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The equivariant main conjecture of Iwasawa theory for imaginary quadratic fields

The main conjecture of Iwasawa theory has been a crucial tool for proving theorems about special values of L -functions. In Rubin's 1991 paper, he proved this conjecture for imaginary quadratic fields, subject to certain restrictions. To remove these restrictions, we employ a philosophy of Huber and Kings which exploits the relationship between the Tamagawa number conjecture and the main conjecture. We formulate an equivariant main conjecture for the two-variable Iwasawa algebra over an abelian extension of an imaginary quadratic field, and prove that the conjecture holds whenever the μ -invariant of the class group vanishes, which it is known to do when the prime is split.

This is joint work with Guido Kings.