

## ABSTRACT

The diploma project is presented on 132 pages, it contains 45 drawings, 35 tables, 3 attachments and 6 graphic sheets.

Analyzing the scientific and technical literature, the requirements for the electric drive were formed and a six-period speed chart was selected as the most promising vector control of the induction drive.

After the calculation, a speed problem was formed and a six-period motion chart was constructed. A selection of elements of the electromechanical system was calculated and implemented, namely: skip hoist, lifting machine, rope, guide pulleys, gearbox, electric motor and frequency converter. Having the catalog parameters of the drive engine, the parameters of its replacement scheme were calculated and the moments of inertia were reduced to a single mass system.

Using the indirect vector control algorithm, the accuracy of working out the speed problem at the skip's entry into the discharge curves was investigated, the results were analyzed and the feasibility of using the vector control of the asynchronous electric drive in the skip mine lifting installations was evaluated.

**COAL MINE, MINE LIFTING INSTALLATION, SKIP, INDUCTION MOTOR, INDIRECT VECTOR CONTROL, FREQUENCY CONVERTE**

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