

Title: Virtual generator grid-connected inverter

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This article proposes a virtual synchronous generator control strategy for grid-connected inverter based on sliding mode control and virtual adaptive inductance.

In this paper, an improved control method of grid-connected inverter under the weak-grid situations is presented to reduce the harmonic oscillation. In Section 2, the control ...

Index Terms--grid-connected inverter, grid-forming inverter, rate of change of frequency (RoCoF), renewable energy, virtual synchronous generator (VSG) control.

This article explains why the lack of inertia in grid-forming inverters can impact the grid and how to alleviate the issue with a virtual synchronous generator.

For this purpose, a strategy of grid-connected control of VSG with virtual impedance is proposed. Firstly, the VSG mathematical model is established and virtual impedance is ...

We applied control by the virtual generator model of algebraic type to two inverters, and performed experiments with operation in grid-connected mode and island mode.

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