短文

控制系统解耦反馈的参数化问题

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摘要

关键词 控制系统 输入输出解耦 受控不变分布 能控性分布 相容性

分类号

Parameterization of Decoupling Feedback Laws of Control Systems

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Abstract

This paper generalizes the results of [7] on parameterization of the friend set of a controlled invariant distribution to the case of compatible friend set of compatible controlled invariant distributions that can arise as solutions to the noninteracting control problem of control systems. Based on the parameterization and its properties, this paper deals with the problem of characterizing the decoupling feedback laws of control systems, obtains necessary and sufficient conditions for the situation that a single compatible friend set determines the whole class of decoupling feedbacks. This result generalizes and justifies the related results obtained in previous literature. All results of the paper are valid for both linear and nonlinear systems, and are constructively verifiable.

Key words <u>control systems</u> <u>noninteracting control</u> <u>controlled invariant distributions</u> <u>controllability distributions</u> <u>compatibility</u>

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