Maximum power point tracking applied to PV systems under partial shading conditions

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***Abstract*—Characteristics of large photovoltaic (PV) panels under partially shaded conditions are characterized by multiple peaks and steps. This makes the tracking of the actual maximum power point (MPP) a difficult task. Moreover, most of the existing maximum power point tracking (MPPT) is unable to extract maximum power from the PV array under partial shading conditions. In this paper, a novel FLC method has been presented to track the global maximum power point (GMPP) of PV. The proposed technique is based on the output current of the photovoltaic system (PVS). Compared with the P&O method, The proposed FLC method can quickly find GMPP and avoid much energy loss due to blind scan. The Simulation results demonstrate an average 13% improvement in efficiency when compared with the P&O method.**

***Index Terms*—PV systems; MPPT techniques; GMPP; New FLC;P&O methodr.**

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