

FIBER φ -CONTRACTIONS ON GENERALIZED
METRIC SPACES AND APPLICATIONS

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Abstract. In this paper we extend the fiber Picard operator theorem from [4] and [7] to generalized φ -contractions. We prove that [4, Theorem 4] and [7, Theorem 3.1.] can be extended to generalized metric spaces, where the distance takes values in a positive cone of an ordered Banach space with monotone norm. The results can be used for proving the differentiability with respect to parameters of the solutions for some systems of integral equations.

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Key words. Picard operators, φ -contractions, fibre φ -contractions, generalized metric spaces, system of nonlinear integral equations.

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