1086-11-2467 **Barry R Smith*** (barsmith@lvc.edu). *Divisibility of the equivariant L-function value at zero for degree 2p extensions.* Preliminary report.

The equivariant L function value at zero of an Abelian extension of number fields K/k with Galois group G is an element of the rational group ring $\mathbb{Q}[G]$. Multiplying it by the number of roots of unity in K yields an element of the integral group ring $\mathbb{Z}[G]$, the "integralized L-value". When p is an odd prime and K/k has degree $2p$, we show that the the p-divisibility of the integralized L-value is usually determined in a simple way by the arithmetic of the quadratic extension of k contained in K. We also identify an extremely exceptional class of extensions K/k for which the situation is more complex; we conjecture that for such extensions, the p-divisibility of the integralized L-value is equivalent to a refinement of the Brumer-Stark conjecture for the quadratic sub-extension of K/k whose top field is K. We prove this conjecture under the assumption that the Brumer-Stark conjecture holds for K/k. (Received September 25, 2012)