ADMISSIBLE PERTURBATION OF SINGLE-VALUED OPERATORS IN VECTOR-VALUED METRIC SPACES*

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Abstract

In this paper, using the admissible perturbation technique, we will prove some data dependence and stability results for the fixed point equation in complete vector-valued metric spaces. Our approach generalizes some recent results in metric fixed point theory.

1   Preliminary notions and results

Let (X, d) be a metric space and $P(X)$ be the set of all nonempty subsets of X. Let us recall now the following notions:

(1) the distance from a point $x \in X$ to a set $Y \in P(X)$:

$$D(x, Y) := \inf\{d(x, y) \mid y \in Y\}.$$