

SUMMARY

Diploma project contains: 184 pages; 79 figures; 13 tables; 6 graphic sheets; 158 references.

In presented master thesis, the analysis of hybrid energy storage systems for electric vehicles is presented. Such systems consist of rechargeable batteries and supercapacitors unit. New control algorithms for DC-DC converters control are synthesized. DC-DC converters are in part of HESS. Cascaded PI-control algorithm is synthesized for hybrid energy system control.

Developed control algorithms provide asymptotic DC-link voltage regulation with input currents tracking.

It was deduced that hybrid energy storage system implementation provides better battery performance thus prolonging their cycle lifetime.

Comparing the experimental results with simulated ones, it follows that:
 a) used models of batteries, supercapacitors and DC-DC converters have sufficient accuracy level; b) all control algorithms provide good performance.

HYBRID ENERGY STORAGE SYSTEM, RECHARGEABLE BATTERY, SUPERCAPACITOR MODULE, FEEDBACK LINEARIZING, ELECTRIC VEHICLE

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Зм.	Page	№ document.	Sign.	Date	Control systems of hybrid energy storages for electric vehicles. Summary	Src.	Page	Pages
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