

## ABSTRACT

The master's thesis is executed in 115 pages and contains 74 figures, 20 tables, 25 references.

The purpose of this dissertation is to study electromechanical systems with elastic-viscous bonds and gaps, including three-mass systems with two gaps, and to reduce the dynamic loads in these systems.

In this master's thesis a mathematical model of three-mass electromechanical systems with two gaps was developed, the work of this system is modeled under vector control with and without limitation of dynamic loads for different values of gaps.

Calculation and realization of the master's thesis were provided through the use of the following programs: *MATLABR2009a*, *Microsoft Office Word 2007*, *Microsoft Office Visio 2006*.

GAP, BACKLASH, ELASTIC CONNECTIONS, THREE-MASS SYSTEM, VECTOR CONTROL, MOMENT OBSERVER, OPTIMIZED TACHOGRAM

|           |                |          |        |      |  |                         |       |         |
|-----------|----------------|----------|--------|------|--|-------------------------|-------|---------|
|           |                |          |        |      | 141.1105.008.МД  |                         |       |         |
| Зм.       | Арк.           | № докум. | Підпис | Дата | Research of asynchronous electric drive with complex electromechanical connections | Літ.                    | Аркуш | Аркушів |
| Розробив  | Ільків А.В.    |          |        |      |  |                         | 6     | 115     |
| Перевірив | Пижов В.М.     |          |        |      |  | НТУУ «КПІ», ФЕА, ЕП-61М |       |         |
| Н. контр. |                |          |        |      |  |                         |       |         |
| Затв.     | Пересада С. М. |          |        |      |  |                         |       |         |