



energies



an Open Access Journal by MDPI

Advances in Tandem Architectures toward High-Efficiency Solar Cells

Guest Editors:

Dr. Xiaojie Xu

Lawrence Livermore National
Laboratory, Livermore, CA 94550,
USA

Dr. Sudhanshu Shukla

Interuniversity Microelectronics
Centre (IMEC), 3001 Leuven,
Flemish Region, Belgium

Deadline for manuscript
submissions:

closed (21 July 2023)

Message from the Guest Editors

Tapping the vast energy available from the sun in the form of electricity and chemical fuels has the tremendous potential to address the global energy supply and climate change. Over the years, power conversion efficiencies have improved drastically due to both material innovation and advanced processing techniques. Of those, tandem architectures have emerged which are extremely promising when it comes to pushing the frontiers beyond single junction efficiency limits due to their efficient utilization of the solar energy spectrum and innovation in device design.

Recently, with the emergence of perovskite materials and developments in thin films (CIGS, CZTS, Sb_2Se_3), solar cells have drastically changed the landscape with more options available to stack different material combinations in 4-T and 2-T configurations. Additionally, 3-T design is also attracting attention due to its unique operational functionality, which relaxes the current matching criterion. And contact layers are becoming increasingly important for monolithic cell design.

So, this Special Issue calls for high-quality research progress on tandem solar cell materials, design, contact layers, and their utilization.



mdpi.com/si/97751

Special Issue



energies



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and
Aerospace Engineering,
University of Roma Sapienza, Via
Eudossiana 18, 00184 Roma, Italy

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.

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)

Contact Us

Energies Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/energies
energies@mdpi.com
[X@energies_mdpi](https://twitter.com/energies_mdpi)