

# FROM THEORY TO IMPACT: NEW VISIONS ACROSS DISCIPLINES

**FIRST EDITION  
2025**

Editor-in-Chief  
**Daniel James**



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# **From Theory to Impact: New Visions Across Disciplines 2025**

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Editor-in-Chief: **Daniel James**

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## Table of Contents

Paper	PP
Innovative Technology for Sustainable Development: Contemporary Pedagogical Approaches for High-Quality Learning and Teaching <i>V. A. Ragavendran</i>	1-8
Exploring the Theoretical Dimensions of Artificial Intelligence Integration: Unleashing the Impact in the Service Sector <i>R. Kajapriya</i>	9-13
Impact of Social Media Marketing on Customers of FMCG Products in Madurai District <i>M. Sakthivel</i>	14-19
Empowering Rural Women: Strategies for Entrepreneurial Success in Agricultural Ventures in Tamilnadu <i>S. Vishnu Suba</i>	20-27
MIC-Wgr $\alpha$ -I-Closed Sets in Micro Ideal Topological Space <i>R. Bhavani</i>	28-36
The Growth of Digital Marketing: An Overview <i>R. Ratheka, M. Anitha</i>	37-43
Emerging Trends in Unified Payments Interface in India <i>P. Anbuoli Parthasarathy</i>	44-49
Climate-Smart Agriculture: Economic Strategies for Resilience and Adaptation <i>R. Alagesani</i>	50-55
Automatic Water Tank Cleaner <i>G. Pandeewari, M. Velmurugan</i>	56-63
Organic Farming for Sustainable Development <i>A. Bhavatharani</i>	64-69
Machine Learning and Deep Learning <i>S. Madhu Prattika</i>	70-77
Carbon Farming and the Green Economy: Emerging Incentives and Trade-Offs <i>P. Poongodi</i>	78-83
Exploring Virtual Reality in Social Media Marketing: Unlocking New Opportunities for Brand Engagement <i>G. Sai Mohana</i>	84-89
A Study on Artificial Intelligence Regulation in Financial Markets: Organizational Reactions and Legislative Obstacles <i>R. Venkatesa Narasimma Pandian</i>	90-99
A Theoretical Investigation into Management in the Indian Educational System <i>D. Niranjani</i>	100-106
Cyber Security in Financial Institutions: A Focus on India <i>S. Vigneswaran</i>	107-113

## MIC-Wgr $\alpha$ -I-Closed Sets in Micro Ideal Topological Space

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### Abstract:

In this article, The main concept of this paper is to discuss the micro topology as an unadorned extension of nano topology. Nano topology offers a wide variety of interesting results and applications. But for some time we have been looking for extended sets in micro topological space. A.Jayalakshmi and C.Janaki have discussed the properties of MIC-Wgr $\alpha$ -Closed and MIC-Wgr $\alpha$ -Open Maps in topological spaces. Also have discussed Wgr $\alpha$ -closures and obtain a characterization of Wgr $\alpha$ -Continuous functions in topological spaces. we present and study the properties of MIC-Wgr $\alpha$ -I-Closed Sets in Micro ideal topological spaces. Their relationships with other existing Micro generalized closed sets in micro Topological and Micro ideal topological spaces are established.

### Keywords:

MIC-Wgr $\alpha$ -I-Closed Sets, MIC-Wgr $\alpha$ -I-Open Sets, MIC-  $\omega$ -closed set, MIC-  $\alpha$ -I-closed set, MIC-  $\alpha$ -I-closed set, MIC-\*closed set, MIC-  $\alpha$ -closed set.

### Introduction:

Taha.H.Jasim, Saja S.Mohan, Kanajo S.Eke [3] initiated On Micro generalized closed sets and Micro generalized continuity in Micro Topological Spaces in 2021.R.Bhavani [4] proposed On Strong Forms of Generalized Closed Sets in Micro Topological Spaces in 2021.S.Ganesan [1] has proposed a new concept of Micro topological space through small systems, M.Josephine Rani and R.Bhavani [2] introduced MIC- $\alpha$ Ig and MIC-Ig $\alpha$  Closed Sets in Micro Ideal Topological Spaces in 2022. In 2014 C.Janaki, A.Jayalakshmi [5] proposed Wgr $\alpha$ -I-Closed Sets in ideal topological spaces. The methodology proposed in this paper MIC-Wgr $\alpha$ -I-Closed Sets,

MIC-Wgr $\alpha$ -I-Open Sets in Micro ideal topological spaces and Some of their features will also be investigated.

### Preliminaries:

#### Definition 2.1[2,3]

Start U as a set of horizontal instruments called the Universe and R as the equivalent relationship with U, which is called the relation of ignorance.

This couple (U,R) is said to be the space of enterprise. Enable  $X \subseteq U$ .

i) The minimum X relative to R is the set of all the details, which is set for the object divided by X relative to R and denoted by  $L_R(X)$ . That is,  

$$L_R(X) = \bigcup_{x \in U} \{R(x) : R(x) \subseteq X\}$$
 where R(x) represents the equivalent class determined by X.

ii) The maximum X value relative to R is  $U_R(X) = \bigcup_{x \in U} \{R(x) : R(x) \cap X \neq \emptyset\}$ .

iii) The boundary area of X with respect to R is a set of all objects which is intermediate or non-X with respect to R and is defined as  $B_R(X)$ . That is,  

$$B_R(X) = U_R(X) - L_R(X)$$
 and their complement is called micro closed sets.

#### Definition 2.2[2,3]

(U,  $\tau_R(X)$ ) is a Nano topological space then  $\mu_R(X) = \{N \cup (N' \cap \mu) : N, N' \in \tau_R(X)\}$  and called it Micro topology of  $\tau_R(X)$  by  $\mu$  where  $\mu \notin \tau_R(X)$ .

#### Definition 2.3[2,3]

Micro topology  $\mu_R(X)$  satisfies the following theories

- (i)  $U, \emptyset \in \mu_R(X)$
- (ii) A combination of any of the elements the group is  $\mu_R(X)$  in  $\mu_R(X)$
- (iii) The intersection of parcels of any finite subdivision of  $\mu_R(X)$  in  $\mu_R(X)$ . Also  $\mu_R(X)$  is called the micro topology in relation to X in U. Triplets (U,  $\tau_R(X)$ ,  $\mu_R(X)$ ) are called micro topological spaces and the bases of  $\mu_R(X)$  are called micro open sets and their complements are called micro closed sets.

#### Definition 2.4

A subset S of a space (X,  $\tau$ ) is called

1. regular open if  $S = \text{int}(\text{cl}(S))$
2. regular  $\alpha$ -open if there is a regular open set  $U \subset S \subset \alpha \text{cl}(U)$ .
3.  $\alpha$ -open if  $S \subseteq \text{int}(\text{cl}(\text{int}(S)))$



4. Semi-open if  $S \subseteq \text{cl}(\text{int}(S))$

**Definition 2.5**

A subset  $S$  of a space  $(X, \tau)$  is said to be

1.  $g$ -closed, if  $\text{cl}(S) \subseteq U$ , whenever  $S \subseteq U$  and  $S$  is open in  $(X, \tau)$ .
2.  $wgr\alpha$ -closed, if  $\text{cl}(\text{int}(S)) \subseteq U$ , whenever  $S \subseteq U$  and  $U$  is regular  $\alpha$ -open in  $(X, \tau)$ .
3.  $\omega$ -closed, if  $\text{cl}(S) \subseteq U$ ,  $U$ , whenever  $S \subseteq U$  and  $U$  is regular semi-open in  $(X, \tau)$ .
4.  $rg\alpha$ -closed, if  $\alpha\text{cl}(S) \subseteq U$ , whenever  $S \subseteq U$  and  $U$  is regular  $\alpha$ -open in  $(X, \tau)$ .
5.  $swg$ -closed, if  $\text{cl}(\text{int}(S)) \subseteq U$ , whenever  $S \subseteq U$  and  $U$  is regular semi-open in  $(X, \tau)$ .

**Definition 2.5**

A subset  $S$  of a space  $(X, \tau, I)$  is said to be

1.  $\alpha$ - $I$ -closed, if  $\text{cl}(\text{int}^*(\text{cl}(S))) \subseteq S$
2.  $*$ -closed, if  $S^* \subseteq S$
3.  $I$ -open, if  $S \subseteq \text{int}(S^*)$
4.  $I$ - $R$  closed, if  $S = \text{cl}^*(\text{int}(S))$
5.  $rps$ - $I$ -closed, if  $\text{splcl}(S) \subseteq U$ , whenever  $S \subseteq U$  and  $U$  is regular  $rg$ - $I$ -open in  $(X, \tau)$ .

**3. MIC- $wgr\alpha$ - $I$ -closed sets**

**Definition 3.1**

A subset  $S$  of a Micro ideal space  $(\Omega, \text{NA}(\overline{\tau_R(X)}), \text{MICR}(\overline{\mu_R(X)}), \text{ID})$  is said to be MIC- $wgr\alpha$ - $I$ -closed if  $\text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq U$  whenever  $S \subseteq U$  and  $U$  is MIC-regular  $\alpha$ -open.

**Definition 3.2**

A subset  $S$  of a Micro ideal space  $(\Omega, \text{NA}(\overline{\tau_R(X)}), \text{MICR}(\overline{\mu_R(X)}), \text{ID})$  is said to be MIC- $wgr\alpha$ - $I$ -open if  $\Omega$ - $S$  is MIC- $wgr\alpha$ - $I$ -closed.

**Theorem 3.3**

1. Every MIC-closed set is MIC- $wgr\alpha$ - $I$ -closed.
2. Every MIC- $\alpha$ -closed set is MIC- $wgr\alpha$ - $I$ -closed.
3. Every MIC- $*$ -closed set is MIC- $wgr\alpha$ - $I$ -closed.
4. Every MIC- $\omega$ -closed set is MIC- $wgr\alpha$ - $I$ -closed.
5. Every MIC- $\alpha$ - $I$ -closed set is MIC- $wgr\alpha$ - $I$ -closed.
6. Every MIC- $swg$ -closed set is MIC- $wgr\alpha$ - $I$ -closed.

**Remark 3.4**

Converse of the above theorem need not be true as shown in the following examples 3.5 and 3.6.

**Example 3.5**

Let  $\Omega = \{1,2,3,4\}$  with  $\frac{\Omega}{R}(X) = \{\{1\}, \{2\}, \{3,4\}, X = \{1,3\} \subset \Omega, \tau_R(\overline{X}) = \{\varphi, \Omega, \{1\}, \{1,3,4\}, \{3,4\}\}$  and  $\mu = \{2\}$  and ideal  $I = \{\emptyset, \{3\}\}$ , Micro topology  $\mu_R(\overline{X}) = \{\varphi, \Omega, \{1\}, \{2\}, \{1,2\}, \{1,3,4\}, \{3,4\}, \{2,3,4\}\}$ ,  $\mu_R^T(\overline{X}) = \{\varphi, \Omega, \{2,3,4\}, \{1,3,4\}, \{3,4\}, \{2\}, \{1,2\}, \{1\}\}$  MIC-wgr $\alpha$ -I-closed =  $\{\{\varphi, \Omega, \{1\}, \{2\}, \{3\}, \{4\}, \{1,2\}, \{1,3\}, \{1,4\}, \{2,3\}, \{2,4\}, \{3,4\}, \{1,2,3\}, \{1,3,4\}, \{1,2,4\}, \{2,3,4\}\}$

i)  $\{3\}$  is MIC-wgr $\alpha$ -I-closed, but not MIC-closed

ii)  $\{2,4\}$  is MIC-wgr $\alpha$ -I-closed but not MIC- $\alpha$ -closed set

iii)  $\{1,3\}$  is MIC-wgr $\alpha$ -I-closed but not MIC-\*closed set

**Example 3.6**

Let  $\Omega = \{n,o,p,q\}$  with  $\frac{\Omega}{R}(X) = \{\{n,q\}, \{o\}, \{p\}, X = \{o,p\} \subset \Omega, \tau_R(\overline{X}) = \{\varphi, \Omega, \{o,p\}\}$  and  $\mu = \{q\}$  and ideal  $I = \{\emptyset, \{o\}, \{p,q\}\}$ , Micro topology  $\mu_R(\overline{X}) = \{\varphi, \Omega, \{q\}, \{o,p\}, \{o,p,q\}\}$ ,  $\mu_R^T(\overline{X}) = \{\varphi, \Omega, \{n,o,p\}, \{n,q\}, \{n\}\}$  MIC-wgr $\alpha$ -I-closed = {power set}

iv)  $\{o\}$  is MIC-wgr $\alpha$ -I-closed but not MIC- $\omega$ -closed

v)  $\{o,p\}$  is MIC-wgr $\alpha$ -I-closed but not MIC- $\alpha$ -I-closed

vi)  $\{q\}$  is MIC-wgr $\alpha$ -I-closed but not MIC-swg-closed set

**Remark 3.7**

Every MIC-semi-closed is MIC-wgr $\alpha$ -I-closed

**Example 3.8**

Let  $\Omega = \{p,q,r,s\}$  with  $\frac{\Omega}{R}(X) = \{\{p,s\}, \{q\}, \{r\}, X = \{q,r\} \subset \Omega, \tau_R(\overline{X}) = \{\varphi, \Omega, \{q,r\}\}$  and  $\mu = \{s\}$  and ideal  $I = \{\emptyset, \{q\}, \{r,s\}\}$ , Micro topology  $\mu_R(\overline{X}) = \{\varphi, \Omega, \{o\}, \{q,r\}, \{q,r,s\}\}$ ,  $\mu_R^T(\overline{X}) = \{\varphi, \Omega, \{p,q,r\}, \{p,s\}, \{p\}\}$ , MIC-wgr $\alpha$ -I-closed = {power set}. Let  $S = \{p,q\}$  is MIC-wgr $\alpha$ -I-closed but not MIC-semi-closed.

**Remark 3.9**

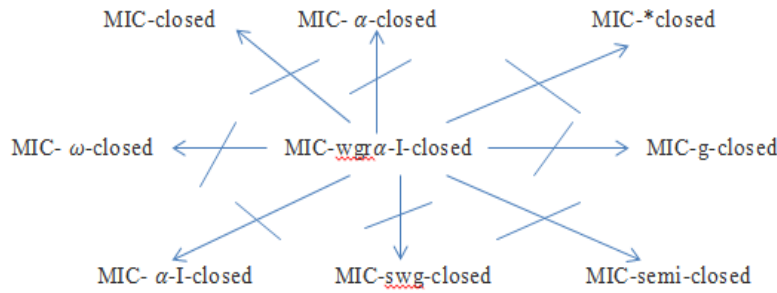
Every MIC-g-closed set is MIC-wgr $\alpha$ -I-closed

**Example 3.10**

Let  $\Omega = \{n, o, p, q\}$  with  $\frac{\Omega}{R}(X) = \{\{n, q\}, \{o\}, \{p\}\}$ ,  $X = \{o, p\} \subset \Omega$ ,  $\tau_R(\overline{X}) = \{\varphi, \Omega, \{o, p\}\}$  and  $\mu = \{q\}$  and ideal  $I = \{\emptyset, \{o\}, \{p, q\}\}$ , Micro topology  $\mu_R(\overline{X}) = \{\varphi, \Omega, \{q\}, \{o, p\}, \{o, p, q\}\}$ ,  $\mu_R'(\overline{X}) = \{\varphi, \Omega, \{n, o, p\}, \{n, q\}, \{n\}\}$ , MIC-wgr $\alpha$ -I-closed = {power set}. Let  $S = \{p\}$  is MIC-wgr $\alpha$ -I-closed but not MIC-g-closed.

### Remark 3.11

In the theorems above, we find the ensuing diagram.  $A \rightarrow B$  (resp.  $A \leftrightarrow B$ )  $A$  implies  $B$  but not conversely (resp  $A$  and  $B$  are independent of each other).



### Theorem 3.12

Let  $(\Omega, NA(\tau_R(\overline{X})), MICR(\mu_R(\overline{X})), ID)$  a Micro ideal space  $S \subseteq \Omega$ . If  $S$  is MIC-wgr $\alpha$ -I-closed, then  $MIC-cl^*(MIC-int(S)) - S$  contains no non-empty MIC-regular $\alpha$ -open set.

#### Proof

Let  $S$  be a MIC-wgr $\alpha$ -I-closed set in  $\Omega$  and  $U$  be a MIC-regular- $\alpha$ -open subset of  $MIC-cl^*(MIC-int(S)) - S$ . Then  $S \subseteq \Omega - U$  and  $\Omega - U$  is MIC-regular- $\alpha$ -open. Since  $S$  is MIC-wgr $\alpha$ -I-closed  $MIC-cl^*(MIC-int(S)) \subseteq \Omega - U$ . Which implies that  $U \subseteq \Omega - MIC-cl^*(MIC-int(S))$ . Thus  $U \subseteq (MIC-cl^*(MIC-int(S)) \cap (\Omega - MIC-cl^*(MIC-int(S)))) = \emptyset$ . Hence  $MIC-cl^*(MIC-int(S)) - S$  contains no non-empty MIC-regular- $\alpha$ -open set.

### Theorem 3.13

Let  $(\Omega, NA(\tau_R(\overline{X})), MICR(\mu_R(\overline{X})), ID)$  a Micro ideal space  $S \subseteq \Omega$ . If  $S$  is MIC-wgr $\alpha$ -I-

closed, then  $\text{MIC-cl}^*(\text{MIC-int}(S)) - S$  contains no non-empty MIC-regular  $\alpha$ -closed set.

**Proof**

Let  $S$  be a MIC-wgr $\alpha$ -I-closed set in  $\Omega$  and  $U$  be a MIC-regular- $\alpha$ -closed subset of  $\text{MIC-cl}^*(\text{MIC-int}(S)) - S$ . Then  $\Omega - U \subseteq S$  and  $\Omega - U$  is MIC-regular- $\alpha$ -closed. Since  $S$  is MIC-wgr $\alpha$ -I-closed  $\Omega - U \subseteq \text{MIC-cl}^*(\text{MIC-int}(S))$ . Which implies that  $\Omega - \text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq U$ . Thus  $(\text{MIC-cl}^*(\text{MIC-int}(S)) \cap (\Omega - \text{MIC-cl}^*(\text{MIC-int}(S)))) \subseteq U = \emptyset$ . Hence  $\text{MIC-cl}^*(\text{MIC-int}(S)) - S$  contains no non-empty MIC-regular- $\alpha$ -closed set.

**Theorem 3.14**

Let  $(\Omega, \text{NA}(\tau_R(\overline{X})), \text{MICR}(\mu_R(\overline{X})), \text{ID})$  a Micro ideal space  $S \subseteq \Omega$ . If  $S$  is MIC-wgr $\alpha$ -I-closed, then  $\text{MIC-cl}^*(\text{MIC-int}(S)) - S$  contains no non-empty MIC-regular-open set.

**Proof**

Let  $S$  be a MIC-wgr $\alpha$ -I-closed set in  $\Omega$  and  $U$  be a MIC-regular-open subset of  $\text{MIC-cl}^*(\text{MIC-int}(S)) - S$ . Then  $S \subseteq \Omega - U$  and  $\Omega - U$  is MIC-regular-open. Since  $S$  is MIC-wgr $\alpha$ -I-closed  $\text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq \Omega - U$ . Which implies that  $U \subseteq \Omega - \text{MIC-cl}^*(\text{MIC-int}(S))$ . Thus  $U \subseteq (\text{MIC-cl}^*(\text{MIC-int}(S)) \cap (\Omega - \text{MIC-cl}^*(\text{MIC-int}(S)))) = \emptyset$ . Hence  $\text{MIC-cl}^*(\text{MIC-int}(S)) - S$  Contains no non-empty MIC-regular-open set.

**Theorem 3.15**

Let  $(\Omega, \text{NA}(\tau_R(\overline{X})), \text{MICR}(\mu_R(\overline{X})), \text{ID})$  a Micro ideal space  $S \subseteq \Omega$ . If  $S$  is MIC-wgr $\alpha$ -I-closed, then  $\text{MIC}-(\text{int}(S))^* - S$  contains no non-empty MIC-regular  $\alpha$ -open set.

**Proof**

Let  $S$  be a MIC-wgr $\alpha$ -I-closed set in  $\Omega$ . Suppose that  $U$  is a MIC-regular- $\alpha$ -open set Such that  $\text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq \Omega - U$ . Which implies that  $\text{MIC}-(\text{int}(S))^* \subseteq \Omega - U$ , thus,  $\text{MIC}-(\text{int}(S))^* - S$  contains no non-empty MIC-regular- $\alpha$ -open set.

**Theorem 3.16**

Let  $S$  be a MIC-wgr $\alpha$ -I-closed set of a Micro ideal topological space  $\Omega$ . Then the following are equivalent.

- i)  $S$  is MIC-I-R-closed
- ii)  $\text{MIC-cl}^*(\text{MIC-int}(S)) - S$  is a MIC-regular- $\alpha$ -closed set
- iii)  $\text{MIC}-(\text{int}(S))^* - S$  is a MIC-regular- $\alpha$ -closed set

**Proof**

(i) $\Rightarrow$ (ii) Let  $S$  be MIC-I-R-closed. We have  $\text{MIC-cl}^*(\text{MIC-int}(S))=S$ , then  $\text{MIC-cl}^*(\text{MIC-int}(S))-S=\emptyset$ . Thus,  $\text{MIC-cl}^*(\text{MIC-int}(S))-S$  is a MIC-regular- $\alpha$ -closed set.

(ii) $\Rightarrow$ (iii) Let  $\text{MIC-cl}^*(\text{MIC-int}(S))-S$  be MIC-regular- $\alpha$ -closed.  $\text{MIC-cl}^*(\text{MIC-int}(S))-S = \text{MIC}-(\text{int}(S))^*-S$ . Therefore  $\text{MIC}-(\text{int}(S))^*-S$  is a MIC-regular- $\alpha$ -closed set.

(iii) $\Rightarrow$ (i) Let  $\text{MIC}-(\text{int}(S))^*-S$  be a MIC-regular- $\alpha$ -closed set,  $\text{MIC-cl}^*(\text{MIC-int}(S))-S = \text{MIC}-(\text{int}(S))^*-S = \emptyset$ . Thus  $\text{MIC-cl}^*(\text{MIC-int}(S))=S$ . Hence  $S$  is MIC-I-R-closed.

**Theorem 3.17**

Let  $(\Omega, \text{NA}(\tau_R(\overline{X})), \text{MICR}(\mu_R(\overline{X})), \text{ID})$  a Micro ideal space  $S \subseteq \Omega$ . If  $S$  is MIC-regular-open and MIC-wgr $\alpha$ -I-closed, then  $S$  is MIC-\*closed set.

**Proof**

Let  $S \subseteq S$  and  $S$  be MIC-regular-open. Since  $S$  is MIC-wgr $\alpha$ -I-closed in  $\Omega$ ,  $\text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq S$ , which implies that,  $\text{MIC-cl}^*(S) = \text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq S$ . Therefore  $S$  is MIC-\*closed in  $\Omega$ .

**Theorem 3.18**

Let  $(\Omega, \text{NA}(\tau_R(\overline{X})), \text{MICR}(\mu_R(\overline{X})), \text{ID})$  a Micro ideal space. Then either  $\{\Omega\}$  is MIC-regular-closed (or)  $\Omega - \{\Omega\}$  is MIC-wgr $\alpha$ -I-closed for every  $\Omega \in \Omega$ .

**Proof**

Suppose  $\{\Omega\}$  is not MIC-regular-open and the only MIC-regular-open set containing  $\Omega - \{\Omega\}$  is  $\Omega$  and  $\text{MIC-cl}^*(\text{MIC-int}(\Omega - \{\Omega\})) \subseteq \Omega$ . Hence  $\Omega - \{\Omega\}$  is MIC-wgr $\alpha$ -I-closed set in  $\Omega$ .

**Theorem 3.19**

Let  $(\Omega, \text{NA}(\tau_R(\overline{X})), \text{MICR}(\mu_R(\overline{X})), \text{ID})$  a Micro ideal space,  $S$  is MIC-regular-open and  $S \subseteq \Omega$ .

Then the following properties are equivalent.

- (i)  $S$  is MIC-\*closed
- (ii)  $S$  is MIC-I-R-closed
- (iii)  $S$  is MIC-wgr $\alpha$ -I-closed

**Proof**

(i) $\Rightarrow$ (ii) Let  $S$  be MIC-\*closed and MIC-regular-open,  $\text{MIC-cl}^*(\text{MIC-int}(S)) = \text{MIC-cl}^*(S) = S$ . Thus,  $S$  is MIC-I-R-closed.

(ii) $\Rightarrow$ (iii) Let  $S \subseteq \Omega$  and  $S$  be MIC-regular-open. Since  $S$  is MIC-I-R-closed and every MIC-regular-open set is MIC-regular- $\alpha$ -open,  $\text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq S$ . Thus  $S$  is MIC-wgr $\alpha$ -I-closed.

(iii) $\Rightarrow$ (i) Let  $S \subseteq \Omega$  and  $S$  be MIC-regular-open. Since  $S$  is MIC-wgr $\alpha$ -I-closed in  $\Omega$ ,  $\text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq S$ , which implies that,  $\text{MIC-cl}^*(S) = \text{MIC-cl}^*(\text{MIC-int}(S)) \subseteq S$ . Therefore  $S$  is MIC-\*closed in  $\Omega$ .

### Theorem 3.20

Let  $S_1$  be a MIC-wgr $\alpha$ -I-closed set in a Micro ideal space  $\Omega$  such that  $S_1 \subseteq S_2 \subseteq \text{MIC-cl}^*(\text{MIC-int}(S_1))$ , then  $S_2$  is also a MIC-wgr $\alpha$ -I-closed set.

### Proof

Let  $U$  be a MIC-regular  $\alpha$ -open set of  $\Omega$ , such that  $S_2 \subseteq U$ . Then  $S_1 \subseteq S_2 \subseteq U$ . Since  $S_1$  is MIC-wgr $\alpha$ -I-closed,  $\text{cl}^*(\text{int}(S_1)) \subseteq U$ . Now  $\text{cl}^*(\text{int}(S_2)) \subseteq \text{cl}^*(\text{int}(\text{cl}^*(\text{int}(S_1)))) = \text{cl}^*(\text{int}(S_1)) \subseteq U$ . Therefore  $S_2$  is MIC-wgr $\alpha$ -I-closed.

### Theorem 3.21

Let  $S$  be a MIC-wgr $\alpha$ -I-closed set in an ideal space  $X$ . Then  $S \cup (\Omega - \text{cl}^*(\text{int}(S)))$  is MIC-wgr $\alpha$ -I-closed if and only if  $(\text{MIC-int}(S))^* - S$  is MIC-wgr $\alpha$ -I-open.

### Proof

Let  $(\text{MIC-int}(S))^* - S$  be MIC-wgr $\alpha$ -I-open in  $\Omega \Leftrightarrow \Omega - ((\text{MIC-int}(S))^* - S)$  is MIC-wgr $\alpha$ -I-closed.  $\Omega - ((\text{MIC-int}(S))^* - S) \Leftrightarrow \Omega \cap (\text{MIC} - \text{int}(S^* \cap S^c))^c \Leftrightarrow S \cup (\Omega - \text{MIC-cl}^*(\text{MIC-int}(S)))$ .

Hence the proof.

### Conclusion

This paper was presented with MIC-Wgr $\alpha$ -I-Closed Sets, MIC-Wgr $\alpha$ -I-Open Sets, MIC-I-R-closed and MIC-swg-closed set in Micro ideal topological spaces and investigated some of the key frameworks in the Micro ideal topological spaces. A variety of interesting problems identified in the analysis.

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