
SHANNON FITZPATRICK, University of Prince Edward Island

Burning Circulant Graphs

In 2016, Bonato, Janssen and Roshanbin introduced the problem of *graph burning* in order to model the spread of a contagion through a network. Given a finite connected graph, the process of burning a graph begins with all vertices being unburned. At time step 1, a single vertex is chosen to be burned. In each subsequent time step, two things occur: (1) the fire spreads to all neighbours of a previously burned vertex, and those vertices become burned, and (2) another vertex is selected to be burned. The objective is to burn all the vertices of the graph, and the *burning number* of a graph is the minimum number of time steps required to do so.

In this talk, I will present results regarding the burning numbers of circulant graphs. For degree 3 circulant graphs, as well as particular degree 4 circulant graphs, the burning numbers have been determined exactly. For others, results include upper and lower bounds on burning number, as well as asymptotic results.

This talk is based on joint work with Leif Wilm.