Lecture Notes
in Computational Science
and Engineering

140

Editors:

Timothy J. Barth
Michael Griebel
David E. Keyes
Risto M. Nieminen
Dirk Roose
Tamar Schlick

More information about this series at

Oliver Sander

DUNE — The Distributed and Unified Numerics Environment

 Springer

Oliver Sander ⓘD
Institut für Numerische Mathematik
TU Dresden
Dresden, Germany

Preface

The idea that a book about DUNE would be a good thing to have has been on my mind for a long time. Many people have expressed interest in DUNE, right from the start. Many have started to use it, but it was a steep learning curve for a lot of them, because DUNE is a complex piece of software, and not every part of it is well documented.

There were two things that kept me from considering to write the book myself. First, it was obvious that it would be a large book, and I was intimidated by the amount of work that this would mean. Secondly, DUNE is the joint work of a large group of people, and I did not know how to properly and sufficiently give them credit.

For a while, I thought that I had a plan that would elegantly solve both worries at once. When that plan failed, I had already produced too much of a book to simply throw it away again. Therefore I simply kept going, and the result is what you hold in hands. I hope it will be useful to you.

Many people helped me write this book. Some proof-read parts of it and suggested improvements, others explained technical details to me that I hadn't known before. Several people donated text fragments and images that existed previously, and some fixed bugs in DUNE at my request. For all this I would like to thank Peter Bastian, Markus Blatt, Ansgar Burchardt, Andreas Dedner, Martin Drohmann, Christian Engwer, Jö Fahlke, Bernd Flemisch, Sebastian Götschel, Carsten Gräser, Dominic Kempf, Robert Klöfkorn, Sven Marnach, Dmitry Mazilkin, Steffen Müthing, Martin Nolte, Benedikt Oswald, Simon Praetorius, Susanne Schmidt, Justus Schock, Michaël Sghaïer, Henrik Stolzmann, Edscott Wilson Garcia, and Jonathan Youett. Special thanks go to Christoph Grüninger for reading the entire manuscript twice. Finally, I would also like to thank Jobst Hoffmann for his help with the LaTeX listings package, and Leonie Kunz and Martin Peters from Springer Verlag for their support.

Dresden,   *Oliver Sander*
July 2020

Contents