

عنوان مقاله:

A New Robust Controller Design for Three-Phase Grid-Connected PV Systems

محل انتشار:

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خلاصه مقاله:

Development of distributed generations' (DGs) technologies and their continuous increasing penetration has recently lead to a great tendency toward these resources, among which photovoltaic (PV) generations in power distribution systems are of great importance. Being cost- effective, PV resources which are directly connected to utility grids are studied in this paper where a new control approach based on Lyapunov strategy to deal with their nonlinear characteristic is applied. The proposed scheme can be utilized in a diverse scope of PV technologies. Simulation results indicate that the suggested strategy improves the efficiency of the system by reducing the total harmonic distortion of the injected current to the grid; and, in addition to having the output current in phase with the voltage of the utility grid, it increases the robustness of the system against uncertainties while rendering the closed-loop system globally stable.

کلمات کلیدی:

three-phase single-stage grid-connected photovoltaic; adaptive controller; lyapunove-based control

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