Abstract

The diploma thesis is focused on optimization problems with chance constraints, specifically, on the cases when the probability distribution is not known. Two possible approaches are the *pessimistic* and *optimistic scenarios*, where the most favorable and the most unfavorable probability distribution from a given distribution family set is used. Under certain assumptions, we transformed these problems into simpler and easily tractable ones. These stochastic optimalization tasks were transformed into easier and solvable problems. The obtained results were apllied to the real data from *portfolio optimalization* and *image reconstruction* branches.