Oberseminar

zur

Algebra und Algebraischen Kombinatorik

Prof. Dr. Wolfgang Willems

(Otto-von-Guericke-Universiät Magdeburg)

"Lie-type-like groups"

Let K be an algebraically closed field of characteristic $p > 0$ dividing the order of the finite group G. We shall discuss relations between the block structure of the group algebra KG and the structure of the group G. By a result of Harris in 1985, the group algebra is indecomposable as a two-sided ideal (i.e. $KG = B_0 =$ the principal block) if and only if p is odd and $O_{p'}(G) = F^*(G)$ (generalized Fitting group) or $p = 2$, $O_{p'}(G) = 1$ and all components of G are of type M_{22} or M_{24} (Mathieu groups). In the talk we consider the case $KG = B_0 \oplus B_1$ where the B_i are two-sided indecomposable ideals and B_1 is the full matrix algebra $(K)_{|G|_p}$ (i.e. KG consists of the principal block B_0 and a particular block B_1 of defect zero). For non-solvable groups and $p \geq 5$, it turns out that this is exactly the case if G is a finite simple group of Lie type in defining characteristic p.

Montag, 15.12.2014

ab 14:15 Uhr, Raum a410

Hauptgebäude der Leibniz Universität Hannover
Alle Interessierten sind herzlich eingeladen.

gez. Prof. Dr. C. Bessenrodt
Institut für Algebra, Zahlentheorie
und Diskrete Mathematik