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Probabilistic approach for the maxima of the Riemann Zeta function on the critical line

A recent conjecture of Fyodorov, Hiary & Keating states that the maxima of the Riemann Zeta function on a bounded interval of the critical line behave similarly to the maxima of a specific class of Gaussian fields, the so-called log-correlated Gaussian fields. These include important examples such as branching Brownian motion and the 2D Gaussian free field. In this talk, we will highlight the connections between the number theory problem and the probabilistic models. We will outline the proof of the conjecture in the case of a randomized model of the Zeta function. We will discuss possible approaches to the problem for the function itself. This is joint work with D. Belius (NYU) and A. Harper (Cambridge).