
JESSE THORNER, Emory University

Effective log-free zero density estimates for automorphic L -functions and the Sato-Tate conjecture

We prove two log-free zero density estimates for Rankin-Selberg L -functions over number fields with uniformity in their dependence on the analytic conductor. We consider applications of these estimates to automorphic variants of Hoheisel's short interval prime number theorem and Linnik's bound on the least prime in an arithmetic progression. We focus on applications in the context of the Sato-Tate conjecture for non-CM elliptic curves, where the uniformity is crucial.

This is joint work with Robert Lemke Oliver (Stanford University).