

1036-11-12

Jeremy A Rouse* (jarouse@math.uiuc.edu), Jeremy Rouse, Mathematics Department, University of Illinois, Urbana-Champaign, Urbana, IL 61801. *Atkin-Serre type conjectures for automorphic representations on $GL(2)$.*

Let π be a genuine cuspidal automorphic representation on $GL(2)$ over a totally real number field F . Assuming GRH for the symmetric power L -functions associated to π , we prove that if

$$L(\pi, s) = \prod_v (1 - \alpha_v q_v^{-s})^{-1} (1 - \beta_v q_v^{-s})^{-1},$$

then

$$|\alpha_v + \beta_v| \geq q_v^{-\delta}$$

for all but $O(x^{1-\delta}/\log(x))$ places v with $q_v \leq x$ provided $\delta \leq 1/8$. This implies a strong form of the conjecture of Atkin and Serre for classical newforms. (Received October 29, 2007)