

Gaps between consecutive zeros of the Riemann zeta-function

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Abstract

An important problem in number theory is to study the distribution of the non-trivial zeros of the Riemann zeta-function which, if one is willing to assume the Riemann Hypothesis, all lie on a vertical line. It is relatively easy to count how many of these zeros lie in a large interval, so the average spacing between consecutive zeros is easy to compute. However, it is a difficult and interesting problem to show that there are many consecutive zeros that have spacings that are larger or smaller than average. In this talk I will describe a method that shows there are infinitely many pairs of consecutive zeros of the zeta-function where the gap between them is more than 3 times the average spacing.