

An inverter-side current feedback active damping (ICFAD) strategy is proposed. Firstly, the small-signal transfer function of the inverter connected to the grid via the LCL filter under this ...

This paper has presented the development of a hydrogen fuel cell-inverter system for grid-connected applications, emphasizing advanced control techniques to enhance power quality and ensure ...

To filter out the switching harmonics generated by Pulse-Width Modulation (PWM), L or LCL filters are connected at the output of the grid-connected inverter. The LCL filter offers superior ...

When the grid-side impedance is large, the digital control inductor-capacitor-inductor (LCL) grid-connected inverter system with grid-side current loop control and capacitive current ...

Addressing the issues of uncertainties and disturbances in LCL-type grid-connected converters, a current control strategy for single-phase LCL grid-connected inverters based on linear ...

This paper is arranged as follows: in Section 2, a digitally controlled LCL-type grid-connected inverter system model using CCFS AD and grid-side current single-loop control is ...

To address these issues, an improved grid voltage feedforward approach is proposed. This involves incorporating resonant feedforward into the feedforward channel to counteract grid ...

Thus, this work presents the modeling and control of a single-phase grid-connected multifunctional converter, which operates as a current-controlled voltage source inverter using an ...

Among the various filter types, the LCL filter is recognized as one of the best performing for grid-connected voltage source inverters (Jayalath and Hanif, 2017b). Designing filters for grid-connected ...

The research includes a comprehensive analysis of the implementation and validation of the modified TD3-based DRL control in a grid-connected three phase three level Neutral Point Clamped (NPC) ...

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