

ON SEPARATION AXIOMS  $(T_i, i = 0, 1, 2)$  VIA FUZZY  
GPRW - OPEN SETS

Firdose Habib and Khaja Moinuddin

Department of Mathematics,  
Maulana Azad National Urdu University Hyderabad, INDIA

E-mail : firdosehabib\_rs@manuu.edu.in, kmoinuddin71@gmail.com

(Received: Jan. 21, 2020 Accepted: Aug. 20, 2020 Published: Dec. 30, 2020)

**Abstract:** In this paper we have introduced fuzzy gprw- closure, fuzzy gprw-interior and separation axioms via fuzzy gprw-open sets. Also we found out the relationship between fuzzy separation axioms, fuzzy gprw separation axioms and fuzzy pre separation axioms.

**Keywords and Phrases:** Fuzzy gprw- closure,  $Fgprw - T_0$  spaces,  $Fgprw - T_1$  spaces,  $Fgprw - T_2$  spaces.

**2010 Mathematics Subject Classification:** 54A40, 03E72.

## 1. Introduction

Soon after the introduction of fuzzy set theory by Lotfi A. Zadeh [8] in 1965, generalization of classical set theory starts taking place. Many fuzzy sets were introduced, studied and their properties were established in a timely manner. In the same framework fuzzy separation axioms were introduced and studied by M. H. Ghanim et. al in 1984 [1]. Similarly fuzzy pre separation axioms were introduced and many of their properties were established by M. K. Singal et. al in 1991 [7]. In 2011 Seok Jong Lee and Sang Min Yun introduced and studied fuzzy delta separation axioms [5] based on fuzzy  $\delta$ -open sets. They investigated the relationship between fuzzy separation axioms and fuzzy  $\delta$ -separation axioms and showed fuzzy  $\delta$ -separation axioms are hereditary in fuzzy regular open subspaces. In 2018 Gayatri Paul et. al studied and introduced separation axioms  $(T_i, i = 0, 1, 2)$  in the light of fuzzy  $\gamma^*$ -open set [6] via quasi-coincidence, quasi-neighborhood and also established