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Neural network for modeling solar panel

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Abstract: In this paper, we present the results of the characterization and modeling of the electrical current-voltage and power-voltage of the photovoltaic (PV) panel BP 3160W, using a new approach based on artificial intelligence. We analyze the electrical parameters of solar cells and electrical parameters of the optimal PV panel (current, voltage and power) according to changes in weather (temperature, irradiation...) by the simulation programs carried out in MATLAB. These simulation results were compared with experimental data to be validated.

Keywords : One diode model, Modeling and behavior, Photovoltaic panel, Neural Network