Fragmenting random permutations

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Abstract

Problem 1.5.7 from Pitman's Saint-Flour lecture notes: Does there exist for each n a fragmentation process ($\Pi_{n,k}$, $1 \le k \le n$) such that $\Pi_{n,k}$ is distributed like the partition generated by cycles of a uniform random permutation of {1,2,...,n} conditioned to have k cycles? We show that the answer is yes. We also give a partial extension to general exchangeable Gibbs partitions.

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