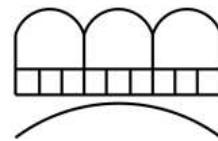Graduiertenkolleg

Experimentelle und konstruktive Algebra

RWTHAACHEN
UNIVERSITY
Experimental and
constructive
algebra

Kolloquiumsvortrag

Donnerstag, 2. Juli 2015, 14:00 Uhr bis 15:30 Uhr, Hörsaal III

Stephen Glasby (University of Western Australia, Perth, Australien):
p-groups, Weyl modules, and maximal subgroups of linear groups

Given a subgroup H of $GL(d, p)$, there exists a d-generated p-group G whose automorphism group induces the linear group H on the Frattini quotient $G/\Phi(G)$. The proof of this fact by Bryant and Kovács is non-constructive. In some sense G is a "non-linear representation" of H.

We consider how to go from a maximal subgroup H of $GL(d, p)$ to a nonabelian p-group G with minimal class/exponent/order. This involves understanding the H-submodule structure of Weyl modules and some intriguing H-homomorphisms. This work was motivated by applications to algorithms for p-groups and geometry, and is joint with John Bamberg, Luke Morgan and Alice Niemeyer.

Wir laden alle Interessierten herzlich ein.