Computational science for energy research (preface)

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Preface

Computational science for energy research

Computational science complements theory and experiments. It can deliver knowledge and understanding in application areas where the latter two can not. Computational science is particularly important for the simulation of various energy-related processes, ranging from classical energy processes as combustion and subsurface oil-reservoir flows to more modern processes as wind-farm aerodynamics, photovoltaics and – very challenging from a computational perspective – tokamak-plasma physics.

The current special issue finds its origin in the Second Frontiers in Computational Physics Conference, centered around the theme energy, and held 3–5 June 2015 in Zürich, Switzerland. The conference provided a forum for exchanging knowledge and expertise on advanced computational methods for the computer simulation of various energy processes.

We hope that the resulting special issue will prove to be informative and useful for researchers interested in computational science for energy research.

We thank all people who have helped us in preparing this special issue: the reviewers, the technical editors of the Journal of Computational Physics, and most of all the authors.

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