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Niraj Khare, Rudolph Lorentz and **Catherine Yan*** (cyan@math.tamu.edu), Department of Mathematics, Texas A&M University, MS 3368, College Station, TX 77843-3368. *Moments of Matching Statistics*. Preliminary report.

We show that for a large family of combinatorial statistics on perfect matchings, the moments can be expressed as a linear combination of double factorials with constant coefficients. This gives a stronger analogous result of Chern, Diaconis, Kane and Rhoades on statistics of set partitions, in which case the moments can be expressed as linear combinations of shifted Bell numbers, but with polynomial coefficients. In particular, we present formulas for moments of the numbers of crossings and nestings, the level statistic and the dimension exponent. Some of them are topological indices arisen from Super-character theory. (Received August 23, 2015)