

## ON WEAKLY $\omega e^*$ -CONTINUOUS FUNCTIONS

PINAR ŞAŞMAZ AND MURAD ÖZKOÇ<sup>†</sup>

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**Abstract.** The aim of this paper is to introduce and study a new type of weakly continuity called weakly  $\omega e^*$ -continuity via  $\omega e^*$ -open sets defined by us. We obtain several characterizations and some fundamental properties of weakly  $\omega e^*$ -continuous functions. The notion of weakly  $\omega e^*$ -continuity come across as a notion of weaker than the notion of weakly  $\omega\beta$ -continuity. Also, we investigate the relationships between weakly  $\omega e^*$ -continuous functions and other related strong and weak forms of weakly continuity. Furthermore, we introduce the concepts of  $\omega e^*$ -strongly closed graphs to look into some different properties.

### 1. Introduction

One of the most studied generalizations of continuity is weak continuity [13] which is firstly defined by Levine in 1961. He introduced the concept of weakly continuity [13] and investigate its some fundamental properties. And then many mathematicians have studied the various types of weakly continuity. For instance, Al-Zoubi and Al-Jarah defined the concept of weakly  $\omega$ -continuity [5] which is weaker than weakly continuity. Özkoç and Aslım introduced and investigated the concept of weakly  $e$ -continuity. Also, Ayhan and Özkoç introduced the concepts of weakly  $e^*$ -continuity [8] and weakly  $a$ -continuity [8]. Some properties and characterizations of the notion of weakly  $\omega\beta$ -continuity [4] have been defined and studied by Aljarrah and Noorani.

In this paper, we study and investigate the notion of weakly  $\omega e^*$ -continuous function [15]. Also, we obtain some fundamental properties and its characterizations. Furthermore, we investigate some properties between graphs and weakly  $\omega e^*$ -continuity and separation axioms.

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<sup>†</sup> *Corresponding author.*