A Central Limit Theorem in Number Theory

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Abstract

The celebrated Erdös-Kac theorem states that the number of distinct prime divisors of a natural number follow the normal distribution with mean zero and variance 1. In this talk, we will discuss an all-purpose Erdös-Kac theorem. In addition, we will discuss several applications of our results. In particular, we will discuss a central limit theorem for distinct prime divisors of sums of eigenvalues of Hecke operators explicitly. Moreover, we will discuss a local version of Erdös-Kac theorem. This is joint work with M. Ram Murty and V. Kumar Murty.

Date: June 21, 2024 (Friday)
Time: 1:00 – 2:00pm
Venue: Room 210, Run Run Shaw Building, HKU

All are welcome