

SUMMARY

The diploma project is executed at 82 pages and contains 36 drawings, 1 tables.

The main purpose of this diploma project is to optimize the control algorithm of hybrid energy storage system for utilizing in electric vehicles. Optimization includes selection of the algorithm for calculating the required current of ultracapacitors, setting the frequency distribution filter and determining the coefficients for the regulators that will provide for the battery and traction motor. In order to achieve this goal, an analytic review of control algorithms and types of traction motors was conducted. The results of this review determine the requirements for traction electric drives and hybrid energy storage systems. Object models and algorithms are recorded. To achieve goals the simulations were conducted. The obtained data were verified on the full model of a hybrid energy storage system loaded with a traction motor.

The calculations and implementation of this diploma project were carried out using the following software packages: MATLAB, Microsoft Office Word, Simnon, Microsoft Office Visio.

HYBRID ENERGY STORAGE SYSTEM, INTERIOR PERMANENT
MAGNET SYNCHRONOUS MOTOR, DC-DC CONVERTER, ELECTRIC
VEHICLE, FREQUENCY DISTRIBUTION FILTER

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