Ruan Xinbo grid-connected inverter

Abstract: The current-controlled grid-connected inverter with LCL filter is widely used in the distributed generation system (DGS), due to its fast dynamic response and better ...

Without increasing the loop gain, applying feedforward of the grid voltage can suppress the effect of grid voltage harmonics. This paper proposes the feedforward function of the grid voltage for ...

This paper investigates the capacitor-current-feedback active damping for the digitally controlled LCL-type grid-connected inverter. It turns out that proportional feedback of the capacitor ...

Single-loop current control is an attractive scheme for the LCL-type grid-connected inverter due to its simplicity and low cost. However, conventional single-loop control schemes, which ...

Both the capacitor-current-feedback (CCF) active damping and the point of common coupling (PCC) voltage feedforward can provide damping for the LCL-type grid-connected inverter. ...

The grid-connected inverter plays an important role in injecting high-quality power into the power grid. The injected grid current is affected by the grid voltage at the point of ...

Since the PLL introduces an negative-resistive admittance to be in parallel with the original inverter output admittance, it poses an instability risk for the grid-connected inverter under ...

To damp the LCL-filter resonance in a grid-connected inverter, the feedback of capacitor current is usually adopted, and it can be replaced by the feedback of capacitor voltage as a low-cost ...

Design and control of grid-connected inverters; Power control of distributed generation source with deep penetration level; Harmonic analysis and mitigation in power-electronic-based ...

Xinbo Ruan"s 428 research works with 17,776 citations and 4,047 reads, including: A Reconstructed Singular Return Ratio Matrix for Optimizing Design of the PLL in Grid ...

This book focuses on control techniques for LCL-type grid-connected inverters to improve system stability, control performance and suppression ability of grid current harmonics.

Hao Zhang, Xinbo Ruan, Capacitor voltage full feedback scheme for LCL-type grid-connected inverter to suppress current distortion due to grid voltage harmonics. 2021;36 ...

Abstract--This paper takes a deep insight into the passivity- based design of LCL-filtered inverter with grid

current control and capacitor current active damping. It reveals that although an ...

A Highly Robust Single-Loop Current Control Scheme for Grid-Connected Inverter with an Improved LCCL Filter Configuration Pan, Donghua; Ruan, Xinbo; Wang, Xiongfei; Blaabjerg, ...

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