

## SUMMARY

The bachelor's thesis consists of an introduction, five chapters, a conclusion, a list of references and an appendix (81 pages of explanatory note, 36 figures, 5 tables, 18 sources used).

The purpose of the work is to develop an electromechanical system of a unicycle based on a brushless DC motor.

The object of research is a brushless DC motor.

The subject of research is the algorithm of vector control of the moment of the brushless DC motor.

In the first section the analytical review of electromechanical system of a unicycle is carried out, ways of management are considered, requirements to system are formed.

In the second section the mode of operation of the engine is investigated and its basic parameters are calculated. The calculation and selection of the main components of the power scheme and control scheme. An electrical circuit has been developed.

In the third section the structural-parametric synthesis of the control system is carried out, its mathematical model in the MatLab Simulink environment is created.

The fourth section examines the transients of the system.

The fifth section develops "firmware" for the control controller.

**MONOWHEEL, ELECTROMECHANICAL SYSTEM, AUTONOMOUS VOLTAGE INVERTER, SYNCHRONOUS MOTOR WITH PERMANENT MAGNETS, PROGRAMMING MICROCONTROLLER**

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					<i>Electromechanical system of a unicycle based on a brushless DC motor Summary</i>					
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<i>Review.</i>		<i>Монахов Е. А.</i>								
<i>N. contr.</i>		<i>Теряев В. І.</i>								
<i>Approv.</i>		<i>Пересада С. М.</i>								
						<i>Sh. 8</i>	<i>Sheets 81</i>			
						<i>Igor Sikorsky KPI, FEA, AEMS-ED, EP-p71</i>				