

W-Active Cops and Robber

Seyyed Aliasghar Hosseini ¹

¹ Simon Fraser University

The game of cops and robber is a rather old and well-known game played on graphs. There are several variations of the game, but the basic idea is that cops and robber move in the graph, the cops' goal is to capture the robber and the robber's goal is to prevent this from happening. Definitions of moving and capturing changes in different versions. In the basic version, there exists a loop on each vertex. This allows the cops or the robber to stay on their current vertex (by using the loop). Active cops and robber is a variation of the game where the graph is loopless. This prevents the cops and the robber from staying on a vertex. The key observation is that when the graph does not have loops on all of its vertices, then the set of one-cop-win graphs does not match with dismantlable graphs. In this talk, we introduce a new version, w-active, that resolves this issue, and we present some results and examples.