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Abstract

An adaptive tracking control problem is investigated for a class of nonlinear system with non-symmetric actuator dead-zone fault. Based on adaptive compensation algorithm, a new adaptive controller specially designed is employed without constructing the dead-zone inverse. This paper studies the dead-zone fault model is more universal. The restrictions that the dead-zone slopes and the boundaries are equal and symmetrical are removed. The dead-zone model parameters are all unknown and the model of nonlinear system also have unknown parameters. The proposed adaptive controller can eliminate the effect of simulation show the proposed method. The result simulation show the effectiveness of the proposed method.

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Index Terms

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Keywords

Actuator fault, Non-symmetric dead-zone, Adaptive compensation.