

عنوان مقاله:

Model Predictive and Fuzzy-PI Control Design for an Un-manned Aerial Vehicle

محل انتشار:

سومین کنفرانس بین المللی در مهندسی برق، الکترونیک و کامپیوتر (سال: 1395)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Nima Vaezi - Assistance Head of Department of Avionics, Mashhad Aviation Training Center

Samira Rakhshany - Department of Airframe and Powerplant, Mashhad Aviation Training Center

Parisa Tavakoli - Department of Electrical Engineering, Ferdowsi University of Mashhad

خلاصه مقاله:

Nowadays unmanned aerial vehicles (UAV) are applicable in many different tasks because of the safety, reliability and penetrance. Accurate and appropriate performance of these systems leads to valuable information and detailed identification. Therefore a fine-tuned control system is of great importance especially in strategic research and topography. The conventional PID controllers are designed for a particular reference input, hence these controllers are not suitable for systems with time-varying reference signal. In this paper, a Fuzzy-PID and a model predictive controller (MPC) are designed to adjust the UAV intelligently in different operating conditions. The control gains are varying during the flight to reduce the system error. In this paper a mathematical model is presented for the UAV and the Fuzzy-PID and Model predictive controllers are designed and tested on this model. The results show the performance of the applied controllers.

کلمات کلیدی:

(Flight Flight Dynamic, Fuzzy-PID Controller, Model Predictive Controller (MPC), Unmanned aerial vehicles (UAV)

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/562768>

