



Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

Dienstag, 5. November 2024

17 Uhr, Geom H4

Prof. Thomas Nikolaus
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Algebraic K-Theory and Arithmetic

Abstract:

Higher algebraic K-Theory is an invariant of rings introduced by Quillen in the 1970s. Specifically, the K-groups $K_n(R)$ for integers n are abelian groups associated with any ring R . They play a central role in various areas of pure mathematics, ranging from topology to algebraic geometry and arithmetic.

I will attempt to provide a gentle introduction to K-Theory, including definitions of low K-groups and some applications. Despite their theoretical importance, the computation of K-Theory groups is very complicated. I will indicate how modern tools (such as prismatic cohomology, p-adic Hodge theory, higher algebra) make it possible to tackle fundamental questions, such as the computation of the K-groups of finite rings, which have remained open since the 70s.

**Vor dem Vortrag (ab 16.30 Uhr) stehen im Foyer vor Hörsaal H4
Kaffee und Tee bereit.**