Catherine Yan* (cyan@math.tamu.edu), Department of Mathematics, Texas A&M University, MS 3368, College Station, TX 77843-3368, and William Chen, Andrew Wang and Alina Zhao. Mixed Statistics on 01-Fillings of Moon Polyominoes.

We establish a stronger symmetry between the numbers of northeast and southeast chains in the context of 01-fillings of moon polyominoes. We introduce four pairs of mixed statistics on 01-fillings of moon polyominoes, each of them being a combination of northeast and southeast chains with respect to a bipartition of rows or columns of the moon polyomino. We show that they share the same symmetric distribution as (ne, se), the numbers of northeast chains and southeast chains, respectively. (Received January 19, 2010)