ON CONTRA we^*-CONTINUOUS FUNCTIONS

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Abstract. The main goal of this paper is to introduce and study a new type of contra continuity called contra we^*-continuity via we^*-open sets defined by us. We obtain several characterizations and some fundamental properties of contra we^*-continuous functions. Moreover, we investigate the relationships between contra we^*-continuous functions and other related strong and weak forms of contra continuity. Furthermore, we introduce the concepts of we^*-compactness and strongly contra we^*-closed graphs to look into some different properties.

1. Introduction

Some forms of open sets such as β-open sets [1], a-open sets [10], e^*-open sets [13] and w-open sets [5] play important role in general topology. The same way the notion of continuity is now a vital concept in topology and applications. By using these sets many authors introduced and studied various types of generalizations of continuity. For instance, the concept of w-continuity [15] were introduced by Hdeib in 1989. Contra continuity [7] were introduced and investigated by Dontchev in 1996. Next, in 2007, Al-Omari and Noorani were introduced contra w-continuity [2], in 2008, Ekici were introduced contra e^*-continuity [12], in 2009, Ekici were introduced e^*-continuity [13]. Recently, Aljarrah et. al. were introduced and studied contra $w\beta$-continuity [3] in 2014.

In this paper, we define and study the notion of contra we^*-continuity which is weaker than both the notion of contra continuity [7] defined by Dontchev and the notion of contra e^*-continuity [12] defined by Ekici. Also, we obtain several characterizations of contra we^*-continuous functions and investigate some of their fundamental properties. Moreover, we investigate the relationships between contra $w\beta$-continuous functions and separation axioms and we^*-compactness and contra we^*-closedness of graphs.