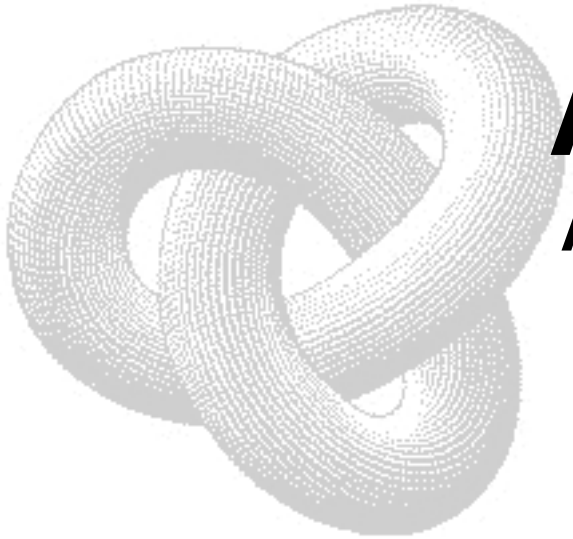
Lectures on Pure and Applied Math

Research Topics in the Mathematical Sciences



Announcing

A Seminar Presentation on April 24, 2014 at 3:00 pm in Lee 301

at The University of New Haven

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The number of zeros of linear recurring sequences over finite fields

Abstract

In this talk, I discuss the possible number of zeros of a homogeneous linear recurring sequence over a finite field $\mathbb{F}_q$, based on an irreducible minimal polynomials of degree d and order m as the characteristic polynomial. I prove upper and lower bounds on the cardinality of the set of number of zeros. The set is determined when $t = (q^d - 1)/m$ has the form $q^a + 1$ or $q^{2a} - q^a + 1$ where $a \in \mathbb{N}$. The connection with coding theory is a key ingredient

Further Information

For further information, please contact Carole McClellan at the Department of Mathematics and Physics, Office: Maxcy 204, 203-932-7250, CMcClellan@newhaven.edu.