

Title: Conjectures for distributions of class groups when there are roots of unity in the base field

Abstract: Malle, using tabulation of class groups of number fields, found that the Cohen-Lenstra-Martinet heuristics for the distributions of class groups of extensions of a number field seemed incorrect when the base field contains roots of unity. We describe a new conjecture for the distribution of class groups (at primes not dividing the order of the Galois group) that corrects for this issue. We explain how large q limit function field results, along with new results on the moment problem for random groups, lead to our conjecture. This talk is on joint work with Will Sawin.