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Counting Domineering positions

In Domineering, two players place dominoes on a checkerboard (or parts thereof), one vertically, the other horizontally. We will demonstrate a technique to recursively determine the polynomial profile of Domineering positions on rectangular boards. The polynomial profile enumerates the positions with a fixed number of pieces from each player and can be used to determine the total number of positions, as well as the positions when only considering strictly alternating play. We will further discuss variations of this technique for non-rectangular boards, maximal positions, and Left and Right ends.

This is joint work with Neil McKay.