

# Bibliography

- [1] Abdel-Ghaffar, K., McEliece, R., Odlyzko, A., and van Tilborg, H. On the existence of optimum cyclic burst-correcting codes. *IEEE Transactions on Information Theory*, 32(6):768-775, 1986.
- [2] Abramson, N. M. A class of systematic codes for non-independent errors. *IRE Transactions on Information Theory*, 5(4):150-157, 1959.
- [3] Abramson, N. M. Error correcting codes from linear sequential circuits. *In Proceedings 4th London Symposium on Information Theory*, pages 26-38, 1961.
- [4] Abramson, N. *Information Theory and Coding*. McGraw-Hill, New York, 1963.
- [5] Abroshan, M., Venkataramanan, R., Dolecek, L., and Fabregas, A. G. Coding for deletion channels with multiple traces. *In 2019 IEEE International Symposium on Information Theory (ISIT)*, pages 1372-1376, IEEE, 2019.
- [6] Alexander, A. A., Gryb, R. M., and Nast, D. W. Capabilities of the telephone network for data transmission. *Bell System Technical Journal*, 39(3):431-476, 1960.
- [7] Ash, R. B. *Information Theory*. John Wiley & Sons, Interscience, Courier Corporation, University of Illinois Urbana, Illinois, New York, 1965.
- [8] Assmus(Jr), E. F., Mattson(Jr), H. F., and Turyn, R. J. Research to develop the algebraic theory of codes. *Pennsylvania Electronic Systems-East Waltham MA Applied Research Laboratory*, 1967.
- [9] Ball, S. *A course in Algebraic Error-Correcting Codes*. Springer, 2020.

- [10] Belov, B. I. A conjecture on the Griesmer bound. *In Proceedings Optimization Methods and their Applications, (Russian), Sibirskoye Energetic Institute Sibirskoye Otdeleniye Akademiya Nauk SSSR, Irkutsk*, 182:100-106, 1974.
- [11] Berlekamp, E. R. *Algebraic Coding Theory (revised edition)*. World Scientific, 2015.
- [12] Bierbrauer, J. *Introduction to Coding Theory*. Chapman and Hall/CRC, 2016.
- [13] Bose, R. *Information Theory, Coding and Cryptography*. Tata McGraw-Hill Education, 2008.
- [14] Bose, R. C. and Ray-Chaudhuri, D. K. On a class of error correcting binary group codes. *Information and Control*, 3(1): 68-79, 1960.
- [15] Campopiano, C. Bounds on burst-error-correcting codes (corresp.). *IRE Transactions on Information Theory*, 8(3):257-259, 1962.
- [16] Chen, C. L. Error-correcting codes with byte error-detection capability. *IEEE Transactions on Computers*, 32(7):615-621, 1983.
- [17] Chen, C. L. Linear codes for masking memory defects (corresp.). *IEEE Transactions on Information Theory*, 31(1):105-106, 1985.
- [18] Chien, R. T. and Tang, D. T. On definitions of a burst. *IBM Journal of Research and Development*, 9(4):292-293, 1965.
- [19] Das, P. K. Codes on s-periodic random error of length b. *Palestine Journal of Mathematics*, 3(2):168-174, 2014.
- [20] Das, P. K. Weight distribution of periodic errors and optimal/anti-optimal linear codes. *Journal of Mathematics*, 2014:1-5, 2014.
- [21] Das, P. K. and Kumar, S. Location and weight distribution of key errors. *Matematicki Vesnik*, 73(1):43-54, 2021.
- [22] Das, P. K. and Tyagi, V. Codes on s-periodic errors. *Ratio Mathematica*, 22(1):61-68, 2012.

- [23] Dass, B. K., Garg, P., and Zannetti, M. On repeated burst error detecting and correcting codes. *Special volume of East-West Journal of Mathematics*, pages 79-98, 2008.
- [24] Ding, C., Li, C., Li, N., and Zhou, Z. Three-weight cyclic codes and their weight distributions. *Discrete Mathematics*, 339(2):415-427, 2016.
- [25] Dougherty, S. T. *Algebraic Coding Theory over Finite Commutative Rings*. Springer, Department of Mathematics University of Scranton, USA, 2017.
- [26] Elias, P. Coding for noisy channels. *IRE Convention Record*, 3:37-46, 1955.
- [27] Ezerman, M. F., Grassl, M., and Sole, P. The weights in MDS codes. *IEEE Transactions on Information Theory*, 57(1):392-396, 2010.
- [28] Feng, K., Niederreiter, H., and Xing, C. *Coding, Cryptography and Combinatorics*. Springer Science & Business Media, Birkhauser Verlag, Switzerland, 2004.
- [29] Fire, P. A class of multiple-error-correcting binary codes for non-independent errors. *Stanford University, Sylvania Report, RSL-E-2, Sylvania Reconnaissance Systems Laboratory, Mountain View, Calif, USA*, 1959.
- [30] Forney, G. D. *Concatenated Codes*. Massachusetts Institute of Technology Research Laboratory of Electronics Cambridge, Massachusetts C2139, Technical Report 440, USA, 1965.
- [31] Gallager, R. Low-density parity-check codes. *IRE Transactions on Information Theory*, 8(1):21-28, 1962.
- [32] Gilbert, E. N. Capacity of a burst-noise channel. *Bell System Technical Journal*, 39(5):1253-1265, 1960.
- [33] Gilbert, E. N. A problem in binary encoding. *In Proceedings of the Symposium in Applied Mathematics*, 10:291-297, 1960.
- [34] Griesmer, J. H. A bound for error-correcting codes. *IBM Journal of Research and Development*, 4(5):532-542, 1960.

- [35] Golay, M. J. Notes on digital coding. *In Proceedings of Institute of Electrical and Electronics Engineers*, 37:657, 1949.
- [36] Hamming, R. W. Error detecting and error correcting codes. *The Bell System Technical Journal*, 29(2):147-160, 1950.
- [37] Hocquenghem, A. Codes correcteurs derreurs. *Chiffres (Paris)*, 2:147-156, 1959.
- [38] Howe, E. W., Lauter, K. E., and Walker, J. L. *Algebraic Geometry for Coding Theory and Cryptography*. Springer, IPAM, Los Angeles, CA, February 2016, Vol. 9, 2017.
- [39] Hsiao, M. Y., Carter, W. C., Thomas, J. W., and Stringfellow, W. R. Reliability, availability, and serviceability of IBM computer systems: A quarter century of progress. *IBM Journal of Research and Development*, 25(5):453-468, 1981.
- [40] Huffman, D. A. A study of the memory requirements of sequential switching circuits. *Massachusetts Institute of Technology, Cambridge Research Laboratory of Electronics, Technical Report 293 (No. NP-5940, Project 3-99-12-022)*, 1955.
- [41] Huffman, W. C. and Pless, V. *Fundamentals of Error-Correcting Codes*. Cambridge University Press, 2010.
- [42] Johnson, S. M. A new upper bound for error-correcting codes. *IEEE Transactions on Information Theory*, 8(3):203-207, 1962.
- [43] Jones, G. A. and Jones, J. M. *Information and Coding Theory*. Springer Science & Business Media, 2000.
- [44] Kasami, T. and Lin, S. Some results on the minimum weight of primitive BCH codes (corresp.). *IEEE Transactions on Information Theory*, 18(6):824-825, 1972.
- [45] Klove, T. *Codes for Error Detection (Series on Coding Theory and Cryptology, V. 2)*, World Scientific, 2007.
- [46] Kwong, W. C. and Yang, G. C. *Optical Coding Theory with Prime*. Chemical Rubber Company Press, Boca Raton, 1st edition, 2018.

- [47] Lange, N. Error correcting codes on periodically disturbed data channels. *In Proceedings of 1994 IEEE International Symposium on Information Theory, page 33, Trondheim, Norway, 1994.*
- [48] Lin, S. and Costello, D. J. *Error control coding: Fundamental and Applications.* Prentice Hall, New York, 2001.
- [49] MacWilliams, J. A theorem on the distribution of weights in a systematic code. *Bell System Technical Journal*, 42(1):79-94, 1963.
- [50] Morris, D. ECC chip reduces error rate in dynamic RAMS. *Computer Design*, 19(10):137-142, 1980.
- [51] Neubauer, A., Freudenberger, J., and Kuhn, V. *Coding Theory: Algorithms, Architectures and Applications.* John Wiley & Sons, 2007.
- [52] Neumann, P. A note on Gilbert burst-correcting codes. *IEEE Transactions on Information Theory*, 11(3):377-384, 1965.
- [53] Niederreiter, H. and Xing, C. *Algebraic Geometry in Coding Theory and Cryptography.* In Algebraic Geometry in Coding Theory and Cryptography. Princeton University Press, 41 William Street, Princeton, New Jersey 08540, UK, 2009.
- [54] Olcayto, E. and Lesz, T. Class of linear cyclic block codes for burst errors occurring in one-, two- and three-dimensional channels. *In IEE Proceedings F (Communications, Radar and Signal Processing)*, 130(5):468-475, IET Digital Library, 1983.
- [55] Peterson, W. W. *Error-correcting codes.* Cambridge, MIT Press, 1961.
- [56] Peterson, W. W. and Weldon, E. J. *Error Correcting Codes.* MIT press, 1972.
- [57] Pless, V. *Introduction to the Theory of Error-Correcting Codes, Volume 48.* John Wiley & Sons, 1998.
- [58] Plotkin, M. Binary codes with specified minimum distance. *IRE Transactions on Information Theory*, 6(4):445-450, 1960.

- [59] Prange, E. Cyclic error-correcting codes in two symbols. *Air force Cambridge Research Labs, Bedford, Technical Report, MA, AFCRC-TN-57-103*, 1957.
- [60] Rohtagi, B. On weights of 2-repeated low-density bursts of length  $b$  (fixed). *Malaya Journal of Matematik (MJM)*, 6(3, 2018):582-584, 2018.
- [61] Sabary, O., Yaakobi, E., and Yucovich, A. The error probability of maximum-likelihood decoding over two deletion/insertion channels. In *2020 IEEE International Symposium on Information Theory (ISIT)*, pages 763-768, 2020. doi: 10.1109/ISIT44484.2020.9174488.
- [62] Sacks, G. E. Multiple error correction by means of parity checks. *IRE Transactions on Information Theory*, 4(4):145-147, 1958.
- [63] Schmitz, T. L., Chu, D., and Houck, L. First-order periodic error correction: validation for constant and non-constant velocities with variable error magnitudes. *Measurement Science and Technology*, 17(12):3195-3203, 2006.
- [64] Shang, T. and Liu, J. *Secure Quantum Network Coding Theory*. Springer, 2020.
- [65] Sharma, A. and Sharma, A. K. Macwilliams type identities for some new  $m$ -spotty weight enumerators. *IEEE Transactions on Information Theory*, 58(6):3912-3924, 2012.
- [66] Sharma, B. D. and Rohtagi, B. Some results on weights of vectors having 2-repeated bursts. *Cybernetics and Information Technologies*, 11(1):36-44, 2011.
- [67] Singleton, R. Maximum distance  $q$ -nary codes. *IEEE Transactions on Information Theory*, 10(2):116-118, 1964.
- [68] Solomon, G. and Stiffler, J. J. Algebraically punctured cyclic codes. *Information and Control*, 8(2):170-179, 1965.
- [69] Sweeney, P. *Error Control Coding: From Theory to Practice*. John Wiley & Sons, Incorporation, 2002.
- [70] Shannon, C. E. A Mathematical Theory of Communication. *The Bell System Technical Journal*, 27(3):379-423, 1948.

- [71] Shen, L. Z. and Fu, F. W. The decoding error probability of linear codes over the erasure channel. *IEEE Transactions on Information Theory*, 65(10):6194-6203, 2019. doi: 10.1109/TIT.2019.2926075.
- [72] Todd, K. M. *Error Correction Coding: Mathematical Methods and Algorithms*. John Wiley & Sons, Hoboken, New Jersey, 2005.
- [73] Tomlinson, M., Tjhai, C. J., Ambroze, M. A., Ahmed, M., and Jibril, M. *Error-Correction Coding and Decoding: Bounds, Codes, Decoders, Analysis and Applications*. Springer Nature, 2017.
- [74] Tyagi, V. and Das, P. K.  $s$ -alternate error correcting linear codes. *Journal of Combinatorics, Information & System Sciences*, 35(1-2):17-26, 2010.
- [75] Van Lint, J. H. *Coding Theory, Volume 201*. Springer, Berlin, 1971.
- [76] Van Lint, J. H. *Introduction to Coding Theory, Volume 86*. Springer Science & Business Media, 1995.
- [77] Varshamov, R. R. Estimate of the number of signals in error correcting codes. *Doklady Akademii Nauk, SSSR*, 117:739-741, 1957.
- [78] Vermani, L. R. *Elements of Algebraic Coding Theory, Volume 12*. CRC Press, 1996.
- [79] Villalba, L. J. G., Orozco, A. L. S., and Blaum, M. On multiple burst-correcting MDS codes. *Journal of Computational and Applied Mathematics*, 295:170-174, 2016.
- [80] Wainberg, S. and Wolf, J. Burst decoding of binary block codes on  $q$ -ary output channels (corresp.). *IEEE Transactions on Information Theory*, 18(5): 684-686, 1972.
- [81] Wyner, A. Low-density-burst-correcting codes (corresp.). *IEEE Transactions on Information Theory*, 9(2):124-124, 1963.
- [82] You, Y. *Audio Coding: Theory and Applications*. Springer Science & Business Media, 2010.

# List of Publications and Conferences

## Published/Communicated

- (1) Das, P. K. and Haokip, L. Correction and weight distribution of periodic random errors. *Science and Technology Asia*, 26(4):38-47, 2021. <https://ph02.tci-thaijo.org/index.php/SciTechAsia/article/view/245872>. (Scopus, UGC-CARE List, Group II).
- (2) Das, P. K. and Haokip, L. Periodical burst error correcting codes with decoding error probability. *Discrete Mathematics Letters*, 8:49-56, 2021. DOI: 10.47443/dml.2021.0077. (Scopus, UGC-CARE List, Group II).
- (3) Das, P. K. and Haokip, L. Low-density periodical burst correcting codes with decoding probability and detection capability. *Journal of Applied Mathematics and Computing*, 68:4537-4557, 2022. <https://doi.org/10.1007/s12190-022-01716-z>. (SCI Expanded(IF 2.19), UGC-CARE List, Group II).
- (4) Das, P. K. and Haokip, L. Codes with burst distance and periodical burst errors. *Journal of Computational and Applied Mathematics*, 411:114240, 2022. <https://doi.org/10.1016/j.cam.2022.114240>. (SCI Expanded (IF 2.87), UGC-CARE List, Group II).
- (5) Haokip, L. and Das, P. K. Correction of low-density periodic random errors with weight distribution and error decoding probability. *Communicated*.



## Conference Presentations

- (1) Codes and periodic random errors. *First National Conference on the Application of Mathematical Tools in Social Sciences and Sciences (online)*. Zakir Husian Delhi College, University of Delhi, India, October 17-18, 2020.
- (2) Correction of periodical burst errors. *2nd Annual Convention of the North East Academy of Science and Technology & International Seminar on Recent Advances in Science and Technology (virtual)*. Mizoram University, India, November 16-18, 2020.
- (3) Codes on  $s$ -periodic random errors for lower weight. *International Webinar on Foundations for Contemporary Mathematical Research*. Department of Mathematics, Manipur University, India, November 8-10, 2021.
- (4) Low-density periodic random error correcting codes. *International Conference on Emerging trends in Pure and Applied Mathematics (blended mode)*. Department of Applied Sciences and Mathematical Sciences, Tezpur University, India, March 12-13, 2022.

\*\*\*\*\*