m-γ-Continuous Multifunction in Fuzzy Setting

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Abstract

In this paper a new type of fuzzy multifunction is introduced between a set having minimal structure and a fuzzy topological space by introducing m-γ-open set in m-space. Several characterizations and properties of this fuzzy multifunction are studied here. Also the mutual relationships of this newly defined fuzzy multifunction with the fuzzy multifunctions defined in [8] are established here.

AMS Subject Classifications: 54A40, 54C99.

Keywords: m-γ-open set, m-γ-compact space, m-γ-frontier of a set, fuzzy compact space, m-extremally disconnected space.

1. Introduction

Fuzzy multifunction, a function between a topological space and a fuzzy topological space, is introduced by Papageorgiou [18]. He also defined fuzzy upper and lower inverses in [18] though fuzzy lower inverse was redefined by Mukherjee and Malakar [14] suitably. Throughout this paper the definition of fuzzy upper inverse given by Papageorgiou and the definition of fuzzy lower inverse given by Mukherjee and Malakar are used. Noiri and Popa [17] introduced minimal structure (m-structure, for short) on a non-empty set X whereas