

Tiling with Tetris pieces by taking a walk

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(joint work with Jason Ekstrand and Steven Osborne)

When enumerating tilings of a thin strip one approach that is often used is to find a recursion. However for large strips or complicated pieces this can be an onerous task. We present a way to count tilings of boards with pieces by establishing equivalence of the problem with taking a walk on an auxiliary graph. We can then simply count the number of closed walks satisfying certain properties to establish this result. As an example we show how to find the number of tilings of a 10×20 board using Tetris pieces (i.e., tetronimos).