

The applications of random matrix theory in number theory

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Random matrix theory is now fundamental in many fields of mathematics. One of these fields is number theory, where a large number of natural questions are inaccessible by current methods. It turns out that random matrix theory helped to make predictions for many outstanding questions in number theory, and the insights gained from this bridge between those fields allowed in some cases to make a lot of progress. In this talk I will present a historical review of the conversation between Montgomery and Dyson which led to this new field of research in number theory, including recent developments.