

# **Synthesis of the State-Feedback Controllers by the Genetic Algorithm According to the Maximum Stability Degree Criterion**

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## **Abstract**

The synthesis algorithm of state-feedback controllers is proposed in this paper. It was improved the procedure of finding the tuning parameters by the maximum stability degree criterion, using the genetic algorithm. Based on the genetic algorithm it is calculated the value of the maximum stability degree, according to witch it is calculated the control vector of the state-feedback controller. The proposed algorithm was verified by the computer simulation and there are presented some case studies. The case study was done for the situation when the control object is approximated with model of object with inertia and inertia with astatism.