Solar inverter pi parameter setting method

The intelligent method, Artificial Neural Network (ANN), and Genetic Algorithm (GA) are used in this paper to optimize the parameters of PI controller in order to reduce the THD of current.

Hence, developing a practical robust tuning method for optimizing the PV-inverter set of controllers i.e. the DC-link voltage controller, the reactive power controller, and the decoupled...

A recent research has proven that a control system with a PI controller using fractional order implemented in a three-phase inverter system can mitigate poor voltage regulation in a grid ...

Design an optimized PI controller, to increase the tracking response of MPP in PV systems where the control gains are fine-tuned by a new meta-heuristic algorithm. Introduces a new ...

Abstract: In industrial field, PI controllers are widely used because of its strong applicability and good stability. However, due to their complex parameter adjustment, they are not suitable for complex and ...

Design and implementation of a GWO-PID control strategy that automatically and adaptively tunes the PID parameters in real time, enabling superior regulation of DC-link voltage, ...

Optimization of the Phase Lock Loop (PLL) PI parameters for the three-phase inverter to grid synchronization was carried out. The evaluation was conducted over Integral Absolute Error (IAE) ...

Particle Swarm Optimization (PSO) algorithm has been used to improve the controller performance by automatically finding its parameters in order to reduce the error in the proportional ...

The more appropriate parameters used in the PV Controller, the higher stability of system and the more ideal dynamic response characteristics will be achieved. This paper introduces a method of combing ...

This PSO is implemented to find the optimum values for the PI controller parameters for the voltage regulator and current controllers in the three-phase inverter system.

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