

MAXIMUM POWER POINT TRACKER (MPPT) FOR PV SYSTEMS USING NEURAL NETWORK AND FUZZY LOGIC CONTROL.

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Abstract-- Maximum power point tracking (MPPT) must usually be integrated with photovoltaic (PV) power systems so that the photovoltaic arrays are able to deliver the maximum power available. This paper proposes two methods of maximum power point tracking using a fuzzy logic and a neural network approach for photovoltaic (PV) module ATERSA75 using MATLAB software. The two maximum power point tracking controllers receive solar radiation and photovoltaic cell temperature as inputs, and estimated the maximum power point and the current and voltage corresponding to it as outputs. The new method gives a good maximum power operation of any photovoltaic array under different conditions such as changing solar radiation and PV cell temperature. From the simulation and experimental results, the Neural Network approach can deliver more power than the fuzzy system and can give more power than other different methods in literature.

Abstract: PV Module, ATERSA75, Maximum Power Point Tracking MPPT, Artificial Neuronal Networks, Fuzzy System.