

This paper studies the active fault-tolerant control (FTC) problem for nonidentical high-order multi-agent systems, in the presence of actuator faults and network disconnections. The follower agents are enabled to track the output of a leader agent in faulty cases, by performing output feedback actuator fault compensations and distributed accommodations of network disconnections. In view of nonidentical nonlinearities, a high-gain observer like-protocol and a cooperative FTC controller are presented, with a synchronization condition to govern the global behavior in undirected/directed graphs. To distributively achieve the synchronization condition by updating local controller parameters, two broadcast mechanisms are presented on a spanning tree (for undirected graphs) and a cycle containing all nodes (for directed graphs). To ensure the tolerance to disconnections, the proposed broadcast mechanisms are redesigned by adding redundant information flows on spanning trees (for undirected graphs) and cycles containing all nodes (for directed graphs).