

1116-13-2599 **Michael Axtell, Nicholas Baeth and Joe Stickles*** (jstickles@millikin.edu). *Cut Structures in Zero-Divisor Graphs of Commutative Rings.*

Zero-divisor graphs, and more recently, compressed zero-divisor graphs are well-represented in the commutative ring literature. In this work, we consider various cut structures, sets of edges or vertices whose removal disconnects the graph, in both compressed and non-compressed zero-divisor graphs. In doing so we connect these graph-theoretic concepts with algebraic notions and provide realization theorems of zero-divisor graphs for commutative rings with identity. (Received September 22, 2015)