

A Bertolini-Darmon-Prasanna Formula for Shimura Curves over the Rationals

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Abstract

There is a p -adic L -function interpolating special values of Rankin-Selberg L -functions $L(f, X)$, where f is a fixed newform and X varies over the space of Hecke characters of a fixed imaginary quadratic field. The Bertolini-Darmon-Prasanna formula expresses special values of this function (outside its range of interpolation) in terms of the images of cycles on varieties fibered over modular curves under the p -adic Abel-Jacobi map. We establish a similar formula for analogous cycles fibered over Shimura curves over \mathbb{Q} .