Special Issue

New Insights into Design and Control of Modular Multilevel Converters for Energy Storage and Drives

Message from the Guest Editors

Modular multilevel converters (MMCs) are a promising class of converter topologies that can perform multiple conversions concurrently, showing great redundancy and multiple degrees of freedom in their control structure. In the past 10 years, multiple solutions involving MMCs have been proposed, including spacing from motor drives, storage system integration, and photovoltaic (PV) system integration. Researchers and experts in the field are encouraged to submit their original research contributions, survey papers, or tutorials for review in this Special Issue. The topics of interest include, but are not confined to, the following:

- New modular multilevel converters topologies;
- Storage integration by means of MMCs;
- Integration of PV systems with MMCs;
- Hydrogen generation using MMCs;
- Fast charging stations for electric vehicles based on MMCs;
- Modulation techniques;
- Control techniques for converter balancing;
- Innovative motor drives.

Guest Editors

Dr. Davide De Simone
Department of Electronics, Information and Bioengineering, Politecnico di Milano, 20133 Milano, Italy

Dr. Luigi Piegari
Department of Electronics, Information and Bioengineering, Politecnico di Milano, piazza Leonardo da Vinci 32, 20133 Milan, Italy

Deadline for manuscript submissions

closed (20 July 2025)

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/196528

Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

mdpi.com/journal/energies

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/journal/energies

About the Journal

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.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

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)