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ABSTRACTS

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In fact we prove that in $\prod_{\alpha\in 2^\omega} Z_\alpha$ there is a countable dense set $Q \subseteq \prod_{\alpha\in 2^\omega} Z_\alpha$ such that for every countable subset $S \subseteq Q$ a set $\pi_A(S)$ is dense in a face $\prod_{\alpha\in A} Z_\alpha$ for some A, $|A| = \omega$.

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Classification of Continuous Function spaces on ordinals

Mathematics Subject Classification (MSC): 54C35, 46E10

Abstract. The topological classification of the spaces $C_p[1, \alpha]$ is devoted to the Gorak's paper [1], in which the question of the homeomorphism of the spaces $C_p[1, \alpha]$ and $C_p[1, \beta]$ is solved for all ordinals α and β with the exception of the case $\alpha = k^+ \cdot k$, $\beta = k^+ \cdot k^+$, where k is the initial ordinal, and k^+ is the smallest initial ordinal greater than k.

Theorem 1. *Let τ be an arbitrary initial regular ordinal, σ and λ be initial ordinals satisfying the inequality $\omega \leqslant \sigma < \lambda \leqslant \tau$. Then the space $C_p[1, \tau \cdot \sigma]$ is not homeomorphic to the space $C_p[1, \tau \cdot \lambda]$.*

If we combine this result with the results of [1], we get a complete topological classification of the spaces $C_p[1, \alpha]$ (which coincides with the uniform classification). We can write it in the form of the following theorem.

Theorem 2. *Let α and β be ordinals and $\alpha \leq \beta$.*

(a) *If $|\alpha| \neq |\beta|$, then $C_p[1, \alpha]$ and $C_p[1, \beta]$ are not homeomorphic.*

(b) *If τ is an initial ordinal, $|\alpha| = |\beta| = \tau$ and either $\tau = \omega$ or τ is a singular ordinal or $\beta \geq \alpha \geq \tau^2$, then the spaces $C_p[1, \alpha]$ and $C_p[1, \beta]$ are (uniformly) homeomorphic.*

(c) *if τ is a regular uncountable ordinal and $\alpha, \beta \in [\tau, \tau^2]$, then the space $C_p[1, \alpha]$ is (uniformly) homeomorphic to the space $C_p[1, \beta]$ if and only if*

$\tau \cdot \sigma \leq \alpha \leq \beta < \tau \cdot \sigma^{+}$, *where* σ *is the initial ordinal,* $\sigma < \tau$, *and* σ^{+} *is the smallest initial ordinal, exceeding* σ.

The article will be published in [2].

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References

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2-Metric Spaces in the Soft Universe

Mathematics Subject Classification (MSC): 06D72, 54E35, 54E50

Abstract. The aim of this talk is to give the extension of 2-metric spaces to the soft universe. For this aim, we define the soft 2-metric spaces based on soft points. Also we consider the topological structures of the given notion with some fundamental properties and illustrative examples. Further, we state and prove the basic theorems in this spaces which will be convenient for investigating the fixed points.

References

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