

Mathematics Graduate Seminar

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Thursday, October 20, 2016
1:00p.m., HH-3017

Counting watchman's walks

Abstract:

Finding the watchman's walk of a graph G is a variation of the graph domination problem. To dominate a graph, a set S of vertices must be found such that every vertex in the graph is either in S , or is a neighbour of a vertex of S . Our goal becomes finding the smallest dominating set possible. In the watchman's walk problem, instead of finding an arbitrary set S , we look for a dominating walk through the graph, and of all such walks, the shortest walk. Unlike similar problems, such as the Traveling Salesman Problem, a watchman's walk exists in every graph. In this talk, we will review some results to get a sense of what the watchman's walk is (and isn't), and examine the problem of enumerating these walks.