

عنوان مقاله:

Maximum power point tracking for solar cell systems by using Adaptive fuzzy logic controller

محل انتشار:

بیست و ششمین کنفرانس بین المللی برق (سال: 1390)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

Solar energy is an unlimited source of energy which is clean, abundant and extremely available. Solar cell by converting solar energy into the electrical power makes using this energy possible. Output power of solar cell is nonlinear and time varying Depending on environmental conditions such as light intensity and temperature it will be changed. Serial and/or parallel cells generate photovoltaic array (PVA). So if PVA produces high power on grid-connected and doesn't have optimal performance it may cause losing power which is costly. In this paper we tracked maximum power of PV array to place performance point of PV panel in its maximum power. There were various and different ways to track maximum power point (MPP) and each of them has advantages and drawbacks. The method which we suggest in this paper is based on modifying online controller parameters according to fuzzy logic that is called adaptive-fuzzy which uses two fuzzy logic controllers that one of them its parameters is modifying online. Whenever environmental conditions changed in wide range, using expert knowledge isn't adequate in fuzzy logic and causes errors in tracking. Therefore we added another fuzzy controller which its parameters modify simultaneously .that it increases rate and accuracy of tracking in compare with using only fuzzy controller

کلمات کلیدی:

Adaptive, Boost converter, fuzzy logic, MPPT, Solar cell

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