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# SOME MORE PROPERTIES OF (1,2)$S_\beta$-OPEN SETS IN BITOPOLOGICAL SPACES

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**Abstract:** The aim of this paper is to define some operators using (1,2)$S_\beta$-open sets in bitopological spaces and study some of their properties.

**Keywords and Phrases:** (1,2)semi-open sets, (1,2)$S_\beta$-open sets, (1,2)$\beta$-closed sets, (1,2)$S_\beta$-Interior, (1,2)$S_\beta$-Closure, (1,2)$S_\beta$-Derived sets.

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## 1. Introduction and Preliminaries

In the year 1963, Kelly initiated the systematic study of bitopology which is a triple $(X, \tau, \sigma)$, where $X$ is a non-empty set together with two distinct topologies $\tau$, $\sigma$ on $X$. Levine initiated semi-open sets and their properties in 1963. In 1983, Abd-El-monsef introduced the notion of $\beta$-open sets and $\beta$-continuity in topological spaces. In 2013, Alias B.Khalaf and Nehmat K. Ahmed introduced and defined a new class of semi-open sets called $S_\beta$-open sets in topological spaces. The aim of this paper is to define some operators of (1,2)$S_\beta$-open sets in bitopological spaces and study some of their properties.

**Definition 1.1.** [5] *Let $A$ be a subset of a bitopological space $(X, \tau_1, \tau_2)$. Then $A$ is said to be*

*(i) $\tau_1\tau_2$-open if $A \in \tau_1 \cup \tau_2$,*

*(ii) $\tau_1\tau_2$-closed if $A^c \in \tau_1 \cup \tau_2$,*