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CONCEPT OF EXPERIMENTAL RESEARCH FOR ELECTRICAL VEHICLE ELECTROMECHANICAL SYSTEMS WITH HYBRID ENERGY STORAGES

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The concept of experimental investigations of electric vehicles electromechanical systems with hybrid energy storages is designed. Hybrid energy storage system is based on accumulators and supercapacitors. The basic requirements to the functional capabilities of experimental installation have been formulated and installation structure has been developed. A novel DC-DC boost converter control algorithm is presented and experimentally verified. Results of experimental investigation induction motor speed-flux vector control algorithm are presented as well. The designed concept and unified experimental setup can be used to study a wide range of control algorithms used in electric vehicles, including those with battery or supercapacitors

supply. References 10, figures 5.

Key words: hybrid energy storage system, DC-DC converter, electric vehicles.

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