



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

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Deadline for manuscript  
submissions:

**30 October 2024**

### **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.





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