

ZERO DISTRIBUTION OF RANDOM MODULAR FORMS

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In the first part of this talk, I will review basic properties of holomorphic modular forms, Hecke operators, Petersson inner product and Hecke eigenforms etc. In the second part, we will consider zero distribution of random modular forms which are random linear combinations of Hecke cuspidal eigenforms. As a result, we prove that under suitable moment conditions on random coefficients normalized zeros of random modular forms are asymptotically uniformly distributed with respect to the hyperbolic volume form. This result can be considered as randomized version of arithmetic Quantum Unique Ergodicity (QUE) conjecture solved by Holowinsky and Soundararajan.

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