



111
102
1004

Leibniz
Universität
Hannover

Oberseminar

zur

Algebra und Algebraischen Kombinatorik

Dr. René Reichenbach
(Leibniz Universität Hannover)

On 2-blocks with defect groups $Q_{2^n} \times Q_8$

To study the representation theory of a finite group G over a field \mathbb{F} of positive characteristic p one decomposes the group algebra $\mathbb{F}G$ into smaller algebras, which are called blocks. This naturally induces a decomposition of the sets $\text{Irr}(G)$ and $\text{IBr}(G)$ of irreducible characters of G over the fields \mathbb{C} and \mathbb{F} respectively. The structure of a block and the irreducible characters associated with it are heavily influenced by a piece of local information called the defect group of the block, which is a p -subgroup of the group G .

Given a finite p -group D it is interesting to study blocks with defect group D . As one of the first results of this kind, Olsson examined blocks with generalized quaternion defect groups Q_{2^n} in 1975. In this talk we will consider blocks whose defect group is the product $Q_8 \times Q_{2^n}$ of a quaternion group and a generalized quaternion group. These groups naturally occur in the study of defect groups of 2-rank two.

Using the $*$ -construction introduced by Brou and Puig we calculate numerical invariants of blocks with such defect groups. Using this example, we will also illustrate the theory of nilpotent extensions of defect groups.

Dienstag 18.07.2017
ab 11:15 Uhr, Raum a410
Hauptgebäude der Leibniz Universität Hannover
Alle Interessierten sind herzlich eingeladen.

Institut für Algebra, Zahlentheorie
und Diskrete Mathematik