

Colorings and Zero-Divisor Graphs of Commutative Rings

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Abstract

Graphs in which certain objects of algebraic structures serve as vertices and specific relations between these objects determine the edges constitute an active and contemporary research area known as algebraic graph theory. In this talk, we will focus on two graphs arising from zero-divisors in commutative rings: coloring graphs and zero-divisor graphs. Their constructions, fundamental properties, and various related results will be discussed through illustrative examples.