

Special Issue on **Second-Generation HTS Conductors and Their Applications in Electric Power Systems**

CALL FOR PAPERS

Due to the rapid development of second-generation high-temperature superconductors (HTS), superconducting technology and its applications have attracted lots of attention around the world. Currently, the applications of second-generation HTS conductors in electric power systems have covered different fields and offered distinguished advantages. For example, introducing Superconducting Magnetic Energy Storage (SMES) and Superconducting Fault Current Limiter (SFCL) enables us to improve the system stability and ensure the operational reliability; applying superconducting cables and superconducting transformers can help to reduce the operating costs and enhance the transmission efficiency. To promote these power applications, the physical characteristics of second-generation HTS conductors should be significantly taken into account. For instance, the study on the critical current, loss propagation, stress distribution, magnetic field, and thermal stability will have important significance for guiding the electromagnetic design and prototype testing of superconducting power devices.

The purpose of this special issue is to provide a platform for presenting the latest research results on the second-generation HTS conductors and their applications in electric power systems. We seek original research papers on theoretical, methodological, and empirical studies, as well as review papers, that provide critical overviews on the state of the art of technologies. This special issue is open to all types of second-generation HTS conductors, coils and magnets. This special issue is also applicable to small-scale and large-scale superconducting power applications. We kindly welcome original, high-quality contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences.

Potential topics include but are not limited to the following:

- ▶ Critical current characteristics of second-generation HTS conductors, coils and magnets
- ▶ Loss propagation characteristics of second-generation HTS conductors, coils and magnets
- ▶ Stress distribution and magnetic field properties of second-generation HTS conductors, coils and magnets
- ▶ Cryostat design and thermal stability of second-generation HTS conductors, coils and magnets
- ▶ Conceptual design and economic assessment of second-generation HTS coils and magnets
- ▶ Applications of second-generation HTS conductors, coils and magnets in electric power systems
- ▶ Prototype manufacture and performance test of second-generation HTS conductors, coils and magnets

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/acmp/htsc/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Li Ren, Huazhong University of Science and Technology, Wuhan, China
renli@mail.hust.edu.cn

Guest Editors

Ying Xu, Huazhong University of Science and Technology, Wuhan, China
xuying@mail.hust.edu.cn

Tao Wang, Waseda University, Tokyo, Japan
michealwang@fuji.waseda.jp

Zhenan Jiang, Victoria University of Wellington, Wellington, New Zealand
zhenan.jiang@vuw.ac.nz

Submission Deadline

Friday, 17 November 2017

Publication Date

April 2018