1007-11-158   **Matthew T Gealy*** (`gealy@its.caltech.edu`), Caltech MC 253-37, Pasadena, CA 91125. *On the Tamagawa Number Conjecture for modular forms.*

The Tamagawa Number Conjecture (TNC) is a certain generalization of the Analytic Class Number Formula (ACNF) and the conjecture of Birch and Swinnerton-Dyer (BSD). Just as logarithms of units arise in ACNF, and BSD involves a height pairing, similarly understanding the TNC at negative integers for modular forms requires computing exactly certain Rankin-Selberg integrals. For any initial data, Beilinson and Scholl have calculated the integrals up to algebraic multiples by ignoring the bad Euler factors. We show how a specific choice of initial data simplifies the integral to allow computation of the contribution from all primes, and why the answer is what one expected. (Received February 18, 2005)