



REVIEW
OFLITERATURE

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In the study of topological spaces many concepts of topology have been generalized by considering the concepts of generalized open sets due to Levine [30] instead of open sets. Intensive research in the field of generalized closed sets was done in the past 15 years as the theory was developed by Balachandran, Devi, Maki, Noiri, Ogata, Sundararam[6] et.al. Several forms of generalized continuity, openness and irresoluteness of functions associated with the generalized closedness in question have been introduced and investigated.

A number of articles on generalized open sets and generalized continuity have been published by Veerakumar [49] Maki, Devi and Balachandran[6], Bhattacharya and Lahiri [7] Ravi and Lellis Thivagar[29].

Here we shall give a brief survey of some of the articles published on g -closed sets, sg -closed sets, semi star g - closed sets and $(\tau_1, \tau_2)^*$ -semi star g - closed sets in bitopological spaces.

The initiation of the study of generalized closed sets was done by Levine [30] in 1970 as he considered sets whose closures belong to every open super set. The space in which the concepts of g -closed and closed sets coincide is called $T_{1/2}$ spaces.

In 1963, Kelly [27] initiated the study of bitopological spaces. Maheshwari and Prasad [33], Bose[8] and Fukutake[24] have introduced and investigated the concepts of semi open sets in bitopological spaces and studied their basic properties.

In 1985, Mukherjee [34] has introduced the concept of pairwise s -closedness in bitopological spaces. Characterizations and properties are also analyzed.

In 1986, Fukutake [23] has introduced generalized closed sets and pairwise generalized closure operator in bitopological spaces.

In 1997, Arockiarani, Balachandran and Ganster [4] have introduced regular generalized locally closed sets and different notions of generalizations of continuous maps in a topological space. Characterizations and properties are also discussed.

In 2002, Fukutake [25] has introduced w -closed sets, w -open sets and w -continuity in bitopological spaces.

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In 2004, Sheik John and Sundaram[44] have introduced g^* -closed sets in bitopological spaces. Properties of these sets are investigated and introduced two new bitopological spaces (i, j) - $T_{1/2}^*$ and (i, j) - $T_{1/2}^*$ spaces as applications and also studied g^* - continuity in bitopological spaces.

In 2006, Neela Megarajan Rajesh, Erdal Ekici and Mariam Lellis Thivagar[40] have introduced a new class of closed maps called \tilde{g} -s-closed maps and a new class of homeomorphism called \tilde{g}^* -homeomorphism and proved that the set of all \tilde{g}^* homeomorphisms forms a group under the binary operation composition of maps.

In 2007, Erdal Ekici [22] has introduced the $(\pi g, s)$ -continuity and (g, s) - continuity. Characterizations and Properties of $(\pi g, s)$ -continuous functions are analyzed.

In 2008, Chandrasekhara Rao and Narasimhan [14] have studied the concept of pair wise T_s -space and its basic properties in bitopological spaces.

In 2009, Chandrasekhara Rao and Kannan [15] have introduced the concept of semi star generalized w-closed(open) sets and studied their basic properties in bitopological spaces.

In 2009, Calidas, Jafari, Rajesh and Thivagar[16] have introduced a new class of closed map called \tilde{g} -closed map and new class of homeomorphism called \tilde{g} -homeomorphism, which are weaker than homeomorphism. The concepts of g_c homeomorphism and \tilde{g} -homeomorphism are independent. Further they have introduced \tilde{g}^* -homeomorphisms and proved that set of all \tilde{g}^* -homeomorphisms forms a group under the binary operation composition of maps.

In 2009, Govindappa Navalagi and Hanif Page[25] have introduced the notion of θ -generalized-semi-open functions, θ -generalized-semi-closed functions, pre θ -generalized-semi-open functions, pre θ -generalized-semi-closed functions, contra pre- θ -generalized-semi-open functions, contra pre- θ -generalized-semi-closed functions in topological spaces and discussed their properties.

In 2009, Saeid Jafari, Lellis Thivagar and Niramala Mariappan [47] have introduced a new class of sets called $(1, 2)^* - \alpha \hat{g}$ -closed sets in bitopological spaces. This class lies between $(1, 2)^* - \alpha$ -closed sets and $(1, 2)^* - \alpha g$ -closed sets. Basic properties of

$(1,2)^*$ - $\alpha\hat{g}$ -closed sets and a new space called $T_{(1,2)^*}$ - $\alpha\hat{g}$ -space are discussed.

In 2010, Sheik John and Maragathavalli[45] have introduced and investigated strongly αg^* -closed sets in bitopological spaces. Properties, characterizations and applications of these sets are analyzed.

In 2010, Chandrasekhara Rao , Narasimhan and Kannan [17] have investigated $\tau_1 \tau_2$ - s^*g closed sets in bitopological spaces and introduced the concept of pairwise s^*g -continuous mapping , S^*GO -connectedness and S^*GO -compactness in bitopological spaces. Properties, characterizations and applications of these sets are discussed.

In 2010, Chandrasekhara Rao , Narasimhan, Kannan and Sundararaman [18] have introduced the concepts of $(\tau_1, \tau_2)^*$ -semi star generalized closed (open) sets, $(1, 2)^*$ - s^*g continuous maps, pairwise semi star generalized T_S -spaces and study their basic properties in bitopological spaces.

In 2010,Chawalit Boonpok [20] has introduced a new notion of almost (g,m) -continuous functions as functions from a generalized topological space into a set satisfying some minimal conditions.Characterization and properties of these functions are analyzed.

In 2010,Saeid Jafari,Lellis Thivagar and Niramala Mariappan [46] have introduced a new of sets called \hat{g}_α -closed sets in topological space.This class lies between α -closed sets and $g\alpha$ -closed sets.Basic properties of \hat{g}_α -closed sets and a new space called $T\check{g}_\alpha$ -space are discussed.

In 2010,Lellis Thivagar and Nirmala Mariappan [32] have introduced separation axioms using $(1,2)^*$ -semi-generalized open sets and $(1,2)^*$ - ψ -open sets.Characterizations and properties are analyzed.

In 2010,Nirmala Mariappan,Hatir and Lellis Thivagar[39] have introduced and studied $(1, 2)^*$ -semi-g-regular spaces and semi -g-normal spaces.Properties and applications are discussed.

In 2010,Ravi,Pious Missier and Salai Parkunan [41] have discussed $(1, 2)^*$ -generalized homeomorphism, $(1, 2)^*$ -gc homeomorphism, $(1, 2)^*$ -generalized semi-homeomorphism and $(1, 2)^*$ -gsc-homeomorphism. Characterizations,properties and applications are analyzed.

In 2011, Pushpalatha and Anitha[42] have introduced a new class of sets called g^* -closed sets in topological spaces and discussed its properties .

In 2011, Thaweechai Duangphui, Chawalit Boonpok and Chokchai Viriyapong[48] have discussed the notions of $(\mu, \mu^1)^{(m,n)}$ -continuous and almost weakly $(\mu, \mu^1)^{(m,n)}$ -continuous functions on bigeneralized topological spaces. Basic properties, characterizations and relationships of those functions are analyzed.

In 2011, Lellis Thivagar and Nirmala Mariappan [31] have introduced the characterizations of the $(1, 2)^*$ -semi-separation axioms, $(1, 2)^*$ -semi- T_0 spaces and $(1, 2)^*$ -semi- $T_{1/2}$ spaces using $(1, 2)^*$ - \wedge_S -sets, $(1, 2)^*$ - \vee_S -sets, $(1, 2)^*$ - $g \cdot \wedge_S$ -sets and $(1, 2)^*$ - $g \cdot \vee_S$ -sets and discussed their characterizations and properties.