1125-05-1790   **Katie Haymaker*** (`kathryn.haymaker@villanova.edu`) and **Sally Robertson**. *Counting colorful tilings of rectangular arrays.* Preliminary report.

How many ways are there to tile a rectangular board with painted squares and dominoes, when there are a available colors for the squares and b available colors for the dominoes? There is no closed-form expression for the number of tilings of an $m \times n$ board with dominoes and squares, but the problem has been extensively studied in the area of mathematical physics, where the pieces are called monomers and dimers. In this talk we will give a recursive formula for the number of colorful tilings of a $2 \times n$ board with squares, dominoes, and trominoes. Time permitting, we will also sketch a general method for calculating the number of colorful tilings of an $m \times n$ board. (Received September 19, 2016)