

Let $\{s_n\}$ denote the set of real zeros larger than $\frac{1}{2}$ of the Selberg zeta function

$$Z_\Gamma(s) = \prod_{\{P_0\}} \prod_{k=0}^{\infty} \left(1 - N(P_0)^{-s-k}\right) \quad (\text{Res} > 1)$$

of a compact Riemann surface $\Gamma \setminus \mathcal{H}$. We prove following

Theorem. $\pi_0(x) = li(x) + \sum_{k=1}^M li(x^{s_k}) + O\left(x^{\frac{3}{4}} \log^{-1} x\right),$

where $\pi_0(x)$ is the number of distinct primitive classes P_0 such that the norm $N(P_0)$ is less or equal x and the implied constant depends solely on Γ .

This improves the estimate of the error term in A. Selberg's and H. Huber's formula for distribution of eigen-values of Laplace-Belltrami operator.

Applying the same method it is possible to obtain better conditional estimates.

REFERENCES

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