

Otto-von-Guericke-Universität Magdeburg
Fakultät für Mathematik

Auf Einladung des Institutes für Algebra und Geometrie spricht

Herr Benjamin Brück

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über das Thema

Coset complexes and the Cohen-Macaulay property

Ort: Otto-von-Guericke-Universität Magdeburg, Gebäude 02, Raum 20

Zeit: Dienstag, 30. April 2019, 13.00 Uhr

Zu diesem Vortrag laden wir alle Interessierten herzlich ein.

Prof. Dr. Thomas Kahle

Abstract: Simplicial complexes which are constructed using cosets of subgroups in an fixed group G appear in several branches of group theory. Examples include Coxeter complexes (G a Coxeter group) and Tits-buildings (G an algebraic group) as well as complexes related to automorphism groups of free groups ($G = \text{Aut } F_n$). In all of these three cases, the complexes can be shown to be Cohen-Macaulay. Cohen-Macaulayness is a combinatorial property of simplicial complexes which is closely related to the corresponding notion in commutative algebra. In this talk, I will first give definitions and examples of the concept mentioned above and then explain how Cohen-Macaulayness of coset complexes can be used to deduce algebraic properties of the associated groups G . (See <https://arxiv.org/abs/1901.04204>)