SUMMARY

The diploma project comprises: 68 pages, 18 figures, 1 table and graphical part on 3 pages A1.

The purpose of the bachelor's thesis is to develop and research of an electromechanical system based on a doubly fed induction machine.

An analytical review of power generation systems, the study of static and dynamic modes of the electromechanical system is carried out. The required power of the wind generator is calculated. The algorithm of operation of the vector control system of the doubly fed induction generator has been developed, and system initialization. The selection of the electric motor and power electrical equipment has been completed, the parameters of the electromechanical system are calculated. The obtained results of calculation, simulation and conclusions are analyzed.

DOUBLY FED INDUCTION MACHINE*, INDUCTION MOTOR, ELECTRIC DRIVE, CONTROL SYSTEM, VECTOR TORQUE CONTROL, BACK-TO-BACK CONVERTER.*