1086-VN-2768 **A. Scott Duane*** (adrian.duane@gmail.com) and **Jeff Remmel**. *Counting consecutive patterns in up-down permutations using the maximum packing number.*

Let A_{2n} denote the set of up-down alternating permutations of length $2n$. For a sequence of distinct integers $\sigma_1, \ldots, \sigma_{2n}$, we define $red(\sigma)$ to be the sequence that results from replacing the ith smallest integer in σ by i. We say that an alternating permutation π has a τ-match at position i if $red(\pi_i, \ldots, \pi_{i+2j-1}) = \tau$, where $|\tau| = 2j$. We define τ-mch(σ) to be the number of τ-matches in an alternating permutation σ. Furthermore, we say that τ has the *minimal overlapping property* if two τ-matches in an alternating permutation π can share at most two letters.

Let τ be an up-down alternating permutation with the minimal overlapping property. We derive the generating function

$$\sum_{n\geq 0} \frac{t^n}{n!} \sum_{\sigma \in A_{2n}} x^{\tau-mch(\sigma)} = \frac{1}{1+\sum_{n\geq 1} \frac{t^{2n}}{(2n)!} GMP_{\tau,2n}(x)}$$

where $GMP_{\tau,2n}(x)$ is the *generalized maximum packing polynomial.* We define this polynomial and give examples of patterns τ for which $GMP_{\tau,2n}(x)$, and, by extension, the generating function above, can be calculated. (Received September 25, 2012)