

Winkler, Peter

The infinite random order of dimension k . (English) [Zbl 0589.06001](#)

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Fix an integer $\kappa \geq 1$ and let I^κ be the unit hypercube in Euclidean κ -space, endowed with the ordinary product order. If n points are chosen randomly and independently from the uniform probability distribution on I^κ , the resulting ordered set is called the random order P_n^κ . The author discusses the problem, whether "the 0-1 law" holds for random orders, i.e. a theorem saying that for any first order sentence S in the language of ordered sets the $\lim_{n \rightarrow \infty} P(S \text{ holds in } P_n^\kappa)$ is either 0 or 1. The conjecture is made that the answer is yes in general, no for fixed or bounded dimension.

Reviewer: [V.N.Saliĭ](#)

MSC:

[06A06](#) Partial orders, general

[03C90](#) Nonclassical models (Boolean-valued, sheaf, etc.)

[60C05](#) Combinatorial probability

Keywords:

product order; uniform probability; random orders; first order sentence; language of ordered sets