

New nonvanishing theorems for automorphic L-functions on $GL(n)$

Abstract: Given a cuspidal automorphic form on $GL(n)$ over the rationals and an arbitrary point in the complex plane, a fundamental question asks whether there always exists a primitive Dirichlet character with prescribed ramification such that the twisted standard L-function do not vanish at the given point. We show it is the case when $n = 3$. For $n = 4$, it is also true provided the given point does not lie on the critical line.