Otto-von-Guericke-Universität Magdeburg
Fakultät für Mathematik

Auf Einladung des Institutes für Algebra und Geometrie spricht

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über das Thema

Thin Simplices via Modular Arithmetic

Zeit: Dienstag, 30. Mai 2023, 13.00 Uhr, G03-214 oder
per Zoom Meeting ID 971 4945 5855, passcode 490213

Zu diesem Vortrag laden wir alle Interessierten herzlich ein.

Prof. Dr. Benjamin Nill

Abstract: Local $h*$-polynomial of a lattice polytope is a somewhat better-behaved version of the numerator $h*$ of the Ehrhart series. One of the simplest questions we can ask is when does this polynomial vanish. The lattice polytopes satisfying this property are called thin. To describe thin simplices we can take the following approach. To each lattice simplex one can associate a linear code over a ring of integers modulo N. This allows us to translate some questions arising in Ehrhart theory to those of linear codes and modular arithmetic. In particular, thinness translates to the corresponding code having no words of maximal weight. I will report on some progress made in this direction, in particular on classification of thin simplices in dimension four.