



Martin-Lof randomness, invariant measures and countable homogeneous structures

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We use ideas from topological dynamics (amenability), combinatorics (structural Ramsey theory) and model theory (Fraïssé limits) to study closed amenable subgroups G of the symmetric group S_∞ of a countable set, where S_∞ has the topology of pointwise convergence. We construct G -invariant measures on the universal minimal flows associated with these groups G in, moreover, an algorithmic manner. This leads to an identification of the generic elements, in the sense of being Martin-Lof random, of these flows with respect to the constructed invariant measures. Along these lines we study the random elements of S_∞ , which are permutations that transform recursively presented universal structures into such structures which are Martin-Lof random.

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