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Statistical convergence of order α in topology and its applications to selection principles

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Abstract: The statistical convergence in a topological space is constrained in this study up to order α , where $\alpha \in (0, 1)$. A fresh group of open covers (namely s^α - γ covers) and an entirely novel category of denseness (namely s^α -denseness) are proposed using this notion of s^α -convergence, which has been used to study various topological aspects of s^α -density. It has been revealed that the class of s^α - γ coverings falls somewhere between the class of γ covers and the class of s - γ covers. The influence of s^α - γ covers in topological games and selection principles are also investigated.

Keywords: asymptotic density; statistical convergence; γ cover; selection principle

AMS Subject Classification: 54D20, 54B20, 54C35

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