Abstract

The main focus of this paper is fault-tolerant control systems (FTCSs) for unmanned aerial vehicles (UAVs). The goals are to develop an Automatic-Flight Control System (AFCS)[8], based on fault detection and isolation (FDI) and a reconfiguration mechanism to accommodate them [7]. This paper describes a design approach of Model Predictive Control (MPC) with a linear internal model to achieve a level of reconfiguration in a generic Uninhabited Aerial Vehicle (UAV)[10][11]. This paper is based on fault existence in one of elevator surfaces and the implementation of two separate controllers to overcome these failures [9]. In the end the results will be compared with each other.

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Index Terms

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Keywords

Fault Tolerant Control, Model Predictive Control, Reconfigurable Control, Fault Detection
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