

Combinatorics Seminar

Wednesday, Feb. 11, 2009

2:00 pm in Hume 331

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A Comparison of Zero Divisor Graphs

ABSTRACT

A zero divisor graph of a ring R is a visual representation of the zero divisors and their relationships in R . (If a and b are non-zero elements in R such that $ab = 0$, then a and b are vertices of the graph and connected by an edge.) These graphs have been studied by Beck, Anderson & Livingston, Mulay, and Wickham, to name just a few. We will give several examples of the original zero divisor graph introduced by Beck. Then we will compare and contrast this graph with the graph of equivalence classes of zero divisors. Our particular aim is to identify ring theoretic properties from the graph of equivalence classes. We will discuss some results involving the associated primes of the ring.