Abstract

Let $K = \mathbb{Q}(\sqrt{-D})$ be the imaginary quadratic field of discriminant $-D$, $\mathcal{C}$ its class group and $h = |\mathcal{C}|$ the class number. For each character $\chi \in \hat{\mathcal{C}}$ let

$$L_K(s,\chi) = \sum_{\mathfrak{a}} \chi(\mathfrak{a})(N\,\mathfrak{a})^{-s}$$

be the attached L-function. It is shown that there is a constant $c > 0$ such that for sufficiently large D at least $ch\prod_{p|D}(1-p^{-1})$ of the h distinct L-functions $L_K(s,\chi)$ do not vanish at the central point $s = 1/2$.

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