

FIXED POINTS FOR MULTIVALUED ĆIRIĆ-TYPE OPERATORS

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Abstract. The following open question was proposed by I.A. Rus.

OPEN QUESTION. *Let (X, d) be a metric space and $Y \subseteq X \times X$. The operator $T : X \rightarrow P_{cl}(X)$ is called a multivalued (Y, a) -contraction if $a \in]0, 1[$ and for each $(x_1, x_2) \in Y$ we have:*

$$H(T(x_1), T(x_2)) \leq a \cdot d(x_1, x_2).$$

Construct a fixed point theory for multivalued (Y, a) -contractions.

The purpose of this paper is to give a partial answer to this problem in the frame of an ordered metric space. More precisely, we present some results on the existence and data dependence of the fixed points for multivalued operators of Ćirić type.

Key Words and Phrases: Fixed point, multivalued operator, Ćirić type generalized contraction.

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