Séminaire de théorie des nombres

Le 05 février 2024 à 14h (PRG)

Linear patterns of prime elements in number fields

Exposé de Wataru Kai
(Tohoku University)

Résumé : I will discuss my recent result that gives a sufficient condition for a set of finitely many polynomials of degree 1 with coefficients in a number ring to attain simultaneous prime values. This extends a 2012 theorem of Green-Tao-Ziegler from the case of $\mathbb{Z}$ to the general case. Time permitting, I will mention how this can be applied to produce (modestly) new families of varieties over number fields which satisfy the Hasse principle for rational points by using the so-called fibration methods.