Special Issue

Advances in Perovskite Solar Cells: Design, Performance and Applications

Message from the Guest Editors

Perovskite photovoltaics have revolutionized the solar energy landscape, achieving certified power conversion efficiencies exceeding 27% for single-junction devices and exceeding 34% in perovskite-silicon tandems—figures approaching theoretical limits. This unprecedented progress underscores their immense potential for terawatt-scale sustainable energy generation. This Special Issue, titled “Advances in Perovskite Solar Cells: Design, Performance and Applications”, will capture the vibrant momentum and pivotal juncture of this rapidly evolving field. This Special Issue will provide a comprehensive platform for disseminating cutting-edge research, fostering critical discourse on persistent challenges, and charting the trajectory for next generation high-performance, stable, and manufacturable perovskite solar technologies. We welcome original research articles, reviews, and perspectives that push the boundaries of knowledge and application.

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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