

## Generalized $n$ -tupled fixed point theorems for nonlinear contractions

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**Abstract** The notion of  $n$ -tupled fixed point is introduced by Imdad et al. (J Oper, Article ID 532867, 2013). In this continuation, we prove some  $n$ -tupled fixed point theorems for mappings having mixed monotone property in partially ordered complete metric spaces which are the generalizations of certain results contained in Karapinar and Luong (Comput Math Appl 64:1839–1848, 2012).

**Keywords** Partially ordered set · Nonlinear contraction · Mixed monotone property ·  $n$ -tupled fixed point

**Mathematics Subject Classification (2000)** 47H10 · 54H10 · 54H25

### 1 Introduction

The Banach contraction principle is one of the pivotal results of analysis. It is widely acclaimed as the inspiration of metric fixed point theory. Also, its significance lies in its vast applicability in a number of branches of mathematics. Generalization of the above principle continues to be an active branch of mathematics. Existence of a fixed point for contraction type mappings in partially ordered metric space and applications have been considered by many authors, (for details see [1–11, 19–33]).

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