



Distinct zeros and simple zeros of Dirichlet L -functions

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In this paper, we study the number of additional zeros of Dirichlet L -function caused by multiplicity by using Asymptotic Large Sieve. Then in asymptotic terms we prove that there are more than 80.124% of zeros of the family of Dirichlet L -functions are distinct and more than 60.248% of zeros of the family of Dirichlet L -functions are simple. In addition, assuming the Generalized Riemann Hypothesis, we improve these proportions to 83.216% and 66.433%.

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