

## عنوان مقاله:

A Model-Based Fuzzy Controller Using the Parallel Distributed Compensation Method for Quadrotor Attitude Stabilization

## محل انتشار:

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## خلاصه مقاله:

In this paper, a model-based fuzzy controller for attitude stabilization of a Quadrotor is proposed. To achieve this purpose first a Takagi-Sugeno fuzzy model for Quadrotor which is obtained from dynamic model is presented. Parallel Distributed Compensation (PDC) technique is utilized to design a state feedback controller. The purpose of control is to stabilize the Quadrotor while taking into account performance specifications such as decay rate and constraint on the input. Both of these conditions can be represented in term of linear matrix inequalities (LMIs). By simultaneously solving these LMIs a stabilizing fuzzy controller that achieves desired speed of response and small control effort can be obtained. Simulation results are included to validate the performance of this approach

## کلمات کلیدی:

Quadrotor, (PDC) Parallel Distributed Compensation, (LMI) Linear Matrix Inequality

## لینک ثابت مقاله در پایگاه سیویلیکا:

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