

变动控制结构下几乎-锥-凸映射的标量函数刻画

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Scalar Characterizations of Nearly-cone-convex Mappings in Variable Domination Structures

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摘要 本文讨论变动控制结构下广义锥凸映射的线性和非线性标量函数的刻画问题. 首先在变动序拓扑向量空间中证明了由正极锥的极方向所刻画的向量值映射的几乎-锥-凸性; 其次, 对变动控制结构引入了一种非线性标量函数, 并利用这种非线性标量函数, 得到了几乎-锥-凸向量值映射的标量刻画.

关键词: 变动控制结构 非线性标量化 几乎-锥-凸性 极方向

Abstract: This paper deals with the linear and nonlinear scalarization of generalized cone-convex maps under the variable domination structures. Firstly, in the variable orderings topology vector spaces, it is shown that the nearly-cone-convexity of the vector-valued maps can be characterized by means of the extreme directions of the positive polar cone. Secondly, a nonlinear scalarization function is introduced for a variable domination structure. This nonlinear function is then applied to characterize the nearly-cone-convex vector-valued mappings.

Key words: variable domination structure nonlinear scalarization nearly-cone-convexity extreme direction

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