

Large divisors of Fourier coefficients of modular forms

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Abstract. R. Murty, K. Murty and N. Saradha used the effective form of the Chebotarev density theorem to prove the following.

THEOREM 1. *Let $f = \sum_{n \geq 1} a_n e^{2\pi i n z}$ be an eigenform of weight $k \geq 2$, level N and $a_n \in \mathbb{Z}$. Suppose GRH is true. Then, for any $\epsilon > 0$,*

$$|a_p| \geq p^{1/4-\epsilon}$$

holds for a set of primes of density 1.

Here, under the assumption of a weak form of the Lang-Trotter Conjecture, we will improve the above lower bound. This is a joint work with Kumar Murty.

