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David Grant* (grant@colorado.edu), Department of Mathematics, University of Colorado at Boulder, Campus Box 395, Boulder, CO 80309-0395. *The ramification of p in a p -descent.*

Let p be an odd prime, K a number field in which p is unramified, and E an elliptic curve over K which has good reduction at all primes over p . Let $[p]$ denote the multiplication-by- p -map on E , and $E[p]$ its kernel. Let P be a point of infinite order in $E(K)$, and Q a point of E over an algebraic closure of K such that $[p]Q = P$. Let u be a non-trivial point in $E[p]$, and ζ a primitive p^{th} -root of unity. Following the work of Stark and others, we will present a calculation of the p -part of the conductor of $K(Q, u, \zeta)$ over $K(u, \zeta)$, and explain how this often leads to a simplification of the calculations involved in a p -descent of E over K . (Received August 12, 2008)