

On pseudolinear programming programs and pseudoaffine variational inequality

Diana-Elena STANCIU, Elena-Cristina BAIBARAC

Abstract - This paper gives some characterizations of a variational inequality problem (VIP) in terms of a $(\nabla f, \eta)$ -pseudolinear program, where the function f involved is η -pseudoaffine. We first consider the notions of η -pseudomonotone and η -pseudoaffine bifunctions and we give some conditions of η -pseudoaffiness. Then it is characterized the solution set of a (VIP) under hypothesis of η -pseudoaffiness for a differentiable function. The next part gives definitions and properties for pseudolinearity in terms of bifunctions. Taking into account the properties of $(\nabla f, \eta)$ -pseudolinear functions we characterize the solution set of a pseudolinear problem (P) which implies a differentiable function. Finally, we relate the solution sets of problems (VIP) and (P).

Key words and phrases : pseudoaffine maps, pseudolinear functions, optimality, variational inequality problem.

Mathematics Subject Classification (2000) : 49J40, 65K10.