

CLOSURE PROPERTIES OF BITOPOLOGICAL FUNCTION SPACES

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For a Tychonoff space X , we denote by $C_\lambda(X)$ the space of all real-valued continuous functions on X with λ -open topology.

Definition. A co-zero (functional open) cover \mathbb{U} of X is called a λ - f -cover if for each $A \in \lambda$ there is a $U \in \mathbb{U}$ such that $A \subseteq U$.

The symbol $\Lambda(\lambda)$ denote the collection of all λ - f -covers of a space.

Theorem 1. The space $C_\lambda(X)$ has countable fan tightness if and only if X has property $S_{fin}(\Lambda(\lambda), \Lambda(\lambda))$.

Theorem 2. For a space X the following are equivalent:

- (1) $C_\lambda(X)$ has countable strong fan tightness;
- (2) X has property $S_1(\Lambda(\lambda), \Lambda(\lambda))$.

Theorem 3. For a space X the following are equivalent:

- (1) $C_\lambda(X)$ has countable T -tightness;
- (2) for each regular cardinal ρ and each increasing sequence $(\mathcal{U}_\alpha : \alpha < \rho)$ of family of cozero subsets of X such that $\bigcup_{\alpha < \rho} \mathcal{U}_\alpha$ is a λ - f -cover of X there is a $\beta < \rho$ so that \mathcal{U}_β is a λ - f -cover of X .

REFERENCES

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