# MAXIMUM POWER POINT TRACKING TECHNIQUES FOR GRID CONNECTED PHOTOVOLTAIC SYSTEM USING INTELLIGENT CONTROL

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## ABSTRACT

This paper aims at studying the different maximum power point tracking techniques used for maximizing the generated power of a grid connected photovoltaic systems. The proposed controllers used in this work are proportional – integral (PI) controller, hybrid PI and fuzzy logic controller (FLC), hybrid PI and Neural Network (NN) controller, hybrid PI and Adaptive Neuro Fuzzy Inference System (ANFIS) controllers. The proposed controllers are used for controlling both DC and AC sides of the dc-dc converter and inverter, respectively. The proposed system and controllers are modeled using MATLAB/Simulink software package. All simulation results are recorded and compared with each other using the conventional and intelligent controllers.

**Keywords—**Adaptive Neuro Fuzzy Inference System (ANFIS), Maximum Power Point Tracking (MPPT), PV System, Neural Network **(NN)**, PI controller, Fuzzy Logic Control (FLC).