

SESSION 1.11 - POWER ELECTRONICS AND DRIVES ON SUSTAINABLE TRANSPORTATION

Invited speech - BIDIRECTIONAL CONVERTER TOPOLOGIES FOR LOW-VOLTAGE BATTERY INTERFACE: A COMPARISON

The growing interest toward bidirectional converter topologies for interfacing low-voltage (48 V) batteries with a high DC link voltage needed to supply a grid-connected inverter, in renewable applications or a motor drive in hybrid vehicles, has led the scientific community to search for solutions capable of doing this task with maximum efficiency and reliability. This paper compares three different battery charger topologies in terms of device voltage and current stress, forecasted efficiency, quality of the current delivered to the battery, and dynamic performance.

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