Abstract

In any processes industry, process variables that need to be controlled are temperature, level, pressure and flow. This paper deals with an application of genetic algorithm to find the PID controller values to control the liquid level in the cylindrical tank. A process is identified as first order plus dead time model (FOPTD) and is validated. The intension of this paper is to obtain a minimum rise time, minimum setting time, and stable controlled system by obtaining the PID controller using conventional tuning method and Genetic Algorithm optimization technique. The simulation analysis was carried out for the mentioned PID controller settings. From the results based on time domain analysis, it is proved that the PID values are obtained using GA optimization technique yield a better perform than the conventional tuning method.

References


Index Terms

Computer Science

Applied Sciences

Keywords

level process  PID controller  Optimization Technique  control system