

Guest editorial: COMPEL special issue on optimization and inverse problems in electromagnetism

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This Special Issue of the *International Journal for Computation and Mathematics in Electrical and Electronic Engineering* – COMPEL gathers 10 peer-reviewed papers which share the subject of optimization and inverse problems in electromagnetism as a common ground.

The collection of papers provides a unique opportunity for scientists, researchers and engineers active in the broad area of inverse problems in electromagnetism, to focus on the state of the art and most recent developments in computational methods and applications. The Special Issue topics cover a wide spectrum of inverse problems: topology optimization, deep-learning based approach for shape design and identification problems, non-linear optimization, evolution strategies and surrogate-based optimization are just a few of applicable keywords. The applications are broad and range from low frequency devices, in particular electrical motors, to electrical power systems. Special emphasis is placed on topology optimization and on the use of deep learning techniques for solving optimization and identification problems.

In particular, this Special Issue of COMPEL contains papers selected by the Guest Editors as a result of a two-stage qualification procedure. First, corresponding authors submitted their manuscripts; next, a peer review procedure started under the management of Guest Editors, ensuring at least two independent reviews per manuscript. Eventually, the final decision to publish considered the results from the blind review procedure as well as the quality of revised manuscripts. Accordingly, the list of accepted papers was finalized and the order of appearance in the Special Issue was based on the respective acceptance dates. We would also like to express our sincere gratitude to all the reviewers for their availability to cooperate and the valuable work done.

As Editors of this Special Issue we would like to express our thanks to COMPEL journal for providing an important chance to share recent experiences and achievements in applied electromagnetism. We hope that readers of this COMPEL issue find all these papers both interesting and inspiring in view of their future activity.

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