



Universität Stuttgart



Kolloquium des Fachbereichs Mathematik

Es spricht am Montag, 17.12.2018 um 16:00 Uhr

Dr. Leo Margolis

(Vrije Universiteit Brussel)

zum Thema:

“A counterexample to the first Zassenhaus conjecture for units in integral group rings”

Abstract: Initiated by G. Higman in 1940 research on the unit group of the integral group ring $\mathbb{Z}G$ of a finite group G has uncovered many interesting interactions between ring, group, representation and number theory. A conjecture of H. Zassenhaus from 1974 stated that any unit of finite order in $\mathbb{Z}G$ should be as trivial as one can possibly expect. More precisely it should be conjugate in the rational group algebra $\mathbb{Q}G$ to an element of the form $\pm g$ for some $g \in G$.

I will recall some history of the problem and related questions and then present a recently found counterexample. The existence of the counterexample is equivalent to showing the existence of a certain module over an integral group ring. Considering intermediate problems by variation of the coefficient ring allows to boil down the conjecture to questions which can be solved by mostly elementary calculations.

This is joint work with Florian Eisele.

Der Vortrag findet im Sitzungssaal 8.122 der Fakultät Mathematik und Physik, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen statt. Interessenten sind herzlich eingeladen!

Die Dozentinnen und Dozenten des Fachbereichs Mathematik