

In this talk we define a new class of sets – stable sets – of primes in number fields. These sets have positive (but arbitrary small) Dirichlet density, and generalize in some sense sets of density 1. In particular, the most of the arithmetic theorems, such as certain Hasse principles, the Grunwald Wang theorem, the Riemann's existence theorem etc. hold for them. Also the birational anabelian theorem of Neukirch-Uchida can be generalized to the schemes $\text{Spec } \mathcal{O}_{K,S}$, where K is a number field and S is a stable set of primes.

Examples of stable sets are provided by many of the so called Chebotarev sets, i.e. sets of the form $P_{M/K}(\sigma)$, where M/K is a finite Galois extension and σ lies in the Galois group of M/K .