1147-11-458 **Jeremy Booher*** (jeremybooher@math.arizona.edu) and **Bryden Cais**. *a-numbers of Curves in Artin-Schreier Covers.*

Let $\pi : Y \to X$ be a branched $\mathbf{Z}/p\mathbf{Z}$-cover of smooth, projective, geometrically connected curves over a perfect field of characteristic $p > 0$. We investigate the relationship between the a-numbers of Y and X and the ramification of the map π. This is analogous to the relationship between the genus (respectively p-rank) of Y and X given the Riemann-Hurwitz (respectively Deuring–Shafarevich) formula. Except in special situations, the a-number of Y is not determined by the a-number of X and the ramification of the cover, so we instead give bounds on the a-number of Y. We provide examples showing our bounds are sharp. The bounds come from a detailed analysis of the kernel of the Cartier operator. (Received January 24, 2019)