

OPTIMIZATION OF A STOCHASTIC TRACKING SYSTEM USING NUMERICAL AND EVOLUTION METHODS

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The paper analyses the use of evolution and numerical methods for the optimization of complex interrelated screening and control systems under a priori uncertainty using a stochastic tracking system (a tracker, for short) as an example. To compare various approaches a series of experiments have been carried out on specially developed software. When modeling a tracker faults are discovered on the basis of the method of weighted squares of error of closure, adaptation is performed on the basis of the method of auxiliary quality functional. The method of simple stochastic approximation, the method of least squares and the genetic algorithm are used as identification algorithms to as to compare their possibilities. In the comparative aspect the use of evolution and numerical methods for the optimization of complex interrelated screening and control systems is analysed using a stochastic tracking system as an example.