

## SUMMARY

Bachelor's diploma consists of \_\_ pages, \_\_ figures, \_\_ tables and graphic part on 3 pages. Diploma project structure includes: analytical overview, functional circuit development with speed control by using field oriented control of induction motor, calculation of parameters and selection of electric drive basic elements, structural diagrams designing and synthesis of regulators, mathematical model designing, research of static and dynamic characteristics of main motion field oriented controlled asynchronous electric drive, occupational and Environmental Safety.

Objective: Studying of the automatic control system of the electric main drive of Vertical Milling Machine in first and second zones.

In the course of bachelor's work knowledge on such subjects: "Theory of electric drive", "Electro-mechanical automation systems in metalworking and mechanical engineering", "Design of automation systems", "Automation of electromechanical systems." were used and secured.

The graphical part includes a principle electric circuit, charts of transients, appearance of milling machine.

MACHINE TOOLS, THE MAIN MOTION, CUTTING TOOL,  
MATHEMATICAL MODEL, FIELD ORIENTED CONTROL, MILLING

|           |             |           |       |      |  |                  |      |         |  |
|-----------|-------------|-----------|-------|------|--|------------------|------|---------|--|
|           |             |           |       |      | <b>6.090702.2105.005.BD</b>                                  |                  |      |         |  |
|           | Letter      | № of doc. | Sign. | Date | Asynchronous electric main<br>motion machine tool<br>Summary |                  |      |         |  |
| Devel.    | O.Dolhanov  |           |       |      |  | L.               | Арк. | Letters |  |
| Checked   | B.Priymak   |           |       |      |  |                  |      |         |  |
| N. Contr. |             |           |       |      |  | <b>NTUU«KPI»</b> |      |         |  |
| Approved. | S. Peresada |           |       |      |  |                  |      |         |  |