

**n -TUPLED COINCIDENCE AND COMMON FIXED POINT
RESULTS FOR WEAKLY CONTRACTIVE MAPPINGS IN
COMPLETE METRIC SPACES**

(COMMUNICATED BY NASEER SHAHZAD)

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ABSTRACT. In this paper, we prove results on n -tupled coincidence as well as n -tupled fixed point in partially ordered complete metric spaces for a pair of weakly contractive compatible mappings whenever n is even, wherein control functions are also employed. Our main theorem improves the corresponding results of Choudhury *et al.* (Ann. Univ. Ferrara 57: 1-16, 2011). We illustrate our main result with an example in arbitrary even order case which also substantiates the realised improvements.

1. INTRODUCTION

The enormous utility of Banach contraction principle is well known. This result is one of the pivotal results of metric fixed point theory. It has fruitful applications within as well as outside mathematics. Generalisations of this principle continues to be an active area of research. Many authors have extended this theorem employing relatively more general contractive conditions ensuring the existence of a fixed point. The investigation of fixed points in ordered metric spaces is a relatively new development which appears to have its origin (in 2004) in the paper of Ran and Reurings [21]. This paper was well complimented by the article of Nieto and López [20]. For similar other results in ordered metric spaces, one can be referred to [1]-[4],[14]-[16],[18],[19],[23].

In [9], Bhaskar and Lakshmikantham introduced the concept of a coupled fixed point of a mapping $F : X \times X \rightarrow X$ wherein (X, \preceq, d) be a partial metric space and also proved some coupled fixed point theorems in partially ordered complete metric spaces. Afterwards Berinde and Borcut [8] introduced the concept of tripled fixed point and proved some related theorems. Most recently, Imdad *et al.* [14] introduced the concepts of n -tupled coincidence as well as n -tupled fixed point and

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