

Statistics and Data Science Seminar

Statistical properties of eigenvalues of Laplace-Beltrami operators

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Abstract: We study the eigenvalues of a Laplace-Beltrami operator defined on the set of the symmetric polynomials, where the eigenvalues are expressed in terms of partitions of integers. By assigning partitions with the uniform measure, the restricted uniform measure, the Plancherel measure, or the restricted Jack measure, we prove that the global distributions of the eigenvalues are asymptotically the Gumbel distribution, a new distribution F , the Tracy-Widom distribution and the Gamma distribution, respectively. An explicit representation of F is obtained by a function of independent random variables. We also derive an independent result on random partitions itself: a law of large numbers for the restricted uniform measure. This is a joint work with Ke Wang

Wednesday, April 8 at 4:00 PM in SEO 636