

An effective Chebotarev theorem under GRH

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ABSTRACT: Given a Galois extension of fields \mathbb{K}/\mathbb{L} , Chebotarev's theorem shows that the image of the Frobenius map of prime ideals in \mathbb{K} are equidistributed among the conjugation classes of the Galois group of the extension.

We show a version of this theorem which is completely explicit, i.e. where the remainder term is explicitly given in terms of the degree and the discriminant of \mathbb{L} .

The result has been obtained in collaboration with L. Grenié [1] and improves an analogous result of J. Oesterlé [2].

References

- [1] L. Grenié, and G. Molteni, *An effective Chebotarev density theorem under GRH*, Preprint 2017.
- [2] J. Oesterlé, *Versions effectives du théorème de Chebotarev sous l'hypothèse de Riemann généralisée*, *Astérisque* **61** (1979), 165–167.