

Growth rates of permutations classes: from countable to uncountable

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In earlier work it was determined that there are only countably many permutation classes of growth rate less than $\kappa \approx 2.21$ (a specific algebraic number), while there are uncountably many permutation classes of growth rate κ .

We establish that there is an algebraic number $\xi \approx 2.31$ such that while there are uncountably many growth rates of permutation classes arbitrarily close to ξ , there are only countably many less than ξ . We go on to characterize the growth rates less than ξ . Central to the proof are various structural notions regarding generalized grid classes and a new property of permutation classes called concentration.

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