SEPARATION AXIOMS VIA αgsγ-OPEN SETS

N. K. Narmadha and N. Balamani

Department of Mathematics,
Avinashilingam Institute for Home Science and Higher Education for Women,
Coimbatore - 641043, Tamil Nadu, INDIA

E-mail : narmadhapadma2@gmail.com, nbalamani77@gmail.com

Special Issue
Proceedings of International Virtual Conference on
"Mathematical Sciences and Applications, ICMSA - 2022"

Abstract: The aim of this paper is to introduce new spaces namely $\alpha gs\gamma - T_i$ $(i = 0, 1, 2)$ and $\alpha gs_\gamma - T_i'$ $(i = 0, 1, 2)$ in topological space by using $\alpha gs-$open sets and $\alpha gs\gamma-$open sets respectively. Also we introduce $\alpha gs\gamma - T_{1/2}$ space and obtain the interrelations among the newly defined spaces.

Keywords and Phrases: Topological space, $\alpha gs\gamma-$open set, operation, separation axioms.

2020 Mathematics Subject Classification: 54A05, 54D10.

1. Introduction

Kasahara [4] initiated the study of operation approach on topological spaces. Ogata [8] renamed the operation α as γ operation and introduced $\gamma-$open sets by defining the γ operation on open sets in topological spaces. Sanjay Tahiliani [10] introduced $\beta - \gamma-$open sets using the γ operation on $\beta-$open sets. Carpintero et al. [2] studied $b - \gamma-$open sets by considering the γ operation on $b-$open sets. Following this, Ibrahim [3] studied $\alpha_\gamma-$open sets by defining γ operation on $\alpha-$open sets. Asaad [1] defined the operation γ on P_S-open sets in topological spaces. Recently Mershia Rabuni and Balamani [5] introduced $\alpha g_\gamma-$open sets by defining γ operation on $\alpha g-$open sets. Rajamani and Viswanathan [9] introduced