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## **PROPERTIES OF NEUTROSOPHIC** *b*-CONNECTED SPACES

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**Abstract:** In this paper, we study the neutrosophic *b*-open sets in a neutrosophic topological spaces and develop some of their properties. Using these neutrosophic *b*-open sets, we define the neutrosophic *b*-connected spaces and neutrosophic *b*-seperated sets and develop some of their important properties.

**Keywords and Phrases:** Neutrosophic topological spaces, neutrosophic *b*-open sets, neutrosophic *b*-connected spaces, neutrosophic *b*-seperated sets.

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## 1. Introduction

In many real life problems, we deals with uncertainties. Solving these problems by traditional mathematical models, we face difficulties. There are approaches such as fuzzy sets [15], intuitionistic fuzzy sets [2], vague sets [4], rough sets [7], and soft sets [6] used as mathematical tools to deal with these ambiguous data. Smarandache [13] studied the idea of neutrosophic sets as an approach for solving issues which deals with unreliable, indeterminacy and persistent data. Wang et al. [14] introduced single valued neutrosophic sets. Peng et al. [8] studied operations