Abstract No.GET4

BILEVEL EQUILIBRIUM PROBLEM IN TOPOLOGICAL SPACES

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In this paper we introduce a bilevel equilibrium problem in a Hausdorff topological vector space. We establish some existence solutions of the bilevel equilibrium problem involving two equilibrium bifunctions. We also prove that this bilevel equilibrium problem includes the bilevel optimization problem, that are already exists in the literature.

Abstract No.GET5

EXTENSION OF MAPS BETWEEN M- TOPOLOGICAL SPACES

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Continuous function defined on subspaces of a topological spaces can be extended uniquely to the continuous function defined on the whole space under some condition. The purpose of this paper is to establish a similar result in multiset topological spaces.

Abstract No.GET6

ON STRUCTURES INDUCED BY A BITOPOLOGY

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The concept of a bitopological space was introduced by Kelly. Kelly and Patty studied pair wise regular and pair wise normal bitopological spaces. They also discussed quasi-metrizable bitopological space. Let (X, P, Q) be a bitopological space where P, Q are the distinct topologies on X. Here the ordered pair (P, Q) is called a bitopology on X. Then,

$P \cap Q = \{A \sqsubseteq X: A \in P \text{ and } A \in Q\}$ = The meet structure on X.

$P \cup Q = \{ A \sqsubseteq X: A \in P \text{ or } A \in Q\}$ = The join structure on X.

$P + Q = \{ A \cup B : A \in P \text{ and } B \in Q\}$ = The addition structure on X.

$P \oplus Q$ = The topology generated by $P \cup Q$ = The sum structure on X.

$P \wedge Q = \{ A \cap B : A \in P \text{ and } B \in Q\}$ = The micro structure on X.

$P - Q = \{A - B: A \in P \text{ and } B \in Q\}$ = The difference structure on X.

$P \triangle Q = \{A \triangle B: A \in P \text{ and } B \in Q\}$ = The symmetric difference structure

A bitopological space (X, P, Q) induces seven structures $(X, P \cap Q)$, $(X, P+Q)$, $(X, P + Q)$,$(X, P \oplus Q)$, $(X, P \wedge Q)$, $(X, P - Q)$ and $(X, P \triangle Q)$. The above seven structures further induce twenty one structures namely $(X, \alpha, \beta,)$ where $\{\alpha, \beta\} \sqsubseteq \{P \cap Q, P \cup Q, P \oplus Q, P + Q, P \wedge Q, P - Q, P \triangle Q\}$.

The purpose of this paper is to characterize the above structures by some of the recent concepts in the literatures of topology and bitopology.