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Jesse Gerald Smith* (jesse.smith@maryvillecollege.edu), 13105 Buttermilk Rd, Knoxville, TN 37932. *Isomorphisms of Idea-Based Zero-Divisor Graphs*. Preliminary report.

Let R be a commutative ring with nonzero identity and I a proper ideal of R . The *ideal-based zero-divisor graph* of R with respect to the ideal I , denoted by $\Gamma_I(R)$, is the graph on vertices $\{x \in R \setminus I \mid xy \in I \text{ for some } y \in R \setminus I\}$, where distinct vertices x and y are adjacent if and only if $xy \in I$. In this work, we consider properties graph isomorphisms of ideal-based zero-divisor graphs. In particular, we seek to understand how isomorphisms of $\Gamma_I(R)$ relate to isomorphisms restricted to $\Gamma(R/I)$, where $\Gamma(R/I)$ is the zero-divisor graph of the factor ring R/I . (Received September 26, 2017)