Numeral-analytical modeling of game and optimization processes of different nature

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The fundamental problems of decision of mathematical problems, which appear in the theory of optimal control, differential games, equilibrium models of economics and numeral methods of mathematical programming are explored. Primary purpose of work is the development of mathematical apparatus for solving designing problems on the basis of modern theory of differential equations, convex analysis, and numerical mathematics.

The scientific novelty is made with complex approach to the design of game and optimizations processes, stationary as well as dynamic ones, with application of mathematical models in the form of variation inequalities. The differential games simulate a lot of important natural and ecological processes.

The development can be introduced at solving the row of technical problems, in particular, the problems of pursuit or avoidance of collision, and also methods of optimum airplane management at T/O and landing.

Other models can be applied in machine building, when it is necessary to retain different parameters of complex technological process in the frames given.