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试建立基于检测振动加速度信号的设备故障部位诊断模型

刘红星[1], 左洪福[1], 姜澄宇[1], 屈梁生[2]

1. 南京航空航天大学民航学院, 南京, 210016;2. 西安交通大学, 西安, 710049

TRYING TO ESTABLISH PATTERNS FOR LOCATING A MACHINE FAULT BASED ON MEASURING VIBRATIONAL ACCELERATIONS

Liu Hongxing[1], Zuo Hongfu[1], Jiang Chengyu[1], Qu Liangsheng[2]

1. Civil Aviation College, Nanjing University of Aeronautics and Astronautics, Nanjing, 210016;2. Xi'an Jiaotong University, Xi'an,710049

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摘要

往复式压缩机、内燃机等复杂设备，一旦出现故障，诊断的首要任务是要判断它们的故障部位。以检测振动加速度信号取代传统的耳听手摸的经验方法是这类设备诊断的一个趋势。尝试着提出了基于检测振动加速度信号的设备故障部位诊断模型——单特征模型和多特征集成模型。通过在往复式压缩机和内燃机上的实例验证表明，提出的单特征模型和多特征集成模型具有一定的可行性，其中多特征集成模型比单特征模型更有效。

关键词： 故障部位 诊断 加速度

Abstract:

Once a complicated machine such as a reciprocating compressor or a combustion engine malfunctions, it is most important to locate the fault in it.This paper introduces two patterns to judge the fault position, which are based on measuring vibrational accelerations.With the real examples on a reciprocating compressor and a combustion engine, the two patterns proposed were verified to be feasible to some extent, and the multiple feature based pattern was more effective than the one feature based pattern.

Keywords: fault position diagnosis a ccelerat ion

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