

PAIRWISE NEUTROSOPHIC α -OPEN SET VIA NEUTROSOPHIC BITOPOLOGICAL SPACES

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Abstract. In this paper, an attempt is made to define a new class of set namely pairwise neutrosophic α -open set via neutrosophic bitopological space. Besides, we study some properties of them. Further, we formulate several results based on them.

1. Introduction

Smarandache [15] introduced the concept of neutrosophic set as a generalization of fuzzy set [19] and intuitionistic fuzzy set [3]. From then it becomes very useful in the area of decision making, artificial intelligence, etc. In the year 2005, Smarandache [16] further studied the concept of neutrosophy. Afterwards, the notion of n -valued refined neutrosophic logic was studied by Smarandache [17] in the year 2013. The notion of neutrosophic topological space was presented by Salama and Alblowi [13] in the year 2012. Salama and Alblowi [14] also studied the generalized neutrosophic set and generalized neutrosophic topological spaces. The concept of neutrosophic α -open set was first grounded by Arokiarani et al. [2]. They also defined neutrosophic semi-open functions and established some relation between them. Rao and Srinivasa [12] presented the neutrosophic pre-open sets and pre-closed sets in neutrosophic topological spaces. Iswaraya and Bageerathi [9] grounded the notion of neutrosophic semi-closed set and neutrosophic semi-open set. The concept of b -open set in general topological spaces was grounded by Andrijevic [1]. Later on, Ebenanjar et al. [8] introduced the neutrosophic b -open sets in neutrosophic topological spaces. The notion of neutrosophic simply b -open set via neutrosophic topological spaces was studied by Das and Tripathy [5]. The notion of bitopological space was introduced by Kelly [10] in the year 1963. Thereafter, Ozturk and Ozkan [11] introduced the idea of neutrosophic bitopological space (NBTS) in the year 2019. Recently, Das and Tripathy [6] presented the idea of pairwise neutrosophic

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