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.

References

2. Reconfigurable Flight Control using Model Predictive Control. José Duarte Pereira
Gonçalves.2009
5. Model Predictive Control Toolbox for use with Matlab

Index Terms

Computer Science Wireless

Keywords

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