
- [41] Donald W. Davies: Some regular properties of the ‘Data Encryption Standard’ algorithm. CRYPTO 82, 89–96.
- [42] J. F. Dillon: A survey of bent functions. The NSA technical journal 1972, 191–215.
- [43] Jan-Hendrik Evertse: Linear structures in block ciphers. EUROCRYPT 87, 249–266.
- [44] E. Filiol, C. Fontaine: Highly nonlinear balanced boolean functions with a good correlation-immunity. EUROCRYPT 98, 475–488.
- [45] Réjane Forré: The strict avalanche criterion: Spectral properties of Boolean functions and an extended definition. CRYPTO 88, 450–468.
- [46] Joanne Fuller, William Millan: On linear redundancy in the AES S-box. Preprint Brisbane 2002.
- [47] Carlo Harpes, Gerhard G. Kramer, James L. Massey: A generalization of linear cryptanalysis and the applicability of Matsui’s piling-up lemma. EUROCRYPT 95, 24–38.
- [48] H. M. Heys, S. E. Tavares: Substitution-permutation networks resistant to differential and linear cryptanalysis. Journal of Cryptology 9 (1996), 1–19.
- [49] H. Heys: Modelling avalanche in DES-like ciphers. SAC 96.
- [50] Howard M. Heys: A Tutorial on Linear and Differential Cryptanalysis. Memorial University of Newfoundland.
- [51] T. Jakobsen: Cryptanalysis of block ciphers with probabilistic nonlinear relations of low degree. CRYPTO 98, 212–222.

- [52] Burton S. Kaliski Jr., Matt J. B. Robshaw: Linear cryptanalysis using multiple approximations. *CRYPTO 94*, 26–39.
- [53] Yasuyoshi Kaneko, Fumihiko Sano, Kouichi Sakurai: On provable security against differential and linear cryptanalysis in generalized Feistel ciphers with multiple random functions. *SAC 97*.
- [54] Liam Keliher, Henk Meijer, Stafford Tavares: New method for upper bounding the maximum average linear hull probability for SPNs. *EUROCRYPT 2001*, 420–436.
- [55] Lars R. Knudsen: *Block Ciphers – Analysis, Design and Applications*. Aarhus University 1994.
- [56] Lars R. Knudsen: Truncated and higher order differentials. *FSE 94*, 196–211.
- [57] Lars R. Knudsen, Matt J. B. Robshaw: Non-linear approximations in linear cryptanalysis. *EUROCRYPT 96*, 224–236.
- [58] Gilles Lachaud, Jacques Wolfmann: The weights of the orthogonals of the extended quadratic binary Goppa codes. *IEEE Transactions on Information Theory* 36 (1990), 686–692S.
- [59] Xuejia Lai, James L. Massey: Markov ciphers and differential cryptanalysis. *EUROCRYPT 91*, 17–38.
- [60] Susan K. Langford, Martin E. Hellman: Differential-linear cryptanalysis. *CRYPTO 94*, 17–25.
- [61] Rudolf Lidl, Harald Niederreiter: *Finite Fields*. Encyclopedia of Mathematics and its Applications. Addison-Wesley, Reading 1983.
- [62] Helger Lipmaa, Shiho Moriai: Efficient algorithms for computing differential properties of addition. *FSE 2001*.
- [63] Sheelagh Lloyd: Counting functions satisfying a higher order strict avalanche criterion. *EUROCRYPT 89*, 63–74.
- [64] Sheelagh Lloyd: Properties of binary functions. *EUROCRYPT 90*, 124–139.
- [65] F. J. MacWilliams, N. J. A. Sloane: *The Theory of Error Correcting Codes*. North-Holland, Amsterdam 1977.
- [66] Subhamoy Maitra: Autocorrelation Properties of correlation immune Boolean functions. *INDOCRYPT 2001*, 242–253.
- [67] Subhamoy Maitra: Highly nonlinear balanced Boolean functions with very good autocorrelation property. Elsevier Preprint 2001.

- [68] Mitsuru Matsui, Atsuhiro Yamagishi: A new method for known plaintext attack of FEAL cipher. *EUROCRYPT 92*, 81–91.
- [69] Mitsuru Matsui: Linear cryptanalysis method for DES cipher. *EUROCRYPT 93*, 386–397.
- [70] Mitsuru Matsui: The first experimental cryptanalysis of the Data Encryption Standard. *CRYPTO 94*, 1–11.
- [71] Mitsuru Matsui: New structure of block ciphers with provable security against differential and linear cryptanalysis. *FSE 96*, 205–218.
- [72] Mitsuru Matsui: On a structure of block ciphers with provable security against differential and linear cryptanalysis: *IEICE Trans. Fundamentals E82-A (1999)*, 117–122.
- [73] Willi Meier, Othmar Staffelbach: Fast correlation attacks on stream ciphers. *EUROCRYPT 88*, 301–314.
- [74] Willi Meier, Othmar Staffelbach: Nonlinearity criteria for cryptographic functions. *EUROCRYPT 89*, 549–562.
- [75] William Millan, Andrew Clark, Ed Dawson: Smart hill climbing finds better Boolean functions. *SAC 97*.
- [76] Serge Mister, Carlisle Adams: Practical S-box design. *SAC 96*.
- [77] Pat Morin: Provably secure and efficient block ciphers. *SAC 96*.
- [78] Kaisa Nyberg: Constructions of bent functions and difference sets. *EUROCRYPT 90*, 151–160.
- [79] Kaisa Nyberg: Perfect nonlinear S-boxes. *EUROCRYPT 91*, 378–386.
- [80] Kaisa Nyberg: On the construction of highly nonlinear permutations. *EUROCRYPT 92*, 92–98.
- [81] Kaisa Nyberg: Differentially uniform mappings for cryptography. *EUROCRYPT 93*, 55–64.
- [82] Kaisa Nyberg: Linear approximation of block ciphers. *EUROCRYPT 94*, 439–444.
- [83] Kaisa Nyberg, Lars R. Knudsen: Provable security against differential cryptanalysis. *CRYPTO 92*, 566–574.
- [84] Kaisa Nyberg, Lars R. Knudsen: Provable security against differential cryptanalysis. *Journal of Cryptology 8 (1995)*, 27–37.

- [85] Luke O'Connor: On the distribution of characteristics in bijective mappings. *Journal of Cryptology* 8 (1995), 67–86.
- [86] Luke O'Connor: Convergence in differential distributions. *EUROCRYPT* 95, 13–23.
- [87] Katsuo Ohta, Shiho Moriai, Katsumaro Aoki: Improving the search algorithm for the best linear expression. *CRYPTO* 95, 157–170.
- [88] J. D. Olsen, R. A. Scholtz, L. R. Welch: Bent function sequences. *IEEE Transactions on Information Theory* IT-28 (1982), 858–864.
- [89] Franz Pichler: On the Walsh-Fourier analysis of correlation immune switching functions. *EUROCRYPT* 86, 43–44.
- [90] J. P. Pieprzyk, G. Finkelstein: Towards an effective non-linear crypto design. *IEEE Proceedings* 135 (1988), 325–335.
- [91] Josef P. Pieprzyk: Non-linearity of exponent permutations. *EUROCRYPT* 89, 80–92.
- [92] Josef P. Pieprzyk, C. Charnes, J. Seberry: Linear approximation versus nonlinearity. *SAC* 94.
- [93] Bart Preneel, Werner van Leekwijck, Luc van Linden, René Govaerts, Joos Vandevalle: Propagation characteristics of Boolean functions. *EUROCRYPT* 90, 161–173.
- [94] Bart Preneel, René Govaerts, Joos Vandevalle: Boolean functions satisfying higher order propagation criteria. *EUROCRYPT* 91, 141–152.
- [95] J. A. Reeds, J. L. Manferdelli: DES has no per round linear factors. *CRYPTO* 84, 377–394.
- [96] Vincent Rijmen: *Cryptanalysis and Design of Iterated Block Ciphers*. Dissertation, KU Leuven 1997.
- [97] O. S. Rothaus: On „bent“ functions. *J. Combinatorial Theory A* 20 (1976), 300–305.
- [98] Palash Sarkar, Subhamoy Maitra: Nonlinearity bounds and constructions of resilient Boolean functions. *CRYPTO* 2000, 515–532.
- [99] Palash Sarkar, Subhamoy Maitra: Construction of nonlinear Boolean functions with important cryptographic properties. *EUROCRYPT* 2000, 485–506.
- [100] Jennifer Seberry, Xian-Mo Zhang, Yuliang Zheng: Highly nonlinear 0-1-balanced functions satisfying strict avalanche criterion. *AUSCRYPT* 92, 145–155.

- [101] Jennifer Seberry, Xian-Mo Zhang, Yuliang Zheng: On constructions and nonlinearity of correlation immune functions. EUROCRYPT 93, 181–199.
- [102] Jennifer Seberry, Xian-Mo Zhang, Yuliang Zheng: Nonlinearly balanced Boolean functions and their propagation characteristics. CRYPTO 93, 49–60.
- [103] Jennifer Seberry, Xian-Mo Zhang, Yuliang Zheng: Relationships among nonlinearity criteria. EUROCRYPT 94, 376–388.
- [104] Jennifer Seberry, Xian-Mo Zhang, Yuliang Zheng: Pitfalls in designing substitution boxes. CRYPTO 94, 383–396.
- [105] Jennifer Seberry, Xian-Mo Zhang, Yuliang Zheng: Nonlinearity characteristics of quadratic substitution boxes. SAC 94.
- [106] Adi Shamir: On the security of DES. CRYPTO 85, 280–281.
- [107] Thomas Siegenthaler: Correlation immune polynomials over finite fields. EUROCRYPT 86, 42–42.
- [108] J. Silverman: *The Arithmetic of Elliptic Curves*. Springer-Verlag, New York 1986.
- [109] Yuriy Tarannikov: New constructions of resilient Boolean functions with maximal nonlinearity. FSE 2001.
- [110] Yuriy Tarannikov, Peter Korolev, Anton Botev: Autocorrelation coefficients and correlation immunity of Boolean functions. ASIACRYPT 2001, 460–479.
- [111] Serge Vaudenay: Provable security for block ciphers by decorrelation. LIENS–98–8.
- [112] W. C. Waterhouse: Abelian varieties over finite fields. Ann. Sc. ENS 4 (1969), 521–560.
- [113] A. F. Webster, S. E. Tavares: On the design of S-Boxes. CRYPTO 85, 523–534.
- [114] Xiao Guo-Chen, J. Massey: A spectral characterization of correlation immune combining functions. IEEE Transactions on Information Theory 34 (1988), 569–571.
- [115] A. M. Youssef, T. W. Cusick, P. Stănică, S. E. Tavares: New bounds on the number of functions satisfying the strict avalanche criterion. SAC 96.

- [116] Amr M. Youssef, Guang Gong: Hyper-bent functions. EUROCRYPT 2001, 406–419.
- [117] Muxiang Zhang, Agnes Chan: Maximum correlation analysis of non-linear S-Boxes in stream ciphers. CRYPTO 2000, 501–514.
- [118] Xian-Mo Zhang, Yuliang Zheng: Auto-correlations and new bounds on the non-linearity of Boolean functions. EUROCRYPT 96, 294–306.
- [119] Xian-Mo Zhang, Yuliang Zheng: Difference distribution table of a regular substitution box. SAC 96.
- [120] Xian-Mo Zhang, Yuliang Zheng, Hideki Imai: Non-existence of certain quadratic S-boxes and two bounds on nonlinear characteristics of general S-boxes. SAC 97.
- [121] Xian-Mo Zhang, Yuliang Zheng: New lower bounds on nonlinearity and a class of highly nonlinear functions. Preprint.
- [122] Yuliang Zheng, Xian-Mo Zhang: On relationships among avalanche, nonlinearity, and correlation immunity. ASIACRYPT 2000, 470–482.
- [123] Yuliang Zheng, Xian-Mo Zhang: Improved upper bound on the nonlinearity of high order correlation immune functions. Preprint.
- [124] Anna Zugał, Karol Górski, Zbigniew Kotulski, Andrzej Paszkiewicz, Janusz Szczepański: New constructions in linear cryptanalysis of block ciphers. ACS 2000, 523–530.