

论文与报告

双余度传感器的故障检测与识别

孟晓风,王行仁

北京航空航天大学自动控制系

收稿日期 1994-7-21 修回日期 网络版发布日期 接受日期

摘要

传感器是任何测控系统中不可缺少的部件,也是最容易出故障的环节,传感器故障检测、识别和信号重构一直得到极大的重视.本文研究了仅利用双余度传感器的输出信号进行故障检测与识别问题,提出了一个双余度传感器故障信号识别器(FSD),建立了故障信号识别的基本原理,导出了相应的传感器故障检测与识别的递推算法,并给出了仿真结果.

关键词 [故障检测与识别](#) [传感器失效](#) [解析余度](#)

分类号

Fault Detection and Diagnosis for Double Redundant Sensors

Meng Xiaofeng,Wang Xingren

Beijing University of Aeronautics and Astronautics,Beijing

Abstract

Sensors are essential and comparatively fragile units in any measurement and control system. Much attention is always focused on the fault detection, diagnosis and signal reconstruction of sensors. The problem of failure detection and diagnosis using only the output signals from double redundant sensors is studied in this paper. A model of failure signal diagnosis (FSD) for double redundant sensors is proposed. A fundamental principle of FSD is established, and the correspondent recursive algorithm is presented. Finally, some simulation results are given.

Key words [Fault detection and diagnosis](#) [sensor failure](#) [analytical redundancy](#)

DOI:

通讯作者

作者个人主页 孟晓风;王行仁

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(539KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献\[PDF\]](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“故障检测与识别”的相关文章](#)

▶ 本文作者相关文章

· [孟晓风](#)

· [王行仁](#)