

混合动力汽车电机驱动系统二维载荷谱研究 2-D Load Spectrum for Motor Propulsion System on Hybrid Electric Vehicle

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关键词: 混合动力汽车 电机驱动系统 可靠性 载荷谱

摘要: 编制以雨流计数法为理论基础的Matlab二维载荷谱程序,用以对混合动力汽车电机驱动系统载荷时间历程进行统计处理,得到载荷值、均值雨流矩阵,进行幅值、均值各自分布假设检验,以及独立性和相关性检验,获得二维联合分布概率密度函数,建立了混合动力汽车电机驱动系统台架试验用二维载荷谱。 A 2-D load spectrum program based on rain-flow counting method was compiled in Matlab environment. The program was used not only in statistical treatment of load time history of motor propulsion system on hybrid electric vehicle (HEV) and getting rain-flow matrix, but also in hypothesis test for both amplitude and mean value distribution. 2-D distribution function was obtained after the independence and relevance tests of the amplitude and mean value. 2-D load spectrum was set up for traction motor propulsion system on HEV used in bench experiments.

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