Computing the Pareto front in Multiobjective Linear Mixed Integer Fractional Programming

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Abstract

This communication presents a Branch Bound technique to compute all the nondominated solutions in multiobjective linear mixed integer fractional programming (MOLMIFP). The technique provides not only supported but also unsupported nondominated solutions, that is, those that are dominated by unfeasible convex combinations of other nondominated solutions. Note that nondominated solutions associated with a weight vector are always supported. It can be observed that the nondominated solution set of a MOLMIFP problem has, in general, a significant part of unsupported solutions.
The difference between the computed nondominated solutions, supported or unsupported, can be controlled by a pre-defined step. Several computational performance tests will be presented

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