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**Sara Shirinkam\*** ([sara.shirinkam@utsa.edu](mailto:sara.shirinkam@utsa.edu)), Department of Mathematics, University of Texas, San Antonio, TX 78249. *On the ideal based zero-divisor graph of a semiring.*

Let  $R$  be a commutative semiring with nonzero identity and  $Z(R)$  its set of zero-divisors. The zero-divisor graph of  $R$  is  $\Gamma(R)$ , with vertices  $Z(R) \setminus \{0\}$  and distinct vertices  $x$  and  $y$  are adjacent if and only if  $xy = 0$ . For a proper ideal  $I$ , an ideal based zero-divisor graph, denoted by  $\Gamma_I(R)$  is a graph whose vertices are  $\{x \in R \setminus I \mid xy \in I \text{ for some } y \in R \setminus I\}$ , and two distinct vertices  $x$  and  $y$  are adjacent if and only if  $xy \in I$ . In this paper, some of the properties of  $\Gamma(R)$  and  $\Gamma_I(R)$  and their relationship are investigated when  $R/I$  is a semiring. (Received September 22, 2015)