962-11-1286 **Francisco X. Portillo*** (portillo@math.utexas.edu), 5106 N. Lamar #239, Austin, TX 78751.
Method to compute the ξ function for a prime p, in order to verify a special case of the the Birch-Swinnerton-Dyer conjecture for p-adics.

In this work, I will present a computational method to find the ξ function associated to a prime p. This function acts on the modular symbols associated to an elliptic curve E of level p, and has values on the integers. These values are the modular elements of the curve E, and using them we can verify computationaly the equation (in case of $rank(E) = 1$) $\prod_{a=1}^{p-1} a^{[a/p]} = \pm(\tilde{q_p})^{[0]}$ in $\mathbf{F}_p/(\pm 1)$ where $[x]$ is the modular symbol associated to x, $\tilde{q_p}$ the "unit part" of the multiplicative parameter of E. This ecuation is a refined conjecture obtained from the Birch-Swinerton-Dyer conjecture. (Received October 03, 2000)