1096-VR-1188 **Kimberly Phillips*** (phillipskn@washjeff.edu). *Tiling m-Deficient Mutilated Chessboards with m-Polyominoes.* Preliminary report.

For natural numbers m and n, an $n \times n$ chessboard is called *m-deficient* if m divides $n^2 - 1$. A chessboard is called *mutilated* if a single square is removed from the board. We analyze tiling m-deficient mutilated chessboards with m-polyominoes where an *m-polyomino* is a geometric figure with m congruent squares placed edge to edge. An m-polyomino arranged such that $m - 1$ squares are placed in a straight line with the last square perpendicular to a square on the end, making an L-shape, is called an *L-polyomino of order m*. As long as $n \geq 2$ and $n \neq 5$, every 3-deficient mutilated chessboard can be tiled with L-trominoes. We also discuss our recent work with tiling m-deficient mutilated chessboards with L-polyominoes of order m and with general m-polyominoes. (Received September 13, 2013)