

Special Issue

Advancing Sustainable Energy Through Quantum Material Innovation

Message from the Guest Editors

“Advancing Sustainable Energy Through Quantum Material Innovation” focuses on leveraging quantum materials to enhance sustainable energy solutions. Quantum computing and artificial intelligence are emerging as powerful tools for optimizing renewable energy systems, improving energy storage, and designing new materials. For instance, quantum simulations can model atomic structures to identify compounds with high energy storage potential, crucial for renewable energy storage. Additionally, quantum materials like perovskite quantum dots are showing promise in developing more efficient solar cells and LEDs. These innovations aim to address the intermittency of renewable energy sources and improve overall energy efficiency, contributing to a sustainable future.

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