„*Finite Representation of Nondominated Sets in Multiobjective Linear Programming*"

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In this talk we discuss the problem of representing the continuous but non-convex set of nondominated solutions of a multiobjective linear programme by a finite subset of such points. We prove that a related decision problem is NP-hard. Moreover, we illustrate the drawbacks of the known global shooting, normal boundary intersection and normal constraint methods concerning the coverage of the nondominated set and uniformity of the representation by examples. We propose a method which combines the global shooting and normal boundary intersection methods. By doing so, we overcome the limitations of these methods. We show that our method computes a set of evenly distributed nondominated points for which the the coverage error and the uniformity level can be measured. Finally, we present results obtained by this method in numerical tests, including an application in radiotherapy tretament planning.