

عنوان مقاله:

An Intelligent MPPT controller using PID-like neuro-fuzzy controller for photovoltaic system

محل انتشار:

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خلاصه مقاله:

In this study, a new PID-like neuro-fuzzy controller (PIDNFC) is introduced to track the maximum power point tracking (MPPT) for photovoltaic (PV) systems. The proposed controller combines a PID controller with a neuro-fuzzy controller. An online algorithm based on gradient decent is used to tune the parameter of proposed controller. The simulation results show that the PID-like neuro-fuzzy controller based MPPT has satisfactory performance and assures an exact convergence to the maximum power point (MPP) under complex shading patterns. Moreover, the proposed controller provides a rapid convergence to the MPP in instant transient variation of shading. No oscillations around the MPP, system independent and rapid convergence can be mentioned as major benefits of the proposed method.

کلمات کلیدی:

MPPT, photovoltaic system, PIDNFC, neuro-fuzzy controller, PIDNFC

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