

1086-05-628

**Andrew M Baxter\*** (baxter@math.psu.edu). *Counting copies of vincular patterns among pattern-avoiding permutations.* Preliminary report.

Let  $S_n(B)$  be the set of  $n$ -permutations avoiding a set of vincular patterns  $B$ . For a vincular pattern  $\sigma$ , we are interested in the distribution of the statistic “number of copies of  $\sigma$ ” over  $S_n(B)$ . For example, the descent statistic can be rephrased as the number of copies of 21, which has the distribution  $1 + 3q + q^2$  over  $S_3(1-3-2)$ .

Enumeration schemes encode polynomial-time recurrences to compute  $|S_n(B)|$ . We will demonstrate how to decode the same structures to build recurrences to compute distributions of various permutation statistics over  $S_n(B)$ , including the “copies of  $\sigma$ ” statistic above when  $\sigma$  is a consecutive pattern or has the form  $\sigma_1 \cdots \sigma_m - \sigma_{m+1}$ .

As an application of these ideas, we will demonstrate several theorems and conjectures related to the total number of copies of a consecutive pattern over  $S_n(B)$  for different small sets  $B$ . (Received September 09, 2012)