

A survey on fuzzy mathematical programming models based on a new approach to fuzzy ordering

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Abstract. In traditional fuzzy mathematical programming problem, it is assumed that the decision maker has exact information about the coefficients belonging to the problem. In real world cases, values of costs, right hands rights of the product may not be known precisely due to uncontrollable factors. The aim of this article is to introduce a new formulation of fuzzy mathematical models involving fuzzy parameters for the costs and/or supplies and/or demands in the constraints. The ordering of fuzzy quantities by the help of a new approach is utilized to develop a method for evaluation of the optimality conditions and/or feasibility of the suggested solutions. The proposed approach is illustrated by some numerical examples which are prepared by formulating of some real problems.

Keywords: Fuzzy mathematical programming, fuzzy ordering, simplex algorithms, duality, sensitivity analysis