

## ON FUZZY $\alpha^*$ - $g$ -IRRESOLUTE MAPPINGS AND FUZZY $\alpha^*$ - $g$ -HOMEOMORPHISMS IN FUZZY TOPOLOGICAL SPACES

SADANAND N. PATIL

### Abstract

The aim of this paper is to introduce a new class of fuzzy sets, namely  $\alpha^*$ - $g$ -closed fuzzy sets for fuzzy topological spaces. This class is obtained by generalizing  $\hat{g}$ -open fuzzy sets via fuzzy  $\alpha$ -closure. This new class is properly placed between the class of  $\alpha$ -closed fuzzy sets and the class of  $\alpha g$ -closed fuzzy sets. Applying  $\alpha^*$ - $g$ -closed fuzzy sets, we introduce and study some new spaces fuzzy  $\alpha g T_{1/2}^*$  spaces and fuzzy  $^* \alpha g T_{1/2}$  spaces.

Further, the concept of fuzzy  $\alpha^*$ - $g$ -continuous, fuzzy  $\alpha^*$ - $g$ -irresolute mappings, fuzzy  $\alpha^*$ - $g$ -closed maps, fuzzy  $\alpha^*$ - $g$ -open maps and fuzzy  $\alpha^*$ - $g$ -homeomorphism in fuzzy topological spaces are also introduced, studied and some of their properties are obtained.

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Key Words and Phrases :  $\alpha^*$ - $g$ -closed fuzzy sets,  $f\alpha^*$ - $g$ -continuous,  $f\alpha^*$ - $g$ -irresolute,  $f\alpha^*$ - $g$ -open,  $f\alpha^*$ - $g$ -closed mappings and  $f\alpha^*$ - $g$ -homeomorphism.

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