

On the Equivariant Tamagawa Number Conjecture for \mathbb{G}_m

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Abstract.

In the seminal paper of Bloch and Kato, the Tamagawa Number Conjecture was formulated which simultaneously generalised several results/conjectures regarding the leading term of the L-function associated with a motive in the literature; this includes the analytic class number formula and the Birch and Swinnerton-Dyer conjecture.

In the recent work of Burns, Kurihara and Sano [1], the authors give a unifying approach to the general theory of leading term conjectures in the case for \mathbb{G}_m (Tate motives). Their approach does not only recover a wide range of results in the literature, but also allow them to derive much more refined and explicit arithmetic information. In this talk, I will survey their work. If time permits, I will also describe how a p -adic study of their approach is related to the general Iwasawa main conjecture formulated by Fukaya and Kato.

References

- [1] D. Burns, M.Kurihara, T. Sano, *On zeta elements for \mathbb{G}_m* , Documenta Mathematica 21 (2016), 555-626.