

NEUTROSOPHIC SIMPLY b -SEPARATION AXIOMS IN NEUTROSOPHIC TOPOLOGICAL SPACES

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Abstract: In this paper, we define neutrosophic simply $b - T_0$ space, neutrosophic simply $b - T_1$ space and neutrosophic simply $b - T_2$ space based on single-valued neutrosophic topological spaces and studied a few properties and relationships among them. We try to establish some relationships between existing neutrosophic separation axioms and newly defined neutrosophic simply b -separation axioms. we also explore some results implementing neutrosophic simply b -open function, neutrosophic simply b -continuous function based on our defined definitions.

Keywords and Phrases: Neutrosophic topological spaces, Neutrosophic simply b -open sets, Neutrosophic simply $b - T_0$ space, Neutrosophic simply $b - T_1$ space, Neutrosophic simply $b - T_2$ space.

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1. Introduction

The concept of a fuzzy set was first introduced by Zadeh [7] in 1965 . This foundational idea was later extended by Atanassov [1] in 1986 through the development of intuitionistic fuzzy sets, which provide a more generalized framework. Subsequently, Smarandache [5] advanced the theory further by proposing the notion of neutrosophic sets. A neutrosophic set is characterized by three independent membership functions: truth-membership, falsity-membership, and indeterminacy-membership. These three components function independently and allow for a more nuanced modeling of uncertainty and imprecision.