

Special Issue

Insulating Materials for Future Power Systems: Performance Analysis, Defect Detection and Condition Assessment

Message from the Guest Editors

A wide variety of electrical materials, such as polymeric insulating materials, energy storage materials, functional ceramics, semi-conductive sensing materials, and high-conductive metallic materials, compose the complicated power transmission system. Recently, modern renewable energy systems will replace traditional energy systems owing to the more precise and controlled power stations. In this context, the insulation materials, as one of the core components in electrical power equipment, will undergo unprecedented challenges and opportunities that may enhance the operational complexity and reduces the power system's safety and reliability. The variations in operational conditions mark a question on the insulation strength of newly developed countless ultra-high voltage (UHV) assets. Consequently, there is an essential need for a credible performance analysis, defect detection, and condition assessment of insulation materials in UHV equipment.

Guest Editors

Dr. Xianhao Fan

Dr. Chuangyang Li

Dr. Fangwei Liang

Dr. Jiefeng Liu

Prof. Dr. Weidong Liu

Deadline for manuscript submissions

closed (15 April 2025)



Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



mdpi.com/si/150086

Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

[mdpi.com/journal/
energies](https://mdpi.com/journal/energies)





Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



[mdpi.com/journal/
energies](https://mdpi.com/journal/energies)



About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and Industrial Engineering, University
Niccolò Cusano, 00166 Roma, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q1 (Control and Optimization)