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ON SOME TYPES OF PRE-γ-SEPARATION AXIOMS IN FUZZY TOPOLOGICAL SPACES

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Abstract: In topology and its related fields of mathematics, there are many limitations or restrictions on the classes of topological spaces that one desire to regard. Some of these limitations or restrictions are given by the separation axioms. In this paper, we study and analyze the pre-γ-separation axioms in fuzzy topological spaces. Also we introduce notions of pre-γ-homeomorphism and pre*-γ-homeomorphism in fuzzy topological spaces. Further, we prove some fundamental properties and theorems of these separation axioms in fuzzy settings.

Keywords and Phrases: Fuzzy pre- γ - homeomorphism, Fuzzy pre* - γ - homeomorphism, Fuzzy pre*-γ-continuous, Fuzzy pre-γ-separation axioms.

2020 Mathematics Subject Classification: 54A40, 54D10, 54D15.

1. Introduction

The concept of fuzzy sets and their applications were introduced by Zadeh [15] in 1965. After that fuzzy topological space was initiated by Chang [1]. Several authors introduced and studied the concepts of fuzzy separation axioms (e.g. [2], [6], [7], [12], [14]) from different view points. Wadei Faris Al-Omeri [14] introduced mixed b-fuzzy topological Spaces. Separation axioms play crucial role in topology and its related fields of mathematics. Hariwan Z. Ibrahim [5] defined pre-γ-open sets in general topological spaces in 2012. Many concepts in topological space were extended to fuzzy topological space. In this manner, recently Sivashanmugaraja and