Section 05: Topology	Poster number 301

On pairwise extremally disconnected bitopological spaces

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ABSTRACT

In [1] was defined pairwise extremally disconnected bitopological space by S. Lal. In [2] and [3] was introduced notions of S-closed and semi-compact topological spaces respectively. We generalize these definitions for bitopological case, which are called $(i, j) - S$ closed and (i, j)-semi compact bitopological spaces respectively, where $i, j \in \{1, 2\}$, $i \neq j$. Properties of these spaces are investigated with respect to be pairwise extremally disconnected bitopological spaces.

Our main results are the following

Theorem 1. If a bitopological space (X, τ_1, τ_2) is (i, j)-quasi H-closed and pairwise extremally disconnected, then it is $(i, j) - S$ closed.

Theorem 2. If a map
$$f : (X, \tau_1, \tau_2) \to (Y, \gamma_1, \gamma_2)$$
is pairwise continuous, pairwise closed, (i, j) separable, double irreducible surjection and (Y, γ_1, γ_2) is pairwise extremally disconnected. Then f is pairwise homeomorphism.

Theorem 3. If a bitopological space is (i, j)-semi compact and pairwise extremally disconnected, then it is $(i, j) - S$ closed.

In [4] are considered Near property between τ_1 and τ_2 topologies.

Theorem 4. Let $(X, \tau_1 <_N \tau_2)$ be locally $(2, 1) - S$ closed and be $(2, 1)$ weakli Hausdorff. Then it is pairwise extremally disconnected.

References

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