

عنوان مقاله:

Application of Firefly Algorithm for Tuning of PID Controller Using in an Industrial Furnace Temperature Control System

محل انتشار:

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خلاصه مقاله:

In this paper, the temperature of a batch tank belongs to an industrial batch furnace is controlled by using a PID controller which has been tuned by firefly algorithm. PID controllers are most popular controllers using widely in vast majority of industries, especially in thermal processes. There are different techniques to tune PID controller parameter. Some of them are conventional methods such as Ziegler-Nichols which is a heuristic technique for PID parameters tuning. But, in this paper the idea of using firefly algorithms for tuning the PID parameters controlling an industrial batch furnace temperature is investigated. Generally, in the batch furnace, the reference input has step changes and the output of close loop control of the batch furnace should be able to follow the input trend. The proposed control system is simulated in MATLAB and the results depict that firefly algorithm could figure out tuning of the PID controller parameters properly

کلمات کلیدی:

,firefly, PID, temperature, control, furnace, MATLAB

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