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Winning vs. catching in the game of Cops and Robber on manifolds

In a recently introduced variant of the game Cops and Robber that is played on metric surfaces, cops win the game if they can get arbitrarily close to the robber. On the other hand, cops catch the robber if one of them occupies the same point as the robber. In this talk we will discuss an interesting phenomena that the difference between the number of cops needed to catch the robber and the number of cops needed to win the game can be arbitrarily large. For example, one cop can win the game on an n -dimensional ball, while n cops are needed to catch the robber.

Joint work with Bojan Mohar and Alexandra Wesolek.