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Computing lower terms for the moments of the zeta function

A 100-year-old problem asks to determine the moments of the Riemann zeta function on $\Re s = 1/2$. The second and fourth moments are well understood, but little has been proven about the higher moments. These moments are needed to understand the distribution of the zeta function and its extreme behaviour.

In recent years, a detailed conjectural picture has emerged concerning the full asymptotics of the moments of the zeta function. I will describe these developments and describe methods to compute the coefficients of the polynomials that appear in these asymptotics.