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Susan L. Schmoyer* (susan.schmoyer@usma.edu), Department of Mathematics, U.S. Military Academy, West Point, NY. *Tate-Lichtenbaum Self Pairings and Residuosity*. Preliminary report.

Let E be an elliptic curve defined over \mathbf{F}_q such that $E[n] \subset E(\mathbf{F}_q)$. In this talk I will characterize when all points in $E[n]$ have trivial Tate-Lichtenbaum self pairings. This result is expressed in terms of the action of the Frobenius endomorphism on $E[n^2]$. I will then use this result to derive several well-known residuosity results. (Received September 21, 2007)