

Otto-von-Guericke-Universität Magdeburg
Fakultät für Mathematik

Auf Einladung des Institutes für Algebra und Geometrie spricht

Herr Max Schulz

(Universität Rostock, Institut für Mathematik)

über das Thema

The Recursive Behaviour of the Number of Irreducible Polynomials with Certain Properties over Finite Fields

Ort: Otto-von-Guericke-Universität Magdeburg, Gebäude 02, Raum 210

Zeit: Dienstag, 28. Mai 2024, 13.00 Uhr

Zu diesem Vortrag laden wir alle Interessierten herzlich ein.

Abstract: Last year, [Robert Granger](#) proved that the difference of the number of irreducible polynomials in $\mathbb{F}_2[x]$ with trace and cotrace 1 and those with trace and cotrace 0 is either 0 in the case that the degree is odd, or equal to the number of irreducible polynomials of degree $n/2$ with trace 1 if the degree n is even. One way to prove that is to actually consider the much more manageable difference $|S_1(n)| - |S_0(n)|$, where $S_a(n)$ is the set of monic irreducible polynomials in $\mathbb{F}_2[x]$ of degree n with trace a .

In this talk we will talk about how Robert Grangers and Omran Ahmadis observation can be extended to all finite fields and how to prove it. The methods we develop for the proof can then be used to obtain new results that look very similar in nature.