

A Smith Predictor FL-Based Controller For Processes With Long Dead Time

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Summary

A Smith predictor (SP) fuzzy logic (FL) based controller for processes with long dead time is proposed. The basic concept is to combine the Smith predictor scheme with FL. The FL, in this scheme, is going to be used to auto-tune the PI controller while the SP is going to compensate for the long dead time that is commonly associated with different processes. The new scheme has been tested on several simulated plant models and demonstrated marked improvements in the performance. The simulation results demonstrated the ability of the new scheme to accommodate uncertainties in the plant model.

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