

Offline neural network based fault tolerant control for vertical tail damaged aircraft

ABSTRACT

This paper investigates the offline neural network based-fault tolerant control for an aircraft that suffers vertical tail damage. First, the damaged model of the aircraft is obtained, and the external disturbance is estimated by a disturbance observer then, an optimal control scheme is proposed to control the aircraft in nominal condition. This optimal control scheme is developed into faulty condition by the offline neural networks. The simulation results show the effectiveness of the proposed method in comparison to the existing methods in the literature.