

Special Volume on Scientific Machine Learning

This volume of Electronic Transactions on Numerical Analysis (ETNA) contains selected papers by participants of the international conference *Scientific Machine Learning*, which was held at the Center of Data and Simulation Science of the University of Cologne, Germany, on January 8-10, 2020.

The focus of the conference was on scientific machine learning, a rapidly evolving field that combines and further develops techniques of scientific computing and machine learning.

The conference was organized by Axel Klawonn and Alexander Heinlein with assistance of the local scientific committee. It brought together more than 60 participants from various European countries, China, South Korea, and the USA. During the three-day conference 23 talks were delivered, including four invited plenary talks.

The contributions collected in this special issue span a wide variety of topics in scientific machine learning, ranging from neural-network-enhanced numerical methods for partial differential equations to the identification of model parameters and dynamical systems to accelerated learning strategies for deep neural networks to applications in mechanical processes and marine ecosystems.

The papers in this volume were, after being refereed, published in the order of acceptance. We would like to thank all the authors for their contributions. Special thanks go to Thomas Mach, who performed and organized the preparation for publication.

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