DELTA – OPEN SETS AND MAPPINGS IN TOPOLOGICAL SPACES

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ABSTRACT

In 1968 Velicko introduced the concepts of δ-closure and δ-interior operations. We introduce and study properties of δ-derived, δ-border, δ-frontier and δ-exterior of a set using the concept of δ-open sets. We also introduce some new classes of topological spaces in terms of the concept of δ-D-sets and investigate some of their fundamental properties. Moreover, we investigate and study some further properties of the well-known notions of δ-closure and δ-interior of a set in a topological space. We also introduce δ-R₀ space and study its characteristics. We introduce δ-irresolute, δ-closed, pre-δ-open and pre-δ-closed mappings and investigate properties and characterizations of these new types of mappings and also explore further properties of the well-known notions of δ-continuous and δ-open mappings.

2010 Mathematics Subject Classification. Primary 54A05, 54A10, 54A20, 54F65.

Key Words and Phrases: δ-interior, δ-closure, δ-opens et, δ-closed set, δ-derived, δ-border, δ-frontier, δ-exterior, δ-Hausdorff, δ-saturated., δ-compact, δ-kernel, δ-R₀, δ-convergence, δ-irresolute mapping, δ-continuous mapping, δ-open mapping, pre- δ-open mapping, pre-δ-closed mapping.