


THESIS TITLE : TEMPERATURE TRACKING CONTROL FOR AN ELECTRIC OVEN

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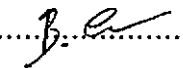
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ABSTRACT

The purpose of this thesis is to design a temperature tracking control for an electric oven. The inward approach in form of ITAE optimal control and two-parameter configuration were designed, built, tested, and compared to the conventional PI controller.

The study includes finding the transfer functions of the electric oven, phase controller, and temperature sensor. The ITAE optimal transfer function was selected and the two-parameter controller was designed using the Diophantine equation. The controller was then built and tested. It was found that the PI controller works well and its performance is closed to simulation. But for the two-parameter controller we found that the circuit can not be built due to small magnitude of the signal in the first stage as compared to pick-up noise.