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电动汽车高压电系统状态参数在线监测

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摘要 针对电动汽车高压电系统中几种关键状态参数(绝缘状况、动力线路的连接状况以及高压触点状态等)进行了监测分析,对监测方法的数学模型做了理论探讨并进行了试验验证。为满足在基于微处理器的故障诊断及高压电安全管理系统中的应用要求,对其在线判断策略进行了研究。

关键词 车辆工程;电动汽车;绝缘状况;动力线路;高压触点

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On-line monitoring of high voltage system parameters in electric vehicle

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Abstract The monitoring of the key parameters in the high-voltage system, responsible for the safe operation of the electric vehicle, including those characterizing the insulation condition of the system, the connection of the power circuit, the performance of the high-voltage contacts, were discussed. The mathematical models for the monitoring method were explored theoretically and introduced to measure these parameters. They were also verified experimentally. Using these models an electronic unit, namely the diagnostic and high-voltage safety management unit was developed and its on line judgement strategy was proposed.

Key words vehicle engineering electric vehicle insulation condition power circuit high-voltage contact

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