CHARACTERIZATIONS OF δ_p-NORMAL SPACE BY GENERALIZED VERSION OF δ_p-OPEN SET IN FUZZY m-SPACE

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Abstract: In this paper we characterize fuzzy m-δ_p-normal space [7] by $fmg\delta_p$-open set, the class of which is strictly larger than that of fuzzy m-open set [2]. Also here we introduce fuzzy quasi (m, m_1)-δ-preclosed, almost $f(m, m_1)g\delta_p$-closed and $fm\delta_p$-$fm_1g\delta_p$-closed functions between two fuzzy m-spaces and establish the interrelations of these functions. The applications of these functions on fuzzy m-δ_p-normal space are shown here.

Keywords and Phrases: Fuzzy m-closed set, fuzzy m-δ-preclosed set, $fmg\delta_p$-closed set, fuzzy m-δ_p-normal space, fuzzy strongly (m, m_1)-δ-preclosed function, $fm\delta_p$-$fm_1g\delta_p$-closed function, fuzzy m-normal space.

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1. Introduction

Alimohammady and Roohi introduced fuzzy minimal structure as follows : A family $\mathcal{M}$ of fuzzy sets in a non-empty set X is said to be a fuzzy minimal structure on X if $\alpha 1_X \in \mathcal{M}$ for every $\alpha \in [0, 1]$ [1]. However a more general version of it is introduced in [8, 10] as follows : A family $\mathcal{F}$ of fuzzy sets in a non-empty set X is a fuzzy minimal structure on X if $0_X \in \mathcal{F}$ and $1_X \in \mathcal{F}$. In this paper, we use this notion of fuzzy minimal structure. In [2], we introduced fuzzy minimal space (fuzzy m-space, for short) as follows : Let X be a non-empty set and $m \subset I^X$.