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旋转机械振动诊断技术展望

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PROSPECTS FOR THE VIBRATION DIAGNOSIS TECHNOLOGY OF ROTATING MACHINERY

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摘要 参考文献 相关文章

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摘要 本文简要地论述了机械设备故障振动诊断的理论基础,进而基于理论上的分析及作者个人的经验,对旋转机械故障振动诊断的前景作了评述,提出了若干建议。

关键词：

Abstract： This paper is a summary of the research projects on vibration specification, signal analysis and vibration diagnosis of the engine with the object of discussing the prospects of vi bration diagnosing.This paper analyses the mechanisms of three vibration analysis methods.the normal spectrum nalysis, time series analysis and modal parameter recognition mathematically and physically, and reviews the prospects of these methods used for vibration diagnosing of mechanical faults of the rotating machinery.This paper reviews also the various global identification methods:diagnosing by discrimination Parameters, fuzzy logic and others.Finally, the following tentative conclusions can be drawn:The time series analysis, as a tool to recognize the "forming filter" ,is similar to the norms spectrum analysis method but it is in the time domain, therefore there are another kinds of methods to increase the signal noise ratio.People can use the fuzzy logic to normalize the discrete characteristic frequency component of a spectrum or the parameters of a time series model and create suitable normalized crit eria wit both physical and mathematical meaning to diagnose the mechnical condition of a rotating machine.

Keywords：

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