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Abstracts of Short Communications and Posters

Section:

6. Topology

1991 MS Classification:

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Representation of Multivalued Maps

The problem of representation of set-valued mappings is solved in the framework of the lower semicontinuity.
"Let X, Y and Z be topological spaces, $f\colon X \times Y \quad Z$ be a separately continuous single-valued function and $\Gamma\colon X \quad 2^{Z} \setminus \emptyset$ be a set-valued mapping. Assume $f\,(x, Y) \cap \Gamma\,(x) \neq \emptyset, x \in X$. There exists a lower semicontinuous set-valued function $H\colon X \quad 2^{Y} \setminus \emptyset$ such that $\mathrm{f}(x, H\,(x)) \subseteq \Gamma\,(x)\,,\ x \in X$? "
This question deals directly with the lower semicontinuity criteria for the regulation map in Control Theory and Viability Theory.