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αg-γ-REGULAR AND αg-γ-NORMAL SPACES

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Abstract: In topology, separation axioms is used to measure how close a topological space is to being metrizable. Spaces that fulfil the axioms are regarded to be nearer to being metrizable than those that do not. In this paper, we introduce new axioms namely αg-γ- regular and αg-γ-normal and analyze their properties in topological spaces. We compare αg-γ- regularity with regularity and αg-γ-normal with normality . Also we obtain the relations between the newly defined spaces and αg_γ-$T_i^{'}(i = 0, 1, 2)$ spaces.

Keywords and Phrases: Topological space, αg_γ-open sets, separation axioms, αg-γ-regular, αg-γ-normal.

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1. Introduction

In 1965, the notion of α-open sets was introduced by Njastad [15]. Levine [10] introduced the notion of generalized closed sets in topological spaces in 1970. Later in 1994, Maki et al. [11] introduced α-generalized closed sets in topological spaces.

Kasahara [9] proposed the concept of an operation on topological spaces and put forth the idea of α-closed graphs of functions in topological spaces. Jankovic [6] analyzed the functions with α-closed graphs. Following his work, Ogata [16] introduced γ-open sets using the operation γ on open sets in topological spaces. In 2009, γ-s^*-regular space was defined and several characterizations and properties of γ-s^*-regular spaces have been determined by Hussain and Ahmad [4]. In