Coupled fixed point theorems by altering distances between points in partially ordered metric spaces

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Abstract:

In this paper, some coupled coincidence and common fixed point theorems for two self mappings have been derived which satisfy certain inequality involving a function of two variables that measures the distance between points in ordered metric spaces. For particular choices of the function several generalizations of many fixed point theorems which contain altering distance functions may be obtained. Our results can be applied directly to study multidimensional fixed point theorems which cover the concepts of coupled, tripled, quadruple fixed point etc.

Keywords:

Altering distance function; coupled fixed point; partially ordered metric space.

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