

反应堆工程

灰色聚类理论在屏蔽泵状态评估中的应用

宋梅村; 蔡琦

海军工程大学 船舶与动力学院, 湖北 武汉430033

收稿日期 修回日期 网络版发布日期:

摘要 针对屏蔽泵样本少、可测性和维修可达性差的特点, 将灰色聚类理论应用于屏蔽泵的状态评估。该方法兼顾小样本和样本区间模糊性, 根据各聚类指标的状态划分, 利用白化函数将各聚类指标白化、量化, 并根据各聚类指标的重要度给出其权重。用得到的各聚类指标的量化值和权重进行聚类, 给出屏蔽泵所属的状态。结果表明, 该方法客观合理, 适用于如屏蔽泵等样本少的核动力设备的状态评估。

关键词 [屏蔽泵](#) [状态评估](#) [灰色聚类](#)

分类号

Application of Theory of Gray Clustering in Condition Assessment of Canned Motor Pump

SONG Mei -cun; CAI Qi

College of Naval Architecture and Power, Naval University of Engineering, Wuhan 430033, China

Abstract The theory of gray clustering was applied in condition assessment of canned motor pump in order to solve the problem for lack samples, low mensurability and bad reachable maintainability. Considering the small number of samples and fuzzy interval, each clustering index was whitened and quantified according to the partition of condition of each index and the weight was given in the light of the significance of each clustering index. The condition of canned motor pump was distinguished by applying the acquired quantified value of clustering index and weight. The results indicate that this method is objective, rational and fitting for the condition assessment of nuclear power equipment for lack samples such as canned motor pump.

Key words [canned](#) [motor](#) [pump](#) [condition](#) [assessment](#) [gray](#) [clustering](#)

DOI

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [\[PDF全文\]\(539KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)

相关信息

- ▶ [本刊中 包含“屏蔽泵”的 相关文章](#)
- ▶ 本文作者相关文章

- [宋梅村](#)
- [蔡琦](#)

通讯作者