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Simple zeros of degree two L -functions

Since the work of Levinson in the 1970's, it has been known that degree one L -functions possess infinitely many simple zeros. For degree two L -functions there are fewer results. Let $L(s, f)$ be an L -function attached to f a primitive holomorphic cusp form of weight k , level q , and character χ . Assuming the Riemann hypothesis for $L(s, f)$, we establish that for every $\epsilon > 0$, this function has $\gg T(\log T)^{-\epsilon}$ simple zeros with imaginary part in $[0, T]$. Even assuming GRH, this seems to be the first method capable of proving that infinitely many primitive degree two L -functions have an infinitude of simple non-trivial zeros. (This is joint work with M. Milinovich.)