1125-05-481 **Colin R. Defant*** (`cdefant@ufl.edu`). *Anti-Power Prefixes of the Thue-Morse Word.*

Recently, Fici, Restivo, Silva, and Zamboni defined a k-anti-power to be a word of the form $w_1 w_2 \cdots w_k$, where $w_1, w_2, \ldots, w_k$ are distinct words of the same length. They defined $AP(x, k)$ to be the set of all positive integers m such that the prefix of length km of the word x is a k-anti-power. Let $\mathbf{t}$ denote the Thue-Morse word, and let $\mathcal{F}(k) = AP(\mathbf{t}, k) \cap (2\mathbb{Z}^+ - 1)$. We show that $(2\mathbb{Z}^+ - 1) \setminus \mathcal{F}(k)$ is finite whenever $k \geq 3$. For $k \geq 3$, $\gamma(k) = \min \mathcal{F}(k)$ and $\Gamma(k) = \max((2\mathbb{Z}^+ - 1) \setminus \mathcal{F}(k))$ are well-defined odd positive integers. Fici et al. speculated that $\gamma(k)$ grows linearly in k. We prove that this is indeed the case by showing that $1/2 \leq \liminf_{k\to\infty} (\gamma(k)/k) \leq 9/10$ and $1 \leq \limsup_{k\to\infty} (\gamma(k)/k) \leq 3/2$. In addition, we prove that $\liminf_{k\to\infty} (\Gamma(k)/k) = 3/2$ and $\limsup_{k\to\infty} (\Gamma(k)/k) = 3$. (Received September 03, 2016)