

Improved Frequency Response Model Identification Method with Initial Cyclic-Steady-State

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A new nonparametric process identification method is proposed to obtain the frequency response model from given process input and output data. The proposed algorithm can estimate exact models for all desired frequencies. It is applicable to various process conditions (both initial/final steady-state, initial steady-state/final cyclic-steady-state and both initial/final cyclic-steady-state) and requires a smaller amount of memory than previous methods. Also, it provides the exact models even in the presence of a static disturbance and shows an acceptable robustness to measurement noises.