Existence of quasiequilibria in locally convex metric vector spaces

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Abstract

A quasiequilibrium problem is an equilibrium problem in which the constraint set is subject to modifications depending on the considered point. Similarly, a generalized game is a game in which the choice of an action by one agent affects the domain of actions of other agents. These models encompass many relevant problems as special cases, among which variational and quasivariational inequalities, generalized Nash equilibrium problems, mixed quasivariational-like inequalities and so on. Aim of this lecture is to establish existence results for problems defined on convex compact subsets of locally convex metric vector spaces. These results do not require upper semicontinuity or closed-valuedness of the feasibility set-valued maps and extend a previous result in separable Banach spaces. A key step is the proof of a selection theorem for lower semicontinuous set-valued maps whose values are convex but not necessarily closed sets.