

## SUMMARY

The diploma project comprises: 74 pages, 23 figures, 11 tables and graphical part on 4 pages A1.

The relevance of the research topic is due to the need to find new methods for regulating gas pressure in the nodes of the reduction of gas distribution stations in the context of modernizing outdated equipment, in order to ensure higher productivity and accuracy of testing.

The aim of the work is to synthesize an algorithm for controlling the angular position and flux linkage of an induction motor, which is installed on the shut-off and control valves in the pipeline of the gas reduction unit.

The object of the study is an asynchronous motor used as a valve actuator in the gas pressure reduction unit.

The practical significance of the results. The transient processes of the electromechanical system are investigated by the method of mathematical modeling. From the obtained results it can be seen that the system asymptotically fulfills the specified trajectory of the angular position. This means that this approach to regulating the pressure in the pipeline by controlling the angular position of the electric drive of the valve is expedient for use in the nodes of reduction of gas distribution stations.

REDUCTION, INDUCTION MOTOR, ELECTRICDRIVE, OBSERVER,  
FLUX ORIENTED CONTROL, ANGULAR POSITION, MATHEMATICAL  
MODELING, SYNTHESIS, TRANSIENTS

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