

Forcing Quasirandomness in Permutations

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A striking result in graph theory is that the property of being quasirandom (i.e. resembling a random graph) can be characterised in several equivalent ways. One way is to say that the number of edges and the number of 4-cycles are both close to what one would expect in a random graph. Král' and Pikhurko (2013) proved that quasirandom permutations are characterised by the densities of all permutations of length 4. We improve on this result by showing that there is a single expression consisting of a sum of densities of 8 permutations of length 4 whose value forces quasirandomness.

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