

Generalization and refinement of Rubin-Stark conjecture

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Abstract

This is joint work with D. Burns and T. Sano on zeta elements and Stark type conjectures, especially generalization and refinement of Rubin-Stark conjecture. For any abelian extension of number fields, we give a concrete and explicit conjecture on the Galois module structure of a certain Selmer module in terms of generalized Rubin-Stark elements. I discuss relations of our conjecture with several other conjectures, such as Iwasawa main conjecture, equivariant Tamagawa number conjecture, Coates-Lichtenbaum-Gross-Stark conjecture, Brumer-Stark conjecture, etc, and explain that our conjecture holds true in several cases with some applications.