

Practical Model of Regenerative Braking Using DC Machine and Boost Converter

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Abstract : Increasing use of traditional vehicles driven by internal combustion engine is responsible for the environmental pollution. Further, it leads to depletion of limited energy resources. Therefore, it is required to explore alternative energy sources for the transportation. The promising solution is to use electric vehicle. However, it suffers from limited driving range. Regenerative braking increases the range of the electric vehicle to a certain extent. In this paper, a novel methodology utilizing regenerative braking is described. The model comprising of DC machine, feedback based boost converter and micro-controller is proposed. The suggested method is very simple and reliable. The proposed model successfully shows the energy being saved into during regenerative braking process.

Keywords : boost converter, DC machine, electric vehicle, micro-controller, regenerative braking

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