

Research on first order delays system automation

ABSTRACT

Many of industrial plant require high performance and linear operation; higher density position and/or incremental PID can be used to integrate large amounts of control methodology in a single methodology. This work, proposes a developed method to design PID controller (PID) with optimal-tunable gains method using PC-based method. Many industrial processes can be represented by a first order model. The time delay occurs when a sensor or an actuator are used with a physical separation. The method used to design a PID is to design it as Proportional – derivative controller (PDC) and proportional – integral controller (PIC) connected in parallel through a summer. PIC is designed by accumulating the output of PDC. This method contributes to avoid writing a huge number of fuzzy rules and to reduce the memory considerations in digital design.

Keyword: First order delays system; Position PID controller; PID incremental controller; Online gain tuning method