

# **Improve Operation of Maximum Power Point Tracking (MPPT) Algorithm in Photovoltaic Systems by Eextreme Seeking Control (ESC)**

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**With the industrial development of the world and the increasing demand for energy the one hand, and the need to preserve the resources of fossil fuels for future generations and prevent the environmental damage caused by their burning, on the other hand, a way to shift to the use of renewable energy Not left. In recent years, solar energy and photovoltaic (PV) systems have been considered as a green energy source, due to the ease of installation, the lack of greenhouse gases, as well as their relatively long life span. Because of the nonlinear power-voltage characteristics of the solar system at a specific voltage, the maximum power can be obtained the array. By changing the radiation and temperature of the cells of the PV module, these curves also change accordingly. That is, the output energy of the PV module can vary for different voltages and flows. At the same time there is only one maximum power point (MPP) for the module, at which point the maximum power can be injected to the load. In this study, a new MPPT control algorithm is used to increase the efficiency of the corresponding PV system and that the power output the PV module at any moment is at its maximum. In this research, the beginning of a solar cell is modeled in MATLAB software and radiation and temperature parameters are considered as inputs of the solar cell, and then the DC-DC buck-boost converter is proposed to reduce the flow of the input current. Finally, a new control system based on the, Extreme Search Controller Algorithm (ESC) for maximum power generation is proposed and will be investigated.**

**Keywords : Keywords: Solar Systems, Maximum Power Point Tracker, Extreme Search Controller.**

