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Henry E Escudro* (escudro@juniata.edu), **Ian Garces**, **Agnes Garciano**, **Reginaldo Marcelo** and **Mari-Jo Ruiz**. *On the Star Arboricity of the Zero-Divisor Graph $\Gamma(Z_{p^n})$.*

A *star forest* is a forest each of whose components is a star. The *star arboricity* of a graph G , denoted by $st(G)$, is the minimum number of star forests whose union covers all the edges of G . A nonzero element of a commutative ring R with unity is said to be a *zero-divisor* of R if there exist a nonzero element $y \in R$ such that $xy = 0$. Given a ring R with unity, the *zero-divisor graph of R* , denoted by $\Gamma(R)$, is the graph whose vertex set consists of the zero divisors of R and two vertices $x, y \in V(\Gamma(R))$ are adjacent if and only if $xy = 0$ in R . This paper investigates the star arboricities of the zero divisor graphs $\Gamma(Z_{p^n})$ where $n, p \in \mathbb{N}$ and p is a prime. In particular, we give bounds for $st(\Gamma(Z_{p^n}))$ and determine the values of $st(\Gamma(Z_{p^n}))$ when n is even. (Received September 22, 2015)