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The existence theorem of a new multi-valued mapping in metric space endowed with graph

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ABSTRACT.

In this paper, we introduce a new type of multi-valued G-contraction mapping on a metric space endowed with a directed graph G and prove an existence theorem for fixed point problems in metric space endowed with a graph. Moreover, we prove fixed point theorems in partially ordered metric spaces by our main result. Some examples illustrating our main results are also present.

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