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Characterizations of variable domination structures via nonlinear scalarization. (English)

Zbl 0988.49005

J. Optimization Theory Appl. 112, No. 1, 97-110 (2002).

Summary: In this paper, a nonlinear scalarization function is introduced for a variable domination structure. It is shown that this function is positively homogeneous, subadditive, and strictly monotone. This nonlinear function is then applied to characterize the weakly nondominated solution of multicriteria decision making problems and the solution of vector variational inequalities.

MSC:

49J40 Variational inequalities

90C29 Multi-objective and goal programming

90B50 Management decision making, including multiple objectives

Cited in **32** Documents

Keywords:

nonlinear scalarization; variable domination structure; nondominated solution; multicriteria decision making; vector variational inequalities

Full Text: [DOI](#)

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