Mathematisches Forschungsinstitut Oberwolfach

Report No. 15/2006

Representations of Finite Groups

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March 26th – April 1st, 2006

Abstract. The workshop "Representations of finite groups" was organized by A. Kleshchev (Eugene), M. Linckelmann (Aberdeen), G. Malle (Kaiserslautern) and J. Rickard (Bristol). It covered a wide variety of aspects of the representation theory of finite groups and related objects like Hecke algebras.

Mathematics Subject Classification (2000): 20-06 20Cxx.

Introduction by the Organisers

The meeting was organized by A. Kleshchev (Eugene), M. Linckelmann (Aberdeen), G. Malle (Kaiserslautern) and J. Rickard (Bristol). This meeting was attended by over 50 participants with broad geographic representation. It covered a wide variety of aspects of the representation theory of finite groups and related objects like Hecke algebras. This workshop was sponsored by a project of the European Union which allowed us to invite in addition to established researchers also a couple of young people working on a PhD in representation theory. In eleven longer lectures of 40 minutes each and twentytwo shorter contributions of 30 minutes each, recent progress in representation theory was presented and interesting new research directions were proposed. Besides the lectures, there was plenty of time for informal discussion between the participants, either continuing ongoing research cooperation or starting new projects.

The topics of the talks came roughly from two major areas: on the one hand, the investigation of representation theoretic properties of general finite groups and related objects, on the other hand the determination and detailed analysis of representations of special classes of finite groups and related objects like Hecke algebras.
One of the main topics touched upon in several talks was the investigation of the various open conjectures on characters and blocks of finite groups, like Alperin’s, Broué’s and Dade’s conjecture. A major breakthrough presented at this meeting by G. Navarro was the reduction (jointly with M. Isaacs and G. Malle) of the McKay conjecture on character degrees to a statement purely about simple groups, and the verification of this condition for certain families of finite simple groups. In the same direction, Puig announced some reduction statements for Alperin’s weight conjecture.