

Preface

With the rapid development of computer hardware – an increase in the processing speed and the size of the memory available – there has been a rapid development of data analysis methods that were previously not possible to use in practice due to the required computing power. At the crossroads of three disciplines: materials science, image analysis and statistical data analysis, new research possibilities have appeared.

The minisymposium “*Parametric and Non-Parametric Methods of Data Analysis at Multiscale Modeling*” provided an opportunity to exchange ideas and experiences. The minisymposium was organized as part of the WCCM 2014, 11th World Congress on Computational Mechanics, which was held in Barcelona, Spain on 20-25 July, 2014.

The meeting was very fruitful. The papers selected from the minisymposium were improved and expanded, following the remarks suggested during the Congress. Having been reviewed by at least two experts, the papers were prepared for this volume of *Solid State Phenomena*. The papers were chosen on the basis of their quality and relevancy to the minisymposium.

The organizers of the minisymposium are grateful to the Congress Organizing Committee, especially to Antonio Huerta, Javier Oliver and Eugenio Oñate from the International Center for Numerical Methods in Engineering (CIMNE), co-chairpersons of the Congress for putting their effort into organizing and providing such a great scientific event.

We must also express our deep gratitude to the authorities of Polish Stereological Society for their financial support of this publication.

Last but not least, we would like to thank to Trans Tech Publications, Inc. for their assistance in the preparation and organization of this publication.

Conference Organizers

IACM – International Association for Computational Mechanics

ECCOMAS – European Congress on Computational Methods in Applied Sciences and Engineering

CIMNE – International Center for Numerical Methods in Engineering