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Edited by Thorsten Holm, Peter Jørgensen and Raphaël Rouquier

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Triangulated Categories

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Preface

This volume grew out of a Workshop on Triangulated Categories held at the University of Leeds in August 2006. The meeting, a Satellite of the International Congress of Mathematicians 2006, has been generously supported by the Leverhulme Foundation (via the network Algebras, Representations and Applications), the London Mathematical Society (Conference Grant Ref. 1438) and the University of Leeds.

Over the past decades, triangulated categories have made their way into many different parts of mathematics, to the extent that today, they can be viewed as a unifying theory underlying major parts of modern mathematics. The Leeds workshop has brought together researchers from many parts of mathematics who all use triangulated methods but would not usually meet at more specialized conferences, with the aim to promote cross fertilization leading to new applications of triangulated categories.

The present book collects surveys by leading experts reflecting a broad range of important topics covered at the workshop. However, it is not a proceedings volume recording precisely the talks given at the conference and it does not claim to be a comprehensive coverage of all the numerous applications of triangulated categories throughout mathematics.

There are contributions dealing with fundamental general aspects of triangulated categories as well as articles covering important applications, e.g. in algebraic geometry, algebraic topology, commutative algebra, algebraic analysis, K-theory or representation theory.

We wish to express our sincere thanks to the authors of the contributions, as well as to the referees.

We think that the interdisciplinary spirit of the successful Leeds workshop and the many fruitful discussions having taken place there are well reflected by the articles and we hope that specialists and non-specialists alike will benefit from the broad perspective on triangulated categories and their applications provided by the surveys.

We are very grateful to the staff at Cambridge University Press for their help, their patience and constant support in bringing this book together.

Hannover, Newcastle, and Oxford, January 2010

Thorsten Holm, Peter Jørgensen, and Raphaël Rouquier