

## Generic Polynomial of Integers and Applications

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**Abstract :** Consider an algebraic number field  $K$  of degree  $n$ ,  $A_0 K$  is its ring of integers and a prime number  $p$  inert in  $K$ . Let  $F(u_1, \dots, u_n, x)$  be the generic polynomial of integers of  $K$ . We will study in advance the stability of this polynomial and then, we will apply it in order to obtain all the monic irreducible polynomials in  $F_p[x]$  of degree  $d$  dividing  $n$ .

**Keywords :** generic polynomial, irreducibility, iteration, stability, inert prime, totally ramified

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