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To enhance the robustness of capacitive current feedback control, a delay compensation strategy for an LCL grid-connected inverter is proposed in this paper.

However, the existence of control delay under digital control weakens the effect, resulting in possible instability of the system. To enhance the robustness of capacitive current feedback ...

In this paper, analytical contributions from previous research on time-delay compensation techniques in the control loop of grid-connected inverters are comprehensively ...

In this paper, a method of pole and zero placement with fractional control delay for LCL-Type Grid-Connected inverter is proposed. The state feedback control is designed by ...

An efficient model predictive current control algorithm for grid-connected multi-level inverter with computational delay compensation. In: 2020 International Conference on ...

Most importantly, this paper constructs an improved delay compensation link that is more suitable for digital control grid-connected inverter systems by cascading zero-phase-shift digital...

Thus, the control delay in the PCC voltage feedforward loop is compensated and the system stability is significantly improved under weak grid condition. Finally, the effectiveness of the ...

In this article, a simple and cost-effective admittance shaping method based on capacitor voltage feedforward active damping (CVF-AD) and control delay reduction is ...

In comparison with the conventional strategies, the suggested strategy gives suitable resonance damping capability, higher marginal stability, and better grid-connected ...

This paper analyzes the impact of control delay on the LCL-type grid-connected inverter employing capacitor current feedback active damping under digital control.

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