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Daniel Corey, Jordan S Ellenberg and **Wanlin Li*** (wanlinli@mit.edu). *Computations on Ceresa class.*

The Ceresa cycle is an algebraic cycle attached to a smooth algebraic curve, which is trivial when the curve is hyperelliptic, and which has not been proven non-trivial for any non-hyperelliptic curve over a number field. Its image under a certain cycle class map provides a class in étale cohomology called the Ceresa class. This class encodes information of the action of the absolute Galois group on the second term of the lower central series of the pro- l étale fundamental group of the curve. Using an l -adic version of the Johnson morphism, via explicit computation, we determine whether the Ceresa class for curves over $\mathbb{C}((t))$ is rationally trivial. Moreover, we define a Ceresa invariant for tropical curves corresponding to the special fiber of curves over $\mathbb{C}[[t]]$ and show it is always torsion when all vertices have weight 0. (Received September 09, 2019)