Abstract

A design method for PID controllers based on internal model control (IMC) principles, direct synthesis method (DS), stability analysis (SA) system for pure integrating process with time delay is proposed. Analytical expressions for PID controllers are derived for several common types of process models, including first order and second-order plus time delay models and an integrator plus time delay model. Here in this paper, a simple manager design rule and tuning procedure for unstable processes with delay time is discuss. Simulation examples are included to show the effectiveness of the proposed method.

References


**Index Terms**

Computer Science  
Information Sciences

**Keywords**
PID controller, tuning, unstable processes, internal model control (IMC), direct synthesis method (DS), stability analysis (SA).