混合动力汽车集成式多能源管理监控平台

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关键词： 混合动力汽车 管理控制器 监控平台 设计 试验

摘　要： 将混合动力汽车CAN网络中的整车控制器与发动机控制器集成为多能源管理控制器，使CAN网络节点由3个变为2个。它与ISG电机控制器通过CAN总线相连。PC机通过CAN接口卡接到CAN总线上，实时读取各个控制器的参数及修改控制器中的数据。采用开发工具LabVIEW 7.0设计了实时监控平台软件。试验表明此平台具有参数实时显示、指令发送、电机测试、数据保存等功能和良好的人机交互式界面，实现了对混合动力各个工况的测试，完成了混合动力各个工况的控制策略制定、试验参数的优化、试验数据的分析。 The vehicle and engine electrical unit in former PHEV (parallel hybrid electrical vehicle) CAN network was integrated into multi energy management system (MMS), and the number of CAN nodes was changed from three to two. The MMS and ISG (integrated starter generator) controller were linked by CAN bus. PC was also linked to CAN bus by CAN interface card, which could get the real-time parameters of every controller and modify the inner data of them. The monitoring software was developed with LabVIEW 7.0. The experimental results show that the monitoring platform has the functions of real time parameters displaying, command giving, ISG test, data saving and interactive good human computer interface. Every hybrid function and operating mode was successfully realized. The adjustment of control strategy, optimization of parameters, and analysis of experiment data were well done.

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