

Annual Conference of the IEEE Industrial Electronics Society (IECON 2021)

Special Session on

“Recent Advances in Power Conversion Topologies and Control Algorithms for PV Systems under Normal and Abnormal Conditions”

Organized by

Principal Organizer: Kawther Ezzeddine (kawtherezzeddinee@gmail.com)

Affiliation: University of Tunis, Tunisia

Background: Grid-connected DC-AC power conversion topologies, distributed power generation systems

Organizer 1: Mahmoud Hamouda (mahmoudhamouda@yahoo.fr)

Affiliation: University of Sousse, Tunisia

Background: Design, modeling and control of Photovoltaic energy conversion systems, multilevel inverters, reliability of power converters

Organizer 2: Hadi Y. Kanaan (hadi.kanaan@usj.edu.lb)

Affiliation: Saint-Joseph University of Beirut, Lebanon

Background: Modeling and control of switch-mode converters, power quality, grid-connected inverters for renewable sources

Organizer 3: Kamal Al-Haddad (kamal.al-haddad@etsmtl.ca)

Affiliation: Ecole de Technologie Supérieure, Canada

Background: Advanced control of high power converters and paralleled topologies, hybrid cogeneration systems, active filters, power quality

Call for Papers

Theme:

This special session addresses the recent advances and control techniques of static power converters topologies dedicated to photovoltaic (PV) energy conversion. This includes DC-DC topologies, single-phase and three-phase inverters, transformerless grid-connected power systems, multilevel inverters, topologies with reduced leakage current, grid forming inverters, etc. The control algorithms include maximum power point tracking techniques, modulation schemes, closed-loop control of active and reactive powers, droop control, intelligent compensators, etc. This special session also addresses the control of PV power conversion systems under disturbed grid conditions such as low-voltage ride-through capability as well as fault diagnosis and fault tolerant control of PV converters.

Topics of interest include, but are not limited to:

- Power conversion topologies for Photovoltaic systems
- Power quality control
- Metaheuristic and deep learning algorithms
- Design, modeling, and control of PV conversion systems
- Common mode voltage and leakage current mitigation techniques
- Low-voltage ride-through capability
- Fault diagnosis and fault tolerant control of PV converters
- PLL-based synchronization techniques under disturbed grid conditions

Submissions Procedure: All the instructions for paper submission are included in the conference website: <https://attend.ieee.org/iecon-2021/>

Deadlines:

Full paper submission:	June 25, 2021
Paper acceptance notification:	July 30, 2021
Camera-ready paper submission:	Aug. 27, 2021

Sponsoring IES Technical Committees

Technical Committee on Power Electronics (TCPE)
Subcommittee on Control in Power Electronics