1077-11-2205 **Paul Cubre*** (`cubrpj11@wfu.edu`) and **Jeremy Rouse** (`rouseja@wfu.edu`). *The Z-densities of the Fibonacci sequence.*

Paul S. Bruckman and Peter G. Anderson made a conjecture about the Z-densities of the Fibonacci sequence, F_n, based on computational results. For a prime p, $Z(p)$ is the "Fibonacci entry-point of n" or the smallest positive integer n such that $p \mid F_n$, $M(m,x)$ is the number of primes $p \leq x$ such that $m \mid Z(p)$, and $\pi(x)$ is the number of primes less than x. We may define the"Z density of m" to be $\zeta(m) = \lim_{x\to\infty} M(m,x)/\pi(x)$. We will prove the conjecture of Bruckman and Anderson by connecting $Z(p)$ with the order of the point $\alpha = (3/2, 1/2)$ in $G(\mathbb{F}_p) = \{(x,y) \in \mathbb{F}_p \mid x^2 - 5y^2 = 1\}$ and using the Chebotarev density theorem to find the limit. (Received September 21, 2011)