

## عنوان مقاله:

A combined maximum power point tracking control concept with constant power generation control for grid-connected photovoltaic inverters considering long-term mission profiles and system-level power management requirements

## محل انتشار:

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## خلاصه مقاله:

This paper proposes a hybrid power control concept for grid connected photovoltaic (PV) inverters. The control strategy is based on either a maximum power point tracking control or a constant power generation (CPG) control depending on the instantaneous available power from the PV panels. The essence of the proposed concept lies in the selection of an appropriate power limit for the CPG control to achieve an improved thermal performance and an increased utilization factor of PV inverters, and thus, to cater for a higher penetration level of PV systems with intermittent nature. A case study on a single-phase PV inverter under yearly operation is presented with analyses of the thermal loading, lifetime, and annual energy yield. It has revealed the trade-off factors to select the power limit and also verified the feasibility and the effectiveness of the proposed control concept.

## کلمات کلیدی:

Constant power generation (CPG). efficiency. maximum power point tracking (MPPT). photovoltaic (PV) inverters. reliability. thermal loading

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1824516>

