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Cops and Robbers in a Polygon

We study the cops and robbers game on the infinite visibility graph of points inside a simple polygon, which has an edge between two points iff they are visible to each other. We show that the cop has a simple winning strategy in this game. For finite graphs, being cop-win and having a dismantlable ordering are equivalent. We propose a dismantlable ordering of the infinite set of points of a polygon and show that the maximum number of moves the cop needs is bounded by the number of reflex vertices. This is joint work with Anna Lubiw.