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Title: Non-attacking rooks on a holed chessboard

Abstract: In this game, inspired by the Non-Attacking Queens Game (Noon and Van Brummelen, 2006), two players alternately put rooks on a chessboard with the restriction that no rook should be able to capture another one. The last player to play wins. If the chessboard is a rectangular grid, the problem reduces to a parity game. In this work we consider the case where there is a hole in the chessboard. This problem is much more difficult and leads to the introduction of a game played on graphs that can be sees as a generalization of Arc-Kayles. We solved this latter game for simple graphs and found some general properties.

(Joint work with Nicolas Bousquet, Antoine Dailly and Marc Heinrich)