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Daniel J Kriz* (dkriz@math.princeton.edu). *Congruences between Abel-Jacobi images of generalized Heegner cycles and special values of p -adic L -functions.*

We study special values of the Bertolini-Darmon-Prasanna anticyclotomic p -adic L -function attached to a newform f in situations where f is congruent to an Eisenstein series for a prime p split in an imaginary quadratic field. This yields congruences between images under p -adic Abel-Jacobi maps of certain cycles with rational coefficients on generalized Kuga-Sato varieties and expressions in terms of classical quantities such as Bernoulli numbers and circular units. We pay particular attention to the case where f is attached to a rational elliptic curve with reducible mod p representation, which gives congruences between formal logarithms of the Heegner points of imaginary quadratic field and expressions involving class numbers. (Received September 09, 2014)