

论文与报告

2类故障系统的检测策略研究

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收稿日期 2002-1-4 修回日期 网络版发布日期 接受日期

摘要

研究具有2类故障的可修系统的一个模型,假定系统工作时可能直接发生第1类故障,也可能经过异常后发生第2类故障.系统故障时不需检测,系统工作时必须经过检测才能知道它是正常还是异常,并且检测时间是一个随机变量.系统开始工作后,每隔一段时间对它检测一次,直到系统故障或者检测结果是系统处于异常状态为止.利用密度演化方法,求出了系统的可靠性指标和最优检测策略.

关键词 [可靠性](#) [检测](#) [诊断](#)

分类号 [TP202+.1](#) [N945.17](#) [O213.2](#)

Research on the Inspection Polices of 2-Failure-Mode Systems

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Abstract

In this paper, a two-failure-mode system is discussed. It is assumed that while the system is working in a normal stage, it can enter failure 1 immediately or failure 2 after passing through an abnormal stage. Failure modes are self-announcing modes whereas normal modes and abnormal modes are non-self-announcing modes. While the system is working, it is inspected once every time interval to make sure it is normal or abnormal until it fails, or until the result of inspection is that it is abnormal. The duration of the inspection is a random variable. The reliability indices and the optimal inspection polices of the system are derived by using the density evolution method.

Key words [Reliability](#) [inspection](#) [diagnosis](#)

DOI:

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