论文与报告

汽车发动机诊断专家系统AEDES

郑小军,杨叔予

北京系统工程研究所;华中理工大学

摘要
本文运用作者提出的适用于复杂系统诊断的层次诊断原理对汽车发动机的故障诊断进行了探讨, 提出了一个汽车发动机诊断专家系统AEDES. 该系统以层次诊断模型为基础, 混合使用专家经验、系统的结构和功能分析以及波形信号理解等三方面的知识, 以人机交互的方式寻找发动机故障的故障源和故障原因. 该系统目前已形成原型系统, 具有诊断和多种知识获取功能以及中文语言人机接口.
关键词　　故障诊断　专家系统　发动机
分类号

Aedes:A Diagnostic Expert System for Automobile Engines

Zheng Xiaojun,Yang Shuai

Beijing Institute of System Engineering;Huazhong University of Technology

Abstract
With the hierarchy diagnostic model (HDM) presented by the authors, an approach to fault diagnosis of automobile engines is described, and a diagnostic expert system for automobile engines--AEDES is presented. Based on HDM, knowledge of expertise, wave signal understanding, and structure and function analysis of a diagnosed object is utilized in the system. By means of man-machine interaction, the system can identify the sources and causes of a failure. Now a prototype of the system has been completed. It has the functions of diagnosis, acquisition of several kinds of knowledge as well as a user-friendly Chinese language man-machine interface.
Key words　　Fault diagnosis　expert system engine

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通讯作者

作者个人主页　　郑小军;杨叔予

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