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# Lexicographic Constant-Weight Equidistant Codes over the Alphabet of Three, Four and Five Elements

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## ABSTRACT

In this paper we consider the problem of finding bounds on the size of lexicographic constant-weight equidistant codes over the alphabet of three, four and five elements with  $2 \le w < n \le 10$ . Computer search of lexicographic constant-weight equidistant codes is performed. Tables with bounds on the size of lexicographic constant-weight equidistant codes are presented.

### **KEYWORDS**

Lexicographic Codes, Equidistant Codes, Constant-Weight Codes, Bounds of Codes

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#### References

- C. J. Colbourn and J. H. Dinitz, "The CRC handbook of combinatorial designs," Boca Raton, CRC [1] Press, FL, 1996.
- [2] J. I. Hall, "Bounds for equidistant codes and partial projective planes," Discrete Mathematics, Vol. 17, pp. 85 - 94, 1977.
- J. I. Hall, A. J. E. M. Jansen, A.W. J. Kolen, and J. H. van Lint, "Equidistant codes with distance 12," [3] Discrete Mathematics, Vol. 17, pp. 71 - 83, 1977.
- J. H. van Lint, "A theorem on equidistant codes," Discrete Mathematics, Vol. 67, pp. 353-358, [4] 1973.
- N. V. Semakov and V. A. Zinoviev, "Equidistant q-ary codes with maximal distance and resolvable [5] balanced incomplete block designs," Problemi peredachi Informatsii, Vol. 4, No. 2, pp. 3 - 10, 1968.
- A. E. Brouwer, J. B. Shearer, N. J. A. Sloane, and W. D. Smith, "A new table of constant-weight [6] codes," IEEE Transactions on Information Theory, Vol. 36, pp. 1344 - 1380, 1990.
- E. Agrell, A. Vardy, and K. Zeger, "Upper bounds for constant-weight codes," IEEE Transactions on [7] Information and Theory, Vol. IT-46, pp. 2373 - 2395, 2000.
- G. T. Bogdanova, "New bounds for the maximum size of ternary constant weight codes," Serdica [8] Mathematics Journal, Vol. 26, pp. 5 - 12, 2000.
- [9] M. Svanstr?m, P. R. J. ?sterg?rd, and G. T. Bogdanova, "Bounds and constructions for ternary constant-composition codes," IEEE Transactions on Information Theory, Vol. 48, No. 1, pp. 101 -111, 2002.
- [10] D. R. Stinson and G. H. J. van Rees, "The equivalence of certain equidistant binary codes and symmetric BIBDs," Combinatorica, Vol. 4, pp. 357 - 362, 1984.

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- [11] F. W. Fu, T. Klove, Y. Luo, and V. K. Wei., "On equidistant constant weight codes," In Proceedings WCC' 2001 Workshop on Coding and Cryptography, Paris, France, pp. 225 - 232, January 2001.
- [12] J. H. Conway, "Integral lexicographic codes," Discrete Mathematics, Vol. 83, pp. 219 235, 1990.
- [13] J. H. Conway and N. J. A. Sloane, "Lexicographic codes: Error-correcting codes from game theory," IEEE Transactions on Information Theory, Vol. 32, pp. 337 - 348, 1986.
- [14] R. A. Brualdi and V. S. Pless, "Greedy codes," Journal of Combinatorial Theory (A), September 1993.
- [15] M. Plotkin, "Binary codes with specified minimum distance," IRE Transactions on Information Theory, Vol. 6, pp. 445 - 450, 1960.
- P. Delsarte, "Bounds for unrestricted codes, by linear programming," Philips Research, Vol. 27, pp. 47 64, 1972.
- [17] G. Bogdanova, T. Todorov, and T. Pagkou, "New equidistant constant weight codes over the alphabet of three, four and five elements," Preprint №1/2008, BAS, 2008.
- [18] G. Bogdanova, T. Todorov, and V. Zinoviev, "On construction of q-ary equidistant codes," Problems of Information Transmission, Vol. 43, pp. 13 - 36, 2007.
- [19] G. Bogdanova, T. Todorov, and V. Todorov, "Web-based application for coding theory studying," In Proceedings of the International Congress of Mathematical Society of Southeastern Europe, Borovets, Bulgaria, pp. 94 - 99, Sep- tember 15 - 21, 2003.

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