

# **ABSTRACT: VANISHING AND NON-VANISHING CENTRAL VALUES OF TWISTED ELLIPTIC L-FUNCTIONS**

This is a report on our work on the vanishing/non-vanishing of the central value of twisted L-functions of elliptic curves over the rationals. We consider twists of  $L(E,s)$  by Dirichlet characters of order at least three, and present our results, experimental data, and heuristic predictions. We present examples for which the frequency of vanishing approaches the predicted values. Finally, we describe our results in some non-Galois cubic cases.