

1086-05-1489

Michael J Earnest* (mearnest@g.hmc.edu), 340 E. Foothill Blvd, Claremont, CA 91711.

Longest Common Patterns of Random Permutations.

Similar to the longest common subsequence of two words, which is a measure of similarity between words, the longest common pattern can be used to measure the similarity of permutations. Specifically, the longest common pattern of two permutations of $1, 2, \dots, n$ is found by writing the permutations in word form and finding the longest pair of subsequences from each permutation which have the same relative ordering. Our research has shown when two permutations of length n are chosen randomly, then the expected length of their LCP grows proportionally to $n^{\frac{2}{3}}$. In this talk, we demonstrate the proof of this fact, and discuss bounds on the concentration around the mean, as well as how to generalize this to multiple permutations. (Received September 22, 2012)