

Dynamic Disturbance Decoupling for Nonlinear Discrete-Time Systems

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Abstract: In this paper we study the dynamic disturbance decoupling problem for nonlinear discrete-time systems that are considered in a neighbourhood of a given reference trajectory. Furthermore the connection between the solvability of this problem and the solvability of the corresponding problem for the time-varying linear discrete-time system obtained by linearizing the original system along the given reference trajectory is investigated. For this purpose, a geometric disturbance decoupling theory for time-varying linear discrete-time systems is developed.

Keywords:

AMS Subject Classification: