

عنوان مقاله:

Adaptive Nonlinear Control Scheme for Three-Phase Grid-Connected PV Central Inverters

محل انتشار:

بیست و نهمین کنفرانس بین المللی برق (سال: 1393)

تعداد صفحات اصل مقاله: 7

نویسندگان:

Esmail Rokrok - *Engineering department Lorestan University Khorramabad, Iran*

Mahshid Javidsharifi - *Engineering department Lorestan University Khorramabad, Iran*

Behtash Javidsharifi - *Fars Regional Electricity Company (FREC) Power Ministry Shiraz, Iran*

خلاصه مقاله:

Owing to cost-effectiveness of feeding generated photovoltaic (PV) energy directly into the utility grid, and since grid-connected photovoltaic (GPV) systems have a nonlinear time-varying nature, this paper presents a new control approach for three-phase single-stage GPV systems under uncertainties, using a Lyapunov-based control scheme. 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

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/316104>

