



Number Theory Seminar

Pseudorandomness of Sato-Tate Distributions for Elliptic Curves

Professor Chung Pang Mok
Soochow University

Abstract

Equidistribution is an important theme in number theory. The Sato-Tate conjecture, which was established by Richard Taylor et.al. in 2008, asserts that given an elliptic curve over \mathbb{Q} without complex multiplication, the associated Frobenius angles are equidistributed with respect to the Sato-Tate measure. In this talk, we discuss refinements to the original Sato-Tate conjecture. In particular, we conjecture that the Frobenius angles are in fact statistically independently distributed with respect to the Sato-Tate measure, and satisfy a qualitative form of the Law of Iterated Logarithm for random numbers. Numerical evidences would be presented to support the conjectures. Joint work with Huimin Zheng.

Date: **April 28, 2023 (Friday)**
Time: **4:00 – 5:00pm**
Venue: Room 210, Run Run Shaw Bldg., HKU

All are welcome