

论文与报告

不确定T-S模糊广义系统的无源控制

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摘要

By means of matrix decomposition method a criterion is presented for the admissibility of T-S fuzzy descriptor system. Then, the problem of passivity control is studied for a kind of T-S fuzzy descriptor system with uncertain parameters, and sufficient conditions which make the closed-loop system admissible and strictly passive are obtained based on linear matrix inequality (LMI). The nonstrict LMIs restricted conditions which characterize the descriptor system are transformed into strict ones, so testing admissibility and passivity of the system can be finished simultaneously. The design scheme of state feedback controller is also obtained. Finally, a numerical example is given to show the validity and feasibility of the proposed approach.

关键词 [Uncertain T-S fuzzy descriptor systems](#) [admissibility](#) [passivity](#) [linear matrix inequality \(LMI\)](#)

分类号

Passivity Control for Uncertain T-S Fuzzy Descriptor Systems

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Abstract

By means of matrix decomposition method a criterion is presented for the admissibility of T-S fuzzy descriptor system. Then, the problem of passivity control is studied for a kind of T-S fuzzy descriptor system with uncertain parameters, and sufficient conditions which make the closed-loop system admissible and strictly passive are obtained based on linear matrix inequality (LMI). The nonstrict LMIs restricted conditions which characterize the descriptor system are transformed into strict ones, so testing admissibility and passivity of the system can be finished simultaneously. The design scheme of state feedback controller is also obtained. Finally, a numerical example is given to show the validity and feasibility of the proposed approach.

Key words [Uncertain T-S fuzzy descriptor systems](#) [admissibility](#) [passivity](#) [linear matrix inequality \(LMI\)](#)

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