Thesis Title   Fixed Point Theorems for Correspondences

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Abstract

The purpose of this thesis is to construct a fixed point theorem for correspondence $\mu : [0,1]^k \longrightarrow [0,1]^k$ which cover the Kakutani's fixed point theorem. The study shows that for a correspondence μ which is h-continuous or h$'$-continuous and enjoys the property that for every $\epsilon > 0$ and $x \in [0,1]^k$ which $d(x, \mu(x)) \geqslant \epsilon$, there is $p \in R^k$ such that $E_p(m_1,\ldots,m_k) \cap (\mu(x)-x) \neq \emptyset$ and $(\mu(x)-x) \subset H_p(\epsilon)$ then $d(x_n, \mu(x_n)) \longrightarrow 0$ for some sequnece (x_n) in $[0,1]^k$.

We extend the theorem to a correspondence $\mu : [0,1]^k \longrightarrow R^k$ which is not k-nullhomotopic on the boundary of $[0,1]^k$.