On common fixed point theorems for non-self hybrid mappings in convex metric spaces

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References:


Abstract:

In this paper, we introduce the concept of a contractive type non-self mappings for a two pair of multi-valued and single-valued mappings in metric spaces and prove some results on coincidence and common fixed points in complete convex metric spaces. Our theorems generalize and improve the theorems of Imdad and Khan [M. Imdad, L. Khan, Some common fixed point theorems for a family of mappings in metrically convex spaces, Nonlinear Anal. – Theor. 67 (9) (2007) 2717–2726; M. Imdad, L. Khan, Fixed point theorems for a family of hybrid pairs of mappings in metrically convex spaces, Fixed Point Theory Appl. 2005 (3) (2005) 281–294] and of Assad [N.A. Assad, Fixed point theorems for set valued transformations on compact sets, Boll. Un. Math. Ital. 4 (1973) 1–7] and several others theorems. To accomplish that, we shall use slightly improved version of methods of proofs, usually used in proving fixed point theorems for non-self mappings. An example is constructed to show that our results are genuine generalizations of the above mentioned results.

Keywords:
Convex metric space; Complete metric space; Coincidence point; Common fixed point; Metric space of hyperbolic type; Complete metric space