

Abstract Details

Title: Comparison of Ziegler-Nichols, Cohen-Coon and Fuzzy Logic Controllers for Heat Exchanger Model: A Review

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Abstract: First-Order plus Delay-Time (FOPDT) model approximation can be carried out through either a kind of model reduction approach or a kind of system identification approach. In industrial applications heat exchanger plays a very vital role. In heat exchanger model controlling temperature range and achieving a desired temperature is a very complicated process. We can use different controlling techniques to achieve desired temperature. In this paper comparison of step response of Ziegler-Nichols PID controller (Method II), Cohen-Coon Method and Fuzzy logic controller has been developed for a heat exchanger model. A First-Order plus time delay system is very common in modern industry. For this particular model MATLAB simulations are carried out and responses are obtained for PID and Fuzzy Logic Controller.

Keywords: Cohen-Coon, Fuzzy Logic Controller, PID Controller, Ziegler-Nichols Technique.