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Arsen Elkin* (elkin@math.colostate.edu), 101 Weber Building, Department of Mathematics, Colorado State University, Fort Collins, CO 80523. *Cartier operator on Kummer covers of the projective line.*

We examine the action of the Cartier operator on the vector space of regular differential forms on cyclic covers of the projective line in positive characteristic p and implications of “periodicity” of this actions on invariants of p -torsion of the jacobian varieties of these curves. Specifically, we will give an upper bound on the a -number of these curves that improves upon a similar bound by Ricardo Re. (Received September 13, 2008)