SUMMARY

The master's dissertation contains 96 pages, 23 figures, 82 formulas, 24 tables, 26 references and a graphic part on 6 sheets of A1 format.

In this master's dissertation the analysis and development of ways to improve the quality of electricity at the output of the frequency converter of asynchronous electric drives was carried out. The modes of operation of autonomous inverters for improving the quality of electricity by means of pulse-width modulation have been studied. The calculation and selection of the induction motor and elements of the power part are carried out.

The control model was modeled on the basis of the mathematical model of the induction motor and the dynamic characteristics of different modes of motor operation were investigated.

The calculation and implementation of this master's thesis were provided using the following programs: Microsoft Office Word 2016, Microsoft Office Visio 2013, Mathcad 15.0, MatLab R2009b, MathType 6.9, Splan 70.

ELECTRIC DRIVES, FREQUENCY CONVERTERS, PULSE WIDTH MODULATION, AUTONOMOUS INVERTER VOLTAGE VECTOR CONTROLS, UTILIZATION VOLTAGE POWER SECTION, CONTROL SYSTEMS, MODULATION FUNCTIONS, NESYNUSOYIDALNIST.