CUBIC SPHERICAL NEUTROSOPHIC TOPOLOGICAL SPACES

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Abstract: This study introduces cubic spherical neutrosophic sets as a novel approach to represent uncertainty within mathematical frameworks. By employing a spherical representation, these sets offer a comprehensive depiction of varying degrees of truth, indeterminacy and falsity associated with elements. The concept of cubic spherical neutrosophic topological space is introduced as a generalization of neutrosophic topology. Using illustrative examples, we explore fundamental theorems and characteristics of these spaces. Cubic spherical neutrosophic sets provide a flexible framework for integrating multiple perspectives and sources of uncertainty, making them suitable for modeling real-world phenomena.

Keywords and Phrases: Neutrosophic set, cubic spherical neutrosophic set, cubic spherical neutrosophic topological spaces.

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1. Introduction and Preliminaries

In 1998, the concept of neutrosophic sets (NSs) was introduced and studied by F. Smarandache [16, 17] as a generalization of Atanassov's [1] theory of Intuitionistic