Applied Wave Mathematics

Ewald Quak • Tarmo Soomere
Editors

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Selected Topics in Solids, Fluids, and Mathematical Methods

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Dedicated to Jüri Engelbrecht,

the Founder and Leader of CENS,

on the Occasion of his 70th Birthday

Preface

This edited volume consists of twelve contributions related to the EU Marie Curie Transfer of Knowledge Project *Cooperation of Estonian and Norwegian Scientific Centres within Mathematics and its Applications*, CENS-CMA (2005-2009), under contract MTKD-CT-2004-013909, which financed exchange visits to and from CENS, the *Centre for Nonlinear Studies* at the Institute of Cybernetics of Tallinn University of Technology in Estonia.

Seven contributions describe research highlights of CENS members, two the work of members of CMA, the *Centre of Mathematics for Applications*, University of Oslo, Norway, as the partner institution of CENS in the Marie Curie project, and three the field of work of foreign research fellows, who visited CENS as part of the project. The structure of the book reflects the distribution of the topics addressed:

Part I Waves in Solids
Part II Mesoscopic Theory
Part III Exploiting the Dissipation Inequality
Part IV Waves in Fluids
Part V Mathematical Methods

The papers are written in a tutorial style, intended for non-specialist researchers and students, where the authors communicate their own experiences in tackling a problem that is currently of interest in the scientific community. The goal was to produce a book, which highlights the importance of applied mathematics and which can be used for educational purposes, such as material for a course or a seminar.

To ensure the scientific quality of the contributions, each paper was carefully reviewed by two international experts. Special thanks go to all authors and referees, without whom making this book would not have been possible. We also thank Heiko Herrmann for his technical and TeXnical help. The friendly and effective collaboration with Springer Verlag through Martin Peters is kindly appreciated.

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