

Advances in High-frequency Isolated Power Converters

All full and finally accepted papers will be published in JESTIE

Recent advances in power semiconductor devices (e.g., ultra-fast recovery, silicon carbide, and gallium-nitride), soft magnetic materials (e.g., amorphous or nanocrystalline) and controllers have led to the development of high power density efficient power electronic converters with high-frequency magnetic links. The magnetic links in the converters facilitate galvanic isolation, voltage balancing, magnetic integration of multiple power sources/loads/storages, and isolation between multiple output ports. However, the design process of high-frequency-magnetic-link-based power electronic converter involves multiphysics problems that entail complex tradeoffs among reliability, efficiency, size and weight, and cost. Therefore, extensive multiphysics research in the field of new power electronic converter topologies, switching and control, EMI/EMC and signal integrity, protection and condition monitoring, and design and optimization of magnetic components is needed to develop next-generation high-frequency isolated power converters. This special section will serve to collect recent advancements in energy conversion with high-frequency magnetic linked power converters with the emphasis on the new design, optimization, switching, and control methods and new protection and condition monitoring techniques.

Prospective authors are invited to submit original contributions and survey papers in these areas. Potential topics include, but are not limited to:

- Magnetically-linked multilevel/multiphase/multiport power converters and control
- Magnetically-linked HVDC/HVAC converters and control
- Magnetically-linked bidirectional power converters and control
- Magnetically-linked solid state transformers with advanced control
- Design and optimization of high-frequency magnetic links for power converters
- Characterization of advanced soft magnetic materials for power converters
- New emerging applications of magnetically-linked power converters
- Advanced control techniques for magnetically-linked power converters
- EMI/EMC and signal integrity of magnetically-linked power converters
- Protection and condition monitoring of magnetically-linked power converters

Manuscript Preparation and Submission

Check carefully the style of the journal described in the guidelines “Information for Authors” in the IEEE- IES website:<http://www.ieee-ies.org/pubs/jestie>. Please submit your manuscript in electronic form through:<https://mc.manuscriptcentral.com/jestie-ieee/>.

On the submitting page, in pop-up menu of manuscript type, select: “**SS on advances in high-frequency isolated power converters**”, then upload all your manuscript files following the instructions.

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Timetable

Deadline for manuscript submissions:
Oct 31, Nov. 30, 2021

Information about manuscript acceptance:
April, 2022

Publication Date:
July, 2022

