

# FIXED POINTS OF GENERALIZED WEAKLY CONTRACTIVE MAPS IN PARTIAL METRIC SPACES

By

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## ABSTRACT

In this paper, we prove some fixed point theorems for maps that satisfy  $(\psi - \phi)$  contractive condition in partial metric spaces. Our results generalize, extend, unify and complement a few existing results in the literature. An example is given to show the validity of our results.

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**Keywords :** Common fixed point, Weak  $(\psi - \phi)$  contraction, Weakly compatible maps, Partial metric space.

**1. Introduction.** The notion of a partial metric space was introduced by Matthews [12] as a part of the study of denotational semantics of data flow networks. Matthews [13], Oltra and Valero[14], Romoguera[16] and Altun et al. [6] obtained fixed point theorems in partial metric spaces for maps satisfying different contractive conditions. Recently several papers have been published on fixed point theorems in partial metric spaces (see, for instance [2], [3],[5],[8]-[10], [17]and [18]) . The aim of this paper is to continue the study of common fixed points of maps in partial metric spaces under  $(\psi - \phi)$  contractive conditions.

Our results generalize, enrich and complement a multitude of related fixed point theorems for metric spaces and extend them in partial metric spaces.

**2. Preliminaries.** We recall some definitions and notions of partial metric spaces needed in the sequel.