

SOME TYPES OF NORMALITY AND REGULARITY BASED ON NEAR SIMPLY OPEN SETS

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Abstract. In the this study we present a new class of near-open sets, in a topological space namely simply α -open and simply pre-open sets, and we used these classes to introduce new types of continuous functions, and we also introduced a number of types of normality and regularity based upon these concepts. We are studying the relation between these types and the others types eventually we 're investigating some of their properties

1. Introduction

In 1975 A.Neubrunnova [8] introduce the notation of simply open sets. In 1965 O. Njasted [10] had introduced the concept of α -open sets. In 1982 A. S. Mashhour and M. E. Abd El-Monsef [[5] - [6]] had introduced the concept of pre open sets, Where these concepts play a major role in topology introduced the concept of soft simply open soft [3], also we introduce modification of simply open sets in [[1] - [2]]. In this paper we introduce new concepts based on simply open sets, simply α -open and simply pre open sets based on open set, α -open, and pre open sets and we use these notions to define the other concepts of normality and regularity during this paper we assume that (X, τ) and (Y, σ) are topological spaces with no separation axioms, $cl(A)$, $int(A)$ denote respectively the closure and the relation of subset $A \subseteq X$.pre open and pre closed) sets in (X, τ) is denoted by $O(X)$ (resp. $C(X)$, $PO(X)$ and $PC(X)$). Where these concepts play a major role in topology We introduced the concept of simply open soft sets.

2. Preliminaries

Definition 2.1. A subset V of a topological space (X, τ) is said to be:

1. α -open sets [10] if $V \subseteq int(cl(int(V)))$ and α -closed sets if $cl(int(cl(V))) \subseteq V$.
2. Regular-open sets [11] if $V = int(cl(V))$ and regular-closed if $V = cl(int(V))$.

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