Heat exchanger system is widely used in chemical plants because it can sustain wide range of temperature and pressure. The main purpose of a heat exchanger system is to transfer heat from a hot fluid to a cooler fluid, so temperature control of outlet fluid is of prime importance. To control the temperature of outlet fluid of the heat exchanger system a conventional PID controller can be used. Due to inherent disadvantages of conventional control techniques, model based control technique is employed and an internal model based PID controller is developed to control the temperature of outlet fluid of the heat exchanger system. The designed controller regulates the temperature of the outgoing fluid to a desired set point in the shortest possible time irrespective of load and process disturbances, equipment saturation and nonlinearity. The developed internal model based PID controller has demonstrated 84% improvement in the overshoot and 44.6% improvement in settling time as compared to the
classical controller.

**Reference**


**Index Terms**

Computer Science  Control & Automation
Key words

Feed-forward controller
internal model based PID
PID Controller
controller
and heat exchanger