Special Issue

Electric Vehicles and Photovoltaic Energy Integration in Distribution Network

Message from the Guest Editors

The global transition toward a sustainable, low-carbon energy system is accelerating the integration of renewable energy sources and electrified transportation. Among these, photovoltaic (PV) systems and electric vehicles (EVs) represent two of the most dynamic technologies shaping the modern power landscape. Their increasing deployment in low-voltage distribution networks offers enormous potential for decarbonization and energy efficiency—but also presents new operational, technical, and regulatory challenges.Key topics include methods for coordinated operation of distributed energy resources, optimization of active and reactive power flows, and smart charging algorithms that exploit EV flexibility to support grid reliability. Contributions addressing forecasting techniques, optimization algorithms, power electronics control, and data-driven energy management are highly encouraged.

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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.

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