

Decomposition of primes in non-Galois extensions

In this talk we consider separable non-Galois extensions F/K of a global field K . Let L be a Galois extension of K containing F with $G = \text{Gal}(L/K)$ and $H = \text{Gal}(L/F)$. We will show that if G is a finite group of Lie type defined over \mathbb{F}_q and H is a parabolic subgroup of G , then the number of primes of F lying over a tamely ramified place of K with given residue degree can be expressed as polynomials in q . These polynomials are determined by the length function on the certain subgroups of the Weyl group of G .