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Title: *Experiments with Ceresa classes of cyclic Fermat quotients*

Abstract: Let  $C$  be a curve of genus  $g > 2$  embedded in its Jacobian  $J$ . The Ceresa cycle  $C - [-1]^*C$  is a cohomologically trivial algebraic cycle of dimension 1 on  $J$ . When  $C$  is hyperelliptic, this cycle is trivial modulo algebraic equivalence, whereas for general  $C$  it is non-trivial by work of Ceresa. Recently, the first example of a non-hyperelliptic curve with torsion Ceresa cycle modulo algebraic equivalence was found by Beauville and Schoen. We give two new examples of non-hyperelliptic curves whose Ceresa cycles have torsion images in the intermediate Jacobian. All three examples are cyclic quotients of Fermat curves and we compute the central orders of vanishing of the L-functions of the relevant motives. For our genus 3 example, we find that the central L-value is non-vanishing and the cycle is torsion modulo algebraic equivalence, consistent with the conjectures of Beilinson and Bloch. This is joint work with Ari Shnidman.