عنوان مقاله:

A Maximum Power Point Tracker for Photovoltaic Arrays with Genetic Algorithm in cooperation with Fuzzy Cognitive Networks

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خلاصه مقاله:

In this paper, a maximum power point tracker using fuzzy set theory is presented to improve energy conversion efficiency. This method is proposed, by using a fuzzy cognitive network, which is in close cooperation with the presented fuzzy controller. The proposed approach is based on the Genetic Algorithm method and it is used for the determination of proper weight matrices that lead the Fuzzy Cognitive Map to desired steady states. The method gives a good maximum power operation of any PV. The advantage of the presented method is that the control system can adapt to different changes that might happen during the life cycle of the PV module.

کلمات کلیدی:

Fuzzy cognitive maps (FCMs), fuzzy cognitive networks (FCN), fuzzy controller, maximum power point tracker (MPPT), photovoltaic systems

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