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Title: Algorithmically random closed sets and probability

Abstract: Let Ω be a probability space and $\mathcal{F}(\mathbb{E})$ be the space of closed subsets of topological space \mathbb{E} endowed with the hit-or-miss topology. In probability theory a random closed set is a measurable map $X : \omega \rightarrow \mathcal{F}(\mathbb{E})$. These objects have been studied since their connection to capacity functionals was discovered by Choquet in the 1950s. Such a map gives rise to a probability measure, μ_X , on the space $\mathcal{F}(\mathbb{E})$. When \mathbb{E} is sufficiently well behaved (e.g. locally compact, Hausdorff, and second countable) we can study Martin-Löf randomness in the space $(\mathcal{F}(\mathbb{E}), \mu_X)$. In this talk we look at some examples of Martin-Löf randomness for $\mathbb{E} = 2^\omega$ and $\mathbb{E} = \mathbb{R}$.