

1079-11-190

Paul Richard Buckingham* (p.r.buckingham@ualberta.ca). *Replacing zero with something interesting (or how to cope with the vanishing of p -adic L -functions of odd characters).*

Classically, p -adic L -functions p -adically interpolated Dirichlet L -functions at negative integers. In the case of an odd character, the values that are interpolated are all zero, so that the corresponding p -adic L -function is zero as well. This means that in Iwasawa's formulation of his Main Conjecture on the relationship between p -adic L -functions and the Iwasawa module (now a theorem, thanks to Mazur–Wiles and later Wiles), the statement concerns only even characters and the minus part of the Iwasawa module. We describe a situation in which one can fill in the gap left by the trivial p -adic L -functions to say something non-trivial about the plus part of the Iwasawa module. (Received January 12, 2012)