

短文

基于云模型的导航系统模糊可靠性评测分析

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摘要

阐述基于云模型理论的飞行器导航系统模糊可靠性评测分析. 云模型是一种新的实现定性概念和定量数值之间转换的有力工具, 用来统一刻画基于语言值的定性概念和数值表示之间的相互映射关系. 云的数字特征期望值 E_x 、熵 E_n 和超熵 H_e 三个数值表征, 把模糊性和随机性完全集成在一起, 作为知识表示的基础. 将其用于飞行器导航系统模糊可靠性分析及故障检测, 可有效地提高飞行器导航系统的可靠性分析. 仿真结果说明了该分析方法的可行性和有效性.

关键词 [人工智能](#) [模糊可靠性](#) [导航系统](#) [云模型](#)

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Assessment and Analysis of Fuzzy Reliability Based on Cloud Models in Aircraft Navigation System

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Abstract

Analysis of fuzzy reliability based on cloud models in aircraft navigation system is expatiated in this paper. A new mathematical representation of qualitative concepts is represented by cloud models. With the new models, mapping between qualities and quantities becomes much easier and interchangeable. They integrate fuzziness and randomness using digital characteristics, such as expected value E_x , entropy E_n and hyper entropy H_e . The fuzziness and randomness are not only complementary, but also inseparable. The application of cloud models to fuzzy reliability analysis and fault detection in aircraft navigation system can effectively enhance reliability assessment of navigation system. The simulation results demonstrate that the method has certain validity and feasibility.

Key words [Artificial intelligent](#) [fuzzy reliability](#) [navigation system](#) [cloud models](#)

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