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(57) Abstract :
Design and performance analysis of DC converter control for induction motor fed electric vehicle is the proposed invention that aims at designing aspects and energy management system of electric car. The proposed invention is designing aspects and energy management system of Electric Car. The electric car which is driven by a 3-phase induction motor powered by battery is presented in this paper. For making charging and discharging of battery, an effective energy management system is designed for a bidirectional DC-DC converter is incorporated to this system. The state of charge (SoC) of the battery is incorporated to controller of bidirectional converter for improving lifetime of battery. The SoC of battery can be a part of controller to decide the amount of charging or discharging current of battery. The vector controller is designed to drive the induction motor. The electromagnetic torque generated by induction motor needs to be maintained at ripples free. The significance of bidirectional DC to DC converter and vector control of induction motor has presented in different possible cases. The detailed control logics and models are implemented in MATLAB Simulink platform. The extensive results are presented with valid explanation of the proposed system.

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