

p-adic Waldspurger Formula

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Abstract

We will construct a new anticyclotomic p-adic L-function attached to an automorphic Abelian variety of $GL(2)$ -type over a totally real number field. We relate its special values at finite characters, which are out of the range of interpolation, to certain p-adic Waldspurger periods. Such periods may be used to determine the non-triviality of Heegner points on the Abelian variety. This is a joint work with Shouwu Zhang and Wei Zhang, which vastly generalizes the previous work of Bertolini-Darmon-Prasanna.