عنوان مقاله:

Wheel Load Torque Emulation for Electric Propulsion Structure using Dual Induction Motors

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خلاصه مقاله:

Electric vehicle is an adaptation of conventional vehicle, with an integration of electrical motors. It seems to be one of the most promising technologies that can lead to significant improvements in vehicle performance and polluting emissions. However, for any vehicle in urban traffic requires regime changes, frequent acceleration, deceleration, and stopping phases, which lead to serious breakdowns. During the above phases, electric motors are continuously being exposed to thermal and mechanical effects.This paper highlights the possibility of representing the wheel load torque emulation of an electric propulsion structure using dual induction motors vector-controlled. The emulation of load torque acting on one of both electric motors placed at the rear wheels of electric vehicle (EV) structure is accomplished by a DC-generator coupled with an induction motor during vehicle drive cycle operation andunpredictable load profiles. Simulation results confirm widely the feasibility and the effectiveness of the proposed emulator scheme of induction motor-based vector-control in the electric vehicle application.

کلمات کلیدی:

DC-generator, electric propulsion structure, Electric Vehicle, field-oriented control, Induction motor

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