

MATHEMATISCHES FORSCHUNGSINSTITUT OBERWOLFACH

Report No. 32/2006

Algebraic K-Theory

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July 16th – July 22nd, 2006

ABSTRACT. This is the report on the Oberwolfach workshop *Algebraic K-Theory*, held in July 2006. The talks covered mainly topics from Algebraic Geometry and Number Theory in connection with K -Theory. Special emphasis was placed on motivic cohomology and motivic homotopy of general schemes.

Mathematics Subject Classification (2000): 19Dxx, 19Exx, 19Fxx.

Introduction by the Organisers

Vaguely speaking, K -theory is a way of examining features of systems of polynomial equations by considering the possible ways to associate vector spaces to each solution. While the objects of study come from algebraic geometry or number theory the methods come from algebraic topology. In the last decade motivic cohomology has matured to provide a useful tool for computing algebraic K -theory.

The conference covered a wide range of interconnected topics from classical Milnor K -theory, cyclic homology, algebraic K -theory (in the narrow sense), Chow groups, regulators, homotopy theory of schemes with a certain stress in motivic cohomology and triangulated motives. Algebraic K -theory is the theme holding these questions together. This was reflected both in the selection of the participants as well as in the choice of talks. The 48 participants came mostly from Europe and North America, but also from Japan and China. There was a good mix of participants, from leading experts of the field to younger researchers and even a couple of graduate students. There were 17 mostly 1-hour talks. Priority was given to young researchers, to allow them to present their results. The schedule left enough time for interesting discussions between participants.

