

# Tuning PID Controllers: From process experiments, general linear state-space models, and tuning controllers via Process Reaction Curve Methods

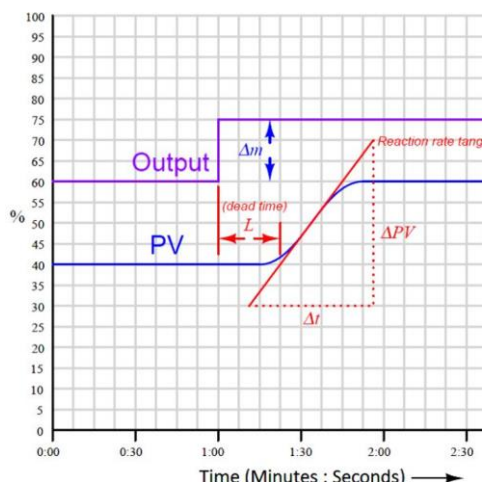
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## Introduction and background:

In today's industrial landscape, the necessity and usefulness of computer systems are undeniable. And with the need for computer systems and computer-controlled machinery, the interest in optimizing the efficiency of the computer system itself is highly emphasized. In order to increase the proficiency of the computer systems, the controllers must be tested and compared against each other in order to distinguish each controllers' flaws and benefits.

## Problem description and objective:

This project is centered around testing and comparing the more popular forms of control, mainly process reaction curve methods. The objective of this thesis is to present the reader with general information about the control process, including tuning methods and examples, as well as presenting the theory behind processes and how a typical state-space process is described. In addition, these forms of control should be tested on the described state-space models in order to view each controllers results and compare the controllers against each other. This process is mainly done in the coding language MATLAB, which will be explained more thoroughly later in the thesis.



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