
YOUNESS LAMZOURI, York University

Large values of $L(1, \chi)$ and applications to character sums and class numbers of real quadratic fields

We investigate large values of $L(1, \chi)$ where χ varies over certain special families of Dirichlet characters. More specifically, we consider the family of primitive characters of a fixed order k , and the family of quadratic characters χ_d corresponding to fundamental discriminants d of the form $4n^2 + 1$. For each family we produce large values of $L(1, \chi)$ which are believed to be best possible. We then apply our results to exhibit extreme values of even order character sums, and of class numbers of real quadratic fields, which are likely optimal.