

## **Sliding mode observers for fault estimation in multisensor avionics systems**

The paper addresses the problem of sensor fault estimation in avionics multisensor systems. Under the assumption of system strong observability, sliding mode observers are designed to estimate the faults in finite time and in the presence of bounded disturbances. It is shown that the fault estimation error is bounded in the Linf-norm sense, and an upper bound is theoretically derived. The method is applied to the problem of sensor fault estimation of a large transport aircraft. Simulation results as well as a pilot experiment are presented to demonstrate the potential of the proposed method.