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Galois环上极大周期序列的平移等价

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The Shift Equivalent of Maximal Period Sequences Over a Galois Ring

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摘要 本文给出了Galois环上两个具有相同特征多项式的极大周期序列是否平移等价的一个判定方法, 以及在两个序列平移等价的情况下, 利用模 p 方幂提升技术, 给出了一个计算它们的平移距离的方法.

关键词: **Galois 环 极大周期序列 平移等价**

Abstract: In this paper, we study the condition of shift equivalence of two maximal periodic sequences which have the same characteristic polynomial over a Galois rings, and give an algorithm to decide the shift distance between these two sequences when they are shift equivalent.

Key words: **Galois ring maximal periodic sequence shift equivalence**

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- [1] Calderbank A R, Sloane J A. Modular and p -adic Cyclic Codes. *Designs, Codes and Cryptography*, 1995, 6: 21-35 
- [2] Interlando J C, Palazzo R, Elia M. On the Decoding of Reed-Solomon and BCH Codes Over Integer Residues Rings. *IEEE Trans. of Information Theory*, 1997, 43(3): 1013-1021 
- [3] Boztas S, Hammons R, Kumar P V. 4-phase Sequences with Near Optimal Correlation Properties. *IEEE Trans. of Information Theory*, 1991, 37(3): 1101-1113
- [4] Kumar P V, Helleseth T, Calderbank A R, Hammons R. Large Families of Quaternary Sequences with Low Correlation. *IEEE Trans. of Information Theory*, 1996, 42(3): 579-592 
- [5] Udaya P, Siddiqi M. U, Optimal Biphase Sequences with Large Linear Complexities Derived from ML-Sequences over Z_4 . *IEEE Trans. of Information Theory*, 1996, 42(1): 206-216 

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- [6] Dai Z D. Binary Sequences Derived from ML-sequences over Rings I: Periods and Minimal Polynomials. *J. of Cryptology*, 1992, 5: 193-207 
- [7] Dai Z D, Huang M Q. Criteria of Primitive Integral Polynomials Modulo 2^e . *Chinese Science Bulletin*, 1990, 35(15): 1128-1130
- [8] Huang M Q. Maximal Periodic Polynomials over $Z/(p^d)$. *Science in China (Series A)*, 1992, 35(3): 270-275
- [9] 祝跃飞. Galois 环上本原多项式的一个判别准则. 数学学报, 1996, 39(6): 783-788 (Zhu Y F. A Criterion for Primitive Polynomials over Galois Rings. *Acta Mathematica Sinica (Chinese Series)*, 1996, 39(6): 783-788)
- [10] Wan Z X. Lectures on Finite Fields and Galois Rings. Beijing: World Publishing Corporation, 2006
- [11] McDonald B. R. Finite Rings With Identity. New York: Dekker, 1974
- [12] 戚文峰, 戴宗铎. 环 $Z/(p^d)$ 上序列的迹表示及前馈序列空间结构分析. 应用数学学报, 1997, 20(1): 128-136 (Qi W F, Dai Z D. The Trace-representation of Sequences and the Space of Nonlinear Filtered Sequences over $Z/(p^d)$. *Acta Mathematicae Applicatae Sinica*, 1997, 20(1): 128-136)
- [13] Menezes A J, Orschot P G, Vanstone S A. Handbook of Applied Cryptography. Boca Raton: CRC Press, 1996

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