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Quasi-Variational Inequality Problems with Non-Compact Valued Constraint Maps

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Abstract

Quasi-variational inequality problems correspond to variational inequality problems in which the constraint set depends on the variable. They are playing nowadays an increasing role in the modelization of real life problem, in particular, because they provide a perfect framework for the reformulation of generalized Nash equilibrium problems. Our aim in this work is to establish the existence of solutions for quasi-variational inequalities defined by a non monotone map and a constraint map which possibly admits unbounded values. The key tools are the use of coercivity conditions and Himmelberg fixed point theorem. Applications to existence of generalized Nash equilibrium is also considered.

Keywords: Quasi-variational inequality, Pseudomonotone maps, Quasimonotone maps, Coercivity conditions, Nash equilibrium

2000 MSC: 49J40, 90C26, 90B10

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