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The game of Ambush Cops and Robbers played on the products of graphs

The game of Ambush Cops and Robbers is a variation of the game of Cops and Robber played on graphs. This variation is played with two robbers that are given the power to ambush a cop and win by both moving to the same vertex as a cop on the same turn. Otherwise, rules of this variation follow that of the game of Cops and Robber. Much of the existing research focusses on characterizing graphs on which a single cop has an ambush-winning strategy. A natural direction is to investigate classes of graphs for which ambush-winning strategies for multiple cops exist. A particular set of graphs of interest are those generated by graph products such as the strong, Cartesian, and categorical products. In this talk, the ambush-copnumbers of the aforementioned products are discussed in terms of the ambush-copnumbers of their factors. Comparisons with the original game are made by discussing challenges posed by the robbers' power. This is joint work with Dr. Nancy Clarke.