

COMMON FIXED POINT FOR UNIFORMLY MULTIVALUED NONEXPANSIVE MAPPINGS IN CONVEX METRIC SPACES

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Abstract

The purpose of this paper is to ensure the existence of fixed points for multivalued nonexpansive weakly inward non self-mappings in uniformly convex metric spaces. Abkar and Eslamian (Nonlinear Anal. TMA, 74, 1835-1840, 2011) prove that if A is a nonempty bounded closed convex subset of a complete $CAT(0)$ space X , $p : A \rightarrow A$ is a single-valued quasi-non expansive mapping and $P : A \rightarrow AB(A)$ is a multivalued mapping satisfying conditions (E) and (Bv) for some $v \in (0, 1)$ such that p and P commute weakly, then there exists a point $w \in A$ such that $w = p(w) \in P(w)$. In this paper, we extend this result to the general setting of uniformly convex metric spaces. Nevertheless, condition (E) of P can be weakened to the strongly demiclosedness of $I - P$.

Key Words : *Generalized multivalued nonexpansive mapping, Commuting mapping, Common fixed point, Uniformly convex metric space.*

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