



Der Wissenschaftsfonds.



Online talk series

It is a pleasure to announce a guest lecture with the title

On the divisors of a typical integer

SPEAKER: Ben Green

TIME: Friday, 05.02.2021, 04:00 – 5:30 pm.

Abstract: Pick a random positive integer n between X and $2X$. What do its divisors look like, typically? This can be a hard question. For instance, Erdos conjectured in the 1940s that almost surely n has two divisors d, d' with $d < d' < 2d$, but this was only proven more than 30 years later, by Maier and Tenenbaum. I will give an introduction to this subject and then turn to some recent joint work with Ford and Koukoulopoulos in which we delve deeper into this kind of question, showing that a typical n in fact has many divisors in some dyadic range $y < d < 2y$ and giving a bound for this problem which we conjecture to be optimal. This work involves a mix of ideas from probability, number theory and analysis and the results feature some of the strangest exponents I have ever seen in a problem. The talk should be accessible to a general audience.

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