

1116-VN-1410 **Joshua Zelinsky*** (joshua.zelinsky@maine.edu). *Counting Artin representations with bounded conductor.*

We present upper bounds on certain sums which are related to an average version Artin's primitive root conjecture and are also used in counting ray class characters. Define $\text{ord}_n(a)$ for the order of a in the multiplicative group of invertible residue classes modulo n when $(a, n) = 1$. Let

$$G(x) = \sum_{n \leq x, (n, a) = 1} \frac{\phi(n)}{\text{ord}_n(a)}.$$

Then our primary result is any α , we have $G(x) = O(x^2 / \log^\alpha x)$. An analogous result for number fields is also obtained. (Received September 19, 2015)