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FORMATION OF DYNAMIC MODES OF FULL-CONTROLLED HYBRID ENERGY STORAGE SYSTEM FOR ELECTRIC VEHICLES

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Abstract

In this paper, the results of the experimental investigations of the dynamic modes of the hybrid energy storage system for electric vehicles are shown which is based on the batteries and supercapacitors. The recommendations on the formation of dynamical modes are presented. The load current is formed based on diagrams of the motor torque and speed which correspond to the movement of a typical electric vehicle. It is experimentally shown that hybrid energy storage systems with a fixed configuration of the decoupling filter improve the batteries operation conditions, comparing with the battery-only source, but cannot guarantee effective currents distribution for all dynamic modes of an electric vehicle. References 10, figures 4.

Key words: hybrid energy storage system, electric vehicle, distribution filter, dynamic modes forming.

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