Approximation of the Whole Pareto-Optimal Set for the Vector Optimization Problem

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Abstract

In multi objective optimization problems several objective functions have to be minimized simultaneously. In this work, we present a new computational method for the numerical solution of the linearly constrained, convex multi objective optimization problem. We propose some technique to find joint decreasing direction for unconstrained and linearly constrained case as well. Based on these results we introduce a method using subdivision technique to approximate the whole Pareto-optimal set of the linearly constrained, convex multi objective optimization problem. Finally, we illustrate computations of our algorithm by solving the Markowitz-model on real data.