

Systematic and Simple Guidance for Feed Forward Design in Model Predictive Control

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Abstract : This paper builds on earlier work which demonstrated that Model Predictive Control (MPC) may give a poor choice of default feed forward compensator. By first demonstrating the impact of future information of target changes on the performance, this paper proposes a pragmatic method for identifying the amount of future information on the target that can be utilised effectively in both finite and infinite horizon algorithms. Numerical illustrations in MATLAB give evidence of the efficacy of the proposal.

Keywords : model predictive control, tracking control, advance knowledge, feed forward

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