

Process identification method using weighted moments

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We propose a new process identification method for the automatic design of the PID controller. It can identify general time-invariant linear system with Moments while retaining simplicity. We use a model reduction method to tune PID controllers using usual tuning rules based on the first or second order plus time delay model. This proposed method simply overcome the initial value problems of previous identification methods for the autotuning by differentiating the Laplace transforms of the process input and process output several times. Even though this method does not require any complicated numerical techniques, it guarantees model accuracy.