

CHIP-FIRING GAMES AND GONALITY COMPUTATION

SHEFALI RAMAKRISHNA '22

Chip-firing games are a combinatorial tool used in divisor theory on algebraic curves. Gonality is a key invariant for both graphs and curves, measuring the minimum degree of a positive-rank divisor. One can determine the gonality of a graph through brute-force checks of every possible divisor, a very inefficient process. In fact, computing gonality is known to be NP-hard, so we need innovative tools to solve this problem. We discuss the background of chip-firing games in gonality computation, and an algorithm designed by the speaker at the Williams SMALL 2021 REU, to compute gonality of any finite graph.

Wednesday, January 26th at 7 PM
Join at Park 245 or via Zoom

Zoom Link:

**[https://brynmawr-edu.zoom.us/j/95807982212?
pwd=aXBBMnFZMUUyWDQ1S1d3TGozc0t5Zz09](https://brynmawr-edu.zoom.us/j/95807982212?pwd=aXBBMnFZMUUyWDQ1S1d3TGozc0t5Zz09)**