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**Ryan E Clark\*** (rclark@math.utk.edu), TN.  *$\Gamma$ -rings and their zero-divisor graphs*. Preliminary report.

The notion of  $\Gamma$ -ring, a certain generalization of ring, is defined and some history and examples of the concept are discussed. Next the definitions of zero-divisors and zero-divisor graphs for commutative  $\Gamma$ -rings are given, which generalize the usual definitions for commutative rings. Finally, several theorems are stated which demonstrate some structure of these generalized zero-divisor graphs. (Received February 17, 2010)